



REGIONE AUTONOMA DELLA SARDEGNA PROVINCE DI NUORO E SASSARI



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PROGETTO PER LA REALIZZAZIONE DEL PARCO EOLICO "BITTI - AREA PIP"

Potenza complessiva 56 MW

PROGETTO DEFINITIVO DELL'IMPIANTO, DELLE OPERE CONNESSE E DELLE INFRASTRUTTURE INDISPENSABILI

RS - 6

STUDIO OMBREGGIAMENTO E SHADOW FLICKERING

COMMITTENTE

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ENERGY
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1 CRITERI GENERALI DI ANALISI E VALUTAZIONE

Il presente elaborato, facente parte integrante dello Studio di impatto ambientale allegato al progetto del parco eolico denominato “*Bitti – Area PIP*”, proposto dalla Green Energy Sardegna 2 S.r.l. – Gruppo Fri-El Green Power, in territorio di Bitti (NU), esamina compiutamente il potenziale disturbo da ombreggiamento intermittente (*shadow flickering*) sui potenziali ricettori individuati nell’area interessata dal proposto impianto, entro una distanza indicativa di 1000 metri dagli aerogeneratori.

A tal fine, nel seguito, si farà riferimento alla ricognizione sugli edifici esistenti eseguita nell’ambito della definizione del layout di impianto e dell’analisi ambientale, i cui risultati sono riepilogati in opportune “schede fabbricati” all’interno di apposito report allegato al progetto del parco eolico (Elaborato PA-R.6 - Report dei fabbricati censiti e dei punti sensibili).

Considerata, la presenza di alcuni impianti minieolici nel settore di studio, saranno opportunamente valutati gli effetti cumulativi indotti dal progetto in relazione allo specifico fattore di impatto.

Sotto il profilo metodologico, il documento è strutturato in una sezione introduttiva atta a descrivere la natura del fenomeno dell’ombreggiamento intermittente e le ipotesi alla base dei calcoli previsionali, eseguiti a mezzo di specifico software specialistico. Poiché il modello di calcolo si basa sull’assunzione di ipotesi estremamente conservative, come più sotto esplicitato, si è proceduto successivamente ad affinare la stima introducendo ulteriori elementi di analisi e valutazione (quali le condizioni di funzionamento dell’impianto in rapporto al regime anemologico del sito ed alle situazioni meteorologiche attese nell’area di intervento), condizionanti sensibilmente l’entità del fenomeno.

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2 DESCRIZIONE DEL FENOMENO

Un ostacolo solido opaco posto tra il sole e il terreno genera un'ombra. Generalmente se l'ostacolo è fermo, l'ombra si proietta al suolo seguendo le regole del movimento relativo del sole sull'orizzonte. Le dimensioni dell'ombra proiettata sono funzione inversa dell'angolo che i raggi del sole formano sull'orizzonte per cui si ha la massima dimensione (elongazione sul terreno) dell'ombra all'alba ed al tramonto con il minimo quando il sole raggiunge la massima altezza (mezzogiorno).

Anche gli aerogeneratori durante il giorno proiettano un'ombra che in parte è fissa (torre e navicella) e in parte è mobile (pale del rotore).

Se l'ombra del rotore invece che sul terreno si proietta sulle aperture di un fabbricato può venirsi a creare l'effetto di ombra intermittente o *shadow flickering* (sfarfallio dell'ombra); in talune circostanze, tale fenomeno di pulsazioni "luce – ombra" può potenzialmente essere all'origine di un disturbo alle normali attività che possono svolgersi all'interno dell'ambiente abitativo.



Il fenomeno si verifica durante il giorno in presenza di cielo sereno ed in assenza di ostacoli naturali, quali vegetazione, alberi, muri ecc., e con le turbine in movimento.

Per le ragioni anzidette, a distanze turbine-ricettore superiori a circa 300 metri solitamente il fenomeno di *shadow flickering* si manifesta all'alba o al tramonto, allorquando le ombre proiettate sono sufficientemente lunghe. Per le stesse ragioni il tremolio dell'ombra è un fenomeno particolarmente avvertito nelle regioni del nord Europa (Germania, Danimarca, ecc.) piuttosto che alle latitudini del Mediterraneo.

L'intensità del *shadow flickering* è definita come la differenza in luminosità, in un determinato sito, in presenza ed assenza di un'ombra.

Di seguito si riassumono alcuni aspetti caratteristici del fenomeno:

- la pala delle turbine eoliche è stretta in corrispondenza dell'estremità più esterna ed assume progressivamente maggiore larghezza verso la giunzione con il mozzo. Quando una turbina è posizionata sufficientemente vicino ad un ricettore, cosicché la porzione più larga della pala oscura una porzione maggiore del campo visivo (o meglio del disco solare), l'intensità di *shadow flickering* aumenterà. A distanze maggiori l'intensità del fenomeno sarà minore in quanto le pale copriranno una porzione inferiore del disco solare;
- l'intensità del *shadow flickering* è più bassa quando l'ombra che intercetta un ricettore si origina dall'estremità esterna del rotore (minore spessore della pala). L'intensità aumenterà allorché l'ombra si muove lungo lo sviluppo della pala fino ad arrivare ad un massimo in corrispondenza del mozzo; a tal punto l'intensità diminuisce quando l'ombra si sposta verso l'estremità della pala opposta;
- bassi impatti da *shadow flickering* sono generalmente indicativi di grandi distanze tra

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turbine e ricettore e ombre incidenti originate dalle estremità del rotore;



- situazioni di precaria visibilità determineranno modeste intensità di *S. flickering*;
- a distanze ancora maggiori le ombre proiettate risulteranno “fuori-fuoco”. Ciò non è causa di un’intensità inferiore del *shadow flickering* ma contribuisce a rendere meno distinto il fenomeno;
- all’interno di un ambiente ben illuminato le ombre svaniscono. Conseguentemente l’accensione di luci in un ambiente riduce l’incidenza del *shadow flickering*;
- schermare una finestra (con tende o quant’altro) previene il fenomeno;
- schermare un edificio (ad esempio con alberature) può rappresentare una misura di mitigazione per prevenire il fenomeno.

La frequenza di pulsazione del tremolio dell’ombra è proporzionale alla velocità di rotazione del rotore. La tipica frequenza di passo fra le pale del rotore (tripala) è compresa tra 0.6 ed 1 Hz (velocità con cui le pale passano attraverso una posizione specifica).

Nel caso specifico, considerando un rotore del diametro indicativo di 170 metri con una velocità massima nominale di rotazione di circa 11 RPM si avrà una frequenza di passo pari a circa 0,5 Hz. Tali frequenze di oscillazione luminosa sono prive di rischi significativi per la salute.

Ricerche finalizzate alla definizione di relazioni cause-effetto tra fenomeni stroboscopici ed attacchi epilettici (Graham e Pamela Harding della *Aston University* e Arnold Wilkins della *University of Essex*) attestano che, al fine di escludere rischi sulla salute, le turbine eoliche dovrebbero ruotare a velocità superiori a 60 RPM (velocità di passo superiori a 3 Hz). Peraltro, non può disconoscersi come il fenomeno del *shadow flickering* possa talvolta costituire, in particolari situazioni, un disturbo per i ricettori più esposti.

Per analizzare i risultati e quindi definire l’effettiva portata del disturbo, è dunque fondamentale conoscere l’esatta destinazione del fabbricato ricettore. Nel seguito saranno considerati potenziali ricettori i soli edifici che, sulla base delle informazioni disponibili e delle verifiche condotte in sito, potrebbero prudenzialmente ricondursi alla fattispecie di “ambienti abitativi”.

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3 INDIVIDUAZIONE DEI RICETTORI

Per le finalità del presente studio, con l'intento di meglio inquadrare i criteri di individuazione dei potenziali edifici sensibili (o ricettori) del proposto impianto eolico, si ritiene opportuno richiamare i contenuti della D.G.R. RAS n. 3/17 del 2009 e s.m.i. (*Studio per l'individuazione delle aree in cui ubicare gli impianti eolici*) e segnatamente il punto 4.3.3 "Distanze di rispetto dagli insediamenti rurali".

"Al fine di limitare gli impatti visivi, acustici e di ombreggiamento, ogni singolo aerogeneratore dovrà rispettare una distanza pari a:

- *300 metri da corpi aziendali ad utilizzazione agro-pastorale in cui sia accertata la presenza continuativa di personale in orario diurno (h. 6.00 – h. 22.00);*
- *500 metri da corpi aziendali ad utilizzazione agro-pastorale in cui sia accertata la presenza continuativa di personale in orario notturno (h. 22.00 – 6.00), o case rurali ad utilizzazione residenziale di carattere stagionale;*
- *500 metri da nuclei e case sparse nell'agro, destinati ad uso residenziale, così come definiti all'art. 82 delle NTA del PPR."*

Secondo tale impostazione, pertanto, possono individuarsi le seguenti categorie di edifici:

Cat. 1 - nuclei e case sparse nell'agro, destinati ad uso residenziale, così come definiti all'art. 82 delle NTA del PPR;

Cat. 2a - corpi aziendali ad utilizzazione agro-pastorale in cui sia accertata la presenza continuativa di personale in orario notturno;

Cat. 2b - corpi aziendali ad utilizzazione agro-pastorale in cui sia accertata la presenza continuativa di personale in orario diurno;



Cat. 3 - fabbricati ad utilizzazione agro-pastorale con presenza discontinua di personale;

Cat. 4 - fabbricati di supporto alle attività agricole (ricoveri, depositi, stalle);

Cat. 5 - ruderi/fabbricati in abbandono

Cat. 6 – impianti minieolici esistenti.

Muovendo da tale classificazione, al fine di procedere all'individuazione di potenziali ricettori nelle aree più direttamente interessate dalle installazioni eoliche, ricomprese entro una distanza massima di 1000 m dalle postazioni di macchina, si è proceduto ad una individuazione complessiva dei fabbricati con l'ausilio della cartografia ufficiale di riferimento (Carta Tecnica Regionale in scala 1:10.000). Successivamente si è proceduto a verificarne l'effettiva esistenza e consistenza dall'esame di foto aeree e satellitari nonché attraverso specifici sopralluoghi sul

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campo e interviste ai fruitori dell'area. In tal modo sono state acquisite le necessarie informazioni preliminari sulle caratteristiche tipologico-costruttive e le condizioni di utilizzo degli edifici. Per completezza di analisi sono stati inclusi nel censimento anche quei fabbricati che, in modo manifesto, non presentavano caratteristiche di potenziali ambienti abitativi (p.e. ruderi o depositi). A valle di tali riscontri, è stata inoltre accertata la categoria catastale di appartenenza degli edifici, laddove disponibile.

L'Elaborato PA-R.6 (*Report dei fabbricati censiti e dei punti sensibili*) riporta l'individuazione dei fabbricati censiti in accordo con la metodologia precedentemente indicata. Nel Report è contenuto inoltre lo stralcio della ripresa aerea zenitale, la categoria catastale di appartenenza ed una fotografia prospettica dei fabbricati censiti (laddove ciò si sia reso possibile per condizioni di accessibilità ai fondi privati).

Il censimento ha condotto ad individuare n. 65 edifici, o complessi di fabbricati agricoli. Tra questi, nessuno è stato riconosciuto avere condizioni di utilizzo congruenti con le classi 1 e 2 precedentemente individuate (i.e. fabbricati utilizzati come residenza e corpi aziendali in cui sia accertata la presenza continuativa di personale in orario diurno e/o notturno). Pertanto, ai termini della D.G.R. 3/17 del 2009, nessuno dei fabbricati censiti rappresenta un "edificio sensibile" che richieda l'osservanza di specifiche distanze di rispetto dagli aerogeneratori in progetto (ossia 500 metri per le Cat. 1 e 2a e 300 metri per la Cat. 2b).

Tra i predetti fabbricati è stata riscontrata la prevalente presenza di corpi edilizi di supporto all'attività agricola, quali magazzini e locali di ricovero (categoria catastale prevalente D10 - Fabbricati per funzioni produttive connesse alle attività agricole, con 37 edifici). La frequentazione di tali edifici è saltuaria e strettamente legata alle esigenze di conduzione dei fondi agricoli. È stata, infine, verificata la presenza di numerosi ruderi (15 in totale).

In questo quadro, avuto riguardo della circostanza che n. 2 edifici, contrassegnati con gli identificativi F37 e F161 nel predetto Report sono catastalmente classificati in Categoria A3 (abitazioni di tipo economico), gli stessi sono stati assunti prudenzialmente come riferimento per le verifiche circa l'esposizione ai fattori di impatto rappresentati dall'ombra intermittente (*shadow flickering*) e dal rumore.

La Tabella 3.1 riporta per ciascun ricettore individuato le relative coordinate, secondo il sistema Gauss Boaga e la categoria Catastale.





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Tabella 3.1: Fabbricati con destinazione catastale abitativa esposti al potenziale disturbo da shadow flickering

Fabbricato	Comune	GB Est	GB Nord	Distanza dal più prossimo WTG [m]	Categoria Catasto Fabbricati
F37	Bitti	1528292	4482521	514 (BAP9)	A3 – Abitazioni di tipo economico
F161	Bitti	1526838	4481071	698 (BAP8)	A3 – Abitazioni di tipo economico

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4 IPOTESI ALLA BASE DEL CALCOLO E SOGLIE DI RIFERIMENTO

Il software specialistico utilizzato per la stima dell'entità del fenomeno impiega un modello estremamente conservativo per il calcolo del *shadow flickering*. Nessuno, tra i fattori di influenza indicati al capitolo 2 è contemplato nei calcoli del modello di simulazione. In situazioni di cielo coperto o calma di vento, o in caso di direzione del vento tale da porre il piano del rotore in posizione parallela rispetto alla linea sole-ricettore, la WTG non produrrà ombra intermittente, ma il suo contributo teorico è comunque computato dal *software*. Inoltre, per ovvie ragioni, la simulazione contempla il solo effetto dell'orografia sulla propagazione dell'ombra, ignorando l'azione schermante "sito-specifica" esercitata dai manufatti e dalle alberature. In altre parole, il calcolo descrive lo scenario peggiore possibile, e rappresenta quindi il massimo rischio potenziale di disturbo.



Conseguentemente è altamente verosimile che i ricettori considerati nelle simulazioni saranno soggetti ad un impatto da *shadow flickering* significativamente inferiore a quello ipotizzato dal modello.

In definitiva, affinché il fenomeno dell'ombra intermittente possa costituire un disturbo per i soggetti più sensibili dovrebbero verificarsi simultaneamente le seguenti circostanze:

- il vento deve soffiare ad una velocità superiore a 3 m/s (velocità di *cut-in* del rotore);
- presenza di luminosità solare diretta;
- l'osservatore deve risultare sufficientemente vicino alla sorgente di *shadow flickering*;
- il ricettore deve essere effettivamente esposto al campo di luce tremolante;
- l'illuminazione dell'ambiente residenziale deve essere bassa;
- il contrasto tra luci ed ombre deve essere alto;
- non devono essere presenti schermature che ostacolano la propagazione dell'ombra (come tendaggi o alberature);
- gli individui potenzialmente soggetti ad un impatto da *shadow flickering* dovrebbero permanere esposti alla luce tremolante per un tempo sufficiente ad avvertire fastidio.

Ad oggi non esistono standard Europei o internazionali che stabiliscano livelli accettabili per il fenomeno dell'ombra intermittente conseguente all'esercizio dei parchi eolici. Nonostante il gran numero di impianti realizzati in tutto il mondo, inoltre, effetti documentati di disturbo da *shadow flickering* sono piuttosto difficili da reperire.



Come parametro generale di riferimento può adottarsi quanto sentenziato da un tribunale in Germania che ha stabilito come accettabile una soglia di 30 ore di **disturbo effettivo** da *shadow flickering* all'anno in corrispondenza di un'abitazione. In tali 30 ore/anno, trattandosi di un disturbo effettivamente avvertito dagli occupanti l'edificio, dovrebbero risultare simultaneamente verificate le

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sequenti condizioni:

- cielo sereno;
- l'edificio "bersaglio" è occupato;
- gli occupanti sono svegli;
- le turbine sono in esercizio.

Considerata l'esigua probabilità che si verifichino contemporaneamente tutte le condizioni precedentemente illustrate (si consideri in particolare che le turbine non sono sempre in movimento e non sono sempre perpendicolari alla congiungente sole-ricettore), ne deriva che il risultato del calcolo rappresenta un "caso peggiore" non realistico e sovrastima sensibilmente ciò che verosimilmente potrà verificarsi ad impianto realizzato ed in funzione.

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5 RISULTATI

Il risultato dei calcoli è reso disponibile dal programma di simulazione (*Windpro*) sotto diversi formati:

- Tabellare, (calendario per ciascun ricettore) nel quale per ogni giorno dell'anno sono indicate le ore di luce e l'intervallo di tempo di esposizione all'ombra con l'orario in cui si verifica il fenomeno;
- Grafico, (per ciascun ricettore) nel quale vengono rappresentati i periodi dell'anno in cui si verifica il fenomeno, l'orario e le turbine responsabili dell'ombra;
- grafico globale, con la rappresentazione di isolinee rappresentanti l'incidenza dell'ombra espressa in ore/anno.

Considerata la presenza, nel settore in esame, di alcuni impianti minieolici, ai fini di un'opportuna valutazione degli effetti cumulativi, gli scenari di calcolo considerati sono stati i seguenti:

- Scenario "zero", riferito alla situazione ex-ante, con stima dell'impatto da *shadow flickering* conseguente al funzionamento dei soli impianti minieolici;
- Scenario di progetto, che valuta gli effetti associati all'entrata in esercizio del proposto impianto eolico della Green Energy Sardegna 2 in sovrapposizione alla situazione delineata dallo Scenario "zero".



Con riferimento allo Scenario di progetto, le isolinee d'ombra sono state rappresentate su specifica tavola grafica, in scala adeguata alla dimensione territoriale da rappresentare, per facilitarne la lettura. La tavola è stata realizzata, pertanto, su base cartografica in scala 1:10.000 (Elaborato RS-6 – All. 1).

I risultati forniti dal modello di calcolo consentono di valutare approssimativamente sia l'impatto puntuale sul singolo ricettore, sia l'impatto distribuito sul territorio (movimento e persistenza dell'ombra).



Nello specifico, all'interno degli allegati report di calcolo sono indicati, per il singolo ricettore, i valori totali di interferenza da *shadow flickering* (espressi in h/anno), il numero di giorni in cui si verifica l'interferenza ed infine la durata massima per singolo giorno.

Come evidenziato sopra, peraltro, l'output fornito dal modello è alquanto conservativo e non realistico, giacché la simulazione non tiene in considerazione i numerosi fattori sfavorevoli al verificarsi del disturbo.

Per quanto precede, nel seguito si procederà ad esaminare le risultanze dei calcoli modellistici, introducendo nella valutazione di impatto ulteriori elementi che tengano conto delle effettive condizioni di funzionamento degli impianti, in rapporto al quadro anemologico atteso, nonché delle condizioni meteorologiche caratteristiche del sito di Bitti, con particolare riferimento alle condizioni medie di copertura del cielo.

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I risultati numerici delle simulazioni modellistiche, condotti con riferimento a ciascuno scenario di calcolo, sono riportati in Appendice.

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6 ANALISI E POST-ELABORAZIONE DEI RISULTATI

6.1 Scenario “zero”

Con riferimento allo scenario in esame, la Tabella 6.1 riepiloga, per ciascun ricettore considerato, le risultanze del calcolo modellistico espresse come valori totali di potenziale interferenza da *shadow flickering* (SF_P) in h/anno, numero di giorni in cui si verifica l’interferenza potenziale ed infine durata massima per singolo giorno.

Tabella 6.1 - Scenario “zero” - Durata massima del fenomeno di shadow flickering potenziale (SF_P) in corrispondenza dei fabbricati potenzialmente adibiti ad uso abitativo all’interno dell’areale di interesse

ID	Ricettore	SF_P [h/anno]	SF_P [gg/anno]	SF_P [max h/giorno]
1	F37	00:00	0	00:00
2	F161	1:14	16	00:07

Come si può osservare dall’esame della Tabella 6.1, l’attuale incidenza potenziale dell’ombreggiamento intermittente, derivante dall’esercizio degli impianti minieolici, è del tutto assente presso il fabbricato F37 o limitata ad appena 1 h/anno per il fabbricato F161.



6.2 Scenario di progetto (Scenario 1)

Le risultanze del calcolo modellistico atto a stimare i valori totali di potenziale interferenza da *shadow flickering* in corrispondenza dei ricettori nello scenario di progetto (Scenario 1) sono riportate in Tabella 6.2.

Tabella 6.2: Scenario 1 - Durata massima del fenomeno di shadow flickering potenziale (SF_P) in corrispondenza dei fabbricati potenzialmente adibiti ad uso abitativo all’interno dell’areale di interesse

ID	Ricettore	SF_P [h/anno]	SF_P [gg/anno]	SF_P [max h/giorno]
1	F37	57:49	60	1:22
2	F161	33:04	150	00:30

La Tabella 6.3 riporta, invece, il confronto tra i valori di ombreggiamento intermittente potenziale stimati per lo Scenario “zero” e quelli attesi per lo Scenario 1, documentando, inoltre, i valori di SF_P

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attribuibili ai soli aerogeneratori in progetto (escludendo pertanto il contributo degli esistenti impianti minieolici).

Tabella 6.3: Confronto tra i valori di durata massima del fenomeno di shadow flickering potenziale (SF_P) espressi in h/anno, attesi nello Scenario "zero" e nello Scenario 1 in corrispondenza dei fabbricati potenzialmente adibiti ad uso abitativo all'interno dell'areale di interesse

ID	Ricettore	Solo Progetto SF_P [h/anno]	Scenario "zero" SF_P [h/anno]	Scenario 1 SF_P [h/anno]
1	F37	57:49	00:00	57:49
2	F161	31:50	1:14	33:04

Dall'esame della Tabella 6.2 e della Tabella 6.3 si evince quanto segue:

- stanti le ipotesi estremamente cautelative alla base della simulazione modellistica, il disturbo da *shadow flickering* indotto dal progetto, assunta la soglia di $SF_P=30$ h/anno come valore di riferimento per una valutazione di significatività, si manifesterà in modo contenuto per il fabbricato F161;
- il potenziale disturbo potrebbe risultare più avvertibile sull'edificio F37 ma, come più oltre argomentato, può ragionevolmente ricondursi anch'esso al disotto della soglia di significatività.



Tenuto conto delle ipotesi oltremodo conservative alla base del calcolo modellistico, muovendo dai risultati della simulazione, si è proceduto ad affinare la stima dei valori di effettiva esposizione all'ombra intermittente introducendo opportuni coefficienti di riduzione.

Il principale coefficiente di riduzione, indicato come R_N , tiene conto dell'incidenza media delle condizioni meteo di "cielo coperto" che caratterizzano il territorio di interesse, in concomitanza con le quali il fenomeno del *shadow flickering* assumerebbe proporzioni trascurabili se non nulle. Per la determinazione di R_N si è fatto riferimento ai dati di copertura nuvolosa pubblicati nell'Atlante Climatologico elaborato dai dati delle Stazioni della Rete Operativa del Servizio Meteorologico dell'Aeronautica Militare Italiana nel periodo 1971÷2000.

La nuvolosità, o copertura del cielo, rappresenta la frazione della volta celeste coperta da nubi, esprimendo il rapporto tra la parte di cielo coperta e la superficie totale del cielo.

La copertura del cielo viene valutata a vista durante le osservazioni da terra effettuate dalle stazioni meteorologiche e la frazione che la rappresenta viene espressa in ottavi, da 0 a 8.

Quando il cielo è coperto per più della metà da nubi con la base sotto i 20.000 piedi si dice che le

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nubi formano un soffitto (*ceiling*). Quando non esistono nubi si dice che il cielo è sereno (*clear sky*). Di seguito si riporta la scala convenzionale di nuvolosità in ottavi:

Copertura tra 1 e 2 ottavi – poche nubi (*few*);

Copertura tra 3 e 4 ottavi – nubi sparse (*scattered*);

Copertura tra 5 e 7 ottavi – copertura con squarci (*broken*);

Copertura totale >7 ottavi (*overcast*).

La Tabella 6.4 riporta, per la stazione A.M. più prossima al sito in esame (Fonni - NU), il numero medio di giorni al mese con copertura nuvolosa > 4/8 alle ore 06:00 ed alle ore 18:00, ossia con presenza di cielo “coperto” (Ng h6 Nuv>4 e Ngh18 Nuv>4 rispettivamente).

Sulla base dei mensili di SF_P calcolati per ciascun ricettore nello Scenario 1 è stato possibile pervenire alla stima dei valori di SF al netto delle giornate con presenza di cielo coperto (SF_{NC}) attraverso la seguente espressione:

$$SF_{NC}[h/anno] = \sum_{i=1}^{12} SF_{Pi} \cdot (1 - R_{Ni})$$

Dove:

SF_{NC} = h/anno di *shadow flickering* potenziale al netto delle giornate con presenza di cielo coperto;

SF_{Pi} = ore di *shadow flickering* teorico da modello di calcolo per il mese i-esimo;

R_{Ni} = frequenza dei giorni con copertura del cielo >4/8 per il mese i-esimo.

Con riferimento ai ricettori di interesse, i dati di SF_{NC} sono riportati in Tabella 6.5.



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Tabella 6.4: Aeronautica Militare – Stazione di Fonni (NU). Dati medi di copertura nuvolosa >4/8 registrati nel periodo 1971÷2000 (Fonte, Aeronautica Militare Italiana)

	Ng h6 Nuv>4	Ngh18 Nuv>4	Media Nuv>4	Media Nuv>4 (%)
gen	15,6	19,2	17,4	56%
feb	16,7	21,2	19,0	68%
mar	18,3	22,8	20,6	66%
apr	18,1	21,8	20,0	67%
mag	15,3	19,5	17,4	56%
giu	9,7	12,6	11,2	37%
lug	6	7,1	6,6	21%
ago	6,2	6,9	6,6	21%
set	10,9	14,4	12,7	42%
ott	15,6	18,1	16,9	54%
nov	16,6	18,7	17,7	59%
dic	14,1	15,3	14,7	47%

Ng h6Nuv>4: Numero medio di giorni al mese con copertura nuvolosa > 4/8 alle ore 6
Ngh18Nuv>4: Numero medio di giorni al mese con copertura nuvolosa > 4/8 alle ore 18
MediaNuv>4: Media del numero medio di giorni al mese con copertura nuvolosa > 4/8 registrata alle ore 6 ed alle 18

L'esame della Tabella 6.5 mostra come l'incidenza del fenomeno del *shadow flickering*, al netto delle giornate con cielo coperto (SF_{NC}), risulterà inferiore alla soglia di riferimento in corrispondenza di entrambi gli edifici in esame, presentando un'incidenza massima al netto delle giornate di cielo coperto (SF_{NC}) di circa 29 h/anno (fabbricato F37).



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Tabella 6.5: Scenario 1 - Incidenza del fenomeno del shadow flickering, al netto delle giornate con cielo coperto, in corrispondenza in corrispondenza dei fabbricati potenzialmente adibiti ad uso abitativo all'interno dell'areale di interesse

Ricettore	Scenario 1 SF _P [h/anno]	Scenario 1 SF _{NC} [h/anno]	WTG Disturbanti
F37	57:49:00	28:40:18	BAP8, BAP9
F161	33:04:00	18:03:17	BAP6, BAP10, BAP11

Per quanto riguarda il caso peggiore tra i ricettori considerati, rappresentato dal fabbricato F37 (entità del fenomeno di ombreggiamento stimata in 29 h/anno al netto delle giornate con cielo coperto), si ritiene opportuno formulare, inoltre, le seguenti considerazioni:

- il report del programma di simulazione mostra come il potenziale impatto da SF per il ricettore F37 sia attribuibile agli aerogeneratori BAP9 e BAP10, posti a sudovest del fabbricato a distanze di 514 m e 1057 m rispettivamente;
- il fenomeno di ombreggiamento sarà limitato al solo periodo da novembre a gennaio ed interesserà le ore pomeridiane (indicativamente dalle 13:30 alle 17:00) con una persistenza massima giornaliera di circa un'ora e mezza;
- i dati di frequenza della direzione di provenienza del vento massimo pubblicati dall'ARPAS (Tabella 6.6) indicano per la stazione di Forni (la più prossima al sito in esame), una frequenza dei venti provenienti da NW e SE per circa il 23% delle occorrenze. In tali circostanze è stimabile un impatto da SF del tutto trascurabile, avendosi il piano del rotore pressoché allineato con la congiungente sole-ricettore. Nel 77% delle possibili situazioni di provenienza del vento, viceversa, il fenomeno potrà presentarsi in modo potenzialmente avvertibile ma comunque scarsamente significativo per le ragioni anzidette (incidenza di circa 22 h/anno).

In definitiva, considerate le ipotesi oltremodo conservative alla base del modello di calcolo (cielo sereno, rotore ortogonale alla congiungente sole-ricettore, rotori in movimento e dunque velocità del vento superiore a 3m/s, effettiva presenza degli occupanti l'edificio, sufficiente contrasto luci-ombre, assenza di elementi schermanti) è ragionevole affermare che gli effettivi impatti da *shadow flickering* risulteranno estremamente più contenuti di quelli prospettati dal software di simulazione, tali da potersi ricondurre ai predetti "valori guida" e da non arrecare apprezzabili disturbi agli occupanti gli edifici.





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Figura 6.1 – Edificio F37 (vista da nordest)

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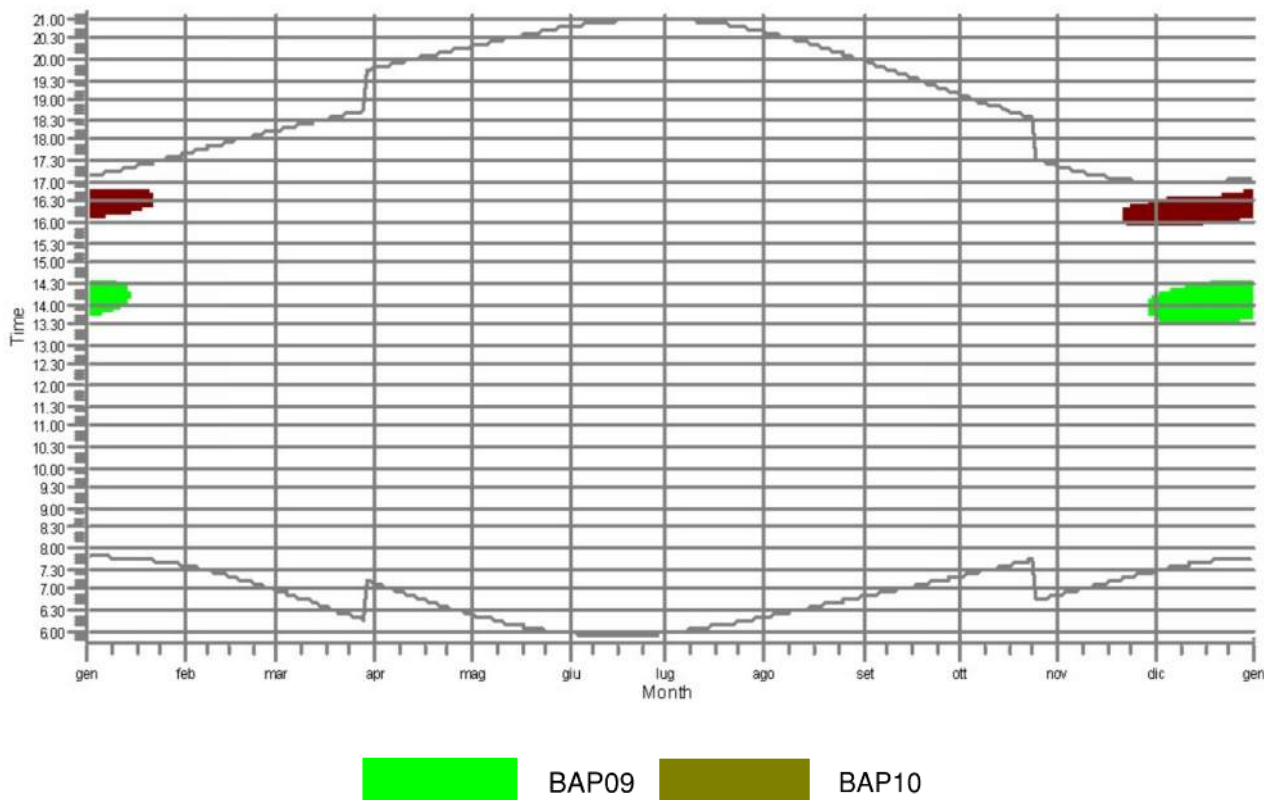




Figura 2 – Calendario dell'ombra per il ricettore F37

Tabella 6.6 - Direzione di provenienza del vento massimo¹ - percentuali sul totale dei dati disponibili (Anni 1951÷1993 - Fonte ARPAS)

Stazione	N	NE	E	SE	S	SW	W	NW	direzione variabile o calma di vento
Capo Frasca (Arbus)	10,41	3,97	9,62	15,94	2	9,72	19,83	28,26	0,26
Decimomannu	10,94	2,1	2,78	23,17	14,71	3,62	9,1	32,97	0,62
Elmas	14,68	0,84	4,35	17,68	20,85	2,36	11,98	27,11	0,15
Spalmatoreddu (Carloforte)	15,02	3,83	6,42	10,62	8,98	6,68	10,31	38,14	0
Fonni	6,79	6,6	7,94	6,58	5,4	16	33,6	16,41	0,67
Capo Bellavista (Arbatax)	8,34	15,07	10,94	7,98	15,45	5,23	15,7	21,19	0,1
Perdasdefogu	2,05	6,28	22,53	11,63	1,2	10,13	39,1	6,44	0,63
Guardiavecchia (La Maddalena)	4,41	10,53	15,95	5,51	0,72	6,64	51,07	4,99	0,19
Asinara	3,07	3,02	22,68	4,29	3,77	9,16	40,84	13,03	0,13
Alghero	6,85	11,57	4,24	0,73	16,65	12,05	27,76	19,97	0,19

¹ I dati utilizzati sono relativi al vento di massima intensità misurato nell'arco delle 24 ore e rappresentano l'istante della giornata in cui tale fenomeno ha raggiunto il suo massimo. Ne discende che la statistica ottenuta si riferisce al comportamento del vento dominante in una giornata, ma non a quello misurato istante per istante.

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7 CONCLUSIONI

Il documento ha esaminato compiutamente il potenziale disturbo da ombreggiamento intermittente (*shadow flickering*) sulle abitazioni sparse presenti nell'area interessata dal proposto parco eolico, entro una distanza indicativa di 1000 metri dagli aerogeneratori in progetto. L'individuazione dei ricettori ha fatto riferimento alla ricognizione sugli edifici esistenti eseguita nell'ambito della definizione del layout di impianto e dell'analisi ambientale, i cui risultati sono riepilogati in opportune "schede fabbricati" all'interno di apposito report allegato alla documentazione progettuale.

Avuto riguardo della circostanza che n. 2 edifici, tra quelli censiti, sono catastalmente classificati in Categoria A3 (abitazioni di tipo economico), gli stessi sono stati oggetto di verifica circa l'esposizione all'ombra intermittente (*shadow flickering*).



Considerata, la presenza di alcuni impianti minieolici nel settore di studio, relativamente ai ricettori considerati sono stati valutati gli effetti cumulativi indotti dal progetto in relazione allo specifico fattore di impatto.

In assenza di standard Europei o internazionali che stabiliscano livelli accettabili per il fenomeno dell'ombra intermittente conseguente all'esercizio dei parchi eolici, può assumersi come parametro di riferimento quanto sentenziato da un tribunale in Germania che ha stabilito come accettabile una soglia di 30 ore effettive (o avvertibili) di *shadow flickering* all'anno in corrispondenza di un ambiente abitativo.

Relativamente allo Scenario "zero" (scenario *ante operam* contraddistinto dal funzionamento degli impianti minieolici), la soglia limite di riferimento delle 30 h/anno di ombreggiamento intermittente effettivamente avvertito dagli occupanti l'edificio, come definita al cap. 3, risulta ampiamente rispettata per entrambi i ricettori.

Relativamente allo Scenario di progetto si è evidenziato come l'incidenza del fenomeno del *shadow flickering*, al netto delle giornate con cielo coperto, si presenterà ragionevolmente inferiore alla soglia di riferimento di 30 h/anno presso entrambi gli edifici.

In definitiva, considerate le ipotesi oltremodo conservative alla base del modello di calcolo (cielo sereno, rotore ortogonale alla congiungente sole-ricettore, rotori in movimento e dunque velocità del vento superiore a 3m/s, effettiva presenza degli occupanti l'edificio, sufficiente contrasto luci-ombre, assenza di elementi schermanti) è altamente verosimile che gli effettivi impatti da *shadow flickering* risulteranno estremamente più contenuti di quelli prospettati dal software di simulazione, tali da potersi ricondurre ai predetti "valori guida" e da non arrecare apprezzabili disturbi agli occupanti gli edifici.

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**APPENDICE 1 - REPORT DEI RISULTATI DEL CALCOLO MODELLISTICO –
SCENARIO “ZERO”**

Project:
Eolico_Green_2020_07_13

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30/07/2020 14.27/2.9.207

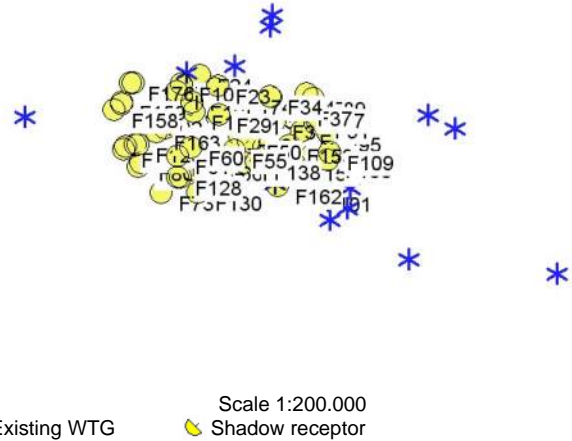
SHADOW - Main Result

Calculation: Shadow_2020_07_30 Stato di fatto

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence 3 °
Day step for calculation 1 days
Time step for calculation 1 minutes
The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating



A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Height Contours: tin-10-12-19.wpo (1)
Obstacles used in calculation
Eye height: 1,5 m
Grid resolution: 10,0 m

WTGs

	Italian Gauss-Boaga west-ROMA40 (IT-peninsular <±4m) WTG type				Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
	East	North	Z	Row data/Description							Calculation distance [m]	RPM [RPM]
1	1.529.546	4.479.905	800,0	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
2	1.529.619	4.480.416	798,0	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
3	1.529.098	4.479.590	770,8	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
4	1.531.174	4.478.564	748,2	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
5	1.527.639	4.480.895	805,0	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
6	1.527.624	4.480.552	785,4	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
7	1.527.210	4.480.962	791,6	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
8	1.535.119	4.478.191	776,2	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
9	1.527.544	4.484.973	717,6	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
10	1.527.484	4.484.675	721,9	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
11	1.532.402	4.482.012	604,9	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
12	1.525.281	4.483.455	700,6	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
13	1.526.549	4.483.644	725,0	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
14	1.531.684	4.482.356	722,1	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
15	1.520.994	4.482.283	730,8	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	
16	1.526.063	4.482.436	725,0	TOZZI_GREEN_bis V...Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0	

Shadow receptor-Input

No.	Name	Italian Gauss-Boaga west-ROMA40 (IT-peninsular <±4m)							Slope of window [°]	Direction mode
		East	North	Z	Width [m]	Height [m]	Height a.g.l. [m]	Degrees from south cw [°]		
F01		1.523.570	4.482.610	695,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F02	Rudere	1.524.325	4.482.248	730,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F03		1.524.365	4.482.250	730,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F06		1.525.034	4.482.945	717,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F10		1.525.151	4.483.145	712,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F101		1.528.492	4.480.276	791,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F102		1.528.591	4.481.254	790,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F103		1.529.035	4.481.171	785,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F109		1.529.091	4.481.362	782,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F121		1.523.636	4.481.414	721,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F123		1.524.022	4.481.552	733,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F128		1.525.049	4.480.691	809,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F130		1.525.596	4.480.292	830,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F131		1.526.104	4.482.285	730,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"

To be continued on next page...

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Main Result**Calculation:** Shadow_2020_07_30 Stato di fatto

...continued from previous page

Italian Gauss-Boaga west-ROMA40 (IT-peninsular <±4m)

No.	Name	East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
F137		1.527.392	4.481.250	780,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F138		1.527.154	4.481.106	803,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F151	Vedetta antincendio	1.528.145	4.481.089	820,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F153		1.528.003	4.481.527	767,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F154		1.527.528	4.482.793	725,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F158		1.523.367	4.482.464	695,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F159		1.523.578	4.482.664	695,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F16		1.525.478	4.482.406	735,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F161	Abitazione	1.526.838	4.481.071	805,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F162		1.527.704	4.480.480	777,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F163		1.524.497	4.481.870	736,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F167		1.528.314	4.482.481	741,9	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F168		1.527.350	4.481.506	772,8	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F172		1.529.040	4.481.205	786,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F174		1.526.400	4.482.829	710,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F176		1.523.814	4.483.175	707,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F177		1.523.875	4.483.163	702,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F18		1.525.417	4.482.629	736,9	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F19		1.525.437	4.482.663	739,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F21		1.526.037	4.483.025	707,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F23		1.526.110	4.483.114	700,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F24		1.525.639	4.483.367	703,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F29		1.526.143	4.482.341	730,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F31		1.526.487	4.482.427	718,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F32		1.527.087	4.482.457	724,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F33		1.527.619	4.482.174	757,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F34		1.527.495	4.482.817	725,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F37	Abitazione	1.528.292	4.482.521	739,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F39		1.528.335	4.481.913	769,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F43		1.527.984	4.480.886	805,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F47		1.527.430	4.481.452	766,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F50		1.526.936	4.481.639	769,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F52	Rudere	1.527.125	4.481.270	795,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F52		1.526.687	4.481.798	741,9	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F55		1.526.560	4.481.407	761,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F57		1.525.804	4.481.544	741,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F60		1.525.426	4.481.469	770,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F61	Rudere	1.525.068	4.481.254	780,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F62		1.524.961	4.481.203	791,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F66		1.525.935	4.481.066	785,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F67		1.525.455	4.480.896	805,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F68		1.525.133	4.480.678	803,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F69		1.525.093	4.480.658	805,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F73	Rudere	1.524.632	4.480.282	736,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F78	Rudere	1.524.731	4.481.978	730,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F80		1.524.087	4.481.069	729,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F81		1.524.012	4.480.955	719,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F85		1.523.943	4.481.557	726,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F87		1.523.673	4.481.497	720,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F88	Rudere	1.528.460	4.482.917	727,8	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F89		1.528.635	4.482.786	743,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F91		1.528.746	4.482.198	772,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F93		1.528.692	4.482.130	774,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F95		1.529.047	4.481.853	770,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Main Result**Calculation:** Shadow_2020_07_30 Stato di fatto**Calculation Results**

Shadow receptor

No.	Name	Shadow, worst case		
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
F01		0:00	0	0:00
F02	Rudere	0:00	0	0:00
F03		0:00	0	0:00
F06		0:00	0	0:00
F10		0:00	0	0:00
F101		0:00	0	0:00
F102		0:00	0	0:00
F103		0:00	0	0:00
F109		0:00	0	0:00
F121		0:00	0	0:00
F123		0:00	0	0:00
F128		0:00	0	0:00
F130		0:00	0	0:00
F131		0:00	0	0:00
F137		0:00	0	0:00
F138		1:45	16	0:10
F151	Vedetta antincendio	0:00	0	0:00
F153		1:35	20	0:06
F154		0:00	0	0:00
F158		0:00	0	0:00
F159		0:00	0	0:00
F16		0:02	2	0:01
F161	Abitazione	1:14	16	0:07
F162		0:00	0	0:00
F163		0:00	0	0:00
F167		0:00	0	0:00
F168		0:00	0	0:00
F172		0:00	0	0:00
F174		0:00	0	0:00
F176		0:00	0	0:00
F177		0:00	0	0:00
F18		0:00	0	0:00
F19		0:00	0	0:00
F21		0:00	0	0:00
F23		0:00	0	0:00
F24		5:00	26	0:17
F29		0:00	0	0:00
F31		3:38	19	0:15
F32		0:00	0	0:00
F33		0:00	0	0:00
F34		0:00	0	0:00
F37	Abitazione	0:00	0	0:00
F39		0:00	0	0:00
F43		5:07	24	0:18
F47		0:00	0	0:00
F50		0:00	0	0:00
F52	Rudere	2:07	20	0:08
F52		0:00	0	0:00
F55		0:00	0	0:00
F57		0:00	0	0:00
F60		0:00	0	0:00
F61	Rudere	0:00	0	0:00
F62		0:00	0	0:00
F66		0:00	0	0:00
F67		0:00	0	0:00
F68		0:00	0	0:00
F69		0:00	0	0:00
F73	Rudere	0:00	0	0:00

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Main Result**Calculation:** Shadow_2020_07_30 Stato di fatto

...continued from previous page

Shadow, worst case

No.	Name	Shadow hours	Shadow days	Max shadow
		per year [h/year]	per year [days/year]	hours per day [h/day]
F78	Rudere	0:00	0	0:00
F80		0:00	0	0:00
F81		0:00	0	0:00
F85		0:00	0	0:00
F87		0:00	0	0:00
F88	Rudere	0:00	0	0:00
F89		0:00	0	0:00
F91		0:00	0	0:00
F93		0:00	0	0:00
F95		0:00	0	0:00

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (13)	0:00	
2	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (14)	0:00	
3	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (15)	0:00	
4	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (16)	0:00	
5	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (17)	8:59	
6	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (18)	0:00	
7	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (19)	2:49	
8	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (20)	0:00	
9	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (21)	0:00	
10	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (22)	0:00	
11	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (23)	0:00	
12	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (24)	4:32	
13	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (25)	0:28	
14	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (26)	0:00	
15	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (27)	0:00	
16	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (28)	3:40	

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F01 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (262)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.28
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.06	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.30
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.54	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.01	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.47	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.20	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.29	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.49	20.12	19.22	18.35	17.02	17.00
23	07.41	07.08	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.58	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.41	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.16	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.11	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.47
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F02 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F03 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (234)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F06 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (263)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F10 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (264)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.51	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F101 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (253)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.09	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.28	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.56	06.18	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F102 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (285)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.18	06.47	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F103 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (286)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.18	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		07.50		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F109 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (254)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.18	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F121 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (287)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.23	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.06	06.21	05.55	05.57	06.22	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.54	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.52	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.01	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.47	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.20	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.29	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.16	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.55	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.04
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.11	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.47
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F123 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (288)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.04
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F128 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (289)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F130 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (290)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F131 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (291)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F137 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (292)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F138 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (255)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December				
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.15 (5)	07.26			
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	7	07.22 (5)	16.57		
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.15 (5)	07.27			
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	10	07.25 (5)	16.57		
3	07.47	07.32	07.52 (5)	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.16 (5)	07.28		
	17.08	17.43	2	07.54 (5)	18.16	19.49	20.20	20.48	20.57	19.54	19.04	17.19	9	07.25 (5)	16.57	
4	07.47	07.31	07.51 (5)	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.17 (5)	07.29		
	17.09	17.44	4	07.55 (5)	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	8	07.25 (5)	16.57
5	07.47	07.30	07.49 (5)	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.18 (5)	07.30		
	17.10	17.45	6	07.55 (5)	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.17	7	07.25 (5)	16.57
6	07.47	07.29	07.48 (5)	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.20 (5)	07.31		
	17.11	17.46	7	07.55 (5)	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	6	07.26 (5)	16.57
7	07.47	07.28	07.47 (5)	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.21 (5)	07.32		
	17.12	17.48	8	07.55 (5)	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	4	07.25 (5)	16.56
8	07.47	07.27	07.46 (5)	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.22 (5)	07.33		
	17.13	17.49	9	07.55 (5)	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	2	07.24 (5)	16.56
9	07.47	07.25	07.45 (5)	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.01	07.34		
	17.14	17.50	10	07.55 (5)	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56		
10	07.46	07.24	07.47 (5)	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.03	07.35		
	17.15	17.51	6	07.53 (5)	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56		
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.04	07.04	07.36		
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.57				
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.05	07.05	07.36		
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57				
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.06	07.06	07.37		
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57				
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.07	07.07	07.38		
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57				
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.08	07.08	07.39		
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57				
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.10	07.10	07.39		
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57				
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.11	07.11	07.40		
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58				
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.12	07.12	07.41		
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58				
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.13	07.13	07.41		
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58				
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.14	07.14	07.42		
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59				
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.15	07.15	07.43		
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59				
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.16	07.16	07.43		
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.02	17.02	07.43		
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.18	07.18	07.44		
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.01	17.01	07.44		
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.19	07.19	07.44		
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.00	17.00	07.41		
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.20	07.20	07.44		
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.00	17.00	07.41		
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.21	07.21	07.45		
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	16.59	16.59	07.42		
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.22	07.22	07.45		
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	16.59	16.59	07.43		
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.47	07.23	07.23	07.23	07.46		
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	16.58	16.58	07.43		
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.24	07.24	07.46		
	17.37		19.44	20.16	20.44	20.58	20.42	20.02	19.10	17.25	16.58	16.58	16.58	07.43		
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.25	07.25	07.46		
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	16.58	16.58	07.43		
31	07.35		07.10		05.56		06.19	06.49		06.51				07.46		
	17.39		19.46		20.46		20.40	19.58		17.22				07.46		
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	53	290			
Total, worst case																

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F151 - Vedetta antincendio

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.28	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.56	06.18	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F153 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (294)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26	
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57	
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27	
	17.07	17.42	18.15	19.48	20.19	20.48	20.57	20.38	19.55	19.05	17.20	16.57	
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28	
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57	
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29	
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57	
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30	
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57	
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31	
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56	
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32	
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56	
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33	
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56	
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34	
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56	
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35	
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56	
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36	
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56	
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36	16.27 (7)
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57	2 16.29 (7)
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37	16.27 (7)
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57	4 16.31 (7)
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38	16.26 (7)
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57	5 16.31 (7)
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39	16.27 (7)
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57	5 16.32 (7)
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39	16.27 (7)
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57	5 16.33 (7)
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40	16.27 (7)
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58	5 16.34 (7)
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41	16.28 (7)
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58	5 16.33 (7)
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41	16.28 (7)
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58	5 16.33 (7)
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42	16.28 (7)
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59	5 16.33 (7)
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43	16.29 (7)
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59	5 16.34 (7)
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43	16.29 (7)
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00	5 16.34 (7)
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44	16.30 (7)
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00	5 16.35 (7)
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44	16.30 (7)
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01	5 16.35 (7)
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44	16.30 (7)
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01	5 16.35 (7)
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45	16.32 (7)
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02	5 16.37 (7)
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45	16.32 (7)
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03	5 16.37 (7)
28	07.37	07.00	06.15	06.28	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.46	16.32 (7)
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03	6 16.38 (7)
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.46	16.33 (7)
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04	5 16.38 (7)
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.49	07.25	07.46	16.35 (7)
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05	4 16.39 (7)
31	07.35		07.10		05.56		06.18	06.48		07.50		07.46	16.35 (7)
	17.39		19.46		20.46		20.40	19.58		17.22		17.06	4 16.39 (7)
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290	
Total, worst case													95

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F154 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (256)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.03	16.58
20	07.43	07.12	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F158 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (257)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.28
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.06	06.21	05.55	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.30
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.54	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	20.00	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.01	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.47	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.20	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.29	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.49	20.12	19.22	18.35	17.02	17.00
23	07.41	07.08	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.58	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.41	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.16	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.47	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.04
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.11	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.47
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F159 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (258)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.28
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.06	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.30
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.54	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.01	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.47	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.20	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.29	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.49	20.12	19.22	18.35	17.02	17.00
23	07.41	07.08	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.58	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.41	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.16	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.11	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.47
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F16 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (265)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.20	06.50	07.19	06.52	07.26	
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58	
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.51	07.20	06.53	07.27	
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57	
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28	
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57	
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29	
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57	
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30	
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57	
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31	
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57	
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32	
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56	
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33	
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56	
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34	
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56	
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35	
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.56	
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36	
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57	
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.20 (16)	07.30	07.37	
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	1 07.21 (16)	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37	
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57	
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38	
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57	
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39	
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57	
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40	
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.57	
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40	
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58	
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41	
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58	
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42	
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.58	
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42	
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59	
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43	
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59	
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43	
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00	
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44	
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00	
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44	
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01	
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45	
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01	
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45	
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02	
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45	
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03	
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.47	07.23	07.46	
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03	
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.46	
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04	
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.49	07.25	07.46	
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05	
31	07.35		07.10	07.29 (16)	05.56		06.19	06.49		06.51		07.46	
	17.39		19.46	1 07.30 (16)	20.46		20.40	19.58		17.22		17.06	
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290	
Total, worst case			1						1				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F161 - Abitazione

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26		
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57		
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27		
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57		
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28		
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57		
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29		
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57		
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30		
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.17	16.57		
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31		
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57		
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32		
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56		
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33		
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56		
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34		
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56		
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35		
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56		
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36		
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.57		
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36		
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57		
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37		
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57		
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38		
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.08	16.57		
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39		
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57		
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39		
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57		
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.56 (7)	07.11		
	17.23	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	6	08.02 (7)		
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	6	08.02 (7)		
	17.24	18.01	2	07.35 (7)	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	6	08.03 (7)
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	6	08.03 (7)		
	17.25	18.02	3	07.35 (7)	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	6	08.04 (7)
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	6	08.04 (7)		
	17.26	18.03	4	07.35 (7)	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	6	08.05 (7)
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	6	08.05 (7)		
	17.27	18.04	6	07.35 (7)	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	5	08.05 (7)
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	5	08.06 (7)		
	17.28	18.06	6	07.34 (7)	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	4	08.06 (7)
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	4	08.06 (7)		
	17.29	18.07	7	07.33 (7)	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	3	08.06 (7)
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	3	08.06 (7)		
	17.31	18.08	6	07.31 (7)	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	1	08.05 (7)
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	1	08.05 (7)		
	17.32	18.09	3	07.27 (7)	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30		07.20
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45		07.21		07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29		07.22		07.46
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46		07.23		07.46
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28		07.24		07.47
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.47		07.25		07.47
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26		07.26		07.48
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.48		07.27		07.48
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25		07.28		07.49
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.49		07.29		07.49
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24		07.30		07.50
31	07.35		07.10		05.56		06.19	06.49		07.50		07.31		07.50
	17.39		19.46		20.46		20.40	19.58		17.22		07.32		07.51
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290		
Total, worst case		37								37				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F162 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (260)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.04	16.58
20	07.43	07.11	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F163 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (261)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F167 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (295)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.18	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Eolico_Green_2020_07_13

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F168 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (228)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.03	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F172 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (229)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.18	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F174 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (230)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F176 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (231)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.28
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.30
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.01	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.20	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.49	20.12	19.22	18.35	17.02	17.00
23	07.41	07.08	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.58	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.41	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.47
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F177 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (232)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.28
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.30
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.01	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.20	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.49	20.12	19.22	18.35	17.02	17.00
23	07.41	07.08	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.58	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.41	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.47
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F18 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (235)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.51	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F19 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (266)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.51	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F21 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (236)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F23 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (267)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F24 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (237)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07.47 17.07	07.34 17.40	06.59 18.14	07.09 19.47	06.24 20.18	06.43 (13) 19.49 (12)	05.55 20.47	05.56 20.58	06.19 20.39	06.50 19.57	07.19 19.07	06.52 17.21	07.26 16.57
2	07.47 17.07	07.33 17.42	06.57 18.15	07.07 19.48	06.22 20.19	06.43 (13) 19.46 (12)	05.55 20.48	05.57 20.58	06.20 20.38	06.51 19.55	07.20 19.05	06.53 17.20	07.27 16.57
3	07.47 17.08	07.32 17.43	06.56 18.16	07.05 19.49	06.21 20.20	05.55 20.48	05.57 20.58	06.21 20.37	06.51 19.54	07.21 19.04	06.54 17.19	07.28 16.57	
4	07.47 17.09	07.31 17.44	06.54 18.17	07.04 19.50	06.20 20.21	05.54 20.49	05.58 20.57	06.22 20.36	06.52 19.52	07.22 19.02	06.56 17.18	07.29 16.57	
5	07.47 17.10	07.30 17.45	06.53 18.18	07.02 19.51	06.19 20.22	05.54 20.50	05.58 20.57	06.23 20.35	06.53 19.50	07.23 19.01	06.57 17.17	07.30 16.57	
6	07.47 17.11	07.29 17.46	06.51 18.19	07.01 19.52	06.17 20.23	05.54 20.50	05.59 20.57	06.24 20.34	06.54 19.49	07.24 18.59	06.58 17.15	07.31 16.57	
7	07.47 17.12	07.28 17.48	06.49 18.20	06.59 19.53	06.16 20.24	05.53 20.51	05.59 20.57	06.25 20.32	06.55 19.47	07.25 18.57	06.59 17.14	07.32 16.56	
8	07.47 17.13	07.27 17.49	06.48 18.22	06.57 19.54	06.15 20.25	05.53 20.52	06.00 20.56	06.26 20.31	06.56 19.46	07.26 18.56	07.00 17.13	07.33 16.56	
9	07.47 17.14	07.26 17.50	06.46 18.23	06.56 19.55	06.14 20.26	05.53 20.52	06.01 20.56	06.27 20.30	06.57 19.44	07.27 18.54	07.01 17.12	07.34 16.56	
10	07.47 17.15	07.24 17.51	06.45 18.24	06.54 19.56	06.13 20.27	05.53 20.53	06.01 20.56	06.28 20.29	06.58 19.42	07.28 18.53	07.03 17.11	07.35 16.56	
11	07.46 17.16	07.23 17.53	06.43 18.25	06.53 19.57	06.12 20.28	05.52 20.53	06.02 20.55	06.29 20.28	06.59 19.56 (13)	07.29 19.41	07.04 17.10	07.36 16.57	
12	07.46 17.17	07.22 17.54	06.41 18.26	06.51 19.58	06.11 20.29	05.52 20.54	06.03 20.55	06.30 20.26	06.52 (13) 19.58 (12)	07.00 19.39	07.30 18.49	07.37 16.57	
13	07.46 17.18	07.21 17.55	06.40 18.27	06.49 19.59	06.10 20.30	05.52 20.54	06.03 20.54	06.31 20.25	06.52 (13) 19.58 (12)	07.01 19.37	07.31 18.48	07.38 16.57	
14	07.46 17.19	07.20 17.56	06.38 18.28	06.48 20.00	06.09 20.31	05.52 20.55	06.04 20.54	06.32 20.24	06.53 (13) 19.59 (12)	07.02 19.36	07.32 18.46	07.39 16.57	
15	07.45 17.20	07.18 17.57	06.37 18.29	06.46 20.01	06.08 20.32	05.52 20.55	06.05 20.53	06.33 20.22	07.03 19.34	07.33 18.45	07.09 17.07	07.40 16.57	
16	07.45 17.21	07.17 17.59	06.35 18.30	06.45 20.03	06.07 20.33	05.52 20.56	06.06 20.53	06.34 20.21	07.04 19.32	07.34 18.43	07.10 17.06	07.41 16.57	
17	07.44 17.23	07.16 18.00	06.33 18.31	06.43 20.04	06.06 20.34	05.52 20.56	06.06 20.52	06.35 20.19	07.05 19.31	07.35 18.42	07.11 17.05	07.42 16.58	
18	07.44 17.24	07.14 18.01	06.32 18.32	06.42 20.05	06.05 20.35	05.52 20.56	06.07 20.51	06.36 20.18	07.06 19.43 (12)	07.36 19.29	07.12 18.40	07.43 16.58	
19	07.43 17.25	07.13 18.02	06.30 18.33	06.40 20.06	06.04 20.36	05.52 20.57	06.08 20.51	06.37 20.17	07.07 19.54 (12)	07.37 19.27	07.13 18.39	07.44 16.58	
20	07.43 17.26	07.12 18.03	06.28 18.34	06.39 20.07	06.03 20.37	05.53 20.57	06.09 20.50	06.38 20.15	07.08 19.53 (12)	07.38 19.25	07.14 18.37	07.45 16.59	
21	07.42 17.27	07.10 18.05	06.27 18.35	06.37 20.08	06.02 20.38	05.53 20.57	06.10 20.49	06.39 20.14	07.09 19.44 (12)	07.39 19.24	07.15 18.36	07.46 16.59	
22	07.42 17.28	07.09 18.06	06.25 18.37	06.36 20.09	06.02 20.39	05.53 20.57	06.10 20.48	06.39 20.12	07.10 19.51 (12)	07.40 19.22	07.16 18.34	07.47 17.00	
23	07.41 17.29	07.07 18.07	06.23 18.38	06.35 20.10	06.01 20.40	05.53 20.57	06.11 20.48	06.41 20.11	07.11 19.46 (12)	07.41 19.20	07.17 18.33	07.48 17.01	
24	07.40 17.31	07.06 18.08	06.22 18.39	06.33 20.11	06.00 20.41	05.53 20.58	06.12 20.47	06.42 20.09	07.12 19.55 (12)	07.42 19.19	07.18 18.32	07.49 17.01	
25	07.40 17.32	07.05 18.09	06.20 18.40	06.32 20.12	05.59 20.41	05.54 20.58	06.13 20.46	06.43 20.08	07.13 19.47 (12)	07.43 19.17	07.19 18.30	07.50 17.01	
26	07.39 17.33	07.03 18.10	06.19 18.41	06.30 20.13	05.59 20.42	05.54 20.58	06.14 20.45	06.44 20.06	07.14 19.15	07.44 18.29	07.21 16.59	07.51 17.02	
27	07.38 17.34	07.02 18.11	06.17 18.42	06.29 20.14	05.58 20.43	05.54 20.58	06.15 20.44	06.45 20.05	07.15 19.14	07.45 18.28	07.22 16.59	07.52 17.03	
28	07.37 17.35	07.00 18.13	06.15 18.43	06.28 20.15	05.58 20.44	05.55 20.58	06.16 20.43	06.46 20.03	07.16 19.12	07.46 18.26	07.23 16.59	07.53 17.03	
29	07.37 17.37	07.00 18.14	06.15 18.44	06.28 20.16	05.58 20.45	05.55 20.58	06.17 20.42	06.47 20.02	07.17 19.10	07.47 18.25	07.24 16.58	07.54 17.04	
30	07.36 17.38	07.00 18.15	06.15 18.45	06.28 20.17	05.58 20.46	05.55 20.58	06.18 20.41	06.48 20.00	07.18 19.09	07.48 18.24	07.25 16.58	07.55 17.05	
31	07.35 17.39	07.00 18.16	06.15 18.46	06.28 20.18	05.58 20.47	05.55 20.58	06.19 20.40	06.49 19.58	07.19 19.08	07.49 18.23	07.26 16.58	07.56 17.06	
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290	
Total, worst case				132	19			149					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F29 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (268)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F31 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (238)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07.47 17.07	07.34 17.40	06.59 18.14	07.09 19.47	19.09 (16) 19.23 (16)	06.24 20.18	05.55 20.47	05.56 20.58	06.19 20.39	06.50 19.57	07.19 19.07	06.52 17.21	07.26 16.57
2	07.47 17.07	07.33 17.42	06.57 18.15	07.07 19.48	19.08 (16) 19.22 (16)	06.22 20.19	05.55 20.48	05.57 20.58	06.20 20.38	06.50 19.55	07.20 19.05	06.53 17.20	07.27 16.57
3	07.47 17.08	07.32 17.43	06.56 18.16	07.05 19.49	19.10 (16) 19.21 (16)	06.21 20.20	05.55 20.48	05.57 20.57	06.21 20.37	06.51 19.54	07.21 19.04	06.54 17.19	07.28 16.57
4	07.47 17.09	07.31 17.44	06.54 18.17	07.04 19.50	19.11 (16) 19.19 (16)	06.20 20.21	05.54 20.49	05.58 20.57	06.22 20.36	06.52 19.52	07.22 19.02	06.56 17.18	07.29 16.57
5	07.47 17.10	07.30 17.45	06.52 18.18	07.02 19.51	06.19 20.22	05.54 20.50	05.58 20.57	06.23 20.35	06.53 19.50	07.23 19.01	06.57 17.17	07.30 16.57	07.30 16.57
6	07.47 17.11	07.29 17.46	06.51 18.19	07.01 19.52	06.17 20.23	05.54 20.50	05.59 20.57	06.24 20.34	06.54 19.49	07.24 18.59	06.58 17.15	07.31 16.57	07.31 16.57
7	07.47 17.12	07.28 17.48	06.49 18.20	06.59 19.53	06.16 20.24	05.53 20.51	05.59 20.57	06.25 20.32	06.55 19.47	07.25 18.57	06.59 17.14	07.32 16.56	07.32 16.56
8	07.47 17.13	07.27 17.49	06.48 18.22	06.57 19.54	06.15 20.25	05.53 20.52	06.00 20.56	06.26 20.31	06.56 19.45	8 19.06 (16) 19.14 (16)	07.26 18.56	07.00 17.13	07.33 16.56
9	07.47 17.14	07.25 17.50	06.46 18.23	06.56 19.55	06.14 20.26	05.53 20.52	06.01 20.56	06.27 20.30	06.57 19.44	8 19.14 (16) 19.14 (16)	07.27 18.54	07.01 17.12	07.34 16.56
10	07.46 17.15	07.24 17.51	06.45 18.24	06.54 19.56	06.13 20.27	05.53 20.53	06.01 20.55	06.28 20.29	06.58 19.42	11 19.14 (16) 19.15 (16)	07.28 18.52	07.03 17.11	07.35 16.56
11	07.46 17.16	07.23 17.53	06.43 18.25	06.53 19.57	06.12 20.28	05.52 20.53	06.02 20.55	06.29 20.27	06.59 19.41	13 19.15 (16) 19.15 (16)	07.29 18.51	07.04 17.10	07.36 16.56
12	07.46 17.17	07.22 17.54	06.41 18.26	06.51 19.58	06.11 20.29	05.52 20.54	06.03 20.55	06.30 20.26	07.00 19.39	14 19.15 (16) 19.15 (16)	07.30 18.49	07.05 17.09	07.37 16.57
13	07.46 17.18	07.21 17.55	06.40 18.27	06.49 19.59	06.10 20.30	05.52 20.54	06.03 20.54	06.31 20.25	07.01 19.37	15 19.15 (16) 19.15 (16)	07.31 18.48	07.06 17.08	07.37 16.57
14	07.45 17.19	07.19 17.56	06.38 18.28	06.48 20.00	06.09 20.31	05.52 20.55	06.04 20.54	06.32 20.24	07.02 19.36	13 19.13 (16) 19.13 (16)	07.32 18.46	07.07 17.07	07.38 16.57
15	07.45 17.20	07.18 17.57	06.37 18.29	06.46 20.01	06.08 20.32	05.52 20.55	06.05 20.53	06.33 20.22	07.03 19.34	11 19.12 (16) 19.12 (16)	07.33 18.45	07.08 17.07	07.39 16.57
16	07.45 17.21	07.17 17.59	06.35 18.30	06.45 20.02	06.07 20.33	05.52 20.55	06.06 20.53	06.34 20.21	07.04 19.32	8 19.10 (16) 19.05 (16)	07.34 18.43	07.10 17.06	07.40 16.57
17	07.44 17.22	07.16 18.00	06.33 18.31	06.43 20.03	06.06 20.34	05.52 20.56	06.06 20.52	06.35 20.19	07.05 19.30	2 19.07 (16) 19.07 (16)	07.35 18.42	07.11 17.05	07.40 16.58
18	07.44 17.24	07.14 18.01	06.32 18.32	06.42 20.05	06.05 20.35	05.52 20.56	06.07 20.51	06.36 20.18	07.06 19.29		07.36 18.40	07.12 17.04	07.41 16.58
19	07.43 17.25	07.13 18.02	06.30 18.33	06.40 20.06	06.04 20.36	05.52 20.56	06.08 20.51	06.37 20.17	07.07 19.27		07.37 18.39	07.13 17.04	07.41 16.58
20	07.43 17.26	07.12 18.03	06.28 18.34	06.39 20.07	06.03 20.37	05.53 20.57	06.09 20.50	06.38 20.15	07.08 19.25		07.39 18.37	07.14 17.03	07.42 16.59
21	07.42 17.27	07.10 18.04	06.27 18.35	06.37 20.08	06.02 20.38	05.53 20.57	06.10 20.49	06.39 20.14	07.09 19.24		07.40 18.36	07.15 17.02	07.43 16.59
22	07.42 17.28	07.09 18.06	06.25 18.37	06.36 20.09	06.02 20.39	05.53 20.57	06.10 20.48	06.40 20.12	07.10 19.22		07.41 18.34	07.17 17.02	07.43 17.00
23	07.41 17.29	07.07 18.07	06.23 18.38	06.35 20.10	06.01 20.40	05.53 20.57	06.11 20.48	06.41 20.11	07.11 19.20		07.42 18.33	07.18 17.01	07.44 17.00
24	07.40 17.31	07.06 18.08	06.22 18.39	06.33 20.11	06.00 20.40	05.53 20.58	06.12 20.47	06.42 20.09	07.12 19.19		07.43 18.32	07.19 17.00	07.44 17.01
25	07.40 17.32	07.04 18.09	06.20 18.40	06.32 20.12	05.59 20.41	05.54 20.58	06.13 20.46	06.43 20.08	07.13 19.17		07.44 17.30	07.20 17.00	07.45 17.01
26	07.39 17.33	07.03 18.10	06.18 18.41	06.30 20.13	05.59 20.42	05.54 20.58	06.14 20.45	06.44 20.06	07.14 19.15		07.45 17.29	07.21 16.59	07.45 17.02
27	07.38 17.34	07.02 18.11	06.17 18.42	06.29 20.14	05.58 20.43	05.54 20.58	06.15 20.44	06.45 20.05	07.15 19.14		07.46 17.28	07.22 16.59	07.45 17.03
28	07.37 17.35	07.00 18.13	06.15 18.43	06.28 20.15	05.58 20.44	05.55 20.58	06.16 20.43	06.46 20.03	07.16 19.12		07.47 17.26	07.23 16.58	07.46 17.03
29	07.36 17.37		07.14 19.44	06.26 20.16	05.57 20.45	05.55 20.58	06.17 20.42	06.47 20.02	07.17 19.10		07.48 17.25	07.24 16.58	07.46 17.04
30	07.36 17.38		07.12 19.45	06.25 20.17	05.56 20.45	05.56 20.58	06.18 20.41	06.48 20.00	07.18 19.09		07.49 17.24	07.25 16.58	07.46 17.05
31	07.35 17.39		07.10 19.46	06.25 20.17	05.56 20.46		06.19 20.40	06.49 19.58			07.49 17.22	07.25 16.58	07.46 17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	110	346	299	290
Total, worst case			61	47									

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F32 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (239)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.03	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F33 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (240)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.03	16.58
20	07.43	07.12	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Ing. Giuseppe Frongia

Via Tigellio 22

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Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F34 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (269)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.03	16.58
20	07.43	07.12	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F37 - Abitazione

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.18	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F39 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (241)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.18	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F43 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (242)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47 17.07	07.34 17.40	06.58 18.14	07.09 19.47	19.08 (5) 20.18	06.24 20.47	05.55 20.58	05.56 20.39	06.19 19.57	06.49 19.07	07.19 17.21	06.52 16.57
2	07.47 17.07	07.33 17.42	06.57 18.15	07.07 19.48	19.07 (5) 20.19	06.22 20.47	05.55 20.57	05.56 20.38	06.20 19.55	06.50 19.05	07.20 17.20	06.53 16.57
3	07.47 17.08	07.32 17.43	06.55 18.16	07.05 19.49	19.08 (5) 20.20	06.21 20.48	05.55 20.57	05.57 20.37	06.21 19.54	06.51 19.04	07.21 17.19	06.54 16.58
4	07.47 17.09	07.31 17.44	06.54 18.17	07.04 19.50	19.09 (5) 20.21	06.20 20.49	05.54 20.57	05.58 20.36	06.22 19.52	06.52 19.02	07.22 17.18	06.55 16.59
5	07.47 17.10	07.30 17.45	06.52 18.18	07.02 19.51	19.09 (5) 20.22	06.19 20.50	05.54 20.57	05.58 20.35	06.23 19.50	06.53 19.00	07.23 17.16	06.57 16.57
6	07.47 17.11	07.29 17.46	06.51 18.19	07.00 19.52	19.21 (5) 20.23	20.22 20.50	20.50 20.57	20.57 20.34	20.35 19.49	19.50 19.05	19.00 18.59	17.16 16.56
7	07.47 17.12	07.28 17.48	06.49 18.20	06.59 19.53	19.19 (5) 20.23	20.23 20.50	20.50 20.57	20.57 20.34	20.34 19.49	19.05 19.15	18.59 18.57	16.57 16.56
8	07.47 17.13	07.27 17.49	06.48 18.21	06.57 19.54	20.23 20.25	20.50 20.51	20.57 20.56	20.34 20.32	19.49 19.47	19.15 19.17	18.59 18.57	16.56 16.56
9	07.47 17.14	07.25 17.50	06.46 18.23	06.56 19.55	20.25 20.26	20.51 20.52	20.56 20.56	20.31 20.30	19.45 19.44	18.56 18.54	17.13 17.12	16.56 16.56
10	07.46 17.15	07.24 17.51	06.45 18.24	06.54 19.56	20.26 20.27	20.52 20.53	20.56 20.55	20.30 20.29	19.44 19.42	18.54 19.01	17.12 17.11	16.56 16.56
11	07.46 17.16	07.23 17.53	06.43 18.25	06.53 19.57	20.27 20.28	20.52 20.53	20.56 20.55	20.29 20.27	19.40 19.40	18.51 19.00	17.10 17.09	16.56 16.57
12	07.46 17.17	07.22 17.54	06.41 18.26	06.51 19.58	20.28 20.29	20.52 20.54	20.56 20.55	20.29 20.26	19.39 19.39	18.49 19.17	17.09 17.09	16.57 16.57
13	07.46 17.18	07.21 17.55	06.40 18.27	06.49 19.59	20.29 20.30	20.52 20.54	20.56 20.54	20.31 20.25	19.37 19.37	18.48 19.15	17.08 17.08	16.57 16.57
14	07.45 17.19	07.19 17.56	06.38 18.28	06.48 20.00	20.31 20.31	20.52 20.55	20.56 20.54	20.32 20.23	19.35 19.35	18.46 19.13	17.07 17.07	16.57 16.57
15	07.45 17.20	07.18 17.57	06.36 18.29	06.46 20.01	20.32 20.32	20.55 20.53	20.56 20.53	20.33 20.22	19.34 19.34	18.45 19.12	17.07 17.07	16.57 16.57
16	07.45 17.21	07.17 17.59	06.35 18.30	06.45 20.02	20.37 20.33	20.52 20.55	20.56 20.52	20.34 20.21	19.34 19.32	18.43 19.10	17.06 17.06	16.57 16.57
17	07.44 17.22	07.16 18.00	06.33 18.31	06.43 20.03	20.36 20.34	20.52 20.56	20.56 20.52	20.35 20.19	19.32 19.30	18.43 19.08	17.06 17.05	16.57 16.58
18	07.44 17.24	07.14 18.01	06.32 18.32	06.42 20.04	20.35 20.35	20.52 20.56	20.57 20.51	20.36 20.18	19.30 19.29	18.42 18.40	17.05 17.04	16.58 16.58
19	07.43 17.25	07.13 18.02	06.30 18.33	06.40 20.05	20.36 20.36	20.52 20.56	20.58 20.50	20.37 20.16	19.27 19.27	18.39 18.39	17.03 17.03	16.58 16.58
20	07.43 17.26	07.11 18.03	06.28 18.34	06.39 20.07	20.37 20.37	20.53 20.57	20.59 20.50	20.38 20.15	19.25 19.25	18.37 19.05	17.03 17.03	16.59 16.59
21	07.42 17.27	07.10 18.04	06.27 18.35	06.37 20.08	20.38 20.38	20.53 20.57	20.59 20.49	20.39 20.14	19.24 19.24	18.36 19.04	17.02 17.02	16.59 16.59
22	07.41 17.28	07.09 18.06	06.25 18.36	06.36 20.09	20.39 20.39	20.53 20.57	20.59 20.48	20.40 20.12	19.22 19.22	18.34 19.02	17.01 17.01	17.03 17.03
23	07.41 17.29	07.07 18.07	06.23 18.37	06.34 20.10	20.40 20.39	20.53 20.57	20.59 20.47	20.41 20.11	19.20 19.20	18.33 19.01	17.01 17.01	17.00 17.00
24	07.40 17.31	07.06 18.08	06.22 18.39	06.33 20.11	20.40 20.40	20.53 20.57	20.59 20.47	20.42 20.09	19.19 19.19	18.32 19.00	17.00 17.00	17.01 17.01
25	07.39 17.32	07.04 18.09	06.20 18.40	06.32 20.12	20.41 20.41	20.54 20.58	20.59 20.46	20.43 20.08	19.17 19.17	18.30 19.00	17.00 17.00	17.01 17.01
26	07.39 17.33	07.03 18.10	06.18 18.41	06.30 18.16 (5)	20.13 20.13	20.54 20.58	20.59 20.45	20.44 20.06	19.14 19.15	18.44 19.15	17.01 17.01	17.01 17.01
27	07.38 17.34	07.01 18.11	06.17 18.42	06.29 18.21 (5)	20.14 20.14	20.54 20.58	20.59 20.44	20.45 20.05	19.14 19.14	18.44 19.14	17.01 17.01	17.01 17.01
28	07.37 17.35	07.00 18.13	06.15 18.43	06.28 18.21 (5)	20.15 20.15	20.54 20.58	20.59 20.43	20.46 20.03	19.12 19.12	18.42 19.12	17.01 17.01	17.01 17.01
29	07.36 17.37	07.00 18.14	06.14 18.44	06.26 19.10 (5)	20.16 20.16	20.54 20.58	20.59 20.42	20.47 20.01	19.10 19.10	18.39 19.09	17.01 17.01	17.01 17.01
30	07.35 17.38	07.00 18.15	06.13 18.45	06.25 19.24 (5)	20.17 20.17	20.54 20.58	20.59 20.41	20.48 20.00	19.09 19.09	18.36 19.09	17.01 17.01	17.01 17.01
31	07.35 17.39	07.00 18.16	06.13 18.46	06.25 19.25 (5)	20.17 20.17	20.54 20.58	20.59 20.41	20.48 20.00	19.09 19.09	18.36 19.09	17.01 17.01	17.01 17.01
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case			68	86					153			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F47 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (243)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.03	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F50 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (271)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F52 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26	
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57	
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27	
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57	
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28	
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57	
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29	
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57	
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30	
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.17	16.57	
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31	
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57	
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32	
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56	
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33	
	17.13	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56	
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34	
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56	
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35	
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56	
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36	
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56	
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36	08.08 (5)
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57	2 08.10 (5)
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37	08.07 (5)
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57	4 08.11 (5)
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38	08.06 (5)
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57	5 08.11 (5)
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39	08.07 (5)
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57	6 08.13 (5)
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39	08.07 (5)
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57	7 08.14 (5)
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40	08.07 (5)
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58	7 08.14 (5)
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41	08.08 (5)
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58	7 08.15 (5)
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41	08.08 (5)
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58	8 08.16 (5)
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42	08.08 (5)
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59	8 08.16 (5)
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43	08.09 (5)
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59	8 08.17 (5)
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43	08.09 (5)
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00	8 08.17 (5)
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44	08.10 (5)
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00	8 08.18 (5)
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44	08.10 (5)
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01	8 08.18 (5)
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45	08.10 (5)
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01	8 08.18 (5)
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45	08.12 (5)
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02	7 08.19 (5)
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45	08.12 (5)
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03	7 08.19 (5)
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.47	07.23	07.46	08.13 (5)
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03	6 08.19 (5)
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.46	08.13 (5)
	17.37		19.44	20.16	20.44	20.58	20.42	20.02	19.10	17.25	16.58	17.04	6 08.19 (5)
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.49	07.25	07.46	08.15 (5)
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05	4 08.19 (5)
31	07.35		07.10		05.56		06.19	06.49		07.50		07.46	08.16 (5)
	17.39		19.46		20.46		20.40	19.58		17.22		17.06	3 08.19 (5)
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290	127
Total, worst case													

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F52 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (245)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F55 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (272)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F57 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (246)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F60 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (273)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F61 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F62 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (275)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F66 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (276)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.53	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F67 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (277)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F68 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (278)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F69 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (247)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F73 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.55	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.04
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F78 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F80 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (280)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.22	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.47	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.55	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.04
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F81 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (281)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.06	06.21	05.55	05.57	06.22	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.54	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.47	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.55	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.04
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F85 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (282)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.06	06.21	05.55	05.57	06.22	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.01	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.47	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.20	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.04
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		07.51		07.46
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F87 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (249)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.06	06.21	05.55	05.57	06.22	06.52	07.21	06.55	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.54	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.52	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.28	19.41	18.51	17.10	16.57
12	07.46	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.01	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.47	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.20	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.29	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.21	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.55	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.04
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.11	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.47
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F88 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.17	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F89 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (283)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.17	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F91 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (284)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.18	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F93 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (251)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.18	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		07.50		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Stato di fatto Shadow receptor: F95 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (252)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.17	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		07.50		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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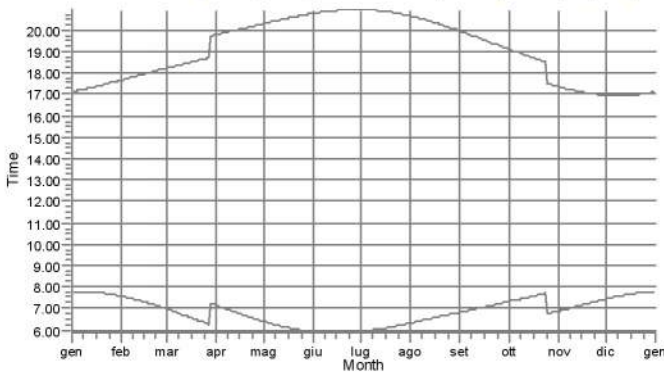
Calculated:

30/07/2020 14.27/2.9.207

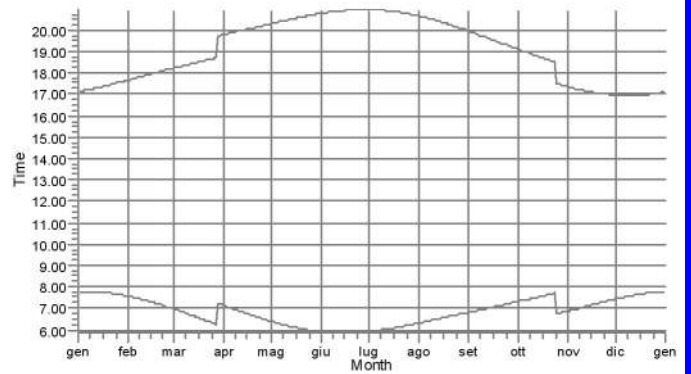
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

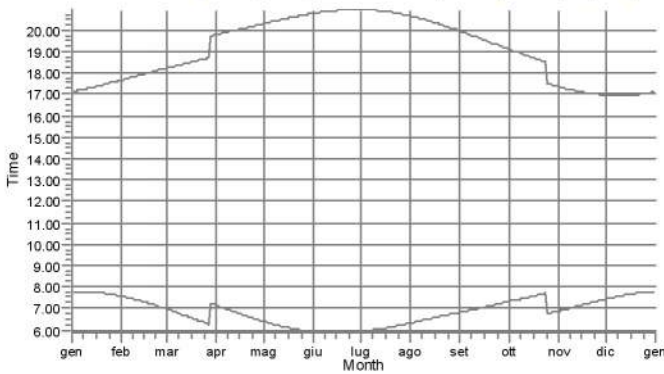
F01: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (262)



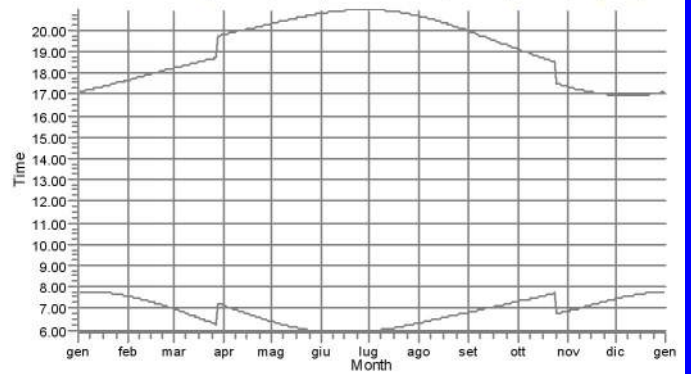
F02: Rudere



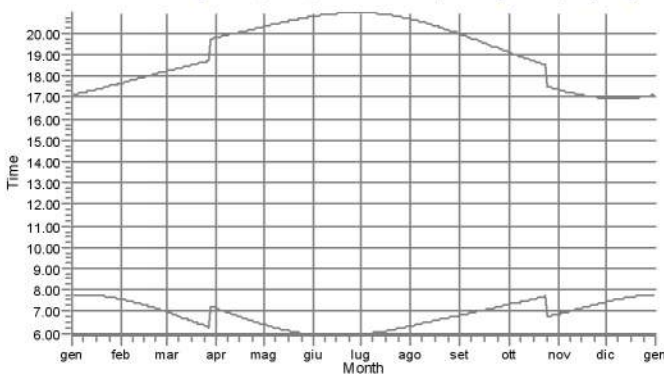
F03: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (234)



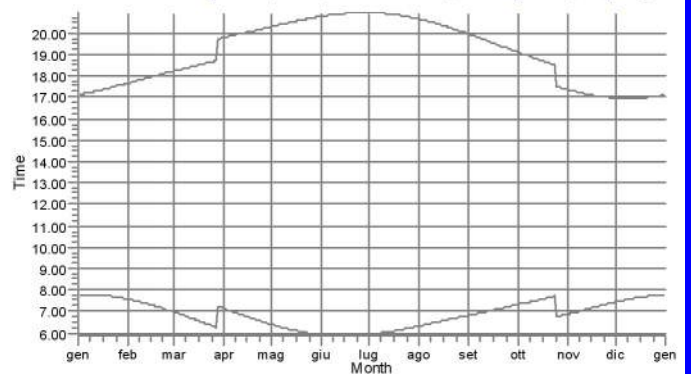
F06: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (263)



F10: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (264)



F101: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (253)



WTGs

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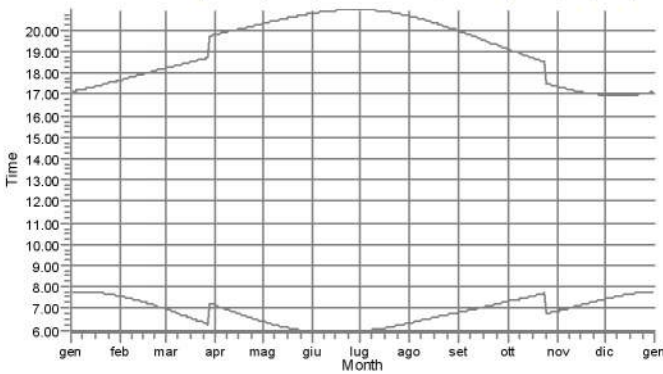
Calculated:

30/07/2020 14.27/2.9.207

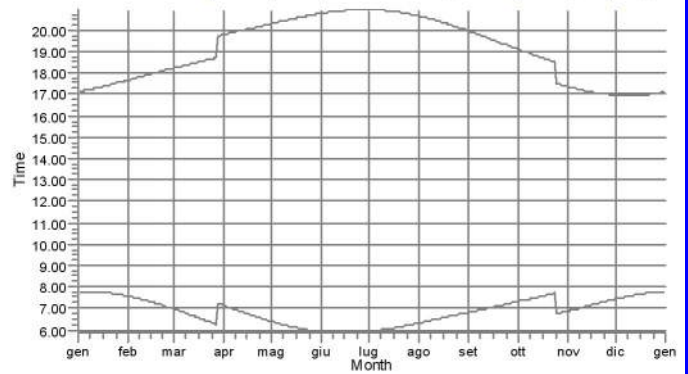
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

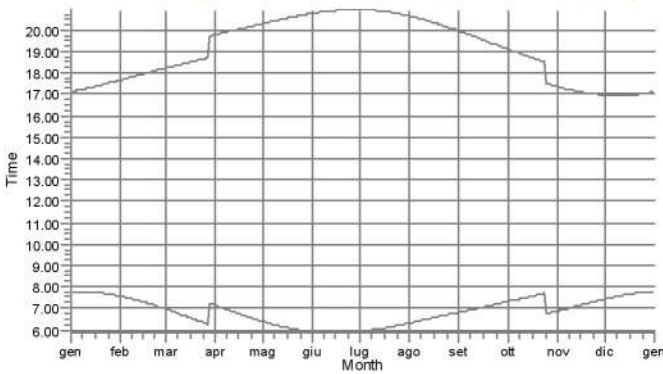
F102: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (285)



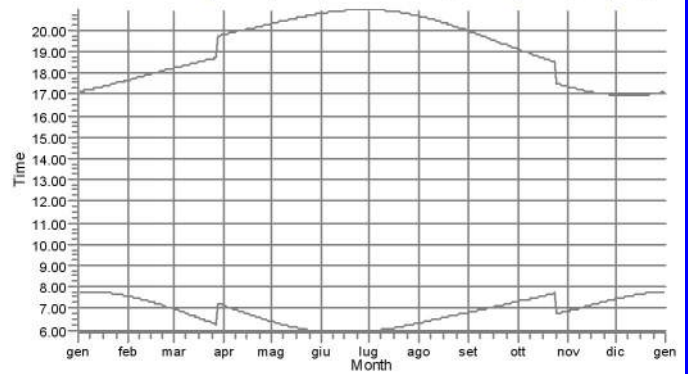
F103: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (286)



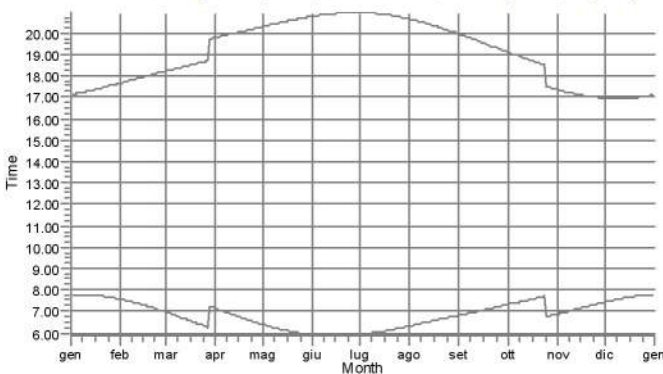
F109: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (254)



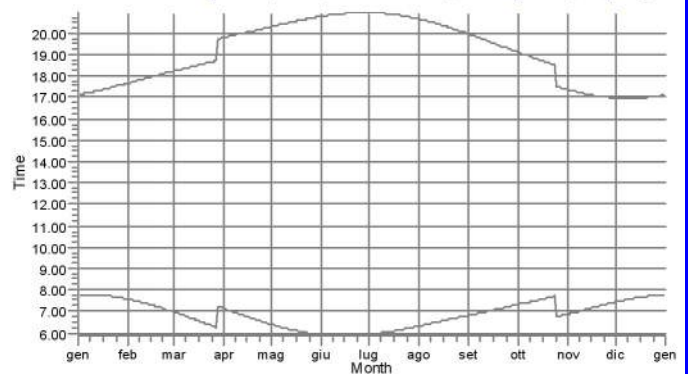
F121: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (287)



F123: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (288)



F128: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (289)



WTGs

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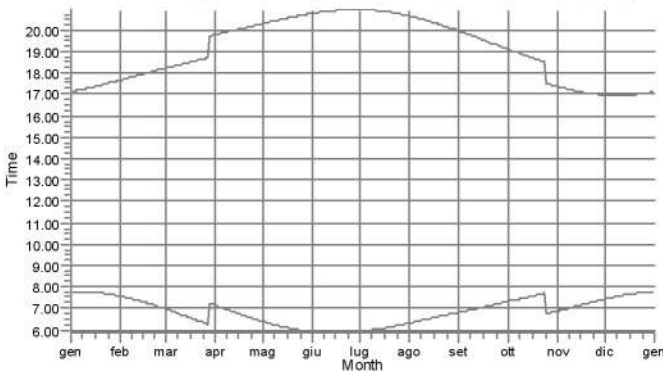
Calculated:

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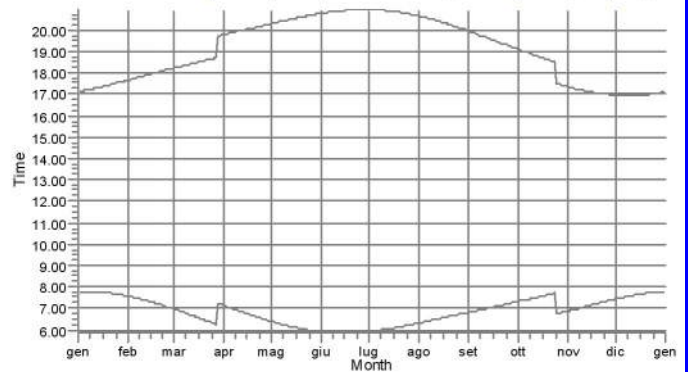
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

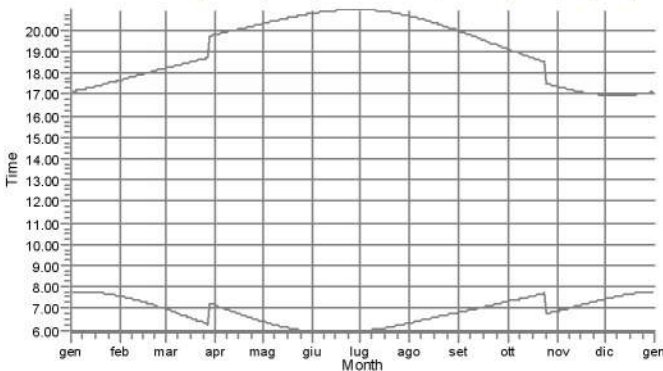
F130: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (290)



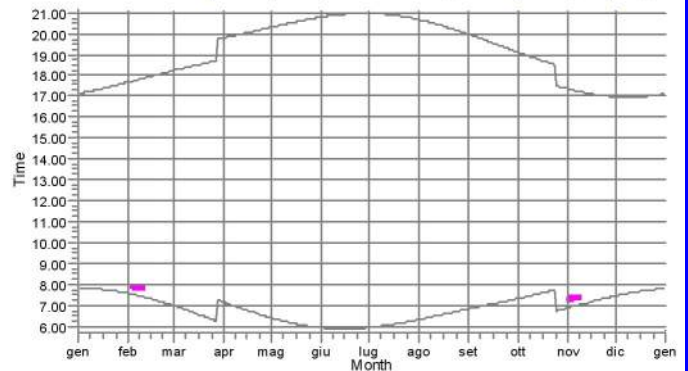
F131: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (291)



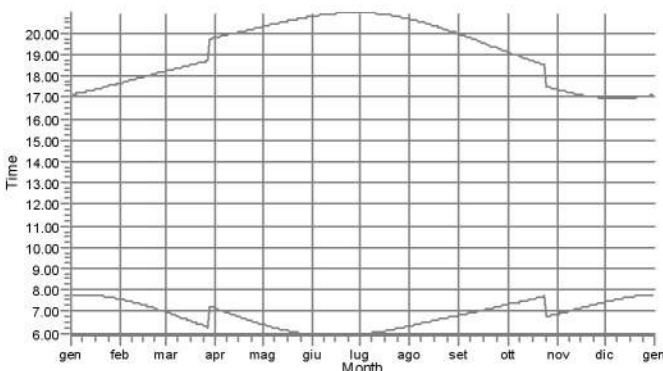
F137: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (292)



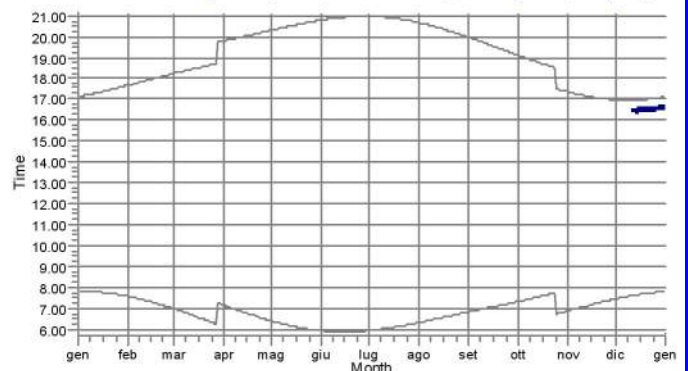
F138: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (255)



F151: Vedetta antincendio



F153: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (294)



WTGs

5: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (17)

7: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (19)

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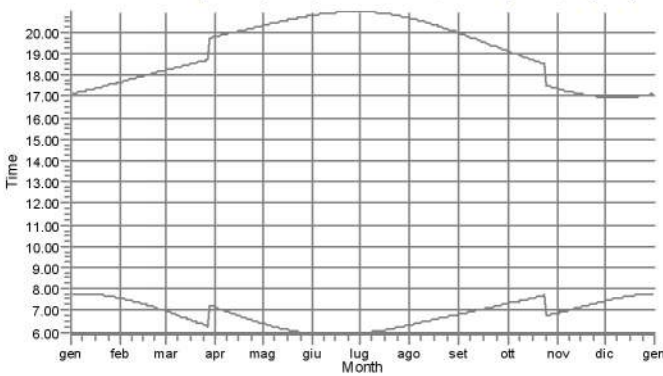
Calculated:

30/07/2020 14.27/2.9.207

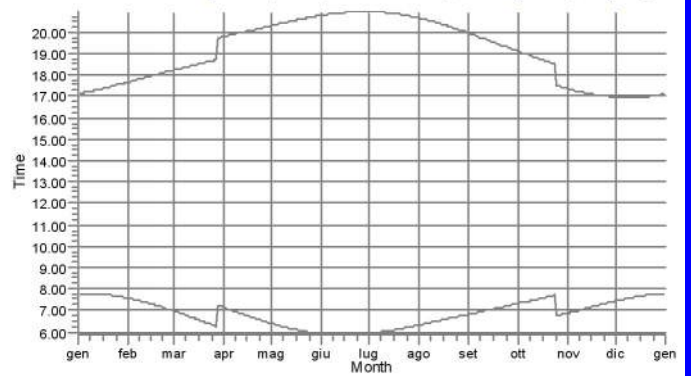
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

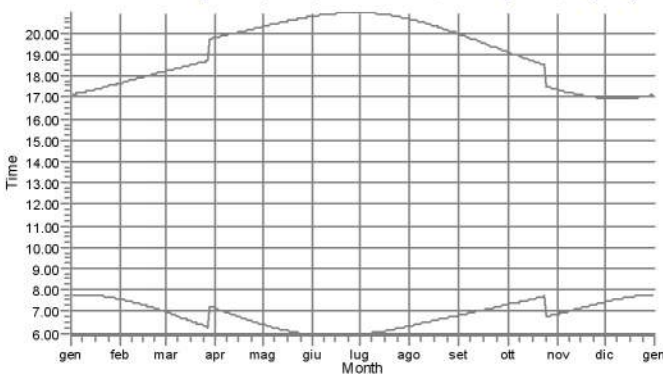
F154: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (256)



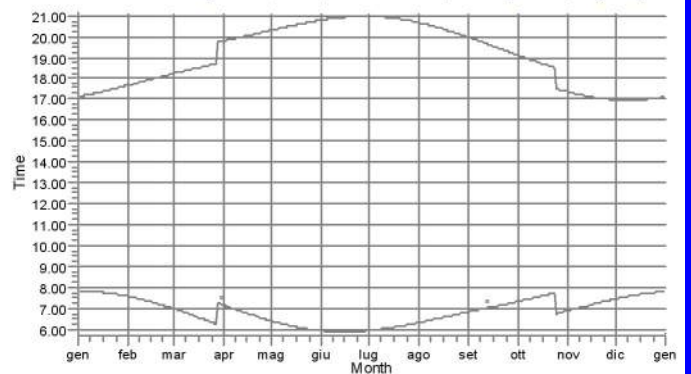
F158: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (257)



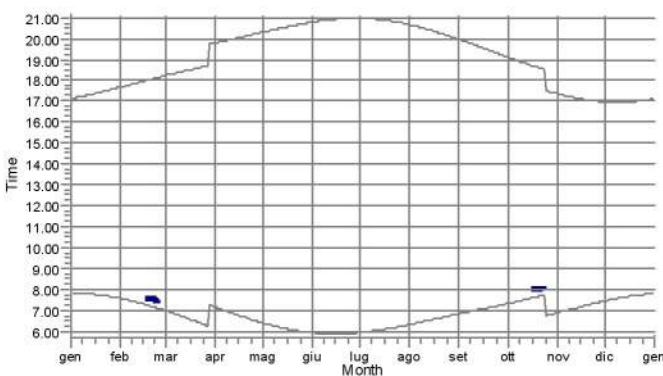
F159: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (258)



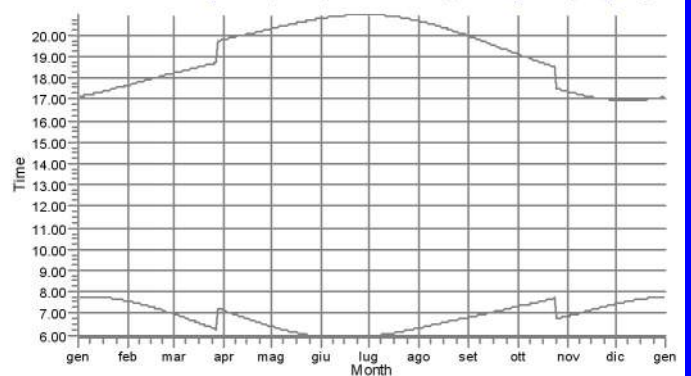
F16: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (265)



F161: Abitazione



F162: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (260)



WTGs

7: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (19)

16: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (28)

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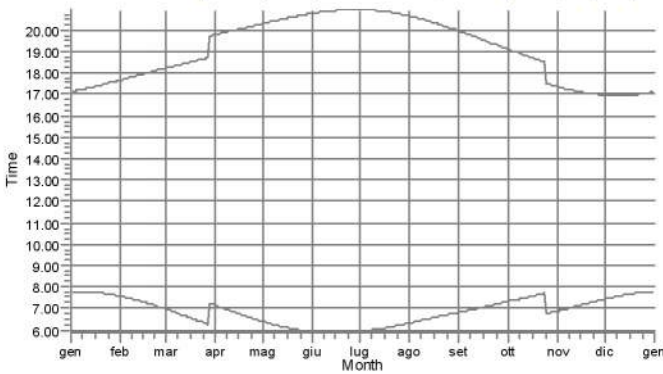
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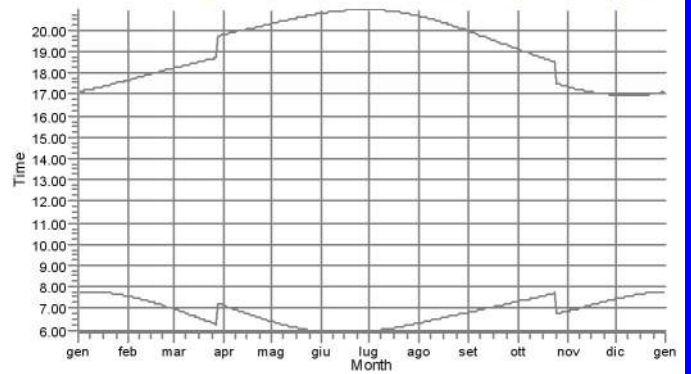
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

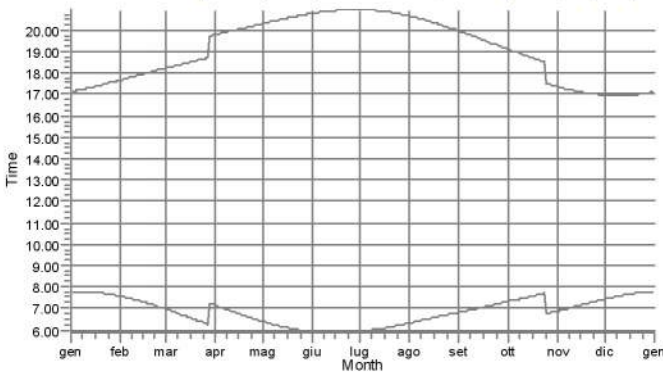
F163: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (261)



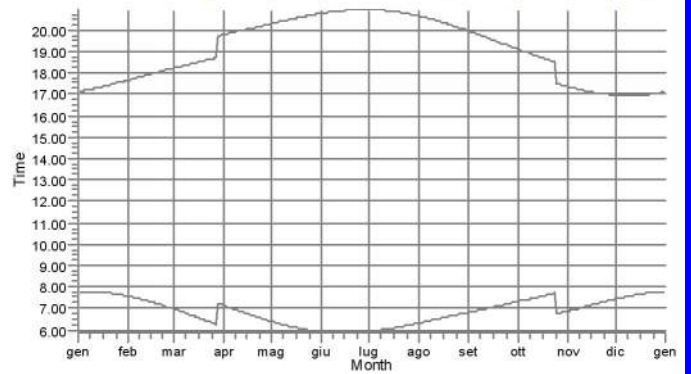
F167: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (295)



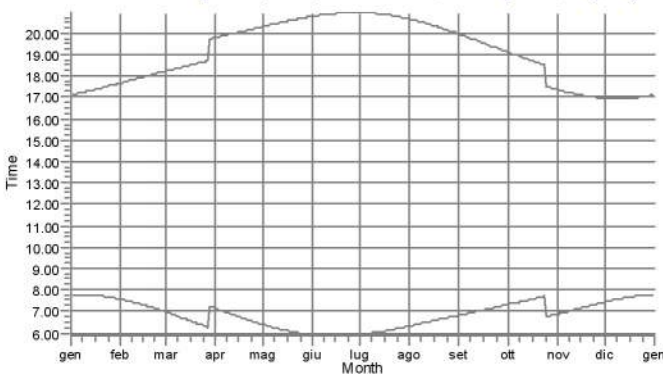
F168: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (228)



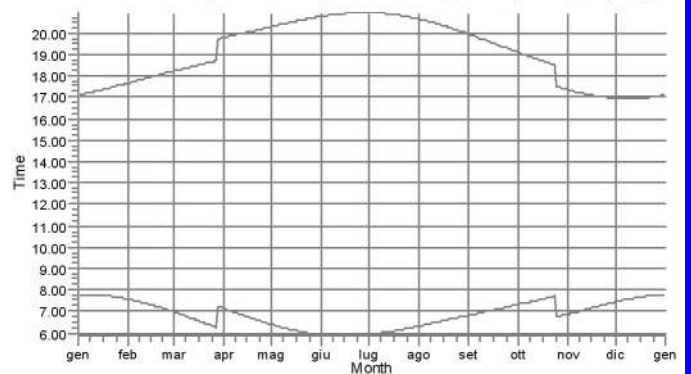
F172: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (229)



F174: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (230)



F176: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (231)



WTGs

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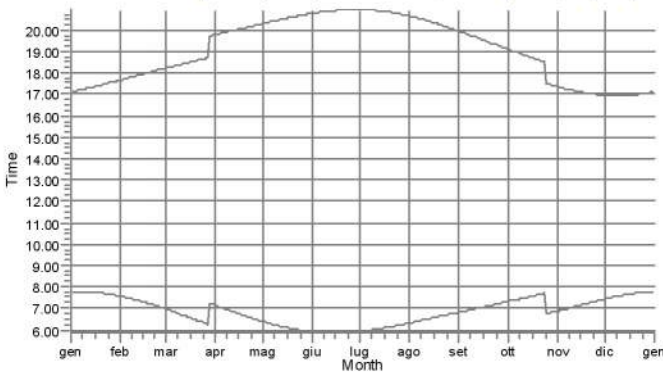
Calculated:

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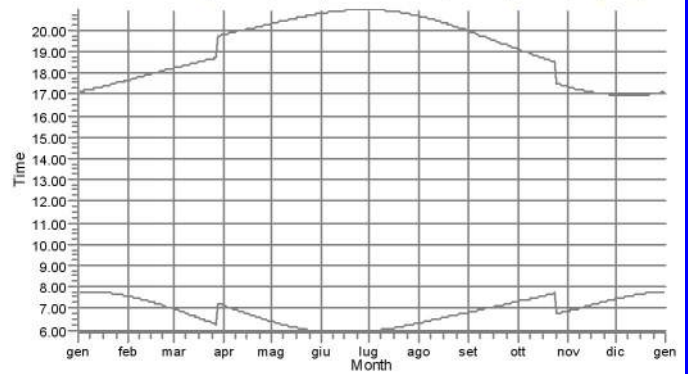
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

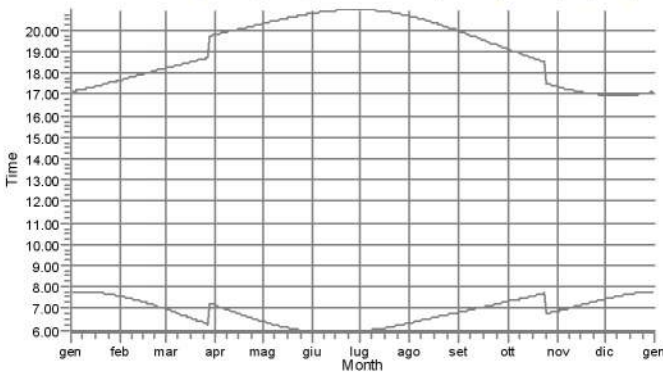
F177: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (232)



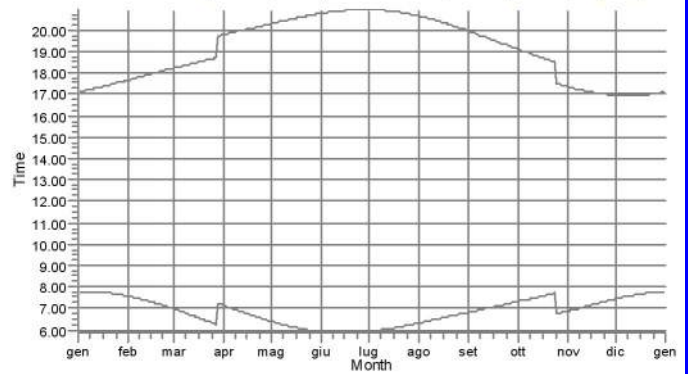
F18: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (235)



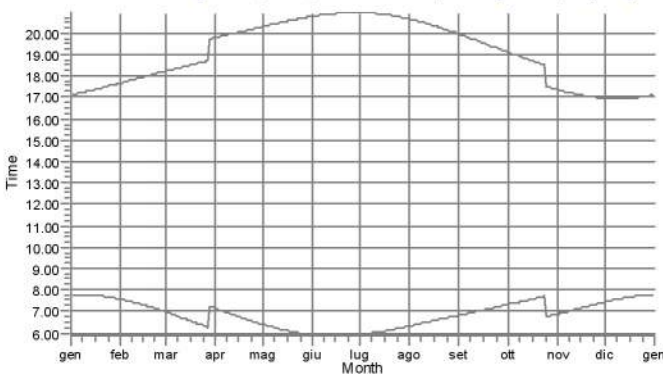
F19: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (266)



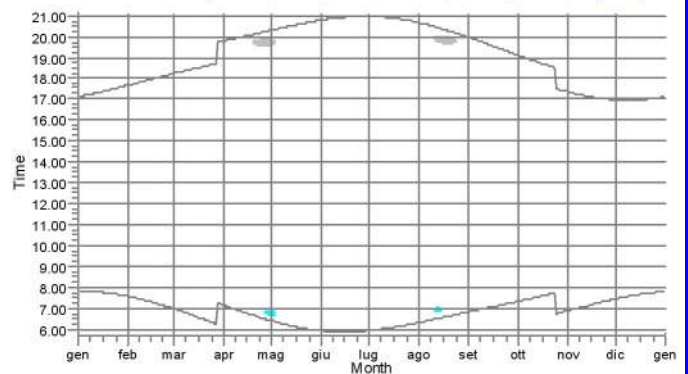
F21: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (236)



F23: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (267)



F24: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (237)



WTGs

12: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (24)

13: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (25)

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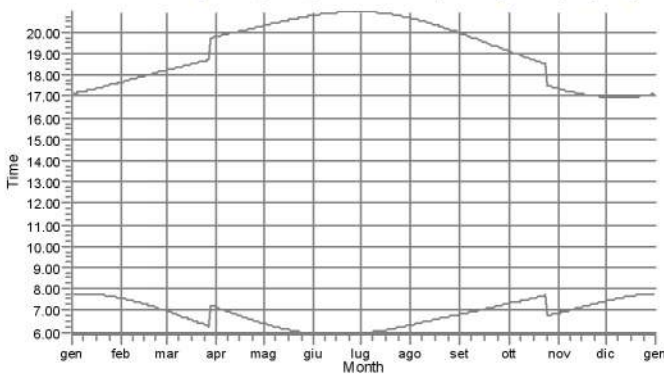
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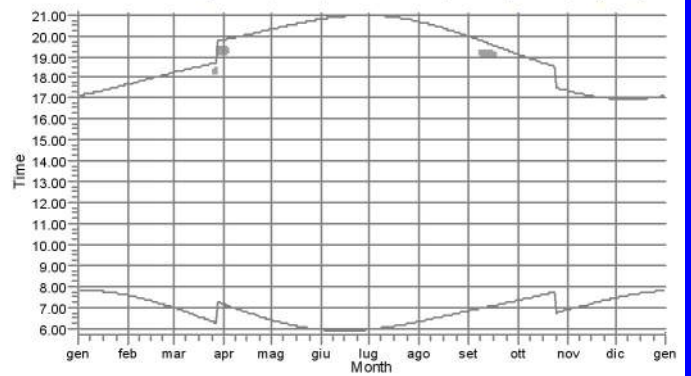
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

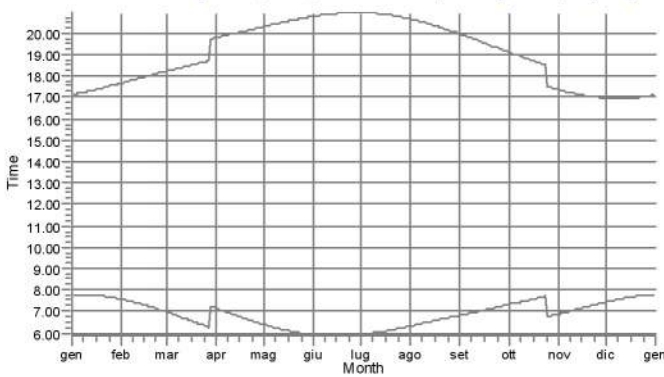
F29: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (268)



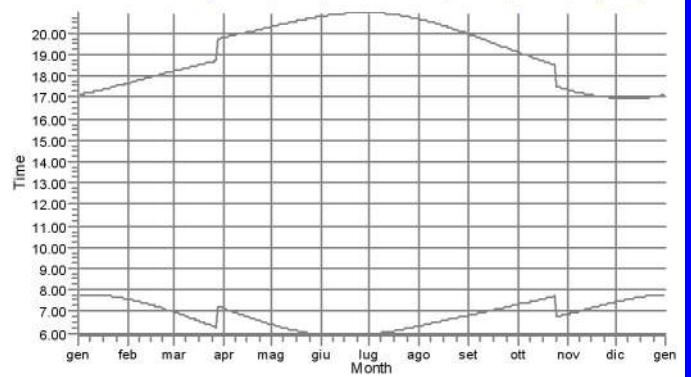
F31: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (238)



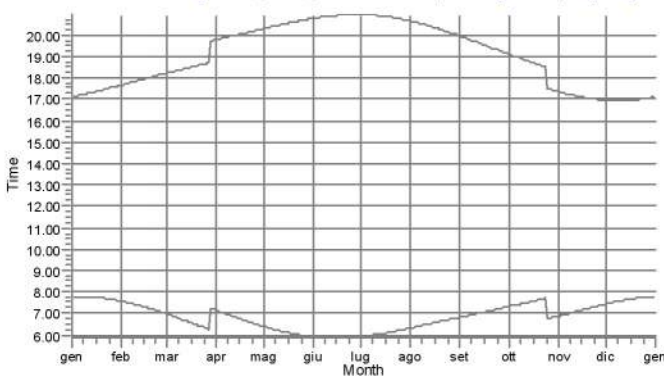
F32: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (239)



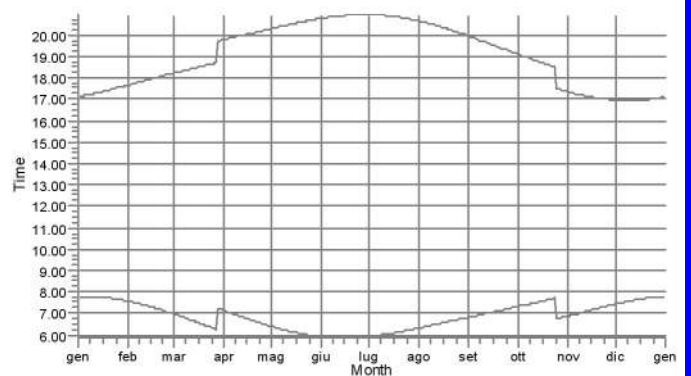
F33: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (240)



F34: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (269)



F37: Abitazione



WTGs

16: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (28)

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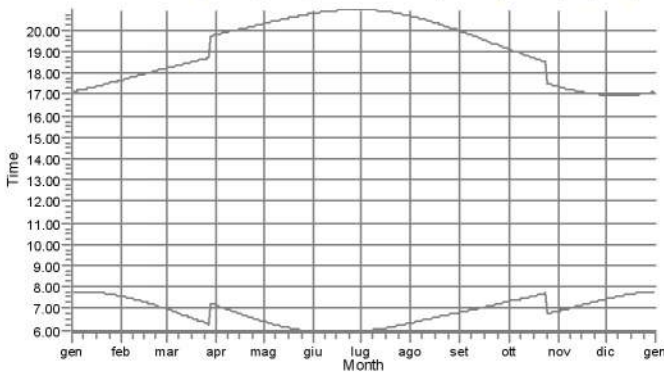
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30/07/2020 14.27/2.9.207

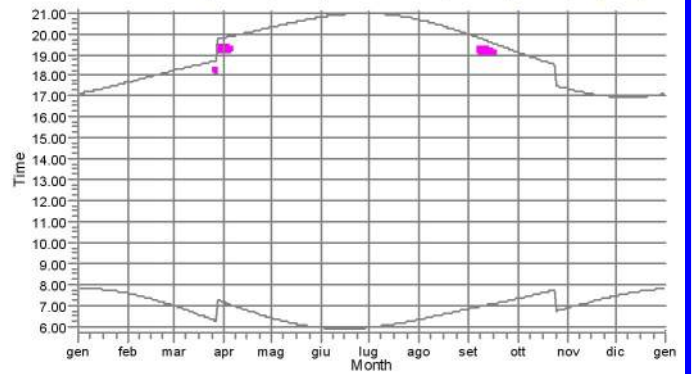
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

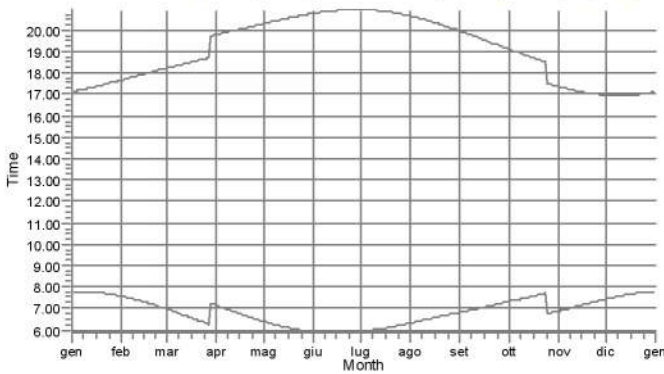
F39: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (241)



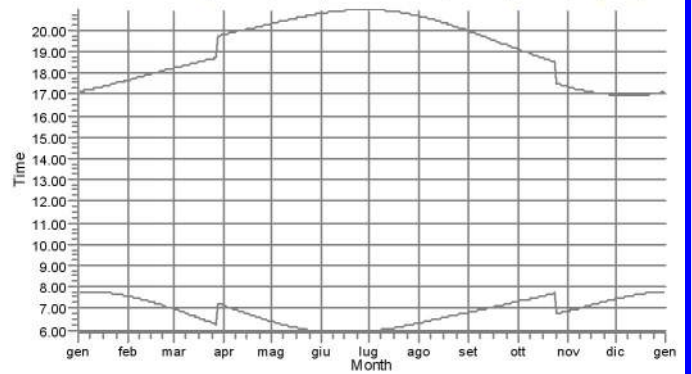
F43: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (242)



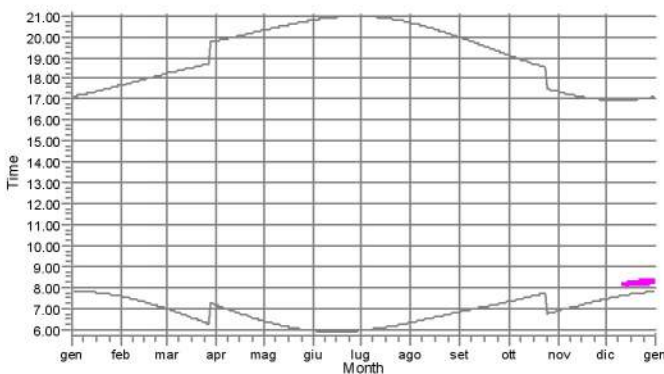
F47: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (243)



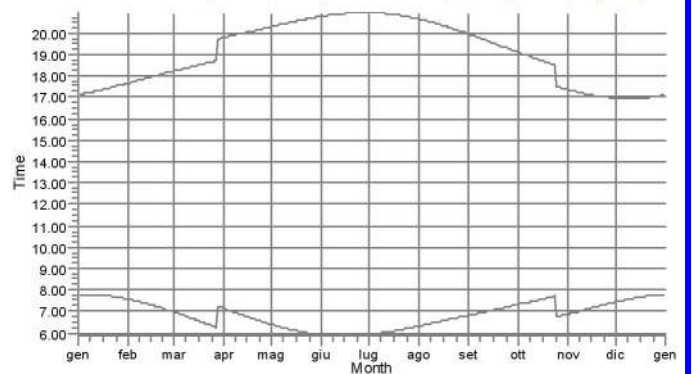
F50: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (271)



F52: Rudere



F52: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (245)



WTGs

5: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (17)

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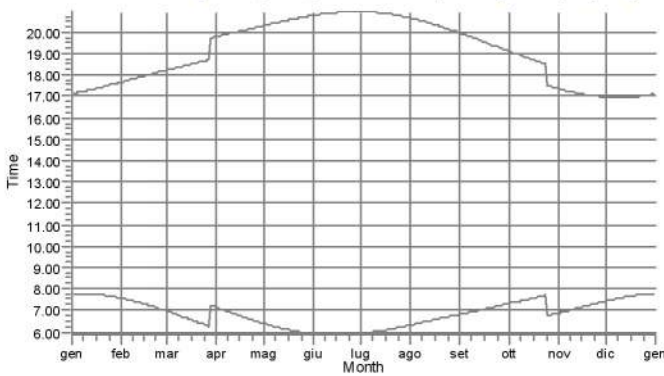
Calculated:

30/07/2020 14.27/2.9.207

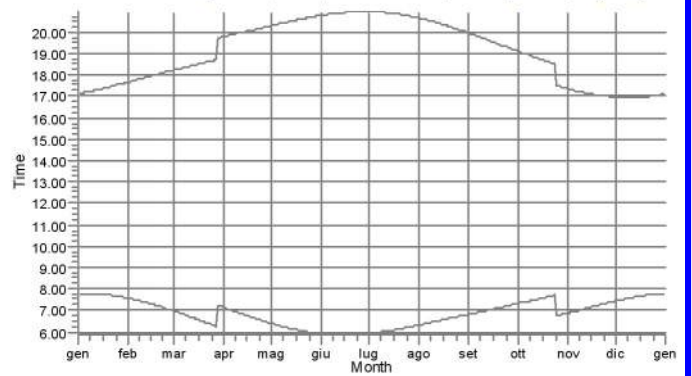
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

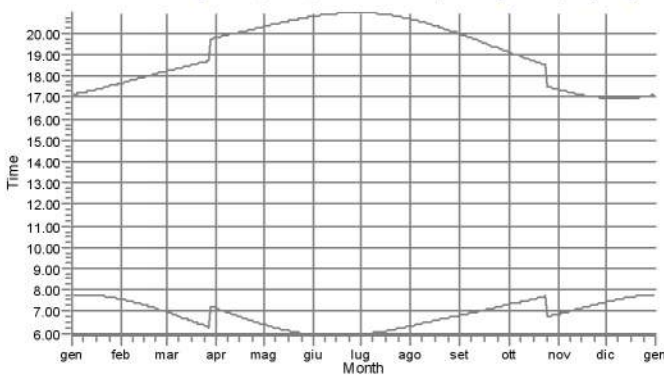
F55: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (272)



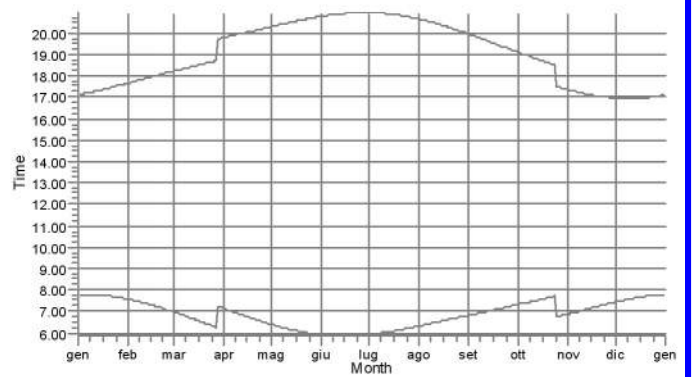
F57: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (246)



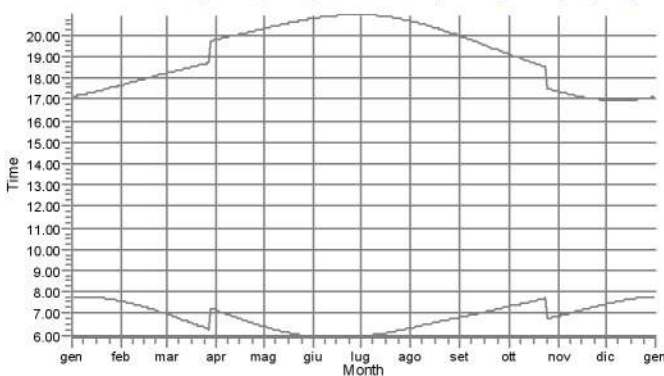
F60: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (273)



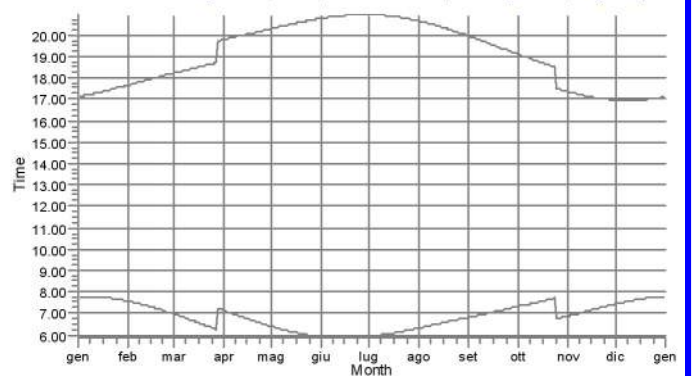
F61: Rudere



F62: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (275)



F66: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (276)



WTGs

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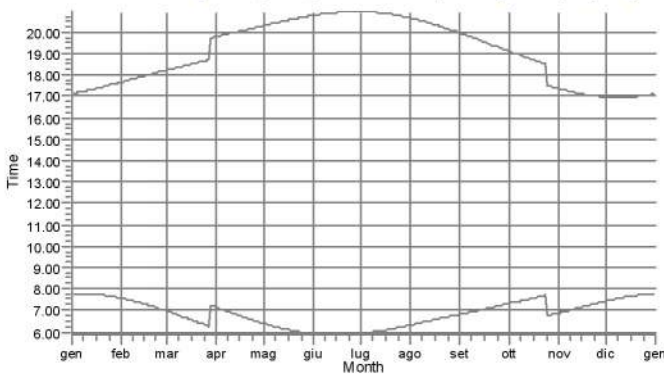
Calculated:

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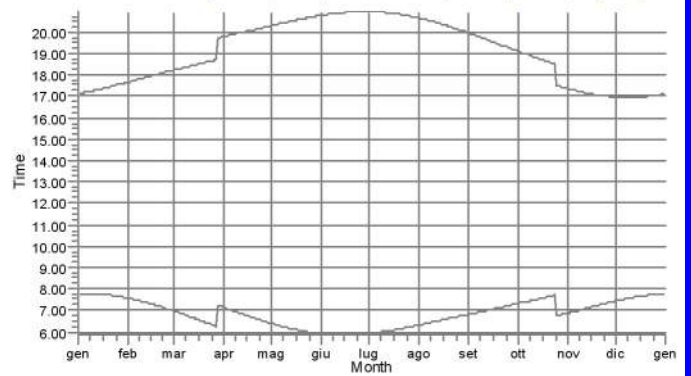
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

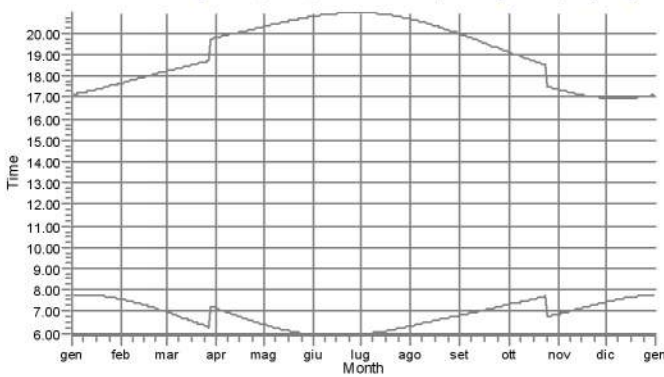
F67: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (277)



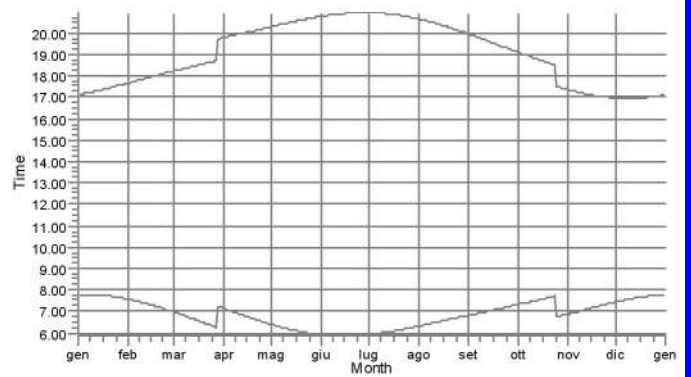
F68: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (278)



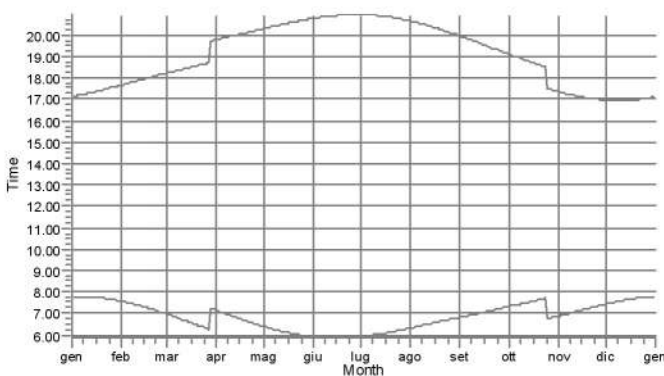
F69: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (247)



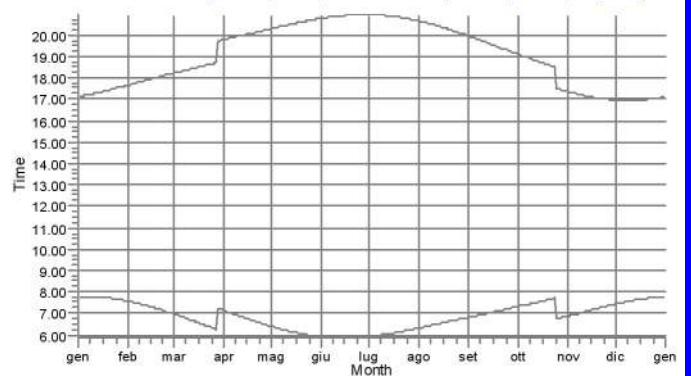
F73: Rudere



F78: Rudere



F80: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (280)



WTGs

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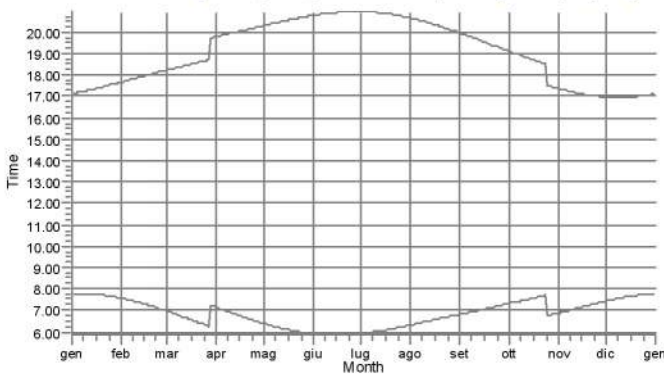
Calculated:

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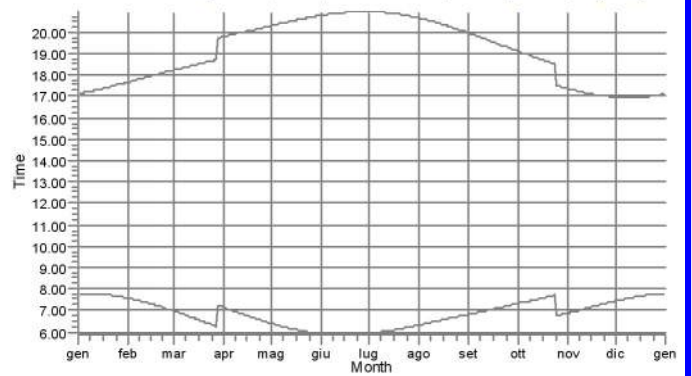
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

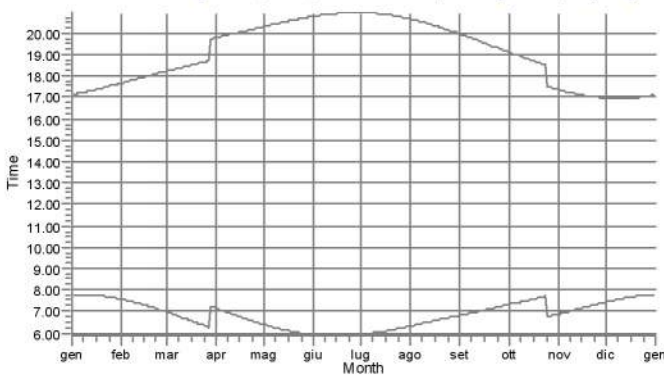
F81: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (281)



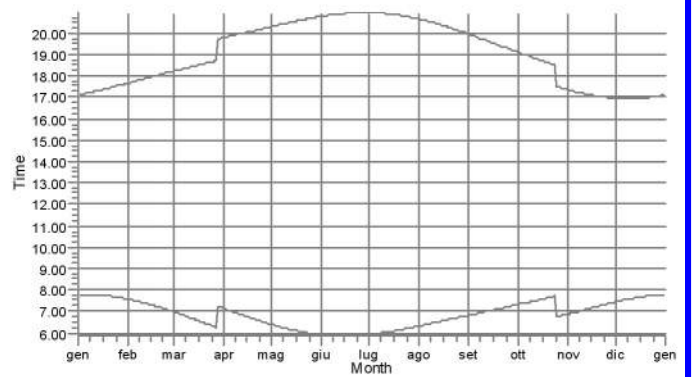
F85: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (282)



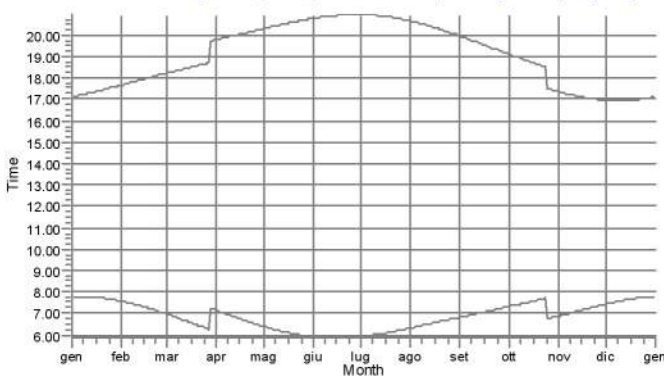
F87: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (249)



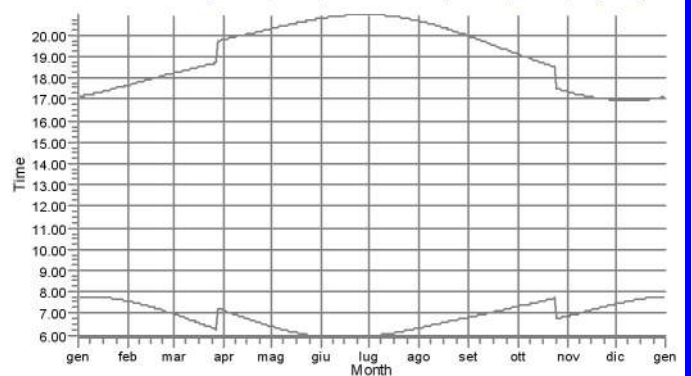
F88: Rudere



F89: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (283)



F91: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (284)



WTGs

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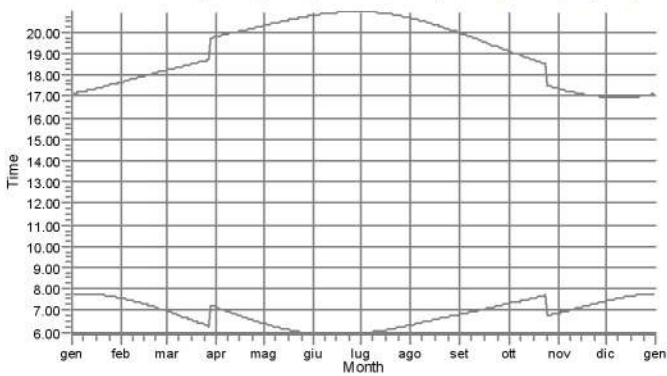
Calculated:

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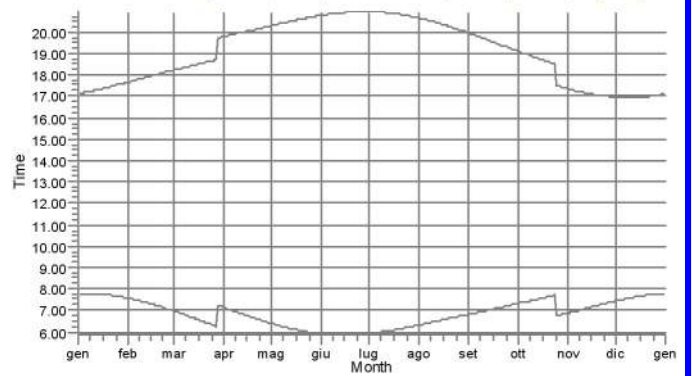
SHADOW - Calendar, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

F93: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (251)



F95: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (252)



WTGs

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Calculated:

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SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 1 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (13)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.46	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.52	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.44	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.17	07.43
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.39	20.12	20.41	20.57	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.04	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.18	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 2 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (14)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.34	06.58	07.08	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.46	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.52	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.17	07.43
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.31	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.39	20.12	20.41	20.57	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.04	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.45	07.16	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.18	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 3 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (15)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.46	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.52	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.09	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.17	07.43
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.57	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.28	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.56	06.18	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 4 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (16)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.33	06.58	07.08	06.23	05.55	05.56	06.19	06.49	07.18	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.46	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.57
5	07.47	07.30	06.52	07.02	06.18	05.54	05.58	06.23	06.53	07.23	06.56	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.56	20.33	19.49	18.59	17.15	16.56
7	07.47	07.27	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.46	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.46	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.03	07.35
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.53	20.54	20.26	19.39	18.49	17.09	16.56
13	07.45	07.20	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.06	16.57
16	07.44	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.10	07.40
	17.22	18.00	18.31	20.03	20.34	20.55	20.52	20.19	19.30	18.42	17.05	16.58
18	07.43	07.14	06.31	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.42	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.36	20.56	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.39	07.15	07.42
	17.27	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.17	07.43
	17.29	18.07	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.18	07.44
	17.30	18.08	18.38	20.10	20.40	20.57	20.46	20.09	19.18	18.31	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.39	20.12	20.41	20.57	20.46	20.07	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.13	07.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.57	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.44	07.14	07.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.57	20.44	20.04	19.13	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.45	07.15	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.43	20.57	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.16	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.57	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.17	06.47	07.17	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.57	20.41	20.00	19.08	17.24	16.58	17.05
31	07.34		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 5 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (17)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	
1	07.47	07.34	06.59	07.09	19.08-19.26/18	06.24	05.55
	17.07	17.40	18.14	19.47		20.18	20.47
2	07.47	07.33	06.57	07.07	19.07-19.25/18	06.22	05.55
	17.07	17.42	18.15	19.48		20.19	20.48
3	07.47	07.32	07.52-07.54/2	07.05	19.08-19.25/17	06.21	05.55
	17.08	17.43	18.16	19.49		20.20	20.48
4	07.47	07.31	07.51-07.55/4	07.04	19.09-19.23/14	06.20	05.54
	17.09	17.44	18.17	19.50		20.21	20.49
5	07.47	07.30	07.49-07.55/6	07.02	19.09-19.21/12	06.19	05.54
	17.10	17.45	18.18	19.51		20.22	20.50
6	07.47	07.29	07.48-07.55/7	07.00	19.12-19.19/7	06.17	05.54
	17.11	17.46	18.19	19.52		20.23	20.50
7	07.47	07.28	07.47-07.55/8	06.59		06.16	05.53
	17.12	17.48	18.20	19.53		20.24	20.51
8	07.47	07.27	07.46-07.55/9	06.57		06.15	05.53
	17.13	17.49	18.21	19.54		20.25	20.51
9	07.47	07.25	07.45-07.55/10	06.46		06.14	05.53
	17.14	17.50	18.23	19.55		20.26	20.52
10	07.46	07.24	07.47-07.53/6	06.45		06.13	05.53
	17.15	17.51	18.24	19.56		20.27	20.53
11	07.46	07.23	06.43	06.53		06.12	05.52
	17.16	17.53	18.25	19.57		20.28	20.53
12	07.46	07.22	06.41	06.51		06.11	05.52
	17.17	17.54	18.26	19.58		20.29	20.54
13	07.46	07.21	06.40	06.49		06.10	05.52
	17.18	17.55	18.27	19.59		20.30	20.54
14	07.45	07.19	06.38	06.48		06.09	05.52
	17.19	17.56	18.28	20.00		20.31	20.55
15	07.45	07.18	06.36	06.46		06.08	05.52
	17.20	17.57	18.29	20.01		20.32	20.55
16	07.45	07.17	06.35	06.45		06.07	05.52
	17.21	17.59	18.30	20.02		20.33	20.55
17	07.44	07.16	06.33	06.43		06.06	05.52
	17.22	18.00	18.31	20.03		20.34	20.56
18	07.44	07.14	06.32	06.42		06.05	05.52
	17.24	18.01	18.32	20.04		20.35	20.56
19	07.43	07.13	06.30	06.40		06.04	05.52
	17.25	18.02	18.33	20.05		20.36	20.56
20	07.43	07.11	06.28	06.39		06.03	05.53
	17.26	18.03	18.34	20.07		20.37	20.57
21	07.42	07.10	06.27	06.37		06.02	05.53
	17.27	18.04	18.35	20.08		20.38	20.57
22	07.42	07.09	06.25	06.36		06.02	05.53
	17.28	18.06	18.36	20.09		20.39	20.57
23	07.41	07.07	06.23	06.34		06.01	05.53
	17.29	18.07	18.37	20.10		20.39	20.57
24	07.40	07.06	06.22	06.33		06.00	05.53
	17.31	18.08	18.39	20.11		20.40	20.57
25	07.40	07.04	06.20	06.32		05.59	05.54
	17.32	18.09	18.40	20.12		20.41	20.58
26	07.39	07.03	06.18	18.16-18.20/4	06.30	05.59	05.54
	17.33	18.10	18.41		20.13	20.42	20.58
27	07.38	07.01	06.17	18.13-18.21/8	06.29	05.58	05.54
	17.34	18.11	18.42		20.14	20.43	20.58
28	07.37	07.00	06.15	18.10-18.21/11	06.28	05.58	05.55
	17.35	18.13	18.43		20.15	20.44	20.58
29	07.36		07.13	19.10-19.23/13	06.26	05.57	05.55
	17.37		19.44		20.16	20.44	20.58
30	07.36		07.12	19.08-19.24/16	06.25	05.56	05.56
	17.38		19.45		20.17	20.45	20.58
31	07.35		07.10	19.09-19.25/16		05.56	
	17.39		19.46			20.46	
Potential sun hours	299	298	370	398	447	450	0
Sum of minutes with flicker	0	52	68	86	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 5 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (17)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December		
1	05.56	06.19	06.49	07.19	06.52	07.15-07.22/7	07.26	
	20.58	20.39	19.57	19.07	17.21		16.57	
2	05.56	06.20	06.50	07.20	06.53	07.15-07.25/10	07.27	
	20.57	20.38	19.55	19.05	17.20		16.57	
3	05.57	06.21	06.51	07.21	06.54	07.16-07.25/9	07.28	
	20.57	20.37	19.54	19.04	17.19		16.57	
4	05.58	06.22	06.52	07.22	06.56	07.17-07.25/8	07.29	
	20.57	20.36	19.52	19.02	17.18		16.57	
5	05.58	06.23	06.53	07.23	06.57	07.18-07.25/7	07.30	
	20.57	20.35	19.50	19.00	17.16		16.57	
6	05.59	06.24	06.54	19.08-19.15/7	07.24	06.58	07.20-07.26/6	07.31
	20.57	20.34	19.49	18.59	17.15		16.56	
7	05.59	06.25	06.55	19.06-19.17/11	07.25	06.59	07.21-07.25/4	07.32
	20.56	20.32	19.47	18.57	17.14		16.56	
8	06.00	06.26	06.56	19.03-19.17/14	07.26	07.00	07.22-07.24/2	07.33
	20.56	20.31	19.45	18.56	17.13		16.56	
9	06.01	06.27	06.57	19.02-19.18/16	07.27	07.01		07.34
	20.56	20.30	19.44	18.54	17.12		16.56	
10	06.01	06.28	06.58	19.01-19.18/17	07.28	07.03		07.35
	20.55	20.29	19.42	18.52	17.11		16.56	
11	06.02	06.29	06.59	19.00-19.18/18	07.29	07.04		07.36
	20.55	20.27	19.40	18.51	17.10		16.56	
12	06.03	06.30	07.00	19.00-19.17/17	07.30	07.05	07.36	08.08-08.10/2
	20.55	20.26	19.39	18.49	17.09		16.57	
13	06.03	06.31	07.01	19.00-19.15/15	07.31	07.06	07.37	08.07-08.11/4
	20.54	20.25	19.37	18.48	17.08		16.57	
14	06.04	06.32	07.02	19.00-19.13/13	07.32	07.07	07.38	08.06-08.11/5
	20.54	20.23	19.35	18.46	17.07		16.57	
15	06.05	06.33	07.03	19.00-19.12/12	07.33	07.08	07.39	08.07-08.13/6
	20.53	20.22	19.34	18.45	17.07		16.57	
16	06.06	06.34	07.04	19.02-19.10/8	07.34	07.10	07.39	08.07-08.14/7
	20.52	20.21	19.32	18.43	17.06		16.57	
17	06.06	06.35	07.05	19.03-19.08/5	07.35	07.11	07.40	08.07-08.14/7
	20.52	20.19	19.30	18.42	17.05		16.58	
18	06.07	06.36	07.06		07.36	07.12	07.41	08.08-08.15/7
	20.51	20.18	19.29		18.40	17.04	16.58	
19	06.08	06.37	07.07		07.37	07.13	07.41	08.08-08.16/8
	20.50	20.16	19.27		18.39	17.03	16.58	
20	06.09	06.38	07.08		07.39	07.14	07.42	08.08-08.16/8
	20.50	20.15	19.25		18.37	17.03	16.59	
21	06.10	06.39	07.09		07.40	07.15	07.43	08.09-08.17/8
	20.49	20.14	19.24		18.36	17.02	16.59	
22	06.10	06.40	07.10		07.41	07.16	07.43	08.09-08.17/8
	20.48	20.12	19.22		18.34	17.02	17.00	
23	06.11	06.41	07.11		07.42	07.18	07.44	08.10-08.18/8
	20.47	20.11	19.20		18.33	17.01	17.00	
24	06.12	06.42	07.12		07.43	07.19	07.44	08.10-08.18/8
	20.47	20.09	19.19		18.32	17.00	17.01	
25	06.13	06.43	07.13		06.44	07.20	07.44	08.10-08.18/8
	20.46	20.08	19.17		17.30	17.00	17.01	
26	06.14	06.44	07.14		06.45	07.21	07.45	08.12-08.19/7
	20.45	20.06	19.15		17.29	16.59	17.02	
27	06.15	06.45	07.15		06.46	07.22	07.45	08.12-08.19/7
	20.44	20.05	19.14		17.28	16.59	17.03	
28	06.16	06.46	07.16		06.47	07.23	07.46	08.13-08.19/6
	20.43	20.03	19.12		17.26	16.58	17.03	
29	06.17	06.47	07.17		06.49	07.24	07.46	08.13-08.19/6
	20.42	20.01	19.10		17.25	16.58	17.04	
30	06.18	06.48	07.18		06.50	07.25	07.46	08.15-08.19/4
	20.41	20.00	19.09		17.24	16.58	17.05	
31	06.19	06.48			06.51		07.46	08.16-08.19/3
	20.40	19.58			17.22		17.06	
Potential sun hours	457	427	375	346	299		290	
Sum of minutes with flicker	0	0	153	0	53		127	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 6 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (18)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.04	16.58
20	07.43	07.11	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/	Minutes with flicker

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 7 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (19)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.56-08.02/6	07.11
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.57-08.03/6	07.12
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.58-08.04/6	07.13
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.59-08.05/6	07.14
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	08.00-08.05/5	07.15
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	08.01-08.05/4	07.16
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	08.03-08.06/3	07.18
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	08.04-08.05/1	07.19
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		06.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		18.44	20.16	20.44	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		06.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		18.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		06.10		05.56		06.19	06.49		06.51		07.46
	17.39		18.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	37	0	0	0	0	0	0	0	37	0	95

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 8 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (20)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.33	06.58	07.08	06.23	05.55	05.56	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.46	20.57	20.39	19.56	19.07	17.21	16.57
2	07.46	07.32	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.46	07.31	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.57
4	07.46	07.30	06.54	07.03	06.20	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.48	20.57	20.35	19.52	19.02	17.17	16.56
5	07.46	07.29	06.52	07.02	06.18	05.54	05.58	06.23	06.53	07.22	06.56	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16	16.56
6	07.46	07.28	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.57	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.56	20.33	19.48	18.59	17.15	16.56
7	07.46	07.27	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.12	17.47	18.20	19.53	20.24	20.50	20.56	20.32	19.47	18.57	17.14	16.56
8	07.46	07.26	06.47	06.57	06.15	05.53	06.00	06.26	06.56	07.25	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.46	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.26	07.01	07.33
	17.14	17.50	18.22	19.55	20.26	20.52	20.55	20.29	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.27	07.02	07.34
	17.15	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52	06.02	06.29	06.59	07.29	07.03	07.35
	17.16	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.21	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.04	07.36
	17.17	17.53	18.25	19.58	20.29	20.53	20.54	20.26	19.38	18.49	17.09	16.56
13	07.45	07.20	06.39	06.49	06.09	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.24	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.48	06.08	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.33	07.03	07.33	07.08	07.38
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.57
16	07.44	07.16	06.35	06.44	06.06	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.20	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.10	07.40
	17.22	17.59	18.31	20.03	20.33	20.55	20.51	20.19	19.30	18.41	17.05	16.57
18	07.43	07.14	06.31	06.41	06.05	05.52	06.07	06.36	07.06	07.36	07.11	07.40
	17.23	18.01	18.32	20.04	20.34	20.56	20.51	20.18	19.28	18.40	17.04	16.58
19	07.43	07.12	06.30	06.40	06.04	05.52	06.08	06.37	07.06	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.35	20.56	20.50	20.16	19.27	18.38	17.03	16.58
20	07.42	07.11	06.28	06.39	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.36	20.56	20.49	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.42
	17.27	18.04	18.35	20.07	20.37	20.56	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.36	06.01	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.28	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.40	07.07	06.23	06.34	06.01	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.01	17.00
24	07.40	07.05	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.18	07.44
	17.30	18.08	18.38	20.10	20.40	20.57	20.46	20.09	19.18	18.31	17.00	17.01
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	07.44	07.19	07.44
	17.32	18.09	18.39	20.11	20.41	20.57	20.45	20.07	19.17	17.30	17.00	17.01
26	07.38	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	07.45	07.21	07.44
	17.33	18.10	18.40	20.12	20.42	20.57	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.16	06.29	05.58	05.54	06.15	06.44	07.14	07.46	07.22	07.45
	17.34	18.11	18.41	20.13	20.42	20.57	20.44	20.04	19.13	17.27	16.59	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	07.47	07.23	07.45
	17.35	18.12	18.42	20.14	20.43	20.57	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.16	06.46	07.16	07.48	07.24	07.45
	17.36		19.43	20.15	20.44	20.57	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.17	06.47	07.17	07.49	07.25	07.46
	17.38		19.44	20.16	20.45	20.57	20.41	20.00	19.08	17.23	16.57	17.05
31	07.34		07.10		05.56		06.18	06.48		07.50		07.46
	17.39		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 9 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (21)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.03	16.58
20	07.43	07.12	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.01	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.17	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 10 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (22)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.03	16.58
20	07.43	07.12	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.18	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 11 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (23)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.34	06.58	07.08	06.23	05.55	05.56	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.19	16.57
4	07.47	07.31	06.54	07.03	06.20	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.57
5	07.47	07.30	06.52	07.02	06.18	05.54	05.58	06.23	06.53	07.22	06.56	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16	16.56
6	07.47	07.29	06.51	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.59	17.15	16.56
7	07.47	07.27	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.47	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.47	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.46	07.25	06.46	06.55	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.03	07.35
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.53	20.54	20.26	19.39	18.49	17.09	16.56
13	07.45	07.20	06.40	06.49	06.09	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.56
14	07.45	07.19	06.38	06.48	06.08	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.07	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.44	17.06	16.57
16	07.44	07.17	06.35	06.45	06.06	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.20	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.05	16.57
18	07.44	07.14	06.31	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03	16.58
20	07.42	07.11	06.28	06.39	06.03	05.52	06.08	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.56	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.39	07.09	07.39	07.15	07.42
	17.27	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.53	06.10	06.40	07.10	07.40	07.16	07.43
	17.28	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.40	07.10	07.42	07.17	07.43
	17.29	18.07	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.10	20.40	20.57	20.46	20.09	19.18	18.31	17.00	17.01
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	07.44	07.20	07.44
	17.32	18.09	18.39	20.12	20.41	20.57	20.46	20.07	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	07.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.57	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.44	07.14	07.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.59	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	07.47	07.23	07.45
	17.35	18.12	18.42	20.15	20.43	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.16	06.46	07.16	07.48	07.24	07.46
	17.36		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.17	06.47	07.17	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.57	20.41	20.00	19.08	17.23	16.58	17.05
31	07.34		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 12 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (24)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07.47	07.34	06.59	07.09	06.24	19.40-19.49/9	05.55	05.56	06.20	06.50	07.19	06.52	07.26	
	17.07	17.40	18.14	19.47	20.18		20.47	20.58	20.39	19.57	19.07	17.21	16.58	
2	07.47	07.33	06.57	07.07	06.22	19.43-19.46/3	05.55	05.57	06.20	06.51	07.20	06.53	07.27	
	17.07	17.42	18.15	19.48	20.19		20.48	20.58	20.38	19.55	19.05	17.20	16.57	
3	07.47	07.32	06.56	07.05	06.21		05.55	05.57	06.21	06.51	07.21	06.55	07.28	
	17.08	17.43	18.16	19.49	20.20		20.48	20.58	20.37	19.54	19.04	17.19	16.57	
4	07.47	07.31	06.54	07.04	06.20		05.54	05.58	06.22	06.52	07.22	06.56	07.29	
	17.09	17.44	18.17	19.50	20.21		20.49	20.57	20.36	19.52	19.02	17.18	16.57	
5	07.47	07.30	06.53	07.02	06.19		05.54	05.58	06.23	06.53	07.23	06.57	07.30	
	17.10	17.45	18.18	19.51	20.22		20.50	20.57	20.35	19.50	19.01	17.17	16.57	
6	07.47	07.29	06.51	07.01	06.17		05.54	05.59	06.24	06.54	07.24	06.58	07.31	
	17.11	17.47	18.19	19.52	20.23		20.50	20.57	20.34	19.49	18.59	17.15	16.57	
7	07.47	07.28	06.49	06.59	06.16		05.53	05.59	06.25	06.55	07.25	06.59	07.32	
	17.12	17.48	18.20	19.53	20.24		20.51	20.57	20.32	19.47	18.57	17.14	16.56	
8	07.47	07.27	06.48	06.57	06.15		05.53	06.00	06.26	06.56	07.26	07.00	07.33	
	17.13	17.49	18.22	19.54	20.25		20.52	20.56	20.31	19.46	18.56	17.13	16.56	
9	07.47	07.26	06.46	06.56	06.14		05.53	06.01	06.27	06.57	07.27	07.02	07.34	
	17.14	17.50	18.23	19.55	20.26		20.52	20.56	20.30	19.44	18.54	17.12	16.56	
10	07.47	07.24	06.45	06.54	06.13		05.53	06.01	06.28	06.58	07.28	07.03	07.35	
	17.15	17.51	18.24	19.56	20.27		20.53	20.56	20.29	19.42	18.53	17.11	16.56	
11	07.46	07.23	06.43	06.53	06.12		05.52	06.02	06.29	19.50-19.56/6	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28		20.53	20.55	20.28	19.41	18.51	17.10	16.57	
12	07.46	07.22	06.41	06.51	06.11		05.52	06.03	06.30	19.48-19.58/10	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29		20.54	20.55	20.26	19.39	18.49	17.09	16.57	
13	07.46	07.21	06.40	06.50	06.10		05.52	06.03	06.31	19.46-19.58/12	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30		20.54	20.54	20.25	19.37	18.48	17.08	16.57	
14	07.46	07.20	06.38	06.48	06.09		05.52	06.04	06.32	19.45-19.59/14	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31		20.55	20.54	20.24	19.36	18.46	17.08	16.57	
15	07.45	07.18	06.37	06.46	06.08		05.52	06.05	06.33	19.44-19.59/15	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.01	20.32		20.55	20.53	20.22	19.34	18.45	17.07	16.57	
16	07.45	07.17	06.35	06.45	06.07		05.52	06.06	06.34	19.43-19.58/15	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33		20.56	20.53	20.21	19.32	18.43	17.06	16.57	
17	07.44	07.16	06.33	06.43	06.06		05.52	06.06	06.35	19.43-19.57/14	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34		20.56	20.52	20.19	19.31	18.42	17.05	16.58	
18	07.44	07.14	06.32	06.42	06.05		05.52	06.07	06.36	19.43-19.55/12	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35		20.56	20.51	20.18	19.29	18.40	17.04	16.58	
19	07.43	07.13	06.30	06.40	06.04		05.52	06.08	06.37	19.43-19.54/11	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36		20.57	20.51	20.17	19.27	18.39	17.04	16.58	
20	07.43	07.12	06.28	06.39	19.42-19.45/3	06.03	05.53	06.09	06.38	19.43-19.53/10	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37		20.57	20.50	20.15	19.25	18.37	17.03	16.59	
21	07.42	07.10	06.27	06.37	19.39-19.45/6	06.02	05.53	06.10	06.39	19.43-19.51/8	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38		20.57	20.49	20.14	19.24	18.36	17.02	16.59	
22	07.42	07.09	06.25	06.36	19.39-19.47/8	06.02	05.53	06.10	06.40	19.44-19.50/6	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39		20.57	20.48	20.12	19.22	18.34	17.02	17.00	
23	07.41	07.07	06.23	06.35	19.37-19.47/10	06.01	05.53	06.11	06.41	19.46-19.49/3	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40		20.57	20.48	20.11	19.20	18.33	17.01	17.00	
24	07.40	07.06	06.22	06.33	19.37-19.49/12	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44	
	17.31	18.08	18.39	20.11	20.40		20.58	20.47	20.09	19.19	18.32	17.00	17.01	
25	07.40	07.05	06.20	06.32	19.37-19.50/13	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45	
	17.32	18.09	18.40	20.12	20.41		20.58	20.46	20.08	19.17	17.30	17.00	17.01	
26	07.39	07.03	06.19	06.30	19.36-19.50/14	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45	
	17.33	18.10	18.41	20.13	20.42		20.58	20.45	20.06	19.15	17.29	16.59	17.02	
27	07.38	07.02	06.17	06.29	19.36-19.52/16	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45	
	17.34	18.11	18.42	20.14	20.43		20.58	20.44	20.05	19.14	17.28	16.59	17.03	
28	07.37	07.00	06.15	06.28	19.37-19.53/16	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46	
	17.35	18.13	18.43	20.15	20.44		20.58	20.43	20.03	19.12	17.26	16.59	17.03	
29	07.37		07.14	06.26	19.37-19.51/14	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46	
	17.37		19.44	20.16	20.45		20.58	20.42	20.02	19.10	17.25	16.58	17.04	
30	07.36		07.12	06.25	19.38-19.50/12	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46	
	17.38		19.45	20.17	20.45		20.58	20.41	20.00	19.09	17.24	16.58	17.05	
31	07.35		07.10		05.56			06.19	06.49		06.51		07.46	
	17.39		19.46		20.46			20.40	19.58		17.22		17.06	
Potential sun hours	299	298	370	398	447		450	457	427	375	346	299	290	
Sum of minutes with flicker	0	0	0	124	12		0	0	136	0	0	0	0	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 13 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (25)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07.47	07.34	06.59	07.09	06.24	06.43-06.47/4	05.55	05.56	06.19	06.49	07.19	06.52	07.26	
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57		
2	07.47	07.33	06.57	07.07	06.22	06.43-06.46/3	05.55	05.56	06.20	06.50	07.20	06.53	07.27	
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57		
3	07.47	07.32	06.56	07.05	06.21	20.19	05.55	05.57	06.21	06.51	07.21	06.54	07.28	
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57		
4	07.47	07.31	06.54	07.04	06.20	20.19	05.54	05.58	06.22	06.52	07.22	06.56	07.29	
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57		
5	07.47	07.30	06.52	07.02	06.19	20.21	05.54	05.58	06.23	06.53	07.23	06.57	07.30	
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57		
6	07.47	07.29	06.51	07.01	06.17	20.22	05.53	05.59	06.24	06.54	07.24	06.58	07.31	
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56		
7	07.47	07.28	06.49	06.59	06.16	20.24	05.53	05.59	06.25	06.55	07.25	06.59	07.32	
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56		
8	07.47	07.27	06.48	06.57	06.15	20.25	05.53	06.00	06.26	06.56	07.26	07.00	07.33	
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56		
9	07.47	07.25	06.46	06.56	06.14	20.26	05.53	06.00	06.27	06.57	07.27	07.01	07.34	
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56		
10	07.47	07.24	06.45	06.54	06.13	20.27	05.53	06.01	06.28	06.58	07.28	07.03	07.35	
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.52	17.11	16.56		
11	07.46	07.23	06.43	06.53	06.12	20.28	05.52	06.02	06.29	06.59	07.29	07.04	07.36	
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.56		
12	07.46	07.22	06.41	06.51	06.11	20.29	05.52	06.03	06.30	06.52-06.56/4	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57		
13	07.46	07.21	06.40	06.49	06.10	20.30	05.52	06.03	06.31	06.52-06.55/3	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57		
14	07.45	07.19	06.38	06.48	06.09	20.31	05.52	06.04	06.32	06.53-06.55/2	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.07	16.57		
15	07.45	07.18	06.37	06.46	06.08	20.32	05.52	06.05	06.33	07.03	07.33	07.08	07.39	
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57		
16	07.45	07.17	06.35	06.45	06.07	20.33	05.52	06.06	06.34	07.04	07.34	07.10	07.40	
	17.21	17.59	18.30	20.02	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.57		
17	07.44	07.16	06.33	06.43	06.06	20.34	05.52	06.06	06.35	07.05	07.35	07.11	07.40	
	17.22	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58		
18	07.44	07.14	06.32	06.42	06.05	20.35	05.52	06.07	06.36	07.06	07.36	07.12	07.41	
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58		
19	07.43	07.13	06.30	06.40	06.04	20.36	05.52	06.08	06.37	07.07	07.37	07.13	07.42	
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.03	16.58		
20	07.43	07.12	06.28	06.39	06.03	20.37	05.52	06.09	06.38	07.08	07.39	07.14	07.42	
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59		
21	07.42	07.10	06.27	06.37	06.02	20.38	05.53	06.10	06.39	07.09	07.40	07.15	07.43	
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59		
22	07.42	07.09	06.25	06.36	06.02	20.39	05.53	06.10	06.40	07.10	07.41	07.17	07.43	
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00		
23	07.41	07.07	06.23	06.34	06.01	20.40	05.53	06.11	06.41	07.11	07.42	07.18	07.44	
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00		
24	07.40	07.06	06.22	06.33	06.00	20.41	05.53	06.12	06.42	07.12	07.43	07.19	07.44	
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01		
25	07.40	07.05	06.20	06.32	05.59	20.42	05.54	06.13	06.43	07.13	06.44	07.20	07.45	
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01		
26	07.39	07.03	06.18	06.30	05.59	20.43	05.54	06.14	06.44	07.14	06.45	07.21	07.45	
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02		
27	07.38	07.02	06.17	06.29	05.58	20.44	05.54	06.15	06.45	07.15	06.46	07.22	07.45	
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03		
28	07.37	07.00	06.15	06.28	06.47-06.48/1	20.45	05.55	06.16	06.46	07.16	06.48	07.23	07.46	
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03		
29	07.36		07.14	06.26	06.45-06.48/3	20.46	05.55	06.17	06.47	07.17	06.49	07.24	07.46	
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04		
30	07.36		07.12	06.25	06.44-06.48/4	20.46	05.56	06.18	06.48	07.18	06.50	07.25	07.46	
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05		
31	07.35		07.10		05.56			06.19	06.49		06.51	07.26	07.46	
	17.39		19.46		20.46			20.40	19.58		17.22	17.06		
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290		
Sum of minutes with flicker	0	0	0	8	7	0	0	13	0	0	0	0	0	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 14 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (26)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.34	06.58	07.08	06.23	05.55	05.56	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.57
5	07.47	07.30	06.52	07.02	06.18	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.35	19.50	19.00	17.16	16.56
6	07.47	07.29	06.51	07.00	06.17	05.53	05.58	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.27	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.47	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.46	07.25	06.46	06.55	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.35
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.53	20.54	20.26	19.39	18.49	17.09	16.56
13	07.46	07.20	06.40	06.49	06.09	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.08	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.07	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.44	17.06	16.57
16	07.44	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.05	16.57
18	07.44	07.14	06.31	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.39	07.09	07.39	07.15	07.42
	17.27	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.17	07.43
	17.29	18.07	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.41	07.12	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.01
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	07.44	07.20	07.44
	17.32	18.09	18.39	20.12	20.41	20.57	20.46	20.07	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.43	07.13	07.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.57	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.44	07.14	07.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.59	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.16	06.45	07.15	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.16	06.46	07.16	07.48	07.24	07.46
	17.36		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.17	06.47	07.17	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.58	17.05
31	07.34		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 15 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (27)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.27
	17.07	17.41	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.23	05.55	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.06	06.21	05.55	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.16	19.49	20.20	20.49	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.23	06.53	07.22	06.56	07.30
	17.09	17.44	18.17	19.50	20.21	20.49	20.58	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.24	06.54	07.23	06.57	07.31
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.55	07.24	06.58	07.32
	17.11	17.47	18.20	19.52	20.23	20.51	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.50	06.59	06.17	05.54	06.00	06.25	06.56	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.58	17.15	16.57
8	07.47	07.27	06.48	06.58	06.15	05.53	06.00	06.26	06.57	07.26	07.01	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.14	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.25	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.52	18.24	19.57	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.47	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.58	20.28	20.53	20.55	20.28	19.41	18.51	17.11	16.57
12	07.46	07.22	06.42	06.51	06.11	05.53	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.59	20.29	20.54	20.55	20.26	19.39	18.50	17.10	16.57
13	07.46	07.21	06.40	06.50	06.10	05.53	06.04	06.31	07.01	07.31	07.06	07.38
	17.18	17.55	18.27	20.00	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.08	07.38
	17.19	17.56	18.28	20.01	20.31	20.55	20.54	20.24	19.36	18.47	17.08	16.57
15	07.45	07.18	06.37	06.47	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.21	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.45	07.16	06.34	06.44	06.06	05.52	06.07	06.35	07.05	07.36	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.20	19.31	18.42	17.05	16.58
18	07.44	07.15	06.32	06.42	06.05	05.53	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.33	20.05	20.35	20.56	20.52	20.18	19.29	18.40	17.05	16.58
19	07.44	07.13	06.30	06.41	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.34	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.29	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.15	07.42
	17.26	18.04	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.38	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	17.00
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.29	18.06	18.37	20.09	20.39	20.57	20.49	20.12	19.22	18.35	17.02	17.00
23	07.41	07.08	06.24	06.35	06.01	05.53	06.12	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.58	20.48	20.11	19.21	18.33	17.01	17.01
24	07.41	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.41	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.42	20.58	20.46	20.08	19.17	17.31	17.00	17.02
26	07.39	07.03	06.19	06.31	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.11	18.41	20.13	20.42	20.58	20.45	20.06	19.16	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.55	06.15	06.45	07.15	07.46	07.22	07.46
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.38	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.27	16.59	17.04
29	07.37		07.14	06.27	05.57	05.55	06.17	06.47	07.17	07.48	07.25	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.11	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.49	07.26	07.46
	17.38		19.45	20.17	20.46	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.11		05.56		06.19	06.49		07.50	07.27	07.47
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.27/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Stato di fatto WTG: 16 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (28)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47 17.07	07.34 17.40	06.59 18.14	07.09 19.09-19.23/14	06.24 20.18	05.55 20.47	05.56 20.58	06.19 20.39	06.50 19.57	07.19 19.07	06.52 17.21	07.26 16.57
2	07.47 17.07	07.33 17.42	06.57 18.15	07.07 19.08-19.22/14	06.22 20.19	05.55 20.48	05.57 20.58	06.20 20.38	06.50 19.55	07.20 19.05	06.53 17.20	07.27 16.57
3	07.47 17.08	07.32 17.43	06.56 18.16	07.05 19.10-19.21/11	06.21 20.20	05.55 20.48	05.57 20.57	06.21 20.37	06.51 19.54	07.21 19.04	06.54 17.19	07.28 16.57
4	07.47 17.09	07.31 17.44	06.54 18.17	07.04 19.11-19.19/8	06.20 20.21	05.54 20.49	05.58 20.57	06.22 20.36	06.52 19.52	07.22 19.02	06.56 17.18	07.29 16.57
5	07.47 17.10	07.30 17.45	06.52 18.18	07.02 19.51	06.19 20.22	05.54 20.50	05.58 20.57	06.23 20.35	06.53 19.50	07.23 19.01	06.57 17.17	07.30 16.57
6	07.47 17.11	07.29 17.46	06.51 18.19	07.01 19.52	06.17 20.23	05.54 20.50	05.59 20.57	06.24 20.34	06.54 19.49	07.24 18.59	06.58 17.15	07.31 16.57
7	07.47 17.12	07.28 17.48	06.49 18.20	06.59 19.53	06.16 20.24	05.53 20.51	05.59 20.57	06.25 20.32	06.55 19.47	07.25 18.57	06.59 17.14	07.32 16.56
8	07.47 17.13	07.27 17.49	06.48 18.22	06.57 19.54	06.15 20.25	05.53 20.52	06.00 20.56	06.26 20.31	06.56 19.45	19.06-19.14/8	07.26 18.56	07.00 17.13
9	07.47 17.14	07.25 17.50	06.46 18.23	06.56 19.55	06.14 20.26	05.53 20.52	06.01 20.56	06.27 20.30	06.57 19.44	19.03-19.14/11	07.27 18.54	07.01 17.12
10	07.47 17.15	07.24 17.51	06.45 18.24	06.54 19.56	06.13 20.27	05.53 20.53	06.01 20.56	06.28 20.29	06.58 19.42	19.02-19.15/13	07.28 18.53	07.03 17.11
11	07.46 17.16	07.23 17.53	06.43 18.25	06.53 19.57	06.12 20.28	05.52 20.53	06.02 20.55	06.29 20.27	06.59 19.41	19.01-19.15/14	07.29 18.51	07.04 17.10
12	07.46 17.17	07.22 17.54	06.41 18.26	06.51 19.58	06.11 20.29	05.52 20.54	06.03 20.55	06.30 20.26	07.00 19.39	07.20-07.21/1	07.30 18.49	07.05 17.09
13	07.46 17.18	07.21 17.55	06.40 18.27	06.49 19.59	06.10 20.30	05.52 20.54	06.03 20.54	06.31 20.25	07.01 19.37	19.00-19.15/15	07.31 18.48	07.06 17.08
14	07.45 17.19	07.19 17.56	06.38 18.28	06.48 20.00	06.09 20.31	05.52 20.55	06.04 20.54	06.32 20.24	07.02 19.36	19.00-19.13/13	07.32 18.46	07.07 17.08
15	07.45 17.20	07.18 17.57	06.37 18.29	06.46 20.01	06.08 20.32	05.52 20.55	06.05 20.53	06.33 20.22	07.03 19.34	19.01-19.12/11	07.33 18.45	07.08 17.07
16	07.45 17.21	07.17 17.59	06.35 18.30	06.45 20.02	06.07 20.33	05.52 20.55	06.06 20.53	06.34 20.21	07.04 19.32	19.02-19.10/8	07.34 18.43	07.10 17.06
17	07.44 17.23	07.16 18.00	06.33 18.31	06.43 20.04	06.06 20.34	05.52 20.56	06.06 20.52	06.35 20.19	07.05 19.30	19.05-19.07/2	07.35 18.42	07.11 17.05
18	07.44 17.24	07.14 18.01	06.32 18.32	06.42 20.05	06.05 20.35	05.52 20.56	06.07 20.51	06.36 20.18	07.06 19.29		07.36 18.40	07.12 17.04
19	07.43 17.25	07.13 18.02	06.30 18.33	06.40 20.06	06.04 20.36	05.52 20.56	06.08 20.51	06.37 20.17	07.07 19.27		07.38 18.39	07.13 17.04
20	07.43 17.26	07.12 18.03	06.28 18.34	06.39 20.07	06.03 20.37	05.53 20.57	06.09 20.50	06.38 20.15	07.08 19.25		07.39 18.37	07.14 17.03
21	07.42 17.27	07.10 18.05	06.27 18.35	06.37 20.08	06.02 20.38	05.53 20.57	06.10 20.49	06.39 20.14	07.09 19.24		07.40 18.36	07.15 17.02
22	07.42 17.28	07.09 18.06	06.25 18.37	06.36 20.09	06.02 20.39	05.53 20.57	06.10 20.48	06.40 20.12	07.10 19.22		07.41 18.34	07.17 17.02
23	07.41 17.29	07.07 18.07	06.23 18.38	06.35 20.10	06.01 20.40	05.53 20.57	06.11 20.48	06.41 20.11	07.11 19.20		07.42 18.33	07.18 17.01
24	07.40 17.31	07.06 18.08	06.22 18.39	06.33 20.11	06.00 20.40	05.53 20.58	06.12 20.47	06.42 20.09	07.12 19.19		07.43 18.32	07.19 17.00
25	07.40 17.32	07.05 18.09	06.20 18.40	06.32 20.12	05.59 20.41	05.54 20.58	06.13 20.46	06.43 20.08	07.13 19.17		07.44 17.30	07.45 17.01
26	07.39 17.33	07.03 18.10	06.19 18.41	06.30 20.13	05.59 20.42	05.54 20.58	06.14 20.45	06.44 20.06	07.14 19.15		07.45 17.29	07.45 17.02
27	07.38 17.34	07.02 18.11	06.17 18.42	18.13-18.21/8	06.29 20.14	05.58 20.43	05.54 20.58	06.45 20.05	07.15 19.14		07.46 17.28	07.45 17.03
28	07.37 17.35	07.00 18.13	06.15 18.43	18.12-18.22/10	06.28 20.15	05.58 20.44	05.55 20.58	06.16 20.43	07.16 19.12		07.48 17.26	07.46 17.03
29	07.36 17.37	07.36 18.13	07.14 19.10-19.23/13	06.26 20.16	05.57 20.45	05.55 20.58	06.17 20.42	06.47 20.02	07.17 19.10		07.49 17.25	07.46 17.04
30	07.36 17.38	07.36 18.06	07.12 19.09-19.24/15	06.25 20.17	05.56 20.45	05.56 20.58	06.18 20.41	06.48 20.00	07.18 19.09		07.50 17.24	07.45 17.05
31	07.35 17.39	07.35 18.07	07.10 19.09-19.24/15	07.29-07.30/1	05.56 20.46	05.56 20.58	06.19 20.40	06.49 19.58	07.19 19.09		07.51 17.22	07.46 17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	62	47	0	0	0	0	111	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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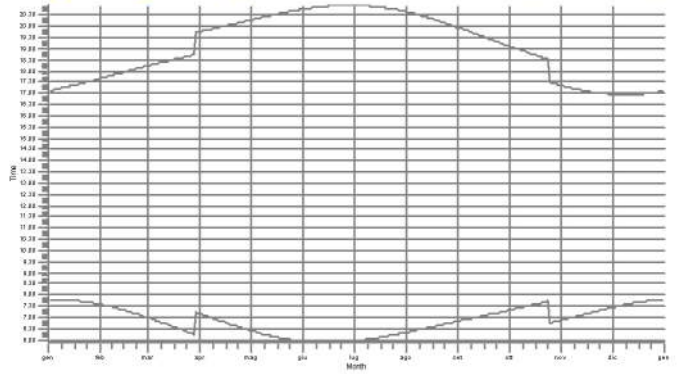
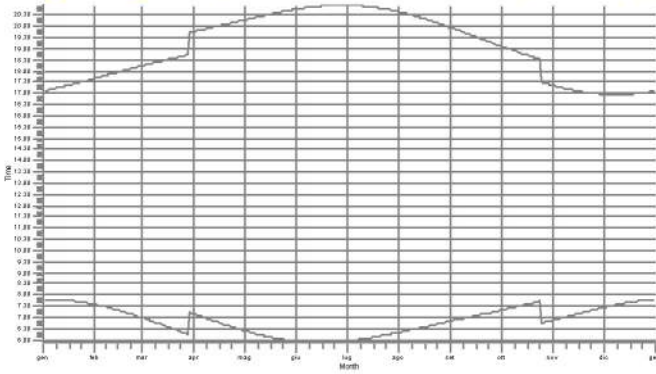
Calculated:

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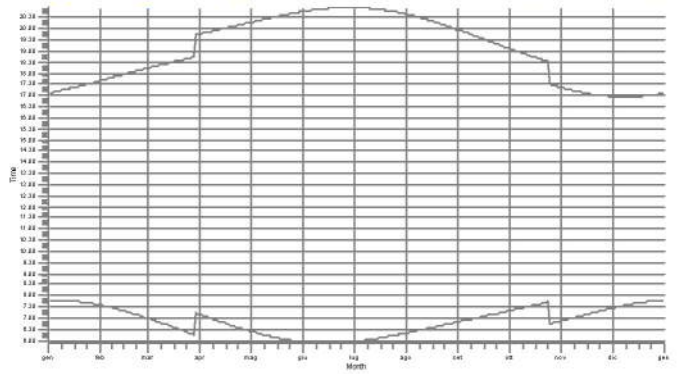
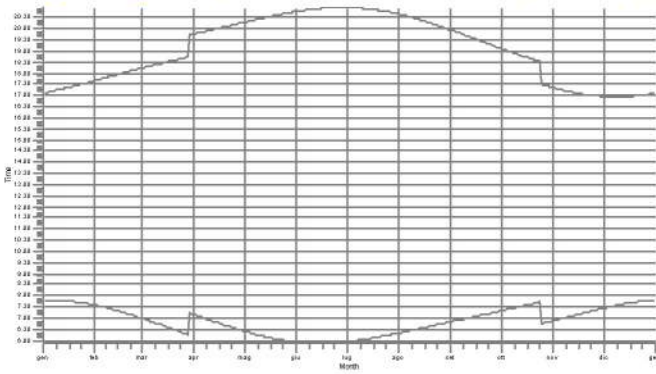
SHADOW - Calendar per WTG, graphical

Calculation: Shadow_2020_07_30_ Stato di fatto

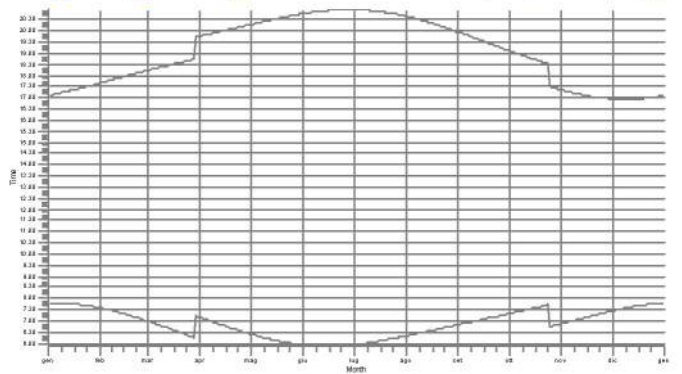
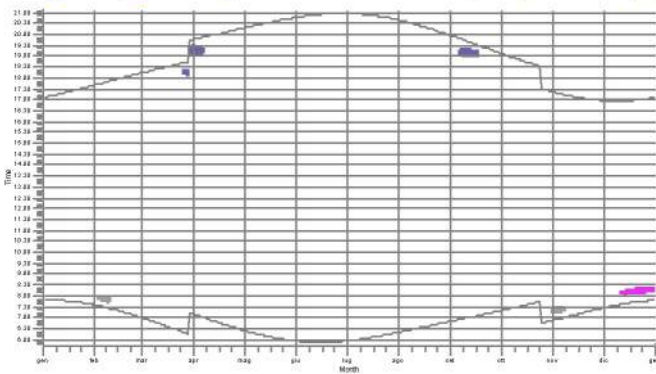
TOZZI_GREEN_bis Victory 24-60 60 26.0 ! hub: 30,0 m (TOT: 43,0 m) (13 TOZZI_GREEN_bis Victory 24-60 60 26.0 ! hub: 30,0 m (TOT: 43,0 m) (14



TOZZI_GREEN_bis Victory 24-60 60 26.0 ! hub: 30,0 m (TOT: 43,0 m) (15 TOZZI_GREEN_bis Victory 24-60 60 26.0 ! hub: 30,0 m (TOT: 43,0 m) (16



TOZZI_GREEN_bis Victory 24-60 60 26.0 ! hub: 30,0 m (TOT: 43,0 m) (17 TOZZI_GREEN_bis Victory 24-60 60 26.0 ! hub: 30,0 m (TOT: 43,0 m) (18



Shadow receptors

F138: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (255)

F43: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (242)

F52: Rudere

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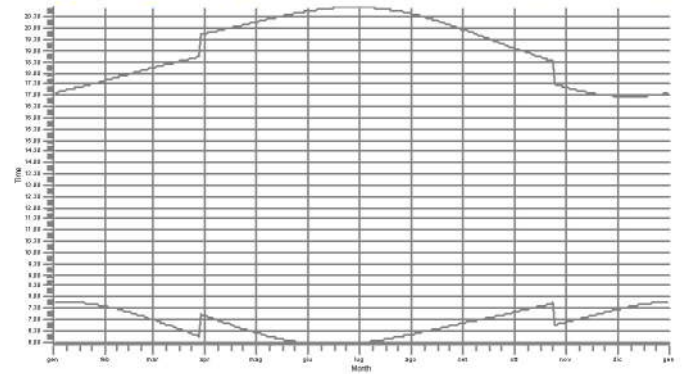
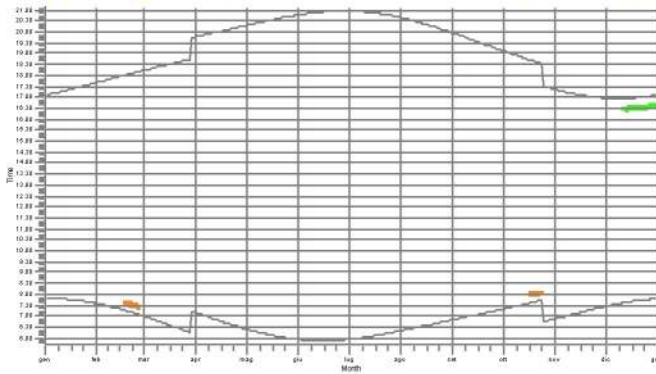
Calculated:

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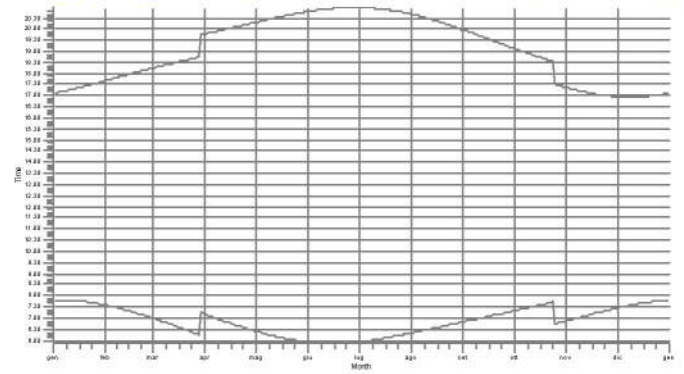
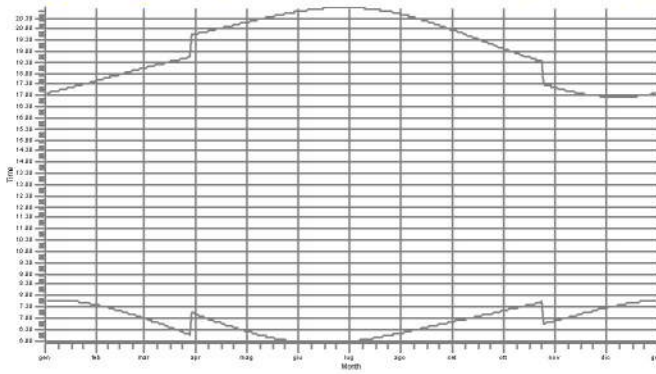
SHADOW - Calendar per WTG, graphical

Calculation: Shadow_2020_07_30_ Stato di fatto

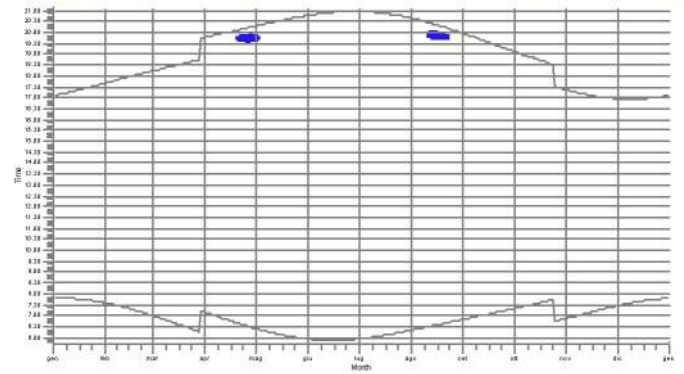
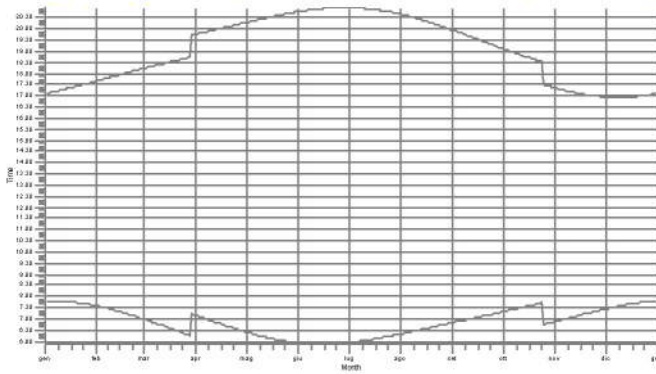
TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (1: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (20



TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (21: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2



TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (22: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2



Shadow receptors

F153: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (254)

F161: Abitazione

F24: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (237)

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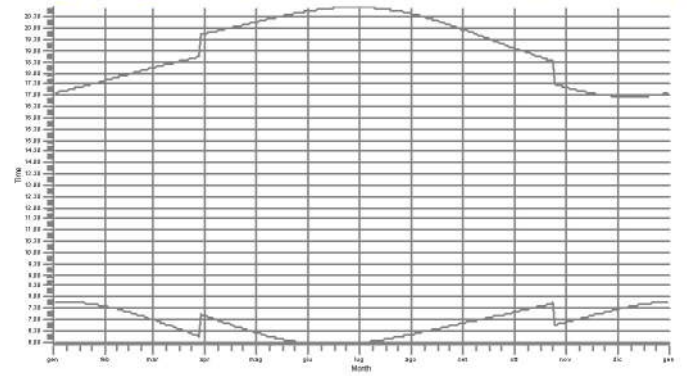
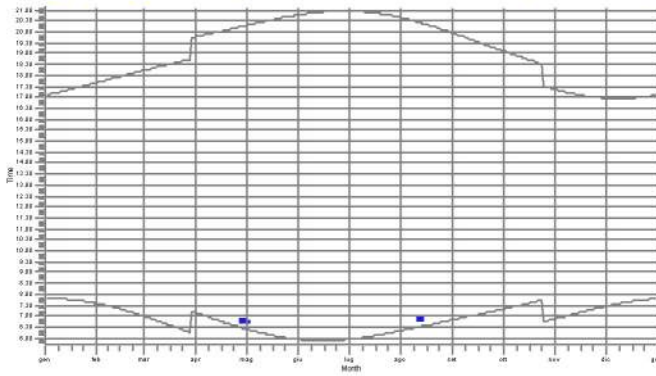
Calculated:

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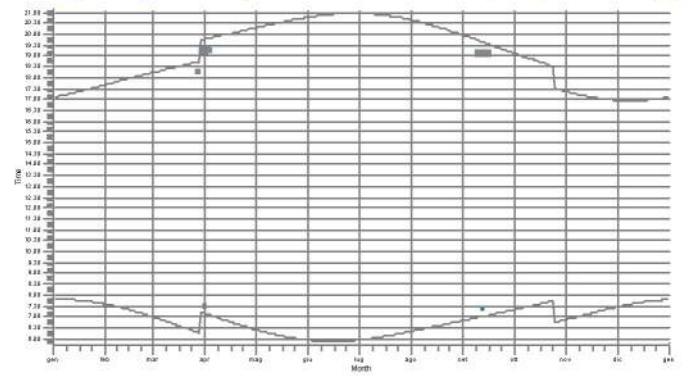
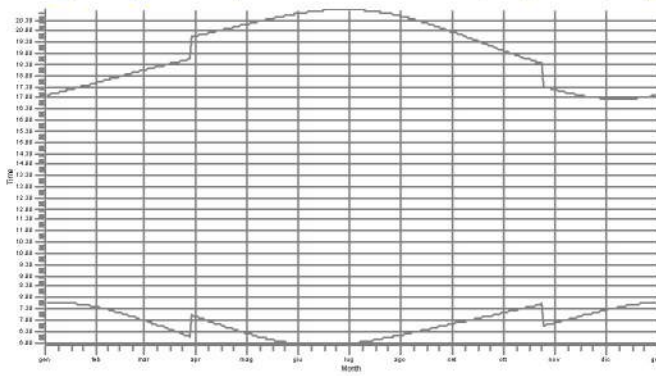
SHADOW - Calendar per WTG, graphical

Calculation: Shadow_2020_07_30 Stato di fatto

5: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2): TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2)



5: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2): TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2)





Shadow receptors

F16: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (265)

F24: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (237)

F31: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (238)

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APPENDICE 2 - REPORT DEI RISULTATI DEL CALCOLO MODELLISTICO – SCENARIO DI PROGETTO

Project:

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Calculated:

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SHADOW - Main Result

Calculation: Shadow_2020_07_30_Cumulativo

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence 3 °

Day step for calculation 1 days

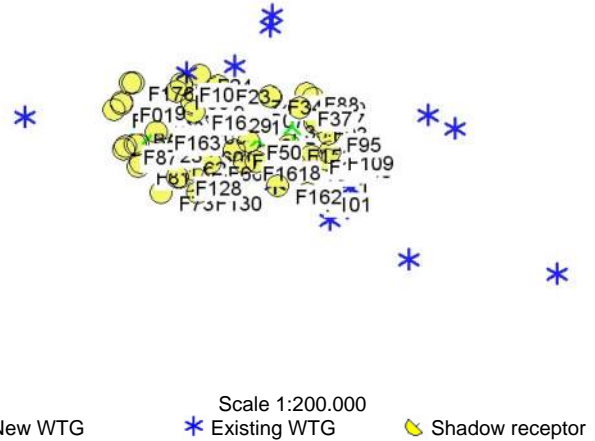
Time step for calculation 1 minutes

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating



A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

Height contours used: Height Contours: tin-10-12-19.wpo (1)

Obstacles used in calculation

Eye height: 1,5 m

Grid resolution: 10,0 m

WTGs

Italian Gauss-Boaga west-ROMA40 (IT-peninsular <±4m) WTG type										Shadow data	
East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Calculation distance [m]	RPM [RPM]
		[m]									
12	1.529.546	4.479.905	800,0 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
13	1.529.619	4.480.416	798,0 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
14	1.529.098	4.479.590	770,8 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
15	1.531.174	4.478.564	748,2 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
16	1.527.639	4.480.895	805,0 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
17	1.527.624	4.480.552	785,4 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
18	1.527.210	4.480.962	791,6 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
19	1.535.119	4.478.191	776,2 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
20	1.527.544	4.484.973	717,6 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
21	1.527.484	4.484.675	721,9 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
22	1.532.402	4.482.012	604,9 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
23	1.525.281	4.483.455	700,6 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
24	1.526.549	4.483.644	725,0 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
25	1.531.684	4.482.356	722,1 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
26	1.520.994	4.482.283	730,8 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
27	1.526.063	4.482.436	725,0 TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
BAP01	1.524.053	4.482.291	715,7 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0
BAP02	1.524.348	4.481.771	741,1 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0
BAP03	1.524.634	4.481.288	799,5 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0
BAP04	1.524.943	4.480.934	793,8 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0
BAP05	1.524.891	4.482.372	715,2 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0
BAP06	1.525.512	4.481.797	740,4 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0
BAP07	1.526.449	4.482.811	710,0 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0
BAP08	1.527.183	4.481.678	752,4 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0
BAP09	1.528.099	4.482.044	771,4 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0
BAP10	1.528.123	4.481.478	782,2 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0
BAP11	1.528.157	4.481.053	820,0 Siemens Mode 0 SG 6....	Yes	Siemens Mode 0	SG 6.0-170-6.000	6.000	170,0	115,0	1.768	13,0

Shadow receptor-Input

Italian Gauss-Boaga west-ROMA40 (IT-peninsular <±4m)											
No.	Name	East	North	Z	Width [m]	Height [m]	Height a.g.l. [m]	Degrees from south cw [°]	Slope of window [°]	Direction mode	
F01		1.523.570	4.482.610	695,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"	
F02	Rudere	1.524.325	4.482.248	730,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"	
F03		1.524.365	4.482.250	730,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"	
F06		1.525.034	4.482.945	717,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"	

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Main Result**Calculation:** Shadow_2020_07_30_Cumulativo

...continued from previous page

No.	Name	Italian Gauss-Boaga west-ROMA40 (IT-peninsular <±4m)							Slope of window	Direction mode
		East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw		
				[m]	[m]	[m]	[m]	[°]	[°]	
F10		1.525.151	4.483.145	712,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F101		1.528.492	4.480.276	791,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F102		1.528.591	4.481.254	790,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F103		1.529.035	4.481.171	785,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F109		1.529.091	4.481.362	782,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F121		1.523.636	4.481.414	721,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F123		1.524.022	4.481.552	733,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F128		1.525.049	4.480.691	809,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F130		1.525.596	4.480.292	830,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F131		1.526.104	4.482.285	730,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F137		1.527.392	4.481.250	780,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F138		1.527.154	4.481.106	803,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F151	Vedetta antincendio	1.528.145	4.481.089	820,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F153		1.528.003	4.481.527	767,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F154		1.527.528	4.482.793	725,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F158		1.523.367	4.482.464	695,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F159		1.523.578	4.482.664	695,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F16		1.525.478	4.482.406	735,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F161	Abitazione	1.526.838	4.481.071	805,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F162		1.527.704	4.480.480	777,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F163		1.524.497	4.481.870	736,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F167		1.528.314	4.482.481	741,9	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F168		1.527.350	4.481.506	772,8	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F172		1.529.040	4.481.205	786,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F174		1.526.400	4.482.829	710,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F176		1.523.814	4.483.175	707,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F177		1.523.875	4.483.163	702,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F18		1.525.417	4.482.629	736,9	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F19		1.525.437	4.482.663	739,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F21		1.526.037	4.483.025	707,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F23		1.526.110	4.483.114	700,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F24		1.525.639	4.483.367	703,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F29		1.526.143	4.482.341	730,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F31		1.526.487	4.482.427	718,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F32		1.527.087	4.482.457	724,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F33		1.527.619	4.482.174	757,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F34		1.527.495	4.482.817	725,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F37	Abitazione	1.528.292	4.482.521	739,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F39		1.528.335	4.481.913	769,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F43		1.527.984	4.480.886	805,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F47		1.527.430	4.481.452	766,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F50		1.526.936	4.481.639	769,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F52	Rudere	1.527.125	4.481.270	795,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F52		1.526.687	4.481.798	741,9	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F55		1.526.560	4.481.407	761,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F57		1.525.804	4.481.544	741,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F60		1.525.426	4.481.469	770,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F61	Rudere	1.525.068	4.481.254	780,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F62		1.524.961	4.481.203	791,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F66		1.525.935	4.481.066	785,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F67		1.525.455	4.480.896	805,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F68		1.525.133	4.480.678	803,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F69		1.525.093	4.480.658	805,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F73	Rudere	1.524.632	4.480.282	736,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F78	Rudere	1.524.731	4.481.978	730,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F80		1.524.087	4.481.069	729,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F81		1.524.012	4.480.955	719,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F85		1.523.943	4.481.557	726,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F87		1.523.673	4.481.497	720,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"

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30/07/2020 14.46/2.9.207

SHADOW - Main Result**Calculation:** Shadow_2020_07_30_Cumulativo

...continued from previous page

Italian Gauss-Boaga west-ROMA40 (IT-peninsular <±4m)

No.	Name	East	North	Z	Width	Height	Height	Degrees from	Slope of	Direction mode
				[m]	[m]	[m]	a.g.l.	south cw	window	
							[m]	[°]	[°]	
F88	Rudere	1.528.460	4.482.917	727,8	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F89		1.528.635	4.482.786	743,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F91		1.528.746	4.482.198	772,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F93		1.528.692	4.482.130	774,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
F95		1.529.047	4.481.853	770,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"

Calculation Results

Shadow receptor

Shadow, worst case

No.	Name	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
F01		125:58	176	1:09
F02	Rudere	486:20	218	3:26
F03		470:24	224	3:16
F06		44:34	120	0:34
F10		34:17	93	0:30
F101		0:00	0	0:00
F102		197:00	226	1:18
F103		84:15	168	0:44
F109		54:38	108	0:40
F121		80:13	152	0:48
F123		102:49	194	0:57
F128		0:00	0	0:00
F130		0:00	0	0:00
F131		112:51	148	1:17
F137		125:17	184	0:54
F138		70:19	171	0:39
F151	Vedetta antincendio	838:38	253	3:50
F153		794:02	307	4:13
F154		17:46	47	0:33
F158		105:45	160	1:07
F159		129:04	160	1:06
F16		132:26	245	1:06
F161	Abitazione	33:04	150	0:30
F162		0:00	0	0:00
F163		619:08	297	3:36
F167		95:51	70	1:36
F168		81:13	136	0:50
F172		71:47	138	0:43
F174		827:49	253	4:34
F176		28:01	62	0:32
F177		28:05	60	0:33
F18		129:58	208	1:11
F19		121:44	203	1:04
F21		151:42	135	1:38
F23		190:54	134	1:56
F24		58:48	120	0:43
F29		106:13	132	1:17
F31		65:02	165	0:36
F32		66:18	143	0:55
F33		151:25	212	1:16
F34		18:59	48	0:35
F37	Abitazione	57:49	60	1:22
F39		145:02	162	1:38
F43		5:07	24	0:18
F47		100:53	151	0:56
F50		445:36	263	2:46

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30/07/2020 14.46/2.9.207

SHADOW - Main Result**Calculation:** Shadow_2020_07_30_Cumulativo

...continued from previous page

No.	Name	Shadow, worst case		
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
F52	Rudere	53:41	132	0:38
F52		137:46	177	1:31
F55		138:13	188	1:25
F57		88:51	190	0:43
F60		113:35	213	0:56
F61	Rudere	351:54	270	1:56
F62		458:31	246	2:28
F66		66:27	173	0:39
F67		151:35	180	1:16
F68		0:00	0	0:00
F69		0:00	0	0:00
F73	Rudere	0:00	0	0:00
F78	Rudere	241:07	221	2:06
F80		107:16	126	1:23
F81		36:38	96	0:41
F85		132:04	226	1:04
F87		116:21	182	0:58
F88	Rudere	0:00	0	0:00
F89		0:00	0	0:00
F91		58:34	92	0:59
F93		80:39	137	1:04
F95		86:30	176	0:41

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
12	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (13)	0:00	
13	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (14)	0:00	
14	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (15)	0:00	
15	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (16)	0:00	
16	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (17)	8:59	
17	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (18)	0:00	
18	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (19)	2:49	
19	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (20)	0:00	
20	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (21)	0:00	
21	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (22)	0:00	
22	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (23)	0:00	
23	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (24)	4:32	
24	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (25)	0:28	
25	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (26)	0:00	
26	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (27)	0:00	
27	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (28)	3:40	
BAP01	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (56)	654:09	
BAP02	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (57)	830:42	
BAP03	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (58)	514:19	
BAP04	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (59)	693:04	
BAP05	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (60)	377:54	
BAP06	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (61)	270:40	
BAP07	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (62)	1247:32	
BAP08	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (63)	706:00	
BAP09	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (64)	432:24	
BAP10	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (65)	1121:12	
BAP11	Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) (66)	1205:05	

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30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F01 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (262)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January		February		March		April		May		June	
1	07.47	08.23 (BAP01)	07.34	08.13 (BAP01)	06.59	07.18 (BAP05)	07.09	06.24	05.56		
	17.07	26 08.49 (BAP01)	17.40	67 09.20 (BAP01)	18.14	26 08.54 (BAP01)	19.47	20.18	20.47		
2	07.47	08.23 (BAP01)	07.33	08.13 (BAP01)	06.57	07.16 (BAP05)	07.07	06.22	05.55		
	17.08	28 08.51 (BAP01)	17.42	68 09.21 (BAP01)	18.15	11 07.27 (BAP05)	19.48	20.19	20.48		
3	07.47	08.22 (BAP01)	07.32	08.13 (BAP01)	06.56	07.14 (BAP05)	07.06	06.21	05.55		
	17.08	30 08.52 (BAP01)	17.43	68 09.21 (BAP01)	18.16	15 07.29 (BAP05)	19.49	20.20	20.48		
4	07.47	08.22 (BAP01)	07.31	08.13 (BAP01)	06.54	07.13 (BAP05)	07.04	06.20	05.54		
	17.09	31 08.53 (BAP01)	17.44	68 09.21 (BAP01)	18.17	17 07.30 (BAP05)	19.50	20.21	20.49		
5	07.47	08.21 (BAP01)	07.30	08.13 (BAP01)	06.53	07.11 (BAP05)	07.02	06.19	05.54		
	17.10	34 08.55 (BAP01)	17.45	68 09.21 (BAP01)	18.18	20 07.31 (BAP05)	19.51	20.22	20.50		
6	07.47	08.21 (BAP01)	07.29	08.13 (BAP01)	06.51	07.10 (BAP05)	07.01	06.18	05.54		
	17.11	35 08.56 (BAP01)	17.47	69 09.22 (BAP01)	18.19	22 07.32 (BAP05)	19.52	20.23	20.50		
7	07.47	08.21 (BAP01)	07.28	08.13 (BAP01)	06.49	07.08 (BAP05)	06.59	06.16	05.53		
	17.12	37 08.58 (BAP01)	17.48	68 09.21 (BAP01)	18.21	24 07.32 (BAP05)	19.53	20.24	20.51		
8	07.47	08.21 (BAP01)	07.27	08.13 (BAP01)	06.48	07.07 (BAP05)	06.57	06.15	05.53		
	17.13	38 08.59 (BAP01)	17.49	68 09.21 (BAP01)	18.22	26 07.33 (BAP05)	19.54	20.25	20.52		
9	07.47	08.19 (BAP01)	07.26	08.13 (BAP01)	06.46	07.05 (BAP05)	06.56	06.14	05.53		
	17.14	40 08.59 (BAP01)	17.50	68 09.21 (BAP01)	18.23	27 07.32 (BAP05)	19.55	20.26	20.52		
10	07.47	08.19 (BAP01)	07.24	08.14 (BAP01)	06.45	07.03 (BAP05)	06.54	06.13	05.53		
	17.15	42 09.01 (BAP01)	17.51	67 09.21 (BAP01)	18.24	29 07.32 (BAP05)	19.56	20.27	20.53		
11	07.46	08.19 (BAP01)	07.23	08.14 (BAP01)	06.43	07.03 (BAP05)	06.53	06.12	05.53		
	17.16	43 09.02 (BAP01)	17.53	67 09.21 (BAP01)	18.25	29 07.32 (BAP05)	19.57	20.28	20.53		
12	07.46	08.18 (BAP01)	07.22	08.14 (BAP01)	06.42	07.03 (BAP05)	06.51	06.11	05.52		
	17.17	45 09.03 (BAP01)	17.54	66 09.20 (BAP01)	18.26	28 07.31 (BAP05)	19.58	20.29	20.54		
13	07.46	08.18 (BAP01)	07.21	08.14 (BAP01)	06.40	07.03 (BAP05)	06.50	06.10	05.52		
	17.18	47 09.05 (BAP01)	17.55	65 09.19 (BAP01)	18.27	27 07.30 (BAP05)	19.59	20.30	20.54		
14	07.46	08.18 (BAP01)	07.20	08.15 (BAP01)	06.38	07.04 (BAP05)	06.48	06.09	05.52		
	17.19	48 09.06 (BAP01)	17.56	64 09.19 (BAP01)	18.28	26 07.30 (BAP05)	20.01	20.31	20.55		
15	07.45	08.17 (BAP01)	07.18	08.16 (BAP01)	06.37	07.04 (BAP05)	06.47	06.08	05.52		
	17.20	50 09.07 (BAP01)	17.58	63 09.19 (BAP01)	18.29	24 07.28 (BAP05)	20.02	20.32	20.55		
16	07.45	08.17 (BAP01)	07.17	08.15 (BAP01)	06.35	07.05 (BAP05)	06.45	06.07	05.52		
	17.21	51 09.08 (BAP01)	17.59	63 09.18 (BAP01)	18.30	22 07.27 (BAP05)	20.03	20.33	20.56		
17	07.44	08.16 (BAP01)	07.16	08.16 (BAP01)	06.33	07.06 (BAP05)	06.43	06.06	05.52		
	17.23	53 09.09 (BAP01)	18.00	61 09.17 (BAP01)	18.31	19 07.25 (BAP05)	20.04	20.34	20.56		
18	07.44	08.16 (BAP01)	07.14	08.17 (BAP01)	06.32	07.08 (BAP05)	06.42	06.05	05.52		
	17.24	54 09.10 (BAP01)	18.01	60 09.17 (BAP01)	18.32	14 07.22 (BAP05)	20.05	20.35	20.56		
19	07.43	08.16 (BAP01)	07.13	08.18 (BAP01)	06.30	07.13 (BAP05)	06.40	06.04	05.53		
	17.25	55 09.11 (BAP01)	18.02	57 09.15 (BAP01)	18.33	5 07.18 (BAP05)	20.06	20.36	20.57		
20	07.43	08.16 (BAP01)	07.12	08.19 (BAP01)	06.29		06.39	06.03	05.53		
	17.26	56 09.12 (BAP01)	18.03	55 09.14 (BAP01)	18.35		20.07	20.37	20.57		
21	07.42	08.15 (BAP01)	07.10	08.19 (BAP01)	06.27		06.38	06.03	05.53		
	17.27	58 09.13 (BAP01)	18.05	53 09.12 (BAP01)	18.36		20.08	20.38	20.57		
22	07.42	08.14 (BAP01)	07.09	08.21 (BAP01)	06.25		06.36	06.02	05.53		
	17.28	60 09.14 (BAP01)	18.06	50 09.11 (BAP01)	18.37		20.09	20.39	20.57		
23	07.41	08.15 (BAP01)	07.08	08.22 (BAP01)	06.24		06.35	06.01	05.53		
	17.30	60 09.15 (BAP01)	18.07	48 09.10 (BAP01)	18.38		20.10	20.40	20.58		
24	07.40	08.14 (BAP01)	07.06	08.23 (BAP01)	06.22		06.33	06.00	05.54		
	17.31	62 09.16 (BAP01)	18.08	45 09.08 (BAP01)	18.39		20.11	20.41	20.58		
25	07.40	08.14 (BAP01)	07.05	08.25 (BAP01)	06.20		06.32	06.00	05.54		
	17.32	62 09.16 (BAP01)	18.09	41 09.06 (BAP01)	18.40		20.12	20.41	20.58		
26	07.39	08.13 (BAP01)	07.03	08.26 (BAP01)	06.19		06.30	05.59	05.54		
	17.33	64 09.17 (BAP01)	18.10	37 09.03 (BAP01)	18.41		20.13	20.42	20.58		
27	07.38	08.13 (BAP01)	07.02	08.29 (BAP01)	06.17		06.29	05.58	05.54		
	17.34	64 09.17 (BAP01)	18.12	32 09.01 (BAP01)	18.42		20.14	20.43	20.58		
28	07.37	08.14 (BAP01)	07.00	08.31 (BAP01)	06.15		06.28	05.58	05.55		
	17.36	65 09.19 (BAP01)	18.13	27 08.58 (BAP01)	18.43		20.15	20.44	20.58		
29	07.37	08.14 (BAP01)			07.14		06.26	05.57	05.55		
	17.37	65 09.19 (BAP01)			19.44		20.16	20.45	20.58		
30	07.36	08.13 (BAP01)			07.12		06.25	05.57	05.56		
	17.38	66 09.19 (BAP01)			19.45		20.17	20.45	20.58		
31	07.35	08.13 (BAP01)			07.10			05.56			
	17.39	67 09.20 (BAP01)			19.46			20.46			
Potential sun hours	299		298		370		398	447	450		
Total, worst case	1536		1633		411						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F01 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (262)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December		
1	05.56 20.58	06.20 20.39	06.50 19.57	07.19 19.07	07.42 (BAP05) 17.21	06.52 07.43 (BAP01)	07.26 16.58	08.01 (BAP01) 08.45 (BAP01)
2	05.57 20.58	06.21 20.38	06.51 19.55	07.20 19.06	07.42 (BAP05) 17.20	06.53 08.51 (BAP01)	07.28 16.57	08.02 (BAP01) 08.44 (BAP01)
3	05.57 20.58	06.21 20.37	06.52 19.54	07.21 19.04	07.41 (BAP05) 17.19	06.55 08.51 (BAP01)	07.29 16.57	08.03 (BAP01) 08.44 (BAP01)
4	05.58 20.57	06.22 20.36	06.53 19.52	07.22 19.02	07.42 (BAP05) 17.18	06.56 08.50 (BAP01)	07.30 16.57	08.05 (BAP01) 08.43 (BAP01)
5	05.58 20.57	06.23 20.35	06.54 19.51	07.23 19.01	07.43 (BAP05) 17.17	06.57 08.51 (BAP01)	07.30 16.57	08.06 (BAP01) 08.43 (BAP01)
6	05.59 20.57	06.24 20.34	06.54 19.49	07.24 18.59	07.44 (BAP05) 17.16	06.58 08.51 (BAP01)	07.31 16.57	08.07 (BAP01) 08.42 (BAP01)
7	05.59 20.57	06.25 20.33	06.55 19.47	07.25 18.57	07.45 (BAP05) 17.14	06.59 08.51 (BAP01)	07.32 16.57	08.08 (BAP01) 08.42 (BAP01)
8	06.00 20.56	06.26 20.31	06.56 19.46	07.26 18.56	07.46 (BAP05) 17.13	07.00 08.51 (BAP01)	07.33 16.57	08.10 (BAP01) 08.41 (BAP01)
9	06.01 20.56	06.27 20.30	06.57 19.44	07.27 18.54	07.47 (BAP05) 17.12	07.02 08.51 (BAP01)	07.34 16.57	08.11 (BAP01) 08.41 (BAP01)
10	06.01 20.56	06.28 20.29	06.58 19.42	07.28 18.53	07.48 (BAP05) 17.11	07.03 08.51 (BAP01)	07.35 16.57	08.12 (BAP01) 08.40 (BAP01)
11	06.02 20.55	06.29 20.28	06.59 19.41	07.29 18.51	07.49 (BAP05) 17.10	07.04 08.51 (BAP01)	07.36 16.57	08.13 (BAP01) 08.39 (BAP01)
12	06.03 20.55	06.30 20.26	07.00 19.39	07.30 18.49	07.50 (BAP05) 17.09	07.05 08.50 (BAP01)	07.37 16.57	08.15 (BAP01) 08.39 (BAP01)
13	06.03 20.54	06.31 20.25	07.01 19.37	07.31 18.48	07.51 (BAP05) 17.09	07.06 08.51 (BAP01)	07.37 16.57	08.16 (BAP01) 08.39 (BAP01)
14	06.04 20.54	06.32 20.24	07.02 19.36	07.32 18.46	09.02 (BAP01) 17.08	07.07 08.51 (BAP01)	07.38 16.57	08.18 (BAP01) 08.39 (BAP01)
15	06.05 20.53	06.33 20.22	07.03 19.34	07.33 18.45	09.31 (BAP01) 17.07	07.08 08.50 (BAP01)	07.39 16.57	08.18 (BAP01) 08.38 (BAP01)
16	06.06 20.53	06.34 20.21	07.04 19.32	07.34 18.43	09.35 (BAP01) 17.06	07.07 08.50 (BAP01)	07.40 16.58	08.20 (BAP01) 08.38 (BAP01)
17	06.06 20.52	06.35 20.20	07.05 19.31	07.35 18.42	09.37 (BAP01) 17.05	07.06 08.50 (BAP01)	07.40 16.58	08.21 (BAP01) 08.38 (BAP01)
18	06.07 20.51	06.36 20.18	07.06 19.29	07.37 18.40	08.54 (BAP01) 17.04	07.12 08.50 (BAP01)	07.41 16.58	08.22 (BAP01) 08.37 (BAP01)
19	06.08 20.51	06.37 20.17	07.07 19.27	07.38 18.39	08.52 (BAP01) 17.04	07.13 08.49 (BAP01)	07.42 16.59	08.23 (BAP01) 08.38 (BAP01)
20	06.09 20.50	06.38 20.15	07.08 19.26	07.39 18.37	09.41 (BAP01) 17.03	07.04 08.49 (BAP01)	07.42 16.59	08.38 (BAP01) 08.24 (BAP01)
21	06.10 20.49	06.39 20.14	07.09 19.24	07.40 18.36	08.49 (BAP01) 17.02	07.16 08.48 (BAP01)	07.43 16.59	08.24 (BAP01) 08.38 (BAP01)
22	06.11 20.49	06.40 20.12	07.10 19.22	07.41 18.35	08.49 (BAP01) 17.02	07.17 08.48 (BAP01)	07.43 17.00	08.24 (BAP01) 08.38 (BAP01)
23	06.11 20.48	06.41 20.11	07.11 19.21	07.42 18.33	09.45 (BAP01) 17.01	07.18 08.48 (BAP01)	07.44 17.00	08.25 (BAP01) 08.39 (BAP01)
24	06.12 20.47	06.42 20.09	07.12 19.19	07.43 18.32	09.46 (BAP01) 17.01	07.19 08.47 (BAP01)	07.44 17.01	08.25 (BAP01) 08.40 (BAP01)
25	06.13 20.46	06.43 20.08	07.13 19.17	07.44 18.30	08.47 (BAP01) 17.00	07.20 08.47 (BAP01)	07.45 17.02	08.26 (BAP01) 08.41 (BAP01)
26	06.14 20.45	06.44 20.06	07.14 19.16	07.45 18.29	08.47 (BAP01) 16.59	07.21 08.46 (BAP01)	07.45 17.02	08.25 (BAP01) 08.42 (BAP01)
27	06.15 20.44	06.45 20.05	07.15 19.14	07.47 18.28	08.47 (BAP01) 16.59	07.22 08.46 (BAP01)	07.45 17.03	08.25 (BAP01) 08.43 (BAP01)
28	06.16 20.43	06.46 20.03	07.16 19.12	07.46 18.26	08.48 (BAP01) 16.59	07.23 08.46 (BAP01)	07.46 17.03	08.24 (BAP01) 08.44 (BAP01)
29	06.17 20.42	06.47 20.02	07.17 19.11	07.44 18.25	08.49 (BAP01) 16.58	07.24 08.46 (BAP01)	07.46 17.04	08.25 (BAP01) 08.46 (BAP01)
30	06.18 20.41	06.48 20.00	07.18 19.09	07.43 18.24	08.49 (BAP01) 16.58	07.25 08.45 (BAP01)	07.46 17.05	08.24 (BAP01) 08.47 (BAP01)
31	06.19 20.40	06.49 19.59		06.51 17.23	07.43 (BAP01) 08.50 (BAP01)		07.47 17.06	08.24 (BAP01) 08.48 (BAP01)
Potential sun hours	457	427	375	346	299	1831	290	748
Total, worst case				127	1272			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F02 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June			
1	07.47	07.34	06.59	07.09	18.14 (BAP01)	06.24	06.43 (BAP05)	05.56	06.56 (BAP05)
	17.07	17.40	18.14	19.47	67	19.21 (BAP01)	20.18	20.47	19.53 (BAP01)
2	07.47	07.33	06.57	07.07	18.10 (BAP01)	06.22	06.43 (BAP05)	05.55	06.56 (BAP05)
	17.08	17.42	18.15	19.48	73	19.23 (BAP01)	20.19	20.5	19.52 (BAP01)
3	07.47	07.32	06.56	07.05	18.08 (BAP01)	06.21	06.42 (BAP05)	05.55	06.57 (BAP05)
	17.08	17.43	18.16	19.49	78	19.26 (BAP01)	20.20	20.5	19.53 (BAP01)
4	07.47	07.31	06.54	07.04	18.05 (BAP01)	06.20	06.42 (BAP05)	05.54	06.59 (BAP05)
	17.09	17.44	18.17	19.50	83	19.28 (BAP01)	20.21	20.6	19.53 (BAP01)
5	07.47	07.30	06.53	07.02	18.03 (BAP01)	06.19	06.42 (BAP05)	05.54	06.59 (BAP05)
	17.10	17.45	18.18	19.51	87	19.30 (BAP01)	20.22	20.6	19.53 (BAP01)
6	07.47	07.29	06.51	07.01	18.01 (BAP01)	06.18	06.42 (BAP05)	05.54	07.00 (BAP05)
	17.11	17.47	18.19	19.52	90	19.31 (BAP01)	20.23	20.5	19.53 (BAP01)
7	07.47	07.28	06.49	06.59	17.58 (BAP01)	06.16	06.42 (BAP05)	05.53	07.01 (BAP05)
	17.12	17.48	18.21	19.53	94	19.32 (BAP01)	20.24	20.6	19.53 (BAP01)
8	07.47	07.27	06.48	06.57	07.18 (BAP05)	06.15	06.43 (BAP05)	05.53	07.02 (BAP05)
	17.13	17.49	18.22	19.54	106	19.33 (BAP01)	20.25	20.4	19.54 (BAP01)
9	07.47	07.26	06.46	06.56	07.14 (BAP05)	06.14	06.43 (BAP05)	05.53	07.03 (BAP05)
	17.14	17.50	18.23	19.55	118	19.34 (BAP01)	20.26	20.4	19.54 (BAP01)
10	07.47	07.24	06.45	06.54	07.13 (BAP05)	06.13	06.43 (BAP05)	05.53	07.03 (BAP05)
	17.15	17.51	18.24	19.56	126	19.35 (BAP01)	20.27	20.3	19.53 (BAP01)
11	07.46	07.23	06.43	06.53	07.11 (BAP05)	06.12	06.43 (BAP05)	05.53	07.04 (BAP05)
	17.16	17.53	18.25	19.57	133	19.36 (BAP01)	20.28	20.3	19.54 (BAP01)
12	07.46	07.22	06.42	06.51	07.10 (BAP05)	06.11	06.44 (BAP05)	05.52	07.05 (BAP05)
	17.17	17.54	18.26	19.58	139	19.37 (BAP01)	20.29	20.3	19.54 (BAP01)
13	07.46	07.21	06.40	06.50	07.08 (BAP05)	06.10	06.44 (BAP05)	05.52	07.06 (BAP05)
	17.18	17.55	18.27	19.59	145	19.38 (BAP01)	20.30	20.2	19.54 (BAP01)
14	07.46	07.20	06.38	06.48	07.06 (BAP05)	06.09	06.44 (BAP05)	05.52	07.07 (BAP05)
	17.19	17.56	18.28	20.00	149	19.38 (BAP01)	20.31	20.2	19.54 (BAP01)
15	07.45	07.18	06.37	06.46	07.05 (BAP05)	06.08	06.44 (BAP05)	05.52	07.07 (BAP05)
	17.20	17.57	18.29	20.02	155	19.40 (BAP01)	20.32	20.1	19.54 (BAP01)
16	07.45	07.17	06.35	06.45	07.03 (BAP05)	06.07	06.45 (BAP05)	05.52	07.08 (BAP05)
	17.21	17.59	18.30	20.03	159	19.40 (BAP01)	20.33	20.0	19.54 (BAP01)
17	07.44	07.16	06.33	06.43	07.02 (BAP05)	06.06	06.45 (BAP05)	05.52	07.08 (BAP05)
	17.23	18.00	18.31	20.04	165	19.42 (BAP01)	20.34	19.9	19.55 (BAP01)
18	07.44	07.14	06.32	06.42	07.00 (BAP05)	06.05	06.45 (BAP05)	05.52	07.09 (BAP05)
	17.24	18.01	18.32	20.05	168	19.42 (BAP01)	20.35	19.7	19.55 (BAP01)
19	07.43	07.13	06.30	06.40	06.59 (BAP05)	06.04	06.46 (BAP05)	05.53	07.10 (BAP05)
	17.25	18.02	18.33	20.06	173	19.44 (BAP01)	20.36	19.5	19.56 (BAP01)
20	07.43	07.12	06.28	06.39	06.58 (BAP05)	06.03	06.47 (BAP05)	05.53	07.10 (BAP05)
	17.26	18.03	18.35	20.07	176	19.45 (BAP01)	20.37	19.5	19.56 (BAP01)
21	07.42	07.10	06.27	06.38	06.56 (BAP05)	06.03	06.47 (BAP05)	05.53	07.10 (BAP05)
	17.27	18.05	18.36	20.08	179	19.45 (BAP01)	20.38	19.4	19.56 (BAP01)
22	07.42	07.09	06.25	06.36	06.55 (BAP05)	06.02	06.48 (BAP05)	05.53	07.10 (BAP05)
	17.28	18.06	18.37	20.09	183	19.46 (BAP01)	20.39	19.2	19.56 (BAP01)
23	07.41	07.07	06.24	06.35	06.53 (BAP05)	06.01	06.49 (BAP05)	05.53	07.10 (BAP05)
	17.30	18.07	18.38	20.10	185	19.46 (BAP01)	20.40	19.0	19.56 (BAP01)
24	07.40	07.06	06.22	06.33	06.52 (BAP05)	06.00	06.49 (BAP05)	05.54	07.11 (BAP05)
	17.31	18.08	18.39	20.11	188	19.47 (BAP01)	20.40	18.9	19.57 (BAP01)
25	07.40	07.05	06.20	06.32	06.51 (BAP05)	06.00	06.50 (BAP05)	05.54	07.11 (BAP05)
	17.32	18.09	18.40	20.12	192	19.48 (BAP01)	20.41	18.7	19.57 (BAP01)
26	07.39	07.03	06.19	06.30	06.49 (BAP05)	05.59	06.51 (BAP05)	05.54	07.10 (BAP05)
	17.33	18.10	18.41	20.13	193	19.47 (BAP01)	20.42	18.6	19.56 (BAP01)
27	07.38	07.02	06.17	06.29	06.48 (BAP05)	05.58	06.51 (BAP05)	05.54	07.11 (BAP05)
	17.34	18.12	18.42	20.14	196	19.48 (BAP01)	20.43	18.4	19.57 (BAP01)
28	07.37	07.00	06.15	06.28	06.47 (BAP05)	05.58	06.53 (BAP05)	05.55	07.10 (BAP05)
	17.36	18.13	18.43	20.15	198	19.49 (BAP01)	20.44	18.3	19.57 (BAP01)
29	07.37		06.14	06.26	06.45 (BAP05)	05.57	06.53 (BAP05)	05.55	07.10 (BAP05)
	17.37		18.44	20.16	199	19.48 (BAP01)	20.45	18.1	19.58 (BAP01)
30	07.36		06.12	06.25	06.44 (BAP05)	05.57	06.54 (BAP05)	05.56	07.09 (BAP05)
	17.38		18.45	20.17	201	19.49 (BAP01)	20.45	18.0	19.58 (BAP01)
31	07.35		06.10	06.23	06.43 (BAP05)	05.56	06.55 (BAP05)		
	17.39		18.46	20.18	204	19.50 (BAP01)	20.46	17.7	19.58 (BAP01)
Potential sun hours	299	298	370	398	447	447	450	4772	
Total, worst case		483	214	4398	6087				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F02 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	07.09 (BAP05) 06.20	06.53 (BAP05) 06.50	07.10 (BAP05) 07.19	06.52	07.14 (BAP06) 07.26
	20.58	19.58 (BAP01) 20.39	20.01 (BAP01) 19.57	19.35 (BAP01) 19.07	17.21	07.31 (BAP06) 16.58
2	05.57	07.09 (BAP05) 06.21	06.53 (BAP05) 06.51	07.11 (BAP05) 07.20	06.53	07.15 (BAP06) 07.27
	20.58	160 19.58 (BAP01) 20.38	204 20.01 (BAP01) 19.55	126 19.33 (BAP01) 19.06	17.20	15 07.30 (BAP06) 16.57
3	05.57	07.08 (BAP05) 06.21	06.53 (BAP05) 06.52	07.12 (BAP05) 07.21	06.55	07.16 (BAP06) 07.28
	20.58	161 19.58 (BAP01) 20.37	204 20.01 (BAP01) 19.54	118 19.32 (BAP01) 19.04	17.19	12 07.28 (BAP06) 16.57
4	05.58	07.08 (BAP05) 06.22	06.52 (BAP05) 06.53	07.15 (BAP05) 07.22	06.56	07.17 (BAP06) 07.29
	20.57	164 19.59 (BAP01) 20.36	206 20.01 (BAP01) 19.52	106 19.30 (BAP01) 19.02	17.18	9 07.26 (BAP06) 16.57
5	05.58	07.08 (BAP05) 06.23	06.52 (BAP05) 06.53	07.15 (BAP01) 07.23	06.57	07.18 (BAP06) 07.30
	20.57	165 20.00 (BAP01) 20.35	206 20.01 (BAP01) 19.50	94 19.29 (BAP01) 19.01	17.17	5 07.23 (BAP06) 16.57
6	05.59	07.06 (BAP05) 06.24	06.52 (BAP05) 06.54	07.17 (BAP01) 07.24	06.58	07.31
	20.57	167 19.59 (BAP01) 20.34	205 20.00 (BAP01) 19.49	90 19.27 (BAP01) 18.59	17.16	16.57
7	05.59	07.06 (BAP05) 06.25	06.52 (BAP05) 06.55	07.18 (BAP01) 07.25	06.59	07.32
	20.57	169 20.00 (BAP01) 20.33	205 20.00 (BAP01) 19.47	87 19.25 (BAP01) 18.57	17.14	16.57
8	06.00	07.05 (BAP05) 06.26	06.52 (BAP05) 06.56	07.19 (BAP01) 07.26	07.00	07.33
	20.56	170 19.59 (BAP01) 20.31	205 20.00 (BAP01) 19.46	83 19.23 (BAP01) 18.56	17.13	16.56
9	06.01	07.05 (BAP05) 06.27	06.52 (BAP05) 06.57	07.20 (BAP01) 07.27	07.02	07.34
	20.56	172 20.00 (BAP01) 20.30	204 19.59 (BAP01) 19.44	79 19.21 (BAP01) 18.54	17.12	16.56
10	06.01	07.05 (BAP05) 06.28	06.51 (BAP05) 06.58	07.21 (BAP01) 07.28	07.03	07.35
	20.56	173 20.01 (BAP01) 20.29	205 19.59 (BAP01) 19.42	74 19.18 (BAP01) 18.53	17.11	16.57
11	06.02	07.04 (BAP05) 06.29	06.51 (BAP05) 06.59	07.22 (BAP01) 07.29	07.04	07.36
	20.55	175 20.00 (BAP01) 20.28	205 19.59 (BAP01) 19.41	68 19.14 (BAP01) 18.51	17.10	16.57
12	06.03	07.03 (BAP05) 06.30	06.52 (BAP05) 07.00	07.23 (BAP01) 07.30	07.05	07.37
	20.55	178 20.01 (BAP01) 20.26	203 19.58 (BAP01) 19.39	63 19.11 (BAP01) 18.49	17.09	16.57
13	06.03	07.03 (BAP05) 06.31	06.53 (BAP05) 07.01	07.24 (BAP01) 07.31	07.06	07.37
	20.54	179 20.01 (BAP01) 20.25	202 19.58 (BAP01) 19.37	55 19.07 (BAP01) 18.48	17.08	16.57
14	06.04	07.02 (BAP05) 06.32	06.53 (BAP05) 07.02	07.25 (BAP01) 07.32	07.07	07.38
	20.54	180 20.01 (BAP01) 20.24	200 19.56 (BAP01) 19.36	48 19.03 (BAP01) 18.46	17.08	16.57
15	06.05	07.01 (BAP05) 06.33	06.54 (BAP05) 07.03	07.26 (BAP01) 07.33	07.09	07.39
	20.53	182 20.01 (BAP01) 20.22	197 19.55 (BAP01) 19.34	37 18.57 (BAP01) 18.45	12 08.26 (BAP06) 17.07	16.57
16	06.06	07.01 (BAP05) 06.34	06.55 (BAP05) 07.04	07.27 (BAP01) 07.34	07.10	07.40
	20.53	183 20.01 (BAP01) 20.21	195 19.55 (BAP01) 19.32	23 18.50 (BAP01) 18.43	18 08.30 (BAP06) 17.06	16.58
17	06.06	07.01 (BAP05) 06.35	06.56 (BAP05) 07.05	07.28 (BAP01) 07.35	07.11	07.41
	20.52	185 20.02 (BAP01) 20.19	193 19.54 (BAP01) 19.31	21 18.42	21 08.31 (BAP06) 17.05	16.58
18	06.07	06.59 (BAP05) 06.36	06.57 (BAP05) 07.06	07.29 (BAP01) 07.36	07.12	07.41
	20.51	187 20.01 (BAP01) 20.18	190 19.53 (BAP01) 19.29	24 18.40	24 08.32 (BAP06) 17.04	16.58
19	06.08	06.59 (BAP05) 06.37	06.58 (BAP05) 07.07	07.30 (BAP01) 07.37	07.13	07.42
	20.51	189 20.02 (BAP01) 20.17	189 19.53 (BAP01) 19.27	26 18.39	26 08.33 (BAP06) 17.04	16.59
20	06.09	06.59 (BAP05) 06.38	06.59 (BAP05) 07.08	07.31 (BAP01) 07.38	07.14	07.42
	20.50	190 20.02 (BAP01) 20.15	185 19.52 (BAP01) 19.26	28 18.37	28 08.33 (BAP06) 17.03	16.59
21	06.10	06.58 (BAP05) 06.39	07.00 (BAP05) 07.09	07.32 (BAP01) 07.40	07.15	07.43
	20.49	192 20.02 (BAP01) 20.14	182 19.51 (BAP01) 19.24	30 18.36	30 08.34 (BAP06) 17.02	16.59
22	06.11	06.58 (BAP05) 06.40	07.01 (BAP05) 07.10	07.33 (BAP01) 07.41	07.16	07.43
	20.48	193 20.02 (BAP01) 20.12	180 19.50 (BAP01) 19.22	30 18.35	30 08.34 (BAP06) 17.02	17.00
23	06.11	06.58 (BAP05) 06.41	07.02 (BAP05) 07.11	07.34 (BAP01) 07.42	07.17	07.44
	20.48	194 20.03 (BAP01) 20.11	176 19.49 (BAP01) 19.20	31 18.33	31 08.35 (BAP06) 17.01	17.00
24	06.12	06.56 (BAP05) 06.42	07.03 (BAP05) 07.12	07.35 (BAP01) 07.43	07.18	07.44
	20.47	196 20.02 (BAP01) 20.09	172 19.47 (BAP01) 19.19	31 18.32	31 08.35 (BAP06) 17.00	17.01
25	06.13	06.56 (BAP05) 06.43	07.04 (BAP05) 07.13	07.36 (BAP01) 07.44	07.19	07.45
	20.46	196 20.02 (BAP01) 20.08	168 19.46 (BAP01) 19.17	30 17.30	30 07.35 (BAP06) 17.00	17.02
26	06.14	06.56 (BAP05) 06.44	07.05 (BAP05) 07.14	07.37 (BAP01) 07.45	07.21	07.45
	20.45	197 20.02 (BAP01) 20.06	164 19.45 (BAP01) 19.15	28 17.29	28 07.34 (BAP06) 16.59	17.02
27	06.15	06.55 (BAP05) 06.45	07.06 (BAP05) 07.15	07.38 (BAP01) 07.46	07.22	07.45
	20.44	200 20.02 (BAP01) 20.05	159 19.43 (BAP01) 19.14	27 17.28	27 07.34 (BAP06) 16.59	17.03
28	06.16	06.55 (BAP05) 06.46	07.06 (BAP05) 07.16	07.39 (BAP01) 07.47	07.23	07.46
	20.43	200 20.02 (BAP01) 20.03	154 19.41 (BAP01) 19.12	25 17.26	25 07.34 (BAP06) 16.59	17.03
29	06.17	06.55 (BAP05) 06.47	07.07 (BAP05) 07.17	07.40 (BAP01) 07.48	07.24	07.46
	20.42	201 20.02 (BAP01) 20.02	150 19.39 (BAP01) 19.10	24 17.25	24 07.34 (BAP06) 16.58	17.04
30	06.18	06.55 (BAP05) 06.48	07.08 (BAP05) 07.18	07.41 (BAP01) 07.49	07.25	07.46
	20.41	202 20.02 (BAP01) 20.00	145 19.38 (BAP01) 19.09	22 17.24	22 07.33 (BAP06) 16.58	17.05
31	06.19	06.54 (BAP05) 06.49	07.09 (BAP05) 07.19	07.42 (BAP01) 07.50	07.26	07.46
	20.40	203 20.02 (BAP01) 19.59	139 19.36 (BAP01) 19.00	20 17.23	20 07.32 (BAP06) 16.57	17.06
Potential sun hours	457	427	375	346	299	290
Total, worst case	5662	5795	1284	427	58	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F03 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (234)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June			
1	07.47	07.34	06.59	07.09	18.16 (BAP01)	06.24	06.43 (BAP05)	05.56	06.49 (BAP05)
	17.07	17.40	18.14	19.47	70 19.26 (BAP01)	20.18	19.47 (BAP01)	20.47	19.45 (BAP01)
2	07.47	07.33	06.57	07.07	18.13 (BAP01)	06.22	06.42 (BAP05)	05.55	06.49 (BAP05)
	17.08	17.42	18.15	19.48	73 19.26 (BAP01)	20.19	19.47 (BAP01)	20.48	167 19.44 (BAP01)
3	07.47	07.32	06.56	07.05	18.11 (BAP01)	06.21	06.40 (BAP05)	05.55	06.50 (BAP05)
	17.08	17.43	18.16	19.49	77 19.28 (BAP01)	20.20	19.46 (BAP01)	20.48	165 19.44 (BAP01)
4	07.47	07.31	06.54	07.04	18.09 (BAP01)	06.20	06.40 (BAP05)	05.54	06.51 (BAP05)
	17.09	17.44	18.17	19.50	80 19.29 (BAP01)	20.21	19.46 (BAP01)	20.49	164 19.45 (BAP01)
5	07.47	07.30	06.53	07.02	18.08 (BAP01)	06.19	06.40 (BAP05)	05.54	06.51 (BAP05)
	17.10	17.45	18.18	19.51	82 19.30 (BAP01)	20.22	19.46 (BAP01)	20.50	162 19.44 (BAP01)
6	07.47	07.29	06.51	07.01	18.05 (BAP01)	06.18	06.40 (BAP05)	05.54	06.51 (BAP05)
	17.11	17.47	18.19	19.52	86 19.31 (BAP01)	20.23	19.47 (BAP01)	20.50	162 19.44 (BAP01)
7	07.47	07.28	06.49	06.59	18.03 (BAP01)	06.16	06.40 (BAP05)	05.53	06.52 (BAP05)
	17.12	17.48	18.21	19.53	89 19.32 (BAP01)	20.24	19.47 (BAP01)	20.51	160 19.44 (BAP01)
8	07.47	07.27	06.48	06.57	18.02 (BAP01)	06.15	06.40 (BAP05)	05.53	06.53 (BAP05)
	17.13	17.49	18.22	19.54	91 19.33 (BAP01)	20.25	19.47 (BAP01)	20.52	159 19.45 (BAP01)
9	07.47	07.26	06.46	06.56	07.17 (BAP05)	06.14	06.40 (BAP05)	05.53	06.54 (BAP05)
	17.14	17.50	18.23	19.55	106 19.34 (BAP01)	20.26	19.47 (BAP01)	20.52	158 19.45 (BAP01)
10	07.47	07.24	06.45	06.54	07.13 (BAP05)	06.13	06.40 (BAP05)	05.53	06.53 (BAP05)
	17.15	17.51	18.24	19.56	118 19.35 (BAP01)	20.27	19.47 (BAP01)	20.53	157 19.44 (BAP01)
11	07.46	07.23	06.43	06.53	07.11 (BAP05)	06.12	06.40 (BAP05)	05.53	06.54 (BAP05)
	17.16	17.53	18.25	19.57	125 19.36 (BAP01)	20.28	19.47 (BAP01)	20.53	156 19.44 (BAP01)
12	07.46	07.22	06.41	06.51	07.10 (BAP05)	06.11	06.40 (BAP05)	05.52	06.55 (BAP05)
	17.17	17.54	18.26	19.58	131 19.37 (BAP01)	20.29	19.47 (BAP01)	20.54	154 19.44 (BAP01)
13	07.46	07.21	06.40	06.50	07.08 (BAP05)	06.10	06.40 (BAP05)	05.52	06.55 (BAP05)
	17.18	17.55	18.27	19.59	138 19.38 (BAP01)	20.30	19.46 (BAP01)	20.54	155 19.45 (BAP01)
14	07.46	07.20	06.38	06.48	07.06 (BAP05)	06.09	06.41 (BAP05)	05.52	06.56 (BAP05)
	17.19	17.56	18.28	20.00	142 19.38 (BAP01)	20.31	19.46 (BAP01)	20.55	153 19.45 (BAP01)
15	07.45	07.18	06.37	06.46	07.05 (BAP05)	06.08	06.41 (BAP05)	05.52	06.56 (BAP05)
	17.20	17.57	18.29	20.02	148 19.40 (BAP01)	20.32	19.46 (BAP01)	20.55	152 19.45 (BAP01)
16	07.45	07.17	06.35	06.45	07.03 (BAP05)	06.07	06.41 (BAP05)	05.52	06.56 (BAP05)
	17.21	17.59	18.30	20.03	152 19.40 (BAP01)	20.33	19.46 (BAP01)	20.56	152 19.45 (BAP01)
17	07.44	07.16	06.33	06.43	07.02 (BAP05)	06.06	06.41 (BAP05)	05.52	06.57 (BAP05)
	17.23	18.00	18.31	20.04	157 19.42 (BAP01)	20.34	19.46 (BAP01)	20.56	151 19.45 (BAP01)
18	07.44	07.14	06.32	06.42	07.00 (BAP05)	06.05	06.41 (BAP05)	05.52	06.57 (BAP05)
	17.24	18.01	18.32	20.05	161 19.42 (BAP01)	20.35	19.45 (BAP01)	20.56	151 19.45 (BAP01)
19	07.43	07.13	06.30	06.40	06.59 (BAP05)	06.04	06.41 (BAP05)	05.53	06.58 (BAP05)
	17.25	18.02	18.33	20.06	165 19.44 (BAP01)	20.36	19.45 (BAP01)	20.57	151 19.46 (BAP01)
20	07.43	07.12	06.28	06.39	06.58 (BAP05)	06.03	06.43 (BAP05)	05.53	06.58 (BAP05)
	17.26	18.03	18.35	20.07	168 19.45 (BAP01)	20.37	19.46 (BAP01)	20.57	150 19.46 (BAP01)
21	07.42	07.10	06.27	06.37	06.56 (BAP05)	06.03	06.43 (BAP05)	05.53	06.58 (BAP05)
	17.27	18.05	18.36	20.08	171 19.44 (BAP01)	20.38	19.45 (BAP01)	20.57	150 19.46 (BAP01)
22	07.42	07.09	06.25	06.36	06.55 (BAP05)	06.02	06.43 (BAP05)	05.53	06.58 (BAP05)
	17.28	18.06	18.37	20.09	174 19.45 (BAP01)	20.39	19.45 (BAP01)	20.57	150 19.46 (BAP01)
23	07.41	07.07	06.24	06.35	06.53 (BAP05)	06.01	06.44 (BAP05)	05.53	06.58 (BAP05)
	17.30	18.07	18.38	20.10	177 19.45 (BAP01)	20.40	19.46 (BAP01)	20.57	151 19.46 (BAP01)
24	07.40	07.06	06.22	06.33	06.52 (BAP05)	06.00	06.44 (BAP05)	05.54	06.59 (BAP05)
	17.31	18.08	18.39	20.11	179 19.45 (BAP01)	20.40	19.45 (BAP01)	20.58	151 19.47 (BAP01)
25	07.40	07.05	06.20	06.32	06.51 (BAP05)	06.00	06.44 (BAP05)	05.54	06.59 (BAP05)
	17.32	18.09	18.40	20.12	182 19.46 (BAP01)	20.41	19.45 (BAP01)	20.58	151 19.47 (BAP01)
26	07.39	07.03	06.19	06.30	06.49 (BAP05)	05.59	06.45 (BAP05)	05.54	06.59 (BAP05)
	17.33	18.10	18.41	20.13	184 19.46 (BAP01)	20.42	19.45 (BAP01)	20.58	151 19.47 (BAP01)
27	07.38	07.02	06.17	06.29	06.48 (BAP05)	05.58	06.46 (BAP05)	05.54	06.59 (BAP05)
	17.34	18.12	18.42	20.14	186 19.46 (BAP01)	20.43	19.45 (BAP01)	20.58	152 19.48 (BAP01)
28	07.37	07.00	06.15	06.28	06.47 (BAP05)	05.58	06.47 (BAP05)	05.55	06.59 (BAP05)
	17.36	18.13	18.43	20.15	187 19.46 (BAP01)	20.44	19.45 (BAP01)	20.58	153 19.48 (BAP01)
29	07.37		06.14	06.26	06.45 (BAP05)	05.57	06.47 (BAP05)	05.55	06.59 (BAP05)
	17.37		18.44	20.16	190 19.46 (BAP01)	20.45	19.45 (BAP01)	20.58	155 19.49 (BAP01)
30	07.36		06.12	06.25	06.44 (BAP05)	05.57	06.48 (BAP05)	05.56	06.59 (BAP05)
	17.38		18.45	20.17	191 19.46 (BAP01)	20.45	19.45 (BAP01)	20.58	154 19.48 (BAP01)
31	07.35		06.10	06.23	06.43 (BAP05)	05.56	06.48 (BAP05)		
	17.39		18.46	20.18	169 19.44 (BAP01)	20.46	19.44 (BAP01)		
Potential sun hours	299	298	370	398	447	450			
Total, worst case		528	304	4180	5785	4665			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F03 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (234)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	06.58 (BAP05) 06.20	06.50 (BAP05) 06.50	07.10 (BAP05) 07.19	06.52	07.14 (BAP06) 07.26
	20.58	156 19.48 (BAP01) 20.39	193 19.56 (BAP01) 19.57	125 19.35 (BAP01) 19.07	17.21	22 07.36 (BAP06) 16.58
2	05.57	06.59 (BAP05) 06.21	06.50 (BAP05) 06.51	07.11 (BAP05) 07.20	06.53	07.15 (BAP06) 07.27
	20.58	156 19.49 (BAP01) 20.38	193 19.56 (BAP01) 19.55	118 19.33 (BAP01) 19.06	17.20	20 07.35 (BAP06) 16.57
3	05.57	06.58 (BAP05) 06.21	06.50 (BAP05) 06.52	07.14 (BAP05) 07.21	06.55	07.16 (BAP06) 07.28
	20.58	158 19.49 (BAP01) 20.37	194 19.56 (BAP01) 19.54	107 19.32 (BAP01) 19.04	17.19	18 07.34 (BAP06) 16.57
4	05.58	06.58 (BAP05) 06.22	06.50 (BAP05) 06.53	07.15 (BAP05) 07.22	06.56	07.17 (BAP06) 07.29
	20.57	159 19.50 (BAP01) 20.36	194 19.56 (BAP01) 19.52	91 19.30 (BAP01) 19.02	17.18	15 07.32 (BAP06) 16.57
5	05.58	06.59 (BAP05) 06.23	06.50 (BAP05) 06.53	07.16 (BAP05) 07.23	06.57	07.18 (BAP06) 07.30
	20.57	160 19.51 (BAP01) 20.35	194 19.56 (BAP01) 19.50	89 19.29 (BAP01) 19.01	17.17	12 07.30 (BAP06) 16.57
6	05.59	06.58 (BAP05) 06.24	06.50 (BAP05) 06.54	07.17 (BAP05) 07.24	06.58	07.20 (BAP06) 07.31
	20.57	160 19.50 (BAP01) 20.34	195 19.56 (BAP01) 19.49	86 19.27 (BAP01) 18.59	17.16	9 07.29 (BAP06) 16.57
7	05.59	06.58 (BAP05) 06.25	06.49 (BAP05) 06.55	07.18 (BAP05) 07.25	06.59	07.21 (BAP06) 07.32
	20.57	162 19.51 (BAP01) 20.33	196 19.56 (BAP01) 19.47	82 19.25 (BAP01) 18.57	17.14	5 07.26 (BAP06) 16.57
8	06.00	06.57 (BAP05) 06.26	06.49 (BAP05) 06.56	07.19 (BAP05) 07.26	07.00	07.22 (BAP06) 07.33
	20.56	164 19.51 (BAP01) 20.31	196 19.56 (BAP01) 19.46	80 19.24 (BAP01) 18.56	17.13	07.18 (BAP06) 16.56
9	06.01	06.57 (BAP05) 06.27	06.50 (BAP05) 06.57	07.20 (BAP05) 07.27	07.02	07.19 (BAP06) 07.34
	20.56	165 19.52 (BAP01) 20.30	196 19.56 (BAP01) 19.44	77 19.22 (BAP01) 18.54	17.12	07.17 (BAP06) 16.56
10	06.01	06.57 (BAP05) 06.28	06.50 (BAP05) 06.58	07.21 (BAP05) 07.28	07.03	07.18 (BAP06) 07.35
	20.56	166 19.52 (BAP01) 20.29	195 19.56 (BAP01) 19.42	74 19.21 (BAP01) 18.53	17.11	07.16 (BAP06) 16.57
11	06.02	06.56 (BAP05) 06.29	06.51 (BAP05) 06.59	07.22 (BAP05) 07.29	07.04	07.19 (BAP06) 07.36
	20.55	168 19.52 (BAP01) 20.28	193 19.55 (BAP01) 19.41	70 19.18 (BAP01) 18.51	17.10	07.17 (BAP06) 16.57
12	06.03	06.56 (BAP05) 06.30	06.52 (BAP05) 07.00	07.23 (BAP05) 07.30	07.05	07.20 (BAP06) 07.37
	20.55	170 19.53 (BAP01) 20.26	192 19.55 (BAP01) 19.39	67 19.17 (BAP01) 18.49	17.09	07.18 (BAP06) 16.57
13	06.03	06.56 (BAP05) 06.31	06.53 (BAP05) 07.01	07.24 (BAP05) 07.31	07.06	07.21 (BAP06) 07.37
	20.54	171 19.53 (BAP01) 20.25	191 19.55 (BAP01) 19.37	62 19.14 (BAP01) 18.48	17.08	07.19 (BAP06) 16.57
14	06.04	06.55 (BAP05) 06.32	06.53 (BAP05) 07.02	07.25 (BAP05) 07.32	07.07	07.22 (BAP06) 07.38
	20.54	172 19.53 (BAP01) 20.24	189 19.54 (BAP01) 19.36	56 19.11 (BAP01) 18.46	17.08	07.18 (BAP06) 16.57
15	06.05	06.55 (BAP05) 06.33	06.54 (BAP05) 07.03	07.26 (BAP05) 07.33	07.09	07.23 (BAP06) 07.39
	20.53	173 19.53 (BAP01) 20.22	187 19.53 (BAP01) 19.34	49 19.07 (BAP01) 18.45	17.07	07.17 (BAP06) 16.57
16	06.06	06.55 (BAP05) 06.34	06.55 (BAP05) 07.04	07.27 (BAP05) 07.34	07.10	07.24 (BAP06) 07.40
	20.53	174 19.54 (BAP01) 20.21	185 19.53 (BAP01) 19.32	42 19.03 (BAP01) 18.43	13 08.30 (BAP06) 17.06	07.16 (BAP06) 16.58
17	06.06	06.55 (BAP05) 06.35	06.56 (BAP05) 07.05	07.28 (BAP05) 07.35	07.11	07.25 (BAP06) 07.41
	20.52	175 19.54 (BAP01) 20.19	183 19.52 (BAP01) 19.31	31 18.57 (BAP01) 18.42	18 08.32 (BAP06) 17.05	07.17 (BAP06) 16.58
18	06.07	06.54 (BAP05) 06.36	06.57 (BAP05) 07.06	07.29 (BAP05) 07.36	07.12	07.26 (BAP06) 07.42
	20.51	177 19.54 (BAP01) 20.18	181 19.52 (BAP01) 19.29	14 18.49 (BAP01) 18.40	22 08.34 (BAP06) 17.04	07.18 (BAP06) 16.58
19	06.08	06.54 (BAP05) 06.37	06.58 (BAP05) 07.07	07.30 (BAP05) 07.37	07.13	07.27 (BAP06) 07.43
	20.51	178 19.54 (BAP01) 20.17	179 19.51 (BAP01) 19.27	07.31	25 08.35 (BAP06) 17.04	07.19 (BAP06) 16.59
20	06.09	06.54 (BAP05) 06.38	06.59 (BAP05) 07.08	07.32 (BAP05) 07.39	07.14	07.28 (BAP06) 07.44
	20.50	180 19.55 (BAP01) 20.15	177 19.51 (BAP01) 19.26	07.33	27 08.36 (BAP06) 17.03	07.20 (BAP06) 16.59
21	06.10	06.53 (BAP05) 06.39	07.00 (BAP05) 07.09	07.34 (BAP05) 07.40	07.15	07.29 (BAP06) 07.43
	20.49	182 19.55 (BAP01) 20.14	174 19.50 (BAP01) 19.24	07.35	29 08.36 (BAP06) 17.02	07.21 (BAP06) 16.59
22	06.11	06.53 (BAP05) 06.40	07.01 (BAP05) 07.10	07.36 (BAP05) 07.41	07.16	07.30 (BAP06) 07.43
	20.48	184 19.56 (BAP01) 20.12	171 19.49 (BAP01) 19.22	07.37	31 08.37 (BAP06) 17.02	07.22 (BAP06) 17.00
23	06.11	06.53 (BAP05) 06.41	07.02 (BAP05) 07.11	07.38 (BAP05) 07.42	07.17	07.31 (BAP06) 07.44
	20.48	184 19.56 (BAP01) 20.11	167 19.48 (BAP01) 19.20	07.39	31 08.38 (BAP06) 17.01	07.23 (BAP06) 17.00
24	06.12	06.52 (BAP05) 06.42	07.03 (BAP05) 07.12	07.39 (BAP05) 07.43	07.18	07.32 (BAP06) 07.44
	20.47	185 19.55 (BAP01) 20.09	164 19.47 (BAP01) 19.19	07.40	32 08.38 (BAP06) 17.00	07.24 (BAP06) 17.01
25	06.13	06.52 (BAP05) 06.43	07.04 (BAP05) 07.13	07.41 (BAP05) 07.44	07.19	07.33 (BAP06) 07.45
	20.46	187 19.56 (BAP01) 20.08	160 19.46 (BAP01) 19.17	07.42	33 07.38 (BAP06) 17.00	07.25 (BAP06) 17.02
26	06.14	06.52 (BAP05) 06.44	07.05 (BAP05) 07.14	07.42 (BAP05) 07.45	07.20	07.34 (BAP06) 07.21
	20.45	187 19.56 (BAP01) 20.06	157 19.45 (BAP01) 19.15	07.43	32 07.38 (BAP06) 16.59	07.26 (BAP06) 17.02
27	06.15	06.52 (BAP05) 06.45	07.06 (BAP05) 07.15	07.43 (BAP05) 07.46	07.21	07.35 (BAP06) 07.22
	20.44	188 19.56 (BAP01) 20.05	151 19.43 (BAP01) 19.14	07.44	30 07.37 (BAP06) 16.59	07.27 (BAP06) 17.03
28	06.16	06.51 (BAP05) 06.46	07.06 (BAP05) 07.16	07.44 (BAP05) 07.47	07.22	07.36 (BAP06) 07.23
	20.43	190 19.57 (BAP01) 20.03	148 19.41 (BAP01) 19.12	07.45	29 07.38 (BAP06) 16.59	07.28 (BAP06) 17.03
29	06.17	06.51 (BAP05) 06.47	07.07 (BAP05) 07.17	07.45 (BAP05) 07.48	07.23	07.37 (BAP06) 07.24
	20.42	192 19.57 (BAP01) 20.02	142 19.39 (BAP01) 19.10	07.46	27 07.37 (BAP06) 16.58	07.29 (BAP06) 17.04
30	06.18	06.51 (BAP05) 06.48	07.08 (BAP05) 07.18	07.46 (BAP05) 07.49	07.24	07.38 (BAP06) 07.25
	20.41	192 19.57 (BAP01) 20.00	137 19.38 (BAP01) 19.09	07.47	26 07.37 (BAP06) 16.58	07.30 (BAP06) 17.05
31	06.19	06.51 (BAP05) 06.49	07.09 (BAP05) 07.19	07.47 (BAP05) 07.50	07.25	07.39 (BAP06) 07.26
	20.40	192 19.57 (BAP01) 19.59	131 19.36 (BAP01) 19.08	07.48	24 07.36 (BAP06) 16.57	07.31 (BAP06) 17.06
Potential sun hours	457	427	375	346	299	290
Total, worst case	5407	5505	1320	429	101	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F06 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (263)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June			
1	07.47	16.21 (BAP01)	07.34		07.09	06.24	05.55		
	17.07	20 16.41 (BAP01)	17.40	14 16.54 (BAP01)	18.14	19.47	20.18	20.47	
2	07.47	16.21 (BAP01)	07.33	16.44 (BAP01)	06.57	07.07	06.22	05.55	
	17.08	21 16.42 (BAP01)	17.42	6 16.50 (BAP01)	18.15	19.48	20.19	20.48	
3	07.47	16.21 (BAP01)	07.32		06.56	07.05	06.21	05.55	
	17.08	22 16.43 (BAP01)	17.43		18.16	19.49	20.20	20.48	
4	07.47	16.21 (BAP01)	07.31		06.54	07.04	06.20	05.54	
	17.09	23 16.44 (BAP01)	17.44		18.17	19.50	20.21	20.49	
5	07.47	16.22 (BAP01)	07.30		06.53	07.02	06.19	05.54	
	17.10	23 16.45 (BAP01)	17.45		18.18	19.51	20.22	20.50	
6	07.47	16.22 (BAP01)	07.29		06.51	07.01	06.17	05.54	
	17.11	24 16.46 (BAP01)	17.47		18.19	19.52	20.23	20.50	
7	07.47	16.22 (BAP01)	07.28		06.49	06.59	06.16	05.53	
	17.12	25 16.47 (BAP01)	17.48		18.20	19.53	20.24	20.51	
8	07.47	16.23 (BAP01)	07.27		06.48	06.57	06.15	05.53	
	17.13	25 16.48 (BAP01)	17.49		18.22	19.54	20.25	20.52	
9	07.47	16.22 (BAP01)	07.26		06.46	06.56	06.14	05.53	
	17.14	26 16.48 (BAP01)	17.50		18.23	07.05 (BAP07)	19.55	20.26	20.52
10	07.47	16.23 (BAP01)	07.24		06.45	3 07.08 (BAP07)	19.55	20.26	20.52
	17.15	27 16.50 (BAP01)	17.51		18.24	6 07.09 (BAP07)	19.56	20.27	20.53
11	07.46	16.23 (BAP01)	07.23		06.43	6 07.02 (BAP07)	19.56	20.27	20.53
	17.16	28 16.51 (BAP01)	17.53		18.25	9 07.11 (BAP07)	19.57	20.28	20.53
12	07.46	16.23 (BAP01)	07.22		06.41	9 07.11 (BAP07)	19.57	20.28	20.53
	17.17	28 16.51 (BAP01)	17.54		18.26	12 07.12 (BAP07)	19.58	20.29	20.54
13	07.46	16.23 (BAP01)	07.21		06.40	12 07.12 (BAP07)	19.58	20.29	20.54
	17.18	30 16.53 (BAP01)	17.55		18.27	14 07.12 (BAP07)	19.59	20.30	20.54
14	07.46	16.24 (BAP01)	07.20		06.38	14 07.12 (BAP07)	19.59	20.30	20.54
	17.19	30 16.54 (BAP01)	17.56		18.28	16 07.13 (BAP07)	20.00	20.31	20.55
15	07.45	16.24 (BAP01)	07.18		06.37	16 07.13 (BAP07)	20.00	20.31	20.55
	17.20	31 16.55 (BAP01)	17.57		18.29	18 07.13 (BAP07)	20.02	20.32	20.55
16	07.45	16.25 (BAP01)	07.17		06.35	18 07.13 (BAP07)	20.02	20.32	20.55
	17.21	32 16.57 (BAP01)	17.59		18.30	19 07.12 (BAP07)	20.03	20.33	20.56
17	07.44	16.25 (BAP01)	07.16		06.33	19 07.12 (BAP07)	20.03	20.33	20.56
	17.23	32 16.57 (BAP01)	18.00		18.31	21 07.13 (BAP07)	20.04	20.34	20.56
18	07.44	16.26 (BAP01)	07.14		06.32	21 07.13 (BAP07)	20.04	20.34	20.56
	17.24	33 16.59 (BAP01)	18.01		18.32	22 07.12 (BAP07)	20.05	20.35	20.56
19	07.43	16.26 (BAP01)	07.13		06.30	22 07.12 (BAP07)	20.05	20.35	20.56
	17.25	34 17.00 (BAP01)	18.02		18.33	23 07.12 (BAP07)	20.06	20.36	20.57
20	07.43	16.27 (BAP01)	07.12		06.28	23 07.12 (BAP07)	20.06	20.36	20.57
	17.26	34 17.01 (BAP01)	18.03		18.34	24 07.11 (BAP07)	20.07	20.37	20.57
21	07.42	16.27 (BAP01)	07.10		06.27	24 07.11 (BAP07)	20.07	20.37	20.57
	17.27	34 17.01 (BAP01)	18.05		18.36	24 07.09 (BAP07)	20.08	20.38	20.57
22	07.42	16.27 (BAP01)	07.09		06.25	24 07.09 (BAP07)	20.08	20.38	20.57
	17.28	34 17.01 (BAP01)	18.06		18.37	22 07.09 (BAP07)	20.09	20.39	20.57
23	07.41	16.27 (BAP01)	07.07		06.23	22 07.09 (BAP07)	20.09	20.39	20.57
	17.29	33 17.00 (BAP01)	18.07		18.38	18 07.06 (BAP07)	20.10	20.40	20.57
24	07.40	16.29 (BAP01)	07.06		06.22	18 07.06 (BAP07)	20.10	20.40	20.57
	17.31	32 17.01 (BAP01)	18.08		18.39	15 07.04 (BAP07)	20.11	20.40	20.58
25	07.40	16.29 (BAP01)	07.05		06.20	15 07.04 (BAP07)	20.11	20.40	20.58
	17.32	32 17.01 (BAP01)	18.09		18.40	8 07.01 (BAP07)	20.12	20.41	20.58
26	07.39	16.30 (BAP01)	07.03		06.19	8 07.01 (BAP07)	20.12	20.41	20.58
	17.33	30 17.00 (BAP01)	18.10		18.41		20.13	20.42	20.58
27	07.38	16.31 (BAP01)	07.02		06.17		20.13	20.42	20.58
	17.34	28 16.59 (BAP01)	18.11		18.42		20.14	20.43	20.58
28	07.37	16.32 (BAP01)	07.00		06.15		20.14	20.43	20.58
	17.36	26 16.58 (BAP01)	18.13		18.43		20.15	20.44	20.58
29	07.37	16.34 (BAP01)			07.14		20.16	20.45	20.58
	17.37	24 16.58 (BAP01)			19.44		20.16	20.45	20.58
30	07.36	16.36 (BAP01)			07.12		20.16	20.45	20.58
	17.38	21 16.57 (BAP01)			19.45		20.17	20.45	20.58
31	07.35	16.38 (BAP01)			07.10			20.46	
	17.39	18 16.56 (BAP01)			19.46			20.46	
Potential sun hours	299	298	370	398	447	450			
Total, worst case	860	20	274						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F06 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (263)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	06.20	06.50	07.19	07.39 (BAP07)	06.52
	20.58	20.39	19.57	19.07	07.52 (BAP07)	17.21
2	05.57	06.20	06.51	07.20	07.40 (BAP07)	06.53
	20.58	20.38	19.55	19.05	07.50 (BAP07)	17.20
3	05.57	06.21	06.52	07.21	07.41 (BAP07)	06.55
	20.58	20.37	19.54	19.04	07.49 (BAP07)	17.19
4	05.58	06.22	06.52	07.22	07.42 (BAP07)	06.56
	20.57	20.36	19.52	19.02	07.47 (BAP07)	17.18
5	05.58	06.23	06.53	07.23		06.57
	20.57	20.35	19.50	19.01		17.17
6	05.59	06.24	06.54	07.24		06.58
	20.57	20.34	19.49	18.59		17.15
7	05.59	06.25	06.55	07.25		06.59
	20.57	20.32	19.47	18.57		17.14
8	06.00	06.26	06.56	07.26		07.00
	20.56	20.31	19.46	18.56		17.13
9	06.01	06.27	06.57	07.27		07.02
	20.56	20.30	19.44	18.54		17.12
10	06.01	06.28	06.58	07.28		07.03
	20.56	20.29	19.42	18.53		17.11
11	06.02	06.29	06.59	07.29		07.04
	20.55	20.28	19.41	18.51		17.10
12	06.03	06.30	07.00	07.30		07.05
	20.55	20.26	19.39	18.49		17.09
13	06.03	06.31	07.01	07.31		07.06
	20.54	20.25	19.37	18.48		17.08
14	06.04	06.32	07.02	07.32		07.07
	20.54	20.24	19.36	18.46		17.08
15	06.05	06.33	07.03	07.33		07.09
	20.53	20.22	19.34	18.45		17.07
16	06.06	06.34	07.04	07.34		07.10
	20.53	20.21	19.32	18.43		17.06
17	06.06	06.35	07.05	07.35		07.11
	20.52	20.19	19.31	18.42		17.05
18	06.07	06.36	07.06	07.36		07.12
	20.51	20.18	19.29	18.40		17.04
19	06.08	06.37	07.07	07.37 (BAP07)		07.13
	20.51	20.17	19.27	18.39		17.04
20	06.09	06.38	07.08	07.38 (BAP07)		07.14
	20.50	20.15	19.26	18.37		17.03
21	06.10	06.39	07.09	07.39 (BAP07)		07.15
	20.49	20.14	19.24	18.36		17.02
22	06.11	06.40	07.10	07.40 (BAP07)		07.17
	20.48	20.12	19.22	18.34		17.02
23	06.11	06.41	07.11	07.41 (BAP07)		07.18
	20.48	20.11	19.20	18.33		17.01
24	06.12	06.42	07.12	07.42 (BAP07)		07.19
	20.47	20.09	19.19	18.32		17.00
25	06.13	06.43	07.13	07.43 (BAP07)		07.20
	20.46	20.08	19.17	18.30		17.00
26	06.14	06.44	07.14	07.44 (BAP07)		07.21
	20.45	20.06	19.15	18.29		16.59
27	06.15	06.45	07.15	07.45 (BAP07)		07.22
	20.44	20.05	19.14	18.28		16.59
28	06.16	06.46	07.16	07.46 (BAP07)		07.23
	20.43	20.03	19.12	18.26		16.59
29	06.17	06.47	07.17	07.47 (BAP07)		07.24
	20.42	20.02	19.10	18.25		16.58
30	06.18	06.48	07.18	07.48 (BAP07)		07.25
	20.41	20.00	19.09	18.24		16.58
31	06.19	06.49		06.51		
	20.40	19.58		17.22		
Potential sun hours	457	427	375	346	299	290
Total, worst case			242	36	617	625

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F10 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (264)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January		February		March		April		May		June	
1	07.47	16.10 (BAP01)	07.34		06.59	07.17 (BAP07)	07.09	06.24		05.55	
	17.07	29 16.39 (BAP01)	17.40		18.14	25 07.42 (BAP07)	19.47	20.18		20.47	
2	07.47	16.11 (BAP01)	07.33		06.57	07.16 (BAP07)	07.07	06.22		05.55	
	17.07	28 16.39 (BAP01)	17.42		18.15	26 07.42 (BAP07)	19.48	20.19		20.48	
3	07.47	16.11 (BAP01)	07.32		06.56	07.14 (BAP07)	07.05	06.21		05.55	
	17.08	28 16.39 (BAP01)	17.43		18.16	27 07.41 (BAP07)	19.49	20.20		20.48	
4	07.47	16.12 (BAP01)	07.31		06.54	07.14 (BAP07)	07.04	06.20		05.54	
	17.09	28 16.40 (BAP01)	17.44		18.17	27 07.41 (BAP07)	19.50	20.21		20.49	
5	07.47	16.13 (BAP01)	07.30		06.53	07.14 (BAP07)	07.02	06.19		05.54	
	17.10	27 16.40 (BAP01)	17.45		18.18	25 07.39 (BAP07)	19.51	20.22		20.50	
6	07.47	16.13 (BAP01)	07.29		06.51	07.16 (BAP07)	07.01	06.17		05.54	
	17.11	27 16.40 (BAP01)	17.47		18.19	23 07.39 (BAP07)	19.52	20.23		20.50	
7	07.47	16.14 (BAP01)	07.28		06.49	07.17 (BAP07)	06.59	06.16		05.53	
	17.12	26 16.40 (BAP01)	17.48		18.20	20 07.37 (BAP07)	19.53	20.24		20.51	
8	07.47	16.15 (BAP01)	07.27		06.48	07.19 (BAP07)	06.57	06.15		05.53	
	17.13	26 16.41 (BAP01)	17.49		18.22	16 07.35 (BAP07)	19.54	20.25		20.52	
9	07.47	16.15 (BAP01)	07.26		06.46	07.22 (BAP07)	06.56	06.14		05.53	
	17.14	25 16.40 (BAP01)	17.50		18.23	9 07.31 (BAP07)	19.55	20.26		20.52	
10	07.47	16.16 (BAP01)	07.24		06.45		06.54	06.13		05.53	
	17.15	24 16.40 (BAP01)	17.51		18.24		19.56	20.27		20.53	
11	07.46	16.18 (BAP01)	07.23		06.43		06.53	06.12		05.52	
	17.16	22 16.40 (BAP01)	17.53		18.25		19.57	20.28		20.53	
12	07.46	16.18 (BAP01)	07.22		06.41		06.51	06.11		05.52	
	17.17	21 16.39 (BAP01)	17.54		18.26		19.58	20.29		20.54	
13	07.46	16.20 (BAP01)	07.21		06.40		06.50	06.10		05.52	
	17.18	19 16.39 (BAP01)	17.55		18.27		19.59	20.30		20.54	
14	07.46	16.21 (BAP01)	07.20		06.38		06.48	06.09		05.52	
	17.19	18 16.39 (BAP01)	17.56		18.28		20.00	20.31		20.55	
15	07.45	16.23 (BAP01)	07.18		06.37		06.46	06.08		05.52	
	17.20	14 16.37 (BAP01)	17.57		18.29		20.01	20.32		20.55	
16	07.45	16.25 (BAP01)	07.17		06.35		06.45	06.07		05.52	
	17.21	12 16.37 (BAP01)	17.59		18.30		20.03	20.33		20.56	
17	07.44	16.27 (BAP01)	07.16		06.33		06.43	06.06		05.52	
	17.23	7 16.34 (BAP01)	18.00		18.31		20.04	20.34		20.56	
18	07.44		07.14		06.32		06.42	06.05		05.52	
	17.24		18.01		18.32		20.05	20.35		20.56	
19	07.43		07.13		06.30		06.40	06.04		05.52	
	17.25		18.02	3	07.35 (BAP07)	18.33	20.06	20.36		20.57	
20	07.43		07.12		06.28		06.39	06.03		05.53	
	17.26		18.03	7	07.38 (BAP07)	18.34	20.07	20.37		20.57	
21	07.42		07.10		06.27		06.37	06.02		05.53	
	17.27		18.05	10	07.39 (BAP07)	18.36	20.08	20.38		20.57	
22	07.42		07.09		06.25		06.36	06.02		05.53	
	17.28		18.06	13	07.41 (BAP07)	18.37	20.09	20.39		20.57	
23	07.41		07.07		06.23		06.35	06.01		05.53	
	17.29		18.07	15	07.41 (BAP07)	18.38	20.10	20.40		20.57	
24	07.40		07.06		06.22		06.33	06.00		05.53	
	17.31		18.08	17	07.42 (BAP07)	18.39	20.11	20.40		20.58	
25	07.40		07.05		06.20		06.32	05.59		05.54	
	17.32		18.09	19	07.43 (BAP07)	18.40	20.12	20.41		20.58	
26	07.39		07.03		06.19		06.30	05.59		05.54	
	17.33		18.10	21	07.43 (BAP07)	18.41	20.13	20.42		20.58	
27	07.38		07.02		06.17		06.29	05.58		05.54	
	17.34		18.11	23	07.44 (BAP07)	18.42	20.14	20.43		20.58	
28	07.37		07.00		06.15		06.28	05.58		05.55	
	17.35		18.13	24	07.43 (BAP07)	18.43	20.15	20.44		20.58	
29	07.37				07.14		06.26	05.57		05.55	
	17.37				19.44		20.16	20.45		20.58	
30	07.36				07.12		06.25	05.56		05.56	
	17.38				19.45		20.17	20.45		20.58	
31	07.35				07.10			05.56			
	17.39				19.46			20.46			
Potential sun hours	299	298		370		398	447	450			
Total, worst case	381	152		198							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F10 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (264)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	06.20	06.50	07.19	06.52	07.26 16.00 (BAP01)
	20.58	20.39	19.57	19.07	17.21	16.58 22 16.22 (BAP01)
2	05.57	06.20	06.51	07.20	06.53	07.27 16.00 (BAP01)
	20.58	20.38	19.55	19.05	17.20	16.57 23 16.23 (BAP01)
3	05.57	06.21	06.51	07.21	06.55	07.28 15.59 (BAP01)
	20.58	20.37	19.54	19.04	17.19	16.57 25 16.24 (BAP01)
4	05.58	06.22	06.52	07.22	08.02 (BAP07) 06.56	07.29 15.59 (BAP01)
	20.57	20.36	19.52	19.02	4 08.06 (BAP07) 17.18	16.57 26 16.25 (BAP01)
5	05.58	06.23	06.53	07.23	07.57 (BAP07) 06.57	07.30 15.59 (BAP01)
	20.57	20.35	19.50	19.01	13 08.10 (BAP07) 17.17	16.57 26 16.25 (BAP01)
6	05.59	06.24	06.54	07.24	07.54 (BAP07) 06.58	07.31 15.59 (BAP01)
	20.57	20.34	19.49	18.59	18 08.12 (BAP07) 17.15	16.57 27 16.26 (BAP01)
7	05.59	06.25	06.55	07.25	07.52 (BAP07) 06.59	07.32 16.00 (BAP01)
	20.57	20.32	19.47	18.57	22 08.14 (BAP07) 17.14	16.56 27 16.27 (BAP01)
8	06.00	06.26	06.56	07.26	07.51 (BAP07) 07.00	07.33 16.00 (BAP01)
	20.56	20.31	19.46	18.56	24 08.15 (BAP07) 17.13	16.56 28 16.28 (BAP01)
9	06.01	06.27	06.57	07.27	07.49 (BAP07) 07.02	07.34 16.00 (BAP01)
	20.56	20.30	19.44	18.54	26 08.15 (BAP07) 17.12	16.56 28 16.28 (BAP01)
10	06.01	06.28	06.58	07.28	07.48 (BAP07) 07.03	07.35 16.00 (BAP01)
	20.56	20.29	19.42	18.53	28 08.16 (BAP07) 17.11	16.56 28 16.28 (BAP01)
11	06.02	06.29	06.59	07.29	07.49 (BAP07) 07.04	07.36 16.00 (BAP01)
	20.55	20.28	19.41	18.51	27 08.16 (BAP07) 17.10	16.57 29 16.29 (BAP01)
12	06.03	06.30	07.00	07.30	07.50 (BAP07) 07.05	07.37 16.01 (BAP01)
	20.55	20.26	19.39	18.49	26 08.16 (BAP07) 17.09	16.57 29 16.30 (BAP01)
13	06.03	06.31	07.01	07.31	07.51 (BAP07) 07.06	07.37 16.01 (BAP01)
	20.54	20.25	19.37	18.48	25 08.16 (BAP07) 17.08	16.57 29 16.30 (BAP01)
14	06.04	06.32	07.02	07.32	07.52 (BAP07) 07.07	07.38 16.02 (BAP01)
	20.54	20.24	19.36	18.46	23 08.15 (BAP07) 17.08	16.57 29 16.31 (BAP01)
15	06.05	06.33	07.03	07.33	07.53 (BAP07) 07.09	07.39 16.01 (BAP01)
	20.53	20.22	19.34	18.45	22 08.15 (BAP07) 17.07	16.57 30 16.31 (BAP01)
16	06.06	06.34	07.04	07.34	07.55 (BAP07) 07.10	07.40 16.02 (BAP01)
	20.53	20.21	19.32	18.43	20 08.15 (BAP07) 17.06	16.57 30 16.32 (BAP01)
17	06.06	06.35	07.05	07.35	07.56 (BAP07) 07.11	07.40 16.03 (BAP01)
	20.52	20.19	19.31	18.42	18 08.14 (BAP07) 17.05	16.58 30 16.33 (BAP01)
18	06.07	06.36	07.06	07.36	07.57 (BAP07) 07.12	07.41 16.03 (BAP01)
	20.51	20.18	19.29	18.40	17 08.14 (BAP07) 17.04	16.58 29 16.32 (BAP01)
19	06.08	06.37	07.07	07.38	07.58 (BAP07) 07.13	07.42 16.04 (BAP01)
	20.51	20.17	19.27	18.39	14 08.12 (BAP07) 17.04	16.58 29 16.33 (BAP01)
20	06.09	06.38	07.08	07.39	07.59 (BAP07) 07.14	07.42 16.03 (BAP01)
	20.50	20.15	19.25	18.37	12 08.11 (BAP07) 17.03	16.59 30 16.33 (BAP01)
21	06.10	06.39	07.09	07.40	08.00 (BAP07) 07.15	07.43 16.04 (BAP01)
	20.49	20.14	19.24	18.36	9 08.09 (BAP07) 17.02	16.59 30 16.34 (BAP01)
22	06.10	06.40	07.10	07.41	08.01 (BAP07) 07.17	07.43 16.04 (BAP01)
	20.48	20.12	19.22	18.34	6 08.07 (BAP07) 17.02	17.00 30 16.34 (BAP01)
23	06.11	06.41	07.11	07.42	08.03 (BAP07) 07.18	07.44 16.05 (BAP01)
	20.48	20.11	19.20	18.33	2 08.05 (BAP07) 17.01	17.00 30 16.35 (BAP01)
24	06.12	06.42	07.12	07.43	07.19	07.44 16.05 (BAP01)
	20.47	20.09	19.19	18.32	17.00	17.01 30 16.35 (BAP01)
25	06.13	06.43	07.13	06.44	07.20	16.06 (BAP01) 07.45 16.06 (BAP01)
	20.46	20.08	19.17	17.30	17.00	6 16.12 (BAP01) 17.01 29 16.35 (BAP01)
26	06.14	06.44	07.14	06.45	07.21	16.03 (BAP01) 07.45 16.07 (BAP01)
	20.45	20.06	19.15	17.29	16.59	12 16.15 (BAP01) 17.02 30 16.37 (BAP01)
27	06.15	06.45	07.15	06.46	07.22	16.02 (BAP01) 07.45 16.07 (BAP01)
	20.44	20.05	19.14	17.28	16.59	14 16.16 (BAP01) 17.03 30 16.37 (BAP01)
28	06.16	06.46	07.16	06.48	07.23	16.01 (BAP01) 07.46 16.07 (BAP01)
	20.43	20.03	19.12	17.26	16.59	17 16.18 (BAP01) 17.03 30 16.37 (BAP01)
29	06.17	06.47	07.17	06.49	07.24	16.01 (BAP01) 07.46 16.09 (BAP01)
	20.42	20.02	19.10	17.25	16.58	19 16.20 (BAP01) 17.04 29 16.38 (BAP01)
30	06.18	06.48	07.18	06.50	07.25	16.00 (BAP01) 07.46 16.09 (BAP01)
	20.41	20.00	19.09	17.24	16.58	21 16.21 (BAP01) 17.05 29 16.38 (BAP01)
31	06.19	06.49	07.19	06.51	07.26	07.46 16.09 (BAP01)
	20.40	19.58	19.08	17.22	17.06	30 16.39 (BAP01)
Potential sun hours	457	427	375	346	299	290
Total, worst case				356	89	881

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F101 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (253)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.09	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.28	05.57	05.55	06.16	06.46	07.16	06.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.56	06.18	06.47	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F102 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (285)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	
1	07.47 17.07	07.34 17.40	06.58 18.14	16.01 (BAP11) 07.09	06.24 20.18	19.42 (BAP08) 05.55	19.18 (BAP10) 20.23 (BAP10)
2	07.47 17.07	07.33 17.41	06.57 18.15	16.02 (BAP11) 07.07	06.22 20.19	19.41 (BAP08) 05.55	19.17 (BAP10) 20.23 (BAP10)
3	07.47 17.08	07.32 17.43	06.55 18.16	16.01 (BAP11) 07.05	06.21 20.20	19.41 (BAP08) 05.54	19.17 (BAP10) 20.24 (BAP10)
4	07.47 17.09	07.31 17.44	06.54 18.17	16.02 (BAP11) 07.04	06.20 20.21	19.42 (BAP08) 05.54	19.16 (BAP10) 20.24 (BAP10)
5	07.47 17.10	07.30 17.45	06.52 18.18	16.01 (BAP11) 07.02	06.19 20.22	19.42 (BAP08) 05.54	19.16 (BAP10) 20.24 (BAP10)
6	07.47 17.11	07.29 17.46	06.51 18.19	16.02 (BAP11) 07.00	06.17 20.23	19.43 (BAP08) 05.53	19.16 (BAP10) 20.25 (BAP10)
7	07.47 17.12	07.28 17.48	06.49 18.20	16.02 (BAP11) 06.59	06.16 20.24	19.44 (BAP08) 05.53	19.17 (BAP10) 20.26 (BAP10)
8	07.47 17.13	07.26 17.49	06.48 18.21	16.02 (BAP11) 06.57	06.15 20.25	19.45 (BAP08) 05.53	19.17 (BAP10) 20.27 (BAP10)
9	07.47 17.14	07.25 17.50	06.46 18.23	16.03 (BAP11) 06.56	06.14 20.26	19.46 (BAP08) 05.53	19.16 (BAP10) 20.27 (BAP10)
10	07.46 17.15	07.24 17.51	06.44 18.24	16.03 (BAP11) 06.54	06.13 20.27	19.46 (BAP08) 05.53	19.16 (BAP10) 20.27 (BAP10)
11	07.46 17.16	07.23 17.52	06.43 18.25	16.03 (BAP11) 06.52	06.12 20.28	19.41 (BAP10) 05.52	19.16 (BAP10) 20.28 (BAP10)
12	07.46 17.17	07.22 17.54	06.41 18.26	16.04 (BAP11) 06.51	06.11 20.29	19.37 (BAP10) 05.52	19.16 (BAP10) 20.28 (BAP10)
13	07.46 17.18	07.21 17.55	06.40 18.27	16.04 (BAP11) 06.49	06.10 20.30	20.03 (BAP10) 05.52	19.17 (BAP10) 20.29 (BAP10)
14	07.45 17.19	07.19 17.56	06.38 18.28	16.05 (BAP11) 06.48	06.09 20.31	19.33 (BAP10) 05.52	19.17 (BAP10) 20.29 (BAP10)
15	07.45 17.20	07.18 17.57	06.36 18.29	16.06 (BAP11) 06.46	06.08 20.32	19.31 (BAP10) 05.52	19.17 (BAP10) 20.30 (BAP10)
16	07.45 17.21	07.17 17.59	06.35 18.30	16.06 (BAP11) 06.45	06.07 20.33	19.29 (BAP10) 05.52	19.17 (BAP10) 20.30 (BAP10)
17	07.44 17.22	07.15 18.00	06.33 18.31	16.08 (BAP11) 06.43	06.06 20.34	19.27 (BAP10) 05.52	19.17 (BAP10) 20.30 (BAP10)
18	07.44 17.24	07.14 18.01	06.32 18.32	16.09 (BAP11) 06.42	06.05 20.35	19.26 (BAP10) 05.52	19.17 (BAP10) 20.31 (BAP10)
19	07.43 17.25	07.13 18.02	06.30 18.33	16.10 (BAP11) 06.40	06.04 20.36	19.25 (BAP10) 05.52	19.17 (BAP10) 20.31 (BAP10)
20	07.43 17.26	07.11 18.03	06.28 18.34	16.12 (BAP11) 06.39	06.03 20.37	20.12 (BAP10) 05.52	19.18 (BAP10) 20.32 (BAP10)
21	07.42 17.27	07.10 18.04	06.27 18.35	16.13 (BAP11) 06.37	06.02 20.38	19.24 (BAP10) 05.53	19.18 (BAP10) 20.32 (BAP10)
22	07.41 17.28	07.09 18.06	06.25 18.36	16.14 (BAP11) 06.36	06.02 20.38	19.22 (BAP10) 05.53	19.18 (BAP10) 20.32 (BAP10)
23	07.41 17.29	07.07 18.07	06.23 18.37	16.17 (BAP11) 06.34	06.01 20.39	20.14 (BAP10) 05.53	19.18 (BAP10) 20.32 (BAP10)
24	07.40 17.31	07.06 18.08	06.22 18.38	16.18 (BAP11) 06.33	1 19.47 (BAP08) 20.39	19.21 (BAP10) 05.53	19.19 (BAP10) 20.33 (BAP10)
25	07.39 17.32	07.04 18.09	06.20 18.40	16.19 (BAP11) 06.32	4 19.49 (BAP08) 20.40	20.16 (BAP10) 05.54	19.19 (BAP10) 20.32 (BAP10)
26	07.39 17.33	07.03 18.10	06.18 18.41	16.24 (BAP11) 06.30	6 19.49 (BAP08) 20.41	20.17 (BAP10) 05.54	19.19 (BAP10) 20.32 (BAP10)
27	07.38 17.34	07.01 18.11	06.17 18.42	16.29 (BAP11) 06.29	7 19.50 (BAP08) 20.42	20.17 (BAP10) 05.54	19.20 (BAP10) 20.33 (BAP10)
28	07.37 17.35	07.00 18.12	06.15 18.43	16.45 (BAP11) 20.14	8 19.51 (BAP08) 20.43	20.18 (BAP10) 05.54	19.20 (BAP10) 20.33 (BAP10)
29	07.36 17.37		06.13 19.44		11 19.52 (BAP08) 20.44	19.18 (BAP10) 05.55	19.20 (BAP10) 20.33 (BAP10)
30	07.35 17.38		06.12 19.45		12 19.53 (BAP08) 20.44	19.18 (BAP10) 05.55	19.20 (BAP10) 20.32 (BAP10)
31	07.35 17.39		06.10 19.46		13 19.54 (BAP08) 20.45	20.20 (BAP10) 05.55	19.20 (BAP10) 20.33 (BAP10)
Potential sun hours	299	298	370	398	447	450	
Total, worst case		1522		1665	62	1169	2146

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F102 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (285)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

July		August		September		October		November		December	
1	05.56	19.20 (BAP10)	06.19	19.49 (BAP10)	06.49	07.19	16.43 (BAP11)	06.52	15.46 (BAP11)	07.26	
	20.58	20.32 (BAP10)	20.39	20.13 (BAP10)	19.57	19.07	17.53 (BAP11)	17.21	50	16.36 (BAP11)	16.57
2	05.56	19.21 (BAP10)	06.20	19.54 (BAP10)	06.50	07.20	16.42 (BAP11)	06.53		15.48 (BAP11)	07.27
	20.57	20.33 (BAP10)	20.38	20.10 (BAP08)	19.55	19.05	17.54 (BAP11)	17.20	47	16.35 (BAP11)	16.57
3	05.57	19.21 (BAP10)	06.21	19.56 (BAP08)	06.51	07.21	16.41 (BAP11)	06.54		15.50 (BAP11)	07.28
	20.57	20.32 (BAP10)	20.37	20.12 (BAP08)	19.54	19.04	17.54 (BAP11)	17.19	42	16.32 (BAP11)	16.57
4	05.57	19.22 (BAP10)	06.22	19.55 (BAP08)	06.52	07.22	16.40 (BAP11)	06.55		15.52 (BAP11)	07.29
	20.57	20.32 (BAP10)	20.36	20.13 (BAP08)	19.52	19.02	17.54 (BAP11)	17.18	38	16.30 (BAP11)	16.57
5	05.58	19.22 (BAP10)	06.23	19.54 (BAP08)	06.53	07.23	16.40 (BAP11)	06.57		15.54 (BAP11)	07.30
	20.57	20.31 (BAP10)	20.35	20.12 (BAP08)	19.50	19.00	17.55 (BAP11)	17.16	33	16.27 (BAP11)	16.57
6	05.59	19.23 (BAP10)	06.24	19.53 (BAP08)	06.54	07.24	16.39 (BAP11)	06.58		15.58 (BAP11)	07.31
	20.57	20.32 (BAP10)	20.33	20.11 (BAP08)	19.49	18.59	17.55 (BAP11)	17.15	27	16.25 (BAP11)	16.56
7	05.59	19.23 (BAP10)	06.25	19.52 (BAP08)	06.55	07.25	16.38 (BAP11)	06.59		16.02 (BAP11)	07.32
	20.56	20.32 (BAP10)	20.32	20.09 (BAP08)	19.47	18.57	17.55 (BAP11)	17.14	19	16.21 (BAP11)	16.56
8	06.00	19.23 (BAP10)	06.26	19.52 (BAP08)	06.56	07.26	16.37 (BAP11)	07.00			07.33
	20.56	20.31 (BAP10)	20.31	20.08 (BAP08)	19.45	18.56	17.55 (BAP11)	17.13			16.56
9	06.00	19.24 (BAP10)	06.27	19.51 (BAP08)	06.57	07.27	16.37 (BAP11)	07.01			07.34
	20.56	20.31 (BAP10)	20.30	20.07 (BAP08)	19.44	18.54	17.54 (BAP11)	17.12			16.56
10	06.01	19.24 (BAP10)	06.28	19.51 (BAP08)	06.58	07.28	16.36 (BAP11)	07.02			07.35
	20.55	20.30 (BAP10)	20.29	20.06 (BAP08)	19.42	18.52	17.54 (BAP11)	17.11			16.56
11	06.02	19.25 (BAP10)	06.29	19.49 (BAP08)	06.59	07.29	16.36 (BAP11)	07.04			07.36
	20.55	20.30 (BAP10)	20.27	20.04 (BAP08)	19.40	18.51	17.54 (BAP11)	17.10			16.56
12	06.03	19.25 (BAP10)	06.30	19.49 (BAP08)	07.00	07.30	16.35 (BAP11)	07.05			07.36
	20.54	20.30 (BAP10)	20.26	20.03 (BAP08)	19.39	18.49	17.53 (BAP11)	17.09			16.57
13	06.03	19.26 (BAP10)	06.31	19.49 (BAP08)	07.01	07.31	16.35 (BAP11)	07.06			07.37
	20.54	20.30 (BAP10)	20.25	20.02 (BAP08)	19.37	18.48	17.53 (BAP11)	17.08			16.57
14	06.04	19.26 (BAP10)	06.32	19.49 (BAP08)	07.02	07.32	16.34 (BAP11)	07.07			07.38
	20.54	20.29 (BAP10)	20.23	20.00 (BAP08)	19.35	18.46	17.52 (BAP11)	17.07			16.57
15	06.05	19.27 (BAP10)	06.33	19.49 (BAP08)	07.03	07.33	16.34 (BAP11)	07.08			07.39
	20.53	20.28 (BAP10)	20.22	19.59 (BAP08)	19.34	18.45	17.52 (BAP11)	17.07			16.57
16	06.05	19.28 (BAP10)	06.34	19.49 (BAP08)	07.04	07.34	16.34 (BAP11)	07.10			07.39
	20.52	20.28 (BAP10)	20.21	19.58 (BAP08)	19.32	14	17.33 (BAP11)	18.43	77	17.51 (BAP11)	17.06
17	06.06	19.28 (BAP10)	06.35	19.50 (BAP08)	07.05	07.35	17.14 (BAP11)	07.35			16.57
	20.52	20.27 (BAP10)	20.19	19.57 (BAP08)	19.30	24	17.38 (BAP11)	18.42	77	17.52 (BAP11)	17.05
18	06.07	19.29 (BAP10)	06.36	19.50 (BAP08)	07.06	07.36	17.10 (BAP11)	07.36			16.58
	20.51	20.26 (BAP10)	20.18	19.55 (BAP08)	19.29	31	17.41 (BAP11)	18.40	76	17.51 (BAP11)	17.04
19	06.08	19.30 (BAP10)	06.37	19.51 (BAP08)	07.07	07.37	17.06 (BAP11)	07.37			16.58
	20.50	20.26 (BAP10)	20.16	19.54 (BAP08)	19.27	38	17.44 (BAP11)	18.39	75	17.50 (BAP11)	17.03
20	06.09	19.31 (BAP10)	06.38	19.52 (BAP08)	07.08	07.38	17.03 (BAP11)	07.38			16.58
	20.50	20.26 (BAP10)	20.15	19.53 (BAP08)	19.25	42	17.45 (BAP11)	18.37	74	17.49 (BAP11)	17.03
21	06.10	19.32 (BAP10)	06.39		07.09	07.39	17.01 (BAP11)	07.40			16.59
	20.49	20.25 (BAP10)	20.14		19.24	46	17.47 (BAP11)	18.36	73	17.48 (BAP11)	17.02
22	06.10	19.33 (BAP10)	06.40		07.10	07.40	16.59 (BAP11)	07.41			16.59
	20.48	20.25 (BAP10)	20.12		19.22	49	17.48 (BAP11)	18.34	71	17.47 (BAP11)	17.01
23	06.11	19.33 (BAP10)	06.41		07.11	07.41	16.56 (BAP11)	07.42			17.00
	20.47	20.23 (BAP10)	20.11		19.20	54	17.50 (BAP11)	18.33	70	17.46 (BAP11)	17.01
24	06.12	19.34 (BAP10)	06.42		07.12	07.42	16.55 (BAP11)	07.43			17.00
	20.47	20.22 (BAP10)	20.09		19.19	56	17.51 (BAP11)	18.32	69	17.46 (BAP11)	17.01
25	06.13	19.36 (BAP10)	06.43		07.13	07.43	16.52 (BAP11)	07.44			17.01
	20.46	20.22 (BAP10)	20.08		19.17	58	17.50 (BAP11)	17.30	67	16.45 (BAP11)	17.00
26	06.14	19.37 (BAP10)	06.44		07.14	07.44	16.50 (BAP11)	07.45			17.01
	20.45	20.21 (BAP10)	20.06		19.15	61	17.51 (BAP11)	17.29	65	16.44 (BAP11)	16.59
27	06.15	19.39 (BAP10)	06.45		07.15	07.45	16.48 (BAP11)	07.46			17.02
	20.44	20.20 (BAP10)	20.05		19.14	64	17.52 (BAP11)	17.27	63	16.42 (BAP11)	16.59
28	06.16	19.40 (BAP10)	06.46		07.16	07.46	16.47 (BAP11)	07.47			17.03
	20.43	20.20 (BAP10)	20.03		19.12	65	17.52 (BAP11)	17.26	61	16.41 (BAP11)	16.58
29	06.17	19.42 (BAP10)	06.47		07.17	07.47	16.45 (BAP11)	07.49			17.03
	20.42	20.19 (BAP10)	20.01		19.10	68	17.53 (BAP11)	17.25	59	16.41 (BAP11)	16.58
30	06.18	19.43 (BAP10)	06.47		07.18	07.48	16.44 (BAP11)	07.50			17.04
	20.41	20.17 (BAP10)	20.00		19.09	69	17.53 (BAP11)	17.24	56	16.39 (BAP11)	16.58
31	06.18	19.46 (BAP10)	06.48				06.51				17.05
	20.40	20.16 (BAP10)	19.58				17.22	53	16.37 (BAP11)		17.06
Potential sun hours	457		427		375		346		299		290
Total, worst case	1773		262		739		2226		256		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F103 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (286)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47 17.07	07.34 17.40	06.58 18.14	07.09 19.47	18.25 (BAP11) 20.18	19.33 (BAP10) 20.55
2	07.47 17.07	07.33 17.41	06.57 18.15	07.07 19.48	18.26 (BAP11) 20.19	19.31 (BAP10) 20.47
3	07.47 17.08	07.32 17.43	06.55 18.16	07.05 19.49	18.28 (BAP11) 20.20	19.31 (BAP10) 20.48
4	07.47 17.09	07.31 17.44	06.54 18.17	07.04 19.50	18.31 (BAP11) 20.21	19.30 (BAP10) 20.49
5	07.47 17.10	07.30 17.45	06.52 18.18	07.02 19.51	18.46 (BAP11) 20.22	19.29 (BAP10) 20.50
6	07.47 17.11	07.29 17.46	06.51 18.19	07.00 19.52	19.54 20.23	19.29 (BAP10) 20.50
7	07.47 17.12	07.28 17.48	06.49 18.20	06.59 19.53	19.54 20.24	19.28 (BAP10) 20.51
8	07.47 17.13	07.26 17.49	06.48 18.21	06.57 19.54	19.54 20.25	19.28 (BAP10) 20.51
9	07.47 17.14	07.25 17.50	06.46 18.22	17.38 (BAP11) 19.55	19.55 20.26	19.27 (BAP10) 20.52
10	07.46 17.15	07.24 17.51	06.44 18.24	17.34 (BAP11) 19.56	19.56 20.27	19.26 (BAP10) 20.53
11	07.46 17.16	07.23 17.52	06.43 18.25	17.31 (BAP11) 19.57	19.57 20.28	19.26 (BAP10) 20.53
12	07.46 17.17	07.22 17.54	06.41 18.26	17.30 (BAP11) 19.58	19.58 20.29	19.26 (BAP10) 20.54
13	07.46 17.18	07.21 17.55	06.40 18.27	17.28 (BAP11) 19.59	19.59 20.30	19.26 (BAP10) 20.54
14	07.45 17.19	07.19 17.56	06.38 18.28	17.27 (BAP11) 20.00	19.59 20.31	19.27 (BAP10) 20.55
15	07.45 17.20	07.18 17.57	06.36 18.29	17.25 (BAP11) 20.01	20.00 20.32	19.27 (BAP10) 20.55
16	07.45 17.21	07.17 17.58	06.35 18.30	17.24 (BAP11) 20.02	20.01 20.33	20.09 (BAP10) 20.55
17	07.44 17.22	07.15 18.00	06.33 18.31	17.23 (BAP11) 20.03	20.02 20.34	19.27 (BAP10) 20.56
18	07.44 17.24	07.14 18.01	06.32 18.32	17.22 (BAP11) 20.04	20.03 20.35	19.27 (BAP10) 20.56
19	07.43 17.25	07.13 18.02	06.30 18.33	17.21 (BAP11) 20.05	20.04 20.36	19.27 (BAP10) 20.56
20	07.43 17.26	07.11 18.03	06.28 18.34	17.21 (BAP11) 20.06	20.05 20.37	19.27 (BAP10) 20.57
21	07.42 17.27	07.10 18.04	06.27 18.35	17.20 (BAP11) 20.08	20.06 20.38	19.28 (BAP10) 20.57
22	07.41 17.28	07.09 18.06	06.25 18.36	17.20 (BAP11) 20.09	20.08 20.38	19.28 (BAP10) 20.57
23	07.41 17.29	07.07 18.07	06.23 18.37	17.20 (BAP11) 20.10	20.09 20.39	19.28 (BAP10) 20.57
24	07.40 17.31	07.06 18.08	06.22 18.38	17.20 (BAP11) 20.11	20.10 20.40	19.29 (BAP10) 20.57
25	07.39 17.32	07.04 18.09	06.20 18.40	17.20 (BAP11) 20.12	20.11 20.41	19.30 (BAP10) 20.58
26	07.39 17.33	07.03 18.10	06.18 18.41	17.20 (BAP11) 20.13	20.12 20.42	19.30 (BAP10) 20.58
27	07.38 17.34	07.01 18.11	06.17 18.42	17.20 (BAP11) 20.14	20.13 20.43	20.06 (BAP10) 20.58
28	07.37 17.35	07.00 18.12	06.15 18.43	17.20 (BAP11) 20.15	20.14 20.44	19.31 (BAP10) 20.58
29	07.36 17.37	07.13 19.44	06.13 18.44	17.19 (BAP11) 20.16	20.15 20.44	20.06 (BAP10) 20.58
30	07.35 17.38	07.12 19.45	06.12 18.45	18.22 (BAP11) 20.17	20.16 20.45	19.32 (BAP10) 20.58
31	07.35 17.39	07.10 19.46	06.11 18.46	18.23 (BAP11) 20.18	20.17 20.46	19.33 (BAP10) 20.58
Potential sun hours	299	298	370	398	447	450
Total, worst case			852	156	1111	514

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F103 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (286)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 18 20.04 (BAP10)	06.19 20.39	19.37 (BAP10) 06.49	07.19 18.08 (BAP11)	06.52 17.21	07.26 16.57
2	05.56 19 20.05 (BAP10)	06.20 20.38	19.37 (BAP10) 06.50	07.20 18.09 (BAP11)	06.53 17.20	07.27 16.57
3	05.57 20 20.06 (BAP10)	06.21 20.37	19.37 (BAP10) 06.51	07.21 18.11 (BAP11)	06.54 17.19	07.28 16.57
4	05.57 21 20.07 (BAP10)	06.22 20.36	19.37 (BAP10) 06.52	07.22 18.13 (BAP11)	06.55 17.18	07.29 16.57
5	05.58 22 20.08 (BAP10)	06.23 20.35	19.38 (BAP10) 06.53	07.23 18.17 (BAP11)	06.57 17.16	07.30 16.57
6	05.59 23 20.09 (BAP10)	06.24 20.34	19.38 (BAP10) 06.54	07.24 18.21 (BAP11)	06.58 17.15	07.31 16.56
7	05.59 24 20.10 (BAP10)	06.25 20.33	19.39 (BAP10) 06.55	07.25 18.25 (BAP11)	06.59 17.14	07.32 16.56
8	06.00 25 20.11 (BAP10)	06.26 20.32	19.39 (BAP10) 06.56	07.26 18.30 (BAP11)	07.00 17.13	07.33 16.56
9	06.00 26 20.12 (BAP10)	06.27 20.31	19.40 (BAP10) 06.57	07.27 18.35 (BAP11)	07.01 17.12	07.34 16.56
10	06.01 27 20.13 (BAP10)	06.28 20.30	19.41 (BAP10) 06.58	07.28 18.40 (BAP11)	07.02 17.11	07.35 16.56
11	06.02 28 20.14 (BAP10)	06.29 20.29	19.42 (BAP10) 06.59	07.29 18.45 (BAP11)	07.03 17.10	07.36 16.56
12	06.02 29 20.15 (BAP10)	06.30 20.28	19.42 (BAP10) 07.00	07.30 18.50 (BAP11)	07.05 17.09	07.36 16.57
13	06.03 30 20.16 (BAP10)	06.31 20.27	19.43 (BAP10) 07.01	07.31 18.55 (BAP11)	07.06 17.08	07.37 16.57
14	06.04 31 20.17 (BAP10)	06.32 20.26	19.44 (BAP10) 07.02	07.32 19.00 (BAP11)	07.07 17.07	07.38 16.57
15	06.05 1 20.18 (BAP10)	06.33 20.25	19.46 (BAP10) 07.03	07.33 19.05 (BAP11)	07.08 17.06	07.39 16.57
16	06.05 2 20.19 (BAP10)	06.34 20.24	19.49 (BAP10) 07.04	07.34 19.10 (BAP11)	07.09 17.05	07.39 16.58
17	06.06 3 20.20 (BAP10)	06.35 20.23	19.52 (BAP10) 07.05	07.35 19.15 (BAP11)	07.11 17.04	07.40 16.58
18	06.07 4 20.21 (BAP10)	06.36 20.22	19.55 (BAP10) 07.06	07.36 19.20 (BAP11)	07.12 17.03	07.41 16.58
19	06.08 5 20.22 (BAP10)	06.37 20.21	19.58 (BAP10) 07.07	07.37 19.25 (BAP11)	07.13 17.02	07.41 16.59
20	06.09 6 20.23 (BAP10)	06.38 20.20	19.59 (BAP10) 07.08	07.38 19.30 (BAP11)	07.14 17.01	07.42 17.00
21	06.10 7 20.24 (BAP10)	06.39 20.19	19.59 (BAP10) 07.09	07.39 19.35 (BAP11)	07.15 17.00	07.42 17.00
22	06.10 8 20.25 (BAP10)	06.40 20.18	19.59 (BAP10) 07.10	07.40 19.40 (BAP11)	07.15 16.59	07.42 17.00
23	06.11 9 20.26 (BAP10)	06.41 20.17	19.59 (BAP10) 07.11	07.41 19.45 (BAP11)	07.15 16.59	07.42 17.00
24	06.12 10 20.27 (BAP10)	06.42 20.16	19.59 (BAP10) 07.12	07.42 19.50 (BAP11)	07.15 16.59	07.42 17.00
25	06.13 11 20.28 (BAP10)	06.43 20.15	19.59 (BAP10) 07.13	07.43 19.55 (BAP11)	07.15 16.59	07.42 17.00
26	06.14 12 20.29 (BAP10)	06.44 20.14	19.59 (BAP10) 07.14	07.44 20.00 (BAP11)	07.15 16.59	07.42 17.00
27	06.15 13 20.30 (BAP10)	06.45 20.13	19.59 (BAP10) 07.15	07.45 20.05 (BAP11)	07.15 16.59	07.42 17.00
28	06.16 14 20.31 (BAP10)	06.46 20.12	19.59 (BAP10) 07.16	07.46 20.10 (BAP11)	07.15 16.59	07.42 17.00
29	06.17 15 20.32 (BAP10)	06.47 20.11	19.59 (BAP10) 07.17	07.47 20.15 (BAP11)	07.15 16.59	07.42 17.00
30	06.18 16 20.33 (BAP10)	06.48 20.10	19.59 (BAP10) 07.18	07.48 20.20 (BAP11)	07.15 16.59	07.42 17.00
31	06.18 17 20.34 (BAP10)	06.48 20.09	19.59 (BAP10) 07.19	07.49 20.25 (BAP11)	07.15 16.59	07.42 17.00
Potential sun hours	457	427	375	346	299	290
Total, worst case	1035	427	848	112		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F109 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (254)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June		
1	07.47	07.34	06.58	17.01 (BAP11)	07.09	06.24	05.55	
	17.07	17.40	18.14	40 17.41 (BAP11)	19.47	20.18	20.47	
2	07.47	07.33	06.57	17.02 (BAP11)	07.07	19.17 (BAP10)	06.22	05.55
	17.07	17.41	18.15	39 17.41 (BAP11)	19.48	9 19.26 (BAP10)	20.19	20.47
3	07.47	07.32	06.55	17.01 (BAP11)	07.05	19.14 (BAP10)	06.21	05.54
	17.08	17.43	18.16	39 17.40 (BAP11)	19.49	14 19.28 (BAP10)	20.20	20.48
4	07.47	07.31	06.54	17.02 (BAP11)	07.04	19.11 (BAP10)	06.20	05.54
	17.09	17.44	18.17	38 17.40 (BAP11)	19.50	18 19.29 (BAP10)	20.21	20.49
5	07.47	07.30	06.52	17.02 (BAP11)	07.02	19.09 (BAP10)	06.19	05.54
	17.10	17.45	18.18	37 17.39 (BAP11)	19.51	20 19.29 (BAP10)	20.22	20.50
6	07.47	07.29	06.51	17.02 (BAP11)	07.00	19.08 (BAP10)	06.17	05.53
	17.11	17.46	18.19	36 17.38 (BAP11)	19.52	23 19.31 (BAP10)	20.23	20.50
7	07.47	07.28	06.49	17.03 (BAP11)	06.59	19.06 (BAP10)	06.16	05.53
	17.12	17.48	18.20	34 17.37 (BAP11)	19.53	26 19.32 (BAP10)	20.24	20.51
8	07.47	07.26	06.48	17.04 (BAP11)	06.57	19.05 (BAP10)	06.15	05.53
	17.13	17.49	18.21	32 17.36 (BAP11)	19.54	28 19.33 (BAP10)	20.25	20.51
9	07.47	07.25	06.46	17.05 (BAP11)	06.56	19.04 (BAP10)	06.14	05.53
	17.14	17.50	18.22	30 17.35 (BAP11)	19.55	30 19.34 (BAP10)	20.26	20.52
10	07.46	07.24	06.44	17.06 (BAP11)	06.54	19.02 (BAP10)	06.13	05.53
	17.15	17.51	18.24	27 17.33 (BAP11)	19.56	32 19.34 (BAP10)	20.27	20.53
11	07.46	07.23	06.43	17.08 (BAP11)	06.52	19.02 (BAP10)	06.12	05.52
	17.16	17.52	18.25	22 17.30 (BAP11)	19.57	34 19.36 (BAP10)	20.28	20.53
12	07.46	07.22	06.41	17.11 (BAP11)	06.51	19.01 (BAP10)	06.11	05.52
	17.17	17.54	18.26	17 17.28 (BAP11)	19.58	35 19.36 (BAP10)	20.29	20.54
13	07.46	07.21	06.40	17.15 (BAP11)	06.49	19.01 (BAP10)	06.10	05.52
	17.18	17.55	18.27	8 17.23 (BAP11)	19.59	37 19.38 (BAP10)	20.30	20.54
14	07.45	07.19	06.38		06.48	19.00 (BAP10)	06.09	05.52
	17.19	17.56	18.28		20.00	38 19.38 (BAP10)	20.31	20.55
15	07.45	07.18	06.36		06.46	19.00 (BAP10)	06.08	05.52
	17.20	17.57	18.29		20.01	40 19.40 (BAP10)	20.32	20.55
16	07.45	07.17	17.15 (BAP11)	06.35	06.45	19.00 (BAP10)	06.07	05.52
	17.21	17.58	15 17.30 (BAP11)	18.30	20.02	40 19.40 (BAP10)	20.33	20.55
17	07.44	07.15	17.13 (BAP11)	06.33	06.43	19.00 (BAP10)	06.06	05.52
	17.22	18.00	20 17.33 (BAP11)	18.31	20.03	40 19.40 (BAP10)	20.34	20.56
18	07.44	07.14	17.10 (BAP11)	06.32	06.42	19.00 (BAP10)	06.05	05.52
	17.24	18.01	24 17.34 (BAP11)	18.32	20.04	39 19.39 (BAP10)	20.35	20.56
19	07.43	07.13	17.09 (BAP11)	06.30	06.40	19.00 (BAP10)	06.04	05.52
	17.25	18.02	27 17.36 (BAP11)	18.33	20.05	39 19.39 (BAP10)	20.36	20.56
20	07.43	07.11	17.07 (BAP11)	06.28	06.39	19.00 (BAP10)	06.03	05.52
	17.26	18.03	31 17.38 (BAP11)	18.34	20.06	38 19.38 (BAP10)	20.37	20.57
21	07.42	07.10	17.06 (BAP11)	06.27	06.37	19.01 (BAP10)	06.02	05.53
	17.27	18.04	32 17.38 (BAP11)	18.35	20.08	36 19.37 (BAP10)	20.38	20.57
22	07.41	07.09	17.05 (BAP11)	06.25	06.36	19.02 (BAP10)	06.02	05.53
	17.28	18.06	35 17.40 (BAP11)	18.36	20.09	35 19.37 (BAP10)	20.38	20.57
23	07.41	07.07	17.04 (BAP11)	06.23	06.34	19.02 (BAP10)	06.01	05.53
	17.29	18.07	36 17.40 (BAP11)	18.37	20.10	33 19.35 (BAP10)	20.39	20.57
24	07.40	07.06	17.03 (BAP11)	06.22	06.33	19.03 (BAP10)	06.00	05.53
	17.31	18.08	38 17.41 (BAP11)	18.38	20.11	31 19.34 (BAP10)	20.40	20.57
25	07.39	07.04	17.02 (BAP11)	06.20	06.32	19.04 (BAP10)	05.59	05.54
	17.32	18.09	39 17.41 (BAP11)	18.40	20.12	28 19.32 (BAP10)	20.41	20.58
26	07.39	07.03	17.02 (BAP11)	06.18	06.30	19.05 (BAP10)	05.59	05.54
	17.33	18.10	39 17.41 (BAP11)	18.41	20.13	26 19.31 (BAP10)	20.42	20.58
27	07.38	07.01	17.01 (BAP11)	06.17	06.29	19.07 (BAP10)	05.58	05.54
	17.34	18.11	40 17.41 (BAP11)	18.42	20.14	22 19.29 (BAP10)	20.43	20.58
28	07.37	07.00	17.02 (BAP11)	06.15	06.27	19.09 (BAP10)	05.57	05.55
	17.35	18.12	39 17.41 (BAP11)	18.43	20.15	17 19.26 (BAP10)	20.44	20.58
29	07.36			07.13	06.26	19.13 (BAP10)	05.57	05.55
	17.37			19.44	20.16	10 19.23 (BAP10)	20.44	20.58
30	07.35			07.12	06.25		05.56	05.55
	17.38			19.45	20.17		20.45	20.58
31	07.35			07.10			05.56	
	17.39			19.46			20.46	
Potential sun hours	299	298	370	398	447	450		
Total, worst case		415	399	818				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F109 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (254)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December	
1	05.56 20.58	06.19 20.39	06.49 19.57	19.01 (BAP10) 19.35 (BAP10)	07.19 19.07	17.51 (BAP11) 17.21	06.52 16.57
2	05.56 20.57	06.20 20.38	06.50 19.55	19.01 (BAP10) 19.33 (BAP10)	07.20 19.05	18.05 (BAP11) 17.20	06.53 16.57
3	05.57 20.57	06.21 20.37	06.51 19.53	19.02 (BAP10) 19.32 (BAP10)	07.21 19.04	17.45 (BAP11) 17.19	06.54 16.57
4	05.57 20.57	06.22 20.36	06.52 19.52	19.02 (BAP10) 19.30 (BAP10)	07.22 19.02	17.43 (BAP11) 17.18	06.55 16.57
5	05.58 20.57	06.23 20.35	06.53 19.50	19.03 (BAP10) 19.29 (BAP10)	07.23 19.00	17.41 (BAP11) 17.16	06.57 16.57
6	05.59 20.57	06.24 20.33	06.54 19.49	19.04 (BAP10) 19.27 (BAP10)	07.24 18.59	17.40 (BAP11) 17.15	06.58 16.56
7	05.59 20.56	06.25 20.32	06.55 19.47	19.05 (BAP10) 19.25 (BAP10)	07.25 18.57	17.39 (BAP11) 17.14	06.59 16.56
8	06.00 20.56	06.26 20.31	06.56 19.45	19.05 (BAP10) 19.23 (BAP10)	07.26 18.56	17.38 (BAP11) 17.13	07.00 16.56
9	06.00 20.56	06.27 20.30	06.57 19.44	19.07 (BAP10) 19.21 (BAP10)	07.27 18.54	17.37 (BAP11) 17.12	07.01 16.56
10	06.01 20.55	06.28 20.29	06.58 19.42	19.10 (BAP10) 19.20 (BAP10)	07.28 18.52	17.36 (BAP11) 17.11	07.02 16.56
11	06.02 20.55	06.29 20.27	06.59 19.40	19.20 (BAP10)	18.52 18.51	17.36 (BAP11) 17.10	07.04 16.56
12	06.02 20.54	06.30 20.26	07.00 19.39		07.30 18.49	17.35 (BAP11) 17.09	07.05 16.57
13	06.03 20.54	06.31 20.25	07.01 19.37		07.31 18.48	17.35 (BAP11) 17.08	07.06 16.57
14	06.04 20.53	06.32 20.23	19.19 (BAP10) 19.31 (BAP10)	07.02 19.35	07.32 18.46	17.34 (BAP11) 17.07	07.07 16.57
15	06.05 20.53	06.33 20.22	19.16 (BAP10) 19.34 (BAP10)	07.03 19.34	07.33 18.45	17.34 (BAP11) 17.07	07.08 16.57
16	06.05 20.52	06.34 20.21	19.14 (BAP10) 19.36 (BAP10)	07.04 19.32	07.34 18.43	17.34 (BAP11) 17.06	07.09 16.57
17	06.06 20.52	06.35 20.19	19.12 (BAP10) 19.38 (BAP10)	07.05 19.30	07.35 18.42	17.34 (BAP11) 17.05	07.11 16.58
18	06.07 20.51	06.36 20.18	19.10 (BAP10) 19.39 (BAP10)	07.06 19.29	07.36 18.40	17.35 (BAP11) 17.04	07.12 16.58
19	06.08 20.50	06.37 20.16	19.09 (BAP10) 19.40 (BAP10)	07.07 19.27	07.37 18.39	17.35 (BAP11) 17.03	07.13 16.58
20	06.09 20.50	06.38 20.15	19.08 (BAP10) 19.41 (BAP10)	07.08 19.25	07.38 18.37	17.36 (BAP11) 17.03	07.14 16.59
21	06.10 20.49	06.39 20.14	19.07 (BAP10) 19.42 (BAP10)	07.09 19.24	07.40 18.36	17.37 (BAP11) 17.02	07.15 16.59
22	06.10 20.48	06.40 20.12	19.06 (BAP10) 19.42 (BAP10)	07.10 19.22	07.41 18.34	17.37 (BAP11) 17.01	07.16 17.00
23	06.11 20.47	06.41 20.11	19.05 (BAP10) 19.43 (BAP10)	07.11 19.20	07.42 18.33	17.39 (BAP11) 17.01	07.18 17.00
24	06.12 20.47	06.42 20.09	19.04 (BAP10) 19.43 (BAP10)	07.12 19.19	07.43 18.32	17.41 (BAP11) 17.00	07.19 17.01
25	06.13 20.46	06.43 20.08	19.03 (BAP10) 19.42 (BAP10)	07.13 19.17	06.44 17.30	16.43 (BAP11) 17.00	07.20 17.01
26	06.14 20.45	06.44 20.06	19.02 (BAP10) 19.42 (BAP10)	07.14 19.15	06.45 17.29	16.46 (BAP11) 16.59	07.21 17.02
27	06.15 20.44	06.45 20.05	19.02 (BAP10) 19.42 (BAP10)	07.15 19.14	06.46 17.27	16.58 (BAP11) 16.59	07.22 17.03
28	06.16 20.43	06.46 20.03	19.01 (BAP10) 19.41 (BAP10)	07.16 19.12	06.47 17.26	16.59 16.58	07.23 17.03
29	06.17 20.42	06.46 20.01	19.01 (BAP10) 19.39 (BAP10)	07.17 19.10	06.49 17.25	16.59 16.58	07.24 17.04
30	06.18 20.41	06.47 20.00	19.01 (BAP10) 19.38 (BAP10)	07.18 19.09	06.50 17.24	16.59 16.58	07.25 17.05
31	06.18 20.40	06.48 19.58	19.01 (BAP10) 19.36 (BAP10)		06.51 17.22		07.46 17.05
Potential sun hours	457	427	375	235	346	299	290
Total, worst case		588			823		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F121 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (287)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47	07.34	06.59	07.43 (BAP04) 07.09	08.04 (BAP03) 06.24	05.56
	17.07	17.40	18.14	19.47	20.18	06.19 (BAP02)
2	07.47	07.33	06.57	07.44 (BAP04) 07.07	08.05 (BAP03) 06.23	05.55
	17.08	17.42	18.15	19.48	20.19	06.18 (BAP02)
3	07.47	07.32	06.56	07.47 (BAP04) 07.06	08.07 (BAP03) 06.21	05.55
	17.08	17.43	18.16	19.49	20.20	06.18 (BAP02)
4	07.47	07.31	06.54	07.55 (BAP04) 07.04	08.08 (BAP03) 06.20	05.54
	17.09	17.44	18.17	19.50	20.21	06.17 (BAP02)
5	07.47	07.30	06.53	07.02	08.13 (BAP03) 06.19	05.54
	17.10	17.45	18.18	19.51	20.22	06.17 (BAP02)
6	07.47	07.29	06.51	07.01	08.22 (BAP03) 06.18	05.54
	17.11	17.47	18.19	19.52	20.23	06.18 (BAP02)
7	07.47	07.28	06.49	06.59	06.16	05.53
	17.12	17.48	18.21	19.53	20.24	06.18 (BAP02)
8	07.47	07.27	06.48	06.57	06.15	05.53
	17.13	17.49	18.22	19.54	20.25	06.18 (BAP02)
9	07.47	07.26	06.46	06.56	06.14	05.53
	17.14	17.50	18.23	19.55	20.26	06.18 (BAP02)
10	07.47	07.24	06.45	06.54	06.13	05.53
	17.15	17.52	18.24	19.56	20.27	06.17 (BAP02)
11	07.46	07.23	06.43	06.53	06.12	05.53
	17.16	17.53	18.25	19.57	20.28	06.17 (BAP02)
12	07.46	07.22	06.42	07.23 (BAP03) 06.51	06.11	05.52
	17.17	17.54	18.26	19.58	20.29	06.17 (BAP02)
13	07.46	07.21	06.40	07.16 (BAP03) 06.50	06.10	05.52
	17.18	17.55	18.27	19.59	20.30	06.17 (BAP02)
14	07.46	07.20	06.38	07.32 (BAP03) 06.48	06.09	05.52
	17.19	17.56	18.28	19.59	20.31	06.17 (BAP02)
15	07.45	07.18	06.37	07.35 (BAP03) 06.48	06.08	05.52
	17.20	17.58	18.29	19.59	20.32	06.17 (BAP02)
16	07.45	07.17	06.35	07.11 (BAP03) 06.47	06.08	05.52
	17.22	17.59	18.30	19.59	20.33	06.17 (BAP02)
17	07.44	07.16	06.33	07.38 (BAP03) 06.45	06.06	05.52
	17.23	18.00	18.31	19.59	20.34	06.17 (BAP02)
18	07.44	07.14	06.32	07.06 (BAP03) 06.42	06.05	05.52
	17.24	18.01	18.32	19.59	20.35	06.18 (BAP02)
19	07.43	07.13	06.30	07.39 (BAP03) 06.40	06.04	05.53
	17.25	18.02	18.33	19.59	20.36	06.19 (BAP02)
20	07.43	07.12	06.29	07.06 (BAP03) 06.40	06.03	05.53
	17.26	18.03	18.35	19.59	20.37	06.19 (BAP02)
21	07.42	07.10	06.27	07.40 (BAP03) 06.38	06.03	05.53
	17.27	18.05	18.36	19.59	20.38	06.19 (BAP02)
22	07.42	07.09	06.25	07.03 (BAP03) 06.36	06.02	05.53
	17.28	18.06	18.37	19.59	20.39	06.19 (BAP02)
23	07.41	07.07	06.24	07.41 (BAP03) 06.35	06.01	05.53
	17.30	18.07	18.38	19.59	20.40	06.20 (BAP02)
24	07.40	07.06	06.22	07.02 (BAP03) 06.33	06.00	05.54
	17.31	18.08	18.39	19.59	20.41	06.20 (BAP02)
25	07.40	07.05	06.20	07.40 (BAP03) 06.32	06.00	05.54
	17.32	18.09	18.40	19.59	20.42	06.19 (BAP02)
26	07.39	07.03	06.19	07.02 (BAP03) 06.30	05.59	05.54
	17.33	18.10	18.41	19.59	20.43	06.19 (BAP02)
27	07.38	07.02	06.17	07.39 (BAP03) 06.29	05.58	05.55
	17.34	18.12	18.42	19.59	20.44	06.20 (BAP02)
28	07.37	07.00	06.15	07.03 (BAP03) 06.28	05.58	05.55
	17.36	18.13	18.43	19.59	20.45	06.20 (BAP02)
29	07.37		06.14	07.38 (BAP03) 06.26	05.57	05.55
	17.37		18.44	19.59	20.46	06.21 (BAP02)
30	07.36		06.12	08.02 (BAP03) 06.25	05.57	05.56
	17.38		19.45	20.17	20.45	06.21 (BAP02)
31	07.35		06.10	08.35 (BAP03) 06.23	05.56	05.56
	17.39		19.46	20.17	20.46	06.21 (BAP02)
Potential sun hours	299		370	398	447	450
Total, worst case		384	666	101	307	1382

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F121 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (287)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

July	August	September	October	November	December			
1 05.56 20.58	46 06.22 (BAP02) 07.08 (BAP02)	06.20 20.39	06.50 19.57	07.19 19.07	10 07.59 (BAP03) 08.09 (BAP03)	06.52 17.21	07.26 16.58	
2 05.57 20.58	46 06.22 (BAP02) 07.08 (BAP02)	06.21 20.38	06.51 19.55	07.20 19.06		06.53 17.20	07.27 16.57	
3 05.57 20.58	45 06.23 (BAP02) 07.08 (BAP02)	06.22 20.37	06.52 19.54	07.21 19.04		06.55 17.19	07.28 16.57	
4 05.58 20.57	45 06.23 (BAP02) 07.08 (BAP02)	06.22 20.36	06.53 19.52	07.22 19.02		06.56 17.18	07.29 16.57	
5 05.58 20.57	44 06.24 (BAP02) 07.08 (BAP02)	06.23 20.35	06.54 19.51	07.23 19.01		06.57 17.17	07.30 16.57	
6 05.59 20.57	44 06.24 (BAP02) 07.08 (BAP02)	06.24 20.34	06.54 19.49	07.24 18.59		06.58 17.16	07.31 16.57	
7 05.59 20.57	44 06.24 (BAP02) 07.08 (BAP02)	06.25 20.33	06.55 19.47	8 08.08 (BAP03) 08.16 (BAP03)		06.59 17.14	07.32 16.57	
8 06.00 20.56	43 06.24 (BAP02) 07.07 (BAP02)	06.26 20.31	06.56 19.46	8 08.04 (BAP03) 08.20 (BAP03)		07.00 17.13	07.33 16.57	
9 06.01 20.56	42 06.25 (BAP02) 07.07 (BAP02)	06.27 20.30	06.57 19.44	21 08.01 (BAP03) 08.22 (BAP03)		07.02 17.12	07.34 16.57	
10 06.01 20.56	41 06.26 (BAP02) 07.07 (BAP02)	06.28 20.29	06.58 19.42	25 07.59 (BAP03) 08.24 (BAP03)		07.03 17.11	07.35 16.57	
11 06.02 20.55	40 06.26 (BAP02) 07.06 (BAP02)	06.29 20.28	06.59 19.41	28 07.56 (BAP03) 08.24 (BAP03)	11 08.20 (BAP04) 08.31 (BAP04)	07.04 17.10	07.36 16.57	
12 06.03 20.55	39 06.27 (BAP02) 07.06 (BAP02)	06.30 20.26	07.00 19.39	30 07.55 (BAP03) 08.25 (BAP03)	17 08.17 (BAP04) 08.34 (BAP04)	07.05 17.09	07.37 16.57	
13 06.03 20.54	38 06.28 (BAP02) 07.06 (BAP02)	06.31 20.25	07.01 19.37	33 07.53 (BAP03) 08.26 (BAP03)	20 08.15 (BAP04) 08.35 (BAP04)	07.06 17.09	07.37 16.57	
14 06.04 20.54	37 06.28 (BAP02) 07.05 (BAP02)	06.32 20.24	07.02 19.36	35 07.52 (BAP03) 08.27 (BAP03)	23 08.13 (BAP04) 08.36 (BAP04)	07.07 17.08	07.38 16.57	
15 06.05 20.53	34 06.30 (BAP02) 07.04 (BAP02)	06.33 20.22	07.03 19.34	36 07.51 (BAP03) 08.27 (BAP03)	25 08.12 (BAP04) 08.37 (BAP04)	07.09 17.07	07.39 16.57	
16 06.06 20.53	33 06.31 (BAP02) 07.04 (BAP02)	06.34 20.21	07.04 19.32	36 07.51 (BAP03) 08.27 (BAP03)	26 08.12 (BAP04) 08.38 (BAP04)	07.10 17.06	07.40 16.58	
17 06.06 20.52	31 06.32 (BAP02) 07.03 (BAP02)	06.35 20.20	07.05 19.31	37 07.50 (BAP03) 08.27 (BAP03)	27 08.11 (BAP04) 08.38 (BAP04)	07.11 17.05	07.40 16.58	
18 06.07 20.51	28 06.34 (BAP02) 07.02 (BAP02)	06.36 20.18	07.06 19.29	38 07.49 (BAP03) 08.27 (BAP03)	28 08.10 (BAP04) 08.38 (BAP04)	07.12 17.04	07.41 16.58	
19 06.08 20.51	26 06.34 (BAP02) 07.00 (BAP02)	06.37 20.17	07.07 19.27	38 07.49 (BAP03) 08.27 (BAP03)	28 08.10 (BAP04) 08.38 (BAP04)	07.13 17.04	07.42 16.59	
20 06.09 20.50	23 06.36 (BAP02) 06.59 (BAP02)	06.38 20.15	07.08 19.26	38 07.49 (BAP03) 08.27 (BAP03)	28 08.09 (BAP04) 08.38 (BAP04)	07.14 17.03	07.42 16.59	
21 06.10 20.49	19 06.38 (BAP02) 06.57 (BAP02)	06.39 20.14	07.09 19.24	37 07.49 (BAP03) 08.26 (BAP03)	29 08.09 (BAP04) 08.38 (BAP04)	07.16 17.02	07.43 16.59	
22 06.11 20.48	14 06.41 (BAP02) 06.55 (BAP02)	06.40 20.12	07.10 19.22	37 07.49 (BAP03) 08.26 (BAP03)	28 08.09 (BAP04) 08.37 (BAP04)	07.17 17.02	07.43 17.00	
23 06.11 20.48	4 06.46 (BAP02) 06.50 (BAP02)	06.41 20.11	07.11 19.21	36 07.49 (BAP03) 08.25 (BAP03)	26 08.11 (BAP04) 08.37 (BAP04)	07.18 17.01	07.44 17.00	
24 06.12 20.47		06.42 20.09	07.12 19.19	35 07.49 (BAP03) 08.24 (BAP03)	25 08.11 (BAP04) 08.37 (BAP04)	07.19 17.01	07.44 17.01	
25 06.13 20.46		06.43 20.08	07.13 19.17	34 07.49 (BAP03) 08.23 (BAP03)	24 07.11 (BAP04) 07.35 (BAP04)	07.20 17.00	07.45 17.02	
26 06.14 20.45		06.44 20.06	07.14 19.16	32 07.50 (BAP03) 08.22 (BAP03)	22 07.12 (BAP04) 07.34 (BAP04)	07.21 17.00	07.45 17.02	
27 06.15 20.44		06.45 20.05	07.15 19.14	29 07.51 (BAP03) 08.20 (BAP03)	19 07.13 (BAP04) 07.32 (BAP04)	07.22 16.59	07.45 17.03	
28 06.16 20.43		06.46 20.03	07.16 19.12	26 07.52 (BAP03) 08.18 (BAP03)	15 07.16 (BAP04) 07.31 (BAP04)	07.23 16.59	07.46 17.04	
29 06.17 20.42		06.47 20.02	07.17 19.11	23 07.53 (BAP03) 08.16 (BAP03)	10 07.18 (BAP04) 07.28 (BAP04)	07.24 16.58	07.46 17.04	
30 06.18 20.41		06.48 20.00	07.18 19.09	18 07.56 (BAP03) 08.14 (BAP03)		07.25 16.58	07.46 17.05	
31 06.19 20.40		06.49 19.59	07.19 19.09			06.51 17.23	07.47 17.06	
Potential sun hours	457	427	375	726	346	441	299	290
Total, worst case	806							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Eolico_Green_2020_07_13

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F123 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (288)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January		February		March		April		May		June	
1	07.47	08.23 (BAP04)	07.34	08.19 (BAP04)	06.59	07.55 (BAP03)	07.09		06.24	05.56	
	17.07	6 08.29 (BAP04)	17.40	34 08.53 (BAP04)	18.14	56 08.51 (BAP03)	19.47		20.18	20.47	
2	07.47	08.22 (BAP04)	07.33	08.20 (BAP04)	06.57	07.54 (BAP03)	07.07		06.22	05.55	
	17.08	9 08.31 (BAP04)	17.42	33 08.53 (BAP04)	18.15	56 08.50 (BAP03)	19.48		20.19	20.48	
3	07.47	08.21 (BAP04)	07.32	08.21 (BAP04)	06.56	07.53 (BAP03)	07.05		06.21	05.55	
	17.08	12 08.33 (BAP04)	17.43	31 08.52 (BAP04)	18.16	57 08.50 (BAP03)	19.49		20.20	20.48	
4	07.47	08.20 (BAP04)	07.31	08.22 (BAP04)	06.54	07.54 (BAP03)	07.04		06.20	05.54	
	17.09	15 08.35 (BAP04)	17.44	30 08.52 (BAP04)	18.17	56 08.50 (BAP03)	19.50		20.21	20.49	
5	07.47	08.20 (BAP04)	07.30	08.23 (BAP04)	06.53	07.53 (BAP03)	07.02		06.19	05.54	
	17.10	16 08.36 (BAP04)	17.45	28 08.51 (BAP04)	18.18	56 08.49 (BAP03)	19.51		20.22	20.50	
6	07.47	08.19 (BAP04)	07.29	08.23 (BAP04)	06.51	07.54 (BAP03)	07.01		06.18	05.54	
	17.11	19 08.38 (BAP04)	17.47	26 08.49 (BAP04)	18.19	55 08.49 (BAP03)	19.52		20.23	20.50	
7	07.47	08.19 (BAP04)	07.28	08.25 (BAP04)	06.49	07.54 (BAP03)	06.59	07.17 (BAP06)	06.16	05.53	
	17.12	20 08.39 (BAP04)	17.48	23 08.48 (BAP04)	18.21	53 08.47 (BAP03)	19.53	2 07.19 (BAP06)	20.24	20.51	
8	07.47	08.19 (BAP04)	07.27	08.27 (BAP04)	06.48	07.54 (BAP03)	06.57	07.16 (BAP06)	06.15	05.53	
	17.13	21 08.40 (BAP04)	17.49	19 08.46 (BAP04)	18.22	53 08.47 (BAP03)	19.54	6 07.22 (BAP06)	20.25	20.52	
9	07.47	08.18 (BAP04)	07.26	08.30 (BAP04)	06.46	07.54 (BAP03)	06.56	07.14 (BAP06)	06.14	05.53	
	17.14	23 08.41 (BAP04)	17.50	14 08.44 (BAP04)	18.23	52 08.46 (BAP03)	19.55	9 07.23 (BAP06)	20.26	20.52	
10	07.47	08.18 (BAP04)	07.24	08.36 (BAP04)	06.45	07.54 (BAP03)	06.54	07.13 (BAP06)	06.13	05.53	
	17.15	24 08.42 (BAP04)	17.51	2 08.38 (BAP04)	18.24	50 08.44 (BAP03)	19.56	12 07.25 (BAP06)	20.27	20.53	
11	07.46	08.18 (BAP04)	07.23	08.17 (BAP03)	06.43	07.56 (BAP03)	06.53	07.11 (BAP06)	06.12	05.53	
	17.16	26 08.44 (BAP04)	17.53	14 08.31 (BAP03)	18.25	48 08.44 (BAP03)	19.57	14 07.25 (BAP06)	20.28	20.53	
12	07.46	08.17 (BAP04)	07.22	08.13 (BAP03)	06.42	07.56 (BAP03)	06.51	07.10 (BAP06)	06.11	05.52	
	17.17	27 08.44 (BAP04)	17.54	22 08.35 (BAP03)	18.26	46 08.42 (BAP03)	19.58	16 07.26 (BAP06)	20.29	20.54	
13	07.46	08.17 (BAP04)	07.21	08.10 (BAP03)	06.40	07.56 (BAP03)	06.50	07.08 (BAP06)	06.10	05.52	
	17.18	28 08.45 (BAP04)	17.55	28 08.38 (BAP03)	18.27	44 08.40 (BAP03)	19.59	18 07.26 (BAP06)	20.30	20.54	
14	07.46	08.17 (BAP04)	07.20	08.08 (BAP03)	06.38	07.58 (BAP03)	06.48	07.06 (BAP06)	06.09	05.52	
	17.19	30 08.47 (BAP04)	17.56	32 08.40 (BAP03)	18.28	41 08.39 (BAP03)	20.00	19 07.25 (BAP06)	20.31	20.55	
15	07.45	08.16 (BAP04)	07.18	08.07 (BAP03)	06.37	07.59 (BAP03)	06.46	07.05 (BAP06)	06.08	05.52	
	17.20	31 08.47 (BAP04)	17.58	36 08.43 (BAP03)	18.29	38 08.37 (BAP03)	20.02	21 07.26 (BAP06)	20.32	20.55	
16	07.45	08.17 (BAP04)	07.17	08.04 (BAP03)	06.35	08.01 (BAP03)	06.45	07.03 (BAP06)	06.07	05.52	
	17.22	31 08.48 (BAP04)	17.59	39 08.43 (BAP03)	18.30	34 08.35 (BAP03)	20.03	22 07.25 (BAP06)	20.33	20.56	
17	07.44	08.16 (BAP04)	07.16	08.03 (BAP03)	06.33	08.02 (BAP03)	06.43	07.02 (BAP06)	06.06	05.52	
	17.23	33 08.49 (BAP04)	18.00	42 08.45 (BAP03)	18.31	30 08.32 (BAP03)	20.04	23 07.25 (BAP06)	20.34	20.56	
18	07.44	08.16 (BAP04)	07.14	08.02 (BAP03)	06.32	08.04 (BAP03)	06.42	07.01 (BAP06)	06.05	05.52	
	17.24	34 08.50 (BAP04)	18.01	45 08.47 (BAP03)	18.32	25 08.29 (BAP03)	20.05	24 07.25 (BAP06)	20.35	20.56	
19	07.43	08.16 (BAP04)	07.13	08.00 (BAP03)	06.30	08.08 (BAP03)	06.40	06.59 (BAP06)	06.04	05.53	
	17.25	34 08.50 (BAP04)	18.02	47 08.47 (BAP03)	18.33	17 08.25 (BAP03)	20.06	25 07.24 (BAP06)	20.36	20.57	
20	07.43	08.16 (BAP04)	07.12	08.00 (BAP03)	06.28		06.39	07.00 (BAP06)	06.03	05.53	
	17.26	35 08.51 (BAP04)	18.03	48 08.48 (BAP03)	18.35		20.07	23 07.23 (BAP06)	20.37	20.57	
21	07.42	08.16 (BAP04)	07.10	07.58 (BAP03)	06.27		06.38	07.00 (BAP06)	06.03	05.53	
	17.27	36 08.52 (BAP04)	18.05	51 08.49 (BAP03)	18.36		20.08	21 07.21 (BAP06)	20.38	20.57	
22	07.42	08.16 (BAP04)	07.09	07.58 (BAP03)	06.25		06.36	07.02 (BAP06)	06.02	05.53	
	17.28	36 08.52 (BAP04)	18.06	52 08.50 (BAP03)	18.37		20.09	18 07.20 (BAP06)	20.39	20.57	
23	07.41	08.16 (BAP04)	07.07	07.56 (BAP03)	06.24		06.35	07.03 (BAP06)	06.01	05.53	
	17.30	36 08.52 (BAP04)	18.07	53 08.49 (BAP03)	18.38		20.10	15 07.18 (BAP06)	20.40	20.57	
24	07.40	08.16 (BAP04)	07.06	07.56 (BAP03)	06.22		06.33	07.05 (BAP06)	06.00	05.54	
	17.31	37 08.53 (BAP04)	18.08	54 08.50 (BAP03)	18.39		20.11	11 07.16 (BAP06)	20.40	20.58	
25	07.40	08.16 (BAP04)	07.05	07.56 (BAP03)	06.20		06.32		06.00	05.54	
	17.32	37 08.53 (BAP04)	18.09	55 08.51 (BAP03)	18.40		20.12		20.41	20.58	
26	07.39	08.16 (BAP04)	07.03	07.55 (BAP03)	06.19		06.30		05.59	05.54	
	17.33	37 08.53 (BAP04)	18.10	56 08.51 (BAP03)	18.41		20.13		20.42	20.58	
27	07.38	08.17 (BAP04)	07.02	07.55 (BAP03)	06.17		06.29		05.58	05.54	
	17.34	36 08.53 (BAP04)	18.12	56 08.51 (BAP03)	18.42		20.14		20.43	20.58	
28	07.37	08.17 (BAP04)	07.00	07.54 (BAP03)	06.15		06.28		05.58	05.55	
	17.36	36 08.53 (BAP04)	18.13	57 08.51 (BAP03)	18.43		20.15		20.44	20.58	
29	07.37	08.18 (BAP04)			07.14		06.26		05.57	05.55	
	17.37	36 08.54 (BAP04)			19.44		20.16		20.45	20.58	
30	07.36	08.18 (BAP04)			07.12		06.25		05.57	05.56	
	17.38	36 08.54 (BAP04)			19.45		20.17		20.45	20.58	
31	07.35	08.19 (BAP04)			07.10				05.56		
	17.39	35 08.54 (BAP04)			19.46				20.46		
Potential sun hours	299		298		370		398		447		450
Total, worst case	872		1027		867		299				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F123 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (288)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December						
1	05.56 20.58	06.20 20.39	06.50 19.57	07.10 (BAP06) 19.07	07.19 19.07	08.36 (BAP03) 17.21	06.52 17.21	6	08.04 (BAP04) 17.21	07.26 16.58	26	08.00 (BAP04) 08.26 (BAP04)
2	05.57 20.58	06.21 20.38	06.51 19.55	07.11 (BAP06) 12 07.23 (BAP06)	07.20 19.06	08.35 (BAP03) 47 09.22 (BAP03)	06.53 17.20	15	07.59 (BAP04) 08.14 (BAP04)	07.27 16.57	24	08.01 (BAP04) 08.25 (BAP04)
3	05.57 20.58	06.21 20.37	06.52 19.54	07.12 (BAP06) 9 07.21 (BAP06)	07.21 19.04	08.33 (BAP03) 49 09.22 (BAP03)	06.55 17.19	19	07.57 (BAP04) 08.16 (BAP04)	07.28 16.57	23	08.02 (BAP04) 08.25 (BAP04)
4	05.58 20.57	06.22 20.36	06.53 19.52	07.13 (BAP06) 6 07.19 (BAP06)	07.22 19.02	08.32 (BAP03) 51 09.23 (BAP03)	06.56 17.18	23	07.55 (BAP04) 08.18 (BAP04)	07.29 16.57	22	08.03 (BAP04) 08.25 (BAP04)
5	05.58 20.57	06.23 20.35	06.53 19.51	07.14 (BAP06) 2 07.16 (BAP06)	07.23 19.01	08.31 (BAP03) 52 09.23 (BAP03)	06.57 17.17	26	07.53 (BAP04) 08.19 (BAP04)	07.30 16.57	20	08.04 (BAP04) 08.24 (BAP04)
6	05.59 20.57	06.24 20.34	06.54 19.49	07.16 (BAP06) 18.59	07.24 18.59	08.30 (BAP03) 54 09.24 (BAP03)	06.58 17.16	28	07.53 (BAP04) 08.21 (BAP04)	07.31 16.57	19	08.05 (BAP04) 08.24 (BAP04)
7	05.59 20.57	06.25 20.33	06.55 19.47	18.57	07.25 18.57	08.30 (BAP03) 54 09.24 (BAP03)	06.59 17.14	30	07.52 (BAP04) 08.22 (BAP04)	07.32 16.57	16	08.07 (BAP04) 08.23 (BAP04)
8	06.00 20.56	06.26 20.31	06.56 19.46	19.46	07.26 18.56	08.29 (BAP03) 55 09.24 (BAP03)	07.00 17.13	31	07.51 (BAP04) 08.22 (BAP04)	07.33 16.57	15	08.08 (BAP04) 08.23 (BAP04)
9	06.01 20.56	06.27 20.30	06.57 19.44	19.44	07.27 18.54	08.28 (BAP03) 56 09.24 (BAP03)	07.02 17.12	33	07.51 (BAP04) 08.24 (BAP04)	07.34 16.57	12	08.10 (BAP04) 08.22 (BAP04)
10	06.01 20.56	06.28 20.29	06.58 19.42	19.42	07.28 18.53	08.28 (BAP03) 56 09.24 (BAP03)	07.03 17.11	34	07.50 (BAP04) 08.24 (BAP04)	07.35 16.57	9	08.11 (BAP04) 08.20 (BAP04)
11	06.02 20.55	06.29 20.28	06.59 19.41	19.41	07.29 18.51	08.28 (BAP03) 56 09.24 (BAP03)	07.04 17.10	35	07.50 (BAP04) 08.25 (BAP04)	07.36 16.57	6	08.13 (BAP04) 08.19 (BAP04)
12	06.03 20.55	06.30 20.26	07.00 19.39	19.39	07.30 18.49	08.27 (BAP03) 57 09.24 (BAP03)	07.05 17.09	36	07.49 (BAP04) 08.25 (BAP04)	07.37 16.57		
13	06.03 20.54	06.31 20.25	07.01 19.37	19.37	07.31 18.48	08.27 (BAP03) 57 09.24 (BAP03)	07.06 17.09	36	07.50 (BAP04) 08.26 (BAP04)	07.37 16.57		
14	06.04 20.54	06.32 20.24	07.02 19.36	19.36	07.32 18.46	08.27 (BAP03) 56 09.23 (BAP03)	07.07 17.08	36	07.50 (BAP04) 08.26 (BAP04)	07.38 16.57		
15	06.05 20.53	06.33 20.22	07.03 19.34	19.34	07.33 18.45	08.27 (BAP03) 56 09.23 (BAP03)	07.09 17.07	36	07.50 (BAP04) 08.26 (BAP04)	07.39 16.57		
16	06.06 20.53	06.34 20.21	07.04 19.32	19.32	07.34 18.43	08.28 (BAP03) 55 09.23 (BAP03)	07.10 17.06	37	07.49 (BAP04) 08.26 (BAP04)	07.40 16.58		
17	06.06 20.52	06.35 20.19	07.05 19.31	19.31	07.35 18.42	08.28 (BAP03) 54 09.22 (BAP03)	07.11 17.05	37	07.49 (BAP04) 08.26 (BAP04)	07.40 16.58		
18	06.07 20.51	06.36 20.18	07.06 19.29	19.29	07.36 18.40	08.28 (BAP03) 54 09.22 (BAP03)	07.12 17.04	37	07.50 (BAP04) 08.27 (BAP04)	07.41 16.58		
19	06.08 20.51	06.37 20.17	07.07 19.27	19.27	07.37 18.39	08.28 (BAP03) 53 09.21 (BAP03)	07.13 17.04	36	07.51 (BAP04) 08.27 (BAP04)	07.42 16.59		
20	06.09 20.50	06.38 20.15	07.08 19.26	19.26	07.38 18.37	08.28 (BAP03) 51 09.20 (BAP03)	07.13 17.03	36	07.51 (BAP04) 08.27 (BAP04)	07.42 16.59		
21	06.10 20.49	06.39 20.14	07.09 19.24	19.24	07.39 18.36	08.29 (BAP03) 50 09.19 (BAP03)	07.14 17.02	36	07.51 (BAP04) 08.27 (BAP04)	07.43 16.59		
22	06.11 20.48	06.40 20.12	07.10 19.22	19.22	07.41 18.35	08.30 (BAP03) 48 09.18 (BAP03)	07.17 17.02	35	07.52 (BAP04) 08.27 (BAP04)	07.43 17.00		
23	06.11 20.48	06.41 20.11	07.11 19.21	19.21	07.42 18.33	08.31 (BAP03) 46 09.17 (BAP03)	07.18 17.01	34	07.53 (BAP04) 08.27 (BAP04)	07.44 17.00		
24	06.12 20.47	06.42 20.09	07.12 19.19	19.19	07.43 18.32	08.32 (BAP03) 44 09.16 (BAP03)	07.19 17.01	34	07.53 (BAP04) 08.27 (BAP04)	07.44 17.01		
25	06.13 20.46	06.43 20.08	07.13 19.17	19.17	07.44 18.31	08.49 (BAP03) 41 08.14 (BAP03)	06.44 17.00	33	07.54 (BAP04) 08.27 (BAP04)	07.45 17.02		
26	06.14 20.45	06.44 20.06	07.14 19.15	19.15	07.45 18.30	08.45 (BAP03) 39 08.13 (BAP03)	06.45 17.00	31	07.55 (BAP04) 08.26 (BAP04)	07.45 17.02		
27	06.15 20.44	06.45 20.05	07.15 19.14	19.14	07.46 18.29	08.43 (BAP03) 35 08.11 (BAP03)	06.46 16.59	31	07.55 (BAP04) 08.26 (BAP04)	07.45 17.03		
28	06.16 20.43	06.46 20.03	07.16 19.12	19.12	07.47 18.28	07.38 (BAP03) 32 08.10 (BAP03)	06.48 16.59	30	07.57 (BAP04) 08.27 (BAP04)	07.46 17.04		
29	06.17 20.42	06.47 20.02	07.17 19.10	19.10	07.48 18.27	08.39 (BAP03) 27 08.07 (BAP03)	06.49 16.58	28	07.58 (BAP04) 08.26 (BAP04)	07.46 17.04		
30	06.18 20.41	06.48 20.00	07.18 19.09	19.09	07.49 18.26	08.37 (BAP03) 21 08.04 (BAP03)	06.50 16.58	27	07.59 (BAP04) 08.26 (BAP04)	07.46 17.05		
31	06.19 20.40	06.49 19.59	07.19 19.08	19.08	07.50 18.25	09.20 (BAP03) 12 07.59 (BAP03)	06.51 16.58	27	07.47 (BAP04) 08.26 (BAP04)	07.46 17.06		
Potential sun hours	457	427	375	346	299	290						
Total, worst case		263	260	1463	926	192						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F128 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (289)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F130 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (290)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.41
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F131 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (291)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June			
1	07.47	15.40 (BAP06)	07.34	07.59 (BAP08)	06.59	07.09	19.09 (BAP05)	06.24	05.55
	17.07	54 16.34 (BAP06)	17.40	67 16.35 (BAP06)	18.14	19.47	17 19.26 (BAP05)	20.18	20.47
2	07.47	15.40 (BAP06)	07.33	07.59 (BAP08)	06.57	07.07	19.08 (BAP05)	06.22	05.55
	17.07	54 16.34 (BAP06)	17.42	64 16.34 (BAP06)	18.15	19.48	18 19.26 (BAP05)	20.19	20.48
3	07.47	15.41 (BAP06)	07.32	08.00 (BAP08)	06.56	07.05	19.08 (BAP05)	06.21	05.55
	17.08	54 16.35 (BAP06)	17.43	58 16.32 (BAP06)	18.16	19.49	20 19.28 (BAP05)	20.20	20.48
4	07.47	15.41 (BAP06)	07.31	08.00 (BAP08)	06.54	07.04	19.07 (BAP05)	06.20	05.54
	17.09	54 16.35 (BAP06)	17.44	53 16.30 (BAP06)	18.17	19.50	22 19.29 (BAP05)	20.21	20.49
5	07.47	15.42 (BAP06)	07.30	08.01 (BAP08)	06.52	07.02	19.06 (BAP05)	06.19	05.54
	17.10	54 16.36 (BAP06)	17.45	46 16.27 (BAP06)	18.18	19.51	23 19.29 (BAP05)	20.22	20.50
6	07.47	15.42 (BAP06)	07.29	08.01 (BAP08)	06.51	07.01	19.06 (BAP05)	06.17	05.54
	17.11	54 16.36 (BAP06)	17.46	29 16.19 (BAP06)	18.19	19.52	25 19.31 (BAP05)	20.23	20.50
7	07.47	15.43 (BAP06)	07.28	08.02 (BAP08)	06.49	06.59	19.06 (BAP05)	06.16	05.53
	17.12	54 16.37 (BAP06)	17.48	27 08.29 (BAP08)	18.20	19.53	26 19.32 (BAP05)	20.24	20.51
8	07.47	15.42 (BAP06)	07.27	08.03 (BAP08)	06.48	06.57	19.06 (BAP05)	06.15	05.53
	17.13	55 16.37 (BAP06)	17.49	25 08.28 (BAP08)	18.22	19.54	27 19.33 (BAP05)	20.25	20.52
9	07.47	15.43 (BAP06)	07.25	08.05 (BAP08)	06.46	06.56	19.06 (BAP05)	06.14	05.53
	17.14	54 16.37 (BAP06)	17.50	22 08.27 (BAP08)	18.23	19.55	28 19.34 (BAP05)	20.26	20.52
10	07.47	15.44 (BAP06)	07.24	08.07 (BAP08)	06.45	06.54	19.07 (BAP05)	06.13	05.53
	17.15	54 16.38 (BAP06)	17.51	18 08.25 (BAP08)	18.24	19.56	28 19.35 (BAP05)	20.27	20.53
11	07.46	15.44 (BAP06)	07.23	08.09 (BAP08)	06.43	06.53	19.07 (BAP05)	06.12	05.52
	17.16	55 16.39 (BAP06)	17.53	14 08.23 (BAP08)	18.25	19.57	28 19.35 (BAP05)	20.28	20.53
12	07.46	15.44 (BAP06)	07.22	08.13 (BAP08)	06.41	06.51	19.07 (BAP05)	06.11	05.52
	17.17	54 16.38 (BAP06)	17.54	5 08.18 (BAP08)	18.26	19.58	26 19.33 (BAP05)	20.29	20.54
13	07.46	08.07 (BAP08)	07.21	06.40	06.49	06.49	19.09 (BAP05)	06.10	05.52
	17.18	60 16.39 (BAP06)	17.55	18.27	19.59	23 19.32 (BAP05)	20.30	20.54	
14	07.45	08.07 (BAP08)	07.19	06.38	06.48	06.48	19.09 (BAP05)	06.09	05.52
	17.19	63 16.40 (BAP06)	17.56	18.28	20.00	21 19.30 (BAP05)	20.31	20.55	
15	07.45	08.06 (BAP08)	07.18	06.37	06.46	06.46	19.12 (BAP05)	06.08	05.52
	17.20	65 16.39 (BAP06)	17.57	18.29	20.01	16 19.28 (BAP05)	20.32	20.55	
16	07.45	08.06 (BAP08)	07.17	06.35	06.45	06.45	19.14 (BAP05)	06.07	05.52
	17.21	67 16.40 (BAP06)	17.59	18.30	20.02	10 19.24 (BAP05)	20.33	20.55	
17	07.44	08.05 (BAP08)	07.16	06.33	06.43	06.43	06.06	05.52	
	17.23	69 16.40 (BAP06)	18.00	18.31	20.04	06.06	20.34	20.56	
18	07.44	08.05 (BAP08)	07.14	06.32	06.42	06.42	06.05	05.52	
	17.24	71 16.41 (BAP06)	18.01	18.32	20.05	06.05	20.35	20.56	
19	07.43	08.04 (BAP08)	07.13	06.30	06.40	06.40	06.04	05.52	
	17.25	72 16.40 (BAP06)	18.02	18.33	20.06	06.04	20.36	20.56	
20	07.43	08.03 (BAP08)	07.12	06.28	06.39	06.39	06.03	05.53	
	17.26	73 16.40 (BAP06)	18.03	18.34	20.07	06.03	20.37	20.57	
21	07.42	08.03 (BAP08)	07.10	06.27	06.37	06.37	06.02	05.53	
	17.27	74 16.40 (BAP06)	18.05	18.35	20.08	06.02	20.38	20.57	
22	07.42	08.02 (BAP08)	07.09	06.25	06.36	06.36	06.02	05.53	
	17.28	75 16.40 (BAP06)	18.06	18.37	20.09	06.01	20.39	20.57	
23	07.41	08.01 (BAP08)	07.07	06.23	06.35	06.35	06.01	05.53	
	17.29	76 16.40 (BAP06)	18.07	18.38	20.10	06.00	20.40	20.57	
24	07.40	08.01 (BAP08)	07.06	06.22	06.33	06.33	06.00	05.53	
	17.31	76 16.40 (BAP06)	18.08	18.39	20.11	06.00	20.40	20.58	
25	07.40	08.00 (BAP08)	07.05	06.20	06.32	06.32	05.59	05.54	
	17.32	77 16.40 (BAP06)	18.09	18.40	20.12	06.00	20.41	20.58	
26	07.39	07.59 (BAP08)	07.03	06.19	06.30	06.30	05.59	05.54	
	17.33	77 16.39 (BAP06)	18.10	18.41	20.13	06.00	20.42	20.58	
27	07.38	07.58 (BAP08)	07.02	06.17	06.29	06.29	05.58	05.54	
	17.34	77 16.39 (BAP06)	18.11	18.42	2 18.21 (BAP05)	20.14	20.43	20.58	
28	07.37	07.57 (BAP08)	07.00	06.15	06.28	06.28	05.58	05.55	
	17.35	76 16.38 (BAP06)	18.13	18.43	6 18.22 (BAP05)	20.15	20.44	20.58	
29	07.36	07.58 (BAP08)		07.14	06.26	06.26	05.57	05.55	
	17.37	74 16.38 (BAP06)		19.44	9 19.23 (BAP05)	20.16	20.45	20.58	
30	07.36	07.58 (BAP08)		07.12	06.25	06.25	05.56	05.56	
	17.38	73 16.37 (BAP06)		19.45	12 19.24 (BAP05)	20.17	20.45	20.58	
31	07.35	07.59 (BAP08)		07.10	06.24	06.24	05.56		
	17.39	69 16.36 (BAP06)		19.46	14 19.25 (BAP05)		20.46		
Potential sun hours	299	298	370	398	447	450			
Total, worst case	2014	428	43	358					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F131 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (291)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 06.19		06.50 19.06 (BAP05)	07.19 19.07	06.52 07.35 (BAP08)	07.26 15.26 (BAP06)
	20.58 20.39		19.57 19.34 (BAP05)	19.07 19.07	17.21 19	07.54 (BAP08) 16.57 55
2	05.57 06.20		06.50 19.05 (BAP05)	07.20 19.05	06.53 07.34 (BAP08)	07.27 15.27 (BAP06)
	20.58 20.38		19.55 19.33 (BAP05)	19.05 19.05	17.20 23	07.57 (BAP08) 16.57 54
3	05.57 06.21		06.51 19.04 (BAP05)	07.21 19.04	06.54 07.33 (BAP08)	07.28 15.27 (BAP06)
	20.57 20.37		19.54 19.32 (BAP05)	19.04 19.04	17.19 25	07.58 (BAP08) 16.57 54
4	05.58 06.22		06.52 19.03 (BAP05)	07.22 19.03	06.56 07.32 (BAP08)	07.29 15.27 (BAP06)
	20.57 20.36		19.52 19.30 (BAP05)	19.02 19.02	17.18 27	07.59 (BAP08) 16.57 55
5	05.58 06.23		06.53 19.03 (BAP05)	07.23 19.03	06.57 07.31 (BAP08)	07.30 15.28 (BAP06)
	20.57 20.35		19.50 19.29 (BAP05)	19.01 19.01	17.17 34	15.51 (BAP06) 16.57 54
6	05.59 06.24		06.54 19.02 (BAP05)	07.24 18.59	06.58 07.31 (BAP08)	07.31 15.28 (BAP06)
	20.57 20.34		19.49 19.27 (BAP05)	18.59 18.59	17.15 47	15.57 (BAP06) 16.57 55
7	05.59 06.25		06.55 19.02 (BAP05)	07.25 18.57	06.59 07.30 (BAP08)	07.32 15.29 (BAP06)
	20.57 20.32		19.47 19.25 (BAP05)	18.57 18.57	17.14 54	16.00 (BAP06) 16.56 54
8	06.00 06.26		06.56 19.02 (BAP05)	07.26 18.56	07.00 07.30 (BAP08)	07.33 15.29 (BAP06)
	20.56 20.31		19.45 19.24 (BAP05)	18.56 18.56	17.13 58	16.02 (BAP06) 16.56 54
9	06.01 06.27		06.57 19.01 (BAP05)	07.27 18.54	07.01 07.29 (BAP08)	07.34 15.29 (BAP06)
	20.56 20.30		19.44 19.21 (BAP05)	18.54 18.54	17.12 63	16.04 (BAP06) 16.56 54
10	06.01 06.28		06.58 19.01 (BAP05)	07.28 18.53	07.03 07.30 (BAP08)	07.35 15.29 (BAP06)
	20.56 20.29		19.42 19.20 (BAP05)	18.53 18.53	17.11 67	16.06 (BAP06) 16.56 54
11	06.02 06.29		06.59 19.01 (BAP05)	07.29 18.51	07.04 07.30 (BAP08)	07.36 15.30 (BAP06)
	20.55 20.27		19.41 19.18 (BAP05)	18.51 18.51	17.10 70	16.07 (BAP06) 16.57 54
12	06.03 06.30		07.00 19.02 (BAP05)	07.30 18.49	07.05 07.29 (BAP08)	07.37 15.31 (BAP06)
	20.55 20.26		19.39 19.17 (BAP05)	18.49 18.49	17.09 72	16.08 (BAP06) 16.57 54
13	06.03 06.31		07.01 19.03 (BAP05)	07.31 18.48	07.06 07.29 (BAP08)	07.37 15.31 (BAP06)
	20.54 20.25		19.37 19.15 (BAP05)	18.48 18.48	17.08 74	16.09 (BAP06) 16.57 54
14	06.04 06.32		07.02 19.04 (BAP05)	07.32 18.46	07.07 07.30 (BAP08)	07.38 15.31 (BAP06)
	20.54 20.24		19.36 9	19.13 (BAP05) 18.46	17.08 76	16.11 (BAP06) 16.57 54
15	06.05 06.33		07.03 19.05 (BAP05)	07.33 18.45	07.08 07.31 (BAP08)	07.39 15.32 (BAP06)
	20.53 20.22		19.34 7	19.12 (BAP05) 18.45	17.07 77	16.12 (BAP06) 16.57 53
16	06.06 06.34		07.04 19.07 (BAP05)	07.34 18.43	07.10 07.32 (BAP08)	07.40 15.33 (BAP06)
	20.53 20.21		19.32 3	19.10 (BAP05) 18.43	17.06 77	16.12 (BAP06) 16.57 53
17	06.06 06.35		07.05 19.15 (BAP05)	18.43 18.43	07.11 07.33 (BAP08)	07.40 15.33 (BAP06)
	20.52 20.19		19.30 19.04 (BAP05)	18.42 18.42	17.05 77	16.13 (BAP06) 16.58 53
18	06.07 06.36		07.06 19.13 (BAP05)	18.46 18.46	07.12 07.35 (BAP08)	07.41 15.34 (BAP06)
	20.51 20.18		19.29 19.05 (BAP05)	18.45 18.45	17.08 76	16.14 (BAP06) 16.58 53
19	06.08 06.37		07.07 19.12 (BAP05)	18.45 18.45	07.13 07.36 (BAP08)	07.42 15.34 (BAP06)
	20.51 20.17		19.27 19.07 (BAP05)	18.44 18.44	17.04 76	16.15 (BAP06) 16.58 54
20	06.09 06.38		07.08 19.11 (BAP05)	18.43 18.43	07.14 07.37 (BAP08)	07.42 15.34 (BAP06)
	20.50 20.15		19.25 19.15 (BAP05)	18.42 18.42	17.03 75	16.15 (BAP06) 16.59 54
21	06.10 06.39		07.09 19.04 (BAP05)	18.41 18.41	07.15 07.38 (BAP08)	07.43 15.35 (BAP06)
	20.49 20.14		19.24 19.15 (BAP05)	18.40 18.40	17.02 74	16.15 (BAP06) 16.59 53
22	06.10 06.40		07.10 19.03 (BAP05)	18.40 18.40	07.17 07.39 (BAP08)	07.43 15.35 (BAP06)
	20.48 20.12		19.22 19.16 (BAP05)	18.39 18.39	17.02 73	16.16 (BAP06) 17.00 53
23	06.11 06.41		07.11 19.02 (BAP05)	18.39 18.39	07.18 07.41 (BAP08)	07.44 15.36 (BAP06)
	20.48 20.11		19.20 19.17 (BAP05)	18.38 18.38	17.01 72	16.17 (BAP06) 17.00 54
24	06.12 06.42		07.12 19.01 (BAP05)	18.38 18.38	07.19 07.42 (BAP08)	07.44 15.36 (BAP06)
	20.47 20.09		19.19 19.16 (BAP05)	18.37 18.37	17.00 71	16.18 (BAP06) 17.01 54
25	06.13 06.43		07.13 19.00 (BAP05)	18.37 18.37	07.20 07.43 (BAP08)	07.45 15.36 (BAP06)
	20.46 20.08		19.17 19.15 (BAP05)	18.36 18.36	17.00 69	16.18 (BAP06) 17.01 54
26	06.14 06.44		07.14 19.00 (BAP05)	18.36 18.36	07.21 07.44 (BAP08)	07.45 15.38 (BAP06)
	20.45 20.06		19.15 19.14 (BAP05)	18.35 18.35	17.01 67	16.18 (BAP06) 17.02 53
27	06.15 06.45	19.16 (BAP05)	07.15 19.00 (BAP05)	18.35 18.35	07.22 07.45 (BAP08)	07.45 15.38 (BAP06)
	20.44 20.05	10	19.26 (BAP05) 19.14	18.34 18.34	17.02 65	16.18 (BAP06) 17.03 53
28	06.16 06.46	19.13 (BAP05)	07.16 19.00 (BAP05)	18.34 18.34	07.23 07.46 (BAP08)	07.46 15.38 (BAP06)
	20.43 20.03	16	19.29 (BAP05) 19.12	18.33 18.33	17.03 63	16.19 (BAP06) 17.03 53
29	06.17 06.47	19.10 (BAP05)	07.17 19.00 (BAP05)	18.33 18.33	07.24 07.48 (BAP08)	07.46 15.38 (BAP06)
	20.42 20.02	21	19.31 (BAP05) 19.10	18.32 18.32	17.04 60	16.20 (BAP06) 17.04 54
30	06.18 06.48	19.09 (BAP05)	07.18 19.00 (BAP05)	18.32 18.32	07.25 07.49 (BAP08)	07.46 15.39 (BAP06)
	20.41 20.00	23	19.32 (BAP05) 19.09	18.31 18.31	17.05 54	16.20 (BAP06) 17.05 54
31	06.19 06.49	19.07 (BAP05)	07.19 19.00 (BAP05)	18.31 18.31	07.26 07.38 (BAP08)	07.46 15.40 (BAP06)
	20.40 19.58	26	19.33 (BAP05) 19.00 (BAP05)	18.30 18.30	17.06 14	07.52 (BAP08) 17.06 53
Potential sun hours	457		375	346	299	290
Total, worst case		96	309	21	1835	1667

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F137 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (292)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47	07.34	06.59	07.27 (BAP11)	07.09	06.24
	17.07	17.40	18.14	08.05 (BAP11)	19.47	20.18
2	07.47	07.33	06.57	07.26 (BAP11)	07.07	06.22
	17.07	17.42	18.15	08.07 (BAP11)	19.48	20.19
3	07.47	07.32	06.55	07.25 (BAP11)	07.05	06.21
	17.08	17.43	18.16	08.07 (BAP11)	19.49	20.20
4	07.47	07.31	06.54	07.24 (BAP11)	07.04	06.20
	17.09	17.44	18.17	08.08 (BAP11)	19.50	20.21
5	07.47	07.30	06.52	07.23 (BAP11)	07.02	06.19
	17.10	17.45	18.18	08.08 (BAP11)	19.51	20.22
6	07.47	07.29	06.51	07.23 (BAP11)	07.00	06.17
	17.11	17.46	18.19	08.09 (BAP11)	19.52	20.23
7	07.47	07.28	06.49	07.22 (BAP11)	06.59	06.16
	17.12	17.48	18.20	08.09 (BAP11)	19.53	20.24
8	07.47	07.27	06.48	07.21 (BAP11)	06.57	06.15
	17.13	17.49	18.21	08.08 (BAP11)	19.54	20.25
9	07.47	07.25	06.46	07.21 (BAP11)	06.56	06.14
	17.14	17.50	18.23	08.09 (BAP11)	19.55	20.26
10	07.46	07.24	06.45	07.20 (BAP11)	06.54	06.13
	17.15	17.51	18.24	08.08 (BAP11)	19.56	20.27
11	07.46	07.23	06.43	07.20 (BAP11)	06.53	06.12
	17.16	17.53	18.25	08.09 (BAP11)	19.57	20.28
12	07.46	07.22	06.41	07.20 (BAP11)	06.51	06.11
	17.17	17.54	18.26	08.08 (BAP11)	19.58	20.29
13	07.46	07.21	06.40	07.19 (BAP11)	06.49	06.10
	17.18	17.55	18.27	08.07 (BAP11)	19.59	20.30
14	07.45	07.19	06.38	07.20 (BAP11)	06.48	06.09
	17.19	17.56	18.28	08.07 (BAP11)	20.00	20.31
15	07.45	07.18	06.37	07.19 (BAP11)	06.46	06.08
	17.20	17.57	18.29	08.06 (BAP11)	20.01	20.32
16	07.45	07.17	06.35	07.19 (BAP11)	06.45	06.07
	17.21	17.59	18.30	08.05 (BAP11)	20.02	20.33
17	07.44	07.16	06.33	07.20 (BAP11)	06.43	06.06
	17.22	18.00	18.31	08.05 (BAP11)	20.03	20.34
18	07.44	07.14	06.32	07.20 (BAP11)	06.42	06.05
	17.24	18.01	18.32	08.03 (BAP11)	20.04	20.35
19	07.43	07.13	06.30	07.21 (BAP11)	06.40	06.04
	17.25	18.02	18.33	08.01 (BAP11)	20.06	20.36
20	07.43	07.12	06.28	07.22 (BAP11)	06.39	06.03
	17.26	18.03	18.34	08.01 (BAP11)	20.07	20.37
21	07.42	07.10	06.27	07.23 (BAP11)	06.37	06.02
	17.27	18.04	18.35	07.59 (BAP11)	20.08	20.38
22	07.42	07.09	06.25	07.23 (BAP11)	06.36	06.02
	17.28	18.06	18.36	07.56 (BAP11)	20.09	20.39
23	07.41	07.07	06.23	07.25 (BAP11)	06.34	06.01
	17.29	18.07	18.38	07.55 (BAP11)	20.10	20.39
24	07.40	07.06	06.22	07.27 (BAP11)	06.33	06.00
	17.31	18.08	18.39	07.52 (BAP11)	20.11	20.40
25	07.40	07.04	06.20	07.29 (BAP11)	06.32	06.50 (BAP10)
	17.32	18.09	18.40	07.48 (BAP11)	20.12	20.41
26	07.39	07.03	06.18	07.34 (BAP11)	06.30	06.49 (BAP10)
	17.33	18.10	18.41	07.44 (BAP11)	20.13	20.42
27	07.38	07.02	06.17	07.30 (BAP11)	06.29	06.48 (BAP10)
	17.34	18.11	18.42	08.02 (BAP11)	20.14	20.43
28	07.37	07.00	06.15	07.29 (BAP11)	06.28	06.47 (BAP10)
	17.35	18.13	18.43	08.04 (BAP11)	20.15	20.44
29	07.36		06.14	07.28 (BAP11)	06.26	06.45 (BAP10)
	17.37		18.44	08.04 (BAP11)	20.16	20.44
30	07.36		06.12	07.28 (BAP11)	06.25	06.44 (BAP10)
	17.38		19.45	08.04 (BAP11)	20.17	20.45
31	07.35		06.10			06.43 (BAP10)
	17.39		19.46			06.42 (BAP10)
Potential sun hours	299	298	370	398	447	450
Total, worst case		135	1051	238	1541	1094

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F137 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (292)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

July	August	September	October	November	December	
1 05.56	06.48 (BAP10) 06.19	06.43 (BAP10) 06.49	07.19	07.58 (BAP11) 06.52	07.26	
20.58	37 07.25 (BAP10) 20.39	54 07.37 (BAP10) 19.57	19.07	49 08.47 (BAP11) 17.21	16.57	
2 05.56	06.49 (BAP10) 06.20	06.44 (BAP10) 06.50	07.20	49 07.59 (BAP11) 06.53	07.27	
20.58	37 07.26 (BAP10) 20.38	52 07.36 (BAP10) 19.55	19.05	48 08.47 (BAP11) 17.20	16.57	
3 05.57	06.48 (BAP10) 06.21	06.44 (BAP10) 06.51	07.21	48 07.58 (BAP11) 06.54	07.28	
20.57	38 07.26 (BAP10) 20.37	52 07.36 (BAP10) 19.54	19.04	49 08.47 (BAP11) 17.19	16.57	
4 05.58	06.48 (BAP10) 06.22	06.44 (BAP10) 06.52	07.22	49 07.58 (BAP11) 06.56	07.29	
20.57	39 07.27 (BAP10) 20.36	52 07.36 (BAP10) 19.52	19.02	49 08.47 (BAP11) 17.18	16.57	
5 05.58	06.48 (BAP10) 06.23	06.45 (BAP10) 06.53	07.23	48 07.58 (BAP11) 06.57	07.30	
20.57	39 07.27 (BAP10) 20.35	51 07.36 (BAP10) 19.50	19.00	48 08.46 (BAP11) 17.16	16.57	
6 05.59	06.48 (BAP10) 06.24	06.46 (BAP10) 06.54	07.24	48 07.58 (BAP11) 06.58	07.31	
20.57	40 07.28 (BAP10) 20.34	50 07.36 (BAP10) 19.49	18.59	48 08.46 (BAP11) 17.15	16.56	
7 05.59	06.48 (BAP10) 06.25	06.47 (BAP10) 06.55	07.25	48 07.58 (BAP11) 06.59	07.32	
20.56	41 07.29 (BAP10) 20.32	48 07.35 (BAP10) 19.47	18.57	47 08.45 (BAP11) 17.14	16.56	
8 06.00	06.47 (BAP10) 06.26	06.48 (BAP10) 06.56	07.26	47 07.58 (BAP11) 07.00	07.33	
20.56	42 07.29 (BAP10) 20.31	47 07.35 (BAP10) 19.45	18.56	46 08.44 (BAP11) 17.13	16.56	
9 06.01	06.47 (BAP10) 06.27	06.49 (BAP10) 06.57	07.27	46 07.59 (BAP11) 07.01	07.34	
20.56	43 07.30 (BAP10) 20.30	45 07.34 (BAP10) 19.44	18.54	44 08.43 (BAP11) 17.12	16.56	
10 06.01	06.47 (BAP10) 06.28	06.50 (BAP10) 06.58	07.28	44 07.59 (BAP11) 07.03	07.35	
20.55	43 07.30 (BAP10) 20.29	44 07.34 (BAP10) 19.42	18.52	43 08.42 (BAP11) 17.11	16.56	
11 06.02	06.47 (BAP10) 06.29	06.51 (BAP10) 06.59	07.29	43 08.00 (BAP11) 07.04	07.36	
20.55	43 07.30 (BAP10) 20.27	42 07.33 (BAP10) 19.40	18.51	41 08.41 (BAP11) 17.10	16.56	
12 06.03	06.47 (BAP10) 06.30	06.51 (BAP10) 07.00	07.30	41 08.00 (BAP11) 07.05	07.36	
20.55	44 07.31 (BAP10) 20.26	40 07.31 (BAP10) 19.39	18.49	39 08.39 (BAP11) 17.09	16.57	
13 06.03	06.47 (BAP10) 06.31	06.52 (BAP10) 07.01	07.31	39 08.01 (BAP11) 07.06	07.37	
20.54	45 07.32 (BAP10) 20.25	38 07.30 (BAP10) 19.37	18.48	37 08.38 (BAP11) 17.08	16.57	
14 06.04	06.46 (BAP10) 06.32	06.53 (BAP10) 07.02	07.32	37 08.02 (BAP11) 07.07	07.38	
20.54	46 07.32 (BAP10) 20.23	36 07.29 (BAP10) 19.35	18.46	34 08.36 (BAP11) 17.07	16.57	
15 06.05	06.46 (BAP10) 06.33	06.54 (BAP10) 07.03	07.33	34 08.04 (BAP11) 07.08	07.39	
20.53	47 07.33 (BAP10) 20.22	33 07.27 (BAP10) 19.34	18.45	30 08.34 (BAP11) 17.07	16.57	
16 06.06	06.46 (BAP10) 06.34	06.55 (BAP10) 07.04	07.34	30 08.05 (BAP11) 07.10	07.39	
20.52	47 07.33 (BAP10) 20.21	31 07.26 (BAP10) 19.32	18.43	27 08.32 (BAP11) 17.06	16.57	
17 06.06	06.46 (BAP10) 06.35	06.56 (BAP10) 07.05	07.35	27 08.09 (BAP11) 07.11	07.40	
20.52	48 07.34 (BAP10) 20.19	28 07.24 (BAP10) 19.30	7 08.24 (BAP11) 18.42	21 08.30 (BAP11) 17.05	16.58	
18 06.07	06.45 (BAP10) 06.36	06.57 (BAP10) 07.06	07.36	21 08.18 (BAP11) 07.12	07.41	
20.51	49 07.34 (BAP10) 20.18	25 07.22 (BAP10) 19.29	18 08.36 (BAP11) 18.40	13 08.25 (BAP11) 17.04	16.58	
19 06.08	06.45 (BAP10) 06.37	06.58 (BAP10) 07.07	07.37	13 08.15 (BAP11) 07.13	07.41	
20.51	49 07.34 (BAP10) 20.17	21 07.19 (BAP10) 19.27	24 08.39 (BAP11) 18.39	17.04	16.58	
20 06.09	06.45 (BAP10) 06.38	07.00 (BAP10) 07.08	07.39	07.14	07.42	
20.50	50 07.35 (BAP10) 20.15	16 07.16 (BAP10) 19.25	29 08.12 (BAP11) 07.39	17.14	07.42	
21 06.10	06.45 (BAP10) 06.39	07.09	29 08.41 (BAP11) 18.37	17.03	16.59	
20.49	50 07.35 (BAP10) 20.14	19.24	32 08.10 (BAP11) 07.40	17.15	07.43	
22 06.10	06.45 (BAP10) 06.40	07.10	32 08.42 (BAP11) 18.36	17.02	16.59	
20.48	51 07.36 (BAP10) 20.12	19.22	36 08.08 (BAP11) 07.41	17.16	07.43	
23 06.11	06.44 (BAP10) 06.41	07.11	36 08.44 (BAP11) 18.34	17.02	17.00	
20.48	51 07.35 (BAP10) 20.11	19.20	38 08.07 (BAP11) 07.42	17.18	07.44	
24 06.12	06.44 (BAP10) 06.42	07.12	38 08.45 (BAP11) 18.33	17.01	17.00	
20.47	52 07.36 (BAP10) 20.09	19.19	41 08.05 (BAP11) 07.43	17.19	07.44	
25 06.13	06.44 (BAP10) 06.43	07.13	41 08.46 (BAP11) 18.32	17.00	17.01	
20.46	52 07.36 (BAP10) 20.08	19.17	42 08.04 (BAP11) 06.44	17.20	07.44	
26 06.14	06.44 (BAP10) 06.44	07.14	42 08.46 (BAP11) 17.30	17.00	17.01	
20.45	53 07.37 (BAP10) 20.06	19.15	44 08.03 (BAP11) 06.45	17.21	07.45	
27 06.15	06.44 (BAP10) 06.45	07.15	44 08.47 (BAP11) 17.29	16.59	17.02	
20.44	53 07.37 (BAP10) 20.05	19.14	45 08.02 (BAP11) 06.46	17.22	07.45	
28 06.16	06.44 (BAP10) 06.46	07.16	45 08.47 (BAP11) 17.28	16.59	17.03	
20.43	53 07.37 (BAP10) 20.03	19.12	46 08.00 (BAP11) 06.47	17.23	07.46	
29 06.17	06.44 (BAP10) 06.47	07.17	46 08.46 (BAP11) 17.26	16.58	17.03	
20.42	53 07.37 (BAP10) 20.02	19.10	48 07.59 (BAP11) 06.49	17.24	07.46	
30 06.18	06.44 (BAP10) 06.48	07.18	48 08.47 (BAP11) 17.25	16.58	17.04	
20.41	53 07.37 (BAP10) 20.00	19.09	48 07.59 (BAP11) 06.50	17.25	07.46	
31 06.19	06.43 (BAP10) 06.49	07.19	48 08.47 (BAP11) 17.24	16.58	17.05	
20.40	54 07.37 (BAP10) 19.58	07.19	06.51	17.05	07.46	
Potential sun hours	457	427	375	346	299	290
Total, worst case	1442	805	498	713		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F138 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (255)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47	07.34	06.59	07.09	07.40 (BAP11)	06.24
	17.07	17.40	18.14	19.47	34 08.14 (BAP11)	20.18
2	07.47	07.33	06.57	07.07	07.40 (BAP11)	06.22
	17.07	17.42	18.15	19.48	33 08.13 (BAP11)	20.19
3	07.47	07.32	07.52 (16)	07.05	07.41 (BAP11)	06.21
	17.08	17.43	2 07.54 (16)	19.49	31 08.12 (BAP11)	20.20
4	07.47	07.31	07.51 (16)	07.04	07.42 (BAP11)	06.20
	17.09	17.44	4 07.55 (16)	19.50	28 08.10 (BAP11)	20.21
5	07.47	07.30	07.49 (16)	07.02	07.43 (BAP11)	06.19
	17.10	17.45	6 07.55 (16)	19.51	25 08.08 (BAP11)	20.22
6	07.47	07.29	07.48 (16)	07.01	07.45 (BAP11)	06.17
	17.11	17.46	7 07.55 (16)	19.52	21 08.06 (BAP11)	20.23
7	07.47	07.28	07.47 (16)	06.59	07.47 (BAP11)	06.16
	17.12	17.48	8 07.55 (16)	19.53	15 08.02 (BAP11)	20.24
8	07.47	07.27	07.46 (16)	06.57	06.15	06.57 (BAP10)
	17.13	17.49	9 07.55 (16)	19.54	22 06.35 (BAP10)	20.21
9	07.47	07.25	07.45 (16)	06.56	06.14	06.39 (BAP10)
	17.14	17.50	10 07.55 (16)	19.55	24 06.34 (BAP10)	20.22
10	07.46	07.24	07.47 (16)	06.54	06.13	06.56 (BAP10)
	17.15	17.51	6 07.53 (16)	19.56	25 06.58 (BAP10)	20.23
11	07.46	07.23	06.43	06.53	06.12	06.37 (BAP10)
	17.16	17.53	18.25	19.57	26 06.32 (BAP10)	20.24
12	07.46	07.22	06.41	06.51	06.11	06.36 (BAP10)
	17.17	17.54	18.26	19.58	28 06.31 (BAP10)	20.25
13	07.46	07.21	06.40	06.49	06.10	06.59 (BAP10)
	17.18	17.55	18.27	19.59	29 06.30 (BAP10)	20.26
14	07.45	07.19	06.38	06.48	06.09	06.59 (BAP10)
	17.19	17.56	18.28	20.00	30 06.29 (BAP10)	20.27
15	07.45	07.18	06.37	06.46	06.08	06.59 (BAP10)
	17.20	17.57	18.29	20.01	31 06.28 (BAP10)	20.28
16	07.45	07.17	06.35	06.53 (BAP11)	06.45	06.59 (BAP10)
	17.21	17.59	18.30	19 07.12 (BAP11)	20.02	06.27 (BAP10)
17	07.44	07.16	06.33	06.52 (BAP11)	06.43	06.59 (BAP10)
	17.22	18.00	18.31	23 07.15 (BAP11)	20.03	06.26 (BAP10)
18	07.44	07.14	06.32	06.50 (BAP11)	06.42	06.59 (BAP10)
	17.24	18.01	18.32	26 07.16 (BAP11)	20.04	06.25 (BAP10)
19	07.43	07.13	06.30	06.48 (BAP11)	06.40	06.58 (BAP10)
	17.25	18.02	18.33	28 07.16 (BAP11)	20.06	06.24 (BAP10)
20	07.43	07.12	06.28	06.47 (BAP11)	06.39	06.58 (BAP10)
	17.26	18.03	18.34	31 07.18 (BAP11)	20.07	06.24 (BAP10)
21	07.42	07.10	06.27	06.45 (BAP11)	06.37	06.58 (BAP10)
	17.27	18.04	18.35	33 07.18 (BAP11)	20.08	06.23 (BAP10)
22	07.42	07.09	06.25	06.43 (BAP11)	06.36	06.58 (BAP10)
	17.28	18.06	18.36	35 07.18 (BAP11)	20.09	06.22 (BAP10)
23	07.41	07.07	06.23	06.42 (BAP11)	06.34	06.58 (BAP10)
	17.29	18.07	18.38	37 07.19 (BAP11)	20.10	06.21 (BAP10)
24	07.40	07.06	06.22	06.41 (BAP11)	06.33	06.58 (BAP10)
	17.31	18.08	18.39	38 07.19 (BAP11)	20.11	06.21 (BAP10)
25	07.40	07.04	06.20	06.40 (BAP11)	06.32	06.58 (BAP10)
	17.32	18.09	18.40	38 07.18 (BAP11)	20.12	06.21 (BAP10)
26	07.39	07.03	06.18	06.40 (BAP11)	06.30	06.58 (BAP10)
	17.33	18.10	18.41	39 07.19 (BAP11)	20.13	06.22 (BAP10)
27	07.38	07.02	06.17	06.39 (BAP11)	06.29	06.58 (BAP10)
	17.34	18.11	18.42	39 07.18 (BAP11)	20.14	06.22 (BAP10)
28	07.37	07.00	06.15	06.40 (BAP11)	06.28	06.58 (BAP10)
	17.35	18.13	18.43	38 07.18 (BAP11)	20.15	06.22 (BAP10)
29	07.36		07.14	07.39 (BAP11)	06.26	06.58 (BAP10)
	17.37		19.44	38 08.17 (BAP11)	20.16	06.23 (BAP10)
30	07.36		07.12	07.39 (BAP11)	06.25	06.58 (BAP10)
	17.38		19.45	37 08.16 (BAP11)	20.17	06.23 (BAP10)
31	07.35		07.10	07.40 (BAP11)		06.58 (BAP10)
	17.39		19.46	36 08.16 (BAP11)		06.24 (BAP10)
Potential sun hours	299	298	370	398	447	450
Total, worst case		52	550	191	865	585

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F138 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (255)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 20.58	06.36 (BAP10) 06.55 (BAP10)	06.19 20.39	06.41 (BAP10) 07.08 (BAP10)	06.49 19.57	07.19 19.07
2	05.57 20.58	06.35 (BAP10) 06.57 (BAP10)	06.20 20.38	06.42 (BAP10) 07.08 (BAP10)	06.50 19.55	07.20 19.05
3	05.57 20.57	06.35 (BAP10) 06.57 (BAP10)	06.21 20.37	06.43 (BAP10) 07.08 (BAP10)	06.51 19.54	07.21 19.04
4	05.58 20.57	06.34 (BAP10) 06.58 (BAP10)	06.22 20.36	06.44 (BAP10) 07.07 (BAP10)	06.52 19.52	07.22 19.02
5	05.58 20.57	06.34 (BAP10) 06.58 (BAP10)	06.23 20.35	06.45 (BAP10) 07.07 (BAP10)	06.53 19.50	07.23 19.00
6	05.59 20.57	06.34 (BAP10) 06.59 (BAP10)	06.24 20.34	06.46 (BAP10) 07.06 (BAP10)	06.54 19.49	07.24 18.59
7	05.59 20.56	06.34 (BAP10) 07.00 (BAP10)	06.25 20.32	06.47 (BAP10) 07.05 (BAP10)	06.55 19.47	07.25 18.57
8	06.00 20.56	06.33 (BAP10) 07.01 (BAP10)	06.26 20.31	06.48 (BAP10) 07.05 (BAP10)	06.56 19.45	07.26 18.56
9	06.01 20.56	06.33 (BAP10) 07.02 (BAP10)	06.27 20.30	06.49 (BAP10) 07.03 (BAP10)	06.57 19.44	07.27 18.54
10	06.01 20.55	06.33 (BAP10) 07.03 (BAP10)	06.28 20.29	06.50 (BAP10) 07.02 (BAP10)	06.58 19.42	07.28 18.52
11	06.02 20.55	06.32 (BAP10) 07.03 (BAP10)	06.29 20.27	06.51 (BAP10) 07.01 (BAP10)	06.59 19.40	07.29 18.51
12	06.03 20.55	06.32 (BAP10) 07.03 (BAP10)	06.30 20.26	06.51 (BAP10) 07.00 (BAP10)	07.00 19.39	07.30 18.49
13	06.03 20.54	06.32 (BAP10) 07.04 (BAP10)	06.31 20.25	06.52 (BAP10) 07.00 (BAP10)	07.01 19.37	07.31 18.48
14	06.04 20.54	06.31 (BAP10) 07.04 (BAP10)	06.32 20.23	07.02 (BAP10) 19.35	07.30 (BAP10) 18.46	07.32 17.07
15	06.05 20.53	06.31 (BAP10) 07.05 (BAP10)	06.33 20.22	07.03 (BAP10) 19.34	07.29 (BAP10) 18.45	07.33 17.07
16	06.06 20.52	06.31 (BAP10) 07.06 (BAP10)	06.34 20.21	07.04 (BAP10) 19.32	07.28 (BAP10) 18.43	07.34 17.06
17	06.06 20.52	06.31 (BAP10) 07.07 (BAP10)	06.35 20.19	07.05 (BAP10) 19.30	07.28 (BAP10) 18.42	07.35 17.11
18	06.07 20.51	06.30 (BAP10) 07.06 (BAP10)	06.36 20.18	07.06 (BAP10) 19.29	07.28 (BAP10) 18.40	07.36 17.04
19	06.08 20.51	06.30 (BAP10) 07.07 (BAP10)	06.37 20.17	07.07 (BAP10) 19.27	07.28 (BAP10) 18.39	07.37 17.04
20	06.09 20.50	06.31 (BAP10) 07.08 (BAP10)	06.38 20.15	07.08 (BAP10) 19.25	07.28 (BAP10) 18.37	07.39 17.03
21	06.10 20.49	06.32 (BAP10) 07.08 (BAP10)	06.39 20.14	07.09 (BAP10) 19.24	07.29 (BAP10) 18.36	07.40 17.02
22	06.10 20.48	06.33 (BAP10) 07.09 (BAP10)	06.40 20.12	07.10 (BAP10) 19.22	07.30 (BAP10) 18.34	07.41 17.02
23	06.11 20.48	06.33 (BAP10) 07.08 (BAP10)	06.41 20.11	07.11 (BAP10) 19.20	07.31 (BAP10) 18.33	07.42 17.01
24	06.12 20.47	06.34 (BAP10) 07.08 (BAP10)	06.42 20.09	07.12 (BAP10) 19.19	07.32 (BAP10) 18.32	07.43 17.00
25	06.13 20.46	06.35 (BAP10) 07.09 (BAP10)	06.43 20.08	07.13 (BAP10) 19.17	07.33 (BAP10) 18.30	07.44 17.00
26	06.14 20.45	06.36 (BAP10) 07.09 (BAP10)	06.44 20.06	07.14 (BAP10) 19.15	07.34 (BAP10) 18.29	07.45 16.59
27	06.15 20.44	06.37 (BAP10) 07.09 (BAP10)	06.45 20.05	07.15 (BAP10) 19.14	07.35 (BAP10) 18.28	07.46 16.59
28	06.16 20.43	06.38 (BAP10) 07.09 (BAP10)	06.46 20.03	07.16 (BAP10) 19.12	07.36 (BAP10) 18.26	07.47 16.58
29	06.17 20.42	06.39 (BAP10) 07.09 (BAP10)	06.47 20.02	07.17 (BAP10) 19.10	07.38 (BAP10) 18.25	07.49 16.58
30	06.18 20.41	06.40 (BAP10) 07.09 (BAP10)	06.48 20.00	07.18 (BAP10) 19.09	07.47 (BAP10) 18.24	07.50 16.58
31	06.19 20.40	06.40 (BAP10) 07.08 (BAP10)	06.49 19.58		06.51 17.22	07.51 16.58
Potential sun hours	457	427	375	346	299	290
Total, worst case	947	224	752		53	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F151 - Vedetta antincendio

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07.47 17.07	07.34 17.40	06.58 18.14	10.57 (BAP11) 07.09	11.08 (BAP11) 06.24	10.51 (BAP11) 05.55
2	07.47 17.07	07.33 17.42	06.57 18.15	10.55 (BAP11) 07.07	11.07 (BAP11) 06.22	10.50 (BAP11) 05.55
3	07.47 17.08	07.32 17.43	06.55 18.16	10.52 (BAP11) 07.05	11.06 (BAP11) 06.21	10.50 (BAP11) 05.55
4	07.47 17.09	07.31 17.44	06.54 18.17	10.50 (BAP11) 07.04	11.05 (BAP11) 06.20	10.50 (BAP11) 05.54
5	07.47 17.10	07.30 17.45	06.52 18.18	10.48 (BAP11) 07.02	11.04 (BAP11) 06.19	10.50 (BAP11) 05.54
6	07.47 17.11	07.29 17.46	06.51 18.19	10.46 (BAP11) 07.00	11.04 (BAP11) 06.17	10.50 (BAP11) 05.53
7	07.47 17.12	07.28 17.48	06.49 18.20	10.44 (BAP11) 06.59	11.02 (BAP11) 06.16	10.50 (BAP11) 05.53
8	07.47 17.13	07.27 17.49	06.48 18.21	10.42 (BAP11) 06.57	11.02 (BAP11) 06.15	10.50 (BAP11) 05.53
9	07.47 17.14	07.25 17.50	06.46 18.23	10.40 (BAP11) 06.56	11.01 (BAP11) 06.14	10.50 (BAP11) 05.53
10	07.46 17.15	07.24 17.51	06.45 18.24	10.38 (BAP11) 06.54	11.00 (BAP11) 06.13	10.49 (BAP11) 05.53
11	07.46 17.16	07.23 17.53	06.43 18.25	10.37 (BAP11) 06.53	10.99 (BAP11) 06.12	10.48 (BAP11) 05.52
12	07.46 17.17	07.22 17.54	06.41 18.26	10.35 (BAP11) 06.51	10.98 (BAP11) 06.11	10.48 (BAP11) 05.52
13	07.46 17.18	07.21 17.55	06.40 18.27	10.33 (BAP11) 06.49	10.97 (BAP11) 06.10	10.48 (BAP11) 05.52
14	07.45 17.19	07.19 17.56	06.38 18.28	10.32 (BAP11) 06.48	10.96 (BAP11) 06.09	10.48 (BAP11) 05.52
15	07.45 17.20	07.18 17.57	06.36 18.29	10.30 (BAP11) 06.46	10.95 (BAP11) 06.08	10.48 (BAP11) 05.52
16	07.45 17.21	07.17 17.59	06.35 18.30	10.28 (BAP11) 06.45	10.94 (BAP11) 06.07	10.48 (BAP11) 05.52
17	07.44 17.22	07.16 18.00	06.33 18.31	10.27 (BAP11) 06.43	10.93 (BAP11) 06.06	10.48 (BAP11) 05.52
18	07.44 17.23	07.14 18.01	06.32 18.32	10.25 (BAP11) 06.42	10.92 (BAP11) 06.05	10.48 (BAP11) 05.52
19	07.43 17.24	07.13 18.02	06.30 18.33	10.23 (BAP11) 06.40	10.91 (BAP11) 06.04	10.48 (BAP11) 05.52
20	07.43 17.25	07.11 18.03	06.28 18.34	10.22 (BAP11) 06.39	10.90 (BAP11) 06.03	10.48 (BAP11) 05.52
21	07.42 17.26	07.10 18.04	06.27 18.35	10.21 (BAP11) 06.37	10.89 (BAP11) 06.02	10.48 (BAP11) 05.52
22	07.41 17.27	07.09 18.05	06.25 18.36	10.20 (BAP11) 06.36	10.88 (BAP11) 06.01	10.48 (BAP11) 05.52
23	07.41 17.28	07.07 18.06	06.23 18.37	10.19 (BAP11) 06.34	10.87 (BAP11) 06.00	10.48 (BAP11) 05.52
24	07.40 17.29	07.06 18.07	06.22 18.38	10.18 (BAP11) 06.33	10.86 (BAP11) 05.99	10.48 (BAP11) 05.52
25	07.39 17.30	07.04 18.08	06.20 18.39	10.17 (BAP11) 06.32	10.85 (BAP11) 05.98	10.48 (BAP11) 05.52
26	07.39 17.31	07.03 18.09	06.18 18.40	10.16 (BAP11) 06.30	10.84 (BAP11) 05.97	10.48 (BAP11) 05.52
27	07.38 17.32	07.01 18.10	06.17 18.41	10.15 (BAP11) 06.29	10.83 (BAP11) 05.96	10.48 (BAP11) 05.52
28	07.37 17.33	07.00 18.11	06.15 18.42	10.14 (BAP11) 06.28	10.82 (BAP11) 05.95	10.48 (BAP11) 05.52
29	07.36 17.34	06.59 18.12	06.13 18.43	10.13 (BAP11) 06.27	10.81 (BAP11) 05.94	10.48 (BAP11) 05.52
30	07.35 17.35	06.58 18.13	06.11 18.44	10.12 (BAP11) 06.26	10.80 (BAP11) 05.93	10.48 (BAP11) 05.52
31	07.35 17.36	06.57 18.14	06.10 18.45	10.11 (BAP11) 06.25	10.79 (BAP11) 05.92	10.48 (BAP11) 05.52
Potential sun hours	299	298	370	398	447	450
Total, worst case		1151		5470	6668	7060

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulativo Shadow receptor: F151 - Vedetta antincendio

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05.56 20.58	11.00 (BAP11) 20.32 (BAP08)	06.19 20.39	11.00 (BAP11) 19.57	06.49 19.57	10.58 (BAP11) 19.07
2	05.56 20.57	11.00 (BAP11) 20.33 (BAP08)	06.20 20.38	11.00 (BAP11) 19.55	06.50 19.55	10.59 (BAP11) 19.05
3	05.57 20.57	11.00 (BAP11) 20.32 (BAP08)	06.21 20.37	11.00 (BAP11) 19.54	06.51 19.54	10.59 (BAP11) 19.04
4	05.58 20.57	11.01 (BAP11) 20.32 (BAP08)	06.22 20.36	11.00 (BAP11) 19.52	06.52 19.52	10.59 (BAP11) 19.02
5	05.58 20.57	11.00 (BAP11) 20.31 (BAP08)	06.23 20.35	11.00 (BAP11) 19.50	06.53 19.50	10.59 (BAP11) 19.00
6	05.59 20.57	11.01 (BAP11) 20.32 (BAP08)	06.24 20.34	11.00 (BAP11) 19.49	06.54 19.49	11.00 (BAP11) 18.59
7	05.59 20.56	11.01 (BAP11) 14.45 (BAP11)	06.25 20.32	11.00 (BAP11) 19.47	06.55 19.47	11.00 (BAP11) 18.57
8	06.00 20.56	11.01 (BAP11) 14.44 (BAP11)	06.26 20.31	10.59 (BAP11) 19.45	06.56 19.45	10.59 (BAP11) 18.56
9	06.00 20.56	11.01 (BAP11) 14.45 (BAP11)	06.27 20.30	10.59 (BAP11) 19.44	06.57 19.44	10.59 (BAP11) 18.54
10	06.01 20.55	11.00 (BAP11) 14.44 (BAP11)	06.28 20.29	10.59 (BAP11) 19.42	06.58 19.42	11.00 (BAP11) 18.52
11	06.02 20.55	11.01 (BAP11) 14.45 (BAP11)	06.29 20.27	10.58 (BAP11) 19.40	06.59 19.40	11.00 (BAP11) 18.51
12	06.03 20.55	11.01 (BAP11) 14.46 (BAP11)	06.30 20.26	10.58 (BAP11) 19.39	07.00 19.39	11.01 (BAP11) 18.49
13	06.03 20.54	11.01 (BAP11) 14.46 (BAP11)	06.31 20.25	10.58 (BAP11) 19.37	07.01 19.37	11.01 (BAP11) 18.48
14	06.04 20.54	11.01 (BAP11) 14.46 (BAP11)	06.32 20.23	10.58 (BAP11) 19.35	07.02 19.35	11.01 (BAP11) 18.46
15	06.05 20.53	11.01 (BAP11) 14.46 (BAP11)	06.33 20.22	10.58 (BAP11) 19.34	07.03 19.34	11.02 (BAP11) 18.45
16	06.06 20.52	11.01 (BAP11) 14.47 (BAP11)	06.34 20.21	10.58 (BAP11) 19.32	07.04 19.32	11.02 (BAP11) 18.43
17	06.06 20.52	11.01 (BAP11) 14.47 (BAP11)	06.35 20.19	10.58 (BAP11) 19.30	07.05 19.30	11.03 (BAP11) 18.42
18	06.07 20.51	11.01 (BAP11) 14.47 (BAP11)	06.36 20.18	10.58 (BAP11) 19.29	07.06 19.29	11.03 (BAP11) 18.40
19	06.08 20.50	11.01 (BAP11) 14.47 (BAP11)	06.37 20.16	10.58 (BAP11) 19.27	07.07 19.27	11.04 (BAP11) 18.39
20	06.09 20.50	11.01 (BAP11) 14.48 (BAP11)	06.38 20.15	10.58 (BAP11) 19.25	07.08 19.25	11.05 (BAP11) 18.37
21	06.10 20.49	11.01 (BAP11) 14.48 (BAP11)	06.39 20.14	10.58 (BAP11) 19.24	07.09 19.24	11.05 (BAP11) 18.36
22	06.10 20.48	11.01 (BAP11) 14.48 (BAP11)	06.40 20.12	10.58 (BAP11) 19.22	07.10 19.22	11.06 (BAP11) 18.34
23	06.11 20.47	11.00 (BAP11) 14.48 (BAP11)	06.41 20.11	10.58 (BAP11) 19.20	07.11 19.20	11.07 (BAP11) 18.33
24	06.12 20.47	11.00 (BAP11) 14.48 (BAP11)	06.42 20.09	10.59 (BAP11) 19.19	07.12 19.19	11.07 (BAP11) 18.32
25	06.13 20.46	11.00 (BAP11) 14.48 (BAP11)	06.43 20.08	10.59 (BAP11) 19.17	07.13 19.17	11.08 (BAP11) 18.30
26	06.14 20.45	11.00 (BAP11) 14.49 (BAP11)	06.44 20.06	10.58 (BAP11) 19.15	07.14 19.15	11.08 (BAP11) 18.29
27	06.15 20.44	11.01 (BAP11) 14.49 (BAP11)	06.45 20.05	10.58 (BAP11) 19.14	07.15 19.14	11.09 (BAP11) 18.27
28	06.16 20.43	11.01 (BAP11) 14.49 (BAP11)	06.46 20.03	10.58 (BAP11) 19.12	07.16 19.12	11.10 (BAP11) 18.26
29	06.17 20.42	11.01 (BAP11) 14.49 (BAP11)	06.47 20.01	10.58 (BAP11) 19.10	07.17 19.10	11.11 (BAP11) 18.25
30	06.18 20.41	11.00 (BAP11) 14.48 (BAP11)	06.47 20.00	10.58 (BAP11) 19.09	07.18 19.09	11.12 (BAP11) 18.24
31	06.18 20.40	11.00 (BAP11) 14.49 (BAP11)	06.48 19.58	10.58 (BAP11) 19.09	07.19 19.09	11.12 (BAP11) 18.24
Potential sun hours	457	427	375	346	299	290
Total, worst case	7008	7055	6036	3086		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
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SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F153 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (294)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

January	February	March	April	May	June
1 07.47 10.36 (BAP11) 07.34 06.58 08.43 (BAP10) 07.09 08.56 (BAP10) 06.24 08.40 (BAP10) 05.55 08.44 (BAP10)					
17.07 61 11.37 (BAP11) 17.40 18.14 120 10.43 (BAP10) 19.47 206 12.22 (BAP10) 20.18 237 19.48 (BAP08) 20.47 156 11.20 (BAP10)					
2 07.47 10.36 (BAP11) 07.33 06.57 08.41 (BAP10) 07.07 08.54 (BAP10) 06.22 08.39 (BAP10) 05.55 08.44 (BAP10)					
17.07 61 11.37 (BAP11) 17.42 18.15 125 10.46 (BAP10) 19.48 208 12.22 (BAP10) 20.19 235 19.47 (BAP08) 20.48 155 11.19 (BAP10)					
3 07.47 10.37 (BAP11) 07.32 06.55 08.38 (BAP10) 07.05 08.54 (BAP10) 06.21 08.39 (BAP10) 05.55 08.44 (BAP10)					
17.08 60 11.37 (BAP11) 17.43 18.16 130 10.48 (BAP10) 19.49 209 12.23 (BAP10) 20.20 231 19.46 (BAP08) 20.48 155 11.19 (BAP10)					
4 07.47 10.38 (BAP11) 07.31 06.54 08.37 (BAP10) 07.04 08.53 (BAP10) 06.20 08.39 (BAP10) 05.54 08.45 (BAP10)					
17.09 59 11.37 (BAP11) 17.44 18.17 133 10.50 (BAP10) 19.50 210 12.23 (BAP10) 20.21 228 19.45 (BAP08) 20.49 154 11.19 (BAP10)					
5 07.47 10.39 (BAP11) 07.30 06.52 08.34 (BAP10) 07.02 08.52 (BAP10) 06.19 08.40 (BAP10) 05.54 08.44 (BAP10)					
17.10 58 11.37 (BAP11) 17.45 18.18 138 10.52 (BAP10) 19.51 210 12.22 (BAP10) 20.22 223 19.44 (BAP08) 20.50 154 11.18 (BAP10)					
6 07.47 10.40 (BAP11) 07.29 06.51 08.33 (BAP10) 07.00 08.51 (BAP10) 06.17 08.40 (BAP10) 05.53 08.45 (BAP10)					
17.11 57 11.37 (BAP11) 17.46 18.19 142 10.55 (BAP10) 19.52 212 12.23 (BAP10) 20.23 219 19.43 (BAP08) 20.50 153 11.18 (BAP10)					
7 07.47 10.41 (BAP11) 07.28 06.49 08.30 (BAP10) 06.59 08.50 (BAP10) 06.16 08.40 (BAP10) 05.53 08.45 (BAP10)					
17.12 55 11.36 (BAP11) 17.48 18.20 146 10.56 (BAP10) 19.53 220 19.32 (BAP08) 20.24 215 19.42 (BAP08) 20.51 153 11.18 (BAP10)					
8 07.47 10.42 (BAP11) 07.27 06.48 08.28 (BAP10) 06.57 08.50 (BAP10) 06.15 08.40 (BAP10) 05.53 08.46 (BAP10)					
17.13 53 11.35 (BAP11) 17.49 18.21 149 10.57 (BAP10) 19.54 225 19.33 (BAP08) 20.25 211 19.41 (BAP08) 20.51 152 11.18 (BAP10)					
9 07.47 10.43 (BAP11) 07.25 06.46 08.27 (BAP10) 06.56 08.49 (BAP10) 06.14 08.40 (BAP10) 05.53 08.45 (BAP10)					
17.14 52 11.35 (BAP11) 17.50 18.23 153 11.00 (BAP10) 19.55 230 19.34 (BAP08) 20.26 206 19.39 (BAP08) 20.52 152 11.17 (BAP10)					
10 07.46 10.45 (BAP11) 07.24 06.45 08.25 (BAP10) 06.54 08.48 (BAP10) 06.13 08.39 (BAP10) 05.53 08.46 (BAP10)					
17.15 49 11.34 (BAP11) 17.51 18.24 156 11.01 (BAP10) 19.56 233 19.34 (BAP08) 20.27 201 19.36 (BAP08) 20.53 151 11.17 (BAP10)					
11 07.46 10.46 (BAP11) 07.23 06.43 08.23 (BAP10) 06.53 08.48 (BAP10) 06.12 08.39 (BAP10) 05.52 08.46 (BAP10)					
17.16 48 11.34 (BAP11) 17.53 18.25 160 11.03 (BAP10) 19.57 237 19.36 (BAP08) 20.28 195 19.34 (BAP08) 20.53 151 11.17 (BAP10)					
12 07.46 10.47 (BAP11) 07.22 06.41 08.21 (BAP10) 06.51 08.47 (BAP10) 06.11 08.39 (BAP10) 05.52 08.47 (BAP10)					
17.17 45 11.32 (BAP11) 17.54 18.26 163 11.04 (BAP10) 19.58 239 19.36 (BAP08) 20.29 187 19.30 (BAP08) 20.54 150 11.17 (BAP10)					
13 07.46 10.49 (BAP11) 07.21 06.40 08.19 (BAP10) 06.49 08.47 (BAP10) 06.10 08.40 (BAP10) 05.52 08.47 (BAP10)					
17.18 42 11.31 (BAP11) 17.55 18.27 166 11.05 (BAP10) 19.59 242 19.38 (BAP08) 20.30 175 11.35 (BAP10) 20.54 150 11.17 (BAP10)					
14 07.45 10.50 (BAP11) 07.19 06.38 08.18 (BAP10) 06.48 08.46 (BAP10) 06.09 08.40 (BAP10) 05.52 08.47 (BAP10)					
17.19 39 11.29 (BAP11) 17.56 18.28 169 11.07 (BAP10) 20.00 244 19.38 (BAP08) 20.31 174 11.34 (BAP10) 20.55 150 11.17 (BAP10)					
15 07.45 10.53 (BAP11) 07.18 06.36 08.16 (BAP10) 06.46 08.45 (BAP10) 06.08 08.40 (BAP10) 05.52 08.47 (BAP10)					
17.20 35 11.28 (BAP11) 17.57 18.29 172 11.08 (BAP10) 20.01 248 19.40 (BAP08) 20.32 173 11.33 (BAP10) 20.55 150 11.17 (BAP10)					
16 07.45 10.55 (BAP11) 07.17 06.35 08.15 (BAP10) 06.45 08.44 (BAP10) 06.07 08.40 (BAP10) 05.52 08.48 (BAP10)					
17.21 32 11.27 (BAP11) 17.59 18.30 174 11.09 (BAP10) 20.02 249 19.40 (BAP08) 20.33 171 11.31 (BAP10) 20.55 149 11.17 (BAP10)					
17 07.44 10.58 (BAP11) 07.16 09.40 (BAP10) 06.33 08.14 (BAP10) 06.43 08.44 (BAP10) 06.06 08.40 (BAP10) 05.52 08.48 (BAP10)					
17.22 26 11.24 (BAP11) 18.00 6 09.46 (BAP10) 18.31 177 11.11 (BAP10) 20.03 250 19.42 (BAP08) 20.34 170 11.30 (BAP10) 20.56 149 11.17 (BAP10)					
18 07.44 11.02 (BAP11) 07.14 09.25 (BAP10) 06.32 08.12 (BAP10) 06.42 08.43 (BAP10) 06.05 08.40 (BAP10) 05.52 08.48 (BAP10)					
17.24 19 11.21 (BAP11) 18.01 35 10.00 (BAP10) 18.32 179 11.11 (BAP10) 20.04 251 19.42 (BAP08) 20.35 169 11.29 (BAP10) 20.56 149 11.17 (BAP10)					
19 07.43 11.09 (BAP11) 07.13 09.18 (BAP10) 06.30 08.10 (BAP10) 06.40 08.43 (BAP10) 06.04 08.40 (BAP10) 05.52 08.48 (BAP10)					
17.25 4 11.13 (BAP11) 18.02 50 10.08 (BAP10) 18.33 182 11.12 (BAP10) 20.05 253 19.44 (BAP08) 20.36 168 11.28 (BAP10) 20.56 149 11.17 (BAP10)					
20 07.43 11.11 18.03 50 09.13 (BAP10) 06.28 08.09 (BAP10) 06.39 08.42 (BAP10) 06.03 08.41 (BAP10) 05.52 08.49 (BAP10)					
17.26 17.26 18.03 61 10.14 (BAP10) 18.34 185 11.14 (BAP10) 20.07 253 19.44 (BAP08) 20.37 167 11.28 (BAP10) 20.57 149 11.18 (BAP10)					
21 07.42 17.27 18.04 70 10.18 (BAP10) 18.35 186 11.14 (BAP10) 20.08 253 19.45 (BAP08) 20.38 165 11.26 (BAP10) 20.57 149 11.18 (BAP10)					
22 07.42 17.28 18.06 79 10.23 (BAP10) 18.36 189 11.15 (BAP10) 20.09 252 19.47 (BAP08) 20.39 164 11.25 (BAP10) 20.57 149 11.18 (BAP10)					
23 07.41 17.29 18.07 86 10.26 (BAP10) 18.37 190 11.16 (BAP10) 20.10 251 19.47 (BAP08) 20.39 163 11.24 (BAP10) 20.57 149 11.18 (BAP10)					
24 07.40 17.31 18.08 93 10.30 (BAP10) 18.39 193 11.17 (BAP10) 20.11 252 19.49 (BAP08) 20.40 162 11.24 (BAP10) 20.57 149 11.19 (BAP10)					
25 07.39 17.32 18.09 99 10.32 (BAP10) 18.40 195 11.17 (BAP10) 20.12 251 19.49 (BAP08) 20.41 161 11.23 (BAP10) 20.58 149 11.19 (BAP10)					
26 07.39 17.33 18.10 105 10.36 (BAP10) 18.41 197 11.19 (BAP10) 20.13 249 19.50 (BAP08) 20.42 161 11.23 (BAP10) 20.58 149 11.19 (BAP10)					
27 07.38 17.34 18.11 110 10.38 (BAP10) 18.42 198 11.19 (BAP10) 20.14 248 19.50 (BAP08) 20.43 160 11.22 (BAP10) 20.58 150 11.20 (BAP10)					
28 07.37 17.35 18.12 115 10.41 (BAP10) 18.43 200 11.19 (BAP10) 20.15 245 19.49 (BAP08) 20.44 159 11.21 (BAP10) 20.58 150 11.20 (BAP10)					
29 07.36 17.37 18.13 119 10.44 (BAP10) 18.44 202 11.21 (BAP10) 20.16 243 19.49 (BAP08) 20.44 158 11.21 (BAP10) 20.58 150 11.20 (BAP10)					
30 07.36 17.38 18.14 123 10.47 (BAP10) 18.45 204 11.21 (BAP10) 20.17 240 19.49 (BAP08) 20.45 157 11.20 (BAP10) 20.58 150 11.21 (BAP10)					
31 07.35 17.39 18.15 127 10.50 (BAP10) 18.46 206 11.22 (BAP10) 20.18 237 19.49 (BAP08) 20.46 156 11.20 (BAP10) 20.58 150 11.21 (BAP10)					
Potential sun hours 299 298 300 300 300 300					
Total, worst case 855 909 967 1025 1083 1141					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F153 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (294)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	08.50 (BAP10) 06.19	08.50 (BAP10) 06.49	08.47 (BAP10) 07.19	08.59 (BAP10) 06.52	07.26
	20.58	151 11.21 (BAP10) 20.39	191 19.43 (BAP08) 19.57	237 19.35 (BAP08) 19.07	164 11.43 (BAP10) 17.21	16.57
2	05.56	08.51 (BAP10) 06.20	08.50 (BAP10) 06.50	08.47 (BAP10) 07.20	09.00 (BAP10) 06.53	07.27
	20.57	151 11.22 (BAP10) 20.38	197 19.45 (BAP08) 19.55	233 19.33 (BAP08) 19.05	161 11.41 (BAP10) 17.20	16.57
3	05.57	08.51 (BAP10) 06.21	08.50 (BAP10) 06.51	08.47 (BAP10) 07.21	09.01 (BAP10) 06.54	07.28
	20.57	151 11.22 (BAP10) 20.37	204 19.48 (BAP08) 19.54	230 19.32 (BAP08) 19.04	158 11.39 (BAP10) 17.19	16.57
4	05.57	08.51 (BAP10) 06.22	08.49 (BAP10) 06.52	08.47 (BAP10) 07.22	09.04 (BAP10) 06.56	07.29
	20.57	152 11.23 (BAP10) 20.36	208 19.49 (BAP08) 19.52	226 19.30 (BAP08) 19.02	154 11.38 (BAP10) 17.18	16.57
5	05.58	08.51 (BAP10) 06.23	08.49 (BAP10) 06.53	08.47 (BAP10) 07.23	09.05 (BAP10) 06.57	07.30
	20.57	152 11.23 (BAP10) 20.35	213 19.51 (BAP08) 19.50	220 19.29 (BAP08) 19.00	151 11.36 (BAP10) 17.16	16.57
6	05.59	08.51 (BAP10) 06.24	08.49 (BAP10) 06.54	08.47 (BAP10) 07.24	09.06 (BAP10) 06.58	07.31
	20.57	153 11.24 (BAP10) 20.34	217 19.52 (BAP08) 19.49	212 12.19 (BAP10) 18.59	148 11.34 (BAP10) 17.15	16.56
7	05.59	08.52 (BAP10) 06.25	08.49 (BAP10) 06.55	08.48 (BAP10) 07.25	09.07 (BAP10) 06.59	07.32
	20.56	153 11.25 (BAP10) 20.32	221 19.53 (BAP08) 19.47	211 12.19 (BAP10) 18.57	144 11.31 (BAP10) 17.14	16.56
8	06.00	08.51 (BAP10) 06.26	08.49 (BAP10) 06.56	08.47 (BAP10) 07.26	09.09 (BAP10) 07.00	07.33
	20.56	154 11.25 (BAP10) 20.31	224 19.54 (BAP08) 19.45	210 12.17 (BAP10) 18.56	140 11.29 (BAP10) 17.13	16.56
9	06.00	08.51 (BAP10) 06.27	08.49 (BAP10) 06.57	08.47 (BAP10) 07.27	09.10 (BAP10) 07.01	07.34
	20.56	155 11.26 (BAP10) 20.30	228 19.55 (BAP08) 19.44	209 12.16 (BAP10) 18.54	136 11.26 (BAP10) 17.12	16.56
10	06.01	08.51 (BAP10) 06.28	08.49 (BAP10) 06.58	08.47 (BAP10) 07.28	09.12 (BAP10) 07.03	07.35
	20.55	155 11.26 (BAP10) 20.29	231 19.56 (BAP08) 19.42	208 12.15 (BAP10) 18.52	132 11.24 (BAP10) 17.11	16.56
11	06.02	08.51 (BAP10) 06.29	08.48 (BAP10) 06.59	08.48 (BAP10) 07.29	09.13 (BAP10) 07.04	07.36
	20.55	156 11.27 (BAP10) 20.27	234 19.55 (BAP08) 19.40	206 12.14 (BAP10) 18.51	128 11.21 (BAP10) 17.10	16.56
12	06.03	08.52 (BAP10) 06.30	08.48 (BAP10) 07.00	08.48 (BAP10) 07.30	09.15 (BAP10) 07.05	07.36
	20.55	156 11.28 (BAP10) 20.26	238 19.56 (BAP08) 19.39	205 12.13 (BAP10) 18.49	123 11.18 (BAP10) 17.09	16.57
13	06.03	08.52 (BAP10) 06.31	08.48 (BAP10) 07.01	08.48 (BAP10) 07.31	09.17 (BAP10) 07.06	07.37
	20.54	157 11.29 (BAP10) 20.25	241 19.56 (BAP08) 19.37	204 12.12 (BAP10) 18.48	119 11.16 (BAP10) 17.08	16.57
14	06.04	08.51 (BAP10) 06.32	08.48 (BAP10) 07.02	08.49 (BAP10) 07.32	09.19 (BAP10) 07.07	07.38
	20.54	158 11.29 (BAP10) 20.23	243 19.57 (BAP08) 19.35	202 12.11 (BAP10) 18.46	114 11.13 (BAP10) 17.07	16.57
15	06.05	08.51 (BAP10) 06.33	08.48 (BAP10) 07.03	08.49 (BAP10) 07.33	09.21 (BAP10) 07.08	07.39
	20.53	159 11.30 (BAP10) 20.22	246 19.57 (BAP08) 19.34	201 12.10 (BAP10) 18.45	109 11.10 (BAP10) 17.07	16.57
16	06.06	08.52 (BAP10) 06.34	08.48 (BAP10) 07.04	08.50 (BAP10) 07.34	09.23 (BAP10) 07.10	07.39
	20.52	159 11.31 (BAP10) 20.21	248 19.57 (BAP08) 19.32	199 12.09 (BAP10) 18.43	103 11.06 (BAP10) 17.06	16.57
17	06.06	08.52 (BAP10) 06.35	08.48 (BAP10) 07.05	08.50 (BAP10) 07.35	09.27 (BAP10) 07.11	07.40
	20.52	160 11.32 (BAP10) 20.19	251 19.57 (BAP08) 19.30	197 12.07 (BAP10) 18.42	97 11.04 (BAP10) 17.05	16.58
18	06.07	08.51 (BAP10) 06.36	08.47 (BAP10) 07.06	08.51 (BAP10) 07.36	09.30 (BAP10) 07.12	07.41
	20.51	161 11.32 (BAP10) 20.18	251 19.55 (BAP08) 19.29	195 12.06 (BAP10) 18.40	90 11.00 (BAP10) 17.04	16.58
19	06.08	08.51 (BAP10) 06.37	08.47 (BAP10) 07.07	08.51 (BAP10) 07.37	09.33 (BAP10) 07.13	07.41
	20.50	162 11.33 (BAP10) 20.16	252 19.54 (BAP08) 19.27	194 12.05 (BAP10) 18.39	83 10.56 (BAP10) 17.03	16.58
20	06.09	08.51 (BAP10) 06.38	08.47 (BAP10) 07.08	08.52 (BAP10) 07.38	09.36 (BAP10) 07.14	07.42
	20.50	163 11.34 (BAP10) 20.15	253 19.53 (BAP08) 19.25	191 12.03 (BAP10) 18.37	76 10.52 (BAP10) 17.03	16.59
21	06.10	08.51 (BAP10) 06.39	08.47 (BAP10) 07.09	08.52 (BAP10) 07.40	09.40 (BAP10) 07.15	07.43
	20.49	164 11.35 (BAP10) 20.14	253 19.51 (BAP08) 19.24	190 12.02 (BAP10) 18.36	67 10.47 (BAP10) 17.02	16.59
22	06.10	08.51 (BAP10) 06.40	08.47 (BAP10) 07.10	08.53 (BAP10) 07.41	09.44 (BAP10) 07.16	07.43
	20.48	165 11.36 (BAP10) 20.12	253 19.50 (BAP08) 19.22	187 12.00 (BAP10) 18.34	58 10.42 (BAP10) 17.01	17.00
23	06.11	08.51 (BAP10) 06.41	08.47 (BAP10) 07.11	08.54 (BAP10) 07.42	09.49 (BAP10) 07.18	07.44
	20.47	165 11.36 (BAP10) 20.11	253 19.49 (BAP08) 19.20	185 11.59 (BAP10) 18.33	47 10.36 (BAP10) 17.01	17.00
24	06.12	08.51 (BAP10) 06.42	08.47 (BAP10) 07.12	08.54 (BAP10) 07.43	09.58 (BAP10) 07.19	07.44
	20.47	167 11.38 (BAP10) 20.09	252 19.47 (BAP08) 19.19	183 11.57 (BAP10) 18.32	30 10.28 (BAP10) 17.00	19 10.58 (BAP11) 17.01
25	06.13	08.51 (BAP10) 06.43	08.47 (BAP10) 07.13	08.55 (BAP10) 07.44	10.02 (BAP10) 07.20	07.44
	20.46	168 11.39 (BAP10) 20.08	251 19.46 (BAP08) 19.17	180 11.55 (BAP10) 17.30	26 11.02 (BAP11) 17.01	70 10.30 (BAP11) 17.01
26	06.14	08.51 (BAP10) 06.44	08.46 (BAP10) 07.14	08.55 (BAP10) 07.45	10.34 (BAP11) 07.45	07.45
	20.45	169 11.40 (BAP10) 20.06	249 19.43 (BAP08) 19.15	178 11.53 (BAP10) 17.29	16.59	31 11.05 (BAP11) 17.02
27	06.15	08.51 (BAP10) 06.45	08.46 (BAP10) 07.15	08.56 (BAP10) 07.46	10.32 (BAP11) 07.45	07.45
	20.44	170 11.41 (BAP10) 20.05	249 19.42 (BAP08) 19.14	175 11.51 (BAP10) 17.28	16.59	35 11.07 (BAP11) 17.03
28	06.16	08.51 (BAP10) 06.46	08.46 (BAP10) 07.16	08.56 (BAP10) 07.47	10.30 (BAP11) 07.46	07.46
	20.43	171 11.42 (BAP10) 20.03	248 19.41 (BAP08) 19.12	173 11.49 (BAP10) 17.26	16.58	39 11.09 (BAP11) 17.03
29	06.17	08.51 (BAP10) 06.47	08.46 (BAP10) 07.17	08.57 (BAP10) 07.49	10.29 (BAP11) 07.46	07.46
	20.42	173 11.44 (BAP10) 20.01	245 19.39 (BAP08) 19.10	170 11.47 (BAP10) 17.25	16.58	42 11.11 (BAP11) 17.04
30	06.18	08.50 (BAP10) 06.48	08.47 (BAP10) 07.18	08.58 (BAP10) 07.50	10.29 (BAP11) 07.46	07.46
	20.41	174 11.44 (BAP10) 20.00	242 19.38 (BAP08) 19.09	167 11.45 (BAP10) 17.24	16.58	45 11.14 (BAP11) 17.05
31	06.18	08.50 (BAP10) 06.48	08.47 (BAP10) 07.18	08.58 (BAP10) 07.50	10.29 (BAP11) 07.46	07.46
	20.40	175 11.45 (BAP10) 19.58	239 19.36 (BAP08) 19.08	167 11.45 (BAP10) 17.24	16.58	45 11.14 (BAP11) 17.05
Potential sun hours	457	427	375	346	299	290
Total, worst case	4979	7325	5978	2732	237	1988

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F154 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (256)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47 17.07	07.34 17.40	06.59 18.14	07.09	18.56 (BAP07) 06.24	05.55 05.56	05.56 06.19	06.49	19.02 (BAP07) 07.19	06.52 07.26	06.52 07.26	07.07
31	07.39 17.39	07.10 17.44	06.51 18.15	06.58	18.56 (BAP07) 06.24	05.57 05.56	05.57 06.19	06.49	19.02 (BAP07) 07.19	06.51 07.26	06.51 07.26	07.07
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case			211	318				8	529			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F158 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (257)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January		February		March		April		May		June	
1	07.47	08.13 (BAP02)	07.34	08.28 (BAP02)	06.59	07.23 (BAP01)	07.09	06.24	05.56		
	17.07	35 08.54 (BAP03)	17.40	17 08.45 (BAP02)	18.14	45 08.08 (BAP01)	19.47	20.18	20.47		
2	07.47	08.13 (BAP02)	07.33	08.31 (BAP02)	06.57	07.21 (BAP01)	07.07	06.22	05.55		
	17.08	30 08.52 (BAP03)	17.42	12 08.43 (BAP02)	18.15	47 08.08 (BAP01)	19.48	20.19	20.48		
3	07.47	08.13 (BAP02)	07.32		06.56	07.20 (BAP01)	07.06	06.21	05.55		
	17.08	29 08.42 (BAP02)	17.43		18.16	49 08.09 (BAP01)	19.49	20.20	20.48		
4	07.47	08.13 (BAP02)	07.31		06.54	07.20 (BAP01)	07.04	06.20	05.54		
	17.09	30 08.43 (BAP02)	17.44		18.17	50 08.10 (BAP01)	19.50	20.21	20.49		
5	07.47	08.13 (BAP02)	07.30		06.53	07.18 (BAP01)	07.02	06.19	05.54		
	17.10	30 08.43 (BAP02)	17.45		18.18	52 08.10 (BAP01)	19.51	20.22	20.50		
6	07.47	08.14 (BAP02)	07.29		06.51	07.18 (BAP01)	07.01	06.18	05.54		
	17.11	30 08.44 (BAP02)	17.47		18.19	52 08.10 (BAP01)	19.52	20.23	20.50		
7	07.47	08.14 (BAP02)	07.28		06.49	07.17 (BAP01)	06.59	06.16	05.53		
	17.12	31 08.45 (BAP02)	17.48		18.21	53 08.10 (BAP01)	19.53	20.24	20.51		
8	07.47	08.14 (BAP02)	07.27		06.48	07.17 (BAP01)	06.57	06.15	05.53		
	17.13	32 08.46 (BAP02)	17.49		18.22	54 08.11 (BAP01)	19.54	20.25	20.52		
9	07.47	08.14 (BAP02)	07.26		06.46	07.16 (BAP01)	06.56	06.14	05.53		
	17.14	32 08.46 (BAP02)	17.50		18.23	54 08.10 (BAP01)	19.55	20.26	20.52		
10	07.47	08.14 (BAP02)	07.24		06.45	07.15 (BAP01)	06.54	06.13	05.53		
	17.15	33 08.47 (BAP02)	17.51		18.24	55 08.10 (BAP01)	19.56	20.27	20.53		
11	07.46	08.14 (BAP02)	07.23		06.43	07.16 (BAP01)	06.53	06.12	05.53		
	17.16	34 08.48 (BAP02)	17.53		18.25	54 08.10 (BAP01)	19.57	20.28	20.53		
12	07.46	08.14 (BAP02)	07.22		06.42	07.15 (BAP01)	06.51	06.11	05.52		
	17.17	33 08.47 (BAP02)	17.54		18.26	54 08.09 (BAP01)	19.58	20.29	20.54		
13	07.46	08.15 (BAP02)	07.21		06.40	07.15 (BAP01)	06.50	06.10	05.52		
	17.18	33 08.48 (BAP02)	17.55		18.27	53 08.08 (BAP01)	20.00	20.30	20.54		
14	07.46	08.15 (BAP02)	07.20		06.38	06.57 (BAP05)	06.48	06.09	05.52		
	17.19	34 08.49 (BAP02)	17.56		18.28	57 08.08 (BAP01)	20.01	20.31	20.55		
15	07.45	08.15 (BAP02)	07.18		06.37	06.55 (BAP05)	06.47	06.08	05.52		
	17.20	34 08.49 (BAP02)	17.58		18.29	61 08.07 (BAP01)	20.02	20.32	20.55		
16	07.45	08.16 (BAP02)	07.17		06.35	06.54 (BAP05)	06.45	06.07	05.52		
	17.22	34 08.50 (BAP02)	17.59		18.30	63 08.07 (BAP01)	20.03	20.33	20.56		
17	07.44	08.15 (BAP02)	07.16		06.33	06.52 (BAP05)	06.43	06.06	05.52		
	17.23	35 08.50 (BAP02)	18.00		18.31	65 08.06 (BAP01)	20.04	20.34	20.56		
18	07.44	08.16 (BAP02)	07.14		06.32	06.50 (BAP05)	06.42	06.05	05.52		
	17.24	35 08.51 (BAP02)	18.01		18.32	66 08.05 (BAP01)	20.05	20.35	20.56		
19	07.43	08.16 (BAP02)	07.13		06.30	06.49 (BAP05)	06.40	06.04	05.53		
	17.25	35 08.51 (BAP02)	18.02		18.33	66 08.04 (BAP01)	20.06	20.36	20.57		
20	07.43	08.17 (BAP02)	07.12		06.29	06.47 (BAP05)	06.39	06.03	05.53		
	17.26	35 08.52 (BAP02)	18.03		18.35	66 08.02 (BAP01)	20.07	20.37	20.57		
21	07.42	08.17 (BAP02)	07.10		06.27	06.45 (BAP05)	06.38	06.03	05.53		
	17.27	34 08.51 (BAP02)	18.05		18.36	66 08.01 (BAP01)	20.08	20.38	20.57		
22	07.42	08.17 (BAP02)	07.09		06.25	06.44 (BAP05)	06.36	06.02	05.53		
	17.28	34 08.51 (BAP02)	18.06	16 07.54 (BAP01)	18.37	65 08.00 (BAP01)	20.09	20.39	20.57		
23	07.41	08.19 (BAP02)	07.08		06.24	06.42 (BAP05)	06.35	06.01	05.53		
	17.30	33 08.52 (BAP02)	18.07	24 07.58 (BAP01)	18.38	63 07.58 (BAP01)	20.10	20.40	20.58		
24	07.40	08.19 (BAP02)	07.06		06.22	06.41 (BAP05)	06.33	06.00	05.54		
	17.31	32 08.51 (BAP02)	18.08	29 08.00 (BAP01)	18.39	59 07.55 (BAP01)	20.11	20.41	20.58		
25	07.40	08.20 (BAP02)	07.05		06.20	06.42 (BAP05)	06.32	06.00	05.54		
	17.32	31 08.51 (BAP02)	18.09	34 08.03 (BAP01)	18.40	54 07.53 (BAP01)	20.12	20.41	20.58		
26	07.39	08.20 (BAP02)	07.03		06.19	06.42 (BAP05)	06.30	05.59	05.54		
	17.33	30 08.50 (BAP02)	18.10	37 08.04 (BAP01)	18.41	47 07.50 (BAP01)	20.13	20.42	20.58		
27	07.38	08.21 (BAP02)	07.02		06.17	06.43 (BAP05)	06.29	05.58	05.54		
	17.34	29 08.50 (BAP02)	18.12	40 08.06 (BAP01)	18.42	38 07.46 (BAP01)	20.14	20.43	20.58		
28	07.37	08.23 (BAP02)	07.00		06.15	06.45 (BAP05)	06.28	05.58	05.55		
	17.36	27 08.50 (BAP02)	18.13	43 08.07 (BAP01)	18.43	24 07.41 (BAP01)	20.15	20.44	20.58		
29	07.37	08.24 (BAP02)			07.14	07.46 (BAP05)	06.26	05.57	05.55		
	17.37	25 08.49 (BAP02)			19.44	12 07.58 (BAP05)	20.16	20.45	20.58		
30	07.36	08.25 (BAP02)			07.12		06.25	05.57	05.56		
	17.38	23 08.48 (BAP02)			19.45		20.17	20.45	20.58		
31	07.35	08.26 (BAP02)			07.10			05.56			
	17.39	21 08.47 (BAP02)			19.46			20.46			
Potential sun hours	299		298		370		398	447	450		
Total, worst case	973		252		1544						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F158 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (257)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	06.20	06.50	07.19	07.55 (BAP01) 06.52	07.26
	20.58	20.39	19.57	19.07	54 08.49 (BAP01) 17.21	16.58
2	05.57	06.21	06.51	07.20	07.54 (BAP01) 06.53	07.28
	20.58	20.38	19.55	19.06	55 08.49 (BAP01) 17.20	16.57
3	05.57	06.22	06.52	07.21	07.54 (BAP01) 06.55	07.29
	20.58	20.37	19.54	19.04	54 08.48 (BAP01) 17.19	16.57
4	05.58	06.22	06.53	07.22	07.54 (BAP01) 06.56	07.30
	20.57	20.36	19.52	19.02	54 08.48 (BAP01) 17.18	16.57
5	05.58	06.23	06.54	07.23	07.54 (BAP01) 06.57	07.30
	20.57	20.35	19.51	19.01	53 08.47 (BAP01) 17.17	16.57
6	05.59	06.24	06.54	07.24	07.54 (BAP01) 06.58	07.31
	20.57	20.34	19.49	18.59	53 08.47 (BAP01) 17.16	16.57
7	05.59	06.25	06.55	07.25	07.54 (BAP01) 06.59	07.32
	20.57	20.33	19.47	18.57	52 08.46 (BAP01) 17.14	16.57
8	06.00	06.26	06.56	07.26	07.54 (BAP01) 07.00	08.05 (BAP02) 07.33
	20.56	20.31	19.46	18.56	52 08.46 (BAP01) 17.13	16.57
9	06.01	06.27	06.57	07.27	07.54 (BAP01) 07.02	08.01 (BAP02) 07.34
	20.56	20.30	19.44	18.54	51 08.45 (BAP01) 17.12	16.57
10	06.01	06.28	06.58	07.28	07.54 (BAP01) 07.03	13 08.14 (BAP02) 07.35
	20.56	20.29	19.42	18.53	50 08.44 (BAP01) 17.11	17 08.16 (BAP02) 07.36
11	06.02	06.29	06.59	07.29	07.55 (BAP01) 07.04	17 08.16 (BAP02) 07.36
	20.55	20.28	19.41	18.51	48 08.43 (BAP01) 17.10	21 08.18 (BAP02) 07.37
12	06.03	06.30	07.00	07.30	07.55 (BAP01) 07.05	21 08.18 (BAP02) 07.37
	20.55	20.26	19.39	18.49	46 08.41 (BAP01) 17.09	23 08.19 (BAP02) 07.37
13	06.03	06.31	07.01	07.31	07.56 (BAP01) 07.06	23 08.19 (BAP02) 07.37
	20.54	20.25	19.37	18.48	44 08.40 (BAP01) 17.09	26 08.21 (BAP02) 07.37
14	06.04	06.32	07.02	07.32	07.57 (BAP01) 07.07	26 08.21 (BAP02) 07.38
	20.54	20.24	19.36	18.46	41 08.38 (BAP01) 17.08	27 08.22 (BAP02) 07.38
15	06.05	06.33	07.03	07.33	07.59 (BAP01) 07.09	27 08.22 (BAP02) 07.39
	20.53	20.22	19.34	18.45	39 08.38 (BAP01) 17.07	29 08.23 (BAP02) 07.39
16	06.06	06.34	07.04	07.34	08.00 (BAP01) 07.10	29 08.23 (BAP02) 07.40
	20.53	20.21	19.32	18.43	36 08.36 (BAP01) 17.06	30 08.23 (BAP02) 07.40
17	06.06	06.35	07.05	07.35	08.02 (BAP01) 07.11	30 08.23 (BAP02) 07.41
	20.52	20.20	19.31	18.42	32 08.34 (BAP01) 17.05	32 08.25 (BAP02) 07.41
18	06.07	06.36	07.06	07.36	08.04 (BAP01) 07.12	32 08.25 (BAP02) 07.42
	20.51	20.18	19.29	18.40	27 08.31 (BAP01) 17.04	32 08.25 (BAP02) 07.42
19	06.08	06.37	07.07	07.37	08.06 (BAP01) 07.13	32 08.25 (BAP02) 07.42
	20.51	20.17	19.27	18.39	22 08.28 (BAP01) 17.04	33 08.26 (BAP02) 07.42
20	06.09	06.38	07.08	07.38	08.10 (BAP01) 07.14	33 08.26 (BAP02) 07.43
	20.50	20.15	19.26	18.37	13 08.23 (BAP01) 17.03	34 08.26 (BAP02) 07.43
21	06.10	06.39	07.09	07.39	07.16	34 08.26 (BAP02) 07.43
	20.49	20.14	19.24	18.36	17.02	34 08.26 (BAP02) 07.43
22	06.11	06.40	07.10	07.40	07.17	34 08.26 (BAP02) 07.43
	20.49	20.12	19.22	18.35	17.02	35 08.28 (BAP02) 07.43
23	06.11	06.41	07.11	07.41	07.18	35 08.28 (BAP02) 07.44
	20.48	20.11	19.21	18.33	17.01	35 08.28 (BAP02) 07.44
24	06.12	06.42	07.12	07.42	07.19	35 08.28 (BAP02) 07.44
	20.47	20.09	19.19	18.32	17.01	35 08.28 (BAP02) 07.44
25	06.13	06.43	07.13	07.43	07.20	35 08.28 (BAP02) 07.45
	20.46	20.08	19.17	18.30	17.00	35 08.28 (BAP02) 07.45
26	06.14	06.44	07.14	07.44	07.21	35 08.28 (BAP02) 07.45
	20.45	20.06	19.16	18.29	17.00	34 08.28 (BAP02) 07.45
27	06.15	06.45	07.15	07.45	07.22	34 08.28 (BAP02) 07.45
	20.44	20.05	19.14	18.28	16.59	34 08.28 (BAP02) 07.45
28	06.16	06.46	07.16	07.46	07.23	34 08.28 (BAP02) 07.46
	20.43	20.03	19.12	18.26	16.59	34 08.29 (BAP02) 07.46
29	06.17	06.47	07.17	07.47	07.24	34 08.29 (BAP02) 07.46
	20.42	20.02	19.11	18.25	16.58	33 08.29 (BAP02) 07.46
30	06.18	06.48	07.18	07.48	07.25	33 08.29 (BAP02) 07.46
	20.41	20.00	19.09	18.24	16.58	34 08.30 (BAP02) 07.46
31	06.19	06.49		06.51		34 08.30 (BAP02) 07.47
	20.40	19.59		17.23		17.06
Potential sun hours	457	427	375	346	299	290
Total, worst case			918	876	664	1118

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F159 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (258)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January		February		March		April		May		June		
1	07.47	08.21 (BAP01)	07.34	08.27 (BAP01)	06.59	07.18 (BAP05)	07.09	06.24	05.56			
	17.07	57	09.18 (BAP01)	17.40	65	09.32 (BAP01)	18.14	21	07.39 (BAP05)	19.47	20.18	20.47
2	07.47	08.21 (BAP01)	07.33	08.28 (BAP01)	06.57	07.16 (BAP05)	07.07	06.22	05.55			
	17.08	58	09.19 (BAP01)	17.42	64	09.32 (BAP01)	18.15	23	07.39 (BAP05)	19.48	20.19	20.48
3	07.47	08.21 (BAP01)	07.32	08.28 (BAP01)	06.56	07.14 (BAP05)	07.06	06.21	05.55			
	17.08	58	09.19 (BAP01)	17.43	63	09.31 (BAP01)	18.16	25	07.39 (BAP05)	19.49	20.20	20.48
4	07.47	08.22 (BAP01)	07.31	08.29 (BAP01)	06.54	07.13 (BAP05)	07.04	06.20	05.54			
	17.09	58	09.20 (BAP01)	17.44	62	09.31 (BAP01)	18.17	27	07.40 (BAP05)	19.50	20.21	20.49
5	07.47	08.22 (BAP01)	07.30	08.29 (BAP01)	06.53	07.11 (BAP05)	07.02	06.19	05.54			
	17.10	59	09.21 (BAP01)	17.45	62	09.31 (BAP01)	18.18	28	07.39 (BAP05)	19.51	20.22	20.50
6	07.47	08.22 (BAP01)	07.29	08.30 (BAP01)	06.51	07.10 (BAP05)	07.01	06.18	05.54			
	17.11	60	09.22 (BAP01)	17.47	60	09.30 (BAP01)	18.19	30	07.40 (BAP05)	19.52	20.23	20.50
7	07.47	08.22 (BAP01)	07.28	08.30 (BAP01)	06.49	07.10 (BAP05)	06.59	06.16	05.53			
	17.12	60	09.22 (BAP01)	17.48	59	09.29 (BAP01)	18.21	29	07.39 (BAP05)	19.53	20.24	20.51
8	07.47	08.23 (BAP01)	07.27	08.31 (BAP01)	06.48	07.11 (BAP05)	06.57	06.15	05.53			
	17.13	60	09.23 (BAP01)	17.49	57	09.28 (BAP01)	18.22	28	07.39 (BAP05)	19.54	20.25	20.52
9	07.47	08.22 (BAP01)	07.26	08.32 (BAP01)	06.46	07.11 (BAP05)	06.56	06.14	05.53			
	17.14	61	09.23 (BAP01)	17.50	55	09.27 (BAP01)	18.23	26	07.37 (BAP05)	19.55	20.26	20.52
10	07.47	08.22 (BAP01)	07.24	08.33 (BAP01)	06.45	07.11 (BAP05)	06.54	06.13	05.53			
	17.15	62	09.24 (BAP01)	17.51	54	09.27 (BAP01)	18.24	25	07.36 (BAP05)	19.56	20.27	20.53
11	07.46	08.23 (BAP01)	07.23	08.34 (BAP01)	06.43	07.12 (BAP05)	06.53	06.12	05.53			
	17.16	62	09.25 (BAP01)	17.53	52	09.26 (BAP01)	18.25	23	07.35 (BAP05)	19.57	20.28	20.53
12	07.46	08.22 (BAP01)	07.22	08.35 (BAP01)	06.42	07.13 (BAP05)	06.51	06.11	05.52			
	17.17	63	09.25 (BAP01)	17.54	49	09.24 (BAP01)	18.26	20	07.33 (BAP05)	19.58	20.29	20.54
13	07.46	08.23 (BAP01)	07.21	08.36 (BAP01)	06.40	07.14 (BAP05)	06.50	06.10	05.52			
	17.18	63	09.26 (BAP01)	17.55	47	09.23 (BAP01)	18.27	17	07.31 (BAP05)	19.59	20.30	20.54
14	07.46	08.23 (BAP01)	07.20	08.38 (BAP01)	06.38	07.17 (BAP05)	06.48	06.09	05.52			
	17.19	64	09.27 (BAP01)	17.56	43	09.21 (BAP01)	18.28	11	07.28 (BAP05)	20.01	20.31	20.55
15	07.45	08.23 (BAP01)	07.18	08.39 (BAP01)	06.37		06.47	06.08	05.52			
	17.20	64	09.27 (BAP01)	17.58	41	09.20 (BAP01)	18.29		20.02	20.32	20.55	
16	07.45	08.23 (BAP01)	07.17	08.41 (BAP01)	06.35		06.45	06.07	05.52			
	17.21	65	09.28 (BAP01)	17.59	36	09.17 (BAP01)	18.30		20.03	20.33	20.56	
17	07.44	08.23 (BAP01)	07.16	08.43 (BAP01)	06.33		06.43	06.06	05.52			
	17.23	65	09.28 (BAP01)	18.00	32	09.15 (BAP01)	18.31		20.04	20.34	20.56	
18	07.44	08.24 (BAP01)	07.14	08.46 (BAP01)	06.32		06.42	06.05	05.52			
	17.24	65	09.29 (BAP01)	18.01	27	09.13 (BAP01)	18.32		20.05	20.35	20.56	
19	07.43	08.23 (BAP01)	07.13	08.49 (BAP01)	06.30		06.40	06.04	05.53			
	17.25	66	09.29 (BAP01)	18.02	19	09.08 (BAP01)	18.33		20.06	20.36	20.57	
20	07.43	08.24 (BAP01)	07.12	08.57 (BAP01)	06.29		06.39	06.03	05.53			
	17.26	66	09.30 (BAP01)	18.03	3	09.00 (BAP01)	18.35		20.07	20.37	20.57	
21	07.42	08.24 (BAP01)	07.10		06.27		06.38	06.03	05.53			
	17.27	66	09.30 (BAP01)	18.05		18.36		20.08	20.38	20.57		
22	07.42	08.24 (BAP01)	07.09		06.25		06.36	06.02	05.53			
	17.28	66	09.30 (BAP01)	18.06		18.37		20.09	20.39	20.57		
23	07.41	08.25 (BAP01)	07.08		06.24		06.35	06.01	05.53			
	17.30	66	09.31 (BAP01)	18.07		18.38		20.10	20.40	20.58		
24	07.40	08.25 (BAP01)	07.06	07.25 (BAP05)	06.22		06.33	06.00	05.54			
	17.31	66	09.31 (BAP01)	18.08	4	07.29 (BAP05)	18.39		20.11	20.41	20.58	
25	07.40	08.25 (BAP01)	07.05	07.24 (BAP05)	06.20		06.32	06.00	05.54			
	17.32	66	09.31 (BAP01)	18.09	10	07.34 (BAP05)	18.40		20.12	20.41	20.58	
26	07.39	08.25 (BAP01)	07.03	07.22 (BAP05)	06.19		06.30	05.59	05.54			
	17.33	66	09.31 (BAP01)	18.10	13	07.35 (BAP05)	18.41		20.13	20.42	20.58	
27	07.38	08.25 (BAP01)	07.02	07.21 (BAP05)	06.17		06.29	05.58	05.54			
	17.34	66	09.31 (BAP01)	18.12	16	07.37 (BAP05)	18.42		20.14	20.43	20.58	
28	07.37	08.26 (BAP01)	07.00	07.19 (BAP05)	06.15		06.28	05.58	05.55			
	17.36	66	09.32 (BAP01)	18.13	19	07.38 (BAP05)	18.43		20.15	20.44	20.58	
29	07.37	08.26 (BAP01)			07.14		06.26	05.57	05.55			
	17.37	66	09.32 (BAP01)		19.44		20.16	20.45	20.58			
30	07.36	08.26 (BAP01)			07.12		06.25	05.57	05.56			
	17.38	66	09.32 (BAP01)		19.45		20.17	20.45	20.58			
31	07.35	08.27 (BAP01)			07.10			05.56				
	17.39	65	09.32 (BAP01)		19.46			20.46				
Potential sun hours	299		298		370		398	447	450			
Total, worst case	1961		1012		333							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F159 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (258)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December			
1	05.56 20.58	06.20 20.39	06.50 19.57	07.19 19.07	07.53 (BAP05) 17.21	06.52 17.21	08.03 (BAP01) 16.58	07.26 16.58	08.05 (BAP01) 09.07 (BAP01)
2	05.57 20.58	06.21 20.38	06.51 19.55	07.20 19.06	07.51 (BAP05) 17.20	06.53 17.20	08.01 (BAP01) 16.57	07.28 16.57	08.05 (BAP01) 09.07 (BAP01)
3	05.57 20.58	06.21 20.37	06.52 19.54	07.21 19.04	07.50 (BAP05) 17.19	06.55 17.19	08.01 (BAP01) 16.57	07.29 16.57	08.06 (BAP01) 09.07 (BAP01)
4	05.58 20.57	06.22 20.36	06.53 19.52	07.22 19.02	07.48 (BAP05) 17.18	06.56 17.18	08.00 (BAP01) 16.57	07.30 16.57	08.07 (BAP01) 09.07 (BAP01)
5	05.58 20.57	06.23 20.35	06.54 19.51	07.23 19.01	07.47 (BAP05) 17.17	06.57 17.17	08.00 (BAP01) 16.57	07.30 16.57	08.07 (BAP01) 09.07 (BAP01)
6	05.59 20.57	06.24 20.34	06.54 19.49	07.24 18.59	07.47 (BAP05) 17.16	06.58 17.16	07.59 (BAP01) 16.57	07.31 16.57	08.08 (BAP01) 09.08 (BAP01)
7	05.59 20.57	06.25 20.33	06.55 19.47	07.25 18.57	07.46 (BAP05) 17.14	06.59 17.14	07.59 (BAP01) 16.57	07.32 16.57	08.09 (BAP01) 09.08 (BAP01)
8	06.00 20.56	06.26 20.31	06.56 19.46	07.26 18.56	07.46 (BAP05) 17.13	07.00 17.13	07.58 (BAP01) 16.57	07.33 16.57	08.10 (BAP01) 09.08 (BAP01)
9	06.01 20.56	06.27 20.30	06.57 19.44	07.27 18.54	07.47 (BAP05) 17.12	07.02 17.12	07.58 (BAP01) 16.57	07.34 16.57	08.10 (BAP01) 09.08 (BAP01)
10	06.01 20.56	06.28 20.29	06.58 19.42	07.28 18.53	07.48 (BAP05) 17.11	07.03 17.11	07.58 (BAP01) 16.57	07.35 16.57	08.10 (BAP01) 09.08 (BAP01)
11	06.02 20.55	06.29 20.28	06.59 19.41	07.29 18.51	07.49 (BAP05) 17.10	07.04 17.10	07.58 (BAP01) 16.57	07.36 16.57	08.11 (BAP01) 09.08 (BAP01)
12	06.03 20.55	06.30 20.26	07.00 19.39	07.30 18.49	07.50 (BAP05) 17.09	07.05 17.09	07.57 (BAP01) 16.57	07.37 16.57	08.12 (BAP01) 09.08 (BAP01)
13	06.03 20.54	06.31 20.25	07.01 19.37	07.31 18.48	07.51 (BAP05) 17.09	07.06 17.09	07.58 (BAP01) 16.57	07.37 16.57	08.13 (BAP01) 09.09 (BAP01)
14	06.04 20.54	06.32 20.24	07.02 19.36	07.32 18.46	07.52 (BAP05) 17.08	07.07 17.08	07.58 (BAP01) 16.57	07.38 16.57	08.14 (BAP01) 09.09 (BAP01)
15	06.05 20.53	06.33 20.22	07.03 19.34	07.33 18.45	07.54 (BAP05) 17.07	07.09 17.07	07.58 (BAP01) 16.57	07.39 16.57	08.13 (BAP01) 09.09 (BAP01)
16	06.06 20.53	06.34 20.21	07.04 19.32	07.34 18.43	07.55 (BAP05) 17.06	07.10 17.06	07.58 (BAP01) 16.58	07.40 16.58	08.14 (BAP01) 09.10 (BAP01)
17	06.06 20.52	06.35 20.20	07.05 19.31	07.35 18.42	07.56 (BAP05) 17.05	07.11 17.05	07.59 (BAP01) 16.58	07.40 16.58	08.15 (BAP01) 09.10 (BAP01)
18	06.07 20.51	06.36 20.18	07.06 19.29	07.37 18.40	08.04 (BAP05) 17.04	07.12 17.04	07.59 (BAP01) 16.58	07.41 16.58	08.15 (BAP01) 09.10 (BAP01)
19	06.08 20.51	06.37 20.17	07.07 19.27	07.38 18.39		07.13 17.04	07.59 (BAP01) 16.59	07.42 16.59	08.16 (BAP01) 09.11 (BAP01)
20	06.09 20.50	06.38 20.15	07.08 19.26	07.39 18.37		07.14 17.03	07.59 (BAP01) 16.59	07.42 16.59	08.16 (BAP01) 09.11 (BAP01)
21	06.10 20.49	06.39 20.14	07.09 19.24	07.40 18.36		07.16 17.02	07.59 (BAP01) 16.59	07.43 16.59	08.17 (BAP01) 09.12 (BAP01)
22	06.11 20.49	06.40 20.12	07.10 19.22	07.41 18.35	09.24 (BAP01)	07.17 17.02	08.00 (BAP01) 17.00	07.43 17.00	08.17 (BAP01) 09.12 (BAP01)
23	06.11 20.48	06.41 20.11	07.11 19.21	07.42 18.33	09.35 (BAP01)	07.18 17.01	09.06 (BAP01) 17.00	07.44 17.00	08.18 (BAP01) 09.13 (BAP01)
24	06.12 20.47	06.42 20.09	07.12 19.19	07.43 18.32	09.40 (BAP01)	07.19 17.01	09.06 (BAP01) 17.01	07.44 17.01	08.18 (BAP01) 09.13 (BAP01)
25	06.13 20.46	06.43 20.08	07.13 19.17	07.44 18.30	09.45 (BAP01)	07.20 17.00	09.06 (BAP01) 17.02	07.45 17.02	08.19 (BAP01) 09.14 (BAP01)
26	06.14 20.45	06.44 20.06	07.14 19.16	07.45 18.29	08.10 (BAP01)	07.21 16.59	08.01 (BAP01) 17.02	07.45 17.02	08.19 (BAP01) 09.14 (BAP01)
27	06.15 20.44	06.45 20.05	07.15 19.14	07.46 18.28	08.07 (BAP01)	07.22 16.59	08.02 (BAP01) 17.03	07.45 17.03	08.19 (BAP01) 09.15 (BAP01)
28	06.16 20.43	06.46 20.03	07.16 19.12	07.47 18.26	08.08 (BAP01)	07.23 16.59	08.03 (BAP01) 17.03	07.46 17.03	08.19 (BAP01) 09.15 (BAP01)
29	06.17 20.42	06.47 20.02	07.17 19.11	07.48 18.25	08.05 (BAP01)	07.24 16.58	08.04 (BAP01) 17.04	07.46 17.04	08.21 (BAP01) 09.16 (BAP01)
30	06.18 20.41	06.48 20.00	07.18 19.09	07.49 18.24	08.07 (BAP05) 17.25	06.50 16.58	08.04 (BAP01) 17.04	07.46 17.04	08.21 (BAP01) 09.17 (BAP01)
31	06.19 20.40	06.49 19.59		07.50 18.23	08.10 (BAP05) 17.24	06.51 16.58	08.03 (BAP01) 17.05	07.47 17.05	08.21 (BAP01) 09.17 (BAP01)
Potential sun hours	457	427	375	346	299	290			
Total, worst case			23	744	1909	1762			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F16 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (265)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June						
1	07.47	07.34	16.45 (BAP02)	06.59	07.09	18.19 (BAP05)	06.24	05.55	06.17 (BAP07)			
	17.07	17.40	31 17.16 (BAP02)	18.14	19.47	65 19.24 (BAP05)	20.18	20.47	36 06.53 (BAP07)			
2	07.47	07.33	16.46 (BAP02)	06.57	07.07	18.19 (BAP05)	06.22	05.55	06.17 (BAP07)			
	17.07	17.42	30 17.16 (BAP02)	18.15	19.48	64 19.23 (BAP05)	20.19	20.48	35 06.52 (BAP07)			
3	07.47	07.32	16.46 (BAP02)	06.56	07.05	18.20 (BAP05)	06.21	05.55	06.17 (BAP07)			
	17.08	17.43	29 17.15 (BAP02)	18.16	19.49	63 19.23 (BAP05)	20.20	20.48	35 06.52 (BAP07)			
4	07.47	07.31	16.47 (BAP02)	06.54	07.04	18.19 (BAP05)	06.20	06.39 (BAP07)	05.54	06.18 (BAP07)		
	17.09	17.44	28 17.15 (BAP02)	18.17	19.50	63 19.22 (BAP05)	20.21	4 06.43 (BAP07)	20.49	35 06.53 (BAP07)		
5	07.47	07.30	16.48 (BAP02)	06.53	07.02	18.20 (BAP05)	06.19	06.38 (BAP07)	05.54	06.18 (BAP07)		
	17.10	17.45	26 17.14 (BAP02)	18.18	19.51	62 19.22 (BAP05)	20.22	7 06.45 (BAP07)	20.50	34 06.52 (BAP07)		
6	07.47	07.29	16.48 (BAP02)	06.51	07.01	18.20 (BAP05)	06.17	06.37 (BAP07)	05.54	06.19 (BAP07)		
	17.11	17.47	25 17.13 (BAP02)	18.19	19.52	61 19.21 (BAP05)	20.23	9 06.46 (BAP07)	20.50	33 06.52 (BAP07)		
7	07.47	07.28	16.50 (BAP02)	06.49	06.59	18.20 (BAP05)	06.16	06.36 (BAP07)	05.53	06.19 (BAP07)		
	17.12	17.48	22 17.12 (BAP02)	18.20	19.53	60 19.20 (BAP05)	20.24	12 06.48 (BAP07)	20.51	33 06.52 (BAP07)		
8	07.47	07.27	16.52 (BAP02)	06.48	06.57	18.21 (BAP05)	06.15	06.35 (BAP07)	05.53	06.20 (BAP07)		
	17.13	17.49	18 17.10 (BAP02)	18.22	19.54	58 19.19 (BAP05)	20.25	14 06.49 (BAP07)	20.52	32 06.52 (BAP07)		
9	07.47	07.26	16.54 (BAP02)	06.46	06.56	18.21 (BAP05)	06.14	06.34 (BAP07)	05.53	06.20 (BAP07)		
	17.14	17.50	14 17.08 (BAP02)	18.23	17.39 (BAP05)	06.51	19.55	57 19.18 (BAP05)	20.26	16 06.50 (BAP07)	20.52	31 06.51 (BAP07)
10	07.47	07.24	16.58 (BAP02)	06.45	12 17.45 (BAP05)	06.54	18.23 (BAP05)	06.13	06.33 (BAP07)	05.53	06.20 (BAP07)	
	17.15	17.51	7 17.05 (BAP02)	18.24	18 18.03 (BAP05)	19.56	54 19.17 (BAP05)	20.27	18 06.51 (BAP07)	20.53	31 06.51 (BAP07)	
11	07.46	07.23	06.43	18.24	17.42 (BAP05)	06.53	18.23 (BAP05)	06.12	06.32 (BAP07)	05.52	06.21 (BAP07)	
	17.16	17.53	22 18.04 (BAP01)	19.57	52 19.15 (BAP05)	20.28	19 06.51 (BAP07)	20.53	30 06.51 (BAP07)			
12	07.46	16.50 (BAP02)	07.22	06.41	17.39 (BAP05)	06.51	18.23 (BAP05)	06.11	06.31 (BAP07)	05.52	06.21 (BAP07)	
	17.17	1 16.51 (BAP02)	17.54	18.26	26 18.05 (BAP01)	19.58	50 19.13 (BAP05)	20.29	21 06.52 (BAP07)	20.54	30 06.51 (BAP07)	
13	07.46	16.48 (BAP02)	07.21	06.40	17.36 (BAP05)	06.50	18.25 (BAP05)	06.10	06.30 (BAP07)	05.52	06.22 (BAP07)	
	17.18	5 16.53 (BAP02)	17.55	18.27	30 18.06 (BAP01)	19.59	47 19.12 (BAP05)	20.30	22 06.52 (BAP07)	20.54	29 06.51 (BAP07)	
14	07.45	16.48 (BAP02)	07.20	06.38	17.35 (BAP05)	06.48	18.26 (BAP05)	06.09	06.29 (BAP07)	05.52	06.22 (BAP07)	
	17.19	6 16.54 (BAP02)	17.56	18.28	32 18.07 (BAP01)	20.00	44 19.10 (BAP05)	20.31	23 06.52 (BAP07)	20.55	29 06.51 (BAP07)	
15	07.45	16.46 (BAP02)	07.18	06.37	17.32 (BAP05)	06.46	18.28 (BAP05)	06.08	06.28 (BAP07)	05.52	06.23 (BAP07)	
	17.20	9 16.55 (BAP02)	17.57	18.29	36 18.08 (BAP01)	20.01	41 19.09 (BAP05)	20.32	25 06.53 (BAP07)	20.55	28 06.51 (BAP07)	
16	07.45	16.46 (BAP02)	07.17	06.35	17.30 (BAP05)	06.45	18.29 (BAP05)	06.07	06.27 (BAP07)	05.52	06.23 (BAP07)	
	17.21	11 16.57 (BAP02)	17.59	18.30	39 18.09 (BAP01)	20.03	37 19.06 (BAP05)	20.33	26 06.53 (BAP07)	20.56	28 06.51 (BAP07)	
17	07.44	16.45 (BAP02)	07.16	06.33	17.29 (BAP05)	06.43	18.31 (BAP05)	06.06	06.26 (BAP07)	05.52	06.23 (BAP07)	
	17.23	12 16.57 (BAP02)	18.00	18.31	42 18.11 (BAP01)	20.04	34 19.05 (BAP05)	20.34	27 06.53 (BAP07)	20.56	28 06.51 (BAP07)	
18	07.44	16.45 (BAP02)	07.14	06.32	17.28 (BAP05)	06.42	18.33 (BAP05)	06.05	06.25 (BAP07)	05.52	06.23 (BAP07)	
	17.24	14 16.59 (BAP02)	18.01	18.32	43 18.11 (BAP01)	20.05	28 19.01 (BAP05)	20.35	28 06.53 (BAP07)	20.56	28 06.51 (BAP07)	
19	07.43	16.44 (BAP02)	07.13	06.30	17.27 (BAP05)	06.40	18.36 (BAP05)	06.04	06.24 (BAP07)	05.52	06.25 (BAP07)	
	17.25	16 17.00 (BAP02)	18.02	18.33	46 18.13 (BAP01)	20.06	23 18.59 (BAP05)	20.36	29 06.53 (BAP07)	20.57	27 06.52 (BAP07)	
20	07.43	16.44 (BAP02)	07.12	06.28	17.26 (BAP05)	06.39	18.41 (BAP05)	06.03	06.24 (BAP07)	05.53	06.25 (BAP07)	
	17.26	17 17.01 (BAP02)	18.03	18.34	48 18.14 (BAP01)	20.07	13 18.54 (BAP05)	20.37	30 06.54 (BAP07)	20.57	27 06.52 (BAP07)	
21	07.42	16.44 (BAP02)	07.10	06.27	17.24 (BAP05)	06.37	06.02	06.23 (BAP07)	05.53	06.25 (BAP07)		
	17.27	19 17.03 (BAP02)	18.05	18.36	50 18.14 (BAP01)	20.08	20.38	30 06.53 (BAP07)	20.57	27 06.52 (BAP07)		
22	07.42	16.43 (BAP02)	07.09	06.25	17.24 (BAP05)	06.36	06.02	06.22 (BAP07)	05.53	06.25 (BAP07)		
	17.28	21 17.04 (BAP02)	18.06	18.37	52 18.16 (BAP01)	20.09	20.39	31 06.53 (BAP07)	20.57	27 06.52 (BAP07)		
23	07.41	16.43 (BAP02)	07.07	06.23	17.23 (BAP05)	06.35	06.01	06.21 (BAP07)	05.53	06.25 (BAP07)		
	17.29	22 17.05 (BAP02)	18.07	18.38	54 18.17 (BAP01)	20.10	20.40	32 06.53 (BAP07)	20.57	27 06.52 (BAP07)		
24	07.40	16.44 (BAP02)	07.06	06.22	17.22 (BAP05)	06.33	06.00	06.21 (BAP07)	05.53	06.25 (BAP07)		
	17.31	23 17.07 (BAP02)	18.08	18.39	56 18.18 (BAP05)	20.11	20.40	32 06.53 (BAP07)	20.58	28 06.53 (BAP07)		
25	07.40	16.43 (BAP02)	07.05	06.20	17.22 (BAP05)	06.32	05.59	06.20 (BAP07)	05.54	06.25 (BAP07)		
	17.32	25 17.08 (BAP02)	18.09	18.40	57 18.19 (BAP05)	20.12	20.41	33 06.53 (BAP07)	20.58	28 06.53 (BAP07)		
26	07.39	16.43 (BAP02)	07.03	06.19	17.21 (BAP05)	06.30	05.59	06.20 (BAP07)	05.54	06.25 (BAP07)		
	17.33	26 17.09 (BAP02)	18.10	18.41	59 18.20 (BAP05)	20.13	20.42	34 06.54 (BAP07)	20.58	28 06.53 (BAP07)		
27	07.38	16.43 (BAP02)	07.02	06.17	17.20 (BAP05)	06.29	05.58	06.19 (BAP07)	05.54	06.26 (BAP07)		
	17.34	27 17.10 (BAP02)	18.11	18.42	61 18.21 (BAP05)	20.14	20.43	34 06.53 (BAP07)	20.58	28 06.54 (BAP07)		
28	07.37	16.43 (BAP02)	07.00	06.15	17.20 (BAP05)	06.28	05.58	06.19 (BAP07)	05.55	06.25 (BAP07)		
	17.35	28 17.11 (BAP02)	18.13	18.43	62 18.22 (BAP05)	20.15	20.44	34 06.53 (BAP07)	20.58	29 06.54 (BAP07)		
29	07.37	16.44 (BAP02)	06.49	07.14	18.20 (BAP05)	06.26	05.57	06.18 (BAP07)	05.55	06.25 (BAP07)		
	17.37	29 17.13 (BAP02)	18.14	19.44	63 19.23 (BAP05)	20.16	20.45	35 06.53 (BAP07)	20.58	29 06.54 (BAP07)		
30	07.36	16.44 (BAP02)	06.48	07.12	18.19 (BAP05)	06.25	05.56	06.18 (BAP07)	05.56	06.26 (BAP07)		
	17.38	30 17.14 (BAP02)	18.15	19.45	65 19.24 (BAP05)	20.17	20.45	35 06.53 (BAP07)	20.58	29 06.55 (BAP07)		
31	07.35	16.45 (BAP02)	06.47	07.10	17.29 (BAP05)	06.27	05.56	06.17 (BAP07)	05.56	06.26 (BAP07)		
	17.39	31 17.16 (BAP02)	18.16	19.46	66 19.25 (BAP05)	20.18	20.46	36 06.53 (BAP07)	20.58	29 06.55 (BAP07)		
Potential sun hours	299	298	370	398	976	447	696	450	899			
Total, worst case	372	230	1039	976	696	450	899					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F16 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (265)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

Table with columns for months (July, August, September, October, November, December) and rows for each day of the month, showing shadow calculation data including start/end times and potential sun hours.

Table layout: For each day in each month the following matrix apply

Matrix table with columns for Day in month, Sun rise/set times, Minutes with flicker, First/Last time with flicker, and WTG causing flicker first/last time.

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F161 - Abitazione

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June			
1	07.47 17.07	07.34 17.40	06.59 18.14	07.09 19.47	07.33 (BAP11) 26 07.59 (BAP11)	06.24 20.18	06.43 (BAP10) 17 07.00 (BAP10)	05.55 20.47	20.20 (BAP06) 3 20.23 (BAP06)
2	07.47 17.07	07.33 17.42	06.57 18.15	07.07 19.48	07.33 (BAP11) 25 07.58 (BAP11)	06.22 20.19	06.42 (BAP10) 19 07.01 (BAP10)	05.55 20.48	20.19 (BAP06) 4 20.23 (BAP06)
3	07.47 17.08	07.32 17.43	06.56 18.16	07.05 19.49	07.35 (BAP11) 22 07.57 (BAP11)	06.21 20.20	06.40 (BAP10) 20 07.00 (BAP10)	05.55 20.48	20.19 (BAP06) 5 20.24 (BAP06)
4	07.47 17.09	07.31 17.44	06.54 18.17	07.04 19.50	07.35 (BAP11) 19 07.54 (BAP11)	06.20 20.21	06.39 (BAP10) 21 07.00 (BAP10)	05.54 20.49	20.20 (BAP06) 5 20.25 (BAP06)
5	07.47 17.10	07.30 17.45	06.52 18.18	07.02 19.51	07.37 (BAP11) 15 07.52 (BAP11)	06.19 20.22	06.38 (BAP10) 22 07.00 (BAP10)	05.54 20.50	20.19 (BAP06) 5 20.24 (BAP06)
6	07.47 17.11	07.29 17.46	06.51 18.19	07.01 19.52	07.41 (BAP11) 7 07.48 (BAP11)	06.17 20.23	06.37 (BAP10) 22 06.59 (BAP10)	05.54 20.50	20.20 (BAP06) 5 20.25 (BAP06)
7	07.47 17.12	07.28 17.48	06.49 18.20	06.59 19.53		06.16 20.24	06.36 (BAP10) 23 06.59 (BAP10)	05.53 20.51	20.20 (BAP06) 6 20.26 (BAP06)
8	07.47 17.13	07.27 17.49	06.48 18.22	06.57 19.54		06.15 20.25	06.35 (BAP10) 24 06.59 (BAP10)	05.53 20.52	20.20 (BAP06) 7 20.27 (BAP06)
9	07.47 17.14	07.25 17.50	06.46 18.23	06.56 19.55		06.14 20.26	06.34 (BAP10) 24 06.58 (BAP10)	05.53 20.52	20.20 (BAP06) 7 20.27 (BAP06)
10	07.46 17.15	07.24 17.51	06.45 18.24	06.54 19.56		06.13 20.27	06.33 (BAP10) 25 06.58 (BAP10)	05.53 20.53	20.20 (BAP06) 7 20.27 (BAP06)
11	07.46 17.16	07.23 17.53	06.43 18.25	06.53 19.57		06.12 20.28	06.33 (BAP10) 24 06.57 (BAP10)	05.52 20.53	20.20 (BAP06) 8 20.28 (BAP06)
12	07.46 17.17	07.22 17.54	06.41 18.26	06.51 19.58		06.11 20.29	06.34 (BAP10) 22 06.56 (BAP10)	05.52 20.54	20.21 (BAP06) 7 20.28 (BAP06)
13	07.46 17.18	07.21 17.55	06.40 18.27	06.49 19.59		06.10 20.30	06.35 (BAP10) 20 06.55 (BAP10)	05.52 20.54	20.21 (BAP06) 8 20.29 (BAP06)
14	07.45 17.19	07.19 17.56	06.38 18.28	06.48 20.00		06.09 20.31	06.36 (BAP10) 17 06.53 (BAP10)	05.52 20.55	20.21 (BAP06) 8 20.29 (BAP06)
15	07.45 17.20	07.18 17.57	06.37 18.29	06.46 20.01		06.08 20.32	06.37 (BAP10) 15 06.52 (BAP10)	05.52 20.55	20.21 (BAP06) 9 20.30 (BAP06)
16	07.45 17.21	07.17 17.59	06.35 18.30	06.45 20.02		06.07 20.33	06.40 (BAP10) 9 06.49 (BAP10)	05.52 20.55	20.21 (BAP06) 9 20.30 (BAP06)
17	07.44 17.23	07.16 18.00	06.33 18.31	06.43 20.03		06.06 20.34		05.52 20.56	20.22 (BAP06) 8 20.30 (BAP06)
18	07.44 17.24	07.14 18.01	06.32 18.32	06.42 20.05		06.05 20.35		05.52 20.56	20.22 (BAP06) 9 20.31 (BAP06)
19	07.43 17.25	07.13 18.02	06.30 18.33	06.40 20.06	06.48 (BAP11) 7 06.55 (BAP11)	06.04 20.06		05.52 20.56	20.23 (BAP06) 9 20.32 (BAP06)
20	07.43 17.26	07.12 18.03	06.28 18.34	06.39 20.07	06.47 (BAP11) 12 06.59 (BAP11)	06.03 20.07		05.53 20.57	20.23 (BAP06) 9 20.32 (BAP06)
21	07.42 17.27	07.10 18.04	06.27 18.35	06.37 20.08	06.45 (BAP11) 15 07.00 (BAP11)	06.02 20.08		05.53 20.57	20.23 (BAP06) 9 20.32 (BAP06)
22	07.42 17.28	07.09 18.06	06.25 18.36	06.36 20.09	06.43 (BAP11) 18 07.01 (BAP11)	06.02 20.09		05.53 20.57	20.23 (BAP06) 9 20.32 (BAP06)
23	07.41 17.29	07.07 18.07	06.23 18.38	06.35 20.10	06.42 (BAP11) 20 07.02 (BAP11)	06.01 20.10	06.53 (BAP10) 1 06.54 (BAP10)	05.53 20.57	20.23 (BAP06) 9 20.32 (BAP06)
24	07.40 17.31	07.06 18.08	06.22 18.39	06.33 20.11	06.40 (BAP11) 22 07.02 (BAP11)	06.00 20.11	06.52 (BAP10) 4 06.56 (BAP10)	05.53 20.40	20.24 (BAP06) 9 20.33 (BAP06)
25	07.40 17.32	07.04 18.09	06.20 18.40	06.32 20.12	06.38 (BAP11) 24 07.02 (BAP11)	06.00 20.12	06.51 (BAP10) 7 06.58 (BAP10)	05.54 20.41	20.24 (BAP06) 8 20.32 (BAP06)
26	07.39 17.33	07.03 18.10	06.18 18.41	06.30 20.13	06.37 (BAP11) 26 07.03 (BAP11)	06.00 20.13	06.49 (BAP10) 9 06.58 (BAP10)	05.54 20.42	20.24 (BAP06) 8 20.32 (BAP06)
27	07.38 17.34	07.02 18.11	06.17 18.42	06.29 20.14	06.35 (BAP11) 27 07.02 (BAP11)	06.00 20.14	06.48 (BAP10) 11 06.59 (BAP10)	05.54 20.43	20.24 (BAP06) 9 20.33 (BAP06)
28	07.37 17.35	07.00 18.13	06.15 18.43	06.28 20.15	06.34 (BAP11) 29 07.03 (BAP11)	06.00 20.15	06.47 (BAP10) 13 07.00 (BAP10)	05.55 20.44	20.24 (BAP06) 8 20.32 (BAP06)
29	07.36 17.37		06.14 19.44	06.26 20.16	07.32 (BAP11) 30 08.02 (BAP11)	06.00 20.16	06.45 (BAP10) 15 07.00 (BAP10)	05.57 20.45	20.19 (BAP06) 1 20.20 (BAP06)
30	07.36 17.38		06.12 19.45	06.25 20.17	07.32 (BAP11) 29 08.01 (BAP11)	06.00 20.17	06.44 (BAP10) 1 20.20 (BAP06)	05.56 20.45	20.19 (BAP06) 1 20.20 (BAP06)
31	07.35 17.39		06.10 19.46	06.25 20.17	07.33 (BAP11) 28 08.01 (BAP11)	06.00 20.17	06.44 (BAP10) 2 20.21 (BAP06)	05.56 20.46	20.19 (BAP06) 2 20.21 (BAP06)
Potential sun hours	299	298	370	398	398	447		450	
Total, worst case		37	287	190	328	223			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F161 - Abitazione

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

July		August		September		October		November		December	
1	05.56	20.24 (BAP06)	06.19	06.43 (BAP10)	06.49		07.19		06.52	07.26	
	20.58	8 20.32 (BAP06)	20.39	23 07.06 (BAP10)	19.57		19.07		17.21	16.57	
2	05.57	20.25 (BAP06)	06.20	06.42 (BAP10)	06.50		07.20		06.53	07.27	
	20.58	8 20.33 (BAP06)	20.38	25 07.07 (BAP10)	19.55		19.05		17.20	16.57	
3	05.57	20.25 (BAP06)	06.21	06.43 (BAP10)	06.51		07.21		06.54	07.28	
	20.57	7 20.32 (BAP06)	20.37	24 07.07 (BAP10)	19.54		19.04		17.19	16.57	
4	05.58	20.25 (BAP06)	06.22	06.44 (BAP10)	06.52		07.22		06.56	07.29	
	20.57	7 20.32 (BAP06)	20.36	24 07.08 (BAP10)	19.52		19.02		17.18	16.57	
5	05.58	20.25 (BAP06)	06.23	06.45 (BAP10)	06.53		07.23		06.57	07.30	
	20.57	6 20.31 (BAP06)	20.35	24 07.09 (BAP10)	19.50		19.00		17.17	16.57	
6	05.59	20.26 (BAP06)	06.24	06.46 (BAP10)	06.54	07.37 (BAP11)	07.24		06.58	07.31	
	20.57	6 20.32 (BAP06)	20.34	23 07.09 (BAP10)	19.49	7 07.44 (BAP11)	18.59		17.15	16.57	
7	05.59	20.26 (BAP06)	06.25	06.47 (BAP10)	06.55	07.33 (BAP11)	07.25		06.59	07.32	
	20.56	6 20.32 (BAP06)	20.32	22 07.09 (BAP10)	19.47	14 07.47 (BAP11)	18.57		17.14	16.56	
8	06.00	20.26 (BAP06)	06.26	06.48 (BAP10)	06.56	07.31 (BAP11)	07.26		07.00	07.33	
	20.56	5 20.31 (BAP06)	20.31	21 07.09 (BAP10)	19.45	18 07.49 (BAP11)	18.56		17.13	16.56	
9	06.01	20.27 (BAP06)	06.27	06.49 (BAP10)	06.57	07.28 (BAP11)	07.27		07.01	07.34	
	20.56	4 20.31 (BAP06)	20.30	20 07.09 (BAP10)	19.44	22 07.50 (BAP11)	18.54		17.12	16.56	
10	06.01	20.27 (BAP06)	06.28	06.50 (BAP10)	06.58	07.26 (BAP11)	07.28		07.03	07.35	
	20.55	4 20.31 (BAP06)	20.29	19 07.09 (BAP10)	19.42	25 07.51 (BAP11)	18.52		17.11	16.56	
11	06.02	20.27 (BAP06)	06.29	06.51 (BAP10)	06.59	07.25 (BAP11)	07.29		07.04	07.36	
	20.55	3 20.30 (BAP06)	20.27	18 07.09 (BAP10)	19.40	26 07.51 (BAP11)	18.51		17.10	16.57	
12	06.03	20.27 (BAP06)	06.30	06.51 (BAP10)	07.00	07.24 (BAP11)	07.30		07.05	07.36	
	20.55	3 20.30 (BAP06)	20.26	17 07.08 (BAP10)	19.39	28 07.52 (BAP11)	18.49		17.09	16.57	
13	06.03	20.28 (BAP06)	06.31	06.52 (BAP10)	07.01	07.23 (BAP11)	07.31		07.06	07.37	
	20.54	2 20.30 (BAP06)	20.25	16 07.08 (BAP10)	19.37	29 07.52 (BAP11)	18.48		17.08	16.57	
14	06.04	20.28 (BAP06)	06.32	06.53 (BAP10)	07.02	07.23 (BAP11)	07.32		07.07	07.38	
	20.54	1 20.29 (BAP06)	20.23	14 07.07 (BAP10)	19.35	29 07.52 (BAP11)	18.46		17.08	16.57	
15	06.05	20.27 (BAP06)	06.33	06.54 (BAP10)	07.03	07.23 (BAP11)	07.33		07.08	07.39	
	20.53	20.22	12 07.06 (BAP10)	19.34	29 07.52 (BAP11)	18.45			17.07	16.57	
16	06.06	20.27 (BAP06)	06.34	06.55 (BAP10)	07.04	07.24 (BAP11)	07.34		07.10	07.39	
	20.52	20.21	11 07.06 (BAP10)	19.32	28 07.52 (BAP11)	18.43			17.06	16.57	
17	06.06	20.27 (BAP06)	06.35	06.56 (BAP10)	07.05	07.25 (BAP11)	07.35	07.56 (18)	07.11	07.40	
	20.52	20.19	9 07.05 (BAP10)	19.30	26 07.51 (BAP11)	18.42	6 08.02 (18)	17.05	16.58		
18	06.07	20.27 (BAP06)	06.36	06.57 (BAP10)	07.06	07.26 (BAP11)	07.36	6 07.57 (18)	07.12	07.41	
	20.51	20.18	6 07.03 (BAP10)	19.29	24 07.50 (BAP11)	18.40	6 08.03 (18)	17.04	16.58		
19	06.08	20.27 (BAP06)	06.37	06.58 (BAP10)	07.07	07.27 (BAP11)	07.37	6 07.58 (18)	07.13	07.41	
	20.51	20.17	4 07.02 (BAP10)	19.27	23 07.50 (BAP11)	18.39	6 08.04 (18)	17.04	16.58		
20	06.09	20.27 (BAP06)	06.38	06.59 (BAP10)	07.08	07.28 (BAP11)	07.39	6 07.59 (18)	07.14	07.42	
	20.50	20.15	11 07.06 (BAP10)	19.25	21 07.49 (BAP11)	18.37	6 08.05 (18)	17.03	16.59		
21	06.10	20.27 (BAP06)	06.39	06.60 (BAP10)	07.09	07.29 (BAP11)	07.40	6 08.00 (18)	07.15	07.43	
	20.49	20.14	9 07.05 (BAP10)	19.24	18 07.47 (BAP11)	18.36	5 08.05 (18)	17.02	16.59		
22	06.10	20.27 (BAP06)	06.40	06.61 (BAP10)	07.10	07.30 (BAP11)	07.41	5 08.01 (18)	07.16	07.43	
	20.48	20.12	16 07.46 (BAP11)	18.34	4 08.05 (18)	17.02	17.00				
23	06.11	20.27 (BAP06)	06.41	06.62 (BAP10)	07.11	07.31 (BAP11)	07.42	4 08.03 (18)	07.18	07.44	
	20.48	20.11	13 07.44 (BAP11)	18.33	3 08.06 (18)	17.01	17.00				
24	06.12	20.27 (BAP06)	06.42	06.63 (BAP10)	07.12	07.32 (BAP11)	07.43	3 08.04 (18)	07.19	07.44	
	20.47	20.09	9 07.41 (BAP11)	18.32	1 08.05 (18)	17.00	17.00				
25	06.13	20.27 (BAP06)	06.43	06.64 (BAP10)	07.13	07.33 (BAP11)	07.44		07.20	07.45	
	20.46	20.08	2 07.35 (BAP11)	17.30							
26	06.14	20.27 (BAP06)	06.44	06.65 (BAP10)	07.14	07.34 (BAP11)	07.45		07.21	07.45	
	20.45	20.06		19.15							
27	06.15	06.52 (BAP10)	06.45	06.66 (BAP10)	07.15	07.35 (BAP11)	07.46		07.22	07.45	
	20.44	6 06.58 (BAP10)	20.05	19.14							
28	06.16	06.49 (BAP10)	06.46	06.67 (BAP10)	07.16	07.36 (BAP11)	07.47		07.23	07.46	
	20.43	12 07.01 (BAP10)	20.03	19.12							
29	06.17	06.47 (BAP10)	06.47	06.68 (BAP10)	07.17	07.37 (BAP11)	07.48		07.24	07.46	
	20.42	16 07.03 (BAP10)	20.02	19.10							
30	06.18	06.46 (BAP10)	06.48	06.69 (BAP10)	07.18	07.38 (BAP11)	07.49		07.25	07.46	
	20.41	18 07.04 (BAP10)	20.00	19.09							
31	06.19	06.44 (BAP10)	06.49			07.39 (BAP11)	07.50		07.26	07.46	
	20.40	21 07.05 (BAP10)	19.58			17.22			07.27	07.46	
Potential sun hours	457		427		375		346		299	290	
Total, worst case	143		332		407		37				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F162 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (260)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.04	16.58
20	07.43	07.11	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F163 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (261)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

Table with columns for months (January to June) and rows for days, showing sun rise, sun set, and potential sun hours. Includes a summary row for 'Potential sun hours' and 'Total, worst case'.

Table layout: For each day in each month the following matrix apply

Matrix table with columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), Minutes with flicker, First time (hh:mm) with flicker, Last time (hh:mm) with flicker, (WTG causing flicker first time), (WTG causing flicker last time)

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Calculated: 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F163 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (261)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

Table with columns for months (July to December) and rows for days. Each cell contains start and end times and a count of shadow events. Includes a summary row for 'Potential sun hours' and 'Total, worst case'.

Table layout: For each day in each month the following matrix apply

Matrix with columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), Minutes with flicker, First time (hh:mm) with flicker, Last time (hh:mm) with flicker, (WTG causing flicker first time), (WTG causing flicker last time)

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30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F167 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (295)

Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
 - The sun is shining all the day, from sunrise to sunset
 - The rotor plane is always perpendicular to the line from the WTG to the sun
 - The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December							
1	07.47	13.47 (BAP09)	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26	13.39 (BAP09)					
	17.07	95	16.41 (BAP08)	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57	91	16.33 (BAP08)			
2	07.47	13.48 (BAP09)	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27	13.39 (BAP09)					
	17.07	95	16.42 (BAP08)	17.41	18.15	19.48	20.19	20.48	20.57	20.38	19.55	19.05	17.20	16.57	92	16.33 (BAP08)			
3	07.47	13.49 (BAP09)	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28	13.38 (BAP08)					
	17.08	95	16.43 (BAP08)	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57	92	16.32 (BAP08)			
4	07.47	13.49 (BAP09)	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29	13.38 (BAP09)					
	17.09	95	16.44 (BAP08)	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57	93	16.32 (BAP08)			
5	07.47	13.50 (BAP09)	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30	13.38 (BAP09)					
	17.10	95	16.45 (BAP08)	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57	94	16.32 (BAP08)			
6	07.47	13.51 (BAP09)	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31	13.38 (BAP09)					
	17.11	94	16.46 (BAP08)	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56	93	16.32 (BAP08)			
7	07.47	13.53 (BAP09)	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32	13.38 (BAP09)					
	17.12	94	16.47 (BAP08)	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56	94	16.32 (BAP08)			
8	07.47	13.53 (BAP09)	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33	13.37 (BAP09)					
	17.13	93	16.47 (BAP08)	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56	94	16.31 (BAP08)			
9	07.47	13.54 (BAP09)	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34	13.37 (BAP09)					
	17.14	92	16.48 (BAP08)	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56	94	16.31 (BAP08)			
10	07.46	13.56 (BAP09)	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35	13.37 (BAP09)					
	17.15	92	16.50 (BAP08)	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56	95	16.31 (BAP08)			
11	07.46	13.57 (BAP09)	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36	13.37 (BAP09)					
	17.16	91	16.51 (BAP08)	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56	95	16.31 (BAP08)			
12	07.46	13.58 (BAP09)	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36	13.37 (BAP09)					
	17.17	89	16.51 (BAP08)	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57	95	16.31 (BAP08)			
13	07.46	13.59 (BAP09)	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37	13.36 (BAP09)					
	17.18	87	16.51 (BAP08)	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57	95	16.32 (BAP08)			
14	07.45	14.00 (BAP09)	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38	13.37 (BAP09)					
	17.19	85	16.51 (BAP08)	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57	95	16.31 (BAP08)			
15	07.45	14.02 (BAP09)	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39	13.36 (BAP09)					
	17.20	83	16.52 (BAP08)	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57	95	16.32 (BAP08)			
16	07.45	14.04 (BAP09)	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39	13.36 (BAP09)					
	17.21	80	16.52 (BAP08)	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57	95	16.32 (BAP08)			
17	07.44	14.05 (BAP09)	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40	13.36 (BAP09)					
	17.22	77	16.52 (BAP08)	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	11	16.19 (BAP08)	16.58	95	16.32 (BAP08)	
18	07.44	14.08 (BAP09)	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41	13.39 (BAP09)					
	17.24	72	16.52 (BAP08)	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	29	16.22 (BAP08)	16.58	95	16.32 (BAP08)	
19	07.43	14.10 (BAP09)	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41	13.40 (BAP09)					
	17.25	68	16.51 (BAP08)	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.39	17.03	42	16.24 (BAP08)	16.58	95	16.33 (BAP08)	
20	07.43	14.12 (BAP09)	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42	13.39 (BAP09)					
	17.26	63	16.51 (BAP08)	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	51	16.25 (BAP08)	16.59	96	16.33 (BAP08)	
21	07.42	14.15 (BAP09)	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43	13.40 (BAP09)					
	17.27	58	16.51 (BAP08)	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	58	16.26 (BAP08)	16.59	96	16.34 (BAP08)	
22	07.42	14.18 (BAP09)	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.44	13.40 (BAP09)					
	17.28	51	16.50 (BAP08)	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	63	16.27 (BAP08)	17.00	96	16.34 (BAP08)	
23	07.41	14.21 (BAP09)	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.46	13.41 (BAP09)					
	17.29	42	16.49 (BAP08)	18.07	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	68	16.28 (BAP08)	17.00	96	16.35 (BAP08)	
24	07.40	14.27 (BAP09)	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.47	13.42 (BAP09)					
	17.31	29	16.48 (BAP08)	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	72	16.29 (BAP08)	17.01	95	16.35 (BAP08)	
25	07.40	16.35 (BAP08)	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.48	13.44 (BAP09)					
	17.32	11	16.46 (BAP08)	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	76	16.30 (BAP08)	17.01	95	16.35 (BAP08)	
26	07.39	17.33	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.49	13.42 (BAP09)					
	17.33		18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	80	16.30 (BAP08)	17.02	95	16.37 (BAP08)		
27	07.38	17.34	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.50	13.41 (BAP09)					
	17.34		18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	83	16.31 (BAP08)	17.03	95	16.37 (BAP08)		
28	07.37	17.35	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.51	13.40 (BAP09)					
	17.35		18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	85	16.31 (BAP08)	17.03	94	16.37 (BAP08)		
29	07.36	17.37		06.13	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.52	13.39 (BAP09)					
	17.37			19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	88	16.32 (BAP08)	17.04	95	16.38 (BAP08)		
30	07.36	17.38		06.12	06.25	05.56	05.55	06.18	06.47	07.18	07.49	07.25	07.53	13.40 (BAP09)					
	17.38			19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	89	16.33 (BAP08)	17.05	95	16.40 (BAP08)		
31	07.35	17.39		06.10		05.56		06.18	06.48		06.51		07.46	13.41 (BAP09)					
				19.46		20.46		20.40	19.58		17.22		17.05	95	16.40 (BAP08)				
Potential sun hours	299		298	370	398	447	450	457	427	375	346	299	290						
Total, worst case	1926											895	2930						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F168 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (228)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June				
1	07.47	07.34	08.06 (BAP11)	06.59	07.09	07.35 (BAP10)	06.24	05.55		
	17.07	17.40	39 08.45 (BAP11)	18.14	19.47	50 08.25 (BAP10)	20.18	20.47		
2	07.47	07.33	08.05 (BAP11)	06.57	07.07	07.34 (BAP10)	06.22	05.55		
	17.07	17.42	41 08.46 (BAP11)	18.15	19.48	50 08.24 (BAP10)	20.19	20.48		
3	07.47	07.32	08.05 (BAP11)	06.55	07.05	07.35 (BAP10)	06.21	05.55		
	17.08	17.43	41 08.46 (BAP11)	18.16	19.49	49 08.24 (BAP10)	20.20	20.48		
4	07.47	07.31	08.05 (BAP11)	06.54	07.04	07.35 (BAP10)	06.20	05.54		
	17.09	17.44	42 08.47 (BAP11)	18.17	19.50	48 08.23 (BAP10)	20.21	20.49		
5	07.47	07.30	08.04 (BAP11)	06.52	07.02	07.34 (BAP10)	06.19	05.54		
	17.10	17.45	42 08.46 (BAP11)	18.18	19.51	48 08.22 (BAP10)	20.22	20.50		
6	07.47	07.29	08.04 (BAP11)	06.51	07.00	07.35 (BAP10)	06.17	05.54		
	17.11	17.46	43 08.47 (BAP11)	18.19	19.52	46 08.21 (BAP10)	20.23	20.50		
7	07.47	07.28	08.04 (BAP11)	06.49	06.59	07.35 (BAP10)	06.16	05.53		
	17.12	17.48	43 08.47 (BAP11)	18.20	19.53	45 08.20 (BAP10)	20.24	20.51		
8	07.47	07.27	08.04 (BAP11)	06.48	06.57	07.36 (BAP10)	06.15	05.53		
	17.13	17.49	43 08.47 (BAP11)	18.21	19.54	43 08.19 (BAP10)	20.25	20.51		
9	07.47	07.25	08.04 (BAP11)	06.46	06.56	07.36 (BAP10)	06.14	05.53		
	17.14	17.50	43 08.47 (BAP11)	18.23	19.55	41 08.17 (BAP10)	20.26	20.52		
10	07.46	07.24	08.05 (BAP11)	06.45	06.54	07.38 (BAP10)	06.13	05.53		
	17.15	17.51	42 08.47 (BAP11)	18.24	19.56	39 08.17 (BAP10)	20.27	20.53		
11	07.46	07.23	08.04 (BAP11)	06.43	06.53	07.38 (BAP10)	06.12	05.52		
	17.16	17.53	42 08.46 (BAP11)	18.25	19.57	37 08.15 (BAP10)	20.28	20.53		
12	07.46	07.22	08.05 (BAP11)	06.41	06.51	07.39 (BAP10)	06.11	05.52		
	17.17	17.54	41 08.46 (BAP11)	18.26	19.58	33 08.12 (BAP10)	20.29	20.54		
13	07.46	07.21	08.06 (BAP11)	06.40	06.49	07.41 (BAP10)	06.10	05.52		
	17.18	17.55	40 08.46 (BAP11)	18.27	19.59	30 08.11 (BAP10)	20.30	20.54		
14	07.45	07.19	08.06 (BAP11)	06.38	06.48	07.42 (BAP10)	06.09	05.52		
	17.19	17.56	40 08.46 (BAP11)	18.28	20.00	26 08.08 (BAP10)	20.31	20.55		
15	07.45	07.18	08.06 (BAP11)	06.37	06.46	07.45 (BAP10)	06.08	05.52		
	17.20	17.57	38 08.44 (BAP11)	18.29	20.01	20 08.05 (BAP10)	20.32	20.55		
16	07.45	07.17	08.07 (BAP11)	06.35	6 07.08 (BAP10)	07.48 (BAP10)	06.07	05.52		
	17.21	17.59	37 08.44 (BAP11)	18.30	19 06.55 (BAP10)	06.45	20.02	13 08.01 (BAP10)	20.33	20.55
17	07.44	07.16	08.09 (BAP11)	06.33	06.52 (BAP10)	06.43	06.06	05.52		
	17.22	18.00	34 08.43 (BAP11)	18.31	25 07.17 (BAP10)	20.03	20.34	20.56		
18	07.44	07.14	08.09 (BAP11)	06.32	06.50 (BAP10)	06.42	06.05	05.52		
	17.24	18.01	32 08.41 (BAP11)	18.32	29 07.19 (BAP10)	20.04	20.35	20.56		
19	07.43	07.13	08.11 (BAP11)	06.30	06.48 (BAP10)	06.40	06.04	05.52		
	17.25	18.02	29 08.40 (BAP11)	18.33	32 07.20 (BAP10)	20.06	20.36	20.56		
20	07.43	07.12	08.13 (BAP11)	06.28	06.47 (BAP10)	06.39	06.03	05.53		
	17.26	6 08.25 (BAP11)	18.03	26 08.39 (BAP11)	18.34	35 07.22 (BAP10)	20.07	20.37	20.57	
21	07.42	08.16 (BAP11)	07.10	08.14 (BAP11)	06.27	06.45 (BAP10)	06.37	06.02	05.53	
	17.27	14 08.30 (BAP11)	18.04	22 08.36 (BAP11)	18.35	38 07.23 (BAP10)	20.08	20.38	20.57	
22	07.42	08.13 (BAP11)	07.09	08.17 (BAP11)	06.25	06.43 (BAP10)	06.36	06.02	05.53	
	17.28	19 08.32 (BAP11)	18.06	17 08.34 (BAP11)	18.36	41 07.24 (BAP10)	20.09	20.39	20.57	
23	07.41	08.12 (BAP11)	07.07	08.21 (BAP11)	06.23	06.42 (BAP10)	06.34	06.01	05.53	
	17.29	22 08.34 (BAP11)	18.07	7 08.28 (BAP11)	18.38	43 07.25 (BAP10)	20.10	20.39	20.57	
24	07.40	08.11 (BAP11)	07.06	06.22	06.40 (BAP10)	06.33	06.00	05.53		
	17.31	25 08.36 (BAP11)	18.08	18.39	45 07.25 (BAP10)	20.11	20.40	20.57		
25	07.40	08.10 (BAP11)	07.04	06.20	06.38 (BAP10)	06.32	05.59	05.54		
	17.32	28 08.38 (BAP11)	18.09	18.40	47 07.25 (BAP10)	20.12	20.41	20.58		
26	07.39	08.09 (BAP11)	07.03	06.18	06.38 (BAP10)	06.30	05.59	05.54		
	17.33	30 08.39 (BAP11)	18.10	18.41	48 07.26 (BAP10)	20.13	20.42	20.58		
27	07.38	08.08 (BAP11)	07.02	06.17	06.37 (BAP10)	06.29	05.58	05.54		
	17.34	32 08.40 (BAP11)	18.11	18.42	49 07.26 (BAP10)	20.14	20.43	20.58		
28	07.37	08.07 (BAP11)	07.00	06.15	06.37 (BAP10)	06.28	05.58	05.55		
	17.35	34 08.41 (BAP11)	18.13	18.43	49 07.26 (BAP10)	20.15	20.44	20.58		
29	07.36	08.06 (BAP11)		07.14	07.36 (BAP10)	06.26	05.57	05.55		
	17.37	36 08.42 (BAP11)		19.44	50 08.26 (BAP10)	20.16	20.44	20.58		
30	07.36	08.06 (BAP11)		07.12	07.35 (BAP10)	06.25	05.56	05.56		
	17.38	38 08.44 (BAP11)		19.45	50 08.25 (BAP10)	20.17	20.45	20.58		
31	07.35	08.06 (BAP11)		07.10	07.36 (BAP10)		05.56			
	17.39	39 08.45 (BAP11)		19.46	50 08.26 (BAP10)		20.46			
Potential sun hours	299	298	370	398	447	450				
Total, worst case	323	824	656	618						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F168 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (228)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December		
1	05.56 20.58	06.19 20.39	06.49 19.57	07.37 (BAP10) 08.14 (BAP10)	07.19 19.07	06.52 17.21	07.34 (BAP11) 08.16 (BAP11)	07.26 16.57
2	05.56 20.58	06.20 20.38	06.50 19.55	07.36 (BAP10) 08.15 (BAP10)	07.20 19.05	06.53 17.20	07.34 (BAP11) 08.17 (BAP11)	07.27 16.57
3	05.57 20.57	06.21 20.37	06.51 19.54	07.34 (BAP10) 08.15 (BAP10)	07.21 19.04	06.54 17.19	07.34 (BAP11) 08.17 (BAP11)	07.28 16.57
4	05.58 20.57	06.22 20.36	06.52 19.52	07.33 (BAP10) 08.16 (BAP10)	07.22 19.02	06.56 17.18	07.34 (BAP11) 08.17 (BAP11)	07.29 16.57
5	05.58 20.57	06.23 20.35	06.53 19.50	07.32 (BAP10) 08.17 (BAP10)	07.23 19.00	06.57 17.16	07.34 (BAP11) 08.17 (BAP11)	07.30 16.57
6	05.59 20.57	06.24 20.34	06.54 19.49	07.31 (BAP10) 08.17 (BAP10)	07.24 18.59	06.58 17.15	07.35 (BAP11) 08.17 (BAP11)	07.31 16.56
7	05.59 20.56	06.25 20.32	06.55 19.47	07.30 (BAP10) 08.18 (BAP10)	07.25 18.57	06.59 17.14	07.35 (BAP11) 08.17 (BAP11)	07.32 16.56
8	06.00 20.56	06.26 20.31	06.56 19.45	07.30 (BAP10) 08.18 (BAP10)	07.26 18.56	07.00 17.13	07.35 (BAP11) 08.16 (BAP11)	07.33 16.56
9	06.01 20.56	06.27 20.30	06.57 19.44	07.28 (BAP10) 08.17 (BAP10)	07.27 18.54	07.01 17.12	07.35 (BAP11) 08.16 (BAP11)	07.34 16.56
10	06.01 20.55	06.28 20.29	06.58 19.42	07.28 (BAP10) 08.17 (BAP10)	07.28 18.52	07.03 17.11	07.37 (BAP11) 08.16 (BAP11)	07.35 16.56
11	06.02 20.55	06.29 20.27	06.59 19.40	07.27 (BAP10) 08.17 (BAP10)	07.29 18.51	07.04 17.10	07.37 (BAP11) 08.15 (BAP11)	07.36 16.56
12	06.03 20.55	06.30 20.26	07.00 19.39	07.27 (BAP10) 08.17 (BAP10)	07.30 18.49	07.05 17.09	07.37 (BAP11) 08.15 (BAP11)	07.36 16.57
13	06.03 20.54	06.31 20.25	07.01 19.37	07.26 (BAP10) 08.16 (BAP10)	07.31 18.48	07.06 17.08	07.38 (BAP11) 08.14 (BAP11)	07.37 16.57
14	06.04 20.54	06.32 20.23	07.02 19.35	07.26 (BAP10) 08.16 (BAP10)	07.32 18.46	07.07 17.07	07.40 (BAP11) 08.14 (BAP11)	07.38 16.57
15	06.05 20.53	06.33 20.22	07.03 19.34	07.26 (BAP10) 08.16 (BAP10)	07.33 18.45	07.08 17.07	07.41 (BAP11) 08.13 (BAP11)	07.39 16.57
16	06.06 20.52	06.34 20.21	07.04 19.32	07.26 (BAP10) 08.15 (BAP10)	07.34 18.43	07.10 17.06	07.42 (BAP11) 08.12 (BAP11)	07.39 16.57
17	06.06 20.52	06.35 20.19	07.05 19.30	07.26 (BAP10) 08.14 (BAP10)	07.35 18.42	07.11 17.05	07.43 (BAP11) 08.11 (BAP11)	07.40 16.58
18	06.07 20.51	06.36 20.18	07.06 19.29	07.26 (BAP10) 08.14 (BAP10)	07.36 18.40	07.12 17.04	07.45 (BAP11) 08.10 (BAP11)	07.41 16.58
19	06.08 20.51	06.37 20.17	07.07 19.27	07.27 (BAP10) 08.13 (BAP10)	07.37 18.39	07.13 17.03	07.47 (BAP11) 08.09 (BAP11)	07.41 16.58
20	06.09 20.50	06.38 20.15	07.08 19.25	07.28 (BAP10) 08.11 (BAP10)	07.39 18.37	07.14 17.03	07.48 (BAP11) 08.07 (BAP11)	07.42 16.59
21	06.10 20.49	06.39 20.14	07.09 19.24	07.29 (BAP10) 08.10 (BAP10)	07.40 18.36	07.15 17.02	07.51 (BAP11) 08.05 (BAP11)	07.43 16.59
22	06.10 20.48	06.40 20.12	07.10 19.22	07.30 (BAP10) 08.09 (BAP10)	07.41 18.34	07.16 17.02	07.54 (BAP11) 08.01 (BAP11)	07.43 17.00
23	06.11 20.48	06.41 20.11	07.11 19.20	07.31 (BAP10) 08.07 (BAP10)	07.42 18.33	07.18 17.01	07.47 (BAP11) 09.10 (BAP11)	07.44 17.00
24	06.12 20.47	06.42 20.09	07.12 19.19	07.32 (BAP10) 08.05 (BAP10)	07.43 18.32	07.19 17.00	07.48 (BAP11) 09.12 (BAP11)	07.44 17.01
25	06.13 20.46	06.43 20.08	07.13 19.17	07.33 (BAP10) 08.03 (BAP10)	07.44 17.30	07.20 17.00	07.49 (BAP11) 08.13 (BAP11)	07.44 17.01
26	06.14 20.45	06.44 20.06	07.14 19.15	07.34 (BAP10) 08.01 (BAP10)	07.45 17.29	07.21 16.59	07.50 (BAP11) 08.14 (BAP11)	07.45 17.02
27	06.15 20.44	06.45 20.05	07.15 19.14	07.36 (BAP10) 07.58 (BAP10)	07.46 17.28	07.22 16.59	07.52 (BAP11) 08.14 (BAP11)	07.45 17.03
28	06.16 20.43	06.46 20.03	07.16 19.12	07.39 (BAP10) 07.52 (BAP10)	07.47 17.26	07.23 16.58	07.55 (BAP11) 08.15 (BAP11)	07.46 17.03
29	06.17 20.42	06.47 20.02	07.17 19.10	07.43 (BAP10) 08.09 (BAP10)	07.49 17.25	07.24 16.58	07.56 (BAP11) 08.16 (BAP11)	07.46 17.04
30	06.18 20.41	06.48 20.00	07.18 19.09	07.44 (BAP10) 08.11 (BAP10)	07.50 19.09	07.25 16.58	07.57 (BAP11) 08.16 (BAP11)	07.46 17.05
31	06.19 20.40	06.49 19.58	07.19 19.08	07.45 (BAP10) 08.12 (BAP10)	07.51 19.08	07.26 16.58	07.58 (BAP11) 08.16 (BAP11)	07.46 17.06
Potential sun hours	457	427	375	346	299	290		
Total, worst case		123	1170	417	742			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F172 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (229)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47	07.34	06.58	07.09	06.24	19.24 (BAP10) 05.55
	17.07	17.40	18.14	19.47	20.18	31 19.55 (BAP10) 20.47
2	07.47	07.33	06.57	07.07	06.22	19.22 (BAP10) 05.55
	17.07	17.41	18.15	19.48	20.19	34 19.56 (BAP10) 20.47
3	07.47	07.32	06.55	07.05	06.21	19.22 (BAP10) 05.54
	17.08	17.43	18.16	19.49	20.20	35 19.57 (BAP10) 20.48
4	07.47	07.31	06.54	17.39 (BAP11) 07.04	06.20	19.22 (BAP10) 05.54
	17.09	17.44	18.17	6 17.45 (BAP11) 19.50	20.21	36 19.58 (BAP10) 20.49
5	07.47	07.30	06.52	17.33 (BAP11) 07.02	06.19	19.22 (BAP10) 05.54
	17.10	17.45	18.18	17 17.50 (BAP11) 19.51	20.22	37 19.59 (BAP10) 20.50
6	07.47	07.29	06.51	17.29 (BAP11) 07.00	06.17	19.22 (BAP10) 05.53
	17.11	17.46	18.19	23 17.52 (BAP11) 19.52	20.23	38 20.00 (BAP10) 20.50
7	07.47	07.28	06.49	17.27 (BAP11) 06.59	06.16	19.22 (BAP10) 05.53
	17.12	17.48	18.20	28 17.55 (BAP11) 19.53	20.24	39 20.01 (BAP10) 20.51
8	07.47	07.26	06.48	17.25 (BAP11) 06.57	06.15	19.22 (BAP10) 05.53
	17.13	17.49	18.21	31 17.56 (BAP11) 19.54	20.25	40 20.02 (BAP10) 20.51
9	07.47	07.25	06.46	17.24 (BAP11) 06.56	06.14	19.21 (BAP10) 05.53
	17.14	17.50	18.22	33 17.57 (BAP11) 19.55	20.26	41 20.02 (BAP10) 20.52
10	07.46	07.24	06.44	17.22 (BAP11) 06.54	06.13	19.21 (BAP10) 05.53
	17.15	17.51	18.24	36 17.58 (BAP11) 19.56	20.27	42 20.03 (BAP10) 20.53
11	07.46	07.23	06.43	17.20 (BAP11) 06.52	06.12	19.21 (BAP10) 05.52
	17.16	17.52	18.25	38 17.58 (BAP11) 19.57	20.28	42 20.03 (BAP10) 20.53
12	07.46	07.22	06.41	17.20 (BAP11) 06.51	06.11	19.21 (BAP10) 05.52
	17.17	17.54	18.26	39 17.59 (BAP11) 19.58	20.29	42 20.03 (BAP10) 20.54
13	07.46	07.21	06.40	17.19 (BAP11) 06.49	06.10	19.21 (BAP10) 05.52
	17.18	17.55	18.27	41 18.00 (BAP11) 19.59	20.30	41 20.02 (BAP10) 20.54
14	07.45	07.19	06.38	17.19 (BAP11) 06.48	06.09	19.23 (BAP10) 05.52
	17.19	17.56	18.28	41 18.00 (BAP11) 20.00	20.31	40 20.03 (BAP10) 20.55
15	07.45	07.18	06.36	17.18 (BAP11) 06.46	06.08	19.23 (BAP10) 05.52
	17.20	17.57	18.29	42 18.00 (BAP11) 20.01	20.32	40 20.03 (BAP10) 20.55
16	07.45	07.17	06.35	17.17 (BAP11) 06.45	06.07	19.23 (BAP10) 05.52
	17.21	17.58	18.30	43 18.00 (BAP11) 20.02	20.33	39 20.02 (BAP10) 20.55
17	07.44	07.15	06.33	17.17 (BAP11) 06.43	06.06	19.24 (BAP10) 05.52
	17.22	18.00	18.31	43 18.00 (BAP11) 20.03	20.34	37 20.01 (BAP10) 20.56
18	07.44	07.14	06.32	17.17 (BAP11) 06.42	06.05	19.24 (BAP10) 05.52
	17.24	18.01	18.32	43 18.00 (BAP11) 20.04	20.35	37 20.01 (BAP10) 20.56
19	07.43	07.13	06.30	17.16 (BAP11) 06.40	06.04	19.24 (BAP10) 05.52
	17.25	18.02	18.33	43 17.59 (BAP11) 20.05	20.36	36 20.00 (BAP10) 20.56
20	07.43	07.11	06.28	17.17 (BAP11) 06.39	06.03	19.25 (BAP10) 05.52
	17.26	18.03	18.34	42 17.59 (BAP11) 20.06	20.37	34 19.59 (BAP10) 20.57
21	07.42	07.10	06.27	17.16 (BAP11) 06.37	06.02	19.26 (BAP10) 05.53
	17.27	18.04	18.35	42 17.58 (BAP11) 20.08	20.38	33 19.59 (BAP10) 20.57
22	07.41	07.09	06.25	17.16 (BAP11) 06.36	06.02	19.27 (BAP10) 05.53
	17.28	18.06	18.36	41 17.57 (BAP11) 20.09	9 19.47 (BAP10) 20.38	31 19.58 (BAP10) 20.57
23	07.41	07.07	06.23	17.17 (BAP11) 06.34	06.01	19.27 (BAP10) 05.53
	17.29	18.07	18.37	40 17.57 (BAP11) 20.10	13 19.47 (BAP10) 20.39	30 19.57 (BAP10) 20.57
24	07.40	07.06	06.22	17.17 (BAP11) 06.33	06.00	19.29 (BAP10) 05.53
	17.31	18.08	18.38	38 17.55 (BAP11) 20.11	17 19.49 (BAP10) 20.40	28 19.57 (BAP10) 20.57
25	07.39	07.04	06.20	17.18 (BAP11) 06.32	05.59	19.30 (BAP10) 05.54
	17.32	18.09	18.40	36 17.54 (BAP11) 20.12	19 19.49 (BAP10) 20.41	26 19.56 (BAP10) 20.58
26	07.39	07.03	06.18	17.19 (BAP11) 06.30	05.59	19.30 (BAP10) 05.54
	17.33	18.10	18.41	34 17.53 (BAP11) 20.13	22 19.50 (BAP10) 20.42	25 19.55 (BAP10) 20.58
27	07.38	07.01	06.17	17.20 (BAP11) 06.29	05.58	19.32 (BAP10) 05.54
	17.34	18.11	18.42	31 17.51 (BAP11) 20.14	24 19.51 (BAP10) 20.43	23 19.55 (BAP10) 20.58
28	07.37	07.00	06.15	17.21 (BAP11) 06.27	05.57	19.33 (BAP10) 05.55
	17.35	18.12	18.43	28 17.49 (BAP11) 20.15	27 19.52 (BAP10) 20.44	20 19.53 (BAP10) 20.58
29	07.36		07.13	18.23 (BAP11) 06.26	05.57	19.35 (BAP10) 05.55
	17.37		19.44	24 18.47 (BAP11) 20.16	28 19.53 (BAP10) 20.44	17 19.52 (BAP10) 20.58
30	07.35		07.12	18.25 (BAP11) 06.25	05.56	19.36 (BAP10) 05.55
	17.38		19.45	19 18.44 (BAP11) 20.17	30 19.54 (BAP10) 20.45	14 19.50 (BAP10) 20.58
31	07.35		07.10	18.29 (BAP11)	05.56	19.39 (BAP10)
	17.39		19.46	10 18.39 (BAP11)	20.46	10 19.49 (BAP10)
Potential sun hours	299	298	370	398	447	450
Total, worst case			932	189	1018	3

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F172 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (229)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	06.19	19.32 (BAP10) 06.49	07.19	17.58 (BAP11) 06.52	07.26
	20.58	20.39	41 20.13 (BAP10) 19.57	19.07	40 18.38 (BAP11) 17.21	16.57
2	05.56	06.20	19.32 (BAP10) 06.50	07.20	17.59 (BAP11) 06.53	07.27
	20.57	20.38	42 20.14 (BAP10) 19.55	19.05	38 18.37 (BAP11) 17.20	16.57
3	05.57	06.21	19.31 (BAP10) 06.51	07.21	17.59 (BAP11) 06.54	07.28
	20.57	20.37	42 20.13 (BAP10) 19.53	19.04	37 18.36 (BAP11) 17.19	16.57
4	05.57	06.22	19.31 (BAP10) 06.52	07.22	18.00 (BAP11) 06.55	07.29
	20.57	20.36	42 20.13 (BAP10) 19.52	19.02	35 18.35 (BAP11) 17.18	16.57
5	05.58	06.23	19.31 (BAP10) 06.53	07.23	18.02 (BAP11) 06.57	07.30
	20.57	20.35	41 20.12 (BAP10) 19.50	19.00	32 18.34 (BAP11) 17.16	16.57
6	05.59	06.24	19.31 (BAP10) 06.54	07.24	18.03 (BAP11) 06.58	07.31
	20.57	20.33	40 20.11 (BAP10) 19.49	18.59	29 18.32 (BAP11) 17.15	16.56
7	05.59	06.25	19.31 (BAP10) 06.55	07.25	18.05 (BAP11) 06.59	07.32
	20.56	20.32	38 20.09 (BAP10) 19.47	18.57	25 18.30 (BAP11) 17.14	16.56
8	06.00	06.26	19.31 (BAP10) 06.56	07.26	18.07 (BAP11) 07.00	07.33
	20.56	20.31	37 20.08 (BAP10) 19.45	18.56	20 18.27 (BAP11) 17.13	16.56
9	06.00	06.27	19.32 (BAP10) 06.57	07.27	18.10 (BAP11) 07.01	07.34
	20.56	20.30	35 20.07 (BAP10) 19.44	18.54	13 18.23 (BAP11) 17.12	16.56
10	06.01	06.28	19.32 (BAP10) 06.58	07.28		07.02 07.35
	20.55	20.29	34 20.06 (BAP10) 19.42	18.52		17.11 16.56
11	06.02	06.29	19.31 (BAP10) 06.59	07.29		07.04 07.36
	20.55	20.27	33 20.04 (BAP10) 19.40	18.51		17.10 16.56
12	06.02	19.48 (BAP10) 06.30	19.32 (BAP10) 07.00	18.22 (BAP11) 07.30		07.05 07.36
	20.54	8 19.56 (BAP10) 20.26	31 20.03 (BAP10) 19.39	8 18.30 (BAP11) 18.49		17.09 16.57
13	06.03	19.45 (BAP10) 06.31	19.32 (BAP10) 07.01	18.17 (BAP11) 07.31		07.06 07.37
	20.54	13 19.58 (BAP10) 20.25	30 20.02 (BAP10) 19.37	17 18.34 (BAP11) 18.48		17.08 16.57
14	06.04	19.44 (BAP10) 06.32	19.33 (BAP10) 07.02	18.14 (BAP11) 07.32		07.07 07.38
	20.53	16 20.00 (BAP10) 20.23	27 20.00 (BAP10) 19.35	23 18.37 (BAP11) 18.46		17.07 16.57
15	06.05	19.43 (BAP10) 06.33	19.33 (BAP10) 07.03	18.12 (BAP11) 07.33		07.08 07.39
	20.53	19 20.02 (BAP10) 20.22	26 19.59 (BAP10) 19.34	27 18.39 (BAP11) 18.45		17.07 16.57
16	06.05	19.42 (BAP10) 06.34	19.34 (BAP10) 07.04	18.10 (BAP11) 07.34		07.09 07.39
	20.52	21 20.03 (BAP10) 20.21	24 19.58 (BAP10) 19.32	30 18.40 (BAP11) 18.43		17.06 16.57
17	06.06	19.40 (BAP10) 06.35	19.35 (BAP10) 07.05	18.08 (BAP11) 07.35		07.11 07.40
	20.52	24 20.04 (BAP10) 20.19	22 19.57 (BAP10) 19.30	33 18.41 (BAP11) 18.42		17.05 16.58
18	06.07	19.39 (BAP10) 06.36	19.37 (BAP10) 07.06	18.06 (BAP11) 07.36		07.12 07.41
	20.51	26 20.05 (BAP10) 20.18	18 19.55 (BAP10) 19.29	36 18.42 (BAP11) 18.40		17.04 16.58
19	06.08	19.39 (BAP10) 06.37	19.38 (BAP10) 07.07	18.05 (BAP11) 07.37		07.13 07.41
	20.50	27 20.06 (BAP10) 20.16	16 19.54 (BAP10) 19.27	37 18.42 (BAP11) 18.39		17.03 16.58
20	06.09	19.38 (BAP10) 06.38	19.40 (BAP10) 07.08	18.04 (BAP11) 07.38		07.14 07.42
	20.50	29 20.07 (BAP10) 20.15	13 19.53 (BAP10) 19.25	39 18.43 (BAP11) 18.37		17.03 16.59
21	06.10	19.38 (BAP10) 06.39	19.43 (BAP10) 07.09	18.03 (BAP11) 07.40		07.15 07.42
	20.49	30 20.08 (BAP10) 20.14	8 19.51 (BAP10) 19.24	40 18.43 (BAP11) 18.36		17.02 16.59
22	06.10	19.36 (BAP10) 06.40	07.10	18.02 (BAP11) 07.41		07.16 07.43
	20.48	32 20.08 (BAP10) 20.12	19.22	41 18.43 (BAP11) 18.34		17.01 17.00
23	06.11	19.36 (BAP10) 06.41	07.11	18.01 (BAP11) 07.42		07.18 07.44
	20.47	33 20.09 (BAP10) 20.11	19.20	42 18.43 (BAP11) 18.33		17.01 17.00
24	06.12	19.35 (BAP10) 06.42	07.12	18.00 (BAP11) 07.43		07.19 07.44
	20.47	35 20.10 (BAP10) 20.09	19.19	42 18.42 (BAP11) 18.32		17.00 17.01
25	06.13	19.35 (BAP10) 06.43	07.13	17.59 (BAP11) 06.44		07.20 07.44
	20.46	36 20.11 (BAP10) 20.08	19.17	43 18.42 (BAP11) 17.30		17.00 17.01
26	06.14	19.34 (BAP10) 06.44	07.14	17.59 (BAP11) 06.45		07.21 07.45
	20.45	38 20.12 (BAP10) 20.06	19.15	43 18.42 (BAP11) 17.29		16.59 17.02
27	06.15	19.34 (BAP10) 06.45	07.15	17.58 (BAP11) 06.46		07.22 07.45
	20.44	38 20.12 (BAP10) 20.05	19.14	43 18.41 (BAP11) 17.27		16.59 17.03
28	06.16	19.34 (BAP10) 06.46	07.16	17.58 (BAP11) 06.47		07.23 07.45
	20.43	39 20.13 (BAP10) 20.03	19.12	43 18.41 (BAP11) 17.26		16.58 17.03
29	06.17	19.33 (BAP10) 06.46	07.17	17.58 (BAP11) 06.49		07.24 07.46
	20.42	40 20.13 (BAP10) 20.01	19.10	42 18.40 (BAP11) 17.25		16.58 17.04
30	06.18	19.32 (BAP10) 06.47	07.18	17.58 (BAP11) 06.50		07.25 07.46
	20.41	41 20.13 (BAP10) 20.00	19.09	41 18.39 (BAP11) 17.24		16.58 17.05
31	06.18	19.32 (BAP10) 06.48		06.51		07.46
	20.40	41 20.13 (BAP10) 19.58		17.22		17.05
Potential sun hours	457	427	375	346	299	290
Total, worst case	586	640	670	269		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F174 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (230)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June		
1	07.47 17.07	07.34 17.40	06.59 18.14	17.29 (BAP05) 19.47	07.09 198	09.40 (BAP07) 06.24	09.05 (BAP07) 05.55	08.56 (BAP07) 271
2	07.47 17.07	07.33 17.42	06.57 18.15	17.31 (BAP05) 19.48	07.07 200	09.38 (BAP07) 06.22	09.05 (BAP07) 05.55	08.56 (BAP07) 271
3	07.47 17.08	07.32 17.43	06.56 18.16	17.33 (BAP05) 19.49	07.05 203	09.37 (BAP07) 06.21	09.03 (BAP07) 05.55	08.56 (BAP07) 272
4	07.47 17.09	07.31 17.44	06.54 18.17	10.11 (BAP07) 19.50	07.04 205	09.35 (BAP07) 06.20	09.03 (BAP07) 05.54	08.57 (BAP07) 271
5	07.47 17.10	07.30 17.45	06.52 18.18	10.01 (BAP07) 19.51	07.02 208	09.33 (BAP07) 06.19	09.02 (BAP07) 05.54	08.56 (BAP07) 272
6	07.47 17.11	07.29 17.46	06.51 18.19	09.55 (BAP07) 19.52	07.01 211	09.32 (BAP07) 06.17	09.02 (BAP07) 05.54	08.56 (BAP07) 272
7	07.47 17.12	07.28 17.48	06.49 18.20	09.48 (BAP07) 19.53	06.59 213	09.30 (BAP07) 06.16	09.01 (BAP07) 05.53	08.57 (BAP07) 272
8	07.47 17.13	07.27 17.49	06.48 18.22	09.43 (BAP07) 19.54	06.57 216	09.29 (BAP07) 06.15	09.01 (BAP07) 05.53	08.57 (BAP07) 272
9	07.47 17.14	07.25 17.50	06.46 18.23	09.39 (BAP07) 19.55	06.56 218	09.27 (BAP07) 06.14	09.01 (BAP07) 05.53	08.56 (BAP07) 273
10	07.47 17.15	07.24 17.51	06.45 18.24	09.35 (BAP07) 19.56	06.54 220	09.26 (BAP07) 06.13	09.00 (BAP07) 05.53	08.56 (BAP07) 273
11	07.46 17.16	07.23 17.53	06.43 18.25	09.31 (BAP07) 19.57	06.53 222	09.25 (BAP07) 06.12	09.00 (BAP07) 05.52	08.57 (BAP07) 272
12	07.46 17.17	07.22 17.54	06.41 18.26	09.27 (BAP07) 19.58	06.51 224	09.23 (BAP07) 06.11	09.00 (BAP07) 05.52	08.57 (BAP07) 273
13	07.46 17.18	07.21 17.55	06.40 18.27	09.24 (BAP07) 19.59	06.49 226	09.22 (BAP07) 06.10	08.59 (BAP07) 05.52	08.57 (BAP07) 273
14	07.45 17.19	07.19 17.56	06.38 18.28	09.21 (BAP07) 20.00	06.48 228	09.20 (BAP07) 06.09	08.59 (BAP07) 05.52	08.57 (BAP07) 273
15	07.45 17.20	07.18 17.57	06.37 18.29	09.18 (BAP07) 20.01	06.46 230	09.20 (BAP07) 06.08	08.58 (BAP07) 05.52	08.57 (BAP07) 274
16	07.45 17.21	07.17 17.59	06.35 18.30	09.15 (BAP07) 20.02	06.45 232	09.18 (BAP07) 06.07	08.58 (BAP07) 05.52	08.56 (BAP07) 273
17	07.44 17.22	07.16 18.00	06.33 18.31	09.12 (BAP07) 20.04	06.43 234	09.17 (BAP07) 06.06	08.58 (BAP07) 05.52	08.56 (BAP07) 273
18	07.44 17.24	07.14 18.01	06.32 18.32	09.09 (BAP07) 20.05	06.42 235	09.16 (BAP07) 06.05	08.57 (BAP07) 05.52	08.56 (BAP07) 273
19	07.43 17.25	07.13 18.02	06.30 18.33	09.07 (BAP07) 20.06	06.40 237	09.15 (BAP07) 06.04	08.57 (BAP07) 05.52	08.56 (BAP07) 273
20	07.43 17.26	07.12 18.03	06.28 18.34	09.05 (BAP07) 20.07	06.39 239	09.13 (BAP07) 06.03	08.57 (BAP07) 05.53	08.59 (BAP07) 273
21	07.42 17.27	07.10 18.04	06.27 18.35	09.02 (BAP07) 20.08	06.37 240	09.13 (BAP07) 06.02	08.57 (BAP07) 05.53	08.59 (BAP07) 273
22	07.42 17.28	07.09 18.06	06.25 18.37	08.59 (BAP07) 20.09	06.36 242	09.12 (BAP07) 06.02	08.56 (BAP07) 05.53	08.59 (BAP07) 273
23	07.41 17.29	07.07 18.07	06.23 18.38	08.58 (BAP07) 20.10	06.35 243	09.11 (BAP07) 06.01	08.56 (BAP07) 05.53	08.59 (BAP07) 273
24	07.40 17.31	07.06 18.08	06.22 18.39	08.55 (BAP07) 20.11	06.33 245	09.10 (BAP07) 06.00	08.56 (BAP07) 05.53	09.00 (BAP07) 273
25	07.40 17.32	07.05 18.09	06.20 18.40	08.54 (BAP07) 20.12	06.32 245	09.10 (BAP07) 06.00	08.56 (BAP07) 05.54	09.00 (BAP07) 273
26	07.39 17.33	07.03 18.10	06.18 18.41	08.51 (BAP07) 20.13	06.30 247	09.08 (BAP07) 06.00	08.57 (BAP07) 05.54	09.00 (BAP07) 273
27	07.38 17.34	07.02 18.11	06.17 18.42	08.49 (BAP07) 20.14	06.29 248	09.08 (BAP07) 06.00	08.56 (BAP07) 05.54	09.01 (BAP07) 273
28	07.37 17.35	07.00 18.13	06.15 18.43	08.48 (BAP07) 20.15	06.28 250	09.07 (BAP07) 06.00	08.56 (BAP07) 05.55	09.00 (BAP07) 273
29	07.36 17.37		06.14 19.44	08.46 (BAP07) 20.16	06.26 250	09.06 (BAP07) 06.00	08.56 (BAP07) 05.55	09.00 (BAP07) 273
30	07.36 17.38		06.12 19.45	08.43 (BAP07) 20.17	06.25 252	09.05 (BAP07) 06.00	08.55 (BAP07) 05.56	09.01 (BAP07) 273
31	07.35 17.39		06.10 19.46	08.42 (BAP07) 20.17	06.25 252	09.05 (BAP07) 06.00	08.55 (BAP07) 05.56	09.01 (BAP07) 273
Potential sun hours	299	298	370	398	447	471	450	8179
Total, worst case		200	3836	6861	8175		8179	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F174 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (230)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December				
1	05.56 20.58	09.01 (BAP07) 13.34 (BAP07)	06.19 20.39	09.09 (BAP07) 13.31 (BAP07)	06.50 19.57	09.24 (BAP07) 13.06 (BAP07)	07.19 19.07	10.06 (BAP07) 12.03 (BAP07)	06.52 17.21	07.26 16.57
2	05.56 20.58	09.02 (BAP07) 13.34 (BAP07)	06.20 20.38	09.10 (BAP07) 13.31 (BAP07)	06.50 19.55	09.24 (BAP07) 13.04 (BAP07)	07.20 19.05	10.09 (BAP07) 11.59 (BAP07)	06.53 17.20	07.27 16.57
3	05.57 20.57	09.01 (BAP07) 13.34 (BAP07)	06.21 20.37	09.10 (BAP07) 13.31 (BAP07)	06.51 19.54	09.25 (BAP07) 13.03 (BAP07)	07.21 19.04	10.12 (BAP07) 11.56 (BAP07)	06.54 17.19	07.28 16.57
4	05.58 20.57	09.02 (BAP07) 13.35 (BAP07)	06.22 20.36	09.10 (BAP07) 13.30 (BAP07)	06.52 19.52	09.26 (BAP07) 13.02 (BAP07)	07.22 19.02	10.15 (BAP07) 11.52 (BAP07)	06.56 17.18	07.29 16.57
5	05.58 20.57	09.02 (BAP07) 13.34 (BAP07)	06.23 20.35	09.11 (BAP07) 13.30 (BAP07)	06.53 19.50	09.27 (BAP07) 13.00 (BAP07)	07.23 19.01	10.19 (BAP07) 11.47 (BAP07)	06.57 17.17	07.30 16.57
6	05.59 20.57	09.02 (BAP07) 13.35 (BAP07)	06.24 20.34	09.11 (BAP07) 13.29 (BAP07)	06.54 19.49	09.28 (BAP07) 12.59 (BAP07)	07.24 18.59	10.23 (BAP07) 11.42 (BAP07)	06.58 17.15	07.31 16.57
7	05.59 20.57	09.03 (BAP07) 13.35 (BAP07)	06.25 20.32	09.12 (BAP07) 13.29 (BAP07)	06.55 19.47	09.29 (BAP07) 12.57 (BAP07)	07.25 18.57	10.27 (BAP07) 11.37 (BAP07)	06.59 17.14	07.32 16.56
8	06.00 20.56	09.03 (BAP07) 13.35 (BAP07)	06.26 20.31	09.12 (BAP07) 13.29 (BAP07)	06.56 19.45	09.30 (BAP07) 12.56 (BAP07)	07.26 18.56	10.33 (BAP07) 11.31 (BAP07)	07.00 17.13	07.33 16.56
9	06.01 20.56	09.03 (BAP07) 13.35 (BAP07)	06.27 20.30	09.13 (BAP07) 13.28 (BAP07)	06.57 19.44	09.30 (BAP07) 12.53 (BAP07)	07.27 18.54	10.40 (BAP07) 11.23 (BAP07)	07.01 17.12	07.34 16.56
10	06.01 20.56	09.04 (BAP07) 13.35 (BAP07)	06.28 20.29	09.13 (BAP07) 13.27 (BAP07)	06.58 19.42	09.31 (BAP07) 12.51 (BAP07)	07.28 18.52	10.53 (BAP07) 18.14 (BAP05)	07.03 17.11	07.35 16.56
11	06.02 20.55	09.04 (BAP07) 13.35 (BAP07)	06.29 20.27	09.13 (BAP07) 13.27 (BAP07)	06.59 19.41	09.32 (BAP07) 12.50 (BAP07)	07.29 18.51	18.06 (BAP05)	07.04	07.36
12	06.03 20.55	09.04 (BAP07) 13.35 (BAP07)	06.30 20.26	09.13 (BAP07) 13.25 (BAP07)	07.00 19.39	09.33 (BAP07) 12.48 (BAP07)	07.30 18.49	18.03 (BAP05)	07.05	07.37
13	06.03 20.54	09.05 (BAP07) 13.35 (BAP07)	06.31 20.25	09.13 (BAP07) 13.25 (BAP07)	07.01 19.37	09.34 (BAP07) 12.46 (BAP07)	07.31 18.48	18.02 (BAP05)	07.06	07.37
14	06.04 20.54	09.04 (BAP07) 13.35 (BAP07)	06.32 20.24	09.14 (BAP07) 13.24 (BAP07)	07.02 19.36	09.36 (BAP07) 12.45 (BAP07)	07.32 18.46	18.00 (BAP05)	07.07	07.38
15	06.05 20.53	09.05 (BAP07) 13.35 (BAP07)	06.33 20.22	09.14 (BAP07) 13.23 (BAP07)	07.03 19.34	09.37 (BAP07) 12.43 (BAP07)	07.33 18.45	18.22 (BAP05)	07.07	07.39
16	06.06 20.53	09.05 (BAP07) 13.35 (BAP07)	06.34 20.21	09.15 (BAP07) 13.23 (BAP07)	07.04 19.32	09.38 (BAP07) 12.41 (BAP07)	07.34 18.43	17.59 (BAP05)	07.10	07.40
17	06.06 20.52	09.06 (BAP07) 13.35 (BAP07)	06.35 20.19	09.15 (BAP07) 13.22 (BAP07)	07.05 19.30	09.39 (BAP07) 12.39 (BAP07)	07.35 18.42	17.59 (BAP05)	07.11	07.40
18	06.07 20.51	09.05 (BAP07) 13.34 (BAP07)	06.36 20.18	09.16 (BAP07) 13.21 (BAP07)	07.06 19.29	09.41 (BAP07) 12.37 (BAP07)	07.36 18.40	17.58 (BAP05)	07.12	07.41
19	06.08 20.51	09.06 (BAP07) 13.35 (BAP07)	06.37 20.17	09.16 (BAP07) 13.20 (BAP07)	07.07 19.27	09.42 (BAP07) 12.35 (BAP07)	07.37 18.39	17.58 (BAP05)	07.13	07.42
20	06.09 20.50	09.06 (BAP07) 13.35 (BAP07)	06.38 20.15	09.17 (BAP07) 13.19 (BAP07)	07.08 19.25	09.44 (BAP07) 12.33 (BAP07)	07.39 18.37	18.16 (BAP05)	07.14	07.42
21	06.10 20.49	09.07 (BAP07) 13.35 (BAP07)	06.39 20.14	09.17 (BAP07) 13.18 (BAP07)	07.09 19.24	09.45 (BAP07) 12.30 (BAP07)	07.40 18.36	17.58 (BAP05)	07.15	07.43
22	06.10 20.48	09.07 (BAP07) 13.35 (BAP07)	06.40 20.12	09.18 (BAP07) 13.18 (BAP07)	07.10 19.22	09.47 (BAP07) 12.28 (BAP07)	07.41 18.34	18.13 (BAP05)	07.17	07.43
23	06.11 20.48	09.07 (BAP07) 13.34 (BAP07)	06.41 20.11	09.18 (BAP07) 13.17 (BAP07)	07.11 19.20	09.49 (BAP07) 12.26 (BAP07)	07.42 18.33	17.59 (BAP05)	07.18	07.44
24	06.12 20.47	09.07 (BAP07) 13.34 (BAP07)	06.42 20.09	09.19 (BAP07) 13.16 (BAP07)	07.12 19.19	09.50 (BAP07) 12.23 (BAP07)	07.43 18.32	18.10 (BAP05)	07.19	07.44
25	06.13 20.46	09.07 (BAP07) 13.34 (BAP07)	06.43 20.08	09.20 (BAP07) 13.15 (BAP07)	07.13 19.17	09.52 (BAP07) 12.21 (BAP07)	07.44 18.30	18.09 (BAP05)	07.20	07.45
26	06.14 20.45	09.08 (BAP07) 13.34 (BAP07)	06.44 20.06	09.20 (BAP07) 13.14 (BAP07)	07.14 19.15	09.54 (BAP07) 12.18 (BAP07)	07.45 18.29	17.03 (BAP05)	07.21	07.45
27	06.15 20.44	09.08 (BAP07) 13.33 (BAP07)	06.45 20.05	09.20 (BAP07) 13.11 (BAP07)	07.15 19.14	09.56 (BAP07) 12.15 (BAP07)	07.46 18.28	17.06 (BAP05)	07.22	07.45
28	06.16 20.43	09.09 (BAP07) 13.33 (BAP07)	06.46 20.03	09.21 (BAP07) 13.10 (BAP07)	07.16 19.12	09.58 (BAP07) 12.12 (BAP07)	07.48 18.26	16.59 (BAP05)	07.23	07.46
29	06.17 20.42	09.09 (BAP07) 13.33 (BAP07)	06.47 20.02	09.21 (BAP07) 13.09 (BAP07)	07.17 19.10	10.01 (BAP07) 12.09 (BAP07)	06.49 18.25	17.01 (BAP05)	07.24	07.46
30	06.18 20.41	09.09 (BAP07) 13.33 (BAP07)	06.48 20.00	09.22 (BAP07) 13.08 (BAP07)	07.18 19.09	10.03 (BAP07) 12.06 (BAP07)	06.50 17.24	16.58 (BAP05)	07.25	07.46
31	06.19 20.40	09.09 (BAP07) 13.32 (BAP07)	06.49 19.58	09.23 (BAP07) 13.07 (BAP07)			06.51 17.22		07.46 17.06	
Potential sun hours	457		427		375		346		299	290
Total, worst case	8345		7631		5411		1031			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F176 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (231)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December				
1	07.47	08.09 (BAP05)	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26	07.57 (BAP05)		
2	07.47	08.09 (BAP05)	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.28	08.25 (BAP05)		
3	07.47	08.10 (BAP05)	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.29	08.26 (BAP05)		
4	07.47	08.10 (BAP05)	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.30	08.27 (BAP05)		
5	07.47	08.11 (BAP05)	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30	08.27 (BAP05)		
6	07.47	08.11 (BAP05)	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31	08.28 (BAP05)		
7	07.47	08.12 (BAP05)	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32	08.28 (BAP05)		
8	07.47	08.13 (BAP05)	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33	08.29 (BAP05)		
9	07.47	08.13 (BAP05)	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34	08.29 (BAP05)		
10	07.47	08.14 (BAP05)	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35	08.30 (BAP05)		
11	07.46	08.15 (BAP05)	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36	08.30 (BAP05)		
12	07.46	08.15 (BAP05)	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37	08.30 (BAP05)		
13	07.46	08.16 (BAP05)	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37	08.31 (BAP05)		
14	07.46	08.17 (BAP05)	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38	08.32 (BAP05)		
15	07.45	08.17 (BAP05)	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39	08.32 (BAP05)		
16	07.45	08.19 (BAP05)	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40	08.33 (BAP05)		
17	07.44	08.20 (BAP05)	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40	08.34 (BAP05)		
18	07.44	08.21 (BAP05)	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41	08.34 (BAP05)		
19	07.43	08.23 (BAP05)	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42	08.35 (BAP05)		
20	07.43	08.25 (BAP05)	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42	08.35 (BAP05)		
21	07.42	08.27 (BAP05)	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43	08.36 (BAP05)		
22	07.42	08.37 (BAP05)	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	10	08.02 (BAP05)	07.43	08.36 (BAP05)
23	07.41	18.06	18.37	20.09	20.39	20.57	20.49	20.12	19.22	18.35	17.02	14	08.01 (BAP05)	07.43	08.36 (BAP05)	
24	07.40	18.07	18.38	20.10	20.40	20.58	20.48	20.11	19.21	18.33	17.01	17	08.15 (BAP05)	07.43	08.36 (BAP05)	
25	07.40	18.08	18.39	20.11	20.41	20.58	20.47	20.09	19.19	18.32	17.00	19	08.00 (BAP05)	07.44	08.37 (BAP05)	
26	07.39	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	18.32	17.00	21	08.18 (BAP05)	07.44	08.37 (BAP05)	
27	07.38	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	18.32	17.00	23	08.19 (BAP05)	07.45	08.38 (BAP05)	
28	07.37	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	18.32	17.00	25	08.20 (BAP05)	07.45	08.38 (BAP05)	
29	07.37	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	18.32	17.00	27	08.21 (BAP05)	07.46	08.38 (BAP05)	
30	07.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	18.32	17.00	29	08.22 (BAP05)	07.46	08.38 (BAP05)	
31	07.35	18.14	18.44	20.16	20.45	20.58	20.42	20.02	19.10	18.32	17.00	31	08.23 (BAP05)	07.46	08.39 (BAP05)	
Potential sun hours	299		298	370	398	447	450	457	427	375	346	299	208		290	930
Total, worst case	543															

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project: Eolico_Green_2020_07_13

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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F177 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (232)

Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07.47	08.13 (BAP05)	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26	08.02 (BAP05)
2	07.47	08.14 (BAP05)	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.28	08.02 (BAP05)
3	07.47	08.14 (BAP05)	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.55	07.29	08.01 (BAP05)
4	07.47	08.15 (BAP05)	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.30	08.02 (BAP05)
5	07.47	08.16 (BAP05)	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30	08.02 (BAP05)
6	07.47	08.16 (BAP05)	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31	08.02 (BAP05)
7	07.47	08.17 (BAP05)	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.31	08.03 (BAP05)
8	07.47	08.18 (BAP05)	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.31	08.03 (BAP05)
9	07.47	08.18 (BAP05)	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34	08.04 (BAP05)
10	07.47	08.19 (BAP05)	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35	08.05 (BAP05)
11	07.46	08.20 (BAP05)	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36	08.05 (BAP05)
12	07.46	08.20 (BAP05)	07.22	06.42	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37	08.04 (BAP05)
13	07.46	08.22 (BAP05)	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37	08.05 (BAP05)
14	07.46	08.23 (BAP05)	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38	08.05 (BAP05)
15	07.45	08.23 (BAP05)	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39	08.05 (BAP05)
16	07.45	08.25 (BAP05)	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40	08.06 (BAP05)
17	07.44	08.26 (BAP05)	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40	08.07 (BAP05)
18	07.44	08.28 (BAP05)	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.37	07.12	07.41	08.06 (BAP05)
19	07.43	08.30 (BAP05)	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42	08.07 (BAP05)
20	07.43	08.33 (BAP05)	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42	08.07 (BAP05)
21	07.42	08.41 (BAP05)	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43	08.08 (BAP05)
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.17	07.43	08.08 (BAP05)
23	07.41	07.08	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.18	07.43	08.09 (BAP05)
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.19	07.44	08.09 (BAP05)
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.20	07.44	08.10 (BAP05)
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.21	07.45	08.10 (BAP05)
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.22	07.45	08.11 (BAP05)
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.47	07.23	07.23	07.46	08.11 (BAP05)
29	07.37	18.13	06.14	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.24	07.46	08.12 (BAP05)
30	07.36	07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.18	07.25	07.25	07.25	07.46	08.13 (BAP05)
31	07.35	07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.18	07.25	07.25	07.25	07.46	08.13 (BAP05)
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290	176	993
Total, worst case	516													

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F18 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (235)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47	16.07 (BAP02) 07.34	16.29 (BAP05) 06.59	16.35 (BAP05) 07.09		06.24
	17.07	28 16.35 (BAP02) 17.40	48 17.17 (BAP05) 18.14	68 17.52 (BAP01) 19.47		07.04 (BAP07) 05.55
2	07.47	16.08 (BAP02) 07.33	16.29 (BAP05) 06.57	16.37 (BAP05) 07.07		06.22
	17.07	27 16.35 (BAP02) 17.42	49 17.18 (BAP05) 18.15	66 17.54 (BAP01) 19.48		06.22
3	07.47	16.09 (BAP02) 07.32	16.29 (BAP05) 06.56	16.38 (BAP05) 07.05		06.21
	17.08	27 16.36 (BAP02) 17.43	51 17.20 (BAP05) 18.16	63 17.54 (BAP01) 19.49		06.20
4	07.47	16.10 (BAP02) 07.31	16.28 (BAP05) 06.54	16.41 (BAP05) 07.04		06.20
	17.09	26 16.36 (BAP02) 17.44	53 17.21 (BAP05) 18.17	59 17.56 (BAP01) 19.50		06.21
5	07.47	16.10 (BAP02) 07.30	16.28 (BAP05) 06.53	16.43 (BAP05) 07.02		06.19
	17.10	26 16.36 (BAP02) 17.45	54 17.22 (BAP05) 18.18	55 17.57 (BAP01) 19.51		06.22
6	07.47	16.11 (BAP02) 07.29	16.27 (BAP05) 06.51	16.46 (BAP05) 07.01		07.19 (BAP07) 06.17
	17.11	25 16.36 (BAP02) 17.47	56 17.23 (BAP05) 18.19	49 17.58 (BAP01) 19.52	4	07.23 (BAP07) 06.17
7	07.47	16.12 (BAP02) 07.28	16.27 (BAP05) 06.49	16.49 (BAP05) 06.59		07.17 (BAP07) 06.16
	17.12	24 16.36 (BAP02) 17.48	57 17.24 (BAP05) 18.20	39 17.56 (BAP01) 19.53	8	07.25 (BAP07) 06.16
8	07.47	16.12 (BAP02) 07.27	16.27 (BAP05) 06.48	16.58 (BAP05) 06.57		07.16 (BAP07) 06.15
	17.13	23 16.35 (BAP02) 17.49	59 17.26 (BAP05) 18.22	15 17.53 (BAP01) 19.54	11	07.27 (BAP07) 06.15
9	07.47	16.14 (BAP02) 07.26	16.27 (BAP05) 06.46	17.43 (BAP01) 06.56		07.14 (BAP07) 06.14
	17.14	21 16.35 (BAP02) 17.50	60 17.27 (BAP05) 18.23	6 17.49 (BAP01) 19.55	14	07.28 (BAP07) 06.14
10	07.47	16.15 (BAP02) 07.24	16.27 (BAP05) 06.45			07.13 (BAP07) 06.13
	17.15	20 16.35 (BAP02) 17.51	62 17.29 (BAP05) 18.24		16	07.29 (BAP07) 06.13
11	07.46	16.16 (BAP02) 07.23	16.27 (BAP05) 06.43			07.11 (BAP07) 06.12
	17.16	19 16.35 (BAP02) 17.53	63 17.30 (BAP05) 18.25		18	07.29 (BAP07) 06.12
12	07.46	16.17 (BAP02) 07.22	16.26 (BAP05) 06.41			07.09 (BAP07) 06.11
	17.17	17 16.34 (BAP02) 17.54	65 17.31 (BAP05) 18.26		20	07.29 (BAP07) 06.11
13	07.46	16.19 (BAP02) 07.21	16.27 (BAP05) 06.40			07.08 (BAP07) 06.10
	17.18	14 16.33 (BAP02) 17.55	65 17.32 (BAP05) 18.27		22	07.30 (BAP07) 06.10
14	07.46	16.22 (BAP02) 07.20	16.27 (BAP05) 06.38			07.06 (BAP07) 06.09
	17.19	16 16.54 (BAP05) 17.56	67 17.34 (BAP05) 18.28		24	07.30 (BAP07) 06.09
15	07.45	16.24 (BAP02) 07.18	16.26 (BAP05) 06.37			07.05 (BAP07) 06.08
	17.20	15 16.55 (BAP05) 17.57	68 17.34 (BAP05) 18.29		25	07.30 (BAP07) 06.08
16	07.45	16.44 (BAP05) 07.17	16.27 (BAP05) 06.35			07.03 (BAP07) 06.07
	17.21	13 16.57 (BAP05) 17.59	67 17.34 (BAP05) 18.30		27	07.30 (BAP07) 06.07
17	07.44	16.41 (BAP05) 07.16	16.27 (BAP05) 06.33			07.02 (BAP07) 06.06
	17.23	16 16.57 (BAP05) 18.00	67 17.34 (BAP05) 18.31		28	07.30 (BAP07) 06.06
18	07.44	16.41 (BAP05) 07.14	16.27 (BAP05) 06.32			07.00 (BAP07) 06.05
	17.24	18 16.59 (BAP05) 18.01	66 17.33 (BAP05) 18.32		29	07.29 (BAP07) 06.05
19	07.43	16.39 (BAP05) 07.13	16.28 (BAP05) 06.30			06.59 (BAP07) 06.04
	17.25	21 17.00 (BAP05) 18.02	66 17.34 (BAP05) 18.33		30	07.29 (BAP07) 06.04
20	07.43	16.37 (BAP05) 07.12	16.29 (BAP05) 06.28			06.58 (BAP07) 06.03
	17.26	24 17.01 (BAP05) 18.03	64 17.33 (BAP05) 18.34		31	07.29 (BAP07) 06.03
21	07.42	16.37 (BAP05) 07.10	16.29 (BAP05) 06.27			06.56 (BAP07) 06.02
	17.27	26 17.03 (BAP05) 18.05	66 17.42 (BAP01) 18.36		32	07.28 (BAP07) 06.02
22	07.42	16.36 (BAP05) 07.09	16.29 (BAP05) 06.25			06.55 (BAP07) 06.02
	17.28	28 17.04 (BAP05) 18.06	69 17.44 (BAP01) 18.37		33	07.28 (BAP07) 06.02
23	07.41	16.35 (BAP05) 07.07	16.30 (BAP05) 06.23			06.53 (BAP07) 06.01
	17.29	30 17.05 (BAP05) 18.07	70 17.45 (BAP01) 18.38		33	07.26 (BAP07) 06.01
24	07.40	16.34 (BAP05) 07.06	16.31 (BAP05) 06.22			06.53 (BAP07) 06.00
	17.31	33 17.07 (BAP05) 18.08	69 17.46 (BAP01) 18.39		33	07.26 (BAP07) 06.00
25	07.40	16.33 (BAP05) 07.05	16.31 (BAP05) 06.20			06.54 (BAP07) 05.59
	17.32	35 17.08 (BAP05) 18.09	70 17.47 (BAP01) 18.40		31	07.25 (BAP07) 06.01
26	07.39	16.33 (BAP05) 07.03	16.32 (BAP05) 06.19			06.54 (BAP07) 05.59
	17.33	36 17.09 (BAP05) 18.10	70 17.49 (BAP01) 18.41		29	07.23 (BAP07) 06.02
27	07.38	16.32 (BAP05) 07.02	16.34 (BAP05) 06.17			06.55 (BAP07) 05.58
	17.34	38 17.10 (BAP05) 18.11	70 17.51 (BAP01) 18.42		27	07.22 (BAP07) 06.03
28	07.37	16.31 (BAP05) 07.00	16.34 (BAP05) 06.15			06.57 (BAP07) 05.58
	17.35	40 17.11 (BAP05) 18.13	69 17.51 (BAP01) 18.43		24	07.21 (BAP07) 06.04
29	07.37	16.31 (BAP05)				06.58 (BAP07) 05.57
	17.37	42 17.13 (BAP05)			20	07.18 (BAP07) 06.05
30	07.36	16.31 (BAP05)				07.00 (BAP07) 05.56
	17.38	43 17.14 (BAP05)			16	07.16 (BAP07) 06.05
31	07.35	16.30 (BAP05)				05.56
	17.39	46 17.16 (BAP05)				05.56
Potential sun hours	299	298	370	398	447	450
Total, worst case	817	1760	420	585	8	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F18 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (235)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 20.58	06.20 20.39	06.50 19.57	07.10 (BAP07) 19.07	07.19 19.07	06.52 15.56 (BAP05) 07.26 16.57 (BAP05) 16.58
2	05.57 20.58	06.20 20.38	06.51 19.55	07.11 (BAP07) 19.05	07.20 19.05	06.53 15.57 (BAP05) 07.27 16.57 (BAP05) 16.57
3	05.57 20.57	06.21 20.37	06.51 19.54	07.12 (BAP07) 19.04	07.21 19.04	06.54 15.57 (BAP05) 07.28 16.55 (BAP05) 16.57
4	05.58 20.57	06.22 20.36	06.52 19.52	07.13 (BAP07) 19.02	07.22 19.02	06.56 15.57 (BAP05) 07.29 16.54 (BAP05) 16.57
5	05.58 20.57	06.23 20.35	06.53 19.50	07.14 (BAP07) 19.01	07.23 19.01	06.57 15.58 (BAP05) 07.30 16.53 (BAP05) 16.57
6	05.59 20.57	06.24 20.34	06.54 19.49	07.15 (BAP07) 18.59	07.24 18.59	06.58 15.58 (BAP05) 07.31 16.52 (BAP05) 16.57
7	05.59 20.57	06.25 20.32	06.55 19.47	07.25 18.57	07.25 18.57	06.59 15.58 (BAP05) 07.32 16.51 (BAP05) 16.56
8	06.00 20.56	06.26 20.31	06.56 19.46	07.26 18.56	07.26 18.56	07.00 15.59 (BAP05) 07.33 16.49 (BAP05) 16.56
9	06.01 20.56	06.27 20.30	06.57 19.44	07.27 18.54	07.27 18.54	07.01 15.59 (BAP05) 07.34 16.48 (BAP05) 16.56
10	06.01 20.56	06.28 20.29	06.58 19.42	07.28 18.53	07.28 18.53	07.03 16.00 (BAP05) 07.35 16.48 (BAP05) 16.56
11	06.02 20.55	06.29 20.28	06.59 19.41	07.29 18.51	07.29 18.51	07.04 16.01 (BAP05) 07.36 16.47 (BAP05) 16.57
12	06.03 20.55	06.30 20.26	07.00 19.39	07.30 18.49	07.30 18.49	07.05 16.01 (BAP05) 07.37 16.45 (BAP05) 16.57
13	06.03 20.54	06.31 20.25	07.01 19.37	07.31 18.48	07.31 18.48	07.06 16.02 (BAP05) 07.37 16.44 (BAP05) 16.57
14	06.04 20.54	06.32 20.24	07.02 19.36	07.32 18.46	07.32 18.46	07.07 16.04 (BAP05) 07.38 16.44 (BAP05) 16.57
15	06.05 20.53	06.33 20.22	07.03 19.34	07.33 18.45	07.33 18.45	07.09 16.05 (BAP05) 07.39 16.43 (BAP05) 16.57
16	06.06 20.53	06.34 20.21	07.04 19.32	07.34 18.43	07.34 18.43	07.10 16.06 (BAP05) 07.40 16.42 (BAP05) 16.57
17	06.06 20.52	06.35 20.19	07.05 19.31	07.35 18.42	07.35 18.42	07.11 16.06 (BAP05) 07.41 16.41 (BAP05) 16.58
18	06.07 20.51	06.36 20.18	07.06 19.29	07.36 18.40	07.36 18.40	07.12 16.08 (BAP05) 07.42 16.41 (BAP05) 16.58
19	06.08 20.51	06.37 20.17	07.07 19.27	07.37 18.39	07.37 18.39	07.13 16.10 (BAP05) 07.43 16.40 (BAP05) 16.58
20	06.09 20.50	06.38 20.15	07.08 19.25	07.38 18.37	07.38 18.37	07.14 16.11 (BAP05) 07.44 16.39 (BAP05) 16.59
21	06.10 20.49	06.39 20.14	07.09 19.24	07.39 18.36	07.39 18.36	07.15 16.12 (BAP05) 07.45 16.38 (BAP05) 16.59
22	06.10 20.48	06.40 20.12	07.10 19.22	07.40 18.34	07.40 18.34	07.16 16.14 (BAP05) 07.46 16.38 (BAP05) 17.00
23	06.11 20.48	06.41 20.11	07.11 19.20	07.41 18.33	07.41 18.33	07.17 16.16 (BAP05) 07.47 16.37 (BAP05) 17.00
24	06.12 20.47	06.42 20.09	07.12 19.19	07.42 18.32	07.42 18.32	07.18 16.18 (BAP05) 07.48 16.36 (BAP05) 17.01
25	06.13 20.46	06.43 20.08	07.13 19.17	07.43 18.31	07.43 18.31	07.19 16.19 (BAP05) 07.49 16.35 (BAP05) 17.01
26	06.14 20.45	06.44 20.06	07.14 19.15	07.44 18.30	07.44 18.30	07.20 16.22 (BAP05) 07.50 16.35 (BAP05) 17.02
27	06.15 20.44	06.45 20.05	07.15 19.14	07.45 18.29	07.45 18.29	07.21 16.22 (BAP05) 07.51 16.34 (BAP05) 17.03
28	06.16 20.43	06.46 20.03	07.16 19.12	07.46 18.28	07.46 18.28	07.22 16.01 (BAP02) 07.46 16.33 (BAP05) 17.03
29	06.17 20.42	06.47 20.02	07.17 19.10	07.47 18.27	07.47 18.27	07.23 16.00 (BAP02) 07.46 16.14 (BAP02) 17.04
30	06.18 20.41	06.48 20.00	07.18 19.09	07.48 18.26	07.48 18.26	07.24 16.16 (BAP02) 07.46 15.59 (BAP02) 17.05
31	06.19 20.40	06.49 19.58	07.19 19.07	07.49 18.25	07.49 18.25	07.25 16.16 (BAP02) 07.46 15.57 (BAP05) 17.06
Potential sun hours	457	427	375	346	299	290
Total, worst case		528	72	1672	1097	839

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F19 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (266)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January		February		March		April		May		June			
1	07.47	16.08 (BAP02)	07.34	16.24 (BAP05)	06.59	16.46 (BAP05)	07.09		06.24	05.55			
	17.07	24	16.32 (BAP02)	17.40	53	17.17 (BAP05)	18.14	40	17.52 (BAP01)	19.47	20.47		
2	07.47	16.09 (BAP02)	07.33	16.24 (BAP05)	06.57	16.55 (BAP05)	07.07		07.25 (BAP07)	06.22	05.55		
	17.07	23	16.32 (BAP02)	17.42	54	17.18 (BAP05)	18.15	24	17.54 (BAP01)	19.48	20.48		
3	07.47	16.10 (BAP02)	07.32	16.24 (BAP05)	06.56	17.34 (BAP01)	07.05		07.24 (BAP07)	06.21	05.55		
	17.08	23	16.43 (BAP05)	17.43	56	17.20 (BAP05)	18.16	20	17.54 (BAP01)	19.49	20.48		
4	07.47	16.11 (BAP02)	07.31	16.24 (BAP05)	06.54	17.35 (BAP01)	07.04		07.22 (BAP07)	06.20	05.54		
	17.09	25	16.44 (BAP05)	17.44	57	17.21 (BAP05)	18.17	20	17.55 (BAP01)	19.50	20.49		
5	07.47	16.12 (BAP02)	07.30	16.24 (BAP05)	06.53	17.36 (BAP01)	07.02		07.21 (BAP07)	06.19	05.54		
	17.10	27	16.45 (BAP05)	17.45	58	17.22 (BAP05)	18.18	16	17.52 (BAP01)	19.51	20.50		
6	07.47	16.13 (BAP02)	07.29	16.23 (BAP05)	06.51	17.40 (BAP01)	07.01		07.19 (BAP07)	06.17	05.54		
	17.11	28	16.46 (BAP05)	17.47	60	17.23 (BAP05)	18.19	10	17.50 (BAP01)	19.52	20.50		
7	07.47	16.14 (BAP02)	07.28	16.24 (BAP05)	06.49		06.59		07.17 (BAP07)	06.16	05.53		
	17.12	29	16.47 (BAP05)	17.48	60	17.24 (BAP05)	18.20		19.53	18	07.35 (BAP07)	20.24	20.51
8	07.47	16.15 (BAP02)	07.27	16.24 (BAP05)	06.48		06.57		07.16 (BAP07)	06.15	05.53		
	17.13	28	16.47 (BAP05)	17.49	62	17.26 (BAP05)	18.22		19.54	20	07.36 (BAP07)	20.25	20.52
9	07.47	16.16 (BAP02)	07.26	16.24 (BAP05)	06.46		06.56		07.14 (BAP07)	06.14	05.53		
	17.14	28	16.48 (BAP05)	17.50	63	17.27 (BAP05)	18.23		19.55	21	07.35 (BAP07)	20.26	20.52
10	07.47	16.18 (BAP02)	07.24	16.25 (BAP05)	06.45		06.54		07.13 (BAP07)	06.13	05.53		
	17.15	29	16.50 (BAP05)	17.51	64	17.29 (BAP05)	18.24		19.56	23	07.36 (BAP07)	20.27	20.53
11	07.46	16.21 (BAP02)	07.23	16.25 (BAP05)	06.43		06.53		07.11 (BAP07)	06.12	05.52		
	17.16	25	16.51 (BAP05)	17.53	64	17.29 (BAP05)	18.25		19.57	25	07.36 (BAP07)	20.28	20.53
12	07.46	16.32 (BAP05)	07.22	16.25 (BAP05)	06.41		06.51		07.09 (BAP07)	06.11	05.52		
	17.17	19	16.51 (BAP05)	17.54	63	17.28 (BAP05)	18.26		19.58	26	07.35 (BAP07)	20.29	20.54
13	07.46	16.31 (BAP05)	07.21	16.25 (BAP05)	06.40		06.50		07.08 (BAP07)	06.10	05.52		
	17.18	22	16.53 (BAP05)	17.55	63	17.28 (BAP05)	18.27		19.59	28	07.36 (BAP07)	20.30	20.54
14	07.46	16.31 (BAP05)	07.20	16.26 (BAP05)	06.38		06.48		07.06 (BAP07)	06.09	05.52		
	17.19	23	16.54 (BAP05)	17.56	62	17.28 (BAP05)	18.28		20.00	29	07.35 (BAP07)	20.31	20.55
15	07.45	16.30 (BAP05)	07.18	16.26 (BAP05)	06.37		06.46		07.05 (BAP07)	06.08	05.52		
	17.20	25	16.55 (BAP05)	17.57	61	17.27 (BAP05)	18.29		20.01	30	07.35 (BAP07)	20.32	20.55
16	07.45	16.30 (BAP05)	07.17	16.27 (BAP05)	06.35		06.45		07.03 (BAP07)	06.07	05.52		
	17.21	27	16.57 (BAP05)	17.59	60	17.27 (BAP05)	18.30		20.03	31	07.34 (BAP07)	20.33	20.56
17	07.44	16.29 (BAP05)	07.16	16.28 (BAP05)	06.33		06.43		07.02 (BAP07)	06.06	05.52		
	17.23	28	16.57 (BAP05)	18.00	59	17.27 (BAP05)	18.31		20.04	32	07.34 (BAP07)	20.34	20.56
18	07.44	16.29 (BAP05)	07.14	16.28 (BAP05)	06.32		06.42		07.00 (BAP07)	06.05	05.52		
	17.24	30	16.59 (BAP05)	18.01	57	17.25 (BAP05)	18.32		20.05	33	07.33 (BAP07)	20.35	20.56
19	07.43	16.28 (BAP05)	07.13	16.29 (BAP05)	06.30		06.40		06.59 (BAP07)	06.04	05.52		
	17.25	32	17.00 (BAP05)	18.02	60	17.40 (BAP01)	18.33		20.06	33	07.32 (BAP07)	20.36	20.57
20	07.43	16.27 (BAP05)	07.12	16.30 (BAP05)	06.28		06.39		06.58 (BAP07)	06.03	05.53		
	17.26	34	17.01 (BAP05)	18.03	60	17.42 (BAP01)	18.34		20.07	34	07.32 (BAP07)	20.37	20.57
21	07.42	16.27 (BAP05)	07.10	16.31 (BAP05)	06.27		06.37		06.58 (BAP07)	06.02	05.53		
	17.27	36	17.03 (BAP05)	18.05	60	17.42 (BAP01)	18.36		20.08	32	07.30 (BAP07)	20.38	20.57
22	07.42	16.26 (BAP05)	07.09	16.32 (BAP05)	06.25		06.36		06.59 (BAP07)	06.02	05.53		
	17.28	38	17.04 (BAP05)	18.06	60	17.44 (BAP01)	18.37		20.09	30	07.29 (BAP07)	20.39	20.57
23	07.41	16.26 (BAP05)	07.07	16.33 (BAP05)	06.23		06.35		06.59 (BAP07)	06.01	05.53		
	17.29	39	17.05 (BAP05)	18.07	60	17.45 (BAP01)	18.38		20.10	28	07.27 (BAP07)	20.40	20.57
24	07.40	16.26 (BAP05)	07.06	16.35 (BAP05)	06.22		06.33		07.01 (BAP07)	06.00	05.53		
	17.31	41	17.07 (BAP05)	18.08	58	17.46 (BAP01)	18.39		20.11	25	07.26 (BAP07)	20.40	20.58
25	07.40	16.26 (BAP05)	07.05	16.36 (BAP05)	06.20		06.32		07.03 (BAP07)	05.59	05.54		
	17.32	42	17.08 (BAP05)	18.09	56	17.47 (BAP01)	18.40		20.12	21	07.24 (BAP07)	20.41	20.58
26	07.39	16.25 (BAP05)	07.03	16.38 (BAP05)	06.19		06.30		07.04 (BAP07)	05.59	05.54		
	17.33	44	17.09 (BAP05)	18.10	54	17.49 (BAP01)	18.41		20.13	17	07.21 (BAP07)	20.42	20.58
27	07.38	16.25 (BAP05)	07.02	16.41 (BAP05)	06.17		06.29		07.08 (BAP07)	05.58	05.54		
	17.34	45	17.10 (BAP05)	18.11	51	17.51 (BAP01)	18.42		20.14	10	07.18 (BAP07)	20.43	20.58
28	07.37	16.24 (BAP05)	07.00	16.43 (BAP05)	06.15		06.28				05.58	05.55	
	17.35	47	17.11 (BAP05)	18.13	46	17.51 (BAP01)	18.43		20.15		20.44	20.58	
29	07.37	16.25 (BAP05)					07.14		06.26		05.57	05.55	
	17.37	48	17.13 (BAP05)				19.44		20.16		20.45	20.58	
30	07.36	16.25 (BAP05)					07.12		06.25		05.56	05.56	
	17.38	49	17.14 (BAP05)				19.45		20.17		20.45	20.58	
31	07.35	16.24 (BAP05)					07.10				05.56		
	17.39	52	17.16 (BAP05)				19.46				20.46		
Potential sun hours	299		298		370		398		594		447		450
Total, worst case	1010		1641		130		594						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F19 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (266)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December			
1	05.56 20.58	06.20 20.39	06.50 19.57	07.10 (BAP07) 07.35 (BAP07)	07.19 19.07	06.52 17.21	15.53 (BAP05) 16.57 (BAP05)	07.26 16.33 (BAP05)	16.03 (BAP02)
2	05.57 20.58	06.20 20.38	06.51 19.55	07.11 (BAP07) 07.34 (BAP07)	07.20 19.05	06.53 17.20	15.54 (BAP05) 16.57 (BAP05)	07.27 16.57 (BAP05)	16.01 (BAP02)
3	05.57 20.57	06.21 20.37	06.51 19.54	07.12 (BAP07) 07.34 (BAP07)	07.21 19.04	06.54 17.19	15.54 (BAP05) 16.55 (BAP05)	07.28 16.57 (BAP05)	16.00 (BAP02)
4	05.58 20.57	06.22 20.36	06.52 19.52	07.13 (BAP07) 07.33 (BAP07)	07.22 19.02	06.56 17.18	15.53 (BAP05) 16.54 (BAP05)	07.29 16.57 (BAP05)	16.00 (BAP02)
5	05.58 20.57	06.23 20.35	06.53 19.50	07.14 (BAP07) 07.32 (BAP07)	07.23 19.01	06.57 17.17	15.53 (BAP05) 16.53 (BAP05)	07.30 16.57 (BAP05)	15.59 (BAP02)
6	05.59 20.57	06.24 20.34	06.54 19.49	07.15 (BAP07) 07.30 (BAP07)	07.24 18.59	06.58 17.15	15.54 (BAP05) 16.52 (BAP05)	07.31 16.57 (BAP05)	15.59 (BAP02)
7	05.59 20.57	06.25 20.32	06.55 19.47	07.16 (BAP07) 07.29 (BAP07)	07.25 18.57	06.59 17.14	15.54 (BAP05) 16.51 (BAP05)	07.32 16.56 (BAP05)	15.59 (BAP02)
8	06.00 20.56	06.26 20.31	06.56 19.46	07.17 (BAP07) 07.27 (BAP07)	07.26 18.56	07.00 17.13	15.54 (BAP05) 16.49 (BAP05)	07.33 16.56 (BAP05)	15.59 (BAP02)
9	06.01 20.56	06.27 20.30	06.57 19.44	07.18 (BAP07) 07.25 (BAP07)	07.27 18.54	07.01 17.12	15.54 (BAP05) 16.48 (BAP05)	07.34 16.56 (BAP05)	15.58 (BAP02)
10	06.01 20.56	06.28 20.29	06.58 19.42	07.18 (BAP07) 07.21 (BAP07)	07.28 18.53	07.03 17.11	15.55 (BAP05) 16.48 (BAP05)	07.35 16.56 (BAP05)	15.58 (BAP02)
11	06.02 20.55	06.29 20.28	06.59 19.41	07.19 (BAP07) 07.20 (BAP07)	07.29 18.51	07.04 17.10	15.55 (BAP05) 16.47 (BAP05)	07.36 16.57 (BAP05)	15.58 (BAP02)
12	06.03 20.55	06.30 20.26	07.00 19.39	07.20 (BAP07) 07.01 (BAP07)	07.30 18.49	07.05 17.09	15.56 (BAP05) 16.45 (BAP05)	07.37 16.57 (BAP05)	15.59 (BAP02)
13	06.03 20.54	06.31 20.25	07.01 19.37	07.02 (BAP07) 07.08 (BAP07)	07.31 18.48	07.06 17.08	15.56 (BAP05) 16.44 (BAP05)	07.37 16.57 (BAP05)	15.59 (BAP02)
14	06.04 20.54	06.32 20.24	07.02 19.36	07.03 (BAP07) 07.09 (BAP07)	07.32 18.46	07.07 17.07	15.57 (BAP05) 16.44 (BAP05)	07.38 16.57 (BAP05)	15.59 (BAP02)
15	06.05 20.53	06.33 20.22	07.03 19.34	07.04 (BAP07) 07.10 (BAP07)	07.33 18.45	07.09 17.07	15.58 (BAP05) 16.43 (BAP05)	07.39 16.57 (BAP05)	15.59 (BAP02)
16	06.06 20.53	06.34 20.21	07.04 19.32	07.11 (BAP07) 07.17 (BAP07)	07.34 18.43	07.10 17.06	15.58 (BAP05) 16.42 (BAP05)	07.40 16.57 (BAP05)	16.00 (BAP02)
17	06.06 20.52	06.35 20.19	07.05 19.31	07.18 (BAP07) 07.24 (BAP07)	07.35 18.42	07.11 17.05	15.59 (BAP05) 16.41 (BAP05)	07.41 16.58 (BAP05)	16.00 (BAP02)
18	06.07 20.51	06.36 20.18	07.06 19.29	07.25 (BAP07) 07.31 (BAP07)	07.36 18.40	07.12 17.04	16.00 (BAP05) 16.41 (BAP05)	07.42 16.58 (BAP05)	16.00 (BAP02)
19	06.08 20.51	06.37 20.17	07.07 19.27	07.32 (BAP07) 07.38 (BAP07)	07.37 18.39	07.13 17.03	16.01 (BAP05) 16.40 (BAP05)	07.43 16.58 (BAP05)	16.01 (BAP02)
20	06.09 20.50	06.38 20.15	07.08 19.25	07.39 (BAP07) 07.45 (BAP07)	07.38 18.37	07.14 17.02	16.01 (BAP05) 16.39 (BAP05)	07.44 16.59 (BAP05)	16.01 (BAP02)
21	06.10 20.49	06.39 20.14	07.09 19.24	07.46 (BAP07) 07.52 (BAP07)	07.39 18.36	07.15 17.01	16.02 (BAP05) 16.38 (BAP05)	07.45 16.59 (BAP05)	16.02 (BAP02)
22	06.10 20.48	06.40 20.12	07.10 19.22	07.53 (BAP07) 07.59 (BAP07)	07.40 18.34	07.16 17.00	16.03 (BAP05) 16.38 (BAP05)	07.46 17.00 (BAP05)	16.02 (BAP02)
23	06.11 20.48	06.41 20.11	07.11 19.20	08.00 (BAP07) 08.06 (BAP07)	07.41 18.33	07.17 16.59	16.04 (BAP05) 16.37 (BAP05)	07.47 17.00 (BAP05)	16.03 (BAP02)
24	06.12 20.47	06.42 20.09	07.12 19.19	08.07 (BAP07) 08.13 (BAP07)	07.42 18.32	07.18 16.58	16.05 (BAP05) 16.36 (BAP05)	07.48 17.01 (BAP05)	16.03 (BAP02)
25	06.13 20.46	06.43 20.08	07.13 19.17	08.14 (BAP07) 08.20 (BAP07)	07.43 18.30	07.19 16.57	16.06 (BAP05) 16.35 (BAP05)	07.49 17.02 (BAP05)	16.03 (BAP02)
26	06.14 20.45	06.44 20.06	07.14 19.15	08.21 (BAP07) 08.27 (BAP07)	07.44 18.29	07.20 16.56	16.07 (BAP05) 16.34 (BAP05)	07.50 17.03 (BAP05)	16.04 (BAP02)
27	06.15 20.44	06.45 20.05	07.15 19.14	08.28 (BAP07) 08.34 (BAP07)	07.45 18.28	07.21 16.55	16.08 (BAP05) 16.33 (BAP05)	07.51 17.04 (BAP05)	16.04 (BAP02)
28	06.16 20.43	06.46 20.03	07.16 19.12	08.35 (BAP07) 08.41 (BAP07)	07.46 18.26	07.22 16.54	16.09 (BAP05) 16.32 (BAP05)	07.52 17.05 (BAP05)	16.05 (BAP02)
29	06.17 20.42	06.47 20.02	07.17 19.10	08.42 (BAP07) 08.48 (BAP07)	07.47 18.25	07.23 16.53	16.10 (BAP05) 16.31 (BAP05)	07.53 17.06 (BAP05)	16.06 (BAP02)
30	06.18 20.41	06.48 20.00	07.18 19.09	08.49 (BAP07) 08.55 (BAP07)	07.48 18.24	07.24 16.52	16.11 (BAP05) 16.30 (BAP05)	07.54 17.07 (BAP05)	16.07 (BAP02)
31	06.19 20.40	06.49 19.58	07.19 19.07	08.56 (BAP07) 09.02 (BAP07)	07.49 18.22	07.25 16.51	16.12 (BAP05) 16.29 (BAP05)	07.55 17.08 (BAP05)	16.07 (BAP02)
Potential sun hours	457	427	375	346	299	290			
Total, worst case		444	156	1222	1307	800			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F21 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (236)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47	07.34	07.58 (BAP07)	06.59	07.51 (BAP07)	07.09
	17.07	17.40	17.14 (BAP05)	18.14	09.08 (BAP07)	19.47
2	07.47	07.33	07.58 (BAP07)	06.57	07.52 (BAP07)	07.07
	17.07	17.42	17.14 (BAP05)	18.15	09.08 (BAP07)	19.48
3	07.47	07.32	07.57 (BAP07)	06.56	07.52 (BAP07)	07.05
	17.08	17.43	17.14 (BAP05)	18.16	09.06 (BAP07)	19.49
4	07.47	07.31	07.56 (BAP07)	06.54	07.53 (BAP07)	07.04
	17.09	17.44	17.13 (BAP05)	18.17	09.06 (BAP07)	19.50
5	07.47	07.30	07.56 (BAP07)	06.52	07.53 (BAP07)	07.02
	17.10	17.45	17.12 (BAP05)	18.18	09.04 (BAP07)	19.51
6	07.47	07.29	07.55 (BAP07)	06.51	07.54 (BAP07)	07.01
	17.11	17.46	17.10 (BAP05)	18.19	09.03 (BAP07)	19.52
7	07.47	07.28	07.54 (BAP07)	06.49	07.55 (BAP07)	06.59
	17.12	17.48	17.09 (BAP05)	18.20	09.02 (BAP07)	19.53
8	07.47	07.27	07.54 (BAP07)	06.48	07.55 (BAP07)	06.57
	17.13	17.49	17.07 (BAP05)	18.22	09.00 (BAP07)	19.54
9	07.47	07.26	07.53 (BAP07)	06.46	07.57 (BAP07)	06.56
	17.14	17.50	17.04 (BAP05)	18.23	08.59 (BAP07)	19.55
10	07.47	07.24	07.53 (BAP07)	06.45	07.57 (BAP07)	06.54
	17.15	17.51	09.12 (BAP07)	18.24	08.56 (BAP07)	19.56
11	07.46	16.49 (BAP05)	07.23	06.43	07.59 (BAP07)	06.53
	17.16	17.53	09.13 (BAP07)	18.25	08.55 (BAP07)	19.57
12	07.46	16.47 (BAP05)	07.22	06.41	08.00 (BAP07)	06.51
	17.17	17.54	09.12 (BAP07)	18.26	08.53 (BAP07)	19.58
13	07.46	16.44 (BAP05)	07.21	06.40	08.01 (BAP07)	06.49
	17.18	17.55	09.13 (BAP07)	18.27	08.50 (BAP07)	19.59
14	07.45	16.46 (BAP05)	07.19	06.38	08.03 (BAP07)	06.48
	17.19	17.56	09.14 (BAP07)	18.28	08.48 (BAP07)	20.00
15	07.45	16.44 (BAP05)	07.18	06.37	08.05 (BAP07)	06.46
	17.20	17.57	09.13 (BAP07)	18.29	08.45 (BAP07)	20.01
16	07.45	08.21 (BAP07)	07.17	06.35	08.07 (BAP07)	06.45
	17.21	17.59	09.13 (BAP07)	18.30	08.41 (BAP07)	20.02
17	07.44	08.17 (BAP07)	07.16	06.33	08.11 (BAP07)	06.43
	17.22	18.00	09.14 (BAP07)	18.31	08.38 (BAP07)	20.04
18	07.44	08.15 (BAP07)	07.14	06.32	08.15 (BAP07)	06.42
	17.24	18.01	09.13 (BAP07)	18.32	08.32 (BAP07)	20.05
19	07.43	08.13 (BAP07)	07.13	06.30	08.18 (BAP07)	06.40
	17.25	18.02	09.14 (BAP07)	18.33	08.26 (BAP07)	20.06
20	07.43	08.10 (BAP07)	07.12	06.28	08.21 (BAP07)	06.39
	17.26	18.03	09.14 (BAP07)	18.34	08.20 (BAP07)	20.07
21	07.42	08.10 (BAP07)	07.10	06.27	08.24 (BAP07)	06.37
	17.27	18.05	09.13 (BAP07)	18.35	08.18 (BAP07)	20.08
22	07.42	08.08 (BAP07)	07.09	06.25	08.27 (BAP07)	06.36
	17.28	18.06	09.13 (BAP07)	18.37	08.14 (BAP07)	20.09
23	07.41	08.06 (BAP07)	07.07	06.23	08.30 (BAP07)	06.35
	17.29	18.07	09.12 (BAP07)	18.38	08.08 (BAP07)	20.10
24	07.40	08.06 (BAP07)	07.06	06.22	08.33 (BAP07)	06.33
	17.31	18.08	09.12 (BAP07)	18.39	08.04 (BAP07)	20.11
25	07.40	08.04 (BAP07)	07.05	06.20	08.36 (BAP07)	06.32
	17.32	18.09	09.11 (BAP07)	18.40	08.00 (BAP07)	20.12
26	07.39	08.03 (BAP07)	07.03	06.19	08.39 (BAP07)	06.30
	17.33	18.10	09.11 (BAP07)	18.41	07.58 (BAP07)	20.13
27	07.38	08.02 (BAP07)	07.02	06.17	08.42 (BAP07)	06.29
	17.34	18.11	09.10 (BAP07)	18.42	07.54 (BAP07)	20.14
28	07.37	08.01 (BAP07)	07.00	06.15	08.45 (BAP07)	06.28
	17.35	18.13	09.09 (BAP07)	18.43	07.50 (BAP07)	20.15
29	07.36	08.01 (BAP07)		07.14	08.48 (BAP07)	06.26
	17.37	17.13 (BAP05)		19.44	08.43 (BAP07)	20.16
30	07.36	08.00 (BAP07)		07.12	08.51 (BAP07)	06.25
	17.38	17.14 (BAP05)		19.45	08.38 (BAP07)	20.17
31	07.35	07.59 (BAP07)		07.10		05.56
	17.39	17.14 (BAP05)		19.46		20.46
Potential sun hours	299	298	370	398	447	450
Total, worst case	1113	2398	1014			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative**Shadow receptor:** F21 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (236)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December	
1	05.56 20.58	06.19 20.39	06.50 19.57	07.19 19.07	08.40 (BAP07) 17.21	06.52 07.22 (BAP07)	07.26 16.31 (BAP05)
2	05.57 20.58	06.20 20.38	06.50 19.55	07.20 19.05	51 09.31 (BAP07) 08.38 (BAP07)	06.53 17.20	79 08.41 (BAP07) 16.57
3	05.57 20.57	06.21 20.37	06.51 19.54	07.21 19.04	55 09.33 (BAP07) 08.36 (BAP07)	06.54 17.19	88 07.23 (BAP07) 16.57
4	05.58 20.57	06.22 20.36	06.52 19.52	07.22 19.02	58 09.34 (BAP07) 08.35 (BAP07)	06.56 17.18	91 07.24 (BAP07) 16.57
5	05.58 20.57	06.23 20.35	06.53 19.50	07.23 19.01	61 09.36 (BAP07) 08.33 (BAP07)	06.57 17.17	95 07.24 (BAP07) 16.57
6	05.59 20.57	06.24 20.34	06.54 19.49	07.24 18.59	64 09.37 (BAP07) 08.32 (BAP07)	06.58 17.15	97 07.26 (BAP07) 16.57
7	05.59 20.57	06.25 20.32	06.55 19.47	07.25 18.57	66 09.38 (BAP07) 08.31 (BAP07)	06.59 17.14	97 07.26 (BAP07) 16.56
8	06.00 20.56	06.26 20.31	06.56 19.46	07.26 18.56	67 09.38 (BAP07) 08.29 (BAP07)	07.00 17.13	98 07.27 (BAP07) 16.56
9	06.01 20.56	06.27 20.30	06.57 19.44	07.27 18.54	70 09.39 (BAP07) 08.28 (BAP07)	07.01 17.12	97 07.28 (BAP07) 16.56
10	06.01 20.56	06.28 20.29	06.58 19.42	07.28 18.53	72 09.40 (BAP07) 08.27 (BAP07)	07.03 17.11	97 07.29 (BAP07) 16.56
11	06.02 20.55	06.29 20.27	06.59 19.41	07.29 18.51	74 09.41 (BAP07) 08.26 (BAP07)	07.04 17.10	96 07.30 (BAP07) 16.57
12	06.03 20.55	06.30 20.26	07.00 19.39	07.30 18.49	75 09.41 (BAP07) 08.25 (BAP07)	07.05 17.09	95 07.31 (BAP07) 16.57
13	06.03 20.54	06.31 20.25	07.01 19.37	07.31 18.48	77 09.42 (BAP07) 08.24 (BAP07)	07.06 17.08	93 07.32 (BAP07) 16.57
14	06.04 20.54	06.32 20.24	07.02 19.36	07.32 18.46	78 09.42 (BAP07) 08.24 (BAP07)	07.07 17.07	91 07.34 (BAP07) 16.57
15	06.05 20.53	06.33 20.22	07.03 19.34	07.33 18.45	78 09.42 (BAP07) 08.23 (BAP07)	07.09 17.07	88 07.35 (BAP07) 16.57
16	06.06 20.53	06.34 20.21	07.04 19.32	07.34 18.43	79 09.42 (BAP07) 08.23 (BAP07)	17.07 17.10	84 07.36 (BAP07) 16.57
17	06.06 20.52	06.35 20.19	07.05 19.30	07.35 18.42	81 09.44 (BAP07) 08.23 (BAP07)	07.11 17.05	81 07.37 (BAP07) 16.58
18	06.07 20.51	06.36 20.18	07.06 19.29	07.36 18.40	81 09.44 (BAP07) 08.22 (BAP07)	07.12 17.04	78 07.40 (BAP07) 16.58
19	06.08 20.51	06.37 20.17	07.07 19.27	07.38 18.39	82 09.44 (BAP07) 08.22 (BAP07)	07.13 17.04	72 07.41 (BAP07) 16.58
20	06.09 20.50	06.38 20.15	07.08 19.25	07.39 18.37	82 09.44 (BAP07) 08.21 (BAP07)	17.04 17.03	69 07.43 (BAP07) 16.59
21	06.10 20.49	06.39 20.14	07.09 19.24	07.40 18.36	83 09.44 (BAP07) 08.21 (BAP07)	17.15 17.02	64 07.45 (BAP07) 16.59
22	06.10 20.48	06.40 20.12	07.10 19.22	07.41 18.34	83 09.44 (BAP07) 08.20 (BAP07)	17.15 17.02	59 07.47 (BAP07) 17.00
23	06.11 20.48	06.41 20.11	07.11 19.20	07.42 18.33	83 09.43 (BAP07) 08.21 (BAP07)	17.02 17.01	55 07.50 (BAP07) 17.00
24	06.12 20.47	06.42 20.09	07.12 19.19	07.43 18.32	83 09.44 (BAP07) 08.21 (BAP07)	17.01 17.00	48 07.52 (BAP07) 17.01
25	06.13 20.46	06.43 20.08	07.13 19.17	07.44 17.30	83 09.44 (BAP07) 08.44 (BAP07)	17.00 17.00	42 07.55 (BAP07) 17.01
26	06.14 20.45	06.44 20.06	07.14 19.15	07.45 17.29	83 09.44 (BAP07) 08.55 (BAP07)	17.00 17.29	35 07.59 (BAP07) 17.02
27	06.15 20.44	06.45 20.05	07.15 19.14	07.46 17.28	82 08.43 (BAP07) 08.43 (BAP07)	16.59 16.59	26 07.59 (BAP07) 17.03
28	06.16 20.43	06.46 20.03	07.16 19.12	07.47 17.26	82 08.43 (BAP07) 08.43 (BAP07)	16.59 16.59	11 07.59 (BAP07) 17.03
29	06.17 20.42	06.47 20.02	07.17 19.10	07.48 17.25	81 08.43 (BAP07) 08.43 (BAP07)	16.59 16.58	8 07.59 (BAP07) 17.04
30	06.18 20.41	06.48 20.00	07.18 19.09	07.49 17.24	81 08.43 (BAP07) 08.42 (BAP07)	16.58 16.58	7 07.59 (BAP07) 17.04
31	06.19 20.40	06.49 19.58		06.51 17.22	80 08.42 (BAP07) 08.42 (BAP07)	16.58 16.58	4 07.59 (BAP07) 17.05
Potential sun hours	457	427	375	346	299	290	290
Total, worst case			195	2335	2045		2

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F23 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (267)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June		
1	07.47	08.27 (BAP07)	07.34	08.35 (BAP07)	06.59	07.09	06.24	05.55
	17.07	82 09.49 (BAP07)	17.40	107 17.05 (BAP05)	18.14	19.47	20.18	20.47
2	07.47	08.28 (BAP07)	07.33	08.36 (BAP07)	06.57	07.07	06.22	05.55
	17.07	82 09.50 (BAP07)	17.42	103 17.04 (BAP05)	18.15	19.48	20.19	20.48
3	07.47	08.28 (BAP07)	07.32	08.36 (BAP07)	06.56	07.05	06.21	05.55
	17.08	84 16.43 (BAP05)	17.43	100 17.03 (BAP05)	18.16	19.49	20.20	20.48
4	07.47	08.28 (BAP07)	07.31	08.37 (BAP07)	06.54	07.04	06.20	05.54
	17.09	86 16.44 (BAP05)	17.44	92 17.00 (BAP05)	18.17	19.50	20.21	20.49
5	07.47	08.29 (BAP07)	07.30	08.37 (BAP07)	06.52	07.02	06.19	05.54
	17.10	88 16.45 (BAP05)	17.45	83 10.00 (BAP07)	18.18	19.51	20.22	20.50
6	07.47	08.29 (BAP07)	07.29	08.37 (BAP07)	06.51	07.01	06.17	05.54
	17.11	90 16.46 (BAP05)	17.46	82 09.59 (BAP07)	18.19	19.52	20.23	20.50
7	07.47	08.29 (BAP07)	07.28	08.38 (BAP07)	06.49	06.59	06.16	05.53
	17.12	91 16.47 (BAP05)	17.48	80 09.58 (BAP07)	18.20	19.53	20.24	20.51
8	07.47	08.29 (BAP07)	07.27	08.38 (BAP07)	06.48	06.57	06.15	05.53
	17.13	93 16.47 (BAP05)	17.49	80 09.58 (BAP07)	18.22	19.54	20.25	20.52
9	07.47	08.29 (BAP07)	07.26	08.39 (BAP07)	06.46	06.56	06.14	05.53
	17.14	95 16.48 (BAP05)	17.50	78 09.57 (BAP07)	18.23	19.55	20.26	20.52
10	07.47	08.30 (BAP07)	07.24	08.40 (BAP07)	06.45	06.54	06.13	05.53
	17.15	97 16.50 (BAP05)	17.51	76 09.56 (BAP07)	18.24	19.56	20.27	20.53
11	07.46	08.30 (BAP07)	07.23	08.41 (BAP07)	06.43	06.53	06.12	05.52
	17.16	99 16.51 (BAP05)	17.53	75 09.56 (BAP07)	18.25	19.57	20.28	20.53
12	07.46	08.30 (BAP07)	07.22	08.41 (BAP07)	06.41	06.51	06.11	05.52
	17.17	99 16.51 (BAP05)	17.54	73 09.54 (BAP07)	18.26	19.58	20.29	20.54
13	07.46	08.30 (BAP07)	07.21	08.42 (BAP07)	06.40	06.49	06.10	05.52
	17.18	102 16.53 (BAP05)	17.55	71 09.53 (BAP07)	18.27	19.59	20.30	20.54
14	07.45	08.31 (BAP07)	07.19	08.43 (BAP07)	06.38	06.48	06.09	05.52
	17.19	102 16.54 (BAP05)	17.56	69 09.52 (BAP07)	18.28	20.00	20.31	20.55
15	07.45	08.31 (BAP07)	07.18	08.44 (BAP07)	06.37	06.46	06.08	05.52
	17.20	104 16.55 (BAP05)	17.57	66 09.50 (BAP07)	18.29	20.01	20.32	20.55
16	07.45	08.31 (BAP07)	07.17	08.45 (BAP07)	06.35	06.45	06.07	05.52
	17.21	107 16.57 (BAP05)	17.59	64 09.49 (BAP07)	18.30	20.02	20.33	20.56
17	07.44	08.31 (BAP07)	07.16	08.47 (BAP07)	06.33	06.43	06.06	05.52
	17.22	107 16.57 (BAP05)	18.00	61 09.48 (BAP07)	18.31	20.04	20.34	20.56
18	07.44	08.32 (BAP07)	07.14	08.47 (BAP07)	06.32	06.42	06.05	05.52
	17.24	109 16.59 (BAP05)	18.01	59 09.46 (BAP07)	18.32	20.05	20.35	20.56
19	07.43	08.31 (BAP07)	07.13	08.49 (BAP07)	06.30	06.40	06.04	05.52
	17.25	111 17.00 (BAP05)	18.02	55 09.44 (BAP07)	18.33	20.06	20.36	20.57
20	07.43	08.31 (BAP07)	07.12	08.51 (BAP07)	06.28	06.39	06.03	05.53
	17.26	112 17.01 (BAP05)	18.03	51 09.42 (BAP07)	18.34	20.07	20.37	20.57
21	07.42	08.32 (BAP07)	07.10	08.52 (BAP07)	06.27	06.37	06.02	05.53
	17.27	113 17.03 (BAP05)	18.05	47 09.39 (BAP07)	18.35	20.08	20.38	20.57
22	07.42	08.32 (BAP07)	07.09	08.55 (BAP07)	06.25	06.36	06.02	05.53
	17.28	114 17.04 (BAP05)	18.06	42 09.37 (BAP07)	18.37	20.09	20.39	20.57
23	07.41	08.32 (BAP07)	07.07	08.56 (BAP07)	06.23	06.35	06.01	05.53
	17.29	115 17.05 (BAP05)	18.07	38 09.34 (BAP07)	18.38	20.10	20.40	20.57
24	07.40	08.33 (BAP07)	07.06	09.00 (BAP07)	06.22	06.33	06.00	05.53
	17.31	116 17.07 (BAP05)	18.08	30 09.30 (BAP07)	18.39	20.11	20.40	20.58
25	07.40	08.33 (BAP07)	07.05	09.03 (BAP07)	06.20	06.32	05.59	05.54
	17.32	116 17.07 (BAP05)	18.09	22 09.25 (BAP07)	18.40	20.12	20.41	20.58
26	07.39	08.33 (BAP07)	07.03	09.13 (BAP07)	06.18	06.30	05.59	05.54
	17.33	116 17.07 (BAP05)	18.10	2 09.15 (BAP07)	18.41	20.13	20.42	20.58
27	07.38	08.33 (BAP07)	07.02	06.17	06.29	05.58	05.54	05.54
	17.34	116 17.07 (BAP05)	18.11	18.42	20.14	20.43	20.58	20.58
28	07.37	08.33 (BAP07)	07.00	06.15	06.28	05.58	05.55	05.55
	17.35	115 17.07 (BAP05)	18.13	18.43	20.15	20.44	20.58	20.58
29	07.36	08.35 (BAP07)	07.00	07.14	06.26	05.57	05.55	05.55
	17.37	112 17.07 (BAP05)	18.14	19.44	20.16	20.45	20.58	20.58
30	07.36	08.35 (BAP07)	07.00	07.12	06.25	05.56	05.56	05.56
	17.38	111 17.07 (BAP05)	18.15	19.45	20.17	20.45	20.58	20.58
31	07.35	08.35 (BAP07)	07.00	07.10	06.24	05.56	05.56	05.56
	17.39	109 17.06 (BAP05)	18.16	19.46	20.18	20.46	05.56	05.56
Potential sun hours	299	298	370	398	447	450		
Total, worst case	3193	1706						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F23 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (267)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 20.58	06.19 20.39	06.50 19.57	07.19 19.07	06.52 17.21	08.09 (BAP07) 16.57
2	05.56 20.58	06.20 20.38	06.50 19.55	07.20 19.05	06.53 17.20	76 08.09 (BAP07) 78 09.27 (BAP07)
3	05.57 20.57	06.21 20.37	06.51 19.54	07.21 19.04	06.54 17.19	80 08.08 (BAP07) 80 09.28 (BAP07)
4	05.58 20.57	06.22 20.36	06.52 19.52	07.22 19.02	06.56 17.18	81 08.07 (BAP07) 81 09.28 (BAP07)
5	05.58 20.57	06.23 20.35	06.53 19.50	07.23 19.01	06.57 17.17	81 08.07 (BAP07) 81 09.28 (BAP07)
6	05.59 20.57	06.24 20.34	06.54 19.49	07.24 18.59	06.58 17.15	83 08.07 (BAP07) 83 09.30 (BAP07)
7	05.59 20.57	06.25 20.32	06.55 19.47	07.25 18.57	06.59 17.14	83 08.07 (BAP07) 94 16.31 (BAP05)
8	06.00 20.56	06.26 20.31	06.56 19.46	07.26 18.56	07.00 17.13	100 08.06 (BAP07) 100 16.33 (BAP05)
9	06.01 20.56	06.27 20.30	06.57 19.44	07.27 18.54	07.01 17.12	103 08.06 (BAP07) 103 16.34 (BAP05)
10	06.01 20.56	06.28 20.29	06.58 19.42	07.28 18.53	07.03 17.11	107 08.06 (BAP07) 107 16.36 (BAP05)
11	06.02 20.55	06.29 20.27	06.59 19.41	07.29 18.51	07.04 17.10	109 08.06 (BAP07) 109 16.37 (BAP05)
12	06.03 20.55	06.30 20.26	07.00 19.39	07.30 18.49	07.05 17.09	111 08.06 (BAP07) 111 16.38 (BAP05)
13	06.03 20.54	06.31 20.25	07.01 19.37	07.31 18.48	07.06 17.08	113 08.05 (BAP07) 113 16.38 (BAP05)
14	06.04 20.54	06.32 20.24	07.02 19.36	07.32 18.46	07.07 17.07	115 08.06 (BAP07) 115 16.40 (BAP05)
15	06.05 20.53	06.33 20.22	07.03 19.34	07.33 18.45	07.08 17.07	116 08.06 (BAP07) 116 16.40 (BAP05)
16	06.06 20.53	06.34 20.21	07.04 19.32	07.34 18.43	07.10 17.06	116 08.06 (BAP07) 116 16.40 (BAP05)
17	06.06 20.52	06.35 20.19	07.05 19.30	07.35 18.42	07.11 17.05	116 08.06 (BAP07) 116 16.40 (BAP05)
18	06.07 20.51	06.36 20.18	07.06 19.29	07.36 18.40	07.12 17.04	116 08.07 (BAP07) 116 16.41 (BAP05)
19	06.08 20.51	06.37 20.17	07.07 19.27	07.38 18.39	07.13 17.04	115 08.07 (BAP07) 115 16.40 (BAP05)
20	06.09 20.50	06.38 20.15	07.08 19.25	07.39 18.37	07.14 17.03	114 08.07 (BAP07) 114 16.39 (BAP05)
21	06.10 20.49	06.39 20.14	07.09 19.24	07.40 18.36	07.15 17.02	113 08.07 (BAP07) 113 16.38 (BAP05)
22	06.10 20.48	06.40 20.12	07.10 19.22	07.41 18.34	07.17 17.02	112 08.08 (BAP07) 112 16.38 (BAP05)
23	06.11 20.48	06.41 20.11	07.11 19.20	07.42 18.33	07.18 17.01	111 08.08 (BAP07) 111 16.37 (BAP05)
24	06.12 20.47	06.42 20.09	07.12 19.19	07.43 18.32	07.19 17.00	108 08.09 (BAP07) 108 16.36 (BAP05)
25	06.13 20.46	06.43 20.08	07.13 19.17	07.44 17.30	07.20 17.00	107 08.09 (BAP07) 107 16.35 (BAP05)
26	06.14 20.45	06.44 20.06	07.14 19.15	07.45 17.29	07.21 17.00	107 08.09 (BAP07) 107 16.35 (BAP05)
27	06.15 20.44	06.45 20.05	07.15 19.14	07.46 17.28	07.22 17.00	104 08.10 (BAP07) 104 16.34 (BAP05)
28	06.16 20.43	06.46 20.03	07.16 19.12	07.48 17.26	07.23 17.00	102 08.10 (BAP07) 102 16.33 (BAP05)
29	06.17 20.42	06.47 20.02	07.17 19.10	07.49 17.25	07.24 17.00	102 08.11 (BAP07) 102 16.34 (BAP05)
30	06.18 20.41	06.48 20.00	07.18 19.09	07.50 17.24	07.25 17.00	100 08.12 (BAP07) 100 16.33 (BAP05)
31	06.19 20.40	06.49 19.58	07.19 19.07	07.51 17.22	07.26 17.00	82 08.12 (BAP07) 82 17.06
Potential sun hours	457	427	375	346	299	290
Total, worst case				855	3090	2610

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F24 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (237)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January		February		March		April		May		June		
1	07.47	08.09 (BAP07)	07.34	08.18 (BAP07)	06.59	07.09		06.24		06.43 (24)	05.55	
	17.07	32	08.41 (BAP07)	17.40	30	08.48 (BAP07)	18.14	19.47	20.18	13	19.49 (23)	20.47
2	07.47	08.09 (BAP07)	07.33	08.19 (BAP07)	06.57	07.07		06.22		06.43 (24)	05.55	
	17.07	33	08.42 (BAP07)	17.42	28	08.47 (BAP07)	18.15	19.48	20.19	6	19.46 (23)	20.48
3	07.47	08.09 (BAP07)	07.32	08.21 (BAP07)	06.56	07.05		06.21			05.55	
	17.08	33	08.42 (BAP07)	17.43	24	08.45 (BAP07)	18.16	19.49	20.20			20.48
4	07.47	08.09 (BAP07)	07.31	08.23 (BAP07)	06.54	07.04		06.20			05.54	
	17.09	34	08.43 (BAP07)	17.44	20	08.43 (BAP07)	18.17	19.50	20.21			20.49
5	07.47	08.09 (BAP07)	07.30	08.26 (BAP07)	06.53	07.02		06.19			05.54	
	17.10	35	08.44 (BAP07)	17.45	15	08.41 (BAP07)	18.18	19.51	20.22			20.50
6	07.47	08.09 (BAP07)	07.29	08.31 (BAP07)	06.51	07.01		06.17			05.54	
	17.11	36	08.45 (BAP07)	17.46	4	08.35 (BAP07)	18.19	19.52	20.23			20.50
7	07.47	08.09 (BAP07)	07.28			06.49	06.59		06.16			05.53
	17.12	36	08.45 (BAP07)	17.48		18.20	19.53		20.24			20.51
8	07.47	08.08 (BAP07)	07.27			06.48	06.57		06.15			05.53
	17.13	37	08.45 (BAP07)	17.49		18.22	19.54		20.25			20.52
9	07.47	08.08 (BAP07)	07.26			06.46	06.56		06.14			05.53
	17.14	38	08.46 (BAP07)	17.50		18.23	19.55		20.26			20.52
10	07.47	08.08 (BAP07)	07.24			06.45	06.54		06.13			05.53
	17.15	39	08.47 (BAP07)	17.51		18.24	19.56		20.27			20.53
11	07.46	08.08 (BAP07)	07.23			06.43	06.53		06.12			05.52
	17.16	40	08.48 (BAP07)	17.53		18.25	19.57		20.28			20.53
12	07.46	08.07 (BAP07)	07.22			06.41	06.51		06.11			05.52
	17.17	41	08.48 (BAP07)	17.54		18.26	19.58		20.29			20.54
13	07.46	08.07 (BAP07)	07.21			06.40	06.49		06.10			05.52
	17.18	41	08.48 (BAP07)	17.55		18.27	19.59		20.30			20.54
14	07.46	08.07 (BAP07)	07.20			06.38	06.48		06.09			05.52
	17.19	42	08.49 (BAP07)	17.56		18.28	20.00		20.31			20.55
15	07.45	08.07 (BAP07)	07.18			06.37	06.46		06.08			05.52
	17.20	42	08.49 (BAP07)	17.57		18.29	20.01		20.32			20.55
16	07.45	08.08 (BAP07)	07.17			06.35	06.45		06.07			05.52
	17.21	42	08.50 (BAP07)	17.59		18.30	20.03		20.33			20.56
17	07.44	08.08 (BAP07)	07.16			06.33	06.43		06.06			05.52
	17.23	42	08.50 (BAP07)	18.00		18.31	20.04		20.34			20.56
18	07.44	08.08 (BAP07)	07.14			06.32	06.42		06.05			05.52
	17.24	43	08.51 (BAP07)	18.01		18.32	20.05		20.35			20.56
19	07.43	08.08 (BAP07)	07.13			06.30	06.40		06.04			05.52
	17.25	43	08.51 (BAP07)	18.02		18.33	20.06		20.36			20.57
20	07.43	08.08 (BAP07)	07.12			06.28	06.39	19.42 (23)	06.03			05.53
	17.26	42	08.50 (BAP07)	18.03		18.34	20.07	3	19.45 (23)			20.57
21	07.42	08.09 (BAP07)	07.10			06.27	06.37		19.39 (23)			05.53
	17.27	42	08.51 (BAP07)	18.05		18.35	20.08	6	19.45 (23)			20.57
22	07.42	08.09 (BAP07)	07.09			06.25	06.36		19.39 (23)			05.53
	17.28	42	08.51 (BAP07)	18.06		18.37	20.09	8	19.47 (23)			20.57
23	07.41	08.10 (BAP07)	07.07			06.23	06.35		19.37 (23)			05.53
	17.29	41	08.51 (BAP07)	18.07		18.38	20.10	10	19.47 (23)			20.57
24	07.40	08.11 (BAP07)	07.06			06.22	06.33		19.37 (23)			05.53
	17.31	41	08.52 (BAP07)	18.08		18.39	20.11	12	19.49 (23)			20.58
25	07.40	08.11 (BAP07)	07.05			06.20	06.32		19.37 (23)			05.54
	17.32	40	08.51 (BAP07)	18.09		18.40	20.12	13	19.50 (23)			20.58
26	07.39	08.12 (BAP07)	07.03			06.19	06.30		19.36 (23)			05.54
	17.33	39	08.51 (BAP07)	18.10		18.41	20.13	14	19.50 (23)			20.58
27	07.38	08.12 (BAP07)	07.02			06.17	06.29		19.36 (23)			05.54
	17.34	38	08.50 (BAP07)	18.11		18.42	20.14	16	19.52 (23)			20.58
28	07.37	08.13 (BAP07)	07.00			06.15	06.28		06.47 (24)			05.55
	17.35	37	08.50 (BAP07)	18.13		18.43	20.15	17	19.53 (23)			20.58
29	07.37	08.15 (BAP07)				07.14	06.26		06.45 (24)			05.55
	17.37	35	08.50 (BAP07)			19.44	20.16	17	19.51 (23)			20.58
30	07.36	08.16 (BAP07)				07.12	06.25		06.44 (24)			05.56
	17.38	34	08.50 (BAP07)			19.45	20.17	16	19.50 (23)			20.58
31	07.35	08.17 (BAP07)				07.10						
	17.39	32	08.49 (BAP07)			19.46			20.46			
Potential sun hours	299		298			370	398		447			450
Total, worst case	1192		121				132		19			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F24 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (237)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December	
1	05.56 20.58	06.19 20.39	06.50 19.57	07.19 19.07	06.52 17.21	07.26 16.57	07.50 (BAP07) 40 08.30 (BAP07)
2	05.57 20.58	06.20 20.38	06.51 19.55	07.20 19.05	06.53 17.20	07.27 16.57	07.51 (BAP07) 39 08.30 (BAP07)
3	05.57 20.58	06.21 20.37	06.51 19.54	07.21 19.04	06.54 17.19	07.28 16.57	07.52 (BAP07) 38 08.30 (BAP07)
4	05.58 20.57	06.22 20.36	06.52 19.52	07.22 19.02	06.56 17.18	07.29 16.57	07.53 (BAP07) 37 08.30 (BAP07)
5	05.58 20.57	06.23 20.35	06.53 19.50	07.23 19.01	06.57 17.17	07.30 08.06 (BAP07)	07.54 (BAP07) 36 08.30 (BAP07)
6	05.59 20.57	06.24 20.34	06.54 19.49	07.24 18.59	06.58 17.15	07.31 08.11 (BAP07)	07.55 (BAP07) 36 08.31 (BAP07)
7	05.59 20.57	06.25 20.32	06.55 19.47	07.25 18.57	06.59 17.14	07.32 08.13 (BAP07)	07.56 (BAP07) 35 08.31 (BAP07)
8	06.00 20.56	06.26 20.31	06.56 19.46	07.26 18.56	07.00 17.13	07.33 08.15 (BAP07)	07.57 (BAP07) 34 08.31 (BAP07)
9	06.01 20.56	06.27 20.30	06.57 19.44	07.27 18.54	07.01 17.12	07.34 08.17 (BAP07)	07.58 (BAP07) 34 08.32 (BAP07)
10	06.01 20.56	06.28 20.29	06.58 19.42	07.28 18.53	07.03 17.11	07.35 08.19 (BAP07)	07.58 (BAP07) 33 08.31 (BAP07)
11	06.02 20.55	06.29 20.28	06.59 19.56 (24) 19.41	07.29 18.51 17.10	07.04 17.10	07.36 08.20 (BAP07)	07.59 (BAP07) 32 08.31 (BAP07)
12	06.03 20.55	06.30 20.26	06.52 (24) 19.58 (23) 19.39	07.00 18.49 17.09	07.05 17.09	07.37 08.20 (BAP07)	08.00 (BAP07) 32 08.32 (BAP07)
13	06.03 20.54	06.31 20.25	06.52 (24) 19.58 (23) 19.37	07.01 18.48 17.08	07.06 17.08	07.37 08.21 (BAP07)	08.01 (BAP07) 31 08.32 (BAP07)
14	06.04 20.54	06.32 20.24	06.53 (24) 19.59 (23) 19.36	07.02 18.46 17.08	07.07 17.08	07.38 08.23 (BAP07)	08.02 (BAP07) 31 08.33 (BAP07)
15	06.05 20.53	06.33 20.22	06.54 (23) 19.59 (23) 19.34	07.03 18.45 17.07	07.09 17.07	07.39 08.23 (BAP07)	08.02 (BAP07) 30 08.32 (BAP07)
16	06.06 20.53	06.34 20.21	06.54 (23) 19.58 (23) 19.32	07.04 18.43 17.06	07.10 17.06	07.40 08.24 (BAP07)	08.03 (BAP07) 30 08.33 (BAP07)
17	06.06 20.52	06.35 20.19	06.54 (23) 19.57 (23) 19.31	07.05 18.42 17.05	07.11 17.05	07.40 08.24 (BAP07)	08.04 (BAP07) 30 08.34 (BAP07)
18	06.07 20.51	06.36 20.18	06.54 (23) 19.55 (23) 19.29	07.06 18.40 17.04	07.12 17.04	07.41 08.26 (BAP07)	08.04 (BAP07) 29 08.33 (BAP07)
19	06.08 20.51	06.37 20.17	06.54 (23) 19.54 (23) 19.27	07.07 18.39 17.04	07.13 17.04	07.42 08.26 (BAP07)	08.05 (BAP07) 29 08.34 (BAP07)
20	06.09 20.50	06.38 20.15	06.54 (23) 19.53 (23) 19.25	07.08 18.37 17.03	07.14 17.03	07.42 08.26 (BAP07)	08.05 (BAP07) 29 08.34 (BAP07)
21	06.10 20.49	06.39 20.14	06.54 (23) 19.51 (23) 19.24	07.09 18.36 17.02	07.15 17.02	07.43 08.26 (BAP07)	08.06 (BAP07) 29 08.35 (BAP07)
22	06.10 20.48	06.40 20.12	06.54 (23) 19.44 (23) 19.22	07.10 18.34 17.02	07.17 17.02	07.43 08.27 (BAP07)	08.06 (BAP07) 29 08.35 (BAP07)
23	06.11 20.48	06.41 20.11	06.54 (23) 19.46 (23) 19.20	07.11 18.33 17.01	07.18 17.01	07.44 08.28 (BAP07)	08.07 (BAP07) 29 08.36 (BAP07)
24	06.12 20.47	06.42 20.09	07.12 19.19	07.43 18.32	07.19 17.00	07.44 08.28 (BAP07)	08.07 (BAP07) 29 08.36 (BAP07)
25	06.13 20.46	06.43 20.08	07.13 19.17	07.44 17.30	07.20 17.00	07.45 08.28 (BAP07)	08.07 (BAP07) 29 08.36 (BAP07)
26	06.14 20.45	06.44 20.06	07.14 19.15	06.45 17.29	07.21 16.59	07.46 08.28 (BAP07)	08.08 (BAP07) 30 08.38 (BAP07)
27	06.15 20.44	06.45 20.05	07.15 19.14	06.46 17.28	07.22 16.59	07.46 08.28 (BAP07)	08.08 (BAP07) 30 08.38 (BAP07)
28	06.16 20.43	06.46 20.03	07.16 19.12	06.48 17.26	07.23 16.59	07.46 08.28 (BAP07)	08.08 (BAP07) 30 08.38 (BAP07)
29	06.17 20.42	06.47 20.02	07.17 19.10	06.49 17.25	07.24 16.58	07.46 08.29 (BAP07)	08.09 (BAP07) 31 08.40 (BAP07)
30	06.18 20.41	06.48 20.00	07.18 19.09	06.50 17.24	07.25 16.58	07.49 08.30 (BAP07)	08.09 (BAP07) 31 08.40 (BAP07)
31	06.19 20.40	06.49 19.58		06.51 17.22		07.46 17.06	08.09 (BAP07) 31 08.40 (BAP07)
Potential sun hours	457	427	375	346	299	290	
Total, worst case			149		922		993

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F29 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (268)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January		February		March		April		May		June	
1	07.47	08.09 (BAP08)	07.34	08.12 (BAP08)	06.59	07.09	19.02 (BAP05)	06.24	05.55		
	17.07	65 16.30 (BAP06)	17.40	25 08.37 (BAP08)	18.14	19.47	24 19.26 (BAP05)	20.18	20.47		
2	07.47	08.09 (BAP08)	07.33	08.14 (BAP08)	06.57	07.07	19.01 (BAP05)	06.22	05.55		
	17.07	67 16.31 (BAP06)	17.42	22 08.36 (BAP08)	18.15	19.48	25 19.26 (BAP05)	20.19	20.48		
3	07.47	08.09 (BAP08)	07.32	08.15 (BAP08)	06.56	07.05	19.02 (BAP05)	06.21	05.55		
	17.08	68 16.31 (BAP06)	17.43	20 08.35 (BAP08)	18.16	19.49	26 19.28 (BAP05)	20.20	20.48		
4	07.47	08.09 (BAP08)	07.31	08.18 (BAP08)	06.54	07.04	19.02 (BAP05)	06.20	05.54		
	17.09	68 16.31 (BAP06)	17.44	15 08.33 (BAP08)	18.17	19.50	27 19.29 (BAP05)	20.21	20.49		
5	07.47	08.09 (BAP08)	07.30	08.21 (BAP08)	06.52	07.02	19.02 (BAP05)	06.19	05.54		
	17.10	69 16.32 (BAP06)	17.45	9 08.30 (BAP08)	18.18	19.51	27 19.29 (BAP05)	20.22	20.50		
6	07.47	08.09 (BAP08)	07.29		06.51	07.01	19.03 (BAP05)	06.17	05.54		
	17.11	70 16.32 (BAP06)	17.46		18.19	19.52	26 19.29 (BAP05)	20.23	20.50		
7	07.47	08.09 (BAP08)	07.28		06.49	06.59	19.04 (BAP05)	06.16	05.53		
	17.12	71 16.33 (BAP06)	17.48		18.20	19.53	23 19.27 (BAP05)	20.24	20.51		
8	07.47	08.08 (BAP08)	07.27		06.48	06.57	19.06 (BAP05)	06.15	05.53		
	17.13	72 16.32 (BAP06)	17.49		18.22	19.54	19 19.25 (BAP05)	20.25	20.52		
9	07.47	08.08 (BAP08)	07.25		06.46	06.56	19.07 (BAP05)	06.14	05.53		
	17.14	73 16.33 (BAP06)	17.50		18.23	19.55	15 19.22 (BAP05)	20.26	20.52		
10	07.47	08.08 (BAP08)	07.24		06.45	06.54	19.11 (BAP05)	06.13	05.53		
	17.15	73 16.33 (BAP06)	17.51		18.24	19.56	8 19.19 (BAP05)	20.27	20.53		
11	07.46	08.08 (BAP08)	07.23		06.43	06.53		06.12	05.52		
	17.16	74 16.34 (BAP06)	17.53		18.25	19.57		20.28	20.53		
12	07.46	08.07 (BAP08)	07.22		06.41	06.51		06.11	05.52		
	17.17	74 16.33 (BAP06)	17.54		18.26	19.58		20.29	20.54		
13	07.46	08.07 (BAP08)	07.21		06.40	06.49		06.10	05.52		
	17.18	76 16.34 (BAP06)	17.55		18.27	19.59		20.30	20.54		
14	07.45	08.07 (BAP08)	07.19		06.38	06.48		06.09	05.52		
	17.19	76 16.34 (BAP06)	17.56		18.28	20.00		20.31	20.55		
15	07.45	08.06 (BAP08)	07.18		06.37	06.46		06.08	05.52		
	17.20	77 16.34 (BAP06)	17.57		18.29	20.01		20.32	20.55		
16	07.45	08.06 (BAP08)	07.17		06.35	06.45		06.07	05.52		
	17.21	77 16.34 (BAP06)	17.59		18.30	20.02		20.33	20.55		
17	07.44	08.05 (BAP08)	07.16		06.33	06.43		06.06	05.52		
	17.23	77 16.34 (BAP06)	18.00		18.31	20.04		20.34	20.56		
18	07.44	08.05 (BAP08)	07.14		06.32	06.42		06.05	05.52		
	17.24	77 16.34 (BAP06)	18.01		18.32	20.05		20.35	20.56		
19	07.43	08.05 (BAP08)	07.13		06.30	06.40		06.04	05.52		
	17.25	77 16.34 (BAP06)	18.02		18.33	20.06		20.36	20.56		
20	07.43	08.05 (BAP08)	07.12		06.28	06.39		06.03	05.53		
	17.26	75 16.33 (BAP06)	18.03		18.34	20.07		20.37	20.57		
21	07.42	08.05 (BAP08)	07.10		06.27	06.37		06.02	05.53		
	17.27	74 16.33 (BAP06)	18.05		18.35	20.08		20.38	20.57		
22	07.42	08.05 (BAP08)	07.09		06.25	06.36	18.14 (BAP05)	06.02	05.53		
	17.28	74 16.33 (BAP06)	18.06		18.37	2 18.16 (BAP05)	20.09	20.39	20.57		
23	07.41	08.05 (BAP08)	07.07		06.23	06.35	18.11 (BAP05)	06.01	05.53		
	17.29	72 16.32 (BAP06)	18.07		18.38	6 18.17 (BAP05)	20.10	20.40	20.57		
24	07.40	08.07 (BAP08)	07.06		06.22	06.33	18.09 (BAP05)	06.00	05.53		
	17.31	69 16.32 (BAP06)	18.08		18.39	9 18.18 (BAP05)	20.11	20.40	20.58		
25	07.40	08.07 (BAP08)	07.05		06.20	06.32	18.08 (BAP05)	05.59	05.54		
	17.32	67 16.31 (BAP06)	18.09		18.40	11 18.19 (BAP05)	20.12	20.41	20.58		
26	07.39	08.07 (BAP08)	07.03		06.19	06.30	18.06 (BAP05)	05.59	05.54		
	17.33	63 16.30 (BAP06)	18.10		18.41	14 18.20 (BAP05)	20.13	20.42	20.58		
27	07.38	08.07 (BAP08)	07.02		06.17	06.29	18.04 (BAP05)	05.58	05.54		
	17.34	60 16.28 (BAP06)	18.11		18.42	17 18.21 (BAP05)	20.14	20.43	20.58		
28	07.37	08.08 (BAP08)	07.00		06.15	06.28	18.04 (BAP05)	05.58	05.55		
	17.35	56 16.27 (BAP06)	18.13		18.43	18 18.22 (BAP05)	20.15	20.44	20.58		
29	07.36	08.10 (BAP08)			07.14	06.26	19.03 (BAP05)	05.57	05.55		
	17.37	50 16.26 (BAP06)			19.44	20 19.23 (BAP05)	20.16	20.45	20.58		
30	07.36	08.10 (BAP08)			07.12	06.25	19.02 (BAP05)	05.56	05.56		
	17.38	43 16.23 (BAP06)			19.45	22 19.24 (BAP05)	20.17	20.45	20.58		
31	07.35	08.11 (BAP08)			07.10		19.02 (BAP05)	05.56			
	17.39	27 08.38 (BAP08)			19.46	23 19.25 (BAP05)		20.46			
Potential sun hours	299		298		370		398		447		450
Total, worst case	2111		91		142		220				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F29 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (268)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December	
1	05.56 20.58	06.19 20.39	06.50 19.57		07.19 19.07	06.52 17.21	
2	05.57 20.58	06.20 20.38	06.50 19.55	8	19.09 (BAP05) 19.17 (BAP05)	07.20 19.05	06.53 17.20
3	05.57 20.57	06.21 20.37	06.51 19.54	15	19.05 (BAP05) 19.20 (BAP05)	07.21 19.04	06.54 17.19
4	05.58 20.57	06.22 20.36	06.52 19.52	19	19.03 (BAP05) 19.22 (BAP05)	07.22 19.02	06.56 17.18
5	05.58 20.57	06.23 20.35	06.53 19.50	23	19.01 (BAP05) 19.24 (BAP05)	07.23 19.01	06.57 17.17
6	05.59 20.57	06.24 20.34	06.54 19.49	26	18.59 (BAP05) 19.25 (BAP05)	07.24 18.59	06.58 17.15
7	05.59 20.57	06.25 20.32	06.55 19.47	27	18.58 (BAP05) 19.25 (BAP05)	07.25 18.57	06.59 17.14
8	06.00 20.56	06.26 20.31	06.56 19.45	27	18.57 (BAP05) 19.24 (BAP05)	07.26 18.56	07.00 17.13
9	06.01 20.56	06.27 20.30	06.57 19.44	26	18.55 (BAP05) 19.21 (BAP05)	07.27 18.54	07.01 17.12
10	06.01 20.56	06.28 20.29	06.58 19.42	26	18.54 (BAP05) 19.20 (BAP05)	07.28 18.53	07.03 17.11
11	06.02 20.55	06.29 20.27	06.59 19.41	24	18.54 (BAP05) 19.18 (BAP05)	07.29 18.51	07.04 17.10
12	06.03 20.55	06.30 20.26	07.00 19.39	23	18.54 (BAP05) 19.17 (BAP05)	07.30 18.49	07.05 17.09
13	06.03 20.54	06.31 20.25	07.01 19.37	22	18.53 (BAP05) 19.15 (BAP05)	07.31 18.48	07.06 17.08
14	06.04 20.54	06.32 20.24	07.02 19.36	20	18.53 (BAP05) 19.13 (BAP05)	07.32 18.46	07.07 17.08
15	06.05 20.53	06.33 20.22	07.03 19.34	19	18.53 (BAP05) 19.12 (BAP05)	07.33 18.45	07.08 17.07
16	06.06 20.53	06.34 20.21	07.04 19.32	17	18.53 (BAP05) 19.10 (BAP05)	07.34 18.43	07.10 17.06
17	06.06 20.52	06.35 20.19	07.05 19.30	14	18.54 (BAP05) 19.08 (BAP05)	07.35 18.42	07.11 17.05
18	06.07 20.51	06.36 20.18	07.06 19.29	12	18.55 (BAP05) 19.07 (BAP05)	07.36 18.40	07.12 17.04
19	06.08 20.51	06.37 20.17	07.07 19.27	9	18.56 (BAP05) 19.05 (BAP05)	07.37 18.39	07.13 17.04
20	06.09 20.50	06.38 20.15	07.08 19.25	7	18.57 (BAP05) 19.04 (BAP05)	07.39 18.37	07.14 17.03
21	06.10 20.49	06.39 20.14	07.09 19.24	3	18.59 (BAP05) 19.02 (BAP05)	07.40 18.36	07.15 17.02
22	06.10 20.48	06.40 20.12	07.10 19.22			07.41 18.34	07.17 17.02
23	06.11 20.48	06.41 20.11	07.11 19.20			07.42 18.33	07.18 17.01
24	06.12 20.47	06.42 20.09	07.12 19.19			07.43 18.32	07.19 17.00
25	06.13 20.46	06.43 20.08	07.13 19.17			07.44 17.30	07.20 17.00
26	06.14 20.45	06.44 20.06	07.14 19.15			07.45 17.29	07.21 16.59
27	06.15 20.44	06.45 20.05	07.15 19.14			07.46 17.28	07.22 16.59
28	06.16 20.43	06.46 20.03	07.16 19.12			07.47 17.26	07.23 16.59
29	06.17 20.42	06.47 20.02	07.17 19.10			07.48 17.25	07.24 16.58
30	06.18 20.41	06.48 20.00	07.18 19.09			07.49 17.24	07.25 16.58
31	06.19 20.40	06.49 19.58				06.51 17.22	
Potential sun hours	457	427	375			346	299
Total, worst case			367				1436
							290
							2006

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 CumulativeShadow receptor: F31 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (238)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January	February	March	April	May	June
1 07.47 17.07	09.01 (BAP08) 07.34 29 16.41 (BAP06) 17.40	16.31 (BAP06) 06.59 29 17.00 (BAP06) 18.14	07.17 (BAP09) 07.09 22 07.39 (BAP06) 18.14	19.09 (27) 06.24 14 19.23 (27) 20.18	05.55 20.47
2 07.47 17.07	09.03 (BAP08) 07.33 29 16.42 (BAP06) 17.42	16.32 (BAP06) 06.57 28 17.00 (BAP06) 18.15	07.17 (BAP09) 07.07 23 07.40 (BAP09) 19.48	19.08 (27) 06.22 14 19.22 (27) 20.19	05.55 20.48
3 07.47 17.08	09.05 (BAP08) 07.32 26 16.43 (BAP06) 17.43	16.33 (BAP06) 06.56 26 16.59 (BAP06) 18.16	07.16 (BAP09) 07.05 23 07.39 (BAP09) 19.49	19.10 (27) 06.21 11 19.21 (27) 20.20	05.55 20.48
4 07.47 17.09	09.08 (BAP08) 07.31 22 16.44 (BAP06) 17.44	16.35 (BAP06) 06.54 23 16.58 (BAP06) 18.17	07.16 (BAP09) 07.04 24 07.40 (BAP09) 19.50	19.11 (27) 06.20 8 19.19 (27) 20.21	05.54 20.49
5 07.47 17.10	16.25 (BAP06) 07.30 20 16.45 (BAP06) 17.45	16.37 (BAP06) 06.52 19 16.56 (BAP06) 18.18	07.15 (BAP09) 07.02 24 07.39 (BAP06) 19.51	06.19 20.22	05.54 20.50
6 07.47 17.11	16.25 (BAP06) 07.29 21 16.46 (BAP06) 17.46	16.38 (BAP06) 06.51 15 16.53 (BAP06) 18.19	07.16 (BAP09) 07.01 23 07.39 (BAP09) 19.52	06.17 20.23	05.54 20.50
7 07.47 17.12	16.25 (BAP06) 07.28 22 16.47 (BAP06) 17.48	16.43 (BAP06) 06.49 6 16.49 (BAP06) 18.20	07.16 (BAP09) 06.59 22 07.38 (BAP09) 19.53	06.16 20.24	05.53 20.51
8 07.47 17.13	16.24 (BAP06) 07.27 23 16.47 (BAP06) 17.49	06.48 18.22	07.16 (BAP09) 06.57 20 07.36 (BAP09) 19.54	06.15 20.25	05.53 20.52
9 07.47 17.14	16.24 (BAP06) 07.25 24 16.48 (BAP06) 17.50	06.46 18.23	07.18 (BAP09) 06.56 17 07.35 (BAP09) 19.55	06.14 20.26	05.53 20.52
10 07.46 17.15	16.24 (BAP06) 07.24 26 16.50 (BAP06) 17.51	06.45 18.24	07.19 (BAP09) 06.54 14 07.33 (BAP09) 19.56	06.13 20.27	05.53 20.53
11 07.46 17.16	16.25 (BAP06) 07.23 26 16.51 (BAP06) 17.53	06.43 18.25	07.22 (BAP09) 06.53 9 07.31 (BAP09) 19.57	06.12 20.28	05.52 20.53
12 07.46 17.17	16.24 (BAP06) 07.22 27 16.51 (BAP06) 17.54	06.41 18.26	06.51 19.58	06.11 20.29	05.52 20.54
13 07.46 17.18	16.24 (BAP06) 07.21 29 16.53 (BAP06) 17.55	06.40 18.27	06.49 19.59	06.10 20.30	05.52 20.54
14 07.45 17.19	16.25 (BAP06) 07.19 29 16.54 (BAP06) 17.56	06.38 18.28	06.48 20.00	06.09 20.31	05.52 20.55
15 07.45 17.20	16.24 (BAP06) 07.18 31 16.55 (BAP06) 17.57	06.37 18.29	06.46 20.01	06.08 20.32	05.52 20.55
16 07.45 17.21	16.25 (BAP06) 07.17 32 16.57 (BAP06) 17.59	06.35 18.30	06.45 20.02	06.07 20.33	05.52 20.55
17 07.44 17.22	16.24 (BAP06) 07.16 33 16.57 (BAP06) 18.00	06.33 18.31	18.08 (BAP05) 06.43 3 18.11 (BAP05) 20.03	06.06 20.34	05.52 20.56
18 07.44 17.24	16.25 (BAP06) 07.14 34 16.59 (BAP06) 18.01	06.32 18.32	18.06 (BAP05) 06.42 5 18.11 (BAP05) 20.05	06.05 20.35	05.52 20.56
19 07.43 17.25	16.24 (BAP06) 07.13 35 16.59 (BAP06) 18.02	06.30 18.33	18.04 (BAP05) 06.40 8 18.12 (BAP05) 20.06	06.04 20.36	05.52 20.56
20 07.43 17.26	16.24 (BAP06) 07.12 36 17.00 (BAP06) 18.03	06.28 18.34	18.03 (BAP05) 06.39 11 18.14 (BAP05) 20.07	06.03 20.37	05.53 20.57
21 07.42 17.27	16.25 (BAP06) 07.10 36 17.01 (BAP06) 18.04	06.27 18.35	18.02 (BAP05) 06.37 12 18.14 (BAP05) 20.08	06.02 20.38	05.53 20.57
22 07.42 17.28	16.25 (BAP06) 07.09 36 17.01 (BAP06) 18.06	06.25 18.37	18.01 (BAP05) 06.36 14 18.15 (BAP05) 20.09	06.02 20.39	05.53 20.57
23 07.41 17.29	16.25 (BAP06) 07.07 36 17.01 (BAP06) 18.07	06.23 18.38	18.01 (BAP05) 06.35 16 18.17 (BAP05) 20.10	06.01 20.40	05.53 20.57
24 07.40 17.31	16.26 (BAP06) 07.06 36 17.02 (BAP06) 18.08	06.22 18.39	18.17 (BAP05) 20.11 18 18.18 (BAP05) 20.11	06.00 20.40	05.53 20.58
25 07.40 17.32	16.26 (BAP06) 07.04 36 17.02 (BAP06) 18.09	07.23 (BAP09) 06.20 11 07.34 (BAP09) 18.40	18.01 (BAP05) 06.32 18 18.19 (BAP05) 20.12	05.59 20.41	05.54 20.58
26 07.39 17.33	16.26 (BAP06) 07.03 35 17.01 (BAP06) 18.10	07.22 (BAP09) 06.18 14 07.36 (BAP09) 18.41	18.00 (BAP05) 06.30 20 18.20 (BAP05) 20.13	05.59 20.42	05.54 20.58
27 07.38 17.34	16.27 (BAP06) 07.02 34 17.01 (BAP06) 18.11	07.20 (BAP09) 06.17 17 07.37 (BAP09) 18.42	18.00 (BAP05) 06.29 21 18.21 (BAP05) 20.14	05.58 20.43	05.54 20.58
28 07.37 17.35	16.27 (BAP06) 07.00 34 17.01 (BAP06) 18.13	07.19 (BAP09) 06.15 20 07.39 (BAP09) 18.43	18.02 (BAP05) 06.28 20 18.22 (BAP05) 20.15	05.58 20.44	05.55 20.58
29 07.36 17.37	16.29 (BAP06) 06.59 33 17.02 (BAP06) 18.14	07.17 (BAP09) 06.14 21 19.23 (27) 20.16	19.02 (BAP05) 06.26 20.16	05.57 20.45	05.55 20.58
30 07.36 17.38	16.29 (BAP06) 06.58 32 17.01 (BAP06) 18.15	07.12 (BAP09) 06.13 20 19.24 (27) 20.17	19.04 (BAP05) 06.25 20.17	05.56 20.45	05.56 20.58
31 07.35 17.39	16.30 (BAP06) 06.57 31 17.01 (BAP06) 18.16	07.10 (BAP09) 06.12 17 19.24 (27) 20.18	19.07 (BAP05) 06.24 20.18	05.56 20.46	05.56 20.58
Potential sun hours Total, worst case	299 933	298 208	370 445	398 47	447 450

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
	Sun set (hh:mm)			

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 CumulativeShadow receptor: F31 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (238)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December	
1	05.56	06.19	06.50	07.19	06.52	07.26	16.07 (BAP06)
	20.58	20.39	19.57	19.07	17.21	16.57	26 16.33 (BAP06)
2	05.57	06.20	06.50	07.20	08.03 (BAP09)	06.53	07.27 16.07 (BAP06)
	20.58	20.38	19.55	19.05	4 08.07 (BAP09)	17.20	16.57 26 16.33 (BAP06)
3	05.57	06.21	06.51	07.21	07.58 (BAP09)	06.54	07.28 16.08 (BAP06)
	20.57	20.37	19.54	19.04	13 08.11 (BAP09)	17.19	16.57 24 16.32 (BAP06)
4	05.58	06.22	06.52	07.22	07.56 (BAP09)	06.56	16.12 (BAP06) 07.29 16.09 (BAP06)
	20.57	20.36	19.52	19.02	16 08.12 (BAP09)	17.18	8 16.20 (BAP06) 16.57 23 16.32 (BAP06)
5	05.58	06.23	06.53	07.23	07.54 (BAP09)	06.57	16.08 (BAP06) 07.30 16.10 (BAP06)
	20.57	20.35	19.50	19.01	19 08.13 (BAP09)	17.17	15 16.23 (BAP06) 16.57 22 16.32 (BAP06)
6	05.59	06.24	06.54	07.24	07.53 (BAP09)	06.58	16.07 (BAP06) 07.31 16.11 (BAP06)
	20.57	20.34	19.49	18.59	21 08.14 (BAP09)	17.15	19 16.26 (BAP06) 16.57 21 16.32 (BAP06)
7	05.59	06.25	06.55	07.25	07.52 (BAP09)	06.59	16.05 (BAP06) 07.32 16.12 (BAP06)
	20.57	20.32	19.47	18.57	22 08.14 (BAP09)	17.14	23 16.28 (BAP06) 16.56 20 16.32 (BAP06)
8	06.00	06.26	06.56	19.06 (27)	07.26	07.51 (BAP09)	07.00 16.03 (BAP06) 07.33 16.13 (BAP06)
	20.56	20.31	19.45	8 19.14 (27)	18.56	23 08.14 (BAP09)	17.13 26 16.29 (BAP06) 16.56 19 16.32 (BAP06)
9	06.01	06.27	06.57	19.03 (27)	07.27	07.51 (BAP09)	07.01 16.02 (BAP06) 07.34 08.53 (BAP08)
	20.56	20.30	19.44	11 19.14 (27)	18.54	23 08.14 (BAP09)	17.12 28 16.30 (BAP06) 16.56 26 16.31 (BAP06)
10	06.01	06.28	06.58	19.02 (27)	07.28	07.50 (BAP09)	07.03 16.02 (BAP06) 07.35 08.52 (BAP08)
	20.55	20.29	19.42	13 19.15 (27)	18.52	24 08.14 (BAP09)	17.11 29 16.31 (BAP06) 16.56 29 16.31 (BAP06)
11	06.02	06.29	06.59	19.01 (27)	07.29	07.50 (BAP09)	07.04 16.01 (BAP06) 07.36 08.51 (BAP08)
	20.55	20.27	19.41	14 19.15 (27)	18.51	23 08.13 (BAP09)	17.10 31 16.32 (BAP06) 16.56 30 16.31 (BAP06)
12	06.03	06.30	07.00	18.59 (BAP05)	07.30	07.50 (BAP09)	07.05 16.00 (BAP06) 07.37 08.51 (BAP08)
	20.55	20.26	19.39	16 19.15 (27)	18.49	23 08.13 (BAP09)	17.09 32 16.32 (BAP06) 16.57 30 16.31 (BAP06)
13	06.03	06.31	07.01	18.55 (BAP05)	07.31	07.51 (BAP09)	07.06 16.00 (BAP06) 07.37 08.51 (BAP08)
	20.54	20.25	19.37	20 19.15 (27)	18.48	21 08.12 (BAP09)	17.08 33 16.33 (BAP06) 16.57 31 16.32 (BAP06)
14	06.04	06.32	07.02	18.53 (BAP05)	07.32	07.52 (BAP09)	07.07 16.00 (BAP06) 07.38 08.50 (BAP08)
	20.54	20.24	19.36	20 19.13 (27)	18.46	19 08.11 (BAP09)	17.07 34 16.34 (BAP06) 16.57 32 16.31 (BAP06)
15	06.05	06.33	07.03	18.51 (BAP05)	07.33	07.53 (BAP09)	07.08 16.00 (BAP06) 07.39 08.50 (BAP08)
	20.53	20.22	19.34	21 19.12 (27)	18.45	16 08.09 (BAP09)	17.07 34 16.34 (BAP06) 16.57 33 16.32 (BAP06)
16	06.06	06.34	07.04	18.50 (BAP05)	07.34	07.54 (BAP09)	07.10 15.59 (BAP06) 07.40 08.51 (BAP08)
	20.53	20.21	19.32	20 19.10 (BAP05)	18.43	13 08.07 (BAP09)	17.06 35 16.34 (BAP06) 16.57 31 16.32 (BAP06)
17	06.06	06.35	07.05	18.49 (BAP05)	07.35	07.57 (BAP09)	07.11 15.59 (BAP06) 07.40 08.50 (BAP08)
	20.52	20.19	19.30	19 19.08 (BAP05)	18.42	8 08.05 (BAP09)	17.05 36 16.35 (BAP06) 16.58 32 16.32 (BAP06)
18	06.07	06.36	07.06	18.48 (BAP05)	07.36	07.12	16.00 (BAP06) 07.41 08.51 (BAP08)
	20.51	20.18	19.29	19 19.07 (BAP05)	18.40	36 17.04	36 16.36 (BAP06) 16.58 31 16.32 (BAP06)
19	06.08	06.37	07.07	18.48 (BAP05)	07.37	07.13	16.00 (BAP06) 07.41 08.52 (BAP08)
	20.51	20.17	19.27	17 19.05 (BAP05)	18.39	36 17.04	36 16.36 (BAP06) 16.58 31 16.33 (BAP06)
20	06.09	06.38	07.08	18.47 (BAP05)	07.39	07.14	16.00 (BAP06) 07.42 08.51 (BAP08)
	20.50	20.15	19.25	17 19.04 (BAP05)	18.37	36 17.03	36 16.36 (BAP06) 16.59 32 16.33 (BAP06)
21	06.10	06.39	07.09	18.47 (BAP05)	07.40	07.15	16.00 (BAP06) 07.43 08.52 (BAP08)
	20.49	20.14	19.24	15 19.02 (BAP05)	18.36	36 17.02	36 16.36 (BAP06) 16.59 31 16.34 (BAP06)
22	06.10	06.40	07.10	18.47 (BAP05)	07.41	07.17	16.00 (BAP06) 07.43 08.52 (BAP08)
	20.48	20.12	19.22	13 19.00 (BAP05)	18.34	36 17.02	36 16.36 (BAP06) 17.00 31 16.34 (BAP06)
23	06.11	06.41	07.11	18.47 (BAP05)	07.42	07.18	16.02 (BAP06) 07.44 08.53 (BAP08)
	20.48	20.11	19.20	12 18.59 (BAP05)	18.33	34 17.01	34 16.36 (BAP06) 17.00 32 16.35 (BAP06)
24	06.12	06.42	07.12	18.48 (BAP05)	07.43	07.19	16.02 (BAP06) 07.44 08.53 (BAP08)
	20.47	20.09	19.19	9 18.57 (BAP05)	18.32	34 17.00	34 16.36 (BAP06) 17.01 32 16.35 (BAP06)
25	06.13	06.43	07.13	18.49 (BAP05)	06.44	07.20	16.02 (BAP06) 07.45 08.54 (BAP08)
	20.46	20.08	19.17	6 18.55 (BAP05)	17.30	33 17.00	33 16.35 (BAP06) 17.01 31 16.35 (BAP06)
26	06.14	06.44	07.14	18.50 (BAP05)	06.45	07.21	16.03 (BAP06) 07.45 08.55 (BAP08)
	20.45	20.06	19.15	4 18.54 (BAP05)	17.29	32 16.59	32 16.35 (BAP06) 17.02 32 16.37 (BAP06)
27	06.15	06.45	07.15	06.46	07.22	07.22	16.03 (BAP06) 07.45 08.56 (BAP08)
	20.44	20.05	19.14	17.28	16.59	31 17.03	31 16.34 (BAP06) 17.03 31 16.37 (BAP06)
28	06.16	06.46	07.16	06.48	07.23	07.23	16.04 (BAP06) 07.46 08.56 (BAP08)
	20.43	20.03	19.12	17.26	16.58	30 17.02	30 16.34 (BAP06) 17.03 32 16.37 (BAP06)
29	06.17	06.47	07.17	06.49	07.24	07.24	16.05 (BAP06) 07.46 08.57 (BAP08)
	20.42	20.02	19.10	17.25	16.58	29 17.01	29 16.34 (BAP06) 17.04 32 16.38 (BAP06)
30	06.18	06.48	07.18	06.50	07.25	07.25	16.06 (BAP06) 07.46 08.59 (BAP08)
	20.41	20.00	19.09	17.24	16.58	27 17.00	27 16.33 (BAP06) 17.05 31 16.40 (BAP06)
31	06.19	06.49	07.19	06.51	07.26	07.26	16.07 (BAP06) 07.46 09.00 (BAP08)
	20.40	19.58	19.08	17.22	16.57	30 17.06	30 16.40 (BAP06)
Potential sun hours	457	427	375	346	299	290	894
Total, worst case			274	288	813		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative**Shadow receptor:** F32 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (239)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
 The sun is shining all the day, from sunrise to sunset
 The rotor plane is always perpendicular to the line from the WTG to the sun
 The WTG is always operating

January		February		March		April		May		June		
1	07.47	08.48 (BAP10)	07.34		06.59	07.48 (BAP09)	07.09	06.24		05.55	19.56 (BAP07)	
	17.07	7 08.55 (BAP10)	17.40		18.14	08.10 (BAP09)	19.47	20.18		20.47	27 20.23 (BAP07)	
2	07.47	08.51 (BAP10)	07.33		06.57	07.51 (BAP09)	07.07	06.22		05.55	19.55 (BAP07)	
	17.07	2 08.53 (BAP10)	17.42		18.15	08.08 (BAP09)	19.48	20.19		20.48	28 20.23 (BAP07)	
3	07.47		07.32		06.56	07.54 (BAP09)	07.05	06.21		05.55	19.54 (BAP07)	
	17.08		17.43	3	17.20 (BAP06)	18.16	10 08.04 (BAP09)	19.49	20.20		20.48	30 20.24 (BAP07)
4	07.47		07.31		06.54			07.04	06.20		05.54	19.54 (BAP07)
	17.09		17.44	5	17.21 (BAP06)	18.17		19.50	20.21		20.49	31 20.25 (BAP07)
5	07.47		07.30		06.52			07.02	06.19		05.54	19.53 (BAP07)
	17.10		17.45	8	17.21 (BAP06)	18.18		19.51	20.22		20.50	32 20.25 (BAP07)
6	07.47		07.29		06.51			07.00	06.17		05.53	19.53 (BAP07)
	17.11		17.46	10	17.23 (BAP06)	18.19		19.52	20.23		20.50	32 20.25 (BAP07)
7	07.47		07.28		06.49			06.59	06.16		05.53	19.53 (BAP07)
	17.12		17.48	23	17.24 (BAP06)	18.20		19.53	20.24		20.51	33 20.26 (BAP07)
8	07.47		07.27		06.48			06.57	06.15		05.53	19.53 (BAP07)
	17.13		17.49	32	17.26 (BAP06)	18.21		19.54	20.25		20.52	34 20.27 (BAP07)
9	07.47		07.25		06.46			06.56	06.14		05.53	19.52 (BAP07)
	17.14		17.50	36	17.27 (BAP06)	18.23		19.55	20.26		20.52	35 20.27 (BAP07)
10	07.46		07.24		06.45			06.54	06.13		05.53	19.52 (BAP07)
	17.15		17.51	42	17.29 (BAP06)	18.24		19.56	20.27		20.53	35 20.27 (BAP07)
11	07.46		07.23		06.43			06.53	06.12		05.52	19.53 (BAP07)
	17.16		17.53	45	17.30 (BAP06)	18.25		19.57	20.28		20.53	35 20.28 (BAP07)
12	07.46		07.22		06.41			06.51	06.11		05.52	19.53 (BAP07)
	17.17		17.54	50	17.31 (BAP06)	18.26		19.58	20.29		20.54	35 20.28 (BAP07)
13	07.46		07.21		06.40			06.49	06.10		05.52	19.53 (BAP07)
	17.18		17.55	51	17.32 (BAP06)	18.27		19.59	20.30		20.54	36 20.29 (BAP07)
14	07.45		07.19		06.38			06.48	06.09		05.52	19.53 (BAP07)
	17.19		17.56	55	17.34 (BAP06)	18.28		20.00	20.31		20.55	36 20.29 (BAP07)
15	07.45		07.18		06.37			06.46	06.08		05.52	19.53 (BAP07)
	17.20		17.57	55	17.33 (BAP06)	18.29		20.01	20.32		20.55	37 20.30 (BAP07)
16	07.45		07.17		06.35			06.45	06.07		05.52	19.53 (BAP07)
	17.21		17.59	55	17.33 (BAP06)	18.30		20.02	20.33		20.55	37 20.30 (BAP07)
17	07.44		07.16		06.33			06.43	06.06		05.52	19.53 (BAP07)
	17.22		18.00	52	17.32 (BAP06)	18.31		20.03	20.34		20.56	37 20.30 (BAP07)
18	07.44		07.14		06.32			06.42	06.05		05.52	19.53 (BAP07)
	17.24		18.01	49	17.29 (BAP06)	18.32		20.05	20.35		20.56	38 20.31 (BAP07)
19	07.43		07.13		06.30			06.40	06.04		05.52	19.53 (BAP07)
	17.25		18.02	44	17.27 (BAP06)	18.33		20.06	20.36		20.56	38 20.31 (BAP07)
20	07.43		07.12		06.28			06.39	06.03		05.53	19.54 (BAP07)
	17.26		18.03	36	08.19 (BAP09)	18.34		20.07	20.37		20.57	38 20.32 (BAP07)
21	07.42		07.10		06.27			06.37	06.02		05.53	19.54 (BAP07)
	17.27		18.04	36	08.19 (BAP09)	18.35		20.08	20.38		20.57	38 20.32 (BAP07)
22	07.42		07.09		06.25			06.36	06.02	20.12 (BAP07)	05.53	19.54 (BAP07)
	17.28		18.06	36	08.19 (BAP09)	18.36		20.09	20.39	2 20.14 (BAP07)	20.57	38 20.32 (BAP07)
23	07.41		07.07		06.23			06.34	06.01	20.06 (BAP07)	05.53	19.54 (BAP07)
	17.29		18.07	35	08.18 (BAP09)	18.38		20.10	20.39	9 20.15 (BAP07)	20.57	38 20.32 (BAP07)
24	07.40		07.06		06.22			06.33	06.00	20.04 (BAP07)	05.53	19.55 (BAP07)
	17.31		18.08	33	08.17 (BAP09)	18.39		20.11	20.40	12 20.16 (BAP07)	20.58	38 20.33 (BAP07)
25	07.40		07.04		06.20			06.32	05.59	20.02 (BAP07)	05.54	19.55 (BAP07)
	17.32		18.09	32	08.16 (BAP09)	18.40		20.12	20.41	15 20.17 (BAP07)	20.58	37 20.32 (BAP07)
26	07.39		07.03		06.18			06.30	05.59	20.01 (BAP07)	05.54	19.55 (BAP07)
	17.33		18.10	30	08.15 (BAP09)	18.41		20.13	20.42	17 20.18 (BAP07)	20.58	37 20.32 (BAP07)
27	07.38		07.02		06.17			06.29	05.58	19.59 (BAP07)	05.54	19.56 (BAP07)
	17.34		18.11	28	08.14 (BAP09)	18.42		20.14	20.43	20 20.19 (BAP07)	20.58	37 20.33 (BAP07)
28	07.37		07.00		06.15			06.28	05.57	19.58 (BAP07)	05.55	19.56 (BAP07)
	17.35		18.13	26	08.13 (BAP09)	18.43		20.15	20.44	21 20.19 (BAP07)	20.58	37 20.33 (BAP07)
29	07.36				06.14			06.26	05.57	19.57 (BAP07)	05.55	19.56 (BAP07)
	17.37				19.44			20.16	20.45	23 20.20 (BAP07)	20.58	36 20.32 (BAP07)
30	07.36				07.12			06.25	05.56	19.56 (BAP07)	05.56	19.57 (BAP07)
	17.38				19.45			20.17	20.45	24 20.20 (BAP07)	20.58	36 20.33 (BAP07)
31	07.35				07.10				05.56	19.56 (BAP07)		
	17.39				19.46			20.46	25 20.21 (BAP07)			
Potential sun hours	299		298		370		398		447		450	
Total, worst case	9		907		49		398		168		1056	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F32 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (239)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December	
1	05.56 20.58	19.57 (BAP07) 20.32 (BAP07)	06.19 20.39	06.49 19.57	07.19 19.07		
2	05.56 20.58	19.57 (BAP07) 20.33 (BAP07)	06.20 20.38	06.50 19.55	07.20 19.05	41	16.57 (BAP06) 07.21 (BAP09)
3	05.57 20.57	19.57 (BAP07) 20.32 (BAP07)	06.21 20.37	06.51 19.54	07.21 19.04	36	16.57 (BAP06) 07.23 (BAP09)
4	05.58 20.57	19.58 (BAP07) 20.32 (BAP07)	06.22 20.36	06.52 19.52	07.22 19.02	29	16.55 (BAP06) 07.26 (BAP09)
5	05.58 20.57	19.58 (BAP07) 20.32 (BAP07)	06.23 20.35	06.53 19.50	07.23 19.00	22	16.54 (BAP06) 16.43 (BAP06)
6	05.59 20.57	19.59 (BAP07) 20.32 (BAP07)	06.24 20.34	06.54 19.49	07.24 18.59	10	16.53 (BAP06) 16.44 (BAP06)
7	05.59 20.57	20.00 (BAP07) 20.32 (BAP07)	06.25 20.32	06.55 19.47	07.25 18.57	8	16.52 (BAP06) 16.46 (BAP06)
8	06.00 20.56	20.00 (BAP07) 20.31 (BAP07)	06.26 20.31	06.56 19.45	07.26 18.56	5	16.51 (BAP06) 16.47 (BAP06)
9	06.01 20.56	20.01 (BAP07) 20.31 (BAP07)	06.27 20.30	06.57 19.44	07.27 18.54	2	16.49 (BAP06)
10	06.01 20.55	20.01 (BAP07) 20.30 (BAP07)	06.28 20.29	06.58 19.42	07.28 18.52		07.34 16.56
11	06.02 20.55	20.03 (BAP07) 20.30 (BAP07)	06.29 20.27	06.59 19.40	07.29 18.51	14	08.26 (BAP09) 08.40 (BAP09)
12	06.03 20.55	20.04 (BAP07) 20.30 (BAP07)	06.30 20.26	07.00 19.39	07.30 18.49	20	08.23 (BAP09) 08.43 (BAP09)
13	06.03 20.54	20.05 (BAP07) 20.30 (BAP07)	06.31 20.25	07.01 19.37	07.31 18.48	23	08.21 (BAP09) 08.44 (BAP09)
14	06.04 20.54	20.05 (BAP07) 20.29 (BAP07)	06.32 20.23	07.02 19.35	07.32 18.46	27	08.19 (BAP09) 08.46 (BAP09)
15	06.05 20.53	20.07 (BAP07) 20.28 (BAP07)	06.33 20.22	07.03 19.34	07.33 18.45	29	08.18 (BAP09) 08.47 (BAP09)
16	06.06 20.52	20.08 (BAP07) 20.28 (BAP07)	06.34 20.21	07.04 19.32	07.34 18.43	31	08.16 (BAP09) 08.47 (BAP09)
17	06.06 20.52	20.10 (BAP07) 20.28 (BAP07)	06.35 20.19	07.05 19.30	07.35 18.42	33	08.16 (BAP09) 08.49 (BAP09)
18	06.07 20.51	20.10 (BAP07) 20.27 (BAP07)	06.36 20.18	07.06 19.29	07.36 18.40	34	08.15 (BAP09) 08.49 (BAP09)
19	06.08 20.51	20.12 (BAP07) 20.26 (BAP07)	06.37 20.17	07.07 19.27	07.37 18.39	34	08.15 (BAP09) 08.49 (BAP09)
20	06.09 20.50	20.15 (BAP07) 20.26 (BAP07)	06.38 20.15	07.08 19.25	07.39 18.37	35	08.14 (BAP09) 08.49 (BAP09)
21	06.10 20.49	20.19 (BAP07) 20.25 (BAP07)	06.39 20.14	07.09 19.24	07.40 18.36	36	08.13 (BAP09) 08.49 (BAP09)
22	06.10 20.48		06.40 20.12	07.10 19.22	07.41 18.34	36	08.13 (BAP09) 08.49 (BAP09)
23	06.11 20.48		06.41 20.11	07.11 19.20	07.42 18.33	46	08.14 (BAP09) 17.59 (BAP06)
24	06.12 20.47		06.42 20.09	07.12 19.19	07.43 18.32	50	08.14 (BAP09) 18.01 (BAP06)
25	06.13 20.46		06.43 20.08	07.13 19.17	07.44 17.30	54	08.14 (BAP09) 17.02 (BAP06)
26	06.14 20.45		06.44 20.06	07.14 19.15	07.45 17.29	54	07.14 (BAP09) 17.03 (BAP06)
27	06.15 20.44		06.45 20.05	07.15 19.14	07.46 17.28	54	07.13 (BAP09) 17.03 (BAP06)
28	06.16 20.43		06.46 20.03	07.16 19.12	07.47 17.26	54	07.13 (BAP09) 17.03 (BAP06)
29	06.17 20.42		06.47 20.02	07.17 19.10	07.48 17.25	52	07.16 (BAP09) 17.02 (BAP06)
30	06.18 20.41		06.48 20.00	07.18 19.09	07.49 17.24	48	07.16 (BAP09) 17.00 (BAP06)
31	06.19 20.40		06.49 19.58		06.51 17.22	46	07.17 (BAP09) 16.59 (BAP06)
Potential sun hours	457		427	375	346	810	299
Total, worst case	538						153
							288

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative **Shadow receptor:** F33 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (240)

Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

January		February		March		April		May		June			
1	07.47	15.09 (BAP08)	07.34	06.59	07.27 (BAP09)	07.09	08.21 (BAP09)	06.24	05.55	20.15 (BAP07)			
	17.07	53 16.02 (BAP08)	17.40	18.14	62 08.29 (BAP09)	19.47	53 09.14 (BAP09)	20.18	20.47	8 20.23 (BAP07)			
2	07.47	15.10 (BAP08)	07.33	06.57	07.26 (BAP09)	07.07	08.22 (BAP09)	06.22	05.55	20.14 (BAP07)			
	17.07	52 16.02 (BAP08)	17.42	18.15	64 08.30 (BAP09)	19.48	50 09.12 (BAP09)	20.19	20.48	9 20.23 (BAP07)			
3	07.47	15.11 (BAP08)	07.32	06.55	07.24 (BAP09)	07.05	08.24 (BAP09)	06.21	05.55	20.15 (BAP07)			
	17.08	51 16.02 (BAP08)	17.43	18.16	66 08.30 (BAP09)	19.49	46 09.10 (BAP09)	20.20	20.48	9 20.24 (BAP07)			
4	07.47	15.12 (BAP08)	07.31	06.54	07.24 (BAP09)	07.04	08.25 (BAP09)	06.20	05.54	20.15 (BAP07)			
	17.09	50 16.02 (BAP08)	17.44	18.17	68 08.32 (BAP09)	19.50	42 09.07 (BAP09)	20.21	20.49	10 20.25 (BAP07)			
5	07.47	15.13 (BAP08)	07.30	06.52	07.22 (BAP09)	07.02	08.26 (BAP09)	06.19	05.54	20.14 (BAP07)			
	17.10	49 16.02 (BAP08)	17.45	18.18	70 08.32 (BAP09)	19.51	38 09.04 (BAP09)	20.22	20.50	11 20.25 (BAP07)			
6	07.47	15.14 (BAP08)	07.29	06.51	07.22 (BAP09)	07.00	08.29 (BAP09)	06.17	05.53	20.14 (BAP07)			
	17.11	48 16.02 (BAP08)	17.46	18.19	71 08.33 (BAP09)	19.52	33 09.02 (BAP09)	20.23	20.50	11 20.25 (BAP07)			
7	07.47	15.15 (BAP08)	07.28	06.49	07.21 (BAP09)	06.59	08.31 (BAP09)	06.16	05.53	20.15 (BAP07)			
	17.12	47 16.02 (BAP08)	17.48	18.20	72 08.33 (BAP09)	19.53	27 08.58 (BAP09)	20.24	20.51	11 20.26 (BAP07)			
8	07.47	15.15 (BAP08)	07.27	06.48	07.20 (BAP09)	06.57	08.36 (BAP09)	06.15	05.53	20.15 (BAP07)			
	17.13	46 16.01 (BAP08)	17.49	18.21	72 08.32 (BAP09)	19.54	18 08.54 (BAP09)	20.25	20.52	12 20.27 (BAP07)			
9	07.47	15.16 (BAP08)	07.25	06.46	07.20 (BAP09)	06.56		06.14	05.53	20.14 (BAP07)			
	17.14	45 16.01 (BAP08)	17.50	18.23	73 08.33 (BAP09)	19.55		20.26	20.52	13 20.27 (BAP07)			
10	07.46	15.17 (BAP08)	07.24	06.45	07.19 (BAP09)	06.54		06.13	05.53	20.15 (BAP07)			
	17.15	45 16.02 (BAP08)	17.51	18.24	74 08.33 (BAP09)	19.56		20.27	20.53	12 20.27 (BAP07)			
11	07.46	15.19 (BAP08)	07.23	06.43	07.19 (BAP09)	06.53		06.12	05.52	20.15 (BAP07)			
	17.16	42 16.01 (BAP08)	17.53	18.25	74 08.33 (BAP09)	19.57		20.28	20.53	13 20.28 (BAP07)			
12	07.46	15.20 (BAP08)	07.22	06.41	07.18 (BAP09)	06.51		06.11	05.52	20.15 (BAP07)			
	17.17	40 16.00 (BAP08)	17.54	18.26	75 08.33 (BAP09)	19.58		20.29	20.54	13 20.28 (BAP07)			
13	07.46	15.21 (BAP08)	07.21	06.40	07.17 (BAP09)	06.49		06.10	05.52	20.15 (BAP07)			
	17.18	39 16.00 (BAP08)	17.55	18.27	75 08.32 (BAP09)	19.59		20.30	20.54	14 20.29 (BAP07)			
14	07.45	15.23 (BAP08)	07.19	06.38	07.17 (BAP09)	06.48		06.09	05.52	20.16 (BAP07)			
	17.19	37 16.00 (BAP08)	17.56	18.28	76 08.33 (BAP09)	20.00		20.31	20.55	13 20.29 (BAP07)			
15	07.45	15.24 (BAP08)	07.18	06.36	07.16 (BAP09)	06.46		06.08	05.52	20.16 (BAP07)			
	17.20	35 15.59 (BAP08)	17.57	18.29	76 08.32 (BAP09)	20.01		20.32	20.55	14 20.30 (BAP07)			
16	07.45	15.26 (BAP08)	07.17	06.35	07.16 (BAP09)	06.45		06.07	05.52	20.16 (BAP07)			
	17.21	32 15.58 (BAP08)	17.59	18.30	75 08.31 (BAP09)	20.02		20.33	20.55	14 20.30 (BAP07)			
17	07.44	15.28 (BAP08)	07.16	06.33	07.16 (BAP09)	06.43		06.06	05.52	20.16 (BAP07)			
	17.22	29 15.57 (BAP08)	18.00	18.31	75 08.31 (BAP09)	20.03		20.34	20.56	14 20.30 (BAP07)			
18	07.44	15.31 (BAP08)	07.14	06.32	07.16 (BAP09)	06.42		06.05	05.52	20.16 (BAP07)			
	17.24	25 15.56 (BAP08)	18.01	18.32	74 08.30 (BAP09)	20.04		20.35	20.56	15 20.31 (BAP07)			
19	07.43	15.33 (BAP08)	07.13	06.30	07.15 (BAP09)	06.40		06.04	05.52	20.16 (BAP07)			
	17.25	20 15.53 (BAP08)	18.02	16 08.07 (BAP09)	18.33	74 08.29 (BAP09)	20.06	20.36	20.56	15 20.31 (BAP07)			
20	07.43	15.36 (BAP08)	07.12	06.28	07.16 (BAP09)	06.39		06.03	05.52	20.17 (BAP07)			
	17.26	14 15.50 (BAP08)	18.03	27 08.13 (BAP09)	18.34	73 08.29 (BAP09)	20.07	20.37	20.57	15 20.32 (BAP07)			
21	07.42		07.10	06.27	07.15 (BAP09)	06.37		06.02	05.53	20.17 (BAP07)			
	17.27		18.04	34 08.16 (BAP09)	18.35	73 08.28 (BAP09)	20.08	20.38	20.57	15 20.32 (BAP07)			
22	07.42		07.09	06.25	07.15 (BAP09)	06.36		06.02	05.53	20.17 (BAP07)			
	17.28		18.06	39 08.19 (BAP09)	18.36	72 08.27 (BAP09)	20.09	20.39	20.57	15 20.32 (BAP07)			
23	07.41		07.07	06.23	07.16 (BAP09)	06.34		06.01	05.53	20.17 (BAP07)			
	17.29		18.07	43 08.20 (BAP09)	18.38	71 08.27 (BAP09)	20.10	20.39	20.57	15 20.32 (BAP07)			
24	07.40		07.06	06.22	07.16 (BAP09)	06.33		06.00	05.53	20.18 (BAP07)			
	17.31		18.08	48 08.23 (BAP09)	18.39	69 08.25 (BAP09)	20.11	20.40	20.57	15 20.33 (BAP07)			
25	07.40		07.04	06.20	07.16 (BAP09)	06.32		05.59	05.54	20.18 (BAP07)			
	17.32		18.09	51 08.24 (BAP09)	18.40	68 08.24 (BAP09)	20.12	20.41	20.58	14 20.32 (BAP07)			
26	07.39		07.03	06.18	07.17 (BAP09)	06.30		05.59	05.54	20.18 (BAP07)			
	17.33		18.10	54 08.26 (BAP09)	18.41	66 08.23 (BAP09)	20.13	20.42	1 20.18 (BAP07)	20.58	14 20.32 (BAP07)		
27	07.38		07.02	06.17	07.17 (BAP09)	06.29		05.58	05.54	20.19 (BAP07)			
	17.34		18.11	57 08.27 (BAP09)	18.42	65 08.22 (BAP09)	20.14	20.43	3 20.19 (BAP07)	20.58	14 20.33 (BAP07)		
28	07.37		07.00	06.15	07.17 (BAP09)	06.28		05.57	05.55	20.19 (BAP07)			
	17.35		18.13	59 08.28 (BAP09)	18.43	63 08.20 (BAP09)	20.15	20.44	4 20.19 (BAP07)	20.58	14 20.33 (BAP07)		
29	07.36			06.14	07.13	06.26		05.57	05.55	20.18 (BAP07)			
	17.37			19.44	61 09.19 (BAP09)	20.16		20.44	5 20.20 (BAP07)	20.58	14 20.32 (BAP07)		
30	07.36			06.12	07.12	06.25		05.56	05.56	20.19 (BAP07)			
	17.38			19.45	58 09.17 (BAP09)	20.17		20.45	6 20.20 (BAP07)	20.58	14 20.33 (BAP07)		
31	07.35			06.11	07.10	06.24		05.56	05.56	20.15 (BAP07)			
	17.39			19.46	56 09.16 (BAP09)			20.46	6 20.21 (BAP07)	20.58	14 20.33 (BAP07)		
Potential sun hours	299												
Total, worst case	799		298	428		2161		398	307		25	450	390

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F33 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (240)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	20.19 (BAP07)	06.19	06.49	07.19	07.26
	20.58	20.32 (BAP07)	20.39	19.57	19.07	16.57
2	05.56	20.20 (BAP07)	06.20	06.50	07.20	07.27
	20.58	20.33 (BAP07)	20.38	19.55	19.05	16.57
3	05.57	20.20 (BAP07)	06.21	06.51	07.21	07.28
	20.57	20.32 (BAP07)	20.37	19.54	19.04	16.57
4	05.57	20.20 (BAP07)	06.22	06.52	07.22	07.29
	20.57	20.32 (BAP07)	20.36	19.52	18.51 (BAP09)	16.57
5	05.58	20.20 (BAP07)	06.23	06.53	07.23	07.30
	20.57	20.32 (BAP07)	20.35	19.50	18.29 (BAP09)	16.57
6	05.59	20.21 (BAP07)	06.24	06.54	07.24	07.31
	20.57	20.32 (BAP07)	20.34	19.49	18.25 (BAP09)	16.56
7	05.59	20.21 (BAP07)	06.25	06.55	07.25	07.32
	20.56	20.32 (BAP07)	20.32	19.47	18.59 (BAP09)	16.56
8	06.00	20.21 (BAP07)	06.26	06.56	07.26	07.33
	20.56	20.31 (BAP07)	20.31	19.45	18.23 (BAP09)	16.56
9	06.00	20.22 (BAP07)	06.27	06.57	07.27	07.34
	20.56	20.31 (BAP07)	20.30	19.44	18.54 (BAP09)	16.56
10	06.01	20.21 (BAP07)	06.28	06.58	07.28	07.35
	20.55	20.30 (BAP07)	20.29	19.42	18.54 (BAP09)	16.56
11	06.02	20.22 (BAP07)	06.29	06.59	07.29	07.36
	20.55	20.30 (BAP07)	20.27	19.40	18.57 (BAP09)	16.56
12	06.03	20.23 (BAP07)	06.30	07.00	07.30	07.36
	20.55	20.30 (BAP07)	20.26	19.39	18.51 (BAP09)	16.56
13	06.03	20.23 (BAP07)	06.31	07.01	07.31	07.37
	20.54	20.30 (BAP07)	20.25	19.37	18.49 (BAP09)	16.57
14	06.04	20.23 (BAP07)	06.32	07.02	07.32	07.38
	20.54	20.29 (BAP07)	20.23	19.35	18.46 (BAP09)	16.57
15	06.05	20.24 (BAP07)	06.33	07.03	07.33	07.39
	20.53	20.28 (BAP07)	20.22	19.34	18.45 (BAP09)	16.57
16	06.06	20.25 (BAP07)	06.34	07.04	07.34	07.39
	20.52	20.28 (BAP07)	20.21	19.32	18.43 (BAP09)	16.57
17	06.06	20.26 (BAP07)	06.35	07.05	07.35	07.40
	20.52	20.28 (BAP07)	20.19	19.30	18.42 (BAP09)	16.58
18	06.07		06.36	07.06	07.36	07.41
	20.51		20.18	19.29	18.40 (BAP09)	16.58
19	06.08		06.37	07.07	07.37	07.41
	20.51		20.17	19.27	18.39 (BAP09)	16.58
20	06.09		06.38	07.08	07.38	07.42
	20.50		20.15	19.25	18.37 (BAP09)	16.59
21	06.10		06.39	07.09	07.39	07.43
	20.49		20.14	19.24	18.36 (BAP09)	16.59
22	06.10		06.40	07.10	07.41	07.43
	20.48		20.12	19.22	18.34 (BAP09)	16.59
23	06.11		06.41	07.11	07.42	07.44
	20.48		20.11	19.20	18.33 (BAP09)	16.59
24	06.12		06.42	07.12	07.43	07.44
	20.47		20.09	19.19	18.32 (BAP09)	16.59
25	06.13		06.43	07.13	07.44	07.45
	20.46		20.08	19.17	18.30 (BAP09)	16.59
26	06.14		06.44	07.14	07.45	07.45
	20.45		20.06	19.15	18.29 (BAP09)	16.59
27	06.15		06.45	07.15	07.46	07.45
	20.44		20.05	19.14	18.28 (BAP09)	16.59
28	06.16		06.46	07.16	07.47	07.46
	20.43		20.03	19.12	18.26 (BAP09)	16.58
29	06.17		06.47	07.17	07.48	07.46
	20.42		20.02	19.10	18.25 (BAP09)	16.58
30	06.18		06.48	07.18	07.49	07.46
	20.41		20.00	19.09	18.24 (BAP09)	16.58
31	06.18		06.48		06.51	07.46
	20.40		19.58		17.22	17.06
Potential sun hours	457	427	375	346	299	290
Total, worst case	149		1622	1321	270	1613

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
Eolico_Green_2020_07_13

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30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020_07_30 CumulativeShadow receptor: F34 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (269)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07.47	07.34	06.59	07.09	18.52 (BAP07)	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	34	19.26 (BAP07)	20.18	20.47	20.58	20.39	19.57	19.07	17.21
2	07.47	07.33	06.57	07.07		18.52 (BAP07)	06.22	05.55	05.56	06.20	06.50	19.02 (BAP07)	07.20
	17.07	17.42	18.15	19.48	34	19.26 (BAP07)	20.19	20.48	20.58	20.38	19.55	8	19.10 (BAP07)
3	07.47	07.32	06.55	07.05		18.53 (BAP07)	06.21	05.55	05.57	06.21	06.51		18.57 (BAP07)
	17.08	17.43	18.16	19.49	34	19.27 (BAP07)	20.20	20.48	20.57	20.37	19.54	17	19.14 (BAP07)
4	07.47	07.31	06.54	07.04		18.53 (BAP07)	06.20	05.54	05.57	06.22	06.52		18.55 (BAP07)
	17.09	17.44	18.17	19.50	32	19.25 (BAP07)	20.21	20.49	20.57	20.36	19.52	21	19.16 (BAP07)
5	07.47	07.30	06.52	07.02		18.53 (BAP07)	06.19	05.54	05.58	06.23	06.53		18.53 (BAP07)
	17.10	17.45	18.18	19.51	31	19.24 (BAP07)	20.22	20.50	20.57	20.35	19.50	25	19.18 (BAP07)
6	07.47	07.29	06.51	07.00		18.55 (BAP07)	06.17	05.53	05.59	06.24	06.54		18.51 (BAP07)
	17.11	17.46	18.19	19.52	28	19.23 (BAP07)	20.23	20.50	20.57	20.34	19.49	28	19.19 (BAP07)
7	07.47	07.28	06.49	06.59		18.55 (BAP07)	06.16	05.53	05.59	06.25	06.55		18.49 (BAP07)
	17.12	17.48	18.20	19.53	26	19.21 (BAP07)	20.24	20.51	20.56	20.32	19.47	31	19.20 (BAP07)
8	07.47	07.27	06.48	06.57		18.58 (BAP07)	06.15	05.53	06.00	06.26	06.56		18.48 (BAP07)
	17.13	17.49	18.21	19.54	21	19.19 (BAP07)	20.25	20.52	20.56	20.31	19.45	32	19.20 (BAP07)
9	07.47	07.25	06.46	06.56		18.59 (BAP07)	06.14	05.53	06.00	06.27	06.57		18.46 (BAP07)
	17.14	17.50	18.23	19.55	17	19.16 (BAP07)	20.26	20.52	20.56	20.30	19.44	34	19.20 (BAP07)
10	07.46	07.24	06.45	06.54		19.03 (BAP07)	06.13	05.53	06.01	06.28	06.58		18.45 (BAP07)
	17.15	17.51	18.24	19.56	8	19.11 (BAP07)	20.27	20.53	20.55	20.29	19.42	35	19.20 (BAP07)
11	07.46	07.23	06.43	06.53			06.12	05.52	06.02	06.29	06.59		18.44 (BAP07)
	17.16	17.53	18.25	19.57			20.28	20.53	20.55	20.27	19.40	34	19.18 (BAP07)
12	07.46	07.22	06.41	06.51			06.11	05.52	06.03	06.30	07.00		18.44 (BAP07)
	17.17	17.54	18.26	19.58			20.29	20.54	20.55	20.26	19.39	33	19.17 (BAP07)
13	07.46	07.21	06.40	06.49			06.10	05.52	06.03	06.31	07.01		18.43 (BAP07)
	17.18	17.55	18.27	19.59			20.30	20.54	20.54	20.25	19.37	32	19.15 (BAP07)
14	07.45	07.19	06.38	06.48			06.09	05.52	06.04	06.32	07.02		18.43 (BAP07)
	17.19	17.56	18.28	20.00			20.31	20.55	20.54	20.23	19.35	30	19.13 (BAP07)
15	07.45	07.18	06.37	06.46			06.08	05.52	06.05	06.33	07.03		18.42 (BAP07)
	17.20	17.57	18.29	20.01			20.32	20.55	20.53	20.22	19.34	30	19.12 (BAP07)
16	07.45	07.17	06.35	06.45			06.07	05.52	06.05	06.34	07.04		18.42 (BAP07)
	17.21	17.59	18.30	20.02			20.33	20.55	20.52	20.21	19.32	28	19.10 (BAP07)
17	07.44	07.16	06.33	06.43			06.06	05.52	06.06	06.35	07.05		18.42 (BAP07)
	17.22	18.00	18.31	20.03			20.34	20.56	20.52	20.19	19.30	26	19.08 (BAP07)
18	07.44	07.14	06.32	18.07 (BAP07)	06.42		06.05	05.52	06.07	06.36	07.06		18.42 (BAP07)
	17.24	18.01	18.32	18.11 (BAP07)	20.04		20.35	20.56	20.51	20.18	19.29	25	19.07 (BAP07)
19	07.43	07.13	06.30	18.04 (BAP07)	06.40		06.04	05.52	06.08	06.37	07.07		18.43 (BAP07)
	17.25	18.02	18.33	8	18.12 (BAP07)	20.06	20.36	20.56	20.51	20.17	19.27	22	19.05 (BAP07)
20	07.43	07.12	06.28	18.02 (BAP07)	06.39		06.03	05.52	06.09	06.38	07.08		18.43 (BAP07)
	17.26	18.03	18.34	12	18.14 (BAP07)	20.07	20.37	20.57	20.50	20.15	19.25	21	19.04 (BAP07)
21	07.42	07.10	06.27	18.00 (BAP07)	06.37		06.02	05.53	06.10	06.39	07.09		18.44 (BAP07)
	17.27	18.04	18.35	14	18.14 (BAP07)	20.08	20.38	20.57	20.49	20.14	19.24	18	19.02 (BAP07)
22	07.42	07.09	06.25	17.58 (BAP07)	06.36		06.02	05.53	06.10	06.40	07.10		18.45 (BAP07)
	17.28	18.06	18.36	17	18.15 (BAP07)	20.09	20.39	20.57	20.48	20.12	19.22	15	19.00 (BAP07)
23	07.41	07.07	06.23	17.57 (BAP07)	06.34		06.01	05.53	06.11	06.41	07.11		18.46 (BAP07)
	17.29	18.07	18.38	20	18.17 (BAP07)	20.10	20.39	20.57	20.48	20.11	19.20	13	18.59 (BAP07)
24	07.40	07.06	06.22	17.55 (BAP07)	06.33		06.00	05.53	06.12	06.42	07.12		18.47 (BAP07)
	17.31	18.08	18.39	23	18.18 (BAP07)	20.11	20.40	20.58	20.47	20.09	19.19	10	18.57 (BAP07)
25	07.40	07.04	06.20	17.54 (BAP07)	06.32		05.59	05.54	06.13	06.43	07.13		18.50 (BAP07)
	17.32	18.09	18.40	24	18.18 (BAP07)	20.12	20.41	20.58	20.46	20.08	19.17	5	18.55 (BAP07)
26	07.39	07.03	06.18	17.54 (BAP07)	06.30		05.59	05.54	06.14	06.44	07.14		06.45
	17.33	18.10	18.41	26	18.20 (BAP07)	20.13	20.42	20.58	20.45	20.06	19.15		17.29
27	07.38	07.02	06.17	17.53 (BAP07)	06.29		05.58	05.54	06.15	06.45	07.15		06.46
	17.34	18.11	18.42	28	18.21 (BAP07)	20.14	20.43	20.58	20.44	20.05	19.14		17.28
28	07.37	07.00	06.15	17.53 (BAP07)	06.28		05.57	05.55	06.16	06.46	07.16		06.47
	17.35	18.13	18.43	29	18.22 (BAP07)	20.15	20.44	20.58	20.43	20.03	19.12		17.26
29	07.36		06.13	18.52 (BAP07)	06.26		05.57	05.55	06.17	06.47	07.17		06.49
	17.37		18.44	31	19.23 (BAP07)	20.16	20.45	20.58	20.42	20.02	19.10		17.25
30	07.36		06.12	18.52 (BAP07)	06.25		05.56	05.56	06.18	06.48	07.18		06.50
	17.38		19.45	32	19.24 (BAP07)	20.17	20.45	20.58	20.41	20.00	19.09		17.24
31	07.35		06.10	18.52 (BAP07)			05.56		06.18	06.48			06.51
	17.39		19.46	33	19.25 (BAP07)		20.46		20.40	19.58			17.22
Potential sun hours	299	298	370	398			447	450	457	427	375		346
Total, worst case			301	265							573		299
													290

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Project:

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 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 CumulativeShadow receptor: F37 - Abitazione

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December				
1	07.47	13.44 (BAP09)	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26	13.44 (BAP09)		
	17.07	78	16.41 (BAP08)	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57	48	16.25 (BAP08)
2	07.47	13.45 (BAP09)	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27	13.41 (BAP09)		
	17.07	76	16.41 (BAP08)	17.41	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57	54	16.26 (BAP08)
3	07.47	13.46 (BAP09)	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28	13.40 (BAP09)		
	17.08	74	16.41 (BAP08)	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57	58	16.27 (BAP08)
4	07.47	13.47 (BAP09)	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29	13.38 (BAP09)		
	17.09	73	16.42 (BAP08)	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57	62	16.27 (BAP08)
5	07.47	13.49 (BAP09)	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30	13.37 (BAP09)		
	17.10	71	16.42 (BAP08)	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57	66	16.28 (BAP08)
6	07.47	13.50 (BAP09)	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31	13.36 (BAP09)		
	17.11	69	16.43 (BAP08)	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56	69	16.29 (BAP08)
7	07.47	13.52 (BAP09)	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32	13.36 (BAP09)		
	17.12	66	16.43 (BAP08)	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56	70	16.29 (BAP08)
8	07.47	13.53 (BAP09)	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33	13.34 (BAP09)		
	17.13	62	16.42 (BAP08)	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56	73	16.29 (BAP08)
9	07.47	13.56 (BAP09)	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34	13.34 (BAP09)		
	17.14	59	16.43 (BAP08)	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56	74	16.29 (BAP08)
10	07.46	13.58 (BAP09)	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35	13.34 (BAP09)		
	17.15	55	16.43 (BAP08)	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56	76	16.30 (BAP08)
11	07.46	14.01 (BAP09)	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36	13.34 (BAP09)		
	17.16	50	16.43 (BAP08)	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56	78	16.31 (BAP08)
12	07.46	14.04 (BAP09)	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36	13.34 (BAP09)		
	17.17	43	16.43 (BAP08)	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57	78	16.31 (BAP08)
13	07.46	14.12 (BAP09)	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37	13.34 (BAP09)		
	17.18	28	16.43 (BAP08)	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57	79	16.32 (BAP08)
14	07.45	14.18 (BAP09)	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38	13.33 (BAP09)		
	17.19	24	16.42 (BAP08)	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57	80	16.31 (BAP08)
15	07.45	14.20 (BAP09)	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39	13.33 (BAP09)		
	17.20	22	16.42 (BAP08)	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57	81	16.32 (BAP08)
16	07.45	14.21 (BAP09)	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39	13.34 (BAP09)		
	17.21	22	16.43 (BAP08)	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57	80	16.32 (BAP08)
17	07.44	14.22 (BAP09)	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40	13.33 (BAP09)		
	17.22	19	16.41 (BAP08)	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58	81	16.32 (BAP08)
18	07.44	14.24 (BAP09)	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41	13.34 (BAP09)		
	17.24	17	16.41 (BAP08)	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58	81	16.32 (BAP08)
19	07.43	14.25 (BAP09)	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41	13.35 (BAP09)		
	17.25	15	16.40 (BAP08)	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.39	17.03	16.58	81	16.33 (BAP08)
20	07.43	14.27 (BAP09)	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42	13.35 (BAP09)		
	17.26	11	16.38 (BAP08)	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59	81	16.33 (BAP08)
21	07.42	14.29 (BAP09)	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43	13.35 (BAP09)		
	17.27		18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59	82	16.34 (BAP08)	
22	07.42	14.31 (BAP09)	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43	13.35 (BAP09)		
	17.28		18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59	82	16.34 (BAP08)	
23	07.41	14.33 (BAP09)	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.43	13.36 (BAP09)		
	17.29		18.07	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	16.58	82	16.35 (BAP08)	
24	07.40	14.35 (BAP09)	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44	13.37 (BAP09)		
	17.31		18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	16.57	81	16.35 (BAP08)	
25	07.40	14.37 (BAP09)	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45	13.37 (BAP09)		
	17.32		18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	16.56	81	16.35 (BAP08)	
26	07.39	14.39 (BAP09)	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.46	13.38 (BAP09)		
	17.33		18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	16.58	82	16.37 (BAP08)	
27	07.38	14.41 (BAP09)	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.47	13.39 (BAP09)		
	17.34		18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	16.57	80	16.37 (BAP08)	
28	07.37	14.43 (BAP09)	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.48	13.40 (BAP09)		
	17.35		18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	16.56	80	16.37 (BAP08)	
29	07.36	14.45 (BAP09)	07.00	06.13	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.49	13.40 (BAP09)		
	17.37		18.13	18.44	20.16	20.45	20.58	20.42	20.01	19.10	17.25	16.58	16.55	80	16.38 (BAP08)	
30	07.36	14.47 (BAP09)	07.00	06.12	06.25	05.56	05.55	06.18	06.47	07.18	07.49	07.25	07.50	13.42 (BAP09)		
	17.38		18.14	18.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	16.54	80	16.40 (BAP08)	
31	07.35	14.49 (BAP09)	07.00	06.11	06.24	05.56	05.54	06.19	06.48	07.19	07.50	07.26	07.51	13.42 (BAP09)		
	17.39		18.15	18.46	20.18	20.46	20.59	20.40	19.58	19.07	17.25	16.58	16.53	79	16.40 (BAP08)	
Potential sun hours	299		298	370	398	447	450	457	427	375	346	299	196	290	2339	
Total, worst case	934															

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 CumulativeShadow receptor: F39 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (241)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

January		February		March		April		May		June		
1	07.47	13.56 (BAP10)	07.34	06.58	17.37 (BAP08)	07.09	06.24			05.55	18.39 (BAP09)	
	17.07	59	14.55 (BAP10)	17.40	18.14	15	17.52 (BAP08)	19.47	20.18		78	19.57 (BAP09)
2	07.47	13.56 (BAP10)	07.33	06.57	17.36 (BAP08)	07.07	06.22			05.55	18.37 (BAP09)	
	17.07	59	14.55 (BAP10)	17.41	18.15	18	17.54 (BAP08)	19.48	20.19		81	19.58 (BAP09)
3	07.47	13.57 (BAP10)	07.32	06.55	17.35 (BAP08)	07.05	06.21			05.54	18.37 (BAP09)	
	17.08	58	14.55 (BAP10)	17.43	18.16	19	17.54 (BAP08)	19.49	20.20		82	19.59 (BAP09)
4	07.47	13.59 (BAP10)	07.31	06.54	17.35 (BAP08)	07.04	06.20			05.54	18.36 (BAP09)	
	17.09	56	14.55 (BAP10)	17.44	18.17	21	17.56 (BAP08)	19.50	20.21		84	20.00 (BAP09)
5	07.47	14.00 (BAP10)	07.30	06.52	17.34 (BAP08)	07.02	06.19			05.54	18.35 (BAP09)	
	17.10	54	14.54 (BAP10)	17.45	18.18	23	17.57 (BAP08)	19.51	20.22		86	20.01 (BAP09)
6	07.47	14.01 (BAP10)	07.29	06.51	17.34 (BAP08)	07.00	06.17			05.53	18.35 (BAP09)	
	17.11	53	14.54 (BAP10)	17.46	18.19	25	17.59 (BAP08)	19.52	20.23		87	20.02 (BAP09)
7	07.47	14.02 (BAP10)	07.28	06.49	17.34 (BAP08)	06.59	06.16			05.53	18.35 (BAP09)	
	17.12	51	14.53 (BAP10)	17.48	18.20	25	17.59 (BAP08)	19.53	20.24		88	20.03 (BAP09)
8	07.47	14.03 (BAP10)	07.27	06.48	17.33 (BAP08)	06.57	06.15			05.53	18.34 (BAP09)	
	17.13	50	14.53 (BAP10)	17.49	18.21	27	18.00 (BAP08)	19.54	20.25		90	20.04 (BAP09)
9	07.47	14.05 (BAP10)	07.25	06.46	17.34 (BAP08)	06.56	06.14			05.53	18.33 (BAP09)	
	17.14	48	14.53 (BAP10)	17.50	18.23	28	18.02 (BAP08)	19.55	20.26		91	20.04 (BAP09)
10	07.46	14.07 (BAP10)	07.24	06.45	17.34 (BAP08)	06.54	06.13			05.53	18.33 (BAP09)	
	17.15	45	14.52 (BAP10)	17.51	18.24	29	18.03 (BAP08)	19.56	20.27		92	20.05 (BAP09)
11	07.46	14.09 (BAP10)	07.23	06.43	17.35 (BAP08)	06.52	06.12			05.52	18.33 (BAP09)	
	17.16	43	14.52 (BAP10)	17.52	18.25	29	18.04 (BAP08)	19.57	20.28		93	20.06 (BAP09)
12	07.46	14.10 (BAP10)	07.22	06.41	17.35 (BAP08)	06.51	06.11			05.52	18.33 (BAP09)	
	17.17	40	14.50 (BAP10)	17.54	18.26	28	18.03 (BAP08)	19.58	20.29		94	20.07 (BAP09)
13	07.46	14.13 (BAP10)	07.21	06.40	17.35 (BAP08)	06.49	06.10			05.52	18.32 (BAP09)	
	17.18	37	14.50 (BAP10)	17.55	18.27	27	18.02 (BAP08)	19.59	20.30		95	20.07 (BAP09)
14	07.45	14.14 (BAP10)	07.19	06.38	17.37 (BAP08)	06.48	06.09			05.52	18.32 (BAP09)	
	17.19	34	14.48 (BAP10)	17.56	18.28	24	18.01 (BAP08)	20.00	20.31		96	20.08 (BAP09)
15	07.45	14.17 (BAP10)	07.18	06.36	17.38 (BAP08)	06.46	06.08			05.52	18.32 (BAP09)	
	17.20	30	14.47 (BAP10)	17.57	18.29	20	17.58 (BAP08)	20.01	20.32		96	20.08 (BAP09)
16	07.45	14.21 (BAP10)	07.17	06.35	17.40 (BAP08)	06.45	06.07			05.52	18.32 (BAP09)	
	17.21	24	14.45 (BAP10)	17.59	18.30	15	17.55 (BAP08)	20.02	20.33		97	20.09 (BAP09)
17	07.44	14.25 (BAP10)	07.16	06.33	17.46 (BAP08)	06.43	06.06			05.52	18.32 (BAP09)	
	17.22	16	14.41 (BAP10)	18.00	18.31	4	17.50 (BAP08)	20.03	20.34		97	20.09 (BAP09)
18	07.44		07.14	06.32		06.42	06.05			05.52	18.32 (BAP09)	
	17.24		18.01	18.32		20.04	20.35			05.52	18.32 (BAP09)	
19	07.43		07.13	06.30		06.40	06.04			05.52	18.32 (BAP09)	
	17.25		18.02	18.33		20.05	20.36			05.52	18.32 (BAP09)	
20	07.43		07.11	06.28		06.39	06.03			05.52	18.33 (BAP09)	
	17.26		18.03	18.34		20.07	20.37	19	19.08 (BAP09)	05.52	18.33 (BAP09)	
21	07.42		07.10	06.27		06.37	06.02			05.53	18.33 (BAP09)	
	17.27		18.04	18.35		20.08	20.38	32	19.33 (BAP09)	05.53	18.33 (BAP09)	
22	07.42		07.09	06.25		06.36	06.02			05.53	18.33 (BAP09)	
	17.28		18.06	18.36		20.09	20.39	39	19.36 (BAP09)	05.53	18.33 (BAP09)	
23	07.41		07.07	06.23		06.34	06.01			05.53	18.33 (BAP09)	
	17.29		18.07	18.37		20.10	20.39	45	19.39 (BAP09)	05.53	18.33 (BAP09)	
24	07.40		07.06	06.22		06.33	06.00			05.53	18.34 (BAP09)	
	17.31		18.08	18.39		20.11	20.40	52	19.43 (BAP09)	05.53	18.34 (BAP09)	
25	07.39		07.04	06.20	17.43 (BAP08)	06.20	05.59			05.54	18.34 (BAP09)	
	17.32		18.09	18.40	4	17.47 (BAP08)	20.12	56	19.45 (BAP09)	05.54	18.34 (BAP09)	
26	07.39		07.03	06.18	17.41 (BAP08)	06.18	05.59			05.54	18.34 (BAP09)	
	17.33		18.10	18.41	8	17.49 (BAP08)	20.13	61	19.47 (BAP09)	05.54	18.34 (BAP09)	
27	07.38		07.01	06.17	17.39 (BAP08)	06.17	05.58			05.54	18.35 (BAP09)	
	17.34		18.11	18.42	11	17.50 (BAP08)	20.14	64	19.49 (BAP09)	05.54	18.35 (BAP09)	
28	07.37		07.00	06.15	17.38 (BAP08)	06.15	05.57			05.55	18.35 (BAP09)	
	17.35		18.12	18.43	13	17.51 (BAP08)	20.15	68	19.51 (BAP09)	05.55	18.35 (BAP09)	
29	07.36			07.13		07.13	05.57			05.55	18.35 (BAP09)	
	17.37			19.44		20.16	20.44	71	19.53 (BAP09)	05.55	18.35 (BAP09)	
30	07.36			07.12		07.12	05.56			05.55	18.36 (BAP09)	
	17.38			19.45		20.17	20.45	74	19.54 (BAP09)	05.55	18.36 (BAP09)	
31	07.35			07.10			05.56			05.56	18.40 (BAP09)	
	17.39			19.46			20.46	76	19.56 (BAP09)	05.56	18.40 (BAP09)	
Potential sun hours	299			370			398		447		450	
Total, worst case	757		36	377			657		2789			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F39 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (241)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

July		August	September	October	November	December			
1	05.56	18.37 (BAP09)	06.19	06.49	07.19	18.14 (BAP08)	06.52	07.26	13.51 (BAP10)
	20.58	20.10 (BAP09)	20.39	19.57	19.07	18.41 (BAP08)	17.21	16.57	43 13.34 (BAP10)
2	05.56	18.38 (BAP09)	06.20	06.50	07.20	18.13 (BAP08)	06.53	07.27	13.50 (BAP10)
	20.57	20.11 (BAP09)	20.38	19.55	19.05	18.42 (BAP08)	17.20	16.57	45 14.35 (BAP10)
3	05.57	18.38 (BAP09)	06.21	06.51	07.21	18.11 (BAP08)	06.54	07.28	13.49 (BAP10)
	20.57	20.10 (BAP09)	20.37	19.54	19.04	18.41 (BAP08)	17.19	16.57	48 14.37 (BAP10)
4	05.57	18.39 (BAP09)	06.22	06.52	07.22	18.12 (BAP08)	06.55	07.29	13.48 (BAP10)
	20.57	20.10 (BAP09)	20.36	19.52	19.02	18.40 (BAP08)	17.18	16.57	50 14.38 (BAP10)
5	05.58	18.39 (BAP09)	06.23	06.53	07.23	18.11 (BAP08)	06.57	07.30	13.48 (BAP10)
	20.57	20.09 (BAP09)	20.35	19.50	19.00	18.38 (BAP08)	17.16	16.57	51 14.39 (BAP10)
6	05.59	18.41 (BAP09)	06.24	06.54	07.24	18.10 (BAP08)	06.58	07.31	13.47 (BAP10)
	20.57	20.09 (BAP09)	20.34	19.49	18.59	18.37 (BAP08)	17.15	16.56	53 14.40 (BAP10)
7	05.59	18.42 (BAP09)	06.25	06.55	07.25	18.10 (BAP08)	06.59	07.32	13.47 (BAP10)
	20.56	20.09 (BAP09)	20.32	19.47	18.57	18.35 (BAP08)	17.14	16.56	54 14.41 (BAP10)
8	06.00	18.42 (BAP09)	06.26	06.56	07.26	18.09 (BAP08)	07.00	07.33	13.46 (BAP10)
	20.56	20.07 (BAP09)	20.31	19.45	18.56	18.33 (BAP08)	17.13	16.56	56 14.42 (BAP10)
9	06.00	18.44 (BAP09)	06.27	06.57	07.27	18.09 (BAP08)	07.01	07.34	13.46 (BAP10)
	20.56	20.07 (BAP09)	20.30	19.44	18.54	18.32 (BAP08)	17.12	16.56	57 14.43 (BAP10)
10	06.01	18.44 (BAP09)	06.28	06.58	07.28	18.09 (BAP08)	07.03	07.35	13.46 (BAP10)
	20.55	20.06 (BAP09)	20.29	19.42	18.52	18.30 (BAP08)	17.11	16.56	58 14.44 (BAP10)
11	06.02	18.46 (BAP09)	06.29	06.59	07.29	18.09 (BAP08)	07.04	07.36	13.46 (BAP10)
	20.55	20.05 (BAP09)	20.27	19.40	18.51	18.28 (BAP08)	17.10	16.56	59 14.45 (BAP10)
12	06.03	18.47 (BAP09)	06.30	07.00	07.30	18.10 (BAP08)	07.05	07.36	13.46 (BAP10)
	20.55	20.04 (BAP09)	20.26	19.39	18.49	18.27 (BAP08)	17.09	16.57	60 14.46 (BAP10)
13	06.03	18.49 (BAP09)	06.31	07.01	07.31	18.10 (BAP08)	07.06	07.37	13.46 (BAP10)
	20.54	20.04 (BAP09)	20.25	19.37	18.48	18.25 (BAP08)	17.08	16.57	61 14.47 (BAP10)
14	06.04	18.50 (BAP09)	06.32	07.02	07.32	18.11 (BAP08)	07.07	07.38	13.45 (BAP10)
	20.54	20.02 (BAP09)	20.23	19.35	18.46	18.23 (BAP08)	17.07	16.57	62 14.47 (BAP10)
15	06.05	18.52 (BAP09)	06.33	07.03	07.33	18.12 (BAP08)	07.08	07.39	13.46 (BAP10)
	20.53	20.01 (BAP09)	20.22	19.34	18.45	18.22 (BAP08)	17.07	16.57	62 14.48 (BAP10)
16	06.05	18.54 (BAP09)	06.34	07.04	07.34	18.14 (BAP08)	07.10	07.39	13.46 (BAP10)
	20.52	19.59 (BAP09)	20.21	19.32	18.43	18.20 (BAP08)	17.06	16.57	63 14.49 (BAP10)
17	06.06	18.55 (BAP09)	06.35	07.05	07.35	18.17 (BAP08)	07.11	07.40	13.46 (BAP10)
	20.52	19.57 (BAP09)	20.19	19.30	18.42	18.19 (BAP08)	17.05	16.58	63 14.49 (BAP10)
18	06.07	18.57 (BAP09)	06.36	07.06	07.36		07.12	07.41	13.47 (BAP10)
	20.51	19.55 (BAP09)	20.18	19.29	18.40		17.04	16.58	63 14.50 (BAP10)
19	06.08	19.00 (BAP09)	06.37	07.07	07.37		07.13	07.41	13.47 (BAP10)
	20.50	19.53 (BAP09)	20.16	19.27	18.39		17.03	16.58	64 14.51 (BAP10)
20	06.09	19.02 (BAP09)	06.38	07.08	07.38		07.14	07.42	13.47 (BAP10)
	20.50	19.51 (BAP09)	20.15	19.25	18.37		17.03	16.59	64 14.51 (BAP10)
21	06.10	19.06 (BAP09)	06.39	07.09	07.40		07.15	07.43	13.48 (BAP10)
	20.49	19.49 (BAP09)	20.14	19.24	18.36		17.02	16.59	64 14.52 (BAP10)
22	06.10	19.09 (BAP09)	06.40	07.10	07.41		07.16	07.43	13.48 (BAP10)
	20.48	19.45 (BAP09)	20.12	19.22	18.34		17.01	17.00	64 14.52 (BAP10)
23	06.11	19.13 (BAP09)	06.41	07.11	07.42		07.18	07.44	13.49 (BAP10)
	20.47	19.40 (BAP09)	20.11	19.20	18.33		17.01	17.00	64 14.53 (BAP10)
24	06.12	19.22 (BAP09)	06.42	07.12	07.43		07.19	07.44	13.49 (BAP10)
	20.47	19.31 (BAP09)	20.09	19.19	18.32		17.00	17.01	64 14.53 (BAP10)
25	06.13		06.43	07.13	06.44		07.20	14.03 (BAP10)	07.44
	20.46		20.08	19.17	17.30		17.00	16 14.19 (BAP10)	17.01
26	06.14		06.44	07.14	06.45		07.21	13.59 (BAP10)	07.45
	20.45		20.06	19.15	17.29		16.59	24 14.23 (BAP10)	17.02
27	06.15		06.45	07.15	06.46		07.22	13.57 (BAP10)	07.45
	20.44		20.05	19.14	17.27		16.59	29 14.26 (BAP10)	17.03
28	06.16		06.46	07.16	06.47		07.23	13.54 (BAP10)	07.46
	20.43		20.03	19.12	18 18.38 (BAP08)		16.58	34 14.28 (BAP10)	17.03
29	06.17		06.47	07.17	06.49		07.24	13.53 (BAP10)	07.46
	20.42		20.01	19.10	22 18.39 (BAP08)		16.58	37 14.30 (BAP10)	17.04
30	06.18		06.47	07.18	06.50		07.25	13.52 (BAP10)	07.46
	20.41		20.00	19.09	26 18.41 (BAP08)		16.58	40 14.32 (BAP10)	17.05
31	06.18		06.48		06.51				07.46
	20.40		19.58		17.22				17.06
Potential sun hours	457		427		346		299		290
Total, worst case	1658			78		342		180	
									1828

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 CumulativeShadow receptor: F43 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (242)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07.47 17.07	07.34 17.40	06.58 18.14	07.09 19.47	19.08 (16) 20.18	06.24 20.47	05.55 20.58	05.56 20.39	06.19 19.57		07.19 19.07	06.52 17.21	07.26 16.57	
2	07.47 17.07	07.33 17.42	06.57 18.15	07.07 19.48	18 19.07 (16) 20.19	06.22 20.47	05.55 20.57	05.56 20.38	06.20 19.55		07.20 19.05	06.53 17.20	07.27 16.57	
3	07.47 17.08	07.32 17.43	06.55 18.16	07.05 19.49	17 19.08 (16) 20.20	06.21 20.48	05.55 20.57	05.57 20.37	06.21 19.54		07.21 19.04	06.54 17.19	07.28 16.57	
4	07.47 17.09	07.31 17.44	06.54 18.17	07.04 19.50	14 19.09 (16) 20.21	06.20 20.49	05.54 20.57	05.58 20.36	06.22 19.52		07.22 19.02	06.55 17.18	07.29 16.57	
5	07.47 17.10	07.30 17.45	06.52 18.18	07.02 19.51	12 19.21 (16) 20.22	06.19 20.50	05.54 20.57	05.58 20.35	06.23 19.50		07.23 19.00	06.57 17.16	07.30 16.57	
6	07.47 17.11	07.29 17.46	06.51 18.19	07.00 19.52	7 19.12 (16) 20.23	06.17 20.50	05.53 20.57	05.59 20.34	06.24 19.49	7 19.08 (16)	07.24 18.59	06.58 17.15	07.31 16.56	
7	07.47 17.12	07.28 17.48	06.49 18.20	06.59 19.53	19.19 (16) 20.24	06.16 20.51	05.53 20.56	05.59 20.32	06.25 19.47	7 19.15 (16)	07.25 18.57	06.59 17.14	07.32 16.56	
8	07.47 17.13	07.27 17.49	06.48 18.21	06.57 19.54	19.53 (16) 20.25	06.15 20.51	05.53 20.56	06.00 20.31	06.26 19.45	11 19.17 (16)	07.26 18.56	07.00 17.13	07.33 16.56	
9	07.47 17.14	07.25 17.50	06.46 18.23	06.56 19.55	20.26 20.52	06.14 20.53	06.01 20.56	06.27 20.30	06.57 19.44	14 19.17 (16)	07.27 18.54	07.01 17.12	07.34 16.56	
10	07.46 17.15	07.24 17.51	06.45 18.24	06.54 19.56	20.27 20.53	06.13 20.52	06.01 20.55	06.28 20.29	06.58 19.42	16 19.18 (16)	07.28 18.52	07.03 17.11	07.35 16.56	
11	07.46 17.16	07.23 17.53	06.43 18.25	06.53 19.57	20.28 20.53	06.12 20.52	06.02 20.55	06.29 20.27	06.59 19.40	17 19.18 (16)	07.29 18.51	07.04 17.10	07.36 16.56	
12	07.46 17.17	07.22 17.54	06.41 18.26	06.51 19.58	20.29 20.54	06.11 20.52	06.03 20.55	06.30 20.26	07.00 19.39	18 19.18 (16)	07.30 18.49	07.05 17.09	07.36 16.57	
13	07.46 17.18	07.21 17.55	06.40 18.27	06.49 19.59	20.30 20.54	06.10 20.54	06.03 20.54	06.31 20.25	07.01 19.37	15 19.15 (16)	07.31 18.48	07.06 17.08	07.37 16.57	
14	07.45 17.19	07.19 17.56	06.38 18.28	06.48 20.00	20.31 20.55	06.09 20.52	06.04 20.54	06.32 20.23	07.02 19.35	13 19.13 (16)	07.32 18.46	07.07 17.07	07.38 16.57	
15	07.45 17.20	07.18 17.57	06.36 18.29	06.46 20.01	20.32 20.55	06.08 20.52	06.05 20.53	06.33 20.22	07.03 19.34	12 19.12 (16)	07.33 18.45	07.08 17.07	07.39 16.57	
16	07.45 17.21	07.17 17.59	06.35 18.30	06.45 20.02	20.33 20.55	06.07 20.52	06.06 20.52	06.34 20.21	07.04 19.32	8 19.10 (16)	07.34 18.43	07.10 17.06	07.39 16.57	
17	07.44 17.22	07.16 18.00	06.33 18.31	06.43 20.03	20.34 20.56	06.06 20.52	06.06 20.52	06.35 20.19	07.05 19.30	5 19.08 (16)	07.35 18.42	07.11 17.05	07.40 16.58	
18	07.44 17.24	07.14 18.01	06.32 18.32	06.42 20.04	20.35 20.56	06.05 20.52	06.07 20.51	06.36 20.18	07.06 19.29		07.36 18.40	07.12 17.04	07.41 16.58	
19	07.43 17.25	07.13 18.02	06.30 18.33	06.40 20.05	20.36 20.56	06.04 20.52	06.08 20.50	06.37 20.16	07.07 19.27		07.37 18.39	07.13 17.03	07.41 16.58	
20	07.43 17.26	07.11 18.03	06.28 18.34	06.39 20.07	20.37 20.57	06.03 20.53	06.09 20.50	06.38 20.15	07.08 19.25		07.38 18.37	07.14 17.03	07.42 16.59	
21	07.42 17.27	07.10 18.04	06.27 18.35	06.37 20.08	20.38 20.57	06.02 20.53	06.10 20.49	06.39 20.14	07.09 19.24		07.40 18.36	07.15 17.02	07.43 16.59	
22	07.41 17.28	07.09 18.06	06.25 18.36	06.36 20.09	20.39 20.57	06.02 20.53	06.10 20.48	06.40 20.12	07.10 19.22		07.41 18.34	07.16 17.01	07.43 17.00	
23	07.41 17.29	07.07 18.07	06.23 18.37	06.34 20.10	20.40 20.57	06.01 20.53	06.11 20.47	06.41 20.11	07.11 19.20		07.42 18.33	07.18 17.01	07.44 17.00	
24	07.40 17.31	07.06 18.08	06.22 18.39	06.33 20.11	20.40 20.57	06.00 20.52	06.12 20.47	06.42 20.09	07.12 19.19		07.43 18.32	07.19 17.00	07.44 17.01	
25	07.39 17.32	07.04 18.09	06.20 18.40	06.32 20.12	20.41 20.58	05.59 20.54	06.13 20.46	06.43 20.08	07.13 19.17		07.44 17.30	07.20 17.00	07.44 17.01	
26	07.39 17.33	07.03 18.10	06.18 18.41	18.16 (16) 06.30	20.13 20.42	05.59 20.58	06.14 20.45	06.44 20.06	07.14 19.15		07.45 17.29	07.21 16.59	07.45 17.02	
27	07.38 17.34	07.01 18.11	06.17 18.42	18.13 (16) 06.29	20.14 20.43	05.58 20.58	06.15 20.44	06.45 20.05	07.15 19.14		07.46 17.28	07.22 16.59	07.45 17.03	
28	07.37 17.35	07.00 18.13	06.15 18.43	18.10 (16) 06.28	20.15 20.44	05.57 20.58	06.16 20.43	06.46 20.03	07.16 19.12		07.47 17.26	07.23 16.58	07.46 17.03	
29	07.36 17.37	07.07 18.13	06.13 18.44	18.21 (16) 06.26	20.15 20.44	05.57 20.58	06.17 20.42	06.47 20.01	07.17 19.10		07.48 17.25	07.24 16.58	07.46 17.04	
30	07.35 17.38	07.12 18.14	06.12 18.45	19.08 (16) 06.25	20.17 20.45	05.56 20.58	06.18 20.41	06.48 20.00	07.18 19.09		07.49 17.24	07.25 16.58	07.46 17.05	
31	07.35 17.39	07.10 18.15	06.11 18.46	19.09 (16) 06.24	20.17 20.46	05.56 20.58	06.18 20.40	06.48 19.58	07.19 19.09		07.50 17.22	07.26 16.58	07.46 17.06	
Potential sun hours	299	298	370	398	86	447	450	457	427	375	153	346	299	290
Total, worst case			68											

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F47 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (243)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	
1	07.47	07.34	08.10 (BAP11) 06.59	07.09	07.30 (BAP10) 06.24	07.41 (BAP10) 05.55	
	17.07	17.40	37 08.47 (BAP11) 18.14	19.47	48 08.18 (BAP10) 20.18	10 07.51 (BAP10) 20.47	
2	07.47	07.33	08.09 (BAP11) 06.57	07.07	07.29 (BAP10) 06.22	05.55	
	17.07	17.42	39 08.48 (BAP11) 18.15	19.48	49 08.18 (BAP10) 20.19	20.48	
3	07.47	07.32	08.08 (BAP11) 06.55	07.05	07.28 (BAP10) 06.21	05.55	
	17.08	17.43	41 08.49 (BAP11) 18.16	19.49	51 08.19 (BAP10) 20.20	20.48	
4	07.47	07.31	08.08 (BAP11) 06.54	07.04	07.27 (BAP10) 06.20	05.54	
	17.09	17.44	42 08.50 (BAP11) 18.17	19.50	52 08.19 (BAP10) 20.21	20.49	
5	07.47	07.30	08.06 (BAP11) 06.52	07.02	07.26 (BAP10) 06.19	05.54	
	17.10	17.45	44 08.50 (BAP11) 18.18	19.51	53 08.19 (BAP10) 20.22	20.50	
6	07.47	07.29	08.06 (BAP11) 06.51	07.00	07.25 (BAP10) 06.17	05.54	
	17.11	17.46	44 08.50 (BAP11) 18.19	19.52	54 08.19 (BAP10) 20.23	20.50	
7	07.47	07.28	08.06 (BAP11) 06.49	06.59	07.24 (BAP10) 06.16	05.53	
	17.12	17.48	45 08.51 (BAP11) 18.20	19.53	55 08.19 (BAP10) 20.24	20.51	
8	07.47	07.27	08.06 (BAP11) 06.48	06.57	07.24 (BAP10) 06.15	05.53	
	17.13	17.49	46 08.52 (BAP11) 18.21	19.54	56 08.20 (BAP10) 20.25	20.51	
9	07.47	07.25	08.05 (BAP11) 06.46	06.56	07.23 (BAP10) 06.14	05.53	
	17.14	17.50	47 08.52 (BAP11) 18.23	19.55	56 08.19 (BAP10) 20.26	20.52	
10	07.46	07.24	08.05 (BAP11) 06.45	06.54	07.23 (BAP10) 06.13	05.53	
	17.15	17.51	48 08.53 (BAP11) 18.24	19.56	55 08.18 (BAP10) 20.27	20.53	
11	07.46	07.23	08.05 (BAP11) 06.43	06.53	07.23 (BAP10) 06.12	05.52	
	17.16	17.53	47 08.52 (BAP11) 18.25	19.57	56 08.19 (BAP10) 20.28	20.53	
12	07.46	07.22	08.05 (BAP11) 06.41	06.51	07.22 (BAP10) 06.11	05.52	
	17.17	17.54	47 08.52 (BAP11) 18.26	19.58	56 08.18 (BAP10) 20.29	20.54	
13	07.46	07.21	08.05 (BAP11) 06.40	06.49	07.22 (BAP10) 06.10	05.52	
	17.18	17.55	48 08.53 (BAP11) 18.27	19.59	56 08.18 (BAP10) 20.30	20.54	
14	07.45	07.19	08.05 (BAP11) 06.38	06.48	07.22 (BAP10) 06.09	05.52	
	17.19	17.56	48 08.53 (BAP11) 18.28	20.00	55 08.17 (BAP10) 20.31	20.55	
15	07.45	07.18	08.05 (BAP11) 06.37	06.46	07.22 (BAP10) 06.08	05.52	
	17.20	17.57	47 08.52 (BAP11) 18.29	20.01	55 08.17 (BAP10) 20.32	20.55	
16	07.45	07.17	08.05 (BAP11) 06.35	06.45	07.22 (BAP10) 06.07	05.52	
	17.21	17.59	47 08.52 (BAP11) 18.30	20.02	54 08.16 (BAP10) 20.33	20.55	
17	07.44	07.16	08.06 (BAP11) 06.33	06.43	07.23 (BAP10) 06.06	05.52	
	17.22	18.00	46 08.52 (BAP11) 18.31	20.03	52 08.15 (BAP10) 20.34	20.56	
18	07.44	07.14	08.06 (BAP11) 06.32	06.42	07.22 (BAP10) 06.05	05.52	
	17.24	18.01	44 08.50 (BAP11) 18.32	20.04	52 08.14 (BAP10) 20.35	20.56	
19	07.43	07.13	08.07 (BAP11) 06.30	06.40	07.23 (BAP10) 06.04	05.52	
	17.25	18.02	43 08.50 (BAP11) 18.33	20.06	50 08.13 (BAP10) 20.36	20.56	
20	07.43	07.12	08.08 (BAP11) 06.28	06.39	07.23 (BAP10) 06.03	05.53	
	17.26	18.03	42 08.50 (BAP11) 18.34	20.07	49 08.12 (BAP10) 20.37	20.57	
21	07.42	07.10	08.08 (BAP11) 06.27	06.37	07.24 (BAP10) 06.02	05.53	
	17.27	18.04	40 08.48 (BAP11) 18.35	20.08	47 08.11 (BAP10) 20.38	20.57	
22	07.42	07.09	08.09 (BAP11) 06.25	06.36	07.25 (BAP10) 06.02	05.53	
	17.28	18.06	38 08.47 (BAP11) 18.36	20.09	46 08.11 (BAP10) 20.39	20.57	
23	07.41	07.07	08.09 (BAP11) 06.23	06.34	07.25 (BAP10) 06.01	05.53	
	17.29	18.07	36 08.45 (BAP11) 18.38	20.10	44 08.09 (BAP10) 20.39	20.57	
24	07.40	08.24 (BAP11) 07.06	08.11 (BAP11) 06.22	06.52 (BAP10) 06.33	07.26 (BAP10) 06.00	05.53	
	17.31	5 08.29 (BAP11) 18.08	33 08.44 (BAP11) 18.39	9 07.01 (BAP10) 20.11	42 08.08 (BAP10) 20.40	20.57	
25	07.40	08.19 (BAP11) 07.04	08.12 (BAP11) 06.20	06.45 (BAP10) 06.32	07.27 (BAP10) 05.59	05.54	
	17.32	15 08.34 (BAP11) 18.09	30 08.42 (BAP11) 18.40	21 07.06 (BAP10) 20.12	39 08.06 (BAP10) 20.41	20.58	
26	07.39	08.16 (BAP11) 07.03	08.14 (BAP11) 06.18	06.42 (BAP10) 06.30	07.28 (BAP10) 05.59	05.54	
	17.33	21 08.37 (BAP11) 18.10	26 08.40 (BAP11) 18.41	28 07.10 (BAP10) 20.13	36 08.04 (BAP10) 20.42	20.58	
27	07.38	08.15 (BAP11) 07.02	08.16 (BAP11) 06.17	06.39 (BAP10) 06.29	07.30 (BAP10) 05.58	05.54	
	17.34	24 08.39 (BAP11) 18.11	21 08.37 (BAP11) 18.42	33 07.12 (BAP10) 20.14	33 08.03 (BAP10) 20.43	20.58	
28	07.37	08.13 (BAP11) 07.00	08.20 (BAP11) 06.15	06.38 (BAP10) 06.28	07.32 (BAP10) 05.58	05.55	
	17.35	28 08.41 (BAP11) 18.13	14 08.34 (BAP11) 18.43	36 07.14 (BAP10) 20.15	29 08.01 (BAP10) 20.44	20.58	
29	07.36	08.12 (BAP11) 07.01	07.14	07.35 (BAP10) 06.26	07.33 (BAP10) 05.57	05.55	
	17.37	30 08.42 (BAP11) 19.44	40 08.15 (BAP10) 20.16	25 07.58 (BAP10) 20.44	07.36 (BAP10) 05.56	20.58	
30	07.36	08.11 (BAP11) 07.12	07.12	07.33 (BAP10) 06.25	19 07.55 (BAP10) 20.45	05.56	
	17.38	34 08.45 (BAP11) 19.45	43 08.16 (BAP10) 20.17	19 07.55 (BAP10) 20.45	05.56	20.58	
31	07.35	08.10 (BAP11) 07.10	07.10	07.32 (BAP10) 06.24	05.56		
	17.39	36 08.46 (BAP11) 19.46	45 08.17 (BAP10) 20.17	19 07.55 (BAP10) 20.45	05.56		
Potential sun hours	299	298	370	398	447	450	
Total, worst case	193	1130	255	1424	10		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F47 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (243)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 20.58	06.19 20.39	06.49 19.57	07.22 (BAP10) 19.07	06.52 17.21	07.34 (BAP11) 16.57
2	05.56 20.58	06.20 20.38	06.50 19.55	07.22 (BAP10) 19.05	06.53 17.20	07.35 (BAP11) 16.57
3	05.57 20.57	06.21 20.37	06.51 19.54	07.21 (BAP10) 19.04	06.54 17.19	07.35 (BAP11) 16.57
4	05.58 20.57	06.22 20.36	06.52 19.52	07.21 (BAP10) 19.02	06.56 17.18	07.36 (BAP11) 16.57
5	05.58 20.57	06.23 20.35	06.53 19.50	07.21 (BAP10) 19.00	06.57 17.16	07.36 (BAP11) 16.57
6	05.59 20.57	06.24 20.34	06.54 19.49	07.21 (BAP10) 18.59	06.58 17.15	07.37 (BAP11) 16.56
7	05.59 20.56	06.25 20.32	06.55 19.47	07.22 (BAP10) 18.57	06.59 17.14	07.38 (BAP11) 16.56
8	06.00 20.56	06.26 20.31	06.56 19.45	07.22 (BAP10) 18.56	07.00 17.13	07.38 (BAP11) 16.56
9	06.01 20.56	06.27 20.30	06.57 19.44	07.21 (BAP10) 18.54	07.01 17.12	07.39 (BAP11) 16.56
10	06.01 20.55	06.28 20.29	06.58 19.42	07.22 (BAP10) 18.52	07.03 17.11	07.41 (BAP11) 16.56
11	06.02 20.55	06.29 20.27	06.59 19.40	07.22 (BAP10) 18.51	07.04 17.10	07.41 (BAP11) 16.56
12	06.03 20.55	06.30 20.26	07.00 19.39	07.23 (BAP10) 18.49	07.05 17.09	07.42 (BAP11) 16.57
13	06.03 20.54	06.31 20.25	07.01 19.37	07.24 (BAP10) 18.48	07.06 17.08	07.44 (BAP11) 16.57
14	06.04 20.54	06.32 20.23	07.02 19.35	07.25 (BAP10) 18.46	07.07 17.07	07.46 (BAP11) 16.57
15	06.05 20.53	06.33 20.22	07.03 19.34	07.26 (BAP10) 18.45	07.08 17.07	07.48 (BAP11) 16.57
16	06.06 20.52	06.34 20.21	07.04 19.32	07.28 (BAP10) 18.43	07.10 17.06	07.50 (BAP11) 16.57
17	06.06 20.52	06.35 20.19	07.05 19.30	07.30 (BAP10) 18.42	07.11 17.05	07.52 (BAP11) 16.58
18	06.07 20.51	06.36 20.18	07.06 19.29	07.33 (BAP10) 18.40	07.12 17.04	07.58 (BAP11) 16.58
19	06.08 20.51	06.37 20.17	07.07 19.27	07.37 (BAP10) 18.39	07.13 17.03	08.03 (BAP11) 16.58
20	06.09 20.50	06.38 20.15	07.08 19.25	07.39 (BAP10) 18.37	07.14 17.03	08.03 (BAP11) 16.59
21	06.10 20.49	06.39 20.14	07.09 19.24	07.40 (BAP10) 18.36	07.15 17.02	08.03 (BAP11) 16.59
22	06.10 20.48	06.40 20.12	07.10 19.22	07.41 (BAP10) 18.34	07.16 17.02	08.03 (BAP11) 17.00
23	06.11 20.48	06.41 20.11	07.11 19.20	07.42 (BAP10) 18.33	07.18 17.01	08.03 (BAP11) 17.00
24	06.12 20.47	06.42 20.09	07.12 19.19	07.43 (BAP10) 18.32	07.19 17.00	08.03 (BAP11) 17.00
25	06.13 20.46	06.43 20.08	07.13 19.17	07.44 (BAP10) 18.30	07.20 17.00	08.03 (BAP11) 17.00
26	06.14 20.45	06.44 20.06	07.14 19.15	07.45 (BAP10) 18.29	07.21 16.59	08.03 (BAP11) 17.00
27	06.15 20.44	06.45 20.05	07.15 19.14	07.46 (BAP10) 18.28	07.22 16.59	08.03 (BAP11) 17.00
28	06.16 20.43	06.46 20.03	07.16 19.12	07.47 (BAP10) 18.26	07.23 16.58	08.03 (BAP11) 17.00
29	06.17 20.42	06.47 20.02	07.17 19.10	07.48 (BAP10) 18.25	07.24 16.58	08.03 (BAP11) 17.00
30	06.18 20.41	06.48 20.00	07.18 19.09	07.49 (BAP10) 18.24	07.25 16.58	08.03 (BAP11) 17.00
31	06.19 20.40	06.48 19.58	07.19 19.08	07.50 (BAP10) 18.23	07.26 16.58	08.03 (BAP11) 17.00
Potential sun hours	457	427	375	346	299	290
Total, worst case		857	849	714	621	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F50 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (271)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January	February	March	April	May	June		
1 07.47	07.34	07.56 (BAP11) 06.59	07.09	07.28 (BAP08) 06.24	06.43 (BAP09) 05.55	06.45 (BAP08)	
17.07	17.40	21 08.17 (BAP11) 18.14	19.47	87 19.26 (BAP06) 20.18	152 09.15 (BAP08) 20.47	147 09.12 (BAP08)	
2 07.47	07.33	07.55 (BAP11) 06.57	07.07	07.25 (BAP08) 06.22	06.42 (BAP09) 05.55	06.45 (BAP08)	
17.07	17.42	23 08.18 (BAP11) 18.15	19.48	95 19.26 (BAP06) 20.19	153 09.15 (BAP08) 20.48	146 09.11 (BAP08)	
3 07.47	07.32	07.54 (BAP11) 06.56	07.05	07.24 (BAP08) 06.21	06.40 (BAP09) 05.55	06.45 (BAP08)	
17.08	17.43	25 08.19 (BAP11) 18.16	19.49	101 19.28 (BAP06) 20.20	155 09.15 (BAP08) 20.48	147 09.12 (BAP08)	
4 07.47	07.31	07.54 (BAP11) 06.54	07.04	07.22 (BAP08) 06.20	06.39 (BAP09) 05.54	06.46 (BAP08)	
17.09	17.44	26 08.20 (BAP11) 18.17	19.50	106 19.29 (BAP06) 20.21	156 09.15 (BAP08) 20.49	146 09.12 (BAP08)	
5 07.47	07.30	07.52 (BAP11) 06.52	07.11 (BAP10) 07.02	07.20 (BAP08) 06.19	06.38 (BAP09) 05.54	06.45 (BAP08)	
17.10	17.45	28 08.20 (BAP11) 18.18	6 07.17 (BAP10) 19.51	110 19.29 (BAP06) 20.22	157 09.15 (BAP08) 20.50	146 09.11 (BAP08)	
6 07.47	07.29	07.52 (BAP11) 06.51	07.10 (BAP10) 07.01	07.19 (BAP08) 06.17	06.37 (BAP09) 05.54	06.46 (BAP08)	
17.11	17.46	28 08.20 (BAP11) 18.19	11 07.21 (BAP10) 19.52	116 19.31 (BAP06) 20.23	158 09.15 (BAP08) 20.50	146 09.12 (BAP08)	
7 07.47	07.28	07.52 (BAP11) 06.49	07.08 (BAP10) 06.59	07.17 (BAP08) 06.16	06.36 (BAP09) 05.53	06.46 (BAP08)	
17.12	17.48	29 08.21 (BAP11) 18.20	15 07.23 (BAP10) 19.53	120 19.32 (BAP06) 20.24	159 09.15 (BAP08) 20.51	146 09.12 (BAP08)	
8 07.47	07.27	07.52 (BAP11) 06.48	07.06 (BAP10) 06.57	07.16 (BAP08) 06.15	06.35 (BAP09) 05.53	06.46 (BAP08)	
17.13	17.49	29 08.21 (BAP11) 18.21	18 07.24 (BAP10) 19.54	124 19.33 (BAP06) 20.25	160 09.15 (BAP08) 20.52	146 09.12 (BAP08)	
9 07.47	07.25	07.52 (BAP11) 06.46	07.05 (BAP10) 06.56	07.14 (BAP08) 06.14	06.34 (BAP09) 05.53	06.46 (BAP08)	
17.14	17.50	30 08.22 (BAP11) 18.23	21 07.26 (BAP10) 19.55	129 19.34 (BAP06) 20.26	161 09.15 (BAP08) 20.52	145 09.11 (BAP08)	
10 07.46	07.24	07.52 (BAP11) 06.45	07.03 (BAP10) 06.54	07.13 (BAP08) 06.13	06.33 (BAP09) 05.53	06.46 (BAP08)	
17.15	17.51	30 08.22 (BAP11) 18.24	23 07.26 (BAP10) 19.56	131 19.35 (BAP06) 20.27	162 09.15 (BAP08) 20.53	145 09.11 (BAP08)	
11 07.46	07.23	07.52 (BAP11) 06.43	07.02 (BAP10) 06.53	07.11 (BAP08) 06.12	06.32 (BAP09) 05.52	06.47 (BAP08)	
17.16	17.53	29 08.21 (BAP11) 18.25	25 07.27 (BAP10) 19.57	136 19.36 (BAP06) 20.28	163 09.15 (BAP08) 20.53	145 09.12 (BAP08)	
12 07.46	07.22	07.52 (BAP11) 06.41	07.00 (BAP10) 06.51	07.09 (BAP08) 06.11	06.31 (BAP09) 05.52	06.47 (BAP08)	
17.17	17.54	29 08.21 (BAP11) 18.26	27 07.27 (BAP10) 19.58	138 19.36 (BAP06) 20.29	163 09.14 (BAP08) 20.54	145 09.12 (BAP08)	
13 07.46	07.21	07.53 (BAP11) 06.40	06.58 (BAP10) 06.49	07.08 (BAP08) 06.10	06.30 (BAP09) 05.52	06.47 (BAP08)	
17.18	17.55	28 08.21 (BAP11) 18.27	29 07.27 (BAP10) 19.59	142 19.38 (BAP06) 20.30	164 09.14 (BAP08) 20.54	145 09.12 (BAP08)	
14 07.45	07.19	07.54 (BAP11) 06.38	06.57 (BAP10) 06.48	07.06 (BAP08) 06.09	06.29 (BAP09) 05.52	06.47 (BAP08)	
17.19	17.56	26 08.20 (BAP11) 18.28	31 07.28 (BAP10) 20.00	143 19.38 (BAP06) 20.31	165 09.14 (BAP08) 20.55	145 09.12 (BAP08)	
15 07.45	07.18	07.54 (BAP11) 06.37	06.55 (BAP10) 06.46	07.05 (BAP08) 06.08	06.29 (BAP09) 05.52	06.48 (BAP08)	
17.20	17.57	25 08.19 (BAP11) 18.29	32 07.27 (BAP10) 20.01	143 19.38 (BAP06) 20.32	165 09.14 (BAP08) 20.55	144 09.12 (BAP08)	
16 07.45	07.17	07.55 (BAP11) 06.35	06.54 (BAP10) 06.45	07.03 (BAP08) 06.07	06.29 (BAP09) 05.52	06.48 (BAP08)	
17.21	17.59	23 08.18 (BAP11) 18.30	32 07.26 (BAP10) 20.02	142 19.36 (BAP06) 20.33	165 09.14 (BAP08) 20.55	144 09.12 (BAP08)	
17 07.44	07.16	07.57 (BAP11) 06.33	06.54 (BAP10) 06.43	07.02 (BAP08) 06.06	06.29 (BAP09) 05.52	06.48 (BAP08)	
17.22	18.00	20 08.17 (BAP11) 18.31	32 07.26 (BAP10) 20.03	137 19.32 (BAP06) 20.34	164 09.13 (BAP08) 20.56	144 09.12 (BAP08)	
18 07.44	07.14	07.58 (BAP11) 06.32	06.54 (BAP10) 06.42	07.00 (BAP08) 06.05	06.29 (BAP09) 05.52	06.48 (BAP08)	
17.24	18.01	17 08.15 (BAP11) 18.32	31 07.25 (BAP10) 20.05	132 09.12 (BAP08) 20.35	164 09.13 (BAP08) 20.56	144 09.12 (BAP08)	
19 07.43	07.13	08.00 (BAP11) 06.30	06.54 (BAP10) 06.40	06.59 (BAP08) 06.04	06.29 (BAP09) 05.52	06.48 (BAP08)	
17.25	18.02	13 08.13 (BAP11) 18.33	30 07.24 (BAP10) 20.06	134 09.13 (BAP08) 20.36	164 09.13 (BAP08) 20.56	144 09.12 (BAP08)	
20 07.43	07.12	06.28	06.55 (BAP10) 06.39	06.57 (BAP08) 06.03	06.31 (BAP09) 05.53	06.49 (BAP08)	
17.26	18.03	18.34	29 07.24 (BAP10) 20.07	136 09.13 (BAP08) 20.37	162 09.13 (BAP08) 20.57	145 09.14 (BAP08)	
21 07.42	07.10	06.27	06.56 (BAP10) 06.37	06.56 (BAP08) 06.02	06.31 (BAP09) 05.53	06.49 (BAP08)	
17.27	18.04	18.35	26 07.22 (BAP10) 20.08	138 09.14 (BAP08) 20.38	162 09.13 (BAP08) 20.57	145 09.14 (BAP08)	
22 07.42	07.09	06.25	06.56 (BAP10) 06.36	06.55 (BAP08) 06.02	06.32 (BAP09) 05.53	06.49 (BAP08)	
17.28	18.06	18.36	24 07.20 (BAP10) 20.09	139 09.14 (BAP08) 20.39	160 09.12 (BAP08) 20.57	145 09.14 (BAP08)	
23 07.41	07.07	06.23	06.58 (BAP10) 06.35	06.53 (BAP08) 06.01	06.32 (BAP09) 05.53	06.49 (BAP08)	
17.29	18.07	18.38	21 07.19 (BAP10) 20.10	141 09.14 (BAP08) 20.39	160 09.12 (BAP08) 20.57	144 09.13 (BAP08)	
24 07.40	07.06	06.22	07.00 (BAP10) 06.33	06.53 (BAP08) 06.00	06.34 (BAP09) 05.53	06.50 (BAP08)	
17.31	18.08	18.39	19 07.19 (BAP08) 20.11	142 09.15 (BAP08) 20.40	159 09.13 (BAP08) 20.57	144 09.14 (BAP08)	
25 07.40	07.04	06.20	06.56 (BAP08) 06.32	06.52 (BAP08) 05.59	06.34 (BAP09) 05.54	06.50 (BAP08)	
17.32	18.09	18.40	33 07.29 (BAP08) 20.12	143 09.15 (BAP08) 20.41	158 09.12 (BAP08) 20.58	144 09.14 (BAP08)	
26 07.39	07.03	06.18	06.50 (BAP08) 06.30	06.51 (BAP08) 05.59	06.36 (BAP09) 05.54	06.50 (BAP08)	
17.33	18.10	18.41	45 07.35 (BAP08) 20.13	144 09.15 (BAP08) 20.42	157 09.13 (BAP08) 20.58	144 09.14 (BAP08)	
27 07.38	07.02	06.17	06.45 (BAP08) 06.29	06.51 (BAP08) 05.58	06.37 (BAP09) 05.54	06.51 (BAP08)	
17.34	18.11	18.42	55 07.40 (BAP08) 20.14	144 09.15 (BAP08) 20.43	155 09.12 (BAP08) 20.58	144 09.15 (BAP08)	
28 07.37	07.00	06.15	06.41 (BAP08) 06.28	06.47 (BAP08) 05.58	06.38 (BAP09) 05.55	06.50 (BAP08)	
17.35	18.13	18.43	63 07.44 (BAP08) 20.15	148 09.15 (BAP08) 20.44	153 09.11 (BAP08) 20.58	145 09.15 (BAP08)	
29 07.36	08.00 (BAP11)	07.14	07.37 (BAP08) 06.26	06.45 (BAP08) 05.57	06.40 (BAP09) 05.55	06.50 (BAP08)	
17.37	10 08.10 (BAP11)	19.44	70 08.47 (BAP08) 20.16	150 09.15 (BAP08) 20.45	152 09.12 (BAP08) 20.58	145 09.15 (BAP08)	
30 07.36	07.58 (BAP11)	07.12	07.33 (BAP08) 06.25	06.44 (BAP08) 05.56	06.42 (BAP09) 05.56	06.51 (BAP08)	
17.38	15 08.13 (BAP11)	19.45	76 08.49 (BAP08) 20.17	151 09.15 (BAP08) 20.45	149 09.11 (BAP08) 20.58	145 09.16 (BAP08)	
31 07.35	07.57 (BAP11)	07.10	07.31 (BAP08)	20.46	06.44 (BAP08)		
17.39	18 08.15 (BAP11)	19.46	81 08.52 (BAP08)	20.46	148 09.12 (BAP08)		
Potential sun hours	299			398		447	450
Total, worst case	43	479	905	3942	4925		4350

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F50 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (271)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 20.58	06.51 (BAP08) 09.16 (BAP08)	06.19 20.39	06.41 (BAP09) 09.24 (BAP08)	06.49 19.57	07.10 (BAP08) 19.35 (BAP06)
2	05.57 20.58	06.51 (BAP08) 09.17 (BAP08)	06.20 20.38	06.42 (BAP09) 09.24 (BAP08)	06.50 19.55	07.11 (BAP08) 19.33 (BAP06)
3	05.57 20.57	06.51 (BAP08) 09.16 (BAP08)	06.21 20.37	06.43 (BAP09) 09.24 (BAP08)	06.51 19.54	07.12 (BAP08) 19.32 (BAP06)
4	05.58 20.57	06.52 (BAP08) 09.17 (BAP08)	06.22 20.36	06.44 (BAP09) 09.25 (BAP08)	06.52 19.52	07.13 (BAP08) 19.30 (BAP06)
5	05.58 20.57	06.51 (BAP08) 09.17 (BAP08)	06.23 20.35	06.45 (BAP09) 09.25 (BAP08)	06.53 19.50	07.14 (BAP08) 19.29 (BAP06)
6	05.59 20.57	06.52 (BAP08) 09.18 (BAP08)	06.24 20.34	06.46 (BAP09) 09.25 (BAP08)	06.54 19.49	07.15 (BAP08) 18.59
7	05.59 20.56	06.52 (BAP08) 09.18 (BAP08)	06.25 20.32	06.47 (BAP09) 09.25 (BAP08)	06.55 19.47	07.16 (BAP08) 19.25 (BAP06)
8	06.00 20.56	06.52 (BAP08) 09.18 (BAP08)	06.26 20.31	06.48 (BAP09) 09.25 (BAP08)	06.56 19.45	07.17 (BAP08) 19.24 (BAP06)
9	06.01 20.56	06.52 (BAP08) 09.19 (BAP08)	06.27 20.30	06.49 (BAP09) 09.24 (BAP08)	06.57 19.44	07.17 (BAP08) 19.21 (BAP06)
10	06.01 20.55	06.53 (BAP08) 09.20 (BAP08)	06.28 20.29	06.50 (BAP09) 09.24 (BAP08)	06.58 19.42	07.18 (BAP08) 19.20 (BAP06)
11	06.02 20.55	06.53 (BAP08) 09.19 (BAP08)	06.29 20.27	06.51 (BAP09) 09.24 (BAP08)	06.59 19.40	07.20 (BAP08) 19.18 (BAP06)
12	06.03 20.55	06.53 (BAP08) 09.20 (BAP08)	06.30 20.26	06.51 (BAP09) 09.23 (BAP08)	07.00 19.39	07.22 (BAP08) 08.44 (BAP08)
13	06.03 20.54	06.53 (BAP08) 09.20 (BAP08)	06.31 20.25	06.52 (BAP09) 09.23 (BAP08)	07.01 19.37	07.24 (BAP08) 08.41 (BAP08)
14	06.04 20.54	06.49 (BAP09) 09.20 (BAP08)	06.32 20.23	06.53 (BAP09) 09.22 (BAP08)	07.02 19.35	07.27 (BAP08) 08.37 (BAP08)
15	06.05 20.53	06.48 (BAP09) 09.21 (BAP08)	06.33 20.22	06.54 (BAP09) 09.22 (BAP08)	07.03 19.34	07.30 (BAP08) 08.34 (BAP08)
16	06.06 20.52	06.46 (BAP09) 09.21 (BAP08)	06.34 20.21	06.57 (BAP08) 09.22 (BAP08)	07.04 19.32	07.33 (BAP08) 08.30 (BAP08)
17	06.06 20.52	06.46 (BAP09) 09.22 (BAP08)	06.35 20.19	06.58 (BAP08) 09.21 (BAP08)	07.05 19.30	07.37 (BAP08) 08.25 (BAP08)
18	06.07 20.51	06.44 (BAP09) 09.21 (BAP08)	06.36 20.18	06.58 (BAP08) 09.21 (BAP08)	07.06 19.29	07.42 (BAP08) 08.19 (BAP08)
19	06.08 20.51	06.43 (BAP09) 09.22 (BAP08)	06.37 20.17	06.59 (BAP08) 09.20 (BAP08)	07.07 19.27	07.48 (BAP10) 08.10 (BAP08)
20	06.09 20.50	06.43 (BAP09) 09.22 (BAP08)	06.38 20.15	06.59 (BAP08) 09.20 (BAP08)	07.08 19.25	07.45 (BAP10) 08.05 (BAP10)
21	06.10 20.49	06.42 (BAP09) 09.23 (BAP08)	06.39 20.14	07.00 (BAP08) 09.19 (BAP08)	07.09 19.24	07.43 (BAP10) 08.06 (BAP10)
22	06.10 20.48	06.42 (BAP09) 09.23 (BAP08)	06.40 20.12	07.01 (BAP08) 09.18 (BAP08)	07.10 19.22	07.41 (BAP10) 08.07 (BAP10)
23	06.11 20.48	06.41 (BAP09) 09.23 (BAP08)	06.41 20.11	07.02 (BAP08) 09.18 (BAP08)	07.11 19.20	07.40 (BAP10) 08.08 (BAP10)
24	06.12 20.47	06.40 (BAP09) 09.23 (BAP08)	06.42 20.09	07.03 (BAP08) 09.17 (BAP08)	07.12 19.19	07.39 (BAP10) 08.08 (BAP10)
25	06.13 20.46	06.40 (BAP09) 09.23 (BAP08)	06.43 20.08	07.04 (BAP08) 09.16 (BAP08)	07.13 19.17	07.38 (BAP10) 08.09 (BAP10)
26	06.14 20.45	06.40 (BAP09) 09.24 (BAP08)	06.44 20.06	07.05 (BAP08) 19.36 (BAP06)	07.14 19.15	07.37 (BAP10) 08.09 (BAP10)
27	06.15 20.44	06.39 (BAP09) 09.24 (BAP08)	06.45 20.05	07.05 (BAP08) 19.38 (BAP06)	07.15 19.14	07.36 (BAP10) 08.09 (BAP10)
28	06.16 20.43	06.39 (BAP09) 09.24 (BAP08)	06.46 20.03	07.06 (BAP08) 19.39 (BAP06)	07.16 19.12	07.36 (BAP10) 08.08 (BAP10)
29	06.17 20.42	06.39 (BAP09) 09.25 (BAP08)	06.47 20.02	07.07 (BAP08) 19.39 (BAP06)	07.17 19.10	07.37 (BAP10) 08.08 (BAP10)
30	06.18 20.41	06.40 (BAP09) 09.25 (BAP08)	06.48 20.00	07.08 (BAP08) 19.38 (BAP06)	07.18 19.09	07.38 (BAP10) 08.08 (BAP10)
31	06.19 20.40	06.40 (BAP09) 09.24 (BAP08)	06.49 19.58	07.09 (BAP08) 19.36 (BAP06)	07.19	06.51 17.22
Potential sun hours	457	427	375	346	299	290
Total, worst case	4789	4582	2029	381	311	290

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F52 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47 17.07	07.34 17.40	06.59 18.14	07.17 (BAP11) 07.42 (BAP11)	07.09 19.47	06.24 19.55 (BAP10)
2	07.47 17.07	07.33 17.42	06.57 18.15	07.16 (BAP11) 07.43 (BAP11)	07.07 19.48	06.22 19.57 (BAP06)
3	07.47 17.08	07.32 17.43	06.56 18.16	07.14 (BAP11) 07.44 (BAP11)	07.05 19.49	06.21 19.57 (BAP06)
4	07.47 17.09	07.31 17.44	06.54 18.17	07.13 (BAP11) 07.45 (BAP11)	07.04 19.50	06.20 19.58 (BAP06)
5	07.47 17.10	07.30 17.45	06.52 18.18	07.11 (BAP11) 07.45 (BAP11)	07.02 19.51	06.19 19.59 (BAP06)
6	07.47 17.11	07.29 17.46	06.51 18.19	07.11 (BAP11) 07.46 (BAP11)	07.01 19.52	06.17 20.00 (BAP06)
7	07.47 17.12	07.28 17.48	06.49 18.20	07.10 (BAP11) 07.46 (BAP11)	06.59 19.53	06.16 20.01 (BAP06)
8	07.47 17.13	07.27 17.49	06.48 18.21	07.09 (BAP11) 07.46 (BAP11)	06.57 19.54	06.15 20.02 (BAP06)
9	07.47 17.14	07.25 17.50	06.46 18.23	07.09 (BAP11) 07.46 (BAP11)	06.56 19.55	06.14 20.03 (BAP06)
10	07.46 17.15	07.24 17.51	06.45 18.24	07.09 (BAP11) 07.46 (BAP11)	06.54 19.56	07.13 (BAP10) 07.19 (BAP10)
11	07.46 17.16	07.23 17.53	06.43 18.25	07.09 (BAP11) 07.46 (BAP11)	06.53 19.57	06.12 20.28
12	07.46 17.17	07.22 17.54	06.41 18.26	07.09 (BAP11) 07.45 (BAP11)	06.51 19.58	06.11 20.29
13	07.46 17.18	07.21 17.55	06.40 18.27	07.08 (BAP11) 07.44 (BAP11)	06.49 19.59	06.10 20.30
14	07.45 17.19	07.19 17.56	06.38 18.28	07.09 (BAP11) 07.44 (BAP11)	06.48 20.00	07.06 (BAP10) 07.25 (BAP10)
15	07.45 17.20	07.18 17.57	06.37 18.29	07.09 (BAP11) 07.42 (BAP11)	06.46 20.01	07.05 (BAP10) 07.26 (BAP10)
16	07.45 17.21	07.17 17.59	06.35 18.30	07.10 (BAP11) 07.41 (BAP11)	06.45 20.02	07.03 (BAP10) 07.26 (BAP10)
17	07.44 17.22	07.16 18.00	06.33 18.31	07.11 (BAP11) 07.40 (BAP11)	06.43 20.03	07.02 (BAP10) 07.27 (BAP10)
18	07.44 17.24	07.14 18.01	06.32 18.32	07.12 (BAP11) 07.38 (BAP11)	06.42 20.04	07.00 (BAP10) 07.27 (BAP10)
19	07.43 17.25	07.13 18.02	06.30 18.33	07.13 (BAP11) 07.35 (BAP11)	06.40 20.06	06.59 (BAP10) 07.28 (BAP10)
20	07.43 17.26	07.12 18.03	06.28 18.34	07.16 (BAP11) 07.33 (BAP11)	06.39 20.07	06.57 (BAP10) 07.27 (BAP10)
21	07.42 17.27	07.10 18.04	06.27 18.35	07.19 (BAP11) 07.29 (BAP11)	06.37 20.08	06.56 (BAP10) 07.28 (BAP10)
22	07.42 17.28	07.09 18.06	06.25 18.36	07.20 (BAP11) 07.28 (BAP11)	06.36 20.09	06.55 (BAP10) 07.28 (BAP10)
23	07.41 17.29	07.07 18.07	06.23 18.38	07.21 (BAP11) 07.27 (BAP11)	06.34 20.10	06.53 (BAP10) 07.27 (BAP10)
24	07.40 17.31	07.06 18.08	06.22 18.39	07.22 (BAP11) 07.26 (BAP11)	06.33 20.11	06.52 (BAP10) 07.27 (BAP10)
25	07.40 17.32	07.04 18.09	06.20 18.40	07.23 (BAP11) 07.25 (BAP11)	06.32 20.12	06.50 (BAP10) 07.26 (BAP10)
26	07.39 17.33	07.03 18.10	06.18 18.41	07.24 (BAP11) 07.24 (BAP11)	06.30 20.13	06.49 (BAP10) 07.26 (BAP10)
27	07.38 17.34	07.02 18.11	06.17 18.42	07.25 (BAP11) 07.23 (BAP11)	06.29 20.14	06.48 (BAP10) 07.26 (BAP10)
28	07.37 17.35	07.00 18.13	06.15 18.43	07.26 (BAP11) 07.19 (BAP11)	06.28 20.15	06.49 (BAP10) 19.53 (BAP06)
29	07.36 17.37	07.00 18.13	06.14 18.43	07.27 (BAP11) 07.14 (BAP11)	06.27 20.16	06.49 (BAP10) 19.53 (BAP06)
30	07.36 17.38	07.00 18.13	06.14 18.43	07.28 (BAP11) 07.12 (BAP11)	06.26 20.17	06.49 (BAP10) 19.54 (BAP06)
31	07.35 17.39	07.00 18.13	06.14 18.43	07.29 (BAP11) 07.10 (BAP11)	06.25 20.18	06.49 (BAP10) 05.56
Potential sun hours	299	298	370	398	447	450
Total, worst case		45	642	578	279	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F52 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December			
1	05.56	06.19	06.49	07.10 (BAP10)	07.19	07.48 (BAP11)	06.52	07.26	
	20.58	20.39	19.57	10 07.20 (BAP10)	19.07	36 08.24 (BAP11)	17.21	16.57	
2	05.57	06.20	20.06 (BAP06)	06.50	07.11 (BAP10)	07.20	07.48 (BAP11)	06.53	07.27
	20.58	20.38	8 20.14 (BAP06)	19.55	6 07.17 (BAP10)	19.05	36 08.24 (BAP11)	17.20	16.57
3	05.57	06.21	20.04 (BAP06)	06.51	07.21	07.47 (BAP11)	06.54	07.28	
	20.57	20.37	9 20.13 (BAP06)	19.54	19.04	37 08.24 (BAP11)	17.19	16.57	
4	05.58	06.22	20.03 (BAP06)	06.52	07.22	07.47 (BAP11)	06.56	07.29	
	20.57	20.36	10 20.13 (BAP06)	19.52	19.02	37 08.24 (BAP11)	17.18	16.57	
5	05.58	06.23	07.10 (BAP10)	06.53	07.23	07.47 (BAP11)	06.57	07.30	
	20.57	20.35	21 20.12 (BAP06)	19.50	19.00	36 08.23 (BAP11)	17.17	16.57	
6	05.59	06.24	07.07 (BAP10)	06.54	07.24	07.47 (BAP11)	06.58	07.31	
	20.57	20.34	27 20.11 (BAP06)	19.49	18.59	36 08.23 (BAP11)	17.15	16.57	
7	05.59	06.25	07.05 (BAP10)	06.55	07.25	07.47 (BAP11)	06.59	07.32	
	20.56	20.32	30 20.09 (BAP06)	19.47	18.57	35 08.22 (BAP11)	17.14	16.56	
8	06.00	06.26	07.03 (BAP10)	06.56	07.26	07.47 (BAP11)	07.00	07.33	
	20.56	20.31	33 20.08 (BAP06)	19.45	18.56	34 08.21 (BAP11)	17.13	16.56	
9	06.01	06.27	07.02 (BAP10)	06.57	07.27	07.47 (BAP11)	07.01	07.34	
	20.56	20.30	35 20.07 (BAP06)	19.44	18.54	33 08.20 (BAP11)	17.12	16.56	
10	06.01	06.28	07.01 (BAP10)	06.58	07.28	07.48 (BAP11)	07.03	07.35	
	20.55	20.29	36 20.06 (BAP06)	19.42	18.52	31 08.19 (BAP11)	17.11	16.56	
11	06.02	06.29	07.00 (BAP10)	06.59	07.29	07.49 (BAP11)	07.04	07.36	
	20.55	20.27	37 20.05 (BAP06)	19.40	18.51	29 08.18 (BAP11)	17.10	16.56	
12	06.03	06.30	06.58 (BAP10)	07.00	07.30	07.50 (BAP11)	07.05	07.36	08.08 (16)
	20.55	20.26	38 20.03 (BAP06)	19.39	18.49	26 08.16 (BAP11)	17.09	16.57	2 08.10 (16)
13	06.03	06.31	06.57 (BAP10)	07.01	07.31	07.51 (BAP11)	07.06	07.37	08.07 (16)
	20.54	20.25	38 20.02 (BAP06)	19.37	18.48	23 08.14 (BAP11)	17.08	16.57	4 08.11 (16)
14	06.04	06.32	06.56 (BAP10)	07.02	07.32	07.52 (BAP11)	07.07	07.38	08.06 (16)
	20.54	20.23	38 20.00 (BAP06)	19.35	18.46	20 08.12 (BAP11)	17.07	16.57	5 08.11 (16)
15	06.05	06.33	06.55 (BAP10)	07.03	07.33	07.55 (BAP11)	07.08	07.39	08.07 (16)
	20.53	20.22	38 19.59 (BAP06)	19.34	18.45	14 08.09 (BAP11)	17.07	16.57	6 08.13 (16)
16	06.06	06.34	06.55 (BAP10)	07.04	07.34	07.10	07.39	08.07 (16)	
	20.52	20.21	38 07.33 (BAP10)	19.32	18.43	17.06	16.57	7 08.14 (16)	
17	06.06	06.35	06.56 (BAP10)	07.05	07.35	07.11	07.40	08.07 (16)	
	20.52	20.19	37 07.33 (BAP10)	19.30	18.42	17.05	16.58	7 08.14 (16)	
18	06.07	06.36	06.57 (BAP10)	07.06	07.36	07.12	07.41	08.08 (16)	
	20.51	20.18	36 07.33 (BAP10)	19.29	18.40	17.04	16.58	7 08.15 (16)	
19	06.08	06.37	06.58 (BAP10)	07.07	07.37	07.13	07.41	08.08 (16)	
	20.51	20.17	35 07.33 (BAP10)	19.27	18.39	17.04	16.58	8 08.16 (16)	
20	06.09	06.38	06.59 (BAP10)	07.08	07.39	07.14	07.42	08.08 (16)	
	20.50	20.15	34 07.33 (BAP10)	19.25	18.37	17.03	16.59	8 08.16 (16)	
21	06.10	06.39	07.00 (BAP10)	07.09	07.40	07.15	07.43	08.09 (16)	
	20.49	20.14	33 07.33 (BAP10)	19.24	18.36	17.02	16.59	8 08.17 (16)	
22	06.10	06.40	07.01 (BAP10)	07.10	08.06 (BAP11)	07.41	07.16	07.43	08.09 (16)
	20.48	20.12	31 07.32 (BAP10)	19.22	6 08.12 (BAP11)	18.34	17.02	17.00	8 08.17 (16)
23	06.11	06.41	07.02 (BAP10)	07.11	08.01 (BAP11)	07.42	07.18	07.44	08.10 (16)
	20.48	20.11	30 07.32 (BAP10)	19.20	16 08.17 (BAP11)	18.33	17.01	17.00	8 08.18 (16)
24	06.12	06.42	07.03 (BAP10)	07.12	07.58 (BAP11)	07.43	07.19	07.44	08.10 (16)
	20.47	20.09	28 07.31 (BAP10)	19.19	21 08.19 (BAP11)	18.32	17.00	17.01	8 08.18 (16)
25	06.13	06.43	07.04 (BAP10)	07.13	07.56 (BAP11)	06.44	07.20	07.45	08.10 (16)
	20.46	20.08	27 07.31 (BAP10)	19.17	25 08.21 (BAP11)	17.30	17.00	17.01	8 08.18 (16)
26	06.14	06.44	07.05 (BAP10)	07.14	07.54 (BAP11)	06.45	07.21	07.45	08.12 (16)
	20.45	20.06	25 07.30 (BAP10)	19.15	28 08.22 (BAP11)	17.29	16.59	17.02	7 08.19 (16)
27	06.15	06.45	07.05 (BAP10)	07.15	07.53 (BAP11)	06.46	07.22	07.45	08.12 (16)
	20.44	20.05	23 07.28 (BAP10)	19.14	30 08.23 (BAP11)	17.28	16.59	17.03	7 08.19 (16)
28	06.16	06.46	07.06 (BAP10)	07.16	07.51 (BAP11)	06.47	07.23	07.46	08.13 (16)
	20.43	20.03	21 07.27 (BAP10)	19.12	32 08.23 (BAP11)	17.26	16.58	17.03	6 08.19 (16)
29	06.17	06.47	07.07 (BAP10)	07.17	07.49 (BAP11)	06.49	07.24	07.46	08.13 (16)
	20.42	20.02	19 07.26 (BAP10)	19.10	34 08.23 (BAP11)	17.25	16.58	17.04	6 08.19 (16)
30	06.18	06.48	07.08 (BAP10)	07.18	07.48 (BAP11)	06.50	07.25	07.46	08.15 (16)
	20.41	20.00	16 07.24 (BAP10)	19.09	35 08.23 (BAP11)	17.24	16.58	17.05	4 08.19 (16)
31	06.19	06.49	07.09 (BAP10)	07.19	06.51	07.46	07.46	08.16 (16)	
	20.40	19.58	13 07.22 (BAP10)	19.08	17.22	17.06	17.06	3 08.19 (16)	
Potential sun hours	457	427	375	346	463	299	290	127	
Total, worst case		844	243						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative **Shadow receptor:** F52 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (245)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April	May	June
1	07.47	07.34	07.58 (BAP11) 06.59	07.17 (BAP10) 07.09	08.14 (BAP08) 06.24	05.55
	17.07	17.40	22 08.20 (BAP11) 18.14	63 08.20 (BAP08) 19.47	87 19.26 (BAP06) 20.18	20.47
2	07.47	07.33	07.58 (BAP11) 06.57	07.16 (BAP10) 07.07	08.15 (BAP08) 06.22	05.55
	17.07	17.42	22 08.20 (BAP11) 18.15	65 08.21 (BAP08) 19.48	84 19.26 (BAP06) 20.19	20.48
3	07.47	07.32	07.58 (BAP11) 06.56	07.14 (BAP10) 07.05	08.17 (BAP08) 06.21	05.55
	17.08	17.43	23 08.21 (BAP11) 18.16	68 08.22 (BAP08) 19.49	80 19.26 (BAP06) 20.20	20.48
4	07.47	07.31	07.57 (BAP11) 06.54	07.13 (BAP10) 07.04	08.17 (BAP08) 06.20	05.54
	17.09	17.44	25 08.22 (BAP11) 18.17	70 08.23 (BAP08) 19.50	76 19.24 (BAP06) 20.21	20.49
5	07.47	07.30	07.56 (BAP11) 06.52	07.12 (BAP10) 07.02	08.19 (BAP08) 06.19	05.54
	17.10	17.45	25 08.21 (BAP11) 18.18	72 08.24 (BAP08) 19.51	69 19.23 (BAP06) 20.22	20.50
6	07.47	07.29	07.57 (BAP11) 06.51	07.13 (BAP10) 07.01	08.21 (BAP08) 06.17	05.54
	17.11	17.46	24 08.21 (BAP11) 18.19	72 08.25 (BAP08) 19.52	63 19.22 (BAP06) 20.23	20.50
7	07.47	07.28	07.57 (BAP11) 06.49	07.12 (BAP10) 06.59	08.23 (BAP08) 06.16	05.53
	17.12	17.48	24 08.21 (BAP11) 18.20	73 08.25 (BAP08) 19.53	54 19.19 (BAP06) 20.24	20.51
8	07.47	07.27	07.57 (BAP11) 06.48	07.12 (BAP10) 06.57	08.26 (BAP08) 06.15	05.53
	17.13	17.49	24 08.21 (BAP11) 18.22	73 08.25 (BAP08) 19.54	45 19.18 (BAP06) 20.25	20.52
9	07.47	07.25	07.58 (BAP11) 06.46	07.13 (BAP10) 06.56	08.29 (BAP08) 06.14	05.53
	17.14	17.50	23 08.21 (BAP11) 18.23	73 08.26 (BAP08) 19.55	30 19.14 (BAP06) 20.26	20.52
10	07.46	07.24	07.59 (BAP11) 06.45	07.13 (BAP10) 06.54	07.13 (BAP09) 06.13	05.53
	17.15	17.51	22 08.21 (BAP11) 18.24	73 08.26 (BAP08) 19.56	9 07.22 (BAP09) 20.27	20.53
11	07.46	07.23	08.00 (BAP11) 06.43	07.14 (BAP10) 06.53	07.11 (BAP09) 06.12	05.52
	17.16	17.53	20 08.20 (BAP11) 18.25	72 08.26 (BAP08) 19.57	13 07.24 (BAP09) 20.28	20.53
12	07.46	07.22	08.00 (BAP11) 06.41	07.13 (BAP10) 06.51	07.09 (BAP09) 06.11	05.52
	17.17	17.54	19 08.19 (BAP11) 18.26	73 08.26 (BAP08) 19.58	16 07.25 (BAP09) 20.29	20.54
13	07.46	07.21	08.02 (BAP11) 06.40	07.12 (BAP10) 06.49	07.08 (BAP09) 06.10	05.52
	17.18	17.55	16 08.18 (BAP11) 18.27	73 08.25 (BAP08) 19.59	18 07.26 (BAP09) 20.30	20.54
14	07.45	07.19	08.04 (BAP11) 06.38	07.12 (BAP10) 06.48	07.06 (BAP09) 06.09	05.52
	17.19	17.56	12 08.16 (BAP11) 18.28	74 08.26 (BAP08) 20.00	21 07.27 (BAP09) 20.31	20.55
15	07.45	07.18	08.07 (BAP11) 06.37	07.11 (BAP10) 06.46	07.05 (BAP09) 06.08	05.52
	17.20	17.57	4 08.11 (BAP11) 18.29	74 08.25 (BAP08) 20.01	23 07.28 (BAP09) 20.32	20.55
16	07.45	07.17	06.35	07.11 (BAP10) 06.45	07.03 (BAP09) 06.07	05.52
	17.21	17.59	18.30	74 08.25 (BAP08) 20.02	24 07.27 (BAP09) 20.33	20.55
17	07.44	07.16	06.33	07.11 (BAP10) 06.43	07.02 (BAP09) 06.06	05.52
	17.22	18.00	18.31	74 08.25 (BAP08) 20.03	26 07.28 (BAP09) 20.34	20.56
18	07.44	07.14	06.32	07.10 (BAP10) 06.42	07.00 (BAP09) 06.05	05.52
	17.24	18.01	18.32	74 08.24 (BAP08) 20.05	27 07.27 (BAP09) 20.35	20.56
19	07.43	07.13	06.30	07.10 (BAP10) 06.40	07.00 (BAP09) 06.04	05.52
	17.25	18.02	18.33	73 08.23 (BAP08) 20.06	28 07.28 (BAP09) 20.36	20.56
20	07.43	07.12	06.28	07.10 (BAP10) 06.39	06.59 (BAP09) 06.03	05.53
	17.26	18.03	18.34	79 18.14 (BAP06) 20.07	28 07.27 (BAP09) 20.37	20.57
21	07.42	07.10	07.46 (BAP08) 06.27	07.10 (BAP08) 06.37	07.00 (BAP09) 06.02	05.53
	17.27	18.04	13 07.59 (BAP08) 18.35	82 18.14 (BAP06) 20.08	27 07.27 (BAP09) 20.38	20.57
22	07.42	07.09	07.41 (BAP08) 06.25	07.10 (BAP08) 06.36	07.00 (BAP09) 06.02	05.53
	17.28	18.06	24 08.05 (BAP08) 18.36	84 18.15 (BAP06) 20.09	26 07.26 (BAP09) 20.39	20.57
23	07.41	07.07	07.37 (BAP08) 06.23	07.10 (BAP08) 06.35	07.00 (BAP09) 06.01	05.53
	17.29	18.07	32 08.09 (BAP08) 18.38	87 18.17 (BAP06) 20.10	25 07.25 (BAP09) 20.39	20.57
24	07.40	07.06	07.34 (BAP08) 06.22	07.10 (BAP08) 06.33	07.01 (BAP09) 06.00	05.53
	17.31	18.08	38 08.12 (BAP08) 18.39	89 18.18 (BAP06) 20.11	23 07.24 (BAP09) 20.40	20.58
25	07.40	07.04	07.31 (BAP08) 06.20	07.11 (BAP08) 06.32	07.02 (BAP09) 05.59	05.54
	17.32	18.09	42 08.13 (BAP08) 18.40	89 18.19 (BAP06) 20.12	22 07.24 (BAP09) 20.41	20.58
26	07.39	07.03	07.22 (BAP10) 06.18	07.11 (BAP08) 06.30	07.02 (BAP09) 05.59	05.54
	17.33	18.10	54 08.16 (BAP08) 18.41	90 18.20 (BAP06) 20.13	20 07.22 (BAP09) 20.42	20.58
27	07.38	08.04 (BAP11) 07.02	07.20 (BAP10) 06.17	07.11 (BAP08) 06.29	07.04 (BAP09) 05.58	05.54
	17.34	7 08.11 (BAP11) 18.11	57 08.17 (BAP08) 18.42	90 18.21 (BAP06) 20.14	16 07.20 (BAP09) 20.43	20.58
28	07.37	08.02 (BAP11) 07.00	07.19 (BAP10) 06.15	07.12 (BAP08) 06.28	07.06 (BAP09) 05.58	05.55
	17.35	11 08.13 (BAP11) 18.13	60 08.19 (BAP08) 18.43	90 18.22 (BAP06) 20.15	12 07.18 (BAP09) 20.44	20.58
29	07.36	08.00 (BAP11)	07.14	08.12 (BAP08) 06.26	07.10 (BAP09) 05.57	05.55
	17.37	15 08.15 (BAP11)	19.44	90 19.23 (BAP06) 20.16	3 07.13 (BAP09) 20.45	20.58
30	07.36	08.00 (BAP11)	07.12	08.12 (BAP08) 06.25	05.56	05.56
	17.38	18 08.18 (BAP11)	19.45	90 19.24 (BAP06) 20.17	20.45	20.58
31	07.35	07.59 (BAP11)	07.10	08.14 (BAP08)	05.56	
	17.39	20 08.19 (BAP11)	19.46	87 19.25 (BAP06)	20.46	
Potential sun hours	299	298	370	398	447	450
Total, worst case	71	625	2410	995		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative**Shadow receptor:** F52 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (245)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December			
1	05.56 20.58	06.19 20.39	06.49 19.57	07.10 (BAP09) 07.19	07.19 74	07.52 (BAP08) 17.21	06.52 23	07.27 (BAP11) 07.50 (BAP11)	07.26 16.57
2	05.57 20.58	06.20 20.38	06.50 19.55	07.11 (BAP09) 07.20	19.07 73	07.52 (BAP08) 09.05 (BAP08)	06.53 17.20	07.28 (BAP11) 07.51 (BAP11)	07.27 16.57
3	05.57 20.57	06.21 20.37	06.51 19.54	07.20 (BAP09) 19.05	19.05 72	07.52 (BAP08) 09.04 (BAP08)	06.54 17.19	07.27 (BAP11) 07.51 (BAP11)	07.28 16.57
4	05.58 20.57	06.22 20.36	06.52 19.52	19.12 (BAP06) 19.04	19.04 73	08.23 (BAP08) 09.04 (BAP08)	07.22 17.18	07.27 (BAP11) 07.51 (BAP11)	07.29 16.57
5	05.58 20.57	06.23 20.35	06.53 19.50	08.20 (BAP08) 07.23	07.23 73	07.50 (BAP10) 09.03 (BAP08)	06.57 17.17	07.26 (BAP11) 07.51 (BAP11)	07.30 16.57
6	05.59 20.57	06.24 20.34	06.54 19.49	19.16 (BAP06) 19.00	19.00 73	08.17 (BAP08) 19.18 (BAP06)	07.24 17.15	07.49 (BAP10) 07.52 (BAP11)	06.58 16.57
7	05.59 20.57	06.25 20.32	06.55 19.47	08.15 (BAP08) 07.25	07.25 73	07.48 (BAP10) 09.01 (BAP08)	06.59 17.14	07.27 (BAP11) 07.51 (BAP11)	07.32 16.56
8	06.00 20.56	06.26 20.31	06.56 19.45	19.19 (BAP06) 18.56	18.56 72	08.13 (BAP08) 19.19 (BAP06)	07.26 17.13	07.48 (BAP10) 07.51 (BAP11)	07.00 16.56
9	06.01 20.56	06.27 20.30	06.57 19.44	19.19 (BAP06) 18.54	18.54 71	08.10 (BAP08) 19.19 (BAP06)	07.27 17.12	07.48 (BAP10) 07.50 (BAP11)	07.01 16.56
10	06.01 20.55	06.28 20.29	06.58 19.42	08.08 (BAP08) 07.28	07.28 69	08.08 (BAP08) 19.19 (BAP06)	07.03 17.11	07.29 (BAP11) 07.50 (BAP11)	07.35 16.56
11	06.02 20.55	06.29 20.27	06.59 19.41	19.19 (BAP06) 18.52	18.52 67	08.06 (BAP08) 19.18 (BAP06)	07.29 17.10	07.49 (BAP10) 07.50 (BAP11)	07.04 16.57
12	06.03 20.55	06.30 20.26	07.00 19.39	08.05 (BAP08) 07.30	07.30 64	08.05 (BAP08) 19.17 (BAP06)	07.05 17.09	07.31 (BAP11) 07.48 (BAP11)	07.37 16.57
13	06.03 20.54	06.31 20.25	07.01 19.37	08.04 (BAP08) 07.31	07.31 62	08.04 (BAP08) 19.15 (BAP06)	07.06 17.08	07.32 (BAP11) 07.47 (BAP11)	07.37 16.57
14	06.04 20.54	06.32 20.23	07.16 (BAP09) 07.02	08.02 (BAP08) 07.32	07.32 59	08.02 (BAP08) 19.13 (BAP06)	07.07 17.07	07.35 (BAP11) 07.46 (BAP11)	07.38 16.57
15	06.05 20.53	06.33 20.22	07.22 (BAP09) 19.35	07.12 (BAP09) 07.03	07.03 91	07.53 (BAP10) 19.12 (BAP06)	07.08 18.45	07.37 (BAP11) 07.43 (BAP11)	07.39 16.57
16	06.06 20.52	06.34 20.21	07.25 (BAP09) 19.34	07.10 (BAP09) 07.04	07.04 91	08.01 (BAP08) 19.10 (BAP06)	17.07 17.06	07.40 (BAP11) 07.46 (BAP11)	07.40 16.57
17	06.06 20.52	06.35 20.19	07.27 (BAP09) 19.32	07.09 (BAP09) 07.05	07.05 90	07.59 (BAP08) 19.08 (BAP06)	07.11 17.05	07.40 (BAP11) 07.46 (BAP11)	07.40 16.58
18	06.07 20.51	06.36 20.18	07.29 (BAP09) 19.30	07.07 (BAP09) 07.06	07.06 90	07.58 (BAP08) 19.07 (BAP06)	17.05 17.04	07.41 (BAP11) 07.47 (BAP11)	07.41 16.58
19	06.08 20.51	06.37 20.17	07.07 (BAP09) 19.29	07.06 (BAP09) 07.07	07.07 89	07.57 (BAP08) 19.05 (BAP06)	17.03 17.04	07.41 (BAP11) 07.47 (BAP11)	07.41 16.58
20	06.09 20.50	06.38 20.15	07.30 (BAP09) 19.27	07.06 (BAP09) 07.08	07.08 87	07.57 (BAP08) 19.04 (BAP06)	17.04 17.03	07.42 (BAP11) 07.48 (BAP11)	07.42 16.59
21	06.10 20.49	06.39 20.14	07.05 (BAP09) 19.25	07.09 (BAP09) 07.09	07.09 85	08.21 (BAP08) 19.02 (BAP06)	17.05 17.02	07.43 (BAP11) 07.49 (BAP11)	07.43 16.59
22	06.10 20.48	06.40 20.12	07.31 (BAP09) 19.24	07.10 (BAP09) 07.10	07.10 84	08.26 (BAP08) 19.00 (BAP06)	17.02 17.02	07.44 (BAP11) 07.50 (BAP11)	07.44 17.00
23	06.11 20.48	06.41 20.11	07.04 (BAP09) 19.22	07.11 (BAP09) 07.11	07.11 81	07.55 (BAP08) 18.59 (BAP06)	17.08 17.01	07.44 (BAP11) 07.50 (BAP11)	07.44 17.00
24	06.12 20.47	06.42 20.09	07.31 (BAP09) 19.21	07.12 (BAP09) 07.12	07.12 75	07.54 (BAP08) 18.57 (BAP06)	17.09 17.00	07.44 (BAP11) 07.50 (BAP11)	07.44 17.01
25	06.13 20.46	06.43 20.08	07.04 (BAP09) 19.19	07.13 (BAP09) 07.13	07.13 74	07.54 (BAP08) 09.08 (BAP08)	17.04 17.00	07.45 (BAP11) 07.50 (BAP11)	07.45 17.01
26	06.14 20.45	06.44 20.06	07.05 (BAP09) 19.15	07.14 (BAP09) 07.14	07.14 74	07.53 (BAP08) 09.07 (BAP08)	17.04 16.59	07.45 (BAP11) 07.50 (BAP11)	07.45 17.02
27	06.15 20.44	06.45 20.05	07.31 (BAP09) 19.15	07.15 (BAP09) 07.15	07.15 74	07.53 (BAP08) 09.07 (BAP08)	17.02 16.59	07.46 (BAP11) 07.50 (BAP11)	07.45 17.03
28	06.16 20.43	06.46 20.03	07.29 (BAP09) 19.14	07.16 (BAP09) 07.16	07.16 74	07.42 (BAP11) 09.07 (BAP08)	16.59 17.00	07.46 (BAP11) 07.50 (BAP11)	07.46 17.03
29	06.17 20.42	06.47 20.02	07.06 (BAP09) 19.14	07.17 (BAP09) 07.17	07.17 74	07.33 (BAP11) 09.07 (BAP08)	16.59 17.00	07.46 (BAP11) 07.50 (BAP11)	07.46 17.04
30	06.18 20.41	06.48 20.00	07.28 (BAP09) 19.10	07.18 (BAP09) 07.18	07.18 74	07.46 (BAP11) 09.07 (BAP08)	16.58 17.00	07.46 (BAP11) 07.50 (BAP11)	07.46 17.05
31	06.19 20.40	06.49 19.58	07.26 (BAP09) 19.09	07.19 (BAP09) 07.19	07.19 74	07.49 (BAP11) 09.06 (BAP08)	16.58 17.00	07.46 (BAP11) 07.50 (BAP11)	07.46 17.05
Potential sun hours	457	427	375	346	299	299	290		
Total, worst case		389	2180	1293	303				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:
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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F55 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (272)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April	May	June
1	07.47 17.07	07.34 17.40	06.59 18.14	07.17 (BAP11) 07.09	07.27 (BAP10) 06.24	19.49 (BAP06) 05.55
2	07.47 17.07	07.33 17.42	06.57 18.15	07.16 (BAP11) 07.07	07.25 (BAP10) 06.22	19.48 (BAP06) 05.55
3	07.47 17.08	07.32 17.43	06.56 18.16	07.15 (BAP11) 07.05	07.24 (BAP10) 06.21	19.46 (BAP06) 05.55
4	07.47 17.09	07.31 17.44	06.54 18.17	07.15 (BAP11) 07.04	07.22 (BAP10) 06.20	19.45 (BAP06) 05.54
5	07.47 17.10	07.30 17.45	06.52 18.18	07.14 (BAP11) 07.02	07.22 (BAP10) 06.19	19.44 (BAP06) 05.54
6	07.47 17.11	07.29 17.46	06.51 18.19	07.14 (BAP11) 07.01	07.23 (BAP10) 06.17	19.43 (BAP06) 05.54
7	07.47 17.12	07.28 17.48	06.49 18.20	07.13 (BAP11) 06.59	07.23 (BAP10) 06.16	19.42 (BAP06) 05.53
8	07.47 17.13	07.27 17.49	06.48 18.22	07.13 (BAP11) 06.57	07.23 (BAP10) 06.15	19.41 (BAP06) 05.53
9	07.47 17.14	07.25 17.50	06.46 18.23	07.13 (BAP11) 06.56	07.22 (BAP10) 06.14	19.40 (BAP06) 05.53
10	07.46 17.15	07.24 17.51	06.45 18.24	07.14 (BAP11) 06.54	07.22 (BAP10) 06.13	19.39 (BAP06) 05.53
11	07.46 17.16	07.23 17.53	06.43 18.25	07.16 (BAP11) 06.53	07.21 (BAP10) 06.12	19.38 (BAP06) 05.52
12	07.46 17.17	07.22 17.54	06.41 18.26	07.17 (BAP11) 06.51	07.21 (BAP10) 06.11	19.37 (BAP06) 05.52
13	07.46 17.18	07.21 17.55	06.40 18.27	07.18 (BAP11) 06.49	07.20 (BAP10) 06.10	19.36 (BAP06) 05.52
14	07.45 17.19	07.19 17.56	06.38 18.28	07.18 (BAP11) 06.48	07.20 (BAP10) 06.09	19.35 (BAP06) 05.52
15	07.45 17.20	07.18 17.57	06.37 18.29	07.17 (BAP11) 06.46	07.20 (BAP10) 06.08	19.34 (BAP06) 05.52
16	07.45 17.21	07.17 17.59	06.35 18.30	07.17 (BAP11) 06.45	07.20 (BAP10) 06.07	19.33 (BAP06) 05.52
17	07.44 17.23	07.16 18.00	06.33 18.31	07.16 (BAP11) 06.43	07.20 (BAP10) 06.06	19.32 (BAP06) 05.52
18	07.44 17.24	07.14 18.01	17.35 (BAP04) 17.39 (BAP04) 18.32	06.32 18.32	06.05 20.05	19.31 (BAP06) 20.56
19	07.43 17.25	07.13 18.02	17.32 (BAP04) 17.40 (BAP04) 18.33	06.30 18.33	06.04 20.06	19.30 (BAP06) 20.56
20	07.43 17.26	07.12 18.03	17.31 (BAP04) 17.42 (BAP04) 18.34	06.28 18.34	06.03 20.07	19.29 (BAP06) 20.57
21	07.42 17.27	07.10 18.05	17.29 (BAP04) 17.42 (BAP04) 18.35	06.27 18.35	06.02 20.08	19.28 (BAP06) 20.57
22	07.42 17.28	07.09 18.06	17.28 (BAP04) 17.44 (BAP04) 18.37	06.25 18.37	06.02 20.09	19.27 (BAP06) 20.57
23	07.41 17.29	07.07 18.07	17.27 (BAP04) 17.45 (BAP04) 18.38	06.23 18.38	06.01 20.10	19.26 (BAP06) 20.57
24	07.40 17.31	07.06 18.08	17.27 (BAP04) 17.47 (BAP04) 18.39	06.22 18.39	06.00 20.11	19.25 (BAP06) 20.58
25	07.40 17.32	07.04 18.09	17.26 (BAP04) 17.47 (BAP04) 18.40	06.20 18.40	05.59 20.12	19.24 (BAP06) 20.58
26	07.39 17.33	07.03 18.10	17.27 (BAP04) 17.49 (BAP04) 18.41	06.18 18.41	05.59 20.13	19.23 (BAP06) 20.58
27	07.38 17.34	07.02 18.11	07.21 (BAP11) 17.49 (BAP04) 18.42	06.17 18.42	05.58 20.14	19.22 (BAP06) 20.58
28	07.37 17.35	07.00 18.13	07.19 (BAP11) 17.49 (BAP04) 18.43	06.15 18.43	05.58 20.15	19.21 (BAP06) 20.58
29	07.36 17.37		07.14 19.44	06.26 20.16	05.57 20.45	19.20 (BAP06) 20.58
30	07.36 17.38		07.12 19.45	06.25 20.17	05.56 20.45	19.19 (BAP06) 20.58
31	07.35 17.39		07.10 19.46	06.24 19.48 (BAP10)	05.56 20.46	19.18 (BAP06) 20.58
Potential sun hours	299	298	370	398	447	450
Total, worst case		203	419	199	1884	2006

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F55 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (272)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	06.19 (BAP08)	06.19	06.41 (BAP08)	06.50	07.19
	20.58	07.21 (BAP08)	20.39	20.15 (BAP08)	19.57	19.07
2	05.57	06.20 (BAP08)	06.20	06.42 (BAP08)	06.50	07.27 (BAP10)
	20.58	20.08 (BAP06)	20.38	20.14 (BAP06)	19.55	8 07.35 (BAP10)
3	05.57	06.20 (BAP08)	06.21	06.43 (BAP08)	06.51	07.24 (BAP10)
	20.57	20.10 (BAP06)	20.37	20.14 (BAP06)	19.54	14 07.38 (BAP10)
4	05.58	06.20 (BAP08)	06.22	06.44 (BAP08)	06.52	07.22 (BAP10)
	20.57	20.12 (BAP06)	20.36	20.13 (BAP06)	19.52	17 07.39 (BAP10)
5	05.58	06.20 (BAP08)	06.23	06.45 (BAP08)	06.53	07.20 (BAP10)
	20.57	20.13 (BAP06)	20.35	20.12 (BAP06)	19.50	20 07.40 (BAP10)
6	05.59	06.21 (BAP08)	06.24	06.46 (BAP08)	06.54	07.19 (BAP10)
	20.57	20.14 (BAP06)	20.34	20.11 (BAP06)	19.49	22 07.41 (BAP10)
7	05.59	06.22 (BAP08)	06.25	06.47 (BAP08)	06.55	07.18 (BAP10)
	20.56	20.16 (BAP06)	20.32	20.09 (BAP06)	19.47	23 07.41 (BAP10)
8	06.00	06.22 (BAP08)	06.26	19.54 (BAP06)	06.56	07.17 (BAP10)
	20.56	20.16 (BAP06)	20.31	20.08 (BAP06)	19.45	25 07.42 (BAP10)
9	06.01	06.23 (BAP08)	06.27	19.55 (BAP06)	06.57	07.17 (BAP10)
	20.56	20.18 (BAP06)	20.30	20.07 (BAP06)	19.44	24 07.41 (BAP10)
10	06.01	06.24 (BAP08)	06.28	19.56 (BAP06)	06.58	07.18 (BAP10)
	20.55	20.19 (BAP06)	20.29	20.06 (BAP06)	19.42	22 07.40 (BAP10)
11	06.02	06.24 (BAP08)	06.29	19.57 (BAP06)	06.59	07.19 (BAP10)
	20.55	20.19 (BAP06)	20.27	20.05 (BAP06)	19.41	21 07.40 (BAP10)
12	06.03	06.25 (BAP08)	06.30	19.58 (BAP06)	07.00	07.20 (BAP10)
	20.55	20.20 (BAP06)	20.26	20.03 (BAP06)	19.39	19 07.39 (BAP10)
13	06.03	06.26 (BAP08)	06.31	20.00 (BAP06)	07.01	07.21 (BAP10)
	20.54	20.21 (BAP06)	20.25	20.02 (BAP06)	19.37	18 07.39 (BAP10)
14	06.04	06.26 (BAP08)	06.32	07.02	07.22 (BAP10)	07.32
	20.54	20.21 (BAP06)	20.23	19.35	07.38 (BAP10)	18.46
15	06.05	06.27 (BAP08)	06.33	07.03	07.23 (BAP10)	07.33
	20.53	20.22 (BAP06)	20.22	19.34	07.36 (BAP10)	18.45
16	06.06	06.28 (BAP08)	06.34	07.04	07.24 (BAP10)	07.34
	20.52	20.23 (BAP06)	20.21	19.32	07.34 (BAP10)	18.43
17	06.06	06.29 (BAP08)	06.35	07.05	07.25 (BAP10)	07.35
	20.52	20.24 (BAP06)	20.19	19.30	07.32 (BAP10)	18.42
18	06.07	06.29 (BAP08)	06.36	07.06	07.26 (BAP10)	07.36
	20.51	20.24 (BAP06)	20.18	19.29	07.27 (BAP10)	18.40
19	06.08	06.30 (BAP08)	06.37	07.07	07.37	07.37
	20.51	20.25 (BAP06)	20.17	19.27	18.39	17 18.16 (BAP04)
20	06.09	06.31 (BAP08)	06.38	07.08	07.39	17 17.59 (BAP04)
	20.50	20.25 (BAP06)	20.15	19.25	18.37	15 18.14 (BAP04)
21	06.10	06.32 (BAP08)	06.39	07.09	07.40	18.00 (BAP04)
	20.49	20.25 (BAP06)	20.14	19.24	18.36	13 18.13 (BAP04)
22	06.10	06.33 (BAP08)	06.40	07.10	07.41	18.01 (BAP04)
	20.48	20.25 (BAP06)	20.12	19.22	18.34	10 18.11 (BAP04)
23	06.11	06.33 (BAP08)	06.41	07.11	07.42	18.04 (BAP04)
	20.48	20.23 (BAP06)	20.11	19.20	18.33	6 18.10 (BAP04)
24	06.12	06.34 (BAP08)	06.42	07.12	07.43	18.07 (BAP04)
	20.47	20.22 (BAP06)	20.09	19.19	18.32	2 18.09 (BAP04)
25	06.13	06.35 (BAP08)	06.43	07.13	06.44	07.20
	20.46	20.22 (BAP06)	20.08	19.17	17.30	17.00
26	06.14	06.36 (BAP08)	06.44	07.14	06.45	07.21
	20.45	20.21 (BAP06)	20.06	19.15	17.29	16.59
27	06.15	06.37 (BAP08)	06.45	07.15	06.46	07.22
	20.44	20.20 (BAP06)	20.05	19.14	17.28	16.59
28	06.16	06.38 (BAP08)	06.46	07.16	06.48	07.23
	20.43	20.20 (BAP06)	20.03	19.12	17.26	16.59
29	06.17	06.39 (BAP08)	06.47	07.17	06.49	07.24
	20.42	20.19 (BAP06)	20.02	19.10	17.25	16.58
30	06.18	06.40 (BAP08)	06.48	07.18	08.01 (BAP11)	06.50
	20.41	20.18 (BAP06)	20.00	19.09	6 08.07 (BAP11)	17.24
31	06.19	06.40 (BAP08)	06.49		06.51	
	20.40	20.16 (BAP06)	19.58		17.22	
Potential sun hours	457	427	375	346	299	290
Total, worst case	2377	374	286	545		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative**Shadow receptor:** F57 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (246)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
 The sun is shining all the day, from sunrise to sunset
 The rotor plane is always perpendicular to the line from the WTG to the sun
 The WTG is always operating

	January	February	March	April	May	June
1	07.47	16.09 (BAP04) 07.34	16.15 (BAP04) 06.59	17.32 (BAP03) 07.09	07.27 (BAP08) 06.24	05.55
	17.07	24 16.33 (BAP04) 17.40	33 16.48 (BAP04) 18.14	12 17.44 (BAP03) 19.47	10 07.37 (BAP08) 20.18	20.47
2	07.47	16.09 (BAP04) 07.33	16.16 (BAP04) 06.57	17.30 (BAP03) 07.07	07.25 (BAP08) 06.22	05.55
	17.08	25 16.34 (BAP04) 17.42	32 16.48 (BAP04) 18.15	18 17.48 (BAP03) 19.48	13 07.38 (BAP08) 20.19	20.48
3	07.47	16.09 (BAP04) 07.32	16.17 (BAP04) 06.56	17.27 (BAP03) 07.05	07.24 (BAP08) 06.21	05.54
	17.08	26 16.35 (BAP04) 17.43	30 16.47 (BAP04) 18.16	22 17.49 (BAP03) 19.49	16 07.40 (BAP08) 20.20	20.48
4	07.47	16.09 (BAP04) 07.31	16.19 (BAP04) 06.54	17.26 (BAP03) 07.04	07.22 (BAP08) 06.20	05.54
	17.09	27 16.36 (BAP04) 17.44	27 16.46 (BAP04) 18.17	25 17.51 (BAP03) 19.50	18 07.40 (BAP08) 20.21	20.49
5	07.47	16.09 (BAP04) 07.30	16.20 (BAP04) 06.52	17.24 (BAP03) 07.02	07.21 (BAP08) 06.19	05.54
	17.10	28 16.37 (BAP04) 17.45	25 16.45 (BAP04) 18.18	27 17.51 (BAP03) 19.51	20 07.41 (BAP08) 20.22	20.50
6	07.47	16.09 (BAP04) 07.29	16.21 (BAP04) 06.51	17.24 (BAP03) 07.01	07.19 (BAP08) 06.17	05.54
	17.11	29 16.38 (BAP04) 17.47	22 16.43 (BAP04) 18.19	29 17.53 (BAP03) 19.52	22 07.41 (BAP08) 20.23	20.50
7	07.47	16.09 (BAP04) 07.28	16.23 (BAP04) 06.49	17.22 (BAP03) 06.59	07.17 (BAP08) 06.16	05.53
	17.12	30 16.39 (BAP04) 17.48	18 16.41 (BAP04) 18.20	31 17.53 (BAP03) 19.53	27 19.32 (BAP02) 20.24	20.51
8	07.47	16.08 (BAP04) 07.27	16.27 (BAP04) 06.48	17.21 (BAP03) 06.57	07.16 (BAP08) 06.15	05.53
	17.13	31 16.39 (BAP04) 17.49	11 16.38 (BAP04) 18.22	32 17.53 (BAP03) 19.54	32 19.33 (BAP02) 20.25	20.52
9	07.47	16.08 (BAP04) 07.25	06.46	17.21 (BAP03) 06.56	07.14 (BAP08) 06.14	05.53
	17.14	32 16.40 (BAP04) 17.50	18.23	32 17.53 (BAP03) 19.55	36 19.34 (BAP02) 20.26	20.52
10	07.47	16.08 (BAP04) 07.24	06.45	17.20 (BAP03) 06.54	07.13 (BAP08) 06.13	05.53
	17.15	33 16.41 (BAP04) 17.51	18.24	33 17.53 (BAP03) 19.56	39 19.35 (BAP02) 20.27	20.53
11	07.46	16.09 (BAP04) 07.23	06.43	17.21 (BAP03) 06.53	07.12 (BAP08) 06.12	05.52
	17.16	33 16.42 (BAP04) 17.53	18.25	32 17.53 (BAP03) 19.57	41 19.36 (BAP02) 20.28	20.53
12	07.46	16.08 (BAP04) 07.22	06.41	17.20 (BAP03) 06.51	07.11 (BAP08) 06.11	05.52
	17.17	34 16.42 (BAP04) 17.54	18.26	33 17.53 (BAP03) 19.58	43 19.36 (BAP02) 20.29	20.54
13	07.46	16.08 (BAP04) 07.21	06.40	17.20 (BAP03) 06.49	07.12 (BAP08) 06.10	05.52
	17.18	35 16.43 (BAP04) 17.55	18.27	32 17.52 (BAP03) 19.59	43 19.38 (BAP02) 20.30	20.54
14	07.45	16.09 (BAP04) 07.19	06.38	17.21 (BAP03) 06.48	07.12 (BAP08) 06.09	05.52
	17.19	35 16.44 (BAP04) 17.56	18.28	31 17.52 (BAP03) 20.00	43 19.38 (BAP02) 20.31	20.55
15	07.45	16.08 (BAP04) 07.18	06.37	17.21 (BAP03) 06.46	07.14 (BAP08) 06.08	05.52
	17.20	37 16.45 (BAP04) 17.57	18.29	29 17.50 (BAP03) 20.01	42 19.40 (BAP02) 20.32	20.55
16	07.45	16.09 (BAP04) 07.17	06.35	17.21 (BAP03) 06.45	07.15 (BAP08) 06.07	05.52
	17.21	37 16.46 (BAP04) 17.59	18.30	28 17.49 (BAP03) 20.02	39 19.40 (BAP02) 20.33	20.55
17	07.44	16.08 (BAP04) 07.16	06.33	17.23 (BAP03) 06.43	07.17 (BAP08) 06.06	05.52
	17.23	38 16.46 (BAP04) 18.00	18.31	25 17.48 (BAP03) 20.04	37 19.42 (BAP02) 20.34	20.56
18	07.44	16.09 (BAP04) 07.14	06.32	17.23 (BAP03) 06.42	07.19 (BAP08) 06.05	05.52
	17.24	38 16.47 (BAP04) 18.01	18.32	23 17.46 (BAP03) 20.05	31 19.42 (BAP02) 20.35	20.56
19	07.43	16.09 (BAP04) 07.13	06.30	17.25 (BAP03) 06.40	19.20 (BAP02) 06.04	05.52
	17.25	38 16.47 (BAP04) 18.02	18.33	19 17.44 (BAP03) 20.06	24 19.44 (BAP02) 20.36	20.56
20	07.43	16.09 (BAP04) 07.12	06.28	17.28 (BAP03) 06.39	19.21 (BAP02) 06.03	05.53
	17.26	38 16.47 (BAP04) 18.03	18.34	13 17.41 (BAP03) 20.07	22 19.43 (BAP02) 20.37	20.57
21	07.42	16.09 (BAP04) 07.10	06.27	17.33 (BAP03) 06.37	19.21 (BAP02) 06.02	05.53
	17.27	39 16.48 (BAP04) 18.05	18.35	2 17.35 (BAP03) 20.08	21 19.42 (BAP02) 20.38	20.57
22	07.42	16.09 (BAP04) 07.09	06.25	06.36	19.22 (BAP02) 06.02	05.53
	17.28	39 16.48 (BAP04) 18.06	18.37	20.09	18 19.40 (BAP02) 20.39	20.57
23	07.41	16.09 (BAP04) 07.07	06.23	06.35	19.23 (BAP02) 06.01	05.53
	17.29	39 16.48 (BAP04) 18.07	18.38	20.10	15 19.38 (BAP02) 20.40	20.57
24	07.40	16.10 (BAP04) 07.06	06.22	06.33	19.26 (BAP02) 06.00	05.53
	17.31	39 16.49 (BAP04) 18.08	18.39	20.11	9 19.35 (BAP02) 20.40	20.58
25	07.40	16.11 (BAP04) 07.05	06.20	06.32	05.59	05.54
	17.32	38 16.49 (BAP04) 18.09	18.40	20.12	20.41	20.58
26	07.39	16.11 (BAP04) 07.03	06.19	06.30	05.59	05.54
	17.33	38 16.49 (BAP04) 18.10	18.41	20.13	20.42	20.58
27	07.38	16.11 (BAP04) 07.02	06.17	06.29	05.58	05.54
	17.34	38 16.49 (BAP04) 18.11	18.42	20.14	20.43	20.58
28	07.37	16.11 (BAP04) 07.00	06.15	06.28	05.58	05.55
	17.35	38 16.49 (BAP04) 18.13	18.43	20.15	20.44	20.58
29	07.36	16.13 (BAP04)	07.14	06.26	05.57	05.55
	17.37	37 16.50 (BAP04)	19.44	20.16	20.45	20.58
30	07.36	16.13 (BAP04)	07.12	06.25	05.56	05.56
	17.38	36 16.49 (BAP04)	19.45	20.17	20.45	20.58
31	07.35	16.14 (BAP04)	07.10	07.29 (BAP08)	05.56	
	17.39	35 16.49 (BAP04)	19.46	6 07.35 (BAP08)	20.46	
Potential sun hours	299	298	370	398	447	450
Total, worst case	1064	198	534	661		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F57 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (246)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 06.20	06.20 06.39	06.50 07.11 (BAP08) 07.19	07.19 07.32 (BAP03) 07.32	18.00 (BAP03) 06.52	07.26 15.51 (BAP04)
2	05.57 06.20	06.20 06.38	06.51 07.11 (BAP08) 07.20	07.20 07.33 (BAP03) 07.22	18.32 (BAP03) 06.53	16.58 15.52 (BAP04)
3	05.57 06.21	06.21 06.37	06.51 07.12 (BAP08) 07.21	07.21 07.34 (BAP03) 07.22	18.32 (BAP03) 06.54	16.57 15.52 (BAP04)
4	05.58 06.22	06.22 06.36	06.52 07.13 (BAP08) 07.22	07.22 07.35 (BAP03) 07.23	18.31 (BAP03) 06.56	16.24 (BAP04)
5	05.58 06.23	06.23 06.35	06.53 07.14 (BAP08) 07.23	07.23 07.36 (BAP03) 07.24	18.31 (BAP03) 06.57	16.24 (BAP04)
6	05.59 06.24	06.24 06.34	06.54 07.15 (BAP08) 07.24	07.24 07.37 (BAP03) 07.25	18.30 (BAP03) 06.58	16.24 (BAP04)
7	05.59 06.25	06.25 06.32	06.55 07.16 (BAP08) 07.25	07.25 07.38 (BAP03) 07.26	18.29 (BAP03) 06.59	16.24 (BAP04)
8	06.00 06.26	06.26 06.31	06.56 07.17 (BAP08) 07.26	07.26 07.39 (BAP03) 07.27	18.28 (BAP03) 07.00	16.24 (BAP04)
9	06.01 06.27	06.27 06.30	06.57 07.18 (BAP08) 07.27	07.27 07.40 (BAP03) 07.28	18.27 (BAP03) 07.01	16.24 (BAP04)
10	06.01 06.28	06.28 06.29	06.58 07.19 (BAP08) 07.28	07.28 07.41 (BAP03) 07.29	18.26 (BAP03) 07.02	16.24 (BAP04)
11	06.02 06.29	06.29 06.30	06.59 07.20 (BAP08) 07.29	07.29 07.42 (BAP03) 07.30	18.25 (BAP03) 07.03	16.24 (BAP04)
12	06.03 06.30	06.30 06.33	07.00 07.21 (BAP08) 07.30	07.30 07.43 (BAP03) 07.31	18.24 (BAP03) 07.04	16.24 (BAP04)
13	06.03 06.31	06.31 06.32	07.01 07.22 (BAP08) 07.31	07.31 07.44 (BAP03) 07.32	18.23 (BAP03) 07.05	16.24 (BAP04)
14	06.04 06.32	06.32 06.33	07.02 07.23 (BAP08) 07.32	07.32 07.45 (BAP03) 07.33	18.22 (BAP03) 07.06	16.24 (BAP04)
15	06.05 06.33	06.33 06.34	07.03 07.24 (BAP08) 07.33	07.33 07.46 (BAP03) 07.34	18.21 (BAP03) 07.07	16.24 (BAP04)
16	06.06 06.34	06.34 06.35	07.04 07.25 (BAP08) 07.34	07.34 07.47 (BAP03) 07.35	18.20 (BAP03) 07.08	16.24 (BAP04)
17	06.06 06.35	06.35 06.36	07.05 07.26 (BAP08) 07.35	07.35 07.48 (BAP03) 07.36	18.19 (BAP03) 07.09	16.24 (BAP04)
18	06.07 06.36	06.36 06.37	07.06 07.27 (BAP08) 07.36	07.36 07.49 (BAP03) 07.37	18.18 (BAP03) 07.10	16.24 (BAP04)
19	06.08 06.37	06.37 06.38	07.07 07.28 (BAP08) 07.37	07.37 07.50 (BAP03) 07.38	18.17 (BAP03) 07.11	16.24 (BAP04)
20	06.09 06.38	06.38 06.39	07.08 07.29 (BAP08) 07.38	07.38 07.51 (BAP03) 07.39	18.16 (BAP03) 07.12	16.24 (BAP04)
21	06.10 06.39	06.39 06.40	07.09 07.30 (BAP08) 07.39	07.39 07.52 (BAP03) 07.40	18.15 (BAP03) 07.13	16.24 (BAP04)
22	06.11 06.40	06.40 06.41	07.10 07.31 (BAP08) 07.40	07.40 07.53 (BAP03) 07.41	18.14 (BAP03) 07.14	16.24 (BAP04)
23	06.11 06.41	06.41 06.42	07.11 07.32 (BAP08) 07.41	07.41 07.54 (BAP03) 07.42	18.13 (BAP03) 07.15	16.24 (BAP04)
24	06.12 06.42	06.42 06.43	07.12 07.33 (BAP08) 07.42	07.42 07.55 (BAP03) 07.43	18.12 (BAP03) 07.16	16.24 (BAP04)
25	06.13 06.43	06.43 06.44	07.13 07.34 (BAP08) 07.43	07.43 07.56 (BAP03) 07.44	18.11 (BAP03) 07.17	16.24 (BAP04)
26	06.14 06.44	06.44 06.45	07.14 07.35 (BAP08) 07.44	07.44 07.57 (BAP03) 07.45	18.10 (BAP03) 07.18	16.24 (BAP04)
27	06.15 06.45	06.45 06.46	07.15 07.36 (BAP08) 07.45	07.45 07.58 (BAP03) 07.46	18.09 (BAP03) 07.19	16.24 (BAP04)
28	06.16 06.46	06.46 06.47	07.16 07.37 (BAP08) 07.46	07.46 07.59 (BAP03) 07.47	18.08 (BAP03) 07.20	16.24 (BAP04)
29	06.17 06.47	06.47 06.48	07.17 07.38 (BAP08) 07.47	07.47 08.00 (BAP03) 07.48	18.07 (BAP03) 07.21	16.24 (BAP04)
30	06.18 06.48	06.48 06.49	07.18 07.39 (BAP08) 07.48	07.48 08.01 (BAP03) 07.49	18.06 (BAP03) 07.22	16.24 (BAP04)
31	06.19 06.49	06.49 06.50	07.19 07.40 (BAP08) 07.49	07.49 08.02 (BAP03) 07.50	18.05 (BAP03) 07.23	16.24 (BAP04)
Potential sun hours	457	427	375	346	299	290
Total, worst case		391	472	345	946	720

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 CumulativeShadow receptor: F60 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (273)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07.47 17.07	15.07 (BAP04) 16.01 (BAP04)	07.34 17.40	06.59 18.14	07.09 19.47	06.24 19.30 (BAP02)
2	07.47 17.08	15.09 (BAP04) 16.01 (BAP04)	07.31 17.42	06.54 18.15	07.04 19.48	06.20 19.30 (BAP02)
3	07.47 17.08	15.09 (BAP04) 16.01 (BAP04)	07.32 17.43	06.56 18.16	07.05 19.49	06.21 19.31 (BAP02)
4	07.47 17.09	15.09 (BAP04) 16.02 (BAP04)	07.31 17.44	06.54 18.17	07.04 19.50	06.20 19.30 (BAP02)
5	07.47 17.10	15.10 (BAP04) 16.02 (BAP04)	07.30 17.45	06.53 18.18	07.02 19.51	06.19 19.30 (BAP02)
6	07.47 17.11	15.11 (BAP04) 16.02 (BAP04)	07.29 17.47	06.51 18.19	07.01 19.52	06.18 19.31 (BAP02)
7	07.47 17.12	15.12 (BAP04) 16.02 (BAP04)	07.28 17.48	06.49 18.20	06.59 19.53	06.16 19.31 (BAP02)
8	07.47 17.13	15.12 (BAP04) 16.02 (BAP04)	07.27 17.49	06.48 18.22	06.57 19.54	06.15 19.32 (BAP02)
9	07.47 17.14	15.13 (BAP04) 16.02 (BAP04)	07.26 17.50	06.46 18.23	06.56 19.55	06.14 19.33 (BAP02)
10	07.47 17.15	15.14 (BAP04) 16.02 (BAP04)	07.24 17.51	06.45 18.24	06.54 19.56	06.13 19.34 (BAP02)
11	07.46 17.16	15.15 (BAP04) 16.02 (BAP04)	07.23 17.53	06.43 18.25	06.53 19.57	06.12 19.34 (BAP02)
12	07.46 17.17	15.16 (BAP04) 16.02 (BAP04)	07.22 17.54	06.41 18.26	06.51 19.58	06.11 19.36 (BAP02)
13	07.46 17.18	15.17 (BAP04) 16.02 (BAP04)	07.21 17.55	06.40 18.27	06.50 19.59	06.10 19.37 (BAP02)
14	07.45 17.19	15.18 (BAP04) 16.02 (BAP04)	07.20 17.56	06.38 18.28	06.48 19.59	06.09 19.38 (BAP02)
15	07.45 17.20	15.19 (BAP04) 16.01 (BAP04)	07.18 17.57	06.37 18.29	06.46 20.01	06.08 19.40 (BAP02)
16	07.45 17.21	15.21 (BAP04) 16.01 (BAP04)	07.17 17.59	06.35 18.30	06.45 20.03	06.07 19.43 (BAP02)
17	07.44 17.23	15.21 (BAP04) 16.00 (BAP04)	07.16 18.00	06.33 18.31	06.43 20.04	06.06 20.34
18	07.44 17.24	15.23 (BAP04) 16.00 (BAP04)	07.14 18.01	06.32 18.32	06.42 20.05	06.05 20.35
19	07.43 17.25	15.25 (BAP04) 15.59 (BAP04)	07.13 18.02	06.30 18.33	06.40 20.06	06.04 19.40 (BAP02)
20	07.43 17.26	15.26 (BAP04) 15.57 (BAP04)	07.12 18.03	06.28 18.34	06.39 20.07	06.03 19.38 (BAP02)
21	07.42 17.27	15.29 (BAP04) 15.57 (BAP04)	07.10 18.05	06.27 18.36	06.37 20.08	06.02 19.36 (BAP02)
22	07.42 17.28	15.30 (BAP04) 15.55 (BAP04)	07.09 18.06	06.25 18.37	06.36 20.09	06.02 19.35 (BAP02)
23	07.41 17.30	15.33 (BAP04) 15.53 (BAP04)	07.07 18.07	06.23 18.38	06.35 20.10	06.01 19.33 (BAP02)
24	07.40 17.31	15.37 (BAP04) 15.50 (BAP04)	07.06 18.08	06.22 18.39	06.33 20.11	06.00 19.32 (BAP02)
25	07.40 17.32	15.39 (BAP04) 18.09	07.05 18.09	06.20 18.40	06.32 20.12	06.00 19.32 (BAP02)
26	07.39 17.33	18.03 18.10	17.26 (BAP03) 17.39 (BAP03)	06.19 18.41	06.30 20.13	05.59 19.31 (BAP02)
27	07.38 17.34	18.02 18.11	17.21 (BAP03) 17.42 (BAP03)	06.17 18.42	06.29 20.14	05.58 19.31 (BAP02)
28	07.37 17.36	18.01 18.13	17.19 (BAP03) 17.45 (BAP03)	06.15 18.43	06.28 20.15	05.58 19.31 (BAP02)
29	07.36 17.37	18.00 19.44	18.00 19.44	06.14 19.44	06.27 20.16	05.57 19.30 (BAP02)
30	07.36 17.38	18.00 19.45	18.00 19.45	06.13 19.45	06.25 20.17	05.56 19.30 (BAP02)
31	07.35 17.39	18.00 19.46	18.00 19.46	06.12 19.46	06.24 20.17	05.55 19.29 (BAP02)
Potential sun hours	299	298	370	398	447	450
Total, worst case	1003	60	1065	326	392	450

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F60 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (273)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

July	August	September	October	November	December
1 05.56	06.20	19.45 (BAP02)	06.50	07.10 (BAP08)	07.19
2 20.58	20.39	24 20.09 (BAP02)	19.57	15 07.25 (BAP08)	19.07
3 05.57	06.20	19.44 (BAP02)	06.51	14 07.11 (BAP08)	07.20
4 20.58	20.38	26 20.10 (BAP02)	19.55	48 07.25 (BAP08)	19.05
5 05.57	06.21	19.43 (BAP02)	06.51	13 07.12 (BAP08)	07.21
6 20.57	20.37	28 20.11 (BAP02)	19.54	47 07.25 (BAP08)	19.04
7 05.58	06.22	19.42 (BAP02)	06.52	46 07.13 (BAP08)	07.22
8 20.57	20.36	30 20.12 (BAP02)	19.52	46 07.25 (BAP08)	19.02
9 05.58	06.23	19.41 (BAP02)	06.53	46 07.14 (BAP08)	07.23
10 20.57	20.35	31 20.12 (BAP02)	19.50	46 07.25 (BAP08)	19.01
11 05.59	06.24	19.41 (BAP02)	06.54	45 07.15 (BAP08)	07.24
12 20.57	20.34	30 20.11 (BAP02)	19.49	45 07.25 (BAP08)	18.59
13 05.59	06.25	19.40 (BAP02)	06.55	44 07.16 (BAP08)	07.25
14 20.57	20.32	29 20.09 (BAP02)	19.47	44 07.24 (BAP08)	18.57
15 06.00	06.26	19.40 (BAP02)	06.56	42 07.17 (BAP08)	07.26
16 20.56	20.31	28 20.08 (BAP02)	19.46	42 07.23 (BAP08)	18.56
17 06.01	06.27	19.39 (BAP02)	06.57	40 07.18 (BAP08)	07.27
18 20.56	20.30	28 20.07 (BAP02)	19.44	40 07.22 (BAP08)	18.54
19 06.01	06.28	19.39 (BAP02)	06.58	38 07.18 (BAP08)	07.28
20 20.56	20.29	27 20.06 (BAP02)	19.42	38 18.25 (BAP03)	17.11
21 06.02	06.29	19.39 (BAP02)	06.59	35 17.48 (BAP03)	07.04
22 20.55	20.27	26 20.05 (BAP02)	19.41	35 18.23 (BAP03)	17.10
23 06.03	06.30	19.39 (BAP02)	07.00	32 17.49 (BAP03)	07.05
24 20.55	20.26	25 20.04 (BAP02)	19.39	32 18.21 (BAP03)	17.09
25 06.03	06.31	19.37 (BAP02)	07.01	28 17.51 (BAP03)	07.06
26 20.54	20.25	25 20.02 (BAP02)	19.37	28 18.19 (BAP03)	17.08
27 06.04	06.32	19.37 (BAP02)	07.02	25 17.52 (BAP03)	07.07
28 20.54	20.24	23 20.00 (BAP02)	19.36	25 18.17 (BAP03)	17.08
29 06.05	06.33	19.38 (BAP02)	07.03	18 17.55 (BAP03)	07.08
30 20.53	20.22	21 19.59 (BAP02)	19.34	18 18.13 (BAP03)	17.07
31 06.06	06.34	19.38 (BAP02)	07.04	8 18.01 (BAP03)	07.10
1 20.53	20.21	20 19.58 (BAP02)	19.32	8 18.09 (BAP03)	17.06
2 06.06	06.35	19.38 (BAP02)	07.05		07.11
3 20.52	20.19	19 19.57 (BAP02)	19.31		17.05
4 06.07	06.36	19.38 (BAP02)	07.06		07.12
5 20.51	20.18	17 19.55 (BAP02)	19.29		15.11 (BAP04)
6 06.08	06.37	19.39 (BAP02)	07.07		07.13
7 20.51	20.17	15 19.54 (BAP02)	19.27		14 15.25 (BAP04)
8 06.09	06.38	19.39 (BAP02)	07.08		15.08 (BAP04)
9 20.50	20.15	14 19.53 (BAP02)	19.25		20 15.28 (BAP04)
10 06.10	06.39	19.40 (BAP02)	07.09		15.05 (BAP04)
11 20.49	20.14	11 19.51 (BAP02)	19.24		25 15.30 (BAP04)
12 06.11	06.40	19.41 (BAP02)	07.10		28 15.04 (BAP04)
13 20.48	20.12	9 19.50 (BAP02)	19.22		28 15.32 (BAP04)
14 06.11	06.41	6 19.49 (BAP02)	19.20		31 15.03 (BAP04)
15 20.48	20.11	6 19.49 (BAP02)	19.20		17.02
16 06.12	06.42	19.44 (BAP02)	07.12		17.02
17 20.47	20.09	3 19.47 (BAP02)	19.19		31 15.34 (BAP04)
18 06.13	06.43		07.13		17.18
19 20.46	20.08		19.17		17.03
20 06.14	06.44		07.14		38 15.38 (BAP04)
21 20.45	20.06		19.15		38 15.38 (BAP04)
22 06.15	06.45		07.15		40 14.59 (BAP04)
23 20.44	20.05		19.14		40 15.39 (BAP04)
24 06.16	19.52 (BAP02)		07.16		42 14.58 (BAP04)
25 20.43	20.03		19.12		42 15.40 (BAP04)
26 06.17	19.50 (BAP02)		07.17		44 15.47 (BAP04)
27 20.42	20.02		19.10		44 15.47 (BAP04)
28 06.18	19.48 (BAP02)		07.18		44 15.47 (BAP04)
29 20.41	20.01		19.09		45 15.43 (BAP04)
30 06.19	19.46 (BAP02)		07.19		45 15.43 (BAP04)
31 20.40	20.08 (BAP02)		19.58		46 15.44 (BAP04)
Potential sun hours	457		375		299
Total, worst case	68	561	651	589	443
					290
					1657

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F61 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

Table with columns for months (January to June) and rows for each day of the month. Each cell contains sunrise and sunset times in hh:mm, along with BAP03 and BAP04 codes. Summary rows at the bottom show potential sun hours and total worst case shadow hours per month.

Table layout: For each day in each month the following matrix apply

Matrix with 2 columns: Day in month (Sun rise/set in hh:mm) and Minutes with flicker (First/Last time with flicker in hh:mm, WTG causing flicker first/last time).

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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 CumulativeShadow receptor: F61 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

July		August		September		October		November		December			
1	05.56	18.25 (BAP03)	06.20	18.10 (BAP03)	06.50	18.05 (BAP03)	07.19	06.52	13.32 (BAP04)	07.26	12.48 (BAP04)		
	20.58	19.12 (BAP03)	20.39	19.30 (BAP03)	19.57	19.18 (BAP03)	19.07	17.21	25	13.57 (BAP04)	16.58	14.38 (BAP04)	
2	05.57	18.25 (BAP03)	06.21	18.09 (BAP03)	06.51	18.06 (BAP03)	07.20	06.53	36	13.27 (BAP04)	07.27	12.47 (BAP04)	
	20.58	19.13 (BAP03)	20.38	19.31 (BAP03)	19.55	19.17 (BAP03)	19.05	17.20	36	14.03 (BAP04)	16.57	14.39 (BAP04)	
3	05.57	18.24 (BAP03)	06.21	18.09 (BAP03)	06.52	18.07 (BAP03)	07.21	06.54	44	13.22 (BAP04)	07.28	12.47 (BAP04)	
	20.57	19.13 (BAP03)	20.37	19.31 (BAP03)	19.54	19.15 (BAP03)	19.04	17.19	44	14.06 (BAP04)	16.57	14.39 (BAP04)	
4	05.58	18.24 (BAP03)	06.22	18.09 (BAP03)	06.52	18.08 (BAP03)	07.22	06.56	52	13.17 (BAP04)	07.29	12.48 (BAP04)	
	20.57	19.14 (BAP03)	20.36	19.31 (BAP03)	19.52	19.14 (BAP03)	19.02	17.18	52	14.09 (BAP04)	16.57	14.40 (BAP04)	
5	05.58	18.24 (BAP03)	06.23	18.08 (BAP03)	06.53	18.09 (BAP03)	07.23	06.57	57	13.14 (BAP04)	07.30	12.48 (BAP04)	
	20.57	19.15 (BAP03)	20.35	19.31 (BAP03)	19.50	19.12 (BAP03)	19.01	17.17	57	14.11 (BAP04)	16.57	14.41 (BAP04)	
6	05.59	18.24 (BAP03)	06.24	18.08 (BAP03)	06.54	18.11 (BAP03)	07.24	06.58	62	13.12 (BAP04)	07.31	12.48 (BAP04)	
	20.57	19.15 (BAP03)	20.34	19.32 (BAP03)	19.49	19.10 (BAP03)	18.59	17.15	62	14.14 (BAP04)	16.57	14.41 (BAP04)	
7	05.59	18.24 (BAP03)	06.25	18.07 (BAP03)	06.55	18.12 (BAP03)	07.25	06.59	66	13.09 (BAP04)	07.32	12.48 (BAP04)	
	20.57	19.16 (BAP03)	20.32	19.32 (BAP03)	19.47	19.08 (BAP03)	18.57	17.14	66	14.15 (BAP04)	16.57	14.42 (BAP04)	
8	06.00	18.23 (BAP03)	06.26	18.07 (BAP03)	06.56	18.14 (BAP03)	07.26	07.00	71	13.06 (BAP04)	07.33	12.48 (BAP04)	
	20.56	19.16 (BAP03)	20.31	19.32 (BAP03)	19.46	19.06 (BAP03)	18.56	17.13	71	14.17 (BAP04)	16.56	14.42 (BAP04)	
9	06.01	18.23 (BAP03)	06.27	18.07 (BAP03)	06.57	18.16 (BAP03)	07.27	07.01	74	13.04 (BAP04)	07.34	12.48 (BAP04)	
	20.56	19.18 (BAP03)	20.30	19.32 (BAP03)	19.44	19.04 (BAP03)	18.54	17.12	74	14.18 (BAP04)	16.56	14.42 (BAP04)	
10	06.01	18.22 (BAP03)	06.28	18.06 (BAP03)	06.58	18.17 (BAP03)	07.28	07.03	78	13.02 (BAP04)	07.35	12.48 (BAP04)	
	20.56	19.19 (BAP03)	20.29	19.32 (BAP03)	19.42	19.00 (BAP03)	18.53	17.11	78	14.20 (BAP04)	16.57	14.43 (BAP04)	
11	06.02	18.21 (BAP03)	06.29	18.06 (BAP03)	06.59	18.20 (BAP03)	07.29	07.04	81	13.00 (BAP04)	07.36	12.49 (BAP04)	
	20.55	19.19 (BAP03)	20.27	19.32 (BAP03)	19.41	18.57 (BAP03)	18.51	17.10	81	14.21 (BAP04)	16.57	14.43 (BAP04)	
12	06.03	18.21 (BAP03)	06.30	18.06 (BAP03)	07.00	18.23 (BAP03)	07.30	07.05	83	12.59 (BAP04)	07.37	12.49 (BAP04)	
	20.55	19.20 (BAP03)	20.26	19.32 (BAP03)	19.39	18.52 (BAP03)	18.49	17.09	83	14.22 (BAP04)	16.57	14.44 (BAP04)	
13	06.03	18.21 (BAP03)	06.31	18.04 (BAP03)	07.01	18.28 (BAP03)	07.31	07.06	86	12.57 (BAP04)	07.37	12.50 (BAP04)	
	20.54	19.21 (BAP03)	20.25	19.31 (BAP03)	19.37	18.47 (BAP03)	18.48	17.08	86	14.23 (BAP04)	16.57	14.45 (BAP04)	
14	06.04	18.20 (BAP03)	06.32	18.04 (BAP03)	07.02	18.30	07.32	07.07	89	12.56 (BAP04)	07.38	12.49 (BAP04)	
	20.54	19.21 (BAP03)	20.24	19.31 (BAP03)	19.36	18.46	17.08	89	14.25 (BAP04)	16.57	14.45 (BAP04)		
15	06.05	18.19 (BAP03)	06.33	18.04 (BAP03)	07.03	18.33	07.33	07.09	91	12.55 (BAP04)	07.39	12.50 (BAP04)	
	20.53	19.22 (BAP03)	20.22	19.31 (BAP03)	19.34	18.45	17.07	91	14.26 (BAP04)	16.57	14.45 (BAP04)		
16	06.06	18.19 (BAP03)	06.34	18.04 (BAP03)	07.04	18.34	07.34	07.10	93	12.54 (BAP04)	07.40	12.51 (BAP04)	
	20.53	19.22 (BAP03)	20.21	19.31 (BAP03)	19.32	18.43	17.06	93	14.27 (BAP04)	16.58	14.46 (BAP04)		
17	06.06	18.19 (BAP03)	06.35	18.03 (BAP03)	07.05	18.35	07.35	07.11	95	12.52 (BAP04)	07.40	12.50 (BAP04)	
	20.52	19.23 (BAP03)	20.19	19.30 (BAP03)	19.31	18.42	17.05	95	14.27 (BAP04)	16.58	14.46 (BAP04)		
18	06.07	18.18 (BAP03)	06.36	18.03 (BAP03)	07.06	18.36	07.36	07.12	97	12.52 (BAP04)	07.41	12.51 (BAP04)	
	20.51	19.23 (BAP03)	20.18	19.30 (BAP03)	19.29	18.40	17.04	97	14.29 (BAP04)	16.58	14.47 (BAP04)		
19	06.08	18.17 (BAP03)	06.37	18.03 (BAP03)	07.07	18.37	07.37	07.13	99	12.51 (BAP04)	07.42	12.52 (BAP04)	
	20.51	19.24 (BAP03)	20.17	19.30 (BAP03)	19.27	18.39	17.04	99	14.30 (BAP04)	16.59	14.48 (BAP04)		
20	06.09	18.17 (BAP03)	06.38	18.03 (BAP03)	07.08	18.39	07.39	07.14	100	12.50 (BAP04)	07.42	12.52 (BAP04)	
	20.50	19.25 (BAP03)	20.15	19.29 (BAP03)	19.25	18.37	17.03	100	14.30 (BAP04)	16.59	14.48 (BAP04)		
21	06.10	18.17 (BAP03)	06.39	18.03 (BAP03)	07.09	18.40	07.40	07.15	101	12.50 (BAP04)	07.43	12.53 (BAP04)	
	20.49	19.26 (BAP03)	20.14	19.29 (BAP03)	19.24	18.36	17.02	101	14.31 (BAP04)	16.59	14.49 (BAP04)		
22	06.11	18.16 (BAP03)	06.40	18.03 (BAP03)	07.10	18.41	07.41	07.17	102	12.50 (BAP04)	07.43	12.53 (BAP04)	
	20.48	19.26 (BAP03)	20.12	19.28 (BAP03)	19.22	18.34	17.02	102	14.32 (BAP04)	17.00	14.49 (BAP04)		
23	06.11	18.16 (BAP03)	06.41	18.03 (BAP03)	07.11	18.42	07.42	07.18	104	12.49 (BAP04)	07.44	12.54 (BAP04)	
	20.48	19.27 (BAP03)	20.11	19.28 (BAP03)	19.20	18.33	17.01	104	14.33 (BAP04)	17.00	14.50 (BAP04)		
24	06.12	18.14 (BAP03)	06.42	18.03 (BAP03)	07.12	18.43	07.43	07.19	104	12.49 (BAP04)	07.44	12.54 (BAP04)	
	20.47	19.27 (BAP03)	20.09	19.27 (BAP03)	19.19	18.32	17.00	104	14.33 (BAP04)	17.01	14.50 (BAP04)		
25	06.13	18.14 (BAP03)	06.43	18.04 (BAP03)	07.13	18.44	07.44	07.20	106	12.48 (BAP04)	07.45	12.54 (BAP04)	
	20.46	19.28 (BAP03)	20.08	19.26 (BAP03)	19.17	17.30	17.00	106	14.34 (BAP04)	17.02	14.50 (BAP04)		
26	06.14	18.14 (BAP03)	06.44	18.04 (BAP03)	07.14	18.45	07.45	07.21	107	12.48 (BAP04)	07.45	12.55 (BAP04)	
	20.45	19.28 (BAP03)	20.06	19.26 (BAP03)	19.15	17.29	16.59	107	14.35 (BAP04)	17.02	14.51 (BAP04)		
27	06.15	18.13 (BAP03)	06.45	18.04 (BAP03)	07.15	18.46	07.46	07.22	108	12.47 (BAP04)	07.45	12.55 (BAP04)	
	20.44	19.29 (BAP03)	20.05	19.25 (BAP03)	19.14	17.28	16.59	108	14.35 (BAP04)	17.03	14.51 (BAP04)		
28	06.16	18.13 (BAP03)	06.46	18.03 (BAP03)	07.16	18.47	07.47	07.23	109	12.47 (BAP04)	07.46	12.56 (BAP04)	
	20.43	19.29 (BAP03)	20.03	19.23 (BAP03)	19.12	17.26	16.59	109	14.36 (BAP04)	17.03	14.51 (BAP04)		
29	06.17	18.12 (BAP03)	06.47	18.04 (BAP03)	07.17	18.48	07.48	07.24	109	12.48 (BAP04)	07.46	12.56 (BAP04)	
	20.42	19.30 (BAP03)	20.02	19.22 (BAP03)	19.10	17.25	16.58	109	14.37 (BAP04)	17.04	14.52 (BAP04)		
30	06.18	18.12 (BAP03)	06.48	18.04 (BAP03)	07.18	18.49	07.49	07.25	110	12.48 (BAP04)	07.46	12.57 (BAP04)	
	20.41	19.30 (BAP03)	20.00	19.21 (BAP03)	19.09	17.24	16.58	110	14.38 (BAP04)	17.05	14.53 (BAP04)		
31	06.19	18.11 (BAP03)	06.49	18.05 (BAP03)	07.19	18.50	07.50	07.26		12.49 (BAP04)	07.46	12.58 (BAP04)	
	20.40	19.31 (BAP03)	19.58	19.20 (BAP03)	19.08	17.23	16.57	110	14.39 (BAP04)	17.06	14.53 (BAP04)		
Potential sun hours	457		427	375		346		299		290		115	14.53 (BAP04)
Total, worst case	1960		2596	684		2539		3557					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F62 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (275)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47	11.29 (BAP04) 07.34	11.54 (BAP04) 06.59	07.09	06.24	18.08 (BAP03) 05.56
	17.07	146 13.55 (BAP04) 17.40	119 13.53 (BAP04) 18.14	19.47	20.18	92 19.40 (BAP03) 20.47
2	07.47	11.29 (BAP04) 07.33	11.55 (BAP04) 06.57	07.07	06.22	18.08 (BAP03) 05.55
	17.08	147 13.56 (BAP04) 17.42	117 13.52 (BAP04) 18.15	19.48	20.19	93 19.41 (BAP03) 20.48
3	07.47	11.30 (BAP04) 07.32	11.57 (BAP04) 06.56	07.05	06.21	18.06 (BAP03) 05.55
	17.08	146 13.56 (BAP04) 17.43	114 13.51 (BAP04) 18.16	19.49	20.20	95 19.41 (BAP03) 20.48
4	07.47	11.30 (BAP04) 07.31	11.59 (BAP04) 06.54	07.04	06.20	18.05 (BAP03) 05.54
	17.09	146 13.56 (BAP04) 17.44	110 13.49 (BAP04) 18.17	19.50	20.21	97 19.42 (BAP03) 20.49
5	07.47	11.31 (BAP04) 07.30	12.01 (BAP04) 06.53	07.02	06.19	18.04 (BAP03) 05.54
	17.10	146 13.57 (BAP04) 17.45	107 13.48 (BAP04) 18.18	19.51	20.22	99 19.43 (BAP03) 20.50
6	07.47	11.32 (BAP04) 07.29	12.02 (BAP04) 06.51	07.01	06.18	18.04 (BAP03) 05.54
	17.11	145 13.57 (BAP04) 17.47	104 13.46 (BAP04) 18.19	19.52	20.23	100 19.44 (BAP03) 20.50
7	07.47	11.32 (BAP04) 07.28	12.05 (BAP04) 06.49	06.59	06.16	18.03 (BAP03) 05.53
	17.12	145 13.57 (BAP04) 17.48	99 13.44 (BAP04) 18.20	19.53	20.24	101 19.44 (BAP03) 20.51
8	07.47	11.32 (BAP04) 07.27	12.07 (BAP04) 06.48	06.57	06.15	18.03 (BAP03) 05.53
	17.13	145 13.57 (BAP04) 17.49	95 13.42 (BAP04) 18.22	19.54	20.25	102 19.45 (BAP03) 20.52
9	07.47	11.33 (BAP04) 07.26	12.11 (BAP04) 06.46	06.56	06.14	18.02 (BAP03) 05.53
	17.14	144 13.57 (BAP04) 17.50	89 13.40 (BAP04) 18.23	19.55	20.26	104 19.46 (BAP03) 20.52
10	07.47	11.34 (BAP04) 07.24	12.14 (BAP04) 06.45	06.54	06.13	18.02 (BAP03) 05.53
	17.15	144 13.58 (BAP04) 17.51	84 13.38 (BAP04) 18.24	19.56	20.27	104 19.46 (BAP03) 20.53
11	07.46	11.35 (BAP04) 07.23	12.18 (BAP04) 06.43	06.53	06.12	18.01 (BAP03) 05.53
	17.16	143 13.58 (BAP04) 17.53	77 13.35 (BAP04) 18.25	19.57	20.28	106 19.47 (BAP03) 20.53
12	07.46	11.35 (BAP04) 07.22	12.22 (BAP04) 06.41	06.51	06.11	18.01 (BAP03) 05.52
	17.17	143 13.58 (BAP04) 17.54	68 13.30 (BAP04) 18.26	19.58	20.29	106 19.47 (BAP03) 20.54
13	07.46	11.36 (BAP04) 07.21	12.29 (BAP04) 06.40	06.50	06.10	18.00 (BAP03) 05.52
	17.18	142 13.58 (BAP04) 17.55	57 13.26 (BAP04) 18.27	19.59	20.30	108 19.48 (BAP03) 20.54
14	07.45	11.37 (BAP04) 07.20	12.37 (BAP04) 06.38	06.48	06.09	18.00 (BAP03) 05.52
	17.19	142 13.59 (BAP04) 17.56	42 13.19 (BAP04) 18.28	20.00	20.31	108 19.48 (BAP03) 20.55
15	07.45	11.37 (BAP04) 07.18	12.54 (BAP04) 06.37	06.46	06.08	18.00 (BAP03) 05.52
	17.20	141 13.58 (BAP04) 17.57	10 13.04 (BAP04) 18.29	20.01	20.32	109 19.49 (BAP03) 20.55
16	07.45	11.38 (BAP04) 07.17	06.35	06.45	06.07	17.59 (BAP03) 05.52
	17.21	141 13.59 (BAP04) 17.59	18.30	20.03	21 18.46 (BAP03) 20.33	110 19.49 (BAP03) 20.56
17	07.44	11.38 (BAP04) 07.16	06.33	06.43	06.06	17.59 (BAP03) 05.52
	17.23	140 13.58 (BAP04) 18.00	18.31	20.04	33 19.13 (BAP03) 20.34	110 19.49 (BAP03) 20.56
18	07.44	11.40 (BAP04) 07.14	06.32	06.42	06.05	17.58 (BAP03) 05.52
	17.24	139 13.59 (BAP04) 18.01	18.32	20.05	42 19.17 (BAP03) 20.35	111 19.49 (BAP03) 20.56
19	07.43	11.40 (BAP04) 07.13	06.30	06.40	06.04	17.58 (BAP03) 05.53
	17.25	138 13.58 (BAP04) 18.02	18.33	20.06	48 19.20 (BAP03) 20.36	111 19.49 (BAP03) 20.57
20	07.43	11.40 (BAP04) 07.12	06.28	06.39	06.03	17.59 (BAP03) 05.53
	17.26	138 13.58 (BAP04) 18.03	18.34	20.07	55 19.24 (BAP03) 20.37	112 19.51 (BAP03) 20.57
21	07.42	11.42 (BAP04) 07.10	06.27	06.37	06.03	17.58 (BAP03) 05.53
	17.27	136 13.58 (BAP04) 18.05	18.36	20.08	59 19.25 (BAP03) 20.38	113 19.51 (BAP03) 20.57
22	07.42	11.42 (BAP04) 07.09	06.25	06.36	06.02	17.58 (BAP03) 05.53
	17.28	136 13.58 (BAP04) 18.06	18.37	20.09	65 19.28 (BAP03) 20.39	113 19.51 (BAP03) 20.57
23	07.41	11.43 (BAP04) 07.07	06.24	06.35	06.01	17.59 (BAP03) 05.53
	17.30	134 13.57 (BAP04) 18.07	18.38	20.10	68 19.29 (BAP03) 20.40	113 19.52 (BAP03) 20.57
24	07.40	11.45 (BAP04) 07.06	06.22	06.33	06.00	17.58 (BAP03) 05.54
	17.31	132 13.57 (BAP04) 18.08	18.39	20.11	72 19.31 (BAP03) 20.40	114 19.52 (BAP03) 20.58
25	07.40	11.45 (BAP04) 07.05	06.20	06.32	06.00	17.58 (BAP03) 05.54
	17.32	132 13.57 (BAP04) 18.09	18.40	20.12	76 19.33 (BAP03) 20.41	114 19.52 (BAP03) 20.58
26	07.39	11.46 (BAP04) 07.03	06.19	06.30	05.59	17.59 (BAP03) 05.54
	17.33	130 13.56 (BAP04) 18.10	18.41	20.13	79 19.34 (BAP03) 20.42	113 19.52 (BAP03) 20.58
27	07.38	11.47 (BAP04) 07.02	06.17	06.29	05.58	17.58 (BAP03) 05.54
	17.34	129 13.56 (BAP04) 18.12	18.42	20.14	81 19.35 (BAP03) 20.43	114 19.52 (BAP03) 20.58
28	07.37	11.48 (BAP04) 07.00	06.15	06.28	05.58	17.59 (BAP03) 05.55
	17.36	127 13.55 (BAP04) 18.13	18.43	20.15	84 19.37 (BAP03) 20.44	114 19.53 (BAP03) 20.58
29	07.37	11.50 (BAP04)	07.14	06.26	05.57	17.59 (BAP03) 05.55
	17.37	125 13.55 (BAP04)	19.44	20.16	87 19.37 (BAP03) 20.45	114 19.53 (BAP03) 20.58
30	07.36	11.51 (BAP04)	07.12	06.25	05.57	17.59 (BAP03) 05.56
	17.38	123 13.54 (BAP04)	19.45	20.17	90 19.39 (BAP03) 20.45	115 19.54 (BAP03) 20.58
31	07.35	11.53 (BAP04)	07.10			05.56
	17.39	121 13.54 (BAP04)	19.46			20.46
Potential sun hours	299	298		398		447
Total, worst case	4286		1292		960	
						3329
						450
						3449

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F62 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (275)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December										
1	05.56	18.05 (BAP03)	06.20	18.11 (BAP03)	06.50	07.19										
	20.58	115	20.00 (BAP03)	20.39	106	19.57 (BAP03)	19.57	17.21	85	11.42 (BAP04)	07.26	11.17 (BAP04)				
2	05.57	18.06 (BAP03)	06.21	18.11 (BAP03)	06.51	07.20	106.53	17.20	90	11.40 (BAP04)	07.27	11.17 (BAP04)				
	20.58	114	20.00 (BAP03)	20.38	105	19.56 (BAP03)	19.55	17.20	90	13.10 (BAP04)	16.57	144	13.41 (BAP04)			
3	05.57	18.05 (BAP03)	06.21	18.11 (BAP03)	06.52	07.21	106.54	17.20	90	11.37 (BAP04)	07.28	144	11.17 (BAP04)			
	20.57	115	20.00 (BAP03)	20.37	105	19.56 (BAP03)	19.54	17.19	95	13.12 (BAP04)	16.57	144	13.41 (BAP04)			
4	05.58	18.06 (BAP03)	06.22	18.12 (BAP03)	06.52	07.22	106.56	17.19	95	11.34 (BAP04)	07.29	144	11.17 (BAP04)			
	20.57	115	20.01 (BAP03)	20.36	103	19.55 (BAP03)	19.52	17.18	100	13.14 (BAP04)	16.57	145	13.42 (BAP04)			
5	05.58	18.06 (BAP03)	06.23	18.12 (BAP03)	06.53	07.23	106.57	17.18	100	11.32 (BAP04)	07.30	145	11.17 (BAP04)			
	20.57	115	20.01 (BAP03)	20.35	103	19.55 (BAP03)	19.50	17.17	104	13.16 (BAP04)	16.57	145	13.42 (BAP04)			
6	05.59	18.06 (BAP03)	06.24	18.13 (BAP03)	06.54	07.24	106.58	17.17	104	11.31 (BAP04)	07.31	145	11.18 (BAP04)			
	20.57	115	20.01 (BAP03)	20.34	101	19.54 (BAP03)	19.49	17.15	107	13.18 (BAP04)	16.57	145	13.43 (BAP04)			
7	05.59	18.07 (BAP03)	06.25	18.14 (BAP03)	06.55	07.25	106.59	17.15	107	11.29 (BAP04)	07.32	145	11.18 (BAP04)			
	20.57	114	20.01 (BAP03)	20.32	99	19.53 (BAP03)	19.47	17.14	110	13.19 (BAP04)	16.57	146	13.44 (BAP04)			
8	06.00	18.06 (BAP03)	06.26	18.14 (BAP03)	06.56	07.26	107.00	17.14	110	11.27 (BAP04)	07.33	146	11.18 (BAP04)			
	20.56	115	20.01 (BAP03)	20.31	98	19.52 (BAP03)	19.46	17.13	114	13.21 (BAP04)	16.56	146	13.44 (BAP04)			
9	06.01	18.07 (BAP03)	06.27	18.15 (BAP03)	06.57	07.27	107.01	17.13	114	11.25 (BAP04)	07.34	146	11.18 (BAP04)			
	20.56	114	20.01 (BAP03)	20.30	96	19.51 (BAP03)	19.44	17.12	117	13.22 (BAP04)	16.56	146	13.44 (BAP04)			
10	06.01	18.07 (BAP03)	06.28	18.16 (BAP03)	06.58	07.28	107.03	17.12	117	11.25 (BAP04)	07.35	146	11.18 (BAP04)			
	20.56	115	20.02 (BAP03)	20.29	94	19.50 (BAP03)	19.42	17.11	119	13.24 (BAP04)	16.57	147	13.45 (BAP04)			
11	06.02	18.07 (BAP03)	06.29	18.17 (BAP03)	06.59	07.29	107.04	17.11	119	11.23 (BAP04)	07.36	147	11.19 (BAP04)			
	20.55	114	20.01 (BAP03)	20.28	92	19.49 (BAP03)	19.41	17.10	122	13.25 (BAP04)	16.57	146	13.45 (BAP04)			
12	06.03	18.07 (BAP03)	06.30	18.17 (BAP03)	07.00	07.30	107.05	17.10	122	11.22 (BAP04)	07.37	146	11.19 (BAP04)			
	20.55	115	20.02 (BAP03)	20.26	91	19.48 (BAP03)	19.39	17.09	123	13.25 (BAP04)	16.57	147	13.46 (BAP04)			
13	06.03	18.07 (BAP03)	06.31	18.18 (BAP03)	07.01	07.31	107.06	17.09	123	11.21 (BAP04)	07.37	147	11.20 (BAP04)			
	20.54	115	20.02 (BAP03)	20.25	89	19.47 (BAP03)	19.37	17.08	125	13.26 (BAP04)	16.57	147	13.47 (BAP04)			
14	06.04	18.07 (BAP03)	06.32	18.18 (BAP03)	07.02	07.32	107.07	17.08	125	11.21 (BAP04)	07.38	147	11.19 (BAP04)			
	20.54	114	20.01 (BAP03)	20.24	87	19.45 (BAP03)	19.36	17.08	127	13.28 (BAP04)	16.57	148	13.47 (BAP04)			
15	06.05	18.07 (BAP03)	06.33	18.20 (BAP03)	07.03	07.33	107.09	17.08	127	11.20 (BAP04)	07.39	148	11.20 (BAP04)			
	20.53	114	20.01 (BAP03)	20.22	83	19.43 (BAP03)	19.34	17.07	129	13.29 (BAP04)	16.57	147	13.47 (BAP04)			
16	06.06	18.08 (BAP03)	06.34	18.21 (BAP03)	07.04	07.34	107.10	17.07	129	11.19 (BAP04)	07.40	147	11.21 (BAP04)			
	20.53	114	20.02 (BAP03)	20.21	81	19.42 (BAP03)	19.32	17.06	130	13.29 (BAP04)	16.58	147	13.48 (BAP04)			
17	06.06	18.08 (BAP03)	06.35	18.22 (BAP03)	07.05	07.35	107.11	17.06	130	11.18 (BAP04)	07.40	147	11.22 (BAP04)			
	20.52	114	20.02 (BAP03)	20.19	78	19.40 (BAP03)	19.31	17.05	132	13.30 (BAP04)	16.58	147	13.49 (BAP04)			
18	06.07	18.07 (BAP03)	06.36	18.24 (BAP03)	07.06	07.36	107.12	17.05	132	11.19 (BAP04)	07.41	147	11.21 (BAP04)			
	20.51	114	20.01 (BAP03)	20.18	74	19.38 (BAP03)	19.29	17.04	134	13.31 (BAP04)	16.58	148	13.49 (BAP04)			
19	06.08	18.08 (BAP03)	06.37	18.25 (BAP03)	07.07	07.38	107.13	17.04	134	11.18 (BAP04)	07.42	148	11.22 (BAP04)			
	20.51	113	20.01 (BAP03)	20.17	72	19.37 (BAP03)	19.27	17.04	134	13.32 (BAP04)	16.59	148	13.50 (BAP04)			
20	06.09	18.08 (BAP03)	06.38	18.27 (BAP03)	07.08	07.39	107.14	17.04	134	11.17 (BAP04)	07.42	148	11.22 (BAP04)			
	20.50	113	20.01 (BAP03)	20.15	68	19.35 (BAP03)	19.26	17.03	136	13.33 (BAP04)	16.59	148	13.50 (BAP04)			
21	06.10	18.08 (BAP03)	06.39	18.29 (BAP03)	07.09	07.40	107.15	17.03	136	11.17 (BAP04)	07.43	148	11.23 (BAP04)			
	20.49	113	20.01 (BAP03)	20.14	63	19.32 (BAP03)	19.24	17.02	136	13.33 (BAP04)	16.59	148	13.51 (BAP04)			
22	06.11	18.09 (BAP03)	06.40	18.31 (BAP03)	07.10	07.41	107.17	17.02	136	11.17 (BAP04)	07.43	148	11.23 (BAP04)			
	20.48	112	20.01 (BAP03)	20.12	59	19.30 (BAP03)	19.22	17.02	138	13.35 (BAP04)	17.00	148	13.51 (BAP04)			
23	06.11	18.09 (BAP03)	06.41	18.33 (BAP03)	07.11	07.42	107.18	17.02	138	11.17 (BAP04)	07.44	148	11.24 (BAP04)			
	20.48	112	20.01 (BAP03)	20.11	54	19.27 (BAP03)	19.20	17.01	138	13.35 (BAP04)	17.00	148	13.52 (BAP04)			
24	06.12	18.08 (BAP03)	06.42	18.36 (BAP03)	07.12	07.43	107.19	17.01	138	11.17 (BAP04)	07.44	148	11.24 (BAP04)			
	20.47	112	20.00 (BAP03)	20.09	48	19.24 (BAP03)	19.19	17.00	139	13.36 (BAP04)	17.01	148	13.52 (BAP04)			
25	06.13	18.09 (BAP03)	06.43	18.39 (BAP03)	07.13	07.44	107.20	17.00	139	11.16 (BAP04)	07.45	148	11.24 (BAP04)			
	20.46	111	20.00 (BAP03)	20.08	41	19.20 (BAP03)	19.17	17.00	140	13.36 (BAP04)	17.02	148	13.52 (BAP04)			
26	06.14	18.09 (BAP03)	06.44	18.44 (BAP03)	07.14	07.45	107.21	17.00	140	11.16 (BAP04)	07.45	148	11.26 (BAP04)			
	20.45	111	20.00 (BAP03)	20.06	32	19.16 (BAP03)	19.15	16.59	141	13.37 (BAP04)	17.02	147	13.53 (BAP04)			
27	06.15	18.10 (BAP03)	06.45	18.50 (BAP03)	07.15	07.46	107.22	16.59	141	11.16 (BAP04)	07.45	147	11.26 (BAP04)			
	20.44	110	20.00 (BAP03)	20.05	19	19.09 (BAP03)	19.14	17.28	22	12.39 (BAP04)	16.59	141	13.37 (BAP04)	17.03	147	13.53 (BAP04)
28	06.16	18.10 (BAP03)	06.46	19.24 (BAP03)	07.16	07.46	107.23	17.28	22	12.05 (BAP04)	16.59	141	11.26 (BAP04)	17.03	147	13.53 (BAP04)
	20.43	109	19.59 (BAP03)	20.03	17	17.26	17.12	17.26	46	12.51 (BAP04)	16.59	142	13.38 (BAP04)	17.03	147	13.53 (BAP04)
29	06.17	18.10 (BAP03)	06.47	19.24 (BAP03)	07.17	07.47	107.24	17.26	46	11.57 (BAP04)	16.59	142	11.26 (BAP04)	17.03	147	13.53 (BAP04)
	20.42	109	19.59 (BAP03)	20.02	17	17.25	17.10	17.25	60	12.57 (BAP04)	16.58	142	13.39 (BAP04)	17.04	147	13.53 (BAP04)
30	06.18	18.11 (BAP03)	06.48	19.24 (BAP03)	07.18	07.48	107.25	17.25	60	11.51 (BAP04)	16.58	142	11.28 (BAP04)	17.04	147	13.53 (BAP04)
	20.41	108	19.59 (BAP03)	20.00	17	17.24	17.09	17.24	70	13.01 (BAP04)	16.58	143	13.40 (BAP04)	17.05	147	13.55 (BAP04)
31	06.19	18.11 (BAP03)	06.49	19.24 (BAP03)	07.19	07.49	107.26	17.24	70	11.46 (BAP04)	16.58	143	11.28 (BAP04)	17.05	147	13.55 (BAP04)
	20.40	107	19.58 (BAP03)	19.58	17	17.23	17.08	17.23	78	13.04 (BAP04)	16.58	143	11.28 (BAP04)	17.05	147	13.55 (BAP04)
Potential sun hours	457		427		375		346		299		290		290		147	13.55 (BAP04)
Total, worst case	3501		2141		276		3731		4546							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Eolico_Green_2020_07_13

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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F66 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (276)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March		April		May		June	
1	07.47	07.34	06.59		07.09		06.24		05.55	06.17 (BAP08)
	17.07	17.40	18.14		19.47		20.18		20.47	30 20.23 (BAP02)
2	07.47	07.33	06.57		07.07		06.22		05.55	06.16 (BAP08)
	17.08	17.42	18.15		19.48		20.19		20.48	30 20.23 (BAP02)
3	07.47	07.32	06.56		07.05		06.21		05.55	06.16 (BAP08)
	17.08	17.43	18.16		19.49		20.20		20.48	29 20.23 (BAP02)
4	07.47	07.31	06.54		07.04		06.20		05.54	06.16 (BAP08)
	17.09	17.44	18.17		19.50		20.21		20.49	26 20.21 (BAP02)
5	07.47	07.30	06.52		07.02		06.19		05.54	06.15 (BAP08)
	17.10	17.45	18.18		19.51		20.22		20.50	20 06.35 (BAP08)
6	07.47	07.29	06.51	17.48 (BAP04)	07.01		06.17		05.54	06.15 (BAP08)
	17.11	17.47	18.19	11 17.59 (BAP04)	19.52		20.23		20.50	20 06.35 (BAP08)
7	07.47	07.28	06.49	17.44 (BAP04)	06.59		06.16		05.53	06.15 (BAP08)
	17.12	17.48	18.20	15 17.59 (BAP04)	19.53		20.24		20.51	21 06.36 (BAP08)
8	07.47	07.27	06.48	17.41 (BAP04)	06.57		06.15		05.53	06.15 (BAP08)
	17.13	17.49	18.22	19 18.00 (BAP04)	19.54		20.25		20.52	21 06.36 (BAP08)
9	07.47	07.25	06.46	17.40 (BAP04)	06.56	19.28 (BAP03)	06.14		05.53	06.14 (BAP08)
	17.14	17.50	18.23	22 18.02 (BAP04)	19.55	6 19.34 (BAP03)	20.26		20.52	21 06.35 (BAP08)
10	07.46	07.24	06.45	17.38 (BAP04)	06.54	19.25 (BAP03)	06.13		05.53	06.14 (BAP08)
	17.15	17.51	18.24	25 18.03 (BAP04)	19.56	10 19.35 (BAP03)	20.27		20.53	21 06.35 (BAP08)
11	07.46	07.23	06.43	17.37 (BAP04)	06.53	19.17 (BAP03)	06.12		05.53	06.14 (BAP08)
	17.16	17.53	18.25	27 18.04 (BAP04)	19.57	13 19.36 (BAP03)	20.28		20.53	21 06.35 (BAP08)
12	07.46	07.22	06.41	17.35 (BAP04)	06.51	19.20 (BAP03)	06.11		05.52	06.14 (BAP08)
	17.17	17.54	18.26	30 18.05 (BAP04)	19.58	16 19.36 (BAP03)	20.29		20.54	22 06.36 (BAP08)
13	07.46	07.21	06.40	17.34 (BAP04)	06.49	19.19 (BAP03)	06.10	20.06 (BAP02)	05.52	06.14 (BAP08)
	17.18	17.55	18.27	32 18.06 (BAP04)	19.59	19 19.38 (BAP03)	20.30	1 20.07 (BAP02)	20.54	22 06.36 (BAP08)
14	07.45	07.19	06.38	17.34 (BAP04)	06.48	19.18 (BAP03)	06.09	20.05 (BAP02)	05.52	06.14 (BAP08)
	17.19	17.56	18.28	33 18.07 (BAP04)	20.00	20 19.38 (BAP03)	20.31	3 20.08 (BAP02)	20.55	22 06.36 (BAP08)
15	07.45	07.18	06.37	17.33 (BAP04)	06.46	19.17 (BAP03)	06.08	20.05 (BAP02)	05.52	06.14 (BAP08)
	17.20	17.57	18.29	35 18.08 (BAP04)	20.01	23 19.40 (BAP03)	20.32	4 20.09 (BAP02)	20.55	22 06.36 (BAP08)
16	07.45	07.17	06.35	17.32 (BAP04)	06.45	19.16 (BAP03)	06.07	06.27 (BAP08)	05.52	06.14 (BAP08)
	17.21	17.59	18.30	37 18.09 (BAP04)	20.02	24 19.40 (BAP03)	20.33	6 20.09 (BAP02)	20.55	22 06.36 (BAP08)
17	07.44	07.16	06.33	17.32 (BAP04)	06.43	19.16 (BAP03)	06.06	06.26 (BAP08)	05.52	06.14 (BAP08)
	17.23	18.00	18.31	39 18.11 (BAP04)	20.04	26 19.42 (BAP03)	20.34	10 20.10 (BAP02)	20.56	22 06.36 (BAP08)
18	07.44	07.14	06.32	17.31 (BAP04)	06.42	19.15 (BAP03)	06.05	06.25 (BAP08)	05.52	06.14 (BAP08)
	17.24	18.01	18.32	39 18.10 (BAP04)	20.05	27 19.42 (BAP03)	20.35	12 20.11 (BAP02)	20.56	22 06.36 (BAP08)
19	07.43	07.13	06.30	17.31 (BAP04)	06.40	19.15 (BAP03)	06.04	06.24 (BAP08)	05.52	06.15 (BAP08)
	17.25	18.02	18.33	38 18.09 (BAP04)	20.06	29 19.44 (BAP03)	20.36	15 20.12 (BAP02)	20.56	22 06.37 (BAP08)
20	07.43	07.12	06.28	17.31 (BAP04)	06.39	19.16 (BAP03)	06.03	06.24 (BAP08)	05.53	06.15 (BAP08)
	17.26	18.03	18.34	39 18.10 (BAP04)	20.07	29 19.45 (BAP03)	20.37	16 20.13 (BAP02)	20.57	22 06.37 (BAP08)
21	07.42	07.10	06.27	17.31 (BAP04)	06.37	19.15 (BAP03)	06.02	06.23 (BAP08)	05.53	06.15 (BAP08)
	17.27	18.05	18.35	38 18.09 (BAP04)	20.08	30 19.45 (BAP03)	20.38	18 20.14 (BAP02)	20.57	22 06.37 (BAP08)
22	07.42	07.09	06.25	17.32 (BAP04)	06.36	19.16 (BAP03)	06.02	06.22 (BAP08)	05.53	06.15 (BAP08)
	17.28	18.06	18.37	36 18.08 (BAP04)	20.09	28 19.44 (BAP03)	20.39	20 20.14 (BAP02)	20.57	22 06.37 (BAP08)
23	07.41	07.07	06.23	17.32 (BAP04)	06.35	19.15 (BAP03)	06.01	06.21 (BAP08)	05.53	06.15 (BAP08)
	17.29	18.07	18.38	35 18.07 (BAP04)	20.10	28 19.43 (BAP03)	20.39	22 20.15 (BAP02)	20.57	22 06.37 (BAP08)
24	07.40	07.06	06.22	17.32 (BAP04)	06.33	19.16 (BAP03)	06.00	06.21 (BAP08)	05.53	06.16 (BAP08)
	17.31	18.08	18.39	34 18.06 (BAP04)	20.11	27 19.43 (BAP03)	20.40	23 20.16 (BAP02)	20.58	22 06.38 (BAP08)
25	07.40	07.05	06.20	17.34 (BAP04)	06.32	19.17 (BAP03)	05.59	06.20 (BAP08)	05.54	06.16 (BAP08)
	17.32	18.09	18.40	31 18.05 (BAP04)	20.12	25 19.42 (BAP03)	20.41	25 20.17 (BAP02)	20.58	22 06.38 (BAP08)
26	07.39	07.03	06.19	17.34 (BAP04)	06.30	19.17 (BAP03)	05.59	06.20 (BAP08)	05.54	06.16 (BAP08)
	17.33	18.10	18.41	29 18.03 (BAP04)	20.13	23 19.40 (BAP03)	20.42	25 20.18 (BAP02)	20.58	22 06.38 (BAP08)
27	07.38	07.02	06.17	17.35 (BAP04)	06.29	19.19 (BAP03)	05.58	06.19 (BAP08)	05.54	06.17 (BAP08)
	17.34	18.11	18.42	26 18.01 (BAP04)	20.14	20 19.39 (BAP03)	20.43	26 20.18 (BAP02)	20.58	22 06.39 (BAP08)
28	07.37	07.00	06.15	17.38 (BAP04)	06.28	19.21 (BAP03)	05.58	06.19 (BAP08)	05.55	06.17 (BAP08)
	17.36	18.13	18.43	21 17.59 (BAP04)	20.15	17 19.38 (BAP03)	20.44	28 20.20 (BAP02)	20.58	22 06.39 (BAP08)
29	07.36		07.14	18.40 (BAP04)	06.26	19.22 (BAP03)	05.57	06.18 (BAP08)	05.55	06.18 (BAP08)
	17.37		19.44	16 18.56 (BAP04)	20.16	13 19.35 (BAP03)	20.45	29 20.20 (BAP02)	20.58	22 06.40 (BAP08)
30	07.36		07.12	18.44 (BAP04)	06.25	19.26 (BAP03)	05.56	06.18 (BAP08)	05.56	06.18 (BAP08)
	17.38		19.45	6 18.50 (BAP04)	20.17	5 19.31 (BAP03)	20.45	28 20.21 (BAP02)	20.58	22 06.40 (BAP08)
31	07.35		07.10					05.56		
	17.39		19.46					20.46		
Potential sun hours	299	298	370		398		447		450	678
Total, worst case				713		458		340		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F66 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (276)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December			
1	05.56	06.18 (BAP08)	06.20	06.50	19.22 (BAP03)	07.19	18.15 (BAP04)	06.52	07.26
	20.58	21 06.39 (BAP08)	20.39	19.57	13 19.35 (BAP03)	19.07	30 18.45 (BAP04)	17.21	16.58
2	05.57	06.19 (BAP08)	06.20	06.51	19.23 (BAP03)	07.20	18.15 (BAP04)	06.53	07.27
	20.58	21 06.40 (BAP08)	20.38	19.55	10 19.33 (BAP03)	19.05	28 18.43 (BAP04)	17.20	16.57
3	05.57	06.19 (BAP08)	06.21	06.51	19.26 (BAP03)	07.21	18.16 (BAP04)	06.54	07.28
	20.57	21 06.40 (BAP08)	20.37	19.54	6 19.32 (BAP03)	19.04	26 18.42 (BAP04)	17.19	16.57
4	05.58	06.20 (BAP08)	06.22	06.52	07.22	18.17 (BAP04)	06.56	07.29	
	20.57	21 06.41 (BAP08)	20.36	19.52	19.02	23 18.40 (BAP04)	17.18	16.57	
5	05.58	06.20 (BAP08)	06.23	06.53	07.23	18.18 (BAP04)	06.57	07.30	
	20.57	21 06.41 (BAP08)	20.35	19.50	19.01	20 18.38 (BAP04)	17.17	16.57	
6	05.59	06.21 (BAP08)	06.24	06.54	07.24	18.20 (BAP04)	06.58	07.31	
	20.57	20 06.41 (BAP08)	20.34	19.49	18.59	17 18.37 (BAP04)	17.15	16.57	
7	05.59	06.22 (BAP08)	06.25	06.55	07.25	18.22 (BAP04)	06.59	07.32	
	20.57	20 06.42 (BAP08)	20.32	19.47	18.57	13 18.35 (BAP04)	17.14	16.56	
8	06.00	06.22 (BAP08)	06.26	06.56	07.26	18.27 (BAP04)	07.00	07.33	
	20.56	24 20.27 (BAP02)	20.31	19.45	18.56	6 18.33 (BAP04)	17.13	16.56	
9	06.01	06.23 (BAP08)	06.27	06.57	07.27	18.33 (BAP04)	07.01	07.34	
	20.56	27 20.29 (BAP02)	20.30	19.44	18.54	17.12	16.56		
10	06.01	06.24 (BAP08)	06.28	06.58	07.28	18.34 (BAP04)	07.02	07.35	
	20.55	30 20.31 (BAP02)	20.29	19.42	18.53	17.11	16.56		
11	06.02	06.24 (BAP08)	06.29	06.59	07.29	18.35 (BAP04)	07.03	07.36	
	20.55	30 20.30 (BAP02)	20.27	19.41	18.51	17.10	16.57		
12	06.03	06.25 (BAP08)	06.30	07.00	07.30	18.36 (BAP04)	07.04	07.37	
	20.55	29 20.30 (BAP02)	20.26	19.39	18.49	17.09	16.57		
13	06.03	06.26 (BAP08)	06.31	07.01	07.31	18.37 (BAP04)	07.05	07.38	
	20.54	30 20.30 (BAP02)	20.25	19.37	18.48	17.08	16.57		
14	06.04	06.26 (BAP08)	06.32	07.02	07.32	18.38 (BAP04)	07.06	07.39	
	20.54	29 20.29 (BAP02)	20.24	19.36	18.45 (BAP04)	18.46	17.07	16.57	
15	06.05	06.27 (BAP08)	06.33	07.03	07.33	18.39 (BAP04)	07.07	07.40	
	20.53	27 20.28 (BAP02)	20.22	19.34	21 18.48 (BAP04)	18.45	17.07	16.57	
16	06.06	06.28 (BAP08)	06.34	07.04	07.34	18.40 (BAP04)	07.08	07.41	
	20.53	27 20.28 (BAP02)	20.21	19.32	25 18.50 (BAP04)	18.43	17.06	16.57	
17	06.06	06.29 (BAP08)	06.35	07.05	07.35	18.41 (BAP04)	07.09	07.42	
	20.52	27 20.28 (BAP02)	20.19	19.30	28 18.51 (BAP04)	18.42	17.05	16.58	
18	06.07	06.29 (BAP08)	06.36	07.06	07.36	18.42 (BAP04)	07.10	07.43	
	20.51	25 20.26 (BAP02)	20.18	19.29	31 18.52 (BAP04)	18.40	17.04	16.58	
19	06.08	06.30 (BAP08)	06.37	07.07	07.37	18.43 (BAP04)	07.11	07.44	
	20.51	24 20.26 (BAP02)	20.17	19.27	33 18.53 (BAP04)	18.39	17.04	16.59	
20	06.09	06.31 (BAP08)	06.38	07.08	07.38	18.44 (BAP04)	07.12	07.45	
	20.50	23 20.26 (BAP02)	20.15	19.25	34 18.53 (BAP04)	18.37	17.03	16.59	
21	06.10	06.32 (BAP08)	06.39	07.09	07.39	18.45 (BAP04)	07.13	07.46	
	20.49	21 20.25 (BAP02)	20.14	19.24	36 18.54 (BAP04)	18.36	17.02	16.59	
22	06.11	06.33 (BAP08)	06.40	07.10	07.40	18.46 (BAP04)	07.14	07.47	
	20.48	20 20.25 (BAP02)	20.12	19.22	37 18.54 (BAP04)	18.34	17.02	17.00	
23	06.11	06.33 (BAP08)	06.41	07.11	07.41	18.47 (BAP04)	07.15	07.48	
	20.48	18 20.23 (BAP02)	20.11	19.20	38 18.54 (BAP04)	18.33	17.01	17.00	
24	06.12	06.34 (BAP08)	06.42	07.12	07.42	18.48 (BAP04)	07.16	07.49	
	20.47	16 20.22 (BAP02)	20.09	19.19	39 18.54 (BAP04)	18.32	17.00	17.01	
25	06.13	06.35 (BAP08)	06.43	07.13	07.43	18.49 (BAP04)	07.17	07.50	
	20.46	14 20.22 (BAP02)	20.08	19.17	39 18.54 (BAP04)	17.30	17.00	17.01	
26	06.14	06.36 (BAP08)	06.44	07.14	07.44	18.50 (BAP04)	07.18	07.51	
	20.45	11 20.21 (BAP02)	20.06	19.15	39 18.53 (BAP04)	17.29	16.59	17.02	
27	06.15	06.37 (BAP08)	06.45	07.15	07.45	18.51 (BAP04)	07.19	07.52	
	20.44	8 20.20 (BAP02)	20.05	19.14	38 18.52 (BAP04)	17.28	16.59	17.03	
28	06.16	06.38 (BAP08)	06.46	07.16	07.46	18.52 (BAP04)	07.20	07.53	
	20.43	6 20.20 (BAP02)	20.03	19.12	36 18.50 (BAP04)	17.26	16.59	17.03	
29	06.17	06.39 (BAP08)	06.47	07.17	07.47	18.53 (BAP04)	07.21	07.54	
	20.42	3 20.19 (BAP02)	20.02	19.10	34 18.48 (BAP04)	17.25	16.58	17.04	
30	06.18	06.40 (BAP08)	06.48	07.18	07.48	18.54 (BAP04)	07.22	07.55	
	20.41	2 20.18 (BAP02)	20.00	19.09	33 18.47 (BAP04)	17.24	16.58	17.05	
31	06.19	06.41 (BAP08)	06.49	07.19	07.49	18.55 (BAP04)	07.23	07.56	
	20.40	19.58	16 19.36 (BAP03)	06.51	17.22	17.06	17.06		
Potential sun hours	457	427	375	346	299	290			
Total, worst case	616	435	584	163					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F67 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (277)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47 17.07	07.34 17.40	06.59 18.14	07.09 19.47	18.35 (BAP04) 20.18	18.25 (BAP04) 20.47
2	07.47 17.08	07.33 17.42	06.57 18.15	07.07 19.48	18.33 (BAP04) 20.19	18.26 (BAP04) 20.48
3	07.47 17.08	07.32 17.43	06.56 18.16	07.05 19.49	18.32 (BAP04) 20.20	18.26 (BAP04) 20.48
4	07.47 17.09	07.31 17.44	06.54 18.17	07.04 19.50	18.30 (BAP04) 20.21	18.27 (BAP04) 20.49
5	07.47 17.10	07.30 17.45	06.53 18.18	07.02 19.51	18.30 (BAP04) 20.22	18.28 (BAP04) 20.50
6	07.47 17.11	07.29 17.47	06.51 18.19	07.01 19.52	18.28 (BAP04) 20.23	18.29 (BAP04) 20.50
7	07.47 17.12	07.28 17.48	06.49 18.20	06.59 19.53	18.27 (BAP04) 20.24	18.30 (BAP04) 20.51
8	07.47 17.13	07.27 17.49	06.48 18.22	06.57 19.54	18.27 (BAP04) 20.25	18.31 (BAP04) 20.52
9	07.47 17.14	07.25 17.50	06.46 18.23	06.56 19.55	18.25 (BAP04) 20.26	18.32 (BAP04) 20.52
10	07.47 17.15	07.24 17.51	06.45 18.24	06.54 19.56	18.25 (BAP04) 20.27	18.33 (BAP04) 20.53
11	07.46 17.16	07.23 17.53	06.43 18.25	06.53 19.57	18.24 (BAP04) 20.28	18.34 (BAP04) 20.53
12	07.46 17.17	07.22 17.54	06.41 18.26	06.51 19.58	18.23 (BAP04) 20.29	18.36 (BAP04) 20.54
13	07.46 17.18	07.21 17.55	06.40 18.27	06.50 19.59	18.23 (BAP04) 20.30	18.37 (BAP04) 20.54
14	07.45 17.19	07.19 17.56	06.38 18.28	06.48 20.00	18.22 (BAP04) 20.31	18.39 (BAP04) 20.55
15	07.45 17.20	07.18 17.57	06.37 18.29	06.46 20.01	18.22 (BAP04) 20.32	18.40 (BAP04) 20.55
16	07.45 17.21	07.17 17.59	06.35 18.30	06.45 20.02	18.22 (BAP04) 20.33	18.42 (BAP04) 20.55
17	07.44 17.23	07.16 18.00	06.33 18.31	06.43 20.04	18.22 (BAP04) 20.34	18.44 (BAP04) 20.56
18	07.44 17.24	07.14 18.01	06.32 18.32	06.42 20.05	18.21 (BAP04) 20.35	18.47 (BAP04) 20.56
19	07.43 17.25	07.13 18.02	06.30 18.33	06.40 20.06	18.21 (BAP04) 20.36	18.50 (BAP04) 20.56
20	07.43 17.26	07.12 18.03	06.28 18.34	06.39 20.07	18.22 (BAP04) 20.37	19.51 (BAP03) 20.57
21	07.42 17.27	07.10 18.05	06.27 18.36	06.37 20.08	18.21 (BAP04) 20.38	19.50 (BAP03) 20.57
22	07.42 17.28	07.09 18.06	06.25 18.37	06.36 20.09	18.22 (BAP04) 20.39	19.49 (BAP03) 20.57
23	07.41 17.30	07.07 18.07	06.23 18.38	06.35 20.10	18.21 (BAP04) 20.40	19.49 (BAP03) 20.57
24	07.40 17.31	07.06 18.08	06.22 18.39	06.33 20.11	18.22 (BAP04) 20.40	19.48 (BAP03) 20.58
25	07.40 17.32	07.05 18.09	06.20 18.40	06.32 20.12	18.22 (BAP04) 20.41	19.47 (BAP03) 20.58
26	07.39 17.33	07.03 18.10	06.19 18.41	06.30 20.13	18.22 (BAP04) 20.42	19.47 (BAP03) 20.58
27	07.38 17.34	07.02 18.11	06.17 18.42	06.29 20.14	18.23 (BAP04) 20.43	19.47 (BAP03) 20.58
28	07.37 17.36	07.00 18.13	06.15 18.43	06.28 20.15	18.24 (BAP04) 20.44	19.47 (BAP03) 20.58
29	07.36 17.37	07.14 19.44	06.14 18.41	06.26 20.16	18.23 (BAP04) 20.45	19.46 (BAP03) 20.58
30	07.36 17.38	07.12 19.45	06.12 18.38	06.25 20.17	18.24 (BAP04) 20.45	19.47 (BAP03) 20.58
31	07.35 17.39	07.10 19.46	06.11 18.37	06.24 19.25 (BAP04)	19.31 (BAP04) 20.45	19.46 (BAP03) 20.58
Potential sun hours	299	298	370	398	447	450
Total, worst case			284	2076	1313	1251

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F67 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (277)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	19.50 (BAP03) 06.20	18.45 (BAP04) 06.50	18.23 (BAP04) 07.19	06.52	07.26
	20.58	42 20.32 (BAP03) 20.39	44 19.29 (BAP04) 19.57	72 19.35 (BAP04) 19.07	17.21	16.58
2	05.57	19.51 (BAP03) 06.20	18.43 (BAP04) 06.51	18.23 (BAP04) 07.20	06.53	07.27
	20.58	42 20.33 (BAP03) 20.38	48 19.31 (BAP04) 19.55	70 19.33 (BAP04) 19.05	17.20	16.57
3	05.57	19.51 (BAP03) 06.21	18.42 (BAP04) 06.52	18.23 (BAP04) 07.21	06.54	07.28
	20.57	41 20.32 (BAP03) 20.37	50 19.32 (BAP04) 19.54	69 19.32 (BAP04) 19.04	17.19	16.57
4	05.58	19.52 (BAP03) 06.22	18.41 (BAP04) 06.52	18.24 (BAP04) 07.22	06.56	07.29
	20.57	40 20.32 (BAP03) 20.36	52 19.33 (BAP04) 19.52	66 19.30 (BAP04) 19.02	17.18	16.57
5	05.58	19.52 (BAP03) 06.23	18.40 (BAP04) 06.53	18.24 (BAP04) 07.23	06.57	07.30
	20.57	40 20.32 (BAP03) 20.35	54 19.34 (BAP04) 19.50	65 19.29 (BAP04) 19.01	17.17	16.57
6	05.59	19.52 (BAP03) 06.24	18.39 (BAP04) 06.54	18.24 (BAP04) 07.24	06.58	07.31
	20.57	40 20.32 (BAP03) 20.34	56 19.35 (BAP04) 19.49	63 19.27 (BAP04) 18.59	17.15	16.57
7	05.59	19.53 (BAP03) 06.25	18.38 (BAP04) 06.55	18.25 (BAP04) 07.25	06.59	07.32
	20.57	39 20.32 (BAP03) 20.32	58 19.36 (BAP04) 19.47	60 19.25 (BAP04) 18.57	17.14	16.57
8	06.00	19.52 (BAP03) 06.26	18.37 (BAP04) 06.56	18.25 (BAP04) 07.26	07.00	07.33
	20.56	39 20.31 (BAP03) 20.31	60 19.37 (BAP04) 19.46	59 19.24 (BAP04) 18.56	17.13	16.56
9	06.01	19.53 (BAP03) 06.27	18.36 (BAP04) 06.57	18.26 (BAP04) 07.27	07.01	07.34
	20.56	38 20.31 (BAP03) 20.30	62 19.38 (BAP04) 19.44	56 19.22 (BAP04) 18.54	17.12	16.56
10	06.01	19.54 (BAP03) 06.28	18.35 (BAP04) 06.58	18.26 (BAP04) 07.28	07.03	07.35
	20.55	37 20.31 (BAP03) 20.29	63 19.38 (BAP04) 19.42	54 19.20 (BAP04) 18.53	17.11	16.57
11	06.02	19.53 (BAP03) 06.29	18.34 (BAP04) 06.59	18.27 (BAP04) 07.29	07.04	07.36
	20.55	37 20.30 (BAP03) 20.27	65 19.39 (BAP04) 19.41	51 19.18 (BAP04) 18.51	17.10	16.57
12	06.03	19.54 (BAP03) 06.30	18.33 (BAP04) 07.00	18.28 (BAP04) 07.30	07.05	07.37
	20.55	36 20.30 (BAP03) 20.26	66 19.39 (BAP04) 19.39	49 19.17 (BAP04) 18.49	17.09	16.57
13	06.03	19.55 (BAP03) 06.31	18.32 (BAP04) 07.01	18.29 (BAP04) 07.31	07.06	07.37
	20.54	35 20.30 (BAP03) 20.25	67 19.39 (BAP04) 19.37	46 19.15 (BAP04) 18.48	17.08	16.57
14	06.04	19.54 (BAP03) 06.32	18.31 (BAP04) 07.02	18.30 (BAP04) 07.32	07.07	07.38
	20.54	35 20.29 (BAP03) 20.24	68 19.39 (BAP04) 19.36	43 19.13 (BAP04) 18.46	17.08	16.57
15	06.05	19.55 (BAP03) 06.33	18.30 (BAP04) 07.03	18.32 (BAP04) 07.33	07.08	07.39
	20.53	33 20.28 (BAP03) 20.22	70 19.40 (BAP04) 19.34	40 19.12 (BAP04) 18.45	17.07	16.57
16	06.06	19.56 (BAP03) 06.34	18.29 (BAP04) 07.04	18.34 (BAP04) 07.34	07.10	07.40
	20.53	32 20.28 (BAP03) 20.21	71 19.40 (BAP04) 19.32	36 19.10 (BAP04) 18.43	17.06	16.58
17	06.06	19.56 (BAP03) 06.35	18.29 (BAP04) 07.05	18.36 (BAP04) 07.35	07.11	07.40
	20.52	32 20.28 (BAP03) 20.19	71 19.40 (BAP04) 19.31	32 19.08 (BAP04) 18.42	17.05	16.58
18	06.07	19.56 (BAP03) 06.36	18.28 (BAP04) 07.06	18.40 (BAP04) 07.36	07.12	07.41
	20.51	30 20.26 (BAP03) 20.18	73 19.41 (BAP04) 19.29	27 19.07 (BAP04) 18.40	17.04	16.58
19	06.08	19.57 (BAP03) 06.37	18.28 (BAP04) 07.07	18.44 (BAP04) 07.38	07.13	07.42
	20.51	29 20.26 (BAP03) 20.17	73 19.41 (BAP04) 19.27	19 19.03 (BAP04) 18.39	17.04	16.59
20	06.09	19.58 (BAP03) 06.38	18.27 (BAP04) 07.08	18.46 (BAP04) 07.39	07.14	07.42
	20.50	28 20.26 (BAP03) 20.15	74 19.41 (BAP04) 19.25	18.37	17.03	16.59
21	06.10	19.59 (BAP03) 06.39	18.27 (BAP04) 07.09	18.48 (BAP04) 07.40	07.15	07.43
	20.49	26 20.25 (BAP03) 20.14	74 19.41 (BAP04) 19.24	18.36	17.02	16.59
22	06.11	20.00 (BAP03) 06.40	18.26 (BAP04) 07.10	18.49 (BAP04) 07.41	07.17	07.43
	20.48	25 20.25 (BAP03) 20.12	75 19.41 (BAP04) 19.22	18.34	17.02	17.00
23	06.11	20.01 (BAP03) 06.41	18.26 (BAP04) 07.11	18.50 (BAP04) 07.42	07.18	07.44
	20.48	23 20.24 (BAP03) 20.11	75 19.41 (BAP04) 19.20	18.33	17.01	17.00
24	06.12	19.03 (BAP04) 06.42	18.25 (BAP04) 07.12	18.51 (BAP04) 07.43	07.19	07.44
	20.47	29 20.22 (BAP03) 20.09	76 19.41 (BAP04) 19.19	18.32	17.00	17.01
25	06.13	18.59 (BAP04) 06.43	18.25 (BAP04) 07.13	18.52 (BAP04) 07.44	07.20	07.45
	20.46	37 20.22 (BAP03) 20.08	76 19.41 (BAP04) 19.17	18.30	17.00	17.02
26	06.14	18.56 (BAP04) 06.44	18.25 (BAP04) 07.14	18.53 (BAP04) 07.45	07.21	07.45
	20.45	40 20.21 (BAP03) 20.06	75 19.40 (BAP04) 19.15	18.29	16.59	17.02
27	06.15	18.54 (BAP04) 06.45	18.24 (BAP04) 07.15	18.54 (BAP04) 07.46	07.22	07.45
	20.44	43 20.20 (BAP03) 20.05	76 19.40 (BAP04) 19.14	18.28	16.59	17.03
28	06.16	18.52 (BAP04) 06.46	18.23 (BAP04) 07.16	18.55 (BAP04) 07.47	07.23	07.46
	20.43	45 20.20 (BAP03) 20.03	76 19.39 (BAP04) 19.12	18.27	16.59	17.03
29	06.17	18.50 (BAP04) 06.47	18.23 (BAP04) 07.17	18.56 (BAP04) 07.48	07.24	07.46
	20.42	45 20.19 (BAP03) 20.02	75 19.38 (BAP04) 19.10	18.26	16.58	17.04
30	06.18	18.49 (BAP04) 06.48	18.23 (BAP04) 07.18	18.57 (BAP04) 07.49	07.25	07.46
	20.41	43 20.18 (BAP03) 20.00	75 19.38 (BAP04) 19.09	18.25	16.58	17.05
31	06.19	18.46 (BAP04) 06.49	18.23 (BAP04) 07.19	18.58 (BAP04) 07.50	07.26	07.46
	20.40	42 19.28 (BAP04) 19.58	73 19.36 (BAP04) 19.08	18.24	16.57	17.06
Potential sun hours	457	427	375	346	299	290
Total, worst case	1123	2071	977			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F68 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (278)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 CumulativeShadow receptor: F69 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (247)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.23	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 CumulativeShadow receptor: F73 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.21	06.51	07.20	06.53	07.27
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.52	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.53	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.47	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.57
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.13	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.46	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.50	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.45	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.08	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.20	17.58	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.58
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.31	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.26	18.37	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.35	17.02	17.00
23	07.41	07.07	06.24	06.35	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	06.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.02
26	07.39	07.03	06.19	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.55	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.59	17.04
29	07.37		07.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F78 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	
1	07.47	07.34	16.00 (BAP02) 06.59	07.17 (BAP06) 07.09	06.24	05.56	19.36 (BAP01)
	17.07	17.40	17.06 (BAP02) 18.14	17.15 (BAP02) 19.47	20.18	20.47	20.23 (BAP01)
2	07.47	07.33	15.59 (BAP02) 06.57	07.16 (BAP06) 07.07	06.22	05.55	19.35 (BAP01)
	17.08	17.42	17.07 (BAP02) 18.15	17.15 (BAP02) 19.48	20.19	20.48	20.23 (BAP01)
3	07.47	07.32	15.58 (BAP02) 06.56	07.14 (BAP06) 07.05	06.21	05.55	19.36 (BAP01)
	17.08	17.43	17.08 (BAP02) 18.16	17.14 (BAP02) 19.49	20.20	20.48	20.24 (BAP01)
4	07.47	07.31	15.57 (BAP02) 06.54	07.13 (BAP06) 07.04	06.20	05.54	19.36 (BAP01)
	17.09	17.44	17.09 (BAP02) 18.17	17.14 (BAP02) 19.50	20.21	20.49	20.25 (BAP01)
5	07.47	07.30	15.57 (BAP02) 06.53	07.12 (BAP06) 07.02	06.19	05.54	19.36 (BAP01)
	17.10	17.45	17.10 (BAP02) 18.18	17.13 (BAP02) 19.51	20.22	20.50	20.25 (BAP01)
6	07.47	07.29	15.55 (BAP02) 06.51	07.12 (BAP06) 07.01	06.18	05.54	19.36 (BAP01)
	17.11	17.47	17.10 (BAP02) 18.19	17.12 (BAP02) 19.52	20.23	20.50	20.25 (BAP01)
7	07.47	07.28	15.55 (BAP02) 06.49	07.11 (BAP06) 06.59	06.16	05.53	19.36 (BAP01)
	17.12	17.48	17.11 (BAP02) 18.20	17.11 (BAP02) 19.53	20.24	20.51	20.26 (BAP01)
8	07.47	07.27	15.54 (BAP02) 06.48	07.11 (BAP06) 06.57	06.15	05.53	19.37 (BAP01)
	17.13	17.49	17.12 (BAP02) 18.22	17.11 (BAP02) 19.54	20.25	20.52	20.27 (BAP01)
9	07.47	07.26	15.54 (BAP02) 06.46	07.10 (BAP06) 06.56	06.14	05.53	19.37 (BAP01)
	17.14	17.50	17.13 (BAP02) 18.23	17.09 (BAP02) 19.55	20.26	20.52	20.28 (BAP01)
10	07.47	07.24	15.53 (BAP02) 06.45	07.10 (BAP06) 06.54	06.13	05.53	19.36 (BAP01)
	17.15	17.51	17.14 (BAP02) 18.24	17.08 (BAP02) 19.56	20.27	20.53	20.27 (BAP01)
11	07.46	07.23	15.53 (BAP02) 06.43	07.10 (BAP06) 06.53	06.12	05.53	19.36 (BAP01)
	17.16	17.53	17.15 (BAP02) 18.25	17.07 (BAP02) 19.57	20.28	20.53	20.28 (BAP01)
12	07.46	07.22	15.52 (BAP02) 06.41	07.10 (BAP06) 06.51	06.11	05.52	19.37 (BAP01)
	17.17	17.54	17.15 (BAP02) 18.26	17.05 (BAP02) 19.58	20.29	20.54	20.28 (BAP01)
13	07.46	07.21	15.52 (BAP02) 06.40	07.09 (BAP06) 06.50	06.10	05.52	19.37 (BAP01)
	17.18	17.55	17.16 (BAP02) 18.27	17.04 (BAP02) 19.59	20.30	20.54	20.29 (BAP01)
14	07.46	07.20	15.52 (BAP02) 06.38	07.10 (BAP06) 06.48	06.09	05.52	19.37 (BAP01)
	17.19	17.56	17.16 (BAP02) 18.28	17.03 (BAP02) 20.00	20.31	20.55	20.29 (BAP01)
15	07.45	07.18	15.52 (BAP02) 06.37	07.10 (BAP06) 06.46	06.08	05.52	19.37 (BAP01)
	17.20	17.57	17.17 (BAP02) 18.29	17.00 (BAP02) 20.02	20.32	20.55	20.30 (BAP01)
16	07.45	07.17	15.51 (BAP02) 06.35	07.11 (BAP06) 06.45	06.07	05.52	19.37 (BAP01)
	17.21	17.59	17.17 (BAP02) 18.30	16.59 (BAP02) 20.03	20.33	20.56	20.30 (BAP01)
17	07.44	07.16	15.51 (BAP02) 06.33	07.11 (BAP06) 06.43	06.06	05.52	19.38 (BAP01)
	17.23	18.00	17.17 (BAP02) 18.31	16.57 (BAP02) 20.04	20.34	20.56	20.30 (BAP01)
18	07.44	16.24 (BAP02) 07.14	15.50 (BAP02) 06.32	07.11 (BAP06) 06.42	06.05	05.52	19.38 (BAP01)
	17.24	16.35 (BAP02) 18.01	17.17 (BAP02) 18.32	16.54 (BAP02) 20.05	20.35	20.56	20.31 (BAP01)
19	07.43	16.19 (BAP02) 07.13	15.50 (BAP02) 06.30	07.13 (BAP06) 06.40	06.04	05.52	19.39 (BAP01)
	17.25	16.40 (BAP02) 18.02	17.17 (BAP02) 18.33	16.52 (BAP02) 20.06	20.36	20.57	20.32 (BAP01)
20	07.43	16.16 (BAP02) 07.12	15.50 (BAP02) 06.28	07.14 (BAP06) 06.39	06.03	05.53	19.39 (BAP01)
	17.26	16.43 (BAP02) 18.03	17.18 (BAP02) 18.34	16.49 (BAP02) 20.07	20.37	20.57	20.32 (BAP01)
21	07.42	16.14 (BAP02) 07.10	15.50 (BAP02) 06.27	07.15 (BAP06) 06.37	06.02	05.53	19.39 (BAP01)
	17.27	16.46 (BAP02) 18.05	17.17 (BAP02) 18.36	16.44 (BAP02) 20.08	20.38	20.57	20.32 (BAP01)
22	07.42	16.12 (BAP02) 07.09	07.33 (BAP06) 06.25	07.17 (BAP06) 06.36	06.02	05.53	19.39 (BAP01)
	17.28	16.49 (BAP02) 18.06	17.18 (BAP02) 18.37	16.39 (BAP02) 20.09	20.39	20.57	20.32 (BAP01)
23	07.41	16.10 (BAP02) 07.07	07.27 (BAP06) 06.24	07.19 (BAP06) 06.35	06.01	05.53	19.39 (BAP01)
	17.30	16.51 (BAP02) 18.07	17.17 (BAP02) 18.38	07.41 (BAP06) 20.10	20.40	20.57	20.32 (BAP01)
24	07.40	16.09 (BAP02) 07.06	07.25 (BAP06) 06.22	07.21 (BAP06) 06.33	06.00	05.53	19.40 (BAP01)
	17.31	16.53 (BAP02) 18.08	17.17 (BAP02) 18.39	07.37 (BAP06) 20.11	20.40	20.58	20.33 (BAP01)
25	07.40	16.07 (BAP02) 07.05	07.24 (BAP06) 06.20	07.12 (BAP06) 06.32	06.00	05.54	19.40 (BAP01)
	17.32	16.55 (BAP02) 18.09	17.18 (BAP02) 18.40	07.20 (BAP06) 20.12	20.41	20.58	20.32 (BAP01)
26	07.39	16.06 (BAP02) 07.03	07.22 (BAP06) 06.19	07.13 (BAP06) 06.30	05.59	05.54	19.39 (BAP01)
	17.33	16.57 (BAP02) 18.10	17.17 (BAP02) 18.41	07.18 (BAP06) 20.13	20.42	20.58	20.32 (BAP01)
27	07.38	16.04 (BAP02) 07.02	07.21 (BAP06) 06.17	07.16 (BAP06) 20.14	20.43	20.58	20.33 (BAP01)
	17.34	16.58 (BAP02) 18.12	17.17 (BAP02) 18.42	07.25 (BAP06) 20.15	20.44	20.58	20.33 (BAP01)
28	07.37	16.03 (BAP02) 07.00	07.19 (BAP06) 06.15	07.15 (BAP06) 20.16	20.45	20.58	20.33 (BAP01)
	17.36	17.00 (BAP02) 18.13	17.16 (BAP02) 18.43	07.24 (BAP06) 20.17	20.46	20.58	20.33 (BAP01)
29	07.37	16.03 (BAP02)	07.14	07.14 (BAP06) 20.18	20.47	20.58	20.33 (BAP01)
	17.37	17.02 (BAP02)	19.44	07.12 (BAP06) 20.19	20.48	20.58	20.33 (BAP01)
30	07.36	16.02 (BAP02)	07.12	07.12 (BAP06) 20.20	20.49	20.58	20.33 (BAP01)
	17.38	17.03 (BAP02)	19.45	07.10 (BAP06) 20.21	20.50	20.58	20.33 (BAP01)
31	07.35	16.01 (BAP02)	07.10	07.10 (BAP06) 20.22	20.51	20.58	20.33 (BAP01)
	17.39	17.05 (BAP02)	19.46	07.09 (BAP06) 20.23	20.52	20.58	20.33 (BAP01)
Potential sun hours	299	298	370	398	447	450	
Total, worst case	607	2465	2338	727	1543		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:
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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F78 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

July		August		September		October		November		December		
1	05.56	19.41 (BAP01)	06.20	19.58 (BAP01)	06.50	07.19	07.49 (BAP06)	06.52	15.23 (BAP02)	07.26		
	20.58	20.32 (BAP01)	20.39	20.15 (BAP01)	19.57	19.07	17.44 (BAP02)	17.21	81	16.44 (BAP02)	16.58	
2	05.57	19.41 (BAP01)	06.21	20.00 (BAP01)	06.51	07.20	07.49 (BAP06)	06.53		15.24 (BAP02)	07.27	
	20.58	20.33 (BAP01)	20.38	20.14 (BAP01)	19.55	19.05	17.45 (BAP02)	17.20	79	16.43 (BAP02)	16.57	
3	05.57	19.41 (BAP01)	06.21	20.03 (BAP01)	06.52	07.21	07.48 (BAP06)	06.55		15.24 (BAP02)	07.28	
	20.58	20.32 (BAP01)	20.37	20.14 (BAP01)	19.54	19.04	17.46 (BAP02)	17.19	78	16.42 (BAP02)	16.57	
4	05.58	19.42 (BAP01)	06.22	20.08 (BAP01)	06.52	07.22	07.48 (BAP06)	06.56		15.24 (BAP02)	07.29	
	20.57	20.32 (BAP01)	20.36	20.13 (BAP01)	19.52	19.02	17.47 (BAP02)	17.18	77	16.41 (BAP02)	16.57	
5	05.58	19.42 (BAP01)	06.23		06.53	07.23	07.48 (BAP06)	06.57		15.25 (BAP02)	07.30	
	20.57	20.33 (BAP01)	20.35		19.50	19.01	17.47 (BAP02)	17.17	75	16.40 (BAP02)	16.57	
6	05.59	19.42 (BAP01)	06.24		06.54	07.24	07.47 (BAP06)	06.58		15.27 (BAP02)	07.31	
	20.57	20.32 (BAP01)	20.34		19.49	18.59	17.47 (BAP02)	17.15	73	16.40 (BAP02)	16.57	
7	05.59	19.43 (BAP01)	06.25		06.55	07.25	07.47 (BAP06)	06.59		15.27 (BAP02)	07.32	
	20.57	20.32 (BAP01)	20.32		19.47	18.57	17.48 (BAP02)	17.14	72	16.39 (BAP02)	16.57	
8	06.00	19.42 (BAP01)	06.26		06.56	07.26	07.47 (BAP06)	07.00		15.28 (BAP02)	07.33	
	20.56	20.31 (BAP01)	20.31		19.46	18.56	17.48 (BAP02)	17.13	70	16.38 (BAP02)	16.56	
9	06.01	19.43 (BAP01)	06.27		06.57	07.27	07.48 (BAP06)	07.02		15.29 (BAP02)	07.34	
	20.56	20.31 (BAP01)	20.30		19.44	18.54	17.48 (BAP02)	17.12	68	16.37 (BAP02)	16.56	
10	06.01	19.44 (BAP01)	06.28		06.58	07.28	07.48 (BAP06)	07.03		15.31 (BAP02)	07.35	
	20.56	20.31 (BAP01)	20.29		19.42	18.53	17.48 (BAP02)	17.11	66	16.37 (BAP02)	16.57	
11	06.02	19.43 (BAP01)	06.29		06.59	07.29	07.49 (BAP06)	07.04		15.32 (BAP02)	07.36	
	20.55	20.30 (BAP01)	20.28		19.41	18.51	17.49 (BAP02)	17.10	63	16.35 (BAP02)	16.57	
12	06.03	19.44 (BAP01)	06.30		07.00	07.30	07.50 (BAP06)	07.05		15.33 (BAP02)	07.37	
	20.55	20.30 (BAP01)	20.26		19.39	18.49	17.49 (BAP02)	17.09	61	16.34 (BAP02)	16.57	
13	06.03	19.44 (BAP01)	06.31		07.01	07.31	07.51 (BAP06)	07.06		15.34 (BAP02)	07.37	
	20.54	20.30 (BAP01)	20.25		19.37	18.48	17.49 (BAP02)	17.08	59	16.33 (BAP02)	16.57	
14	06.04	19.44 (BAP01)	06.32		07.02	07.32	07.52 (BAP06)	07.07		15.36 (BAP02)	07.38	
	20.54	20.29 (BAP01)	20.24		19.36	18.46	17.49 (BAP02)	17.08	57	16.33 (BAP02)	16.57	
15	06.05	19.45 (BAP01)	06.33		07.03	07.33	07.53 (BAP06)	07.09		15.37 (BAP02)	07.39	
	20.53	20.28 (BAP01)	20.22		19.34	18.45	17.48 (BAP02)	17.07	54	16.31 (BAP02)	16.57	
16	06.06	19.45 (BAP01)	06.34		07.04	07.34	07.55 (BAP06)	07.10		15.39 (BAP02)	07.40	
	20.53	20.28 (BAP01)	20.21		19.32	18.43	17.49 (BAP02)	17.06	51	16.30 (BAP02)	16.58	
17	06.06	19.46 (BAP01)	06.35		07.05	07.35	07.56 (BAP06)	07.11		15.40 (BAP02)	07.40	
	20.52	20.28 (BAP01)	20.19		19.31	18.42	17.49 (BAP02)	17.05	48	16.28 (BAP02)	16.58	
18	06.07	19.46 (BAP01)	06.36		07.06	07.36	07.57 (BAP06)	07.12		15.43 (BAP02)	07.41	
	20.51	20.26 (BAP01)	20.18		19.29	18.40	17.49 (BAP02)	17.04	44	16.27 (BAP02)	16.58	
19	06.08	19.46 (BAP01)	06.37		07.07	07.38	08.00 (BAP06)	07.13		15.45 (BAP02)	07.42	
	20.51	20.26 (BAP01)	20.17		19.27	18.39	17.48 (BAP02)	17.04	41	16.26 (BAP02)	16.59	
20	06.09	19.47 (BAP01)	06.38		07.08	08.06 (BAP06)	07.39	16.21 (BAP02)	07.14	15.47 (BAP02)	07.42	
	20.50	20.26 (BAP01)	20.15		19.26	18.37	17.48 (BAP02)	17.03	37	16.24 (BAP02)	16.59	
21	06.10	19.48 (BAP01)	06.39		07.09	08.03 (BAP06)	07.40	16.20 (BAP02)	07.15	15.49 (BAP02)	07.43	
	20.49	20.25 (BAP01)	20.14		19.24	17.22 (BAP02)	18.36	17.48 (BAP02)	17.02	32	16.21 (BAP02)	16.59
22	06.11	19.48 (BAP01)	06.40		07.10	08.00 (BAP06)	07.41	16.20 (BAP02)	07.17	15.52 (BAP02)	07.43	
	20.48	20.25 (BAP01)	20.12		19.22	17.28 (BAP02)	18.35	17.47 (BAP02)	17.02	28	16.20 (BAP02)	17.00
23	06.11	19.49 (BAP01)	06.41		07.11	07.58 (BAP06)	07.42	16.21 (BAP02)	07.18	15.56 (BAP02)	07.44	
	20.48	20.24 (BAP01)	20.11		19.20	17.32 (BAP02)	18.33	17.48 (BAP02)	17.01	21	16.17 (BAP02)	17.00
24	06.12	19.49 (BAP01)	06.42		07.12	07.57 (BAP06)	07.43	16.21 (BAP02)	07.19	16.00 (BAP02)	07.44	
	20.47	20.22 (BAP01)	20.09		19.19	17.35 (BAP02)	18.32	17.47 (BAP02)	17.00	12	16.12 (BAP02)	17.01
25	06.13	19.50 (BAP01)	06.43		07.13	07.55 (BAP06)	07.44	15.21 (BAP02)	07.20		07.45	
	20.46	20.22 (BAP01)	20.08		19.17	17.37 (BAP02)	17.30	16.47 (BAP02)	17.00		17.02	
26	06.14	19.51 (BAP01)	06.44		07.14	07.54 (BAP06)	07.45	15.20 (BAP02)	07.21		07.45	
	20.45	20.21 (BAP01)	20.06		19.15	17.39 (BAP02)	17.29	16.46 (BAP02)	16.59		17.02	
27	06.15	19.52 (BAP01)	06.45		07.15	07.53 (BAP06)	07.46	15.20 (BAP02)	07.22		07.45	
	20.44	20.20 (BAP01)	20.05		19.14	17.40 (BAP02)	17.28	16.46 (BAP02)	16.59		17.03	
28	06.16	19.53 (BAP01)	06.46		07.16	07.52 (BAP06)	07.48	15.21 (BAP02)	07.23		07.46	
	20.43	20.20 (BAP01)	20.03		19.12	17.41 (BAP02)	17.26	16.46 (BAP02)	16.59		17.03	
29	06.17	19.54 (BAP01)	06.47		07.17	07.51 (BAP06)	07.49	15.22 (BAP02)	07.24		07.46	
	20.42	20.19 (BAP01)	20.02		19.10	17.43 (BAP02)	17.25	16.45 (BAP02)	16.58		17.04	
30	06.18	19.56 (BAP01)	06.48		07.18	07.50 (BAP06)	07.50	15.22 (BAP02)	07.25		07.46	
	20.41	20.18 (BAP01)	20.00		19.09	17.44 (BAP02)	17.24	16.44 (BAP02)	16.58		17.05	
31	06.19	19.57 (BAP01)	06.49				06.51	15.22 (BAP02)			07.46	
	20.40	20.17 (BAP01)	19.58				17.23	16.44 (BAP02)			17.06	
Potential sun hours	457		427		375		346		299		290	
Total, worst case	1255		47		844		3294		1347			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F80 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (280)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47	07.34	06.59	07.09	08.10 (BAP04)	06.24
	17.07	17.40	18.14	19.47	30 08.40 (BAP04)	20.18
2	07.47	07.33	06.57	07.07	08.11 (BAP04)	06.22
	17.08	17.42	18.15	19.48	27 08.38 (BAP04)	20.19
3	07.47	07.32	06.56	07.05	08.13 (BAP04)	06.21
	17.08	17.43	18.16	19.49	23 08.36 (BAP04)	20.20
4	07.47	07.31	06.54	07.04	08.15 (BAP04)	06.20
	17.09	17.44	18.17	19.50	17 08.32 (BAP04)	20.21
5	07.47	07.30	06.53	07.02	08.20 (BAP04)	06.19
	17.10	17.45	18.18	19.51	8 08.28 (BAP04)	20.22
6	07.47	07.29	06.51	07.01		06.18
	17.11	17.47	18.19	19.52		20.23
7	07.47	07.28	06.49	06.59		06.16
	17.12	17.48	18.21	19.53		20.24
8	07.47	07.27	06.48	06.57		06.15
	17.13	17.49	18.22	19.54		20.25
9	07.47	07.26	06.46	07.24 (BAP04)	06.56	06.14
	17.14	17.50	18.23	17 07.41 (BAP04)	19.55	20.26
10	07.47	07.24	06.45	07.21 (BAP04)	06.54	06.13
	17.15	17.51	18.24	22 07.43 (BAP04)	19.56	20.27
11	07.46	07.23	06.43	07.19 (BAP04)	06.53	06.12
	17.16	17.53	18.25	27 07.46 (BAP04)	19.57	20.28
12	07.46	07.22	06.42	07.16 (BAP04)	06.51	06.11
	17.17	17.54	18.26	31 07.47 (BAP04)	19.58	20.29
13	07.46	07.21	06.40	07.14 (BAP04)	06.50	06.10
	17.18	17.55	18.27	34 07.48 (BAP04)	19.59	20.30
14	07.46	07.20	06.38	07.13 (BAP04)	06.48	06.09
	17.19	17.56	18.28	36 07.49 (BAP04)	20.00	20.31
15	07.45	07.18	06.37	07.12 (BAP04)	06.47	06.08
	17.20	17.58	18.29	38 07.50 (BAP04)	20.02	20.32
16	07.45	07.17	06.35	07.11 (BAP04)	06.45	06.07
	17.22	17.59	18.30	40 07.51 (BAP04)	20.03	20.33
17	07.44	07.16	06.33	07.10 (BAP04)	06.43	06.06
	17.23	18.00	18.31	41 07.51 (BAP04)	20.04	20.34
18	07.44	07.14	06.32	07.09 (BAP04)	06.42	06.05
	17.24	18.01	18.32	42 07.51 (BAP04)	20.05	20.35
19	07.43	07.13	06.30	07.08 (BAP04)	06.40	06.04
	17.25	18.02	18.33	44 07.52 (BAP04)	20.06	20.36
20	07.43	07.12	06.28	07.08 (BAP04)	06.39	06.03
	17.26	18.03	18.35	43 07.51 (BAP04)	20.07	20.37
21	07.42	07.10	06.27	07.07 (BAP04)	06.38	06.03
	17.27	18.05	18.36	44 07.51 (BAP04)	20.08	20.38
22	07.42	07.09	06.25	07.07 (BAP04)	06.36	06.02
	17.28	18.06	18.37	44 07.51 (BAP04)	20.09	20.39
23	07.41	07.07	06.24	07.06 (BAP04)	06.35	06.01
	17.30	18.07	18.38	44 07.50 (BAP04)	20.10	20.40
24	07.40	07.06	06.22	07.06 (BAP04)	06.33	06.00
	17.31	18.08	18.39	43 07.49 (BAP04)	20.11	20.40
25	07.40	07.05	06.20	07.06 (BAP04)	06.32	06.00
	17.32	18.09	18.40	43 07.49 (BAP04)	20.12	20.41
26	07.39	07.03	06.19	07.06 (BAP04)	06.30	05.59
	17.33	18.10	18.41	42 07.48 (BAP04)	20.13	20.42
27	07.38	07.02	06.17	07.06 (BAP04)	06.29	05.58
	17.34	18.12	18.42	41 07.47 (BAP04)	20.14	20.43
28	07.37	07.00	06.15	07.07 (BAP04)	06.28	05.58
	17.36	18.13	18.43	39 07.46 (BAP04)	20.15	20.44
29	07.37		07.14	08.07 (BAP04)	06.26	05.57
	17.37		19.44	38 08.45 (BAP04)	20.16	20.45
30	07.36		07.12	08.07 (BAP04)	06.25	05.57
	17.38		19.45	36 08.43 (BAP04)	20.17	20.45
31	07.35		07.10	08.09 (BAP04)		05.56
	17.39		19.46	33 08.42 (BAP04)		20.46
Potential sun hours	299	298	370	398	447	450
Total, worst case			862	105	614	2390

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F80 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (280)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

July	August	September	October	November	December
1 05.56	06.19 (BAP06) 06.20	06.50	07.19	07.55 (BAP04) 06.52	07.26
20.58	81 07.55 (BAP03) 20.39	19.57	19.07	32 08.27 (BAP04) 17.21	16.58
2 05.57	06.19 (BAP06) 06.21	06.51	07.20	07.56 (BAP04) 06.53	07.27
20.58	80 07.55 (BAP03) 20.38	19.55	19.06	29 08.25 (BAP04) 17.20	16.57
3 05.57	06.19 (BAP06) 06.22	06.52	07.21	07.58 (BAP04) 06.55	07.28
20.58	79 07.54 (BAP03) 20.37	19.54	19.04	25 08.23 (BAP04) 17.19	16.57
4 05.58	06.20 (BAP06) 06.22	06.53	07.22	08.00 (BAP04) 06.56	07.29
20.57	79 07.55 (BAP03) 20.36	19.52	19.02	20 08.20 (BAP04) 17.18	16.57
5 05.58	06.21 (BAP06) 06.23	06.53	07.23	08.04 (BAP04) 06.57	07.30
20.57	77 07.55 (BAP03) 20.35	19.50	19.01	11 08.15 (BAP04) 17.17	16.57
6 05.59	06.21 (BAP06) 06.24	06.54	07.24	06.58	07.31
20.57	76 07.54 (BAP03) 20.34	19.49	18.59	17.16	16.57
7 05.59	06.22 (BAP06) 06.25	06.55	08.16 (BAP04) 07.25	06.59	07.32
20.57	75 07.55 (BAP03) 20.33	19.47	6 08.22 (BAP04) 18.57	17.14	16.57
8 06.00	06.22 (BAP06) 06.26	06.56	08.10 (BAP04) 07.26	07.00	07.33
20.56	74 07.54 (BAP03) 20.31	19.46	17 08.27 (BAP04) 18.56	17.13	16.57
9 06.01	06.23 (BAP06) 06.27	06.57	08.07 (BAP04) 07.27	07.02	07.34
20.56	72 07.54 (BAP03) 20.30	19.44	23 08.30 (BAP04) 18.54	17.12	16.57
10 06.01	06.24 (BAP06) 06.28	06.58	08.05 (BAP04) 07.28	07.03	07.35
20.56	71 07.54 (BAP03) 20.29	19.42	27 08.32 (BAP04) 18.53	17.11	16.57
11 06.02	06.24 (BAP06) 06.29	06.59	08.02 (BAP04) 07.29	07.04	07.36
20.55	69 07.53 (BAP03) 20.28	19.41	30 08.32 (BAP04) 18.51	17.10	16.57
12 06.03	06.25 (BAP06) 06.30	07.00	08.00 (BAP04) 07.30	07.05	07.37
20.55	67 07.53 (BAP03) 20.26	19.39	33 08.33 (BAP04) 18.49	17.09	16.57
13 06.03	06.26 (BAP06) 06.31	07.01	07.59 (BAP04) 07.31	07.06	07.37
20.54	65 07.53 (BAP03) 20.25	19.37	35 08.34 (BAP04) 18.48	17.09	16.57
14 06.04	06.26 (BAP06) 06.32	07.02	07.57 (BAP04) 07.32	07.07	07.38
20.54	62 07.51 (BAP03) 20.24	19.36	38 08.35 (BAP04) 18.46	17.08	16.57
15 06.05	06.27 (BAP06) 06.33	07.03	07.56 (BAP04) 07.33	07.09	07.39
20.53	60 07.51 (BAP03) 20.22	19.34	40 08.36 (BAP04) 18.45	17.07	16.57
16 06.06	06.28 (BAP06) 06.34	07.04	07.55 (BAP04) 07.34	07.10	07.40
20.53	58 07.51 (BAP03) 20.21	19.32	41 08.36 (BAP04) 18.43	17.06	16.58
17 06.06	06.29 (BAP06) 06.35	07.05	07.55 (BAP04) 07.35	07.11	07.40
20.52	54 07.50 (BAP03) 20.19	19.31	41 08.36 (BAP04) 18.42	17.05	16.58
18 06.07	06.29 (BAP06) 06.36	07.06	07.54 (BAP04) 07.36	07.12	07.41
20.51	51 07.48 (BAP03) 20.18	19.29	43 08.37 (BAP04) 18.40	17.04	16.58
19 06.08	06.30 (BAP06) 06.37	07.07	07.53 (BAP04) 07.38	07.13	07.42
20.51	48 07.48 (BAP03) 20.17	19.27	44 08.37 (BAP04) 18.39	17.04	16.59
20 06.09	06.31 (BAP06) 06.38	07.08	07.53 (BAP04) 07.39	07.14	07.42
20.50	43 07.47 (BAP03) 20.15	19.26	44 08.37 (BAP04) 18.37	17.03	16.59
21 06.10	06.32 (BAP06) 06.39	07.09	07.52 (BAP04) 07.40	07.15	07.43
20.49	38 07.46 (BAP03) 20.14	19.24	44 08.36 (BAP04) 18.36	17.02	16.59
22 06.11	06.33 (BAP06) 06.40	07.10	07.52 (BAP04) 07.41	07.17	07.43
20.48	33 07.44 (BAP03) 20.12	19.22	44 08.36 (BAP04) 18.35	17.02	17.00
23 06.11	07.16 (BAP03) 06.41	07.11	07.52 (BAP04) 07.42	07.18	07.44
20.48	26 07.42 (BAP03) 20.11	19.21	44 08.36 (BAP04) 18.33	17.01	17.00
24 06.12	07.17 (BAP03) 06.42	07.12	07.52 (BAP04) 07.43	07.19	07.44
20.47	22 07.39 (BAP03) 20.09	19.19	43 08.35 (BAP04) 18.32	17.01	17.01
25 06.13	07.21 (BAP03) 06.43	07.13	07.52 (BAP04) 06.44	07.20	07.45
20.46	15 07.36 (BAP03) 20.08	19.17	42 08.34 (BAP04) 17.30	17.00	17.02
26 06.14	06.44	07.14	07.52 (BAP04) 06.45	07.21	07.45
20.45	20.06	19.15	42 08.34 (BAP04) 17.29	17.00	17.02
27 06.15	06.45	07.15	07.52 (BAP04) 06.46	07.22	07.45
20.44	20.05	19.14	41 08.33 (BAP04) 17.28	16.59	17.03
28 06.16	06.46	07.16	07.53 (BAP04) 06.48	07.23	07.46
20.43	20.03	19.12	39 08.32 (BAP04) 17.26	16.59	17.04
29 06.17	06.47	07.17	07.53 (BAP04) 06.49	07.24	07.46
20.42	20.02	19.10	37 08.30 (BAP04) 17.25	16.58	17.04
30 06.18	06.48	07.18	07.54 (BAP04) 06.50	07.25	07.46
20.41	20.00	19.09	35 08.29 (BAP04) 17.24	16.58	17.05
31 06.19	06.49		06.51		07.46
20.40	19.59		17.23		17.06
Potential sun hours 457		427	375	346	299
Total, worst case 1475		873	117	299	290

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F81 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (281)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March		April		May		June	
1	07.47	07.34	06.59		07.09		07.46 (BAP04)	06.24	05.56	06.17 (BAP06)
	17.07	17.40	18.14		19.47	39	08.25 (BAP04)	20.18	20.47	06.18 (BAP06)
2	07.47	07.33	06.57		07.07		07.45 (BAP04)	06.22	05.55	06.16 (BAP06)
	17.08	17.42	18.15		19.48	40	08.25 (BAP04)	20.19	20.48	06.19 (BAP06)
3	07.47	07.32	06.56		07.06		07.45 (BAP04)	06.21	05.55	06.16 (BAP06)
	17.08	17.43	18.16		19.49	40	08.25 (BAP04)	20.20	20.48	06.21 (BAP06)
4	07.47	07.31	06.54		07.04		07.44 (BAP04)	06.20	05.54	06.16 (BAP06)
	17.09	17.44	18.17		19.50	41	08.25 (BAP04)	20.21	20.49	06.22 (BAP06)
5	07.47	07.30	06.53		07.02		07.44 (BAP04)	06.19	05.54	06.15 (BAP06)
	17.10	17.45	18.18		19.51	41	08.25 (BAP04)	20.22	20.50	06.22 (BAP06)
6	07.47	07.29	06.51		07.01		07.43 (BAP04)	06.18	05.54	06.15 (BAP06)
	17.11	17.47	18.19		19.52	41	08.24 (BAP04)	20.23	20.50	06.23 (BAP06)
7	07.47	07.28	06.49		06.59		07.43 (BAP04)	06.16	05.53	06.15 (BAP06)
	17.12	17.48	18.21		19.53	40	08.23 (BAP04)	20.24	20.51	06.24 (BAP06)
8	07.47	07.27	06.48		06.57		07.43 (BAP04)	06.15	05.53	06.15 (BAP06)
	17.13	17.49	18.22		19.54	40	08.23 (BAP04)	20.25	20.52	06.25 (BAP06)
9	07.47	07.26	06.46		06.56		07.43 (BAP04)	06.14	05.53	06.15 (BAP06)
	17.14	17.50	18.23		19.55	39	08.22 (BAP04)	20.26	20.52	06.25 (BAP06)
10	07.47	07.24	06.45		06.54		07.43 (BAP04)	06.13	05.53	06.14 (BAP06)
	17.15	17.51	18.24		19.56	39	08.22 (BAP04)	20.27	20.53	06.25 (BAP06)
11	07.46	07.23	06.43		06.53		07.43 (BAP04)	06.12	05.53	06.14 (BAP06)
	17.16	17.53	18.25		19.57	38	08.21 (BAP04)	20.28	20.53	06.26 (BAP06)
12	07.46	07.22	06.42		06.51		07.44 (BAP04)	06.11	05.52	06.14 (BAP06)
	17.17	17.54	18.26		19.58	36	08.20 (BAP04)	20.29	20.54	06.26 (BAP06)
13	07.46	07.21	06.40		06.50		07.44 (BAP04)	06.10	05.52	06.14 (BAP06)
	17.18	17.55	18.27		19.59	34	08.18 (BAP04)	20.30	20.54	06.27 (BAP06)
14	07.46	07.20	06.38		06.48		07.45 (BAP04)	06.09	05.52	06.14 (BAP06)
	17.19	17.56	18.28		20.00	32	08.17 (BAP04)	20.31	20.55	06.27 (BAP06)
15	07.45	07.18	06.37		06.47		07.46 (BAP04)	06.08	05.52	06.14 (BAP06)
	17.20	17.58	18.29		20.02	29	08.15 (BAP04)	20.32	20.55	06.27 (BAP06)
16	07.45	07.17	06.35		06.45		07.47 (BAP04)	06.07	05.52	06.14 (BAP06)
	17.22	17.59	18.30		20.03	26	08.13 (BAP04)	20.33	20.56	06.28 (BAP06)
17	07.44	07.16	06.33		06.43		07.49 (BAP04)	06.06	05.52	06.14 (BAP06)
	17.23	18.00	18.31		20.04	23	08.12 (BAP04)	20.34	20.56	06.28 (BAP06)
18	07.44	07.14	06.32		06.42		07.51 (BAP04)	06.05	05.52	06.15 (BAP06)
	17.24	18.01	18.32		20.05	18	08.09 (BAP04)	20.35	20.56	06.29 (BAP06)
19	07.43	07.13	06.30		06.40		07.54 (BAP04)	06.04	05.53	06.15 (BAP06)
	17.25	18.02	18.33		20.06	11	08.05 (BAP04)	20.36	20.57	06.29 (BAP06)
20	07.43	07.12	06.28		06.39			06.03	05.53	06.15 (BAP06)
	17.26	18.03	18.35		20.07			20.37	20.57	06.29 (BAP06)
21	07.42	07.10	06.27		06.38			06.03	05.53	06.15 (BAP06)
	17.27	18.05	18.36		20.08			20.38	20.57	06.29 (BAP06)
22	07.42	07.09	06.25		06.36			06.02	05.53	06.15 (BAP06)
	17.28	18.06	18.37		20.09			20.39	20.57	06.29 (BAP06)
23	07.41	07.07	06.24		06.35			06.01	05.53	06.16 (BAP06)
	17.30	18.07	18.38		20.10			20.40	20.57	06.30 (BAP06)
24	07.40	07.06	06.22		06.33			06.00	05.54	06.16 (BAP06)
	17.31	18.08	18.39	15	07.15 (BAP04)			20.40	20.58	06.30 (BAP06)
25	07.40	07.05	06.20		06.57 (BAP04)			06.00	05.54	06.16 (BAP06)
	17.32	18.09	18.40	22	07.19 (BAP04)			20.41	20.58	06.30 (BAP06)
26	07.39	07.03	06.19		06.55 (BAP04)			05.59	05.54	06.16 (BAP06)
	17.33	18.10	18.41	25	07.20 (BAP04)			20.42	20.58	06.30 (BAP06)
27	07.38	07.02	06.17		06.52 (BAP04)			05.58	05.55	06.17 (BAP06)
	17.34	18.12	18.42	29	07.21 (BAP04)			20.43	20.58	06.30 (BAP06)
28	07.37	07.00	06.15		06.51 (BAP04)			05.58	05.55	06.17 (BAP06)
	17.36	18.13	18.43	32	07.23 (BAP04)			20.44	20.58	06.30 (BAP06)
29	07.37		07.14		07.49 (BAP04)			05.57	05.55	06.18 (BAP06)
	17.37		19.44	35	08.24 (BAP04)			20.45	20.58	06.31 (BAP06)
30	07.36		07.12		07.48 (BAP04)			05.57	05.56	06.18 (BAP06)
	17.38		19.45	36	08.24 (BAP04)			20.45	20.58	06.30 (BAP06)
31	07.35		07.10		07.47 (BAP04)			05.56		
	17.39		19.46	38	08.25 (BAP04)			20.46		
Potential sun hours	299	298	370		398			447	450	
Total, worst case			232		647				338	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F81 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (281)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December		
1	05.56	06.19 (BAP06)	06.20	06.50	07.42 (BAP04)	07.19	06.52	07.26
	20.58	12 06.31 (BAP06)	20.39	19.57	38 08.20 (BAP04)	19.07	17.21	16.58
2	05.57	06.19 (BAP06)	06.21	06.51	07.41 (BAP04)	07.20	06.53	07.27
	20.58	11 06.30 (BAP06)	20.38	19.55	39 08.20 (BAP04)	19.06	17.20	16.57
3	05.57	06.20 (BAP06)	06.22	06.52	07.41 (BAP04)	07.21	06.55	07.28
	20.58	11 06.31 (BAP06)	20.37	19.54	39 08.20 (BAP04)	19.04	17.19	16.57
4	05.58	06.20 (BAP06)	06.22	06.53	07.40 (BAP04)	07.22	06.56	07.29
	20.57	10 06.30 (BAP06)	20.36	19.52	40 08.20 (BAP04)	19.02	17.18	16.57
5	05.58	06.21 (BAP06)	06.23	06.54	07.40 (BAP04)	07.23	06.57	07.30
	20.57	9 06.30 (BAP06)	20.35	19.50	40 08.20 (BAP04)	19.01	17.17	16.57
6	05.59	06.21 (BAP06)	06.24	06.54	07.39 (BAP04)	07.24	06.58	07.31
	20.57	8 06.29 (BAP06)	20.34	19.49	41 08.20 (BAP04)	18.59	17.16	16.57
7	05.59	06.22 (BAP06)	06.25	06.55	07.39 (BAP04)	07.25	06.59	07.32
	20.57	8 06.30 (BAP06)	20.33	19.47	41 08.20 (BAP04)	18.57	17.14	16.57
8	06.00	06.22 (BAP06)	06.26	06.56	07.39 (BAP04)	07.26	07.00	07.33
	20.56	6 06.28 (BAP06)	20.31	19.46	41 08.20 (BAP04)	18.56	17.13	16.57
9	06.01	06.23 (BAP06)	06.27	06.57	07.39 (BAP04)	07.27	07.02	07.34
	20.56	5 06.28 (BAP06)	20.30	19.44	40 08.19 (BAP04)	18.54	17.12	16.57
10	06.01	06.24 (BAP06)	06.28	06.58	07.39 (BAP04)	07.28	07.03	07.35
	20.56	4 06.28 (BAP06)	20.29	19.42	40 08.19 (BAP04)	18.53	17.11	16.57
11	06.02	06.24 (BAP06)	06.29	06.59	07.38 (BAP04)	07.29	07.04	07.36
	20.55	2 06.26 (BAP06)	20.28	19.41	39 08.17 (BAP04)	18.51	17.10	16.57
12	06.03		06.30	07.00	07.38 (BAP04)	07.30	07.05	07.37
	20.55		20.26	19.39	38 08.16 (BAP04)	18.49	17.09	16.57
13	06.03		06.31	07.01	07.39 (BAP04)	07.31	07.06	07.37
	20.54		20.25	19.37	36 08.15 (BAP04)	18.48	17.09	16.57
14	06.04		06.32	07.02	07.39 (BAP04)	07.32	07.07	07.38
	20.54		20.24	19.36	35 08.14 (BAP04)	18.46	17.08	16.57
15	06.05		06.33	07.03	07.40 (BAP04)	07.33	07.09	07.39
	20.53		20.22	19.34	33 08.13 (BAP04)	18.45	17.07	16.57
16	06.06		06.34	07.04	07.41 (BAP04)	07.34	07.10	07.40
	20.53		20.21	19.32	30 08.11 (BAP04)	18.43	17.06	16.58
17	06.06		06.35	07.05	07.42 (BAP04)	07.35	07.11	07.40
	20.52		20.19	19.31	27 08.09 (BAP04)	18.42	17.05	16.58
18	06.07		06.36	07.06	07.44 (BAP04)	07.36	07.12	07.41
	20.51		20.18	19.29	23 08.07 (BAP04)	18.40	17.04	16.58
19	06.08		06.37	07.07	07.47 (BAP04)	07.38	07.13	07.42
	20.51		20.17	19.27	16 08.03 (BAP04)	18.39	17.04	16.59
20	06.09		06.38	07.08	07.52 (BAP04)	07.39	07.14	07.42
	20.50		20.15	19.26	5 07.57 (BAP04)	18.37	17.03	16.59
21	06.10		06.39	07.09		07.40	07.15	07.43
	20.49		20.14	19.24		18.36	17.02	16.59
22	06.11		06.40	07.10		07.41	07.17	07.43
	20.48		20.12	19.22		18.35	17.02	17.00
23	06.11		06.41	07.11		07.42	07.18	07.44
	20.48		20.11	19.21		18.33	17.01	17.00
24	06.12		06.42	07.12	07.57 (BAP04)	07.43	07.19	07.44
	20.47		20.09	19.19	12 08.09 (BAP04)	18.32	17.01	17.01
25	06.13		06.43	07.13	07.54 (BAP04)	07.44	07.20	07.45
	20.46		20.08	19.17	19 08.13 (BAP04)	18.30	17.00	17.02
26	06.14		06.44	07.14	07.51 (BAP04)	07.45	07.21	07.45
	20.45		20.06	19.15	24 08.15 (BAP04)	18.29	17.00	17.02
27	06.15		06.45	07.15	07.49 (BAP04)	07.46	07.22	07.45
	20.44		20.05	19.14	27 08.16 (BAP04)	18.28	16.59	17.03
28	06.16		06.46	07.16	07.48 (BAP04)	07.47	07.23	07.46
	20.43		20.03	19.12	29 08.17 (BAP04)	18.26	16.59	17.04
29	06.17		06.47	07.17	07.45 (BAP04)	07.48	07.24	07.46
	20.42		20.02	19.10	33 08.18 (BAP04)	18.25	16.58	17.04
30	06.18		06.48	07.18	07.44 (BAP04)	07.49	07.25	07.46
	20.41		20.00	19.09	34 08.18 (BAP04)	18.24	16.58	17.05
31	06.19		06.49	07.19	07.43 (BAP04)	07.50	07.26	07.46
	20.40		19.59	36 08.19 (BAP04)		18.23		17.06
Potential sun hours	457	427	375	346	299	290		
Total, worst case	86	214	681					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F85 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (282)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07.47	07.34	08.13 (BAP04)	06.59	07.49 (BAP03)	07.09
	17.07	17.40	34 08.47 (BAP04)	18.14	51 08.40 (BAP03)	19.47
2	07.47	07.33	08.13 (BAP04)	06.57	07.48 (BAP03)	07.07
	17.08	17.42	34 08.47 (BAP04)	18.15	51 08.39 (BAP03)	19.48
3	07.47	07.32	08.14 (BAP04)	06.56	07.48 (BAP03)	07.06
	17.08	17.43	33 08.47 (BAP04)	18.16	51 08.39 (BAP03)	19.49
4	07.47	07.31	08.14 (BAP04)	06.54	07.48 (BAP03)	07.04
	17.09	17.44	33 08.47 (BAP04)	18.17	51 08.39 (BAP03)	19.50
5	07.47	07.30	08.15 (BAP04)	06.53	07.47 (BAP03)	07.02
	17.10	17.45	31 08.46 (BAP04)	18.18	51 08.38 (BAP03)	19.51
6	07.47	07.29	08.16 (BAP04)	06.51	07.48 (BAP03)	07.01
	17.11	17.47	30 08.46 (BAP04)	18.19	50 08.38 (BAP03)	19.52
7	07.47	07.28	08.16 (BAP04)	06.49	07.47 (BAP03)	06.59
	17.12	17.48	28 08.44 (BAP04)	18.21	50 08.37 (BAP03)	19.53
8	07.47	07.27	08.17 (BAP04)	06.48	07.48 (BAP03)	06.57
	17.13	17.49	27 08.44 (BAP04)	18.22	49 08.37 (BAP03)	19.54
9	07.47	07.26	08.18 (BAP04)	06.46	07.48 (BAP03)	06.56
	17.14	17.50	25 08.43 (BAP04)	18.23	48 08.36 (BAP03)	19.55
10	07.47	07.24	08.20 (BAP04)	06.45	07.48 (BAP03)	06.54
	17.15	17.51	21 08.41 (BAP04)	18.24	47 08.35 (BAP03)	19.56
11	07.46	07.23	08.22 (BAP04)	06.43	07.49 (BAP03)	06.53
	17.16	17.53	18 08.40 (BAP04)	18.25	45 08.34 (BAP03)	19.57
12	07.46	07.22	08.24 (BAP04)	06.42	07.49 (BAP03)	06.51
	17.17	17.54	12 08.36 (BAP04)	18.26	44 08.33 (BAP03)	19.58
13	07.46	07.21	08.20 (BAP04)	06.40	07.49 (BAP03)	06.50
	17.18	17.55	10 08.30 (BAP04)	18.27	42 08.31 (BAP03)	19.59
14	07.46	07.20	08.18 (BAP04)	06.38	07.51 (BAP03)	06.48
	17.19	17.56	14 08.32 (BAP04)	18.28	39 08.30 (BAP03)	20.01
15	07.45	07.18	08.11 (BAP03)	06.37	07.51 (BAP03)	06.47
	17.20	17.58	10 08.21 (BAP03)	18.29	37 08.28 (BAP03)	20.02
16	07.45	07.17	08.05 (BAP03)	06.35	07.53 (BAP03)	06.45
	17.22	17.59	20 08.25 (BAP03)	18.30	33 08.26 (BAP03)	20.03
17	07.44	07.16	08.03 (BAP03)	06.33	07.54 (BAP03)	06.43
	17.23	18.00	26 08.29 (BAP03)	18.31	30 08.24 (BAP03)	20.04
18	07.44	07.14	08.01 (BAP03)	06.32	07.56 (BAP03)	06.42
	17.24	18.01	30 08.31 (BAP03)	18.32	25 08.21 (BAP03)	20.05
19	07.43	07.13	07.58 (BAP03)	06.30	08.00 (BAP03)	06.40
	17.25	18.02	34 08.32 (BAP03)	18.33	18 08.18 (BAP03)	20.06
20	07.43	07.12	07.57 (BAP03)	06.28	08.05 (BAP03)	06.39
	17.26	18.03	37 08.34 (BAP03)	18.35	6 08.11 (BAP03)	20.07
21	07.42	07.10	07.55 (BAP03)	06.27		06.38
	17.27	18.05	40 08.35 (BAP03)	18.36		20.08
22	07.42	07.09	07.54 (BAP03)	06.25		06.36
	17.28	18.06	42 08.36 (BAP03)	18.37		20.09
23	07.41	07.07	07.53 (BAP03)	06.24		06.35
	17.30	18.07	43 08.36 (BAP03)	18.38		20.10
24	07.40	07.06	07.52 (BAP03)	06.22		06.33
	17.31	18.08	46 08.38 (BAP03)	18.39		20.11
25	07.40	07.05	07.52 (BAP03)	06.20		06.32
	17.32	18.09	47 08.39 (BAP03)	18.40		20.12
26	07.39	07.03	07.50 (BAP03)	06.19		06.30
	17.33	18.10	49 08.39 (BAP03)	18.41		20.13
27	07.38	07.02	07.50 (BAP03)	06.17		06.29
	17.34	18.12	49 08.39 (BAP03)	18.42		20.14
28	07.37	07.00	07.49 (BAP03)	06.15		06.28
	17.36	18.13	50 08.39 (BAP03)	18.43		20.15
29	07.37	07.14		06.14		06.26
	17.37	19.44		07.12		20.16
30	07.36	07.12		06.12		06.25
	17.38	19.45		07.10		20.17
31	07.35	07.10		06.10		06.24
	17.39	19.46		07.19		20.46
Potential sun hours	299					447
Total, worst case	520	298	849	370	818	398
					276	269
						450
						1801

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F85 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (282)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

July		August		September		October		November		December			
1	05.56	06.32 (BAP02)	06.20		06.50	07.10 (BAP06)	07.19		08.29 (BAP03)	06.52	07.50 (BAP04)	07.26	
	20.58	61 07.33 (BAP02)	20.39		19.57	07.26 (BAP06)	19.07		09.12 (BAP03)	17.21	21 08.11 (BAP04)	16.58	
2	05.57	06.33 (BAP02)	06.21		06.51	07.11 (BAP06)	07.20		08.28 (BAP03)	06.53		07.48 (BAP04)	07.27
	20.58	60 07.33 (BAP02)	20.38		19.55	07.25 (BAP06)	19.06		09.12 (BAP03)	17.20	25 08.13 (BAP04)	16.57	
3	05.57	06.33 (BAP02)	06.22		06.52	07.12 (BAP06)	07.21		08.27 (BAP03)	06.55		07.47 (BAP04)	07.28
	20.58	59 07.32 (BAP02)	20.37		19.54	07.24 (BAP06)	19.04		09.13 (BAP03)	17.19	26 08.13 (BAP04)	16.57	
4	05.58	06.34 (BAP02)	06.22		06.53	07.13 (BAP06)	07.22		08.26 (BAP03)	06.56		07.46 (BAP04)	07.29
	20.57	59 07.33 (BAP02)	20.36		19.52	07.22 (BAP06)	19.02		09.13 (BAP03)	17.18	29 08.14 (BAP04)	16.57	
5	05.58	06.35 (BAP02)	06.23		06.53	07.14 (BAP06)	07.23		08.25 (BAP03)	06.57		07.46 (BAP04)	07.30
	20.57	58 07.33 (BAP02)	20.35		19.51	07.20 (BAP06)	19.01		09.14 (BAP03)	17.17	30 08.16 (BAP04)	16.57	
6	05.59	06.35 (BAP02)	06.24		06.54	07.15 (BAP06)	07.24		08.24 (BAP03)	06.58		07.45 (BAP04)	07.31
	20.57	57 07.32 (BAP02)	20.34		19.49	1 07.16 (BAP06)	18.59		09.14 (BAP03)	17.16	31 08.16 (BAP04)	16.57	
7	05.59	06.37 (BAP02)	06.25		06.55		07.25		08.24 (BAP03)	06.59		07.44 (BAP04)	07.32
	20.57	55 07.32 (BAP02)	20.33		19.47		18.57		09.14 (BAP03)	17.14	33 08.17 (BAP04)	16.57	
8	06.00	06.37 (BAP02)	06.26		06.56		07.26		08.23 (BAP03)	07.00		07.44 (BAP04)	07.33
	20.56	54 07.31 (BAP02)	20.31		19.46		18.56		09.14 (BAP03)	17.13	33 08.17 (BAP04)	16.57	
9	06.01	06.38 (BAP02)	06.27		06.57		07.27		08.23 (BAP03)	07.02		07.44 (BAP04)	07.34
	20.56	52 07.30 (BAP02)	20.30		19.44		18.54		09.14 (BAP03)	17.12	34 08.18 (BAP04)	16.57	
10	06.01	06.40 (BAP02)	06.28		06.58		07.28		08.22 (BAP03)	07.03		07.44 (BAP04)	07.35
	20.56	50 07.30 (BAP02)	20.29		19.42		18.53		09.13 (BAP03)	17.11	34 08.18 (BAP04)	16.57	
11	06.02	06.40 (BAP02)	06.29		06.59		07.29		08.22 (BAP03)	07.04		07.44 (BAP04)	07.36
	20.55	49 07.29 (BAP02)	20.28		19.41		18.51		09.13 (BAP03)	17.10	34 08.18 (BAP04)	16.57	
12	06.03	06.41 (BAP02)	06.30		07.00		07.30		08.22 (BAP03)	07.05		07.43 (BAP04)	07.37
	20.55	47 07.28 (BAP02)	20.26		19.39		18.49		09.13 (BAP03)	17.09	35 08.18 (BAP04)	16.57	
13	06.03	06.43 (BAP02)	06.31		07.01		07.31		08.22 (BAP03)	07.06		07.44 (BAP04)	07.37
	20.54	44 07.27 (BAP02)	20.25		19.37		18.48		09.12 (BAP03)	17.09	35 08.19 (BAP04)	16.57	
14	06.04	06.44 (BAP02)	06.32		07.02		07.32		08.22 (BAP03)	07.07		07.44 (BAP04)	07.38
	20.54	41 07.25 (BAP02)	20.24		19.36		18.46		09.11 (BAP03)	17.08	35 08.19 (BAP04)	16.57	
15	06.05	06.46 (BAP02)	06.33		07.03		07.33		08.22 (BAP03)	07.09		07.45 (BAP04)	07.39
	20.53	38 07.24 (BAP02)	20.22		19.34		18.45		09.11 (BAP03)	17.07	33 08.18 (BAP04)	16.57	
16	06.06	06.48 (BAP02)	06.34		07.04		07.34		08.23 (BAP03)	07.10		07.45 (BAP04)	07.40
	20.53	35 07.23 (BAP02)	20.21		19.32		18.43		09.11 (BAP03)	17.06	33 08.18 (BAP04)	16.58	
17	06.06	06.50 (BAP02)	06.35		07.05		07.35		08.24 (BAP03)	07.11		07.45 (BAP04)	07.40
	20.52	31 07.21 (BAP02)	20.20		19.31		18.42		09.10 (BAP03)	17.05	33 08.18 (BAP04)	16.58	
18	06.07	06.52 (BAP02)	06.36		07.06		07.37		08.24 (BAP03)	07.12		07.46 (BAP04)	07.41
	20.51	26 07.18 (BAP02)	20.18		19.29		18.40		09.09 (BAP03)	17.04	32 08.18 (BAP04)	16.58	
19	06.08	06.55 (BAP02)	06.37		07.07		07.38		08.25 (BAP03)	07.13		07.47 (BAP04)	07.42
	20.51	21 07.16 (BAP02)	20.17		19.27		18.39		09.08 (BAP03)	17.04	31 08.18 (BAP04)	16.59	
20	06.09	07.00 (BAP02)	06.38		07.08		07.39		08.25 (BAP03)	07.14		07.48 (BAP04)	07.42
	20.50	11 07.11 (BAP02)	20.15	5	07.20 (BAP06)	19.26	18.37		09.06 (BAP03)	17.03	29 08.17 (BAP04)	16.59	
21	06.10		06.39		07.12 (BAP06)	19.27	18.36		08.26 (BAP03)	07.16		07.48 (BAP04)	07.43
	20.49		20.14	12	07.24 (BAP06)	19.24	18.36		09.05 (BAP03)	17.02	29 08.17 (BAP04)	16.59	
22	06.11		06.40		07.10 (BAP06)	19.25	18.35		08.27 (BAP03)	07.17		07.50 (BAP04)	07.43
	20.48		20.12	16	07.26 (BAP06)	19.22	18.35		09.03 (BAP03)	17.02	27 08.17 (BAP04)	17.00	
23	06.11		06.41		07.08 (BAP06)	19.21	18.33		08.30 (BAP03)	07.18		07.51 (BAP04)	07.44
	20.48		20.11	19	07.27 (BAP06)	19.21	18.33		09.02 (BAP03)	17.01	25 08.16 (BAP04)	17.00	
24	06.12		06.42		07.07 (BAP06)	19.12	18.33		08.31 (BAP03)	07.19		07.52 (BAP04)	07.44
	20.47		20.09	21	07.28 (BAP06)	19.19	18.32		09.00 (BAP03)	17.01	24 08.16 (BAP04)	17.01	
25	06.13		06.43		07.06 (BAP06)	19.13	18.32		07.33 (BAP03)	07.20		07.53 (BAP04)	07.45
	20.46		20.08	22	07.28 (BAP06)	19.17	18.32		09.03 (BAP03)	17.30	24 08.15 (BAP04)	17.02	
26	06.14		06.44		07.05 (BAP06)	19.14	18.31		08.38 (BAP03)	07.21		07.54 (BAP04)	07.45
	20.45		20.06	24	07.29 (BAP06)	19.15	18.31		09.05 (BAP03)	17.29	18 08.14 (BAP04)	17.02	
27	06.15		06.45		07.06 (BAP06)	19.15	18.31		08.35 (BAP03)	07.22		07.56 (BAP04)	07.45
	20.44		20.05	23	07.29 (BAP06)	19.14	18.31		09.07 (BAP03)	17.28	7 08.13 (BAP04)	17.03	
28	06.16		06.46		07.07 (BAP06)	19.16	18.31		08.33 (BAP03)	07.23		07.58 (BAP04)	07.46
	20.43		20.03	22	07.29 (BAP06)	19.12	18.31		09.09 (BAP03)	17.26	16 08.12 (BAP04)	17.04	
29	06.17		06.47		07.07 (BAP06)	19.17	18.31		08.32 (BAP03)	07.24		08.00 (BAP04)	07.46
	20.42		20.02	21	07.28 (BAP06)	19.10	18.31		09.10 (BAP03)	17.25	16 08.11 (BAP04)	17.04	
30	06.18		06.48		07.08 (BAP06)	19.18	18.31		08.30 (BAP03)	07.25		08.04 (BAP04)	07.46
	20.41		20.00	19	07.27 (BAP06)	19.09	18.31		09.11 (BAP03)	17.24	13 08.06 (BAP04)	17.05	
31	06.19		06.49		07.09 (BAP06)		18.31		08.06 (BAP04)	16.58	4 08.08 (BAP04)	17.05	
	20.40		19.59	18	07.27 (BAP06)		17.23		07.51 (BAP04)			07.46	
Potential sun hours	457				375		346		299			290	
Total, worst case	908		222		271		1171		819				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F87 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (249)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June			
1	07.47	07.34	06.59	07.09	06.24	05.56	06.27 (BAP02)		
	17.07	17.40	18.14	19.47	20.18	20.47	56 07.23 (BAP02)		
2	07.47	07.33	06.57	07.07	06.22	05.55	06.26 (BAP02)		
	17.08	17.42	18.15	19.48	20.19	20.48	56 07.22 (BAP02)		
3	07.47	07.32	06.56	07.36 (BAP03)	07.06	06.21	05.55 06.26 (BAP02)		
	17.08	17.43	18.16	9 07.45 (BAP03)	19.49	20.20	20.48 57 07.23 (BAP02)		
4	07.47	07.31	08.02 (BAP04)	06.54	07.32 (BAP03)	07.04	06.20	05.54 06.27 (BAP02)	
	17.09	17.44	4 08.06 (BAP04)	18.17	17 07.49 (BAP03)	19.50	20.21	20.49 56 07.23 (BAP02)	
5	07.47	07.30	07.58 (BAP04)	06.53	07.29 (BAP03)	07.02	06.19	05.54 06.26 (BAP02)	
	17.10	17.45	12 08.10 (BAP04)	18.18	22 07.51 (BAP03)	19.51	20.22	20.50 57 07.23 (BAP02)	
6	07.47	07.29	07.56 (BAP04)	06.51	07.27 (BAP03)	07.01	06.18	05.54 06.27 (BAP02)	
	17.11	17.47	17 08.13 (BAP04)	18.19	27 07.54 (BAP03)	19.52	20.23	20.50 56 07.23 (BAP02)	
7	07.47	07.28	07.54 (BAP04)	06.49	07.25 (BAP03)	06.59	06.16	06.50 (BAP02)	
	17.12	17.48	19 08.13 (BAP04)	18.21	30 07.55 (BAP03)	19.53	20.24	7 06.57 (BAP02)	
8	07.47	07.27	07.53 (BAP04)	06.48	07.24 (BAP03)	06.57	06.15	06.45 (BAP02)	
	17.13	17.49	22 08.15 (BAP04)	18.22	32 07.56 (BAP03)	19.54	20.25	18 07.03 (BAP02)	
9	07.47	07.26	07.52 (BAP04)	06.46	07.23 (BAP03)	06.56	06.14	06.42 (BAP02)	
	17.14	17.50	24 08.16 (BAP04)	18.23	33 07.56 (BAP03)	19.55	20.26	23 07.05 (BAP02)	
10	07.47	07.24	07.51 (BAP04)	06.45	07.21 (BAP03)	06.54	06.13	06.40 (BAP02)	
	17.15	17.52	26 08.17 (BAP04)	18.24	36 07.57 (BAP03)	19.56	20.27	28 07.08 (BAP02)	
11	07.46	07.23	07.51 (BAP04)	06.43	07.21 (BAP03)	06.53	06.12	06.38 (BAP02)	
	17.16	17.53	27 08.18 (BAP04)	18.25	37 07.58 (BAP03)	19.57	20.28	31 07.09 (BAP02)	
12	07.46	07.22	07.50 (BAP04)	06.42	07.20 (BAP03)	06.51	06.11	06.36 (BAP02)	
	17.17	17.54	28 08.18 (BAP04)	18.26	37 07.57 (BAP03)	19.58	20.29	35 07.11 (BAP02)	
13	07.46	07.21	07.50 (BAP04)	06.40	07.19 (BAP03)	06.50	06.10	06.35 (BAP02)	
	17.18	17.55	28 08.18 (BAP04)	18.27	38 07.57 (BAP03)	19.59	20.30	37 07.12 (BAP02)	
14	07.46	07.20	07.50 (BAP04)	06.38	07.19 (BAP03)	06.48	06.09	06.34 (BAP02)	
	17.19	17.56	29 08.19 (BAP04)	18.28	39 07.58 (BAP03)	20.01	20.31	39 07.13 (BAP02)	
15	07.45	07.18	07.50 (BAP04)	06.37	07.18 (BAP03)	06.47	06.08	06.33 (BAP02)	
	17.20	17.58	29 08.19 (BAP04)	18.29	39 07.57 (BAP03)	20.02	20.32	41 07.14 (BAP02)	
16	07.45	07.17	07.50 (BAP04)	06.35	07.19 (BAP03)	06.45	06.07	06.32 (BAP02)	
	17.22	17.59	28 08.18 (BAP04)	18.30	38 07.57 (BAP03)	20.03	20.33	43 07.15 (BAP02)	
17	07.44	07.16	07.50 (BAP04)	06.33	07.18 (BAP03)	06.43	06.06	06.31 (BAP02)	
	17.23	18.00	28 08.18 (BAP04)	18.31	38 07.56 (BAP03)	20.04	20.34	45 07.16 (BAP02)	
18	07.44	07.14	07.51 (BAP04)	06.32	07.18 (BAP03)	06.42	06.05	06.30 (BAP02)	
	17.24	18.01	27 08.18 (BAP04)	18.32	37 07.55 (BAP03)	20.05	20.35	46 07.16 (BAP02)	
19	07.43	07.13	07.51 (BAP04)	06.30	07.18 (BAP03)	06.40	06.04	06.30 (BAP02)	
	17.25	18.02	26 08.17 (BAP04)	18.33	37 07.55 (BAP03)	20.06	20.36	48 07.18 (BAP02)	
20	07.43	07.12	07.52 (BAP04)	06.29	07.18 (BAP03)	06.39	06.03	06.29 (BAP02)	
	17.26	18.03	24 08.16 (BAP04)	18.35	36 07.54 (BAP03)	20.07	20.37	49 07.18 (BAP02)	
21	07.42	07.10	07.52 (BAP04)	06.27	07.18 (BAP03)	06.38	06.03	06.28 (BAP02)	
	17.27	18.05	22 08.14 (BAP04)	18.36	34 07.52 (BAP03)	20.08	20.38	50 07.18 (BAP02)	
22	07.42	07.09	07.54 (BAP04)	06.25	07.20 (BAP03)	06.36	06.02	06.28 (BAP02)	
	17.28	18.06	19 08.13 (BAP04)	18.37	32 07.52 (BAP03)	20.09	20.39	51 07.19 (BAP02)	
23	07.41	07.07	07.55 (BAP04)	06.24	07.20 (BAP03)	06.35	06.01	06.28 (BAP02)	
	17.30	18.07	16 08.11 (BAP04)	18.38	30 07.50 (BAP03)	20.10	20.40	52 07.20 (BAP02)	
24	07.40	07.06	07.59 (BAP04)	06.22	07.21 (BAP03)	06.33	06.00	06.27 (BAP02)	
	17.31	18.08	9 08.08 (BAP04)	18.39	27 07.48 (BAP03)	20.11	20.40	53 07.20 (BAP02)	
25	07.40	07.05	06.20	06.20	07.23 (BAP03)	06.32	06.00	06.27 (BAP02)	
	17.32	18.09	18.40	23 07.46 (BAP03)	20.12	20.41	53 07.20 (BAP02)	20.58	
26	07.39	07.03	06.19	06.19	07.25 (BAP03)	06.30	05.59	06.27 (BAP02)	05.54
	17.33	18.10	18.41	18 07.43 (BAP03)	20.13	20.42	54 07.21 (BAP02)	20.58	57 07.27 (BAP02)
27	07.38	07.02	06.17	06.17	07.28 (BAP03)	06.29	05.58	06.27 (BAP02)	05.55
	17.34	18.12	18.42	11 07.39 (BAP03)	20.14	20.43	54 07.21 (BAP02)	20.58	57 07.28 (BAP02)
28	07.37	07.00	06.15	06.15	06.28	06.28	05.58	06.27 (BAP02)	05.55
	17.36	18.13	18.43	20.15	20.44	55 07.22 (BAP02)	20.58	57 07.28 (BAP02)	
29	07.37		07.14	06.26	05.57	06.26 (BAP02)	05.55	06.32 (BAP02)	
	17.37		19.44	20.16	20.45	56 07.22 (BAP02)	20.58	57 07.29 (BAP02)	
30	07.36		07.12	06.25	05.57	06.27 (BAP02)	05.56	06.31 (BAP02)	
	17.38		19.45	20.17	20.45	55 07.22 (BAP02)	20.58	58 07.29 (BAP02)	
31	07.35		07.10		05.56	06.26 (BAP02)			
	17.39		19.46		20.46	56 07.22 (BAP02)			
Potential sun hours	299	298	370	398	447	450			
Total, worst case		464	757		1079	1716			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F87 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (249)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56	06.32 (BAP02) 06.20	06.46 (BAP02) 06.50	07.19	07.59 (BAP03) 06.52	07.21 (BAP04) 07.26
	20.58	57 07.29 (BAP02) 20.39	07.20 (BAP02) 19.57	19.07	38 08.37 (BAP03) 17.21	26 07.47 (BAP04) 16.58
2	05.57	06.32 (BAP02) 06.21	06.48 (BAP02) 06.51	07.20	07.59 (BAP03) 06.53	07.22 (BAP04) 07.27
	20.58	57 07.29 (BAP02) 20.38	30 07.18 (BAP02) 19.55	19.06	37 08.36 (BAP03) 17.20	24 07.46 (BAP04) 16.57
3	05.57	06.33 (BAP02) 06.22	06.50 (BAP02) 06.52	07.21	07.59 (BAP03) 06.55	07.23 (BAP04) 07.28
	20.58	57 07.30 (BAP02) 20.37	27 07.17 (BAP02) 19.54	19.04	37 08.36 (BAP03) 17.19	21 07.44 (BAP04) 16.57
4	05.58	06.32 (BAP02) 06.22	06.52 (BAP02) 06.53	07.22	08.00 (BAP03) 06.56	07.24 (BAP04) 07.29
	20.57	57 07.29 (BAP02) 20.36	22 07.14 (BAP02) 19.52	19.02	34 08.34 (BAP03) 17.18	19 07.43 (BAP04) 16.57
5	05.58	06.33 (BAP02) 06.23	06.56 (BAP02) 06.54	07.23	08.00 (BAP03) 06.57	07.26 (BAP04) 07.30
	20.57	57 07.30 (BAP02) 20.35	15 07.11 (BAP02) 19.51	19.01	33 08.33 (BAP03) 17.17	16 07.42 (BAP04) 16.57
6	05.59	06.33 (BAP02) 06.24	06.54	07.24	08.01 (BAP03) 06.58	07.28 (BAP04) 07.31
	20.57	57 07.30 (BAP02) 20.34	19.49	18.59	31 08.32 (BAP03) 17.16	12 07.40 (BAP04) 16.57
7	05.59	06.33 (BAP02) 06.25	06.55	07.25	08.02 (BAP03) 06.59	07.32
	20.57	57 07.30 (BAP02) 20.33	19.47	18.57	28 08.30 (BAP03) 17.14	16.57
8	06.00	06.33 (BAP02) 06.26	06.56	07.26	08.04 (BAP03) 07.00	07.33
	20.56	57 07.30 (BAP02) 20.31	19.46	18.56	24 08.28 (BAP03) 17.13	16.57
9	06.01	06.34 (BAP02) 06.27	06.57	07.27	08.05 (BAP03) 07.02	07.34
	20.56	56 07.30 (BAP02) 20.30	19.44	18.54	21 08.26 (BAP03) 17.12	16.57
10	06.01	06.34 (BAP02) 06.28	06.58	07.28	08.08 (BAP03) 07.03	07.35
	20.56	57 07.31 (BAP02) 20.29	19.42	18.53	14 08.22 (BAP03) 17.11	16.57
11	06.02	06.34 (BAP02) 06.29	06.59	07.29	07.04	07.36
	20.55	56 07.30 (BAP02) 20.28	19.41	18.51	17.10	16.57
12	06.03	06.34 (BAP02) 06.30	07.00	07.30	07.05	07.37
	20.55	56 07.30 (BAP02) 20.26	19.39	18.49	17.09	16.57
13	06.03	06.35 (BAP02) 06.31	07.01	07.31	07.06	07.37
	20.54	56 07.31 (BAP02) 20.25	19.37	18.48	17.09	16.57
14	06.04	06.35 (BAP02) 06.32	07.02	07.32	07.07	07.38
	20.54	55 07.30 (BAP02) 20.24	19.36	18.46	17.08	16.57
15	06.05	06.35 (BAP02) 06.33	07.03	07.33	07.09	07.39
	20.53	55 07.30 (BAP02) 20.22	19.34	18.45	17.07	16.57
16	06.06	06.36 (BAP02) 06.34	07.04	08.18 (BAP03) 07.34	07.10	07.40
	20.53	54 07.30 (BAP02) 20.21	19.32	9 08.27 (BAP03) 18.43	17.06	16.58
17	06.06	06.36 (BAP02) 06.35	07.05	08.14 (BAP03) 07.35	07.11	07.40
	20.52	54 07.30 (BAP02) 20.20	19.31	17 08.31 (BAP03) 18.42	17.05	16.58
18	06.07	06.36 (BAP02) 06.36	07.06	08.11 (BAP03) 07.37	08.29 (BAP04) 07.12	07.41
	20.51	53 07.29 (BAP02) 20.18	19.29	22 08.33 (BAP03) 18.40	12 08.41 (BAP04) 17.04	16.58
19	06.08	06.37 (BAP02) 06.37	07.07	08.09 (BAP03) 07.38	08.26 (BAP04) 07.13	07.42
	20.51	52 07.29 (BAP02) 20.17	19.27	26 08.35 (BAP03) 18.39	17 08.43 (BAP04) 17.04	16.59
20	06.09	06.37 (BAP02) 06.38	07.08	08.07 (BAP03) 07.39	08.24 (BAP04) 07.14	07.42
	20.50	52 07.29 (BAP02) 20.15	19.26	29 08.36 (BAP03) 18.37	20 08.44 (BAP04) 17.03	16.59
21	06.10	06.38 (BAP02) 06.39	07.09	08.05 (BAP03) 07.40	08.23 (BAP04) 07.16	07.43
	20.49	51 07.29 (BAP02) 20.14	19.24	32 08.37 (BAP03) 18.36	22 08.45 (BAP04) 17.02	16.59
22	06.11	06.39 (BAP02) 06.40	07.10	08.04 (BAP03) 07.41	08.21 (BAP04) 07.17	07.43
	20.48	50 07.29 (BAP02) 20.12	19.22	34 08.38 (BAP03) 18.35	25 08.46 (BAP04) 17.02	17.00
23	06.11	06.39 (BAP02) 06.41	07.11	08.03 (BAP03) 07.42	08.21 (BAP04) 07.18	07.44
	20.48	50 07.29 (BAP02) 20.11	19.21	35 08.38 (BAP03) 18.33	27 08.48 (BAP04) 17.01	17.00
24	06.12	06.39 (BAP02) 06.42	07.12	08.02 (BAP03) 07.43	08.21 (BAP04) 07.19	07.44
	20.47	48 07.27 (BAP02) 20.09	19.19	36 08.38 (BAP03) 18.32	27 08.48 (BAP04) 17.01	17.01
25	06.13	06.40 (BAP02) 06.43	07.13	08.01 (BAP03) 06.44	07.20 (BAP04) 07.20	07.45
	20.46	47 07.27 (BAP02) 20.08	19.17	38 08.39 (BAP03) 17.30	28 07.48 (BAP04) 17.00	17.02
26	06.14	06.41 (BAP02) 06.44	07.14	08.01 (BAP03) 06.45	07.19 (BAP04) 07.21	07.45
	20.45	46 07.27 (BAP02) 20.06	19.15	38 08.39 (BAP03) 17.29	29 07.48 (BAP04) 17.00	17.02
27	06.15	06.42 (BAP02) 06.45	07.15	08.00 (BAP03) 06.47	07.19 (BAP04) 07.22	07.45
	20.44	44 07.26 (BAP02) 20.05	19.14	39 08.39 (BAP03) 17.28	29 07.48 (BAP04) 16.59	17.03
28	06.16	06.43 (BAP02) 06.46	07.16	08.00 (BAP03) 06.48	07.20 (BAP04) 07.23	07.46
	20.43	42 07.25 (BAP02) 20.03	19.12	39 08.39 (BAP03) 17.26	28 07.48 (BAP04) 16.59	17.04
29	06.17	06.44 (BAP02) 06.47	07.17	07.59 (BAP03) 06.49	07.20 (BAP04) 07.24	07.46
	20.42	40 07.24 (BAP02) 20.02	19.11	39 08.38 (BAP03) 17.25	28 07.48 (BAP04) 16.58	17.04
30	06.18	06.45 (BAP02) 06.48	07.18	07.59 (BAP03) 06.50	07.20 (BAP04) 07.25	07.46
	20.41	38 07.23 (BAP02) 20.00	19.09	39 08.38 (BAP03) 17.24	27 07.47 (BAP04) 16.58	17.05
31	06.19	06.46 (BAP02) 06.49		06.51	07.20 (BAP04)	07.47
	20.40	36 07.22 (BAP02) 19.59		17.23	27 07.47 (BAP04)	17.06
Potential sun hours	457	427	375	346	299	290
Total, worst case	1604		128	472	643	118

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker (WTG causing flicker first time)	Last time (hh:mm) with flicker (WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F88 - Rudere

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.17	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		07.50		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F89 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (283)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.17	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		07.50		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Total, worst case												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F91 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (284)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June		
1	07.47	07.34	06.58	17.07 (BAP09)	07.09	06.24	05.55	
	17.07	17.40	18.14	45	17.52 (BAP09)	19.47	20.18	
2	07.47	07.33	06.57	17.06 (BAP09)	07.07	06.22	05.55	
	17.07	17.41	18.15	48	17.54 (BAP09)	19.48	20.19	
3	07.47	07.32	06.55	17.05 (BAP09)	07.05	06.21	05.54	
	17.08	17.43	18.16	49	17.54 (BAP09)	19.49	20.20	
4	07.47	07.31	06.54	17.05 (BAP09)	07.04	06.20	05.54	
	17.09	17.44	18.17	51	17.56 (BAP09)	19.50	20.21	
5	07.47	07.30	06.52	17.03 (BAP09)	07.02	06.19	05.54	
	17.10	17.45	18.18	54	17.57 (BAP09)	19.51	20.22	
6	07.47	07.29	06.51	17.03 (BAP09)	07.00	06.17	05.53	
	17.11	17.46	18.19	56	17.59 (BAP09)	19.52	20.23	
7	07.47	07.28	06.49	17.02 (BAP09)	06.59	06.16	05.53	
	17.12	17.48	18.20	57	17.59 (BAP09)	19.53	20.24	
8	07.47	07.26	06.48	17.01 (BAP09)	06.57	06.15	05.53	
	17.13	17.49	18.21	58	17.59 (BAP09)	19.54	20.25	
9	07.47	07.25	06.46	17.02 (BAP09)	06.56	06.14	05.53	
	17.14	17.50	18.23	57	17.59 (BAP09)	19.55	20.26	
10	07.46	07.24	06.44	17.01 (BAP09)	06.54	06.13	05.52	
	17.15	17.51	18.24	58	17.59 (BAP09)	19.56	20.27	
11	07.46	07.23	06.43	17.00 (BAP09)	06.52	06.12	05.52	
	17.16	17.52	18.25	58	17.58 (BAP09)	19.57	20.28	
12	07.46	07.22	17.30 (BAP08)	06.41	17.01 (BAP09)	06.51	06.11	05.52
	17.17	17.54	17.31 (BAP08)	18.26	58	17.59 (BAP09)	19.58	20.29
13	07.46	07.21	17.29 (BAP08)	06.40	17.00 (BAP09)	06.49	06.10	05.52
	17.18	17.55	17.32 (BAP08)	18.27	58	17.58 (BAP09)	19.59	20.30
14	07.45	07.19	17.28 (BAP08)	06.38	17.01 (BAP09)	06.48	06.09	05.52
	17.19	17.56	17.34 (BAP08)	18.28	57	17.58 (BAP09)	20.00	20.31
15	07.45	07.18	17.27 (BAP08)	06.36	17.01 (BAP09)	06.46	06.08	05.52
	17.20	17.57	17.35 (BAP08)	18.29	56	17.57 (BAP09)	20.01	20.32
16	07.45	07.17	17.27 (BAP08)	06.35	17.00 (BAP09)	06.45	06.07	05.52
	17.21	17.58	17.36 (BAP08)	18.30	56	17.56 (BAP09)	20.02	20.33
17	07.44	07.15	17.27 (BAP08)	06.33	17.01 (BAP09)	06.43	06.06	05.52
	17.22	18.00	17.38 (BAP08)	18.31	55	17.56 (BAP09)	20.03	20.34
18	07.44	07.14	17.26 (BAP08)	06.32	17.01 (BAP09)	06.42	06.05	05.52
	17.24	18.01	17.39 (BAP08)	18.32	54	17.55 (BAP09)	20.04	20.35
19	07.43	07.13	17.26 (BAP08)	06.30	17.01 (BAP09)	06.40	06.04	05.52
	17.25	18.02	17.40 (BAP08)	18.33	53	17.54 (BAP09)	20.05	20.36
20	07.43	07.11	17.27 (BAP08)	06.28	17.03 (BAP09)	06.39	06.03	05.52
	17.26	18.03	17.42 (BAP08)	18.34	50	17.53 (BAP09)	20.06	20.37
21	07.42	07.10	17.24 (BAP09)	06.27	17.03 (BAP09)	06.37	06.02	05.53
	17.27	18.04	17.42 (BAP08)	18.35	49	17.52 (BAP09)	20.08	20.38
22	07.41	07.09	17.21 (BAP09)	06.25	17.04 (BAP09)	06.36	06.02	05.53
	17.28	18.06	17.44 (BAP08)	18.36	46	17.50 (BAP09)	20.09	20.39
23	07.41	07.07	17.17 (BAP09)	06.23	17.05 (BAP09)	06.34	06.01	05.53
	17.29	18.07	17.45 (BAP08)	18.37	44	17.49 (BAP09)	20.10	20.39
24	07.40	07.06	17.15 (BAP09)	06.22	17.06 (BAP09)	06.33	06.00	05.53
	17.31	18.08	17.46 (BAP08)	18.38	41	17.47 (BAP09)	20.11	20.40
25	07.39	07.04	17.13 (BAP09)	06.20	17.07 (BAP09)	06.32	05.59	05.54
	17.32	18.09	17.47 (BAP09)	18.40	38	17.45 (BAP09)	20.12	20.41
26	07.39	07.03	17.12 (BAP09)	06.18	17.09 (BAP09)	06.30	05.59	05.54
	17.33	18.10	17.49 (BAP09)	18.41	34	17.43 (BAP09)	20.13	20.42
27	07.38	07.01	17.09 (BAP09)	06.17	17.11 (BAP09)	06.29	05.58	05.54
	17.34	18.11	17.50 (BAP09)	18.42	29	17.40 (BAP09)	20.14	20.43
28	07.37	07.00	17.09 (BAP09)	06.15	17.13 (BAP09)	06.27	05.57	05.55
	17.35	18.12	17.51 (BAP09)	18.43	24	17.37 (BAP09)	20.15	20.44
29	07.36			07.13	18.18 (BAP09)	06.26	05.57	05.55
	17.37			19.44	15	18.33 (BAP09)	20.16	20.44
30	07.35			07.12		06.25	05.56	05.55
	17.38			19.45		20.17	20.45	20.58
31	07.35			07.10			05.56	
	17.39			19.46			20.46	
Potential sun hours	299	298	370	398	447	450		
Total, worst case		334	1408					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F91 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (284)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September		October		November	December
1	05.56	06.19	06.49		07.19	17.39 (BAP09)	06.52	07.26
	20.58	20.39	19.57		19.07	58 18.37 (BAP09)	17.21	16.57
2	05.56	06.20	06.50		07.20	17.39 (BAP09)	06.53	07.27
	20.57	20.38	19.55		19.05	58 18.37 (BAP09)	17.20	16.57
3	05.57	06.21	06.51		07.21	17.38 (BAP09)	06.54	07.28
	20.57	20.37	19.54		19.04	59 18.37 (BAP09)	17.19	16.57
4	05.57	06.22	06.52		07.22	17.38 (BAP09)	06.55	07.29
	20.57	20.36	19.52		19.02	58 18.36 (BAP09)	17.18	16.57
5	05.58	06.23	06.53		07.23	17.39 (BAP09)	06.57	07.30
	20.57	20.35	19.50		19.00	58 18.37 (BAP09)	17.16	16.57
6	05.59	06.24	06.54		07.24	17.39 (BAP09)	06.58	07.31
	20.57	20.33	19.49		18.59	57 18.36 (BAP09)	17.15	16.56
7	05.59	06.25	06.55		07.25	17.39 (BAP09)	06.59	07.32
	20.56	20.32	19.47		18.57	56 18.35 (BAP09)	17.14	16.56
8	06.00	06.26	06.56		07.26	17.39 (BAP09)	07.00	07.33
	20.56	20.31	19.45		18.56	54 18.33 (BAP09)	17.13	16.56
9	06.00	06.27	06.57		07.27	17.39 (BAP09)	07.01	07.34
	20.56	20.30	19.44		18.54	53 18.32 (BAP09)	17.12	16.56
10	06.01	06.28	06.58		07.28	17.39 (BAP09)	07.03	07.35
	20.55	20.29	19.42		18.52	51 18.30 (BAP09)	17.11	16.56
11	06.02	06.29	06.59		07.29	17.40 (BAP09)	07.04	07.36
	20.55	20.27	19.40		18.51	48 18.28 (BAP09)	17.10	16.56
12	06.02	06.30	07.00		07.30	17.40 (BAP09)	07.05	07.36
	20.55	20.26	19.39		18.49	47 18.27 (BAP09)	17.09	16.57
13	06.03	06.31	07.01		07.31	17.41 (BAP09)	07.06	07.37
	20.54	20.25	19.37		18.48	44 18.25 (BAP09)	17.08	16.57
14	06.04	06.32	07.02	18.09 (BAP09)	07.32	17.42 (BAP09)	07.07	07.38
	20.54	20.23	19.35	14 18.23 (BAP09)	18.46	41 18.23 (BAP09)	17.07	16.57
15	06.05	06.33	07.03	18.04 (BAP09)	07.33	17.42 (BAP09)	07.08	07.39
	20.53	20.22	19.34	23 18.27 (BAP09)	18.45	40 18.22 (BAP09)	17.07	16.57
16	06.05	06.34	07.04	18.01 (BAP09)	07.34	17.44 (BAP09)	07.10	07.39
	20.52	20.21	19.32	28 18.29 (BAP09)	18.43	36 18.20 (BAP09)	17.06	16.57
17	06.06	06.35	07.05	17.58 (BAP09)	07.35	17.46 (BAP09)	07.11	07.40
	20.52	20.19	19.30	33 18.31 (BAP09)	18.42	33 18.19 (BAP09)	17.05	16.58
18	06.07	06.36	07.06	17.56 (BAP09)	07.36	17.48 (BAP09)	07.12	07.41
	20.51	20.18	19.29	37 18.33 (BAP09)	18.40	30 18.18 (BAP08)	17.04	16.58
19	06.08	06.37	07.07	17.54 (BAP09)	07.37	17.50 (BAP09)	07.13	07.41
	20.50	20.16	19.27	40 18.34 (BAP09)	18.39	26 18.16 (BAP08)	17.03	16.58
20	06.09	06.38	07.08	17.52 (BAP09)	07.38	17.52 (BAP09)	07.14	07.42
	20.50	20.15	19.25	43 18.35 (BAP09)	18.37	22 18.14 (BAP08)	17.03	16.59
21	06.09	06.39	07.09	17.50 (BAP09)	07.40	17.56 (BAP09)	07.15	07.43
	20.49	20.14	19.24	46 18.36 (BAP09)	18.36	17 18.13 (BAP08)	17.02	16.59
22	06.10	06.40	07.10	17.49 (BAP09)	07.41	17.56 (BAP08)	07.16	07.43
	20.48	20.12	19.22	48 18.37 (BAP09)	18.34	15 18.11 (BAP08)	17.01	17.00
23	06.11	06.41	07.11	17.47 (BAP09)	07.42	17.56 (BAP08)	07.18	07.44
	20.47	20.11	19.20	50 18.37 (BAP09)	18.33	13 18.09 (BAP08)	17.01	17.00
24	06.12	06.42	07.12	17.46 (BAP09)	07.43	17.56 (BAP08)	07.19	07.44
	20.47	20.09	19.19	52 18.38 (BAP09)	18.32	13 18.09 (BAP08)	17.00	17.01
25	06.13	06.43	07.13	17.44 (BAP09)	06.44	16.56 (BAP08)	07.20	07.44
	20.46	20.08	19.17	53 18.37 (BAP09)	17.30	11 17.07 (BAP08)	17.00	17.01
26	06.14	06.44	07.14	17.43 (BAP09)	06.45	16.56 (BAP08)	07.21	07.45
	20.45	20.06	19.15	54 18.37 (BAP09)	17.29	10 17.06 (BAP08)	16.59	17.02
27	06.15	06.45	07.15	17.42 (BAP09)	06.46	16.57 (BAP08)	07.22	07.45
	20.44	20.05	19.14	56 18.38 (BAP09)	17.27	7 17.04 (BAP08)	16.59	17.03
28	06.16	06.46	07.16	17.41 (BAP09)	06.47	16.57 (BAP08)	07.23	07.46
	20.43	20.03	19.12	57 18.38 (BAP09)	17.26	5 17.02 (BAP08)	16.58	17.03
29	06.17	06.46	07.17	17.40 (BAP09)	06.49	16.59 (BAP08)	07.24	07.46
	20.42	20.01	19.10	58 18.38 (BAP09)	17.25	3 17.02 (BAP08)	16.58	17.04
30	06.18	06.47	07.18	17.40 (BAP09)	06.50		07.25	07.46
	20.41	20.00	19.09	57 18.37 (BAP09)	17.24		16.58	17.05
31	06.18	06.48			06.51			07.46
	20.40	19.58			17.22			17.05
Potential sun hours	457	427	375		346		299	290
Total, worst case			749		1023			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F93 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (251)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47	15.33 (BAP10) 07.34	06.58	17.35 (BAP08) 07.09	18.07 (BAP09) 06.24	05.55
	10	15.43 (BAP10) 17.40	18.14	13 17.48 (BAP08) 19.47	56 19.03 (BAP09) 20.18	20.47
2	07.47	15.37 (BAP10) 07.33	06.57	17.36 (BAP09) 07.07	18.08 (BAP09) 06.22	05.55
	3	15.40 (BAP10) 17.41	18.15	13 17.49 (BAP09) 19.48	53 19.01 (BAP09) 20.19	20.47
3	07.47	07.32	06.55	17.31 (BAP09) 07.05	18.09 (BAP09) 06.21	05.54
	4	17.43	18.16	23 17.54 (BAP09) 19.49	52 19.01 (BAP09) 20.20	20.48
4	07.47	07.31	06.54	17.28 (BAP09) 07.04	18.10 (BAP09) 06.20	05.54
	5	17.44	18.17	28 17.56 (BAP09) 19.50	49 18.59 (BAP09) 20.21	20.49
5	07.47	07.30	06.52	17.24 (BAP09) 07.02	18.10 (BAP09) 06.19	05.54
	6	17.45	18.18	33 17.57 (BAP09) 19.51	47 18.57 (BAP09) 20.22	20.50
6	07.47	07.29	06.51	17.22 (BAP09) 07.00	18.12 (BAP09) 06.17	05.53
	7	17.46	18.19	37 17.59 (BAP09) 19.52	44 18.56 (BAP09) 20.23	20.50
7	07.47	07.28	06.49	17.20 (BAP09) 06.59	18.13 (BAP09) 06.16	05.53
	8	17.48	18.20	39 17.59 (BAP09) 19.53	40 18.53 (BAP09) 20.24	20.51
8	07.47	07.26	06.48	17.18 (BAP09) 06.57	18.15 (BAP09) 06.15	05.53
	9	17.49	18.21	42 18.00 (BAP09) 19.54	37 18.52 (BAP09) 20.25	20.51
9	07.47	07.25	06.46	17.17 (BAP09) 06.56	18.17 (BAP09) 06.14	05.53
	10	17.50	18.23	45 18.02 (BAP09) 19.55	32 18.49 (BAP09) 20.26	20.52
10	07.46	07.24	06.44	17.15 (BAP09) 06.54	18.19 (BAP09) 06.13	05.52
	11	17.51	18.24	48 18.03 (BAP09) 19.56	27 18.46 (BAP09) 20.27	20.53
11	07.46	07.23	06.43	17.13 (BAP09) 06.52	18.23 (BAP09) 06.12	05.52
	12	17.52	18.25	50 18.03 (BAP09) 19.57	19 18.42 (BAP09) 20.28	20.53
12	07.46	07.22	06.41	17.12 (BAP09) 06.51	18.29 (BAP09) 06.11	05.52
	13	17.54	18.26	53 18.05 (BAP09) 19.58	6 18.35 (BAP09) 20.29	20.54
13	07.46	07.21	06.40	17.11 (BAP09) 06.49	06.10	05.52
	14	17.55	18.27	55 18.06 (BAP09) 19.59	20.30	20.54
14	07.45	07.19	06.38	17.11 (BAP09) 06.48	06.09	05.52
	15	17.56	18.28	56 18.07 (BAP09) 20.00	20.31	20.55
15	07.45	07.18	06.36	17.09 (BAP09) 06.46	06.08	05.52
	16	17.57	18.29	59 18.08 (BAP09) 20.01	20.32	20.55
16	07.45	07.17	06.35	17.08 (BAP09) 06.45	06.07	05.52
	17	17.58	2 17.36 (BAP08) 18.30	61 18.09 (BAP09) 20.02	20.33	20.55
17	07.44	07.15	06.33	17.08 (BAP09) 06.43	06.06	05.52
	18	18.00	5 17.38 (BAP08) 18.31	63 18.11 (BAP09) 20.03	20.34	20.56
18	07.44	07.14	06.32	17.07 (BAP09) 06.42	06.05	05.52
	19	18.01	8 17.39 (BAP08) 18.32	63 18.10 (BAP09) 20.04	20.35	20.56
19	07.43	07.13	06.30	17.06 (BAP09) 06.40	06.04	05.52
	20	18.02	9 17.40 (BAP08) 18.33	64 18.10 (BAP09) 20.05	20.36	20.56
20	07.43	07.11	06.28	17.07 (BAP09) 06.39	06.03	05.52
	21	18.03	11 17.42 (BAP08) 18.34	64 18.11 (BAP09) 20.06	20.37	20.57
21	07.42	07.10	06.27	17.06 (BAP09) 06.37	06.02	05.53
	22	18.04	12 17.42 (BAP08) 18.35	64 18.10 (BAP09) 20.08	20.38	20.57
22	07.41	07.09	06.25	17.05 (BAP09) 06.36	06.02	05.53
	23	18.06	14 17.44 (BAP08) 18.36	64 18.09 (BAP09) 20.09	20.39	20.57
23	07.41	07.07	06.23	17.06 (BAP09) 06.34	06.01	05.53
	24	18.07	15 17.45 (BAP08) 18.37	64 18.10 (BAP09) 20.10	20.39	20.57
24	07.40	07.06	06.22	17.05 (BAP09) 06.33	06.00	05.53
	25	18.08	16 17.46 (BAP08) 18.38	64 18.09 (BAP09) 20.11	20.40	20.57
25	07.39	07.04	06.20	17.05 (BAP09) 06.32	05.59	05.54
	26	18.09	17 17.47 (BAP08) 18.40	63 18.08 (BAP09) 20.12	20.41	20.58
26	07.39	07.03	06.18	17.06 (BAP09) 06.30	05.59	05.54
	27	18.10	18 17.49 (BAP08) 18.41	62 18.08 (BAP09) 20.13	20.42	20.58
27	07.38	07.01	06.17	17.05 (BAP09) 06.29	05.58	05.54
	28	18.11	18 17.50 (BAP08) 18.42	62 18.07 (BAP09) 20.14	20.43	20.58
28	07.37	07.00	06.15	17.05 (BAP09) 06.27	05.57	05.55
	29	18.12	18 17.51 (BAP08) 18.43	61 18.06 (BAP09) 20.15	20.44	20.58
29	07.36		07.13	18.06 (BAP09) 06.26	05.57	05.55
	30		19.44	60 19.06 (BAP09) 20.16	20.44	20.58
30	07.35		07.12	18.06 (BAP09) 06.25	05.56	05.55
	31		19.45	59 19.05 (BAP09) 20.17	20.45	20.58
31	07.35		07.10	18.07 (BAP09)	05.56	
	17.39		19.46	57 19.04 (BAP09)	20.46	
Potential sun hours	299	298	370	398	447	450
Total, worst case	13	163	1589	462		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F93 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (251)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December			
1	05.56 20.58	06.19 20.39	06.49 19.57	18.22 (BAP09) 19.07	17.51 (BAP09) 18.44 (BAP09)	06.52 17.21	07.26 16.57		
2	05.56 20.57	06.20 20.38	06.50 19.55	18.18 (BAP09) 18.45 (BAP09)	19.07 19.05	17.51 (BAP09) 18.42 (BAP09)	06.53 17.20	07.27 16.57	
3	05.57 20.57	06.21 20.37	06.51 19.54	18.15 (BAP09) 18.47 (BAP09)	07.21 19.04	17.52 (BAP09) 18.41 (BAP09)	06.54 17.19	07.28 16.57	
4	05.57 20.57	06.22 20.36	06.52 19.52	18.13 (BAP09) 18.49 (BAP09)	07.22 19.02	17.53 (BAP09) 18.39 (BAP09)	06.55 17.18	07.29 16.57	
5	05.58 20.57	06.23 20.35	06.53 19.50	18.10 (BAP09) 18.50 (BAP09)	07.23 19.00	17.55 (BAP09) 18.38 (BAP09)	06.57 17.16	07.30 16.57	
6	05.59 20.57	06.24 20.33	06.54 19.49	18.08 (BAP09) 18.52 (BAP09)	07.24 18.59	17.56 (BAP09) 18.37 (BAP09)	06.58 17.15	07.31 16.56	
7	05.59 20.56	06.25 20.32	06.55 19.47	18.07 (BAP09) 18.53 (BAP09)	07.25 18.57	17.57 (BAP09) 18.35 (BAP09)	06.59 17.14	07.32 16.56	
8	06.00 20.56	06.26 20.31	06.56 19.45	18.04 (BAP09) 18.53 (BAP09)	07.26 18.56	17.59 (BAP09) 18.33 (BAP09)	07.00 17.13	07.33 16.56	
9	06.00 20.56	06.27 20.30	06.57 19.44	18.02 (BAP09) 18.54 (BAP09)	07.27 18.54	18.01 (BAP09) 18.32 (BAP09)	07.01 17.12	07.34 16.56	
10	06.01 20.55	06.28 20.29	06.58 19.42	18.01 (BAP09) 18.54 (BAP09)	07.28 18.52	18.03 (BAP09) 18.30 (BAP09)	07.03 17.11	07.35 16.56	15.27 (BAP10) 15.28 (BAP10)
11	06.02 20.55	06.29 20.27	06.59 19.40	18.00 (BAP09) 18.55 (BAP09)	07.29 18.51	18.07 (BAP09) 18.26 (BAP09)	07.04 17.10	07.36 16.56	15.24 (BAP10) 15.33 (BAP10)
12	06.02 20.55	06.30 20.26	07.00 19.39	17.59 (BAP09) 18.56 (BAP09)	07.30 18.49	18.10 (BAP08) 18.20 (BAP08)	07.05 17.09	07.36 16.57	15.23 (BAP10) 15.35 (BAP10)
13	06.03 20.54	06.31 20.25	07.01 19.37	17.57 (BAP09) 18.56 (BAP09)	07.31 18.48	18.07 (BAP08) 18.22 (BAP08)	07.06 17.08	07.37 16.57	15.22 (BAP10) 15.37 (BAP10)
14	06.04 20.54	06.32 20.23	07.02 19.35	17.56 (BAP09) 18.56 (BAP09)	07.32 18.46	18.05 (BAP08) 18.23 (BAP08)	07.07 17.07	07.38 16.57	15.21 (BAP10) 15.37 (BAP10)
15	06.05 20.53	06.33 20.22	07.03 19.34	17.56 (BAP09) 18.56 (BAP09)	07.33 18.45	18.04 (BAP08) 18.22 (BAP08)	07.08 17.07	07.39 16.57	15.21 (BAP10) 15.39 (BAP10)
16	06.05 20.52	06.34 20.21	07.04 19.32	17.55 (BAP09) 18.56 (BAP09)	07.34 18.43	18.02 (BAP08) 18.20 (BAP08)	07.10 17.06	07.39 16.57	15.21 (BAP10) 15.40 (BAP10)
17	06.06 20.52	06.35 20.19	07.05 19.30	17.54 (BAP09) 18.56 (BAP09)	07.35 18.42	18.02 (BAP08) 18.19 (BAP08)	07.11 17.05	07.40 16.58	15.21 (BAP10) 15.40 (BAP10)
18	06.07 20.51	06.36 20.18	07.06 19.29	17.53 (BAP09) 18.56 (BAP09)	07.36 18.40	18.02 (BAP08) 18.18 (BAP08)	07.12 17.04	07.41 16.58	15.21 (BAP10) 15.41 (BAP10)
19	06.08 20.50	06.37 20.16	07.07 19.27	17.53 (BAP09) 18.56 (BAP09)	07.37 18.39	18.01 (BAP08) 18.16 (BAP08)	07.13 17.03	07.41 16.58	15.22 (BAP10) 15.42 (BAP10)
20	06.09 20.50	06.38 20.15	07.08 19.25	17.52 (BAP09) 18.56 (BAP09)	07.38 18.37	18.01 (BAP08) 18.14 (BAP08)	07.14 17.03	07.42 16.59	15.22 (BAP10) 15.42 (BAP10)
21	06.10 20.49	06.39 20.14	07.09 19.24	17.52 (BAP09) 18.56 (BAP09)	07.40 18.36	18.01 (BAP08) 18.13 (BAP08)	07.15 17.02	07.43 16.59	15.22 (BAP10) 15.43 (BAP10)
22	06.10 20.48	06.40 20.12	07.10 19.22	17.51 (BAP09) 18.55 (BAP09)	07.41 18.34	18.01 (BAP08) 18.11 (BAP08)	07.16 17.01	07.43 17.00	15.22 (BAP10) 15.43 (BAP10)
23	06.11 20.47	06.41 20.11	07.11 19.20	17.51 (BAP09) 18.55 (BAP09)	07.42 18.33	18.01 (BAP08) 18.09 (BAP08)	07.18 17.01	07.44 17.00	15.23 (BAP10) 15.44 (BAP10)
24	06.12 20.47	06.42 20.09	07.12 19.19	17.51 (BAP09) 18.54 (BAP09)	07.43 18.32	18.02 (BAP08) 18.09 (BAP08)	07.19 17.00	07.44 17.01	15.24 (BAP10) 15.44 (BAP10)
25	06.13 20.46	06.43 20.08	07.13 19.17	17.50 (BAP09) 18.53 (BAP09)	06.44 17.30	17.03 (BAP08) 17.07 (BAP08)	07.20 17.00	07.44 17.01	15.24 (BAP10) 15.44 (BAP10)
26	06.14 20.45	06.44 20.06	07.14 19.15	17.50 (BAP09) 18.52 (BAP09)	06.45 17.29	17.04 (BAP08) 17.06 (BAP08)	07.21 16.59	07.45 17.02	15.25 (BAP10) 15.45 (BAP10)
27	06.15 20.44	06.45 20.05	07.15 19.14	17.50 (BAP09) 18.51 (BAP09)	06.46 17.27	17.06 (BAP08) 16.59	07.22 17.03	07.45 17.03	15.26 (BAP10) 15.45 (BAP10)
28	06.16 20.43	06.46 20.03	07.16 19.12	17.50 (BAP09) 18.49 (BAP09)	06.47 17.26	17.07 (BAP08) 16.58	07.23 17.03	07.46 17.03	15.27 (BAP10) 15.45 (BAP10)
29	06.17 20.42	06.46 20.01	07.17 19.10	17.50 (BAP09) 18.47 (BAP09)	06.49 17.25	17.07 (BAP08) 16.58	07.24 17.04	07.46 17.04	15.28 (BAP10) 15.44 (BAP10)
30	06.18 20.41	06.47 20.00	07.18 19.09	17.50 (BAP09) 18.46 (BAP09)	06.50 17.24	17.07 (BAP08) 16.58	07.25 17.05	07.46 17.05	15.30 (BAP10) 15.45 (BAP10)
31	06.18 20.40	06.48 19.58	18.28 (BAP09) 18.36 (BAP09)	06.51 17.22	06.51 17.22	17.08 17.05	07.46 17.05	15.31 (BAP10) 15.44 (BAP10)	
Potential sun hours	457	427	375	346	299	290	373		
Total, worst case		8	1616	615					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F95 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (252)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	
1	07.47	15.46 (BAP11) 07.34	06.58	17.04 (BAP10) 07.09	06.24	19.10 (BAP09) 05.55	
	17.07	33 16.19 (BAP11) 17.40	18.14	22 17.26 (BAP10) 19.47	20.18	39 19.49 (BAP09) 20.47	
2	07.47	15.47 (BAP11) 07.33	06.57	17.07 (BAP10) 07.07	06.22	19.10 (BAP09) 05.55	
	17.07	33 16.20 (BAP11) 17.41	18.15	17 17.24 (BAP10) 19.48	20.19	37 19.47 (BAP09) 20.47	
3	07.47	15.47 (BAP11) 07.32	06.55	17.10 (BAP10) 07.05	06.21	19.10 (BAP09) 05.54	
	17.08	33 16.20 (BAP11) 17.43	18.16	10 17.20 (BAP10) 19.49	20.20	37 19.47 (BAP09) 20.48	
4	07.47	15.48 (BAP11) 07.31	17.09 (BAP10) 06.54	07.04	06.20	19.11 (BAP09) 05.54	
	17.09	32 16.20 (BAP11) 17.44	11 17.20 (BAP10) 18.17	19.50	20.21	35 19.46 (BAP09) 20.49	
5	07.47	15.49 (BAP11) 07.30	17.07 (BAP10) 06.52	07.02	06.19	19.12 (BAP09) 05.54	
	17.10	31 16.20 (BAP11) 17.45	15 17.22 (BAP10) 18.18	19.51	20.22	33 19.45 (BAP09) 20.50	
6	07.47	15.50 (BAP11) 07.29	17.05 (BAP10) 06.51	07.00	06.17	19.13 (BAP09) 05.53	
	17.11	31 16.21 (BAP11) 17.46	18 17.23 (BAP10) 18.19	19.52	20.23	31 19.44 (BAP09) 20.50	
7	07.47	15.50 (BAP11) 07.28	17.03 (BAP10) 06.49	06.59	06.16	19.14 (BAP09) 05.53	
	17.12	30 16.20 (BAP11) 17.48	21 17.24 (BAP10) 18.20	19.53	20.24	29 19.43 (BAP09) 20.51	
8	07.47	15.51 (BAP11) 07.26	17.02 (BAP10) 06.48	06.57	06.15	19.16 (BAP09) 05.53	
	17.13	29 16.20 (BAP11) 17.49	24 17.26 (BAP10) 18.21	19.54	20.25	26 19.42 (BAP09) 20.51	
9	07.47	15.52 (BAP11) 07.25	17.01 (BAP10) 06.46	06.56	06.14	19.16 (BAP09) 05.53	
	17.14	28 16.20 (BAP11) 17.50	26 17.27 (BAP10) 18.22	19.55	20.26	24 19.40 (BAP09) 20.52	
10	07.46	15.53 (BAP11) 07.24	17.00 (BAP10) 06.44	06.54	06.13	19.18 (BAP09) 05.52	
	17.15	28 16.21 (BAP11) 17.51	29 17.29 (BAP10) 18.24	19.56	20.27	20 19.38 (BAP09) 20.53	
11	07.46	15.54 (BAP11) 07.23	16.59 (BAP10) 06.43	06.52	19.29 (BAP09)	06.12	19.20 (BAP09) 05.52
	17.16	27 16.21 (BAP11) 17.52	30 17.29 (BAP10) 18.25	19.57	7 19.36 (BAP09)	20.28	16 19.36 (BAP09) 20.53
12	07.46	15.54 (BAP11) 07.22	16.58 (BAP10) 06.41	06.51	19.24 (BAP09)	06.11	19.23 (BAP09) 05.52
	17.17	26 16.20 (BAP11) 17.54	33 17.31 (BAP10) 18.26	19.58	12 19.36 (BAP09)	20.29	10 19.33 (BAP09) 20.54
13	07.46	15.56 (BAP11) 07.21	16.58 (BAP10) 06.40	06.49	19.21 (BAP09)	06.10	05.52
	17.18	24 16.20 (BAP11) 17.55	34 17.32 (BAP10) 18.27	19.59	17 19.38 (BAP09)	20.30	20.54
14	07.45	15.57 (BAP11) 07.19	16.58 (BAP10) 06.38	06.48	19.19 (BAP09)	06.09	05.52
	17.19	22 16.19 (BAP11) 17.56	36 17.34 (BAP10) 18.28	20.00	19 19.38 (BAP09)	20.31	20.55
15	07.45	15.58 (BAP11) 07.18	16.57 (BAP10) 06.36	06.46	19.17 (BAP09)	06.08	05.52
	17.20	20 16.18 (BAP11) 17.57	38 17.35 (BAP10) 18.29	20.01	23 19.40 (BAP09)	20.32	20.55
16	07.45	16.01 (BAP11) 07.17	16.57 (BAP10) 06.35	06.45	19.15 (BAP09)	06.07	05.52
	17.21	17 16.18 (BAP11) 17.58	39 17.36 (BAP10) 18.30	20.02	25 19.40 (BAP09)	20.33	20.55
17	07.44	16.02 (BAP11) 07.15	16.57 (BAP10) 06.33	06.43	19.15 (BAP09)	06.06	05.52
	17.22	14 16.16 (BAP11) 18.00	40 17.37 (BAP10) 18.31	20.03	27 19.42 (BAP09)	20.34	20.56
18	07.44	16.04 (BAP11) 07.14	16.56 (BAP10) 06.32	06.42	19.13 (BAP09)	06.05	05.52
	17.24	10 16.14 (BAP11) 18.01	40 17.36 (BAP10) 18.32	20.04	29 19.42 (BAP09)	20.35	20.56
19	07.43	07.13	16.57 (BAP10) 06.30	06.40	19.12 (BAP09)	06.04	05.52
	17.25	18.02	39 17.36 (BAP10) 18.33	20.05	32 19.44 (BAP09)	20.36	20.56
20	07.43	07.11	16.57 (BAP10) 06.28	06.39	19.11 (BAP09)	06.03	05.52
	17.26	18.03	40 17.37 (BAP10) 18.34	20.06	33 19.44 (BAP09)	20.37	20.57
21	07.42	07.10	16.57 (BAP10) 06.27	06.37	19.11 (BAP09)	06.02	05.53
	17.27	18.04	39 17.36 (BAP10) 18.35	20.08	34 19.45 (BAP09)	20.38	20.57
22	07.41	07.09	16.57 (BAP10) 06.25	06.36	19.11 (BAP09)	06.02	05.53
	17.28	18.06	39 17.36 (BAP10) 18.36	20.09	36 19.47 (BAP09)	20.38	20.57
23	07.41	07.07	16.57 (BAP10) 06.23	06.34	19.10 (BAP09)	06.01	05.53
	17.29	18.07	37 17.34 (BAP10) 18.37	20.10	37 19.47 (BAP09)	20.39	20.57
24	07.40	07.06	16.58 (BAP10) 06.22	06.33	19.10 (BAP09)	06.00	05.53
	17.31	18.08	36 17.34 (BAP10) 18.38	20.11	39 19.49 (BAP09)	20.40	20.57
25	07.39	07.04	16.59 (BAP10) 06.20	06.32	19.09 (BAP09)	05.59	05.54
	17.32	18.09	34 17.33 (BAP10) 18.40	20.12	40 19.49 (BAP09)	20.41	20.58
26	07.39	07.03	17.00 (BAP10) 06.18	06.30	19.09 (BAP09)	05.59	05.54
	17.33	18.10	32 17.32 (BAP10) 18.41	20.13	41 19.50 (BAP09)	20.42	20.58
27	07.38	07.01	17.01 (BAP10) 06.17	06.29	19.09 (BAP09)	05.58	05.54
	17.34	18.11	29 17.30 (BAP10) 18.42	20.14	41 19.50 (BAP09)	20.43	20.58
28	07.37	07.00	17.03 (BAP10) 06.15	06.27	19.09 (BAP09)	05.57	05.55
	17.35	18.12	26 17.29 (BAP10) 18.43	20.15	40 19.49 (BAP09)	20.44	20.58
29	07.36		07.13	06.26	19.09 (BAP09)	05.57	05.55
	17.37		19.44	20.16	40 19.49 (BAP09)	20.44	20.58
30	07.35		07.12	06.25	19.10 (BAP09)	05.56	05.55
	17.38		19.45	20.17	39 19.49 (BAP09)	20.45	20.58
31	07.35		07.10			05.56	
	17.39		19.46			20.46	
Potential sun hours	299	298	370	398	447	450	
Total, worst case	468	785	49	611	337		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar

Calculation: Shadow 2020 07 30 Cumulative Shadow receptor: F95 - Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (252)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 20.58	06.19 20.39	13 19.32 (BAP09) 19.45 (BAP09)	06.49 19.57	19.28 (BAP09) 07.19	06.52 17.21
2	05.56 20.57	06.20 20.38	17 19.30 (BAP09) 19.47 (BAP09)	06.50 19.55	07.20 19.05	06.53 17.20
3	05.57 20.57	06.21 20.37	21 19.28 (BAP09) 19.49 (BAP09)	06.51 19.54	07.21 19.04	06.54 17.19
4	05.57 20.57	06.22 20.36	25 19.26 (BAP09) 19.51 (BAP09)	06.52 19.52	07.22 19.02	06.55 17.18
5	05.58 20.57	06.23 20.35	27 19.25 (BAP09) 19.52 (BAP09)	06.53 19.50	07.23 19.00	06.57 17.16
6	05.59 20.57	06.24 20.33	29 19.24 (BAP09) 19.53 (BAP09)	06.54 19.49	07.24 18.59	06.58 17.15
7	05.59 20.56	06.25 20.32	31 19.23 (BAP09) 19.54 (BAP09)	06.55 19.47	07.25 18.57	06.59 17.14
8	06.00 20.56	06.26 20.31	19.22 (BAP09) 19.55 (BAP09)	06.56 19.45	07.26 18.56	07.00 17.13
9	06.00 20.56	06.27 20.30	19.21 (BAP09) 19.56 (BAP09)	06.57 19.44	07.27 18.54	07.01 17.12
10	06.01 20.55	06.28 20.29	19.20 (BAP09) 19.56 (BAP09)	06.58 19.42	07.28 18.52	07.02 17.11
11	06.02 20.55	06.29 20.27	19.18 (BAP09) 19.56 (BAP09)	06.59 19.40	07.29 18.51	07.04 17.10
12	06.02 20.54	06.30 20.26	19.18 (BAP09) 19.56 (BAP09)	07.00 19.39	07.30 18.49	07.05 17.09
13	06.03 20.54	06.31 20.25	19.17 (BAP09) 19.57 (BAP09)	07.01 19.37	07.31 18.48	07.06 17.08
14	06.04 20.53	06.32 20.23	19.17 (BAP09) 19.57 (BAP09)	07.02 19.35	07.32 18.46	07.07 17.07
15	06.05 20.53	06.33 20.22	19.16 (BAP09) 19.57 (BAP09)	07.03 19.34	07.33 18.45	07.08 17.07
16	06.05 20.52	06.34 20.21	19.16 (BAP09) 19.57 (BAP09)	07.04 19.32	07.34 18.43	07.09 17.06
17	06.06 20.52	06.35 20.19	19.16 (BAP09) 19.57 (BAP09)	07.05 19.30	07.35 18.42	07.11 17.05
18	06.07 20.51	06.36 20.18	19.16 (BAP09) 19.55 (BAP09)	07.06 19.29	07.36 18.40	07.12 17.04
19	06.08 20.50	06.37 20.16	19.15 (BAP09) 19.54 (BAP09)	07.07 19.27	07.37 18.39	07.13 17.03
20	06.09 20.50	06.38 20.15	19.15 (BAP09) 19.53 (BAP09)	07.08 19.25	07.38 18.37	07.14 17.03
21	06.09 20.49	06.39 20.14	19.15 (BAP09) 19.51 (BAP09)	07.09 19.24	07.40 18.36	07.15 17.02
22	06.10 20.48	06.40 20.12	19.16 (BAP09) 19.50 (BAP09)	07.10 19.22	07.41 18.34	07.16 17.01
23	06.11 20.47	06.41 20.11	19.16 (BAP09) 19.49 (BAP09)	07.11 19.20	07.42 18.33	07.18 17.01
24	06.12 20.47	06.42 20.09	19.16 (BAP09) 19.47 (BAP09)	07.12 19.19	07.43 18.32	07.19 17.00
25	06.13 20.46	06.43 20.08	19.16 (BAP09) 19.45 (BAP09)	07.13 19.17	07.44 17.30	07.20 17.00
26	06.14 20.45	06.44 20.06	19.17 (BAP09) 19.44 (BAP09)	07.14 19.15	07.45 17.29	07.21 16.59
27	06.15 20.44	06.45 20.05	19.17 (BAP09) 19.42 (BAP09)	07.15 19.14	07.46 17.27	07.22 16.59
28	06.16 20.43	06.46 20.03	19.18 (BAP09) 19.41 (BAP09)	07.16 19.12	07.47 17.26	07.23 16.58
29	06.17 20.42	06.46 20.01	19.20 (BAP09) 19.39 (BAP09)	07.17 19.10	07.49 17.25	07.24 16.58
30	06.17 20.41	06.47 20.00	19.21 (BAP09) 19.38 (BAP09)	07.18 19.09	07.50 17.24	07.25 16.58
31	06.18 20.40	06.48 19.58	19.24 (BAP09) 19.36 (BAP09)	07.19	07.51 17.22	07.26 16.59
Potential sun hours	457	427	375	346	299	290
Total, worst case		948	7	701	271	1013

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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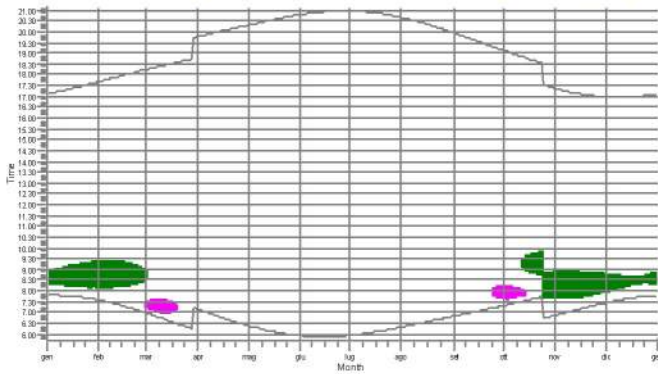
Calculated:

30/07/2020 14.46/2.9.207

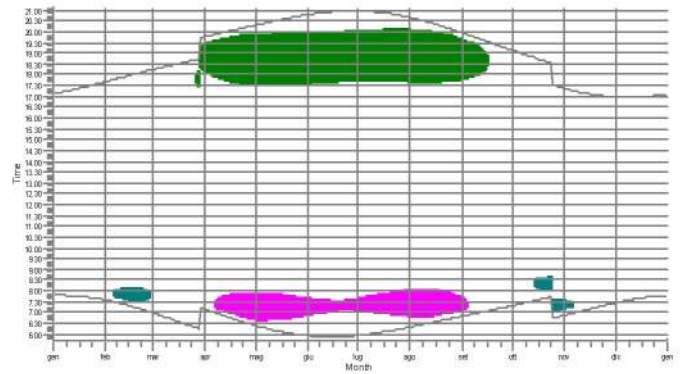
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

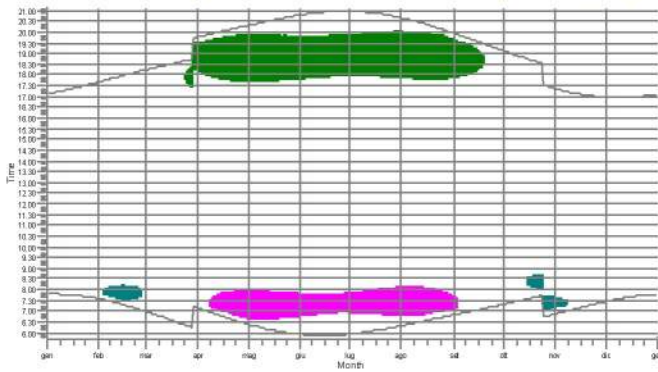
F01: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (262)



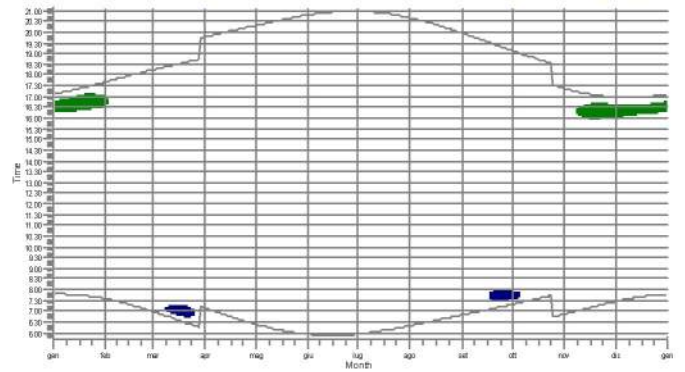
F02: Rudere



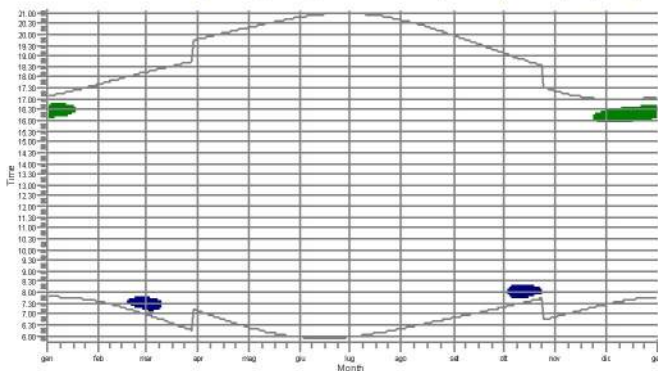
F03: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (234)



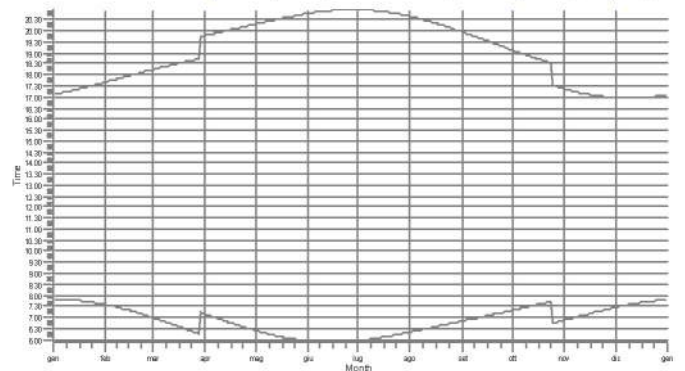
F06: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (263)



F10: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (264)



F101: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (253)



WTGs

■ BAP01: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (56)
■ BAP05: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (60)

■ BAP06: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (61)
■ BAP07: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (62)

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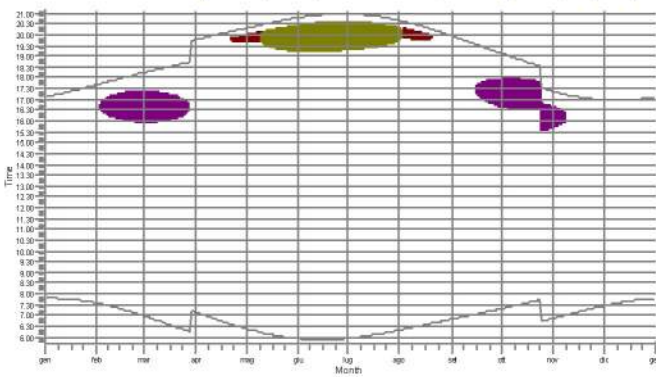
Calculated:

30/07/2020 14.46/2.9.207

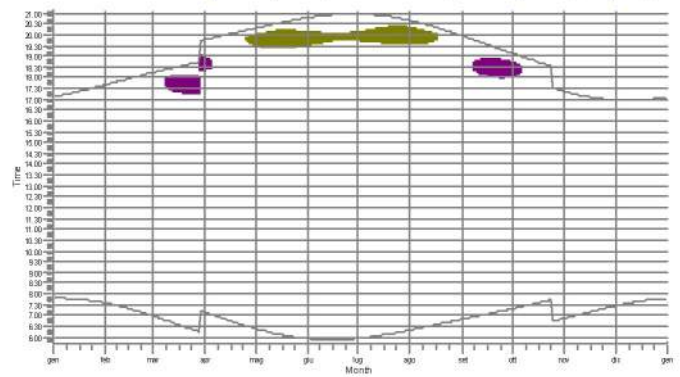
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

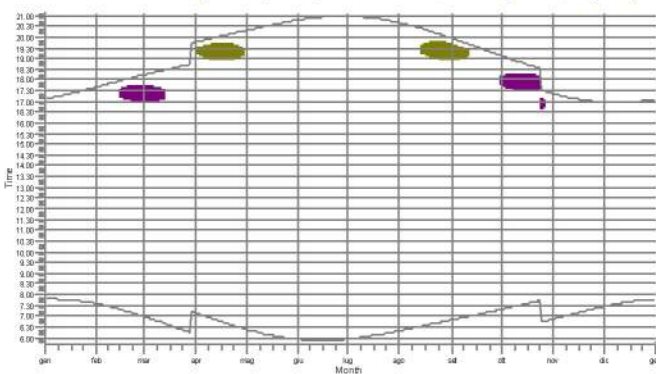
F102: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (285)



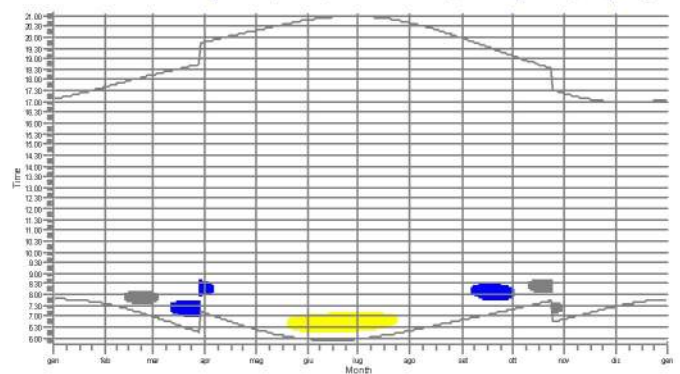
F103: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (286)



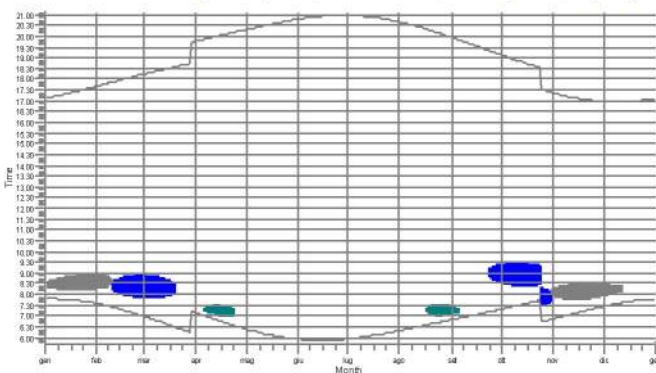
F109: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (254)



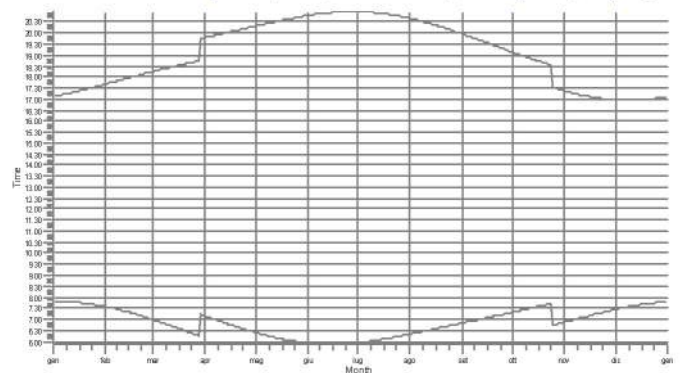
F121: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (287)



F123: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (288)



F128: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (289)



WTGs

- BAP02: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (57)
- BAP03: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (58)
- BAP04: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (59)
- BAP06: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (61)

- BAP08: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (63)
- BAP10: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (65)
- BAP11: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (66)

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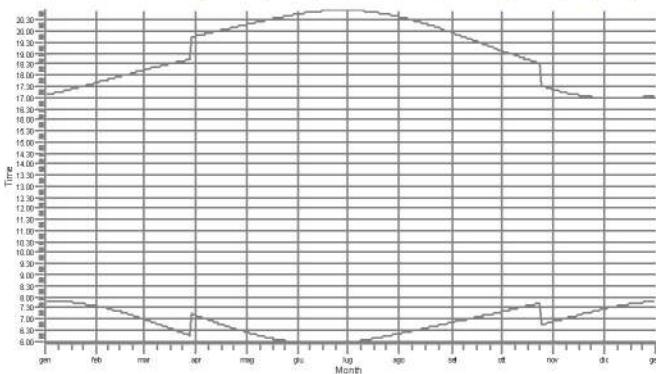
Calculated:

30/07/2020 14.46/2.9.207

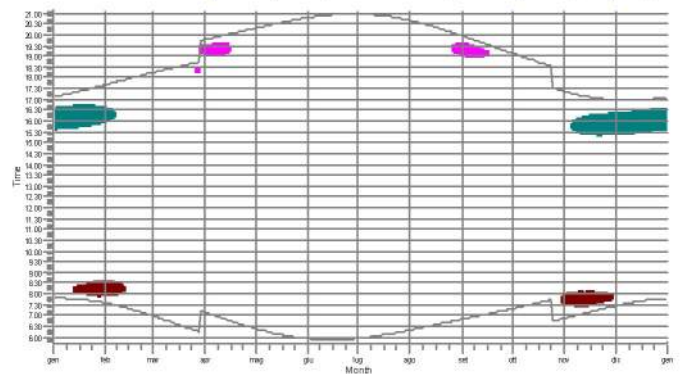
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

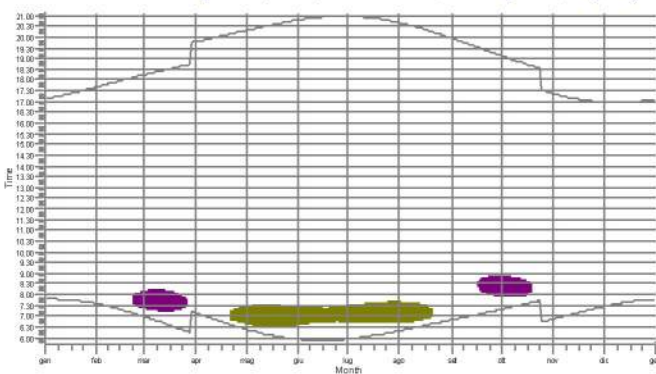
F130: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (290)



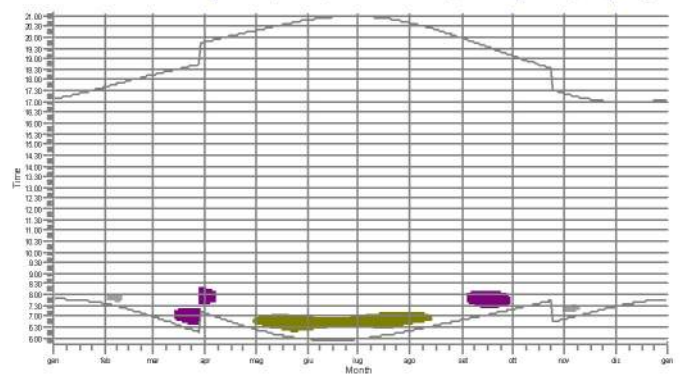
F131: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (291)



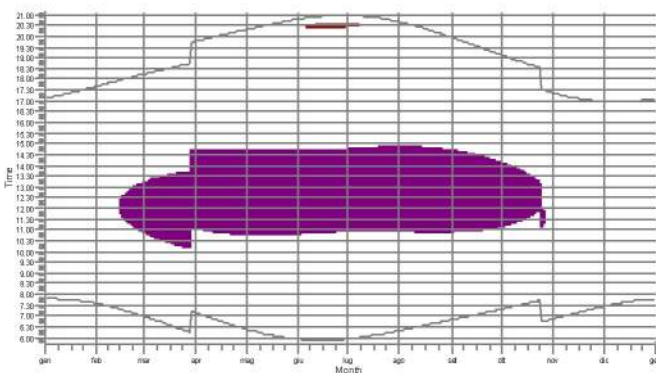
F137: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (292)



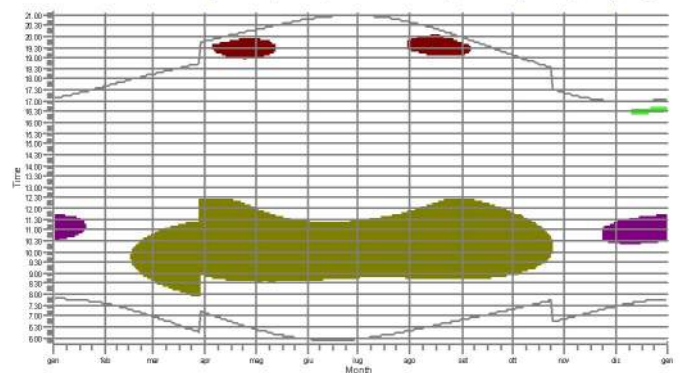
F138: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (255)



F151: Vedetta antincendio



F153: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (294)



WTGs

- BAP05: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (60)
- BAP06: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (61)
- BAP08: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (63)
- BAP10: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (65)

- BAP11: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (66)
- 16: TOZZI_GREEN_bis Victory 24-60 60 26.0 IO! hub: 30.0 m (TOT: 43.0 m) (17)
- 18: TOZZI_GREEN_bis Victory 24-60 60 26.0 IO! hub: 30.0 m (TOT: 43.0 m) (19)

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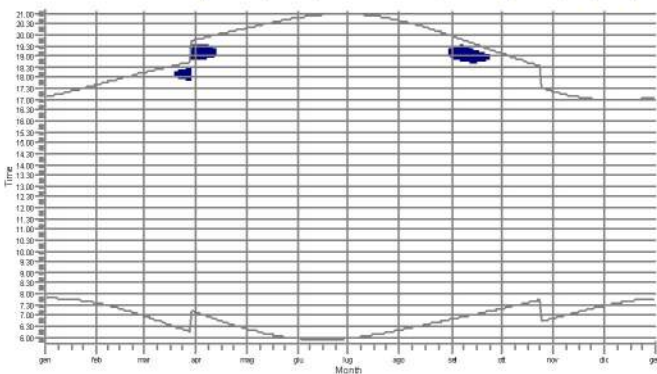
Calculated:

30/07/2020 14.46/2.9.207

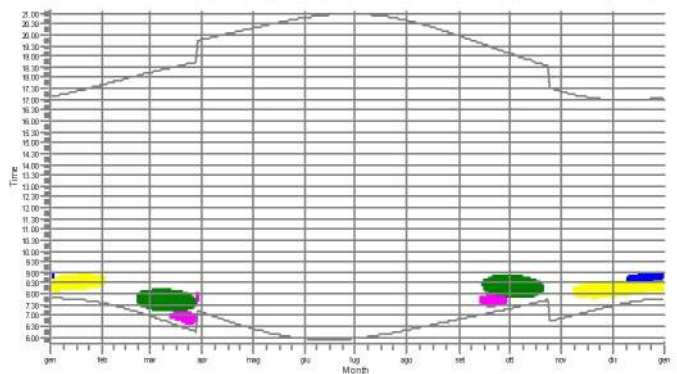
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

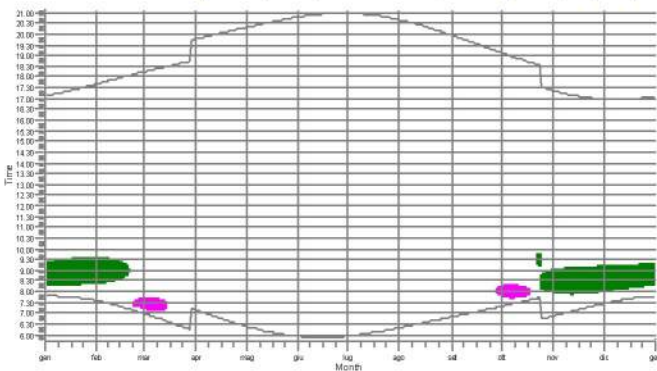
F154: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (256)



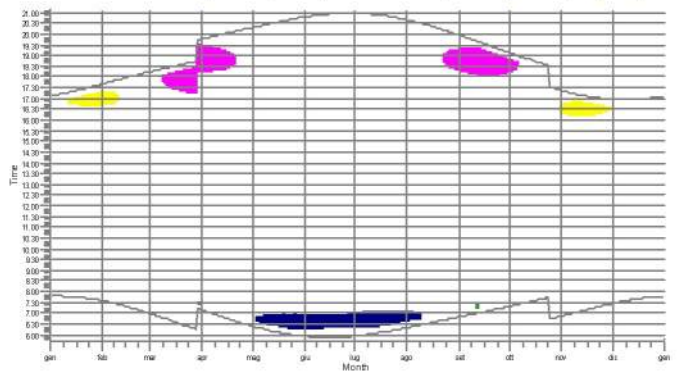
F158: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (257)



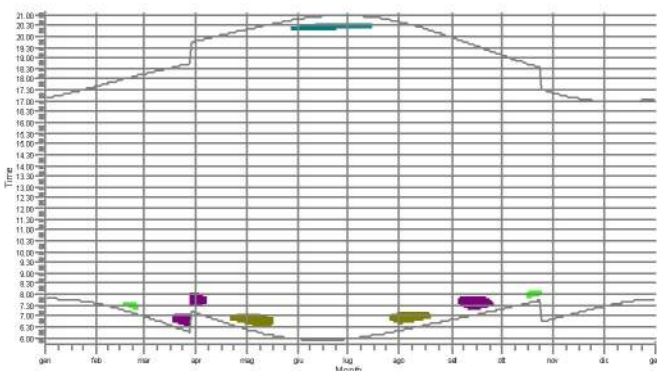
F159: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (258)



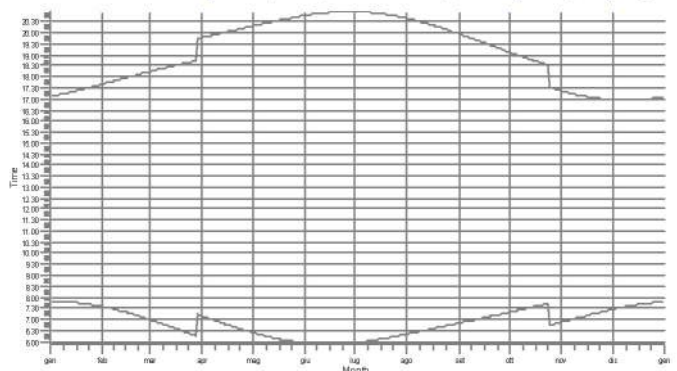
F16: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (265)



F161: Abitazione



F162: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (260)



WTGs

- BAP01: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (56)
- BAP02: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (57)
- BAP03: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (58)
- BAP05: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (60)
- BAP06: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (61)

- BAP07: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (62)
- BAP10: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (65)
- BAP11: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (66)
- 18: TOZZI_GREEN_bis Victory 24-60 60 26.0 IO! hub: 30,0 m (TOT: 43,0 m) (19)
- 27: TOZZI_GREEN_bis Victory 24-60 60 26.0 IO! hub: 30,0 m (TOT: 43,0 m) (28)

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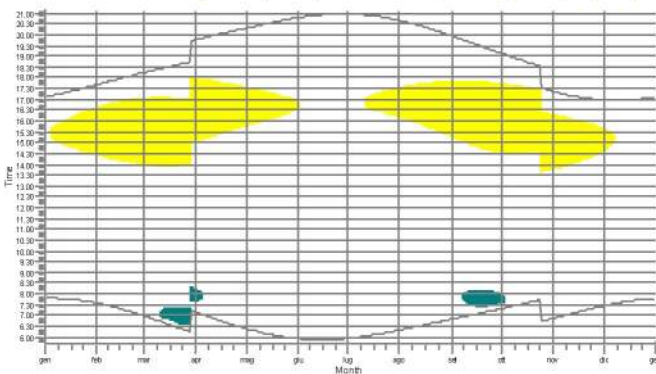
Calculated:

30/07/2020 14.46/2.9.207

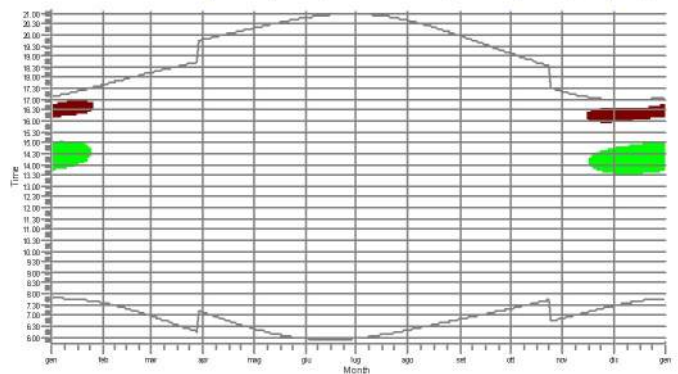
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

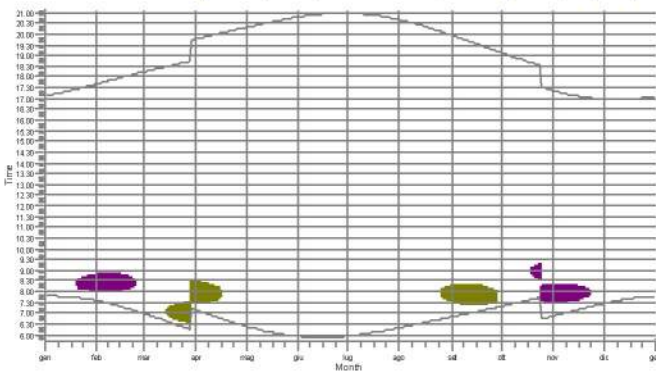
F163: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (261)



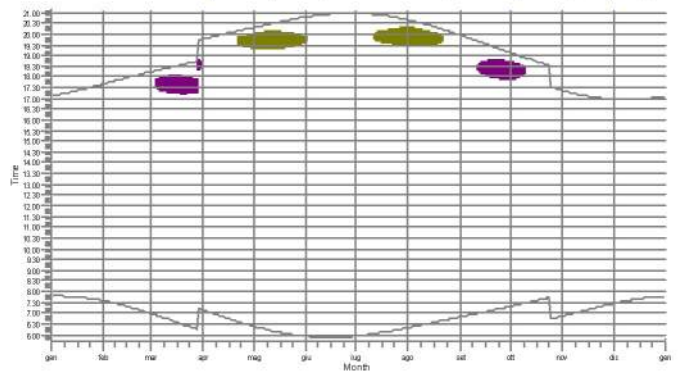
F167: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (295)



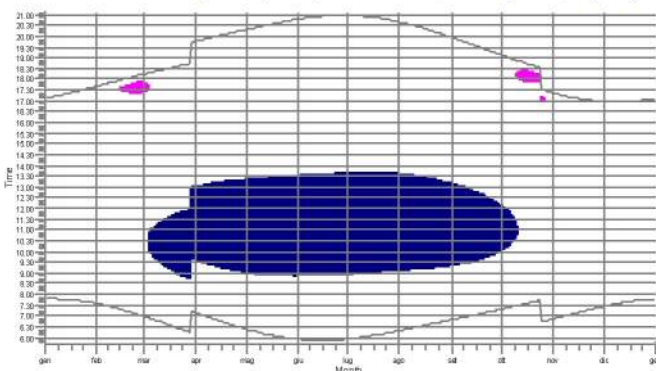
F168: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (228)



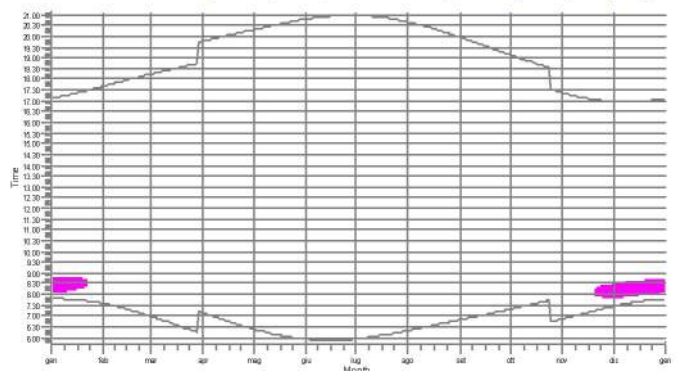
F172: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (229)



F174: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (230)



F176: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (231)



WTGs

- BAP02: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (57)
- BAP05: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (60)
- BAP06: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (61)
- BAP07: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (62)

- BAP08: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (63)
- BAP09: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (64)
- BAP10: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (65)
- BAP11: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (66)

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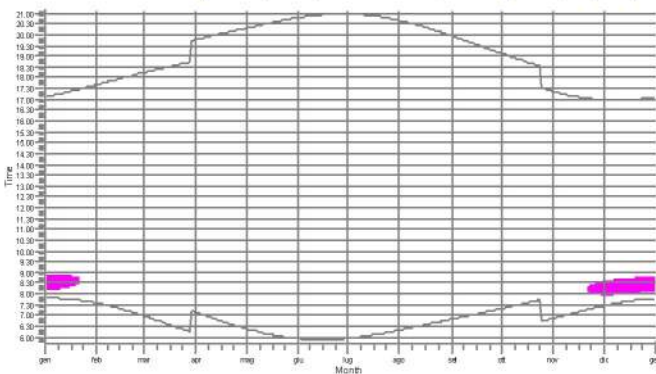
Calculated:

30/07/2020 14.46/2.9.207

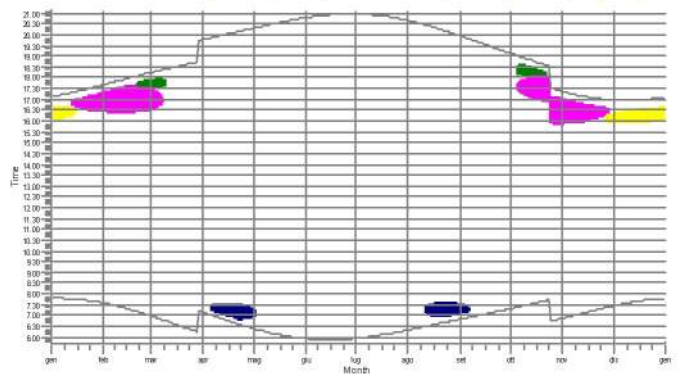
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

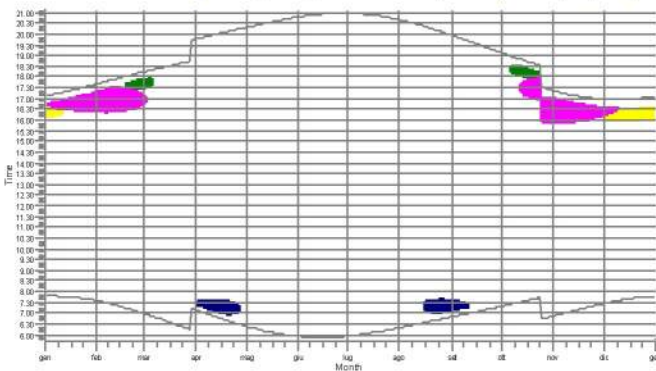
F177: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (232)



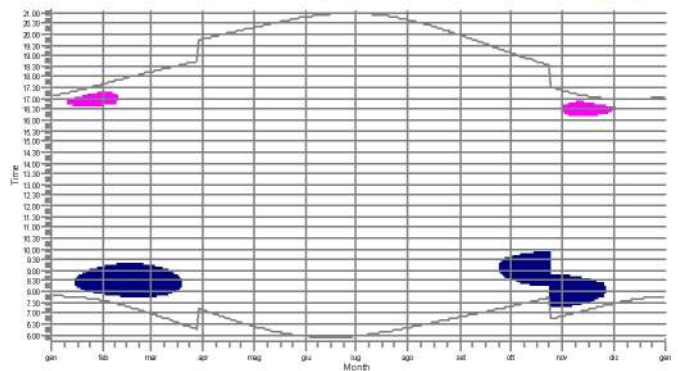
F18: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (235)



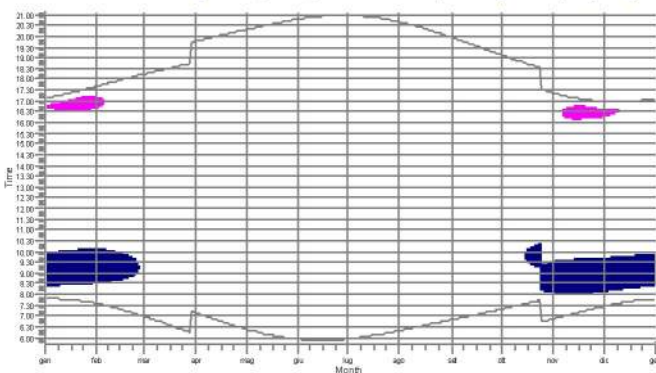
F19: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (266)



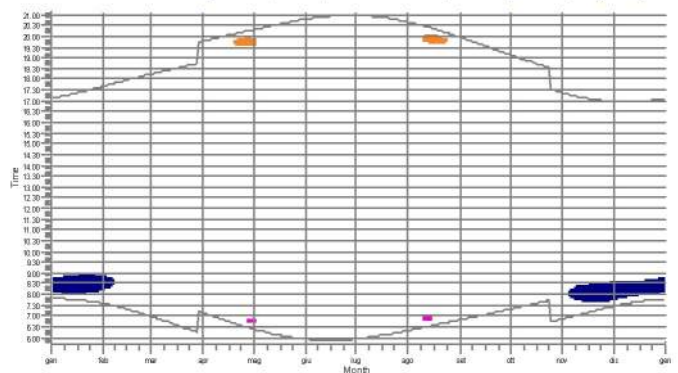
F21: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (236)



F23: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (267)



F24: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (237)



WTGs

- BAP01: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (56)
- BAP02: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (57)
- BAP05: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (60)

- BAP07: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (62)
- 23: TOZZI_GREEN_bis Victory 24-60 60 26.0 IO! hub: 30.0 m (TOT: 43.0 m) (24)
- 24: TOZZI_GREEN_bis Victory 24-60 60 26.0 IO! hub: 30.0 m (TOT: 43.0 m) (25)

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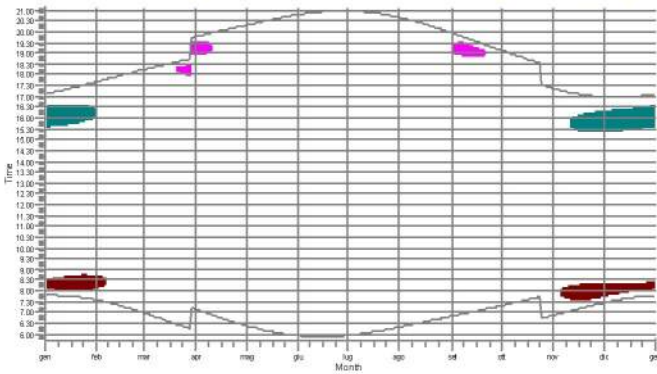
Calculated:

30/07/2020 14.46/2.9.207

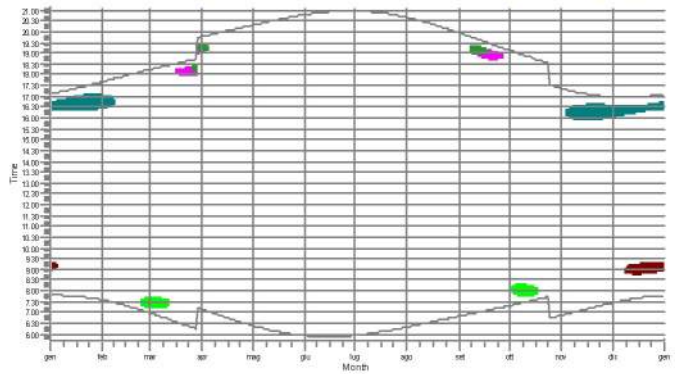
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

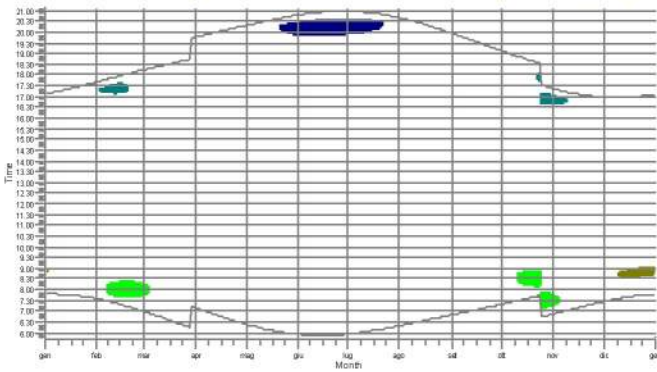
F29: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (268)



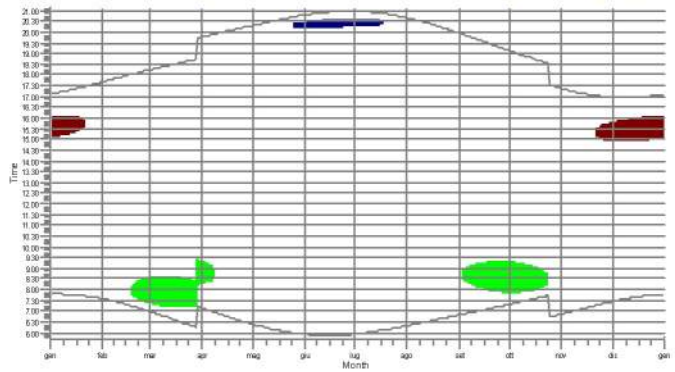
F31: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (238)



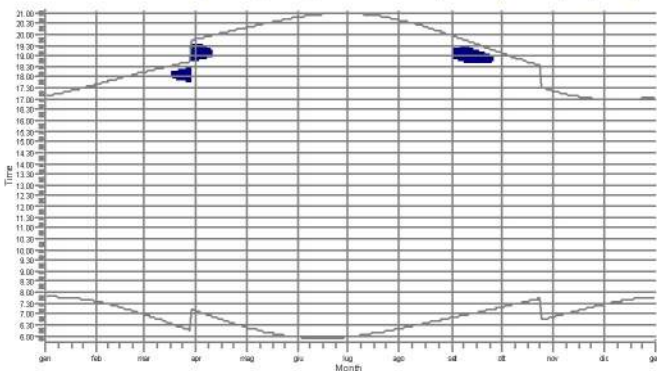
F32: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (239)



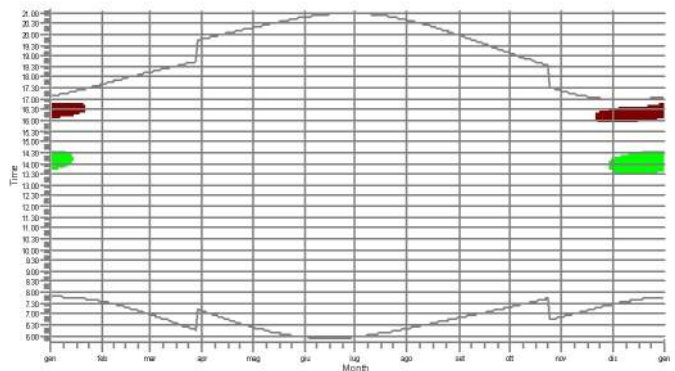
F33: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (240)



F34: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (269)



F37: Abitazione



WTGs

- BAP05: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (60)
- BAP06: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (61)
- BAP07: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (62)
- BAP08: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (63)

- BAP09: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (64)
- BAP10: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (65)
- 27: TOZZI_GREEN_bis Victory 24-60 60 26.0 IO! hub: 30,0 m (TOT: 43,0 m) (28)

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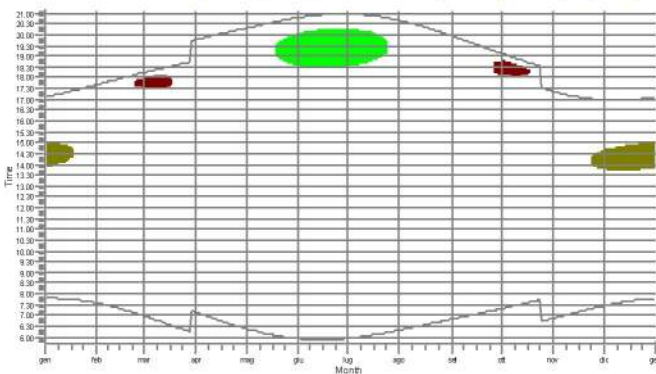
Calculated:

30/07/2020 14.46/2.9.207

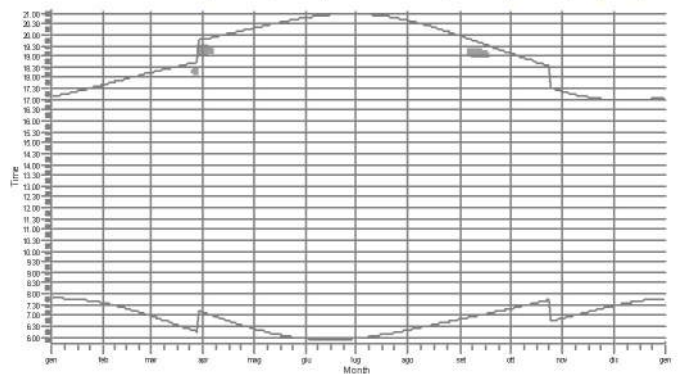
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

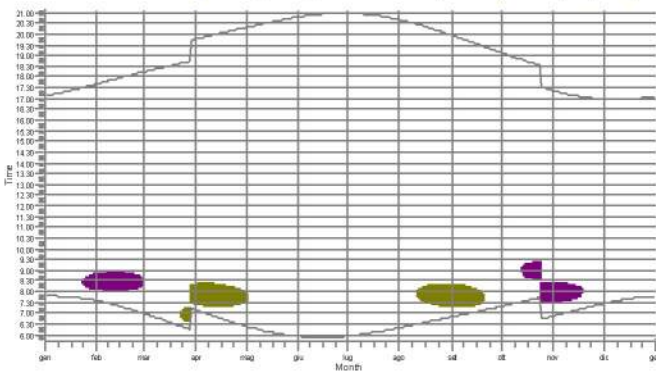
F39: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (241)



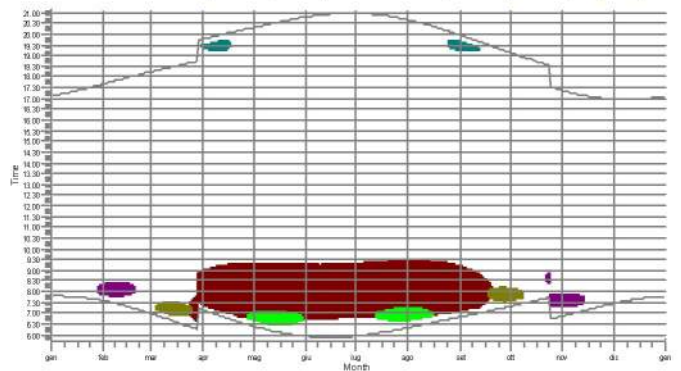
F43: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (242)



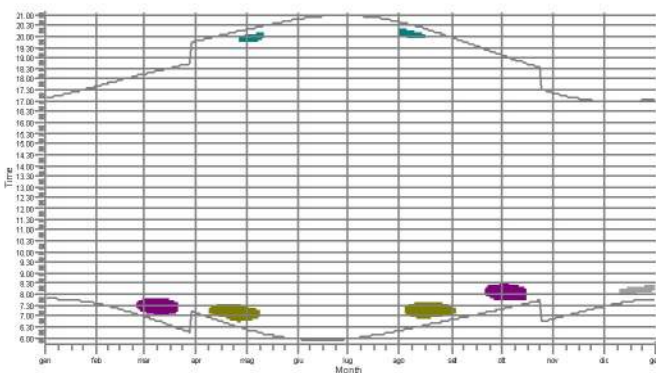
F47: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (243)



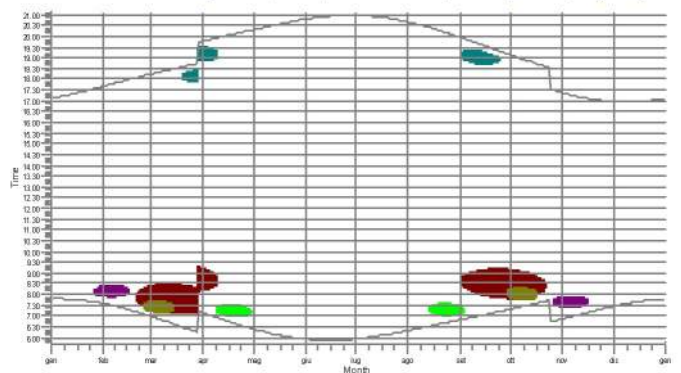
F50: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (271)



F52: Rudere



F52: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (245)



WTGs

- BAP06: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (61)
- BAP08: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (63)
- BAP09: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (64)

- BAP10: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (65)
- BAP11: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (66)
- 16: TOZZI_GREEN_bis Victory 24-60 60 26.0 IO! hub: 30.0 m (TOT: 43.0 m) (17)

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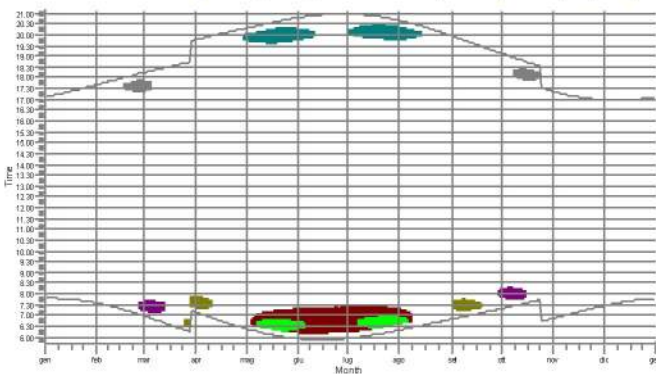
Calculated:

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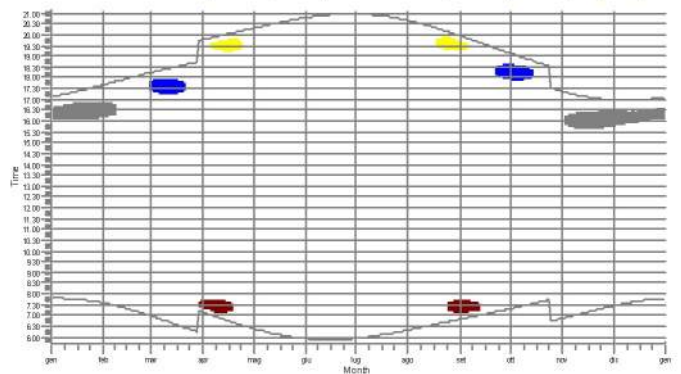
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

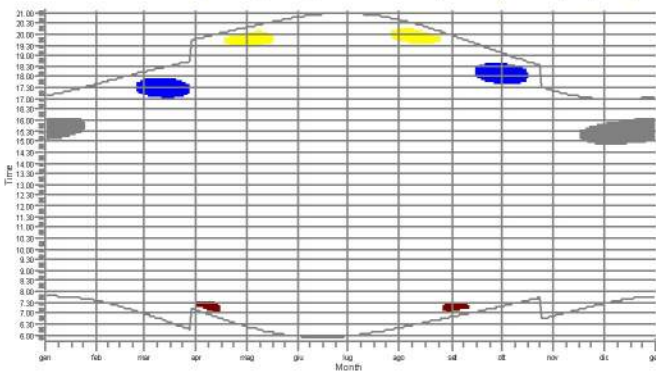
F55: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (272)



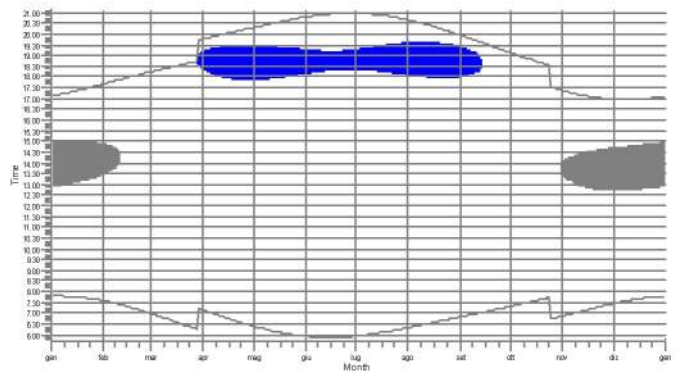
F57: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (246)



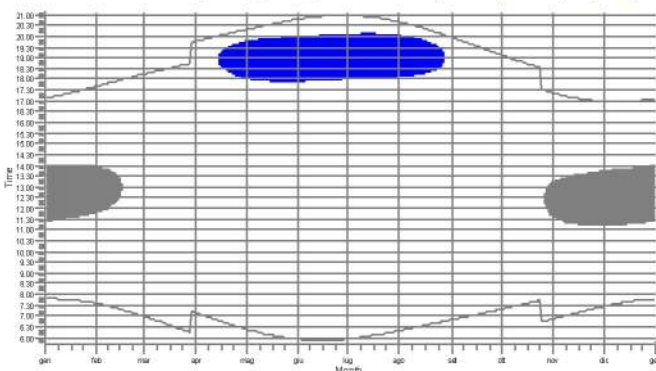
F60: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (273)



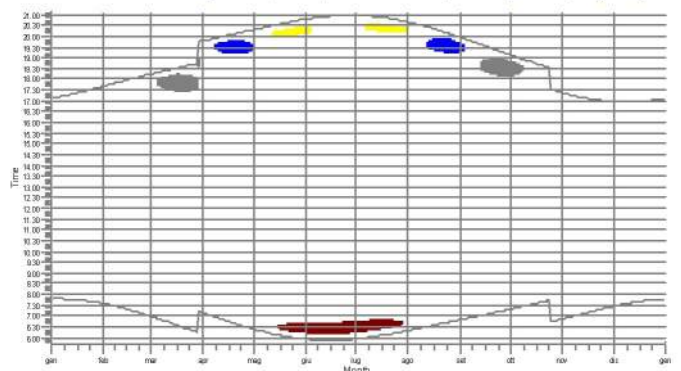
F61: Rudere



F62: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (275)



F66: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (276)



WTGs

- BAP02: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (57)
- BAP03: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (58)
- BAP04: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (59)
- BAP06: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (61)

- BAP08: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (63)
- BAP09: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (64)
- BAP10: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (65)
- BAP11: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (66)

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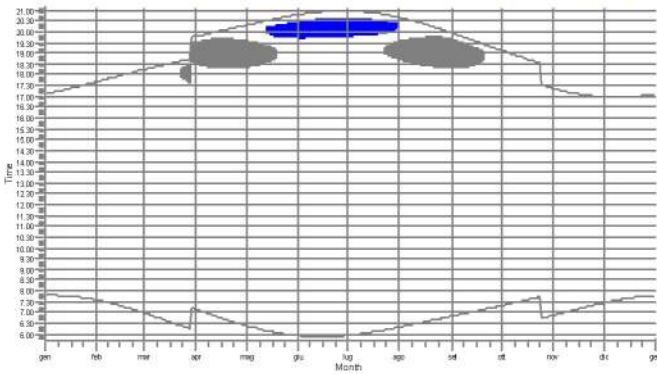
Calculated:

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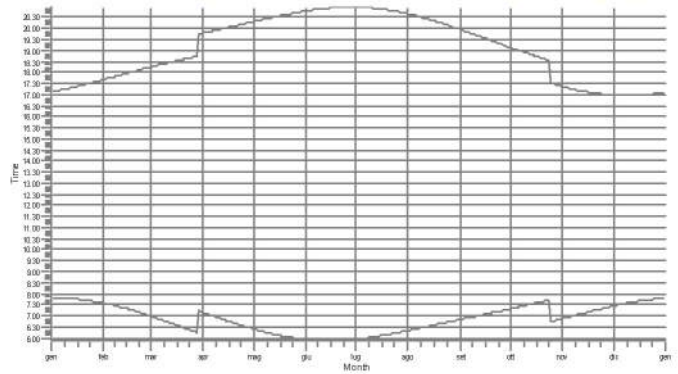
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

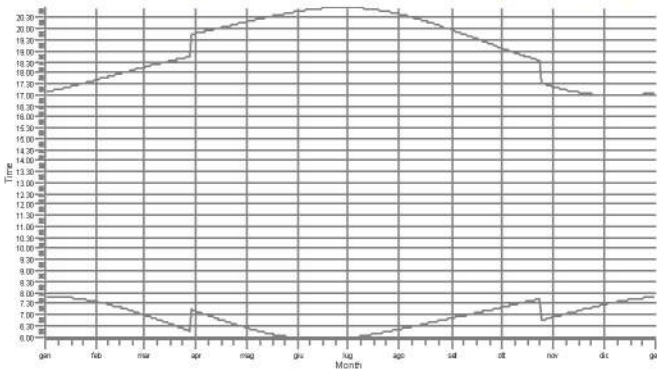
F67: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (277)



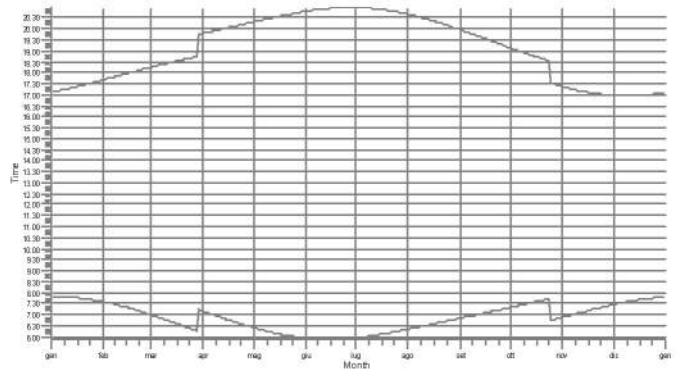
F68: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (278)



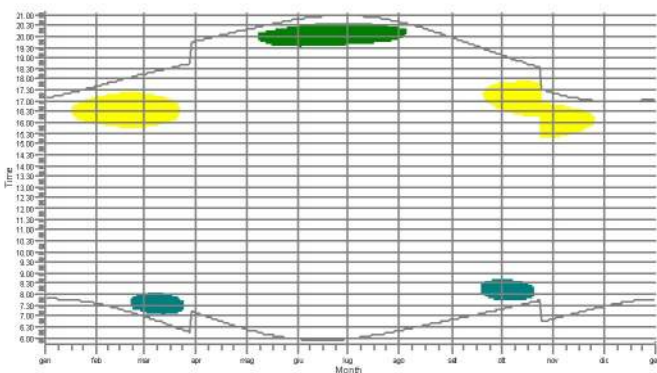
F69: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (247)



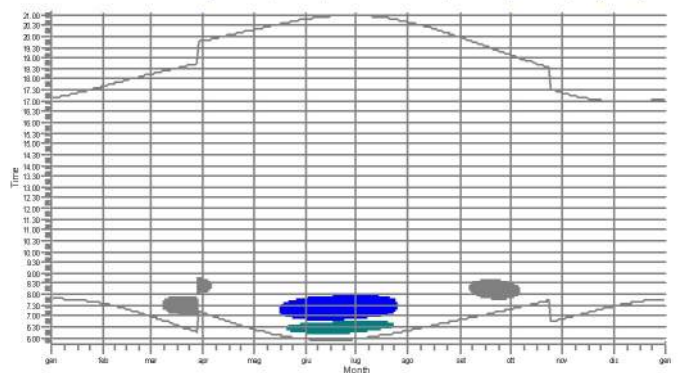
F73: Rudere



F78: Rudere



F80: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (280)



WTGs

- BAP01: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (56)
- BAP02: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (57)
- BAP03: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (58)

- BAP04: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (59)
- BAP06: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (61)

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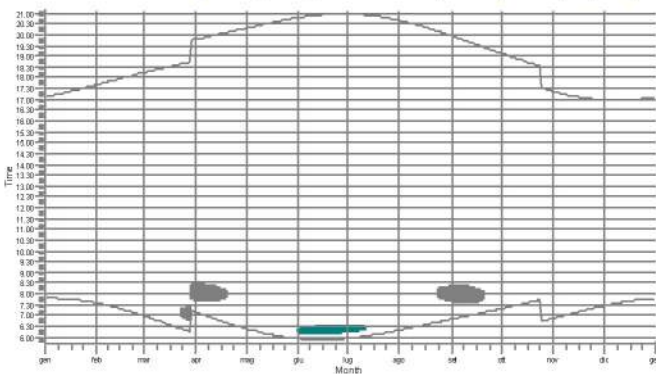
Calculated:

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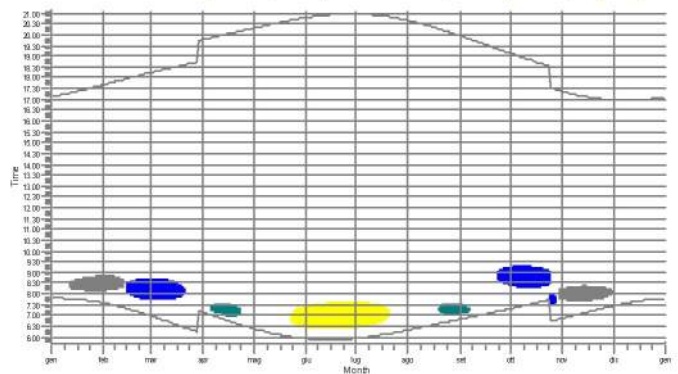
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

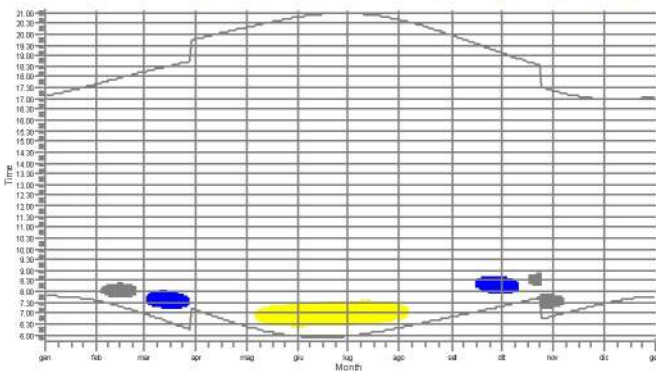
F81: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (281)



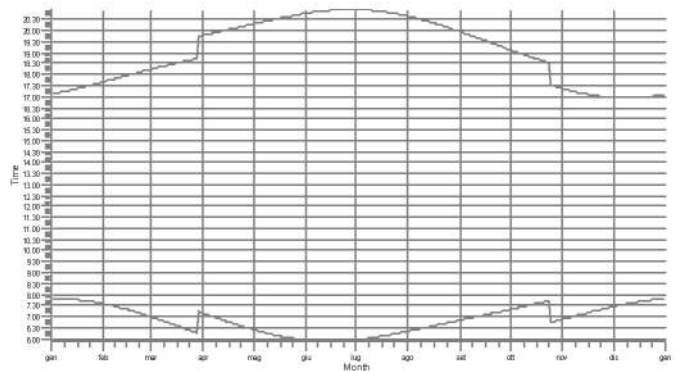
F85: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (282)



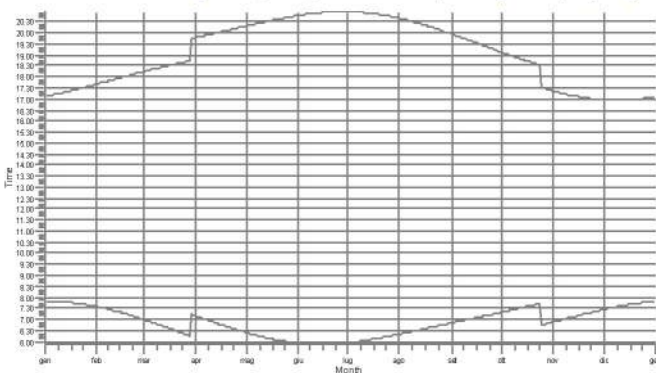
F87: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (249)



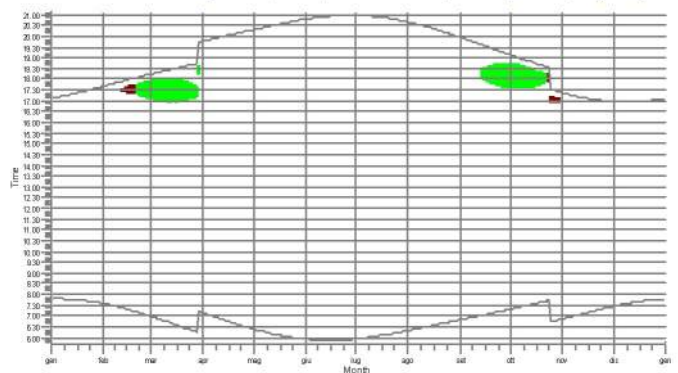
F88: Rudere






F89: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (283)






F91: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (284)



WTGs

-  BAP02: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (57)
-  BAP03: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (58)
-  BAP04: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (59)

-  BAP06: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (61)
-  BAP08: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (63)
-  BAP09: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115,0 m (TOT: 200,0 m) (64)

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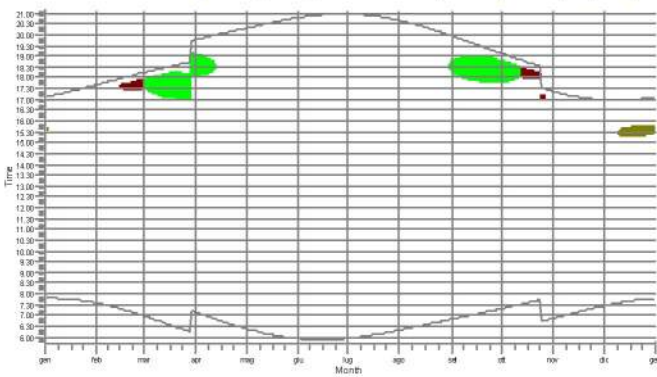
Calculated:

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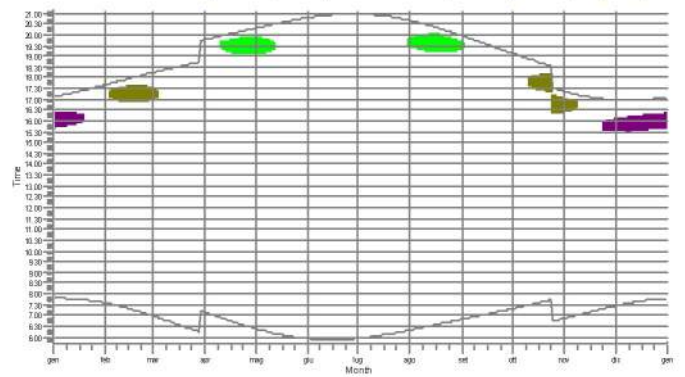
SHADOW - Calendar, graphical

Calculation: Shadow 2020 07 30 Cumulative

F93: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (251)



F95: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (252)



WTGs

■ BAP08: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (63)
■ BAP09: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (64)

■ BAP10: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (65)
■ BAP11: Siemens Mode 0 SG 6.0-170 6000 170.0 IO! hub: 115.0 m (TOT: 200.0 m) (66)

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Calculated:

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SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: BAP01 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (56)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47 08.21-09.18/57 17.07 16.10-16.41/31	07.34 08.13-09.32/79 17.40 16.40-16.54/14	06.59 07.23-08.08/45 18.14 08.35-08.54/19	07.09 18.14-19.26/72 19.47	06.24 17.35-19.48/133 20.18 19.48-19.49/1	05.56 17.39-20.23/164 20.47
2	07.47 08.21-09.19/58 17.08 16.11-16.42/31	07.33 08.13-09.32/79 17.42 16.44-16.50/6	06.57 07.21-08.08/47 18.15 17.33-17.54/21	07.07 18.10-19.26/76 19.48	06.22 17.34-19.48/134 20.19 19.48-19.50/2	05.55 17.38-20.23/165 20.48
3	07.47 08.21-09.19/58 17.08 16.11-16.43/32	07.32 08.13-09.31/78 17.43	06.56 07.20-08.09/49 18.16 17.34-17.54/20	07.05 18.08-19.28/80 19.49	06.21 17.33-19.47/134 20.20 19.47-19.49/2	05.55 17.39-20.24/165 20.48
4	07.47 08.22-09.20/58 17.09 16.12-16.44/32	07.31 08.13-09.31/78 17.44	06.54 07.20-08.10/50 18.17 17.35-17.56/21	07.04 18.05-19.29/84 19.50	06.20 17.33-19.47/134 20.21 19.47-19.50/3	05.54 17.40-20.25/165 20.49
5	07.47 08.21-09.21/60 17.10 16.13-16.45/32	07.30 08.13-09.31/78 17.45	06.53 07.18-08.10/52 18.18 17.35-17.53/18	07.02 18.03-19.30/87 19.51	06.19 17.33-19.47/134 20.22 19.47-19.50/3	05.54 17.39-20.25/166 20.50
6	07.47 08.21-09.22/61 17.11 16.13-16.46/33	07.29 08.13-09.30/77 17.47	06.51 07.18-08.10/52 18.19 17.37-17.51/14	07.01 18.01-19.31/90 19.52	06.18 17.33-19.48/135 20.23 19.48-19.50/2	05.54 17.40-20.25/165 20.50
7	07.47 08.21-09.22/61 17.12 16.14-16.47/33	07.28 08.13-09.29/76 17.48	06.49 07.17-08.10/53 18.21 17.37-17.56/19	06.59 17.58-19.32/94 19.53	06.16 17.33-19.48/135 20.24 19.48-19.51/3	05.53 17.40-20.26/166 20.51
8	07.47 08.21-09.23/62 17.13 16.15-16.48/33	07.27 08.13-09.28/75 17.49	06.48 07.17-08.11/54 18.22 17.39-17.53/14	06.57 17.57-19.33/96 19.54	06.15 17.34-19.48/134 20.25 19.48-19.51/3	05.53 17.41-20.27/166 20.52
9	07.47 08.19-09.23/64 17.14 16.15-16.48/33	07.26 08.13-09.27/74 17.50	06.46 07.16-08.10/54 18.23 17.43-17.49/6	06.56 17.55-19.34/99 19.55	06.14 17.34-19.51/137 20.26 19.56-20.03/7	05.53 17.42-20.28/166 20.52
10	07.47 08.19-09.24/65 17.15 16.16-16.50/34	07.24 08.14-09.27/73 17.51	06.45 07.15-08.10/55 18.24	06.54 17.53-19.35/102 19.56	06.13 17.34-19.51/137 20.27 19.52-20.04/12	05.53 17.41-20.27/166 20.53
11	07.46 08.19-09.25/66 17.16 16.18-16.51/33	07.23 08.14-09.26/72 17.53	06.43 07.16-08.10/54 18.25 18.02-18.04/2	06.53 17.51-19.36/105 19.57	06.12 17.34-20.05/151 20.28 17.46-19.47/121	05.53 17.41-20.28/167 20.53
12	07.46 08.18-09.25/67 17.17 16.18-16.51/33	07.22 08.14-09.24/70 17.54	06.42 07.15-08.09/54 18.26 18.00-18.05/5	06.51 17.50-19.37/107 19.58	06.11 17.34-20.06/152 20.29 17.46-19.47/121	05.52 17.42-20.28/166 20.54
13	07.46 08.18-09.26/68 17.18 16.20-16.53/33	07.21 08.14-09.23/69 17.55	06.40 07.15-08.08/53 18.27 17.48-18.06/8	06.50 17.48-19.38/110 19.59	06.10 17.34-20.07/153 20.30	05.52 17.42-20.29/167 20.54
14	07.46 08.18-09.27/69 17.19 16.21-16.54/33	07.20 08.15-09.21/66 17.56	06.38 07.15-08.08/53 18.28 17.57-18.07/10	06.48 17.47-19.38/111 20.01	06.09 17.34-20.08/154 20.31	05.52 17.42-20.29/167 20.55
15	07.45 08.17-09.27/70 17.20 16.23-16.55/32	07.18 08.16-09.20/64 17.58	06.37 07.15-08.07/52 18.29 17.56-18.08/12	06.46 17.46-19.40/114 20.02	06.08 17.34-20.09/155 20.32	05.52 17.43-20.30/167 20.55
16	07.45 08.17-09.28/71 17.21 16.25-16.57/32	07.17 08.15-09.18/63 17.59	06.35 07.16-08.07/51 18.30 17.55-18.09/14	06.45 17.44-19.40/116 20.03	06.07 17.34-20.09/155 20.33	05.52 17.43-20.30/167 20.56
17	07.44 08.16-09.28/72 17.23 16.25-16.57/32	07.16 08.16-09.16/60 18.00 09.16-09.17/1	06.33 07.16-08.06/50 18.31 17.55-18.11/16	06.43 17.43-19.42/119 20.04	06.06 17.34-20.10/156 20.34	05.52 17.43-20.30/167 20.56
18	07.44 08.16-09.29/73 17.24 16.26-16.59/33	07.14 08.17-09.14/57 18.01 09.14-09.17/3	06.32 07.16-08.05/49 18.32 17.54-18.11/17	06.42 17.42-19.42/120 20.05	06.05 17.34-20.11/157 20.35	05.52 17.43-20.31/168 20.56
19	07.43 08.16-09.29/73 17.25 16.26-17.00/34	07.13 08.18-09.15/57 18.02 17.36-17.40/4	06.30 07.17-08.04/47 18.33 17.55-18.13/18	06.40 17.41-19.44/123 20.06	06.04 17.34-20.12/158 20.36	05.53 17.44-20.32/168 20.57
20	07.43 08.16-09.30/74 17.26 16.27-17.01/34	07.12 08.19-09.14/55 18.03 17.36-17.42/6	06.28 07.17-08.02/45 18.35 17.54-18.14/20	06.39 17.41-19.45/124 20.07	06.03 17.35-20.13/158 20.37	05.53 17.44-20.32/168 20.57
21	07.42 08.15-09.30/75 17.27 16.27-17.01/34	07.10 08.19-09.12/53 18.05 17.34-17.42/8	06.27 07.17-08.01/44 18.36 17.54-18.14/20	06.38 17.40-19.45/125 20.08	06.03 17.35-20.14/159 20.38	05.53 17.44-20.32/168 20.57
22	07.42 08.14-09.30/76 17.28 16.27-17.01/34	07.09 07.38-07.54/16 18.06 08.21-09.11/50	06.25 07.19-08.00/41 18.37 17.55-18.16/21	06.36 17.39-19.46/127 20.09	06.02 17.35-20.14/159 20.39	05.53 17.44-20.32/168 20.57
23	07.41 08.15-09.31/76 17.30 16.27-17.00/33	07.07 07.34-07.58/24 18.07 08.22-09.10/48	06.24 07.20-07.58/38 18.38 17.56-18.17/21	06.35 17.38-19.46/128 20.10	06.01 17.36-20.16/160 20.40	05.53 17.44-20.32/168 20.58
24	07.40 08.14-09.31/77 17.31 16.29-17.01/32	07.06 07.31-08.00/29 18.08 08.23-09.08/45	06.22 07.21-07.55/34 18.39 17.56-18.16/20	06.33 17.38-19.46/128 20.11	06.00 17.36-20.16/160 20.40	05.54 17.45-20.33/168 20.58
25	07.40 08.14-09.31/77 17.32 16.29-17.01/32	07.05 07.29-08.03/34 18.09 08.25-09.06/41	06.20 07.23-07.53/30 18.40 17.52-17.57/5	06.32 17.37-19.47/130 20.12	06.00 17.36-20.17/161 20.41	05.54 17.45-20.32/167 20.58
26	07.39 08.13-09.31/78 17.33 16.30-17.00/30	07.03 07.27-08.04/37 18.10 08.26-09.03/37	06.19 07.25-07.50/25 18.41 17.39-18.11/32	06.30 17.36-19.47/131 20.13	05.59 17.37-20.18/161 20.42	05.54 17.45-20.32/167 20.58
27	07.38 08.13-09.31/78 17.34 16.31-16.59/28	07.02 07.26-08.06/40 18.12 08.29-09.01/32	06.17 07.27-07.46/19 18.42 17.33-18.13/40	06.29 17.36-19.47/131 20.14	05.58 17.37-20.19/162 20.43	05.54 17.46-20.33/167 20.58
28	07.37 08.14-09.32/78 17.36 16.32-16.58/26	07.00 07.24-08.07/43 18.13 08.31-08.58/27	06.15 07.33-07.41/8 18.43 17.29-18.17/48	06.28 17.36-19.47/131 20.15	05.58 17.37-20.20/163 20.44	05.55 17.46-20.33/167 20.58
29	07.37 08.14-09.32/78 17.37 16.34-16.58/24		07.14 18.25-19.20/55 19.44	06.26 17.35-19.47/132 20.16	05.57 17.37-20.20/163 20.45	05.55 17.46-20.33/167 20.58
30	07.36 08.13-09.32/79 17.38 16.36-16.57/21		07.12 18.21-19.22/61 19.45	06.25 17.35-19.47/132 20.17	05.57 17.38-20.21/163 20.45	05.56 17.46-20.33/167 20.58
31	07.35 08.13-09.32/79 17.39 16.38-16.56/18		07.10 18.18-19.25/67 19.46		05.56 17.38-20.21/163 20.46	
Potential sun hours	299	298	370	398	447	450
Sum of minutes with flicker	3123	2105	1970	3332	4708	5000

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: BAP01 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (56)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05.56 17.46-20.32/166	06.20 17.43-20.15/152	06.50 17.50-19.35/105	07.19 07.55-08.49/54	06.52 07.43-08.57/74	07.26 08.01-09.07/66
	20.58	20.39 17.56-19.56/120	19.57	19.07 18.39-18.45/6	17.21	16.58 16.00-16.33/33
2	05.57 17.46-20.33/167	06.21 17.43-20.14/151	06.51 17.51-19.33/102	07.20 07.54-08.49/55	06.53 07.43-08.57/74	07.27 08.02-09.07/65
	20.58	20.38 17.56-19.56/120	19.55	19.06 18.40-18.43/3	17.20	16.57 16.00-16.33/33
3	05.57 17.46-20.32/166	06.21 17.43-20.01/138	06.52 17.53-19.32/99	07.21 07.54-08.48/54	06.55 07.43-08.58/75	07.28 08.03-09.07/64
	20.58	20.37 20.03-20.14/11	19.54	19.04	17.19	16.57 15.59-16.32/33
4	05.58 17.46-20.32/166	06.22 17.43-20.01/138	06.53 17.54-19.30/96	07.22 07.54-08.48/54	06.56 07.42-08.59/77	07.29 08.05-09.07/62
	20.57	20.36 20.08-20.13/5	19.52	19.02	17.18	16.57 15.59-16.32/33
5	05.58 17.47-20.33/166	06.23 17.43-19.57/134	06.53 17.55-19.29/94	07.23 07.54-08.47/53	06.57 07.43-09.00/77	07.30 08.06-09.07/61
	20.57	20.35 19.57-20.01/4	19.51	19.01 18.18-18.29/11	17.17	16.57 15.59-16.32/33
6	05.59 17.46-20.32/166	06.24 17.43-19.57/134	06.54 17.57-19.27/90	07.24 07.54-08.47/53	06.58 07.43-09.01/78	07.31 08.07-09.08/61
	20.57	20.34 19.57-20.00/3	19.49	18.59 18.15-18.31/16	17.16	16.57 15.59-16.32/33
7	05.59 17.47-20.32/165	06.25 17.43-19.57/134	06.55 17.58-19.25/87	07.25 07.54-08.46/52 18.23-18.33/10	06.59 07.43-09.01/78	07.32 08.08-09.08/60
	20.57	20.33 19.57-20.00/3	19.47	18.57 18.13-18.23/10	17.14	16.57 16.00-16.32/32
8	06.00 17.46-20.31/165	06.26 17.43-19.57/134	06.56 18.00-19.24/84	07.26 07.54-08.46/52 18.28-18.33/5	07.00 07.43-09.01/78	07.33 08.10-09.08/58
	20.56	20.31 19.57-20.00/3	19.46	18.56 18.11-18.28/17	17.13	16.57 16.00-16.32/32
9	06.01 17.46-20.31/165	06.27 17.43-19.57/134	06.57 18.02-19.22/80	07.27 07.54-08.45/51 18.29-18.32/3	07.02 07.44-09.03/79	07.34 08.10-09.08/58
	20.56	20.30 19.57-19.59/2	19.44	18.54 18.10-18.29/19	17.12	16.14-16.20/6
10	06.01 17.47-20.31/164	06.28 17.43-19.57/134	06.58 18.04-19.21/77	07.28 07.54-08.44/50	07.03 07.44-09.03/79	07.35 08.10-09.08/58
	20.56	20.29 19.57-19.59/2	19.42	18.53 18.09-18.30/21	17.11	16.11-16.25/14
11	06.02 17.46-20.30/164	06.29 17.43-19.56/133	06.59 18.06-19.18/72	07.29 07.55-08.43/48	07.04 07.44-09.03/79	07.36 08.11-09.08/57
	20.55	20.28 19.56-19.59/3	19.41	18.51 18.07-18.28/21	17.10	16.08-16.27/19
12	06.03 17.46-20.30/164	06.30 17.43-19.56/133	07.00 18.08-19.17/69	07.30 07.55-08.41/46 18.06-18.27/21	07.05 07.44-09.03/79	07.37 08.12-09.08/56
	20.55	20.26 19.56-19.58/2	19.39	18.49 09.11-09.23/12	17.09	16.07-16.28/21
13	06.03 17.46-20.30/164	06.31 17.43-19.56/133	07.01 18.12-19.14/62	07.31 07.56-08.40/44 18.05-18.25/20	07.06 07.45-09.04/79	07.37 08.13-09.09/56
	20.54	20.25 19.56-19.58/2	19.37	18.48 09.06-09.28/22	17.08	16.06-16.30/24
14	06.04 17.46-20.29/163	06.32 17.42-19.55/133	07.02 18.15-19.11/56	07.32 07.57-08.38/41 18.04-18.23/19	07.07 07.46-09.04/78	07.38 08.14-09.09/55
	20.54	20.24 19.55-19.56/1	19.36	18.46 09.02-09.31/29	17.08	16.05-16.31/26
15	06.05 17.46-20.28/162	06.33 17.43-19.54/131	07.03 08.25-08.27/2	07.33 07.59-08.38/39 18.04-18.22/18	07.09 07.46-09.04/78	07.39 08.13-09.09/56
	20.53	20.22 19.54-19.55/1	19.34	18.45 09.00-09.35/35	17.07	16.04-16.32/28
16	06.06 17.46-20.28/162	06.34 17.43-19.54/131	07.04 08.17-08.35/18	07.34 08.00-08.36/36 18.04-18.21/17	07.10 07.46-09.04/78	07.40 08.14-09.10/56
	20.53	20.21 19.54-19.55/1	19.32	18.43 08.58-09.37/39	17.06	16.03-16.33/30
17	06.06 17.46-20.28/162	06.35 17.43-19.53/130	07.05 08.13-08.38/25	07.35 08.02-08.34/32 18.04-18.19/15	07.11 07.48-09.05/77	07.40 08.15-09.10/55
	20.52	20.20 19.53-19.54/1	19.31	18.42 08.56-09.38/42	17.05	16.02-16.34/32
18	06.07 17.45-20.26/161	06.36 17.43-19.53/130	07.06 08.11-08.40/29	07.37 08.04-08.31/27 18.04-18.18/14	07.12 07.48-09.05/77	07.41 08.15-09.10/55
	20.51	20.18	19.29 18.35-19.02/27	18.40 08.54-09.40/46	17.04	16.03-16.35/32
19	06.08 17.45-20.26/161	06.37 17.43-19.52/129	07.07 08.08-08.42/34	07.38 08.06-08.28/22 18.04-18.16/12	07.13 07.49-09.05/76	07.42 08.16-09.11/55
	20.51	20.17 19.52-19.53/1	19.27	18.44-19.03/19	17.04	16.02-16.35/33
20	06.09 17.45-20.26/161	06.38 17.44-19.52/128	07.08 08.06-08.43/37	07.39 08.10-08.23/13 18.04-18.14/10	07.14 07.49-09.05/76	07.42 08.16-09.11/55
	20.50	20.15	19.26 18.42-19.04/22	18.37 08.51-09.42/51	17.03	16.02-16.36/34
21	06.10 17.45-20.25/160	06.39 17.44-19.51/127	07.09 08.05-08.45/40	07.40 08.49-09.43/54	07.16 07.50-09.05/75	07.43 08.17-09.12/55
	20.49	20.14	19.24 18.41-19.02/21	18.36 18.05-18.13/8	17.02	16.02-16.36/34
22	06.11 17.45-20.25/160	06.40 17.44-19.50/126	07.10 08.03-08.46/43	07.41 08.49-09.45/56	07.17 07.52-09.06/74	07.43 08.17-09.12/55
	20.48	20.12	19.22 18.40-19.00/20	18.35 18.05-18.11/6	17.02	16.03-16.37/34
23	06.11 17.46-20.24/158	06.41 17.45-19.49/124	07.11 08.02-08.47/45	07.42 08.48-09.46/58	07.18 07.53-09.06/73	07.44 08.18-09.13/55
	20.48	20.11	19.21 18.39-18.59/20	18.33 18.08-18.10/2	17.01	16.03-16.37/34
24	06.12 17.45-20.22/157	06.42 17.45-19.47/122	07.12 08.00-08.47/47	07.43 08.47-09.44/57	07.19 07.53-09.06/73	07.44 08.18-09.13/55
	20.47	20.09	19.19 18.38-18.57/19	18.32 09.44-09.46/2	17.00	16.03-16.36/33
25	06.13 17.45-20.22/157	06.43 17.46-19.46/120	07.13 07.59-08.48/49	06.44 07.46-08.46/60	07.20 07.54-09.06/72	07.45 08.19-09.14/55
	20.46	20.08	19.17 18.38-18.55/17	17.30 08.46-08.47/1	17.00	16.03-16.35/32
26	06.14 17.45-20.21/156	06.44 17.46-19.45/119	07.14 07.58-08.48/50	06.45 07.45-08.47/62	07.21 07.55-09.06/71	07.45 08.19-09.14/55
	20.45	20.06	19.15 18.37-18.54/17	17.29	16.59	16.03-16.35/32
27	06.15 17.44-20.20/156	06.45 17.47-19.43/116	07.15 07.57-08.49/52	06.46 07.44-08.49/65	07.22 07.56-09.06/70	07.45 08.19-09.14/55
	20.44	20.05	19.14 18.37-18.52/15	17.28	16.59	16.02-16.34/32
28	06.16 17.44-20.20/156	06.46 17.47-19.41/114	07.16 07.57-08.49/52	06.48 07.45-08.51/66	07.23 07.58-09.07/69	07.46 08.19-09.15/56
	20.43	20.03	19.12 18.37-18.50/13	17.26	16.59	16.01-16.33/32
29	06.17 17.44-20.19/155	06.47 17.47-19.39/112	07.17 07.56-08.49/53	06.49 07.44-08.53/69	07.24 07.59-09.07/68	07.46 08.21-09.16/55
	20.42	20.02	19.10 18.38-18.48/10	17.25	16.58	16.01-16.34/33
30	06.18 17.44-20.18/154	06.48 17.48-19.38/110	07.18 07.55-08.49/54	06.50 07.43-08.54/71	07.25 08.00-09.07/67	07.46 08.21-09.17/56
	20.41	20.00	19.09 18.38-18.47/9	17.24	16.58	16.00-16.33/33
31	06.19 17.44-20.17/153	06.49 17.49-19.36/107		06.51 07.43-08.55/72		07.47 08.21-09.17/56
	20.40	19.59		17.23		17.06 16.09-16.40/31
	Potential sun hours	457		346		299
	Sum of minutes with flicker	5002	4036	2156	2198	2886
						2733

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP02 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (57)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47 08.13-08.41/28 16.33-16.35/2	07.34 08.28-08.45/17 17.07-17.16/9	06.59 14.04-17.15/191	07.09 15.09-17.54/165	06.24 15.50-17.30/100	05.56 06.19-07.23/64 20.11-20.23/12
2	07.47 08.13-08.41/28 16.33-16.35/2	07.34 08.28-08.45/17 17.07-17.16/9	06.57 14.03-17.15/192	07.07 15.10-17.53/163	06.22 15.52-17.29/97	05.55 06.18-07.22/64
3	07.47 08.13-08.42/29 16.33-16.36/3	07.32 14.29-17.09/160	06.56 14.02-17.14/192	07.05 15.12-17.53/161	06.21 15.53-17.27/94	05.55 06.18-07.23/65
4	07.47 08.13-08.43/30 16.33-16.36/3	07.31 14.28-17.10/162	06.54 14.02-17.14/192	07.04 15.12-17.52/160	06.20 15.54-17.26/92	05.54 06.18-07.24/66
5	07.47 08.13-08.43/30 16.10-16.33/23	07.30 14.26-17.11/165	06.53 14.01-17.13/192	07.02 15.14-17.52/158	06.19 15.56-17.26/90	05.54 06.17-07.24/67
6	07.47 08.14-08.44/30 16.11-16.33/22	07.29 14.24-17.11/167	06.51 14.01-17.12/191	07.01 15.15-17.51/156	06.18 15.57-17.25/88	05.54 06.18-07.24/66
7	07.47 08.14-08.45/31 16.12-16.33/21	07.28 14.23-17.12/169	06.49 14.00-17.11/191	06.59 15.16-17.50/154	06.16 06.50-06.57/77 19.31-20.01/30	05.53 06.18-07.25/67
8	07.47 08.14-08.46/32 16.12-16.32/20	07.27 14.22-17.12/170	06.48 14.00-17.11/191	06.57 15.18-17.50/152	06.15 06.45-07.03/18 19.32-20.02/30	05.53 06.18-07.25/67
9	07.47 08.14-08.46/32 16.14-16.31/17	07.26 14.21-17.13/172	06.46 13.59-17.09/190	06.56 15.19-17.49/150	06.14 06.42-07.05/23 19.33-20.02/29	05.53 06.18-07.26/68
10	07.47 08.14-08.47/33 16.15-16.31/16	07.24 14.20-17.14/174	06.45 13.59-17.08/189	06.54 15.21-17.49/148	06.13 06.40-07.08/28 19.34-20.01/27	05.53 06.17-07.25/68
11	07.46 08.14-08.48/34 16.16-16.29/13	07.23 14.20-17.15/175	06.43 13.59-17.07/188	06.53 15.22-17.47/145	06.12 06.38-07.09/31 19.34-20.00/26	05.53 06.17-07.25/68
12	07.46 08.14-08.47/33 16.17-16.34/17	07.22 14.18-17.15/177	06.41 13.58-17.05/187	06.51 15.24-17.47/143	06.11 06.36-07.11/35 19.36-19.59/23	05.53 07.25-07.29/4
13	07.46 08.15-08.48/33 16.19-16.33/14	07.21 14.17-17.16/179	06.40 13.58-17.04/186	06.50 15.25-17.46/141	06.10 06.35-07.12/37 19.37-19.58/21	05.52 06.17-07.26/69
14	07.46 08.15-08.49/34 16.22-16.33/11	07.20 14.16-17.16/180	06.38 13.58-17.03/185	06.48 15.26-17.45/139	06.09 06.34-07.13/39 19.38-19.56/18	05.52 06.17-07.26/69
15	07.45 08.15-08.49/34 16.24-16.29/5	07.19 14.16-17.17/181	06.37 13.58-17.00/182	06.46 15.28-17.44/138	06.08 06.33-07.14/41 19.40-19.54/14	05.52 06.17-07.26/69
16	07.45 08.16-08.50/34 16.46-16.57/11	07.17 14.14-17.17/183	06.35 13.59-17.00/181	06.45 15.29-17.43/134	06.07 06.32-07.15/43 19.43-19.51/8	05.52 06.17-07.26/69
17	07.44 08.15-08.50/35 16.45-16.57/12	07.16 14.13-17.17/184	06.33 13.58-16.58/180	06.43 15.31-17.43/132	06.06 06.31-07.16/45 20.04-20.10/6	05.52 06.17-07.27/70
18	07.44 08.16-08.51/35 16.24-16.35/11	07.14 14.13-17.17/184	06.32 13.58-16.55/177	06.42 15.32-17.41/129	06.05 06.30-07.16/46 20.04-20.11/7	05.52 06.18-07.28/70
19	07.43 08.16-08.51/35 16.19-16.40/21	07.13 14.11-17.17/186	06.30 13.59-16.53/174	06.40 15.34-17.41/127	06.04 06.30-07.18/48 20.04-20.12/8	05.53 06.19-07.28/69
20	07.43 08.17-08.52/35 16.16-16.43/27	07.12 14.11-17.18/187	06.28 13.59-16.50/171	06.39 15.36-17.40/124	06.03 06.29-07.18/49 20.05-20.13/8	05.53 06.19-07.28/69
21	07.42 08.17-08.51/34 16.47-17.03/17	07.10 14.09-17.17/188	06.27 13.59-16.45/166	06.38 15.36-17.39/123	06.03 06.28-07.18/50 20.05-20.14/9	05.53 06.19-07.28/69
22	07.42 08.17-08.51/34 16.50-17.04/14	07.09 14.09-17.18/189	06.25 14.00-16.40/160	06.36 15.38-17.39/121	06.02 06.28-07.19/51 20.05-20.14/9	05.53 06.19-07.28/69
23	07.41 08.19-08.52/33 16.52-17.05/13	07.07 14.07-17.17/190	06.24 14.01-16.58/177	06.35 15.39-17.37/118	06.01 06.27-07.20/53 20.05-20.15/10	05.53 06.20-07.29/69
24	07.40 08.19-08.51/32 16.54-17.07/13	07.06 14.07-17.17/190	06.22 14.01-16.58/177	06.33 15.41-17.36/115	06.00 06.26-07.20/54 20.06-20.16/10	05.54 06.20-07.29/69
25	07.40 08.20-08.51/31 16.56-17.08/12	07.05 14.07-17.18/191	06.20 14.02-16.58/176	06.32 15.43-17.36/113	06.00 06.24-07.20/56 20.06-20.17/11	05.54 06.19-07.29/70
26	07.39 08.20-08.50/30 16.58-17.09/11	07.03 14.05-17.17/192	06.19 14.03-16.57/174	06.30 15.43-17.34/111	05.59 06.23-07.21/58 20.07-20.18/11	05.54 06.19-07.28/69
27	07.38 08.21-08.50/29 16.59-17.10/11	07.02 14.05-17.17/192	06.17 14.03-16.56/173	06.29 15.45-17.34/109	05.58 06.22-07.21/59 20.07-20.18/11	05.54 06.20-07.29/69
28	07.37 08.23-08.50/27 17.01-17.11/10	07.00 14.04-17.16/192	06.15 14.05-16.57/172	06.28 15.47-17.33/106	05.58 06.22-07.22/60 20.08-20.20/12	05.55 06.20-07.29/69
29	07.37 08.24-08.49/25 17.03-17.13/10		06.14 14.04-16.56/171	06.27 15.48-17.32/104	05.57 06.22-07.22/61 20.08-20.20/12	05.55 06.21-07.30/69
30	07.36 08.25-08.48/23 17.04-17.14/10		06.13 14.03-16.55/170	06.26 15.49-17.31/102	05.56 06.22-07.22/62 20.10-20.21/11	05.56 06.21-07.30/69
Potential sun hours	299	298	370	398	447	450
Sum of minutes with flicker	3958	5055	5660	4498	3574	2183

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP02 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (57)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 06.22-07.30/68 20.58 07.30-07.33/3	06.20 06.46-07.20/34 19.45-20.09/24 20.39 16.14-17.29/75	06.50 15.21-17.46/145 19.57 19.21-19.35/14	07.19 14.38-17.44/186 19.07 17.21	06.52 13.50-16.44/174 17.21	07.26 07.56-08.30/34 15.59-16.11/12 16.58 14.44-15.35/51 16.11-16.17/6
2	05.57 06.22-07.30/68 20.58 07.30-07.33/3	06.21 06.48-07.18/30 19.44-20.10/26 20.38 16.13-17.30/77	06.51 15.19-17.47/148 19.55 19.21-19.33/12	07.20 14.37-17.45/188 19.06 17.20	06.53 13.51-16.43/172 17.20	07.27 07.57-08.30/33 15.58-16.13/15 16.57 14.47-15.33/46 16.13-16.18/5
3	05.57 06.23-07.31/68 20.58 07.31-07.32/1	06.21 06.50-07.17/27 19.43-20.11/28 20.37 16.12-17.31/79	06.52 15.17-17.47/150 19.54 19.22-19.32/10	07.21 14.37-17.46/189 19.04 17.19	06.55 13.52-16.42/170 17.19	07.28 07.58-08.30/32 15.58-16.15/17 16.57 14.50-15.31/41 16.15-16.19/4
4	05.58 06.23-07.30/67 20.57 07.30-07.33/3	06.22 06.52-07.14/22 19.42-20.12/30 20.36 16.10-17.32/82	06.53 15.15-17.47/152 19.52 19.23-19.30/7	07.22 14.37-17.47/190 19.02 17.18	06.56 13.53-16.42/169 17.18	07.29 07.58-08.30/32 15.57-16.17/20 16.57 14.53-15.29/36 16.17-16.20/3
5	05.58 06.24-07.31/67 20.57 07.31-07.33/2	06.23 06.56-07.11/15 19.41-20.12/31 20.35 16.09-17.33/84	06.53 15.13-17.47/154 19.50 19.25-19.29/4	07.23 14.37-17.47/190 19.01 17.17	06.57 13.54-16.41/167 17.17	07.30 07.59-08.30/31 15.57-16.18/21 16.57 14.56-15.26/30 16.18-16.21/3
6	05.59 06.24-07.31/67 20.57 07.31-07.32/1	06.24 16.08-17.34/86 20.34 19.41-20.11/30	06.54 15.11-17.47/156 19.49 18.59	07.24 14.36-17.47/191 18.59 18.59	06.58 13.56-16.41/165 17.16	07.31 08.00-08.30/30 15.57-16.19/22 16.57 15.01-15.23/22 16.19-16.22/3
7	05.59 06.24-07.31/67 20.57 07.31-07.32/1	06.25 16.06-17.35/89 20.33 19.40-20.09/29	06.55 15.10-17.47/157 19.47 18.57	07.25 14.36-17.48/192 18.57 18.57	06.59 13.58-16.40/162 17.14	07.32 08.00-08.31/29 15.57-16.20/23 16.57 15.06-15.18/12 16.20-16.23/3
8	06.00 06.24-07.31/67 20.56 20.23-20.27/4	06.26 16.05-17.36/91 20.31 19.40-20.08/28	06.56 15.08-17.47/159 19.46 18.56	07.26 14.36-17.48/192 18.56 18.56	07.00 08.05-08.09/4 16.39-16.45/6 17.13	07.33 08.01-08.31/30 16.21-16.24/3 16.57 15.58-16.21/23
9	06.01 06.25-07.30/65 20.56 20.21-20.29/8	06.27 16.03-17.36/93 20.30 19.39-20.07/28	06.57 15.06-17.47/161 19.44 18.54	07.27 14.36-17.48/192 18.54 18.54	07.02 08.01-08.14/13 16.38-16.45/7 17.12	07.34 08.02-08.31/29 16.21-16.24/3 16.57 15.57-16.21/24
10	06.01 06.26-07.31/65 20.56 20.20-20.31/11	06.28 16.02-17.37/95 20.29 19.39-20.06/27	06.58 15.04-17.47/163 19.42 18.53	07.28 14.36-17.48/192 18.53 18.53	07.03 07.59-08.16/17 16.38-16.47/9 17.11	07.35 08.02-08.30/28 16.22-16.24/2 16.57 15.57-16.22/25
11	06.02 06.26-07.30/64 20.55 20.19-20.30/11	06.29 16.00-17.38/98 20.28 19.39-20.05/26	06.59 15.01-17.46/165 19.41 18.51	07.29 14.36-17.49/193 18.51 18.51	07.04 07.57-08.18/21 16.36-16.47/11 17.10	07.36 08.03-08.31/28 16.23-16.25/2 16.57 15.58-16.23/25
12	06.03 06.27-07.30/63 20.19-20.30/11 20.55 16.47-16.58/11	06.30 15.59-17.39/100 20.26 19.39-20.04/25	07.00 14.59-17.46/167 19.39 18.49	07.30 14.36-17.49/193 18.49 18.49	07.05 07.56-08.19/23 16.35-16.45/10 17.09	07.37 08.04-08.31/27 16.24-16.26/2 16.57 15.58-16.24/26
13	06.03 06.28-07.31/63 20.18-20.30/12 20.54 16.44-17.02/18	06.31 15.57-17.40/103 20.25 19.37-20.02/25	07.01 14.58-17.46/168 19.37 18.48	07.31 14.36-17.49/193 18.48 18.48	07.06 07.55-08.21/26 16.34-16.44/10 17.08	07.37 08.04-08.31/27 16.25-16.27/2 16.57 15.59-16.25/26
14	06.04 06.28-07.30/62 20.17-20.29/12 20.54 16.41-17.03/22	06.32 15.55-17.39/104 20.24 19.37-20.00/23	07.02 14.56-17.46/170 19.36 18.46	07.32 14.37-17.49/192 18.46 18.46	07.07 07.55-08.22/27 16.34-16.44/10 17.08	07.38 08.05-08.32/27 16.25-16.27/2 16.57 15.58-16.25/27
15	06.05 06.30-07.30/60 20.17-20.28/11 20.53 16.39-17.06/27	06.33 15.53-17.40/107 20.22 19.38-19.59/21	07.03 14.54-17.46/172 19.34 18.45	07.33 14.37-17.48/191 18.45 18.45	07.09 07.54-08.23/22 16.32-16.43/11 17.07	07.39 08.05-08.31/26 16.26-16.27/1 16.57 15.59-16.26/27
16	06.06 06.31-07.30/59 20.17-20.28/11 20.53 16.38-17.08/30	06.34 15.51-17.41/110 20.21 19.38-19.58/20	07.04 14.53-17.46/173 19.32 18.43	07.34 14.38-17.49/191 18.43 18.43	07.10 07.53-08.23/30 16.31-16.42/11 17.06	07.40 08.06-08.32/26 16.26-16.28/2 16.58 15.59-16.27/27
17	06.06 06.32-07.30/58 20.16-20.28/12 20.52 16.36-17.10/34	06.35 15.50-17.41/111 20.19 19.38-19.57/19	07.05 14.51-17.45/174 19.31 18.42	07.35 14.38-17.49/191 18.42 18.42	07.11 07.53-08.25/32 16.29-16.41/12 17.05	07.40 08.07-08.33/26 16.27-16.29/2 16.58 16.00-16.27/27
18	06.07 06.34-07.29/55 20.15-20.26/11 20.51 16.34-17.11/37	06.36 15.48-17.42/114 20.18 19.38-19.55/17	07.06 14.50-17.45/175 19.29 18.40	07.36 14.39-17.49/190 18.40 18.40	07.12 07.53-08.25/32 16.28-16.41/13 17.04	07.41 08.07-08.32/25 16.27-16.29/2 16.58 16.00-16.27/27
19	06.08 06.34-07.29/55 20.15-20.26/11 20.51 16.33-17.13/40	06.37 15.46-17.42/116 20.17 19.31-19.54/23	07.07 14.49-17.45/176 19.27 18.39	07.38 14.39-17.48/189 18.39 18.39	07.13 07.53-08.26/33 16.27-16.40/13 17.04	07.42 08.08-08.33/25 16.28-16.30/2 16.59 16.01-16.28/27
20	06.09 06.36-07.29/53 20.15-20.26/11 20.50 16.31-17.14/43	06.38 15.45-17.43/118 20.15 19.29-19.53/24	07.08 14.47-17.45/178 19.26 18.37	07.39 14.39-17.48/189 18.37 18.37	07.14 07.52-08.26/34 16.25-16.39/14 17.03	07.42 08.08-08.33/25 16.28-16.30/2 16.59 16.01-16.28/27
21	06.10 06.38-07.29/51 20.15-20.25/10 20.49 16.30-17.16/46	06.39 15.43-17.43/120 20.14 19.27-19.51/24	07.09 14.46-17.23/157 19.24 17.23-17.44/21	07.40 14.40-17.48/188 18.36 18.36	07.15 07.52-08.28/34 16.22-16.38/16 17.02	07.43 08.09-08.34/25 16.29-16.31/2 16.59 16.02-16.29/27
22	06.11 06.39-07.29/50 20.15-20.25/10 20.48 16.29-17.18/49	06.40 15.41-17.44/123 20.12 19.26-19.50/24	07.10 14.45-17.29/164 19.22 17.29-17.44/15	07.41 14.40-17.47/187 18.35 18.35	07.17 07.53-08.28/35 15.52-16.20/28 17.02	07.43 08.09-08.34/25 16.29-16.31/2 17.00 16.02-16.29/27
23	06.11 06.39-07.29/50 20.14-20.23/9 20.48 16.28-17.19/51	06.41 15.39-17.44/125 20.11 19.24-19.49/25	07.11 14.44-17.33/169 19.20 17.33-17.44/11	07.42 14.42-17.48/186 18.33 18.33	07.18 07.53-08.28/35 15.56-16.17/21 17.01	07.44 08.10-08.35/25 16.30-16.32/2 17.00 16.03-16.30/27
24	06.12 06.39-07.27/48 20.14-20.22/8 20.47 16.26-17.19/53	06.42 15.37-17.45/128 20.09 19.23-19.47/24	07.12 14.43-17.36/173 19.19 17.36-17.43/7	07.43 14.43-17.47/184 18.32 18.32	07.19 07.53-08.28/35 16.00-16.12/12 17.00	07.44 08.10-08.35/25 16.30-16.32/2 17.01 16.03-16.30/27
25	06.13 06.40-07.27/47 20.14-20.22/8 20.46 16.24-17.21/57	06.43 15.36-17.45/129 20.08 19.23-19.46/23	07.13 14.42-17.38/176 19.17 17.38-17.43/5	07.44 14.43-17.47/184 18.30 18.30	07.20 07.53-08.28/35 16.23-16.35/12 17.00	07.45 08.11-08.36/25 16.30-16.32/2 17.02 16.03-16.30/27
26	06.14 06.41-07.27/46 20.15-20.21/6 20.45 16.23-17.22/59	06.44 15.34-17.46/132 20.06 19.22-19.44/22	07.14 14.41-17.40/179 19.15 17.40-17.43/3	07.45 13.44-16.46/182 17.29 17.29	07.21 07.54-08.28/34 16.24-16.35/11 16.59	07.45 08.11-08.37/26 16.31-16.33/2 17.02 16.04-16.31/27
27	06.15 06.42-07.26/44 20.15-20.20/5 20.44 16.22-17.24/62	06.45 15.32-17.46/134 20.05 19.21-19.42/21	07.15 14.40-17.41/181 19.14 17.41-17.42/1	07.46 13.44-16.46/182 17.28 17.28	07.22 07.54-08.28/34 16.04-16.08/4 16.59	07.45 08.11-08.37/26 16.31-16.33/2 17.03 16.04-16.31/27
28	06.16 06.43-07.25/42 19.52-20.03/11 20.43 16.21-17.25/64 20.15-20.20/5	06.46 15.29-17.45/136 20.03 19.20-19.41/21	07.16 14.40-17.42/182 19.12 17.26	07.48 13.46-16.46/180 17.26 17.26	07.23 07.55-08.29/34 16.01-16.11/10 16.59	07.46 08.11-08.37/26 16.31-16.33/2 17.03 16.05-16.31/26
29	06.17 06.44-07.24/40 19.50-20.06/16 20.42 16.19-17.26/67 20.16-20.19/3	06.47 15.27-17.46/139 20.02 19.20-19.39/19	07.17 14.39-17.43/184 19.10 19.10	07.49 13.47-16.45/178 17.25 17.25	07.24 07.56-08.29/33 16.00-16.14/14 16.58	07.46 08.12-08.39/27 16.33-16.35/2 17.04 16.06-16.33/27
30	06.18 06.45-07.23/38 19.48-20.07/19 20.41 16.18-17.27/69 20.16-20.18/2	06.48 15.25-17.46/141 20.00 19.20-19.38/18	07.18 14.38-17.44/186 19.09 19.09	07.50 13.48-16.44/176 17.24 17.24	07.25 07.56-08.30/34 15.59-16.16/17 16.58	07.46 08.13-08.40/27 16.33-16.35/2 17.06 16.07-16.33/26
31	06.19 06.46-07.22/36 19.46-20.08/22 20.40 16.17-17.28/71	06.49 15.23-17.46/143 19.59 19.20-19.36/16	 	06.51 13.49-16.44/175 17.23 17.23	 	
Potential sun hours	457	427	375	346	299	290
Sum of minutes with flicker	2947	4251	5124	5816	4843	1933

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: BAP03 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (58)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47 08.47-08.54/7 17.07	07.34 17.40	06.59 07.49-08.41/52 18.14 08.41-08.51/10	07.09 08.04-08.32/28 19.47 18.28-19.04/36	06.24 17.57-19.40/103 20.18	05.56 06.54-07.45/51 20.47 17.59-20.23/144
2	07.47 08.50-08.52/2 17.08	07.33 17.42	06.57 07.48-08.40/52 18.15 08.40-08.50/10	07.07 08.05-08.30/25 19.48 18.24-19.06/42	06.22 17.57-19.41/104 20.19	05.55 06.53-07.45/52 20.48 17.59-20.23/144
3	07.47 17.08	07.32 17.43	06.56 07.36-07.45/9 18.16 07.48-08.50/62	07.05 08.07-08.29/22 19.49 18.22-19.09/47	06.21 17.57-19.41/104 20.20	05.55 06.53-07.46/53 20.48 17.59-20.24/145
4	07.47 17.09	07.31 17.44	06.54 07.32-07.50/18 18.17 07.50-08.50/60	07.04 08.08-08.25/17 19.50 18.19-19.11/52	06.20 17.57-19.42/105 20.21	05.54 06.53-07.47/54 20.49 18.00-20.25/145
5	07.47 17.10	07.30 17.45	06.53 07.29-07.52/23 18.18 07.52-08.49/57	07.02 08.13-08.22/9 19.51 18.17-19.13/56	06.19 17.57-19.43/106 20.22	05.54 06.52-07.47/55 20.50 17.59-20.24/145
6	07.47 17.11	07.29 17.47	06.51 07.27-07.56/29 18.19 07.55-08.49/54	07.01 18.15-19.14/59 19.52	06.18 17.58-19.44/106 20.23	05.54 06.52-07.48/56 20.50 18.00-20.25/145
7	07.47 17.12	07.28 17.48	06.49 07.25-07.57/32 18.21 07.56-08.47/51	06.59 18.12-19.15/63 19.53	06.17 17.58-19.44/106 20.24	05.53 06.52-07.49/57 20.51 18.00-20.26/146
8	07.47 17.13	07.27 17.49	06.48 07.24-07.58/34 18.22 07.57-08.47/50	06.57 18.11-19.17/66 19.54	06.15 17.59-19.45/106 20.25	05.53 06.52-07.49/57 20.52 18.01-20.27/146
9	07.47 17.14	07.26 17.50	06.46 07.23-07.59/38 18.23 07.57-08.46/49	06.56 18.09-19.17/68 19.55 19.28-19.34/6	06.14 17.59-19.46/107 20.26	05.53 06.52-07.50/58 20.52 18.01-20.28/147
10	07.47 17.15	07.24 17.51	06.45 07.21-07.59/38 18.24 07.58-08.44/46	06.54 18.08-19.19/71 19.56 19.25-19.35/10	06.13 18.00-19.46/106 20.27	05.53 06.51-07.50/59 20.53 18.00-20.27/147
11	07.46 17.16	07.23 08.17-08.31/14 17.53	06.43 07.21-08.00/39 18.25 07.59-08.44/45	06.53 18.07-19.19/72 19.57 19.23-19.36/13	06.12 18.00-19.47/107 20.28	05.53 06.51-07.50/59 20.53 18.01-20.28/147
12	07.46 17.17	07.22 08.13-08.35/22 17.54	06.41 07.20-07.59/39 18.26 07.58-08.42/44	06.51 18.06-19.36/90 19.58	06.11 18.00-19.47/107 20.29	05.52 06.51-07.50/59 20.54 18.01-20.28/147
13	07.46 17.18	07.21 08.10-08.38/28 17.55	06.40 07.16-07.59/43 18.27 07.58-08.40/42	06.50 18.04-19.38/94 19.59	06.10 18.00-19.48/108 20.30	05.52 06.52-07.51/59 20.54 18.01-20.29/148
14	07.46 17.19	07.20 08.08-08.40/32 17.56	06.38 07.14-08.00/46 18.28 07.59-08.39/40	06.48 18.03-19.38/95 20.00	06.09 18.00-19.48/108 20.31 20.01-20.08/7	05.52 06.52-07.51/59 20.55 18.02-20.29/147
15	07.45 17.20	07.18 08.07-08.22/15 17.57	06.37 07.11-07.58/47 18.29 07.58-08.37/39	06.46 18.02-19.40/98 20.02	06.08 18.00-19.49/109 20.32 19.58-20.09/11	05.52 06.52-07.52/60 20.55 18.02-20.30/148
16	07.45 17.21	07.17 08.04-08.26/22 17.59	06.35 07.10-07.58/48 18.30 07.58-08.35/37	06.45 18.01-19.40/99 20.03	06.07 17.59-19.49/110 20.33 19.56-20.09/13	05.52 06.52-07.52/60 20.56 18.02-20.30/148
17	07.44 17.23	07.16 08.03-08.30/27 18.00	06.33 07.08-07.57/49 18.31 07.57-08.32/35	06.43 18.01-19.42/101 20.04	06.06 17.59-19.49/110 20.34 19.54-20.10/16	05.52 06.52-07.52/60 20.56 18.02-20.30/148
18	07.44 17.24	07.14 08.01-08.32/31 18.01	06.32 07.06-07.55/49 18.32 07.56-08.29/33	06.42 18.00-19.42/102 20.05	06.05 07.13-07.23/10 20.35 17.58-19.49/111	05.52 06.53-07.53/60 20.56 18.02-20.30/148
19	07.43 17.25	07.13 07.58-08.33/35 18.02	06.30 07.06-07.55/49 18.33 08.00-08.25/25	06.40 17.59-19.44/105 20.06	06.04 07.08-07.27/19 20.36 17.58-19.49/111	05.53 06.53-07.53/60 20.57 18.03-20.32/149
20	07.43 17.26	07.12 07.57-08.35/38 18.03	06.28 07.04-07.54/50 18.34 08.05-08.11/6	06.39 17.59-19.45/106 20.07	06.03 07.06-07.31/25 20.37 17.59-20.13/134	05.53 06.53-07.53/60 20.57 18.03-20.32/149
21	07.42 17.27	07.10 07.55-08.36/41 18.05	06.27 07.03-07.52/49 18.36 17.08-17.47/39	06.37 17.58-19.45/107 20.08	06.03 07.04-07.33/29 20.38 17.58-20.14/136	05.53 06.53-07.53/60 20.57 18.03-20.32/149
22	07.42 17.28	07.09 07.54-08.37/43 18.06	06.25 07.03-07.52/49 18.37 17.09-17.46/37	06.36 17.58-19.44/106 20.09	06.02 07.02-07.34/32 20.39 17.58-20.14/136	05.53 06.53-07.53/60 20.57 18.03-20.32/149
23	07.41 17.30	07.07 07.53-08.37/44 18.07	06.24 07.02-07.50/48 18.38 17.10-17.44/34	06.35 17.57-19.43/106 20.10	06.01 07.01-07.37/36 20.40 17.59-20.16/137	05.53 06.53-07.53/60 20.57 18.03-20.32/149
24	07.40 17.31	07.06 07.52-08.39/47 18.08	06.22 07.02-07.48/46 18.39 17.11-17.42/31	06.33 17.57-19.43/106 20.11	06.00 07.00-07.38/38 20.40 17.58-20.16/138	05.54 06.54-07.54/60 20.58 18.04-20.33/149
25	07.40 17.32	07.05 07.52-08.40/48 18.09	06.20 07.02-07.46/44 18.40 17.13-17.40/27	06.32 17.58-19.42/104 20.12	06.00 06.58-07.39/41 20.41 17.58-20.17/139	05.54 06.54-07.54/60 20.58 18.04-20.32/148
26	07.39 17.33	07.03 07.50-08.40/50 18.10	06.19 07.02-07.43/41 18.41 17.15-17.37/22	06.30 17.57-19.40/103 20.13	05.59 06.58-07.40/42 20.42 17.59-20.18/139	05.54 06.54-07.54/60 20.58 18.04-20.32/148
27	07.38 17.34	07.02 07.50-08.40/50 18.12	06.17 07.01-07.39/38 18.42 17.18-17.33/15	06.29 17.57-19.39/102 20.14	05.58 06.56-07.41/45 20.43 17.58-20.18/140	05.54 06.55-07.55/60 20.58 18.05-20.33/148
28	07.37 17.36	07.00 07.49-08.40/51 18.13	06.15 07.02-07.38/36 18.43	06.28 17.57-19.38/101 20.15	05.58 06.56-07.42/46 20.44 17.59-20.20/141	05.55 06.55-07.54/59 20.58 18.05-20.32/147
29	07.37 17.37		07.14 08.02-08.36/34 19.44	06.26 17.56-19.36/100 20.16	05.57 06.55-07.43/48 20.45 17.59-20.20/141	05.55 06.56-07.55/59 20.58 18.05-20.33/148
30	07.36 17.38		07.12 08.02-08.35/33 19.45	06.25 17.57-19.32/95 20.17	05.57 06.55-07.44/49 20.45 17.59-20.21/142	05.56 06.55-07.55/60 20.58 18.05-20.33/148
31	07.35 17.39		07.10 08.03-08.34/31 19.46		05.56 06.54-07.44/50 20.46 17.59-20.21/142	
	Potential sun hours 299	298	370	398	447	450
	Sum of minutes with flicker 9	886	3125	2690	4296	6162

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: BAP03 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (58)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 06.56-07.55/59 20.58 18.05-20.32/147	06.20 18.10-19.57/107 20.39	06.50 18.05-19.18/73 19.57 19.22-19.35/13	07.19 07.59-08.39/40 17.46-18.33/47 19.07 08.38-09.21/43	06.52 07.26	07.26 16.58
2	05.57 06.56-07.55/59 20.58 18.06-20.33/147	06.21 18.09-19.56/107 20.38	06.51 18.06-19.17/71 19.55 19.23-19.33/10	07.20 07.59-08.38/39 17.45-18.33/48 19.06 08.37-09.22/45	06.53 07.27	06.57 16.57
3	05.57 06.56-07.54/58 20.57 18.05-20.32/147	06.21 18.09-19.56/107 20.37	06.52 18.07-19.15/68 19.54 19.26-19.32/6	07.21 07.59-08.38/39 17.45-18.32/47 19.04 08.37-09.22/45	06.54 07.28	06.57 16.57
4	05.58 06.57-07.55/58 20.57 18.06-20.32/146	06.22 18.09-19.55/106 20.36	06.53 18.08-19.14/66 19.52	07.22 08.00-08.36/36 17.45-18.31/46 19.02 08.35-09.23/48	06.56 07.29	06.57 16.57
5	05.58 06.58-07.55/57 20.57 18.06-20.32/146	06.23 18.08-19.55/107 20.35	06.53 18.09-19.12/63 19.50	07.23 08.00-08.35/35 17.45-18.31/46 19.01 08.34-09.23/49	06.57 07.30	06.57 16.57
6	05.59 06.58-07.54/56 20.57 18.06-20.32/146	06.24 18.08-19.54/106 20.34	06.54 18.11-19.10/59 19.49	07.24 08.01-08.34/33 17.45-18.30/45 18.59 08.33-09.24/51	06.58 07.31	06.57 16.57
7	05.59 06.59-07.55/56 20.57 18.07-20.32/145	06.25 18.07-19.53/106 20.32	06.55 08.08-08.16/8 19.47 18.12-19.08/56	07.25 08.02-08.32/30 17.45-18.29/44 18.57 08.31-09.24/53	06.59 07.32	06.57 16.57
8	06.00 06.59-07.54/55 20.56 18.06-20.31/145	06.26 18.07-19.52/105 20.31	06.56 08.04-08.20/16 19.46 18.14-19.06/52	07.26 08.04-08.30/26 17.46-18.28/42 18.56 08.29-09.24/55	07.00 07.33	06.57 16.57
9	06.01 07.00-07.54/54 20.56 18.07-20.31/144	06.27 18.07-19.51/104 20.30	06.57 08.01-08.22/21 19.44 18.16-19.04/48	07.27 08.05-08.27/22 17.46-18.26/40 18.54 08.27-09.24/57	07.02 07.34	06.57 16.57
10	06.01 07.01-07.54/53 20.56 18.07-20.31/144	06.28 18.06-19.50/104 20.29	06.58 07.59-08.24/25 19.42 18.17-19.00/43	07.28 08.08-08.23/15 17.47-18.25/38 18.53 08.23-09.24/61	07.03 07.35 08.39-08.41/2	06.57 16.57
11	06.02 07.01-07.53/52 20.55 18.07-20.30/143	06.29 18.06-19.49/103 20.28	06.59 07.56-08.24/28 19.41 18.20-18.57/37	07.29 08.22-09.14/52 17.48-18.23/35 18.51 09.14-09.24/10	07.04 07.36 08.38-08.44/6	06.57 16.57
12	06.03 07.02-07.53/51 20.55 18.07-20.30/143	06.30 18.06-19.48/102 20.26	07.00 07.55-08.25/30 19.39 18.23-18.52/29	07.30 08.22-09.12/50 17.49-18.21/32 18.49 09.14-09.24/10	07.05 07.37 08.37-08.46/9	06.57 16.57
13	06.03 07.03-07.53/50 20.54 18.07-20.30/143	06.31 18.04-19.41/97 20.25 19.41-19.47/6	07.01 07.53-08.26/33 19.37 18.28-18.47/19	07.31 08.22-09.13/51 17.51-18.19/28 18.48 09.13-09.24/11	07.06 07.37 08.37-08.47/10	06.57 16.57
14	06.04 07.03-07.51/48 20.54 18.07-20.29/142	06.32 18.04-19.44/100 20.24 19.44-19.45/1	07.02 07.52-08.27/35 19.36	07.32 08.22-09.12/50 17.52-18.17/25 18.46 09.12-09.23/11	07.07 07.38 08.37-08.48/11	06.57 16.57
15	06.05 07.04-07.51/47 20.53 18.07-20.28/141	06.33 18.04-19.45/101 20.22	07.03 07.51-08.27/36 19.34	07.33 08.22-09.12/50 17.55-18.13/18 18.45 09.12-09.23/11	07.09 07.39 08.36-08.49/13	06.57 16.57
16	06.06 07.05-07.51/46 20.53 18.08-20.28/140	06.34 18.04-19.46/102 20.21	07.04 07.51-08.27/36 19.32 18.08-18.22/14	07.34 08.23-09.12/49 18.01-18.09/8 18.43 09.12-09.23/11	07.10 07.40 08.37-08.50/13	06.57 16.58
17	06.06 07.07-07.50/43 20.52 18.08-20.28/140	06.35 18.03-19.47/104 20.19	07.05 07.50-08.31/41 19.31 18.04-18.25/21	07.35 08.24-09.11/47 18.42 09.11-09.22/11	07.11 07.40 08.37-08.51/14	06.58 16.58
18	06.07 07.07-07.48/41 20.51 18.07-20.26/139	06.36 18.03-19.48/105 20.18	07.06 07.49-08.33/44 19.29 18.01-18.27/26	07.36 08.24-09.10/46 18.40 09.10-09.22/12	07.12 07.41 08.37-08.51/14	06.58 16.58
19	06.08 07.08-07.48/40 20.51 18.08-20.26/138	06.37 18.03-19.49/106 20.17	07.07 07.49-08.35/46 19.27 17.59-18.29/30	07.38 08.25-09.09/44 18.39 09.09-09.21/12	07.13 07.42 08.38-08.52/14	06.59 16.59
20	06.09 07.10-07.47/37 20.50 18.08-20.26/138	06.38 18.03-19.49/106 20.15	07.08 07.49-08.36/47 19.26 17.57-18.30/33	07.39 08.25-09.07/42 18.37 09.07-09.20/13	07.14 07.42 08.38-08.52/14	06.59 16.59
21	06.10 07.12-07.46/34 20.49 18.08-20.25/137	06.39 18.03-19.49/106 20.14	07.09 07.49-08.37/48 19.24 17.55-18.31/36	07.40 08.26-09.06/40 18.36 09.06-09.19/13	07.15 07.43 08.38-08.53/15	06.59 16.59
22	06.11 07.13-07.44/31 20.48 18.09-20.25/136	06.40 18.03-19.50/107 20.12	07.10 07.49-08.38/49 19.22 17.53-18.32/39	07.41 08.27-09.04/37 18.35 09.04-09.18/14	07.17 07.43 08.38-08.53/15	06.59 17.00
23	06.11 07.16-07.42/26 20.48 18.09-20.24/135	06.41 18.03-19.49/106 20.11	07.11 07.49-08.38/49 19.20 17.52-18.33/41	07.42 08.30-09.03/33 18.33 09.03-09.17/14	07.18 07.44 08.40-08.54/14	06.59 17.00
24	06.12 07.17-07.39/22 20.01-20.22/21 20.47 18.08-20.00/112	06.42 18.03-19.47/104 20.09	07.12 07.49-08.38/49 17.51-18.33/42 19.19 08.44-09.07/23	07.43 08.31-09.01/30 18.32 09.01-09.16/15	07.19 07.44 08.40-08.54/14	06.59 17.01
25	06.13 07.21-07.36/15 20.02-20.22/20 20.46 18.09-20.00/111	06.43 18.04-19.46/102 20.08	07.13 07.49-08.39/50 17.50-18.33/43 19.17 08.40-09.11/31	06.44 07.33-07.58/25 17.30 07.58-08.14/16	07.20 07.45 08.41-08.55/14	06.59 17.02
26	06.14 18.09-20.00/111 20.45 20.04-20.21/17	06.44 18.04-19.44/100 20.06 18.44-19.16/32	07.14 07.50-08.40/50 17.49-18.34/45 19.15 08.40-09.14/34	06.45 07.34-07.55/21 17.29 07.55-08.13/18	07.21 07.45 08.41-08.55/14	06.59 17.02
27	06.15 18.10-20.00/110 20.44 20.05-20.00/15	06.45 18.04-19.42/98 20.05 18.50-19.09/19	07.15 07.51-08.40/49 17.48-18.34/46 19.14 08.40-09.16/36	06.46 07.36-07.49/13 17.28 07.49-08.11/22	07.22 07.45 08.42-08.55/13	06.59 17.03
28	06.16 18.10-19.59/109 20.43 20.07-20.20/13	06.46 18.03-19.41/98 20.03	07.16 07.52-08.40/48 17.47-18.34/47 19.12 08.40-09.17/37	06.48 07.38-08.10/32 17.26	07.23 07.46 08.42-08.55/13	06.59 17.03
29	06.17 18.10-19.59/109 20.42 20.10-20.19/9	06.47 18.04-19.39/95 20.02	07.17 07.53-08.40/47 17.47-18.34/47 19.10 08.39-09.19/40	06.49 07.40-08.07/27 17.25	07.24 07.46 08.44-08.55/11	06.59 17.04
30	06.18 18.11-19.59/108 20.41 20.14-20.18/4	06.48 18.04-19.38/94 20.00	07.18 07.56-08.40/44 17.46-18.33/47 19.09 08.39-09.20/41	06.50 07.43-08.04/21 17.24	07.25 07.46 08.45-08.55/10	06.59 17.05
31	06.19 18.11-19.58/107 20.40	06.49 18.05-19.36/91 19.58	 	06.51 07.47-07.59/12 17.23	 17.06	07.46 08.46-08.55/9
	Potential sun hours 457	427	375	346	299	262
	Sum of minutes with flicker 5396	3193	2440	2401	0	262

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP04 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (59)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07.47 08.23-08.29/6 13.56-14.53/57 16.09-16.33/24	07.34 08.13-08.48/35 11.54-14.49/175	06.59 07.43-08.02/19	07.09 07.46-08.26/40 18.35-19.26/51	06.24 18.25-19.31/66	05.56
2	07.47 11.29-13.56/147 15.07-16.01/54	17.40 08.48-08.53/5 16.15-16.48/33	18.14 17.27-17.48/21	19.47 08.26-08.40/14	20.18	20.47
3	07.47 08.23-08.31/148 15.08-16.01/53	17.33 08.13-08.48/35 11.55-14.48/173	06.57 07.44-07.59/15	07.07 07.45-08.26/41 18.33-19.26/53	06.22	05.55
4	07.47 08.21-08.33/12 13.57-14.54/57 16.09-16.35/26	17.43 08.48-08.52/4 16.17-16.47/30	18.16 17.29-17.45/16	19.48 08.26-08.38/12	20.15	20.49
5	07.47 11.30-13.57/147 15.09-16.01/52	17.32 08.14-08.48/34 11.57-14.47/170	06.56 07.47-07.55/8	07.05 07.45-08.26/41 18.32-19.28/56	06.21	05.55
6	07.47 08.20-08.35/15 13.57-14.54/57 16.09-16.36/27	17.44 08.14-08.52/38 16.19-16.46/27	18.17	19.49 08.26-08.36/10	20.20	20.48
7	07.47 11.31-13.58/147 15.10-16.02/52	17.45 08.15-08.51/36 16.20-16.45/25	06.54 07.31-17.44/13	07.04 07.44-08.26/42 18.30-19.29/59	06.20	05.54
8	07.47 08.19-08.40/21 13.58-14.55/57 16.09-16.39/30	17.47 08.16-08.49/33 16.21-16.43/22	18.19	19.50 08.26-08.32/6	20.21	20.49
9	07.47 08.19-08.39/20 13.58-14.55/57 16.09-16.39/30	17.48 08.16-08.48/32 13.48-14.39/51	06.49 07.44-17.59/15	07.02 07.44-08.26/42 18.30-19.30/60	06.19	05.54
10	07.47 11.32-13.58/146 15.11-16.02/51	17.47 08.16-08.49/33 16.21-16.43/22	18.20	19.51 08.26-08.29/2	20.22	20.50
11	07.47 08.19-08.40/21 13.58-14.55/57 16.09-16.39/30	17.48 08.16-08.48/32 13.48-14.39/51	06.48 17.41-18.00/19	07.01 07.43-08.24/41	06.18	05.54
12	07.47 11.32-13.58/146 15.12-16.02/50	17.49 08.17-08.46/29 13.53-14.36/43	18.22	19.52 18.28-19.31/63	20.23	20.50
13	07.47 08.18-08.41/23 13.58-14.55/57 16.08-16.40/32	17.50 08.18-08.44/28 13.58-14.32/34	06.49 17.44-17.59/15	06.59 07.43-08.23/40	06.16	05.53
14	07.47 08.18-08.42/24 13.59-14.56/57 16.08-16.41/33	17.51 08.20-08.41/21 14.05-14.27/22	18.20	19.53 18.27-19.32/65	20.24	20.51
15	07.47 11.33-13.59/145 15.13-16.02/49	17.52 08.22-08.40/18	06.48 17.41-18.00/19	06.57 07.43-08.23/40	06.15	05.53
16	07.47 08.18-08.44/18 15.16-16.02/46	17.53 08.22-08.40/18	18.22	19.54 18.27-19.33/66	20.25	20.52
17	07.47 08.18-08.44/18 15.16-16.02/46	17.54 08.24-08.36/12	06.46 07.24-07.41/17	06.56 07.43-08.22/39	06.14	05.53
18	07.47 08.17-08.45/14 11.36-14.56/200 16.08-16.43/35	17.55 12.29-13.26/57	18.23 17.40-18.02/22	19.55 18.25-19.34/69	20.26	20.52
19	07.45 08.17-08.33/16 11.37-14.57/200 16.09-16.44/35	17.56 12.37-13.19/42	06.45 07.21-07.43/22	06.54 07.43-08.22/39	06.13	05.53
20	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	17.57 12.54-13.04/10	18.24 17.38-18.03/25	19.56 18.25-19.35/70	20.27	20.53
21	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	17.58 07.42-08.18/36	06.43 07.19-07.46/27	06.53 07.43-08.21/38	06.12	05.53
22	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	18.00	18.25 17.32-18.04/27	19.57 18.24-19.36/72	20.28	20.53
23	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	18.01	06.41 07.16-07.47/21	06.51 07.44-08.20/36	06.11	05.52
24	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	18.02 17.32-17.40/8	18.26 17.35-18.05/30	19.58 18.23-19.36/73	20.29	20.54
25	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	18.03 17.31-18.09/38	06.40 07.14-07.48/34	06.50 07.44-08.18/34	06.10	05.52
26	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	18.04 17.31-18.09/38	18.28 17.34-18.07/33	19.59 18.23-19.38/75	20.30	20.54
27	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	18.05 17.29-17.42/13	06.37 07.12-07.50/38	06.48 07.43-08.17/32	06.09	05.52
28	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	18.06 17.28-17.44/16	18.29 17.33-18.08/35	20.00 18.22-19.37/75	20.31	20.55
29	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	18.07 17.27-17.45/18	06.35 07.11-07.51/40	06.46 07.46-08.15/29	06.08	05.52
30	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	18.08 17.27-17.47/20	18.30 17.32-18.09/37	20.01 18.22-19.38/76	20.32	20.55
31	07.45 08.16-08.35/19 11.37-14.56/199 16.08-16.45/37	18.09 17.26-17.47/21	06.34 07.10-07.51/41	06.45 07.47-08.13/26	06.07	05.52
Potential sun hours	299	298	370	398	447	450
Sum of minutes with flicker	9070	3204	2004	2772	872	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP04 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (59)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05.56	06.20 18.45-19.29/44	06.50 07.42-08.20/38	07.19 07.55-08.27/32	06.52 07.21-07.47/26 11.42-13.07/85	07.26 08.00-08.26/26 13.41-14.38/57 15.51-16.24/33
2	20.59	20.39	19.57 18.23-19.35/72	19.07 18.15-18.45/30	17.21 07.50-08.11/21 13.32-13.57/25	16.58 11.17-13.41/144 14.57-15.44/47
3	05.57	06.21 18.43-19.31/48	06.51 07.41-08.20/39	07.20 07.56-08.25/29	06.53 07.22-07.46/24 11.40-13.10/90	07.27 08.01-08.25/24 13.42-14.39/57 15.52-16.24/32
4	20.58	20.38	19.55 18.23-19.33/70	19.05 18.15-18.43/28	17.20 07.48-08.14/26 13.27-14.03/36	16.57 11.17-13.42/145 14.57-15.45/48
5	05.57	06.21 18.42-19.32/50	06.52 07.41-08.20/39	07.21 07.58-08.23/25	06.54 07.23-07.44/21 11.37-13.12/95 15.56-16.08/12	07.28 08.02-08.25/23 13.42-14.39/57 15.52-16.24/32
6	20.57	20.37	19.54 18.23-19.32/69	19.04 18.16-18.42/26	17.19 07.47-08.16/29 13.22-14.06/44	16.57 11.17-13.42/145 14.57-15.46/49
7	05.58	06.22 18.41-19.33/52	06.52 07.40-08.20/40	07.22 08.00-08.20/20	06.56 07.24-07.43/19 11.34-13.14/100 15.53-16.11/18	07.29 08.03-08.25/22 13.43-14.40/57 15.53-16.24/31
8	20.57	20.36	19.52 18.24-19.30/66	19.02 18.17-18.40/23	17.18 07.45-08.19/33 13.17-14.09/52	16.57 11.17-13.43/146 14.57-15.47/50
9	05.58	06.23 18.40-19.34/54	06.53 07.40-08.20/40	07.23 08.04-08.15/11	06.57 07.26-07.42/16 11.32-14.11/159	07.30 08.04-08.24/20 13.43-14.41/58 15.54-16.24/30
10	20.57	20.35	19.50 18.24-19.29/65	19.01 18.18-18.38/20	17.17 07.46-08.19/33 15.51-16.13/22	16.57 11.17-13.43/146 14.57-15.47/50
11	05.59	06.24 18.39-19.35/56	06.54 07.39-08.20/41	07.24 18.20-18.37/17	06.58 07.28-07.40/12 11.31-14.14/163	07.31 08.05-08.24/19 13.44-14.41/57 15.55-16.24/29
12	20.57	20.34	19.49 18.24-19.27/63	18.59	17.15 07.45-08.21/36 15.50-16.15/25	16.57 11.18-13.44/146 14.57-15.48/51
13	05.59	06.25 18.38-19.36/58	06.55 07.39-08.21/42 18.25-19.25/60	07.25 18.22-18.35/13	06.59 07.44-08.18/34 11.29-14.15/166	07.32 08.07-08.23/16 13.45-14.42/57 15.56-16.24/28
14	20.57	20.32	19.47 08.21-08.22/1	18.57	17.14 08.18-08.22/4 15.48-16.18/28	16.57 11.18-13.45/147 14.57-15.49/52
15	06.00	06.26 18.37-19.37/60	06.56 07.39-08.21/42 18.25-19.24/59	07.26 18.27-18.33/6	07.00 07.44-08.19/34 11.27-14.17/170	07.33 08.06-08.23/15 13.45-14.42/57 15.57-16.24/27
16	20.56	20.31	19.46 08.21-08.27/6	18.56	17.13 08.18-08.22/4 15.47-16.17/30	16.57 11.18-13.45/147 14.57-15.50/53
17	06.01	06.27 18.36-19.38/62	06.57 07.39-08.20/41 18.26-19.22/56	07.27 18.07-18.17/10	07.01 07.44-08.19/35 11.25-14.18/173	07.34 08.10-08.22/12 13.45-14.42/57 15.57-16.23/26
18	20.56	20.30	19.44 08.20-08.30/10	18.54	17.12 08.19-08.24/5 15.46-16.18/32	16.57 11.18-13.45/147 14.57-15.49/52
19	06.01	06.28 18.35-19.38/63	06.58 07.39-08.20/41 18.26-19.20/54	07.28 18.05-18.19/14	07.03 07.44-08.19/35 11.25-14.20/175	07.35 08.11-08.20/9 13.46-14.43/57 15.58-16.23/25
20	20.56	20.29	19.42 08.20-08.32/12	18.53	17.11 08.19-08.24/5 15.46-16.19/33	16.57 11.18-13.46/148 14.57-15.50/53
21	06.02	06.29 18.34-19.39/65	06.59 07.39-08.18/40 18.27-19.18/51	07.29 08.20-08.31/11	07.04 07.44-08.19/35 11.23-14.21/178	07.36 08.13-08.19/6 13.46-14.43/57 15.59-16.23/24
22	20.55	20.27	19.41 08.18-08.32/14	18.51 18.30-08.20/17	17.10 08.18-08.25/6 15.45-16.20/35	16.57 11.19-13.46/147 14.57-15.51/54
23	06.03	06.30 18.33-19.39/66	07.00 07.38-08.17/39 18.28-19.17/49	07.30 08.17-08.34/17	07.05 07.43-08.19/36 11.22-14.22/180	07.37 11.19-13.47/148 14.58-15.52/54
24	20.55	20.26	19.39 08.17-08.33/16	18.49 18.01-18.21/20	17.09 08.19-08.25/6 15.44-16.20/36	16.57 13.47-14.44/57 16.00-16.23/23
25	06.03	06.31 18.32-19.39/67	07.01 07.39-08.16/37 18.29-19.15/46	07.31 08.15-08.35/20	07.06 07.44-08.20/36 11.21-14.23/182	07.37 11.20-13.48/148 14.58-15.53/55
26	20.54	20.25	19.37 08.16-08.34/18	18.48 18.00-18.22/22	17.08 08.20-08.26/6 15.44-16.20/36	16.57 13.48-14.45/57 16.01-16.24/23
27	06.04	06.32 18.31-19.39/68	07.02 07.39-08.15/36 18.30-19.13/43	07.32 08.13-08.36/23	07.07 07.44-08.20/36 11.21-14.25/184	07.38 11.19-13.48/148 14.58-15.52/54
28	20.54	20.24	19.36 08.15-08.35/20	18.46 17.59-18.22/23	17.08 08.20-08.26/6 15.44-16.22/38	16.57 13.48-14.45/57 16.01-16.23/22
29	06.05	06.33 18.30-19.40/70	07.03 07.40-08.14/34 18.27-19.12/45	07.33 08.12-08.37/25	07.09 07.45-08.19/34 11.20-14.26/186	07.39 11.20-13.48/148 14.59-15.53/54
30	20.53	20.23	19.34 08.14-08.36/22	18.45 17.58-18.22/24	17.07 08.19-08.26/7 15.44-16.23/38	16.57 13.48-14.45/57 16.02-16.23/21
31	06.06	06.34 18.29-19.40/71	07.04 07.41-08.12/31 18.25-19.10/45	07.34 08.12-08.38/26	07.10 07.45-08.19/34 11.19-14.27/188	07.40 11.21-13.49/148 14.59-15.54/55
32	20.53	20.21	19.32 08.12-08.36/24	18.43 17.58-18.20/22	17.06 08.19-08.26/7 15.44-16.22/38	16.58 13.49-14.46/57 16.03-16.24/21
33	06.06	06.35 18.29-19.40/71	07.05 07.42-08.10/28 18.23-19.08/45	07.35 08.11-08.38/27	07.11 07.45-08.19/34 11.18-14.27/189	07.40 11.22-13.50/148 14.59-15.54/55
34	20.52	20.19	19.31 08.10-08.36/26	18.42 17.59-18.19/20	17.05 08.19-08.26/7 15.43-16.22/39	16.58 13.50-14.46/57 16.03-16.23/20
35	06.07	06.36 18.28-19.41/73	07.06 07.44-08.08/24 18.21-19.07/46	07.36 08.10-08.41/31	07.12 07.46-08.19/33 11.19-14.29/190 15.44-16.23/39	07.41 11.21-13.50/149 15.00-15.55/55
36	20.51	20.18	19.29 08.08-08.37/29	18.40 17.59-18.18/19	17.04 08.19-08.27/8 15.11-15.25/14	16.58 13.50-14.47/57 16.05-16.24/19
37	06.08	06.37 18.28-19.41/73	07.07 07.47-08.04/17 18.20-19.03/43	07.38 08.10-08.43/33	07.13 07.47-08.19/32 11.18-14.30/192 15.44-16.23/39	07.42 11.22-13.51/149 15.01-15.56/55
38	20.51	20.17	19.27 08.04-08.37/33	18.39 17.59-18.16/17	17.04 08.19-08.27/8 15.08-15.28/20	16.59 13.51-14.48/57 16.06-16.24/18
39	06.09	06.38 18.27-19.41/74	07.08 07.52-07.58/6 18.19-18.53/34	07.39 08.10-08.44/34	07.14 07.48-08.19/30 11.17-14.30/193 15.44-16.23/39	07.42 11.22-13.51/149 15.00-15.56/56
40	20.50	20.15	19.26 07.58-08.37/39	18.37 17.59-18.14/15	17.03 08.19-08.27/8 15.05-15.30/25	16.59 13.51-14.48/57 16.06-16.24/18
41	06.10	06.39 18.27-19.41/74	07.09 07.52-08.36/44	07.40 08.09-08.45/36	07.15 07.48-08.19/30 11.17-14.31/194 15.44-16.23/39	07.43 11.23-13.52/149 15.01-15.57/56
42	20.49	20.14	19.24 18.18-18.54/36	18.36 18.00-18.13/13	17.02 08.18-08.27/9 15.04-15.32/28	16.59 13.52-14.49/57 16.07-16.25/18
43	06.11	06.40 18.26-19.41/75	07.10 07.52-08.36/44	07.41 08.09-08.46/37	07.17 07.50-08.18/28 11.17-14.32/195 15.45-16.23/38	07.43 11.23-13.52/149 15.01-15.57/56
44	20.48	20.12	19.22 18.17-18.54/37	18.35 18.01-18.11/10	17.02 08.18-08.27/9 15.03-15.34/31	17.00 13.52-14.49/57 16.07-16.25/18
45	06.11	06.41 18.26-19.41/75	07.11 07.52-08.36/44	07.42 08.11-08.48/37	07.18 07.51-08.17/26 11.17-14.33/196 15.46-16.24/38	07.44 11.24-13.53/149 15.02-15.58/56
46	20.48	20.11	19.20 18.16-18.54/38	18.33 18.04-18.10/6	17.01 08.17-08.27/10 15.02-15.36/34	17.00 13.53-14.50/57 16.08-16.26/18
47	06.12	06.42 18.25-19.41/76	07.12 07.52-08.35/43	07.43 08.11-08.48/37	07.19 07.52-08.17/25 11.17-14.33/196 15.46-16.24/38	07.44 11.24-13.53/149 15.03-15.58/55
48	20.47	20.09 18.25-19.41/76	19.19 18.15-18.54/39	18.32 18.07-18.09/2	17.00 08.17-08.27/10 15.01-15.37/36	17.01 13.53-14.50/57 16.08-16.26/18
49	06.13	06.43 18.25-19.41/76	07.13 07.52-08.34/42	06.44 07.11-07.48/37	07.20 07.53-08.16/23 11.16-14.34/198 15.46-16.24/38	07.45 11.24-13.53/149 15.03-15.58/55
50	20.46	20.08 18.25-19.41/76	19.17 18.15-18.54/39	17.30	17.00 08.16-08.27/11 15.00-15.38/38	17.02 13.53-14.50/57 16.08-16.27/19
51	06.14	06.44 18.25-19.41/76	07.14 07.52-08.34/42	06.45 07.12-07.48/36	07.21 07.54-08.15/21 11.16-14.35/199 15.47-16.24/37	07.45 11.26-13.54/148 15.04-15.59/55
52	20.45	20.06 18.25-19.40/75	19.15 18.14-18.53/39	17.29	16.59 08.15-08.26/11 14.59-15.39/40	17.02 13.54-14.51/57 16.09-16.28/19
53	06.15	06.45 18.24-19.40/76	07.15 07.52-08.33/41	06.46 07.13-07.48/35	07.22 07.55-08.14/19 11.16-14.35/199 15.47-16.24/37	07.45 11.26-13.54/148 15.04-15.59/55
54	20.44	20.05 07.49-08.16/27	19.14 18.14-18.52/38	17.28 12.17-12.39/22	16.59 08.14-08.26/12 14.58-15.40/42	17.03 13.54-14.51/57 16.08-16.28/20
55	06.16	06.46 07.48-08.17/29	07.16 07.53-08.32/39	06.48 07.16-07.48/32	07.23 07.57-08.13/16 11.16-14.36/200 15.48-16.23/35	07.46 11.26-13.54/148 15.04-15.59/55
56	20.43	20.03 18.23-19.39/76	19.12 18.14-18.50/36	17.26 12.05-12.51/46	16.59 08.13-08.27/14 14.57-15.41/44	17.03 13.54-14.51/57 16.08-16.29/21
57	06.17	06.47 07.45-08.18/33	07.17 07.53-08.30/37	06.49 07.18-07.48/30	07.24 07.58-08.12/14 11.17-14.37/200 15.49-16.24/35	07.46 11.26-13.54/148 15.05-15.59/54
58	20.42	20.02 18.23-19.39/75	19.10 18.14-18.48/34	17.25 11.57-12.57/60	16.58 08.12-08.26/14 14.59-15.43/45	17.04 13.54-14.52/58 16.08-16.30/22
59	06.18	06.48 07.44-08.18/34	07.18 07.54-08.29/35	06.50 07.20-07.47/27 11.51-13.01/70	07.25 07.59-08.09/10 11.17-14.38/201 15.50-16.24/34	07.46 11.28-13.56/148 15.06-16.00/54
60	20.41	20.00 18.23-19.38/75	19.09 18.14-18.47/33	17.24 07.53-08.06/13	16.58 08.09-08.26/17 14.58-15.44/46	17.05 13.56-14.53/57 16.09-16.31/22
61	06.19	06.49 07.43-08.19/36	07.19 07.54-08.31/38	06.51 07.20-07.47/27 11.46-13.04/78	07.26 07.59-08.09/10 11.17-14.38/201 15.50-16.24/34	07.46 11.28-13.56/148 15.07-16.01/54
62	20.40	19.58 18.23-19.36/73	19.07 18.13-18.46/32	17.23 07.51-08.09/18	16.58 08.09-08.26/17 14.58-15.44/46	17.06 13.56-14.53/57 16.09-16.32/23
Potential sun hours	457	427	375	346	299	894
Sum of minutes with flicker	225	2285	2826	1459	7953	

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: BAP05 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (60)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07:47 08.09-08.46/37 17:07	07:34 16.24-17.08/44 17:40 17.06-17.17/11	06:59 07.18-07.39/21 18:14 16.35-17.07/32	17:07-17.24/17 19:47	07:09 18.19-19.26/67 20:18	06:55 06.49-07.46/57 20:47
2	07:47 08.09-08.46/37 17:08	07:33 16.24-17.07/43 17:42 17.05-17.18/13	06:57 07.16-07.39/23 18:15 16.37-16.59/22	17:31-17.46/15 19:48	07:07 18.19-19.26/67 19:48	06:55 06.49-07.45/56 20:48
3	07:47 08.10-08.46/36 17:08 16.42-16.43/1	07:32 16.24-17.06/42 17:43 17.04-17.20/16	06:56 07.14-07.39/25 18:16 16.38-17.21/43	17:33-17.42/9 19:49	07:05 18.20-19.28/68 20:20	06:55 06.50-07.45/55 20:48
4	07:47 08.10-08.47/37 17:09 16.40-16.44/4	07:31 16.24-17.03/39 17:44 17.01-17.21/20	06:54 07.13-07.40/27 18:17 16.41-17.19/38	17:40/27 19:50	07:04 18.19-19.29/70 20:21	06:54 06.51-07.45/54 20:49
5	07:47 08.11-08.47/36 17:10 16.38-16.45/7	07:29 16.24-17.14/50 17:45 17.13-17.22/9	06:53 07.11-07.39/28 18:18 16.43-17.16/33	17:40/30 19:51	07:02 18.20-19.29/69 20:22	06:54 06.51-07.44/53 20:50
6	07:47 08.11-08.47/36 17:11 16.37-16.46/9	07:29 16.23-17.12/49 17:47 17.11-17.23/12	06:51 07.10-07.40/30 18:19 16.46-17.14/28	17:40/30 19:52	07:01 18.20-19.30/70 20:23	06:54 06.51-07.44/53 20:50
7	07:47 08.12-08.48/36 17:12 16.36-16.47/11	07:28 16.24-17.11/47 17:48 17.10-17.24/14	06:49 07.08-07.39/31 18:20 16.49-17.09/20	17:40/30 19:53	06:59 18.20-19.28/68 20:24	06:53 06.52-07.44/52 20:51
8	07:47 08.13-08.48/35 17:13 16.35-16.47/12	07:27 16.24-17.09/45 17:49 17.08-17.26/18	06:48 07.07-07.39/32 18:22 16.58-16.59/1	17:40/30 19:54	06:57 07.18-07.28/10 20:25	06:53 06.53-07.44/51 20:52
9	07:47 08.13-08.47/34 17:14 16.34-16.48/14	07:26 16.24-17.06/42 17:50 17.05-17.27/22	06:46 07.05-07.37/32 18:23 17.50-18.02/12	17:40/30 19:55	06:56 07.14-07.33/19 20:26	06:53 06.54-07.44/50 20:52
10	07:47 08.14-08.48/34 17:15 16.33-16.50/17	07:24 16.25-17.29/64 17:51	06:45 07.03-07.36/33 18:24 17.45-18.03/18	17:40/30 19:56	06:54 07.13-07.37/24 20:27	06:53 06.53-07.43/50 20:53
11	07:46 08.15-08.48/33 17:16 16.33-16.51/18	07:23 16.25-17.30/65 17:53	06:43 07.03-07.35/32 18:25 17.42-18.04/22	17:40/30 19:57	06:53 07.11-07.39/28 20:28	06:53 06.54-07.43/49 20:53
12	07:46 08.15-08.47/32 17:17 16.32-16.51/19	07:22 16.25-17.29/64 17:54 17.29-17.31/2	06:41 07.03-07.33/30 18:26 17.39-18.05/26	17:40/30 19:58	06:51 07.10-07.42/32 20:29	06:52 06.55-07.43/48 20:54
13	07:46 08.16-08.47/31 17:18 16.31-16.53/22	07:21 16.25-17.29/64 17:55 17.29-17.32/3	06:40 07.03-07.31/28 18:27 17.36-18.06/30	17:40/30 19:59	06:50 07.08-07.43/35 20:30	06:52 06.55-07.43/48 20:54
14	07:46 08.17-08.47/30 17:19 16.31-16.54/23	07:20 16.26-17.29/63 17:56 17.29-17.34/5	06:38 06.57-07.01/4 18:28 07.04-07.30/26	17:35-18.07/32 19:59	06:48 07.06-07.44/38 20:31	06:52 06.56-07.42/46 20:55
15	07:45 08.17-08.47/30 17:20 16.30-16.55/25	07:18 16.26-17.28/62 17:57 17.28-17.34/6	06:37 06.55-07.29/33 18:29 17.32-18.08/36	17:40/30 19:59	06:46 07.05-07.46/41 20:32	06:52 06.56-07.42/46 20:55
16	07:45 08.19-08.46/27 17:21 16.30-16.57/27	07:17 16.27-17.28/61 17:59 17.28-17.36/8	06:35 06.54-07.27/33 18:30 17.30-18.09/39	17:40/30 19:59	06:45 07.03-07.47/44 20:33	06:52 06.56-07.42/46 20:56
17	07:44 08.20-08.45/25 17:23 16.29-16.57/28	07:16 16.27-17.28/61 18:00 17.28-17.38/10	06:33 06.52-07.25/33 18:31 17.29-18.11/42	17:40/30 19:59	06:43 07.02-07.48/46 20:34	06:52 06.57-07.42/45 20:56
18	07:44 08.21-08.45/24 17:24 16.29-16.59/30	07:14 16.27-17.26/59 18:01 17.26-17.38/12	06:32 06.50-07.07/17 18:32 07.08-07.22/14	17:28-18.11/43 19:59	06:42 07.00-07.49/49 20:35	06:52 06.57-07.42/45 20:56
19	07:43 08.23-08.43/20 17:25 16.28-17.00/32	07:13 16.28-17.26/58 18:02 17.26-17.40/14	06:30 06.49-07.08/19 18:33 07.13-07.18/5	17:27-18.13/46 19:59	06:40 06.59-07.50/51 20:36	06:52 06.58-07.43/45 20:57
20	07:43 08.25-08.41/16 17:26 16.27-17.01/34	07:12 16.29-17.25/56 18:03 17.25-17.42/17	06:28 06.47-07.08/21 18:34 17.26-18.14/48	17:40/30 19:59	06:39 06.58-07.51/53 20:37	06:53 06.58-07.43/45 20:57
21	07:42 08.27-08.37/10 17:27 16.27-17.03/36	07:10 16.29-17.24/55 18:05 17.24-17.42/18	06:27 06.45-07.07/22 18:36 17.24-18.14/50	17:40/30 19:59	06:37 06.56-07.51/55 20:38	06:53 06.58-07.43/45 20:57
22	07:42 16.26-17.04/38 17:28	07:09 16.29-17.23/54 18:06 17.23-17.44/21	06:25 06.44-07.08/24 18:37 17.24-18.16/52	17:40/30 19:59	06:36 06.55-07.52/57 20:39	06:53 06.58-07.43/45 20:57
23	07:41 16.26-17.05/39 17:30	07:07 16.30-17.21/51 18:07 17.21-17.45/24	06:24 06.42-07.07/25 18:38 17.23-18.17/54	17:40/30 19:59	06:35 06.53-07.52/59 20:40	06:53 06.58-07.43/45 20:57
24	07:40 16.26-17.07/41 17:31	07:06 07.25-07.29/4 17.20-17.46/26	06:22 06.41-07.06/25 18:39 17.22-18.18/56	17:40/30 19:59	06:33 06.52-07.53/61 20:41	06:53 06.59-07.44/45 20:58
25	07:40 16.26-17.08/42 17:32	07:05 07.24-07.34/10 18.09 16.31-17.18/47	06:20 06.42-07.06/24 18:40 17.22-18.19/57	17:40/30 19:59	06:32 06.51-07.54/63 20:42	06:54 06.59-07.44/45 20:58
26	07:39 16.25-17.09/44 17:33 17.08-17.09/1	07:03 07.22-07.35/13 18.10 16.32-17.16/44	06:19 06.42-07.04/22 18:41 17.21-18.20/59	17:40/30 19:59	06:30 06.49-07.53/64 20:43	06:54 06.59-07.44/45 20:58
27	07:38 16.25-17.10/45 17:34 17.08-17.10/2	07:02 07.21-07.37/16 18.12 16.34-17.14/40	06:17 06.43-07.02/19 18:42 17.20-18.21/61	17:40/30 19:59	06:29 06.48-07.54/66 20:44	06:54 06.59-07.45/46 20:58
28	07:37 16.24-17.10/46 17:36 17.08-17.11/3	07:00 07.19-07.38/19 18.13 16.34-17.11/37	06:15 06.45-07.01/16 18.43 17.20-18.22/62	19.21-19.23/2 19:59	06:28 06.47-07.54/67 20:45	06:55 06.59-07.45/46 20:58
29	07:37 16.25-17.10/45 17:37 17.08-17.13/5	07:00 07.19-07.38/19 18.13 16.34-17.11/37	06:14 07.46-07.58/12 19.21-19.23/2	19:59 20:46	06:26 06.45-07.54/69 20:46	06:55 06.59-07.47/48 20:58
30	07:36 16.25-17.10/45 17:38 17.08-17.14/6	07:00 07.19-07.38/19 18.13 16.34-17.11/37	06:12 18.19-19.20/61 19.45 19.18-19.24/6	19:59 20:46	06:25 06.44-07.54/70 20:47	06:56 06.59-07.47/48 20:58
31	07:35 16.24-17.09/45 17:39 17.07-17.16/9	07:00 07.19-07.38/19 18.13 16.34-17.11/37	06:10 18.20-19.18/58 19.46 19.16-19.25/9	19:59 20:46	06:25 06.44-07.54/70 20:47	06:56 06.59-07.47/48 20:58
Potential sun hours	299	298	370	398	447	450
Sum of minutes with flicker	1452	1940	2106	2277	2127	1452

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: BAP05 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (60)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:56 06:58-07:47/49 20:58	06:20 06:50-08.03/73 20:39	06:50 07:10-07.38/28 19.15-19.34/19 19:57 18.22-19.15/53	07:19 07:42-08.12/30 19:07 18.17-18.45/28	06:52 15:53-16.57/64 17:21	07:26 07:57-08.30/33 16:58 16.15-16.33/18
2	05:57 06:59-07.48/49 20:58	06:20 06:50-08.03/73 20:38	06:51 07:11-07.35/24 19.18-19.33/15 19:55 18.21-19.18/57	07:20 07:42-08.13/31 19:05 18.19-18.43/24	06:53 15:54-16.37/43 17:20 16.36-16.57/21	07:27 07:57-08.31/34 16:57 16.16-16.33/17
3	05:57 06:58-07.48/50 20:58	06:21 06:50-08.03/73 20:37	06:52 07:12-07.31/19 19.21-19.32/11 19:54 18.19-19.21/62	07:21 07:41-08.14/33 19:04 18.22-18.42/20	06:55 15:54-16.39/45 17:19 16.38-16.55/17	07:27 07:57-08.31/34 16:57 16.18-16.32/14
4	05:58 06:58-07.49/51 20:57	06:22 06:50-08.03/73 20:36	06:52 07:15-07.25/10 19.23-19.30/7 19:52 18.18-19.23/65	07:22 07:42-08.15/33 19:02 18.25-18.40/15	06:56 15:53-16.41/48 17:18 16.40-16.54/14	07:29 07:57-08.32/35 16:57 16.20-16.32/12
5	05:58 06:59-07.50/51 20:57	06:23 06:50-08.03/73 20:35	06:53 18:17-19.25/68 19:50 19:25-19.29/4	07:23 07:43-08.15/32 19:01 18.32-18.38/6	06:57 15:54-16.42/49 17:17 16.41-16.53/12	07:30 07:57-08.33/36 16:57 16.21-16.32/11
6	05:59 06:58-07.50/52 20:57	06:24 06:50-08.04/74 20:34	06:54 18:16-19.26/70 19:49 19:26-19.27/1	07:24 07:44-08.15/31 18:59 17:29-17.43/14	06:58 15:54-16.44/50 17:15 16.43-16.52/9	07:31 07:57-08.33/36 16:57 16.23-16.32/9
7	05:59 06:58-07.51/53 20:57	06:25 06:49-08.04/75 20:32	06:55 18:15-19.25/70 19:47	07:25 07:45-08.15/30 18:57 17:23-17.48/25	06:59 15:54-16.34/40 17:14 16.32-16.51/19	07:32 07:58-08.34/36 16:57 16.25-16.32/7
8	06:00 06:57-07.51/54 20:56	06:26 06:49-08.04/75 20:31	06:56 18:14-19.24/70 19:46	07:26 07:46-08.15/29 18:56 17:20-17.50/30	07:00 15:54-16.36/42 17:13 16.34-16.49/15	07:33 07:58-08.35/37 16:56 16.28-16.32/4
9	06:01 06:57-07.52/55 20:56	06:27 06:50-08.04/74 20:30	06:57 18:14-19.21/67 19:44	07:27 07:47-08.14/27 18:54 17:17-17.53/36	07:02 15:54-16.37/43 17:12 16.35-16.48/13	07:34 07:59-08.35/36 16:56 16.29-16.31/2
10	06:01 06:57-07.53/56 20:56	06:28 06:50-08.03/73 20:29	06:58 18:12-19.20/68 19:42	07:28 07:48-08.14/26 18.11-18.14/3 18:53 17:14-17.54/40	07:03 15:55-16.39/44 17:11 16.37-16.48/11	07:35 07:58-08.35/37 16:57 16.30-16.32/1
11	06:02 06:56-07.53/57 20:55	06:29 06:51-08.03/72 20:28	06:59 18:11-19.18/67 19:41	07:29 07:49-08.13/24 18.06-18.18/12 18:51 17:12-17.56/44	07:04 15:55-16.40/45 17:10 16.38-16.47/9	07:36 07:59-08.36/37 16:57 16.31-16.33/1
12	06:03 06:56-07.54/58 20:55	06:30 06:52-08.03/71 20:26	07:00 18:11-19.08/57 19:39 19:06-19.17/11	07:30 07:50-08.12/22 17.37-17.57/20 18:49 17:10-17.37/27 18.03-18.20/17	07:05 15:56-16.41/45 17:09 16.39-16.45/6	07:37 08.00-08.37/37 16:57 16.32-16.34/1
13	06:03 06:56-07.55/59 20:54	06:31 06:53-08.03/70 20:25	07:01 18:10-19.11/61 19:37 19:09-19.15/6	07:31 07:51-08.11/20 17.42-17.58/16 18:48 17:08-17.42/34 18.02-18.21/19	07:06 15:56-16.41/45 17:08 16.39-16.44/5	07:38 08.01-08.37/36 16:57 16.33-16.35/1
14	06:04 06:55-07.54/59 20:54	06:32 06:53-08.01/68 20:24	07:02 07:37-07.48/11 19.11-19.13/2 19:36 18:10-19.13/63	07:32 07:52-08.10/18 17.45-17.59/14 18:46 17:06-17.45/38 18.00-18.22/22	07:07 15:57-16.43/46 17:08 16.41-16.44/3	07:39 08.02-08.38/36 16:57 16.34-16.36/1
15	06:05 06:55-07.55/60 20:53	06:33 06:54-08.01/67 20:22	07:03 07:34-07.50/16 19:34 18:10-19.12/62	07:33 07:54-08.09/15 17.47-18.22/35 18:45 17:05-17.47/42	07:09 15:58-16.43/45 17:07 16.41-16.43/2	07:40 08.02-08.38/36 16:57 16.35-16.37/1
16	06:06 06:55-07.56/61 20:53	06:34 06:55-08.00/65 20:21	07:04 07:32-07.51/19 19:32 18:09-19.10/61	07:34 07:55-08.07/12 17.49-18.21/32 18:43 17:04-17.49/45	07:10 15:58-16.42/44 17:06 16.41-16.42/1	07:41 08.03-08.39/36 16:58 16.36-16.38/1
17	06:06 06:55-07.57/62 20:52	06:35 06:56-08.00/64 20:19	07:05 07:31-07.52/21 19:31 18:09-19.08/59	07:35 07:56-08.04/8 17.51-18.19/28 18:42 17:03-17.51/48	07:11 15:59-16.41/42 17:05	07:42 08.04-08.39/35 16:58 16.37-16.39/1
18	06:07 06:54-07.57/63 20:51	06:36 06:57-07.59/62 20:18	07:06 07:30-07.53/23 19:29 18:09-19.07/58	07:36 17:02-17.52/50 18:40 17:52-18.18/26	07:12 16:00-16.41/41 17:04	07:43 08.04-08.39/35 16:58 16.38-16.40/1
19	06:08 06:54-07.58/64 20:51	06:37 06:58-07.59/61 20:17	07:07 07:29-07.53/24 19:27 18:09-19.05/56	07:37 17:01-17.53/52 18:39 17:53-18.16/23	07:13 16:01-16.40/39 17:04	07:44 08.05-08.40/35 16:59 16.39-16.41/1
20	06:09 06:54-07.58/64 20:50	06:38 06:59-07.58/59 20:15	07:08 07:28-07.53/25 19:26 18:09-19.04/55	07:38 17:00-17.54/54 18:37 17:54-18.14/20	07:14 16:01-16.39/38 17:03	07:45 08.05-08.40/35 16:59 16.40-16.42/1
21	06:10 06:53-07.59/66 20:49	06:39 07:00-07.57/57 20:14	07:09 07:29-07.53/24 19:24 18:09-19.02/53	07:40 16:59-17.55/56 18:36 17:55-18.13/18	07:15 16:02-16.38/36 17:02	07:46 08.06-08.41/35 16:59 16.41-16.43/1
22	06:11 06:53-08.00/67 20:48	06:40 07:01-07.56/55 20:12	07:10 07:30-07.53/23 19:22 18:10-19.00/50	07:41 16:58-17.55/57 18:34 17:55-18.11/16	07:17 16:04-16.38/34 17:00	07:47 08.06-08.41/35 16:59 16.42-16.44/1
23	06:11 06:53-08.00/67 20:48	06:41 07:02-07.55/53 20:11 18.44-18.59/15	07:11 07:31-07.52/21 19:20 18:10-18.59/49	07:42 16:58-17.57/59 18:33 17:57-18.10/13	07:18 16:00-16.37/32 17:00	07:48 08.07-08.42/35 16:59 16.43-16.45/1
24	06:12 06:52-08.00/68 20:47	06:42 07:03-07.54/51 20:09 18.40-19.03/23	07:12 07:32-07.51/19 19:19 18:10-18.57/47	07:43 16:58-17.57/59 18:32 17:57-18.09/12	07:19 16:06-16.36/30 17:01	07:49 08.07-08.42/35 16:59 16.44-16.46/1
25	06:13 06:52-08.01/69 20:46	06:43 07:04-07.52/48 20:08 18.36-19.06/30	07:13 07:33-07.51/18 18.11-18.55/44 19:17 07:52-08.05/13	07:44 15:57-16.58/61 17:30 16:58-17.07/9	07:20 16:07-16.35/28 17:02	07:50 08.08-08.43/35 16:59 16.45-16.47/1
26	06:14 06:52-08.01/69 20:45	06:44 07:05-07.51/46 20:06 18.34-19.08/34	07:14 07:34-07.49/15 18.12-18.54/42 19:15 07:50-08/17	07:45 15:56-16.58/62 17:29 16:58-17.06/8	07:21 16:07-16.34/27 17:02	07:51 08.08-08.43/35 16:59 16.46-16.48/1
27	06:15 06:52-08.02/70 20:44	06:45 07:06-07.49/43 19.16-19.26/10 20:05 18.31-19.10/39	07:15 07:35-08.08/33 19:14 18.12-18.52/40	07:46 15:55-16.58/63 17:28 16:58-17.04/6	07:22 16:08-16.35/29 17:03	07:52 08.08-08.44/36 16:59 16.47-16.49/1
28	06:16 06:51-08.02/71 20:43	06:46 07:06-07.47/41 19.13-19.29/16 20:03 18.28-19.10/42	07:16 07:36-08.09/33 19:12 18.13-18.50/37	07:48 15:56-16.59/63 17:26 16:59-17.03/4	07:23 16:09-16.33/23 17:04	07:53 08.08-08.44/36 16:59 16.48-16.50/1
29	06:17 06:51-08.03/72 20:42	06:47 07:07-07.45/38 19.12-19.31/19 20:02 18.27-19.12/45	07:17 07:37-07.43/6 18.14-18.48/34 19:10 07:44-08.10/26	07:49 15:55-16.59/64 17:25 16:59-17.02/3	07:24 16:10-16.34/22 17:04	07:54 08.09-08.45/36 16:59 16.49-16.51/1
30	06:18 06:51-08.03/72 20:41	06:48 07:08-07.43/35 19.13-19.32/19 20:00 18.25-19.13/48	07:18 07:43-08.10/27 19:09 18.16-18.47/31	07:50 15:54-16.59/65 17:24 16:59-17.00/1	07:25 16:11-16.34/21 17:05	07:55 08.09-08.45/36 16:59 16.50-16.52/1
31	06:19 06:51-08.03/72 20:40	06:49 07:09-07.41/32 19.14-19.33/19 19:58 18.23-19.14/51	 	06:51 15:54-16.59/65 17:23	07:26 16:12-16.34/20 17:06	07:56 08.09-08.45/36 16:59 16.51-16.53/1
	Potential sun hours 457	427	375	346	299	290
	Sum of minutes with flicker 1890	2304	2241	2145	1550	1196

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP06 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (61)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January		February		March		April		May		June	
1	07.47 15.40-16.41/61 17.07	07.34 16.01-17.00/59 17.40	06.59 07.17-07.56/39 18.14	07.09 07.45-08.10/25 19.47 18.54-19.26/32	06.24 19.49-19.55/6 20.18	05.55 06.17-06.19/2 19.49-20.12/23 20.47 06.19-06.33/4 20.20-20.23/3					
2	07.47 15.40-16.42/62 17.08	07.33 16.03-17.00/57 17.42	06.57 07.16-07.57/41 18.15	07.07 07.46-08.08/22 19.48 18.54-19.26/32	06.22 19.48-19.57/9 20.19	05.55 06.16-06.20/4 19.49-20.11/22 20.48 06.20-06.33/3 20.19-20.23/4					
3	07.47 15.40-16.43/63 17.08	07.32 16.05-16.32/27 17.17-17.20/3 17.43 16.33-16.59/26	06.56 07.14-07.57/43 18.16	07.05 07.49-08.06/17 19.27-19.28/1 19.49 18.55-19.27/32	06.21 19.46-19.57/11 20.20	05.55 06.16-06.22/8 19.50-20.11/21 20.48 06.22-06.34/12 20.19-20.24/5					
4	07.47 15.41-16.44/63 17.09	07.31 07.51-07.57/6 16.35-16.58/23 17.44 16.08-16.30/22 17.16-17.21/5	06.54 07.13-07.58/45 18.17	07.04 07.52-08.01/9 19.25-19.29/4 19.50 18.55-19.25/30	06.20 19.45-19.58/13 20.21	05.54 06.16-06.23/7 19.51-20.10/19 20.49 06.23-06.35/12 20.20-20.25/5					
5	07.47 15.42-16.45/63 17.10	07.30 07.50-08.00/10 16.37-16.56/19 17.45 16.11-16.27/16 17.13-17.21/8	06.53 07.12-07.58/46 18.18	07.02 18.56-19.24/28 19.51 19.24-19.29/5	06.19 19.44-19.59/15 20.22	05.54 06.15-06.23/8 19.52-20.09/17 20.50 06.23-06.34/11 20.19-20.24/5					
6	07.47 15.42-16.46/64 17.11	07.29 07.48-08.01/13 16.38-16.53/15 17.47 16.18-16.19/1 17.13-17.23/10	06.51 07.12-07.59/47 18.19	07.01 07.19-07.20/1 19.52 18.57-19.31/34	06.17 19.43-20.00/17 20.23	05.54 06.15-06.24/9 19.53-20.09/16 20.50 06.24-06.35/11 20.20-20.25/5					
7	07.47 15.43-16.47/64 17.12	07.28 07.47-08.03/16 17.12-17.24/12 17.48 16.43-16.49/6	06.49 07.11-07.59/48 18.20	06.59 07.17-07.23/6 19.53 18.58-19.32/34	06.16 19.42-20.01/19 20.24	05.53 06.15-06.25/10 19.54-20.08/14 20.51 06.25-06.35/10 20.20-20.26/6					
8	07.47 15.42-16.47/65 17.13	07.27 07.46-08.04/18 17.49 17.12-17.26/14	06.48 07.11-07.59/48 18.22	06.57 07.16-07.25/9 19.54 19.00-19.33/33	06.15 19.42-20.02/20 20.25	05.53 06.15-06.26/11 19.56-20.07/11 20.52 06.26-06.36/10 20.20-20.27/7					
9	07.47 15.43-16.48/65 17.14	07.26 07.45-08.05/20 17.50 17.12-17.27/15	06.46 07.10-07.59/49 18.23	06.56 07.14-07.26/12 19.17-19.34/17 19.55 19.03-19.14/11	06.14 19.42-20.03/21 20.26	05.52 06.15-06.26/11 19.56-20.05/9 20.52 06.26-06.36/10 20.20-20.27/7					
10	07.47 15.44-16.50/66 17.15	07.24 07.44-08.06/22 17.51 17.12-17.29/17	06.45 07.10-07.58/48 18.24	06.54 07.13-07.27/14 19.56 19.18-19.35/17	06.13 19.41-20.04/23 20.27	05.53 06.14-06.26/12 19.58-20.04/6 20.53 06.26-06.35/9 20.20-20.27/7					
11	07.46 15.44-16.51/67 17.16	07.23 07.43-08.07/24 17.53 17.12-17.30/18	06.43 07.02-07.08/6 18.25 07.10-07.58/48	06.53 07.11-07.27/16 19.57 19.17-19.36/19	06.12 19.41-20.05/24 20.28	05.53 06.14-06.27/13 20.20-20.28/8 20.53 06.27-06.36/9					
12	07.46 15.44-16.51/67 17.17	07.22 07.41-08.07/25 17.54 17.11-17.31/20	06.41 07.00-07.57/57 18.26	06.51 07.10-07.28/18 19.58 19.17-19.36/19	06.11 19.41-20.06/25 20.29	05.52 06.14-06.27/13 20.21-20.28/7 20.54 06.27-06.36/9					
13	07.46 15.45-16.53/68 17.18	07.21 07.40-08.08/28 17.55 17.12-17.32/20	06.40 06.58-07.56/58 18.27	06.50 07.08-07.27/19 19.59 19.18-19.38/20	06.10 19.41-20.07/26 20.30	05.52 06.14-06.28/14 20.21-20.29/8 20.54 06.28-06.36/8					
14	07.45 15.46-16.54/68 17.19	07.20 07.39-08.08/29 17.56 17.12-17.34/22	06.38 06.57-07.56/59 18.28	06.48 07.06-07.27/21 20.00 19.19-19.38/19	06.09 19.40-20.08/28 20.31	05.52 06.14-06.28/14 20.21-20.29/8 20.55 06.28-06.36/8					
15	07.45 15.46-16.55/69 17.20	07.18 07.38-08.09/31 17.57 17.12-17.33/21	06.37 06.55-07.55/60 18.29	06.46 07.05-07.27/22 20.01 19.21-19.38/17	06.08 19.40-20.09/29 20.32	05.52 06.14-06.28/14 20.21-20.30/9 20.55 06.28-06.36/8					
16	07.45 15.47-16.57/70 17.21	07.17 07.36-08.09/32 17.59 17.13-17.33/20	06.35 06.54-07.55/61 18.30	06.45 07.03-07.26/23 20.03 19.22-19.36/14	06.07 19.40-20.09/29 20.33	05.52 06.14-06.29/15 20.21-20.30/9 20.56 06.29-06.37/8					
17	07.44 15.47-16.57/70 17.23	07.16 07.35-08.08/33 18.00 17.15-17.32/17	06.33 06.52-07.53/61 18.31	06.43 07.02-07.26/24 20.04 19.25-19.32/7	06.06 19.40-20.10/30 20.34	05.52 06.14-06.29/15 20.22-20.30/8 20.56 06.29-06.37/8					
18	07.44 15.48-16.59/71 17.24	07.14 07.34-08.08/34 18.01 17.16-17.29/13	06.32 06.50-07.51/61 18.32	06.42 07.01-07.25/24 20.05	06.05 19.40-20.11/31 20.35	05.52 06.15-06.30/15 20.22-20.31/9 20.56 06.30-06.38/8					
19	07.43 15.48-16.59/71 17.25	07.13 07.33-08.07/34 18.02 17.19-17.27/8	06.30 06.49-07.51/62 18.33	06.40 06.59-07.24/25 20.06	06.04 19.40-20.12/32 20.36	05.52 06.15-06.30/15 20.23-20.32/9 20.57 06.30-06.38/8					
20	07.43 15.48-17.00/72 17.26	07.12 07.34-08.07/33 18.03	06.28 06.47-07.49/62 18.34 18.08-18.14/6	06.39 07.00-07.23/23 20.07	06.03 19.41-20.13/32 20.37	05.53 06.15-06.30/15 20.23-20.32/9 20.57 06.30-06.38/8					
21	07.42 15.49-17.01/72 17.27	07.10 07.34-08.05/31 18.05	06.27 06.45-07.46/61 18.36 18.04-18.14/10	06.37 07.00-07.21/21 20.08	06.02 19.42-20.14/32 20.38	05.53 06.15-06.30/15 20.23-20.32/9 20.57 06.30-06.38/8					
22	07.42 15.50-17.01/71 17.28	07.09 07.33-07.44/11 18.06 07.43-08.05/22	06.25 06.44-07.45/61 18.37 18.02-18.15/13	06.36 07.02-07.20/18 20.09	06.02 06.22-06.25/3 20.39 19.42-20.14/32	05.53 06.15-06.30/15 20.23-20.32/9 20.57 06.30-06.38/8					
23	07.41 15.50-17.01/71 17.29	07.07 07.27-07.48/21 18.07 07.47-08.03/16	06.23 06.42-07.41/59 18.38 18.01-18.17/16	06.35 07.03-07.14/11 20.10 07.14-07.18/4	06.01 06.22-06.27/5 20.40 19.42-20.15/33	05.53 06.15-06.31/15 20.23-20.32/9 20.57 06.31-06.38/7					
24	07.40 15.52-17.02/70 17.31	07.06 07.25-07.51/26 18.08 07.50-08.02/12	06.22 06.41-07.19/38 17.59-18.18/19 18.39 07.21-07.37/16	06.33 07.05-07.16/11 20.11	06.00 06.21-06.28/7 20.40 19.43-20.16/33	05.53 06.16-06.31/15 20.24-20.33/9 20.58 06.31-06.39/8					
25	07.40 15.52-17.02/70 17.32	07.05 07.24-07.54/30 18.09 07.53-08.00/7	06.20 06.41-07.19/38 18.40 17.58-18.19/21	06.32 20.12	05.59 06.20-06.29/9 20.41 19.43-20.15/32	05.54 06.16-06.31/15 20.24-20.32/8 20.58 06.31-06.39/8					
26	07.39 15.53-17.01/68 17.33	07.03 07.22-07.55/33 18.10 07.54-07.56/2	06.19 06.41-07.18/37 18.41 17.57-18.20/23	06.30 20.13	05.59 06.20-06.30/10 20.42 19.44-20.15/31	05.54 06.16-06.31/15 20.24-20.32/8 20.58 06.31-06.39/8					
27	07.38 15.54-17.01/67 17.34	07.02 07.21-07.55/34 18.11	06.17 06.41-07.17/36 18.42 17.56-18.21/25	06.29 20.14	05.58 06.19-06.31/12 20.43 19.45-20.14/29	05.54 06.17-06.31/14 20.24-20.33/9 20.58 06.31-06.40/9					
28	07.37 15.55-17.01/66 17.36	07.00 07.19-07.56/37 18.13	06.15 06.42-07.17/35 18.43 17.56-18.22/26	06.28 19.51-19.53/2 20.15	05.58 06.19-06.32/13 20.44 19.45-20.13/28	05.55 06.17-06.31/14 20.24-20.32/8 20.58 06.31-06.39/8					
29	07.36 15.57-17.02/65 17.37	06.59 07.18-07.53/33 18.14 07.42-08.15/33	06.14 07.42-08.15/33 19.44 18.55-19.23/28	06.26 19.50-19.53/3 20.16	05.57 06.18-06.32/14 20.19-20.20/1 20.45 19.46-20.13/27	05.55 06.18-06.32/14 20.24-20.32/8 20.58 06.32-06.40/8					
30	07.36 15.58-17.01/63 17.38	06.58 07.17-07.52/33 18.15 07.42-08.13/31	06.12 07.42-08.13/31 19.45 18.54-19.24/30	06.25 19.50-19.54/4 20.17	05.56 06.18-06.33/15 20.19-20.20/1 20.45 19.47-20.13/26	05.56 06.18-06.31/13 20.25-20.33/8 20.58 06.31-06.40/9					
31	07.35 16.00-17.01/61 17.39	06.57 07.16-07.51/33 18.16 07.41-08.12/30	06.11 07.41-08.12/30 19.46 18.55-19.25/30	06.24 19.50-19.54/4 20.18	05.56 06.17-06.33/16 20.19-20.21/2 20.46 19.47-20.12/25	05.56 06.18-06.31/13 20.25-20.33/8 20.58 06.31-06.40/9					
Potential sun hours		299	298	370	398	447	450				
Sum of minutes with flicker		2073	1200	1770	829	876	1025				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Eolico_Green_2020_07_13

Printed/Page

30/07/2020 14.46 / 148

Licensed user:

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Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP06 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (61)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 06.19-06.32/13 20.24-20.32/8 20.58 06.32-06.41/9	06.20 19.50-20.15/25 20.39	06.50 07.10-07.26/16 19.57 19.16-19.35/19	07.19 07.39-08.37/58 19.07	06.52 07.14-07.36/22 17.21 16.40-16.57/17	07.26 15.26-16.33/67 16.58
2	05.57 06.31-06.31/12 20.05-20.08/3 20.58 06.31-06.40/9 20.25-20.33/8	06.20 19.51-20.14/23 20.38	06.51 07.11-07.25/14 19.55 19.16-19.33/17	07.20 07.40-08.37/57 19.05	06.53 07.15-07.35/20 17.20 16.41-16.57/16	07.27 15.27-16.33/66 16.57
3	05.57 06.19-06.32/13 20.02-20.10/8 20.57 06.32-06.40/8 20.25-20.32/7	06.21 19.51-20.14/23 20.37	06.51 07.12-07.24/12 19.15-19.32/17 19.54 19.01-19.12/11	07.21 07.48-08.37/49 19.04	06.54 07.16-07.34/18 17.19 16.42-16.55/13	07.28 15.27-16.32/65 16.57
4	05.58 06.20-06.31/11 20.02-20.12/10 20.57 06.31-06.41/10 20.25-20.32/7	06.22 19.51-20.13/22 20.36	06.52 07.13-07.22/9 19.52 18.57-19.30/33	07.22 07.48-08.36/48 19.02	06.56 07.17-07.32/15 16.42-16.54/12 17.18 16.12-16.20/8	07.29 15.27-16.32/65 16.57
5	05.58 06.21-06.31/10 20.00-20.13/13 20.57 06.31-06.41/10 20.25-20.31/6	06.23 19.52-20.12/20 20.35	06.53 07.14-07.20/6 19.50 18.55-19.29/34	07.23 07.48-08.36/48 19.01	06.57 07.18-07.30/12 16.08-16.23/15 17.17 15.45-15.51/6 16.43-16.53/10	07.30 15.28-16.32/64 16.57
6	05.59 06.21-06.30/9 20.00-20.14/14 20.57 06.30-06.41/11 20.26-20.32/6	06.24 19.52-20.11/19 20.34	06.54 07.15-07.16/1 19.49 18.53-19.27/34	07.24 07.47-08.35/48 18.59	06.58 07.20-07.29/9 16.07-16.26/19 17.15 15.40-15.57/17 16.44-16.52/8	07.31 15.28-16.32/64 16.57
7	05.59 06.22-06.31/9 19.59-20.16/17 20.57 06.31-06.41/10 20.26-20.32/6	06.25 19.53-20.09/16 20.32	06.55 18.52-19.20/28 19.47 19.20-19.25/5	07.25 07.47-08.35/48 18.57	06.59 07.21-07.26/5 16.05-16.28/23 17.14 15.37-16.00/23 16.46-16.51/5	07.32 15.29-16.32/63 16.56
8	06.00 06.22-06.29/7 19.58-20.16/18 20.56 06.29-06.41/12 20.26-20.31/5	06.26 19.54-20.08/14 20.31	06.56 07.48-07.55/7 19.20-19.24/4 19.46 18.50-19.20/30	07.26 07.47-08.34/47 18.56	07.00 15.35-16.02/27 16.47-16.49/2 17.13 16.03-16.29/26	07.33 15.29-16.32/63 16.56
9	06.01 06.23-06.29/6 19.58-20.18/20 20.56 06.29-06.41/12 20.27-20.31/4	06.27 19.55-20.07/12 20.30	06.57 07.43-07.59/16 19.20-19.21/1 19.44 18.48-19.20/32	07.27 07.48-08.33/45 18.54	07.01 15.33-16.30/57 17.12	07.34 15.28-16.31/63 16.56
10	06.01 06.24-06.29/5 19.57-20.19/22 20.56 06.29-06.42/13 20.27-20.31/4	06.28 19.56-20.06/10 20.29	06.58 07.40-08.02/22 19.42 18.47-19.20/33	07.28 07.48-08.33/45 18.53	07.03 15.32-16.31/59 17.11	07.35 15.29-16.31/62 16.56
11	06.02 06.24-06.27/3 19.56-20.19/23 20.55 06.27-06.41/14 20.27-20.30/3	06.29 19.57-20.05/8 20.27	06.59 07.37-08.02/25 19.41 18.47-19.18/31	07.29 07.49-08.32/43 18.51	07.04 15.30-16.32/62 17.10	07.36 15.30-16.31/61 16.57
12	06.03 06.25-06.41/16 20.27-20.30/3 20.55 19.56-20.20/24	06.30 19.58-20.03/5 20.26	07.00 07.35-08.04/29 19.39 18.46-19.17/31	07.30 07.50-08.30/40 18.49	07.05 15.29-16.32/63 17.09 15.39-15.54/15	07.37 15.30-16.31/61 16.57
13	06.03 06.26-06.41/15 20.28-20.30/2 20.54 19.56-20.21/25	06.31 19.58-20.02/4 20.25	07.01 07.34-08.04/30 19.37 18.46-19.15/29	07.31 07.51-08.29/38 18.48	07.06 15.28-16.33/65 17.08 15.36-15.57/21	07.37 15.31-16.32/61 16.57
14	06.04 06.26-06.40/14 20.28-20.29/1 20.54 19.54-20.21/27	06.32 19.58-20.00/2 20.24	07.02 07.32-08.05/33 19.36 18.45-19.13/28	07.32 07.52-08.28/36 18.46	07.07 15.28-16.34/66 17.08	07.38 15.31-16.31/60 16.57
15	06.05 06.27-06.40/13 20.53 19.54-20.22/28	06.33 19.58-19.59/1 20.22	07.03 07.31-08.06/35 19.34 18.45-19.12/27	07.33 07.53-08.26/33 18.45	07.08 15.27-16.34/67 17.07	07.39 15.31-16.32/61 16.57
16	06.06 06.28-06.40/12 20.53 19.54-20.23/29	06.34 20.21 06.35	07.04 07.30-08.06/36 19.32 18.45-19.10/25	07.34 07.55-08.27/32 18.43 08.26-08.30/4	07.10 15.26-16.34/68 17.06	07.40 15.32-16.32/60 16.57
17	06.06 06.29-06.40/11 20.52 19.54-20.24/30	06.35 20.19	07.05 07.30-08.06/36 19.31 18.45-19.08/23	07.35 07.56-08.25/29 17.11	15.25-16.35/70 07.05	07.40 15.32-16.32/60 16.58
18	06.07 06.29-06.39/10 20.51 19.53-20.24/31	06.36 07.15-07.18/3 20.18	07.06 07.29-08.06/37 19.29 18.46-19.07/21	07.36 07.57-08.22/25 18.40 08.21-08.34/13	07.12 15.26-16.36/70 17.04	07.41 15.33-16.32/59 16.58
19	06.08 06.30-06.38/8 20.51 19.53-20.25/32	06.37 07.10-07.22/12 20.17	07.07 07.28-08.06/38 18.46-19.05/19 19.27 08.10-08.24/14	07.38 08.00-08.18/18 18.39 08.05-08.36/31	07.13 15.25-16.36/71 17.04	07.42 15.34-16.33/59 16.59
20	06.09 06.31-06.37/6 20.50 19.52-20.25/33	06.38 07.08-07.21/13 20.15 07.21-07.24/3	07.08 07.28-08.27/59 19.25 18.47-19.04/17	07.39 08.05-08.36/31 18.37	15.25-16.36/71 17.13	07.42 15.33-16.33/60 16.59
21	06.10 06.32-06.36/4 20.49 19.52-20.25/33	06.39 07.06-07.25/19 20.14 07.25-07.26/1	07.09 07.29-08.29/60 19.24 18.48-19.02/14	07.40 08.04-08.36/32 18.36	15.24-16.36/72 17.12	07.43 15.34-16.34/60 16.59
22	06.11 06.33-06.35/2 20.48 19.52-20.25/33	06.40 07.05-07.26/21 20.12	07.10 07.30-08.31/61 19.22 18.49-19.00/11	07.41 08.04-08.37/33 18.34	15.24-16.36/72 17.12	07.43 15.34-16.34/60 17.00
23	06.11 19.51-20.23/32 20.48	06.41 07.04-07.27/23 20.11	07.11 07.31-08.32/61 19.20 18.51-18.59/8	07.42 08.04-08.38/34 18.33 17.49-17.59/10	15.25-16.36/71 17.18	07.44 15.35-16.35/60 17.00
24	06.12 19.51-20.22/31 20.47	06.42 07.03-07.28/25 20.09	07.12 07.32-08.34/62 19.19 18.56-18.57/1	07.43 08.04-08.38/34 18.32 17.46-18.01/15	15.25-16.36/71 17.19	07.44 15.36-16.35/59 17.01
25	06.13 19.51-20.22/31 20.46	06.43 07.04-07.28/24 20.08	07.13 07.33-08.34/61 19.17	07.44 07.05-07.38/33 17.20	15.25-16.35/70 17.00	07.45 15.36-16.35/59 17.01
26	06.14 19.51-20.21/30 20.45	06.44 07.05-07.29/24 20.06 19.28-19.36/8	07.14 07.34-08.35/61 19.15	07.45 07.06-07.38/32 17.29 16.43-17.03/20	15.25-16.35/70 16.59	07.45 15.37-16.37/60 17.02
27	06.15 19.51-20.20/29 20.44	06.45 07.06-07.29/23 20.05 19.23-19.38/15	07.15 07.35-08.36/61 19.14	07.46 07.07-07.37/30 17.28 16.42-17.03/21	15.25-16.34/69 16.59	07.45 15.37-16.37/60 17.03
28	06.16 19.51-20.20/29 20.43	06.46 07.07-07.29/22 20.03 19.21-19.39/18	07.16 07.36-08.36/60 19.12	07.48 07.09-07.38/29 17.26 16.42-17.03/21	15.25-16.34/69 16.59	07.46 15.37-16.37/60 17.03
29	06.17 19.51-20.19/28 20.42	06.47 07.07-07.28/21 20.02 19.20-19.39/19	07.17 07.37-08.37/60 19.10	07.49 07.10-07.37/27 17.25 16.41-17.02/21	15.26-16.34/68 16.58	07.46 15.37-16.38/61 17.04
30	06.18 19.51-20.18/27 20.41	06.48 07.08-07.27/19 20.00 19.18-19.38/20	07.18 07.38-08.37/59 19.09	07.50 07.11-07.37/26 17.24 16.41-17.00/19	15.26-16.33/67 16.58	07.46 15.39-16.40/61 17.05
31	06.19 19.50-20.16/26 20.40	06.49 07.09-07.27/18 19.58 19.17-19.36/19		07.51 07.12-07.36/24 17.22 16.40-16.59/19		07.46 15.39-16.40/61 17.06
	Potential sun hours 457	427	375	346	299	290
	Sum of minutes with flicker 1133	574	1664	1356	1836	1905

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP07 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (62)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

Table with 7 columns: January, February, March, April, May, June. Each column contains a list of times (HH:MM) for each day of the month, representing shadow events. Summary rows at the bottom show 'Potential sun hours' and 'Sum of minutes with flicker' for each month.

Table layout: For each day in each month the following matrix apply

Matrix with 2 rows and 2 columns. Row 1: Day in month, Sun rise (hh:mm), First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker. Row 2: Sun set (hh:mm), First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker.

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020_07_30 Cumulative WTG: BAP07 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (62)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 06.25-06.55/30 19.57-20.32/35 20.58 09.01-13.34/273	06.19 06.41-07.01/20 20.39 09.09-13.31/262	06.49 07.10-07.35/25 19.02-19.18/16 19.57 09.24-13.06/222	07.19 07.39-07.52/13 10.06-12.03/117 19.07 08.40-09.31/51	06.52 07.22-09.25/123 17.21	07.26 07.50-08.31/41 16.57 08.31-09.38/67
2	05.56 06.25-06.56/31 19.57-20.33/36 20.58 09.02-13.34/272	06.20 06.42-07.01/19 20.38 09.10-13.31/261	06.50 07.11-07.34/23 18.59-19.11/12 19.55 09.24-13.04/220 19.11-19.20/9	07.20 07.40-07.50/10 10.09-11.59/110 19.05 08.38-09.33/55	06.53 07.23-09.27/124 17.20	07.27 07.51-08.31/40 16.57 08.31-09.38/67
3	05.57 06.25-06.56/31 19.57-20.32/35 20.57 09.01-13.34/273	06.21 06.43-07.00/17 20.37 09.10-13.31/261	06.51 07.12-07.34/22 18.57-19.15/18 19.54 09.25-13.03/218 19.15-19.22/7	07.21 07.41-07.49/8 10.12-11.56/104 19.04 08.36-09.34/58	06.54 07.24-09.28/124 17.19	07.28 07.52-08.31/39 16.57 08.31-09.38/67
4	05.58 06.25-06.57/32 19.58-20.32/34 20.57 09.02-13.35/273	06.22 06.44-06.59/15 20.36 09.10-13.30/260	06.52 07.13-07.33/20 18.55-19.17/22 19.52 09.26-13.02/216 19.17-19.23/6	07.22 07.42-07.47/5 08.35-09.36/61 19.02 08.02-08.06/4 10.15-11.52/97	06.56 07.24-09.28/124 17.18	07.29 07.53-08.31/38 16.57 08.31-09.38/67
5	05.58 06.25-06.57/32 19.58-20.32/34 20.57 09.02-13.34/272	06.23 06.45-06.58/13 20.35 09.11-13.30/259	06.53 07.14-07.32/18 18.53-19.19/26 19.50 09.27-13.00/213 19.19-19.24/5	07.23 07.57-08.10/13 10.19-11.47/88 19.01 08.33-09.37/64	06.57 07.24-08.07/43 17.17	07.30 07.54-08.31/37 16.57 08.31-09.38/67
6	05.59 06.25-06.58/33 19.59-20.32/33 20.57 09.02-13.35/273	06.24 06.46-06.57/11 20.34 09.11-13.29/258	06.54 07.15-07.30/15 18.51-19.20/29 19.49 09.28-12.59/211 19.20-19.24/4	07.24 07.54-08.12/18 10.23-11.42/79 18.59 08.32-09.38/66	06.58 07.26-08.13/47 17.15	07.31 07.55-08.32/37 16.57 08.32-09.39/67
7	05.59 06.25-06.59/34 20.00-20.32/32 20.57 09.03-13.35/272	06.25 06.47-06.56/9 20.32 09.12-13.29/257	06.55 07.16-07.29/13 18.49-19.21/32 19.47 09.29-12.57/208 19.21-19.25/4	07.25 07.52-08.14/22 10.27-11.37/70 18.57 08.31-09.38/67	06.59 07.26-08.15/49 17.14	07.32 07.56-08.32/36 16.57 08.32-09.39/67
8	06.00 06.25-06.59/34 20.00-20.31/31 20.56 09.03-13.35/272	06.26 06.48-06.54/6 20.31 09.12-13.29/257	06.56 07.17-07.27/10 18.48-19.21/33 19.45 09.30-12.56/206 19.21-19.24/3	07.26 07.51-08.15/24 10.33-11.31/58 18.56 08.29-09.39/70	07.00 07.27-08.17/50 17.13	07.33 07.57-08.32/35 16.56 08.32-09.39/67
9	06.01 06.25-06.59/34 20.01-20.31/30 20.56 09.03-13.35/272	06.27 06.49-06.52/3 20.30 09.13-13.28/255	06.57 07.18-07.27/7 18.46-19.21/35 19.44 09.30-12.53/203	07.27 07.49-08.15/26 10.40-11.23/43 18.54 08.28-09.40/72	07.01 07.28-08.19/51 17.12	07.34 07.58-08.33/35 16.56 08.33-09.39/66
10	06.01 06.25-07.00/35 20.01-20.30/29 20.56 09.04-13.35/271	06.28 09.13-13.27/254 20.29	06.58 07.18-07.21/3 18.45-19.20/35 19.42 09.31-12.51/200	07.28 07.48-08.16/28 10.53-11.09/16 18.52 08.27-09.41/74	07.02 07.29-08.21/52 17.11	07.35 07.58-08.32/34 16.56 08.32-09.39/67
11	06.02 06.24-07.00/36 20.03-20.30/27 20.55 09.04-13.35/271	06.29 09.13-13.27/254 20.27	06.59 09.32-12.50/198 19.41 18.44-19.18/34	07.29 07.49-08.16/27 18.51 08.26-09.41/75	07.04 07.30-08.22/52 17.10	07.36 07.59-08.32/33 16.56 08.32-09.40/68
12	06.03 06.25-07.01/36 20.04-20.30/26 20.55 09.04-13.35/271	06.30 07.12-07.22/10 20.26 09.13-13.25/252	07.00 09.33-12.48/195 19.39 18.44-19.17/33	07.30 07.50-08.16/26 18.49 08.25-09.42/77	07.05 07.31-08.22/51 17.09	07.37 08.00-08.33/33 16.57 08.33-09.40/67
13	06.03 06.26-07.01/35 20.05-20.30/25 20.54 09.05-13.35/270	06.31 07.07-07.24/17 20.25 09.13-13.25/252	07.01 09.34-12.46/192 19.37 18.43-19.15/32	07.31 07.51-08.16/25 18.48 08.24-09.42/78	07.06 07.32-08.23/51 17.08	07.38 08.01-08.33/32 16.57 08.33-09.41/68
14	06.04 06.26-07.01/35 20.05-20.29/24 20.54 09.04-13.35/271	06.32 07.05-07.26/21 20.24 09.14-13.24/250	07.02 09.36-12.45/189 19.36 18.43-19.13/30	07.32 07.52-08.15/23 18.46 08.24-09.42/78	07.07 07.34-08.25/51 17.07	07.38 08.02-08.34/32 16.57 08.34-09.40/66
15	06.05 06.27-07.02/35 20.07-20.28/21 20.53 09.05-13.35/270	06.33 07.03-07.28/25 20.22 09.14-13.23/249	07.03 09.37-12.43/186 19.34 18.42-19.12/30	07.33 07.53-08.15/22 18.45 08.23-09.42/79	07.08 07.35-08.25/50 17.07	07.39 08.03-08.33/31 16.57 08.33-09.41/68
16	06.06 06.28-07.02/34 20.08-20.28/20 20.53 09.05-13.35/270	06.34 07.02-07.27/25 09.15-13.23/248 20.21 07.27-07.29/2	07.04 09.38-12.41/183 19.32 18.42-19.10/28	07.34 07.55-08.15/20 18.43 08.23-09.54/91	07.10 07.36-08.26/50 17.06	07.40 08.03-08.34/31 16.57 08.34-09.41/67
17	06.06 06.29-07.03/34 20.10-20.28/18 20.52 09.06-13.35/269	06.35 07.01-07.30/29 20.19 09.15-13.22/247	07.05 09.39-12.39/180 19.30 18.42-19.08/26	07.35 07.56-08.14/18 18.42 08.23-10.00/97	07.11 07.37-08.26/49 17.05	07.40 08.04-08.35/31 16.58 08.35-09.42/67
18	06.07 06.29-07.02/33 20.10-20.27/17 20.51 09.05-13.34/269	06.36 06.59-07.31/32 20.18 09.16-13.21/245	07.06 07.41-07.47/6 18.42-19.07/25 19.29 09.41-12.37/176	07.36 07.57-08.14/17 18.40 08.22-10.03/101	07.12 07.40-08.28/48 17.04	07.41 08.04-08.34/30 16.58 08.34-09.42/68
19	06.08 06.30-07.03/33 20.12-20.26/14 20.51 09.06-13.35/269	06.37 06.59-07.32/33 20.17 09.16-13.20/244	07.07 07.37-07.51/4 18.43-19.05/22 19.27 09.42-12.35/173	07.37 07.58-08.12/14 18.39 08.22-10.06/104	07.13 07.41-08.27/46 17.04	07.42 08.05-08.35/30 16.58 08.35-09.43/68
20	06.09 06.31-07.03/32 20.15-20.26/11 20.50 09.06-13.35/269	06.38 06.59-07.33/34 20.15 09.17-13.19/242	07.08 07.34-07.52/18 18.43-19.04/21 19.25 09.44-12.33/169	07.39 07.59-08.11/12 18.37 08.21-10.01/108	07.14 07.43-08.27/44 17.03	07.43 08.05-08.35/30 16.59 08.35-09.43/68
21	06.10 06.32-07.03/31 20.19-20.25/6 20.49 09.07-13.35/268	06.39 07.00-07.34/34 20.14 09.17-13.18/241	07.09 07.33-07.54/21 18.44-19.02/18 19.24 09.45-12.30/165	07.40 08.00-08.09/9 18.36 08.21-10.11/110	07.15 07.44-08.27/43 17.02	07.44 08.06-08.36/30 16.59 08.36-09.44/68
22	06.10 06.33-07.04/31 20.48 09.07-13.35/268	06.40 07.01-07.35/34 20.12 09.18-13.18/240	07.10 07.31-07.54/23 18.45-19.00/15 19.22 09.47-12.28/161	07.41 08.01-08.07/6 18.34 08.20-10.13/113	07.17 07.45-08.28/43 17.02	07.45 08.06-08.36/30 16.58 08.36-09.44/68
23	06.11 06.33-07.03/30 20.48 09.07-13.34/267	06.41 07.02-07.36/34 20.11 09.18-13.17/239	07.11 07.31-07.55/24 18.46-18.59/13 19.20 09.49-12.26/157	07.42 08.03-08.05/2 18.33 08.21-10.15/114	07.18 07.45-08.29/44 17.01	07.46 08.07-08.37/30 16.58 08.37-09.45/68
24	06.12 06.34-07.03/29 20.47 09.07-13.34/267	06.42 07.03-07.36/33 20.09 09.19-13.16/237	07.12 07.32-07.55/23 18.47-18.57/10 19.19 09.50-12.23/153	07.43 08.21-10.17/116 18.32	07.19 07.45-08.29/44 17.00	07.47 08.07-08.37/30 16.58 08.37-09.45/68
25	06.13 06.35-07.03/28 20.46 09.07-13.34/267	06.43 07.04-07.37/33 20.08 09.20-13.15/235	07.13 07.33-07.55/22 09.52-12.21/149 19.17 09.01-09.13/12 18.50-18.55/5	07.44 07.21-09.18/117 17.30	07.20 07.46-08.29/43 17.00	07.48 08.07-08.37/30 16.58 08.37-09.45/68
26	06.14 06.36-07.03/27 20.45 09.08-13.34/266	06.44 07.05-07.37/32 20.06 09.20-13.14/234	07.14 07.34-07.55/21 09.54-12.18/144 19.15 08.55-09.19/24	07.45 07.21-09.19/118 17.29	07.21 07.46-08.29/43 16.59	07.49 08.08-08.39/31 17.02
27	06.15 06.37-07.03/26 20.44 09.08-13.33/265	06.45 07.06-07.37/31 20.05 09.20-13.11/231	07.15 07.35-07.55/20 09.56-12.15/139 19.14 08.51-09.22/31	07.46 07.21-09.20/119 17.28	07.22 07.46-08.29/43 16.59	07.50 08.08-08.39/31 17.03
28	06.16 06.38-07.03/25 20.43 09.09-13.33/264	06.46 07.06-07.36/30 20.03 09.21-13.10/229	07.16 07.36-07.54/18 09.58-12.12/134 19.12 08.48-09.25/37	07.47 07.22-09.22/120 17.26	07.23 07.46-08.29/43 16.58	07.51 08.08-08.39/31 17.03
29	06.17 06.39-07.03/24 20.42 09.09-13.33/264	06.47 07.07-07.36/29 20.02 09.21-13.09/228	07.17 07.37-07.54/17 10.01-12.09/128 19.10 08.45-09.28/43	07.48 07.22-09.23/121 17.25	07.24 07.48-08.30/42 16.58	07.52 08.09-08.41/32 17.04
30	06.18 06.40-07.03/23 20.41 09.09-13.33/264	06.48 07.08-07.36/28 20.00 09.22-13.08/226	07.18 07.38-07.53/15 10.03-12.06/123 19.09 08.42-09.30/48	07.49 07.22-09.24/122 17.24	07.25 07.49-08.31/42 16.58	07.53 08.09-08.41/32 17.05
31	06.19 06.40-07.02/22 20.40 09.09-13.32/263	06.49 07.09-07.35/26 19.06-19.14/8 19.58 09.23-13.07/224	 	06.51 07.22-09.25/123 17.22	 	07.46 08.09-08.41/32 17.06
Potential sun hours	457	427	375	346	299	290
Sum of minutes with flicker	9848	8324	6642	3993	3516	3111

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP08 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (63)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07:47 08:09-08:24/15 15:09-16:02/53	07:34 07:59-08:37/38	06:59 07:24-08:20/56 17:49-17:52/3	07:09 07:27-07:38/11	06:24 06:48-09:15/147	05:55 06:17-06:36/19
2	07:47 08:09-08:26/16 15:10-16:02/52	07:33 07:59-08:36/37	06:57 07:23-08:21/58 17:46-17:54/6	07:07 07:25-07:28/3	06:22 06:48-09:15/147	05:55 06:16-06:36/20
3	07:47 08:09-08:26/17 15:11-16:02/51 16:42-16:43/1	07:32 08:00-08:35/35	06:56 07:21-08:22/61	07:05 07:24-07:29/5	06:21 06:47-09:15/148	05:55 06:16-06:36/20
4	07:47 08:09-08:27/18 15:12-16:02/50 16:43-16:44/1	07:31 08:00-08:33/33	06:54 07:20-08:23/63	07:04 07:22-07:30/8	06:20 06:46-09:15/149	05:54 06:16-06:37/21
5	07:47 08:09-08:28/19 15:13-16:02/49 16:43-16:43/1	07:30 08:01-08:31/30	06:52 07:19-08:24/65	07:02 07:20-07:31/13	06:19 06:40-06:49/19 08:19-08:19/59/51	05:54 06:15-06:36/21
6	07:47 08:09-08:29/20 16:13-16:44/31	07:29 08:01-08:29/28	06:51 07:18-08:25/67	07:00 07:19-07:30/11	06:17 06:37-06:54/17 19:09-20:00/51	05:54 06:15-06:36/21
7	07:47 08:09-08:30/21 16:14-16:44/30	07:28 08:02-08:29/27	06:49 07:17-08:25/68	06:59 07:17-07:30/13 19:25-19:32/7	06:16 06:36-06:58/22 19:11-19:42/31	05:53 06:15-06:37/22 20:25-20:26/1
8	07:47 08:09-08:31/22 16:15-16:44/29	07:27 08:03-08:28/25	06:48 07:15-08:25/70	06:57 07:16-07:30/14 19:21-19:33/12	06:15 06:35-07:00/25 19:12-19:41/29	05:53 06:15-06:37/22 20:25-20:27/2
9	07:47 08:09-08:32/23 16:16-16:44/28	07:26 08:04-08:27/22	06:46 07:15-08:26/71	06:56 07:14-07:29/15 19:18-19:34/16	06:14 06:34-07:02/28 19:14-19:39/25	05:53 06:14-06:36/22 20:24-20:27/3
10	07:47 08:09-08:33/24 16:17-16:44/27	07:25 08:05-08:27/21	06:45 07:14-08:26/72	06:55 07:13-07:29/16 19:15-19:34/19	06:13 06:33-07:03/30 19:14-19:36/22	05:53 06:14-06:36/22 20:24-20:27/3
11	07:47 08:09-08:34/25 16:18-16:44/26	07:24 08:07-08:25/18	06:45 07:14-08:26/72	06:54 07:13-07:29/16 19:15-19:34/19	06:12 06:32-07:03/33 19:16-20:01/15	05:53 06:14-06:36/22 20:25-20:28/3
12	07:47 08:09-08:35/26 16:19-16:44/25	07:23 08:09-08:23/14	06:43 07:14-08:26/72	06:53 07:11-07:28/17 19:14-19:36/22	06:11 06:31-07:05/33 19:20-19:40/10	05:52 06:14-06:37/23 20:25-20:28/3
13	07:47 08:09-08:36/27 16:20-16:44/24	07:22 08:10-08:18/5	06:41 07:13-08:26/73	06:51 07:09-07:26/17 19:12-19:36/24	06:10 06:30-07:07/37	05:52 06:14-06:37/23 20:25-20:29/4
14	07:47 08:09-08:37/28 16:21-16:44/23	07:21 07:29-17:32/3	06:40 07:12-08:25/73	06:50 07:08-07:25/17 19:11-19:38/27	06:09 06:29-07:09/41	05:52 06:14-06:37/23 20:25-20:29/4
15	07:47 08:09-08:38/29 16:22-16:44/22	07:20 07:30-17:31/1	06:39 07:12-08:26/74	06:49 07:07-09:10/106	06:08 06:28-07:09/41	05:52 06:14-06:37/23 20:25-20:29/4
16	07:47 08:09-08:39/30 16:23-16:44/21	07:19 07:28-17:34/6	06:38 07:11-08:25/74	06:48 07:06-07:22/16 19:09-19:38/29	06:07 06:27-06:30/12	05:52 06:14-06:37/23 20:25-20:30/5
17	07:47 08:09-08:40/31 16:24-16:44/20	07:18 07:27-17:35/6	06:37 07:11-08:25/74	06:47 07:05-07:19/14 19:08-19:40/32	06:06 06:26-06:31/5	05:52 06:14-06:37/23 20:25-20:30/5
18	07:47 08:09-08:41/32 16:25-16:44/19	07:17 07:26-17:36/9	06:36 07:10-08:25/74	06:46 07:04-09:11/113	06:05 06:25-06:31/6	05:52 06:14-06:37/23 20:25-20:31/6
19	07:47 08:09-08:42/33 16:26-16:44/18	07:16 07:25-17:37/12	06:35 07:09-08:25/74	06:45 07:03-07:34/31 19:07-19:40/33	06:04 06:24-06:32/8	05:52 06:14-06:37/23 20:25-20:31/6
20	07:47 08:09-08:43/34 16:27-16:44/17	07:15 07:24-17:38/11	06:34 07:08-08:25/74	06:44 07:02-07:32/30 19:07-19:42/35	06:03 06:23-06:33/10	05:52 06:14-06:37/23 20:25-20:31/6
21	07:47 08:09-08:44/35 16:28-16:44/16	07:14 07:23-17:39/13	06:33 07:07-08:25/74	06:43 07:01-09:10/109	06:02 06:22-06:33/11	05:52 06:14-06:37/23 20:25-20:31/6
22	07:47 08:09-08:45/36 16:29-16:44/15	07:13 07:22-17:40/14	06:32 07:06-08:24/74	06:42 07:00-07:28/28 19:05-19:42/37	06:01 06:21-06:34/13	05:52 06:14-06:37/23 20:25-20:31/6
23	07:47 08:09-08:46/37 16:30-16:44/14	07:12 07:21-17:41/15	06:31 07:05-08:24/74	06:41 06:59-09:13/134	06:00 06:20-06:35/15	05:52 06:14-06:37/23 20:25-20:31/6
24	07:47 08:09-08:47/38 16:31-16:44/13	07:11 07:20-17:42/16	06:30 07:04-08:23/73	06:40 06:58-09:13/134	06:00 06:20-06:35/15	05:52 06:14-06:37/23 20:25-20:31/6
25	07:47 08:09-08:48/39 16:32-16:44/12	07:10 07:19-17:43/17	06:29 07:03-08:22/73	06:39 06:57-09:13/136	06:00 06:20-06:35/15	05:52 06:14-06:37/23 20:25-20:31/6
26	07:47 08:09-08:49/40 16:33-16:44/11	07:09 07:18-17:44/16	06:28 07:02-08:21/72	06:38 06:56-09:14/138	06:00 06:20-06:35/15	05:52 06:14-06:37/23 20:25-20:31/6
27	07:47 08:09-08:50/41 16:34-16:44/10	07:08 07:17-17:45/17	06:27 07:01-08:22/72	06:37 06:55-09:14/139	06:00 06:20-06:35/15	05:52 06:14-06:37/23 20:25-20:31/6
28	07:47 08:09-08:51/42 16:35-16:44/9	07:07 07:16-17:46/18	06:26 07:00-08:21/71	06:36 06:54-09:14/140	06:00 06:20-06:35/15	05:52 06:14-06:37/23 20:25-20:31/6
29	07:47 08:09-08:52/43 16:36-16:44/8	07:06 07:15-17:47/19	06:25 07:00-08:20/70	06:35 06:53-09:14/141	06:00 06:20-06:35/15	05:52 06:14-06:37/23 20:25-20:31/6
30	07:47 08:09-08:53/44 16:37-16:44/7	07:05 07:14-17:48/20	06:24 07:00-08:19/69	06:34 06:52-09:14/142	06:00 06:20-06:35/15	05:52 06:14-06:37/23 20:25-20:31/6
31	07:47 08:09-08:54/45 16:38-16:44/6	07:04 07:13-17:49/21	06:23 07:00-08:18/68	06:33 06:51-09:14/143	06:00 06:20-06:35/15	05:52 06:14-06:37/23 20:25-20:31/6
Potential sun hours	299	298	370	398	447	450
Sum of minutes with flicker	2488	826	2706	4579	5618	5431

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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Project:

Eolico_Green_2020_07_13

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30/07/2020 14.46 / 152

Licensed user:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: BAP08 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (63)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 06.18-06.40:22.20.29-20.32/3	06.19 06.41-07.15:04 19.29-19.43/14	06.48 07.10-07.27/17 19.13-19.35/22	07.19 07.52-08.06/74	06.52 07.35-07.54/19	07.26 07.50-08.15:25 15.59-16.26/27
2	20.58 06.40-09.18/156	20.39 07.15-08.24:29 20.01-20.08/7	19.57 07.26-09.07/101	19.07 18.14-18.41/27	17.21	16.57 15.01-15.43:42 16.28-16.33/7
3	05.56 06.19-06.41:22.20.29-20.33/4	06.20 06.42-07.14:32 19.26-19.45/19	06.50 07.11-07.27/16 19.14-19.33/19	07.20 07.52-09.05/73	06.53 07.34-07.57/23	07.27 07.51-08.15:24 15.59-16.27/28
4	20.58 06.41-09.17/156	20.38 07.14-09.24:30 19.58-20.10/12	19.55 07.26-09.05/99	19.05 18.13-18.42/29	17.20	16.57 15.01-15.45:44 16.27-16.33/6
5	05.57 06.19-06.41:22.20.29-20.32/3	06.21 06.43-07.12:29 19.24-19.48/24	06.51 07.12-07.27/15 19.16-19.32/16	07.21 07.52-09.04/72	06.54 07.33-07.58/25	07.28 07.52-08.15:23 15.59-16.28/29
6	20.57 06.41-09.18/155	20.37 07.12-09.24:32 19.56-20.12/16	19.54 07.26-09.04/98	19.04 18.11-18.41/30	17.19	16.57 15.00-15.45:45 16.28-16.32/4
7	05.58 06.20-06.42:22.20.30-20.32/2	06.22 06.44-07.11:27 19.23-19.49/26	06.52 07.13-07.27/14 19.18-19.30/12	07.22 07.53-09.04/71	06.56 07.32-07.59/27	07.29 07.53-08.15:22 15.59-16.28/29
8	20.57 06.42-09.17/155	20.36 07.11-09.25:14 19.55-20.13/18	19.52 07.26-09.02/96	19.02 18.12-18.40/28	17.18	16.57 15.00-15.46:46 16.28-16.32/4
9	05.58 06.20-06.42:22.20.30-20.31/1	06.23 06.45-07.09:24 19.21-19.51/30	06.53 07.14-07.27/13 19.22-19.29/7	07.23 07.53-09.03/70	06.57 07.31-07.59/28	07.30 07.54-08.15:21 15.59-16.29/30
10	20.57 06.42-09.17/155	20.35 07.09-09.25:13 19.54-20.12/18	19.50 07.26-09.00/94	19.00 18.11-18.38/27	17.16	16.57 15.00-15.47:47 16.29-16.32/3
11	05.59 06.21-06.42:21.20.31-20.32/1	06.24 06.46-07.06:20 19.20-19.50/32	06.54 07.15-07.27/12	07.24 07.53-09.02/69	06.58	07.31 07.31-08.01/30
12	20.57 06.42-09.18/156	20.34 07.06-09.25:13 19.53-20.11/18	19.49 07.26-08.59/93	18.59 18.10-18.37/27	17.15	16.56 15.00-15.48:48 16.30-16.32/2
13	05.59 06.22-06.43:21	06.25 06.47-07.03:16 19.19-20.09/50	06.55 07.16-07.26/10	07.25 07.53-09.01/68	06.59 07.30-08.03/3	07.32 07.56-08.15:19 16.00-16.30/30
14	20.56 06.43-09.18/155	20.32 07.03-09.25:14/2	19.47 07.25-08.57/92	18.57 18.10-18.35/25	17.14	16.56 15.00-15.49:49 16.30-16.32/2
15	06.00 06.22-06.43:21	06.26 06.56-09.25:14/9	06.56 07.17-07.25/8	07.26 07.54-09.00/66	07.00 07.30-08.05/35	07.33 07.57-08.15:18 15.59-16.30/31
16	05.01 06.23-06.43:20	06.29 06.57-09.24:14/7	06.57 07.17-07.24/7	07.27 07.54-08.59/65	07.01 07.29-08.06/37	07.34 07.57-08.14:17 14.59-15.50/51 16.30-16.31/1
17	20.56 06.43-09.19/156	20.30 19.17-20.07/50	19.44 07.23-08.59/96	18.54 18.09-18.32/23	17.12	16.56 08.53-09.01/8 15.59-16.30/31
18	06.01 06.24-06.44:20	06.28 06.56-09.24:14/8	06.58 07.18-07.21/3	07.28 07.55-08.57/62	07.03 07.30-08.08/38	07.35 07.58-08.14:16 14.59-15.51/52
19	20.55 06.44-09.20/156	20.29 19.16-20.06/50	19.42 07.20-09.00/100	18.52 18.09-18.30/21	17.11	16.56 08.52-09.04:12 16.00-16.31/31
20	05.02 06.24-06.44:20	06.29 06.57-09.24:14/7	06.59 07.19-07.30/11	07.29 07.56-08.56/60	07.04 07.30-08.09/39	07.36 07.59-08.14:15 14.59-15.52/53
21	20.55 06.44-09.19/155	20.27 19.14-20.04/50	19.40 07.30-09.01/91	18.51 18.09-18.29/19	17.10	16.56 08.51-09.05:14 16.00-16.31/31
22	06.03 06.25-06.44:19	06.30 06.56-09.23:14/7	07.00 07.20-07.27/7	07.30 07.57-08.54/57 18.21-18.27/6	07.05 07.29-08.10/41	07.36 08.00-08.14:14 15.00-15.53/53
23	20.55 06.44-09.20/156	20.26 19.13-20.03/50	19.39 07.27-09.02/95	18.49 18.10-18.21/11	17.09	16.57 08.51-09.07:16 16.01-16.31/30
24	06.03 06.26-06.45:19	06.31 06.56-09.23:14/7	07.01 07.24-09.03/99	07.31 07.58-08.53/55 18.23-18.25/2	07.06 07.29-08.10/41	07.37 08.01-08.14:13 15.00-15.53/53
25	20.54 06.45-09.20/155	20.25 19.12-20.02/50	19.37	18.48 18.07-18.23/16	17.08	16.57 08.51-09.08:17 16.02-16.32/30
26	06.04 06.26-06.44:18	06.32 06.57-09.22:14/5	07.02 07.27-09.04/97	07.32 07.59-08.51/52	07.07 07.30-08.12/42	07.38 08.01-08.14:13 15.00-15.53/53
27	20.54 06.44-09.20/156	20.23 19.12-20.00/48	19.35	18.46 18.05-18.23/18	17.07	16.57 08.50-09.09:19 16.01-16.31/30
28	06.05 06.27-06.44:17	06.33 06.57-09.22:14/5	07.03 07.30-09.05/95	07.33 08.00-08.49/49	07.08 07.31-08.12/41	07.39 08.02-08.14:12 15.00-15.54/54
29	20.53 06.44-09.21/157	20.22 19.11-19.59/48	19.34	18.45 18.04-18.22/18	17.07	16.57 08.50-09.10:20 16.02-16.32/30
30	06.06 06.28-06.45:17	06.34 06.57-09.22:14/5	07.04 07.33-09.06/93	07.34 08.02-08.47/45	07.10 07.32-08.12/40	07.39 08.03-08.14:11 15.01-15.55/54
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32	06.06 06.29-06.45:16	06.35 06.58-09.21:14/3	07.05 07.37-09.06/89	07.35 08.05-08.45/40	07.11 07.33-08.13/40	07.40 08.03-08.14:11 15.00-15.55/53
33	20.52 06.45-09.22:15/7	20.19 19.10-19.57/47	19.30	18.42 18.02-18.19/17	17.05 16.08-16.19/11	16.58 08.50-09.11:21 16.03-16.32/29
34	06.07 06.29-06.44:15	06.36 06.58-09.21:14/3	07.06 07.42-09.07/85	07.36 08.07-08.42/35	07.12 07.35-08.14/39	07.41 08.04-08.14:10 15.01-15.55/55
35	20.51 06.44-09.21/157	20.18 19.10-19.55/45	19.29	18.40 18.00-18.18/18	17.04 16.07-16.22/15	16.58 08.51-09.12:21 16.03-16.32/29
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39	20.50 06.44-09.22:15/8	20.15 19.09-19.53/44	19.25	18.37 17.58-18.14/16	17.03 16.04-16.25/21	16.59 08.51-09.13:22 16.04-16.33/29
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52	06.15 06.37-06.41:4	06.45 07.05-07.38:31 19.09-19.42/33	07.15 07.53-09.07/74	06.46 16.57-17.04/7	07.22 07.45-08.15:30 15.59-16.22/3	07.45 08.08-08.19:11 15.06-16.00/54
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54	06.16 06.38-06.40:2	06.46 07.06-07.20:14 19.09-19.41/32	07.16 07.53-09.07/74	06.47 16.57-17.02/5	07.23 07.46-08.15:29 15.58-16.23/25	07.46 08.08-08.20:12 15.06-16.00/54
55	20.43 06.40-09.24:16/4	20.03 07.19-09.12:13	19.12 18.20-18.38/18	17.26	16.58 15.02-15.39:37 16.23-16.31/8	17.03 08.56-09.16:20 16.09-16.37/29
56	06.17 06.39-07.19:40	06.47 07.07-07.23:16 19.10-19.39/29	07.17 07.53-09.07/74	06.49 16.59-17.02/3	07.24 07.48-08.16:28 15.58-16.24/26	07.46 08.08-08.20:12 15.06-16.00/54
57	20.42 07.19-09.25:12/6	20.02 07.22-09.11:09	19.10 18.17-18.39/22	17.25	16.58 15.01-15.40:39 16.24-16.32/8	17.04 08.57-09.16:19 16.08-16.38/30
58	06.18 06.40-07.18:39	06.48 07.08-07.25:17 19.11-19.38/27	07.18 07.52-09.06/74	06.50 07.42-07.49/7	07.25 07.49-08.16:27 15.59-16.28/27	07.46 08.09-08.22:13 15.08-16.01/53
59	20.41 07.18-09.25:12/7	20.00 07.24-09.10:10/6	19.09 18.15-18.41/26	17.24	16.58 15.02-15.42:40 16.26-16.33/7	17.05 08.59-09.16:19 16.09-16.40/31
60	06.19 06.40-07.16:36	06.49 07.09-07.26:17 19.12-19.36/24		06.51 07.38-07.52/14		07.46 08.09-08.23:14 15.08-16.02/54
61	20.40 07.16-09.24:12/8	19.58 07.25-09.08/103		17.22		17.06 09.00-09.16:16 16.10-16.40/30
Potential sun hours	457	427	375	346	299	290
Sum of minutes with flicker	5359	5725	2866	1691	1638	3436

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: BAP09 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (64)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07.47 13.44-14.32/48	07.34	06.58 07.17-08.29/72	07.09 08.21-09.14/53	06.24 06.43-06.57/14	05.55 06.27-06.41/14
	17.07 14.32-14.58/26	17.40	18.14 17.07-17.52/45	19.47 18.07-19.03/56	20.18 19.10-19.49/39	20.47 18.39-19.57/78
2	07.47 13.45-14.32/47	07.33	06.57 07.17-08.30/73	07.07 08.22-09.12/50	06.22 06.42-06.59/17	05.55 06.27-06.39/12
	17.07 14.32-14.58/26	17.41	18.15 17.06-17.50/44	19.48 18.08-19.01/53	20.19 19.10-19.47/37	20.48 18.37-19.58/81
3	07.47 13.46-14.31/45	07.32	06.55 07.16-08.30/74	07.05 08.24-09.10/46	06.21 06.40-06.59/19	05.54 06.29-06.39/10
	17.08 14.31-14.58/27	17.43	18.16 17.05-17.54/49	19.49 18.09-19.01/52	20.20 19.10-19.47/37	20.48 18.37-19.59/82
4	07.47 13.47-14.31/44	07.31	06.54 07.16-08.32/76	07.04 08.25-09.07/42	06.20 06.39-06.59/20	05.54 06.30-06.38/8
	17.09 14.31-14.58/27	17.44	18.17 17.05-17.56/51	19.50 18.10-18.59/49	20.21 19.11-19.46/35	20.49 18.36-20.00/84
5	07.47 13.49-14.31/42	07.30	06.52 07.15-08.32/77	07.02 08.26-09.04/38	06.19 06.38-07.00/22	05.54 06.32-06.35/3
	17.10 14.31-14.58/27	17.45	18.18 17.03-17.57/54	19.51 18.10-18.57/47	20.22 19.12-19.45/33	20.50 18.35-20.01/86
6	07.47 13.50-14.30/40	07.29	06.51 07.16-08.33/77	07.00 08.29-09.02/33	06.17 06.37-07.01/24	05.53 18.35-20.02/87
	17.11 14.30-14.58/28	17.46	18.19 17.03-17.59/56	19.52 18.12-18.56/44	20.23 19.13-19.44/31	20.50
7	07.47 13.52-14.30/38	07.28	07.55-08.06/11	06.49 07.16-08.33/77	06.59 08.31-08.58/27	05.53 18.35-20.03/88
	17.12 14.30-14.59/29	17.48	18.20 17.02-17.59/57	19.53 18.13-18.53/40	20.24 19.14-19.43/29	20.51
8	07.47 13.53-14.28/35	07.27	07.52-08.10/18	06.48 07.16-08.32/76	06.57 08.36-08.54/18	05.53 18.34-20.04/90
	17.13 14.28-14.58/30	17.49	18.21 17.01-18.00/59	19.54 18.15-18.52/37	20.25 19.16-19.42/26	20.51
9	07.47 13.54-14.28/34	07.25	07.51-08.12/21	06.46 07.18-08.33/75	06.56 18.17-18.49/32	05.53 18.33-20.04/91
	17.14 14.28-14.58/30	17.50	18.23 17.02-18.02/60	19.55	20.26 19.16-19.40/24	20.52
10	07.46 13.56-14.26/30	07.24	07.49-08.14/25	06.45 07.19-08.33/74	06.54 07.13-07.22/9	05.53 18.33-20.05/92
	17.15 14.26-14.58/32	17.51	18.24 17.01-18.03/62	19.56 18.19-18.46/27	20.27 19.18-19.38/20	20.53
11	07.46 13.57-14.25/28	07.23	07.48-08.15/27	06.43 07.19-08.33/74	06.53 07.11-07.24/13	05.52 18.33-20.06/93
	17.16 14.25-14.58/33	17.52	18.25 17.00-18.03/63	19.57 18.23-18.42/19	20.28 19.20-19.36/16	20.53
12	07.46 13.58-14.22/24	07.22	07.46-08.16/30	06.41 07.18-08.33/75	06.51 07.09-07.25/16	05.52 18.33-20.07/94
	17.17 14.22-14.57/35	17.54	18.26 17.01-18.05/64	19.58 18.29-18.35/6	20.29 19.23-19.33/10	20.54
13	07.46 13.59-14.16/17	07.21	07.46-08.17/31	06.40 07.17-08.32/75	06.49 07.08-07.26/12	05.52 18.32-20.07/95
	17.18 14.16-14.57/41	17.55	18.27 17.00-18.06/66	19.59 19.21-19.38/17	20.30 06.45-07.01/16	20.54
14	07.45 14.00-14.56/56	07.19	07.45-08.18/33	06.38 07.17-08.33/76	06.48 07.06-07.27/21	05.52 18.32-20.08/96
	17.19	17.56	18.28 17.01-18.07/66	19.60 19.19-19.38/19	20.31 06.45-07.01/16	20.55
15	07.45 14.02-14.56/54	07.18	07.44-08.18/34	06.36 07.16-08.32/76	06.46 07.05-07.28/23	05.52 18.32-20.08/96
	17.20	17.57	18.29 17.01-18.08/67	20.01 19.17-19.40/23	20.32 06.45-07.01/16	20.55
16	07.45 14.04-14.56/52	07.17	07.44-08.19/35	06.35 07.16-08.31/75	06.45 07.03-07.27/24	05.52 18.32-20.09/97
	17.21	17.59	18.30 17.00-18.09/69	20.02 19.15-19.40/25	20.33 06.45-07.00/15	20.55
17	07.44 14.05-14.54/49	07.16	07.44-08.19/35	06.33 07.16-08.31/75	06.43 07.02-07.28/26	05.52 18.32-20.09/97
	17.22	18.00	18.31 17.01-18.11/70	20.03 19.15-19.42/27	20.34 06.45-07.00/15	20.56
18	07.44 14.08-14.54/46	07.14	07.43-08.19/36	06.32 07.16-08.30/74	06.42 07.00-07.27/27	05.52 18.32-20.09/97
	17.24	18.01	18.32 17.01-18.10/69	20.04 19.13-19.42/29	20.35 06.45-06.59/14	20.56
19	07.43 14.10-14.53/43	07.13	07.43-08.08/25	06.30 07.15-08.29/74	06.40 07.00-07.28/28	05.52 18.32-20.10/98
	17.25	18.02 08.08-08.19/11	18.33 17.01-18.10/69	20.05 19.12-19.44/32	20.36 06.45-06.59/14	20.56
20	07.43 14.12-14.51/39	07.11	07.43-08.14/31	06.28 17.06-08.29/73	06.39 06.59-07.27/28	05.52 18.33-20.11/98
	17.26	18.03 08.14-08.19/5	18.34 17.03-18.11/68	20.07 19.11-19.44/33	20.37 06.46-06.59/13	20.57
21	07.42 14.15-14.50/35	07.10	07.42-08.19/37	06.27 07.15-08.28/73	06.37 07.00-07.27/27	05.53 18.33-20.11/98
	17.27	18.04 17.24-17.41/17	18.35 17.03-18.10/67	20.08 19.11-19.45/34	20.38 06.45-06.58/13	20.57
22	07.42 14.18-14.48/30	07.09	07.40-08.19/39	06.25 07.15-08.27/72	06.36 07.00-07.26/26	05.53 18.33-20.11/98
	17.28	18.06 17.21-17.44/23	18.36 17.04-18.09/65	20.09 19.11-19.47/36	20.39 06.45-06.57/12	20.57
23	07.41 14.21-14.45/24	07.07	07.37-08.20/43	06.23 07.16-08.27/71	06.34 07.00-07.25/25	05.53 18.33-20.11/98
	17.29	18.07 17.17-17.45/28	18.37 17.05-18.10/65	20.10 19.10-19.47/37	20.39 06.45-06.56/11	20.57
24	07.40 14.27-14.41/14	07.06	07.35-08.23/48	06.22 07.16-08.25/69	06.33 07.01-07.24/23	05.53 18.34-20.11/97
	17.31	18.08 17.15-17.46/31	18.39 17.05-18.09/64	20.11 19.10-19.49/39	20.40 06.45-06.56/11	20.57
25	07.40	07.04	07.23-08.24/61	06.20 07.16-08.24/68	06.32 07.02-07.24/22	05.59 18.49-19.45/56
	17.32	18.09 17.13-17.47/34	18.40 17.05-18.08/63	20.12 19.09-19.49/40	20.41 06.44-06.55/11	20.58
26	07.39	07.03	07.22-08.26/64	06.18 07.17-08.23/66	06.30 07.02-07.22/20	05.59 18.46-19.47/61
	17.33	18.10 17.12-17.49/37	18.41 17.06-18.08/62	20.13 19.09-19.50/41	20.42 06.45-06.55/10	20.58
27	07.38	07.01	07.20-08.27/67	06.17 07.17-08.22/65	06.29 07.04-07.20/16	05.58 18.45-19.49/64
	17.34	18.11 17.09-17.50/41	18.42 17.05-18.07/62	20.14 19.09-19.50/41	20.43 06.44-06.54/10	20.58
28	07.37	07.00	07.19-08.28/69	06.15 07.17-08.20/61	06.28 06.47-06.52/5	05.57 18.43-19.51/68
	17.35	18.12 17.09-17.51/42	18.43 17.05-18.06/61	20.15 07.06-07.18/12	20.44 06.43-06.52/9	20.58
29	07.36		07.13 08.18-09.19/61	06.26 06.45-06.54/9	06.26 06.45-06.54/9	05.57 18.42-19.53/71
	17.37		19.44 18.06-19.06/60	20.16 07.10-07.13/3	20.44 06.43-06.51/8	20.58
30	07.36		07.12 08.19-09.17/58	06.25 06.44-06.56/12	06.25 06.44-06.56/12	05.56 18.40-19.54/74
	17.38		19.45 18.06-19.05/59	20.17 19.10-19.49/39	20.45 06.43-06.48/5	20.58
31	07.35		07.10 08.20-09.16/56		06.25 06.44-06.56/12	05.55 18.36-20.11/95
	17.39		19.46 18.07-19.04/57		20.46 18.40-19.56/76	20.58
Potential sun hours	299	298	370	398	447	450
Sum of minutes with flicker	1305	1089	4117	1813	1881	2836

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: BAP09 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (64)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:56 18.37-20.10/93 20:58	06:19 06.41-07.11/30 20:39 19.32-19.45/13	06:49 07.10-07.23/13 19.28-19.35/7 19:57 18.22-18.42/20	07:19 07.56-09.12/76 19:07 17.39-18.44/65	06:52 07.18-07.42/24 17:21	07:26 13.39-14.07/28 16:57 14.07-14.40/33
2	05:56 18.38-20.11/93 20:57	06:20 06.42-07.11/29 20:38 19.30-19.47/17	06:50 07.11-07.20/9 19:55 18.18-18.45/27	07:20 07.56-09.11/75 19:05 17.39-18.42/63	06:53 07.21-07.41/20 17:20	07:27 13.39-14.09/30 16:57 14.09-14.41/32
3	05:57 18.38-20.10/92 20:57	06:21 06.43-07.11/28 20:37 19.28-19.49/21	06:51 18.15-18.47/32 19:54	07:21 07.57-09.12/75 19:04 17.38-18.41/63	06:54 07.23-07.39/16 17:19	07:28 13.38-14.11/33 16:57 14.11-14.42/31
4	05:57 18.39-20.10/91 20:57	06:22 06.44-07.11/27 20:36 19.26-19.51/25	06:52 08.33-08.51/18 19:52 18.13-18.49/36	07:22 07.56-09.11/75 19:02 17.38-18.39/61	06:56 07.26-07.36/10 17:18	07:29 13.38-14.13/35 16:57 14.13-14.43/30
5	05:58 18.39-20.09/90 20:57	06:23 06.45-07.11/26 20:35 19.25-19.52/27	06:53 08.29-08.55/26 19:50 18.10-18.50/40	07:23 07.54-09.10/76 19:00 17.39-18.38/59	06:57 17:16	07:30 13.37-14.15/38 16:57 14.15-14.44/29
6	05:59 18.41-20.09/88 20:57	06:24 06.46-07.11/25 20:34 19.24-19.53/29	06:54 08.25-08.58/33 19:49 18.08-18.52/44	07:24 07.53-09.09/76 18:59 17.39-18.37/58	06:58 17:15	07:31 13.36-14.16/40 16:56 14.16-14.44/28
7	05:59 18.42-20.09/87 20:56	06:25 06.47-07.10/23 20:32 19.23-19.54/31	06:55 08.23-09.00/37 19:47 18.07-18.53/46	07:25 07.52-09.09/77 18:57 17.39-18.35/56	06:59 17:14	07:32 13.36-14.18/42 16:56 14.18-14.45/27
8	06:00 06.37-06.43/6 20:56	06:26 06.48-07.10/22 20:31 19.22-19.55/33	06:56 08.20-09.02/42 19:45 18.04-18.53/49	07:26 07.51-09.08/77 18:56 17.39-18.33/54	07:00 17:13	07:33 13.34-14.18/44 16:56 14.18-14.45/27
9	06:00 06.36-06.45/9 20:56	06:27 06.49-07.09/20 20:30 19.21-19.56/35	06:57 08.17-09.03/46 19:44 18.02-18.54/52	07:27 07.51-09.07/76 18:54 17.39-18.32/53	07:01 17:12	07:34 13.34-14.19/45 16:56 14.19-14.46/27
10	06:01 06.36-06.47/11 20:55	06:28 06.50-07.08/18 20:29 19.20-19.56/36	06:58 08.15-09.05/50 19:42 18.01-18.54/53	07:28 07.50-09.06/76 18:52 17.39-18.30/51	07:03 17:11	07:35 13.34-14.21/47 16:56 14.21-14.47/26
11	06:02 06.34-06.47/13 20:55	06:29 06.51-07.07/16 20:27 19.18-19.56/38	06:59 08.13-09.06/53 19:40 18.00-18.55/55	07:29 07.50-09.04/74 18.27-18.28/1 18:51 17.40-18.27/47	07:04 17:10	07:36 13.34-14.22/48 16:56 14.22-14.48/26
12	06:03 06.34-06.49/15 20:55	06:30 06.51-07.05/14 20:26 19.18-19.56/38	07:00 08.12-09.07/55 19:39 17.59-18.56/57	07:30 07.50-09.03/73 18:49 17.40-18.27/47	07:05 17:09	07:37 13.34-14.23/49 16:57 14.23-14.49/26
13	06:03 06.33-06.50/17 18.49-20.04/75 20:54	06:31 06.52-07.03/11 20:25 19.17-19.57/40	07:01 08.10-09.08/58 19:37 17.57-18.56/59	07:31 07.51-09.02/71 18:48 17.41-18.25/44	07:06 17:08	07:38 13.34-14.24/50 16:57 14.24-14.49/25
14	06:04 06.32-06.51/19 18.50-20.02/72 20:54	06:32 06.53-07.01/8 19.17-19.57/40 20:23 07.16-07.22/6	07:02 08.09-09.09/60 19:35 17.56-18.56/60	07:32 07.52-09.00/68 18:46 17.42-18.23/41	07:07 17:07	07:39 13.33-14.25/52 16:57 14.25-14.50/25
15	06:05 06.32-06.52/20 18.52-20.01/69 20:53	06:33 06.54-06.58/4 19.16-19.57/41 20:22 07.12-07.25/13	07:03 08.08-09.10/62 19:34 17.56-18.56/60	07:33 07.53-08.58/65 18:45 17.42-18.22/40	07:08 17:07	07:39 13.33-14.25/52 16:57 14.25-14.50/25
16	06:05 06.32-06.53/21 18.54-19.59/65 20:52	06:34 07.10-07.27/17 20:21 19.16-19.57/41	07:04 08.06-09.11/65 19:32 17.55-18.56/61	07:34 07.54-08.57/63 18:43 17.44-18.20/36	07:10 17:06	07:39 13.34-14.26/52 16:57 14.26-14.51/25
17	06:06 06.32-06.54/22 18.55-19.57/62 20:52	06:35 07.09-07.29/20 20:19 19.16-19.57/41	07:05 08.05-09.11/66 19:30 17.54-18.56/62	07:35 07.57-08.05/8 17.46-18.19/33 18:42 08.06-08.56/50	07:11 17:05	07:40 13.33-14.26/53 16:58 14.26-14.51/25
18	06:07 06.31-06.53/22 18.57-19.55/58 20:51	06:36 07.07-07.30/23 20:18 19.16-19.55/39	07:06 08.04-09.12/68 19:29 17.53-18.56/63	07:36 08.07-08.54/47 18:40 17.48-18.18/30	07:12 14.01-14.15/14 17:04	07:41 13.34-14.27/53 16:58 14.27-14.52/25
19	06:08 06.30-06.54/24 19.00-19.53/53 20:51	06:37 07.06-07.30/24 20:16 19.15-19.54/39	07:07 08.03-09.12/69 19:27 17.53-18.56/63	07:37 08.09-08.51/42 18:39 17.50-18.16/26	07:13 13.56-14.20/24 17:03	07:41 13.35-14.28/53 16:58 14.28-14.53/25
20	06:09 06.31-06.55/24 19.02-19.51/49 20:50	06:38 07.06-07.31/25 20:15 19.15-19.53/38	07:08 08.02-09.13/71 19:25 17.52-18.56/64	07:38 08.11-08.49/38 18:37 17.52-18.14/22	07:14 13.53-14.23/30 17:03	07:42 13.35-14.28/53 16:59 14.28-14.53/25
21	06:10 06.32-06.55/23 19.06-19.49/43 20:49	06:39 07.05-07.31/26 20:14 19.15-19.51/36	07:09 08.02-09.13/71 19:24 17.50-18.56/66	07:40 08.13-08.49/36 18:36 17.56-18.10/14	07:15 13.50-14.25/35 17:02	07:43 13.35-14.29/54 16:59 14.29-14.54/25
22	06:10 06.33-06.56/23 19.09-19.45/36 20:48	06:40 07.04-07.31/27 20:12 19.16-19.50/34	07:10 08.01-09.13/72 19:22 17.49-18.55/66	07:41 08.13-08.42/29 18:34 08.42-08.49/7	07:16 13.48-14.27/39 17:01	07:43 13.35-14.29/54 17:00 14.29-14.54/25
23	06:11 06.33-06.55/22 19.13-19.40/27 20:48	06:41 07.04-07.31/27 20:11 19.16-19.49/33	07:11 08.00-09.14/74 19:20 17.47-18.55/68	07:42 08.14-08.36/22 18:33 08.36-08.50/14	07:18 13.47-14.30/43 17:01	07:44 13.36-14.30/54 17:00 14.30-14.55/25
24	06:12 06.34-06.55/21 19.22-19.31/9 20:47	06:42 07.04-07.31/27 20:09 19.16-19.47/31	07:12 08.00-09.14/74 19:19 17.46-18.54/68	07:43 08.14-08.49/35 18:32	07:19 13.45-14.31/46 17:00	07:44 13.37-14.30/53 17:01 14.30-14.55/25
25	06:13 06.35-06.56/21 20:46	06:43 07.04-07.31/27 20:08 19.16-19.45/29	07:13 07.59-09.14/75 19:17 17.44-18.53/69	06:44 07.13-07.49/36 17:30	07:20 13.44-14.32/48 17:00	07:44 13.37-14.30/53 17:01 14.30-14.55/25
26	06:14 06.36-06.56/20 20:45	06:44 07.05-07.31/26 20:06 19.17-19.44/27	07:14 07.59-09.14/75 19:15 17.43-18.52/69	06:45 07.14-07.48/34 17:29	07:21 13.42-14.34/52 16:59	07:45 13.38-14.31/53 17:02 14.31-14.56/25
27	06:15 06.37-06.56/19 20:44	06:45 07.05-07.29/24 20:05 19.17-19.42/25	07:15 07.57-08.13/76 19:14 17.42-18.51/69	06:46 07.14-07.47/33 17:27	07:22 13.41-14.35/54 16:59	07:45 13.39-14.31/52 17:03 14.31-14.56/25
28	06:16 06.38-06.56/18 20:43	06:46 07.06-07.28/22 20:03 19.18-19.41/23	07:16 07.57-08.12/75 19:12 17.41-18.49/68	06:47 07.15-07.48/33 17:26	07:23 13.40-14.36/56 16:58	07:46 13.40-14.31/52 17:03 14.31-14.56/25
29	06:17 06.39-06.56/17 20:42	06:47 07.07-07.28/21 20:01 19.20-19.39/19	07:17 07.57-08.12/75 19:10 17.40-18.47/67	06:49 07.16-07.47/31 17:25	07:24 13.39-14.37/58 16:58	07:46 13.40-14.31/51 17:04 14.31-14.56/25
30	06:18 06.40-06.55/15 20:41	06:47 07.08-07.26/18 20:00 19.21-19.38/17	07:18 07.56-09.12/76 19:09 17.40-18.46/66	06:50 07.16-07.45/29 17:24	07:25 13.40-14.03/23 16:58	07:46 13.42-14.32/50 17:05 14.32-14.57/25
31	06:18 06.40-06.54/14 20:40	06:48 07.09-07.25/16 19.24-19.36/12 19:58 18.28-18.36/8	 	06:51 07.17-07.44/27 17:22	 	07:46 13.42-14.32/50 17:06 14.32-14.57/25
Potential sun hours	457	427	375	346	299	290
Sum of minutes with flicker	2322	1646	3330	2688	628	2289

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP10 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (65)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

January	February	March	April	May	June
1 07.47 08.48-08.55/7 15.33-15.43/10 17.07 13.56-14.55/59	07.34 17.40	06.58 07.17-07.37/20 17.04-17.26/22 18.14 08.43-10.43/120	07.09 07.27-07.50/23 08.56-12.22/206 19.47 07.49-08.25/36	06.24 06.43-07.23/40 08.40-11.55/195 20.18 07.41-07.51/10 19.24-19.55/31	05.55 06.25-07.23/58 19.18-19.48/30 20.47 08.44-11.20/156 19.47-20.23/36
2 07.47 08.51-08.53/2 15.37-15.40/3 17.07 13.56-14.55/59	07.33 17.41	06.57 07.16-07.39/23 17.07-17.24/17 18.15 08.41-10.46/125	07.07 07.25-07.49/24 08.54-12.22/208 19.48 07.48-08.24/36 19.14-19.29/69	06.22 06.41-07.23/42 19.22-19.56/34 20.19 08.39-11.52/193	05.55 06.25-07.22/57 19.17-20.23/66 20.48 08.44-11.19/155
3 07.47 13.57-14.55/58 17.08	07.32 17.43	06.55 07.14-07.39/25 17.10-17.20/10 18.16 08.38-10.48/130	07.02 07.22-07.47/25 08.52-12.22/210 19.49 07.49-08.24/35 19.14-19.28/14	06.21 06.40-07.21/41 08.39-11.50/191 20.20 07.21-07.24/3 19.22-19.57/35	05.54 06.26-07.22/65 19.17-20.24/67 20.48 08.44-11.19/155
4 07.47 13.59-14.55/56 17.09	07.31 17.09-17.20/11 17.44	06.54 07.13-07.39/26 18.17 08.37-10.50/133	07.04 07.22-07.49/27 08.53-12.23/210 19.50 07.48-08.23/35 19.11-19.29/18	06.20 06.39-07.20/41 08.39-11.49/190 20.21 07.20-07.25 19.22-19.58/36	05.54 06.27-07.23/66 19.16-20.24/68 20.49 08.45-11.19/154
5 07.47 14.00-14.54/54 17.10	07.30 17.07-17.22/15 17.45	06.52 07.11-07.39/28 18.18 08.34-10.52/138	07.02 07.22-07.47/25 08.52-12.22/210 19.51 07.46-08.22/36 19.09-19.29/20	06.19 06.38-07.19/40 08.40-11.47/197 20.22 07.18-07.25/7 19.22-19.59/37	05.54 06.27-07.22/65 19.16-20.24/68 20.50 08.44-11.19/154
6 07.47 14.01-14.54/53 17.11	07.29 17.05-17.23/18 17.46	06.51 07.10-07.39/29 18.19 08.33-10.55/142	07.00 07.23-07.47/24 08.51-12.23/212 19.52 07.46-08.21/35 19.08-19.31/23	06.17 06.37-07.17/40 08.40-11.45/185 20.23 07.17-07.26/9 19.22-20.00/38	05.53 06.28-07.22/64 19.16-20.25/69 20.50 08.45-11.18/153
7 07.47 14.02-14.53/51 17.12	07.28 17.03-17.24/21 17.48	06.49 07.08-07.39/31 18.20 08.30-10.56/146	06.59 07.23-07.45/22 08.50-12.23/213 19.53 07.44-08.20/36 19.06-19.32/26	06.16 06.36-07.15/39 08.40-11.44/194 20.24 07.15-07.26/11 19.22-20.01/39	05.53 06.29-07.22/63 19.17-20.26/69 20.51 08.45-11.18/153
8 07.47 14.03-14.53/50 17.13	07.27 17.02-17.26/24 17.49	06.48 07.06-07.38/32 18.21 08.28-10.57/149	06.57 07.24-07.44/20 08.50-12.23/213 19.54 07.43-08.20/37 19.05-19.33/28	06.15 06.35-06.59/24 07.11-07.26/15 19.22-20.02/40 20.25 06.35-07.11/36 08.40-11.42/192	05.51 06.30-07.22/59 19.17-20.27/70 20.51 08.46-11.18/152
9 07.47 14.05-14.53/48 17.14	07.25 17.01-17.27/26 17.50	06.46 07.05-07.37/32 18.23 08.27-11.00/153	06.56 07.23-07.42/19 08.49-12.23/214 19.55 07.41-08.19/38 19.04-19.34/30	06.14 06.34-07.27/53 19.21-20.02/41 20.26 08.40-11.14/181	05.53 06.30-07.21/51 19.16-20.27/71 20.52 08.45-11.17/152
10 07.46 14.07-14.52/45 17.15	07.24 17.00-17.29/29 17.51	06.45 07.03-07.36/33 18.24 08.25-11.01/156	06.54 07.13-07.19/6 07.38-08.18/40 19.02-19.34/32 19.56 07.23-07.39/16 08.48-12.22/214	06.13 06.33-07.27/54 19.21-20.03/42 20.27 06.33-11.38/179	05.53 06.30-07.21/51 19.16-20.27/71 20.53 08.46-11.17/151
11 07.46 14.09-14.52/43 17.16	07.23 16.59-17.29/30 17.53	06.43 07.02-07.35/33 18.25 08.23-11.03/160	06.53 07.11-07.21/10 08.48-12.23/215 19.57 07.23-08.19/56 19.02-19.36/34	06.12 06.32-07.27/55 19.21-20.04/43 20.28 08.39-11.37/178	05.52 06.32-07.21/49 19.16-20.28/72 20.54 08.47-11.17/150
12 07.46 14.10-14.50/40 17.17	07.22 16.58-17.31/33 17.54	06.41 07.00-07.33/33 18.26 08.21-11.04/163	06.52 07.09-07.23/14 08.47-12.22/215 19.58 07.23-08.18/55 19.01-19.36/35	06.11 06.31-07.27/56 19.21-20.04/43 20.29 06.33-11.36/177 20.04-20.05/1	05.52 06.32-07.21/48 19.16-20.28/72 20.54 08.47-11.17/150
13 07.46 14.13-14.50/37 17.18	07.21 16.58-17.32/34 17.55	06.40 06.58-07.31/33 18.27 08.19-11.05/166	06.49 07.08-07.25/17 08.47-12.22/215 19.59 07.25-08.18/53 19.01-19.38/37	06.10 06.30-07.27/57 19.21-20.04/43 20.30 08.40-11.35/175 20.03-20.06/3	05.52 06.33-07.21/48 19.17-20.29/72 20.54 08.47-11.17/150
14 07.45 14.14-14.48/34 17.19	07.19 16.58-17.34/36 17.56	06.38 06.57-07.29/31 18.28 08.19-11.07/169	06.48 07.06-07.26/20 08.46-12.21/215 19.57 07.26-08.17/51 19.00-19.38/38	06.09 06.29-07.27/58 19.23-20.05/42 20.31 08.40-11.34/174 20.04-20.08/4	05.52 06.33-07.21/48 19.17-20.29/72 20.55 08.47-11.17/150
15 07.45 14.17-14.47/30 17.20	07.18 16.57-17.35/38 17.57	06.36 06.55-07.27/32 18.29 08.16-11.08/172	06.46 07.05-07.27/22 08.45-12.21/216 19.57 07.27-08.16/49 19.00-19.40/40	06.08 06.28-07.27/59 19.23-20.05/42 20.32 08.40-11.33/173 20.04-20.09/5	05.52 06.34-07.21/47 19.17-20.29/72 20.55 08.47-11.17/150
16 07.45 14.21-14.45/24 17.21	07.17 16.57-17.36/39 17.59	06.35 06.54-07.26/32 18.30 08.15-11.09/174	06.45 07.03-07.27/24 08.44-12.20/216 19.57 07.27-08.16/49 19.00-19.40/40	06.07 06.27-07.26/59 19.23-20.04/41 20.33 08.40-11.31/171 20.03-20.09/6	05.52 06.34-07.20/46 19.17-20.30/73 20.55 08.48-11.17/149
17 07.44 14.25-14.41/16 17.22	07.16 09.40-09.46/6 17.40	06.33 06.52-07.26/34 18.31 08.14-11.11/177	06.43 07.02-07.28/26 08.44-12.19/215 19.57 07.28-08.15/47 19.00-19.40/40	06.06 06.26-07.26/60 19.24-20.03/39 20.34 08.40-11.30/170 20.02-20.10/8	05.52 06.35-07.20/45 19.17-20.30/73 20.56 08.48-11.17/149
18 07.44 17.24	07.14 09.25-10.00/35 18.01 16.56-17.36/40	06.32 06.50-07.25/35 18.32 08.12-11.11/179	06.42 07.00-07.28/28 08.43-12.17/214 19.57 07.28-08.14/46 19.00-19.39/39	06.05 06.25-07.26/61 19.24-20.03/39 20.35 08.40-11.29/169 20.02-20.11/9	05.52 06.35-07.20/45 19.17-20.31/74 20.56 08.48-11.17/149
19 07.43 17.25	07.13 09.18-10.08/50 17.25	06.30 06.48-07.24/36 18.33 08.10-11.12/182	06.40 06.59-07.29/30 08.43-12.17/214 19.57 07.29-08.13/44 19.00-19.39/39	06.04 06.24-07.26/62 19.24-20.02/38 20.36 08.40-11.28/168 20.01-20.12/11	05.52 06.37-07.21/44 19.17-20.31/74 20.57 08.49-11.17/149
20 07.43 17.26	07.11 09.13-10.14/61 18.03 16.57-17.37/40	06.28 06.47-07.24/37 18.34 08.09-11.14/185	06.39 06.57-07.29/31 08.42-12.15/213 19.57 07.29-08.12/42 19.00-19.38/38	06.03 06.24-07.26/62 19.24-20.01/37 20.37 08.41-11.28/167 20.00-20.13/13	05.53 06.37-07.21/44 19.18-20.32/74 20.58 08.49-11.18/149
21 07.42 17.27	07.10 09.08-10.18/70 17.27	06.27 06.45-07.23/38 18.35 08.08-11.14/186	06.37 06.56-07.29/33 08.42-12.14/212 19.58 07.29-08.11/42 19.01-19.37/36	06.02 06.23-07.26/63 19.23-20.01/38 20.38 08.41-11.26/165 20.00-20.14/14	05.53 06.37-07.21/44 19.18-20.32/74 20.58 08.49-11.18/149
22 07.42 17.28	07.09 09.04-10.23/79 18.06 16.57-17.36/39	06.25 06.43-07.21/38 08.06-11.15/189 18.36 07.21-07.24/3	06.36 06.55-07.29/34 08.43-12.12/209 19.38-19.47/9 19.59 07.29-08.11/42 19.02-19.37/35	06.02 06.22-07.25/63 19.22-20.00/38 20.39 08.41-11.25/164 19.58-20.14/15	05.53 06.37-07.21/44 19.18-20.32/74 20.58 08.49-11.18/149
23 07.41 17.29	07.07 09.00-10.26/86 18.07 16.57-17.34/37	06.23 06.42-07.20/38 08.06-11.16/190 18.37 07.20-07.25/3	06.34 06.53-07.28/35 08.42-12.10/208 19.59 07.28-08.09/41 19.02-19.47/45	06.01 06.21-07.25/64 19.21-20.01/37 20.39 08.41-11.24/163 19.58-20.15/17	05.53 06.37-07.21/44 19.18-20.32/74 20.58 08.49-11.18/149
24 07.40 17.31	07.06 08.57-10.30/93 18.08 16.58-17.34/36	06.22 06.40-07.17/37 08.04-11.17/193 18.39 07.17-07.25/8	06.33 06.52-07.28/36 08.42-12.09/207 19.59 07.28-08.08/40 19.00-19.49/46	06.00 06.21-07.25/64 19.20-19.58/38 20.40 08.42-11.24/162 19.58-20.16/18	05.53 06.37-07.21/44 19.18-20.32/74 20.58 08.49-11.18/149
25 07.39 17.32	07.04 08.53-10.32/99 18.09 16.59-17.33/34	06.20 06.38-07.12/34 08.02-11.17/195 18.40 07.12-07.25/13	06.32 06.50-07.28/36 08.41-12.06/205 19.59 07.28-08.06/39 19.04-19.49/45	05.59 06.21-07.25/64 19.20-19.58/38 20.41 08.42-11.23/161 19.57-20.17/20	05.54 06.37-07.22/45 19.19-20.32/73 20.58 08.49-11.18/149
26 07.39 17.33	07.03 07.22-07.33/11 17.00-17.32/32 18.10 08.51-10.38/105	06.17 06.35-06.47/12 08.01-11.19/198 18.41 06.44-07.26/42	06.30 06.49-07.28/37 08.41-12.04/203 19.59 07.28-08.04/36 19.02-19.50/45	05.58 06.22-07.24/62 19.21-19.57/38 20.42 08.42-11.23/161 19.56-20.17/21	05.54 06.37-07.22/45 19.19-20.32/73 20.58 08.49-11.18/149
27 07.38 17.34	07.01 07.20-07.35/15 17.01-17.30/29 18.11 08.48-10.38/110	06.17 06.35-06.47/12 08.01-11.19/198 18.42 06.46-07.26/40	06.29 06.48-07.26/38 08.41-12.03/202 19.59 07.28-08.03/33 19.07-19.51/44	05.58 06.22-07.24/62 19.21-19.57/38 20.43 08.42-11.22/160 19.56-20.18/22	05.54 06.37-07.22/45 19.19-20.32/73 20.58 08.49-11.18/149
28 07.37 17.35	07.00 07.19-07.37/18 17.03-17.29/26 18.12 08.46-10.41/115	06.15 06.34-06.49/15 07.59-11.19/200 18.43 06.48-07.26/38	06.28 06.47-07.25/38 08.40-12.00/200 19.59 07.28-08.01/29 19.08-19.52/43	05.57 06.22-07.23/61 19.18-19.55/37 20.44 08.42-11.21/159 19.54-20.19/25	05.55 06.36-07.24/48 19.20-20.32/72 20.58 08.49-11.18/149
29 07.36 17.37	17.37	06.14 07.32-07.49/17 08.59-12.21/202 19.44 07.48-08.26/38	06.26 06.45-07.24/39 08.40-11.58/198 19.25-19.53/28 19.59 07.28-08.01/29 19.08-19.52/43	05.56 06.22-07.23/61 19.18-19.55/37 20.45 08.42-11.20/158 19.51-20.20/29	05.56 06.36-07.24/47 19.20-20.32/72 20.58 08.49-11.18/149
30 07.36 17.38	17.38	06.13 07.30-07.49/19 08.57-12.21/204 19.45 07.48-08.25/37	06.25 06.44-07.23/39 08.40-11.56/196 19.59 07.28-08.01/29 19.08-19.52/43	05.56 06.22-07.23/61 19.18-19.55/37 20.46 08.43-11.20/157 19.50-20.21/31	05.56 06.36-07.24/47 19.20-20.32/72 20.58 08.49-11.18/149
31 07.35 17.39	17.39	06.12 07.29-07.50/21 08.57-12.22/205 19.46 07.49-08.26/37	19.46 07.49-08.26/37	20.46 08.43-11.20/157 19.50-20.21/31 447	450
Potential sun hours	299	298	370	398	447
Sum of minutes with flicker	779	1738	6474	9308	8608

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker</
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Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP10 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (65)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05.56 06.36-07.25/49 19.20-20.32/72	06.19 06.41-07.37/58 19.32-20.14/42	06.49 07.10-07.20/10 08.47-12.22/215	07.19 07.39-08.12/33	06.52 16.29-16.57/28	07.26 13.51-14.34/43
2	20.58 08.50-11.22/151	20.38 08.50-11.22/151	19.57 07.22-08.18/56 19.01-19.38/34	19.07 08.59-11.43/164	17.21	16.57
3	05.56 06.36-07.26/50 19.21-20.33/72	06.20 06.42-07.36/54 19.32-20.14/42	06.50 07.11-07.17/6 07.36-08.17/41 19.01-19.33/32	07.20 07.40-08.13/33	06.53 16.31-16.57/26	07.27 13.50-14.35/45
4	20.57 08.51-11.22/151	20.38 08.50-11.48/178	19.55 07.22-07.37/15 08.47-12.21/214	19.05 09.00-11.41/161	17.20	16.57
5	05.57 06.35-07.26/51 19.21-20.32/71	06.21 06.43-07.36/53 19.31-20.13/42	06.51 07.21-07.40/19 08.47-12.21/214	07.21 07.41-08.14/33	06.54 16.32-16.55/23	07.28 13.49-14.37/48
6	20.57 08.51-11.22/151	20.37 08.50-11.50/180	19.54 07.39-08.17/38 19.02-19.32/30	19.04 09.01-11.39/158	17.19	16.57
7	05.57 06.35-07.27/52 19.22-20.32/70	06.22 06.44-07.38/52 19.31-20.13/42	06.52 07.21-07.41/20 08.47-12.21/214	07.22 07.42-08.15/33	06.56 16.33-16.54/21	07.29 13.48-14.38/50
8	20.57 08.51-11.23/152	20.36 08.49-11.51/182	19.52 07.40-08.17/37 19.02-19.30/28	19.02 09.04-11.38/154	17.18	16.57
9	05.58 06.34-07.27/53 19.22-20.31/69	06.23 06.45-07.09/24 07.22-07.36/14 19.31-20.12/41	06.53 07.20-07.42/22 08.47-12.20/213	06.57 07.43-08.15/32	06.57 16.35-16.53/18	07.30 13.48-14.39/51
10	20.57 08.51-11.23/152	20.35 06.45-07.22/37 08.49-11.52/183	19.50 07.41-08.17/36 19.03-19.29/26	19.00 09.05-11.36/151	17.16	16.57
11	05.59 06.34-07.28/54 19.23-20.32/69	06.24 06.40-07.25/39 08.49-11.54/185	19.45 07.40-08.18/35 19.05-19.23/18	07.24 07.44-08.15/31	06.58 16.38-16.52/14	07.31 13.47-14.40/53
12	20.57 08.51-11.24/153	20.34 07.25-07.36/11 19.31-20.11/40	19.49 07.42-08.17/35 19.04-19.27/23	19.05 09.06-11.34/148	17.15	16.56
13	05.59 06.34-07.29/55 19.23-20.32/69	06.25 06.47-07.27/40 08.49-11.56/187	06.55 07.18-07.43/25 08.48-12.19/211	07.25 07.45-08.15/30	06.59 16.41-16.51/10	07.32 13.47-14.41/54
14	20.56 08.52-11.25/153	20.32 07.27-07.35/8 19.31-20.09/38	19.47 07.42-08.18/36 19.05-19.25/20	18.57 09.07-11.31/144	17.14	16.56
15	06.00 06.33-07.29/56 19.23-20.31/68	06.26 06.48-07.29/41 08.49-11.57/188	06.56 07.17-07.44/27 08.47-12.17/210	07.26 07.48-08.15/29	07.00	07.33 13.46-14.42/56
16	20.56 08.51-11.25/154	20.31 07.29-07.35/6 19.31-20.08/37	19.45 07.45-08.18/35 19.05-19.23/18	18.56 09.09-11.29/140	17.13	16.56
17	05.59 06.34-07.30/57 19.24-20.31/67	06.27 06.49-07.30/41 08.49-11.59/190	06.57 07.17-07.43/26 08.47-12.16/209	06.57 07.47-08.14/26	07.01	07.34 13.46-14.43/57
18	20.56 08.51-11.26/155	20.30 07.30-07.34/4 19.32-20.07/35	19.44 07.42-08.17/35 19.07-19.21/14	18.54 09.10-11.26/136	17.12	16.56
19	06.01 06.33-07.30/57 19.24-20.30/66	06.28 06.50-07.31/41 08.49-12.00/191	06.58 07.18-07.42/24 08.47-12.15/208	07.28 07.48-08.14/26	07.03	07.35 08.40-08.42/2 15.27-15.28/1
20	20.55 08.51-11.26/155	20.29 07.31-07.34/3 19.32-20.06/34	19.42 07.41-08.17/36 19.10-19.20/10	18.52 09.12-11.24/132	17.11	16.56 13.46-14.44/58
21	06.02 06.32-07.30/59 19.25-20.30/65	06.29 06.51-07.32/41 08.48-12.01/193	06.59 07.19-07.42/23 08.48-12.14/206	07.29 07.49-08.13/24 17.42-17.56/14	07.04	07.36 08.39-08.45/7 15.24-15.33/9
22	20.55 08.51-11.27/156	20.27 07.32-07.33/1 19.31-20.04/33	19.40 07.41-08.17/36	18.51 09.13-11.21/128	17.10	16.56 13.46-14.45/59
23	06.03 06.32-07.31/59 19.25-19.58/33	06.30 06.51-07.31/40 08.48-12.03/195	07.00 07.20-07.41/21 08.48-12.13/205	07.30 07.50-08.12/22 17.39-17.59/20	07.05	07.36 08.38-08.47/9 15.23-15.35/12
24	20.55 08.52-11.28/156 19.57-20.30/33	20.26 07.47-08.00/13 19.32-20.03/31	19.39 07.40-08.17/37	18.49 09.15-11.18/123	17.09	16.57 13.46-14.46/60
25	06.03 06.32-07.32/60 19.26-20.00/34	06.31 06.52-07.31/39 08.48-12.05/197	07.01 07.21-07.41/20 08.48-12.12/204	07.31 07.51-08.10/19 17.36-18.01/25	07.06	07.37 08.38-08.49/11 15.22-15.37/15
26	20.54 08.52-11.29/157 19.59-20.30/31	20.25 07.43-08.04/21 19.32-20.02/30	19.37 07.40-08.16/36	18.48 09.17-11.18/119	17.08	16.57 13.46-14.47/61
27	06.04 06.31-07.32/61 19.26-20.02/36	06.32 06.53-07.32/39 08.48-12.06/198 19.33-20.00/27	07.02 07.22-07.40/18 08.49-12.11/202	07.32 07.52-08.09/17 17.34-18.02/28	07.07	07.38 08.37-08.49/12 15.21-15.37/16
28	20.54 08.51-11.29/158 20.01-20.29/28	20.23 07.40-08.06/26 19.19-19.31/12	19.35 07.39-08.16/37	18.46 09.19-11.13/114	17.07	16.57 13.45-14.47/62
29	06.05 06.31-07.33/62 19.27-20.04/37	06.33 06.54-07.32/38 08.48-12.08/200	07.03 07.23-07.38/15 08.49-12.10/201	07.33 07.53-08.06/13 17.33-18.03/30	07.08	07.39 08.37-08.50/13 15.21-15.39/18
30	20.53 08.51-11.30/159 20.03-20.28/25	20.22 07.38-08.08/30 19.16-19.58/43	19.34 07.37-08.16/38	18.45 09.21-11.01/09	17.07	16.57 13.46-14.48/62
31	06.05 06.31-07.33/62 19.28-20.05/37	06.34 06.55-07.33/38 08.48-12.10/202	07.04 07.24-07.36/12 08.50-12.09/199	07.34 07.54-08.03/9 17.31-18.04/33	07.10	07.39 08.37-08.51/14 15.21-15.40/19
32	20.52 08.52-11.31/159 20.04-20.28/24	20.21 07.36-08.10/34 19.14-19.58/44	19.32 07.36-08.15/40	18.43 09.23-11.06/03	17.06	16.57 13.46-14.49/63
33	06.06 06.31-07.34/63 19.28-20.06/38	06.35 06.56-07.33/37 08.48-12.12/204	07.05 07.25-07.34/9 08.50-12.07/197	07.35 09.27-11.04/07	07.11	07.40 08.37-08.51/14 15.21-15.40/19
34	20.52 08.52-11.32/160 20.05-20.27/22	20.19 07.35-08.11/36 19.12-19.57/45	19.30 07.33-08.14/41	18.42 17.30-18.04/24	17.05	16.58 13.46-14.49/63
35	06.07 06.30-07.34/64 19.29-20.07/38	06.36 06.57-07.34/37 08.47-12.13/206	07.06 07.26-07.28/2 08.51-12.06/195	07.36 09.30-11.09/09	07.12	07.41 08.37-08.53/16 15.21-15.41/20
36	20.51 08.51-11.32/161 20.06-20.26/20	20.18 07.34-08.13/39 19.10-19.55/45	19.29 07.28-08.14/46	18.40 17.30-18.06/26	17.04	16.58 13.47-14.50/63
37	06.08 06.30-07.34/64 19.30-20.08/38	06.37 06.58-07.34/36 08.47-12.15/208	07.07 07.27-08.03/36 08.51-12.05/194	07.37 09.33-10.56/83	07.13	07.41 08.38-08.54/16 15.22-15.42/20
38	20.50 08.51-11.33/162 20.07-20.26/19	20.16 07.34-08.14/40 19.09-19.54/45	19.27 08.03-08.13/10	18.39 17.29-18.06/37	17.03	16.58 13.47-14.51/64
39	06.09 06.31-07.35/64 19.31-20.09/38	06.38 06.59-07.34/35 08.47-12.16/209	07.08 07.28-08.06/38 08.52-12.03/191	07.38 09.36-10.52/76	07.14	07.42 08.38-08.54/16 15.22-15.42/20
40	20.50 08.51-11.34/163 20.08-20.26/18	20.15 07.34-08.15/41 19.08-19.53/45	19.25 08.06-08.11/5	18.37 17.28-18.06/38	17.03	16.59 13.47-14.51/64
41	06.10 06.32-07.35/63 19.32-20.10/38	06.39 07.00-07.34/34 08.47-12.18/211 19.43-19.51/8	07.09 07.29-08.07/38 08.52-12.02/190	07.40 09.40-10.47/67	07.15	07.43 08.39-08.55/16 15.22-15.43/21
42	20.49 08.51-11.35/164 20.09-20.25/16	20.14 07.34-08.15/41 19.07-19.42/35	19.24 08.07-08.10/3	18.36 17.27-18.06/39	17.02	16.59 13.48-14.52/64
43	06.10 06.33-07.36/63 19.33-20.10/37	06.40 07.01-07.33/32 08.47-12.19/212	07.10 07.30-08.08/38 08.53-12.00/187	07.41 09.44-10.42/58	07.16	07.43 08.39-08.55/16 15.22-15.43/21
44	20.48 08.51-11.36/165 20.09-20.25/16	20.12 07.33-08.16/43 19.06-19.42/36	19.22 08.08-08.09/1	18.34 17.27-18.06/39	17.01	17.00 13.48-14.52/64
45	06.11 06.33-07.36/62 19.33-20.11/38	06.41 07.02-07.33/31 08.47-12.20/213	07.11 07.31-08.08/37	07.42 08.49-10.36/47	07.18	07.44 08.40-08.56/16 15.23-15.44/21
46	20.47 08.51-11.36/165 20.10-20.23/13	20.11 07.33-08.17/44 19.05-19.43/38	19.20 08.54-11.59/185	18.33 17.26-18.06/40	17.01	17.00 13.49-14.53/64
47	06.12 06.34-07.36/62 19.34-20.12/38	06.42 07.03-07.32/29 08.47-12.21/214	07.12 07.32-08.08/36	07.43 09.58-10.28/30	07.19	07.44 08.40-08.56/16 15.24-15.44/20
48	20.47 08.51-11.38/167 20.11-20.22/11	20.09 07.32-08.17/45 19.04-19.43/39	19.19 08.54-11.57/183	18.32 17.27-18.07/40	17.00	17.01 13.49-14.53/64
49	06.13 06.35-07.36/61 19.35-20.13/38	06.43 07.04-07.32/28 08.47-12.21/214	07.13 07.33-08.09/36	06.44 16.27-17.06/39	07.20	07.44 08.40-08.56/16 15.24-15.44/20
50	20.46 08.51-11.39/168 20.12-20.22/10	20.08 07.32-08.18/46 19.03-19.42/38	19.17 08.55-11.52/189	17.30	17.00	17.01 13.49-14.53/64
51	06.14 06.36-07.37/61 19.34-20.14/40	06.44 07.05-07.31/26 08.46-12.21/215	07.14 07.34-08.09/35	06.45 16.26-17.06/40	07.21	13.59-14.23/24
52	20.44 08.51-11.41/170 20.13-20.20/7	20.06 07.31-08.17/46 19.02-19.42/40	19.15 08.55-11.53/178	17.29	16.59	17.02 08.51-14.54/63
53	06.15 06.37-07.37/60 19.34-20.14/40	06.45 07.05-07.29/24 08.46-12.22/216	07.15 07.36-08.09/33	06.46 16.26-17.04/38	07.22	13.57-14.28/29
54	20.44 08.51-11.41/170 20.13-20.20/7	20.05 07.29-08.17/48 19.02-19.42/40	19.14 08.55-11.51/175	17.27	16.59	17.03 13.51-14.54/63
55	06.16 06.39-07.37/59 19.34-20.15/41	06.46 07.06-07.28/22 08.46-12.22/216	07.16 07.36-08.08/32	06.47 16.27-17.02/35	07.23	13.54-14.28/24
56	20.43 08.51-11.42/171 20.14-20.20/6	20.03 07.28-08.18/50 19.01-19.41/40	19.12 08.56-11.49/173	17.26	16.58	17.03 13.52-14.54/62
57	06.17 06.39-07.37/58 19.33-20.15/42	06.47 07.07-07.27/20 08.46-12.22/216	07.17 07.37-08.08/31	06.49 16.28-17.02/34	07.24	13.53-14.30/37
58	20.42 08.51-11.44/173 20.14-20.19/5	20.01 07.27-08.18/51 19.01-19.39/38	19.10 08.57-11.47/170	17.25	16.58	17.04 13.52-14.54/62
59	06.18					

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP11 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (66)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

January	February	March	April	May	June	
1 07.47 10.36-11.37/61	07.34 07.56-08.22/26	06.58 07.17-07.37/20	10.57-13.07/130	07.09 07.33-08.00/27	11.08-14.38/210	
17.07 15.46-16.19/33	17.40 08.21-08.47/26	18.14 07.36-08.05/29	16.01-17.41/100	19.47 08.00-08.14/14	18.25-18.54/29	
2 07.47 10.36-11.37/61	17.33 07.55-08.22/27	06.57 07.16-07.39/23	10.55-13.01/35	07.07 07.33-07.59/26	11.07-14.38/211	
17.07 15.46-16.20/33	17.42 08.21-08.48/27	18.15 07.38-08.07/29	16.02-17.41/99	19.48 07.59-08.13/14	18.26-18.52/26	
3 07.47 10.37-11.37/60	07.32 07.54-08.23/29	16.38-16.44/6	06.55 07.14-07.39/25	10.52-13.11/39	07.05 07.35-07.58/23	11.06-14.39/213
17.08 15.47-16.20/33	17.43 08.22-08.49/27	18.16 07.38-08.07/29	16.01-17.40/99	19.49 07.58-08.12/14	18.28-18.50/22	
4 07.47 10.38-11.37/59	07.31 07.54-08.24/30	16.30-16.51/21	06.54 07.13-07.40/27	10.50-13.13/43	07.04 07.35-07.55/20	11.05-14.39/214
17.09 15.48-16.20/32	17.44 08.23-08.50/27	18.17 07.39-08.08/29	16.02-17.45/103	19.50 07.55-08.10/15	18.31-18.46/15	
5 07.47 10.39-11.37/58	07.30 07.52-08.23/31	16.26-16.55/29	06.52 07.11-07.39/28	10.48-13.15/47	07.02 07.37-07.53/16	11.04-14.39/215
17.10 15.49-16.20/31	17.45 08.22-08.50/28	18.18 07.38-08.08/30	16.01-17.50/109	19.51 07.53-08.08/15	18.29	
6 07.47 10.40-11.37/57	07.29 07.52-08.23/31	16.24-16.58/34	06.51 07.11-07.40/29	10.46-13.17/51	07.00 07.41-07.49/8	11.04-14.39/215
17.11 15.50-16.21/31	17.46 08.22-08.50/28	18.19 07.39-08.09/30	16.02-17.52/110	19.52 07.49-08.06/17	18.29	
7 07.47 10.41-11.36/55	07.28 07.52-08.23/31	16.21-17.01/40	06.49 07.10-07.39/29	10.44-13.18/54	06.59 07.47-08.02/15	18.29
17.12 15.50-16.20/30	17.48 08.22-08.51/29	18.20 07.38-08.09/31	16.02-17.55/113	19.53 11.02-14.39/217	20.24	
8 07.47 10.42-11.35/53	07.27 07.52-08.23/31	16.20-17.03/43	06.48 07.09-07.38/29	10.42-13.19/57	06.57 11.02-14.40/218	20.25
17.13 15.51-16.20/29	17.49 08.22-08.52/30	18.21 07.37-08.08/31	16.02-17.56/114	19.54	20.25	
9 07.47 10.43-11.35/52	07.25 07.52-08.24/32	16.18-17.05/47	06.46 07.09-07.38/29	10.40-13.21/61	06.56 11.01-14.40/219	20.26
17.14 15.52-16.20/28	17.50 08.23-08.52/29	18.23 07.37-08.09/32	16.03-17.57/114	19.55	20.26	
10 07.46 10.45-11.34/49	07.24 07.52-08.24/32	16.16-17.07/51	06.45 07.09-07.37/28	10.38-13.22/64	06.54 11.00-14.39/219	20.27
17.15 15.53-16.21/28	17.51 08.23-08.53/30	18.24 07.36-08.08/32	16.03-17.58/115	19.56	20.27	
11 07.46 10.46-11.34/48	07.23 07.52-08.23/31	16.14-17.08/54	06.43 07.09-07.36/27	10.37-13.24/67	06.53 10.59-14.40/221	20.28
17.16 15.54-16.21/27	17.53 08.22-08.52/30	18.25 07.35-08.09/34	16.03-17.58/115	19.57	20.28	
12 07.46 10.47-11.32/45	07.22 07.52-08.22/30	16.13-17.10/57	06.41 07.09-07.34/25	10.35-13.24/69	06.51 10.58-14.40/222	20.29
17.17 15.54-16.20/26	17.54 08.20-08.52/32	18.26 07.33-08.08/35	16.04-18.00/116	19.58	20.29	
13 07.46 10.49-11.31/42	07.21 07.53-08.21/28	16.12-17.11/59	06.40 07.08-07.30/22	10.33-13.25/72	17.15-18.01/46	
17.18 15.56-16.20/24	17.55 08.19-08.53/34	18.27 07.29-08.07/38	16.04-17.41/70	06.49	10.58-14.40/222	
14 07.45 10.50-11.29/39	07.19 07.54-08.19/25	16.11-17.13/62	06.38 07.09-07.45/36	10.32-13.27/75	17.19-18.03/44	
17.19 15.57-16.19/22	17.56 08.17-08.53/36	18.28 07.45-08.07/22	16.05-17.14/69	20.00	10.57-14.40/223	
15 07.45 10.53-11.28/35	07.18 07.54-08.14/20	16.09-17.13/64	06.36 06.55-07.43/48	10.30-13.27/77	17.18-18.03/45	
17.20 15.58-16.18/20	17.57 08.12-08.52/40	18.29 07.43-08.06/23	16.06-17.12/66	20.01	10.57-14.41/224	
16 07.45 10.55-11.27/32	07.17 07.55-08.20/25	11.48-12.22/34	17.15-17.30/15	06.35 06.53-07.42/49	10.28-13.28/80	17.17-18.03/46
17.21 16.01-16.19/17	17.59 08.19-08.52/33	16.09-17.14/65	18.30 07.42-08.05/23	16.06-17.11/65	20.02	10.56-14.40/224
17 07.44 10.58-11.24/26	07.16 07.57-08.19/22	11.41-12.30/49	06.33 06.52-07.41/49	10.27-13.29/82	17.17-18.04/47	
17.22 16.02-16.16/14	18.00 08.18-08.52/34	16.08-17.33/85	18.31 07.41-08.05/24	16.08-17.10/62	20.03	10.56-14.41/225
18 07.44 11.02-11.21/19	07.14 07.58-08.17/19	11.34-12.34/60	06.32 06.50-07.39/49	10.25-13.30/85	17.17-18.04/47	
17.24 16.04-16.14/10	18.01 08.16-08.50/34	16.07-17.34/87	18.32 07.39-08.03/24	16.09-17.08/59	20.04	10.55-14.40/225
19 07.43 11.09-11.13/4	07.13 08.00-08.15/15	11.29-12.39/70	06.30 06.48-06.55/7	07.36-08.01/25	16.10-17.07/57	
17.25	18.02 08.14-08.50/36	16.06-17.36/90	18.33 06.48-07.36/48	10.23-13.30/87	17.16-18.04/48	
20 07.43 08.19-08.25/6	07.11 08.08-08.50/42	16.06-17.38/92	06.28 06.47-06.59/12	07.34-08.01/27	16.12-17.06/54	
17.26	18.03 11.25-12.44/79	06.27 06.45-07.18/33	10.23-13.32/89	17.17-18.04/47	20.07	10.54-14.40/226
21 07.42 08.16-08.30/14	07.10 08.08-08.48/40	16.05-17.38/93	18.35 07.19-07.30/11	10.21-13.32/91	17.16-18.04/48	
17.27	18.04 11.21-12.47/86	06.25 06.43-07.18/35	10.19-13.33/94	17.16-17.58/42	20.08	10.54-14.41/227
22 07.41 08.13-08.32/19	07.09 08.09-08.47/38	16.04-17.40/96	18.36 07.23-07.56/33	16.14-17.01/47	17.58-18.03/5	
17.28	18.06 11.17-12.51/94	06.23 06.42-07.19/37	10.19-13.34/95	17.17-17.58/41	20.09	10.53-14.40/227
23 07.41 08.12-08.34/22	07.07 08.09-08.45/36	16.03-17.40/97	18.37 07.25-07.55/30	16.17-17.00/43	17.58-18.04/6	
17.29	18.07 11.13-12.53/100	06.22 06.40-07.19/39	10.17-13.34/97	17.17-17.56/39	20.10	10.53-14.41/228
24 07.40 08.11-08.30/19	07.06 07.39-07.56/17	11.11-12.56/105	18.39 07.27-07.52/25	16.18-16.57/39	17.56-18.03/7	
17.31	18.08 08.11-08.44/33	16.03-17.41/98	06.20 06.38-07.18/40	10.15-13.34/99	17.18-17.55/37	
25 07.39 08.10-08.35/25	07.04 07.35-07.58/23	11.07-12.58/111	18.40 07.29-07.48/19	16.21-16.54/33	17.55-18.02/7	
17.32	18.09 08.12-08.42/30	16.02-17.41/99	06.18 06.37-07.19/42	10.15-13.36/201	17.19-17.54/35	
26 07.39 08.09-08.38/29	07.03 07.26-07.35/9	08.14-08.40/26	16.02-17.41/99	18.41 07.34-07.44/10	16.24-16.51/27	17.54-18.02/8
17.33	18.10 07.35-08.01/26	11.05-13.01/116	06.17 06.35-07.18/43	16.29-16.45/16	17.52-18.01/9	
27 07.38 08.04-08.12/8	07.01 07.21-07.33/12	08.16-08.37/21	16.02-17.41/99	06.16 07.13-13.36/203	17.20-17.52/32	
17.34	18.11 07.32-08.02/30	11.02-13.03/121	06.15 06.34-07.18/44	17.20-17.50/30	20.14	10.51-14.40/229
28 07.37 08.02-08.15/13	07.00 07.19-07.36/17	08.20-08.34/14	16.02-17.41/99	18.43 10.12-13.36/204	17.50-17.59/9	
17.35	18.12 07.35-08.04/29	11.00-13.06/126	07.13 07.32-08.17/45	18.22-18.48/26	20.15	10.51-14.40/229
29 07.36 08.00-08.17/17			19.44 11.11-14.37/206	18.48-18.59/11	20.16	10.51-14.40/229
17.37	08.16-08.42/26		07.12 07.32-08.16/44	18.22-18.45/23	20.17	10.51-14.40/229
30 07.35 07.58-08.20/22			19.45 11.10-14.37/207	18.45-18.57/12		10.51-14.40/229
17.38	08.19-08.45/26		07.10 07.33-08.16/43	18.23-18.40/17		10.51-14.40/229
31 07.35 07.57-08.21/24			19.46 11.09-14.38/209	18.40-18.55/15		10.51-14.40/229
17.38	08.20-08.46/26					10.51-14.40/229
Potential sun hours	1299	2398	3370	3988	4477	4500
Sum of minutes with flicker	1680	4456	10197	6984	7060	6677

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 CumulativeWTG: BAP11 - Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115.0 m (TOT: 200.0 m) (66)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

Table with columns for months (July to December) and rows for each day of the month, showing start and end times for shadow calculations. Includes a summary row for 'Potential sun hours' and 'Sum of minutes with flicker'.

Table layout: For each day in each month the following matrix apply

Matrix defining table layout: Day in month, Sun rise (hh:mm), Sun set (hh:mm), First time (hh:mm) with flicker, Last time (hh:mm) with flicker, Minutes with flicker.

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 12 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (13)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.46	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.52	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.44	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.17	07.43
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.39	20.12	20.41	20.57	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.04	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.18	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

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 Calculated:
 30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 13 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (14)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
 The sun is shining all the day, from sunrise to sunset
 The rotor plane is always perpendicular to the line from the WTG to the sun
 The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.34	06.58	07.08	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.46	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.52	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.17	07.43
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.31	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.39	20.12	20.41	20.57	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.04	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.45	07.16	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.18	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 14 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (15)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.34	06.58	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.46	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.24	19.56	20.27	20.52	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.54	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.09	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.42
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.17	07.43
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.57	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.28	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.56	06.18	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		07.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 15 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (16)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.33	06.58	07.08	06.23	05.55	05.56	06.19	06.49	07.18	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.46	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.57
5	07.47	07.30	06.52	07.02	06.18	05.54	05.58	06.23	06.53	07.23	06.56	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.56	20.33	19.49	18.59	17.15	16.56
7	07.47	07.27	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.46	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.46	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.03	07.35
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.53	20.54	20.26	19.39	18.49	17.09	16.56
13	07.45	07.20	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.06	16.57
16	07.44	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.10	07.40
	17.22	18.00	18.31	20.03	20.34	20.55	20.52	20.19	19.30	18.42	17.05	16.58
18	07.43	07.14	06.31	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.42	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.36	20.56	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.39	07.15	07.42
	17.27	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.17	07.43
	17.29	18.07	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.18	07.44
	17.30	18.08	18.38	20.10	20.40	20.57	20.46	20.09	19.18	18.31	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.39	20.12	20.41	20.57	20.46	20.07	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.13	07.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.57	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.44	07.14	07.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.57	20.44	20.04	19.13	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.45	07.15	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.43	20.57	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.46	07.16	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.57	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.17	06.47	07.17	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.57	20.41	20.00	19.08	17.24	16.58	17.05
31	07.34		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 16 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (17)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	
1	07.47	07.34	06.59	07.09	19.08-19.26/18	06.24	05.55
	17.07	17.40	18.14	19.47		20.18	20.47
2	07.47	07.33	06.57	07.07	19.07-19.25/18	06.22	05.55
	17.07	17.42	18.15	19.48		20.19	20.48
3	07.47	07.32	07.52-07.54/2	07.05	19.08-19.25/17	06.21	05.55
	17.08	17.43	18.16	19.49		20.20	20.48
4	07.47	07.31	07.51-07.55/4	07.04	19.09-19.23/14	06.20	05.54
	17.09	17.44	18.17	19.50		20.21	20.49
5	07.47	07.30	07.49-07.55/6	07.02	19.09-19.21/12	06.19	05.54
	17.10	17.45	18.18	19.51		20.22	20.50
6	07.47	07.29	07.48-07.55/7	07.00	19.12-19.19/7	06.17	05.54
	17.11	17.46	18.19	19.52		20.23	20.50
7	07.47	07.28	07.47-07.55/8	06.59		06.16	05.53
	17.12	17.48	18.20	19.53		20.24	20.51
8	07.47	07.27	07.46-07.55/9	06.57		06.15	05.53
	17.13	17.49	18.21	19.54		20.25	20.51
9	07.47	07.25	07.45-07.55/10	06.56		06.14	05.53
	17.14	17.50	18.23	19.55		20.26	20.52
10	07.46	07.24	07.47-07.53/6	06.54		06.13	05.53
	17.15	17.51	18.24	19.56		20.27	20.53
11	07.46	07.23	06.43	06.53		06.12	05.52
	17.16	17.53	18.25	19.57		20.28	20.53
12	07.46	07.22	06.41	06.51		06.11	05.52
	17.17	17.54	18.26	19.58		20.29	20.54
13	07.46	07.21	06.40	06.49		06.10	05.52
	17.18	17.55	18.27	19.59		20.30	20.54
14	07.45	07.19	06.38	06.48		06.09	05.52
	17.19	17.56	18.28	20.00		20.31	20.55
15	07.45	07.18	06.36	06.46		06.08	05.52
	17.20	17.57	18.29	20.01		20.32	20.55
16	07.45	07.17	06.35	06.45		06.07	05.52
	17.21	17.59	18.30	20.02		20.33	20.55
17	07.44	07.16	06.33	06.43		06.06	05.52
	17.22	18.00	18.31	20.03		20.34	20.56
18	07.44	07.14	06.32	06.42		06.05	05.52
	17.24	18.01	18.32	20.04		20.35	20.56
19	07.43	07.13	06.30	06.40		06.04	05.52
	17.25	18.02	18.33	20.05		20.36	20.56
20	07.43	07.11	06.28	06.39		06.03	05.53
	17.26	18.03	18.34	20.07		20.37	20.57
21	07.42	07.10	06.27	06.37		06.02	05.53
	17.27	18.04	18.35	20.08		20.38	20.57
22	07.42	07.09	06.25	06.36		06.02	05.53
	17.28	18.06	18.36	20.09		20.39	20.57
23	07.41	07.07	06.23	06.34		06.01	05.53
	17.29	18.07	18.37	20.10		20.39	20.57
24	07.40	07.06	06.22	06.33		06.00	05.53
	17.31	18.08	18.39	20.11		20.40	20.57
25	07.40	07.04	06.20	06.32		05.59	05.54
	17.32	18.09	18.40	20.12		20.41	20.58
26	07.39	07.03	06.18	18.16-18.20/4	06.30	05.59	05.54
	17.33	18.10	18.41	20.13		20.42	20.58
27	07.38	07.01	06.17	18.13-18.21/8	06.29	05.58	05.54
	17.34	18.11	18.42	20.14		20.43	20.58
28	07.37	07.00	06.15	18.10-18.21/11	06.28	05.58	05.55
	17.35	18.13	18.43	20.15		20.44	20.58
29	07.36		07.13	19.10-19.23/13	06.26	05.57	05.55
	17.37		19.44	20.16		20.44	20.58
30	07.36		07.12	19.08-19.24/16	06.25	05.56	05.56
	17.38		19.45	20.17		20.45	20.58
31	07.35		07.10	19.09-19.25/16		05.56	
	17.39		19.46			20.46	
Potential sun hours	299	298	370	398	447	450	0
Sum of minutes with flicker	0	52	68	86	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 16 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (17)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05.56 20.58	06.19 20.39	06.49 19.57	07.19 19.07	06.52 17.21	07.15-07.22/7 16.57
2	05.56 20.57	06.20 20.38	06.50 19.55	07.20 19.05	06.53 17.20	07.15-07.25/10 16.57
3	05.57 20.57	06.21 20.37	06.51 19.54	07.21 19.04	06.54 17.19	07.16-07.25/9 16.57
4	05.58 20.57	06.22 20.36	06.52 19.52	07.22 19.02	06.56 17.18	07.17-07.25/8 16.57
5	05.58 20.57	06.23 20.35	06.53 19.50	07.23 19.00	06.57 17.16	07.18-07.25/7 16.57
6	05.59 20.57	06.24 20.34	06.54 19.49	07.24 18.59	06.58 17.15	07.20-07.26/6 16.56
7	05.59 20.56	06.25 20.32	06.55 19.47	07.25 18.57	06.59 17.14	07.21-07.25/4 16.56
8	06.00 20.56	06.26 20.31	06.56 19.45	07.26 18.56	07.00 17.13	07.22-07.24/2 16.56
9	06.01 20.56	06.27 20.30	06.57 19.44	07.27 18.54	07.01 17.12	07.34 16.56
10	06.01 20.55	06.28 20.29	06.58 19.42	07.28 18.52	07.03 17.11	07.35 16.56
11	06.02 20.55	06.29 20.27	06.59 19.40	07.29 18.51	07.04 17.10	07.36 16.56
12	06.03 20.55	06.30 20.26	07.00 19.39	07.30 18.49	07.05 17.09	07.36 08.08-08.10/2 16.57
13	06.03 20.54	06.31 20.25	07.01 19.37	07.31 18.48	07.06 17.08	07.37 08.07-08.11/4 16.57
14	06.04 20.54	06.32 20.23	07.02 19.35	07.32 18.46	07.07 17.07	07.38 08.06-08.11/5 16.57
15	06.05 20.53	06.33 20.22	07.03 19.34	07.33 18.45	07.08 17.07	07.39 08.07-08.13/6 16.57
16	06.06 20.52	06.34 20.21	07.04 19.32	07.34 18.43	07.10 17.06	07.39 08.07-08.14/7 16.57
17	06.06 20.52	06.35 20.19	07.05 19.30	07.35 18.42	07.11 17.05	07.40 08.07-08.14/7 16.58
18	06.07 20.51	06.36 20.18	07.06 19.29	07.36 18.40	07.12 17.04	07.41 08.08-08.15/7 16.58
19	06.08 20.50	06.37 20.16	07.07 19.27	07.37 18.39	07.13 17.03	07.41 08.08-08.16/8 16.58
20	06.09 20.50	06.38 20.15	07.08 19.25	07.39 18.37	07.14 17.03	07.42 08.08-08.16/8 16.59
21	06.10 20.49	06.39 20.14	07.09 19.24	07.40 18.36	07.15 17.02	07.43 08.09-08.17/8 16.59
22	06.10 20.48	06.40 20.12	07.10 19.22	07.41 18.34	07.16 17.02	07.43 08.09-08.17/8 17.00
23	06.11 20.47	06.41 20.11	07.11 19.20	07.42 18.33	07.18 17.01	07.44 08.10-08.18/8 17.00
24	06.12 20.47	06.42 20.09	07.12 19.19	07.43 18.32	07.19 17.00	07.44 08.10-08.18/8 17.01
25	06.13 20.46	06.43 20.08	07.13 19.17	07.44 17.30	07.20 17.00	07.44 08.10-08.18/8 17.01
26	06.14 20.45	06.44 20.06	07.14 19.15	07.45 17.29	07.21 16.59	07.45 08.12-08.19/7 17.02
27	06.15 20.44	06.45 20.05	07.15 19.14	07.46 17.28	07.22 16.59	07.45 08.12-08.19/7 17.03
28	06.16 20.43	06.46 20.03	07.16 19.12	07.47 17.26	07.23 16.58	07.46 08.13-08.19/6 17.03
29	06.17 20.42	06.47 20.01	07.17 19.10	07.49 17.25	07.24 16.58	07.46 08.13-08.19/6 17.04
30	06.18 20.41	06.48 20.00	07.18 19.09	07.50 17.24	07.25 16.58	07.46 08.15-08.19/4 17.05
31	06.19 20.40	06.48 19.58		07.51 17.22		07.46 08.16-08.19/3 17.06
Potential sun hours	457	427	375	346	299	290
Sum of minutes with flicker	0	0	153	0	53	127

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 17 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (18)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.04	16.58
20	07.43	07.11	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.39	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.14	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.56	06.18	06.48	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.19	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 18 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (19)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.57	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.17	16.57
6	07.47	07.29	06.51	07.01	06.17	05.54	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.57
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.57
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.39
	17.21	17.59	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.56-08.02/6	07.11
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.57-08.03/6	07.12
	17.24	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.58-08.04/6	07.13
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.04	16.58
20	07.43	07.12	06.28	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.59-08.05/6	07.14
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	08.00-08.05/5	07.15
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	08.01-08.05/4	07.16
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.02	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	08.03-08.06/3	07.18
	17.29	18.07	18.38	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	08.04-08.05/1	07.19
	17.31	18.08	18.39	20.11	20.40	20.57	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.44
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.37	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	06.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		06.14	06.26	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46
	17.37		18.44	20.16	20.44	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		06.12	06.25	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46
	17.38		18.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		06.10		05.56		06.19	06.49		06.51		07.46
	17.39		18.46		20.46		20.40	19.58		17.22		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	37	0	0	0	0	0	0	0	37	0	95

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:
30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 19 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (20)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.33	06.58	07.08	06.23	05.55	05.56	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.46	20.57	20.39	19.56	19.07	17.21	16.57
2	07.46	07.32	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.46	07.31	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.57
4	07.46	07.30	06.54	07.03	06.20	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.48	20.57	20.35	19.52	19.02	17.17	16.56
5	07.46	07.29	06.52	07.02	06.18	05.54	05.58	06.23	06.53	07.22	06.56	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16	16.56
6	07.46	07.28	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.57	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.56	20.33	19.48	18.59	17.15	16.56
7	07.46	07.27	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.12	17.47	18.20	19.53	20.24	20.50	20.56	20.32	19.47	18.57	17.14	16.56
8	07.46	07.26	06.47	06.57	06.15	05.53	06.00	06.26	06.56	07.25	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.46	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.26	07.01	07.33
	17.14	17.50	18.22	19.55	20.26	20.52	20.55	20.29	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.27	07.02	07.34
	17.15	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52	06.02	06.29	06.59	07.29	07.03	07.35
	17.16	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.21	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.04	07.36
	17.17	17.53	18.25	19.58	20.29	20.53	20.54	20.26	19.38	18.49	17.09	16.56
13	07.45	07.20	06.39	06.49	06.09	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.24	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.48	06.08	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.33	07.03	07.33	07.08	07.38
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.57
16	07.44	07.16	06.35	06.44	06.06	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.20	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.10	07.40
	17.22	17.59	18.31	20.03	20.33	20.55	20.51	20.19	19.30	18.41	17.05	16.57
18	07.43	07.14	06.31	06.41	06.05	05.52	06.07	06.36	07.06	07.36	07.11	07.40
	17.23	18.01	18.32	20.04	20.34	20.56	20.51	20.18	19.28	18.40	17.04	16.58
19	07.43	07.12	06.30	06.40	06.04	05.52	06.08	06.37	07.06	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.35	20.56	20.50	20.16	19.27	18.38	17.03	16.58
20	07.42	07.11	06.28	06.39	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.36	20.56	20.49	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.42
	17.27	18.04	18.35	20.07	20.37	20.56	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.36	06.01	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.28	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.40	07.07	06.23	06.34	06.01	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.01	17.00
24	07.40	07.05	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.18	07.44
	17.30	18.08	18.38	20.10	20.40	20.57	20.46	20.09	19.18	18.31	17.00	17.01
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	07.44	07.19	07.44
	17.32	18.09	18.39	20.11	20.41	20.57	20.45	20.07	19.17	17.30	17.00	17.01
26	07.38	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	07.45	07.21	07.44
	17.33	18.10	18.40	20.12	20.42	20.57	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.16	06.29	05.58	05.54	06.15	06.44	07.14	07.46	07.22	07.45
	17.34	18.11	18.41	20.13	20.42	20.57	20.44	20.04	19.13	17.27	16.59	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	07.47	07.23	07.45
	17.35	18.12	18.42	20.14	20.43	20.57	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.16	06.46	07.16	07.48	07.24	07.45
	17.36		19.43	20.15	20.44	20.57	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.17	06.47	07.17	07.49	07.25	07.46
	17.38		19.44	20.16	20.45	20.57	20.41	20.00	19.08	17.23	16.57	17.05
31	07.34		07.10		05.56		06.18	06.48		06.50		07.46
	17.39		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 20 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (21)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.03	16.58
20	07.43	07.12	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.01	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.17	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Ing. Giuseppe Frongia

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 21 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (22)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.56	07.05	06.21	05.54	05.57	06.21	06.51	07.21	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57
6	07.47	07.29	06.51	07.00	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.47	07.24	06.45	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.11	05.52	06.02	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.02	20.33	20.55	20.53	20.21	19.32	18.43	17.06	16.57
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.42
	17.25	18.02	18.33	20.06	20.36	20.56	20.51	20.17	19.27	18.39	17.03	16.58
20	07.43	07.12	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.27	06.37	06.02	05.53	06.09	06.39	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43
	17.28	18.06	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01
25	07.40	07.04	06.20	06.32	05.59	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	07.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.27	16.59	17.03
28	07.37	07.00	06.15	06.27	05.57	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.17	06.47	07.17	07.48	07.24	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	05.56	05.55	06.18	06.47	07.18	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 22 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (23)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.34	06.58	07.08	06.23	05.55	05.56	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.19	16.57
4	07.47	07.31	06.54	07.03	06.20	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.57
5	07.47	07.30	06.52	07.02	06.18	05.54	05.58	06.23	06.53	07.22	06.56	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16	16.56
6	07.47	07.29	06.51	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.59	17.15	16.56
7	07.47	07.27	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.47	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.47	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.46	07.25	06.46	06.55	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.03	07.35
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.53	20.54	20.26	19.39	18.49	17.09	16.56
13	07.45	07.20	06.40	06.49	06.09	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.56
14	07.45	07.19	06.38	06.48	06.08	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.07	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.44	17.06	16.57
16	07.44	07.17	06.35	06.45	06.06	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.20	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.05	16.57
18	07.44	07.14	06.31	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03	16.58
20	07.42	07.11	06.28	06.39	06.03	05.52	06.08	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.56	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.39	07.09	07.39	07.15	07.42
	17.27	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.53	06.10	06.40	07.10	07.40	07.16	07.43
	17.28	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.40	07.10	07.42	07.17	07.43
	17.29	18.07	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.10	20.40	20.57	20.46	20.09	19.18	18.31	17.00	17.01
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	07.44	07.20	07.44
	17.32	18.09	18.39	20.12	20.41	20.57	20.46	20.07	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	07.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.57	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.44	07.14	07.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.59	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	07.47	07.23	07.45
	17.35	18.12	18.42	20.15	20.43	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.16	06.46	07.16	07.48	07.24	07.46
	17.36		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.17	06.47	07.17	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.57	20.41	20.00	19.08	17.23	16.58	17.05
31	07.34		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 23 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30.0 m (TOT: 43.0 m) (24)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07.47	07.34	06.59	07.09	06.24	19.40-19.49/9	05.55	05.56	06.20	06.50	07.19	06.52	07.26	
	17.07	17.40	18.14	19.47	20.18		20.47	20.58	20.39	19.57	19.07	17.21	16.58	
2	07.47	07.33	06.57	07.07	06.22	19.43-19.46/3	05.55	05.57	06.20	06.51	07.20	06.53	07.27	
	17.07	17.42	18.15	19.48	20.19		20.48	20.58	20.38	19.55	19.05	17.20	16.57	
3	07.47	07.32	06.56	07.05	06.21		05.55	05.57	06.21	06.51	07.21	06.55	07.28	
	17.08	17.43	18.16	19.49	20.20		20.48	20.58	20.37	19.54	19.04	17.19	16.57	
4	07.47	07.31	06.54	07.04	06.20		05.54	05.58	06.22	06.52	07.22	06.56	07.29	
	17.09	17.44	18.17	19.50	20.21		20.49	20.57	20.36	19.52	19.02	17.18	16.57	
5	07.47	07.30	06.53	07.02	06.19		05.54	05.58	06.23	06.53	07.23	06.57	07.30	
	17.10	17.45	18.18	19.51	20.22		20.50	20.57	20.35	19.50	19.01	17.17	16.57	
6	07.47	07.29	06.51	07.01	06.17		05.54	05.59	06.24	06.54	07.24	06.58	07.31	
	17.11	17.47	18.19	19.52	20.23		20.50	20.57	20.34	19.49	18.59	17.15	16.57	
7	07.47	07.28	06.49	06.59	06.16		05.53	05.59	06.25	06.55	07.25	06.59	07.32	
	17.12	17.48	18.20	19.53	20.24		20.51	20.57	20.32	19.47	18.57	17.14	16.56	
8	07.47	07.27	06.48	06.57	06.15		05.53	06.00	06.26	06.56	07.26	07.00	07.33	
	17.13	17.49	18.22	19.54	20.25		20.52	20.56	20.31	19.46	18.56	17.13	16.56	
9	07.47	07.26	06.46	06.56	06.14		05.53	06.01	06.27	06.57	07.27	07.02	07.34	
	17.14	17.50	18.23	19.55	20.26		20.52	20.56	20.30	19.44	18.54	17.12	16.56	
10	07.47	07.24	06.45	06.54	06.13		05.53	06.01	06.28	06.58	07.28	07.03	07.35	
	17.15	17.51	18.24	19.56	20.27		20.53	20.56	20.29	19.42	18.53	17.11	16.56	
11	07.46	07.23	06.43	06.53	06.12		05.52	06.02	06.29	19.50-19.56/6	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.57	20.28		20.53	20.55	20.28	19.41	18.51	17.10	16.57	
12	07.46	07.22	06.41	06.51	06.11		05.52	06.03	06.30	19.48-19.58/10	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.58	20.29		20.54	20.55	20.26	19.39	18.49	17.09	16.57	
13	07.46	07.21	06.40	06.50	06.10		05.52	06.03	06.31	19.46-19.58/12	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30		20.54	20.54	20.25	19.37	18.48	17.08	16.57	
14	07.46	07.20	06.38	06.48	06.09		05.52	06.04	06.32	19.45-19.59/14	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31		20.55	20.54	20.24	19.36	18.46	17.08	16.57	
15	07.45	07.18	06.37	06.46	06.08		05.52	06.05	06.33	19.44-19.59/15	07.03	07.33	07.09	07.39
	17.20	17.57	18.29	20.01	20.32		20.55	20.53	20.22	19.34	18.45	17.07	16.57	
16	07.45	07.17	06.35	06.45	06.07		05.52	06.06	06.34	19.43-19.58/15	07.04	07.34	07.10	07.40
	17.21	17.59	18.30	20.03	20.33		20.56	20.53	20.21	19.32	18.43	17.06	16.57	
17	07.44	07.16	06.33	06.43	06.06		05.52	06.06	06.35	19.43-19.57/14	07.05	07.35	07.11	07.40
	17.23	18.00	18.31	20.04	20.34		20.56	20.52	20.19	19.31	18.42	17.05	16.58	
18	07.44	07.14	06.32	06.42	06.05		05.52	06.07	06.36	19.43-19.55/12	07.06	07.36	07.12	07.41
	17.24	18.01	18.32	20.05	20.35		20.56	20.51	20.18	19.29	18.40	17.04	16.58	
19	07.43	07.13	06.30	06.40	06.04		05.52	06.08	06.37	19.43-19.54/11	07.07	07.38	07.13	07.42
	17.25	18.02	18.33	20.06	20.36		20.57	20.51	20.17	19.27	18.39	17.04	16.58	
20	07.43	07.12	06.28	06.39	19.42-19.45/3	06.03	05.53	06.09	06.38	19.43-19.53/10	07.08	07.39	07.14	07.42
	17.26	18.03	18.34	20.07	20.37		20.57	20.50	20.15	19.25	18.37	17.03	16.59	
21	07.42	07.10	06.27	06.37	19.39-19.45/6	06.02	05.53	06.10	06.39	19.43-19.51/8	07.09	07.40	07.15	07.43
	17.27	18.05	18.36	20.08	20.38		20.57	20.49	20.14	19.24	18.36	17.02	16.59	
22	07.42	07.09	06.25	06.36	19.39-19.47/8	06.02	05.53	06.10	06.40	19.44-19.50/6	07.10	07.41	07.17	07.43
	17.28	18.06	18.37	20.09	20.39		20.57	20.48	20.12	19.22	18.34	17.02	17.00	
23	07.41	07.07	06.23	06.35	19.37-19.47/10	06.01	05.53	06.11	06.41	19.46-19.49/3	07.11	07.42	07.18	07.44
	17.29	18.07	18.38	20.10	20.40		20.57	20.48	20.11	19.20	18.33	17.01	17.00	
24	07.40	07.06	06.22	06.33	19.37-19.49/12	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44	
	17.31	18.08	18.39	20.11	20.40		20.58	20.47	20.09	19.19	18.32	17.00	17.01	
25	07.40	07.05	06.20	06.32	19.37-19.50/13	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45	
	17.32	18.09	18.40	20.12	20.41		20.58	20.46	20.08	19.17	17.30	17.00	17.01	
26	07.39	07.03	06.19	06.30	19.36-19.50/14	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45	
	17.33	18.10	18.41	20.13	20.42		20.58	20.45	20.06	19.15	17.29	16.59	17.02	
27	07.38	07.02	06.17	06.29	19.36-19.52/16	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45	
	17.34	18.11	18.42	20.14	20.43		20.58	20.44	20.05	19.14	17.28	16.59	17.03	
28	07.37	07.00	06.15	06.28	19.37-19.53/16	05.58	05.55	06.16	06.46	07.16	06.48	07.23	07.46	
	17.35	18.13	18.43	20.15	20.44		20.58	20.43	20.03	19.12	17.26	16.59	17.03	
29	07.37		07.14	06.26	19.37-19.51/14	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46	
	17.37		19.44	20.16	20.45		20.58	20.42	20.02	19.10	17.25	16.58	17.04	
30	07.36		07.12	06.25	19.38-19.50/12	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46	
	17.38		19.45	20.17	20.45		20.58	20.41	20.00	19.09	17.24	16.58	17.05	
31	07.35		07.10		05.56			06.19	06.49		06.51		07.46	
	17.39		19.46		20.46			20.40	19.58		17.22		17.06	
Potential sun hours	299	298	370	398	447		450	457	427	375	346	299	290	
Sum of minutes with flicker	0	0	0	124	12		0	0	136	0	0	0	0	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 24 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30.0 m (TOT: 43.0 m) (25)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07.47	07.34	06.59	07.09	06.24	06.43-06.47/4	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.07	17.40	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57	
2	07.47	07.33	06.57	07.07	06.22	06.43-06.46/3	05.55	05.56	06.20	06.50	07.20	06.53	07.27
	17.07	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.20	16.57	
3	07.47	07.32	06.56	07.05	06.21	05.55	05.57	06.21	06.51	07.21	06.54	07.28	
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.54	19.04	17.19	16.57	
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.22	06.52	07.22	06.56	07.29	
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.18	16.57	
5	07.47	07.30	06.52	07.02	06.19	05.54	05.58	06.23	06.53	07.23	06.57	07.30	
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.57	
6	07.47	07.29	06.51	07.01	06.17	05.53	05.59	06.24	06.54	07.24	06.58	07.31	
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.34	19.49	18.59	17.15	16.56	
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32	
	17.12	17.48	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56	
8	07.47	07.27	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33	
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.45	18.56	17.13	16.56	
9	07.47	07.25	06.46	06.56	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34	
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56	
10	07.47	07.24	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35	
	17.15	17.51	18.24	19.56	20.27	20.53	20.56	20.29	19.42	18.52	17.11	16.56	
11	07.46	07.23	06.43	06.53	06.12	05.52	06.02	06.29 06.51-06.55/4	06.59	07.29	07.04	07.36	
	17.16	17.53	18.25	19.57	20.28	20.53	20.55	20.27	19.41	18.51	17.10	16.56	
12	07.46	07.22	06.41	06.51	06.11	05.52	06.03	06.30 06.52-06.56/4	07.00	07.30	07.05	07.37	
	17.17	17.54	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.57	
13	07.46	07.21	06.40	06.49	06.10	05.52	06.03	06.31 06.52-06.55/3	07.01	07.31	07.06	07.37	
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57	
14	07.45	07.19	06.38	06.48	06.09	05.52	06.04	06.32 06.53-06.55/2	07.02	07.32	07.07	07.38	
	17.19	17.56	18.28	20.00	20.31	20.55	20.54	20.24	19.36	18.46	17.07	16.57	
15	07.45	07.18	06.37	06.46	06.08	05.52	06.05	06.33	07.03	07.33	07.08	07.39	
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57	
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40	
	17.21	17.59	18.30	20.02	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.57	
17	07.44	07.16	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40	
	17.22	18.00	18.31	20.04	20.34	20.56	20.52	20.19	19.30	18.42	17.05	16.58	
18	07.44	07.14	06.32	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41	
	17.24	18.01	18.32	20.05	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58	
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.42	
	17.25	18.02	18.33	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.03	16.58	
20	07.43	07.12	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.39	07.14	07.42	
	17.26	18.03	18.34	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59	
21	07.42	07.10	06.27	06.37	06.02	05.53	06.10	06.39	07.09	07.40	07.15	07.43	
	17.27	18.04	18.35	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	16.59	
22	07.42	07.09	06.25	06.36	06.02	05.53	06.10	06.40	07.10	07.41	07.17	07.43	
	17.28	18.06	18.37	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	17.00	
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.18	07.44	
	17.29	18.07	18.38	20.10	20.40	20.57	20.48	20.11	19.20	18.33	17.01	17.00	
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.42	07.12	07.43	07.19	07.44	
	17.31	18.08	18.39	20.11	20.40	20.58	20.47	20.09	19.19	18.32	17.00	17.01	
25	07.40	07.05	06.20	06.32	05.59	05.54	06.13	06.43	07.13	06.44	07.20	07.45	
	17.32	18.09	18.40	20.12	20.41	20.58	20.46	20.08	19.17	17.30	17.00	17.01	
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.44	07.14	06.45	07.21	07.45	
	17.33	18.10	18.41	20.13	20.42	20.58	20.45	20.06	19.15	17.29	16.59	17.02	
27	07.38	07.02	06.17	06.29	05.58	05.54	06.15	06.45	07.15	06.46	07.22	07.45	
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03	
28	07.37	07.00	06.15	06.28 06.47-06.48/1	05.57	05.55	06.16	06.46	07.16	06.48	07.23	07.46	
	17.35	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03	
29	07.36		07.14	06.26 06.45-06.48/3	05.57	05.55	06.17	06.47	07.17	06.49	07.24	07.46	
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.10	17.25	16.58	17.04	
30	07.36		07.12	06.25 06.44-06.48/4	05.56	05.56	06.18	06.48	07.18	06.50	07.25	07.46	
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.09	17.24	16.58	17.05	
31	07.35		07.10		05.56		06.19	06.49		06.51		07.46	
	17.39		19.46		20.46		20.40	19.58		17.22		17.06	
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290	
Sum of minutes with flicker	0	0	0	8	7	0	0	13	0	0	0	0	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 25 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (26)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.46	07.34	06.58	07.08	06.23	05.55	05.56	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.57	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.55	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.15	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.43	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.44	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.57
5	07.47	07.30	06.52	07.02	06.18	05.54	05.58	06.23	06.53	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22	20.49	20.57	20.35	19.50	19.00	17.16	16.56
6	07.47	07.29	06.51	07.00	06.17	05.53	05.58	06.24	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.49	18.59	17.15	16.56
7	07.47	07.27	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.12	17.47	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	06.00	06.26	06.56	07.26	07.00	07.33
	17.13	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.46	07.25	06.46	06.55	06.14	05.53	06.00	06.27	06.57	07.27	07.01	07.34
	17.14	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.13	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.12	05.52	06.02	06.29	06.59	07.29	07.04	07.35
	17.16	17.52	18.25	19.57	20.28	20.53	20.55	20.27	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.54	18.26	19.58	20.29	20.53	20.54	20.26	19.39	18.49	17.09	16.56
13	07.46	07.20	06.40	06.49	06.09	05.52	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.48	17.08	16.57
14	07.45	07.19	06.38	06.48	06.08	05.52	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.07	05.52	06.05	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.44	17.06	16.57
16	07.44	07.17	06.35	06.45	06.07	05.52	06.05	06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.06	16.57
17	07.44	07.15	06.33	06.43	06.06	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	18.00	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.05	16.57
18	07.44	07.14	06.31	06.42	06.05	05.52	06.07	06.36	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.08	06.37	07.07	07.37	07.13	07.41
	17.25	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.39	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.09	06.38	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.03	16.59
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.39	07.09	07.39	07.15	07.42
	17.27	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.24	18.36	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.53	06.10	06.40	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	17.00
23	07.41	07.07	06.23	06.34	06.01	05.53	06.11	06.41	07.11	07.42	07.17	07.43
	17.29	18.07	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	06.00	05.53	06.12	06.41	07.12	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.01
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	07.44	07.20	07.44
	17.32	18.09	18.39	20.12	20.41	20.57	20.46	20.07	19.17	17.30	17.00	17.01
26	07.39	07.03	06.18	06.30	05.59	05.54	06.14	06.43	07.13	07.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.57	20.45	20.06	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.15	06.44	07.14	07.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.59	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.16	06.45	07.15	07.47	07.23	07.45
	17.35	18.12	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.16	06.46	07.16	07.48	07.24	07.46
	17.36		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.17	06.47	07.17	07.49	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.58	17.05
31	07.34		07.10		05.56		06.18	06.48		06.51		07.46
	17.39		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 26 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (27)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47	07.34	06.59	07.09	06.24	05.56	05.56	06.20	06.50	07.19	06.52	07.27
	17.07	17.41	18.14	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.58
2	07.47	07.33	06.57	07.07	06.23	05.55	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.48	20.19	20.48	20.58	20.38	19.55	19.06	17.20	16.57
3	07.47	07.32	06.56	07.06	06.21	05.55	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.16	19.49	20.20	20.49	20.58	20.37	19.54	19.04	17.19	16.57
4	07.47	07.31	06.54	07.04	06.20	05.54	05.58	06.23	06.53	07.22	06.56	07.30
	17.09	17.44	18.17	19.50	20.21	20.49	20.58	20.36	19.52	19.02	17.18	16.57
5	07.47	07.30	06.53	07.02	06.19	05.54	05.58	06.24	06.54	07.23	06.57	07.31
	17.10	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.51	19.01	17.17	16.57
6	07.47	07.29	06.51	07.01	06.18	05.54	05.59	06.24	06.55	07.24	06.58	07.32
	17.11	17.47	18.20	19.52	20.23	20.51	20.57	20.34	19.49	18.59	17.16	16.57
7	07.47	07.28	06.50	06.59	06.17	05.54	06.00	06.25	06.56	07.25	06.59	07.32
	17.12	17.48	18.21	19.53	20.24	20.51	20.57	20.33	19.47	18.58	17.15	16.57
8	07.47	07.27	06.48	06.58	06.15	05.53	06.00	06.26	06.57	07.26	07.01	07.33
	17.13	17.49	18.22	19.54	20.25	20.52	20.56	20.31	19.46	18.56	17.14	16.57
9	07.47	07.26	06.46	06.56	06.14	05.53	06.01	06.27	06.57	07.27	07.02	07.34
	17.14	17.50	18.23	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	16.57
10	07.47	07.25	06.45	06.54	06.13	05.53	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.52	18.24	19.57	20.27	20.53	20.56	20.29	19.42	18.53	17.11	16.57
11	07.47	07.23	06.43	06.53	06.12	05.53	06.02	06.29	06.59	07.29	07.04	07.36
	17.16	17.53	18.25	19.58	20.28	20.53	20.55	20.28	19.41	18.51	17.11	16.57
12	07.46	07.22	06.42	06.51	06.11	05.53	06.03	06.30	07.00	07.30	07.05	07.37
	17.17	17.54	18.26	19.59	20.29	20.54	20.55	20.26	19.39	18.50	17.10	16.57
13	07.46	07.21	06.40	06.50	06.10	05.53	06.04	06.31	07.01	07.31	07.06	07.38
	17.18	17.55	18.27	20.00	20.30	20.54	20.54	20.25	19.37	18.48	17.09	16.57
14	07.46	07.20	06.38	06.48	06.09	05.52	06.04	06.32	07.02	07.32	07.08	07.38
	17.19	17.56	18.28	20.01	20.31	20.55	20.54	20.24	19.36	18.47	17.08	16.57
15	07.45	07.18	06.37	06.47	06.08	05.52	06.05	06.33	07.03	07.33	07.09	07.39
	17.21	17.58	18.29	20.02	20.32	20.55	20.53	20.22	19.34	18.45	17.07	16.57
16	07.45	07.17	06.35	06.45	06.07	05.52	06.06	06.34	07.04	07.34	07.10	07.40
	17.22	17.59	18.30	20.03	20.33	20.56	20.53	20.21	19.32	18.43	17.06	16.58
17	07.45	07.16	06.34	06.44	06.06	05.52	06.07	06.35	07.05	07.36	07.11	07.40
	17.23	18.00	18.31	20.04	20.34	20.56	20.52	20.20	19.31	18.42	17.05	16.58
18	07.44	07.15	06.32	06.42	06.05	05.53	06.07	06.36	07.06	07.37	07.12	07.41
	17.24	18.01	18.33	20.05	20.35	20.56	20.52	20.18	19.29	18.40	17.05	16.58
19	07.44	07.13	06.30	06.41	06.04	05.53	06.08	06.37	07.07	07.38	07.13	07.42
	17.25	18.02	18.34	20.06	20.36	20.57	20.51	20.17	19.27	18.39	17.04	16.59
20	07.43	07.12	06.29	06.39	06.03	05.53	06.09	06.38	07.08	07.39	07.15	07.42
	17.26	18.04	18.35	20.07	20.37	20.57	20.50	20.15	19.26	18.38	17.03	16.59
21	07.42	07.10	06.27	06.38	06.03	05.53	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.49	20.14	19.24	18.36	17.02	17.00
22	07.42	07.09	06.25	06.36	06.02	05.53	06.11	06.40	07.10	07.41	07.17	07.43
	17.29	18.06	18.37	20.09	20.39	20.57	20.49	20.12	19.22	18.35	17.02	17.00
23	07.41	07.08	06.24	06.35	06.01	05.53	06.12	06.41	07.11	07.42	07.18	07.44
	17.30	18.07	18.38	20.10	20.40	20.58	20.48	20.11	19.21	18.33	17.01	17.01
24	07.41	07.06	06.22	06.33	06.00	05.54	06.12	06.42	07.12	07.43	07.19	07.44
	17.31	18.08	18.39	20.11	20.41	20.58	20.47	20.09	19.19	18.32	17.01	17.01
25	07.40	07.05	06.20	06.32	06.00	05.54	06.13	06.43	07.13	07.44	07.20	07.45
	17.32	18.09	18.40	20.12	20.42	20.58	20.46	20.08	19.17	17.31	17.00	17.02
26	07.39	07.03	06.19	06.31	05.59	05.54	06.14	06.44	07.14	07.45	07.21	07.45
	17.33	18.11	18.41	20.13	20.42	20.58	20.45	20.06	19.16	17.29	17.00	17.02
27	07.38	07.02	06.17	06.29	05.58	05.55	06.15	06.45	07.15	07.46	07.22	07.46
	17.34	18.12	18.42	20.14	20.43	20.58	20.44	20.05	19.14	17.28	16.59	17.03
28	07.38	07.00	06.15	06.28	05.58	05.55	06.16	06.46	07.16	07.47	07.23	07.46
	17.36	18.13	18.43	20.15	20.44	20.58	20.43	20.03	19.12	17.27	16.59	17.04
29	07.37		07.14	06.27	05.57	05.55	06.17	06.47	07.17	07.48	07.25	07.46
	17.37		19.44	20.16	20.45	20.58	20.42	20.02	19.11	17.25	16.58	17.04
30	07.36		07.12	06.25	05.57	05.56	06.18	06.48	07.18	07.49	07.26	07.46
	17.38		19.45	20.17	20.46	20.58	20.41	20.00	19.09	17.24	16.58	17.05
31	07.35		07.11		05.56		06.19	06.49		06.51		07.47
	17.39		19.46		20.46		20.40	19.59		17.23		17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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Calculated:

30/07/2020 14.46/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow 2020 07 30 Cumulative WTG: 27 - TOZZI GREEN bis Victory 24-60 60 26.0 !O! hub: 30.0 m (TOT: 43.0 m) (28)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07.47 17.07	07.34 17.40	06.59 18.14	07.09 19.09-19.23/14	06.24 20.18	05.55 20.47	05.56 20.58	06.19 20.39	06.50 19.57	07.19 19.07	06.52 17.21	07.26 16.57
2	07.47 17.07	07.33 17.42	06.57 18.15	07.07 19.08-19.22/14	06.22 20.19	05.55 20.48	05.57 20.58	06.20 20.38	06.50 19.55	07.20 19.05	06.53 17.20	07.27 16.57
3	07.47 17.08	07.32 17.43	06.56 18.16	07.05 19.10-19.21/11	06.21 20.20	05.55 20.48	05.57 20.57	06.21 20.37	06.51 19.54	07.21 19.04	06.54 17.19	07.28 16.57
4	07.47 17.09	07.31 17.44	06.54 18.17	07.04 19.11-19.19/8	06.20 20.21	05.54 20.49	05.58 20.57	06.22 20.36	06.52 19.52	07.22 19.02	06.56 17.18	07.29 16.57
5	07.47 17.10	07.30 17.45	06.52 18.18	07.02 19.51	06.19 20.22	05.54 20.50	05.58 20.57	06.23 20.35	06.53 19.50	07.23 19.01	06.57 17.17	07.30 16.57
6	07.47 17.11	07.29 17.46	06.51 18.19	07.01 19.52	06.17 20.23	05.54 20.50	05.59 20.57	06.24 20.34	06.54 19.49	07.24 18.59	06.58 17.15	07.31 16.57
7	07.47 17.12	07.28 17.48	06.49 18.20	06.59 19.53	06.16 20.24	05.53 20.51	05.59 20.57	06.25 20.32	06.55 19.47	07.25 18.57	06.59 17.14	07.32 16.56
8	07.47 17.13	07.27 17.49	06.48 18.22	06.57 19.54	06.15 20.25	05.53 20.52	06.00 20.56	06.26 20.31	06.56 19.45	19.06-19.14/8	07.26 18.56	07.33 17.13
9	07.47 17.14	07.25 17.50	06.46 18.23	06.56 19.55	06.14 20.26	05.53 20.52	06.01 20.56	06.27 20.30	06.57 19.44	19.03-19.14/11	07.27 18.54	07.34 17.12
10	07.47 17.15	07.24 17.51	06.45 18.24	06.54 19.56	06.13 20.27	05.53 20.53	06.01 20.56	06.28 20.29	06.58 19.42	19.02-19.15/13	07.28 18.53	07.35 17.11
11	07.46 17.16	07.23 17.53	06.43 18.25	06.53 19.57	06.12 20.28	05.52 20.53	06.02 20.55	06.29 20.27	06.59 19.41	19.01-19.15/14	07.29 18.51	07.36 17.10
12	07.46 17.17	07.22 17.54	06.41 18.26	06.51 19.58	06.11 20.29	05.52 20.54	06.03 20.55	06.30 20.26	07.00 19.39	07.20-07.21/1	07.30 18.49	07.37 17.09
13	07.46 17.18	07.21 17.55	06.40 18.27	06.49 19.59	06.10 20.30	05.52 20.54	06.03 20.54	06.31 20.25	07.01 19.37	19.00-19.15/15	07.31 18.48	07.37 17.08
14	07.45 17.19	07.19 17.56	06.38 18.28	06.48 20.00	06.09 20.31	05.52 20.55	06.04 20.54	06.32 20.24	07.02 19.36	19.00-19.13/13	07.32 18.46	07.38 17.08
15	07.45 17.20	07.18 17.57	06.37 18.29	06.46 20.01	06.08 20.32	05.52 20.55	06.05 20.53	06.33 20.22	07.03 19.34	19.01-19.12/11	07.33 18.45	07.39 17.07
16	07.45 17.21	07.17 17.59	06.35 18.30	06.45 20.02	06.07 20.33	05.52 20.55	06.06 20.53	06.34 20.21	07.04 19.32	19.02-19.10/8	07.34 18.43	07.40 17.06
17	07.44 17.23	07.16 18.00	06.33 18.31	06.43 20.04	06.06 20.34	05.52 20.56	06.06 20.52	06.35 20.19	07.05 19.30	19.05-19.07/2	07.35 18.42	07.41 17.05
18	07.44 17.24	07.14 18.01	06.32 18.32	06.42 20.05	06.05 20.35	05.52 20.56	06.07 20.51	06.36 20.18	07.06 19.29		07.36 18.40	07.42 17.04
19	07.43 17.25	07.13 18.02	06.30 18.33	06.40 20.06	06.04 20.36	05.52 20.56	06.08 20.51	06.37 20.17	07.07 19.27		07.38 18.39	07.43 17.04
20	07.43 17.26	07.12 18.03	06.28 18.34	06.39 20.07	06.03 20.37	05.53 20.57	06.09 20.50	06.38 20.15	07.08 19.25		07.39 18.37	07.42 17.03
21	07.42 17.27	07.10 18.05	06.27 18.35	06.37 20.08	06.02 20.38	05.53 20.57	06.10 20.49	06.39 20.14	07.09 19.24		07.40 18.36	07.43 17.02
22	07.42 17.28	07.09 18.06	06.25 18.37	06.36 20.09	06.02 20.39	05.53 20.57	06.10 20.48	06.40 20.12	07.10 19.22		07.41 18.34	07.44 17.02
23	07.41 17.29	07.07 18.07	06.23 18.38	06.35 20.10	06.01 20.40	05.53 20.57	06.11 20.48	06.41 20.11	07.11 19.20		07.42 18.33	07.45 17.01
24	07.40 17.31	07.06 18.08	06.22 18.39	06.33 20.11	06.00 20.40	05.53 20.58	06.12 20.47	06.42 20.09	07.12 19.19		07.43 18.32	07.46 17.00
25	07.40 17.32	07.05 18.09	06.20 18.40	06.32 20.12	05.59 20.41	05.54 20.58	06.13 20.46	06.43 20.08	07.13 19.17		07.44 17.30	07.45 17.01
26	07.39 17.33	07.03 18.10	06.19 18.41	06.30 20.13	05.59 20.42	05.54 20.58	06.14 20.45	06.44 20.06	07.14 19.15		07.45 17.29	07.45 17.02
27	07.38 17.34	07.02 18.11	06.17 18.42	18.13-18.21/8	06.29 20.14	05.58 20.43	05.54 20.58	06.45 20.05	07.15 19.14		07.46 17.28	07.45 17.03
28	07.37 17.35	07.00 18.13	06.15 18.43	18.12-18.22/10	06.28 20.15	05.58 20.44	05.55 20.58	06.16 20.43	07.16 19.12		07.48 17.26	07.46 17.03
29	07.36 17.37	07.36 18.13	07.14 19.10-19.23/13	06.26 20.16	05.57 20.45	05.55 20.58	06.17 20.42	06.47 20.02	07.17 19.10		07.49 17.25	07.46 17.04
30	07.36 17.38	07.36 18.06	07.12 19.09-19.24/15	06.25 20.17	05.56 20.45	05.56 20.58	06.18 20.41	06.48 20.00	07.18 19.09		07.50 17.24	07.46 17.05
31	07.35 17.39	07.35 18.07	07.10 19.09-19.24/15	07.29-07.30/1	05.56 20.46	05.56 20.58	06.19 20.40	06.49 19.58	07.19		07.51 17.22	07.46 17.06
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	62	47	0	0	0	0	111	0	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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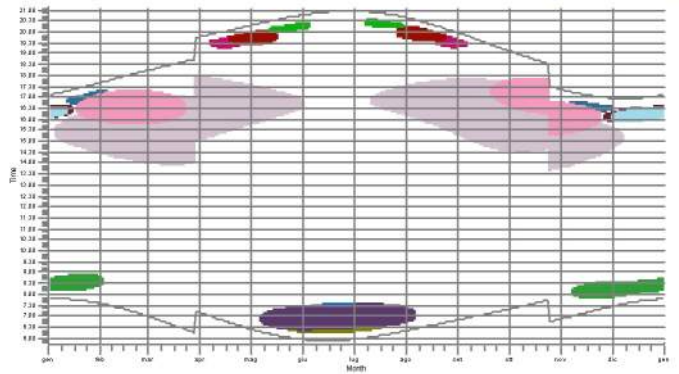
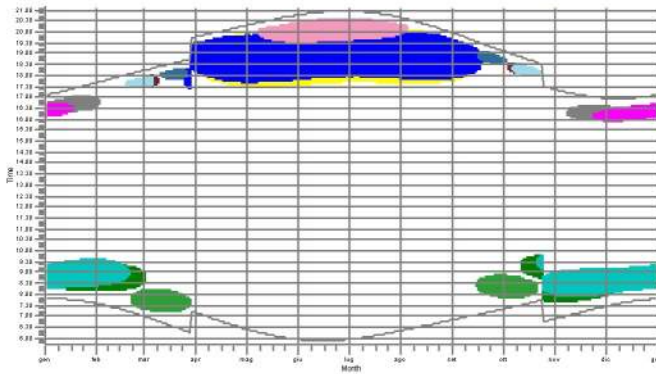
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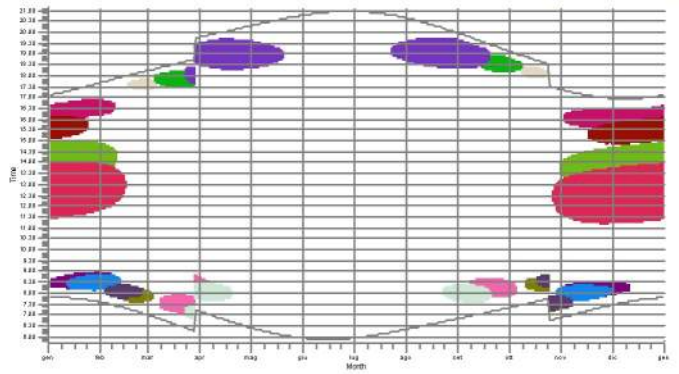
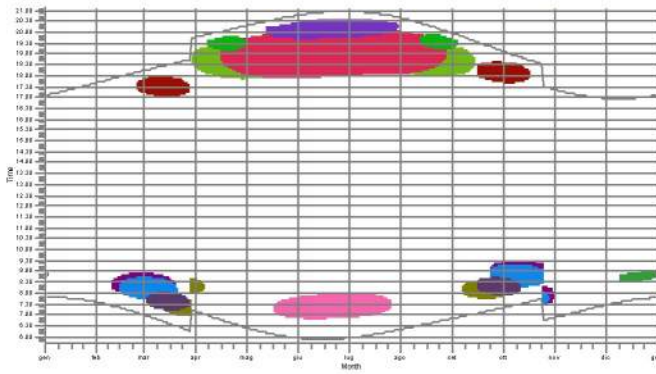
SHADOW - Calendar per WTG, graphical

Calculation: Shadow 2020 07 30 Cumulative

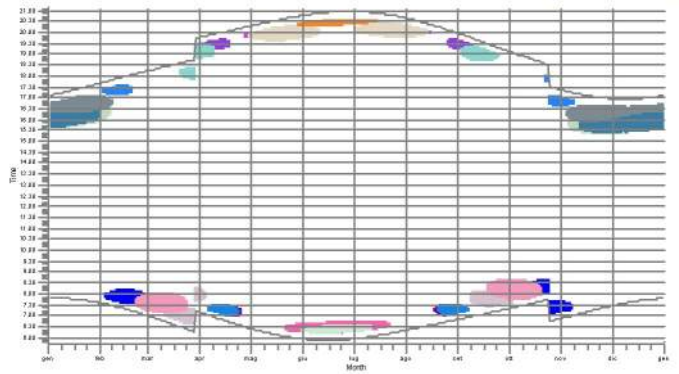
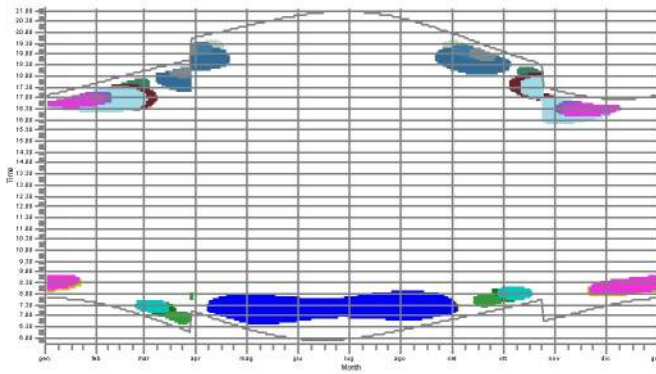
01: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) 2: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m)



03: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) 4: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m)



05: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) 6: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m)



Shadow receptors

- | | | | |
|---|---|--|--|
| F01: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (262) | F16: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (265) | F29: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (268) | F62: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (275) |
| F02: Rudere | F161: Abitazione | F31: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (238) | F66: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (276) |
| F03: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (234) | F163: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (261) | F32: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (239) | F67: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (277) |
| F06: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (263) | F174: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (230) | F50: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (271) | F78: Rudere |
| F10: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (264) | F176: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (231) | F52: Rudere | F80: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (280) |
| F121: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (287) | F177: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (232) | F55: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (272) | F81: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (281) |
| F123: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (288) | F18: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (235) | F57: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (246) | F85: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (282) |
| F131: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (291) | F19: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (266) | F60: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (273) | F87: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (249) |
| F158: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (257) | F21: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (236) | F61: Rudere | |
| F159: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (258) | F23: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (267) | | |

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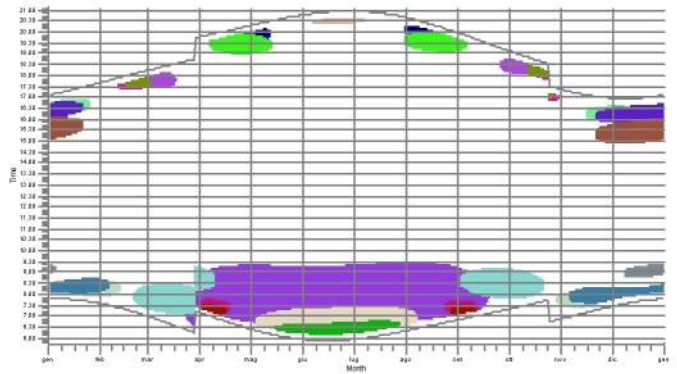
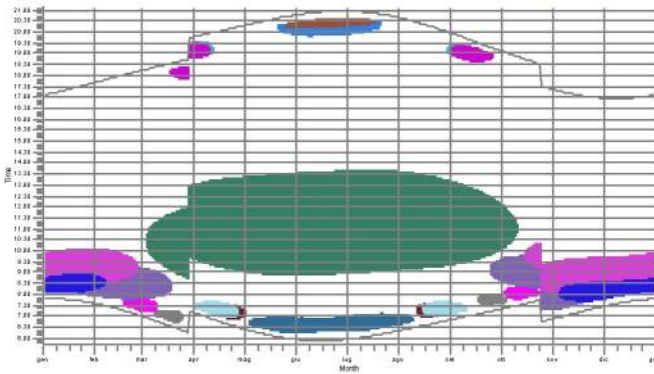
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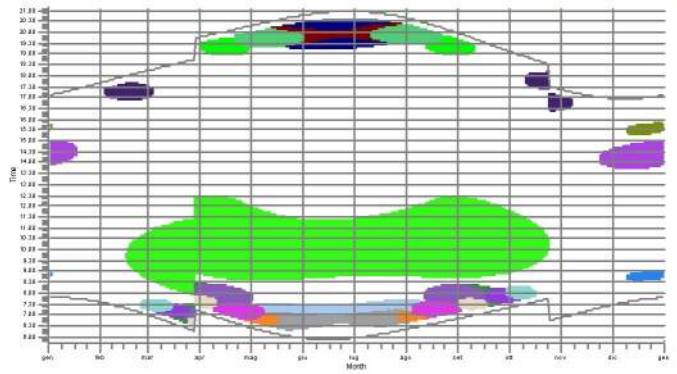
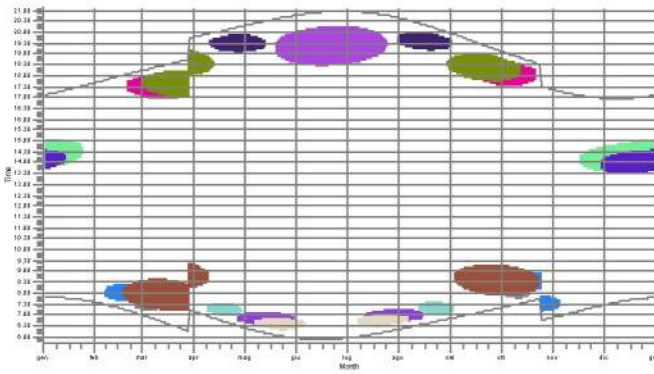
SHADOW - Calendar per WTG, graphical

Calculation: Shadow 2020 07 30 Cumulative

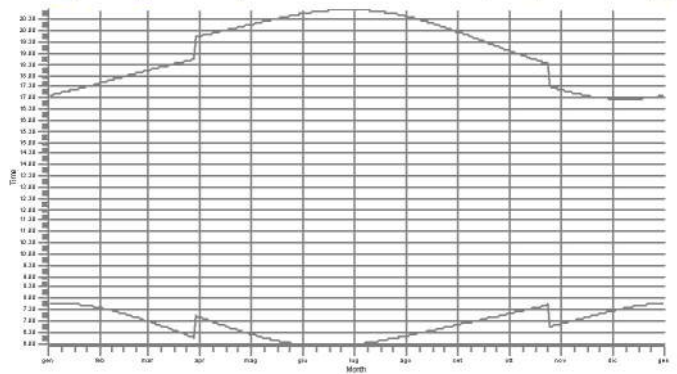
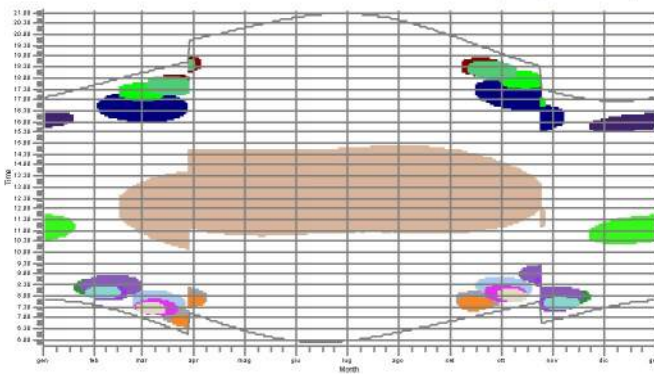
07: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) 8: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m)



09: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) 10: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m)



11: Siemens Mode 0 SG 6.0-170 6000 170.0 !O! hub: 115,0 m (TOT: 200,0 m) 12: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (1



Shadow receptors

- | | | | |
|---|---|--|--|
| F06: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (263) | F154: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (256) | F23: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (267) | F50: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (271) |
| F10: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (264) | F16: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (265) | F24: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (237) | F52: Rudere |
| F102: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (265) | F161: Abitazione | F28: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (268) | F53: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (245) |
| F103: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (266) | F167: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (295) | F31: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (238) | F55: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (272) |
| F109: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (254) | F168: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (228) | F32: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (239) | F57: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (246) |
| F131: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (291) | F172: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (229) | F33: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (240) | F60: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (273) |
| F137: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (292) | F174: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (230) | F34: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (269) | F66: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (276) |
| F138: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (255) | F18: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (235) | F37: Abitazione | F91: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (284) |
| F151: Vedetta antincendio | F19: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (266) | F38: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (241) | F93: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (251) |
| F153: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (294) | F21: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (236) | F47: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (243) | F95: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (252) |

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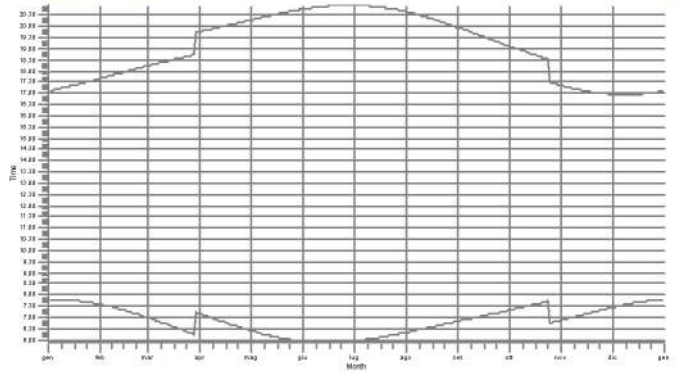
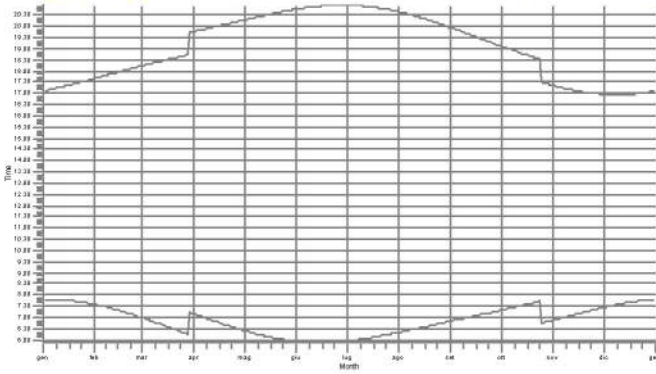
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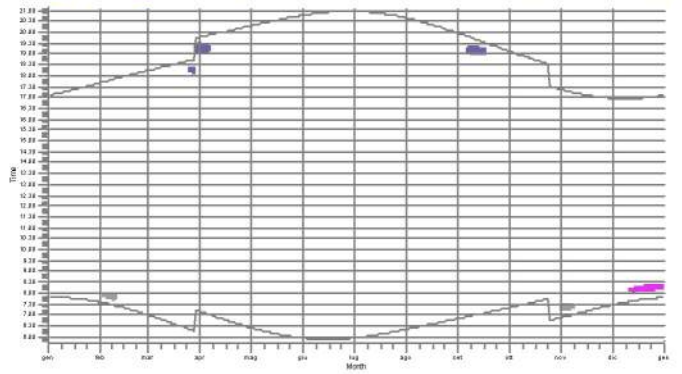
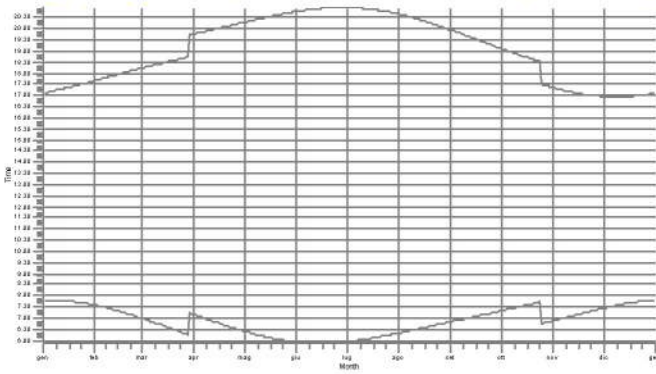
SHADOW - Calendar per WTG, graphical

Calculation: Shadow 2020 07 30 Cumulative

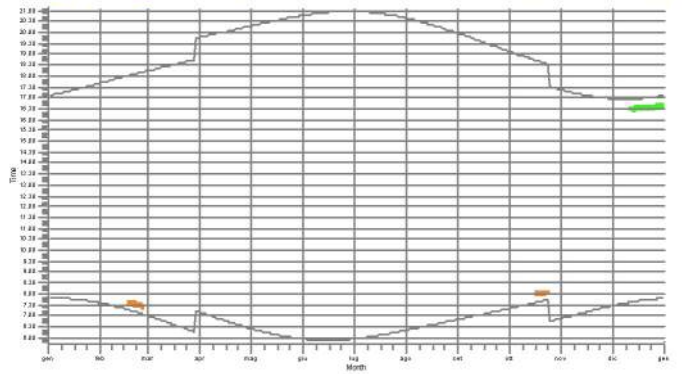
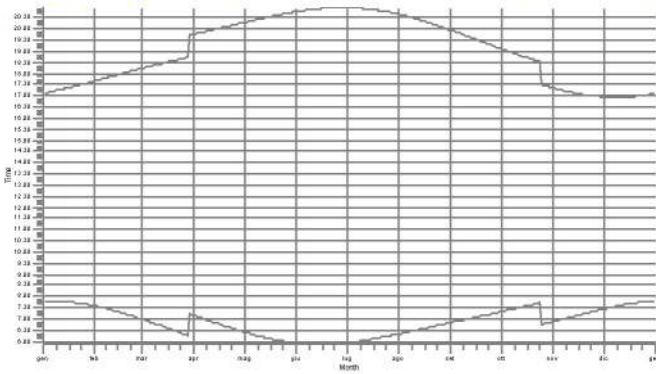
TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (1: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (1








TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (1: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (1



TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (1: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (1



Shadow receptors

 F138: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (255)	 F161: Abitazione	 F52: Rudere
 F153: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (254)	 F43: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (242)	

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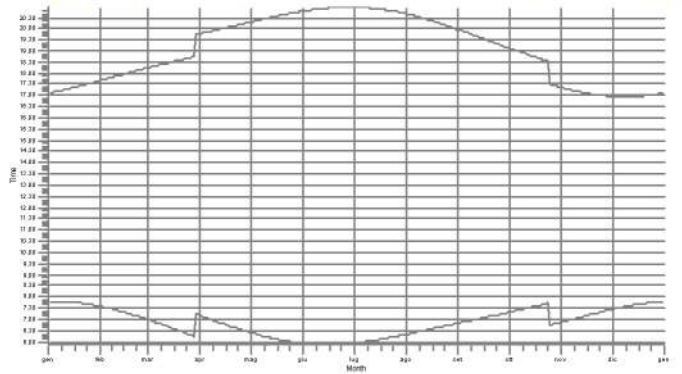
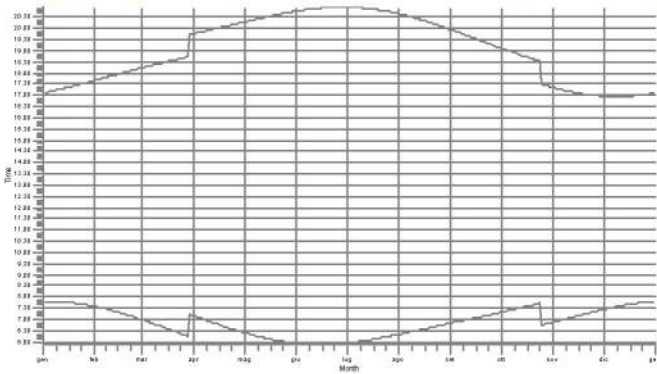
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30/07/2020 14.46/2.9.207

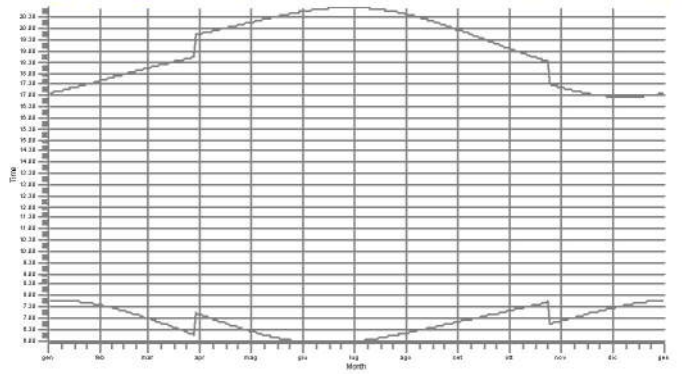
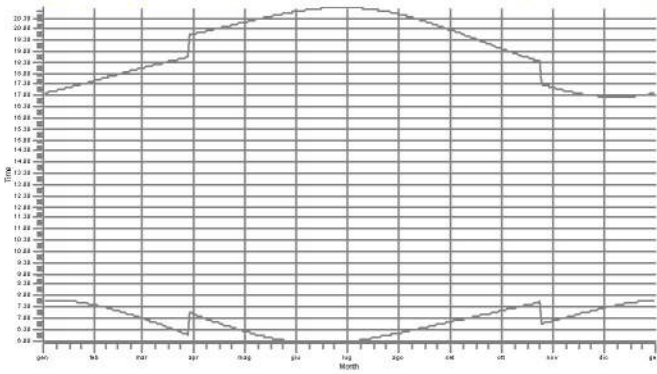
SHADOW - Calendar per WTG, graphical

Calculation: Shadow 2020 07 30 Cumulative

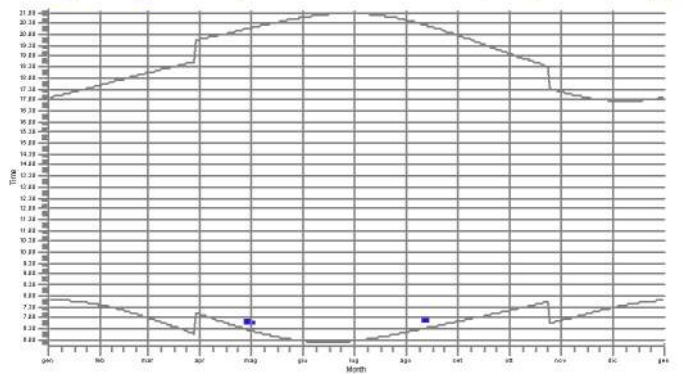
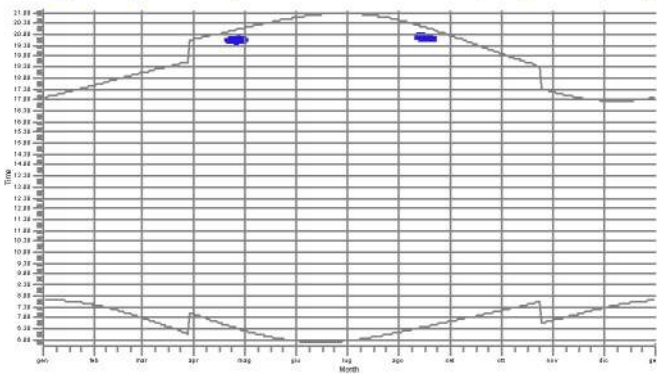
1: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2



3: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2



5: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2



Shadow receptors

F24: Shadow Receptor: 1,2 x 1,4 Azimuth: 0,0° Slope: 90,0° (237)

Project:

Eolico_Green_2020_07_13

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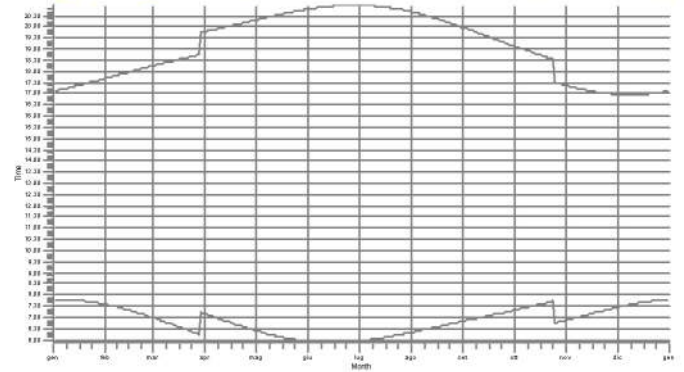
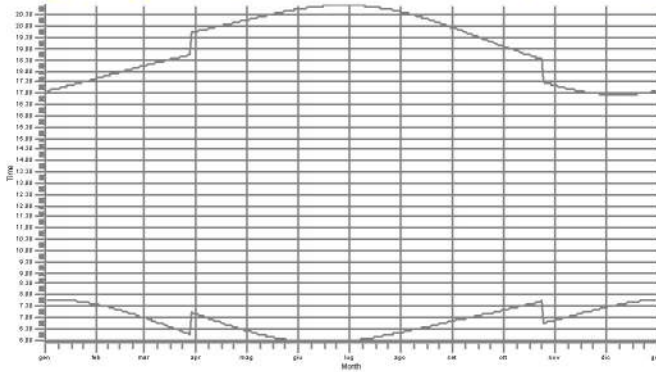
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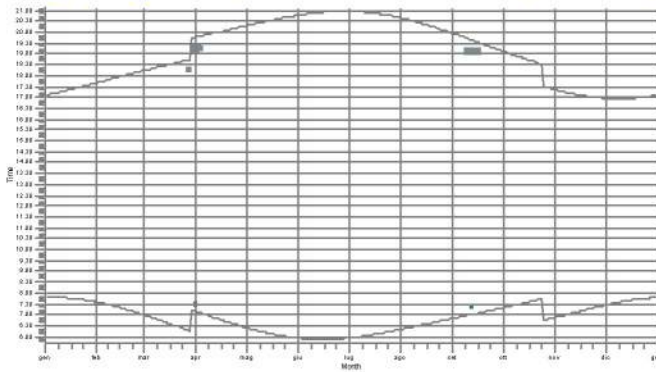
SHADOW - Calendar per WTG, graphical

Calculation: Shadow_2020_07_30_Cumulative

5: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2): TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2)



7: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2)



Shadow receptors

F16: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (265)

F31: Shadow Receptor: 1.2 x 1.4 Azimuth: 0.0° Slope: 90.0° (238)

