REALIZZAZIONE DI UN IMPIANTO EOLICO DA 50.4 MW IN LOCALITÀ "MAMONE"

- COMUNI DI BITTI (NU) E BUDDUSO' (SS) -

ORDINE INGEGNERI PROVINCIA CAGLIARI
N. 3453 Dott. Ing. Giuseppe Frongia

OGGETTO ***STUDIO DI IMPATTO AMBIENTALE***	***TITOLO*** ***STUDIO DEGLI EFFETTI DI SHADOW FLICKERING***
PROGETTAZIONE I.A.T. CONSULENZA E PROGETTI S.R.L. ING. GIUSEPPE FRONGIA	***GRUPPO DI LAVORO*** Ing. Giuseppe Frongia (coordinatore e responsabile) Ing. Marianna Barbarino Ing. Enrica Batzella Ing. Gianluca Melis Ing. Emanuela Spiga Ing. Andrea Cappai Dott. Mauro Casti Dott. Maurizio Medda Dott. Matteo Tatti Dott. Geol. Mauro Pompei Dott. Geol. Maria Francesca Lobina

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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 di un parco eolico nel comune di Bitti (NU) in località *Mamone*, 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 allo SIA (Elaborato WPD-B-RA9).

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 meteoclimatiche attese nell'area di intervento), condizionanti sensibilmente l'entità del fenomeno.

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

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 di 158 metri con una velocità massima nominale di rotazione di circa 10 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 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, possono ricondursi alla fattispecie di civili abitazioni.

3 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 precedente paragrafo 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 tutti i ricettori considerati nelle simulazioni saranno soggetti ad un impatto da *shadow flickering* significativamente inferiore a quello ipotizzato dal modello. È molto probabile, inoltre, che alcuni ricettori non saranno soggetti ad alcun impatto da *shadow flickering*.

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 ostacolino 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

seguenti 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.

4 INDIVIDUAZIONE DEI RICETTORI

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 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 abitazioni (p.e. ruderi o depositi). A valle di tali riscontri, si è proceduto ad accertare la categoria catastale di appartenenza degli edifici, laddove disponibile.

L'Elaborato WPD-B-TA9-1 (*Carta con individuazione e classificazione dei fabbricati entro 1000 metri dal parco eolico*) riporta l'individuazione dei fabbricati censiti in accordo con la metodologia precedentemente indicata. 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) sono riportati nell'Elaborato WPD-B-RA9 allegato alla documentazione progettuale.

Nel caso specifico, ai fini dei calcoli di esposizione all'ombra intermittente, sono stati assunti come riferimento n. 3 fabbricati, con destinazione abitativa accertata, ubicati entro una distanza di 1000 m dalle postazioni eoliche.

Nello specifico, le verifiche hanno riguardato i seguenti edifici:

- fabbricati con categoria catastale "A" (ID F45);
- agriturismo;
- guardiania colonia penale di Mamone.

Entro tali distanze è, infatti, ragionevole che si manifestino i più avertiti effetti di disturbo in rapporto al fattore di impatto in esame. La Tabella 4.1 riporta per ciascun ricettore individuato le relative coordinate, secondo il sistema Gauss Boaga e la categoria Catastale.

Tabella 4.1: Fabbricati con destinazione abitativa esposti al potenziale disturbo da shadow flickering

Fabbricato	Comune	GB Est	GB Nord	Distanza dal più prossimo WTG [m]	Categoria Catasto Fabbricati
F21	Onanì	1.535.449	4.491.477	921	B3 – Prigioni e riformatori
F27	Bitti	1.535.562	4.492.217	599	D10 - Fabbricati per funzioni produttive connesse alle attività agricole. (ndr. Agriturismo)
F45	Bitti	1.539.495	4.494.319	538	A/3 - Abitazioni di tipo economico

Lo stralcio della ripresa aerea, la categoria catastale di appartenenza (laddove disponibile) ed una fotografia dei fabbricati censiti sono riportati nell'Elaborato WPD-B-RA9 allegato allo SIA.

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 WPD 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 WPD-B-TA11-1).

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 meteoclimatiche caratteristiche del sito di Bitti, con particolare riferimento alle condizioni medie di copertura del cielo.

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

6 ANALISI E POST-ELABORAZIONE DEI RISULTATI

6.1 Scenario "zero"

Con riferimento allo scenario in esame, la **Errore. L'origine riferimento non è stata trovata.** 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 presumibilmente 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	F21	00:00	0	00:00
2	F27	00:00	0	00:00
3	F45	03:20	18	00:15

Come si può osservare dall'esame della **Errore. L'origine riferimento non è stata trovata.**, l'attuale incidenza potenziale dell'ombreggiamento intermittente, derivante dall'esercizio degli impianti minieolici, è del tutto assente presso i fabbricati F21 (Penitenziario) e F27(agriturismo) o limitata ad appena 3 h/anno per il fabbricato F45 (abitazione).

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 delle abitazioni riconosciute all'interno dell'areale di interesse

ID	Ricettore	SF_P [h/anno]	SF_P [gg/anno]	SF_P [max h/giorno]
1	F21	22:22:00	70	00:27
2	F27	121:21:00	206	00:57
3	F45	38:32:00	92	00:38

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 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 presumibilmente 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	F21	22:22:00	00:00	22:22:00
2	F27	121:21:00	00:00	121:21:00
3	F45	35:14:00	03:20	38:32:00

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

- tra i n. 3 edifici individuati come potenziali ricettori del fenomeno di *shadow flickering* entro l'areale di interesse, n. 1 fabbricato (F21 - Penitenziario), risulta esposto ad un impatto del tutto trascurabile ad opera degli aerogeneratori in progetto (circa 22 h/anno di SF_P);
- 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 più avvertibile su n. 2 edifici: F27 (agriturismo) e F45 (abitazione) (vedasi Tabella 6.4);

Tabella 6.4: Scenario 1 - Durata massima potenziale del fenomeno di shadow flickering restituita dal software di calcolo in corrispondenza dei ricettori più esposti (SF_P>=30 h/anno) all'interno dell'areale di

interesse

Ricettore	Scenario 1 SF_P [h/anno]	WTG interessati
F27	121:21:00	Ag4, Ag5, Ag6
F45	38:32:00	Ag7, Ag10, Ag6

Relativamente ai ricettori potenzialmente più esposti di cui alla Tabella 6.4, individuati in base al criterio di una incidenza del SF_P>=30 h/anno, tenuto conto della rilevanza e consistenza numerica delle ipotesi 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 metereologiche 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 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 6.5 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 6.6.

Tabella 6.5: 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 6.6 mostra come l'incidenza del fenomeno del *shadow flickering*, al netto delle giornate con cielo coperto (SF_{NC}), si presenti superiore alla soglia di riferimento di 30 h/anno in corrispondenza di un unico ricettore: F27(~70 h/anno).

Tabella 6.6: Scenario 1 - Incidenza del fenomeno del shadow flickering al netto delle giornate con cielo coperto in corrispondenza dei ricettori più esposti (SF_P>=30 h/anno) all'interno dell'areale di interesse

Ricettore	Scenario 1 SF_P [h/anno]	Scenario 1 SF_{NC} [h/anno]	WTG Disturbanti
F27	121:21:00	69:57:26	Ag4, Ag5, Ag6
F45	38:32:00	17:47:41	Ag7, Ag10, Ag6

Da quanto precede si può concludere con ragionevole certezza che l'entità effettiva del fenomeno risulterà inferiore alla soglia di riferimento in corrispondenza dell'edificio F45 (Abitazione), presentando un'incidenza al netto delle giornate di cielo coperto (SF_{NC}) di circa 18 h/anno.

Per quanto riguarda il caso peggiore tra i ricettori considerati, rappresentato dal fabbricato F27 (entità del fenomeno di ombreggiamento stimata in 69 h/anno al netto delle giornate con cielo coperto), si ritiene opportuno formulare le seguenti considerazioni

- il report del programma di simulazione mostra come il potenziale impatto da SF per il ricettore F27 sia attribuibile principalmente all'aerogeneratore Ag6, posizionato a circa 600 metri in direzione nordovest rispetto all'edificio (Figura 2); stanti le significative distanze che separano l'edificio dalle postazioni eoliche Ag4 (~1.550 m) e Ag5 (~1.100 m), inoltre, possono ritenersi del tutto trascurabili i contributi di tali turbine rispetto al fenomeno in esame;
- i dati di frequenza della direzione di provenienza del vento massimo pubblicati dall'ARPAS (Tabella 6.7) indicano per la stazione di Fonni (la più prossima al sito in esame), una frequenza dei venti provenienti da N e S per circa il 12% 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 90% delle possibili situazioni di provenienza del vento, viceversa, il fenomeno potrà presentarsi in modo potenzialmente avvertibile (incidenza di circa 62 h/anno).
- il fabbricato F27 risulta perimetrato a nord da una cortina arborea – arbustiva in grado di esercitare una efficiente azione schermante rispetto al potenziale fenomeno di *shadow – flickering* esercitato dall'aerogeneratore Ag6 (Figura 6.1).

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.

Figura 6.1 – Edificio F27 (vista da nordest). Si noti la presenza di una cortina arborea sul lato nordovest in grado di esercitare un'efficace azione schermante rispetto al fenomeno del shadow-flickering potenzialmente esercitato dall'aerogeneratore Ag6

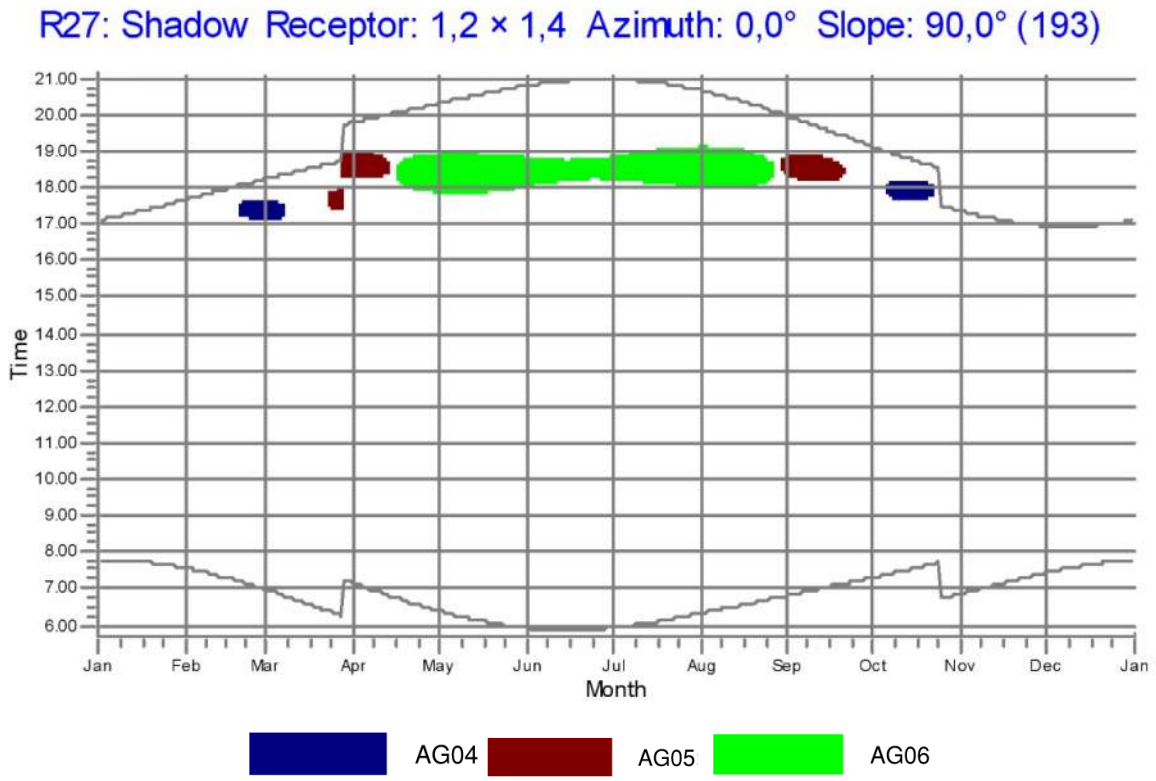

Figura 2 – Calendario dell'ombra per il ricettore F27

Tabella 6.7 - Direzione di provenienza del vento massimo[1] - 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.

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.

Ai fini dei calcoli di esposizione all'ombra intermittente, sono stati sottoposti a verifica n. 3 fabbricati, con destinazione abitativa accertata, ubicati entro una distanza di 1000 m dalle postazioni eoliche.

Considerata, la presenza di alcuni impianti minieolici nel settore di studio, 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.

Relativamente allo Scenario di progetto si è evidenziato come l'incidenza del fenomeno del *shadow flickering*, al netto delle giornate con cielo coperto, si presenti potenzialmente superiore alla soglia di riferimento di 30 h/anno presso un unico edificio abitativo (F27 – Agriturismo).

In corrispondenza di tale ricettore, infatti, è stata stimata una incidenza di circa 60 h/anno al netto delle giornate con cielo coperto e di condizioni di vento sfavorevoli al verificarsi del fenomeno, ossia che presuppongano l'orientamento del piano del rotore lungo la congiungente sole-ricettore (venti provenienti da Nord o da Sud).

D'altro canto, è stato riscontrato come il fabbricato F27 risulti perimetrato a nord da una cortina arborea – arbustiva in grado di esercitare una efficiente azione schermante rispetto al potenziale fenomeno di shadow – flickering esercitato dall'aerogeneratore Ag6.

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.

APPENDICE 1 - REPORT DEI RISULTATI DEL CALCOLO MODELLISTICO – SCENARIO "ZERO"

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Main Result

Calculation: Shadow_2020_06_22_Stato di fatto

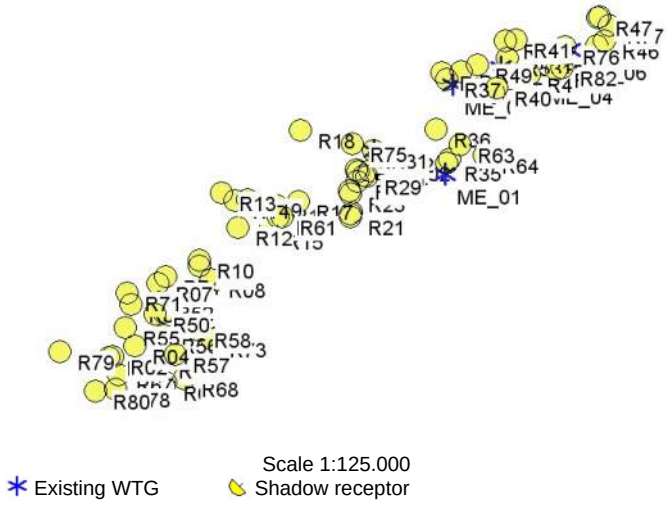
Assumptions for shadow calculations

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



Scale 1:125.000
Existing WTG
Shadow receptor

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	Rotor diameter	Hub height	Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
ME_01	1.536.991	4.492.195	854,5	TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
ME_02	1.535.812	4.492.574	884,1	TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
ME_03	1.537.919	4.493.957	847,0	TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
ME_04	1.538.495	4.493.849	798,2	TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
ME_05	1.537.125	4.493.665	839,4	TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0
ME_06	1.539.053	4.494.260	750,4	TOZZI_GREEN_bis Vi...	Yes	TOZZI_GREEN_bis	Victory 24-60-60	60	26,0	30,0	2.000	0,0

Shadow receptor-Input

	Italian Gauss-Boaga west-ROMA40 (IT-peninsular <±4m)							
No.	East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
			[m]	[m]	[m]	[m]	[°]	[°]	
R02	1.531.527	4.489.165	853,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R04	1.531.886	4.489.333	881,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R06	1.531.814	4.490.018	900,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R07	1.532.257	4.490.367	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R08	1.533.139	4.490.437	887,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R09	1.532.944	4.490.661	902,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R10	1.532.945	4.490.747	910,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R12	1.533.577	4.491.290	921,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R13	1.533.304	4.491.856	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R14	1.533.526	4.491.738	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R15	1.534.083	4.491.239	920,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R16	1.534.212	4.491.668	949,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R17	1.534.588	4.491.733	960,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R18	1.534.613	4.492.900	880,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R19	1.535.440	4.491.531	865,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R20	1.535.456	4.491.555	864,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R21	1.535.449	4.491.477	863,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R23	1.535.445	4.491.861	890,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R24	1.535.424	4.491.906	894,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R25	1.535.556	4.492.058	882,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R26	1.535.527	4.492.250	900,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R27	1.535.562	4.492.217	892,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R28	1.535.664	4.492.156	880,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R29	1.535.716	4.492.138	880,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"

To be continued on next page...

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Main Result

Calculation: Shadow_2020_06_22_Stato di fatto

...continued from previous page

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

No.	East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
			[m]	[m]	[m]	[m]	[°]	[°]	
R30	1.535.751	4.492.239	875,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R31	1.535.822	4.492.565	882,8	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R32	1.535.921	4.492.508	870,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R35	1.537.028	4.492.372	869,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R36	1.536.855	4.492.926	914,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R37	1.537.026	4.493.757	820,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R38	1.537.262	4.493.880	807,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R39	1.537.800	4.493.526	884,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R40	1.537.845	4.493.617	874,8	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R41	1.538.171	4.494.410	772,9	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R42	1.538.390	4.493.843	807,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R43	1.538.836	4.493.925	760,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R44	1.538.818	4.494.061	769,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R45	1.539.495	4.494.319	714,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R46	1.539.637	4.494.397	695,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R47	1.539.516	4.494.777	715,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R48	1.539.553	4.494.796	715,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R49	1.537.534	4.493.996	816,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R50	1.532.222	4.489.853	912,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R51	1.532.356	4.489.886	910,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R52	1.532.280	4.490.054	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R53	1.538.031	4.494.101	811,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R54	1.531.462	4.489.142	850,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R55	1.531.728	4.489.640	878,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R56	1.532.366	4.489.517	880,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R57	1.532.562	4.489.196	837,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R58	1.532.909	4.489.617	858,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R59	1.533.734	4.491.748	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R60	1.534.247	4.491.472	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R61	1.534.319	4.491.474	926,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R62	1.536.939	4.493.855	810,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R63	1.537.243	4.492.675	908,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R64	1.537.655	4.492.505	846,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R65	1.538.697	4.494.089	774,8	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R66	1.537.074	4.492.430	875,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R67	1.531.612	4.488.865	850,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R68	1.532.704	4.488.793	833,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R69	1.532.398	4.488.731	845,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R70	1.532.370	4.488.725	845,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R71	1.531.753	4.490.212	897,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R72	1.532.323	4.489.107	847,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R73	1.533.154	4.489.446	840,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R74	1.532.397	4.490.473	941,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R75	1.535.470	4.492.688	926,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R76	1.538.981	4.494.303	755,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R77	1.539.708	4.494.659	720,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R78	1.531.571	4.488.620	840,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R79	1.530.647	4.489.239	861,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R80	1.531.240	4.488.580	827,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R81	1.537.987	4.494.388	778,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R82	1.538.936	4.493.957	760,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Main Result

Calculation: Shadow_2020_06_22_Stato di fatto

Calculation Results

Shadow receptor

No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
R02	0:00	0	0:00
R04	0:00	0	0:00
R06	0:00	0	0:00
R07	0:00	0	0:00
R08	0:00	0	0:00
R09	0:00	0	0:00
R10	0:00	0	0:00
R12	0:00	0	0:00
R13	0:00	0	0:00
R14	0:00	0	0:00
R15	0:00	0	0:00
R16	0:00	0	0:00
R17	0:00	0	0:00
R18	0:00	0	0:00
R19	0:00	0	0:00
R20	0:00	0	0:00
R21	0:00	0	0:00
R23	0:00	0	0:00
R24	0:00	0	0:00
R25	0:00	0	0:00
R26	0:00	0	0:00
R27	0:00	0	0:00
R28	0:00	0	0:00
R29	0:00	0	0:00
R30	0:00	0	0:00
R31	0:00	0	0:00
R32	0:00	0	0:00
R35	0:00	0	0:00
R36	0:00	0	0:00
R37	44:59	86	0:46
R38	1:41	14	0:10
R39	0:00	0	0:00
R40	0:00	0	0:00
R41	0:00	0	0:00
R42	67:44	93	1:00
R43	6:07	33	0:18
R44	7:47	41	0:17
R45	3:20	18	0:15
R46	1:48	13	0:11
R47	0:17	6	0:03
R48	0:17	6	0:04
R49	8:36	49	0:16
R50	0:00	0	0:00
R51	0:00	0	0:00
R52	0:00	0	0:00
R53	41:02	88	0:35
R54	0:00	0	0:00
R55	0:00	0	0:00
R56	0:00	0	0:00
R57	0:00	0	0:00
R58	0:00	0	0:00
R59	0:00	0	0:00
R60	0:00	0	0:00
R61	0:00	0	0:00
R62	21:35	64	0:26
R63	0:00	0	0:00
R64	0:38	11	0:05
R65	1:02	10	0:08

To be continued on next page...

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Main Result

Calculation: Shadow_2020_06_22_Stato di fatto

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Shadow, worst case

No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
R66	0:00	0	0:00
R67	0:00	0	0:00
R68	0:00	0	0:00
R69	0:00	0	0:00
R70	0:00	0	0:00
R71	0:00	0	0:00
R72	0:00	0	0:00
R73	0:00	0	0:00
R74	0:00	0	0:00
R75	0:00	0	0:00
R76	103:32	112	1:16
R77	3:14	40	0:09
R78	0:00	0	0:00
R79	0:00	0	0:00
R80	0:00	0	0:00
R81	0:00	0	0:00
R82	3:53	26	0:14

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

No.	Name	Worst case [h/year]	Expected [h/year]
ME_01	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2)	0:38	
ME_02	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (3)	0:00	
ME_03	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (4)	56:50	
ME_04	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (5)	79:19	
ME_05	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (6)	68:39	
ME_06	TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (7)	110:16	

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R02 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (159)

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	07.08	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	20.58	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	07.19	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	07.20	06.54	07.28
	17.08	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	20.34	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	17.47	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	05.59	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	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	07.03	07.35
	17.15	17.51	18.23	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	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	20.55	20.54	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	07.39
	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	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	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.40	07.15	07.43
	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	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	07.12	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.58	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	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	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	06.16	06.46	07.16	06.49	07.24	07.46
	17.36		19.44	20.16	20.45	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	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R04 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (161)

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	07.08	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	20.58	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	07.19	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	07.28	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.15	17.51	18.23	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	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	06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	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	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	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	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.11	07.42	07.18	07.44
	17.29	18.06	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	06.41	07.11	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	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	06.16	06.46	07.16	06.49	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R06 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (168)

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	07.08	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	20.58	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	07.19	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	20.34	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	17.47	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.45	06.06	05.52	06.05	06.34	07.04	07.34	07.10	07.40
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	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	06.07	06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.40	07.15	07.43
	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	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.11	07.42	07.18	07.44
	17.29	18.06	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	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.58	20.47	20.09	19.18	18.31	17.00	17.00
25	07.40	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.05	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.49	07.24	07.46
	17.36		19.44	20.16	20.45	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	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R07 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (171)

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	07.08	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	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	07.20	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.44	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.14	19.23	18.35	17.02	16.59
22	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.58	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.49	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R08 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (172)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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
	17.10	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
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.16	17.53	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	06.39	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	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.48	06.08	05.52	06.03	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.09	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 10

Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R09 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (174)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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
	17.10	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
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	17.08	16.56
14	07.45	07.19	06.38	06.48	06.08	05.52	06.03	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.09	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.02
27	07.38	07.01	06.17	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R10 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (175)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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
	17.10	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
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	17.08	16.56
14	07.45	07.19	06.38	06.48	06.08	05.52	06.03	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.09	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.17	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 12
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R12 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (177)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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
	17.10	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	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.16	17.53	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	06.39	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	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.52	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.32	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.04	05.52	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	17.03
30	07.35		07.12	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 13
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R13 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (187)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	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	16.56
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
	17.10	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
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.16	17.53	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	06.39	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	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.52	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.32	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.04	05.52	06.07	06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	17.03
30	07.35		07.12	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R14 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (185)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	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	16.56
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
	17.10	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
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.16	17.53	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	06.39	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	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.52	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.32	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.04	05.52	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	17.03
30	07.35		07.12	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R15 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (176)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	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
	17.16	17.53	18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.18	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.52	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.32	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	17.03
30	07.35		07.12	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R16 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (183)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.28	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	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
	17.16	17.53	18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.52	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.32	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.17 / 17
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R17 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (184)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.51	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.52	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.57
16	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 18
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R18 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (203)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.19	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.28	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.51	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 19
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R19 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (181)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.27	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.01	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 20
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R20 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (182)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.27	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.01	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 21
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R21 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (180)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.27	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.01	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 22
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R23 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (188)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.27	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.01	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.17 / 23
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R24 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (189)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.27	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.01	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R25 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (190)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.27	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R26 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (195)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.27	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 26
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R27 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (193)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.27	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 27
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R28 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (192)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.27	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	07.03	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R29 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (191)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R30 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (194)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.17 / 30
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R31 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (200)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.17 / 31
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R32 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (199)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 32
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R35 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (196)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	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	06.01	06.28	06.59	07.29	07.03	07.35
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.43
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 33
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R36 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (204)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.03	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.43
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R37 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (207)

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	07.46			07.34		09.09 (ME_05)	06.58	07.08			06.23	05.55
	17.06			17.40	45	09.54 (ME_05)	18.13	19.46			20.18	20.47
2	07.47			07.33		09.09 (ME_05)	06.57	07.06			06.22	05.54
	17.07			17.41	45	09.54 (ME_05)	18.14	19.48			20.19	20.47
3	07.47			07.32		09.09 (ME_05)	06.55	07.05			06.20	05.54
	17.07			17.42	46	09.55 (ME_05)	18.15	19.49			20.20	20.48
4	07.47			07.31		09.09 (ME_05)	06.54	07.03			06.19	05.53
	17.08			17.43	46	09.55 (ME_05)	18.17	19.50			20.21	20.49
5	07.47			07.30		09.10 (ME_05)	06.52	07.02			06.18	05.53
	17.09			17.45	45	09.55 (ME_05)	18.18	19.51			20.22	20.50
6	07.47			07.28		09.10 (ME_05)	06.50	07.00			06.17	05.53
	17.10			17.46	45	09.55 (ME_05)	18.19	19.52			20.23	20.50
7	07.47			07.27		09.10 (ME_05)	06.49	06.58			06.16	05.52
	17.11			17.47	45	09.55 (ME_05)	18.20	19.53			20.24	20.51
8	07.47			07.26		09.10 (ME_05)	06.47	06.57			06.14	05.52
	17.12			17.48	45	09.55 (ME_05)	18.21	19.54			20.25	20.51
9	07.46			07.25		09.11 (ME_05)	06.46	06.55			06.13	05.52
	17.13			17.49	44	09.55 (ME_05)	18.22	19.55			20.26	20.52
10	07.46			07.24		09.11 (ME_05)	06.44	06.54			06.12	05.52
	17.14			17.51	43	09.54 (ME_05)	18.23	19.56			20.27	20.53
11	07.46			07.23		09.11 (ME_05)	06.43	06.52			06.11	05.52
	17.15			17.52	43	09.54 (ME_05)	18.24	19.57			20.28	20.53
12	07.46			07.22		09.12 (ME_05)	06.41	06.50			06.10	05.51
	17.16			17.53	41	09.53 (ME_05)	18.25	19.58			20.29	20.54
13	07.46			07.20		09.13 (ME_05)	06.39	06.49			06.09	05.51
	17.17			17.54	40	09.53 (ME_05)	18.26	19.59			20.30	20.54
14	07.45			07.19		09.13 (ME_05)	06.38	06.47			06.08	05.51
	17.18			17.56	38	09.51 (ME_05)	18.28	20.00			20.31	20.54
15	07.45		09.23 (ME_05)	07.18		09.14 (ME_05)	06.36	06.46			06.07	05.51
	17.19	11	09.34 (ME_05)	17.57	36	09.50 (ME_05)	18.29	20.01			20.32	20.55
16	07.44		09.20 (ME_05)	07.17		09.16 (ME_05)	06.34	06.44			06.06	05.51
	17.21	16	09.36 (ME_05)	17.58	33	09.49 (ME_05)	18.30	20.02			20.33	20.55
17	07.44		09.19 (ME_05)	07.15		09.16 (ME_05)	06.33	06.43			06.05	05.51
	17.22	20	09.39 (ME_05)	17.59	30	09.46 (ME_05)	18.31	20.03			20.34	20.56
18	07.44		09.18 (ME_05)	07.14		09.18 (ME_05)	06.31	06.41		07.00 (ME_03)	06.04	05.51
	17.23	22	09.40 (ME_05)	18.00	27	09.45 (ME_05)	18.32	20.04	1	07.01 (ME_03)	20.35	20.56
19	07.43		09.17 (ME_05)	07.13		09.20 (ME_05)	06.30	06.40		06.58 (ME_03)	06.03	05.52
	17.24	25	09.42 (ME_05)	18.02	23	09.43 (ME_05)	18.33	20.05	4	07.02 (ME_03)	20.36	20.56
20	07.43		09.16 (ME_05)	07.11		09.22 (ME_05)	06.28	06.38		06.57 (ME_03)	06.02	05.52
	17.25	27	09.43 (ME_05)	18.03	17	09.39 (ME_05)	18.34	20.06	6	07.03 (ME_03)	20.37	20.57
21	07.42		09.16 (ME_05)	07.10		09.27 (ME_05)	06.26	06.37		06.55 (ME_03)	06.02	05.52
	17.26	29	09.45 (ME_05)	18.04	7	09.34 (ME_05)	18.35	20.07	7	07.02 (ME_03)	20.37	20.57
22	07.41		09.14 (ME_05)	07.08			06.25	06.35		06.56 (ME_03)	06.01	05.52
	17.28	32	09.46 (ME_05)	18.05			18.36	20.08	5	07.01 (ME_03)	20.38	20.57
23	07.41		09.13 (ME_05)	07.07			06.23	06.34			06.00	05.52
	17.29	34	09.47 (ME_05)	18.06			18.37	20.09			20.39	20.57
24	07.40		09.12 (ME_05)	07.06			06.21	06.32			05.59	05.53
	17.30	36	09.48 (ME_05)	18.07			18.38	20.10			20.40	20.57
25	07.39		09.13 (ME_05)	07.04			06.20	06.31			05.59	05.53
	17.31	37	09.50 (ME_05)	18.09			18.39	20.11			20.41	20.57
26	07.39		09.12 (ME_05)	07.03			06.18	06.30			05.58	05.53
	17.32	38	09.50 (ME_05)	18.10			18.40	20.13			20.42	20.58
27	07.38		09.11 (ME_05)	07.01			06.16	06.28			05.57	05.54
	17.33	40	09.51 (ME_05)	18.11			18.41	20.14			20.43	20.58
28	07.37		09.11 (ME_05)	07.00			06.15	06.27			05.57	05.54
	17.35	41	09.52 (ME_05)	18.12			18.42	20.15			20.44	20.58
29	07.36		09.10 (ME_05)				07.13	06.26			05.56	05.54
	17.36	43	09.53 (ME_05)				19.43	20.16			20.44	20.58
30	07.35		09.10 (ME_05)				07.11	06.24			05.56	05.55
	17.37	43	09.53 (ME_05)				19.44	20.17			20.45	20.58
31	07.34		09.10 (ME_05)				07.10				05.55	
	17.38	44	09.54 (ME_05)				19.45				20.46	
Potential sun hours	299			298			370	398			447	451
Total, worst case		538			784				23			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R37 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (207)

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	05.55	06.19			06.49	07.18			06.52		08.40 (ME_05)	07.26
	20.58	20.39			19.56	19.07			17.21	44	09.24 (ME_05)	16.57
2	05.56	06.20			06.50	07.19			06.53		08.40 (ME_05)	07.27
	20.57	20.38			19.55	19.05			17.19	44	09.24 (ME_05)	16.56
3	05.56	06.21			06.51	07.20			06.54		08.40 (ME_05)	07.28
	20.57	20.37			19.53	19.03			17.18	45	09.25 (ME_05)	16.56
4	05.57	06.22			06.52	07.21			06.55		08.40 (ME_05)	07.29
	20.57	20.36			19.52	19.02			17.17	45	09.25 (ME_05)	16.56
5	05.57	06.23			06.53	07.22			06.56		08.40 (ME_05)	07.30
	20.57	20.35			19.50	19.00			17.16	45	09.25 (ME_05)	16.56
6	05.58	06.23			06.54	07.23			06.58		08.39 (ME_05)	07.31
	20.57	20.33			19.48	18.58			17.15	46	09.25 (ME_05)	16.56
7	05.58	06.24			06.55	07.24			06.59		08.40 (ME_05)	07.32
	20.56	20.32			19.47	18.57			17.14	46	09.26 (ME_05)	16.56
8	05.59	06.25			06.56	07.25			07.00		08.40 (ME_05)	07.33
	20.56	20.31			19.45	18.55			17.13	46	09.26 (ME_05)	16.56
9	06.00	06.26			06.57	07.26			07.01		08.40 (ME_05)	07.34
	20.56	20.30			19.43	18.54			17.12	45	09.25 (ME_05)	16.56
10	06.00	06.27			06.58	07.27			07.02		08.40 (ME_05)	07.35
	20.55	20.28			19.42	18.52			17.11	45	09.25 (ME_05)	16.56
11	06.01	06.28			06.59	07.29			07.04		08.42 (ME_05)	07.36
	20.55	20.27			19.40	18.50			17.10	43	09.25 (ME_05)	16.56
12	06.02	06.29			07.00	07.30			07.05		08.42 (ME_05)	07.36
	20.54	20.26			19.38	18.49			17.09	43	09.25 (ME_05)	16.56
13	06.02	06.30			07.01	07.31			07.06		08.42 (ME_05)	07.37
	20.54	20.25			19.37	18.47			17.08	42	09.24 (ME_05)	16.56
14	06.03	06.31			07.01	07.32			07.07		08.43 (ME_05)	07.38
	20.53	20.23			19.35	18.46			17.07	41	09.24 (ME_05)	16.56
15	06.04	06.32			07.02	07.33			07.08		08.44 (ME_05)	07.39
	20.53	20.22			19.33	18.44			17.06	40	09.24 (ME_05)	16.56
16	06.05	06.33			07.03	07.34			07.09		08.45 (ME_05)	07.39
	20.52	20.20			19.32	18.43			17.05	38	09.23 (ME_05)	16.57
17	06.06	06.34			07.04	07.35			07.11		08.46 (ME_05)	07.40
	20.52	20.19			19.30	18.41			17.04	37	09.23 (ME_05)	16.57
18	06.06	06.35			07.05	07.36			07.12		08.46 (ME_05)	07.41
	20.51	20.18			19.28	18.40			17.04	36	09.22 (ME_05)	16.57
19	06.07	06.36			07.06	07.37			07.13		08.48 (ME_05)	07.41
	20.50	20.16			19.27	18.38			17.03	34	09.22 (ME_05)	16.58
20	06.08	06.37		07.03 (ME_03)	07.07	07.38			07.14		08.49 (ME_05)	07.42
	20.50	20.15	1	07.04 (ME_03)	19.25	18.37			17.02	32	09.21 (ME_05)	16.58
21	06.09	06.38		07.00 (ME_03)	07.08	07.39		09.56 (ME_05)	07.15		08.51 (ME_05)	07.42
	20.49	20.13	6	07.06 (ME_03)	19.23	18.35	11	10.07 (ME_05)	17.01	30	09.21 (ME_05)	16.58
22	06.10	06.39		07.00 (ME_03)	07.09	07.40		09.52 (ME_05)	07.16		08.52 (ME_05)	07.43
	20.48	20.12	7	07.07 (ME_03)	19.22	18.34	19	10.11 (ME_05)	17.01	28	09.20 (ME_05)	16.59
23	06.11	06.40		07.01 (ME_03)	07.10	07.42		09.49 (ME_05)	07.17		08.53 (ME_05)	07.43
	20.47	20.10	5	07.06 (ME_03)	19.20	18.32	24	10.13 (ME_05)	17.00	25	09.18 (ME_05)	16.59
24	06.11	06.41		07.02 (ME_03)	07.11	07.43		09.47 (ME_05)	07.19		08.56 (ME_05)	07.44
	20.47	20.09	3	07.05 (ME_03)	19.18	18.31	28	10.15 (ME_05)	17.00	22	09.18 (ME_05)	17.00
25	06.12	06.42			07.12	06.44		08.47 (ME_05)	07.20		08.57 (ME_05)	07.44
	20.46	20.07			19.17	17.30	31	09.18 (ME_05)	16.59	20	09.17 (ME_05)	17.01
26	06.13	06.43			07.13	06.45		08.45 (ME_05)	07.21		08.59 (ME_05)	07.45
	20.45	20.06			19.15	17.28	34	09.19 (ME_05)	16.59	16	09.15 (ME_05)	17.01
27	06.14	06.44			07.14	06.46		08.44 (ME_05)	07.22		09.02 (ME_05)	07.45
	20.44	20.04			19.13	17.27	36	09.20 (ME_05)	16.58	11	09.13 (ME_05)	17.02
28	06.15	06.45			07.15	06.47		08.43 (ME_05)	07.23			07.45
	20.43	20.03			19.12	17.26	38	09.21 (ME_05)	16.58			17.03
29	06.16	06.46			07.16	06.48		08.42 (ME_05)	07.24			07.46
	20.42	20.01			19.10	17.24	39	09.21 (ME_05)	16.57			17.03
30	06.17	06.47			07.17	06.49		08.42 (ME_05)	07.25			07.46
	20.41	20.00			19.08	17.23	41	09.23 (ME_05)	16.57			17.04
31	06.18	06.48				06.51		08.41 (ME_05)				07.46
	20.40	19.58				17.22	42	09.23 (ME_05)				17.05
Potential sun hours	458	427			375	346			299			289
Total, worst case			22				343			989		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R38 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (210)

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	05.55	06.19		06.49		07.18 (ME_03)	07.18	06.52	07.26
	17.06	17.40	18.13	19.46		20.18	20.47	20.58	20.39		19.56	9	07.27 (ME_03)	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06		06.22	05.54	05.56	06.20		06.50		07.19 (ME_03)	07.19	06.53	07.27
	17.07	17.41	18.14	19.48		20.19	20.47	20.57	20.38		19.55	7	07.26 (ME_03)	19.05	17.19	16.56
3	07.47	07.32	06.55	07.05		06.20	05.54	05.56	06.21		06.51		07.20 (ME_03)	07.20	06.54	07.28
	17.07	17.42	18.15	19.49		20.20	20.48	20.57	20.37		19.53	4	07.24 (ME_03)	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03		06.19	05.53	05.57	06.22		06.52			07.21	06.55	07.29
	17.08	17.43	18.16	19.50		20.21	20.49	20.57	20.36		19.52			19.02	17.17	16.56
5	07.47	07.30	06.52	07.02		06.18	05.53	05.57	06.23		06.53			07.22	06.56	07.30
	17.09	17.45	18.18	19.51		20.22	20.50	20.57	20.34		19.50			19.00	17.16	16.56
6	07.47	07.28	06.50	07.00		06.17	05.53	05.58	06.23		06.54			07.23	06.58	07.31
	17.10	17.46	18.19	19.52		20.23	20.50	20.57	20.33		19.48			18.58	17.15	16.56
7	07.47	07.27	06.49	06.58		06.16	05.52	05.58	06.24		06.55			07.24	06.59	07.32
	17.11	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		06.14	05.52	05.59	06.25		06.56			07.25	07.00	07.33
	17.12	17.48	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		06.13	05.52	06.00	06.26		06.57			07.26	07.01	07.34
	17.13	17.49	18.22	19.55	4	07.27 (ME_03) 20.26	20.52	20.56	20.30		19.43			18.53	17.12	16.56
10	07.46	07.24	06.44	06.54		07.21 (ME_03) 06.12	05.52	06.00	06.27		06.58			07.27	07.02	07.35
	17.14	17.51	18.23	19.56	7	07.28 (ME_03) 20.27	20.53	20.55	20.28		19.42			18.52	17.10	16.56
11	07.46	07.23	06.43	06.52		07.19 (ME_03) 06.11	05.52	06.01	06.28		06.59			07.29	07.03	07.36
	17.15	17.52	18.24	19.57	10	07.29 (ME_03) 20.28	20.53	20.55	20.27		19.40			18.50	17.10	16.56
12	07.46	07.22	06.41	06.50		07.19 (ME_03) 06.10	05.51	06.02	06.29		07.00			07.30	07.05	07.36
	17.16	17.53	18.25	19.58	10	07.29 (ME_03) 20.29	20.54	20.54	20.26		19.38			18.49	17.09	16.56
13	07.46	07.20	06.39	06.49		07.19 (ME_03) 06.09	05.51	06.02	06.30		07.01			07.31	07.06	07.37
	17.17	17.54	18.26	19.59	9	07.28 (ME_03) 20.30	20.54	20.54	20.25		19.37			18.47	17.08	16.56
14	07.45	07.19	06.38	06.47		07.20 (ME_03) 06.08	05.51	06.03	06.31		07.01			07.32	07.07	07.38
	17.18	17.56	18.27	20.00	7	07.27 (ME_03) 20.31	20.54	20.53	20.23		19.35			18.46	17.07	16.56
15	07.45	07.18	06.36	06.46		07.21 (ME_03) 06.07	05.51	06.04	06.32		07.02			07.33	07.08	07.39
	17.19	17.57	18.29	20.01	4	07.25 (ME_03) 20.32	20.55	20.53	20.22		19.33			18.44	17.06	16.56
16	07.44	07.17	06.34	06.44		06.06	05.51	06.05	06.33		07.03			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		06.05	05.51	06.06	06.34		07.04			07.35	07.11	07.40
	17.22	17.59	18.31	20.03		20.34	20.56	20.52	20.19		19.30			18.41	17.04	16.57
18	07.44	07.14	06.31	06.41		06.04	05.51	06.06	06.35		07.05			07.36	07.12	07.41
	17.23	18.00	18.32	20.04		20.35	20.56	20.51	20.18		19.28			18.40	17.03	16.57
19	07.43	07.13	06.30	06.40		06.03	05.52	06.07	06.36		07.06			07.37	07.13	07.41
	17.24	18.01	18.33	20.05		20.36	20.56	20.50	20.16		19.27			18.38	17.03	16.58
20	07.43	07.11	06.28	06.38		06.02	05.52	06.08	06.37		07.07			07.38	07.14	07.42
	17.25	18.03	18.34	20.06		20.37	20.57	20.50	20.15		19.25			18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07		20.37	20.57	20.49	20.13		19.23			18.35	17.01	16.58
22	07.41	07.08	06.25	06.35		06.01	05.52	06.10	06.39		07.09			07.40	07.16	07.43
	17.27	18.05	18.36	20.08		20.38	20.57	20.48	20.12		19.22			18.34	17.01	16.59
23	07.41	07.07	06.23	06.34		06.00	05.52	06.11	06.40		07.10			07.42	07.17	07.43
	17.29	18.06	18.37	20.09		20.39	20.57	20.47	20.10		19.20			18.32	17.00	16.59
24	07.40	07.06	06.21	06.32		05.59	05.53	06.11	06.41		07.11			07.43	07.19	07.44
	17.30	18.07	18.38	20.10		20.40	20.57	20.47	20.09		19.18			18.31	17.00	17.00
25	07.39	07.04	06.20	06.31		05.59	05.53	06.12	06.42		07.12			06.44	07.20	07.44
	17.31	18.09	18.39	20.11		20.41	20.57	20.46	20.07		19.17			17.30	16.59	17.01
26	07.39	07.03	06.18	06.30		05.58	05.53	06.13	06.43		07.13			06.45	07.21	07.45
	17.32	18.10	18.40	20.12		20.42	20.58	20.45	20.06		19.15			17.28	16.59	17.01
27	07.38	07.01	06.16	06.28		05.57	05.54	06.14	06.44		07.14			06.46	07.22	07.45
	17.33	18.11	18.41	20.14		20.43	20.58	20.44	20.04		19.13			17.27	16.58	17.02
28	07.37	07.00	06.15	06.27		05.57	05.54	06.15	06.45		07.23 (ME_03)		07.15	06.47	07.23	07.45
	17.35	18.12	18.42	20.15		20.44	20.58	20.43	20.03	4	07.27 (ME_03)		19.12	17.26	16.58	17.03
29	07.36		07.13	06.26		05.56	05.54	06.16	06.46		07.21 (ME_03)		07.16	06.48	07.24	07.46
	17.36		19.43	20.16		20.44	20.58	20.42	20.01	7	07.28 (ME_03)		19.10	17.24	16.57	17.03
30	07.35		07.11	06.24		05.56	05.55	06.17	06.47		07.20 (ME_03)		07.17	06.49	07.25	07.46
	17.37		19.44	20.17		20.45	20.58	20.41	20.00	9	07.29 (ME_03)		19.08	17.23	16.57	17.04
31	07.34		07.10			05.55		06.18	06.48		07.19 (ME_03)			06.51		07.46
	17.38		19.45			20.46		20.40	19.58	10	07.29 (ME_03)			17.22		17.05
Potential sun hours	299	298	370	398		447	451	458	427		375			346	299	289
Total, worst case					51					30		20				

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R39 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (205)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.06	17.20	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.47	20.19	20.47	20.57	20.38	19.55	19.05	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.07	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.23	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.53	17.11	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.10	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52	06.01	06.28	06.59	07.28	07.03	07.35
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.09	16.56
12	07.46	07.22	06.41	06.50	06.10	05.51	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.02	06.30	07.00	07.31	07.06	07.37
	17.17	17.54	18.26	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	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.55	18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.19	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.05	06.34	07.04	07.35	07.10	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.03	16.57
19	07.43	07.13	06.29	06.40	06.03	05.52	06.07	06.36	07.06	07.37	07.13	07.41
	17.24	18.01	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	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.58
22	07.41	07.08	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.52	06.10	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	18.32	17.00	16.59
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.08	18.39	20.11	20.41	20.57	20.46	20.07	19.16	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.53	06.14	06.44	07.14	06.46	07.22	07.45
	17.33	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	20.15	20.44	20.58	20.43	20.03	19.11	17.26	16.58	17.03
29	07.36		07.13	06.26	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R40 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (206)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.06	17.20	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.47	20.19	20.47	20.57	20.38	19.55	19.05	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.07	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.22	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.23	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.53	17.11	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.10	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52	06.01	06.28	06.59	07.28	07.03	07.35
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.09	16.56
12	07.46	07.22	06.41	06.50	06.10	05.51	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.02	06.30	07.00	07.31	07.06	07.37
	17.17	17.54	18.26	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	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.55	18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.19	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.05	06.34	07.04	07.35	07.10	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.03	16.57
19	07.43	07.13	06.29	06.40	06.03	05.52	06.07	06.36	07.06	07.37	07.13	07.41
	17.24	18.01	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	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.58
22	07.41	07.08	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.52	06.10	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	18.32	17.00	16.59
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.08	18.39	20.11	20.41	20.57	20.46	20.07	19.16	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.53	06.14	06.44	07.14	06.46	07.22	07.45
	17.33	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	20.15	20.44	20.58	20.43	20.03	19.11	17.26	16.58	17.03
29	07.36		07.13	06.26	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R41 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (219)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.06	17.20	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.47	20.19	20.47	20.57	20.38	19.55	19.05	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.07	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.22	06.53	07.22	06.56	07.30
	17.09	17.44	18.18	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16	16.56
6	07.47	07.28	06.50	07.00	06.17	05.53	05.58	06.23	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.15	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.12	16.56
9	07.46	07.25	06.46	06.55	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.53	17.11	16.56
10	07.46	07.24	06.44	06.53	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.10	16.56
11	07.46	07.23	06.42	06.52	06.11	05.52	06.01	06.28	06.59	07.28	07.03	07.35
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.09	16.56
12	07.46	07.22	06.41	06.50	06.10	05.51	06.02	06.29	06.59	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.02	06.30	07.00	07.31	07.06	07.37
	17.17	17.54	18.26	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	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.55	18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.19	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.05	06.34	07.04	07.35	07.10	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.03	16.57
19	07.43	07.13	06.29	06.40	06.03	05.51	06.07	06.36	07.06	07.37	07.13	07.41
	17.24	18.01	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.58
22	07.41	07.08	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.52	06.10	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	18.32	17.00	16.59
24	07.40	07.06	06.21	06.32	05.59	05.52	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.08	18.39	20.11	20.41	20.57	20.46	20.07	19.16	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.53	06.14	06.44	07.14	06.46	07.22	07.45
	17.33	18.11	18.41	20.13	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	20.15	20.44	20.58	20.43	20.03	19.11	17.26	16.58	17.02
29	07.36		07.13	06.25	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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)

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R42 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (208)

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	07.46		07.33		06.58			07.08			07.26 (ME_04)	06.23		07.28 (ME_04)	05.55
	17.06		17.40		18.13			19.46	48		08.14 (ME_04)	20.18	41	19.37 (ME_03)	20.47
2	07.47		07.33		06.57			07.06			07.25 (ME_04)	06.22		07.30 (ME_04)	05.54
	17.07		17.41		18.14			19.47	50		08.15 (ME_04)	20.19	37	19.37 (ME_03)	20.47
3	07.47		07.32		06.55			07.05			07.23 (ME_04)	06.20		07.33 (ME_04)	05.54
	17.07		17.42		18.15			19.49	52		08.15 (ME_04)	20.20	31	19.37 (ME_03)	20.48
4	07.47		07.31		06.54			07.03			07.21 (ME_04)	06.19		07.36 (ME_04)	05.53
	17.08		17.43		18.16			19.50	54		08.15 (ME_04)	20.21	22	19.36 (ME_03)	20.49
5	07.47		07.29		06.52			07.01			07.21 (ME_04)	06.18		19.24 (ME_03)	05.53
	17.09		17.44		18.18			19.51	55		08.16 (ME_04)	20.22	12	19.36 (ME_03)	20.49
6	07.47		07.28		06.50			07.00			07.20 (ME_04)	06.17		19.24 (ME_03)	05.53
	17.10		17.46		18.19			19.52	56		08.16 (ME_04)	20.23	12	19.36 (ME_03)	20.50
7	07.47		07.27		06.49			06.58			07.19 (ME_04)	06.15		19.25 (ME_03)	05.52
	17.11		17.47		18.20			19.53	58		08.17 (ME_04)	20.24	10	19.35 (ME_03)	20.51
8	07.47		07.26		06.47			06.57			07.18 (ME_04)	06.14		19.26 (ME_03)	05.52
	17.12		17.48		18.21			19.54	59		08.17 (ME_04)	20.25	8	19.34 (ME_03)	20.51
9	07.46		07.25		06.46			06.55			07.17 (ME_04)	06.13			05.52
	17.13		17.49		18.22			19.55	59		08.16 (ME_04)	20.26			20.52
10	07.46		07.24		06.44			06.53			07.17 (ME_04)	06.12			05.52
	17.14		17.51		18.23			19.56	60		08.17 (ME_04)	20.27			20.52
11	07.46		07.23		06.42			06.52			07.16 (ME_04)	06.11			05.52
	17.15		17.52		18.24			19.57	60		08.16 (ME_04)	20.28			20.53
12	07.46		07.22		06.41			06.50			07.17 (ME_04)	06.10			05.51
	17.16		17.53		18.25			19.58	59		08.16 (ME_04)	20.29			20.54
13	07.45		07.20		06.39			06.49			07.16 (ME_04)	06.09			05.51
	17.17		17.54		18.26			19.59	59		08.15 (ME_04)	20.30			20.54
14	07.45		07.19		06.38			06.47			07.16 (ME_04)	06.08			05.51
	17.18		17.55		18.27			20.00	59		08.15 (ME_04)	20.31			20.54
15	07.45		07.18		06.36			06.46			07.16 (ME_04)	06.07			05.51
	17.19		17.57		18.29			20.01	58		08.14 (ME_04)	20.32			20.55
16	07.44		07.17		06.34			06.44			07.16 (ME_04)	06.06			05.51
	17.21		17.58		18.30			20.02	58		08.14 (ME_04)	20.33			20.55
17	07.44		07.15		06.33			06.43			07.16 (ME_04)	06.05			05.51
	17.22		17.59		18.31			20.03	57		08.13 (ME_04)	20.34			20.56
18	07.44		07.14		06.31			06.41			07.16 (ME_04)	06.04			05.51
	17.23		18.00		18.32			20.04	57		08.13 (ME_04)	20.35			20.56
19	07.43		07.13		06.29			06.40			07.16 (ME_04)	06.03			05.51
	17.24		18.01		18.33			20.05	56		08.12 (ME_04)	20.36			20.56
20	07.42		07.11		06.28			06.38			07.17 (ME_04)	06.02			05.52
	17.25		18.03		18.34			20.06	54		08.11 (ME_04)	20.37			20.57
21	07.42		07.10		06.26			06.37			07.17 (ME_04)	06.02			05.52
	17.26		18.04		18.35			20.07	53		08.10 (ME_04)	20.37			20.57
22	07.41		07.08		06.25			06.35			07.18 (ME_04)	06.01			05.52
	17.27		18.05		18.36			20.08	51		08.09 (ME_04)	20.38			20.57
23	07.41		07.07		06.23			06.34			07.19 (ME_04)	06.00			05.52
	17.29		18.06		18.37			20.09	49		08.08 (ME_04)	20.39			20.57
24	07.40		07.05		06.21		06.47 (ME_04)	06.32			07.19 (ME_04)	05.59			05.52
	17.30		18.07		18.38	11	06.58 (ME_04)	20.10	48		08.07 (ME_04)	20.40			20.57
25	07.39		07.04		06.20		06.41 (ME_04)	06.31			07.20 (ME_04)	05.59			05.53
	17.31		18.08		18.39	21	07.02 (ME_04)	20.11	46		08.06 (ME_04)	20.41			20.57
26	07.39		07.03		06.18		06.37 (ME_04)	06.30			07.20 (ME_04)	05.58			05.53
	17.32		18.10		18.40	28	07.05 (ME_04)	20.12	44		08.04 (ME_04)	20.42			20.58
27	07.38		07.01		06.16		06.35 (ME_04)	06.28			07.22 (ME_04)	05.57			05.53
	17.33		18.11		18.41	33	07.08 (ME_04)	20.13	41		08.03 (ME_04)	20.43			20.58
28	07.37		07.00		06.15		06.33 (ME_04)	06.27			07.23 (ME_04)	05.57			05.54
	17.35		18.12		18.42	36	07.09 (ME_04)	20.15	42		19.33 (ME_03)	20.43			20.58
29	07.36				07.13		07.31 (ME_04)	06.25			07.25 (ME_04)	05.56			05.54
	17.36				19.43	39	08.10 (ME_04)	20.16	43		19.35 (ME_03)	20.44			20.58
30	07.35				07.11		07.30 (ME_04)	06.24			07.26 (ME_04)	05.56			05.55
	17.37				19.44	42	08.12 (ME_04)	20.17	43		19.36 (ME_03)	20.45			20.58
31	07.34				07.10		07.28 (ME_04)					05.55			
	17.38				19.45	45	08.13 (ME_04)					20.46			
Potential sun hours	299		298		370			398			447			451	
Total, worst case						255			1588				173		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R42 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (208)

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	05.55	06.19			06.49		07.15 (ME_04)	07.18	06.52	07.26
	20.57	20.39			19.56	60	08.15 (ME_04)	19.06	17.20	16.57
2	05.56	06.20			06.50		07.15 (ME_04)	07.19	06.53	07.27
	20.57	20.38			19.55	60	08.15 (ME_04)	19.05	17.19	16.56
3	05.56	06.21			06.51		07.15 (ME_04)	07.20	06.54	07.28
	20.57	20.37			19.53	59	08.14 (ME_04)	19.03	17.18	16.56
4	05.57	06.22		19.37 (ME_03)	06.52		07.15 (ME_04)	07.21	06.55	07.29
	20.57	20.36	5	19.42 (ME_03)	19.52	59	08.14 (ME_04)	19.02	17.17	16.56
5	05.57	06.22		19.35 (ME_03)	06.53		07.15 (ME_04)	07.22	06.56	07.30
	20.57	20.34	9	19.44 (ME_03)	19.50	58	08.13 (ME_04)	19.00	17.16	16.56
6	05.58	06.23		19.34 (ME_03)	06.54		07.16 (ME_04)	07.23	06.58	07.31
	20.57	20.33	11	19.45 (ME_03)	19.48	56	08.12 (ME_04)	18.58	17.15	16.56
7	05.58	06.24		19.34 (ME_03)	06.55		07.16 (ME_04)	07.24	06.59	07.32
	20.56	20.32	12	19.46 (ME_03)	19.47	56	08.12 (ME_04)	18.57	17.14	16.56
8	05.59	06.25		19.33 (ME_03)	06.56		07.16 (ME_04)	07.25	07.00	07.33
	20.56	20.31	13	19.46 (ME_03)	19.45	55	08.11 (ME_04)	18.55	17.12	16.56
9	06.00	06.26		07.44 (ME_04)	06.57		07.17 (ME_04)	07.26	07.01	07.34
	20.56	20.30	26	19.46 (ME_03)	19.43	53	08.10 (ME_04)	18.53	17.11	16.56
10	06.00	06.27		07.41 (ME_04)	06.58		07.18 (ME_04)	07.27	07.02	07.35
	20.55	20.28	33	19.46 (ME_03)	19.42	50	08.08 (ME_04)	18.52	17.10	16.56
11	06.01	06.28		07.38 (ME_04)	06.59		07.19 (ME_04)	07.28	07.03	07.35
	20.55	20.27	38	19.46 (ME_03)	19.40	48	08.07 (ME_04)	18.50	17.09	16.56
12	06.02	06.29		07.36 (ME_04)	06.59		07.20 (ME_04)	07.30	07.05	07.36
	20.54	20.26	41	19.45 (ME_03)	19.38	46	08.06 (ME_04)	18.49	17.09	16.56
13	06.02	06.30		07.34 (ME_04)	07.00		07.21 (ME_04)	07.31	07.06	07.37
	20.54	20.24	43	19.44 (ME_03)	19.37	43	08.04 (ME_04)	18.47	17.08	16.56
14	06.03	06.31		07.32 (ME_04)	07.01		07.22 (ME_04)	07.32	07.07	07.38
	20.53	20.23	44	19.43 (ME_03)	19.35	40	08.02 (ME_04)	18.46	17.07	16.56
15	06.04	06.32		07.31 (ME_04)	07.02		07.22 (ME_04)	07.33	07.08	07.39
	20.53	20.22	39	08.10 (ME_04)	19.33	37	07.59 (ME_04)	18.44	17.06	16.56
16	06.05	06.33		07.29 (ME_04)	07.03		07.23 (ME_04)	07.34	07.09	07.39
	20.52	20.20	42	08.11 (ME_04)	19.32	34	07.57 (ME_04)	18.43	17.05	16.57
17	06.05	06.34		07.27 (ME_04)	07.04		07.25 (ME_04)	07.35	07.10	07.40
	20.52	20.19	44	08.11 (ME_04)	19.30	29	07.54 (ME_04)	18.41	17.04	16.57
18	06.06	06.35		07.25 (ME_04)	07.05		07.28 (ME_04)	07.36	07.12	07.41
	20.51	20.18	47	08.12 (ME_04)	19.28	23	07.51 (ME_04)	18.40	17.03	16.57
19	06.07	06.36		07.24 (ME_04)	07.06		07.32 (ME_04)	07.37	07.13	07.41
	20.50	20.16	48	08.12 (ME_04)	19.27	14	07.46 (ME_04)	18.38	17.03	16.58
20	06.08	06.37		07.23 (ME_04)	07.07			07.38	07.14	07.42
	20.50	20.15	50	08.13 (ME_04)	19.25			18.37	17.02	16.58
21	06.09	06.38		07.22 (ME_04)	07.08			07.39	07.15	07.42
	20.49	20.13	52	08.14 (ME_04)	19.23			18.35	17.01	16.58
22	06.10	06.39		07.21 (ME_04)	07.09			07.40	07.16	07.43
	20.48	20.12	54	08.15 (ME_04)	19.22			18.34	17.01	16.59
23	06.10	06.40		07.21 (ME_04)	07.10			07.41	07.17	07.43
	20.47	20.10	54	08.15 (ME_04)	19.20			18.32	17.00	16.59
24	06.11	06.41		07.20 (ME_04)	07.11			07.43	07.18	07.44
	20.46	20.09	56	08.16 (ME_04)	19.18			18.31	17.00	17.00
25	06.12	06.42		07.19 (ME_04)	07.12			06.44	07.20	07.44
	20.46	20.07	57	08.16 (ME_04)	19.16			17.30	16.59	17.01
26	06.13	06.43		07.19 (ME_04)	07.13			06.45	07.21	07.45
	20.45	20.06	57	08.16 (ME_04)	19.15			17.28	16.59	17.01
27	06.14	06.44		07.18 (ME_04)	07.14			06.46	07.22	07.45
	20.44	20.04	58	08.16 (ME_04)	19.13			17.27	16.58	17.02
28	06.15	06.45		07.18 (ME_04)	07.15			06.47	07.23	07.45
	20.43	20.03	58	08.16 (ME_04)	19.11			17.26	16.58	17.02
29	06.16	06.46		07.17 (ME_04)	07.16			06.48	07.24	07.46
	20.42	20.01	59	08.16 (ME_04)	19.10			17.24	16.57	17.03
30	06.17	06.47		07.17 (ME_04)	07.17			06.49	07.25	07.46
	20.41	20.00	59	08.16 (ME_04)	19.08			17.23	16.57	17.04
31	06.18	06.48		07.17 (ME_04)				06.51		07.46
	20.40	19.58	59	08.16 (ME_04)				17.22		17.05
Potential sun hours	458	427			375			346	299	289
Total, worst case			1168			880				

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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Licensed user:

Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:

22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R43 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (211)

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	05.55	06.19	06.49		07.18		06.52	07.26
	17.06		17.40		18.13		19.46		20.18		20.47	20.57	20.39	19.56		19.06	16	17.20	16.57
2	07.47		07.32		06.57		07.06		06.22		05.54	05.56	06.20	06.50		07.19		06.53	07.27
	17.07		17.41		18.14		19.47		20.19		20.47	20.57	20.38	19.55		19.05	13	17.19	16.56
3	07.47		07.32		06.55		07.05		06.20		05.54	05.56	06.21	06.51		07.20		06.54	07.28
	17.07		17.42		18.15		19.48		20.20		20.48	20.57	20.37	19.53		19.03	11	17.18	16.56
4	07.47		07.30		06.54		07.03		06.19		05.53	05.57	06.21	06.52		07.21		06.55	07.29
	17.08		17.43		18.16		19.50	4	19.11 (ME_03)		20.21	20.49	20.57	20.36	19.52	2	19.06 (ME_03)	19.02	5	18.08 (ME_04)	17.17	16.56
5	07.47		07.29		06.52		07.01		19.06 (ME_03)		06.18	05.53	05.57	06.22	06.53		19.02 (ME_03)	07.22			06.56	07.30
	17.09		17.44		18.18		19.51	6	19.12 (ME_03)		20.22	20.49	20.57	20.34	19.50	6	19.08 (ME_03)	19.00			17.16	16.56
6	07.47		07.28		06.50		07.00		19.05 (ME_03)		06.17	05.53	05.58	06.23	06.54		19.01 (ME_03)	07.23			06.58	07.31
	17.10		17.46		18.19		19.52	7	19.12 (ME_03)		20.23	20.50	20.57	20.33	19.48	7	19.08 (ME_03)	18.58			17.15	16.56
7	07.47		07.27		06.49		06.58		19.06 (ME_03)		06.15	05.52	05.58	06.24	06.55		19.01 (ME_03)	07.24			06.59	07.32
	17.11		17.47		18.20		19.53	6	19.12 (ME_03)		20.24	20.51	20.56	20.32	19.47	7	19.08 (ME_03)	18.57			17.14	16.56
8	07.47		07.26		06.47		06.57		19.07 (ME_03)		06.14	05.52	05.59	06.25	06.56		19.02 (ME_03)	07.25			07.00	07.33
	17.12		17.48		18.21		19.54	2	19.09 (ME_03)		20.25	20.51	20.56	20.31	19.45	4	19.06 (ME_03)	18.55			17.12	16.55
9	07.46		07.25		06.46		06.55				06.13	05.52	06.00	06.26	06.57			07.26			07.01	07.34
	17.13		17.49		18.22		19.55				20.26	20.52	20.56	20.30	19.43			18.53			17.11	16.55
10	07.46		07.24		06.44		17.24 (ME_04)		06.53		06.12	05.52	06.00	06.27	06.58			07.27			07.02	07.35
	17.14		17.51		18.23	9	17.33 (ME_04)		19.56		20.27	20.52	20.55	20.28	19.42			18.52			17.10	16.56
11	07.46		07.23		06.42		17.22 (ME_04)		06.52		06.11	05.52	06.01	06.28	06.59			07.28			07.03	07.35
	17.15		17.52		18.24	12	17.34 (ME_04)		19.57		20.28	20.53	20.55	20.27	19.40			18.50			17.09	16.56
12	07.46		07.22		06.41		17.20 (ME_04)		06.50		06.10	05.51	06.02	06.29	06.59			07.29			07.05	07.36
	17.16		17.53		18.25	15	17.35 (ME_04)		19.58		20.29	20.53	20.54	20.26	19.38			18.49			17.08	16.56
13	07.45		07.20		06.39		17.19 (ME_04)		06.49		06.09	05.51	06.02	06.30	07.00			07.31			07.06	07.37
	17.17		17.54		18.26	17	17.36 (ME_04)		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		17.18 (ME_04)		06.47		06.08	05.51	06.03	06.31	07.01			07.32			07.07	07.38
	17.18		17.55		18.27	18	17.36 (ME_04)		20.00		20.31	20.54	20.53	20.23	19.35			18.46			17.07	16.56
15	07.45		07.18		06.36		17.19 (ME_04)		06.46		06.07	05.51	06.04	06.32	07.02			07.33			07.08	07.39
	17.19		17.57		18.28	17	17.36 (ME_04)		20.01		20.32	20.55	20.53	20.22	19.33			18.44			17.06	16.56
16	07.44		07.16		06.34		17.18 (ME_04)		06.44		06.06	05.51	06.05	06.33	07.03			07.34			07.09	07.39
	17.20		17.58		18.30	18	17.36 (ME_04)		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		17.18 (ME_04)		06.43		06.05	05.51	06.05	06.34	07.04			07.35			07.10	07.40
	17.22		17.59		18.31	16	17.34 (ME_04)		20.03		20.34	20.56	20.52	20.19	19.30			18.41			17.04	16.57
18	07.44		07.14		06.31		17.19 (ME_04)		06.41		06.04	05.51	06.06	06.35	07.05			07.36			07.12	07.41
	17.23		18.00		18.32	15	17.34 (ME_04)		20.04		20.35	20.56	20.51	20.18	19.28			18.40			17.03	16.57
19	07.43		07.12		06.29		17.20 (ME_04)		06.40		06.03	05.51	06.07	06.36	07.06			07.37			07.13	07.41
	17.24		18.01		18.33	12	17.32 (ME_04)		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		17.22 (ME_04)		06.38		06.02	05.52	06.08	06.37	07.07			07.38			07.14	07.42
	17.25		18.03		18.34	7	17.29 (ME_04)		20.06		20.36	20.57	20.50	20.15	19.25			18.37			17.02	16.58
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
	17.26		18.04		18.35		20.07				20.37	20.57	20.49	20.13	19.23			18.35			17.01	16.58
22	07.41		07.08		06.24		06.35				06.01	05.52	06.10	06.39	07.09			07.40			07.16	07.43
	17.27		18.05		18.36		20.08				20.38	20.57	20.48	20.12	19.21			18.34			17.01	16.59
23	07.41		07.07		06.23		06.34				06.00	05.52	06.10	06.40	07.10		18.07 (ME_04)	07.41			07.17	07.43
	17.29		18.06		18.37		20.09				20.39	20.57	20.47	20.10	19.20	5	18.12 (ME_04)	18.32			17.00	16.59
24	07.40		07.05		06.21		06.32				05.59	05.52	06.11	06.41	07.11		18.04 (ME_04)	07.43			07.18	07.44
	17.30		18.07		18.38		20.10				20.40	20.57	20.46	20.09	19.18	11	18.15 (ME_04)	18.31			17.00	17.00
25	07.39		07.04		06.20		06.31				05.59	05.53	06.12	06.42	07.12		18.02 (ME_04)	06.44			07.20	07.44
	17.31		18.08		18.39		20.11				20.41	20.57	20.46	20.07	19.16	14	18.16 (ME_04)	17.30			16.59	17.01
26	07.39		07.03		06.18		06.30				05.58	05.53	06.13	06.43	07.13		18.01 (ME_04)	06.45			07.21	07.45
	17.32		18.10		18.40		20.12				20.42	20.58	20.45	20.06	19.15	16	18.17 (ME_04)	17.28			16.58	17.01
27	07.38		07.01		06.16		06.28				05.57	05.53	06.14	06.44	07.14		18.00 (ME_04)	06.46			07.22	07.45
	17.33		18.11		18.41		20.13				20.43	20.58	20.44	20.04	19.13	17	18.17 (ME_04)	17.27			16.58	17.02
28	07.37		07.00		06.15		06.27				05.57	05.54	06.15	06.45	07.15		17.59 (ME_04)	06.47			07.23	07.45
	17.35		18.12		18.42		20.15				20.43	20.58	20.43	20.03	19.11	18	18.17 (ME_04)	17.25			16.58	17.02
29	07.36				07.13		06.25				05.56	05.54	06.16	06.46	07.16		17.59 (ME_04)	06.48			07.24	07.46
	17.36				19.43		20.16				20.44	20.58	20.42	20.01	19.10	17	18.16 (ME_04)	17.24			16.57	17.03
30	07.35				07.11		06.24				05.56	05.55	06.17	06.47	07.17		17.59 (ME_04)	06.49			07.25	07.46
	17.37				19.44		20.17				20.45	20.58	20.41	20.00	19.08	17	18.16 (ME_04)	17.23			16.57	17.04
31	07.34				07.10						05.55		06.18	06.48				06.51				07.46
	17.38				19.45						20.46		20.40	19.58				17.22				17.05
Potential sun hours	299		298		370		398		447		451	458	427	375		346		299	289
Total, worst case				156				25							141		45		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R44 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (213)

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	07.46			07.33		16.32 (ME_04)	06.58			07.08	06.23	05.55
	17.06			17.40	13	16.45 (ME_04)	18.13			19.46	20.18	20.47
2	07.47			07.32		16.33 (ME_04)	06.57			07.06	06.22	05.54
	17.07			17.41	11	16.44 (ME_04)	18.14			19.47	20.19	20.47
3	07.47			07.32		16.35 (ME_04)	06.55			07.05	06.20	05.54
	17.07			17.42	7	16.42 (ME_04)	18.15			19.48	20.20	20.48
4	07.47			07.31			06.54			07.03	06.19	05.53
	17.08			17.43			18.16			19.50	20.21	20.49
5	07.47			07.29			06.52			07.01	06.18	05.53
	17.09			17.44			18.18			19.51	20.22	20.49
6	07.47			07.28			06.50			07.00	06.17	05.53
	17.10			17.46			18.19			19.52	20.23	20.50
7	07.47			07.27			06.49			06.58	06.15	05.52
	17.11			17.47			18.20			19.53	20.24	20.51
8	07.47			07.26			06.47			06.57	06.14	05.52
	17.12			17.48			18.21			19.54	20.25	20.51
9	07.46			07.25			06.46			06.55	06.13	05.52
	17.13			17.49			18.22			19.55	20.26	20.52
10	07.46			07.24			06.44			06.53	06.12	05.52
	17.14			17.51			18.23			19.56	20.27	20.52
11	07.46			07.23			06.42			06.52	06.11	05.52
	17.15			17.52			18.24			19.57	20.28	20.53
12	07.46			07.22			06.41			06.50	06.10	05.51
	17.16			17.53			18.25			19.58	20.29	20.53
13	07.45			07.20			06.39			06.49	06.09	05.51
	17.17			17.54			18.26			19.59	20.30	20.54
14	07.45			07.19			06.38			06.47	06.08	05.51
	17.18			17.55			18.27			20.00	20.31	20.54
15	07.45			07.18			06.36			06.46	06.07	05.51
	17.19			17.57			18.28			20.01	20.32	20.55
16	07.44			07.16			06.34			06.44	06.06	05.51
	17.20			17.58			18.30			20.02	20.33	20.55
17	07.44			07.15			06.33			06.43	06.05	05.51
	17.22			17.59			18.31			20.03	20.34	20.56
18	07.44			07.14			06.31		17.52 (ME_03)	06.41	06.04	05.51
	17.23			18.00			18.32	5	17.57 (ME_03)	20.04	20.35	20.56
19	07.43		16.34 (ME_04)	07.12			06.29		17.50 (ME_03)	06.40	06.03	05.51
	17.24	3	16.37 (ME_04)	18.01			18.33	7	17.57 (ME_03)	20.05	20.36	20.56
20	07.42		16.31 (ME_04)	07.11			06.28		17.50 (ME_03)	06.38	06.02	05.52
	17.25	8	16.39 (ME_04)	18.03			18.34	6	17.56 (ME_03)	20.06	20.37	20.57
21	07.42		16.31 (ME_04)	07.10			06.26		17.51 (ME_03)	06.37	06.02	05.52
	17.26	11	16.42 (ME_04)	18.04			18.35	5	17.56 (ME_03)	20.07	20.37	20.57
22	07.41		16.30 (ME_04)	07.08			06.24			06.35	06.01	05.52
	17.27	13	16.43 (ME_04)	18.05			18.36			20.08	20.38	20.57
23	07.41		16.29 (ME_04)	07.07			06.23			06.34	06.00	05.52
	17.29	14	16.43 (ME_04)	18.06			18.37			20.09	20.39	20.57
24	07.40		16.29 (ME_04)	07.05			06.21			06.32	05.59	05.52
	17.30	15	16.44 (ME_04)	18.07			18.38			20.10	20.40	20.57
25	07.39		16.29 (ME_04)	07.04			06.20			06.31	05.59	05.53
	17.31	16	16.45 (ME_04)	18.08			18.39			20.11	20.41	20.57
26	07.39		16.29 (ME_04)	07.03			06.18			06.30	05.58	05.53
	17.32	17	16.46 (ME_04)	18.10			18.40			20.12	20.42	20.58
27	07.38		16.29 (ME_04)	07.01			06.16			06.28	05.57	05.53
	17.33	17	16.46 (ME_04)	18.11			18.41			20.13	20.43	20.58
28	07.37		16.29 (ME_04)	07.00			06.15			06.27	05.57	05.54
	17.35	17	16.46 (ME_04)	18.12			18.42			20.15	20.43	20.58
29	07.36		16.29 (ME_04)				07.13			06.25	05.56	05.54
	17.36	17	16.46 (ME_04)				19.43			20.16	20.44	20.58
30	07.35		16.30 (ME_04)				07.11			06.24	05.56	05.55
	17.37	16	16.46 (ME_04)				19.44			20.17	20.45	20.58
31	07.34		16.31 (ME_04)				07.10				05.55	
	17.38	14	16.45 (ME_04)				19.45				20.46	
Potential sun hours	299			298			370			398	447	451
Total, worst case		178			31			23				

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R44 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (213)

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	05.55	06.19	06.49		07.18	06.52		07.26
	20.57	20.39	19.56		19.06	17.20		16.57
2	05.56	06.20	06.50		07.19	06.53		07.27
	20.57	20.38	19.55		19.05	17.19		16.56
3	05.56	06.21	06.51		07.20	06.54		07.28
	20.57	20.37	19.53		19.03	17.18		16.56
4	05.57	06.21	06.52		07.21	06.55		07.29
	20.57	20.36	19.52		19.02	17.17		16.56
5	05.57	06.22	06.53		07.22	06.56		07.30
	20.57	20.34	19.50		19.00	17.16		16.56
6	05.58	06.23	06.54		07.23	06.58		07.31
	20.57	20.33	19.48		18.58	17.15		16.56
7	05.58	06.24	06.55		07.24	06.59		07.32
	20.56	20.32	19.47		18.57	17.14		16.56
8	05.59	06.25	06.56		07.25	07.00	16.06 (ME_04)	07.33
	20.56	20.31	19.45		18.55	17.12	7 16.13 (ME_04)	16.55
9	06.00	06.26	06.57		07.26	07.01	16.04 (ME_04)	07.34
	20.56	20.30	19.43		18.53	17.11	11 16.15 (ME_04)	16.55
10	06.00	06.27	06.58		07.27	07.02	16.02 (ME_04)	07.35
	20.55	20.28	19.42		18.52	17.10	14 16.16 (ME_04)	16.56
11	06.01	06.28	06.59		07.28	07.03	16.02 (ME_04)	07.35
	20.55	20.27	19.40		18.50	17.09	15 16.17 (ME_04)	16.56
12	06.02	06.29	06.59		07.29	07.05	16.02 (ME_04)	07.36
	20.54	20.26	19.38		18.49	17.08	16 16.18 (ME_04)	16.56
13	06.02	06.30	07.00		07.31	07.06	16.01 (ME_04)	07.37
	20.54	20.24	19.37		18.47	17.08	17 16.18 (ME_04)	16.56
14	06.03	06.31	07.01		07.32	07.07	16.01 (ME_04)	07.38
	20.53	20.23	19.35		18.46	17.07	17 16.18 (ME_04)	16.56
15	06.04	06.32	07.02		07.33	07.08	16.02 (ME_04)	07.39
	20.53	20.22	19.33		18.44	17.06	17 16.19 (ME_04)	16.56
16	06.05	06.33	07.03		07.34	07.09	16.02 (ME_04)	07.39
	20.52	20.20	19.32		18.43	17.05	17 16.19 (ME_04)	16.57
17	06.05	06.34	07.04		07.35	07.10	16.02 (ME_04)	07.40
	20.52	20.19	19.30		18.41	17.04	16 16.18 (ME_04)	16.57
18	06.06	06.35	07.05		07.36	07.12	16.03 (ME_04)	07.41
	20.51	20.18	19.28		18.40	17.03	15 16.18 (ME_04)	16.57
19	06.07	06.36	07.06		07.37	07.13	16.04 (ME_04)	07.41
	20.50	20.16	19.27		18.38	17.03	14 16.18 (ME_04)	16.58
20	06.08	06.37	07.07		07.38	07.14	16.05 (ME_04)	07.42
	20.50	20.15	19.25		18.37	17.02	13 16.18 (ME_04)	16.58
21	06.09	06.38	07.08		07.39	07.15	16.06 (ME_04)	07.42
	20.49	20.13	19.23		18.35	17.01	11 16.17 (ME_04)	16.58
22	06.10	06.39	07.09	18.36 (ME_03)	07.40	07.16	16.07 (ME_04)	07.43
	20.48	20.12	19.21	3 18.39 (ME_03)	18.34	17.01	8 16.15 (ME_04)	16.59
23	06.10	06.40	07.10	18.34 (ME_03)	07.41	07.17	16.10 (ME_04)	07.43
	20.47	20.10	19.20	6 18.40 (ME_03)	18.32	17.00	3 16.13 (ME_04)	16.59
24	06.11	06.41	07.11	18.34 (ME_03)	07.43	07.18		07.44
	20.46	20.09	19.18	6 18.40 (ME_03)	18.31	17.00		17.00
25	06.12	06.42	07.12	18.34 (ME_03)	06.44	07.20		07.44
	20.46	20.07	19.16	6 18.40 (ME_03)	17.30	16.59		17.01
26	06.13	06.43	07.13	18.35 (ME_03)	06.45	07.21		07.45
	20.45	20.06	19.15	3 18.38 (ME_03)	17.28	16.58		17.01
27	06.14	06.44	07.14		06.46	07.22		07.45
	20.44	20.04	19.13		17.27	16.58		17.02
28	06.15	06.45	07.15		06.47	07.23		07.45
	20.43	20.03	19.11		17.25	16.58		17.02
29	06.16	06.46	07.16		06.48	07.24		07.46
	20.42	20.01	19.10		17.24	16.57		17.03
30	06.17	06.47	07.17		06.49	07.25		07.46
	20.41	20.00	19.08		17.23	16.57		17.04
31	06.18	06.48			06.51			07.46
	20.40	19.58			17.22			17.05
Potential sun hours	458	427	375		346	299		289
Total, worst case				24			211	

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:
Wpd_2020_06_22

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22/06/2020 15.17 / 45
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R45 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (217)

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	05.54	05.55	06.19	06.49			07.18	06.52	07.26
	17.06	17.39	18.13			19.46	20.18	20.47	20.57	20.39	19.56			19.06	17.20	16.57
2	07.47	07.32	06.57			07.06	06.22	05.54	05.56	06.20	06.50			07.19	06.53	07.27
	17.07	17.41	18.14			19.47	20.19	20.47	20.57	20.38	19.55			19.05	17.19	16.56
3	07.47	07.31	06.55			07.05	06.20	05.54	05.56	06.20	06.51			07.20	06.54	07.28
	17.07	17.42	18.15			19.48	20.20	20.48	20.57	20.37	19.53			19.03	17.18	16.56
4	07.47	07.30	06.53			07.03	06.19	05.53	05.57	06.21	06.52			07.21	06.55	07.29
	17.08	17.43	18.16			19.49	20.21	20.49	20.57	20.36	19.52			19.01	17.17	16.56
5	07.47	07.29	06.52			07.01	06.18	05.53	05.57	06.22	06.53			07.22	06.56	07.30
	17.09	17.44	18.18			19.51	20.22	20.49	20.57	20.34	19.50			19.00	17.16	16.56
6	07.47	07.28	06.50			07.00	06.17	05.53	05.58	06.23	06.54			07.23	06.58	07.31
	17.10	17.46	18.19			19.52	20.23	20.50	20.57	20.33	19.48			18.58	17.15	16.56
7	07.47	07.27	06.49			06.58	06.15	05.52	05.58	06.24	06.55			07.24	06.59	07.32
	17.11	17.47	18.20			19.53	20.24	20.51	20.56	20.32	19.47			18.57	17.13	16.55
8	07.46	07.26	06.47			06.57	06.14	05.52	05.59	06.25	06.56			07.25	07.00	07.33
	17.12	17.48	18.21			19.54	20.25	20.51	20.56	20.31	19.45			18.55	17.12	16.55
9	07.46	07.25	06.46			06.55	06.13	05.52	06.00	06.26	06.57			07.26	07.01	07.34
	17.13	17.49	18.22			19.55	20.26	20.52	20.56	20.30	19.43			18.53	17.11	16.55
10	07.46	07.24	06.44			06.53	06.12	05.52	06.00	06.27	06.57			07.27	07.02	07.35
	17.14	17.51	18.23			19.56	20.27	20.52	20.55	20.28	19.42			18.52	17.10	16.55
11	07.46	07.23	06.42			06.52	06.11	05.51	06.01	06.28	06.58			07.28	07.03	07.35
	17.15	17.52	18.24			19.57	20.28	20.53	20.55	20.27	19.40			18.50	17.09	16.56
12	07.46	07.21	06.41			06.50	06.10	05.51	06.02	06.29	06.59			07.29	07.05	07.36
	17.16	17.53	18.25			19.58	20.29	20.53	20.54	20.26	19.38			18.49	17.08	16.56
13	07.45	07.20	06.39			06.49	06.09	05.51	06.02	06.30	07.00			07.31	07.06	07.37
	17.17	17.54	18.26			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			06.47	06.08	05.51	06.03	06.31	07.01			07.32	07.07	07.38
	17.18	17.55	18.27			20.00	20.31	20.54	20.53	20.23	19.35			18.46	17.07	16.56
15	07.45	07.18	06.36			06.46	06.07	05.51	06.04	06.32	07.02			07.33	07.08	07.39
	17.19	17.57	18.28			20.01	20.32	20.55	20.53	20.22	19.33			18.44	17.06	16.56
16	07.44	07.16	06.34		17.45 (ME_06)	06.44	06.06	05.51	06.05	06.33	07.03			07.34	07.09	07.39
	17.20	17.58	18.30	6	17.51 (ME_06)	20.02	20.33	20.55	20.52	20.20	19.32			18.42	17.05	16.56
17	07.44	07.15	06.33		17.42 (ME_06)	06.43	06.05	05.51	06.05	06.34	07.04			07.35	07.10	07.40
	17.22	17.59	18.31	10	17.52 (ME_06)	20.03	20.34	20.56	20.52	20.19	19.30			18.41	17.04	16.57
18	07.43	07.14	06.31		17.41 (ME_06)	06.41	06.04	05.51	06.06	06.35	07.05			07.36	07.12	07.41
	17.23	18.00	18.32	13	17.54 (ME_06)	20.04	20.35	20.56	20.51	20.18	19.28			18.39	17.03	16.57
19	07.43	07.12	06.29		17.40 (ME_06)	06.40	06.03	05.51	06.07	06.36	07.06		18.29 (ME_06)	07.37	07.13	07.41
	17.24	18.01	18.33	14	17.54 (ME_06)	20.05	20.36	20.56	20.50	20.16	19.27	5	18.34 (ME_06)	18.38	17.03	16.57
20	07.42	07.11	06.28		17.39 (ME_06)	06.38	06.02	05.52	06.08	06.37	07.07		18.27 (ME_06)	07.38	07.14	07.42
	17.25	18.03	18.34	14	17.53 (ME_06)	20.06	20.36	20.56	20.50	20.15	19.25	9	18.36 (ME_06)	18.37	17.02	16.58
21	07.42	07.10	06.26		17.40 (ME_06)	06.37	06.01	05.52	06.09	06.38	07.08		18.25 (ME_06)	07.39	07.15	07.42
	17.26	18.04	18.35	13	17.53 (ME_06)	20.07	20.37	20.57	20.49	20.13	19.23	12	18.37 (ME_06)	18.35	17.01	16.58
22	07.41	07.08	06.24		17.40 (ME_06)	06.35	06.01	05.52	06.10	06.39	07.09		18.24 (ME_06)	07.40	07.16	07.43
	17.27	18.05	18.36	12	17.52 (ME_06)	20.08	20.38	20.57	20.48	20.12	19.21	14	18.38 (ME_06)	18.34	17.01	16.59
23	07.41	07.07	06.23		17.40 (ME_06)	06.34	06.00	05.52	06.10	06.40	07.10		18.23 (ME_06)	07.41	07.17	07.43
	17.29	18.06	18.37	10	17.50 (ME_06)	20.09	20.39	20.57	20.47	20.10	19.20	15	18.38 (ME_06)	18.32	17.00	16.59
24	07.40	07.05	06.21		17.42 (ME_06)	06.32	05.59	05.52	06.11	06.41	07.11		18.23 (ME_06)	07.43	07.18	07.44
	17.30	18.07	18.38	7	17.49 (ME_06)	20.10	20.40	20.57	20.46	20.09	19.18	14	18.37 (ME_06)	18.31	16.59	17.00
25	07.39	07.04	06.19			06.31	05.59	05.53	06.12	06.42	07.12		18.23 (ME_06)	06.44	07.20	07.44
	17.31	18.08	18.39			20.11	20.41	20.57	20.46	20.07	19.16	13	18.36 (ME_06)	17.29	16.59	17.00
26	07.38	07.03	06.18			06.29	05.58	05.53	06.13	06.43	07.13		18.24 (ME_06)	06.45	07.21	07.45
	17.32	18.10	18.40			20.12	20.42	20.57	20.45	20.06	19.15	11	18.35 (ME_06)	17.28	16.58	17.01
27	07.38	07.01	06.16			06.28	05.57	05.53	06.14	06.44	07.14		18.25 (ME_06)	06.46	07.22	07.45
	17.33	18.11	18.41			20.13	20.43	20.58	20.44	20.04	19.13	8	18.33 (ME_06)	17.27	16.58	17.02
28	07.37	07.00	06.15			06.27	05.57	05.54	06.15	06.45	07.15			06.47	07.23	07.45
	17.35	18.12	18.42			20.14	20.43	20.58	20.43	20.03	19.11			17.25	16.58	17.02
29	07.36		07.13			06.25	05.56	05.54	06.16	06.46	07.16			06.48	07.24	07.46
	17.36		19.43			20.16	20.44	20.58	20.42	20.01	19.10			17.24	16.57	17.03
30	07.35		07.11			06.24	05.55	05.55	06.17	06.47	07.17			06.49	07.25	07.46
	17.37		19.44			20.17	20.45	20.58	20.41	20.00	19.08			17.23	16.57	17.04
31	07.34		07.10				05.55		06.18	06.48				06.51		07.46
	17.38		19.45				20.46		20.40	19.58				17.22		17.05
Potential sun hours	299	298	370			398	447	451	458	427	375			346	299	289
Total, worst case				99								101				

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R46 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (218)

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	05.54	05.55	06.19	06.49	07.18		06.52	07.26
	17.06	17.39	18.13		19.46	20.18	20.47	20.57	20.39	19.56	19.06		17.20	16.57
2	07.46	07.32	06.57		07.06	06.22	05.54	05.56	06.20	06.50	07.19	18.10 (ME_06)	06.53	07.27
	17.06	17.41	18.14		19.47	20.19	20.47	20.57	20.38	19.55	19.05	7 18.17 (ME_06)	17.19	16.56
3	07.47	07.31	06.55		07.05	06.20	05.54	05.56	06.20	06.51	07.20	18.08 (ME_06)	06.54	07.28
	17.07	17.42	18.15		19.48	20.20	20.48	20.57	20.37	19.53	19.03	10 18.18 (ME_06)	17.18	16.56
4	07.47	07.30	06.53		07.03	06.19	05.53	05.57	06.21	06.52	07.21	18.07 (ME_06)	06.55	07.29
	17.08	17.43	18.16		19.49	20.21	20.49	20.57	20.36	19.51	19.01	11 18.18 (ME_06)	17.17	16.56
5	07.47	07.29	06.52		07.01	06.18	05.53	05.57	06.22	06.53	07.22	18.07 (ME_06)	06.56	07.30
	17.09	17.44	18.17		19.51	20.22	20.49	20.57	20.34	19.50	19.00	10 18.17 (ME_06)	17.16	16.56
6	07.47	07.28	06.50	17.34 (ME_06)	07.00	06.17	05.53	05.58	06.23	06.54	07.23	18.07 (ME_06)	06.58	07.31
	17.10	17.46	18.19	4 17.38 (ME_06)	19.52	20.23	20.50	20.57	20.33	19.48	18.58	9 18.16 (ME_06)	17.15	16.56
7	07.47	07.27	06.49	17.32 (ME_06)	06.58	06.15	05.52	05.58	06.24	06.55	07.24	18.08 (ME_06)	06.59	07.32
	17.11	17.47	18.20	8 17.40 (ME_06)	19.53	20.24	20.51	20.56	20.32	19.47	18.57	7 18.15 (ME_06)	17.13	16.55
8	07.46	07.26	06.47	17.31 (ME_06)	06.57	06.14	05.52	05.59	06.25	06.56	07.25		07.00	07.33
	17.12	17.48	18.21	9 17.40 (ME_06)	19.54	20.25	20.51	20.56	20.31	19.45	18.55		17.12	16.55
9	07.46	07.25	06.46	17.30 (ME_06)	06.55	06.13	05.52	06.00	06.26	06.57	07.26		07.01	07.34
	17.13	17.49	18.22	10 17.40 (ME_06)	19.55	20.26	20.52	20.56	20.30	19.43	18.53		17.11	16.55
10	07.46	07.24	06.44	17.30 (ME_06)	06.53	06.12	05.52	06.00	06.27	06.57	07.27		07.02	07.35
	17.14	17.51	18.23	10 17.40 (ME_06)	19.56	20.27	20.52	20.55	20.28	19.42	18.52		17.10	16.55
11	07.46	07.23	06.42	17.30 (ME_06)	06.52	06.11	05.51	06.01	06.28	06.58	07.28		07.03	07.35
	17.15	17.52	18.24	9 17.39 (ME_06)	19.57	20.28	20.53	20.55	20.27	19.40	18.50		17.09	16.56
12	07.46	07.21	06.41	17.32 (ME_06)	06.50	06.10	05.51	06.02	06.29	06.59	07.29		07.05	07.36
	17.16	17.53	18.25	4 17.36 (ME_06)	19.58	20.29	20.53	20.54	20.26	19.38	18.49		17.08	16.56
13	07.45	07.20	06.39		06.49	06.09	05.51	06.02	06.30	07.00	07.31		07.06	07.37
	17.17	17.54	18.26		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		06.47	06.08	05.51	06.03	06.31	07.01	07.32		07.07	07.38
	17.18	17.55	18.27		20.00	20.31	20.54	20.53	20.23	19.35	18.46		17.07	16.56
15	07.45	07.18	06.36		06.46	06.07	05.51	06.04	06.32	07.02	07.33		07.08	07.39
	17.19	17.57	18.28		20.01	20.32	20.55	20.53	20.22	19.33	18.44		17.06	16.56
16	07.44	07.16	06.34		06.44	06.06	05.51	06.05	06.33	07.03	07.34		07.09	07.39
	17.20	17.58	18.30		20.02	20.33	20.55	20.52	20.20	19.32	18.42		17.05	16.56
17	07.44	07.15	06.33		06.43	06.05	05.51	06.05	06.34	07.04	07.35		07.10	07.40
	17.22	17.59	18.31		20.03	20.34	20.56	20.52	20.19	19.30	18.41		17.04	16.57
18	07.43	07.14	06.31		06.41	06.04	05.51	06.06	06.35	07.05	07.36		07.12	07.41
	17.23	18.00	18.32		20.04	20.35	20.56	20.51	20.18	19.28	18.39		17.03	16.57
19	07.43	07.12	06.29		06.40	06.03	05.51	06.07	06.36	07.06	07.37		07.13	07.41
	17.24	18.01	18.33		20.05	20.36	20.56	20.50	20.16	19.27	18.38		17.03	16.57
20	07.42	07.11	06.28		06.38	06.02	05.52	06.08	06.37	07.07	07.38		07.14	07.42
	17.25	18.03	18.34		20.06	20.36	20.56	20.50	20.15	19.25	18.37		17.02	16.58
21	07.42	07.10	06.26		06.37	06.01	05.52	06.09	06.38	07.08	07.39		07.15	07.42
	17.26	18.04	18.35		20.07	20.37	20.57	20.49	20.13	19.23	18.35		17.01	16.58
22	07.41	07.08	06.24		06.35	06.01	05.52	06.10	06.39	07.09	07.40		07.16	07.43
	17.27	18.05	18.36		20.08	20.38	20.57	20.48	20.12	19.21	18.34		17.01	16.59
23	07.41	07.07	06.23		06.34	06.00	05.52	06.10	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	18.32		17.00	16.59
24	07.40	07.05	06.21		06.32	05.59	05.52	06.11	06.41	07.11	07.43		07.18	07.44
	17.30	18.07	18.38		20.10	20.40	20.57	20.46	20.09	19.18	18.31		16.59	17.00
25	07.39	07.04	06.19		06.31	05.58	05.53	06.12	06.42	07.12	06.44		07.20	07.44
	17.31	18.08	18.39		20.11	20.41	20.57	20.46	20.07	19.16	17.29		16.59	17.00
26	07.38	07.03	06.18		06.29	05.58	05.53	06.13	06.43	07.13	06.45		07.21	07.45
	17.32	18.10	18.40		20.12	20.42	20.57	20.45	20.06	19.15	17.28		16.58	17.01
27	07.38	07.01	06.16		06.28	05.57	05.53	06.14	06.44	07.14	06.46		07.22	07.45
	17.33	18.11	18.41		20.13	20.43	20.58	20.44	20.04	19.13	17.27		16.58	17.02
28	07.37	07.00	06.15		06.27	05.57	05.54	06.15	06.45	07.15	06.47		07.23	07.45
	17.35	18.12	18.42		20.14	20.43	20.58	20.43	20.03	19.11	17.25		16.58	17.02
29	07.36		07.13		06.25	05.56	05.54	06.16	06.46	07.16	06.48		07.24	07.46
	17.36		19.43		20.16	20.44	20.58	20.42	20.01	19.10	17.24		16.57	17.03
30	07.35		07.11		06.24	05.55	05.55	06.17	06.47	07.17	06.49		07.25	07.46
	17.37		19.44		20.17	20.45	20.58	20.41	20.00	19.08	17.23		16.57	17.04
31	07.34		07.10			05.55		06.18	06.48		06.51			07.46
	17.38		19.45			20.46		20.40	19.58		17.22			17.05
Potential sun hours	299	298	370		398	447	451	458	427	375	346		299	289
Total, worst case				54								54		

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R47 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (221)

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	05.54	05.55	06.19	06.49	07.18	06.52		07.26
	17.06	17.39		18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.06	17.20		16.57
2	07.47	07.32	17.05 (ME_03)	06.57	07.06	06.22	05.54	05.56	06.20	06.50	07.19	06.53		07.27
	17.06	17.41	3 17.08 (ME_03)	18.14	19.47	20.19	20.47	20.57	20.38	19.55	19.05	17.19		16.56
3	07.47	07.31	17.05 (ME_03)	06.55	07.05	06.20	05.54	05.56	06.20	06.51	07.20	06.54		07.28
	17.07	17.42	3 17.08 (ME_03)	18.15	19.48	20.20	20.48	20.57	20.37	19.53	19.03	17.18		16.56
4	07.47	07.30	17.05 (ME_03)	06.53	07.03	06.19	05.53	05.57	06.21	06.52	07.21	06.55		07.29
	17.08	17.43	3 17.08 (ME_03)	18.16	19.49	20.21	20.49	20.57	20.36	19.52	19.01	17.17		16.56
5	07.47	07.29		06.52	07.01	06.18	05.53	05.57	06.22	06.53	07.22	06.56		07.30
	17.09	17.44		18.17	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16		16.56
6	07.47	07.28		06.50	07.00	06.17	05.53	05.58	06.23	06.54	07.23	06.58		07.31
	17.10	17.46		18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15		16.56
7	07.47	07.27		06.49	06.58	06.15	05.52	05.58	06.24	06.55	07.24	06.59	16.36 (ME_03)	07.32
	17.11	17.47		18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.13	3 16.39 (ME_03)	16.55
8	07.47	07.26		06.47	06.57	06.14	05.52	05.59	06.25	06.56	07.25	07.00	16.36 (ME_03)	07.33
	17.12	17.48		18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.12	3 16.39 (ME_03)	16.55
9	07.46	07.25		06.46	06.55	06.13	05.52	06.00	06.26	06.57	07.26	07.01	16.36 (ME_03)	07.34
	17.13	17.49		18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.53	17.11	2 16.38 (ME_03)	16.55
10	07.46	07.24		06.44	06.53	06.12	05.52	06.00	06.27	06.57	07.27	07.02		07.35
	17.14	17.51		18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.10		16.55
11	07.46	07.23		06.42	06.52	06.11	05.51	06.01	06.28	06.58	07.28	07.03		07.35
	17.15	17.52		18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.09		16.56
12	07.46	07.22		06.41	06.50	06.10	05.51	06.02	06.29	06.59	07.29	07.05		07.36
	17.16	17.53		18.25	19.58	20.29	20.53	20.54	20.26	19.38	18.49	17.08		16.56
13	07.45	07.20		06.39	06.49	06.09	05.51	06.02	06.30	07.00	07.31	07.06		07.37
	17.17	17.54		18.26	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	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07		07.38
	17.18	17.55		18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07		16.56
15	07.45	07.18		06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08		07.39
	17.19	17.57		18.28	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06		16.56
16	07.44	07.16		06.34	06.44	06.06	05.51	06.05	06.33	07.03	07.34	07.09		07.39
	17.20	17.58		18.30	20.02	20.33	20.55	20.52	20.20	19.32	18.42	17.05		16.56
17	07.44	07.15		06.33	06.43	06.05	05.51	06.05	06.34	07.04	07.35	07.10		07.40
	17.22	17.59		18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04		16.57
18	07.43	07.14		06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12		07.41
	17.23	18.00		18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.39	17.03		16.57
19	07.43	07.12		06.29	06.40	06.03	05.51	06.07	06.36	07.06	07.37	07.13		07.41
	17.24	18.01		18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03		16.57
20	07.42	07.11		06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14		07.42
	17.25	18.03		18.34	20.06	20.36	20.57	20.50	20.15	19.25	18.37	17.02		16.58
21	07.42	07.10		06.26	06.37	06.01	05.52	06.09	06.38	07.08	07.39	07.15		07.42
	17.26	18.04		18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01		16.58
22	07.41	07.08		06.24	06.35	06.01	05.52	06.10	06.39	07.09	07.40	07.16		07.43
	17.27	18.05		18.36	20.08	20.38	20.57	20.48	20.12	19.21	18.34	17.01		16.59
23	07.41	07.07		06.23	06.34	06.00	05.52	06.10	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	18.32	17.00		16.59
24	07.40	07.05		06.21	06.32	05.59	05.52	06.11	06.41	07.11	07.43	07.18		07.44
	17.30	18.07		18.38	20.10	20.40	20.57	20.46	20.09	19.18	18.31	16.59		17.00
25	07.39	07.04		06.19	06.31	05.58	05.53	06.12	06.42	07.12	06.44	07.20		07.44
	17.31	18.08		18.39	20.11	20.41	20.57	20.46	20.07	19.16	17.29	16.59		17.00
26	07.39	07.03		06.18	06.29	05.58	05.53	06.13	06.43	07.13	06.45	07.21		07.45
	17.32	18.10		18.40	20.12	20.42	20.57	20.45	20.06	19.15	17.28	16.58		17.01
27	07.38	07.01		06.16	06.28	05.57	05.53	06.14	06.44	07.14	06.46	07.22		07.45
	17.33	18.11		18.41	20.13	20.43	20.58	20.44	20.04	19.13	17.27	16.58		17.02
28	07.37	07.00		06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23		07.45
	17.35	18.12		18.42	20.14	20.43	20.58	20.43	20.03	19.11	17.25	16.58		17.02
29	07.36			07.13	06.25	05.56	05.54	06.16	06.46	07.16	06.48	07.24		07.46
	17.36			19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57		17.03
30	07.35			07.11	06.24	05.55	05.55	06.17	06.47	07.17	06.49	07.25		07.46
	17.37			19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57		17.04
31	07.34			07.10		05.55		06.18	06.48		06.51			07.46
	17.38			19.45		20.46		20.40	19.58		17.22			17.05
Potential sun hours	299	298		370	398	447	451	458	427	375	346	299		289
Total, worst case			9										8	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R48 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (222)

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	05.54	05.55	06.19	06.49	07.18	06.52		07.26
	17.06	17.39		18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.06	17.20		16.57
2	07.47	07.32	17.05 (ME_03)	06.57	07.06	06.22	05.54	05.56	06.20	06.50	07.19	06.53		07.27
	17.06	17.41	3 17.08 (ME_03)	18.14	19.47	20.19	20.47	20.57	20.38	19.55	19.05	17.19		16.56
3	07.47	07.31	17.05 (ME_03)	06.55	07.05	06.20	05.54	05.56	06.20	06.51	07.20	06.54		07.28
	17.07	17.42	4 17.09 (ME_03)	18.15	19.48	20.20	20.48	20.57	20.37	19.53	19.03	17.18		16.56
4	07.47	07.30	17.06 (ME_03)	06.53	07.03	06.19	05.53	05.57	06.21	06.52	07.21	06.55		07.29
	17.08	17.43	2 17.08 (ME_03)	18.16	19.49	20.21	20.49	20.57	20.36	19.52	19.01	17.17		16.56
5	07.47	07.29		06.52	07.01	06.18	05.53	05.57	06.22	06.53	07.22	06.56		07.30
	17.09	17.44		18.17	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16		16.56
6	07.47	07.28		06.50	07.00	06.17	05.53	05.58	06.23	06.54	07.23	06.58		07.31
	17.10	17.46		18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15		16.56
7	07.47	07.27		06.49	06.58	06.15	05.52	05.58	06.24	06.55	07.24	06.59	16.37 (ME_03)	07.32
	17.11	17.47		18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.13	2 16.39 (ME_03)	16.55
8	07.47	07.26		06.47	06.57	06.14	05.52	05.59	06.25	06.56	07.25	07.00	16.36 (ME_03)	07.33
	17.12	17.48		18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.12	3 16.39 (ME_03)	16.55
9	07.46	07.25		06.46	06.55	06.13	05.52	06.00	06.26	06.57	07.26	07.01	16.36 (ME_03)	07.34
	17.13	17.49		18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.53	17.11	3 16.39 (ME_03)	16.55
10	07.46	07.24		06.44	06.53	06.12	05.52	06.00	06.27	06.57	07.27	07.02		07.35
	17.14	17.51		18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.10		16.55
11	07.46	07.23		06.42	06.52	06.11	05.51	06.01	06.28	06.58	07.28	07.03		07.35
	17.15	17.52		18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.09		16.56
12	07.46	07.22		06.41	06.50	06.10	05.51	06.02	06.29	06.59	07.29	07.05		07.36
	17.16	17.53		18.25	19.58	20.29	20.53	20.54	20.26	19.38	18.49	17.08		16.56
13	07.45	07.20		06.39	06.49	06.09	05.51	06.02	06.30	07.00	07.31	07.06		07.37
	17.17	17.54		18.26	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	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07		07.38
	17.18	17.55		18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07		16.56
15	07.45	07.18		06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08		07.39
	17.19	17.57		18.28	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06		16.56
16	07.44	07.16		06.34	06.44	06.06	05.51	06.05	06.33	07.03	07.34	07.09		07.39
	17.20	17.58		18.30	20.02	20.33	20.55	20.52	20.20	19.32	18.42	17.05		16.56
17	07.44	07.15		06.33	06.43	06.05	05.51	06.05	06.34	07.04	07.35	07.10		07.40
	17.22	17.59		18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04		16.57
18	07.43	07.14		06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12		07.41
	17.23	18.00		18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.39	17.03		16.57
19	07.43	07.12		06.29	06.40	06.03	05.51	06.07	06.36	07.06	07.37	07.13		07.41
	17.24	18.01		18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03		16.57
20	07.42	07.11		06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14		07.42
	17.25	18.03		18.34	20.06	20.36	20.57	20.50	20.15	19.25	18.37	17.02		16.58
21	07.42	07.10		06.26	06.37	06.01	05.52	06.09	06.38	07.08	07.39	07.15		07.42
	17.26	18.04		18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01		16.58
22	07.41	07.08		06.24	06.35	06.01	05.52	06.10	06.39	07.09	07.40	07.16		07.43
	17.27	18.05		18.36	20.08	20.38	20.57	20.48	20.12	19.21	18.34	17.01		16.59
23	07.41	07.07		06.23	06.34	06.00	05.52	06.10	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	18.32	17.00		16.59
24	07.40	07.05		06.21	06.32	05.59	05.52	06.11	06.41	07.11	07.43	07.18		07.44
	17.30	18.07		18.38	20.10	20.40	20.57	20.46	20.09	19.18	18.31	16.59		17.00
25	07.39	07.04		06.19	06.31	05.58	05.53	06.12	06.42	07.12	06.44	07.20		07.44
	17.31	18.08		18.39	20.11	20.41	20.57	20.46	20.07	19.16	17.29	16.59		17.00
26	07.39	07.03		06.18	06.29	05.58	05.53	06.13	06.43	07.13	06.45	07.21		07.45
	17.32	18.10		18.40	20.12	20.42	20.57	20.45	20.06	19.15	17.28	16.58		17.01
27	07.38	07.01		06.16	06.28	05.57	05.53	06.14	06.44	07.14	06.46	07.22		07.45
	17.33	18.11		18.41	20.13	20.43	20.58	20.44	20.04	19.13	17.27	16.58		17.02
28	07.37	07.00		06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23		07.45
	17.35	18.12		18.42	20.14	20.43	20.58	20.43	20.03	19.11	17.25	16.58		17.02
29	07.36			07.13	06.25	05.56	05.54	06.16	06.46	07.16	06.48	07.24		07.46
	17.36			19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57		17.03
30	07.35			07.11	06.24	05.55	05.55	06.17	06.47	07.17	06.49	07.25		07.46
	17.37			19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57		17.04
31	07.34			07.10		05.55		06.18	06.48		06.51			07.46
	17.38			19.45		20.46		20.40	19.58		17.22			17.05
Potential sun hours	299	298		370	398	447	451	458	427	375	346	299		289
Total, worst case			9										8	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R49 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (212)

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	16.15 (ME_05)	07.33	06.58		07.08	06.23	05.55	05.55	06.19	06.49		07.18	06.52	07.26	
	17.06	8 16.23 (ME_05)	17.40	18.13		19.46	20.18	20.47	20.58	20.39	19.56		19.07	17.20	16.57	
2	07.47	16.15 (ME_05)	07.33	06.57		07.06	06.22	05.54	05.56	06.20	06.50		07.19	06.53	07.27	
	17.07	7 16.22 (ME_05)	17.41	18.14		19.48	20.19	20.47	20.57	20.38	19.55		19.05	17.19	16.56	
3	07.47	16.17 (ME_05)	07.32	06.55		07.05	06.20	05.54	05.56	06.21	06.51		07.20	06.54	07.28	
	17.07	5 16.22 (ME_05)	17.42	18.15		19.49	20.20	20.48	20.57	20.37	19.53		19.03	17.18	16.56	
4	07.47	16.18 (ME_05)	07.31	06.54		07.03	06.19	05.53	05.57	06.22	06.52		07.21	06.55	07.29	
	17.08	4 16.22 (ME_05)	17.43	18.16		19.50	20.21	20.49	20.57	20.36	19.52		19.02	17.17	16.56	
5	07.47		07.30	06.52		07.02	06.18	05.53	05.57	06.23	06.53		07.22	06.56	07.30	
	17.09		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		07.28	06.50		07.00	06.17	05.53	05.58	06.23	06.54		07.23	06.58	07.31	
	17.10		17.46	18.19		19.52	20.23	20.50	20.57	20.33	19.48		18.58	17.15	16.56	
7	07.47		07.27	06.49		06.58	06.16	05.52	05.58	06.24	06.55		07.24	06.59	07.32	
	17.11		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	06.14	05.52	05.59	06.25	06.56		07.25	07.00	07.33	16.05 (ME_05)
	17.12		17.48	18.21		19.54	20.25	20.51	20.56	20.31	19.45		18.55	17.13	16.56	4 16.09 (ME_05)
9	07.46		07.25	06.46		06.55	06.13	05.52	06.00	06.26	06.57		07.26	07.01	07.34	16.05 (ME_05)
	17.13		17.49	18.22		19.55	20.26	20.52	20.56	20.30	19.43		18.53	17.11	16.56	5 16.10 (ME_05)
10	07.46		07.24	06.44		06.54	06.12	05.52	06.00	06.27	06.58		07.27	07.02	07.35	16.05 (ME_05)
	17.14		17.51	18.23		19.56	20.27	20.53	20.55	20.28	19.42		18.52	17.10	16.56	6 16.11 (ME_05)
11	07.46		07.23	06.43		06.52	06.11	05.52	06.01	06.28	06.59		07.28	07.03	07.36	16.05 (ME_05)
	17.15		17.52	18.24		19.57	20.28	20.53	20.55	20.27	19.40		18.50	17.09	16.56	8 16.13 (ME_05)
12	07.46		07.22	06.41		06.50	06.10	05.51	06.02	06.29	07.00		07.30	07.05	07.36	16.05 (ME_05)
	17.16		17.53	18.25		19.58	20.29	20.54	20.54	20.26	19.38		18.49	17.09	16.56	9 16.14 (ME_05)
13	07.46		07.20	06.39		06.49	06.09	05.51	06.02	06.30	07.00		07.31	07.06	07.37	16.05 (ME_05)
	17.17		17.54	18.26		19.59	20.30	20.54	20.54	20.25	19.37		18.47	17.08	16.56	10 16.15 (ME_05)
14	07.45		07.19	06.38		06.47	06.08	05.51	06.03	06.31	07.01		07.32	07.07	07.38	16.05 (ME_05)
	17.18		17.56	18.27		20.00	20.31	20.54	20.53	20.23	19.35		18.46	17.07	16.56	9 16.14 (ME_05)
15	07.45		07.18	06.36		06.46	06.07	05.51	06.04	06.32	07.02		07.33	07.08	07.39	16.05 (ME_05)
	17.19		17.57	18.29		20.01	20.32	20.55	20.53	20.22	19.33		18.44	17.06	16.56	10 16.15 (ME_05)
16	07.44		07.17	06.34		06.44	06.06	05.51	06.05	06.33	07.03	07.54 (ME_03)	07.34	07.09	07.39	16.06 (ME_05)
	17.21		17.58	18.30		20.02	20.33	20.55	20.52	20.20	19.32	9 08.03 (ME_03)	18.43	17.05	16.57	10 16.16 (ME_05)
17	07.44		07.15	06.33		06.43	06.05	05.51	06.05	06.34	07.04	07.52 (ME_03)	07.35	07.11	07.40	16.05 (ME_05)
	17.22		17.59	18.31		20.03	20.34	20.56	20.52	20.19	19.30	12 08.04 (ME_03)	18.41	17.04	16.57	11 16.16 (ME_05)
18	07.44		07.14	06.31	07.11 (ME_03)	06.41	06.04	05.51	06.06	06.35	07.05	07.50 (ME_03)	07.36	07.12	07.41	16.06 (ME_05)
	17.23		18.00	18.32	4 07.15 (ME_03)	20.04	20.35	20.56	20.51	20.18	19.28	15 08.05 (ME_03)	18.40	17.03	16.57	11 16.17 (ME_05)
19	07.43		07.13	06.29	07.07 (ME_03)	06.40	06.03	05.52	06.07	06.36	07.06	07.49 (ME_03)	07.37	07.13	07.41	16.07 (ME_05)
	17.24		18.01	18.33	10 07.17 (ME_03)	20.05	20.36	20.56	20.50	20.16	19.27	16 08.05 (ME_03)	18.38	17.03	16.58	11 16.18 (ME_05)
20	07.43		07.11	06.28	07.05 (ME_03)	06.38	06.02	05.52	06.08	06.37	07.07	07.49 (ME_03)	07.38	07.14	07.42	16.07 (ME_05)
	17.25		18.03	18.34	13 07.18 (ME_03)	20.06	20.37	20.57	20.50	20.15	19.25	16 08.05 (ME_03)	18.37	17.02	16.58	11 16.18 (ME_05)
21	07.42		07.10	06.26	07.05 (ME_03)	06.37	06.02	05.52	06.09	06.38	07.08	07.49 (ME_03)	07.39	07.15	07.42	16.08 (ME_05)
	17.26		18.04	18.35	14 07.19 (ME_03)	20.07	20.37	20.57	20.49	20.13	19.23	16 08.05 (ME_03)	18.35	17.01	16.58	11 16.19 (ME_05)
22	07.41		07.08	06.25	07.03 (ME_03)	06.35	06.01	05.52	06.10	06.39	07.09	07.49 (ME_03)	07.40	07.16	07.43	16.08 (ME_05)
	17.27		18.05	18.36	16 07.19 (ME_03)	20.08	20.38	20.57	20.48	20.12	19.22	15 08.04 (ME_03)	18.34	17.01	16.59	11 16.19 (ME_05)
23	07.41		07.07	06.23	07.03 (ME_03)	06.34	06.00	05.52	06.10	06.40	07.10	07.49 (ME_03)	07.41	07.17	07.43	16.08 (ME_05)
	17.29		18.06	18.37	16 07.19 (ME_03)	20.09	20.39	20.57	20.47	20.10	19.20	14 08.03 (ME_03)	18.32	17.00	16.59	11 16.19 (ME_05)
24	07.40		07.06	06.21	07.03 (ME_03)	06.32	05.59	05.53	06.11	06.41	07.11	07.50 (ME_03)	07.43	07.19	07.44	16.09 (ME_05)
	17.30		18.07	18.38	16 07.19 (ME_03)	20.10	20.40	20.57	20.47	20.09	19.18	11 08.01 (ME_03)	18.31	17.00	17.00	11 16.20 (ME_05)
25	07.39		07.04	06.20	07.03 (ME_03)	06.31	05.59	05.53	06.12	06.42	07.12	07.52 (ME_03)	06.44	07.20	07.44	16.09 (ME_05)
	17.31		18.09	18.39	15 07.18 (ME_03)	20.11	20.41	20.57	20.46	20.07	19.17	7 07.59 (ME_03)	17.30	16.59	17.01	11 16.20 (ME_05)
26	07.39		07.03	06.18	07.03 (ME_03)	06.30	05.58	05.53	06.13	06.43	07.13		06.45	07.21	07.45	16.10 (ME_05)
	17.32		18.10	18.40	13 07.16 (ME_03)	20.12	20.42	20.58	20.45	20.06	19.15		17.28	16.59	17.01	11 16.21 (ME_05)
27	07.38		07.01	06.16	07.05 (ME_03)	06.28	05.57	05.53	06.14	06.44	07.14		06.46	07.22	07.45	16.11 (ME_05)
	17.33		18.11	18.41	10 07.15 (ME_03)	20.14	20.43	20.58	20.44	20.04	19.13		17.27	16.58	17.02	10 16.21 (ME_05)
28	07.37		07.00	06.15	07.07 (ME_03)	06.27	05.57	05.54	06.15	06.45	07.15		06.47	07.23	07.45	16.11 (ME_05)
	17.35		18.12	18.42	4 07.11 (ME_03)	20.15	20.44	20.58	20.43	20.03	19.11		17.26	16.58	17.03	10 16.21 (ME_05)
29	07.36			07.13		06.26	05.56	05.54	06.16	06.46	07.16		06.48	07.24	07.46	16.11 (ME_05)
	17.36			19.43		20.16	20.44	20.58	20.42	20.01	19.10		17.24	16.57	17.03	10 16.21 (ME_05)
30	07.35			07.11		06.24	05.56	05.55	06.17	06.47	07.17		06.49	07.25	07.46	16.12 (ME_05)
	17.37			19.44		20.17	20.45	20.58	20.41	20.00	19.08		17.23	16.57	17.04	10 16.22 (ME_05)
31	07.34			07.10			05.55		06.18	06.48			06.51		07.46	16.14 (ME_05)
	17.38			19.45			20.46		20.40	19.58			17.22		17.05	9 16.23 (ME_05)
Potential sun hours	299		298	370		398	447	451	458	427	375		346	299	289	
Total, worst case		24			131							131				230

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R50 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (166)

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	07.08	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	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.11	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.44	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.14	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R51 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (167)

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	07.08	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	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.44	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.14	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R52 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (169)

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	07.08	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	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	07.20	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.44	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.14	19.23	18.35	17.02	16.59
22	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R53 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (215)

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		14.45 (ME_03)	07.33	15.01 (ME_03)	06.58	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52			07.26	14.28 (ME_03)
	17.06	27	15.12 (ME_03)	17.40	17 15.18 (ME_03)	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.06	17.20			16.57	32 15.00 (ME_03)
2	07.47		14.45 (ME_03)	07.33	15.04 (ME_03)	06.57	07.06	06.22	05.54	05.56	06.20	06.50	07.19	06.53			07.27	14.29 (ME_03)
	17.07	27	15.12 (ME_03)	17.41	12 15.16 (ME_03)	18.14	19.47	20.19	20.47	20.57	20.38	19.55	19.05	17.19			16.56	32 15.01 (ME_03)
3	07.47		14.45 (ME_03)	07.32	15.09 (ME_03)	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54			07.28	14.30 (ME_03)
	17.07	28	15.13 (ME_03)	17.42	2 15.11 (ME_03)	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18			16.56	32 15.02 (ME_03)
4	07.47		14.46 (ME_03)	07.31		06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55			07.29	14.31 (ME_03)
	17.08	28	15.14 (ME_03)	17.43		18.16	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17			16.56	31 15.02 (ME_03)
5	07.47		14.46 (ME_03)	07.30		06.52	07.02	06.18	05.53	05.57	06.22	06.53	07.22	06.56			07.30	14.31 (ME_03)
	17.09	29	15.15 (ME_03)	17.44		18.18	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16			16.56	31 15.02 (ME_03)
6	07.47		14.46 (ME_03)	07.28		06.50	07.00	06.17	05.53	05.58	06.23	06.54	07.23	06.58			07.31	14.32 (ME_03)
	17.10	30	15.16 (ME_03)	17.46		18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15			16.56	30 15.02 (ME_03)
7	07.47		14.45 (ME_03)	07.27		06.49	06.58	06.15	05.52	05.58	06.24	06.55	07.24	06.59			07.32	14.32 (ME_03)
	17.11	31	15.16 (ME_03)	17.47		18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14			16.56	29 15.01 (ME_03)
8	07.47		14.46 (ME_03)	07.26		06.47	06.57	06.14	05.52	05.59	06.25	06.56	07.25	07.00	14.39 (ME_03)		07.33	14.33 (ME_03)
	17.12	30	15.16 (ME_03)	17.48		18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.12	4 14.43 (ME_03)		16.56	28 15.01 (ME_03)
9	07.46		14.46 (ME_03)	07.25		06.46	06.55	06.13	05.52	06.00	06.26	06.57	07.26	07.01	14.34 (ME_03)		07.34	14.33 (ME_03)
	17.13	31	15.17 (ME_03)	17.49		18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.53	17.11	13 14.47 (ME_03)		16.56	28 15.01 (ME_03)
10	07.46		14.46 (ME_03)	07.24		06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	14.32 (ME_03)		07.35	14.34 (ME_03)
	17.14	32	15.18 (ME_03)	17.51		18.23	19.56	20.27	20.52	20.55	20.28	19.42	18.52	17.10	17 14.49 (ME_03)		16.56	27 15.01 (ME_03)
11	07.46		14.46 (ME_03)	07.23		06.43	06.52	06.11	05.52	06.01	06.28	06.59	07.28	07.03	14.30 (ME_03)		07.35	14.35 (ME_03)
	17.15	32	15.18 (ME_03)	17.52		18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.09	22 14.52 (ME_03)		16.56	27 15.02 (ME_03)
12	07.46		14.46 (ME_03)	07.22		06.41	06.50	06.10	05.51	06.02	06.29	07.00	07.30	07.05	14.29 (ME_03)		07.36	14.36 (ME_03)
	17.16	33	15.19 (ME_03)	17.53		18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	24 14.53 (ME_03)		16.56	26 15.02 (ME_03)
13	07.46		14.47 (ME_03)	07.20		06.39	06.49	06.09	05.51	06.02	06.30	07.00	07.31	07.06	14.27 (ME_03)		07.37	14.37 (ME_03)
	17.17	33	15.20 (ME_03)	17.54		18.26	19.59	20.30	20.54	20.54	20.24	19.37	18.47	17.08	26 14.53 (ME_03)		16.56	25 15.02 (ME_03)
14	07.45		14.46 (ME_03)	07.19		06.38	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	14.26 (ME_03)		07.38	14.37 (ME_03)
	17.18	34	15.20 (ME_03)	17.55		18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	28 14.54 (ME_03)		16.56	25 15.02 (ME_03)
15	07.45		14.47 (ME_03)	07.18		06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	14.26 (ME_03)		07.39	14.38 (ME_03)
	17.19	34	15.21 (ME_03)	17.57		18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	30 14.56 (ME_03)		16.56	24 15.02 (ME_03)
16	07.44		14.47 (ME_03)	07.17		06.34	06.44	06.06	05.51	06.05	06.33	07.03	07.34	07.09	14.26 (ME_03)		07.39	14.39 (ME_03)
	17.21	34	15.21 (ME_03)	17.58		18.30	20.02	20.33	20.55	20.52	20.20	19.32	18.43	17.05	30 14.56 (ME_03)		16.57	24 15.03 (ME_03)
17	07.44		14.48 (ME_03)	07.15		06.33	06.43	06.05	05.51	06.05	06.34	07.04	07.35	07.10	14.25 (ME_03)		07.40	14.39 (ME_03)
	17.22	34	15.22 (ME_03)	17.59		18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	32 14.57 (ME_03)		16.57	23 15.02 (ME_03)
18	07.44		14.47 (ME_03)	07.14		06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.34 (ME_04)		07.41	14.40 (ME_03)
	17.23	35	15.22 (ME_03)	18.00		18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.03	34 14.57 (ME_03)		16.57	23 15.03 (ME_03)
19	07.43		14.48 (ME_03)	07.13		06.29	06.40	06.03	05.52	06.07	06.36	07.06	07.37	07.13	07.36 (ME_04)		07.41	14.40 (ME_03)
	17.24	35	15.23 (ME_03)	18.01		18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03	34 14.58 (ME_03)		16.58	23 15.03 (ME_03)
20	07.43		14.48 (ME_03)	07.11		06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	14.25 (ME_03)		07.42	14.41 (ME_03)
	17.25	35	15.23 (ME_03)	18.03		18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	34 14.59 (ME_03)		16.58	23 15.04 (ME_03)
21	07.42		14.50 (ME_03)	07.10		06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	14.25 (ME_03)		07.42	14.42 (ME_03)
	17.26	34	15.24 (ME_03)	18.04		18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	34 14.59 (ME_03)		16.58	23 15.05 (ME_03)
22	07.41		14.50 (ME_03)	07.08		06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.40	07.16	14.24 (ME_03)		07.43	14.42 (ME_03)
	17.27	34	15.24 (ME_03)	18.05		18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	35 14.59 (ME_03)		16.59	23 15.05 (ME_03)
23	07.41		08.01 (ME_04)	07.07		06.23	06.34	06.00	05.52	06.10	06.40	07.10	07.41	07.17	14.24 (ME_03)		07.43	14.42 (ME_03)
	17.29	34	15.23 (ME_03)	18.06		18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	35 14.59 (ME_03)		16.59	23 15.05 (ME_03)
24	07.40		08.00 (ME_04)	07.06		06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	14.26 (ME_03)		07.44	14.43 (ME_03)
	17.30	34	15.23 (ME_03)	18.07		18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	34 15.00 (ME_03)		17.00	23 15.06 (ME_03)
25	07.39		14.52 (ME_03)	07.04		06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	14.26 (ME_03)		07.44	14.43 (ME_03)
	17.31	32	15.24 (ME_03)	18.08		18.39	20.11	20.41	20.57	20.46	20.07	19.16	17.30	16.59	34 15.00 (ME_03)		17.01	23 15.06 (ME_03)
26	07.39		14.53 (ME_03)	07.03		06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	14.26 (ME_03)		07.45	14.44 (ME_03)
	17.32	30	15.23 (ME_03)	18.10		18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	34 15.00 (ME_03)		17.01	23 15.07 (ME_03)
27	07.38		14.53 (ME_03)	07.01		06.16	06.28	05.57	05.53	06.14	06.44	07.14	06.46	07.22	14.26 (ME_03)		07.45	14.44 (ME_03)
	17.33	30	15.23 (ME_03)	18.11		18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	34 15.00 (ME_03)		17.02	24 15.08 (ME_03)
28	07.37		14.54 (ME_03)	07.00		06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	14.26 (ME_03)		07.45	14.44 (ME_03)
	17.35	28	15.22 (ME_03)	18.12		18.42	20.15	20.44	20.58	20.43	20.03	19.11	17.26	16.58	34 15.00 (ME_03)		17.02	24 15.08 (ME_03)
29	07.36		14.56 (ME_03)			07.13	06.25	05.56	05.54	06.16	06.46	07.16	06.48	07.24	14.27 (ME_03)		07.46	14.44 (ME_03)
	17.36	25	15.21 (ME_03)			19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	33 15.00 (ME_03)		17.03	25 15.09 (ME_03)
30	07.35		14.57 (ME_03)			07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	14.27 (ME_03)		07.46	14.44 (ME_03)
	17.37	24	15.21 (ME_03)			19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	33 15.00 (ME_03)		17.04	25 15.09 (ME_03)
31	07.34		14.59 (ME_03)			07.10		05.55		06.18	06.48		06.51				07.46	14.45 (ME_03)
	17.38	21	15.20 (ME_03)			19.45		20.46		20.40	19.58		17.22				17.05	26 15.11 (ME_03)
Potential sun hours	299			298		370	398	447	451	458	427	375	346	299			289	
Total, worst case		958			31										668			805

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R54 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (158)

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	07.08	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	20.58	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	07.19	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	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	20.34	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	17.47	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	05.59	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	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	07.03	07.35
	17.15	17.51	18.23	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	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	20.55	20.54	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	07.39
	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	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	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.40	07.15	07.43
	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	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	07.12	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.58	20.47	20.09	19.18	18.31	17.00	17.00
25	07.40	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	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	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	06.16	06.46	07.16	06.49	07.24	07.46
	17.36		19.44	20.16	20.45	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	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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)

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R55 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (165)

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	07.08	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	20.58	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	07.19	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	20.34	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	17.47	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.15	17.51	18.23	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	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	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	06.07	06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	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	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.40	07.15	07.43
	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	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.58	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	06.16	06.46	07.16	06.49	07.24	07.46
	17.36		19.44	20.16	20.45	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R56 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (163)

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	07.08	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	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.11	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.44	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.14	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R57 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (160)

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	07.08	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	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.11	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	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	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.09	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R58 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (164)

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	07.08	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	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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	19.49	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
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	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	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.09	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.02
27	07.38	07.01	06.17	06.29	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R59 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (186)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.19	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.21	06.39	06.49	06.09	05.52	06.03	06.30	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	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.52	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.32	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.44	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	17.03
30	07.35		07.12	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.17 / 60
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R60 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (178)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	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
	17.16	17.53	18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.52	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.32	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 61
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R61 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (179)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.51	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.52	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.57
16	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R62 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (209)

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	07.46		09.01 (ME_05)	07.34	06.58	07.08			06.23	05.55
	17.06	25	09.26 (ME_05)	17.40	18.13	19.46			20.18	20.47
2	07.47		09.01 (ME_05)	07.33	06.57	07.06			06.22	05.54
	17.07	25	09.26 (ME_05)	17.41	18.14	19.48			20.19	20.47
3	07.47		09.02 (ME_05)	07.32	06.55	07.05			06.20	05.54
	17.07	25	09.27 (ME_05)	17.42	18.15	19.49			20.20	20.48
4	07.47		09.02 (ME_05)	07.31	06.54	07.03			06.19	05.53
	17.08	25	09.27 (ME_05)	17.43	18.17	19.50			20.21	20.49
5	07.47		09.03 (ME_05)	07.30	06.52	07.02		07.20 (ME_03)	06.18	05.53
	17.09	24	09.27 (ME_05)	17.45	18.18	19.51	3	07.23 (ME_03)	20.22	20.50
6	07.47		09.03 (ME_05)	07.28	06.50	07.00		07.18 (ME_03)	06.17	05.53
	17.10	25	09.28 (ME_05)	17.46	18.19	19.52	6	07.24 (ME_03)	20.23	20.50
7	07.47		09.03 (ME_05)	07.27	06.49	06.58		07.18 (ME_03)	06.16	05.52
	17.11	24	09.27 (ME_05)	17.47	18.20	19.53	7	07.25 (ME_03)	20.24	20.51
8	07.47		09.04 (ME_05)	07.26	06.47	06.57		07.18 (ME_03)	06.14	05.52
	17.12	24	09.28 (ME_05)	17.48	18.21	19.54	5	07.23 (ME_03)	20.25	20.51
9	07.46		09.05 (ME_05)	07.25	06.46	06.55			06.13	05.52
	17.13	23	09.28 (ME_05)	17.49	18.22	19.55			20.26	20.52
10	07.46		09.06 (ME_05)	07.24	06.44	06.54			06.12	05.52
	17.14	22	09.28 (ME_05)	17.51	18.23	19.56			20.27	20.53
11	07.46		09.07 (ME_05)	07.23	06.43	06.52			06.11	05.52
	17.15	22	09.29 (ME_05)	17.52	18.24	19.57			20.28	20.53
12	07.46		09.07 (ME_05)	07.22	06.41	06.50			06.10	05.51
	17.16	21	09.28 (ME_05)	17.53	18.25	19.58			20.29	20.54
13	07.46		09.08 (ME_05)	07.20	06.39	06.49			06.09	05.51
	17.17	20	09.28 (ME_05)	17.54	18.26	19.59			20.30	20.54
14	07.45		09.09 (ME_05)	07.19	06.38	06.47			06.08	05.51
	17.18	18	09.27 (ME_05)	17.56	18.28	20.00			20.31	20.55
15	07.45		09.10 (ME_05)	07.18	06.36	06.46			06.07	05.51
	17.19	17	09.27 (ME_05)	17.57	18.29	20.01			20.32	20.55
16	07.44		09.11 (ME_05)	07.17	06.34	06.44			06.06	05.51
	17.21	15	09.26 (ME_05)	17.58	18.30	20.02			20.33	20.55
17	07.44		09.13 (ME_05)	07.15	06.33	06.43			06.05	05.51
	17.22	12	09.25 (ME_05)	17.59	18.31	20.03			20.34	20.56
18	07.44		09.15 (ME_05)	07.14	06.31	06.41			06.04	05.51
	17.23	8	09.23 (ME_05)	18.00	18.32	20.04			20.35	20.56
19	07.43			07.13	06.30	06.40			06.03	05.52
	17.24			18.02	18.33	20.05			20.36	20.56
20	07.43			07.11	06.28	06.38			06.02	05.52
	17.25			18.03	18.34	20.06			20.37	20.57
21	07.42			07.10	06.26	06.37			06.02	05.52
	17.26			18.04	18.35	20.07			20.38	20.57
22	07.41			07.08	06.25	06.35			06.01	05.52
	17.28			18.05	18.36	20.08			20.38	20.57
23	07.41			07.07	06.23	06.34			06.00	05.52
	17.29			18.06	18.37	20.09			20.39	20.57
24	07.40			07.06	06.21	06.32			05.59	05.53
	17.30			18.07	18.38	20.10			20.40	20.57
25	07.39			07.04	06.20	06.31			05.59	05.53
	17.31			18.09	18.39	20.11			20.41	20.58
26	07.39			07.03	06.18	06.30			05.58	05.53
	17.32			18.10	18.40	20.13			20.42	20.58
27	07.38			07.01	06.16	06.28			05.57	05.54
	17.33			18.11	18.41	20.14			20.43	20.58
28	07.37			07.00	06.15	06.27			05.57	05.54
	17.35			18.12	18.42	20.15			20.44	20.58
29	07.36				07.13	06.26			05.56	05.54
	17.36				19.43	20.16			20.44	20.58
30	07.35				07.11	06.24			05.56	05.55
	17.37				19.44	20.17			20.45	20.58
31	07.34				07.10				05.55	
	17.38				19.45				20.46	
Potential sun hours	299			298	370	398			447	451
Total, worst case		375					21			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R62 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (209)

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	05.55		06.19		06.49			07.18		06.52			07.26		08.49 (ME_05)
	20.58		20.39		19.56			19.07		17.21			16.57	22	09.11 (ME_05)
2	05.56		06.20		06.50			07.19		06.53			07.27		08.49 (ME_05)
	20.57		20.38		19.55			19.05		17.19			16.56	22	09.11 (ME_05)
3	05.56		06.21		06.51			07.20		06.54			07.28		08.49 (ME_05)
	20.57		20.37		19.53			19.03		17.18			16.56	23	09.12 (ME_05)
4	05.57		06.22		06.52		07.15 (ME_03)	07.21		06.55			07.29		08.49 (ME_05)
	20.57		20.36		19.52	5	07.20 (ME_03)	19.02		17.17			16.56	24	09.13 (ME_05)
5	05.57		06.23		06.53		07.14 (ME_03)	07.22		06.56			07.30		08.49 (ME_05)
	20.57		20.35		19.50	7	07.21 (ME_03)	19.00		17.16			16.56	24	09.13 (ME_05)
6	05.58		06.23		06.54		07.14 (ME_03)	07.23		06.58			07.31		08.50 (ME_05)
	20.57		20.33		19.48	6	07.20 (ME_03)	18.58		17.15			16.56	24	09.14 (ME_05)
7	05.58		06.24		06.55		07.15 (ME_03)	07.24		06.59			07.32		08.50 (ME_05)
	20.56		20.32		19.47	3	07.18 (ME_03)	18.57		17.14			16.56	24	09.14 (ME_05)
8	05.59		06.25		06.56			07.25		07.00			07.33		08.49 (ME_05)
	20.56		20.31		19.45			18.55		17.13			16.56	25	09.14 (ME_05)
9	06.00		06.26		06.57			07.26		07.01			07.34		08.50 (ME_05)
	20.56		20.30		19.43			18.54		17.12			16.56	25	09.15 (ME_05)
10	06.00		06.27		06.58			07.27		07.02			07.35		08.50 (ME_05)
	20.55		20.28		19.42			18.52		17.11			16.56	25	09.15 (ME_05)
11	06.01		06.28		06.59			07.29		07.04			07.36		08.51 (ME_05)
	20.55		20.27		19.40			18.50		17.10			16.56	25	09.16 (ME_05)
12	06.02		06.29		07.00			07.30		07.05			07.36		08.51 (ME_05)
	20.54		20.26		19.38			18.49		17.09			16.56	26	09.17 (ME_05)
13	06.02		06.30		07.01			07.31		07.06			07.37		08.52 (ME_05)
	20.54		20.25		19.37			18.47		17.08			16.56	25	09.17 (ME_05)
14	06.03		06.31		07.01			07.32		07.07			07.38		08.52 (ME_05)
	20.53		20.23		19.35			18.46		17.07			16.56	25	09.17 (ME_05)
15	06.04		06.32		07.02			07.33		07.08			07.39		08.52 (ME_05)
	20.53		20.22		19.33			18.44		17.06			16.56	26	09.18 (ME_05)
16	06.05		06.33		07.03			07.34		07.09			07.39		08.53 (ME_05)
	20.52		20.20		19.32			18.43		17.05			16.57	26	09.19 (ME_05)
17	06.06		06.34		07.04			07.35		07.11			07.40		08.53 (ME_05)
	20.52		20.19		19.30			18.41		17.04			16.57	25	09.18 (ME_05)
18	06.06		06.35		07.05			07.36		07.12			07.41		08.54 (ME_05)
	20.51		20.18		19.28			18.40		17.04			16.57	25	09.19 (ME_05)
19	06.07		06.36		07.06			07.37		07.13			07.41		08.55 (ME_05)
	20.50		20.16		19.27			18.38		17.03			16.58	25	09.20 (ME_05)
20	06.08		06.37		07.07			07.38		07.14			07.42		08.55 (ME_05)
	20.50		20.15		19.25			18.37		17.02			16.58	25	09.20 (ME_05)
21	06.09		06.38		07.08			07.39		07.15			07.42		08.56 (ME_05)
	20.49		20.13		19.23			18.35		17.01			16.58	25	09.21 (ME_05)
22	06.10		06.39		07.09			07.40		07.16			07.43		08.56 (ME_05)
	20.48		20.12		19.22			18.34		17.01			16.59	25	09.21 (ME_05)
23	06.11		06.40		07.10			07.42		07.17			07.43		08.56 (ME_05)
	20.47		20.10		19.20			18.32		17.00			16.59	25	09.21 (ME_05)
24	06.11		06.41		07.11			07.43		07.19		08.53 (ME_05)	07.44		08.57 (ME_05)
	20.47		20.09		19.18			18.31		17.00	8	09.01 (ME_05)	17.00	25	09.22 (ME_05)
25	06.12		06.42		07.12			06.44		07.20		08.51 (ME_05)	07.44		08.57 (ME_05)
	20.46		20.07		19.17			17.30		16.59	12	09.03 (ME_05)	17.01	25	09.22 (ME_05)
26	06.13		06.43		07.13			06.45		07.21		08.50 (ME_05)	07.45		08.58 (ME_05)
	20.45		20.06		19.15			17.28		16.59	15	09.05 (ME_05)	17.01	25	09.23 (ME_05)
27	06.14		06.44		07.14			06.46		07.22		08.49 (ME_05)	07.45		08.58 (ME_05)
	20.44		20.04		19.13			17.27		16.58	17	09.06 (ME_05)	17.02	25	09.23 (ME_05)
28	06.15		06.45		07.15			06.47		07.23		08.49 (ME_05)	07.45		08.58 (ME_05)
	20.43		20.03		19.12			17.26		16.58	18	09.07 (ME_05)	17.03	26	09.24 (ME_05)
29	06.16		06.46		07.16			06.48		07.24		08.49 (ME_05)	07.46		08.59 (ME_05)
	20.42		20.01		19.10			17.24		16.57	19	09.08 (ME_05)	17.03	25	09.24 (ME_05)
30	06.17		06.47		07.17			06.49		07.25		08.48 (ME_05)	07.46		09.00 (ME_05)
	20.41		20.00		19.08			17.23		16.57	21	09.09 (ME_05)	17.04	25	09.25 (ME_05)
31	06.18		06.48					06.51					07.46		09.00 (ME_05)
	20.40		19.58					17.22					17.05	26	09.26 (ME_05)
Potential sun hours	458		427		375			346		299			289		
Total, worst case						21					110			768	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R63 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (201)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	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	06.01	06.28	06.59	07.29	07.03	07.35
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.56	18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.19	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	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	18.32	17.00	16.59
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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)

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R64 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (198)

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		17.15 (ME_01)	06.58	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52			07.26
	17.06	17.40	1	17.16 (ME_01)	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.07	17.21			16.57
2	07.47	07.33		17.15 (ME_01)	06.57	07.06	06.22	05.54	05.56	06.20	06.50	07.19	06.53			07.27
	17.07	17.41	2	17.17 (ME_01)	18.14	19.47	20.19	20.47	20.57	20.38	19.55	19.05	17.19			16.56
3	07.47	07.32		17.15 (ME_01)	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54			07.28
	17.08	17.42	3	17.18 (ME_01)	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18			16.56
4	07.47	07.31		17.15 (ME_01)	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55			07.29
	17.08	17.43	5	17.20 (ME_01)	18.16	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17			16.56
5	07.47	07.29		17.16 (ME_01)	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56		16.48 (ME_01)	07.30
	17.09	17.45	5	17.21 (ME_01)	18.18	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16	4	16.52 (ME_01)	16.56
6	07.47	07.28		17.18 (ME_01)	06.50	07.00	06.17	05.53	05.58	06.23	06.54	07.23	06.58		16.46 (ME_01)	07.31
	17.10	17.46	4	17.22 (ME_01)	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	5	16.51 (ME_01)	16.56
7	07.47	07.27			06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59		16.46 (ME_01)	07.32
	17.11	17.47			18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	4	16.50 (ME_01)	16.56
8	07.47	07.26			06.47	06.57	06.14	05.52	05.59	06.25	06.56	07.25	07.00		16.46 (ME_01)	07.33
	17.12	17.48			18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	3	16.49 (ME_01)	16.56
9	07.46	07.25			06.46	06.55	06.13	05.52	06.00	06.26	06.57	07.26	07.01		16.46 (ME_01)	07.34
	17.13	17.49			18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.53	17.12	2	16.48 (ME_01)	16.56
10	07.46	07.24			06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02			07.35
	17.14	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	06.01	06.28	06.59	07.28	07.03			07.35
	17.15	17.52			18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10			16.56
12	07.46	07.22			06.41	06.50	06.10	05.51	06.02	06.29	07.00	07.30	07.05			07.36
	17.16	17.53			18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09			16.56
13	07.45	07.20			06.39	06.49	06.09	05.51	06.02	06.30	07.00	07.31	07.06			07.37
	17.17	17.54			18.26	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	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07			07.38
	17.18	17.56			18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07			16.56
15	07.45	07.18			06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08			07.39
	17.19	17.57			18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06			16.56
16	07.44	07.17			06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.10			07.40
	17.22	17.59			18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04			16.57
18	07.44	07.14			06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12			07.41
	17.23	18.00			18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.03			16.57
19	07.43	07.13			06.29	06.40	06.03	05.52	06.07	06.36	07.06	07.37	07.13			07.41
	17.24	18.01			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	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14			07.42
	17.25	18.03			18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02			16.58
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
	17.26	18.04			18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01			16.58
22	07.41	07.08			06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.40	07.16			07.43
	17.27	18.05			18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01			16.59
23	07.41	07.07			06.23	06.34	06.00	05.52	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	18.32	17.00			16.59
24	07.40	07.06			06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19			07.44
	17.30	18.07			18.38	20.10	20.40	20.57	20.46	20.09	19.18	18.31	17.00			17.00
25	07.39	07.04			06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20			07.44
	17.31	18.09			18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59			17.01
26	07.39	07.03			06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21			07.45
	17.32	18.10			18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59			17.01
27	07.38	07.01			06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22			07.45
	17.33	18.11			18.41	20.13	20.43	20.58	20.44	20.04	19.13	17.27	16.58			17.02
28	07.37	07.00			06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23			07.45
	17.35	18.12			18.42	20.15	20.43	20.58	20.43	20.03	19.11	17.26	16.58			17.03
29	07.36				07.13	06.26	05.56	05.54	06.16	06.46	07.16	06.48	07.24			07.46
	17.36				19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57			17.03
30	07.35				07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25			07.46
	17.37				19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57			17.04
31	07.34				07.10		05.55		06.18	06.48		06.51				07.46
	17.38				19.45		20.46		20.40	19.58		17.22				17.05
Potential sun hours	299	298			370	398	447	451	458	427	375	346	299			289
Total, worst case			20											18		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R65 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (214)

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	05.55	06.19	06.49		07.18		06.52	07.26
	17.06	17.40	18.13		19.46	20.18	20.47	20.57	20.39	19.56		19.06	4 18.27 (ME_03)	17.20	16.57
2	07.47	07.32	06.57		07.06	06.22	05.54	05.56	06.20	06.50		07.19		06.53	07.27
	17.07	17.41	18.14		19.47	20.19	20.47	20.57	20.38	19.55		19.05		17.19	16.56
3	07.47	07.32	06.55		07.05	06.20	05.54	05.56	06.21	06.51		07.20		06.54	07.28
	17.07	17.42	18.15		19.48	20.20	20.48	20.57	20.37	19.53		19.03		17.18	16.56
4	07.47	07.31	06.54		07.03	06.19	05.53	05.57	06.21	06.52		07.21		06.55	07.29
	17.08	17.43	18.16		19.50	20.21	20.49	20.57	20.36	19.52		19.02		17.17	16.56
5	07.47	07.29	06.52		07.01	06.18	05.53	05.57	06.22	06.53		07.22		06.56	07.30
	17.09	17.44	18.18		19.51	20.22	20.49	20.57	20.34	19.50		19.00		17.16	16.56
6	07.47	07.28	06.50		07.00	06.17	05.53	05.58	06.23	06.54		07.23		06.58	07.31
	17.10	17.46	18.19		19.52	20.23	20.50	20.57	20.33	19.48		18.58		17.15	16.56
7	07.47	07.27	06.49		06.58	06.15	05.52	05.58	06.24	06.55		07.24		06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56		07.25		07.00	07.33
	17.12	17.48	18.21		19.54	20.25	20.51	20.56	20.31	19.45		18.55		17.12	16.55
9	07.46	07.25	06.46		06.55	06.13	05.52	06.00	06.26	06.57		07.26		07.01	07.34
	17.13	17.49	18.22		19.55	20.26	20.52	20.56	20.30	19.43		18.53		17.11	16.55
10	07.46	07.24	06.44		06.53	06.12	05.52	06.00	06.27	06.58		07.27		07.02	07.35
	17.14	17.51	18.23		19.56	20.27	20.52	20.55	20.28	19.42		18.52		17.10	16.56
11	07.46	07.23	06.42		06.52	06.11	05.52	06.01	06.28	06.59		07.28		07.03	07.35
	17.15	17.52	18.24		19.57	20.28	20.53	20.55	20.27	19.40		18.50		17.09	16.56
12	07.46	07.22	06.41		06.50	06.10	05.51	06.02	06.29	06.59		07.29		07.05	07.36
	17.16	17.53	18.25		19.58	20.29	20.53	20.54	20.26	19.38		18.49		17.08	16.56
13	07.45	07.20	06.39	17.43 (ME_03)	06.49	06.09	05.51	06.02	06.30	07.00		07.31		07.06	07.37
	17.17	17.54	18.26	6 17.49 (ME_03)	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	17.41 (ME_03)	06.47	06.08	05.51	06.03	06.31	07.01		07.32		07.07	07.38
	17.18	17.55	18.27	8 17.49 (ME_03)	20.00	20.31	20.54	20.53	20.23	19.35		18.46		17.07	16.56
15	07.45	07.18	06.36	17.41 (ME_03)	06.46	06.07	05.51	06.04	06.32	07.02		07.33		07.08	07.39
	17.19	17.57	18.28	8 17.49 (ME_03)	20.01	20.32	20.55	20.53	20.22	19.33		18.44		17.06	16.56
16	07.44	07.16	06.34	17.42 (ME_03)	06.44	06.06	05.51	06.05	06.33	07.03		07.34		07.09	07.39
	17.21	17.58	18.30	6 17.48 (ME_03)	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	17.43 (ME_03)	06.43	06.05	05.51	06.05	06.34	07.04		07.35		07.10	07.40
	17.22	17.59	18.31	2 17.45 (ME_03)	20.03	20.34	20.56	20.52	20.19	19.30		18.41		17.04	16.57
18	07.44	07.14	06.31		06.41	06.04	05.51	06.06	06.35	07.05		07.36		07.12	07.41
	17.23	18.00	18.32		20.04	20.35	20.56	20.51	20.18	19.28		18.40		17.03	16.57
19	07.43	07.12	06.29		06.40	06.03	05.51	06.07	06.36	07.06		07.37		07.13	07.41
	17.24	18.01	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		06.38	06.02	05.52	06.08	06.37	07.07		07.38		07.14	07.42
	17.25	18.03	18.34		20.06	20.37	20.57	20.50	20.15	19.25		18.37		17.02	16.58
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
	17.26	18.04	18.35		20.07	20.37	20.57	20.49	20.13	19.23		18.35		17.01	16.58
22	07.41	07.08	06.24		06.35	06.01	05.52	06.10	06.39	07.09		07.40		07.16	07.43
	17.27	18.05	18.36		20.08	20.38	20.57	20.48	20.12	19.22		18.34		17.01	16.59
23	07.41	07.07	06.23		06.34	06.00	05.52	06.10	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		18.32		17.00	16.59
24	07.40	07.05	06.21		06.32	05.59	05.52	06.11	06.41	07.11		07.43		07.18	07.44
	17.30	18.07	18.38		20.10	20.40	20.57	20.46	20.09	19.18		18.31		17.00	17.00
25	07.39	07.04	06.20		06.31	05.59	05.53	06.12	06.42	07.12		06.44		07.20	07.44
	17.31	18.08	18.39		20.11	20.41	20.57	20.46	20.07	19.16		17.30		16.59	17.01
26	07.39	07.03	06.18		06.30	05.58	05.53	06.13	06.43	07.13		06.45		07.21	07.45
	17.32	18.10	18.40		20.12	20.42	20.58	20.45	20.06	19.15		17.28		16.59	17.01
27	07.38	07.01	06.16		06.28	05.57	05.53	06.14	06.44	07.14	18.24 (ME_03)	06.46		07.22	07.45
	17.33	18.11	18.41		20.13	20.43	20.58	20.44	20.04	19.13	5 18.29 (ME_03)	17.27		16.58	17.02
28	07.37	07.00	06.15		06.27	05.57	05.54	06.15	06.45	07.15	18.22 (ME_03)	06.47		07.23	07.45
	17.35	18.12	18.42		20.15	20.43	20.58	20.43	20.03	19.11	8 18.30 (ME_03)	17.26		16.58	17.02
29	07.36		07.13		06.25	05.56	05.54	06.16	06.46	07.16	18.22 (ME_03)	06.48		07.24	07.46
	17.36		19.43		20.16	20.44	20.58	20.42	20.01	19.10	8 18.30 (ME_03)	17.24		16.57	17.03
30	07.35		07.11		06.24	05.56	05.55	06.17	06.47	07.17	18.22 (ME_03)	06.49		07.25	07.46
	17.37		19.44		20.17	20.45	20.58	20.41	20.00	19.08	7 18.29 (ME_03)	17.23		16.57	17.04
31	07.34		07.10			05.55		06.18	06.48			06.51			07.46
	17.38		19.45			20.46		20.40	19.58			17.22			17.05
Potential sun hours	299	298	370		398	447	451	458	427	375		346		299	289
Total, worst case				30							28		4		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R66 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (197)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	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	06.01	06.28	06.59	07.29	07.03	07.35
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.43
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R67 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (156)

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	07.08	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	20.58	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	07.19	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	07.20	06.54	07.28
	17.08	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	07.28	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	05.59	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	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	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	20.55	20.54	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	07.39
	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	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	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	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	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	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	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	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	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	06.16	06.46	07.16	06.49	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	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R68 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (155)

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	07.08	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	20.58	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	07.19	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	07.47	07.32	06.55	07.05	06.21	05.54	05.57	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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	07.28	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	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	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.09	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 70
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R69 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (154)

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	07.08	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	20.58	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	07.19	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	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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	07.28	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	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	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.05	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	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	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 71
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R70 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (153)

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	07.08	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	20.58	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	07.19	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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	07.28	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	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	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.05	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	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	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 72
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R71 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (170)

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	07.08	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	20.58	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	07.19	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	20.34	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	17.47	18.20	19.53	20.24	20.51	20.57	20.32	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	05.53	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.03	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.37
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.45	06.06	05.52	06.05	06.34	07.04	07.34	07.10	07.40
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	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	06.07	06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	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	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.11	07.42	07.18	07.44
	17.29	18.06	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	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.58	20.47	20.09	19.18	18.31	17.00	17.00
25	07.40	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.49	07.24	07.46
	17.36		19.44	20.16	20.45	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	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R72 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (157)

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	07.08	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	20.58	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	07.19	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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	07.28	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	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	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.05	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	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	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R73 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (162)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	07.47	07.32	06.55	07.05	06.21	05.54	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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	19.49	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
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	18.26	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	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	20.25	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	06.04	05.52	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.09	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.47	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.02
27	07.38	07.01	06.16	06.29	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R74 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (173)

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	07.08	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	20.58	20.39	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	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	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	07.28	06.49	06.59	06.16	05.53	05.59	06.25	06.55	07.25	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.52	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	06.35	06.44	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.04	05.52	06.07	06.35	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	06.07	06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.14	19.23	18.35	17.02	16.59
22	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	20.48	20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.58	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R75 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (202)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.35	06.44	06.06	05.51	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.46		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R76 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (216)

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	07.46			07.33		08.15 (ME_06)	06.58		08.12 (ME_06)	07.08		06.23	05.54
	17.06			17.40	59	09.14 (ME_06)	18.13	63	09.15 (ME_06)	19.46		20.18	20.47
2	07.47			07.32		08.14 (ME_06)	06.57		08.13 (ME_06)	07.06		06.22	05.54
	17.07			17.41	61	09.15 (ME_06)	18.14	60	09.13 (ME_06)	19.47		20.19	20.47
3	07.47			07.32		08.14 (ME_06)	06.55		08.14 (ME_06)	07.05		06.20	05.54
	17.07			17.42	62	09.16 (ME_06)	18.15	58	09.12 (ME_06)	19.48		20.20	20.48
4	07.47			07.30		08.13 (ME_06)	06.53		08.14 (ME_06)	07.03		06.19	05.53
	17.08			17.43	64	09.17 (ME_06)	18.16	56	09.10 (ME_06)	19.50		20.21	20.49
5	07.47			07.29		08.13 (ME_06)	06.52		08.16 (ME_06)	07.01		06.18	05.53
	17.09			17.44	65	09.18 (ME_06)	18.18	53	09.09 (ME_06)	19.51		20.22	20.49
6	07.47			07.28		08.12 (ME_06)	06.50		08.17 (ME_06)	07.00		06.17	05.53
	17.10			17.46	67	09.19 (ME_06)	18.19	49	09.06 (ME_06)	19.52		20.23	20.50
7	07.47			07.27		08.12 (ME_06)	06.49		08.19 (ME_06)	06.58		06.15	05.52
	17.11			17.47	68	09.20 (ME_06)	18.20	46	09.05 (ME_06)	19.53		20.24	20.51
8	07.47			07.26		08.11 (ME_06)	06.47		08.20 (ME_06)	06.57		06.14	05.52
	17.12			17.48	70	09.21 (ME_06)	18.21	42	09.02 (ME_06)	19.54		20.25	20.51
9	07.46			07.25		08.11 (ME_06)	06.46		08.21 (ME_06)	06.55		06.13	05.52
	17.13			17.49	70	09.21 (ME_06)	18.22	39	09.00 (ME_06)	19.55		20.26	20.52
10	07.46			07.24		08.10 (ME_06)	06.44		08.24 (ME_06)	06.53		06.12	05.52
	17.14			17.51	71	09.21 (ME_06)	18.23	34	08.58 (ME_06)	19.56		20.27	20.52
11	07.46			07.23		08.10 (ME_06)	06.42		08.26 (ME_06)	06.52		06.11	05.52
	17.15			17.52	72	09.22 (ME_06)	18.24	28	08.54 (ME_06)	19.57		20.28	20.53
12	07.46			07.22		08.10 (ME_06)	06.41		08.29 (ME_06)	06.50		06.10	05.51
	17.16			17.53	72	09.22 (ME_06)	18.25	20	08.49 (ME_06)	19.58		20.29	20.53
13	07.45			07.20		08.10 (ME_06)	06.39		08.36 (ME_06)	06.49		06.09	05.51
	17.17			17.54	73	09.23 (ME_06)	18.26	6	08.42 (ME_06)	19.59		20.30	20.54
14	07.45			07.19		08.09 (ME_06)	06.38			06.47		06.08	05.51
	17.18			17.55	73	09.22 (ME_06)	18.27			20.00		20.31	20.54
15	07.45			07.18		08.09 (ME_06)	06.36			06.46		06.07	05.51
	17.19			17.57	73	09.22 (ME_06)	18.28			20.01		20.32	20.55
16	07.44			07.16		08.09 (ME_06)	06.34			06.44		06.06	05.51
	17.20			17.58	74	09.23 (ME_06)	18.30			20.02		20.33	20.55
17	07.44		08.38 (ME_06)	07.15		08.09 (ME_06)	06.33			06.43		06.05	05.51
	17.22	7	08.45 (ME_06)	17.59	73	09.22 (ME_06)	18.31			20.03		20.34	20.56
18	07.44		08.33 (ME_06)	07.14		08.09 (ME_06)	06.31			06.41		06.04	05.51
	17.23	17	08.50 (ME_06)	18.00	73	09.22 (ME_06)	18.32			20.04		20.35	20.56
19	07.43		08.31 (ME_06)	07.12		08.09 (ME_06)	06.29			06.40		06.03	05.51
	17.24	23	08.54 (ME_06)	18.01	73	09.22 (ME_06)	18.33			20.05		20.36	20.56
20	07.42		08.28 (ME_06)	07.11		08.09 (ME_06)	06.28			06.38		06.02	05.52
	17.25	28	08.56 (ME_06)	18.03	73	09.22 (ME_06)	18.34			20.06		20.36	20.57
21	07.42		08.27 (ME_06)	07.10		08.09 (ME_06)	06.26			06.37		06.02	05.52
	17.26	32	08.59 (ME_06)	18.04	73	09.22 (ME_06)	18.35			20.07		20.37	20.57
22	07.41		08.25 (ME_06)	07.08		08.09 (ME_06)	06.24			06.35		06.01	05.52
	17.27	36	09.01 (ME_06)	18.05	71	09.20 (ME_06)	18.36			20.08		20.38	20.57
23	07.41		08.24 (ME_06)	07.07		08.10 (ME_06)	06.23			06.34		06.00	05.52
	17.29	38	09.02 (ME_06)	18.06	73	17.31 (ME_03)	18.37			20.09		20.39	20.57
24	07.40		08.22 (ME_06)	07.05		08.09 (ME_06)	06.21			06.32		05.59	05.52
	17.30	42	09.04 (ME_06)	18.07	76	17.32 (ME_03)	18.38			20.10		20.40	20.57
25	07.39		08.22 (ME_06)	07.04		08.10 (ME_06)	06.20			06.31		05.59	05.53
	17.31	44	09.06 (ME_06)	18.08	74	17.32 (ME_03)	18.39			20.11		20.41	20.57
26	07.39		08.21 (ME_06)	07.03		08.11 (ME_06)	06.18			06.30		05.58	05.53
	17.32	47	09.08 (ME_06)	18.10	71	17.32 (ME_03)	18.40			20.12		20.42	20.58
27	07.38		08.20 (ME_06)	07.01		08.11 (ME_06)	06.16			06.28		05.57	05.53
	17.33	49	09.09 (ME_06)	18.11	66	09.17 (ME_06)	18.41			20.13		20.43	20.58
28	07.37		08.19 (ME_06)	07.00		08.11 (ME_06)	06.15			06.27		05.57	05.54
	17.35	51	09.10 (ME_06)	18.12	64	09.15 (ME_06)	18.42			20.14		20.43	20.58
29	07.36		08.18 (ME_06)				07.13			06.25		05.56	05.54
	17.36	53	09.11 (ME_06)				19.43			20.16		20.44	20.58
30	07.35		08.17 (ME_06)				07.11			06.24		05.55	05.55
	17.37	55	09.12 (ME_06)				19.44			20.17		20.45	20.58
31	07.34		08.16 (ME_06)				07.10					05.55	
	17.38	57	09.13 (ME_06)				19.45					20.46	
Potential sun hours	299			298			370			398		447	451
Total, worst case		579			1954			554					

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R76 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (216)

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	05.55		06.19		06.49		07.18		09.10 (ME_06)		06.52		07.40 (ME_06)	07.26
	20.57		20.39		19.56		19.06	17	09.27 (ME_06)		17.20	71	08.51 (ME_06)	16.57
2	05.56		06.20		06.50		07.19		09.06 (ME_06)		06.53		07.40 (ME_06)	07.27
	20.57		20.38		19.55		19.05	25	09.31 (ME_06)		17.19	70	08.50 (ME_06)	16.56
3	05.56		06.21		06.51		07.20		09.02 (ME_06)		06.54		07.41 (ME_06)	07.28
	20.57		20.37		19.53		19.03	32	09.34 (ME_06)		17.18	69	08.50 (ME_06)	16.56
4	05.57		06.21		06.52		07.21		09.00 (ME_06)		06.55		07.42 (ME_06)	07.29
	20.57		20.36		19.52		19.01	36	09.36 (ME_06)		17.17	68	08.50 (ME_06)	16.56
5	05.57		06.22		06.53		07.22		08.57 (ME_06)		06.56		07.42 (ME_06)	07.30
	20.57		20.34		19.50		19.00	41	09.38 (ME_06)		17.16	67	08.49 (ME_06)	16.56
6	05.58		06.23		06.54		07.23		08.55 (ME_06)		06.58		07.42 (ME_06)	07.31
	20.57		20.33		19.48		18.58	45	09.40 (ME_06)		17.15	66	08.48 (ME_06)	16.56
7	05.58		06.24		06.55		07.24		08.54 (ME_06)		06.59		07.44 (ME_06)	07.32
	20.56		20.32		19.47		18.57	47	09.41 (ME_06)		17.14	64	08.48 (ME_06)	16.56
8	05.59		06.25		06.56		07.25		08.52 (ME_06)		07.00		07.45 (ME_06)	07.33
	20.56		20.31		19.45		18.55	51	09.43 (ME_06)		17.12	62	08.47 (ME_06)	16.55
9	06.00		06.26		06.57		07.26		08.50 (ME_06)		07.01		07.45 (ME_06)	07.34
	20.56		20.30		19.43		18.53	54	09.44 (ME_06)		17.11	61	08.46 (ME_06)	16.55
10	06.00		06.27		06.58		07.27		08.48 (ME_06)		07.02		07.46 (ME_06)	07.35
	20.55		20.28		19.42		18.52	57	09.45 (ME_06)		17.10	59	08.45 (ME_06)	16.56
11	06.01		06.28		06.58		07.28		08.48 (ME_06)		07.03		07.48 (ME_06)	07.35
	20.55		20.27		19.40		18.50	59	09.47 (ME_06)		17.09	57	08.45 (ME_06)	16.56
12	06.02		06.29		06.59		07.29		08.47 (ME_06)		07.05		07.49 (ME_06)	07.36
	20.54		20.26		19.38		18.49	61	09.48 (ME_06)		17.08	55	08.44 (ME_06)	16.56
13	06.02		06.30		07.00		07.31		08.45 (ME_06)		07.06		07.50 (ME_06)	07.37
	20.54		20.24		19.37		18.47	64	09.49 (ME_06)		17.08	53	08.43 (ME_06)	16.56
14	06.03		06.31		07.01		07.32		08.44 (ME_06)		07.07		07.51 (ME_06)	07.38
	20.53		20.23		19.35		18.46	65	09.49 (ME_06)		17.07	51	08.42 (ME_06)	16.56
15	06.04		06.32		07.02		07.33		08.43 (ME_06)		07.08		07.53 (ME_06)	07.39
	20.53		20.22		19.33		18.44	67	09.50 (ME_06)		17.06	49	08.42 (ME_06)	16.56
16	06.05		06.33		07.03		07.34		08.42 (ME_06)		07.09		07.54 (ME_06)	07.39
	20.52		20.20		19.32		18.43	73	18.04 (ME_03)		17.05	46	08.40 (ME_06)	16.57
17	06.05		06.34		07.04		07.35		08.41 (ME_06)		07.10		07.55 (ME_06)	07.40
	20.52		20.19		19.30		18.41	76	18.04 (ME_03)		17.04	44	08.39 (ME_06)	16.57
18	06.06		06.35		07.05		07.36		08.41 (ME_06)		07.12		07.56 (ME_06)	07.41
	20.51		20.18		19.28		18.40	75	18.03 (ME_03)		17.03	42	08.38 (ME_06)	16.57
19	06.07		06.36		07.06		07.37		08.40 (ME_06)		07.13		07.59 (ME_06)	07.41
	20.50		20.16		19.27		18.38	72	18.01 (ME_03)		17.03	38	08.37 (ME_06)	16.58
20	06.08		06.37		07.07		07.38		08.40 (ME_06)		07.14		08.00 (ME_06)	07.42
	20.50		20.15		19.25		18.37	72	09.52 (ME_06)		17.02	36	08.36 (ME_06)	16.58
21	06.09		06.38		07.08		07.39		08.40 (ME_06)		07.15		08.02 (ME_06)	07.42
	20.49		20.13		19.23		18.35	72	09.52 (ME_06)		17.01	32	08.34 (ME_06)	16.58
22	06.10		06.39		07.09		07.40		08.39 (ME_06)		07.16		08.04 (ME_06)	07.43
	20.48		20.12		19.21		18.34	73	09.52 (ME_06)		17.01	28	08.32 (ME_06)	16.59
23	06.10		06.40		07.10		07.41		08.39 (ME_06)		07.17		08.07 (ME_06)	07.43
	20.47		20.10		19.20		18.32	73	09.52 (ME_06)		17.00	23	08.30 (ME_06)	16.59
24	06.11		06.41		07.11		07.43		08.39 (ME_06)		07.18		08.11 (ME_06)	07.44
	20.46		20.09		19.18		18.31	73	09.52 (ME_06)		17.00	17	08.28 (ME_06)	17.00
25	06.12		06.42		07.12		06.44		07.39 (ME_06)		07.20		08.15 (ME_06)	07.44
	20.46		20.07		19.16		17.30	74	08.53 (ME_06)		16.59	9	08.24 (ME_06)	17.00
26	06.13		06.43		07.13		06.45		07.39 (ME_06)		07.21			07.45
	20.45		20.06		19.15		17.28	73	08.52 (ME_06)		16.58			17.01
27	06.14		06.44		07.14		06.46		07.39 (ME_06)		07.22			07.45
	20.44		20.04		19.13		17.27	73	08.52 (ME_06)		16.58			17.02
28	06.15		06.45		07.15		06.47		07.39 (ME_06)		07.23			07.45
	20.43		20.03		19.11		17.25	73	08.52 (ME_06)		16.58			17.02
29	06.16		06.46		07.16		06.48		07.39 (ME_06)		07.24			07.46
	20.42		20.01		19.10		17.24	72	08.51 (ME_06)		16.57			17.03
30	06.17		06.47		07.17		06.49		07.40 (ME_06)		07.25			07.46
	20.41		20.00		19.08		17.23	72	08.52 (ME_06)		16.57			17.04
31	06.18		06.48				06.51		07.40 (ME_06)					07.46
	20.40		19.58				17.22	71	08.51 (ME_06)					17.05
Potential sun hours	458		427		375		346				299			289
Total, worst case								1888				1237		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R77 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (220)

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	07.46		07.33		06.58	07.08	06.23	05.54
	17.06		17.39		18.13	19.46	20.18	20.47
2	07.47		07.32		06.57	07.06	06.22	05.54
	17.06		17.41		18.14	19.47	20.19	20.47
3	07.47		07.31		06.55	07.05	06.20	05.54
	17.07		17.42		18.15	19.48	20.20	20.48
4	07.47		07.30		06.53	07.03	06.19	05.53
	17.08		17.43		18.16	19.49	20.21	20.49
5	07.47		07.29		06.52	07.01	06.18	05.53
	17.09		17.44		18.17	19.51	20.22	20.49
6	07.47		07.28		06.50	07.00	06.17	05.53
	17.10		17.46		18.19	19.52	20.23	20.50
7	07.47		07.27		06.49	06.58	06.15	05.52
	17.11		17.47		18.20	19.53	20.24	20.51
8	07.46		16.41 (ME_04)	07.26	06.47	06.57	06.14	05.52
	17.12	1	16.42 (ME_04)	17.48	18.21	19.54	20.25	20.51
9	07.46		16.41 (ME_04)	07.25	06.46	06.55	06.13	05.52
	17.13	3	16.44 (ME_04)	17.49	18.22	19.55	20.26	20.52
10	07.46		16.41 (ME_04)	07.24	06.44	06.53	06.12	05.52
	17.14	4	16.45 (ME_04)	17.51	18.23	19.56	20.27	20.52
11	07.46		16.41 (ME_04)	07.23	06.42	06.52	06.11	05.51
	17.15	4	16.45 (ME_04)	17.52	18.24	19.57	20.28	20.53
12	07.46		16.41 (ME_04)	07.21	06.41	06.50	06.10	05.51
	17.16	5	16.46 (ME_04)	17.53	18.25	19.58	20.29	20.53
13	07.45		16.42 (ME_04)	07.20	06.39	06.49	06.09	05.51
	17.17	4	16.46 (ME_04)	17.54	18.26	19.59	20.30	20.54
14	07.45		16.43 (ME_04)	07.19	17.24 (ME_03)	06.38	06.47	06.08	05.51
	17.18	3	16.46 (ME_04)	17.55	2 17.26 (ME_03)	18.27	20.00	20.31	20.54
15	07.45			07.18	17.24 (ME_03)	06.36	06.46	06.07	05.51
	17.19			17.57	3 17.27 (ME_03)	18.28	20.01	20.32	20.55
16	07.44		16.51 (ME_06)	07.16	17.25 (ME_03)	06.34	06.44	06.06	05.51
	17.20	1	16.52 (ME_06)	17.58	1 17.26 (ME_03)	18.30	20.02	20.33	20.55
17	07.44		16.50 (ME_06)	07.15		06.33	06.43	06.05	05.51
	17.22	5	16.55 (ME_06)	17.59		18.31	20.03	20.34	20.56
18	07.43		16.49 (ME_06)	07.14		06.31	06.41	06.04	05.51
	17.23	7	16.56 (ME_06)	18.00		18.32	20.04	20.35	20.56
19	07.43		16.49 (ME_06)	07.12		06.29	06.40	06.03	05.51
	17.24	8	16.57 (ME_06)	18.01		18.33	20.05	20.36	20.56
20	07.42		16.49 (ME_06)	07.11		06.28	06.38	06.02	05.52
	17.25	9	16.58 (ME_06)	18.03		18.34	20.06	20.36	20.56
21	07.42		16.49 (ME_06)	07.10		06.26	06.37	06.01	05.52
	17.26	9	16.58 (ME_06)	18.04		18.35	20.07	20.37	20.57
22	07.41		16.50 (ME_06)	07.08		06.24	06.35	06.01	05.52
	17.27	8	16.58 (ME_06)	18.05		18.36	20.08	20.38	20.57
23	07.41		16.50 (ME_06)	07.07		06.23	06.34	06.00	05.52
	17.29	8	16.58 (ME_06)	18.06		18.37	20.09	20.39	20.57
24	07.40		16.51 (ME_06)	07.05		06.21	06.32	05.59	05.52
	17.30	6	16.57 (ME_06)	18.07		18.38	20.10	20.40	20.57
25	07.39		16.53 (ME_06)	07.04		06.19	06.31	05.58	05.53
	17.31	4	16.57 (ME_06)	18.08		18.39	20.11	20.41	20.57
26	07.38			07.03		06.18	06.29	05.58	05.53
	17.32			18.10		18.40	20.12	20.42	20.57
27	07.38			07.01		06.16	06.28	05.57	05.53
	17.33			18.11		18.41	20.13	20.43	20.58
28	07.37			07.00		06.15	06.27	05.57	05.54
	17.35			18.12		18.42	20.14	20.43	20.58
29	07.36					07.13	06.25	05.56	05.54
	17.36					19.43	20.16	20.44	20.58
30	07.35					07.11	06.24	05.55	05.55
	17.37					19.44	20.17	20.45	20.58
31	07.34					07.10		05.55	
	17.38					19.45		20.46	
Potential sun hours	299		298			370	398	447	451
Total, worst case		89		6					

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R77 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (220)

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	05.55		06.19		06.49		07.18			06.52			07.26		16.23 (ME_04)
	20.57		20.39		19.56		19.06			17.20			16.57	4	16.27 (ME_04)
2	05.56		06.20		06.50		07.19			06.53			07.27		16.23 (ME_04)
	20.57		20.38		19.55		19.05			17.19			16.56	4	16.27 (ME_04)
3	05.56		06.20		06.51		07.20			06.54			07.28		16.24 (ME_04)
	20.57		20.37		19.53		19.03			17.18			16.56	3	16.27 (ME_04)
4	05.57		06.21		06.52		07.21			06.55			07.29		16.26 (ME_04)
	20.57		20.36		19.51		19.01			17.17			16.56	2	16.28 (ME_04)
5	05.57		06.22		06.53		07.22			06.56			07.30		
	20.57		20.34		19.50		19.00			17.16			16.56		
6	05.58		06.23		06.54		07.23			06.58			07.31		
	20.57		20.33		19.48		18.58			17.15			16.56		
7	05.58		06.24		06.55		07.24			06.59			07.32		
	20.56		20.32		19.47		18.57			17.13			16.55		
8	05.59		06.25		06.56		07.25			07.00			07.33		
	20.56		20.31		19.45		18.55			17.12			16.55		
9	06.00		06.26		06.57		07.26			07.01			07.34		
	20.56		20.30		19.43		18.53			17.11			16.55		
10	06.00		06.27		06.57		07.27			07.02			07.35		
	20.55		20.28		19.42		18.52			17.10			16.55		
11	06.01		06.28		06.58		07.28			07.03			07.35		
	20.55		20.27		19.40		18.50			17.09			16.56		
12	06.02		06.29		06.59		07.29			07.05			07.36		
	20.54		20.26		19.38		18.49			17.08			16.56		
13	06.02		06.30		07.00		07.31			07.06			07.37		
	20.54		20.24		19.37		18.47			17.08			16.56		
14	06.03		06.31		07.01		07.32			07.07			07.38		
	20.53		20.23		19.35		18.46			17.07			16.56		
15	06.04		06.32		07.02		07.33			07.08			07.39		
	20.53		20.22		19.33		18.44			17.06			16.56		
16	06.05		06.33		07.03		07.34			07.09			07.39		
	20.52		20.20		19.32		18.42			17.05			16.56		
17	06.05		06.34		07.04		07.35			07.10		16.26 (ME_06)	07.40		
	20.52		20.19		19.30		18.41			17.04	4	16.30 (ME_06)	16.57		
18	06.06		06.35		07.05		07.36			07.12		16.25 (ME_06)	07.41		
	20.51		20.18		19.28		18.39			17.03	6	16.31 (ME_06)	16.57		
19	06.07		06.36		07.06		07.37			07.13		16.25 (ME_06)	07.41		
	20.50		20.16		19.27		18.38			17.03	8	16.33 (ME_06)	16.57		
20	06.08		06.37		07.07		07.38			07.14		16.25 (ME_06)	07.42		
	20.50		20.15		19.25		18.37			17.02	8	16.33 (ME_06)	16.58		
21	06.09		06.38		07.08		07.39			07.15		16.25 (ME_06)	07.42		
	20.49		20.13		19.23		18.35			17.01	9	16.34 (ME_06)	16.58		
22	06.10		06.39		07.09		07.40			07.16		16.25 (ME_06)	07.43		
	20.48		20.12		19.21		18.34			17.01	9	16.34 (ME_06)	16.59		
23	06.10		06.40		07.10		07.41			07.17		16.25 (ME_06)	07.43		
	20.47		20.10		19.20		18.32			17.00	8	16.33 (ME_06)	16.59		
24	06.11		06.41		07.11		07.43			07.18		16.27 (ME_06)	07.44		
	20.46		20.09		19.18		18.31			16.59	7	16.34 (ME_06)	17.00		
25	06.12		06.42		07.12		06.44			07.20		16.28 (ME_06)	07.44		
	20.46		20.07		19.16		17.29			16.59	5	16.33 (ME_06)	17.00		
26	06.13		06.43		07.13		06.45		16.54 (ME_03)	07.21		16.30 (ME_06)	07.45		
	20.45		20.06		19.15		17.28	3	16.57 (ME_03)	16.58	2	16.32 (ME_06)	17.01		
27	06.14		06.44		07.14		06.46		16.54 (ME_03)	07.22			07.45		
	20.44		20.04		19.13		17.27	3	16.57 (ME_03)	16.58			17.02		
28	06.15		06.45		07.15		06.47		16.54 (ME_03)	07.23		16.23 (ME_04)	07.45		
	20.43		20.03		19.11		17.25	2	16.56 (ME_03)	16.58	3	16.26 (ME_04)	17.02		
29	06.16		06.46		07.16		06.48			07.24		16.22 (ME_04)	07.46		
	20.42		20.01		19.10		17.24			16.57	4	16.26 (ME_04)	17.03		
30	06.17		06.47		07.17		06.49			07.25		16.22 (ME_04)	07.46		
	20.41		20.00		19.08		17.23			16.57	5	16.27 (ME_04)	17.04		
31	06.18		06.48				06.51						07.46		
	20.40		19.58				17.22						17.05		
Potential sun hours	458		427		375		346			299			289		
Total, worst case								8			78			13	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R78 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (223)

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	07.08	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	20.58	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	07.19	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	07.20	06.54	07.28
	17.08	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	07.28	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	05.59	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	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	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	20.55	20.54	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	07.39
	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	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	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	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	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	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	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	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	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	06.16	06.46	07.16	06.49	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	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 82
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R79 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (224)

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	07.08	06.23	05.55	05.56	06.19	06.49	07.19	06.52	07.26
	17.06	17.40	18.13	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	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.18	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	20.34	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	17.47	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	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	07.03	07.35
	17.15	17.51	18.23	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	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.37
	17.17	17.53	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	06.09	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	20.55	20.54	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	07.39
	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	07.45	07.17	06.35	06.45	06.06	05.52	06.05	06.34	07.04	07.34	07.10	07.40
	17.21	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	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	20.07	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.27	06.37	06.02	05.52	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	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	07.12	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.58	20.47	20.09	19.19	18.31	17.00	17.00
25	07.40	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.13	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	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	06.14	06.44	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	19.13	17.27	16.59	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.16	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	06.16	06.46	07.17	06.49	07.24	07.46
	17.36		19.44	20.16	20.45	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	19.08	17.23	16.57	17.04
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	289
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:
Wpd_2020_06_22

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22/06/2020 15.17 / 83
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R80 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (225)

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	07.08	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	20.58	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	07.19	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	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.18	16.57
4	07.47	07.31	06.54	07.03	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	20.34	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	17.47	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	05.59	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	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	07.03	07.35
	17.15	17.51	18.23	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	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	20.55	20.54	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	07.39
	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	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	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	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	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	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	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.13	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	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	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	06.16	06.46	07.16	06.49	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	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R81 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (226)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.58	20.39	19.56	19.06	17.20	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.47	20.19	20.47	20.57	20.38	19.55	19.05	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.07	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.22	06.53	07.22	06.56	07.30
	17.09	17.44	18.18	19.51	20.22	20.49	20.57	20.34	19.50	19.00	17.16	16.56
6	07.47	07.28	06.50	07.00	06.17	05.53	05.58	06.23	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.15	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.12	16.56
9	07.46	07.25	06.46	06.55	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.53	17.11	16.56
10	07.46	07.24	06.44	06.53	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	20.55	20.28	19.42	18.52	17.10	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52	06.01	06.28	06.59	07.28	07.03	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.09	16.56
12	07.46	07.22	06.41	06.50	06.10	05.51	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.02	06.30	07.00	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.55	18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.19	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.05	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.03	16.57
19	07.43	07.13	06.29	06.40	06.03	05.51	06.07	06.36	07.06	07.37	07.13	07.41
	17.24	18.01	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.58
22	07.41	07.08	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.52	06.10	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	18.32	17.00	16.59
24	07.40	07.06	06.21	06.32	05.59	05.52	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.08	18.39	20.11	20.41	20.57	20.46	20.07	19.16	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.53	06.14	06.44	07.14	06.46	07.22	07.45
	17.33	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	20.15	20.44	20.58	20.43	20.03	19.11	17.26	16.58	17.02
29	07.36		07.13	06.25	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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)

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_Stato di fatto **Shadow receptor:** R82 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (227)

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		19.04 (ME_03)		06.23		05.55		05.55		06.19		06.49		07.18		18.07 (ME_04)		06.52		07.26	
	17.06		17.40		18.13		19.46	6	19.10 (ME_03)		20.18		20.47		20.57		20.39		19.56		19.06	7	18.14 (ME_04)		17.20		16.57	
2	07.47		07.32		06.57		07.06		19.05 (ME_03)		06.22		05.54		05.56		06.20		06.50		07.19		18.05 (ME_04)		06.53		07.27	
	17.07		17.41		18.14		19.47	5	19.10 (ME_03)		20.19		20.47		20.57		20.38		19.55		19.05	11	18.16 (ME_04)		17.19		16.56	
3	07.47		07.31		06.55		07.05				06.20		05.54		05.56		06.21		06.51		07.20		18.04 (ME_04)		06.54		07.28	
	17.07		17.42		18.15		19.48				20.20		20.48		20.57		20.37		19.53		19.03	12	18.16 (ME_04)		17.18		16.56	
4	07.47		07.30		06.53		07.03				06.19		05.53		05.57		06.21		06.52		07.21		18.03 (ME_04)		06.55		07.29	
	17.08		17.43		18.16		19.50				20.21		20.49		20.57		20.36		19.52		19.01	14	18.17 (ME_04)		17.17		16.56	
5	07.47		07.29		06.52		17.30 (ME_04)		07.01		06.18		05.53		05.57		06.22		06.53		07.22		18.02 (ME_04)		06.56		07.30	
	17.09		17.44		18.18	7	17.37 (ME_04)		19.51		20.22		20.49		20.57		20.34		19.50		19.00	14	18.16 (ME_04)		17.16		16.56	
6	07.47		07.28		06.50		17.27 (ME_04)		07.00		06.17		05.53		05.58		06.23		06.54		07.23		18.02 (ME_04)		06.58		07.31	
	17.10		17.46		18.19	11	17.38 (ME_04)		19.52		20.23		20.50		20.57		20.33		19.48		18.58	14	18.16 (ME_04)		17.15		16.56	
7	07.47		07.27		06.49		17.27 (ME_04)		06.58		06.15		05.52		05.58		06.24		06.55		07.24		18.03 (ME_04)		06.59		07.32	
	17.11		17.47		18.20	13	17.40 (ME_04)		19.53		20.24		20.51		20.56		20.32		19.47		18.57	12	18.15 (ME_04)		17.14		16.56	
8	07.47		07.26		06.47		17.26 (ME_04)		06.57		06.14		05.52		05.59		06.25		06.56		07.25		18.04 (ME_04)		07.00		07.33	
	17.12		17.48		18.21	14	17.40 (ME_04)		19.54		20.25		20.51		20.56		20.31		19.45		18.55	9	18.13 (ME_04)		17.12		16.55	
9	07.46		07.25		06.46		17.25 (ME_04)		06.55		06.13		05.52		06.00		06.26		06.57		07.26		18.05 (ME_04)		07.01		07.34	
	17.13		17.49		18.22	14	17.39 (ME_04)		19.55		20.26		20.52		20.56		20.30		19.43		18.53	6	18.11 (ME_04)		17.11		16.55	
10	07.46		07.24		06.44		17.26 (ME_04)		06.53		06.12		05.52		06.00		06.27		06.58		18.58 (ME_03)		07.27				07.02		07.35	
	17.14		17.51		18.23	13	17.39 (ME_04)		19.56		20.27		20.52		20.55		20.28		19.42	5	19.03 (ME_03)		18.52				17.10		16.56	
11	07.46		07.23		06.42		17.26 (ME_04)		06.52		06.11		05.52		06.01		06.28		06.58		18.57 (ME_03)		07.28				07.03		07.35	
	17.15		17.52		18.24	12	17.38 (ME_04)		19.57		20.28		20.53		20.55		20.27		19.40	6	19.03 (ME_03)		18.50				17.09		16.56	
12	07.46		07.22		06.41		17.27 (ME_04)		06.50		06.10		05.51		06.02		06.29		06.59		18.57 (ME_03)		07.29				07.05		07.36	
	17.16		17.53		18.25	9	17.36 (ME_04)		19.58		20.29		20.53		20.54		20.26		19.38	6	19.03 (ME_03)		18.49				17.08		16.56	
13	07.45		07.20		06.39		17.31 (ME_04)		06.49		06.09		05.51		06.02		06.30		07.00		18.58 (ME_03)		07.31				07.06		07.37	
	17.17		17.54		18.26	2	17.33 (ME_04)		19.59		20.30		20.54		20.54		20.24		19.37	3	19.01 (ME_03)		18.47				17.08		16.56	
14	07.45		07.19		06.38				06.47		06.08		05.51		06.03		06.31		07.01				07.32				07.07		07.38	
	17.18		17.55		18.27				20.00		20.31		20.54		20.53		20.23		19.35				18.46				17.07		16.56	
15	07.45		07.18		06.36				06.46		06.07		05.51		06.04		06.32		07.02				07.33				07.08		07.39	
	17.19		17.57		18.28				20.01		20.32		20.55		20.53		20.22		19.33				18.44				17.06		16.56	
16	07.44		07.16		06.34				06.44		06.06		05.51		06.05		06.33		07.03				07.34				07.09		07.39	
	17.20		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		06.05		05.51		06.05		06.34		07.04				07.35				07.10		07.40	
	17.22		17.59		18.31				20.03		20.34		20.56		20.52		20.19		19.30				18.41				17.04		16.57	
18	07.43		07.14		06.31				06.41		06.04		05.51		06.06		06.35		07.05				07.36				07.12		07.41	
	17.23		18.00		18.32				20.04		20.35		20.56		20.51		20.18		19.28				18.40				17.03		16.57	
19	07.43		07.12		06.29				06.40		06.03		05.51		06.07		06.36		07.06				07.37				07.13		07.41	
	17.24		18.01		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				06.38		06.02		05.52		06.08		06.37		07.07				07.38				07.14		07.42	
	17.25		18.03		18.34				20.06		20.36		20.57		20.50		20.15		19.25				18.37				17.02		16.58	
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	
	17.26		18.04		18.35				20.07		20.37		20.57		20.49		20.13		19.23				18.35				17.01		16.58	
22	07.41		07.08		06.24				06.35		06.01		05.52		06.10		06.39		07.09				07.40				07.16		07.43	
	17.27		18.05		18.36				20.08		20.38		20.57		20.48		20.12		19.21				18.34				17.01		16.59	
23	07.41		07.07		06.23				06.34		06.00		05.52		06.10		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				18.32				17.00		16.59	
24	07.40		07.05		06.21				06.32		05.59		05.52		06.11		06.41		07.11				07.43				07.18		07.44	
	17.30		18.07		18.38				20.10		20.40		20.57		20.46		20.09		19.18				18.31				17.00		17.00	
25	07.39		07.04		06.20				06.31		05.59		05.53		06.12		06.42		07.12				06.44				07.20		07.44	
	17.31		18.08		18.39				20.11		20.41		20.57		20.46		20.07		19.16				17.30				16.59		17.01	
26	07.39		07.03		06.18				06.30		05.58		05.53		06.13		06.43		07.13				06.45				07.21		07.45	
	17.32		18.10		18.40				20.12		20.42		20.58		20.45		20.06		19.15				17.28				16.58		17.01	
27	07.38		07.01		06.16				06.28		05.57		05.53		06.14		06.44		07.14				06.46				07.22		07.45	
	17.33		18.11		18.41				20.13		20.43		20.58		20.44		20.04		19.13				17.27				16.58		17.02	
28	07.37		07.00		06.15				06.27		05.57		05.54		06.15		06.45		07.15				06.47				07.23		07.45	
	17.35		18.12		18.42				20.14		20.43		20.58		20.43		20.03		19.11				17.25				16.58		17.02	
29	07.36				07.13				06.25		05.56		05.54		06.16		06.46		07.16				06.48				07.24		07.46	
	17.36				19.43				20.16		20.44		20.58		20.42		20.01		19.10				17.24				16.57		17.03	
30	07.35				07.11		19.07 (ME_03)		06.24		05.56		05.55		06.17		06.47		07.17				06.49				07.25		07.46	
	17.37				19.44	3	19.10 (ME_03)		20.17		20.45		20.58		20.41		20.00		19.08				17.23				16.57		17.04	
31	07.34				07.10		19.05 (ME_03)				05.55				06.18		06.48						06.51						07.46	
	17.38				19.45	5	19.10 (ME_03)				20.46				20.40		19.58						17.22						17.05	
Potential sun hours	299		298		370				398		447		451		458		427		375				346				299		289	
Total, worst case						103		11										20				99						

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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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

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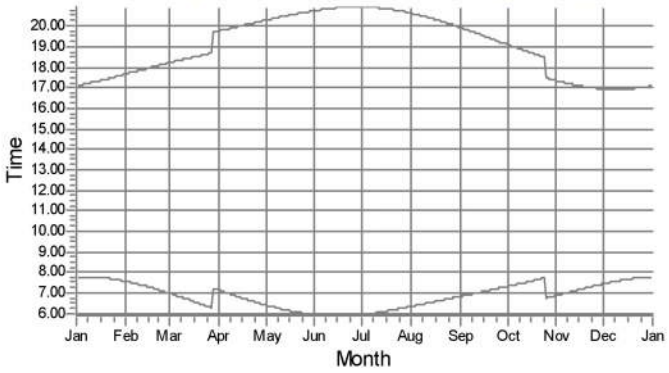
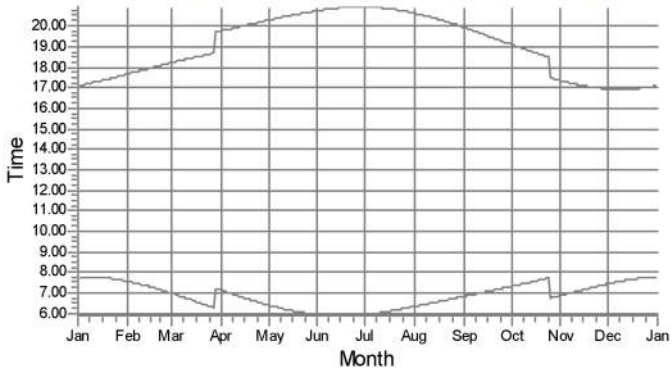
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

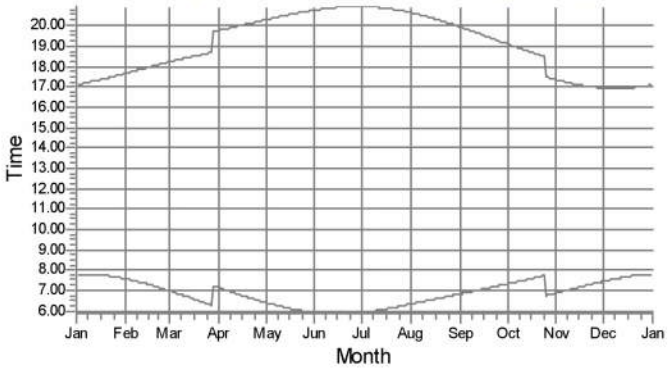
R02: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (159)



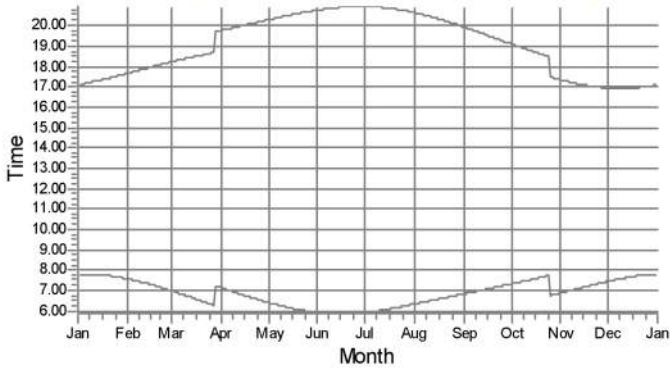
R04: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (161)



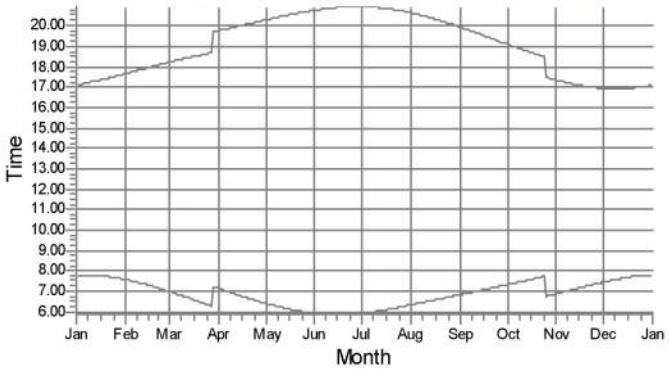
R06: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (168)



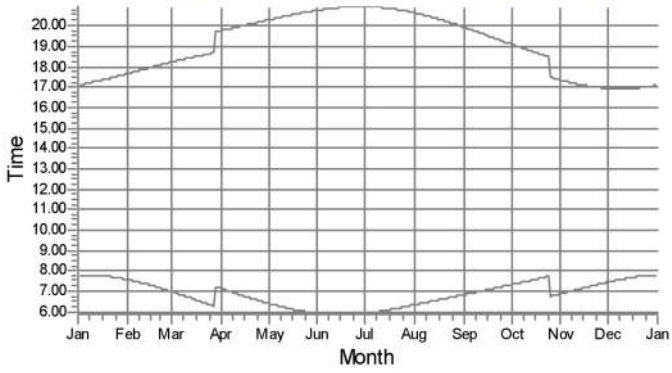
R07: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (171)



R08: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (172)



R09: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (174)



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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
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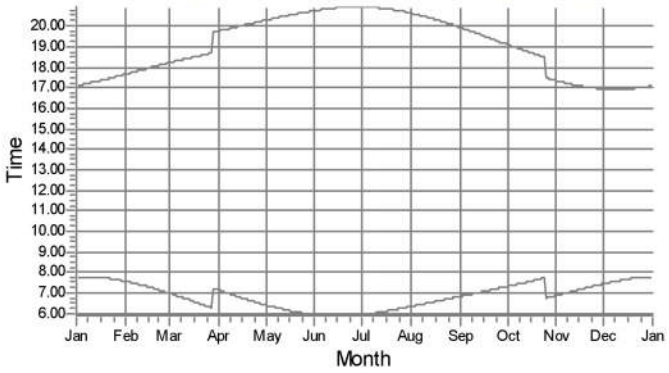
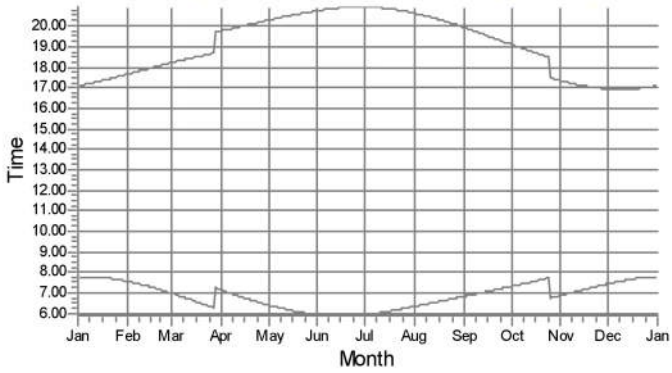
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

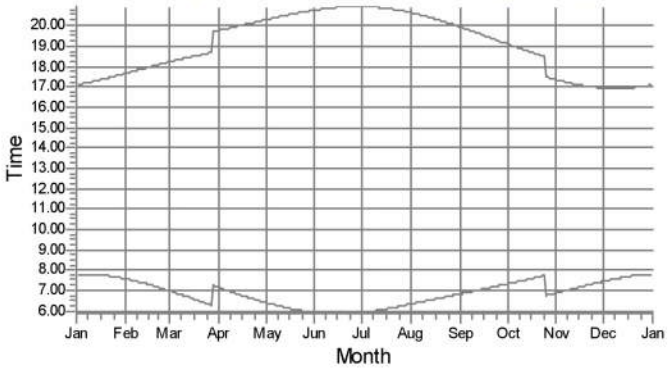
R10: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (175)



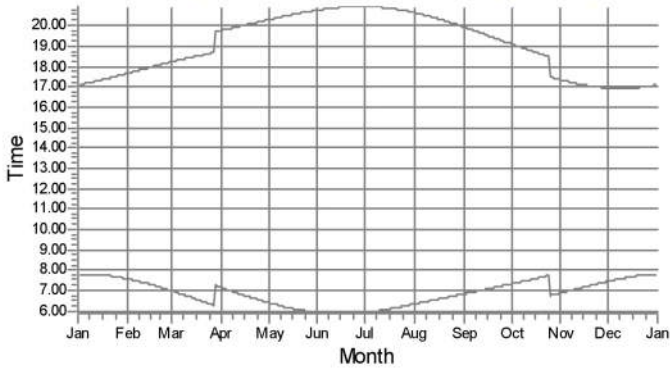
R12: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (177)



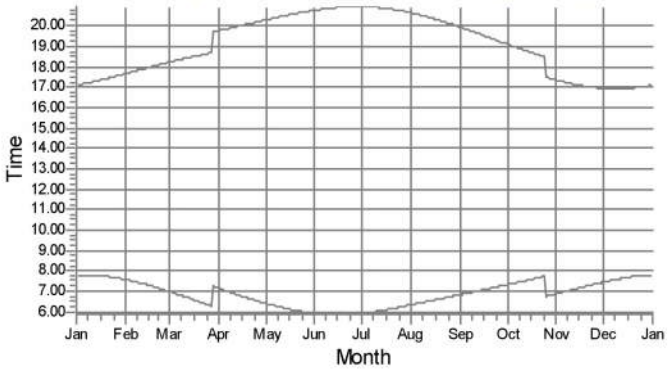
R13: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (187)



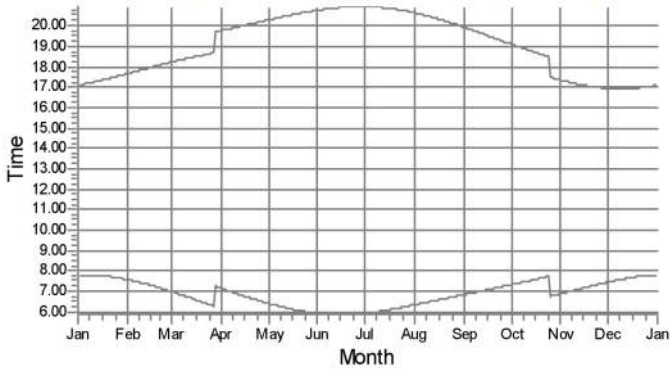
R14: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (185)



R15: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (176)



R16: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (183)



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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
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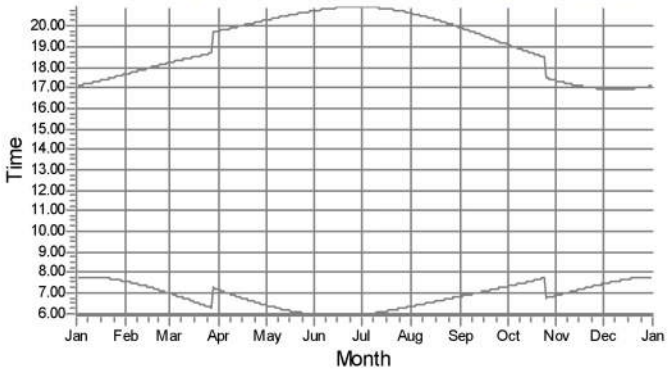
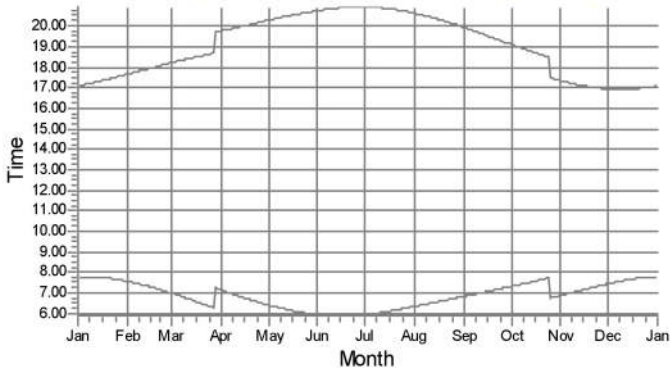
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

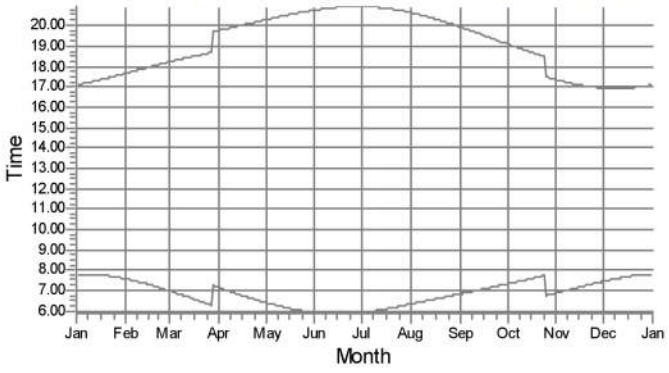
R17: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (184)



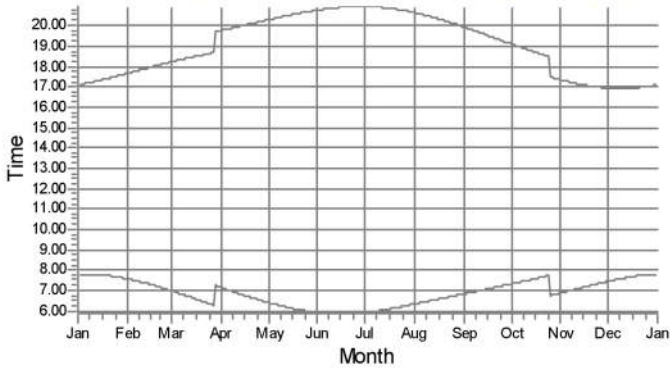
R18: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (203)



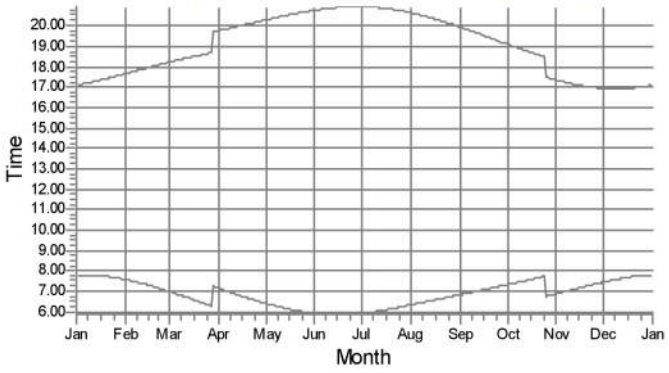
R19: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (181)



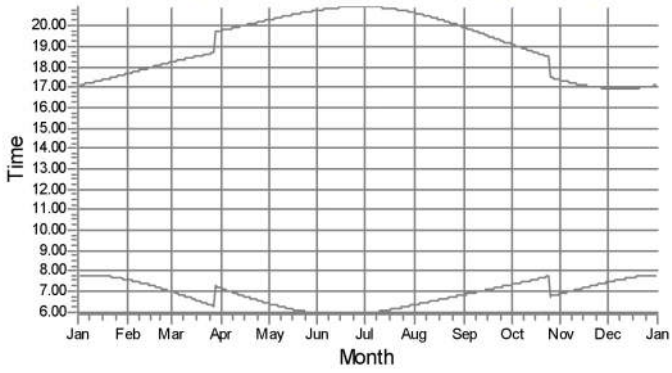
R20: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (182)



R21: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (180)



R23: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (188)



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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

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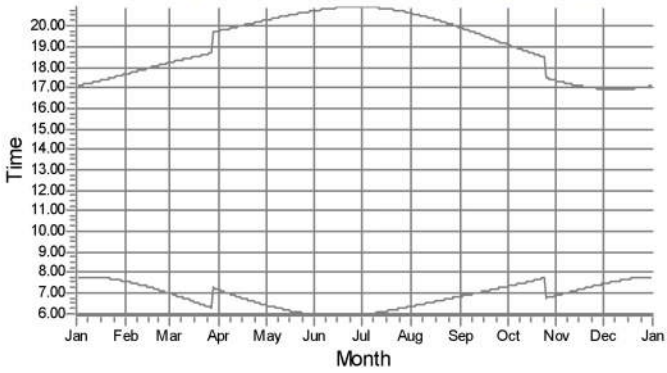
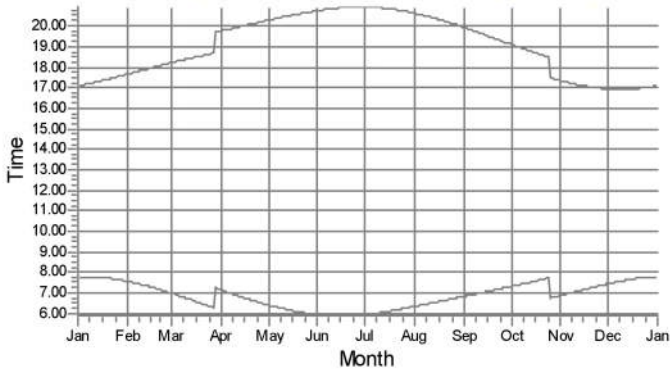
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

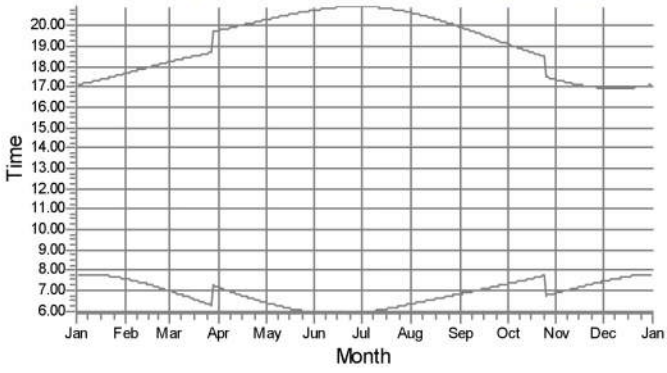
R24: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (189)



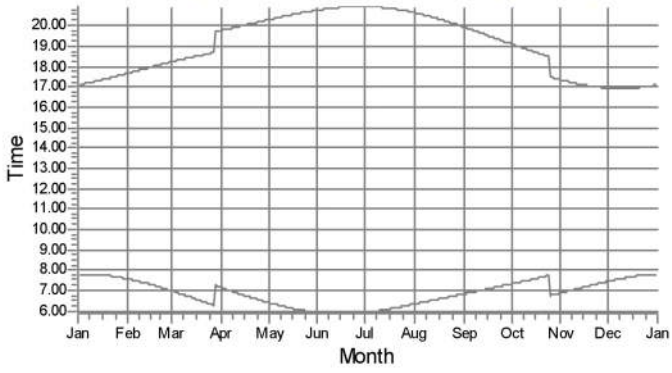
R25: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (190)



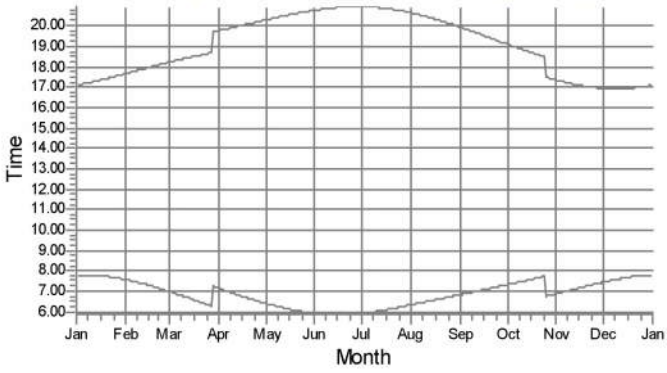
R26: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (195)



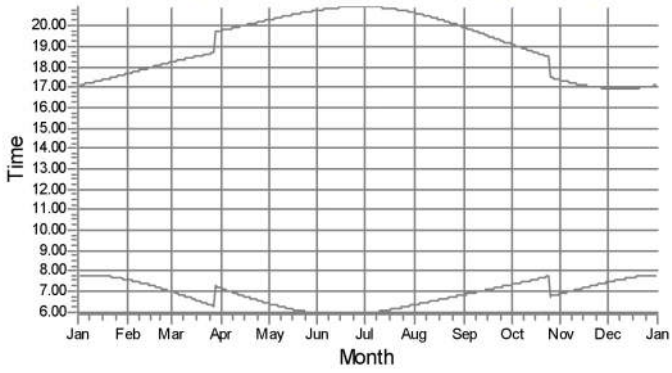
R27: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (193)



R28: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (192)



R29: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (191)



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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

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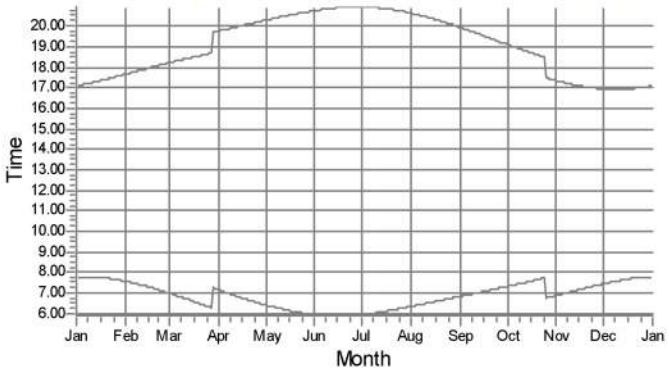
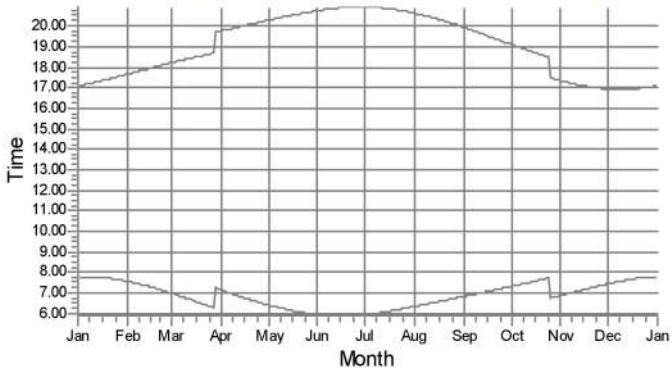
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

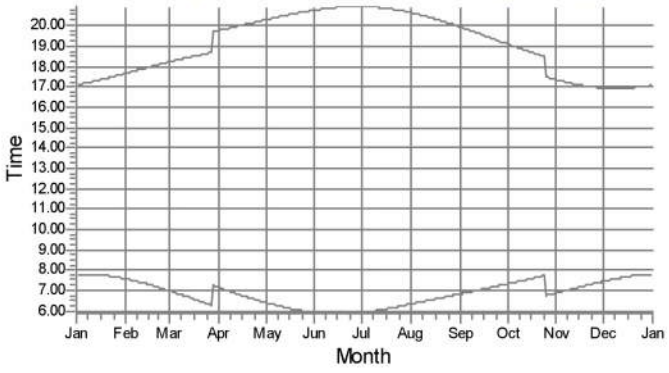
R30: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (194)



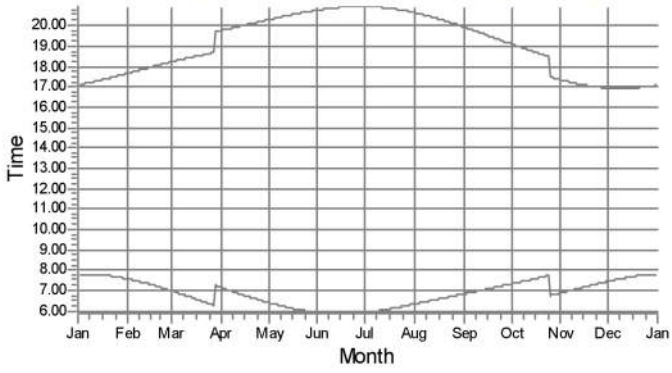
R31: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (200)



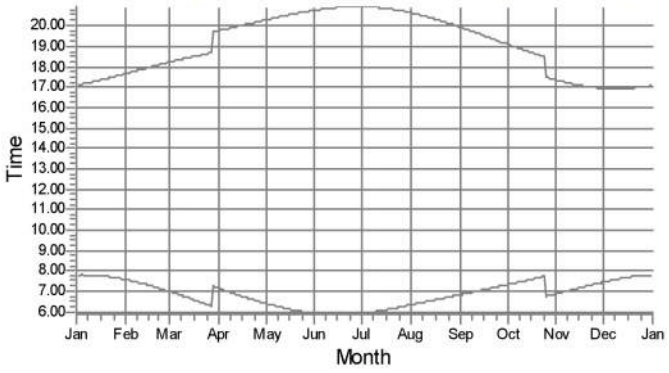
R32: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (199)



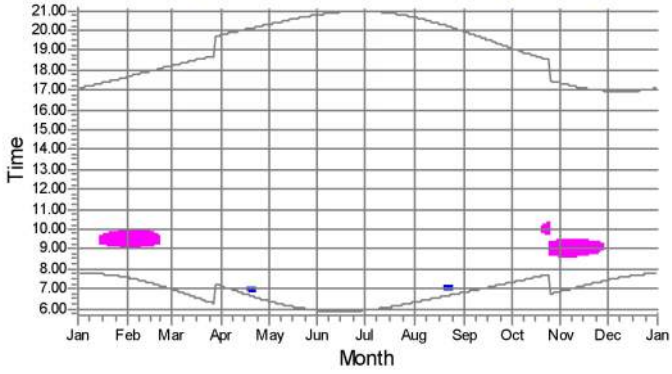
R35: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (196)



R36: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (204)



R37: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (207)



WTGs

ME_03: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (4)

ME_05: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (6)

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

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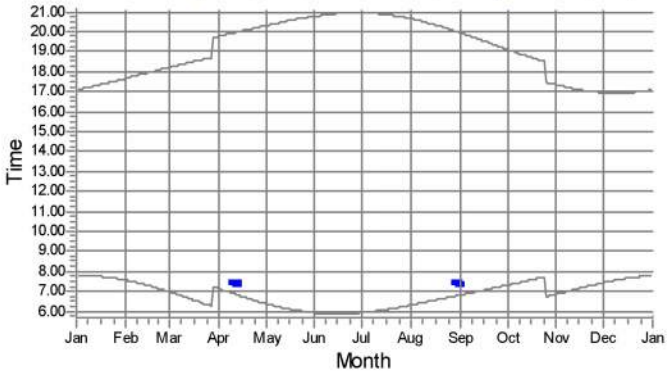
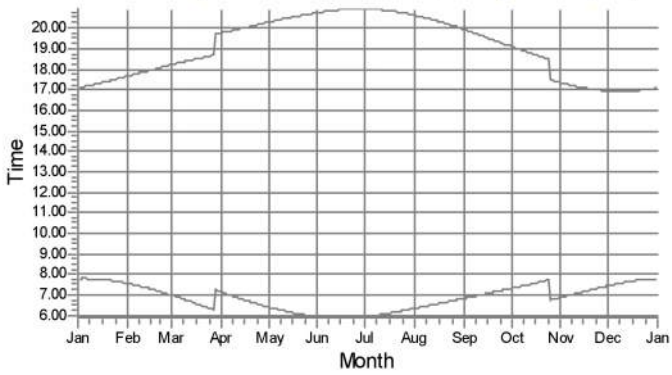
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

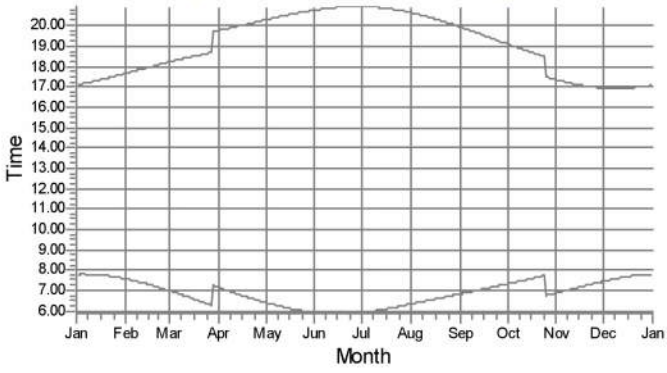
R38: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (210)



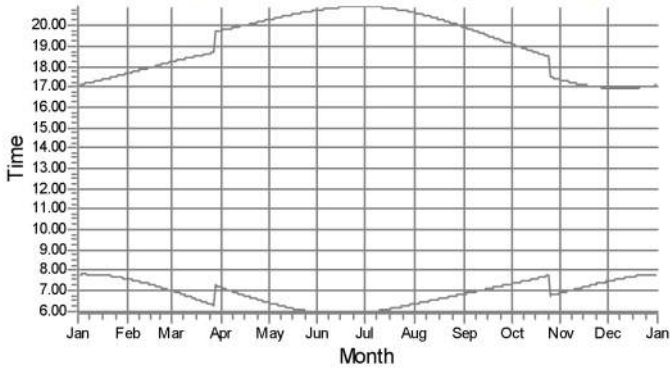
R39: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (205)



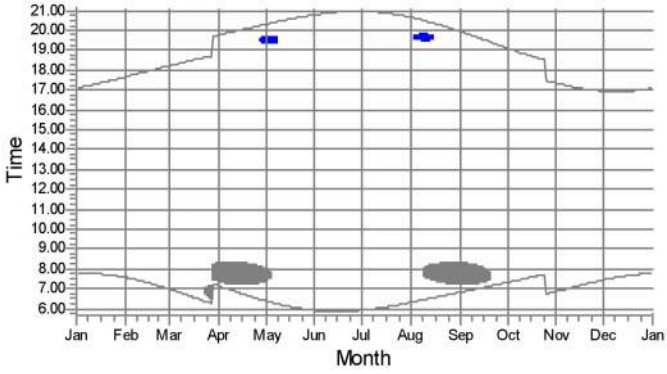
R40: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (206)



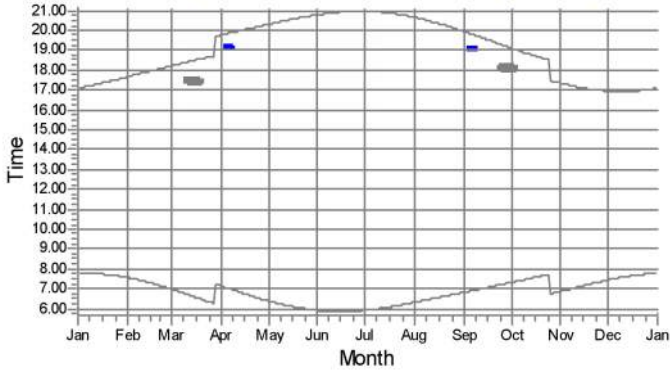
R41: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (219)



R42: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (208)



R43: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (211)



WTGs

ME_03: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (4)

ME_04: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (5)

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

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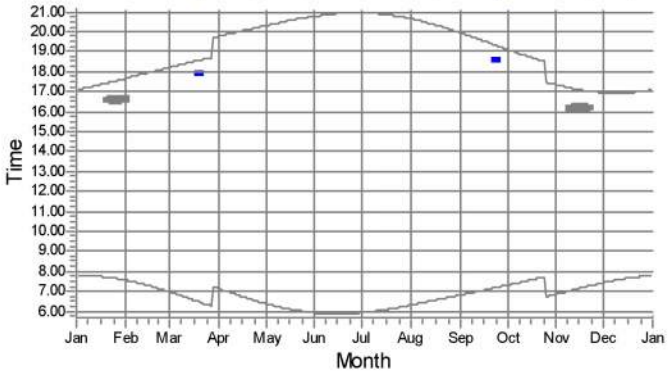
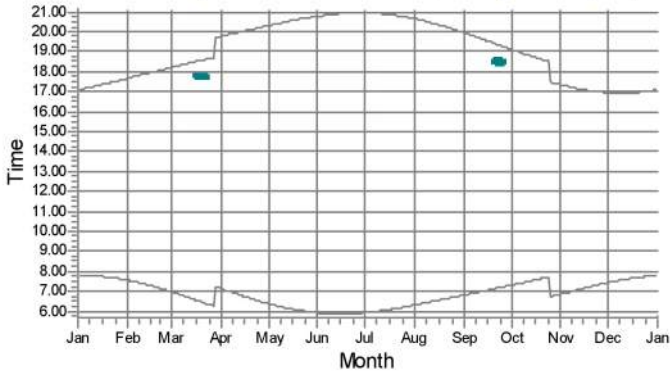
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

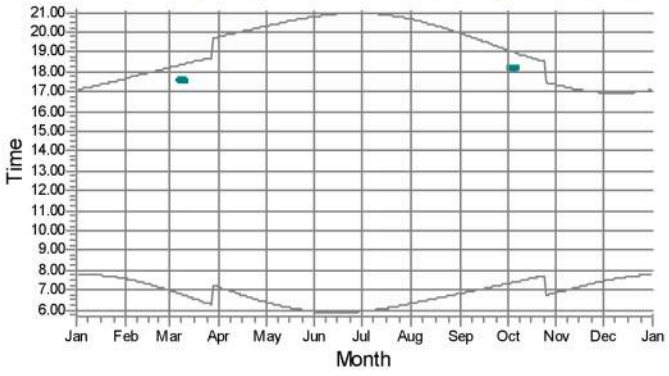
R44: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (213)



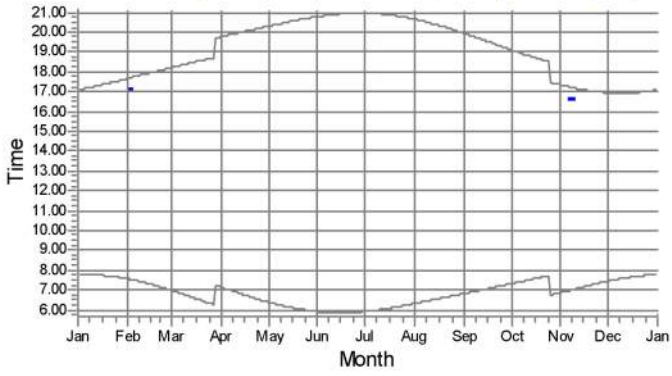
R45: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (217)



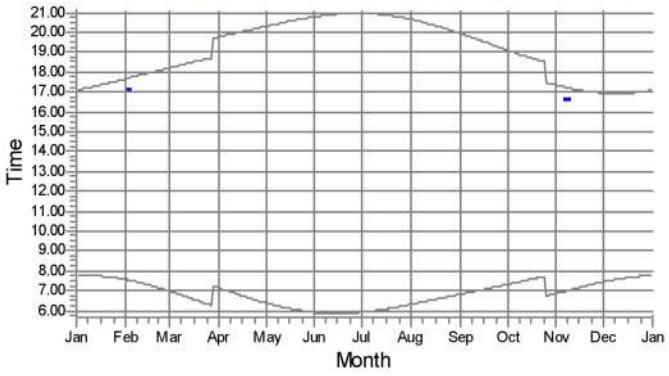
R46: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (218)



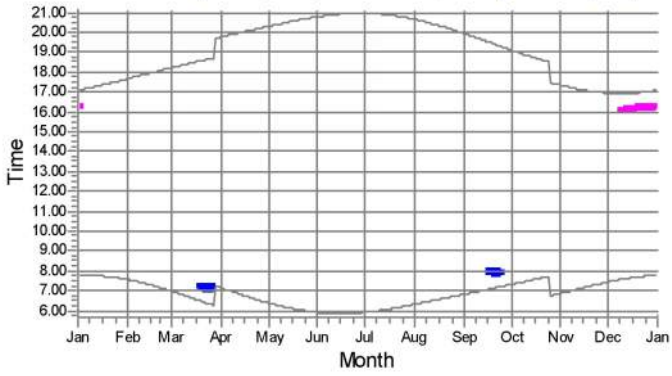
R47: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (221)



R48: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (222)



R49: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (212)



WTGs

- ME_03: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (4)
- ME_04: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (5)
- ME_05: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (6)
- ME_06: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (7)

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

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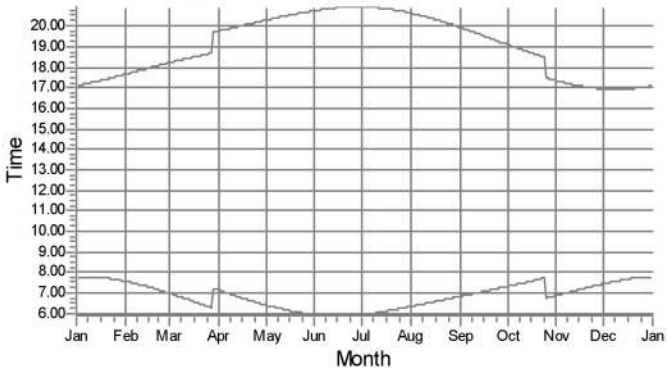
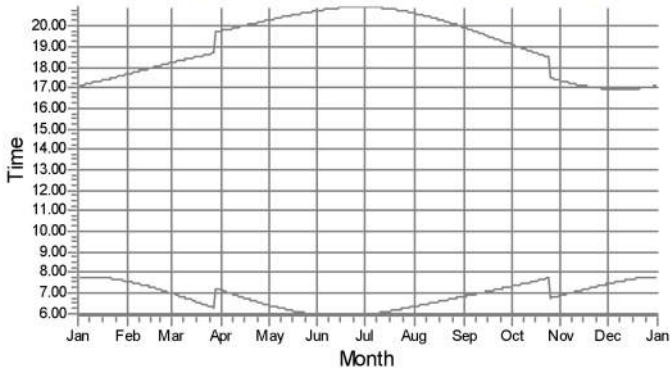
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

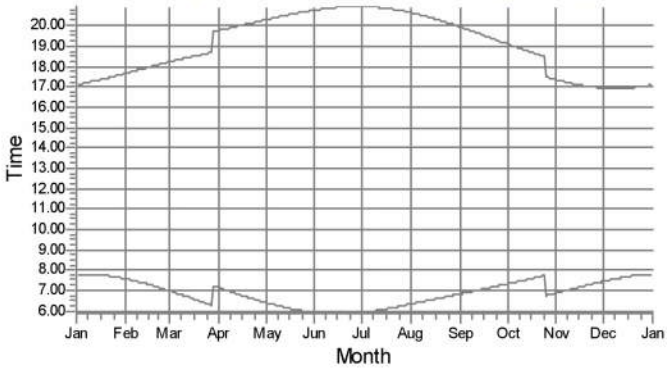
R50: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (166)



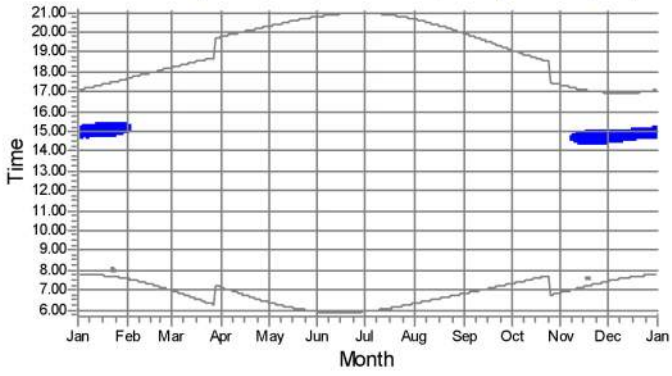
R51: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (167)



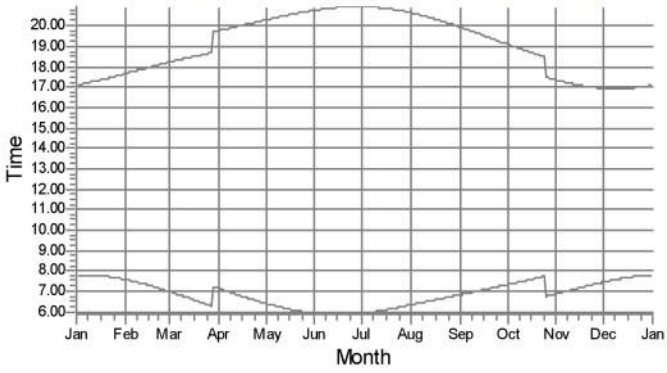
R52: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (169)



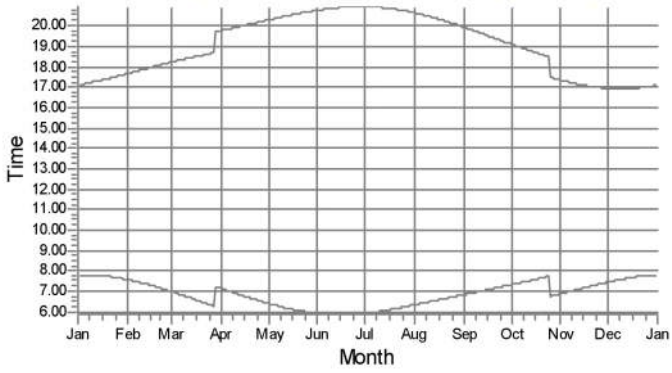
R53: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (215)



R54: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (158)



R55: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (165)



WTGs

ME_03: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (4)

ME_04: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (5)

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
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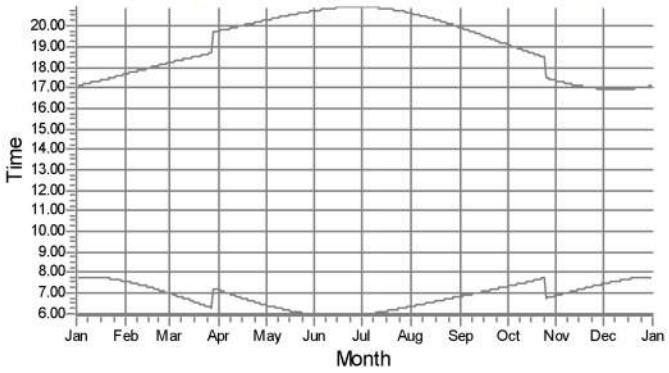
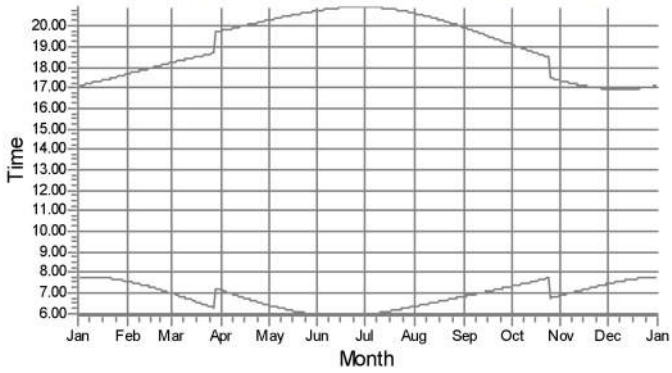
Calculation: Shadow_2020_06_22_Stato di fatto

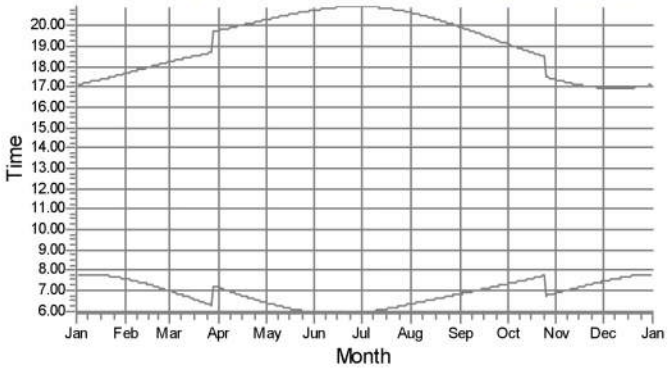
R56: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (163)



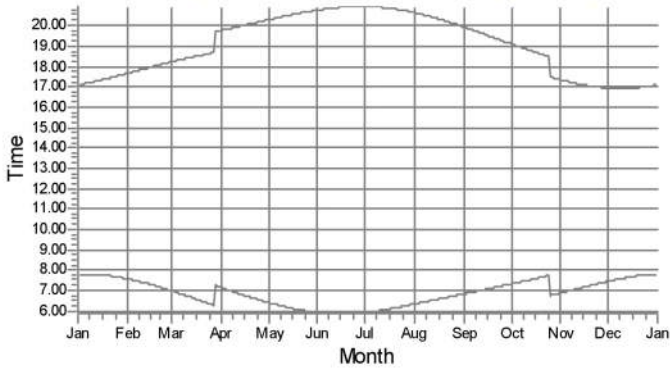
R57: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (160)



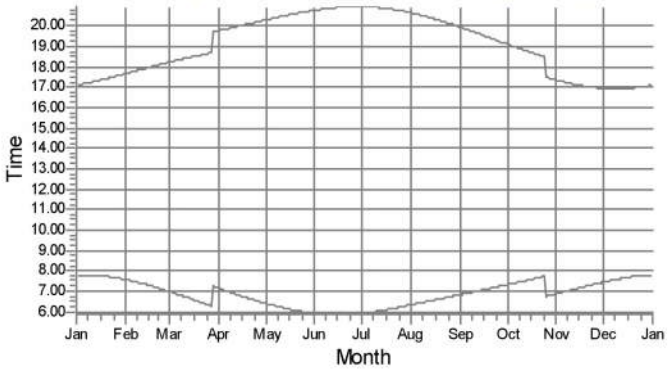
R58: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (164)



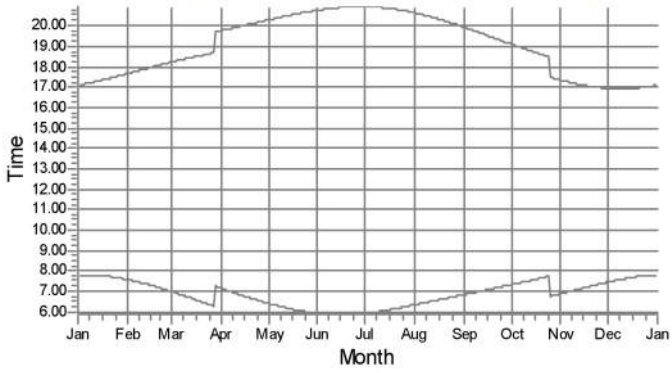
R59: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (186)



R60: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (178)



R61: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (179)



WTGs

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

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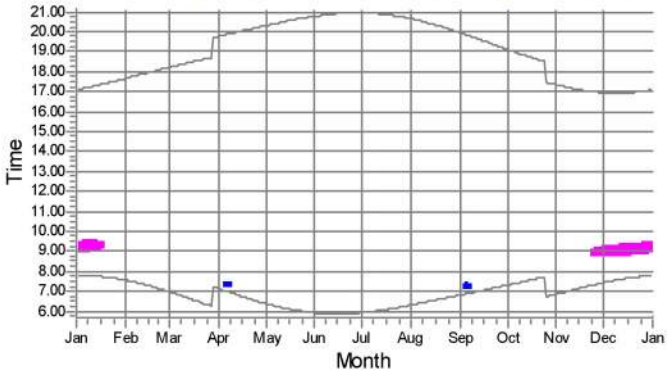
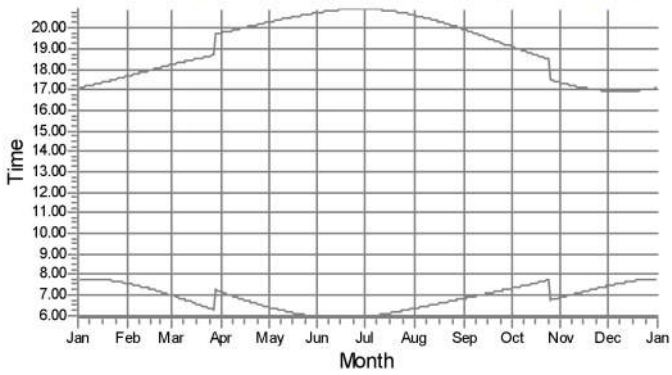
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

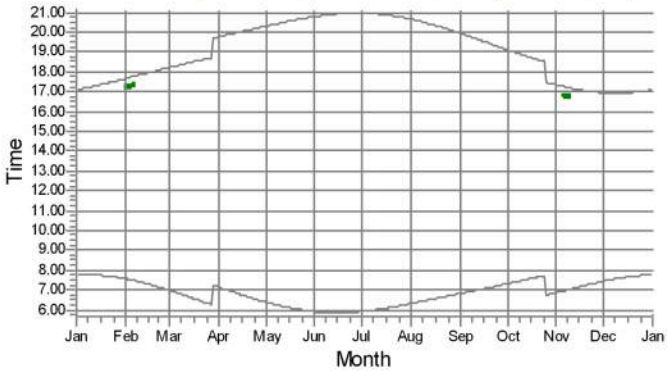
R62: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (209)



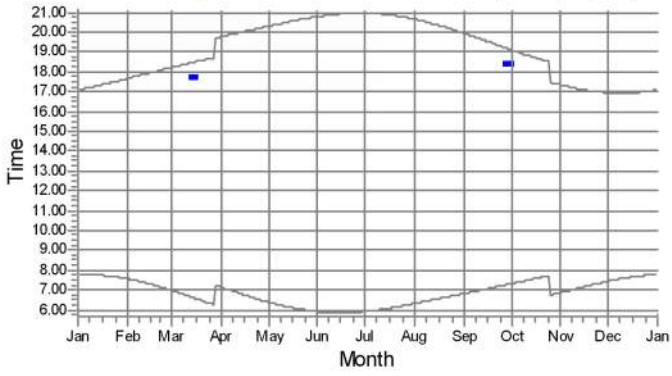
R63: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (201)



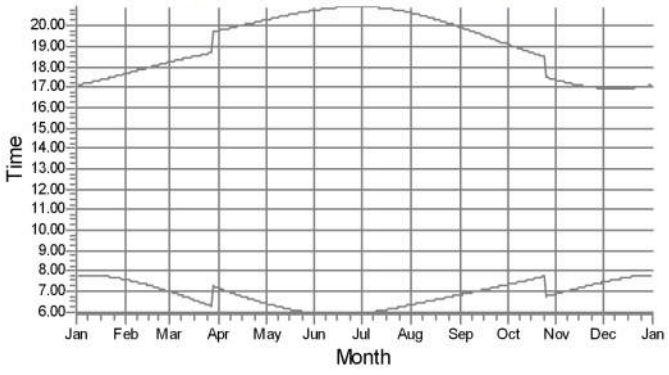
R64: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (198)



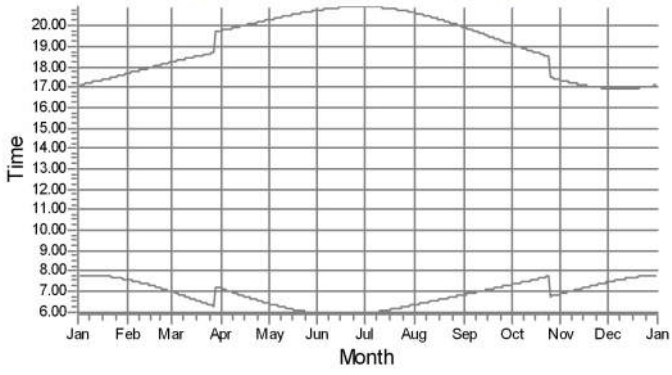
R65: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (214)



R66: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (197)



R67: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (156)



WTGs

ME_01: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2)
ME_03: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (4)
ME_05: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (6)

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
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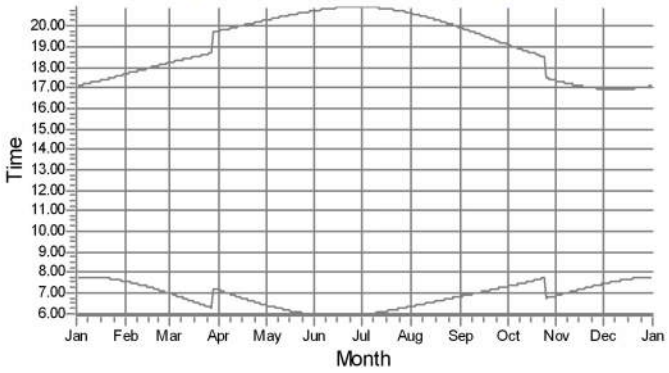
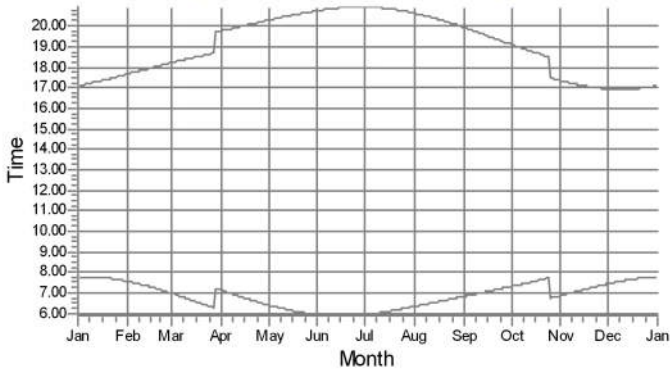
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

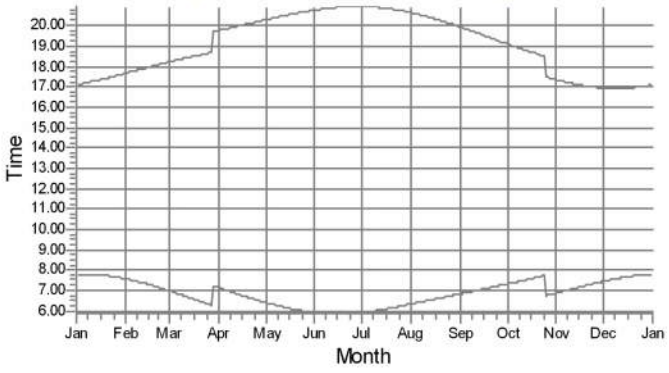
R68: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (155)



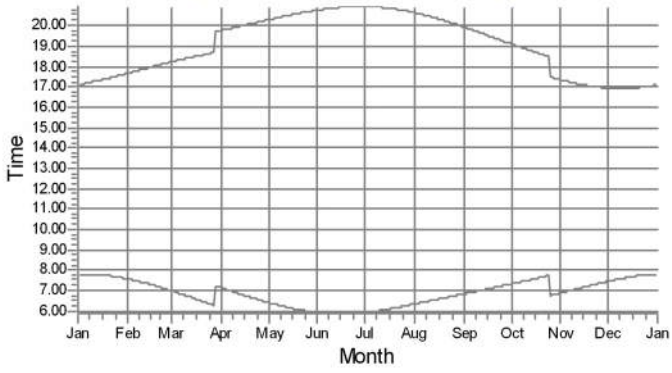
R69: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (154)



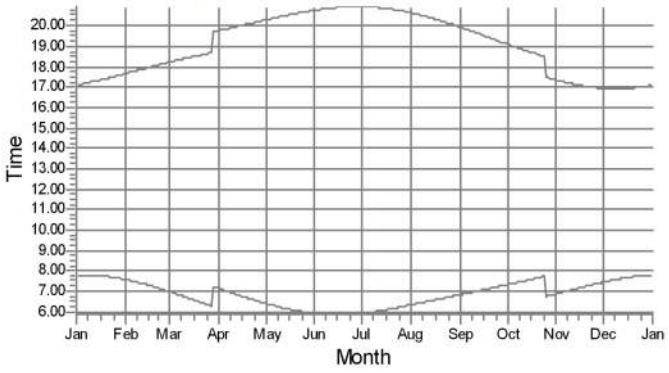
R70: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (153)



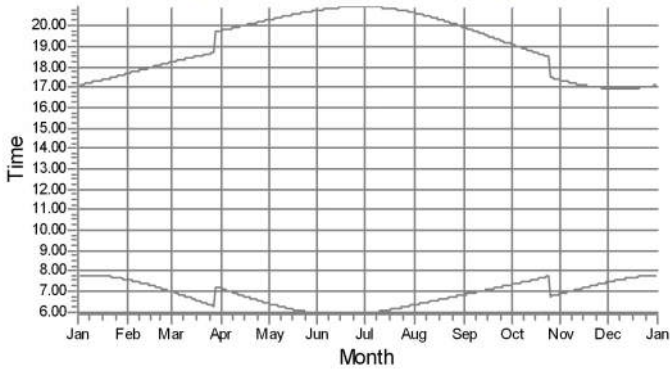
R71: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (170)



R72: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (157)



R73: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (162)



WTGs

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

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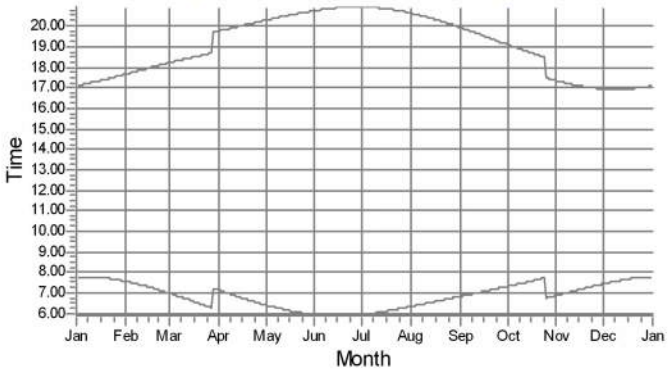
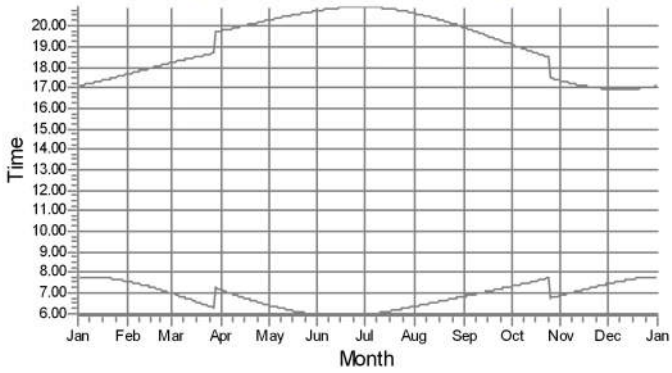
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

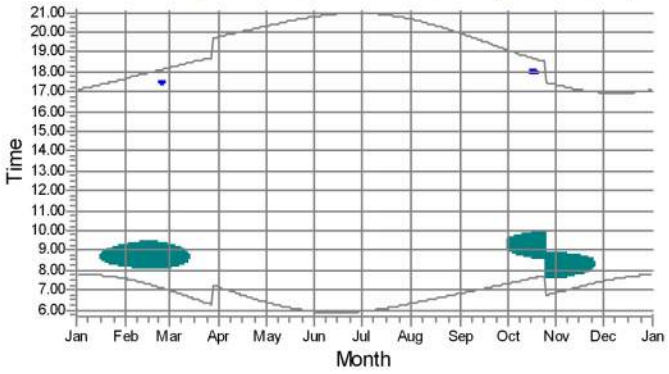
R74: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (173)



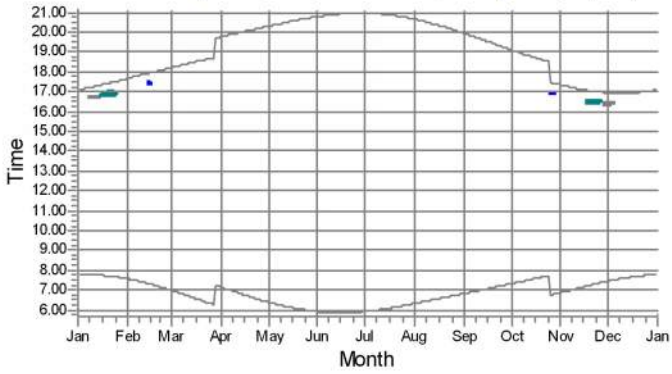
R75: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (202)



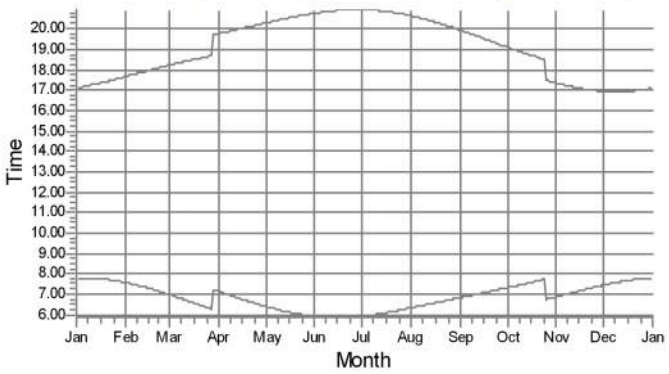
R76: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (216)



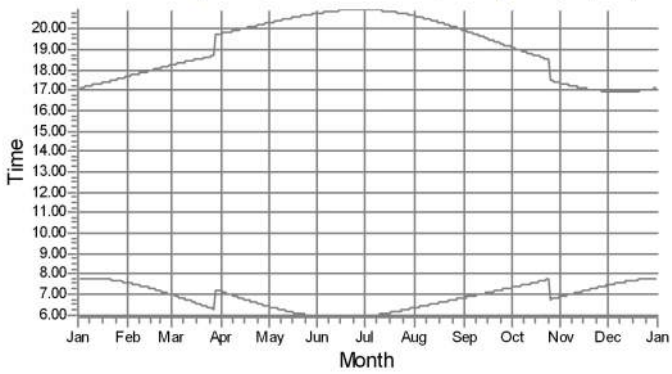
R77: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (220)



R78: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (223)



R79: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (224)



WTGs

ME_03: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (4)
ME_04: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (5)
ME_06: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (7)

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
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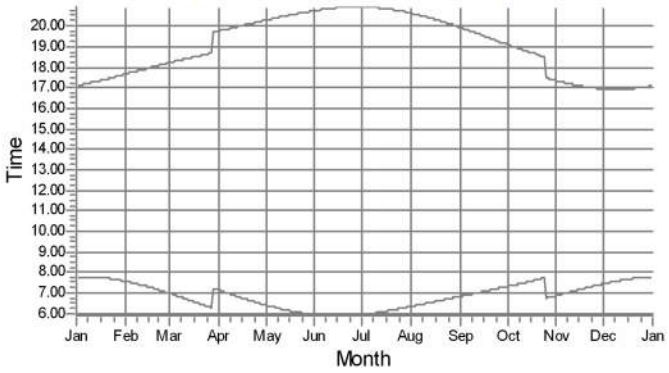
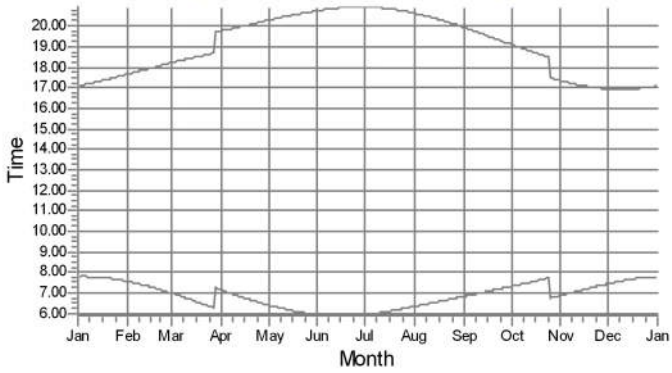
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

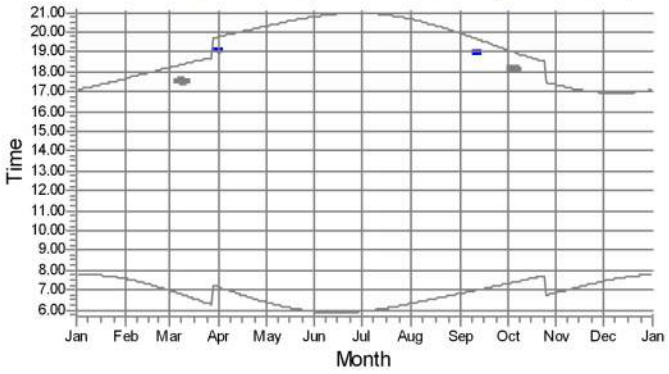
R80: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (225)



R81: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (226)



R82: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (227)



WTGs

ME_03: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (4)

ME_04: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (5)

Project:
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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow_2020_06_22_Stato di fatto **WTG:** ME_01 - TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (2)

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	17.15-17.16/1	06.58	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52		07.26
	17.06	17.40		18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.07	17.21		16.57
2	07.47	07.33	17.15-17.17/2	06.57	07.06	06.22	05.54	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	17.19		16.56
3	07.47	07.32	17.15-17.18/3	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54		07.28
	17.08	17.42		18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18		16.56
4	07.47	07.31	17.15-17.20/5	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55		07.29
	17.08	17.43		18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17		16.56
5	07.47	07.30	17.16-17.21/5	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	16.48-16.52/4	07.30
	17.09	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	07.28	17.18-17.22/4	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	16.46-16.51/5	07.31
	17.10	17.46		18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15		16.56
7	07.47	07.27		06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	16.46-16.50/4	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	16.46-16.49/3	07.33
	17.12	17.48		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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	16.46-16.48/2	07.34
	17.13	17.49		18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12		16.56
10	07.46	07.24		06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02		07.35
	17.14	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	06.01	06.28	06.59	07.29	07.03		07.35
	17.15	17.52		18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10		16.56
12	07.46	07.22		06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05		07.36
	17.16	17.53		18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09		16.56
13	07.46	07.20		06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06		07.37
	17.17	17.54		18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08		16.56
14	07.45	07.19		06.38	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07		07.38
	17.18	17.56		18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07		16.56
15	07.45	07.18		06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08		07.39
	17.20	17.57		18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06		16.56
16	07.44	07.17		06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.11		07.40
	17.22	17.59		18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04		16.57
18	07.44	07.14		06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12		07.41
	17.23	18.00		18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04		16.57
19	07.43	07.13		06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11		06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14		07.42
	17.25	18.03		18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02		16.58
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
	17.26	18.04		18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01		16.59
22	07.41	07.08		06.25	06.35	06.01	05.52	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	07.41	07.07		06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17		07.43
	17.29	18.06		18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00		17.00
24	07.40	07.06		06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19		07.44
	17.30	18.07		18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00		17.00
25	07.39	07.04		06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20		07.44
	17.31	18.09		18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59		17.01
26	07.39	07.03		06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21		07.45
	17.32	18.10		18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59		17.01
27	07.38	07.01		06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22		07.45
	17.34	18.11		18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58		17.02
28	07.37	07.00		06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23		07.45
	17.35	18.12		18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24		07.46
	17.36			19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57		17.03
30	07.35			07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25		07.46
	17.37			19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57		17.04
31	07.34			07.10		05.55		06.18	06.48		06.51			07.46
	17.38			19.45		20.46		20.40	19.58		17.22			17.05
Potential sun hours	299	298		370	398	447	451	458	427	375	346	299		289
Sum of minutes with flicker	0	20		0	0	0	0	0	0	0	0	18		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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow_2020_06_22_Stato di fatto **WTG:** ME_02 - TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (3)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.26	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.55	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.45	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.33	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow_2020_06_22_Stato di fatto **WTG:** ME_03 - TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (4)

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	07.46 14.45-15.12/27	07.33 15.01-15.18/17	06.58	07.08 19.04-19.10/6	06.23 19.24-19.37/13	05.55
	17.06	17.40	18.13	19.46	20.18	20.47
2	07.47 14.45-15.12/27	07.33 15.04-15.16/12	06.57	07.06 19.05-19.10/5	06.22 19.24-19.37/13	05.54
	17.07	17.41 17.05-17.08/3	18.14	19.47	20.19	20.47
3	07.47 14.45-15.13/28	07.32 15.09-15.11/2	06.55	07.05	06.20 19.24-19.37/13	05.54
	17.07	17.42 17.05-17.09/4	18.15	19.49	20.20	20.48
4	07.47 14.46-15.14/28	07.31 17.05-17.08/3	06.54	07.03 19.07-19.11/4	06.19 19.23-19.36/13	05.53
	17.08	17.43	18.16	19.50	20.21	20.49
5	07.47 14.46-15.15/29	07.30	06.52	07.02 07.20-07.23/3	06.18 19.24-19.36/12	05.53
	17.09	17.44	18.18	19.51 19.06-19.12/6	20.22	20.49
6	07.47 14.46-15.16/30	07.28	06.50	07.00 07.18-07.24/6	06.17 19.24-19.36/12	05.53
	17.10	17.46	18.19	19.52 19.05-19.12/7	20.23	20.50
7	07.47 14.45-15.16/31	07.27	06.49	06.58 07.18-07.25/7	06.15 19.25-19.35/10	05.52
	17.11	17.47	18.20	19.53 19.06-19.12/6	20.24	20.51
8	07.47 14.46-15.16/30	07.26	06.47	06.57 07.18-07.23/5	06.14 19.26-19.34/8	05.52
	17.12	17.48	18.21	19.54 19.07-19.09/2	20.25	20.51
9	07.46 14.46-15.17/31	07.25	06.46	06.55 07.23-07.27/4	06.13	05.52
	17.13	17.49	18.22	19.55	20.26	20.52
10	07.46 14.46-15.18/32	07.24	06.44	06.54 07.21-07.28/7	06.12	05.52
	17.14	17.51	18.23	19.56	20.27	20.52
11	07.46 14.46-15.18/32	07.23	06.43	06.52 07.19-07.29/10	06.11	05.52
	17.15	17.52	18.24	19.57	20.28	20.53
12	07.46 14.46-15.19/33	07.22	06.41	06.50 07.19-07.29/10	06.10	05.51
	17.16	17.53	18.25	19.58	20.29	20.54
13	07.46 14.47-15.20/33	07.20	06.39 17.43-17.49/6	06.49 07.19-07.28/9	06.09	05.51
	17.17	17.54	18.26	19.59	20.30	20.54
14	07.45 14.46-15.20/34	07.19 17.24-17.26/2	06.38 17.41-17.49/8	06.47 07.20-07.27/7	06.08	05.51
	17.18	17.55	18.27	20.00	20.31	20.54
15	07.45 14.47-15.21/34	07.18 17.24-17.27/3	06.36 17.41-17.49/8	06.46 07.21-07.25/4	06.07	05.51
	17.19	17.57	18.29	20.01	20.32	20.55
16	07.44 14.47-15.21/34	07.17 17.25-17.26/1	06.34 17.42-17.48/6	06.44	06.06	05.51
	17.21	17.58	18.30	20.02	20.33	20.55
17	07.44 14.48-15.22/34	07.15	06.33 17.43-17.45/2	06.43	06.05	05.51
	17.22	17.59	18.31	20.03	20.34	20.56
18	07.44 14.47-15.22/35	07.14	06.31 07.11-07.15/4	06.41 07.00-07.01/1	06.04	05.51
	17.23	18.00	18.32 17.52-17.57/5	20.04	20.35	20.56
19	07.43 14.48-15.23/35	07.13	06.29 07.07-07.17/10	06.40 06.58-07.02/4	06.03	05.52
	17.24	18.01	18.33 17.50-17.57/7	20.05	20.36	20.56
20	07.43 14.48-15.23/35	07.11	06.28 07.05-07.18/13	06.38 06.57-07.03/6	06.02	05.52
	17.25	18.03	18.34 17.50-17.56/6	20.06	20.37	20.57
21	07.42 14.50-15.24/34	07.10	06.26 07.05-07.19/14	06.37 06.55-07.02/7	06.02	05.52
	17.26	18.04	18.35 17.51-17.56/5	20.07	20.37	20.57
22	07.41 14.50-15.24/34	07.08	06.25 07.03-07.19/16	06.35 06.56-07.01/5	06.01	05.52
	17.27	18.05	18.36	20.08	20.38	20.57
23	07.41 14.50-15.23/33	07.07 17.28-17.31/3	06.23 07.03-07.19/16	06.34	06.00	05.52
	17.29	18.06	18.37	20.09	20.39	20.57
24	07.40 14.50-15.23/33	07.06 17.26-17.32/6	06.21 07.03-07.19/16	06.32	05.59	05.53
	17.30	18.07	18.38	20.10	20.40	20.57
25	07.39 14.52-15.24/32	07.04 17.27-17.32/5	06.20 07.03-07.18/15	06.31	05.59	05.53
	17.31	18.08	18.39	20.11	20.41	20.57
26	07.39 14.53-15.23/30	07.03 17.28-17.32/4	06.18 07.03-07.16/13	06.30	05.58	05.53
	17.32	18.10	18.40	20.12	20.42	20.58
27	07.38 14.53-15.23/30	07.01	06.16 07.05-07.15/10	06.28	05.57	05.53
	17.33	18.11	18.41	20.14	20.43	20.58
28	07.37 14.54-15.22/28	07.00	06.15 07.07-07.11/4	06.27 19.30-19.33/3	05.57	05.54
	17.35	18.12	18.42	20.15	20.44	20.58
29	07.36 14.56-15.21/25		07.13	06.26 19.27-19.35/8	05.56	05.54
	17.36		19.43	20.16	20.44	20.58
30	07.35 14.57-15.21/24		07.11 19.07-19.10/3	06.24 19.25-19.36/11	05.56	05.55
	17.37		19.44	20.17	20.45	20.58
31	07.34 14.59-15.20/21		07.10 19.05-19.10/5		05.55	
	17.38		19.45		20.46	
Potential sun hours	299	298	370	398	447	451
Sum of minutes with flicker	956	65	192	153	94	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:
Wpd_2020_06_22

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22/06/2020 15.17 / 102
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow_2020_06_22_Stato di fatto **WTG:** ME_03 - TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (4)

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	05.55	06.19		06.49	07.18-07.27/9	07.18	18.23-18.27/4	06.52		07.26	14.28-15.00/32
	20.57	20.39		19.56		19.06		17.20		16.57	
2	05.56	06.20		06.50	07.19-07.26/7	07.19		06.53		07.27	14.29-15.01/32
	20.57	20.38		19.55		19.05		17.19		16.56	
3	05.56	06.21		06.51	07.20-07.24/4	07.20		06.54		07.28	14.30-15.02/32
	20.57	20.37		19.53		19.03		17.18		16.56	
4	05.57	06.22	19.37-19.42/5	06.52	07.15-07.20/5	07.21		06.55		07.29	14.31-15.02/31
	20.57	20.36		19.52	19.04-19.06/2	19.02		17.17		16.56	
5	05.57	06.22	19.35-19.44/9	06.53	07.14-07.21/7	07.22		06.56		07.30	14.31-15.02/31
	20.57	20.34		19.50	19.02-19.08/6	19.00		17.16		16.56	
6	05.58	06.23	19.34-19.45/11	06.54	07.14-07.20/6	07.23		06.58		07.31	14.32-15.02/30
	20.57	20.33		19.48	19.01-19.08/7	18.58		17.15		16.56	
7	05.58	06.24	19.34-19.46/12	06.55	07.15-07.18/3	07.24		06.59	16.36-16.39/3	07.32	14.32-15.01/29
	20.56	20.32		19.47	19.01-19.08/7	18.57		17.14		16.56	
8	05.59	06.25	19.33-19.46/13	06.56	19.02-19.06/4	07.25		07.00	14.39-14.43/4	07.33	14.33-15.01/28
	20.56	20.31		19.45		18.55		17.13	16.36-16.39/3	16.56	
9	06.00	06.26	19.33-19.46/13	06.57		07.26		07.01	14.34-14.47/13	07.34	14.33-15.01/28
	20.56	20.30		19.43		18.53		17.11	16.36-16.39/3	16.56	
10	06.00	06.27	19.33-19.46/13	06.58	18.58-19.03/5	07.27		07.02	14.32-14.49/17	07.35	14.34-15.01/27
	20.55	20.28		19.42		18.52		17.10		16.56	
11	06.01	06.28	19.33-19.46/13	06.59	18.57-19.03/6	07.28		07.03	14.30-14.52/22	07.35	14.35-15.02/27
	20.55	20.27		19.40		18.50		17.09		16.56	
12	06.02	06.29	19.33-19.45/12	07.00	18.57-19.03/6	07.30		07.05	14.29-14.53/24	07.36	14.36-15.02/26
	20.54	20.26		19.38		18.49		17.09		16.56	
13	06.02	06.30	19.34-19.44/10	07.00	18.58-19.01/3	07.31		07.06	14.27-14.53/26	07.37	14.37-15.02/25
	20.54	20.25		19.37		18.47		17.08		16.56	
14	06.03	06.31	19.35-19.43/8	07.01		07.32		07.07	14.26-14.54/28	07.38	14.37-15.02/25
	20.53	20.23		19.35		18.46		17.07		16.56	
15	06.04	06.32		07.02		07.33		07.08	14.26-14.56/30	07.39	14.38-15.02/24
	20.53	20.22		19.33		18.44		17.06		16.56	
16	06.05	06.33		07.03	07.54-08.03/9	07.34	17.59-18.04/5	07.09	14.26-14.56/30	07.39	14.39-15.03/24
	20.52	20.20		19.32		18.43		17.05		16.57	
17	06.05	06.34		07.04	07.52-08.04/12	07.35	17.58-18.04/6	07.10	14.25-14.57/32	07.40	14.39-15.02/23
	20.52	20.19		19.30		18.41		17.04		16.57	
18	06.06	06.35		07.05	07.50-08.05/15	07.36	17.58-18.03/5	07.12	14.24-14.57/33	07.41	14.40-15.03/23
	20.51	20.18		19.28		18.40		17.03		16.57	
19	06.07	06.36		07.06	07.49-08.05/16	07.37	18.00-18.01/1	07.13	14.25-14.58/33	07.41	14.40-15.03/23
	20.50	20.16		19.27		18.38		17.03		16.58	
20	06.08	06.37	07.03-07.04/1	07.07	07.49-08.05/16	07.38		07.14	14.25-14.59/34	07.42	14.41-15.04/23
	20.50	20.15		19.25		18.37		17.02		16.58	
21	06.09	06.38	07.00-07.06/6	07.08	07.49-08.05/16	07.39		07.15	14.25-14.59/34	07.42	14.42-15.05/23
	20.49	20.13		19.23		18.35		17.01		16.58	
22	06.10	06.39	07.00-07.07/7	07.09	07.49-08.04/15	07.40		07.16	14.24-14.59/35	07.43	14.42-15.05/23
	20.48	20.12		19.22	18.36-18.39/3	18.34		17.01		16.59	
23	06.10	06.40	07.01-07.06/5	07.10	07.49-08.03/14	07.41		07.17	14.24-14.59/35	07.43	14.42-15.05/23
	20.47	20.10		19.20	18.34-18.40/6	18.32		17.00		16.59	
24	06.11	06.41	07.02-07.05/3	07.11	07.50-08.01/11	07.43		07.19	14.26-15.00/34	07.44	14.43-15.06/23
	20.47	20.09		19.18	18.34-18.40/6	18.31		17.00		17.00	
25	06.12	06.42		07.12	07.52-07.59/7	06.44		07.20	14.26-15.00/34	07.44	14.43-15.06/23
	20.46	20.07		19.16	18.34-18.40/6	17.30		16.59		17.01	
26	06.13	06.43		07.13	18.35-18.38/3	06.45	16.54-16.57/3	07.21	14.26-15.00/34	07.45	14.44-15.07/23
	20.45	20.06		19.15		17.28		16.59		17.01	
27	06.14	06.44		07.14	18.24-18.29/5	06.46	16.54-16.57/3	07.22	14.26-15.00/34	07.45	14.44-15.08/24
	20.44	20.04		19.13		17.27		16.58		17.02	
28	06.15	06.45	07.23-07.27/4	07.15	18.22-18.30/8	06.47	16.54-16.56/2	07.23	14.26-15.00/34	07.45	14.44-15.08/24
	20.43	20.03		19.11		17.26		16.58		17.02	
29	06.16	06.46	07.21-07.28/7	07.16	18.22-18.30/8	06.48		07.24	14.27-15.00/33	07.46	14.44-15.09/25
	20.42	20.01		19.10		17.24		16.57		17.03	
30	06.17	06.47	07.20-07.29/9	07.17	18.22-18.29/7	06.49		07.25	14.27-15.00/33	07.46	14.44-15.09/25
	20.41	20.00		19.08		17.23		16.57		17.04	
31	06.18	06.48	07.19-07.29/10			06.51				07.46	14.45-15.11/26
	20.40	19.58				17.22				17.05	
Potential sun hours	458	427		375		346		299		289	
Sum of minutes with flicker	0	171		270		29		675		805	

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:
Wpd_2020_06_22

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22/06/2020 15.17 / 103
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow_2020_06_22_Stato di fatto **WTG:** ME_04 - TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (5)

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	07.46		07.33	16.32-16.45/13	06.58		07.08	07.26-08.14/48	06.23	07.28-07.56/28	05.55
	17.06		17.40		18.13		19.46		20.18		20.47
2	07.47		07.32	16.33-16.44/11	06.57		07.06	07.25-08.15/50	06.22	07.30-07.54/24	05.54
	17.07		17.41		18.14		19.47		20.19		20.47
3	07.47		07.32	16.35-16.42/7	06.55		07.05	07.23-08.15/52	06.20	07.33-07.51/18	05.54
	17.07		17.42		18.15		19.48		20.20		20.48
4	07.47		07.31		06.54		07.03	07.21-08.15/54	06.19	07.36-07.45/9	05.53
	17.08		17.43		18.16		19.50		20.21		20.49
5	07.47		07.29		06.52	17.30-17.37/7	07.01	07.21-08.16/55	06.18		05.53
	17.09		17.44		18.18		19.51		20.22		20.49
6	07.47		07.28		06.50	17.27-17.38/11	07.00	07.20-08.16/56	06.17		05.53
	17.10		17.46		18.19		19.52		20.23		20.50
7	07.47		07.27		06.49	17.27-17.40/13	06.58	07.19-08.17/58	06.15		05.52
	17.11		17.47		18.20		19.53		20.24		20.51
8	07.47	16.41-16.42/1	07.26		06.47	17.26-17.40/14	06.57	07.18-08.17/59	06.14		05.52
	17.12		17.48		18.21		19.54		20.25		20.51
9	07.46	16.41-16.44/3	07.25		06.46	17.25-17.39/14	06.55	07.17-08.16/59	06.13		05.52
	17.13		17.49		18.22		19.55		20.26		20.52
10	07.46	16.41-16.45/4	07.24		06.44	17.24-17.39/15	06.53	07.17-08.17/60	06.12		05.52
	17.14		17.51		18.23		19.56		20.27		20.52
11	07.46	16.41-16.45/4	07.23		06.42	17.22-17.38/16	06.52	07.16-08.16/60	06.11		05.52
	17.15		17.52		18.24		19.57		20.28		20.53
12	07.46	16.41-16.46/5	07.22		06.41	17.20-17.36/16	06.50	07.17-08.16/59	06.10		05.51
	17.16		17.53		18.25		19.58		20.29		20.54
13	07.45	16.42-16.46/4	07.20		06.39	17.19-17.34/15	06.49	07.16-08.15/59	06.09		05.51
	17.17		17.54		18.26	17.34-17.36/2	19.59		20.30		20.54
14	07.45	16.43-16.46/3	07.19		06.38	17.18-17.36/18	06.47	07.16-08.15/59	06.08		05.51
	17.18		17.55		18.27		20.00		20.31		20.54
15	07.45		07.18		06.36	17.19-17.36/17	06.46	07.16-08.14/58	06.07		05.51
	17.19		17.57		18.29		20.01		20.32		20.55
16	07.44		07.16		06.34	17.18-17.36/18	06.44	07.16-08.14/58	06.06		05.51
	17.21		17.58		18.30		20.02		20.33		20.55
17	07.44		07.15		06.33	17.18-17.34/16	06.43	07.16-08.13/57	06.05		05.51
	17.22		17.59		18.31		20.03		20.34		20.56
18	07.44		07.14		06.31	17.19-17.34/15	06.41	07.16-08.13/57	06.04		05.51
	17.23		18.00		18.32		20.04		20.35		20.56
19	07.43	16.34-16.37/3	07.12		06.29	17.20-17.32/12	06.40	07.16-08.12/56	06.03		05.51
	17.24		18.01		18.33		20.05		20.36		20.56
20	07.42	16.31-16.39/8	07.11		06.28	17.22-17.29/7	06.38	07.17-08.11/54	06.02		05.52
	17.25		18.03		18.34		20.06		20.37		20.57
21	07.42	16.31-16.42/11	07.10		06.26		06.37	07.17-08.10/53	06.02		05.52
	17.26		18.04		18.35		20.07		20.37		20.57
22	07.41	16.30-16.43/13	07.08		06.24		06.35	07.18-08.09/51	06.01		05.52
	17.27		18.05		18.36		20.08		20.38		20.57
23	07.41	08.01-08.02/1	07.07		06.23		06.34	07.19-08.08/49	06.00		05.52
	17.29	16.29-16.43/14	18.06		18.37		20.09		20.39		20.57
24	07.40	08.00-08.01/1	07.05		06.21	06.47-06.58/11	06.32	07.19-08.07/48	05.59		05.52
	17.30	16.29-16.44/15	18.07		18.38		20.10		20.40		20.57
25	07.39	16.29-16.45/16	07.04		06.20	06.41-07.02/21	06.31	07.20-08.06/46	05.59		05.53
	17.31		18.08		18.39		20.11		20.41		20.57
26	07.39	16.29-16.46/17	07.03		06.18	06.37-07.05/28	06.30	07.20-08.04/44	05.58		05.53
	17.32		18.10		18.40		20.12		20.42		20.58
27	07.38	16.29-16.46/17	07.01		06.16	06.35-07.08/33	06.28	07.22-08.03/41	05.57		05.53
	17.33		18.11		18.41		20.13		20.43		20.58
28	07.37	16.29-16.46/17	07.00		06.15	06.33-07.09/36	06.27	07.23-08.02/39	05.57		05.54
	17.35		18.12		18.42		20.15		20.43		20.58
29	07.36	16.29-16.46/17			07.13	07.31-08.10/39	06.25	07.25-08.00/35	05.56		05.54
	17.36				19.43		20.16		20.44		20.58
30	07.35	16.30-16.46/16			07.11	07.30-08.12/42	06.24	07.26-07.58/32	05.56		05.55
	17.37				19.44		20.17		20.45		20.58
31	07.34	16.31-16.45/14			07.10	07.28-08.13/45			05.55		
	17.38				19.45				20.46		
Potential sun hours	299		298		370		398		447		451
Sum of minutes with flicker	204		31		481		1566		79		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:
Wpd_2020_06_22

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22/06/2020 15.17 / 104
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow_2020_06_22_Stato di fatto **WTG:** ME_04 - TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (5)

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	05.55	06.19		06.49	07.15-08.15/60	07.18	17.59-18.15/16	06.52		07.26	16.23-16.27/4
	20.57	20.39		19.56		19.06		17.20		16.57	
2	05.56	06.20		06.50	07.15-08.15/60	07.19	18.00-18.16/16	06.53		07.27	16.23-16.27/4
	20.57	20.38		19.55		19.05		17.19		16.56	
3	05.56	06.21		06.51	07.15-08.14/59	07.20	18.01-18.16/15	06.54		07.28	16.24-16.27/3
	20.57	20.37		19.53		19.03		17.18		16.56	
4	05.57	06.22		06.52	07.15-08.14/59	07.21	18.03-18.17/14	06.55		07.29	16.26-16.28/2
	20.57	20.36		19.52		19.02		17.17		16.56	
5	05.57	06.22		06.53	07.15-08.13/58	07.22	18.02-18.16/14	06.56		07.30	
	20.57	20.34		19.50		19.00		17.16		16.56	
6	05.58	06.23		06.54	07.16-08.12/56	07.23	18.02-18.16/14	06.58		07.31	
	20.57	20.33		19.48		18.58		17.15		16.56	
7	05.58	06.24		06.55	07.16-08.12/56	07.24	18.03-18.15/12	06.59		07.32	
	20.56	20.32		19.47		18.57		17.14		16.56	
8	05.59	06.25		06.56	07.16-08.11/55	07.25	18.04-18.13/9	07.00	16.06-16.13/7	07.33	
	20.56	20.31		19.45		18.55		17.12		16.56	
9	06.00	06.26	07.44-07.57/13	06.57	07.17-08.10/53	07.26	18.05-18.11/6	07.01	16.04-16.15/11	07.34	
	20.56	20.30		19.43		18.53		17.11		16.56	
10	06.00	06.27	07.41-08.01/20	06.58	07.18-08.08/50	07.27		07.02	16.02-16.16/14	07.35	
	20.55	20.28		19.42		18.52		17.10		16.56	
11	06.01	06.28	07.38-08.03/25	06.59	07.19-08.07/48	07.28		07.03	16.02-16.17/15	07.35	
	20.55	20.27		19.40		18.50		17.09		16.56	
12	06.02	06.29	07.36-08.05/29	06.59	07.20-08.06/46	07.30		07.05	16.02-16.18/16	07.36	
	20.54	20.26		19.38		18.49		17.09		16.56	
13	06.02	06.30	07.34-08.07/33	07.00	07.21-08.04/43	07.31		07.06	16.01-16.18/17	07.37	
	20.54	20.24		19.37		18.47		17.08		16.56	
14	06.03	06.31	07.32-08.08/36	07.01	07.22-08.02/40	07.32		07.07	16.01-16.18/17	07.38	
	20.53	20.23		19.35		18.46		17.07		16.56	
15	06.04	06.32	07.31-08.10/39	07.02	07.22-07.59/37	07.33		07.08	16.02-16.19/17	07.39	
	20.53	20.22		19.33		18.44		17.06		16.56	
16	06.05	06.33	07.29-08.11/42	07.03	07.23-07.57/34	07.34		07.09	16.02-16.19/17	07.39	
	20.52	20.20		19.32		18.43		17.05		16.57	
17	06.05	06.34	07.27-08.11/44	07.04	07.25-07.54/29	07.35		07.10	16.02-16.18/16	07.40	
	20.52	20.19		19.30		18.41		17.04		16.57	
18	06.06	06.35	07.25-08.12/47	07.05	07.28-07.51/23	07.36		07.12	07.34-07.35/1	07.41	
	20.51	20.18		19.28		18.40		17.03	16.03-16.18/15	16.57	
19	06.07	06.36	07.24-08.12/48	07.06	07.32-07.46/14	07.37		07.13	07.36-07.37/1	07.41	
	20.50	20.16		19.27		18.38		17.03	16.04-16.18/14	16.58	
20	06.08	06.37	07.23-08.13/50	07.07		07.38		07.14	16.05-16.18/13	07.42	
	20.50	20.15		19.25		18.37		17.02		16.58	
21	06.09	06.38	07.22-08.14/52	07.08		07.39		07.15	16.06-16.17/11	07.42	
	20.49	20.13		19.23		18.35		17.01		16.58	
22	06.10	06.39	07.21-08.15/54	07.09		07.40		07.16	16.07-16.15/8	07.43	
	20.48	20.12		19.22		18.34		17.01		16.59	
23	06.10	06.40	07.21-08.15/54	07.10	18.07-18.12/5	07.41		07.17	16.10-16.13/3	07.43	
	20.47	20.10		19.20		18.32		17.00		16.59	
24	06.11	06.41	07.20-08.16/56	07.11	18.04-18.15/11	07.43		07.18		07.44	
	20.46	20.09		19.18		18.31		17.00		17.00	
25	06.12	06.42	07.19-08.16/57	07.12	18.02-18.16/14	06.44		07.20		07.44	
	20.46	20.07		19.16		17.30		16.59		17.01	
26	06.13	06.43	07.19-08.16/57	07.13	18.01-18.17/16	06.45		07.21		07.45	
	20.45	20.06		19.15		17.28		16.59		17.01	
27	06.14	06.44	07.18-08.16/58	07.14	18.00-18.17/17	06.46		07.22		07.45	
	20.44	20.04		19.13		17.27		16.58		17.02	
28	06.15	06.45	07.18-08.16/58	07.15	17.59-18.17/18	06.47		07.23	16.23-16.26/3	07.45	
	20.43	20.03		19.11		17.26		16.58		17.02	
29	06.16	06.46	07.17-08.16/59	07.16	17.59-18.16/17	06.48		07.24	16.22-16.26/4	07.46	
	20.42	20.01		19.10		17.24		16.57		17.03	
30	06.17	06.47	07.17-08.16/59	07.17	17.59-18.16/17	06.49		07.25	16.22-16.27/5	07.46	
	20.41	20.00		19.08		17.23		16.57		17.04	
31	06.18	06.48	07.17-08.16/59			06.51				07.46	
	20.40	19.58				17.22				17.05	
Potential sun hours	458	427		375		346		299		289	
Sum of minutes with flicker	0	1049		995		116		225		13	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow_2020_06_22_Stato di fatto **WTG:** ME_05 - TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (6)

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 09.01-09.26/25	07.34 09.09-09.54/45	06.58	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52 08.40-09.24/44	07.26 08.49-09.11/22
	17.06 16.15-16.23/8	17.40	18.13	19.46	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47 09.01-09.26/25	07.33 09.09-09.54/45	06.57	07.06	06.22	05.54	05.56	06.20	06.50	07.19	06.53 08.40-09.24/44	07.27 08.49-09.11/22
	17.07 16.15-16.22/7	17.41	18.14	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.19	16.56
3	07.47 09.02-09.27/25	07.32 09.09-09.55/46	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54 08.40-09.25/45	07.28 08.49-09.12/23
	17.07 16.17-16.22/5	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47 09.02-09.27/25	07.31 09.09-09.55/46	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55 08.40-09.25/45	07.29 08.49-09.13/24
	17.08 16.18-16.22/4	17.43	18.16	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47 09.03-09.27/24	07.30 09.10-09.55/45	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56 08.40-09.25/45	07.30 08.49-09.13/24
	17.09	17.45	18.18	19.51	20.22	20.50	20.57	20.34	19.50	19.00	17.16	16.56
6	07.47 09.03-09.28/25	07.28 09.10-09.55/45	06.50	07.00	06.17	05.53	05.58	06.23	06.54	07.23	06.58 08.39-09.25/46	07.31 08.50-09.14/24
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47 09.03-09.27/24	07.27 09.10-09.55/45	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59 08.40-09.26/46	07.32 08.50-09.14/24
	17.11	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 09.04-09.28/24	07.26 09.10-09.55/45	06.47	06.57	06.14	05.52	05.59	06.25	06.56	07.25	07.00 08.40-09.26/46	07.33 08.49-09.14/25
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56 16.05-16.09/4
9	07.46 09.05-09.28/23	07.25 09.11-09.55/44	06.46	06.55	06.13	05.52	06.00	06.26	06.57	07.26	07.01 08.40-09.25/45	07.34 08.50-09.15/25
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56 16.05-16.10/5
10	07.46 09.06-09.28/22	07.24 09.11-09.54/43	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02 08.40-09.25/45	07.35 08.50-09.15/25
	17.14	17.51	18.23	19.56	20.27	20.53	20.55	20.28	19.42	18.52	17.11	16.56 16.05-16.11/6
11	07.46 09.07-09.29/22	07.23 09.11-09.54/43	06.43	06.52	06.11	05.52	06.01	06.28	06.59	07.29	07.03 08.42-09.25/43	07.36 08.51-09.16/25
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56 16.05-16.13/8
12	07.46 09.07-09.28/21	07.22 09.12-09.53/41	06.41	06.50	06.10	05.51	06.02	06.29	07.00	07.30	07.05 08.42-09.25/43	07.36 08.51-09.17/26
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56 16.05-16.14/9
13	07.46 09.08-09.28/20	07.20 09.13-09.53/40	06.39	06.49	06.09	05.51	06.02	06.30	07.01	07.31	07.06 08.42-09.24/42	07.37 08.52-09.17/25
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56 16.05-16.15/10
14	07.45 09.09-09.27/18	07.19 09.13-09.51/38	06.38	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07 08.43-09.24/41	07.38 08.52-09.17/25
	17.18	17.56	18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56 16.05-16.14/9
15	07.45 09.10-09.28/18	07.18 09.14-09.50/36	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08 08.44-09.24/40	07.39 08.52-09.18/26
	17.19 09.28-09.34/6	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56 16.05-16.15/10
16	07.44 09.11-09.27/16	07.17 09.16-09.49/33	06.34	06.44	06.06	05.51	06.05	06.33	07.03	07.34	07.09 08.45-09.23/38	07.39 08.53-09.19/26
	17.21 09.27-09.36/9	17.58	18.30	20.02	20.33	20.55	20.52	20.20	19.32	18.43	17.05	16.57 16.06-16.16/10
17	07.44 09.13-09.26/13	07.15 09.16-09.46/30	06.33	06.43	06.05	05.51	06.06	06.34	07.04	07.35	07.11 08.46-09.23/37	07.40 08.53-09.18/25
	17.22 09.26-09.39/13	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57 16.05-16.16/11
18	07.44 09.15-09.24/9	07.14 09.18-09.45/27	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12 08.46-09.22/36	07.41 08.54-09.19/25
	17.23 09.24-09.40/16	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.03	16.57 16.06-16.17/11
19	07.43 09.17-09.42/25	07.13 09.20-09.43/23	06.30	06.40	06.03	05.52	06.07	06.36	07.06	07.37	07.13 08.48-09.22/34	07.41 08.55-09.20/25
	17.24	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03	16.58 16.07-16.18/11
20	07.43 09.16-09.43/27	07.11 09.22-09.39/17	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14 08.49-09.21/32	07.42 08.55-09.20/25
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58 16.07-16.18/11
21	07.42 09.16-09.45/29	07.10 09.27-09.34/7	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39 09.56-10.07/11	07.15 08.51-09.21/30	07.42 08.56-09.21/25
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.58 16.08-16.19/11
22	07.41 09.14-09.46/32	07.08	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.40 09.52-10.11/19	07.16 08.52-09.20/28	07.43 08.56-09.21/25
	17.27	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	16.59 16.08-16.19/11
23	07.41 09.13-09.47/34	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42 09.49-10.13/24	07.17 08.53-09.18/25	07.43 08.56-09.21/25
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	16.59 16.08-16.19/11
24	07.40 09.12-09.48/36	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43 09.47-10.15/28	07.19 08.53-09.02/9	07.44 08.57-09.22/25
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00 09.02-09.18/16	17.00 16.09-16.20/11
25	07.39 09.13-09.50/37	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44 08.47-09.18/31	07.20 08.51-09.04/13	07.44 08.57-09.22/25
	17.31	18.09	18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59 09.04-09.17/13	17.01 16.09-16.20/11
26	07.39 09.12-09.50/38	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45 08.45-09.19/34	07.21 08.50-09.06/16	07.45 08.58-09.23/25
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59 09.06-09.15/9	17.01 16.10-16.21/11
27	07.38 09.11-09.51/40	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46 08.44-09.20/36	07.22 08.49-09.07/18	07.45 08.58-09.23/25
	17.33	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58 09.07-09.13/6	17.02 16.11-16.21/10
28	07.37 09.11-09.52/41	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47 08.43-09.21/38	07.23 08.49-09.07/18	07.45 08.58-09.24/26
	17.35	18.12	18.42	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	17.03 16.11-16.21/10
29	07.36 09.10-09.53/43		07.13	06.26	05.56	05.54	06.16	06.46	07.16	06.48 08.42-09.21/39	07.24 08.49-09.08/19	07.46 08.59-09.24/25
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03 16.11-16.21/10
30	07.35 09.10-09.53/43		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49 08.42-09.23/41	07.25 08.48-09.09/21	07.46 09.00-09.25/25
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04 16.12-16.22/10
31	07.34 09.10-09.54/44		07.10		05.55		06.18	06.48		06.51 08.41-09.23/42		07.46 09.00-09.26/26
	17.38		19.45		20.46		20.40	19.58		17.22		17.05 16.14-16.23/9
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
Sum of minutes with flicker	916	784	0	0	0	0	0	0	0	343	1078	998

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow_2020_06_22_Stato di fatto **WTG:** ME_06 - TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (7)

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	07.46	07.33 08.15-09.14/59	06.58 08.12-09.15/63	07.08	06.23	05.54
	17.06	17.40	18.13	19.46	20.18	20.47
2	07.47	07.32 08.14-09.15/61	06.57 08.13-09.13/60	07.06	06.22	05.54
	17.07	17.41	18.14	19.47	20.19	20.47
3	07.47	07.31 08.14-09.16/62	06.55 08.14-09.12/58	07.05	06.20	05.54
	17.07	17.42	18.15	19.48	20.20	20.48
4	07.47	07.30 08.13-09.17/64	06.53 08.14-09.10/56	07.03	06.19	05.53
	17.08	17.43	18.16	19.50	20.21	20.49
5	07.47	07.29 08.13-09.18/65	06.52 08.16-09.09/53	07.01	06.18	05.53
	17.09	17.44	18.18	19.51	20.22	20.49
6	07.47	07.28 08.12-09.19/67	06.50 08.17-09.06/49	07.00	06.17	05.53
	17.10	17.46	18.19 17.34-17.38/4	19.52	20.23	20.50
7	07.47	07.27 08.12-09.20/68	06.49 08.19-09.05/46	06.58	06.15	05.52
	17.11	17.47	18.20 17.32-17.40/8	19.53	20.24	20.51
8	07.47	07.26 08.11-09.21/70	06.47 08.20-09.02/42	06.57	06.14	05.52
	17.12	17.48	18.21 17.31-17.40/9	19.54	20.25	20.51
9	07.46	07.25 08.11-09.21/70	06.46 08.21-09.00/39	06.55	06.13	05.52
	17.13	17.49	18.22 17.30-17.40/10	19.55	20.26	20.52
10	07.46	07.24 08.10-09.21/71	06.44 08.24-08.58/34	06.53	06.12	05.52
	17.14	17.51	18.23 17.30-17.40/10	19.56	20.27	20.52
11	07.46	07.23 08.10-09.22/72	06.42 08.26-08.54/28	06.52	06.11	05.51
	17.15	17.52	18.24 17.30-17.39/9	19.57	20.28	20.53
12	07.46	07.22 08.10-09.22/72	06.41 08.29-08.49/20	06.50	06.10	05.51
	17.16	17.53	18.25 17.32-17.36/4	19.58	20.29	20.53
13	07.45	07.20 08.10-09.23/73	06.39 08.36-08.42/6	06.49	06.09	05.51
	17.17	17.54	18.26	19.59	20.30	20.54
14	07.45	07.19 08.09-09.22/73	06.38	06.47	06.08	05.51
	17.18	17.55	18.27	20.00	20.31	20.54
15	07.45	07.18 08.09-09.22/73	06.36	06.46	06.07	05.51
	17.19	17.57	18.28	20.01	20.32	20.55
16	07.44 16.51-16.52/1	07.16 08.09-09.23/74	06.34 17.45-17.51/6	06.44	06.06	05.51
	17.20	17.58	18.30	20.02	20.33	20.55
17	07.44 08.38-08.45/7	07.15 08.09-09.22/73	06.33 17.42-17.52/10	06.43	06.05	05.51
	17.22 16.50-16.55/5	17.59	18.31	20.03	20.34	20.56
18	07.43 08.33-08.50/17	07.14 08.09-09.22/73	06.31 17.41-17.54/13	06.41	06.04	05.51
	17.23 16.49-16.56/7	18.00	18.32	20.04	20.35	20.56
19	07.43 08.31-08.54/23	07.12 08.09-09.22/73	06.29 17.40-17.54/14	06.40	06.03	05.51
	17.24 16.49-16.57/8	18.01	18.33	20.05	20.36	20.56
20	07.42 08.28-08.56/28	07.11 08.09-09.22/73	06.28 17.39-17.53/14	06.38	06.02	05.52
	17.25 16.49-16.58/9	18.03	18.34	20.06	20.36	20.57
21	07.42 08.27-08.59/32	07.10 08.09-09.22/73	06.26 17.40-17.53/13	06.37	06.02	05.52
	17.26 16.49-16.58/9	18.04	18.35	20.07	20.37	20.57
22	07.41 08.25-09.01/36	07.08 08.09-09.20/71	06.24 17.40-17.52/12	06.35	06.01	05.52
	17.27 16.50-16.58/8	18.05	18.36	20.08	20.38	20.57
23	07.41 08.24-09.02/38	07.07 08.10-09.20/70	06.23 17.40-17.50/10	06.34	06.00	05.52
	17.29 16.50-16.58/8	18.06	18.37	20.09	20.39	20.57
24	07.40 08.22-09.04/42	07.05 08.09-09.19/70	06.21 17.42-17.49/7	06.32	05.59	05.52
	17.30 16.51-16.57/6	18.07	18.38	20.10	20.40	20.57
25	07.39 08.22-09.06/44	07.04 08.10-09.19/69	06.20	06.31	05.59	05.53
	17.31 16.53-16.57/4	18.08	18.39	20.11	20.41	20.57
26	07.39 08.21-09.08/47	07.03 08.11-09.18/67	06.18	06.30	05.58	05.53
	17.32	18.10	18.40	20.12	20.42	20.58
27	07.38 08.20-09.09/49	07.01 08.11-09.17/66	06.16	06.28	05.57	05.53
	17.33	18.11	18.41	20.13	20.43	20.58
28	07.37 08.19-09.10/51	07.00 08.11-09.15/64	06.15	06.27	05.57	05.54
	17.35	18.12	18.42	20.14	20.43	20.58
29	07.36 08.18-09.11/53		07.13	06.25	05.56	05.54
	17.36		19.43	20.16	20.44	20.58
30	07.35 08.17-09.12/55		07.11	06.24	05.55	05.55
	17.37		19.44	20.17	20.45	20.58
31	07.34 08.16-09.13/57		07.10		05.55	
	17.38		19.45		20.46	
Potential sun hours	299	298	370	398	447	451
Sum of minutes with flicker	644	1936	707	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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.06/2.9.207

SHADOW - Calendar per WTG

Calculation: Shadow_2020_06_22_Stato di fatto **WTG:** ME_06 - TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m) (7)

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	05.55	06.19	06.49	07.18 09.10-09.27/17	06.52 07.40-08.51/71	07.26
	20.57	20.39	19.56	19.06	17.20	16.57
2	05.56	06.20	06.50	07.19 09.06-09.31/25	06.53 07.40-08.50/70	07.27
	20.57	20.38	19.55	19.05 18.10-18.17/7	17.19	16.56
3	05.56	06.21	06.51	07.20 09.02-09.34/32	06.54 07.41-08.50/69	07.28
	20.57	20.37	19.53	19.03 18.08-18.18/10	17.18	16.56
4	05.57	06.21	06.52	07.21 09.00-09.36/36	06.55 07.42-08.50/68	07.29
	20.57	20.36	19.52	19.01 18.07-18.18/11	17.17	16.56
5	05.57	06.22	06.53	07.22 08.57-09.38/41	06.56 07.42-08.49/67	07.30
	20.57	20.34	19.50	19.00 18.07-18.17/10	17.16	16.56
6	05.58	06.23	06.54	07.23 08.55-09.40/45	06.58 07.42-08.48/66	07.31
	20.57	20.33	19.48	18.58 18.07-18.16/9	17.15	16.56
7	05.58	06.24	06.55	07.24 08.54-09.41/47	06.59 07.44-08.48/64	07.32
	20.56	20.32	19.47	18.57 18.08-18.15/7	17.14	16.56
8	05.59	06.25	06.56	07.25 08.52-09.43/51	07.00 07.45-08.47/62	07.33
	20.56	20.31	19.45	18.55	17.12	16.55
9	06.00	06.26	06.57	07.26 08.50-09.44/54	07.01 07.45-08.46/61	07.34
	20.56	20.30	19.43	18.53	17.11	16.55
10	06.00	06.27	06.58	07.27 08.48-09.45/57	07.02 07.46-08.45/59	07.35
	20.55	20.28	19.42	18.52	17.10	16.56
11	06.01	06.28	06.58	07.28 08.48-09.47/59	07.03 07.48-08.45/57	07.35
	20.55	20.27	19.40	18.50	17.09	16.56
12	06.02	06.29	06.59	07.29 08.47-09.48/61	07.05 07.49-08.44/55	07.36
	20.54	20.26	19.38	18.49	17.08	16.56
13	06.02	06.30	07.00	07.31 08.45-09.49/64	07.06 07.50-08.43/53	07.37
	20.54	20.24	19.37	18.47	17.08	16.56
14	06.03	06.31	07.01	07.32 08.44-09.49/65	07.07 07.51-08.42/51	07.38
	20.53	20.23	19.35	18.46	17.07	16.56
15	06.04	06.32	07.02	07.33 08.43-09.50/67	07.08 07.53-08.42/49	07.39
	20.53	20.22	19.33	18.44	17.06	16.56
16	06.05	06.33	07.03	07.34 08.42-09.50/68	07.09 07.54-08.40/46	07.39
	20.52	20.20	19.32	18.43	17.05	16.57
17	06.05	06.34	07.04	07.35 08.41-09.51/70	07.10 07.55-08.39/44	07.40
	20.52	20.19	19.30	18.41	17.04 16.26-16.30/4	16.57
18	06.06	06.35	07.05	07.36 08.41-09.51/70	07.12 07.56-08.38/42	07.41
	20.51	20.18	19.28	18.40	17.03 16.25-16.31/6	16.57
19	06.07	06.36	07.06 18.29-18.34/5	07.37 08.40-09.51/71	07.13 07.59-08.37/38	07.41
	20.50	20.16	19.27	18.38	17.03 16.25-16.33/8	16.58
20	06.08	06.37	07.07 18.27-18.36/9	07.38 08.40-09.52/72	07.14 08.00-08.36/36	07.42
	20.50	20.15	19.25	18.37	17.02 16.25-16.33/8	16.58
21	06.09	06.38	07.08 18.25-18.37/12	07.39 08.40-09.52/72	07.15 08.02-08.34/32	07.42
	20.49	20.13	19.23	18.35	17.01 16.25-16.34/9	16.58
22	06.10	06.39	07.09 18.24-18.38/14	07.40 08.39-09.52/73	07.16 08.04-08.32/28	07.43
	20.48	20.12	19.21	18.34	17.01 16.25-16.34/9	16.59
23	06.10	06.40	07.10 18.23-18.38/15	07.41 08.39-09.52/73	07.17 08.07-08.30/23	07.43
	20.47	20.10	19.20	18.32	17.00 16.25-16.33/8	16.59
24	06.11	06.41	07.11 18.23-18.37/14	07.43 08.39-09.52/73	07.18 08.11-08.28/17	07.44
	20.46	20.09	19.18	18.31	16.59 16.27-16.34/7	17.00
25	06.12	06.42	07.12 18.23-18.36/13	06.44 07.39-08.53/74	07.20 08.15-08.24/9	07.44
	20.46	20.07	19.16	17.30	16.59 16.28-16.33/5	17.00
26	06.13	06.43	07.13 18.24-18.35/11	06.45 07.39-08.52/73	07.21 16.30-16.32/2	07.45
	20.45	20.06	19.15	17.28	16.58	17.01
27	06.14	06.44	07.14 18.25-18.33/8	06.46 07.39-08.52/73	07.22	07.45
	20.44	20.04	19.13	17.27	16.58	17.02
28	06.15	06.45	07.15	06.47 07.39-08.52/73	07.23	07.45
	20.43	20.03	19.11	17.25	16.58	17.02
29	06.16	06.46	07.16	06.48 07.39-08.51/72	07.24	07.46
	20.42	20.01	19.10	17.24	16.57	17.03
30	06.17	06.47	07.17	06.49 07.40-08.52/72	07.25	07.46
	20.41	20.00	19.08	17.23	16.57	17.04
31	06.18	06.48		06.51 07.40-08.51/71		07.46
	20.40	19.58		17.22		17.05
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	0	0	101	1925	1303	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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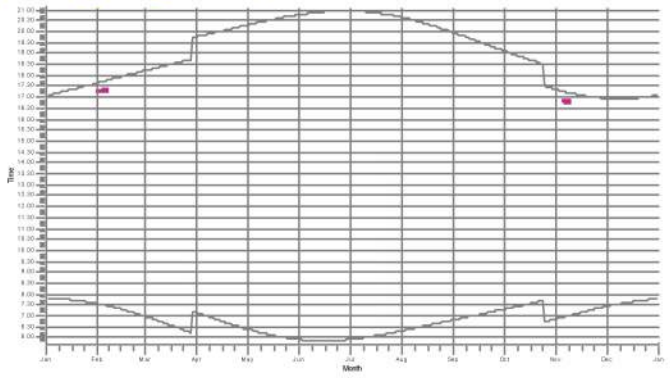
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.06/2.9.207

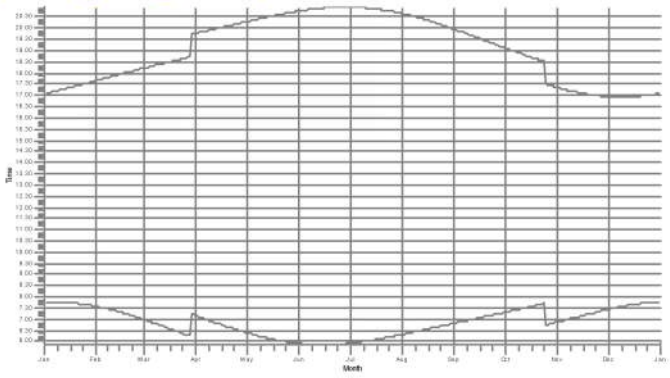
SHADOW - Calendar per WTG, graphical

Calculation: Shadow_2020_06_22_Stato di fatto

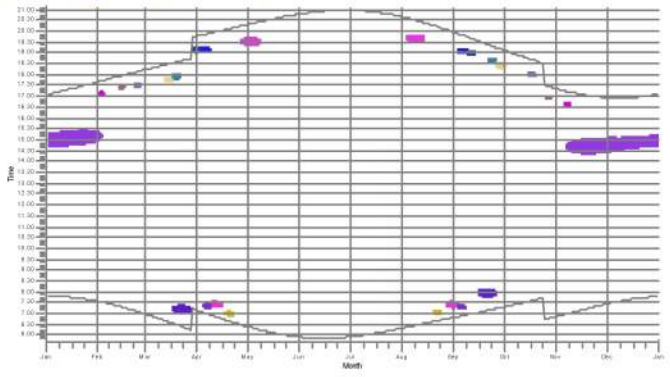
_01: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m)



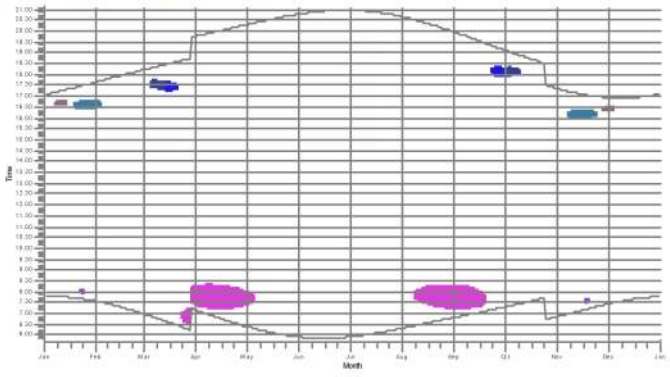
_02: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m)



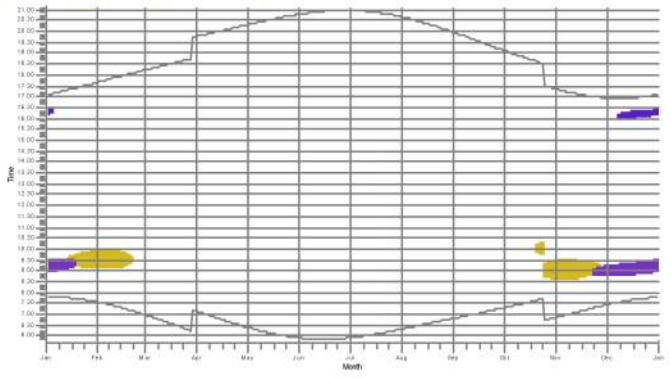
_03: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m)



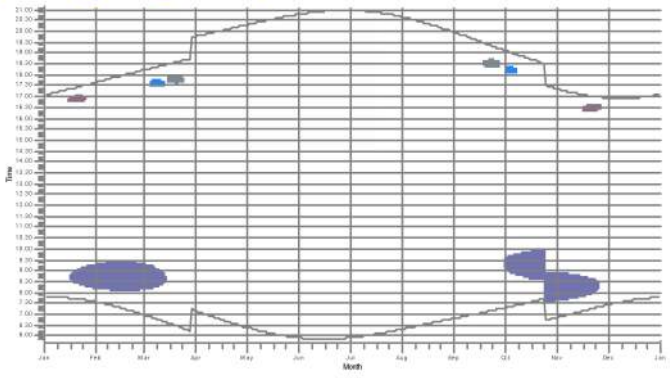
_04: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m)



_05: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m)



_06: TOZZI_GREEN_bis Victory 24-60 60 26.0 !O! hub: 30,0 m (TOT: 43,0 m)



Shadow receptors

- R37: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (207)
- R38: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (210)
- R42: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (208)
- R43: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (211)
- R44: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (213)
- R45: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (217)
- R46: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (218)
- R47: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (221)
- R48: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (222)
- R49: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (212)
- R53: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (215)
- R62: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (209)
- R64: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (198)
- R65: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (214)
- R76: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (216)
- R77: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (220)
- R82: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (227)

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

Project:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Main Result

Calculation: Shadow_2020_06_22_progetto

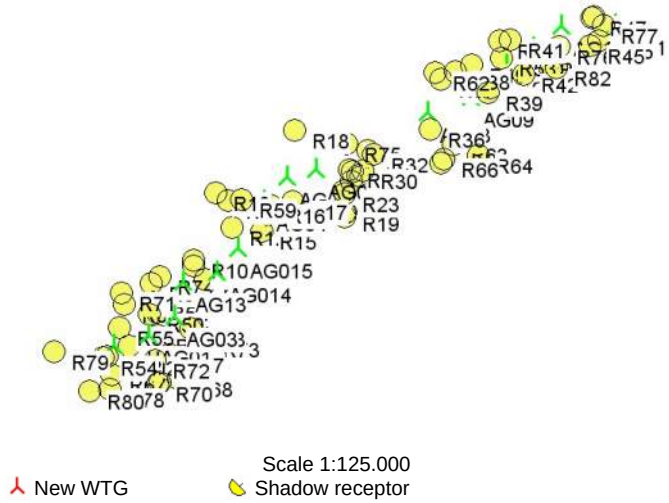
Assumptions for shadow calculations

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



Scale 1:125.000
New WTG
Shadow receptor

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	Rotor diameter	Hub height	Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
AG01	1.532.206	4.489.534	876,7	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG014	1.533.337	4.490.562	891,2	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG015	1.533.685	4.490.966	900,0	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG02	1.531.634	4.489.354	870,6	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG03	1.532.634	4.489.824	883,1	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG04	1.534.103	4.491.734	970,0	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG05	1.534.484	4.492.137	986,8	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG06	1.534.965	4.492.261	981,5	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG07	1.538.547	4.494.283	763,3	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG08	1.536.813	4.493.217	926,6	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG09	1.537.528	4.493.461	888,8	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG10	1.538.109	4.493.988	812,3	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG11	1.539.014	4.494.641	715,7	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG12	1.539.908	4.494.664	716,4	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0
AG13	1.532.777	4.490.408	897,4	GE 158 H149m GE 15...	Yes	GE 158 H149m	GE 158_utente-4.200	4.200	158,0	149,0	2.000	0,0

Shadow receptor-Input

	Italian Gauss-Boaga west-ROMA40 (IT-peninsular <±4m)							
No.	East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
			[m]	[m]	[m]	[m]	[°]	[°]	
R02	1.531.527	4.489.165	853,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R04	1.531.886	4.489.333	881,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R06	1.531.814	4.490.018	900,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R07	1.532.257	4.490.367	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R08	1.533.139	4.490.437	887,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R09	1.532.944	4.490.661	902,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R10	1.532.945	4.490.747	910,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R12	1.533.577	4.491.290	921,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R13	1.533.304	4.491.856	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R14	1.533.526	4.491.738	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R15	1.534.083	4.491.239	920,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R16	1.534.212	4.491.668	949,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R17	1.534.588	4.491.733	960,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R18	1.534.613	4.492.900	880,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R19	1.535.440	4.491.531	865,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R20	1.535.456	4.491.555	864,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"

To be continued on next page...

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Main Result

Calculation: Shadow_2020_06_22_progetto

...continued from previous page

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

No.	East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
			[m]	[m]	[m]	[m]	[°]	[°]	
R21	1.535.449	4.491.477	863,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R23	1.535.445	4.491.861	890,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R24	1.535.424	4.491.906	894,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R25	1.535.556	4.492.058	882,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R26	1.535.527	4.492.250	900,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R27	1.535.562	4.492.217	892,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R28	1.535.664	4.492.156	880,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R29	1.535.716	4.492.138	880,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R30	1.535.751	4.492.239	875,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R31	1.535.822	4.492.565	882,8	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R32	1.535.921	4.492.508	870,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R35	1.537.028	4.492.372	869,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R36	1.536.855	4.492.926	914,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R37	1.537.026	4.493.757	820,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R38	1.537.262	4.493.880	807,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R39	1.537.800	4.493.526	884,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R40	1.537.845	4.493.617	874,8	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R41	1.538.171	4.494.410	772,9	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R42	1.538.390	4.493.843	807,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R43	1.538.836	4.493.925	760,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R44	1.538.818	4.494.061	769,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R45	1.539.495	4.494.319	714,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R46	1.539.637	4.494.397	695,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R47	1.539.516	4.494.777	715,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R48	1.539.553	4.494.796	715,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R49	1.537.534	4.493.996	816,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R50	1.532.222	4.489.853	912,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R51	1.532.356	4.489.886	910,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R52	1.532.280	4.490.054	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R53	1.538.031	4.494.101	811,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R54	1.531.462	4.489.142	850,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R55	1.531.728	4.489.640	878,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R56	1.532.366	4.489.517	880,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R57	1.532.562	4.489.196	837,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R58	1.532.909	4.489.617	858,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R59	1.533.734	4.491.748	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R60	1.534.247	4.491.472	930,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R61	1.534.319	4.491.474	926,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R62	1.536.939	4.493.855	810,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R63	1.537.243	4.492.675	908,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R64	1.537.655	4.492.505	846,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R65	1.538.697	4.494.089	774,8	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R66	1.537.074	4.492.430	875,3	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R67	1.531.612	4.488.865	850,7	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R68	1.532.704	4.488.793	833,4	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R69	1.532.398	4.488.731	845,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R70	1.532.370	4.488.725	845,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R71	1.531.753	4.490.212	897,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R72	1.532.323	4.489.107	847,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R73	1.533.154	4.489.446	840,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R74	1.532.397	4.490.473	941,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R75	1.535.470	4.492.688	926,2	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R76	1.538.981	4.494.303	755,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R77	1.539.708	4.494.659	720,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R78	1.531.571	4.488.620	840,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R79	1.530.647	4.489.239	861,6	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R80	1.531.240	4.488.580	827,1	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R81	1.537.987	4.494.388	778,5	1,2	1,4	1,2	0,0	90,0	"Green house mode"
R82	1.538.936	4.493.957	760,0	1,2	1,4	1,2	0,0	90,0	"Green house mode"

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Main Result

Calculation: Shadow_2020_06_22_progetto

Calculation Results

Shadow receptor

Shadow, worst case

No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
R02	0:00	0	0:00
R04	293:20	156	2:07
R06	126:46	218	0:54
R07	119:23	144	1:26
R08	209:46	216	1:31
R09	430:26	327	1:54
R10	326:00	307	1:39
R12	133:30	92	1:46
R13	57:09	113	0:44
R14	114:21	168	1:00
R15	149:41	151	1:18
R16	0:00	0	0:00
R17	113:53	148	1:12
R18	45:16	66	0:50
R19	21:47	68	0:27
R20	20:59	67	0:27
R21	22:22	70	0:27
R23	68:33	157	0:38
R24	70:27	172	0:39
R25	58:32	129	0:42
R26	113:20	190	1:00
R27	121:21	206	0:57
R28	103:43	186	0:50
R29	93:31	183	0:47
R30	60:11	132	0:44
R31	52:01	134	0:50
R32	33:24	82	0:41
R35	0:00	0	0:00
R36	0:00	0	0:00
R37	170:11	231	1:03
R38	224:44	220	1:49
R39	263:37	214	1:50
R40	159:33	121	1:52
R41	281:35	273	1:46
R42	35:27	100	0:49
R43	61:05	113	0:49
R44	66:25	156	0:49
R45	35:14	83	0:38
R46	82:57	145	0:55
R47	214:26	165	2:29
R48	218:31	157	2:31
R49	177:56	186	1:37
R50	291:35	200	2:36
R51	382:00	256	2:04
R52	209:47	230	1:27
R53	665:05	365	2:57
R54	4:11	19	0:16
R55	334:25	300	2:00
R56	355:05	198	2:42
R57	32:07	64	0:39
R58	53:11	91	0:50
R59	218:42	163	1:36
R60	69:52	78	1:09
R61	69:40	88	1:00
R62	106:14	188	0:50
R63	0:00	0	0:00
R64	0:00	0	0:00
R65	95:50	195	0:58

To be continued on next page...

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
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22/06/2020 15.30/2.9.207

SHADOW - Main Result

Calculation: Shadow_2020_06_22_progetto

...continued from previous page

Shadow, worst case

No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
R66	0:00	0	0:00
R67	0:00	0	0:00
R68	4:44	23	0:16
R69	0:00	0	0:00
R70	0:00	0	0:00
R71	56:04	111	0:43
R72	64:16	85	0:53
R73	37:09	86	0:39
R74	180:26	178	1:52
R75	131:22	197	1:26
R76	206:05	267	1:21
R77	409:26	243	2:34
R78	0:00	0	0:00
R79	32:18	52	0:50
R80	0:00	0	0:00
R81	215:57	234	1:50
R82	44:54	95	0:44

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

No.	Name	Worst case [h/year]	Expected [h/year]
AG01	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (42)	718:46	
AG014	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (45)	296:23	
AG015	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (46)	417:55	
AG02	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (41)	747:32	
AG03	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (43)	533:10	
AG04	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (47)	432:08	
AG05	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (48)	206:19	
AG06	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (49)	366:17	
AG07	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (53)	447:23	
AG08	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (50)	288:23	
AG09	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (51)	651:13	
AG10	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (52)	962:19	
AG11	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (54)	229:44	
AG12	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (55)	534:29	
AG13	GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (44)	732:54	

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R02 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (159)

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	07.08	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	20.58	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	07.19	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	07.20	06.54	07.28
	17.08	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	20.34	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	17.47	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	05.59	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	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	07.03	07.35
	17.15	17.51	18.23	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	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	20.55	20.54	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	07.39
	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	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	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.40	07.15	07.43
	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	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	07.12	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.58	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	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	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	06.16	06.46	07.16	06.49	07.24	07.46
	17.36		19.44	20.16	20.45	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	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R04 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (161)

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	07.08			06.23		17.02 (AG02)	05.55		17.04 (AG02)
	17.06	17.40	18.13	19.47			20.18	119	19.01 (AG02)	20.47	125	19.09 (AG02)
2	07.47	07.33	06.57	07.07			06.22		17.01 (AG02)	05.55		17.05 (AG02)
	17.07	17.41	18.15	19.48			20.19	121	19.02 (AG02)	20.48	125	19.10 (AG02)
3	07.47	07.32	06.55	07.05			06.21		17.01 (AG02)	05.54		17.04 (AG02)
	17.08	17.42	18.16	19.49			20.20	122	19.03 (AG02)	20.48	125	19.09 (AG02)
4	07.47	07.31	06.54	07.03			06.19		17.01 (AG02)	05.54		17.05 (AG02)
	17.09	17.44	18.17	19.50			20.21	122	19.03 (AG02)	20.49	125	19.10 (AG02)
5	07.47	07.30	06.52	07.02		17.53 (AG02)	06.18		17.01 (AG02)	05.53		17.06 (AG02)
	17.10	17.45	18.18	19.51	26	18.19 (AG02)	20.22	123	19.04 (AG02)	20.50	124	19.10 (AG02)
6	07.47	07.29	06.51	07.00		17.47 (AG02)	06.17		17.00 (AG02)	05.53		17.06 (AG02)
	17.11	17.46	18.19	19.52	39	18.26 (AG02)	20.23	123	19.03 (AG02)	20.50	125	19.11 (AG02)
7	07.47	07.28	06.49	06.59		17.42 (AG02)	06.16		17.00 (AG02)	05.53		17.06 (AG02)
	17.12	17.47	18.20	19.53	48	18.30 (AG02)	20.24	124	19.04 (AG02)	20.51	124	19.10 (AG02)
8	07.47	07.26	06.48	06.57		17.37 (AG02)	06.15		17.00 (AG02)	05.53		17.06 (AG02)
	17.12	17.49	18.21	19.54	56	18.33 (AG02)	20.25	124	19.04 (AG02)	20.52	125	19.11 (AG02)
9	07.47	07.25	06.46	06.55		17.34 (AG02)	06.14		17.00 (AG02)	05.52		17.07 (AG02)
	17.13	17.50	18.22	19.55	62	18.36 (AG02)	20.26	125	19.05 (AG02)	20.52	124	19.11 (AG02)
10	07.46	07.24	06.44	06.54		17.31 (AG02)	06.12		17.00 (AG02)	05.52		17.07 (AG02)
	17.15	17.51	18.23	19.56	67	18.38 (AG02)	20.27	125	19.05 (AG02)	20.53	124	19.11 (AG02)
11	07.46	07.23	06.43	06.52		17.28 (AG02)	06.11		17.00 (AG02)	05.52		17.08 (AG02)
	17.16	17.52	18.25	19.57	73	18.41 (AG02)	20.28	125	19.05 (AG02)	20.53	123	19.11 (AG02)
12	07.46	07.22	06.41	06.51		17.25 (AG02)	06.10		17.00 (AG02)	05.52		17.08 (AG02)
	17.17	17.53	18.26	19.58	78	18.43 (AG02)	20.29	126	19.06 (AG02)	20.54	124	19.12 (AG02)
13	07.46	07.21	06.40	06.49		17.24 (AG02)	06.09		17.00 (AG02)	05.52		17.08 (AG02)
	17.18	17.55	18.27	19.59	81	18.45 (AG02)	20.30	126	19.06 (AG02)	20.54	124	19.12 (AG02)
14	07.45	07.19	06.38	06.48		17.21 (AG02)	06.08		17.00 (AG02)	05.52		17.09 (AG02)
	17.19	17.56	18.28	20.00	85	18.46 (AG02)	20.31	126	19.06 (AG02)	20.55	123	19.12 (AG02)
15	07.45	07.18	06.36	06.46		17.19 (AG02)	06.07		17.00 (AG02)	05.52		17.09 (AG02)
	17.20	17.57	18.29	20.01	89	18.48 (AG02)	20.32	126	19.06 (AG02)	20.55	123	19.12 (AG02)
16	07.45	07.17	06.35	06.45		17.17 (AG02)	06.06		17.00 (AG02)	05.52		17.09 (AG02)
	17.21	17.58	18.30	20.02	92	18.49 (AG02)	20.33	126	19.06 (AG02)	20.55	124	19.13 (AG02)
17	07.44	07.15	06.33	06.43		17.16 (AG02)	06.05		17.01 (AG02)	05.52		17.09 (AG02)
	17.22	17.59	18.31	20.03	95	18.51 (AG02)	20.34	126	19.07 (AG02)	20.56	124	19.13 (AG02)
18	07.44	07.14	06.31	06.41		17.14 (AG02)	06.05		17.01 (AG02)	05.52		17.09 (AG02)
	17.23	18.01	18.32	20.04	98	18.52 (AG02)	20.35	126	19.07 (AG02)	20.56	124	19.13 (AG02)
19	07.43	07.13	06.30	06.40		17.13 (AG02)	06.04		17.01 (AG02)	05.52		17.10 (AG02)
	17.24	18.02	18.33	20.05	100	18.53 (AG02)	20.36	126	19.07 (AG02)	20.56	123	19.13 (AG02)
20	07.43	07.11	06.28	06.39		17.11 (AG02)	06.03		17.01 (AG02)	05.52		17.10 (AG02)
	17.26	18.03	18.34	20.06	103	18.54 (AG02)	20.37	126	19.07 (AG02)	20.57	123	19.13 (AG02)
21	07.42	07.10	06.26	06.37		17.10 (AG02)	06.02		17.01 (AG02)	05.52		17.10 (AG02)
	17.27	18.04	18.35	20.07	105	18.55 (AG02)	20.38	126	19.07 (AG02)	20.57	123	19.13 (AG02)
22	07.42	07.09	06.25	06.36		17.08 (AG02)	06.01		17.01 (AG02)	05.52		17.11 (AG02)
	17.28	18.05	18.36	20.09	107	18.55 (AG02)	20.39	127	19.08 (AG02)	20.57	123	19.14 (AG02)
23	07.41	07.07	06.23	06.34		17.08 (AG02)	06.00		17.01 (AG02)	05.53		17.11 (AG02)
	17.29	18.06	18.37	20.10	109	18.57 (AG02)	20.39	127	19.08 (AG02)	20.57	123	19.14 (AG02)
24	07.40	07.06	06.22	06.33		17.07 (AG02)	06.00		17.01 (AG02)	05.53		17.11 (AG02)
	17.30	18.08	18.38	20.11	111	18.58 (AG02)	20.40	127	19.08 (AG02)	20.57	123	19.14 (AG02)
25	07.39	07.04	06.20	06.31		17.06 (AG02)	05.59		17.02 (AG02)	05.53		17.11 (AG02)
	17.31	18.09	18.39	20.12	112	18.58 (AG02)	20.41	127	19.09 (AG02)	20.58	124	19.15 (AG02)
26	07.39	07.03	06.18	06.30		17.05 (AG02)	05.58		17.02 (AG02)	05.54		17.11 (AG02)
	17.33	18.10	18.40	20.13	114	18.59 (AG02)	20.42	126	19.08 (AG02)	20.58	124	19.15 (AG02)
27	07.38	07.01	06.17	06.29		17.04 (AG02)	05.58		17.03 (AG02)	05.54		17.11 (AG02)
	17.34	18.11	18.41	20.14	115	18.59 (AG02)	20.43	126	19.09 (AG02)	20.58	123	19.14 (AG02)
28	07.37	07.00	06.15	06.27		17.03 (AG02)	05.57		17.03 (AG02)	05.54		17.12 (AG02)
	17.35	18.12	18.43	20.15	117	19.00 (AG02)	20.44	126	19.09 (AG02)	20.58	123	19.15 (AG02)
29	07.36		07.13	06.26		17.03 (AG02)	05.57		17.04 (AG02)	05.55		17.11 (AG02)
	17.36		19.44	20.16	118	19.01 (AG02)	20.44	125	19.09 (AG02)	20.58	124	19.15 (AG02)
30	07.35		07.12	06.25		17.03 (AG02)	05.56		17.03 (AG02)	05.55		17.11 (AG02)
	17.37		19.45	20.17	119	19.02 (AG02)	20.45	126	19.09 (AG02)	20.58	124	19.15 (AG02)
31	07.35		07.10				05.55		17.04 (AG02)			
	17.39		19.46				20.46	126	19.10 (AG02)			
Potential sun hours	299	298	370	398			447			451		
Total, worst case					2319			3876			3715	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R04 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (161)

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		17.12 (AG02)	06.19		17.10 (AG02)	06.49		17.27 (AG02)	07.18	06.52	07.26
	20.58	124	19.16 (AG02)	20.39	126	19.16 (AG02)	19.57	73	18.40 (AG02)	19.07	17.21	16.57
2	05.56		17.11 (AG02)	06.20		17.10 (AG02)	06.50		17.30 (AG02)	07.19	06.53	07.27
	20.58	124	19.15 (AG02)	20.38	126	19.16 (AG02)	19.55	67	18.37 (AG02)	19.05	17.20	16.57
3	05.57		17.12 (AG02)	06.21		17.10 (AG02)	06.51		17.32 (AG02)	07.20	06.54	07.28
	20.57	124	19.16 (AG02)	20.37	126	19.16 (AG02)	19.53	62	18.34 (AG02)	19.03	17.18	16.57
4	05.57		17.11 (AG02)	06.22		17.10 (AG02)	06.52		17.35 (AG02)	07.21	06.55	07.29
	20.57	125	19.16 (AG02)	20.36	125	19.15 (AG02)	19.52	56	18.31 (AG02)	19.02	17.17	16.56
5	05.58		17.12 (AG02)	06.23		17.10 (AG02)	06.53		17.37 (AG02)	07.23	06.57	07.30
	20.57	124	19.16 (AG02)	20.35	125	19.15 (AG02)	19.50	49	18.26 (AG02)	19.00	17.16	16.56
6	05.58		17.12 (AG02)	06.24		17.10 (AG02)	06.54		17.42 (AG02)	07.24	06.58	07.31
	20.57	125	19.17 (AG02)	20.33	124	19.14 (AG02)	19.49	39	18.21 (AG02)	18.59	17.15	16.56
7	05.59		17.12 (AG02)	06.25		17.10 (AG02)	06.55		17.48 (AG02)	07.25	06.59	07.32
	20.56	124	19.16 (AG02)	20.32	123	19.13 (AG02)	19.47	26	18.14 (AG02)	18.57	17.14	16.56
8	05.59		17.12 (AG02)	06.26		17.10 (AG02)	06.56			07.26	07.00	07.33
	20.56	125	19.17 (AG02)	20.31	122	19.12 (AG02)	19.45			18.55	17.13	16.56
9	06.00		17.12 (AG02)	06.27		17.10 (AG02)	06.57			07.27	07.01	07.34
	20.56	125	19.17 (AG02)	20.30	122	19.12 (AG02)	19.44			18.54	17.12	16.56
10	06.01		17.12 (AG02)	06.28		17.10 (AG02)	06.58			07.28	07.02	07.35
	20.55	125	19.17 (AG02)	20.29	121	19.11 (AG02)	19.42			18.52	17.11	16.56
11	06.01		17.12 (AG02)	06.29		17.10 (AG02)	06.59			07.29	07.04	07.36
	20.55	126	19.18 (AG02)	20.27	121	19.11 (AG02)	19.40			18.51	17.10	16.56
12	06.02		17.12 (AG02)	06.30		17.10 (AG02)	07.00			07.30	07.05	07.36
	20.55	125	19.17 (AG02)	20.26	120	19.10 (AG02)	19.39			18.49	17.09	16.56
13	06.03		17.12 (AG02)	06.31		17.11 (AG02)	07.01			07.31	07.06	07.37
	20.54	125	19.17 (AG02)	20.25	118	19.09 (AG02)	19.37			18.47	17.08	16.56
14	06.04		17.12 (AG02)	06.32		17.11 (AG02)	07.02			07.32	07.07	07.38
	20.54	126	19.18 (AG02)	20.23	117	19.08 (AG02)	19.35			18.46	17.07	16.56
15	06.04		17.12 (AG02)	06.33		17.11 (AG02)	07.03			07.33	07.08	07.39
	20.53	126	19.18 (AG02)	20.22	116	19.07 (AG02)	19.34			18.44	17.06	16.57
16	06.05		17.11 (AG02)	06.34		17.12 (AG02)	07.04			07.34	07.10	07.39
	20.52	126	19.17 (AG02)	20.21	115	19.07 (AG02)	19.32			18.43	17.05	16.57
17	06.06		17.12 (AG02)	06.35		17.12 (AG02)	07.05			07.35	07.11	07.40
	20.52	126	19.18 (AG02)	20.19	114	19.06 (AG02)	19.30			18.41	17.05	16.57
18	06.07		17.12 (AG02)	06.36		17.13 (AG02)	07.06			07.36	07.12	07.41
	20.51	126	19.18 (AG02)	20.18	111	19.04 (AG02)	19.29			18.40	17.04	16.58
19	06.08		17.12 (AG02)	06.36		17.13 (AG02)	07.07			07.37	07.13	07.41
	20.51	126	19.18 (AG02)	20.16	110	19.03 (AG02)	19.27			18.38	17.03	16.58
20	06.08		17.12 (AG02)	06.37		17.14 (AG02)	07.08			07.38	07.14	07.42
	20.50	126	19.18 (AG02)	20.15	108	19.02 (AG02)	19.25			18.37	17.02	16.58
21	06.09		17.11 (AG02)	06.38		17.14 (AG02)	07.09			07.39	07.15	07.43
	20.49	127	19.18 (AG02)	20.14	107	19.01 (AG02)	19.24			18.36	17.02	16.59
22	06.10		17.11 (AG02)	06.39		17.14 (AG02)	07.10			07.41	07.16	07.43
	20.48	127	19.18 (AG02)	20.12	105	18.59 (AG02)	19.22			18.34	17.01	16.59
23	06.11		17.11 (AG02)	06.40		17.15 (AG02)	07.11			07.42	07.18	07.44
	20.48	127	19.18 (AG02)	20.11	102	18.57 (AG02)	19.20			18.33	17.01	17.00
24	06.12		17.11 (AG02)	06.41		17.16 (AG02)	07.11			07.43	07.19	07.44
	20.47	127	19.18 (AG02)	20.09	100	18.56 (AG02)	19.18			18.31	17.00	17.00
25	06.13		17.11 (AG02)	06.42		17.17 (AG02)	07.12			06.44	07.20	07.45
	20.46	127	19.18 (AG02)	20.08	97	18.54 (AG02)	19.17			17.30	16.59	17.01
26	06.14		17.11 (AG02)	06.43		17.18 (AG02)	07.13			06.45	07.21	07.45
	20.45	127	19.18 (AG02)	20.06	95	18.53 (AG02)	19.15			17.29	16.59	17.02
27	06.14		17.10 (AG02)	06.44		17.19 (AG02)	07.14			06.46	07.22	07.45
	20.44	127	19.17 (AG02)	20.04	92	18.51 (AG02)	19.13			17.27	16.58	17.02
28	06.15		17.10 (AG02)	06.45		17.21 (AG02)	07.15			06.47	07.23	07.46
	20.43	127	19.17 (AG02)	20.03	88	18.49 (AG02)	19.12			17.26	16.58	17.03
29	06.16		17.10 (AG02)	06.46		17.22 (AG02)	07.16			06.49	07.24	07.46
	20.42	127	19.17 (AG02)	20.01	85	18.47 (AG02)	19.10			17.25	16.58	17.04
30	06.17		17.10 (AG02)	06.47		17.24 (AG02)	07.17			06.50	07.25	07.46
	20.41	126	19.16 (AG02)	20.00	81	18.45 (AG02)	19.08			17.23	16.57	17.04
31	06.18		17.10 (AG02)	06.48		17.25 (AG02)				06.51		07.46
	20.40	126	19.16 (AG02)	19.58	78	18.43 (AG02)				17.22		17.05
Potential sun hours	457			427			375			346	299	289
Total, worst case		3898			3420			372				

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 8

Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R06 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (168)

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		09.05 (AG01)	07.34			06.58		07.19 (AG03)	07.08			06.23		06.42 (AG014)	05.55		06.27 (AG13)
	17.06	51	09.56 (AG01)	17.40			18.13	35	07.54 (AG03)	19.47			20.18	1	06.43 (AG014)	20.47	37	07.04 (AG13)
2	07.47		09.05 (AG01)	07.33			06.57		07.19 (AG03)	07.07			06.22		06.41 (AG014)	05.55		06.28 (AG13)
	17.07	51	09.56 (AG01)	17.41			18.15	37	07.56 (AG03)	19.48			20.19	7	06.48 (AG014)	20.48	37	07.05 (AG13)
3	07.47		09.06 (AG01)	07.32			06.55		07.17 (AG03)	07.05			06.21		06.40 (AG014)	05.54		06.27 (AG13)
	17.08	50	09.56 (AG01)	17.42			18.16	39	07.56 (AG03)	19.49			20.20	10	06.50 (AG014)	20.48	37	07.04 (AG13)
4	07.47		09.07 (AG01)	07.31			06.54		07.17 (AG03)	07.03			06.19		06.39 (AG014)	05.54		06.28 (AG13)
	17.09	49	09.56 (AG01)	17.44			18.17	40	07.57 (AG03)	19.50			20.21	12	06.51 (AG014)	20.49	37	07.05 (AG13)
5	07.47		09.08 (AG01)	07.30			06.52		07.16 (AG03)	07.02			06.18		06.38 (AG014)	05.53		06.29 (AG13)
	17.10	48	09.56 (AG01)	17.45			18.18	41	07.57 (AG03)	19.51			20.22	14	06.52 (AG014)	20.50	36	07.05 (AG13)
6	07.47		09.09 (AG01)	07.29			06.51		07.15 (AG03)	07.00			06.17		06.36 (AG014)	05.53		06.29 (AG13)
	17.11	47	09.56 (AG01)	17.46			18.19	42	07.57 (AG03)	19.52			20.23	16	06.52 (AG014)	20.50	36	07.05 (AG13)
7	07.47		09.10 (AG01)	07.28			06.49		07.15 (AG03)	06.59			06.16		06.35 (AG014)	05.53		06.29 (AG13)
	17.12	46	09.56 (AG01)	17.47			18.20	42	07.57 (AG03)	19.53			20.24	18	06.53 (AG014)	20.51	36	07.05 (AG13)
8	07.47		09.10 (AG01)	07.26			06.48		07.14 (AG03)	06.57			06.15		06.34 (AG014)	05.53		06.29 (AG13)
	17.12	45	09.55 (AG01)	17.49			18.21	43	07.57 (AG03)	19.54			20.25	19	06.53 (AG014)	20.52	36	07.05 (AG13)
9	07.47		09.11 (AG01)	07.25			06.46		07.14 (AG03)	06.55			06.14		06.33 (AG014)	05.52		06.30 (AG13)
	17.13	44	09.55 (AG01)	17.50			18.22	43	07.57 (AG03)	19.55			20.26	20	06.53 (AG014)	20.52	35	07.05 (AG13)
10	07.46		09.12 (AG01)	07.24			06.44		07.14 (AG03)	06.54			06.12		06.32 (AG014)	05.52		06.30 (AG13)
	17.14	43	09.55 (AG01)	17.51			18.23	42	07.56 (AG03)	19.56			20.27	21	06.53 (AG014)	20.53	35	07.05 (AG13)
11	07.46		09.14 (AG01)	07.23			06.43		07.13 (AG03)	06.52			06.11		06.31 (AG014)	05.52		06.30 (AG13)
	17.16	41	09.55 (AG01)	17.52			18.25	42	07.55 (AG03)	19.57			20.28	23	06.54 (AG13)	20.53	36	07.06 (AG13)
12	07.46		09.14 (AG01)	07.22			06.41		07.14 (AG03)	06.51			06.10		06.30 (AG014)	05.52		06.31 (AG13)
	17.17	40	09.54 (AG01)	17.53			18.26	42	07.56 (AG03)	19.58			20.29	26	06.56 (AG13)	20.54	35	07.06 (AG13)
13	07.46		09.16 (AG01)	07.21			06.40		07.14 (AG03)	06.49			06.09		06.30 (AG014)	05.52		06.31 (AG13)
	17.18	37	09.53 (AG01)	17.55			18.27	40	07.54 (AG03)	19.59			20.30	27	06.57 (AG13)	20.54	35	07.06 (AG13)
14	07.45		09.17 (AG01)	07.19			06.38		07.13 (AG03)	06.48			06.08		06.30 (AG014)	05.52		06.31 (AG13)
	17.19	36	09.53 (AG01)	17.56			18.28	40	07.53 (AG03)	20.00			20.31	28	06.58 (AG13)	20.55	35	07.06 (AG13)
15	07.45		09.18 (AG01)	07.18			06.36		07.15 (AG03)	06.46			06.07		06.30 (AG13)	05.52		06.32 (AG13)
	17.20	34	09.52 (AG01)	17.57			18.29	38	07.53 (AG03)	20.01			20.32	29	06.59 (AG13)	20.55	34	07.06 (AG13)
16	07.45		09.21 (AG01)	07.17			06.35		07.15 (AG03)	06.45			06.06		06.29 (AG13)	05.52		06.32 (AG13)
	17.21	30	09.51 (AG01)	17.58			18.30	36	07.51 (AG03)	20.02			20.33	31	07.00 (AG13)	20.55	34	07.06 (AG13)
17	07.44		09.22 (AG01)	07.15			06.33		07.16 (AG03)	06.43			06.05		06.30 (AG13)	05.52		06.32 (AG13)
	17.22	27	09.49 (AG01)	17.59			18.31	35	07.51 (AG03)	20.03			20.34	31	07.01 (AG13)	20.56	34	07.06 (AG13)
18	07.44		09.25 (AG01)	07.14			06.31		07.17 (AG03)	06.41			06.05		06.29 (AG13)	05.52		06.32 (AG13)
	17.23	23	09.48 (AG01)	18.01			18.32	32	07.49 (AG03)	20.04			20.35	32	07.01 (AG13)	20.56	34	07.06 (AG13)
19	07.43		09.27 (AG01)	07.13			06.30		07.18 (AG03)	06.40			06.04		06.28 (AG13)	05.52		06.32 (AG13)
	17.24	18	09.45 (AG01)	18.02			18.33	28	07.46 (AG03)	20.05			20.36	34	07.02 (AG13)	20.56	34	07.06 (AG13)
20	07.43		09.31 (AG01)	07.11			06.28		07.20 (AG03)	06.39			06.03		06.28 (AG13)	05.52		06.32 (AG13)
	17.25	10	09.41 (AG01)	18.03			18.34	25	07.45 (AG03)	20.06			20.37	34	07.02 (AG13)	20.57	34	07.06 (AG13)
21	07.42			07.10			06.26		07.22 (AG03)	06.37			06.02		06.27 (AG13)	05.52		06.32 (AG13)
	17.27			18.04			18.35	20	07.42 (AG03)	20.07			20.38	35	07.02 (AG13)	20.57	34	07.06 (AG13)
22	07.42			07.09			06.25		07.24 (AG03)	06.36			06.01		06.28 (AG13)	05.52		06.33 (AG13)
	17.28			18.05			18.36	13	07.37 (AG03)	20.09			20.39	35	07.03 (AG13)	20.57	34	07.07 (AG13)
23	07.41			07.07			06.23			06.34			06.00		06.27 (AG13)	05.53		06.33 (AG13)
	17.29			18.06			18.37			20.10			20.39	36	07.03 (AG13)	20.57	34	07.07 (AG13)
24	07.40			07.06		07.31 (AG03)	06.22			06.33			06.00		06.27 (AG13)	05.53		06.33 (AG13)
	17.30			18.08	15	07.46 (AG03)	18.38			20.11			20.40	36	07.03 (AG13)	20.58	34	07.07 (AG13)
25	07.40			07.04		07.27 (AG03)	06.20			06.31			05.59		06.27 (AG13)	05.53		06.33 (AG13)
	17.31			18.09	21	07.48 (AG03)	18.39			20.12			20.41	37	07.04 (AG13)	20.58	34	07.07 (AG13)
26	07.39			07.03		07.25 (AG03)	06.18			06.30			05.58		06.27 (AG13)	05.54		06.34 (AG13)
	17.33			18.10	26	07.51 (AG03)	18.40			20.13			20.42	37	07.04 (AG13)	20.58	34	07.08 (AG13)
27	07.38			07.01		07.22 (AG03)	06.17			06.29			05.58		06.27 (AG13)	05.54		06.34 (AG13)
	17.34			18.11	30	07.52 (AG03)	18.41			20.14			20.43	38	07.05 (AG13)	20.58	34	07.08 (AG13)
28	07.37			07.00		07.21 (AG03)	06.15			06.27			05.57		06.27 (AG13)	05.54		06.35 (AG13)
	17.35			18.12	33	07.54 (AG03)	18.43			20.15			20.44	37	07.04 (AG13)	20.58	34	07.09 (AG13)
29	07.36						07.13			06.26			05.56		06.27 (AG13)	05.55		06.34 (AG13)
	17.36						19.44			20.16			20.45	38	07.05 (AG13)	20.58	35	07.09 (AG13)
30	07.36						07.12			06.25			05.56		06.27 (AG13)	05.55		06.34 (AG13)
	17.37						19.45			20.17			20.45	37	07.04 (AG13)	20.58	35	07.09 (AG13)
31	07.35						07.10						05.55		06.28 (AG13)			
	17.39						19.46						20.46	37	07.05 (AG13)			
Potential sun hours	299			298			370			398			447			451		
Total, worst case		770			125			795						836			1049	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R06 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (168)

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		06.35 (AG13)	06.19		06.41 (AG014)	06.49			07.18		07.53 (AG03)	06.52			07.26		08.56 (AG01)
	20.58	35	07.10 (AG13)	20.39	25	07.06 (AG13)	19.57			19.07	41	08.34 (AG03)	17.21			16.57	41	09.37 (AG01)
2	05.56		06.34 (AG13)	06.20		06.42 (AG014)	06.50			07.19		07.52 (AG03)	06.53			07.27		08.55 (AG01)
	20.58	36	07.10 (AG13)	20.38	22	07.04 (AG13)	19.55			19.05	42	08.34 (AG03)	17.20			16.57	43	09.38 (AG01)
3	05.57		06.35 (AG13)	06.21		06.43 (AG014)	06.51			07.20		07.51 (AG03)	06.54			07.28		08.55 (AG01)
	20.57	35	07.10 (AG13)	20.37	21	07.04 (AG014)	19.53			19.03	43	08.34 (AG03)	17.18			16.57	44	09.39 (AG01)
4	05.57		06.34 (AG13)	06.22		06.44 (AG014)	06.52			07.22		07.51 (AG03)	06.55			07.29		08.55 (AG01)
	20.57	36	07.10 (AG13)	20.36	20	07.04 (AG014)	19.52			19.02	43	08.34 (AG03)	17.17			16.56	45	09.40 (AG01)
5	05.58		06.35 (AG13)	06.23		06.45 (AG014)	06.53			07.23		07.51 (AG03)	06.57			07.30		08.55 (AG01)
	20.57	36	07.11 (AG13)	20.35	18	07.03 (AG014)	19.50			19.00	42	08.33 (AG03)	17.16			16.56	46	09.41 (AG01)
6	05.58		06.35 (AG13)	06.24		06.46 (AG014)	06.54			07.24		07.50 (AG03)	06.58			07.31		08.55 (AG01)
	20.57	37	07.12 (AG13)	20.34	17	07.03 (AG014)	19.49			18.59	43	08.33 (AG03)	17.15			16.56	47	09.42 (AG01)
7	05.59		06.35 (AG13)	06.25		06.46 (AG014)	06.55			07.25		07.51 (AG03)	06.59			07.32		08.55 (AG01)
	20.56	36	07.11 (AG13)	20.32	15	07.01 (AG014)	19.47			18.57	42	08.33 (AG03)	17.14			16.56	48	09.43 (AG01)
8	05.59		06.35 (AG13)	06.26		06.47 (AG014)	06.56			07.26		07.51 (AG03)	07.00			07.33		08.55 (AG01)
	20.56	37	07.12 (AG13)	20.31	13	07.00 (AG014)	19.45			18.55	42	08.33 (AG03)	17.13			16.56	49	09.44 (AG01)
9	06.00		06.35 (AG13)	06.27		06.48 (AG014)	06.57			07.27		07.51 (AG03)	07.01			07.34		08.54 (AG01)
	20.56	37	07.12 (AG13)	20.30	11	06.59 (AG014)	19.44			18.54	41	08.32 (AG03)	17.12			16.56	50	09.44 (AG01)
10	06.01		06.35 (AG13)	06.28		06.49 (AG014)	06.58			07.28		07.52 (AG03)	07.03			07.35		08.54 (AG01)
	20.55	37	07.12 (AG13)	20.29	9	06.58 (AG014)	19.42			18.52	39	08.31 (AG03)	17.11			16.56	51	09.45 (AG01)
11	06.01		06.36 (AG13)	06.29		06.50 (AG014)	06.59			07.29		07.52 (AG03)	07.04			07.36		08.55 (AG01)
	20.55	37	07.13 (AG13)	20.27	6	06.56 (AG014)	19.40			18.51	38	08.30 (AG03)	17.10			16.56	51	09.46 (AG01)
12	06.02		06.35 (AG13)	06.30			07.00			07.30		07.53 (AG03)	07.05			07.36		08.55 (AG01)
	20.55	37	07.12 (AG13)	20.26			19.39			18.49	36	08.29 (AG03)	17.09			16.56	52	09.47 (AG01)
13	06.03		06.35 (AG13)	06.31			07.01			07.31		07.53 (AG03)	07.06			07.37		08.55 (AG01)
	20.54	38	07.13 (AG13)	20.25			19.37			18.47	34	08.27 (AG03)	17.08			16.56	53	09.48 (AG01)
14	06.04		06.36 (AG13)	06.32			07.02			07.32		07.54 (AG03)	07.07			07.38		08.55 (AG01)
	20.54	37	07.13 (AG13)	20.23			19.35			18.46	32	08.26 (AG03)	17.07			16.56	53	09.48 (AG01)
15	06.04		06.36 (AG13)	06.33			07.03			07.33		07.56 (AG03)	07.08			07.39		08.56 (AG01)
	20.53	38	07.14 (AG13)	20.22			19.34			18.44	28	08.24 (AG03)	17.06			16.57	52	09.48 (AG01)
16	06.05		06.36 (AG13)	06.34			07.04			07.34		07.57 (AG03)	07.10			07.40		08.56 (AG01)
	20.52	37	07.13 (AG13)	20.21			19.32			18.43	24	08.21 (AG03)	17.05			16.57	53	09.49 (AG01)
17	06.06		06.36 (AG13)	06.35			07.05			07.35		07.59 (AG03)	07.11			07.40		08.56 (AG01)
	20.52	37	07.13 (AG13)	20.19			19.30			18.41	20	08.19 (AG03)	17.05			16.57	53	09.49 (AG01)
18	06.07		06.36 (AG13)	06.36			07.06			07.36		08.04 (AG03)	07.12			07.41		08.57 (AG01)
	20.51	37	07.13 (AG13)	20.18			19.29			18.40	11	08.15 (AG03)	17.04			16.58	53	09.50 (AG01)
19	06.07		06.37 (AG13)	06.36			07.07			07.37			07.13			07.41		08.57 (AG01)
	20.51	37	07.14 (AG13)	20.16			19.27			18.38			17.03			16.58	54	09.51 (AG01)
20	06.08		06.37 (AG13)	06.37			07.08			07.38			07.14			07.42		08.57 (AG01)
	20.50	37	07.14 (AG13)	20.15			19.25			18.37			17.02			16.58	54	09.51 (AG01)
21	06.09		06.37 (AG13)	06.38			07.09		08.11 (AG03)	07.40			07.15			07.43		08.58 (AG01)
	20.49	36	07.13 (AG13)	20.14			19.24	10	08.21 (AG03)	18.36			17.02			16.59	54	09.52 (AG01)
22	06.10		06.37 (AG13)	06.39			07.10		08.07 (AG03)	07.41			07.16		09.07 (AG01)	07.43		08.58 (AG01)
	20.48	36	07.13 (AG13)	20.12			19.22	18	08.25 (AG03)	18.34			17.01	10	09.17 (AG01)	16.59	54	09.52 (AG01)
23	06.11		06.38 (AG13)	06.40			07.11		08.04 (AG03)	07.42			07.18		09.04 (AG01)	07.44		08.59 (AG01)
	20.48	35	07.13 (AG13)	20.11			19.20	24	08.28 (AG03)	18.33			17.01	18	09.22 (AG01)	17.00	54	09.53 (AG01)
24	06.12		06.38 (AG13)	06.41			07.11		08.02 (AG03)	07.43			07.19		09.02 (AG01)	07.44		08.59 (AG01)
	20.47	34	07.12 (AG13)	20.09			19.18	27	08.29 (AG03)	18.31			17.00	23	09.25 (AG01)	17.00	54	09.53 (AG01)
25	06.13		06.39 (AG13)	06.42			07.12		08.00 (AG03)	06.44			07.20		09.00 (AG01)	07.45		09.00 (AG01)
	20.46	33	07.12 (AG13)	20.08			19.17	31	08.31 (AG03)	17.30			16.59	27	09.27 (AG01)	17.01	53	09.53 (AG01)
26	06.14		06.40 (AG13)	06.43			07.13		07.58 (AG03)	06.45			07.21		08.59 (AG01)	07.45		09.01 (AG01)
	20.45	32	07.12 (AG13)	20.06			19.15	34	08.32 (AG03)	17.29			16.59	30	09.29 (AG01)	17.02	53	09.54 (AG01)
27	06.14		06.39 (AG13)	06.44			07.14		07.57 (AG03)	06.46			07.22		08.57 (AG01)	07.45		09.01 (AG01)
	20.44	31	07.10 (AG13)	20.05			19.13	35	08.32 (AG03)	17.27			16.58	34	09.31 (AG01)	17.02	53	09.54 (AG01)
28	06.15		06.40 (AG13)	06.45			07.15		07.55 (AG03)	06.47			07.23		08.57 (AG01)	07.46		09.01 (AG01)
	20.43	30	07.10 (AG13)	20.03			19.12	38	08.33 (AG03)	17.26			16.58	35	09.32 (AG01)	17.03	53	09.54 (AG01)
29	06.16		06.41 (AG13)	06.46			07.16		07.54 (AG03)	06.49			07.24		08.56 (AG01)	07.46		09.02 (AG01)
	20.42	28	07.09 (AG13)	20.01			19.10	39	08.33 (AG03)	17.25			16.58	37	09.33 (AG01)	17.04	53	09.55 (AG01)
30	06.17		06.40 (AG014)	06.47			07.17		07.53 (AG03)	06.50			07.25		08.56 (AG01)	07.46		09.03 (AG01)
	20.41	28	07.08 (AG13)	20.00			19.08	41	08.34 (AG03)	17.23			16.57	40	09.36 (AG01)	17.04	53	09.56 (AG01)
31	06.18		06.40 (AG014)	06.48						06.51						07.46		09.04 (AG01)
	20.40	27	07.07 (AG13)	19.58						17.22						17.05	52	09.56 (AG01)
Potential sun hours	458			427			375			346			299			289		
Total, worst case		1084			177			297			641			254			1578	

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 10
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R07 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (171)

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			07.08		07.32 (AG13)	06.23		07.03 (AG014)	05.55		06.24 (AG015)
	17.06	17.40	18.13			19.47	44	08.16 (AG13)	20.18	72	08.15 (AG13)	20.47	16	06.40 (AG015)
2	07.47	07.33	06.57			07.07		07.30 (AG13)	06.22		07.08 (AG014)	05.54		06.26 (AG015)
	17.07	17.41	18.14			19.48	47	08.17 (AG13)	20.19	62	08.14 (AG13)	20.48	14	06.40 (AG015)
3	07.47	07.32	06.55			07.05		07.27 (AG13)	06.21		07.16 (AG13)	05.54		06.26 (AG015)
	17.08	17.42	18.16			19.49	51	08.18 (AG13)	20.20	58	08.14 (AG13)	20.48	13	06.39 (AG015)
4	07.47	07.31	06.54			07.03		07.26 (AG13)	06.19		07.17 (AG13)	05.54		06.27 (AG015)
	17.09	17.44	18.17			19.50	54	08.20 (AG13)	20.21	56	08.13 (AG13)	20.49	12	06.39 (AG015)
5	07.47	07.30	06.52			07.02		07.24 (AG13)	06.18		07.18 (AG13)	05.53		06.29 (AG015)
	17.10	17.45	18.18			19.51	56	08.20 (AG13)	20.22	54	08.12 (AG13)	20.50	9	06.38 (AG015)
6	07.47	07.29	06.51			07.00		07.24 (AG13)	06.17		07.18 (AG13)	05.53		06.31 (AG015)
	17.11	17.46	18.19			19.52	57	08.21 (AG13)	20.23	52	08.10 (AG13)	20.50	6	06.37 (AG015)
7	07.47	07.28	06.49			06.59		07.22 (AG13)	06.16		07.19 (AG13)	05.53		
	17.11	17.47	18.20			19.53	60	08.22 (AG13)	20.24	50	08.09 (AG13)	20.51		
8	07.47	07.26	06.48			06.57		07.15 (AG014)	06.15		06.34 (AG015)	05.52		
	17.12	17.49	18.21			19.54	66	08.22 (AG13)	20.25	50	08.08 (AG13)	20.52		
9	07.47	07.25	06.46			06.55		07.14 (AG014)	06.14		06.33 (AG015)	05.52		
	17.13	17.50	18.22			19.55	69	08.23 (AG13)	20.26	51	08.07 (AG13)	20.52		
10	07.46	07.24	06.44			06.54		07.12 (AG014)	06.12		06.32 (AG015)	05.52		
	17.14	17.51	18.23			19.56	71	08.23 (AG13)	20.27	52	08.06 (AG13)	20.53		
11	07.46	07.23	06.43			06.52		07.11 (AG014)	06.11		06.31 (AG015)	05.52		
	17.15	17.52	18.24			19.57	72	08.23 (AG13)	20.28	51	08.04 (AG13)	20.53		
12	07.46	07.22	06.41			06.51		07.09 (AG014)	06.10		06.30 (AG015)	05.52		
	17.17	17.53	18.26			19.58	74	08.23 (AG13)	20.29	50	08.03 (AG13)	20.54		
13	07.46	07.21	06.40			06.49		07.08 (AG014)	06.09		06.29 (AG015)	05.52		
	17.18	17.55	18.27			19.59	76	08.24 (AG13)	20.30	48	08.01 (AG13)	20.54		
14	07.45	07.19	06.38			06.48		07.06 (AG014)	06.08		06.28 (AG015)	05.52		
	17.19	17.56	18.28			20.00	77	08.23 (AG13)	20.31	46	07.59 (AG13)	20.55		
15	07.45	07.18	06.36			06.46		07.05 (AG014)	06.07		06.27 (AG015)	05.52		
	17.20	17.57	18.29			20.01	79	08.24 (AG13)	20.32	44	07.57 (AG13)	20.55		
16	07.45	07.17	06.35			06.44		07.03 (AG014)	06.06		06.26 (AG015)	05.52		
	17.21	17.58	18.30			20.02	80	08.23 (AG13)	20.33	41	07.55 (AG13)	20.55		
17	07.44	07.15	06.33			06.43		07.02 (AG014)	06.05		06.26 (AG015)	05.52		
	17.22	17.59	18.31			20.03	81	08.23 (AG13)	20.34	36	07.53 (AG13)	20.56		
18	07.44	07.14	06.31			06.41		07.00 (AG014)	06.04		06.25 (AG015)	05.52		
	17.23	18.01	18.32			20.04	83	08.23 (AG13)	20.35	29	07.49 (AG13)	20.56		
19	07.43	07.13	06.30			06.40		06.59 (AG014)	06.04		06.24 (AG015)	05.52		
	17.24	18.02	18.33			20.05	84	08.23 (AG13)	20.36	20	06.44 (AG015)	20.56		
20	07.43	07.11	06.28			06.38		06.57 (AG014)	06.03		06.23 (AG015)	05.52		
	17.25	18.03	18.34			20.06	85	08.22 (AG13)	20.37	21	06.44 (AG015)	20.57		
21	07.42	07.10	06.26			06.37		06.56 (AG014)	06.02		06.22 (AG015)	05.52		
	17.27	18.04	18.35			20.07	86	08.22 (AG13)	20.38	21	06.43 (AG015)	20.57		
22	07.42	07.09	06.25			06.36		06.55 (AG014)	06.01		06.22 (AG015)	05.52		
	17.28	18.05	18.36			20.09	86	08.21 (AG13)	20.39	22	06.44 (AG015)	20.57		
23	07.41	07.07	06.23			06.34		06.56 (AG014)	06.00		06.21 (AG015)	05.53		
	17.29	18.06	18.37			20.10	85	08.21 (AG13)	20.39	23	06.44 (AG015)	20.57		
24	07.40	07.06	06.21			06.33		06.56 (AG014)	06.00		06.20 (AG015)	05.53		
	17.30	18.08	18.38			20.11	85	08.21 (AG13)	20.40	23	06.43 (AG015)	20.58		
25	07.39	07.04	06.20			06.31		06.56 (AG014)	05.59		06.20 (AG015)	05.53		
	17.31	18.09	18.39			20.12	84	08.20 (AG13)	20.41	24	06.44 (AG015)	20.58		
26	07.39	07.03	06.18			06.30		06.57 (AG014)	05.58		06.20 (AG015)	05.53		
	17.33	18.10	18.40			20.13	82	08.19 (AG13)	20.42	23	06.43 (AG015)	20.58		
27	07.38	07.01	06.17			06.29		06.57 (AG014)	05.58		06.22 (AG015)	05.54		
	17.34	18.11	18.41			20.14	81	08.18 (AG13)	20.43	21	06.43 (AG015)	20.58		
28	07.37	07.00	06.15		06.44 (AG13)	06.27		06.58 (AG014)	05.57		06.22 (AG015)	05.54		
	17.35	18.12	18.43	21	07.05 (AG13)	20.15	80	08.18 (AG13)	20.44	20	06.42 (AG015)	20.58		
29	07.36		07.13		07.41 (AG13)	06.26		07.00 (AG014)	05.56		06.22 (AG015)	05.55		
	17.36		19.44	28	08.09 (AG13)	20.16	77	08.17 (AG13)	20.44	20	06.42 (AG015)	20.58		
30	07.35		07.12		07.37 (AG13)	06.25		07.02 (AG014)	05.56		06.23 (AG015)	05.55		
	17.37		19.45	35	08.12 (AG13)	20.17	75	08.17 (AG13)	20.45	19	06.42 (AG015)	20.58		
31	07.35		07.10		07.34 (AG13)				05.55		06.24 (AG015)			
	17.39		19.46	39	08.13 (AG13)				20.46	18	06.42 (AG015)			
Potential sun hours	299	298	370			398			447			451		
Total, worst case				123			2187			1177			70	

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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.45 / 11
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R07 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (171)

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	06.41 (AG015)	06.49	07.10 (AG014)	07.18	06.52	07.26
	20.58		20.39 51	08.14 (AG13)	19.57 72	08.22 (AG13)	19.07	17.21	16.57
2	05.56		06.20	06.42 (AG015)	06.50	07.11 (AG014)	07.19	06.53	07.27
	20.58		20.38 51	08.15 (AG13)	19.55 71	08.22 (AG13)	19.05	17.20	16.57
3	05.57		06.21	06.43 (AG015)	06.51	07.12 (AG014)	07.20	06.54	07.28
	20.57		20.37 52	08.17 (AG13)	19.53 69	08.21 (AG13)	19.03	17.18	16.56
4	05.57		06.22	06.44 (AG015)	06.52	07.13 (AG014)	07.21	06.55	07.29
	20.57		20.36 51	08.18 (AG13)	19.52 66	08.20 (AG13)	19.02	17.17	16.56
5	05.58		06.23	06.45 (AG015)	06.53	07.18 (AG13)	07.23	06.57	07.30
	20.57		20.35 50	08.19 (AG13)	19.50 60	08.18 (AG13)	19.00	17.16	16.56
6	05.58	06.38 (AG015)	06.24	07.28 (AG13)	06.54	07.19 (AG13)	07.24	06.58	07.31
	20.57 4	06.42 (AG015)	20.33 51	08.19 (AG13)	19.49 58	08.17 (AG13)	18.59	17.15	16.56
7	05.59	06.36 (AG015)	06.25	07.27 (AG13)	06.55	07.19 (AG13)	07.25	06.59	07.32
	20.56 8	06.44 (AG015)	20.32 53	08.20 (AG13)	19.47 56	08.15 (AG13)	18.57	17.14	16.56
8	05.59	06.35 (AG015)	06.26	07.26 (AG13)	06.56	07.20 (AG13)	07.26	07.00	07.33
	20.56 10	06.45 (AG015)	20.31 55	08.21 (AG13)	19.45 54	08.14 (AG13)	18.55	17.13	16.56
9	06.00	06.33 (AG015)	06.27	07.25 (AG13)	06.57	07.21 (AG13)	07.27	07.01	07.34
	20.56 13	06.46 (AG015)	20.30 57	08.22 (AG13)	19.44 51	08.12 (AG13)	18.54	17.12	16.56
10	06.01	06.33 (AG015)	06.28	07.24 (AG13)	06.58	07.23 (AG13)	07.28	07.02	07.35
	20.55 14	06.47 (AG015)	20.29 58	08.22 (AG13)	19.42 47	08.10 (AG13)	18.52	17.11	16.56
11	06.01	06.33 (AG015)	06.29	07.15 (AG014)	06.59	07.24 (AG13)	07.29	07.04	07.36
	20.55 15	06.48 (AG015)	20.27 66	08.23 (AG13)	19.40 44	08.08 (AG13)	18.51	17.10	16.56
12	06.02	06.32 (AG015)	06.30	07.11 (AG014)	07.00	07.26 (AG13)	07.30	07.05	07.36
	20.55 17	06.49 (AG015)	20.26 73	08.24 (AG13)	19.39 40	08.06 (AG13)	18.49	17.09	16.56
13	06.03	06.31 (AG015)	06.31	07.09 (AG014)	07.01	07.28 (AG13)	07.31	07.06	07.37
	20.54 19	06.50 (AG015)	20.25 75	08.24 (AG13)	19.37 35	08.03 (AG13)	18.47	17.08	16.56
14	06.04	06.31 (AG015)	06.32	07.07 (AG014)	07.02	07.30 (AG13)	07.32	07.07	07.38
	20.54 20	06.51 (AG015)	20.23 78	08.25 (AG13)	19.35 30	08.00 (AG13)	18.46	17.07	16.56
15	06.04	06.31 (AG015)	06.33	07.06 (AG014)	07.03	07.34 (AG13)	07.33	07.08	07.39
	20.53 20	06.51 (AG015)	20.22 79	08.25 (AG13)	19.34 22	07.56 (AG13)	18.44	17.06	16.57
16	06.05	06.30 (AG015)	06.34	07.05 (AG014)	07.04	07.40 (AG13)	07.34	07.10	07.39
	20.52 21	06.51 (AG015)	20.21 81	08.26 (AG13)	19.32 9	07.49 (AG13)	18.43	17.05	16.57
17	06.06	06.30 (AG015)	06.35	07.03 (AG014)	07.05		07.35	07.11	07.40
	20.52 22	06.52 (AG015)	20.19 83	08.26 (AG13)	19.30		18.41	17.05	16.57
18	06.07	06.30 (AG015)	06.35	07.03 (AG014)	07.06		07.36	07.12	07.41
	20.51 23	06.53 (AG015)	20.18 83	08.26 (AG13)	19.29		18.40	17.04	16.58
19	06.07	06.30 (AG015)	06.36	07.02 (AG014)	07.07		07.37	07.13	07.41
	20.51 23	06.53 (AG015)	20.16 85	08.27 (AG13)	19.27		18.38	17.03	16.58
20	06.08	06.30 (AG015)	06.37	07.01 (AG014)	07.08		07.38	07.14	07.42
	20.50 23	06.53 (AG015)	20.15 86	08.27 (AG13)	19.25		18.37	17.02	16.58
21	06.09	06.31 (AG015)	06.38	07.01 (AG014)	07.09		07.39	07.15	07.43
	20.49 22	06.53 (AG015)	20.14 86	08.27 (AG13)	19.23		18.35	17.02	16.59
22	06.10	06.32 (AG015)	06.39	07.00 (AG014)	07.10		07.41	07.16	07.43
	20.48 22	06.54 (AG015)	20.12 86	08.26 (AG13)	19.22		18.34	17.01	16.59
23	06.11	06.33 (AG015)	06.40	07.01 (AG014)	07.10		07.42	07.18	07.44
	20.48 21	06.54 (AG015)	20.11 85	08.26 (AG13)	19.20		18.33	17.00	17.00
24	06.12	06.34 (AG015)	06.41	07.02 (AG014)	07.11		07.43	07.19	07.44
	20.47 20	06.54 (AG015)	20.09 84	08.26 (AG13)	19.18		18.31	17.00	17.00
25	06.13	06.35 (AG015)	06.42	07.03 (AG014)	07.12		06.44	07.20	07.45
	20.46 20	06.55 (AG015)	20.08 83	08.26 (AG13)	19.17		17.30	16.59	17.01
26	06.13	06.36 (AG015)	06.43	07.04 (AG014)	07.13		06.45	07.21	07.45
	20.45 34	08.02 (AG13)	20.06 81	08.25 (AG13)	19.15		17.29	16.59	17.02
27	06.14	06.36 (AG015)	06.44	07.05 (AG014)	07.14		06.46	07.22	07.45
	20.44 39	08.04 (AG13)	20.04 80	08.25 (AG13)	19.13		17.27	16.58	17.02
28	06.15	06.37 (AG015)	06.45	07.06 (AG014)	07.15		06.47	07.23	07.46
	20.43 42	08.07 (AG13)	20.03 79	08.25 (AG13)	19.12		17.26	16.58	17.03
29	06.16	06.38 (AG015)	06.46	07.07 (AG014)	07.16		06.49	07.24	07.46
	20.42 45	08.09 (AG13)	20.01 77	08.24 (AG13)	19.10		17.25	16.58	17.04
30	06.17	06.39 (AG015)	06.47	07.08 (AG014)	07.17		06.50	07.25	07.46
	20.41 48	08.11 (AG13)	20.00 76	08.24 (AG13)	19.08		17.23	16.57	17.04
31	06.18	06.40 (AG015)	06.48	07.09 (AG014)			06.51		07.46
	20.40 48	08.12 (AG13)	19.58 74	08.23 (AG13)			17.22		17.05
Potential sun hours	458		427		375		346	299	289
Total, worst case	613		2209		784				

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R08 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (172)

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		15.11 (AG03)	07.34			06.58			07.08		17.27 (AG13)	06.23		17.16 (AG13)	05.55		17.45 (AG13)
	17.06	48	16.41 (AG02)	17.40			18.13			19.47	71	18.38 (AG13)	20.18	85	18.41 (AG13)	20.47	35	18.20 (AG13)
2	07.47		15.12 (AG03)	07.33			06.57			07.07		17.25 (AG13)	06.22		17.17 (AG13)	05.54		17.46 (AG13)
	17.07	47	16.41 (AG02)	17.41			18.14			19.48	74	18.39 (AG13)	20.19	83	18.40 (AG13)	20.48	33	18.19 (AG13)
3	07.47		15.13 (AG03)	07.32			06.55			07.05		17.23 (AG13)	06.21		17.18 (AG13)	05.54		17.47 (AG13)
	17.08	46	16.42 (AG02)	17.42			18.16			19.49	76	18.39 (AG13)	20.20	82	18.40 (AG13)	20.48	30	18.17 (AG13)
4	07.47		15.14 (AG03)	07.31			06.54			07.03		17.23 (AG13)	06.19		17.19 (AG13)	05.54		17.49 (AG13)
	17.09	46	16.43 (AG02)	17.44			18.17			19.50	78	18.41 (AG13)	20.21	81	18.40 (AG13)	20.49	28	18.17 (AG13)
5	07.47		15.15 (AG03)	07.30			06.52			07.02		17.21 (AG13)	06.18		17.19 (AG13)	05.53		17.50 (AG13)
	17.10	44	16.44 (AG02)	17.45			18.18			19.51	80	18.41 (AG13)	20.22	81	18.40 (AG13)	20.50	26	18.16 (AG13)
6	07.47		15.17 (AG03)	07.29			06.51			07.00		17.21 (AG13)	06.17		17.19 (AG13)	05.53		17.52 (AG13)
	17.10	42	16.45 (AG02)	17.46			18.19			19.52	81	18.42 (AG13)	20.23	79	18.38 (AG13)	20.50	23	18.15 (AG13)
7	07.47		15.18 (AG03)	07.28			06.49			06.59		17.20 (AG13)	06.16		17.20 (AG13)	05.53		17.53 (AG13)
	17.11	42	16.46 (AG02)	17.47			18.20			19.53	83	18.43 (AG13)	20.24	78	18.38 (AG13)	20.51	20	18.13 (AG13)
8	07.47		15.19 (AG03)	07.26			06.47			06.57		17.18 (AG13)	06.15		17.21 (AG13)	05.52		17.55 (AG13)
	17.12	39	16.46 (AG02)	17.48			18.21			19.54	85	18.43 (AG13)	20.25	76	18.37 (AG13)	20.51	17	18.12 (AG13)
9	07.47		15.22 (AG03)	07.25			06.46			06.55		17.18 (AG13)	06.14		17.21 (AG13)	05.52		17.57 (AG13)
	17.13	34	16.46 (AG02)	17.50			18.22			19.55	86	18.44 (AG13)	20.26	76	18.37 (AG13)	20.52	14	18.11 (AG13)
10	07.46		15.25 (AG03)	07.24			06.44			06.54		17.17 (AG13)	06.12		17.22 (AG13)	05.52		17.59 (AG13)
	17.14	28	16.46 (AG02)	17.51			18.23			19.56	86	18.43 (AG13)	20.27	74	18.36 (AG13)	20.53	10	18.09 (AG13)
11	07.46		16.29 (AG02)	07.23			06.43			06.52		17.17 (AG13)	06.11		17.23 (AG13)	05.52		18.03 (AG13)
	17.15	18	16.47 (AG02)	17.52			18.24			19.57	87	18.44 (AG13)	20.28	73	18.36 (AG13)	20.53	3	18.06 (AG13)
12	07.46		16.29 (AG02)	07.22			06.41			06.51		17.16 (AG13)	06.10		17.24 (AG13)	05.52		
	17.16	17	16.46 (AG02)	17.53			18.26			19.58	88	18.44 (AG13)	20.29	71	18.35 (AG13)	20.54		
13	07.46		16.31 (AG02)	07.21			06.39			06.49		17.16 (AG13)	06.09		17.24 (AG13)	05.52		
	17.18	15	16.46 (AG02)	17.55			18.27			19.59	89	18.45 (AG13)	20.30	70	18.34 (AG13)	20.54		
14	07.45		16.32 (AG02)	07.19			06.38			06.48		17.15 (AG13)	06.08		17.25 (AG13)	05.52		
	17.19	13	16.45 (AG02)	17.56			18.28			20.00	89	18.44 (AG13)	20.31	69	18.34 (AG13)	20.55		
15	07.45		16.33 (AG02)	07.18			06.36			06.46		17.14 (AG13)	06.07		17.26 (AG13)	05.52		
	17.20	11	16.44 (AG02)	17.57			18.29			20.01	90	18.44 (AG13)	20.32	67	18.33 (AG13)	20.55		
16	07.45		16.36 (AG02)	07.17			06.35			06.44		17.15 (AG13)	06.06		17.27 (AG13)	05.52		
	17.21	8	16.44 (AG02)	17.58			18.30			20.02	90	18.45 (AG13)	20.33	65	18.32 (AG13)	20.55		
17	07.44			07.15			06.33			06.43		17.14 (AG13)	06.05		17.29 (AG13)	05.52		
	17.22			17.59			18.31			20.03	90	18.44 (AG13)	20.34	63	18.32 (AG13)	20.56		
18	07.44			07.14			06.31			06.41		17.14 (AG13)	06.04		17.29 (AG13)	05.52		
	17.23			18.01			18.32			20.04	90	18.44 (AG13)	20.35	62	18.31 (AG13)	20.56		
19	07.43			07.13			06.30			06.40		17.15 (AG13)	06.04		17.30 (AG13)	05.52		
	17.24			18.02			18.33			20.05	90	18.45 (AG13)	20.36	60	18.30 (AG13)	20.56		
20	07.43			07.11			06.28			06.38		17.14 (AG13)	06.03		17.31 (AG13)	05.52		
	17.25			18.03			18.34			20.06	90	18.44 (AG13)	20.37	58	18.29 (AG13)	20.57		
21	07.42			07.10			06.26			06.37		17.14 (AG13)	06.02		17.32 (AG13)	05.52		
	17.27			18.04			18.35			20.07	90	18.44 (AG13)	20.38	56	18.28 (AG13)	20.57		
22	07.41			07.09			06.25		16.57 (AG13)	06.36		17.14 (AG13)	06.01		17.33 (AG13)	05.52		
	17.28			18.05			18.36	16	17.13 (AG13)	20.08	90	18.44 (AG13)	20.39	55	18.28 (AG13)	20.57		
23	07.41			07.07			06.23		16.51 (AG13)	06.34		17.14 (AG13)	06.00		17.34 (AG13)	05.53		
	17.29			18.06			18.37	29	17.20 (AG13)	20.10	90	18.44 (AG13)	20.39	53	18.27 (AG13)	20.57		
24	07.40			07.06			06.21		16.46 (AG13)	06.33		17.14 (AG13)	06.00		17.35 (AG13)	05.53		
	17.30			18.08			18.38	38	17.24 (AG13)	20.11	89	18.43 (AG13)	20.40	51	18.26 (AG13)	20.57		
25	07.39			07.04			06.20		16.42 (AG13)	06.31		17.15 (AG13)	05.59		17.37 (AG13)	05.53		
	17.31			18.09			18.39	44	17.26 (AG13)	20.12	88	18.43 (AG13)	20.41	49	18.26 (AG13)	20.58		
26	07.39			07.03			06.18		16.40 (AG13)	06.30		17.15 (AG13)	05.58		17.37 (AG13)	05.53		
	17.33			18.10			18.40	49	17.29 (AG13)	20.13	88	18.43 (AG13)	20.42	48	18.25 (AG13)	20.58		
27	07.38			07.01			06.16		16.37 (AG13)	06.28		17.15 (AG13)	05.58		17.38 (AG13)	05.54		
	17.34			18.11			18.41	54	17.31 (AG13)	20.14	87	18.42 (AG13)	20.43	45	18.23 (AG13)	20.58		
28	07.37			07.00			06.15		16.34 (AG13)	06.27		17.15 (AG13)	05.57		17.40 (AG13)	05.54		
	17.35			18.12			18.42	59	17.33 (AG13)	20.15	87	18.42 (AG13)	20.44	43	18.23 (AG13)	20.58		
29	07.36						07.13		17.33 (AG13)	06.26		17.16 (AG13)	05.56		17.40 (AG13)	05.55		
	17.36						19.44	62	18.35 (AG13)	20.16	86	18.42 (AG13)	20.44	42	18.22 (AG13)	20.58		
30	07.35						07.12		17.30 (AG13)	06.24		17.17 (AG13)	05.56		17.42 (AG13)	05.55		
	17.37						19.45	66	18.36 (AG13)	20.17	85	18.42 (AG13)	20.45	39	18.21 (AG13)	20.58		
31	07.35						07.10		17.28 (AG13)				05.55		17.44 (AG13)			
	17.39						19.46	69	18.37 (AG13)				20.46	37	18.21 (AG13)			
Potential sun hours	299			298			370			398			447			451		
Total, worst case		498						486			2573			1971			239	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R08 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (172)

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	05.55			06.19		17.34 (AG13)	06.49		17.16 (AG13)	07.18	06.52			07.26		16.11 (AG02)
	20.58			20.39	72	18.46 (AG13)	19.57	87	18.43 (AG13)	19.07	17.21			16.57	18	16.29 (AG02)
2	05.56		18.04 (AG13)	06.20		17.33 (AG13)	06.50		17.16 (AG13)	07.19	06.53			07.27		15.08 (AG03)
	20.58	8	18.12 (AG13)	20.38	73	18.46 (AG13)	19.55	86	18.42 (AG13)	19.05	17.20			16.57	28	16.29 (AG02)
3	05.56		18.03 (AG13)	06.21		17.32 (AG13)	06.51		17.16 (AG13)	07.20	06.54			07.28		15.06 (AG03)
	20.57	12	18.15 (AG13)	20.37	75	18.47 (AG13)	19.53	86	18.42 (AG13)	19.03	17.18			16.56	34	16.30 (AG02)
4	05.57		18.01 (AG13)	06.22		17.32 (AG13)	06.52		17.15 (AG13)	07.21	06.55			07.29		15.05 (AG03)
	20.57	16	18.17 (AG13)	20.36	76	18.48 (AG13)	19.52	85	18.40 (AG13)	19.02	17.17			16.56	38	16.31 (AG02)
5	05.58		18.00 (AG13)	06.23		17.31 (AG13)	06.53		17.16 (AG13)	07.22	06.57			07.30		15.04 (AG03)
	20.57	19	18.19 (AG13)	20.35	77	18.48 (AG13)	19.50	83	18.39 (AG13)	19.00	17.16			16.56	41	16.31 (AG02)
6	05.58		17.59 (AG13)	06.24		17.29 (AG13)	06.54		17.16 (AG13)	07.23	06.58			07.31		15.03 (AG03)
	20.57	22	18.21 (AG13)	20.33	79	18.48 (AG13)	19.49	82	18.38 (AG13)	18.59	17.15			16.56	42	16.31 (AG02)
7	05.59		17.57 (AG13)	06.25		17.28 (AG13)	06.55		17.16 (AG13)	07.25	06.59			07.32		15.02 (AG03)
	20.56	25	18.22 (AG13)	20.32	80	18.48 (AG13)	19.47	80	18.36 (AG13)	18.57	17.14			16.56	44	16.31 (AG02)
8	05.59		17.56 (AG13)	06.26		17.28 (AG13)	06.56		17.17 (AG13)	07.26	07.00			07.33		15.01 (AG03)
	20.56	27	18.23 (AG13)	20.31	80	18.48 (AG13)	19.45	78	18.35 (AG13)	18.55	17.13			16.56	46	16.30 (AG02)
9	06.00		17.55 (AG13)	06.27		17.27 (AG13)	06.57		17.18 (AG13)	07.27	07.01			07.34		15.01 (AG03)
	20.56	29	18.24 (AG13)	20.30	82	18.49 (AG13)	19.44	76	18.34 (AG13)	18.54	17.12			16.56	46	16.30 (AG02)
10	06.01		17.54 (AG13)	06.28		17.26 (AG13)	06.58		17.18 (AG13)	07.28	07.02			07.35		15.01 (AG03)
	20.55	32	18.26 (AG13)	20.29	83	18.49 (AG13)	19.42	74	18.32 (AG13)	18.52	17.11			16.56	47	16.30 (AG02)
11	06.01		17.53 (AG13)	06.29		17.26 (AG13)	06.59		17.19 (AG13)	07.29	07.04			07.36		15.01 (AG03)
	20.55	34	18.27 (AG13)	20.27	83	18.49 (AG13)	19.40	72	18.31 (AG13)	18.51	17.10			16.56	48	16.31 (AG02)
12	06.02		17.52 (AG13)	06.30		17.25 (AG13)	07.00		17.20 (AG13)	07.30	07.05			07.36		15.01 (AG03)
	20.55	36	18.28 (AG13)	20.26	84	18.49 (AG13)	19.39	69	18.29 (AG13)	18.49	17.09			16.56	49	16.31 (AG02)
13	06.03		17.51 (AG13)	06.31		17.24 (AG13)	07.01		17.21 (AG13)	07.31	07.06			07.37		15.01 (AG03)
	20.54	38	18.29 (AG13)	20.25	86	18.50 (AG13)	19.37	66	18.27 (AG13)	18.47	17.08			16.56	49	16.31 (AG02)
14	06.03		17.50 (AG13)	06.32		17.24 (AG13)	07.02		17.22 (AG13)	07.32	07.07			07.38		15.01 (AG03)
	20.54	41	18.31 (AG13)	20.23	86	18.50 (AG13)	19.35	63	18.25 (AG13)	18.46	17.07			16.56	49	16.31 (AG02)
15	06.04		17.50 (AG13)	06.33		17.23 (AG13)	07.03		17.24 (AG13)	07.33	07.08			07.39		15.01 (AG03)
	20.53	42	18.32 (AG13)	20.22	87	18.50 (AG13)	19.34	59	18.23 (AG13)	18.44	17.06			16.57	50	16.31 (AG02)
16	06.05		17.48 (AG13)	06.33		17.22 (AG13)	07.04		17.26 (AG13)	07.34	07.09			07.39		15.02 (AG03)
	20.52	44	18.32 (AG13)	20.21	88	18.50 (AG13)	19.32	55	18.21 (AG13)	18.43	17.05			16.57	50	16.32 (AG02)
17	06.06		17.47 (AG13)	06.34		17.22 (AG13)	07.05		17.27 (AG13)	07.35	07.11			07.40		15.01 (AG03)
	20.52	47	18.34 (AG13)	20.19	88	18.50 (AG13)	19.30	51	18.18 (AG13)	18.41	17.05			16.57	50	16.31 (AG02)
18	06.07		17.46 (AG13)	06.35		17.21 (AG13)	07.06		17.30 (AG13)	07.36	07.12			07.41		15.02 (AG03)
	20.51	49	18.35 (AG13)	20.18	89	18.50 (AG13)	19.29	45	18.15 (AG13)	18.40	17.04			16.58	50	16.32 (AG02)
19	06.07		17.46 (AG13)	06.36		17.21 (AG13)	07.07		17.33 (AG13)	07.37	07.13			07.41		15.03 (AG03)
	20.50	50	18.36 (AG13)	20.16	89	18.50 (AG13)	19.27	39	18.12 (AG13)	18.38	17.03			16.58	50	16.33 (AG02)
20	06.08		17.44 (AG13)	06.37		17.20 (AG13)	07.08		17.35 (AG13)	07.38	07.14			07.42		15.02 (AG03)
	20.50	52	18.36 (AG13)	20.15	90	18.50 (AG13)	19.25	32	18.07 (AG13)	18.37	17.02			16.58	51	16.33 (AG02)
21	06.09		17.43 (AG13)	06.38		17.19 (AG13)	07.08		17.40 (AG13)	07.39	07.15			07.43		15.03 (AG03)
	20.49	54	18.37 (AG13)	20.13	89	18.48 (AG13)	19.23	21	18.01 (AG13)	18.35	17.02			16.59	50	16.33 (AG02)
22	06.10		17.43 (AG13)	06.39		17.18 (AG13)	07.09			07.41	07.16			07.43		15.03 (AG03)
	20.48	55	18.38 (AG13)	20.12	90	18.48 (AG13)	19.22			18.34	17.01			16.59	50	16.33 (AG02)
23	06.11		17.42 (AG13)	06.40		17.18 (AG13)	07.10			07.42	07.18			07.44		15.04 (AG03)
	20.47	57	18.39 (AG13)	20.11	90	18.48 (AG13)	19.20			18.33	17.00			17.00	51	16.35 (AG02)
24	06.12		17.41 (AG13)	06.41		17.17 (AG13)	07.11			07.43	07.19			07.44		15.05 (AG03)
	20.47	59	18.40 (AG13)	20.09	91	18.48 (AG13)	19.18			18.31	17.00			17.00	50	16.35 (AG02)
25	06.13		17.40 (AG13)	06.42		17.17 (AG13)	07.12			06.44	07.20			07.44		15.05 (AG03)
	20.46	61	18.41 (AG13)	20.08	90	18.47 (AG13)	19.17			17.30	16.59			17.01	50	16.35 (AG02)
26	06.13		17.40 (AG13)	06.43		17.17 (AG13)	07.13			06.45	07.21		16.14 (AG02)	07.45		15.06 (AG03)
	20.45	62	18.42 (AG13)	20.06	90	18.47 (AG13)	19.15			17.28	16.59	8	16.22 (AG02)	17.01	50	16.36 (AG02)
27	06.14		17.38 (AG13)	06.44		17.17 (AG13)	07.14			06.46	07.22		16.13 (AG02)	07.45		15.06 (AG03)
	20.44	64	18.42 (AG13)	20.04	89	18.46 (AG13)	19.13			17.27	16.58	10	16.23 (AG02)	17.02	51	16.37 (AG02)
28	06.15		17.37 (AG13)	06.45		17.16 (AG13)	07.15			06.47	07.23		16.12 (AG02)	07.46		15.07 (AG03)
	20.43	66	18.43 (AG13)	20.03	90	18.46 (AG13)	19.12			17.26	16.58	13	16.25 (AG02)	17.03	50	16.37 (AG02)
29	06.16		17.36 (AG13)	06.46		17.16 (AG13)	07.16			06.48	07.24		16.11 (AG02)	07.46		15.07 (AG03)
	20.42	68	18.44 (AG13)	20.01	89	18.45 (AG13)	19.10			17.25	16.58	15	16.26 (AG02)	17.04	49	16.37 (AG02)
30	06.17		17.36 (AG13)	06.47		17.16 (AG13)	07.17			06.50	07.25		16.12 (AG02)	07.46		15.09 (AG03)
	20.41	68	18.44 (AG13)	20.00	89	18.45 (AG13)	19.08			17.23	16.57	16	16.28 (AG02)	17.04	49	16.39 (AG02)
31	06.18		17.35 (AG13)	06.48		17.16 (AG13)				06.51				07.46		15.10 (AG03)
	20.40	70	18.45 (AG13)	19.58	88	18.44 (AG13)				17.22				17.05	49	16.40 (AG02)
Potential sun hours	458			427			375			346	299			289		
Total, worst case		1307			2632			1389				62			1429	

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:

Wpd_2020_06_22

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22/06/2020 15.45 / 14

Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R09 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (174)

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		13.39 (AG13)	07.34		13.46 (AG13)	06.58		07.46 (AG014)	07.08		08.19 (AG014)	06.23			05.55		06.29 (AG015)
	17.06	105	15.24 (AG13)	17.40	113	15.39 (AG13)	18.13	106	15.21 (AG13)	19.47	78	09.37 (AG014)	20.18			20.47	47	07.16 (AG015)
2	07.47		13.39 (AG13)	07.33		13.46 (AG13)	06.57		07.44 (AG014)	07.07		08.18 (AG014)	06.22			05.54		06.30 (AG015)
	17.07	105	15.24 (AG13)	17.41	113	15.39 (AG13)	18.14	106	15.20 (AG13)	19.48	78	09.36 (AG014)	20.19			20.48	47	07.17 (AG015)
3	07.47		13.39 (AG13)	07.32		13.46 (AG13)	06.55		07.42 (AG014)	07.05		08.18 (AG014)	06.21			05.54		06.29 (AG015)
	17.08	106	15.25 (AG13)	17.42	113	15.39 (AG13)	18.16	104	15.17 (AG13)	19.49	76	09.34 (AG014)	20.20			20.48	48	07.17 (AG015)
4	07.47		13.39 (AG13)	07.31		13.46 (AG13)	06.54		07.40 (AG014)	07.03		08.19 (AG014)	06.19			05.54		06.29 (AG015)
	17.09	107	15.26 (AG13)	17.44	113	15.39 (AG13)	18.17	102	15.15 (AG13)	19.50	75	09.34 (AG014)	20.21			20.49	48	07.17 (AG015)
5	07.47		13.40 (AG13)	07.30		13.46 (AG13)	06.52		07.38 (AG014)	07.02		08.19 (AG014)	06.18			05.53		06.30 (AG015)
	17.10	106	15.26 (AG13)	17.45	113	15.39 (AG13)	18.18	97	15.11 (AG13)	19.51	73	09.32 (AG014)	20.22			20.50	48	07.18 (AG015)
6	07.47		13.40 (AG13)	07.29		13.47 (AG13)	06.51		07.36 (AG014)	07.00		08.20 (AG014)	06.17			05.53		06.30 (AG015)
	17.10	107	15.27 (AG13)	17.46	112	15.39 (AG13)	18.19	91	15.07 (AG13)	19.52	72	09.32 (AG014)	20.23			20.50	48	07.18 (AG015)
7	07.47		13.40 (AG13)	07.28		13.48 (AG13)	06.49		07.35 (AG014)	06.59		08.20 (AG014)	06.16			05.53		06.29 (AG015)
	17.11	108	15.28 (AG13)	17.47	111	15.39 (AG13)	18.20	79	15.00 (AG13)	19.53	70	09.30 (AG014)	20.24			20.51	49	07.18 (AG015)
8	07.47		13.40 (AG13)	07.26		13.48 (AG13)	06.48		07.33 (AG014)	06.57		08.20 (AG014)	06.15			05.52		06.30 (AG015)
	17.12	108	15.28 (AG13)	17.48	111	15.39 (AG13)	18.21	67	08.40 (AG014)	19.54	68	09.28 (AG014)	20.25			20.51	48	07.18 (AG015)
9	07.47		13.40 (AG13)	07.25		13.49 (AG13)	06.46		07.32 (AG014)	06.55		08.21 (AG014)	06.14			05.52		06.30 (AG015)
	17.13	108	15.28 (AG13)	17.50	110	15.39 (AG13)	18.22	70	08.42 (AG014)	19.55	66	09.27 (AG014)	20.26			20.52	48	07.18 (AG015)
10	07.46		13.41 (AG13)	07.24		13.50 (AG13)	06.44		07.30 (AG014)	06.54		08.22 (AG014)	06.12			05.52		06.30 (AG015)
	17.14	108	15.29 (AG13)	17.51	109	15.39 (AG13)	18.23	72	08.42 (AG014)	19.56	63	09.25 (AG014)	20.27			20.53	49	07.19 (AG015)
11	07.46		13.41 (AG13)	07.23		13.50 (AG13)	06.43		07.29 (AG014)	06.52		08.23 (AG014)	06.11		06.47 (AG015)	05.52		06.31 (AG015)
	17.15	109	15.30 (AG13)	17.52	108	15.38 (AG13)	18.24	74	08.43 (AG014)	19.57	61	09.24 (AG014)	20.28	9	06.56 (AG015)	20.53	48	07.19 (AG015)
12	07.46		13.41 (AG13)	07.22		13.51 (AG13)	06.41		07.28 (AG014)	06.51		08.23 (AG014)	06.10		06.43 (AG015)	05.52		06.31 (AG015)
	17.17	109	15.30 (AG13)	17.53	107	15.38 (AG13)	18.26	76	08.44 (AG014)	19.58	59	09.22 (AG014)	20.29	17	07.00 (AG015)	20.54	48	07.19 (AG015)
13	07.46		13.41 (AG13)	07.21		13.52 (AG13)	06.40		07.27 (AG014)	06.49		08.25 (AG014)	06.09		06.41 (AG015)	05.52		06.31 (AG015)
	17.18	110	15.31 (AG13)	17.55	106	15.38 (AG13)	18.27	77	08.44 (AG014)	19.59	55	09.20 (AG014)	20.30	21	07.02 (AG015)	20.54	49	07.20 (AG015)
14	07.45		13.41 (AG13)	07.19		13.54 (AG13)	06.38		07.25 (AG014)	06.48		08.26 (AG014)	06.08		06.39 (AG015)	05.52		06.31 (AG015)
	17.19	110	15.31 (AG13)	17.56	103	15.37 (AG13)	18.28	79	08.44 (AG014)	20.00	52	09.18 (AG014)	20.31	25	07.04 (AG015)	20.55	49	07.20 (AG015)
15	07.45		13.41 (AG13)	07.18		13.54 (AG13)	06.36		07.25 (AG014)	06.46		08.27 (AG014)	06.07		06.37 (AG015)	05.52		06.31 (AG015)
	17.20	111	15.32 (AG13)	17.57	102	15.36 (AG13)	18.29	80	08.45 (AG014)	20.01	48	09.15 (AG014)	20.32	29	07.06 (AG015)	20.55	49	07.20 (AG015)
16	07.45		13.42 (AG13)	07.17		13.55 (AG13)	06.35		07.24 (AG014)	06.44		08.29 (AG014)	06.06		06.36 (AG015)	05.52		06.32 (AG015)
	17.21	111	15.33 (AG13)	17.58	101	15.36 (AG13)	18.30	80	08.44 (AG014)	20.02	45	09.14 (AG014)	20.33	31	07.07 (AG015)	20.55	48	07.20 (AG015)
17	07.44		13.42 (AG13)	07.15		13.57 (AG13)	06.33		07.23 (AG014)	06.43		08.30 (AG014)	06.05		06.36 (AG015)	05.52		06.32 (AG015)
	17.22	111	15.33 (AG13)	17.59	99	15.36 (AG13)	18.31	81	08.44 (AG014)	20.03	41	09.11 (AG014)	20.34	33	07.09 (AG015)	20.56	48	07.20 (AG015)
18	07.44		13.42 (AG13)	07.14		13.57 (AG13)	06.31		07.23 (AG014)	06.41		08.32 (AG014)	06.04		06.34 (AG015)	05.52		06.32 (AG015)
	17.23	112	15.34 (AG13)	18.01	97	15.34 (AG13)	18.32	82	08.45 (AG014)	20.04	37	09.09 (AG014)	20.35	36	07.10 (AG015)	20.56	48	07.20 (AG015)
19	07.43		13.42 (AG13)	07.13		13.59 (AG13)	06.30		07.22 (AG014)	06.40		08.35 (AG014)	06.04		06.33 (AG015)	05.52		06.32 (AG015)
	17.24	112	15.34 (AG13)	18.02	95	15.34 (AG13)	18.33	82	08.44 (AG014)	20.05	31	09.06 (AG014)	20.36	37	07.10 (AG015)	20.56	49	07.21 (AG015)
20	07.43		13.42 (AG13)	07.11		14.00 (AG13)	06.28		07.22 (AG014)	06.38		08.37 (AG014)	06.03		06.33 (AG015)	05.52		06.32 (AG015)
	17.25	112	15.34 (AG13)	18.03	93	15.33 (AG13)	18.34	83	08.45 (AG014)	20.06	25	09.02 (AG014)	20.37	38	07.11 (AG015)	20.57	49	07.21 (AG015)
21	07.42		13.43 (AG13)	07.10		14.02 (AG13)	06.26		07.21 (AG014)	06.37		08.42 (AG014)	06.02		06.32 (AG015)	05.52		06.32 (AG015)
	17.27	113	15.36 (AG13)	18.04	90	15.32 (AG13)	18.35	83	08.44 (AG014)	20.07	15	08.57 (AG014)	20.38	39	07.11 (AG015)	20.57	49	07.21 (AG015)
22	07.41		13.43 (AG13)	07.09		14.04 (AG13)	06.25		07.20 (AG014)	06.36			06.01		06.32 (AG015)	05.52		06.33 (AG015)
	17.28	113	15.36 (AG13)	18.05	88	15.32 (AG13)	18.36	84	08.44 (AG014)	20.08			20.39	41	07.13 (AG015)	20.57	49	07.22 (AG015)
23	07.41		13.42 (AG13)	07.07		14.05 (AG13)	06.23		07.20 (AG014)	06.34			06.00		06.31 (AG015)	05.53		06.33 (AG015)
	17.29	114	15.36 (AG13)	18.06	85	15.30 (AG13)	18.37	84	08.44 (AG014)	20.10			20.39	42	07.13 (AG015)	20.57	49	07.22 (AG015)
24	07.40		13.43 (AG13)	07.06		14.07 (AG13)	06.21		07.19 (AG014)	06.33			06.00		06.30 (AG015)	05.53		06.33 (AG015)
	17.30	114	15.37 (AG13)	18.08	82	15.29 (AG13)	18.38	84	08.43 (AG014)	20.11			20.40	43	07.13 (AG015)	20.57	48	07.21 (AG015)
25	07.39		13.43 (AG13)	07.04		14.09 (AG13)	06.20		07.19 (AG014)	06.31			05.59		06.31 (AG015)	05.53		06.33 (AG015)
	17.31	114	15.37 (AG13)	18.09	79	15.28 (AG13)	18.39	83	08.42 (AG014)	20.12			20.41	43	07.14 (AG015)	20.58	48	07.21 (AG015)
26	07.39		13.43 (AG13)	07.03		07.59 (AG014)	06.18		07.19 (AG014)	06.30			05.58		06.30 (AG015)	05.53		06.34 (AG015)
	17.33	114	15.37 (AG13)	18.10	95	15.27 (AG13)	18.40	83	08.42 (AG014)	20.13			20.42	44	07.14 (AG015)	20.58	48	07.22 (AG015)
27	07.38		13.43 (AG13)	07.01		07.53 (AG014)	06.17		07.19 (AG014)	06.28			05.58		06.30 (AG015)	05.54		06.34 (AG015)
	17.34	114	15.37 (AG13)	18.11	102	15.25 (AG13)	18.41	82	08.41 (AG014)	20.14			20.43	45	07.15 (AG015)	20.58	48	07.22 (AG015)
28	07.37		13.44 (AG13)	07.00		07.50 (AG014)	06.15		07.18 (AG014)	06.27			05.57		06.30 (AG015)	05.54		06.34 (AG015)
	17.35	114	15.38 (AG13)	18.12	104	15.24 (AG13)	18.42	82	08.40 (AG014)	20.15			20.44	45	07.15 (AG015)	20.58	49	07.23 (AG015)
29	07.36		13.44 (AG13)				07.13		08.19 (AG014)	06.26			05.56		06.29 (AG015)	05.55		06.34 (AG015)
	17.36	114	15.38 (AG13)				19.44	81	09.40 (AG014)	20.16			20.44	46	07.15 (AG015)	20.58	49	07.23 (AG015)
30	07.35		13.44 (AG13)				07.12		08.18 (AG014)	06.24			05.56		06.29 (AG015)	05.55		06.34 (AG015)
	17.37	114	15.38 (AG13)				19.45	81	09.39 (AG014)	20.17			20.45	47	07.16 (AG015)	20.58	48	07.22 (AG015)
31	07.35		13.45 (AG13)				07.10		08.18 (AG014)				05.55		06.30 (AG015)			
	17.39	114	15.39 (AG13)				19.46	80	09.38 (AG014)				20.46	47	07.17 (AG015)			
Potential sun hours	299			298			370			398			447			451		
Total, worst case		3427			2854			2595			1188			758			1450	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R09 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (174)

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	05.55		06.35 (AG015)	06.19		06.55 (AG015)	06.49		08.22 (AG014)	07.18		08.06 (AG014)	06.52		13.19 (AG13)	07.26		13.23 (AG13)
	20.58	48	07.23 (AG015)	20.39	14	07.09 (AG015)	19.57	61	09.23 (AG014)	19.07	77	09.23 (AG014)	17.21	109	15.08 (AG13)	16.57	109	15.12 (AG13)
2	05.56		06.34 (AG015)	06.20		07.02 (AG015)	06.50		08.21 (AG014)	07.19		08.07 (AG014)	06.53		13.19 (AG13)	07.27		13.24 (AG13)
	20.58	49	07.23 (AG015)	20.38	1	07.03 (AG015)	19.55	63	09.24 (AG014)	19.05	74	09.21 (AG014)	17.20	110	15.09 (AG13)	16.57	108	15.12 (AG13)
3	05.56		06.35 (AG015)	06.21			06.51		08.19 (AG014)	07.20		08.07 (AG014)	06.54		13.18 (AG13)	07.28		13.24 (AG13)
	20.57	49	07.24 (AG015)	20.37			19.53	66	09.25 (AG014)	19.03	73	09.20 (AG014)	17.18	111	15.09 (AG13)	16.56	109	15.13 (AG13)
4	05.57		06.35 (AG015)	06.22			06.52		08.18 (AG014)	07.21		08.08 (AG014)	06.55		13.17 (AG13)	07.29		13.25 (AG13)
	20.57	48	07.23 (AG015)	20.36			19.52	68	09.26 (AG014)	19.02	71	09.19 (AG014)	17.17	112	15.09 (AG13)	16.56	108	15.13 (AG13)
5	05.58		06.36 (AG015)	06.23			06.53		08.16 (AG014)	07.22		08.09 (AG014)	06.57		13.17 (AG13)	07.30		13.26 (AG13)
	20.57	48	07.24 (AG015)	20.35			19.50	70	09.26 (AG014)	19.00	69	09.18 (AG014)	17.16	112	15.09 (AG13)	16.56	107	15.13 (AG13)
6	05.58		06.36 (AG015)	06.24			06.54		08.15 (AG014)	07.24		08.10 (AG014)	06.58		13.17 (AG13)	07.31		13.26 (AG13)
	20.57	48	07.24 (AG015)	20.33			19.49	72	09.27 (AG014)	18.59	66	09.16 (AG014)	17.15	112	15.09 (AG13)	16.56	107	15.13 (AG13)
7	05.59		06.36 (AG015)	06.25			06.55		08.14 (AG014)	07.25		08.11 (AG014)	06.59		13.17 (AG13)	07.32		13.27 (AG13)
	20.56	48	07.24 (AG015)	20.32			19.47	73	09.27 (AG014)	18.57	86	15.40 (AG13)	17.14	112	15.09 (AG13)	16.56	106	15.13 (AG13)
8	05.59		06.37 (AG015)	06.26			06.56		08.13 (AG014)	07.26		08.13 (AG014)	07.00		13.16 (AG13)	07.33		13.27 (AG13)
	20.56	47	07.24 (AG015)	20.31			19.45	75	09.28 (AG014)	18.55	95	15.45 (AG13)	17.13	113	15.09 (AG13)	16.56	107	15.14 (AG13)
9	06.00		06.36 (AG015)	06.27			06.57		08.12 (AG014)	07.27		08.14 (AG014)	07.01		13.16 (AG13)	07.34		13.27 (AG13)
	20.56	48	07.24 (AG015)	20.30			19.44	76	09.28 (AG014)	18.54	100	15.48 (AG13)	17.12	113	15.09 (AG13)	16.56	106	15.13 (AG13)
10	06.01		06.37 (AG015)	06.28			06.58		08.12 (AG014)	07.28		08.15 (AG014)	07.02		13.16 (AG13)	07.35		13.28 (AG13)
	20.55	47	07.24 (AG015)	20.29			19.42	77	09.29 (AG014)	18.52	104	15.51 (AG13)	17.11	114	15.10 (AG13)	16.56	105	15.13 (AG13)
11	06.01		06.37 (AG015)	06.29			06.59		08.11 (AG014)	07.29		08.17 (AG014)	07.04		13.16 (AG13)	07.36		13.29 (AG13)
	20.55	48	07.25 (AG015)	20.27			19.40	78	09.29 (AG014)	18.51	105	15.53 (AG13)	17.10	114	15.10 (AG13)	16.56	105	15.14 (AG13)
12	06.02		06.37 (AG015)	06.30			07.00		08.10 (AG014)	07.30		08.19 (AG014)	07.05		13.16 (AG13)	07.36		13.29 (AG13)
	20.55	47	07.24 (AG015)	20.26			19.39	80	09.30 (AG014)	18.49	106	15.54 (AG13)	17.09	114	15.10 (AG13)	16.56	105	15.14 (AG13)
13	06.03		06.38 (AG015)	06.31			07.01		08.09 (AG014)	07.31		08.21 (AG014)	07.06		13.16 (AG13)	07.37		13.30 (AG13)
	20.54	46	07.24 (AG015)	20.25			19.37	81	09.30 (AG014)	18.47	106	15.56 (AG13)	17.08	114	15.10 (AG13)	16.56	105	15.15 (AG13)
14	06.03		06.38 (AG015)	06.32			07.02		08.09 (AG014)	07.32		08.24 (AG014)	07.07		13.17 (AG13)	07.38		13.30 (AG13)
	20.54	46	07.24 (AG015)	20.23			19.35	81	09.30 (AG014)	18.46	104	15.57 (AG13)	17.07	114	15.11 (AG13)	16.56	104	15.14 (AG13)
15	06.04		06.39 (AG015)	06.33			07.03		08.08 (AG014)	07.33		08.27 (AG014)	07.08		13.16 (AG13)	07.39		13.31 (AG13)
	20.53	46	07.25 (AG015)	20.22			19.34	82	09.30 (AG014)	18.44	100	15.58 (AG13)	17.06	114	15.10 (AG13)	16.57	104	15.15 (AG13)
16	06.05		06.38 (AG015)	06.33			07.04		08.08 (AG014)	07.34		08.33 (AG014)	07.09		13.16 (AG13)	07.39		13.32 (AG13)
	20.52	46	07.24 (AG015)	20.21			19.32	82	09.30 (AG014)	18.43	92	15.59 (AG13)	17.05	114	15.10 (AG13)	16.57	104	15.16 (AG13)
17	06.06		06.39 (AG015)	06.34			07.05		08.07 (AG014)	07.35		14.40 (AG13)	07.11		13.16 (AG13)	07.40		13.32 (AG13)
	20.52	45	07.24 (AG015)	20.19			19.30	83	09.30 (AG014)	18.41	80	16.00 (AG13)	17.05	114	15.10 (AG13)	16.57	103	15.15 (AG13)
18	06.07		06.40 (AG015)	06.35			07.06		08.07 (AG014)	07.36		14.38 (AG13)	07.12		13.17 (AG13)	07.41		13.33 (AG13)
	20.51	44	07.24 (AG015)	20.18			19.29	83	09.30 (AG014)	18.40	83	16.01 (AG13)	17.04	114	15.11 (AG13)	16.58	103	15.16 (AG13)
19	06.07		06.40 (AG015)	06.36			07.07		08.07 (AG014)	07.37		14.36 (AG13)	07.13		13.17 (AG13)	07.41		13.34 (AG13)
	20.50	44	07.24 (AG015)	20.16			19.27	83	09.30 (AG014)	18.38	86	16.02 (AG13)	17.03	114	15.11 (AG13)	16.58	103	15.17 (AG13)
20	06.08		06.40 (AG015)	06.37			07.08		08.05 (AG014)	07.38		14.34 (AG13)	07.14		13.18 (AG13)	07.42		13.34 (AG13)
	20.50	43	07.23 (AG015)	20.15			19.25	84	09.29 (AG014)	18.37	89	16.03 (AG13)	17.02	113	15.11 (AG13)	16.58	103	15.17 (AG13)
21	06.09		06.41 (AG015)	06.38			07.08		08.05 (AG014)	07.39		14.32 (AG13)	07.15		13.18 (AG13)	07.43		13.34 (AG13)
	20.49	41	07.22 (AG015)	20.13			19.23	84	09.29 (AG014)	18.35	91	16.03 (AG13)	17.02	113	15.11 (AG13)	16.59	104	15.18 (AG13)
22	06.10		06.42 (AG015)	06.39		08.45 (AG014)	07.09		08.05 (AG014)	07.41		14.30 (AG13)	07.16		13.18 (AG13)	07.43		13.34 (AG13)
	20.48	40	07.22 (AG015)	20.12	17	09.02 (AG014)	19.22	84	09.29 (AG014)	18.34	94	16.04 (AG13)	17.01	112	15.10 (AG13)	16.59	104	15.18 (AG13)
23	06.11		06.43 (AG015)	06.40		08.41 (AG014)	07.10		08.05 (AG014)	07.42		14.28 (AG13)	07.18		13.19 (AG13)	07.44		13.35 (AG13)
	20.47	39	07.22 (AG015)	20.11	25	09.06 (AG014)	19.20	83	09.28 (AG014)	18.33	96	16.04 (AG13)	17.00	112	15.11 (AG13)	17.00	104	15.19 (AG13)
24	06.12		06.43 (AG015)	06.41		08.37 (AG014)	07.11		08.05 (AG014)	07.43		14.28 (AG13)	07.19		13.19 (AG13)	07.44		13.36 (AG13)
	20.47	38	07.21 (AG015)	20.09	32	09.09 (AG014)	19.18	83	09.28 (AG014)	18.31	97	16.05 (AG13)	17.00	112	15.11 (AG13)	17.00	103	15.19 (AG13)
25	06.13		06.44 (AG015)	06.42		08.35 (AG014)	07.12		08.05 (AG014)	06.44		13.26 (AG13)	07.20		13.20 (AG13)	07.44		13.36 (AG13)
	20.46	37	07.21 (AG015)	20.08	37	09.12 (AG014)	19.17	82	09.27 (AG014)	17.30	100	15.06 (AG13)	16.59	111	15.11 (AG13)	17.01	103	15.19 (AG13)
26	06.13		06.46 (AG015)	06.43		08.32 (AG014)	07.13		08.05 (AG014)	06.45		13.25 (AG13)	07.21		13.20 (AG13)	07.45		13.37 (AG13)
	20.45	34	07.20 (AG015)	20.06	42	09.14 (AG014)	19.15	82	09.27 (AG014)	17.28	101	15.06 (AG13)	16.59	111	15.11 (AG13)	17.02	103	15.20 (AG13)
27	06.14		06.46 (AG015)	06.44		08.30 (AG014)	07.14		08.05 (AG014)	06.46		13.23 (AG13)	07.22		13.20 (AG13)	07.45		13.37 (AG13)
	20.44	32	07.18 (AG015)	20.04	46	09.16 (AG014)	19.13	81	09.26 (AG014)	17.27	103	15.06 (AG13)	16.58	111	15.11 (AG13)	17.02	104	15.21 (AG13)
28	06.15		06.47 (AG015)	06.45		08.28 (AG014)	07.15		08.05 (AG014)	06.47		13.22 (AG13)	07.23		13.21 (AG13)	07.46		13.37 (AG13)
	20.43	30	07.17 (AG015)	20.03	50	09.18 (AG014)	19.12	80	09.25 (AG014)	17.26	104	15.06 (AG13)	16.58	110	15.11 (AG13)	17.03	104	15.21 (AG13)
29	06.16		06.48 (AG015)	06.46		08.27 (AG014)	07.16		08.06 (AG014)	06.48		13.22 (AG13)	07.24		13.21 (AG13)	07.46		13.37 (AG13)
	20.42	28	07.16 (AG015)	20.01	52	09.19 (AG014)	19.10	78	09.24 (AG014)	17.25	105	15.07 (AG13)	16.58	110	15.11 (AG13)	17.04	104	15.21 (AG13)
30	06.17		06.50 (AG015)	06.47		08.25 (AG014)	07.17		08.06 (AG014)	06.50		13.21 (AG13)	07.25		13.23 (AG13)	07.46		13.38 (AG13)
	20.41	24	07.14 (AG015)	20.00	55	09.20 (AG014)	19.08	78	09.24 (AG014)	17.23	106	15.07 (AG13)	16.57	109	15.12 (AG13)	17.04	105	15.23 (AG13)
31	06.18		06.52 (AG015)	06.48		08.23 (AG014)				06.51		13.20 (AG13)				07.46		13.38 (AG13)
	20.40	20	07.12 (AG015)	19.58	59	09.22 (AG014)				17.22	108	15.08 (AG13)				17.05	105	15.23 (AG13)
Potential sun hours	458			427			375			346			299			289		
Total, worst case		1298			430			2333			2871			3368			3254	

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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.45 / 16
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R10 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (175)

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		13.27 (AG13)	07.34		08.21 (AG014)	06.58		07.51 (AG014)	07.08			06.23		06.49 (AG015)	05.55		06.48 (AG015)
	17.06	98	15.05 (AG13)	17.40	85	15.01 (AG13)	18.13	80	09.11 (AG014)	19.47			20.18	37	07.26 (AG015)	20.47	40	07.28 (AG015)
2	07.47		13.28 (AG13)	07.33		08.17 (AG014)	06.57		07.51 (AG014)	07.07			06.22		06.48 (AG015)	05.54		06.48 (AG015)
	17.07	97	15.05 (AG13)	17.41	90	15.00 (AG13)	18.14	80	09.11 (AG014)	19.48			20.19	39	07.27 (AG015)	20.48	40	07.28 (AG015)
3	07.47		13.28 (AG13)	07.32		08.15 (AG014)	06.55		07.51 (AG014)	07.05			06.21		06.47 (AG015)	05.54		06.48 (AG015)
	17.08	98	15.06 (AG13)	17.42	91	14.59 (AG13)	18.16	79	09.10 (AG014)	19.49			20.20	41	07.28 (AG015)	20.48	39	07.27 (AG015)
4	07.47		13.29 (AG13)	07.31		08.12 (AG014)	06.54		07.51 (AG014)	07.03			06.19		06.47 (AG015)	05.54		06.49 (AG015)
	17.09	97	15.06 (AG13)	17.44	91	14.56 (AG13)	18.17	80	09.11 (AG014)	19.50			20.21	42	07.29 (AG015)	20.49	38	07.27 (AG015)
5	07.47		13.30 (AG13)	07.30		08.10 (AG014)	06.52		07.51 (AG014)	07.02			06.18		06.46 (AG015)	05.53		06.50 (AG015)
	17.10	96	15.06 (AG13)	17.45	91	14.54 (AG13)	18.18	78	09.09 (AG014)	19.51			20.22	44	07.30 (AG015)	20.50	37	07.27 (AG015)
6	07.47		13.30 (AG13)	07.29		08.08 (AG014)	06.51		07.50 (AG014)	07.00			06.17		06.44 (AG015)	05.53		06.51 (AG015)
	17.10	97	15.07 (AG13)	17.46	89	14.52 (AG13)	18.19	78	09.08 (AG014)	19.52			20.23	45	07.29 (AG015)	20.50	36	07.27 (AG015)
7	07.47		13.31 (AG13)	07.28		08.07 (AG014)	06.49		07.51 (AG014)	06.59			06.16		06.44 (AG015)	05.53		06.51 (AG015)
	17.11	96	15.07 (AG13)	17.47	85	14.49 (AG13)	18.20	77	09.08 (AG014)	19.53			20.24	46	07.30 (AG015)	20.51	35	07.26 (AG015)
8	07.47		13.31 (AG13)	07.26		08.06 (AG014)	06.48		07.51 (AG014)	06.57			06.15		06.44 (AG015)	05.52		06.51 (AG015)
	17.12	96	15.07 (AG13)	17.48	77	14.45 (AG13)	18.21	76	09.07 (AG014)	19.54			20.25	46	07.30 (AG015)	20.52	35	07.26 (AG015)
9	07.47		13.32 (AG13)	07.25		08.05 (AG014)	06.46		07.51 (AG014)	06.55			06.14		06.43 (AG015)	05.52		06.52 (AG015)
	17.13	95	15.07 (AG13)	17.50	59	14.35 (AG13)	18.22	76	09.07 (AG014)	19.55			20.26	48	07.31 (AG015)	20.52	34	07.26 (AG015)
10	07.46		13.33 (AG13)	07.24		08.04 (AG014)	06.44		07.51 (AG014)	06.54			06.12		06.43 (AG015)	05.52		06.53 (AG015)
	17.14	94	15.07 (AG13)	17.51	60	09.04 (AG014)	18.23	74	09.05 (AG014)	19.56			20.27	48	07.31 (AG015)	20.53	33	07.26 (AG015)
11	07.46		13.34 (AG13)	07.23		08.02 (AG014)	06.43		07.51 (AG014)	06.52			06.11		06.43 (AG015)	05.52		06.53 (AG015)
	17.15	94	15.08 (AG13)	17.52	62	09.04 (AG014)	18.24	73	09.04 (AG014)	19.57			20.28	48	07.31 (AG015)	20.53	33	07.26 (AG015)
12	07.46		13.34 (AG13)	07.22		08.01 (AG014)	06.41		07.52 (AG014)	06.51			06.10		06.42 (AG015)	05.52		06.54 (AG015)
	17.17	93	15.07 (AG13)	17.53	64	09.05 (AG014)	18.26	71	09.03 (AG014)	19.58			20.29	49	07.31 (AG015)	20.54	32	07.26 (AG015)
13	07.46		13.35 (AG13)	07.21		08.00 (AG014)	06.40		07.52 (AG014)	06.49			06.09		06.42 (AG015)	05.52		06.55 (AG015)
	17.18	93	15.08 (AG13)	17.55	67	09.07 (AG014)	18.27	70	09.02 (AG014)	19.59			20.30	49	07.31 (AG015)	20.54	31	07.26 (AG015)
14	07.45		13.35 (AG13)	07.19		07.59 (AG014)	06.38		07.53 (AG014)	06.48			06.08		06.42 (AG015)	05.52		06.55 (AG015)
	17.19	92	15.07 (AG13)	17.56	69	09.08 (AG014)	18.28	67	09.00 (AG014)	20.00			20.31	49	07.31 (AG015)	20.55	31	07.26 (AG015)
15	07.45		13.36 (AG13)	07.18		07.58 (AG014)	06.36		07.54 (AG014)	06.46			06.07		06.42 (AG015)	05.52		06.55 (AG015)
	17.20	92	15.08 (AG13)	17.57	70	09.08 (AG014)	18.29	65	08.59 (AG014)	20.01			20.32	49	07.31 (AG015)	20.55	31	07.26 (AG015)
16	07.45		13.38 (AG13)	07.17		07.57 (AG014)	06.35		07.54 (AG014)	06.44			06.06		06.42 (AG015)	05.52		06.56 (AG015)
	17.21	90	15.08 (AG13)	17.58	72	09.09 (AG014)	18.30	63	08.57 (AG014)	20.02			20.33	49	07.31 (AG015)	20.55	30	07.26 (AG015)
17	07.44		13.38 (AG13)	07.15		07.57 (AG014)	06.33		07.55 (AG014)	06.43			06.05		06.43 (AG015)	05.52		06.56 (AG015)
	17.22	90	15.08 (AG13)	17.59	73	09.10 (AG014)	18.31	60	08.55 (AG014)	20.03			20.34	49	07.32 (AG015)	20.56	30	07.26 (AG015)
18	07.44		13.40 (AG13)	07.14		07.55 (AG014)	06.31		07.56 (AG014)	06.41			06.04		06.43 (AG015)	05.52		06.56 (AG015)
	17.23	88	15.08 (AG13)	18.01	75	09.10 (AG014)	18.32	58	08.54 (AG014)	20.04			20.35	48	07.31 (AG015)	20.56	30	07.26 (AG015)
19	07.43		13.40 (AG13)	07.13		07.55 (AG014)	06.30		07.57 (AG014)	06.40			06.04		06.43 (AG015)	05.52		06.57 (AG015)
	17.24	88	15.08 (AG13)	18.02	76	09.11 (AG014)	18.33	54	08.51 (AG014)	20.05			20.36	48	07.31 (AG015)	20.56	29	07.26 (AG015)
20	07.43		13.41 (AG13)	07.11		07.54 (AG014)	06.28		07.59 (AG014)	06.38			06.03		06.43 (AG015)	05.52		06.57 (AG015)
	17.25	86	15.07 (AG13)	18.03	77	09.11 (AG014)	18.34	51	08.50 (AG014)	20.06			20.37	48	07.31 (AG015)	20.57	29	07.26 (AG015)
21	07.42		13.42 (AG13)	07.10		07.54 (AG014)	06.26		08.00 (AG014)	06.37			06.02		06.43 (AG015)	05.52		06.57 (AG015)
	17.27	86	15.08 (AG13)	18.04	77	09.11 (AG014)	18.35	47	08.47 (AG014)	20.07			20.38	47	07.30 (AG015)	20.57	29	07.26 (AG015)
22	07.41		13.43 (AG13)	07.09		07.54 (AG014)	06.25		08.01 (AG014)	06.36			06.01		06.44 (AG015)	05.52		06.58 (AG015)
	17.28	84	15.07 (AG13)	18.05	78	09.12 (AG014)	18.36	43	08.44 (AG014)	20.08			20.39	47	07.31 (AG015)	20.57	29	07.27 (AG015)
23	07.41		13.44 (AG13)	07.07		07.53 (AG014)	06.23		08.04 (AG014)	06.34			06.00		06.44 (AG015)	05.53		06.58 (AG015)
	17.29	83	15.07 (AG13)	18.06	79	09.12 (AG014)	18.37	38	08.42 (AG014)	20.10			20.39	46	07.30 (AG015)	20.57	29	07.27 (AG015)
24	07.40		13.46 (AG13)	07.06		07.53 (AG014)	06.21		08.06 (AG014)	06.33			06.00		06.44 (AG015)	05.53		06.57 (AG015)
	17.30	81	15.07 (AG13)	18.08	79	09.12 (AG014)	18.38	33	08.39 (AG014)	20.11			20.40	46	07.30 (AG015)	20.57	30	07.27 (AG015)
25	07.39		13.47 (AG13)	07.04		07.52 (AG014)	06.20		08.09 (AG014)	06.31		07.02 (AG015)	05.59		06.45 (AG015)	05.53		06.57 (AG015)
	17.31	79	15.06 (AG13)	18.09	80	09.12 (AG014)	18.39	25	08.34 (AG014)	20.12	13	07.15 (AG015)	20.41	45	07.30 (AG015)	20.58	30	07.27 (AG015)
26	07.39		13.48 (AG13)	07.03		07.52 (AG014)	06.18		08.14 (AG014)	06.30		06.59 (AG015)	05.58		06.45 (AG015)	05.53		06.58 (AG015)
	17.33	78	15.06 (AG13)	18.10	80	09.12 (AG014)	18.40	15	08.29 (AG014)	20.13	20	07.19 (AG015)	20.42	44	07.29 (AG015)	20.58	30	07.28 (AG015)
27	07.38		13.50 (AG13)	07.01		07.51 (AG014)	06.17			06.28		06.55 (AG015)	05.58		06.46 (AG015)	05.54		06.58 (AG015)
	17.34	75	15.05 (AG13)	18.11	81	09.12 (AG014)	18.41			20.14	26	07.21 (AG015)	20.43	44	07.30 (AG015)	20.58	30	07.28 (AG015)
28	07.37		13.51 (AG13)	07.00		07.51 (AG014)	06.15			06.27		06.54 (AG015)	05.57		06.46 (AG015)	05.54		06.58 (AG015)
	17.35	73	15.04 (AG13)	18.12	81	09.12 (AG014)	18.42			20.15	29	07.23 (AG015)	20.44	43	07.29 (AG015)	20.58	31	07.29 (AG015)
29	07.36		13.52 (AG13)				07.13			06.26		06.52 (AG015)	05.56		06.46 (AG015)	05.55		06.58 (AG015)
	17.36	71	15.03 (AG13)				19.44			20.16	33	07.25 (AG015)	20.44	42	07.28 (AG015)	20.58	31	07.29 (AG015)
30	07.35		13.54 (AG13)				07.12			06.24		06.51 (AG015)	05.56		06.47 (AG015)	05.55		06.57 (AG015)
	17.37	68	15.02 (AG13)				19.45			20.17	35	07.26 (AG015)	20.45	41	07.28 (AG015)	20.58	32	07.29 (AG015)
31	07.35		08.25 (AG014)				07.10						05.55		06.48 (AG015)			
	17.39	79	15.02 (AG13)				19.46						20.46	41	07.29 (AG015)			
Potential sun hours	299			298			370			398			447			451		
Total, worst case		2727			2158			1611			156			1408			974	

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 17

Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R10 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (175)

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	05.55		06.58 (AG015)	06.19		06.53 (AG015)	06.49		07.18		08.31 (AG014)	06.52		07.33 (AG014)	07.26		13.16 (AG13)
	20.58	32	07.30 (AG015)	20.39	49	07.42 (AG015)	19.57		19.07	70	09.41 (AG014)	17.21	59	08.32 (AG014)	16.57	94	14.50 (AG13)
2	05.56		06.57 (AG015)	06.20		06.53 (AG015)	06.50		07.19		08.30 (AG014)	06.53		07.35 (AG014)	07.27		13.16 (AG13)
	20.58	33	07.30 (AG015)	20.38	49	07.42 (AG015)	19.55		19.05	72	09.42 (AG014)	17.20	67	14.09 (AG13)	16.57	95	14.51 (AG13)
3	05.56		06.57 (AG015)	06.21		06.54 (AG015)	06.51		07.20		08.29 (AG014)	06.54		07.36 (AG014)	07.28		13.16 (AG13)
	20.57	34	07.31 (AG015)	20.37	47	07.41 (AG015)	19.53		19.03	73	09.42 (AG014)	17.18	80	14.16 (AG13)	16.56	95	14.51 (AG13)
4	05.57		06.57 (AG015)	06.22		06.54 (AG015)	06.52		07.21		08.28 (AG014)	06.55		07.37 (AG014)	07.29		13.16 (AG13)
	20.57	34	07.31 (AG015)	20.36	47	07.41 (AG015)	19.52		19.02	75	09.43 (AG014)	17.17	85	14.19 (AG13)	16.56	96	14.52 (AG13)
5	05.58		06.57 (AG015)	06.23		06.54 (AG015)	06.53		07.22		08.27 (AG014)	06.57		07.38 (AG014)	07.30		13.16 (AG13)
	20.57	35	07.32 (AG015)	20.35	47	07.41 (AG015)	19.50		19.00	76	09.43 (AG014)	17.16	89	14.22 (AG13)	16.56	96	14.52 (AG13)
6	05.58		06.57 (AG015)	06.24		06.54 (AG015)	06.54		07.24		08.27 (AG014)	06.58		07.41 (AG014)	07.31		13.16 (AG13)
	20.57	36	07.33 (AG015)	20.33	45	07.39 (AG015)	19.49		18.59	77	09.44 (AG014)	17.15	90	14.25 (AG13)	16.56	97	14.53 (AG13)
7	05.59		06.56 (AG015)	06.25		06.54 (AG015)	06.55		07.25		08.26 (AG014)	06.59		07.43 (AG014)	07.32		13.17 (AG13)
	20.56	37	07.33 (AG015)	20.32	45	07.39 (AG015)	19.47		18.57	78	09.44 (AG014)	17.14	91	14.27 (AG13)	16.56	96	14.53 (AG13)
8	05.59		06.57 (AG015)	06.26		06.55 (AG015)	06.56		07.26		08.26 (AG014)	07.00		07.45 (AG014)	07.33		13.17 (AG13)
	20.56	37	07.34 (AG015)	20.31	43	07.38 (AG015)	19.45		18.55	79	09.45 (AG014)	17.13	92	14.29 (AG13)	16.56	97	14.54 (AG13)
9	06.00		06.56 (AG015)	06.27		06.55 (AG015)	06.57		07.27		08.26 (AG014)	07.01		07.48 (AG014)	07.34		13.16 (AG13)
	20.56	38	07.34 (AG015)	20.30	43	07.38 (AG015)	19.44		18.54	79	09.45 (AG014)	17.12	89	14.30 (AG13)	16.56	98	14.54 (AG13)
10	06.01		06.56 (AG015)	06.28		06.56 (AG015)	06.58		07.28		08.25 (AG014)	07.02		07.52 (AG014)	07.35		13.17 (AG13)
	20.55	39	07.35 (AG015)	20.29	41	07.37 (AG015)	19.42		18.52	80	09.45 (AG014)	17.11	85	14.32 (AG13)	16.56	97	14.54 (AG13)
11	06.01		06.56 (AG015)	06.29		06.57 (AG015)	06.59		07.29		08.25 (AG014)	07.04		07.57 (AG014)	07.36		13.17 (AG13)
	20.55	40	07.36 (AG015)	20.27	39	07.36 (AG015)	19.40		18.51	80	09.45 (AG014)	17.10	78	14.33 (AG13)	16.56	98	14.55 (AG13)
12	06.02		06.55 (AG015)	06.30		06.58 (AG015)	07.00		07.30		08.25 (AG014)	07.05		13.26 (AG13)	07.36		13.18 (AG13)
	20.55	41	07.36 (AG015)	20.26	37	07.35 (AG015)	19.39		18.49	80	09.45 (AG014)	17.09	68	14.34 (AG13)	16.56	98	14.56 (AG13)
13	06.03		06.55 (AG015)	06.31		06.59 (AG015)	07.01		07.31		08.24 (AG014)	07.06		13.24 (AG13)	07.37		13.18 (AG13)
	20.54	42	07.37 (AG015)	20.25	34	07.33 (AG015)	19.37		18.47	81	09.45 (AG014)	17.08	71	14.35 (AG13)	16.56	98	14.56 (AG13)
14	06.03		06.55 (AG015)	06.32		07.00 (AG015)	07.02		07.32		08.24 (AG014)	07.07		13.24 (AG13)	07.38		13.18 (AG13)
	20.54	42	07.37 (AG015)	20.23	32	07.32 (AG015)	19.35		18.46	80	09.44 (AG014)	17.07	73	14.37 (AG13)	16.56	98	14.56 (AG13)
15	06.04		06.55 (AG015)	06.33		07.02 (AG015)	07.03		07.33		08.24 (AG014)	07.08		13.22 (AG13)	07.39		13.19 (AG13)
	20.53	43	07.38 (AG015)	20.22	28	07.30 (AG015)	19.34		18.44	80	09.44 (AG014)	17.06	76	14.38 (AG13)	16.57	98	14.57 (AG13)
16	06.05		06.54 (AG015)	06.33		07.04 (AG015)	07.04		07.34		08.24 (AG014)	07.10		13.21 (AG13)	07.39		13.19 (AG13)
	20.52	44	07.38 (AG015)	20.21	24	07.28 (AG015)	19.32		18.43	80	09.44 (AG014)	17.05	78	14.39 (AG13)	16.57	99	14.58 (AG13)
17	06.06		06.54 (AG015)	06.34		07.06 (AG015)	07.05		09.04 (AG014)	07.35		08.23 (AG014)	07.11		13.20 (AG13)	07.40		13.19 (AG13)
	20.52	45	07.39 (AG015)	20.19	19	07.25 (AG015)	19.30	12	09.16 (AG014)	18.41	80	09.43 (AG014)	17.05	79	14.39 (AG13)	16.57	99	14.58 (AG13)
18	06.07		06.54 (AG015)	06.35		07.10 (AG015)	07.06		08.58 (AG014)	07.36		08.24 (AG014)	07.12		13.20 (AG13)	07.41		13.20 (AG13)
	20.51	45	07.39 (AG015)	20.18	11	07.21 (AG015)	19.29	23	09.21 (AG014)	18.40	80	09.44 (AG014)	17.04	81	14.41 (AG13)	16.58	98	14.58 (AG13)
19	06.07		06.54 (AG015)	06.36			07.07		08.54 (AG014)	07.37		08.24 (AG014)	07.13		13.19 (AG13)	07.41		13.21 (AG13)
	20.50	46	07.40 (AG015)	20.16			19.27	31	09.25 (AG014)	18.38	79	09.43 (AG014)	17.03	83	14.42 (AG13)	16.58	98	14.59 (AG13)
20	06.08		06.53 (AG015)	06.37			07.08		08.50 (AG014)	07.38		08.24 (AG014)	07.14		13.18 (AG13)	07.42		13.21 (AG13)
	20.50	46	07.39 (AG015)	20.15			19.25	37	09.27 (AG014)	18.37	79	09.43 (AG014)	17.02	84	14.42 (AG13)	16.58	98	14.59 (AG13)
21	06.09		06.53 (AG015)	06.38			07.08		08.47 (AG014)	07.39		08.25 (AG014)	07.15		13.17 (AG13)	07.43		13.22 (AG13)
	20.49	47	07.40 (AG015)	20.13			19.23	42	09.29 (AG014)	18.35	77	09.42 (AG014)	17.02	86	14.43 (AG13)	16.59	98	15.00 (AG13)
22	06.10		06.53 (AG015)	06.39			07.09		08.45 (AG014)	07.41		08.25 (AG014)	07.16		13.17 (AG13)	07.43		13.22 (AG13)
	20.48	47	07.40 (AG015)	20.12			19.22	46	09.31 (AG014)	18.34	76	09.41 (AG014)	17.01	86	14.43 (AG13)	16.59	98	15.00 (AG13)
23	06.11		06.53 (AG015)	06.40			07.10		08.43 (AG014)	07.42		08.25 (AG014)	07.18		13.17 (AG13)	07.44		13.23 (AG13)
	20.47	48	07.41 (AG015)	20.11			19.20	50	09.33 (AG014)	18.33	75	09.40 (AG014)	17.00	88	14.45 (AG13)	17.00	98	15.01 (AG13)
24	06.12		06.53 (AG015)	06.41			07.11		08.41 (AG014)	07.43		08.26 (AG014)	07.19		13.17 (AG13)	07.44		13.23 (AG13)
	20.47	48	07.41 (AG015)	20.09			19.18	53	09.34 (AG014)	18.31	75	09.41 (AG014)	17.00	88	14.45 (AG13)	17.00	98	15.01 (AG13)
25	06.13		06.53 (AG015)	06.42			07.12		08.39 (AG014)	06.44		07.27 (AG014)	07.20		13.16 (AG13)	07.44		13.23 (AG13)
	20.46	49	07.42 (AG015)	20.08			19.17	57	09.36 (AG014)	17.30	73	08.40 (AG014)	16.59	90	14.46 (AG13)	17.01	98	15.01 (AG13)
26	06.13		06.53 (AG015)	06.43			07.13		08.38 (AG014)	06.45		07.27 (AG014)	07.21		13.16 (AG13)	07.45		13.24 (AG13)
	20.45	49	07.42 (AG015)	20.06			19.15	59	09.37 (AG014)	17.28	72	08.39 (AG014)	16.59	90	14.46 (AG13)	17.01	98	15.02 (AG13)
27	06.14		06.52 (AG015)	06.44			07.14		08.36 (AG014)	06.46		07.28 (AG014)	07.22		13.15 (AG13)	07.45		13.24 (AG13)
	20.44	49	07.41 (AG015)	20.04			19.13	62	09.38 (AG014)	17.27	70	08.38 (AG014)	16.58	92	14.47 (AG13)	17.02	99	15.03 (AG13)
28	06.15		06.53 (AG015)	06.45			07.15		08.35 (AG014)	06.47		07.28 (AG014)	07.23		13.15 (AG13)	07.46		13.25 (AG13)
	20.43	48	07.41 (AG015)	20.03			19.12	64	09.39 (AG014)	17.26	68	08.36 (AG014)	16.58	92	14.47 (AG13)	17.03	98	15.03 (AG13)
29	06.16		06.53 (AG015)	06.46			07.16		08.33 (AG014)	06.48		07.30 (AG014)	07.24		13.15 (AG13)	07.46		13.25 (AG13)
	20.42	49	07.42 (AG015)	20.01			19.10	67	09.40 (AG014)	17.25	66	08.36 (AG014)	16.58	93	14.48 (AG13)	17.04	98	15.03 (AG13)
30	06.17		06.53 (AG015)	06.47			07.17		08.32 (AG014)	06.50		07.31 (AG014)	07.25		13.16 (AG13)	07.46		13.26 (AG13)
	20.41	49	07.42 (AG015)	20.00			19.08	69	09.41 (AG014)	17.23	64	08.35 (AG014)	16.57	93	14.49 (AG13)	17.04	98	15.04 (AG13)
31	06.18		06.53 (AG015)	06.48						06.51		07.32 (AG014)				07.46		13.27 (AG13)
	20.40	49	07.42 (AG015)	19.58						17.22	61	08.33 (AG014)				17.05	98	15.05 (AG13)
Potential sun hours	458			427			375			346			299			289		
Total, worst case		1321			680			672			2335			2496			3022	

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 18
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R12 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (177)

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		10.16 (AG015)	07.34		10.48 (AG015)	06.58	07.08	06.23	05.55
	17.06	104	12.00 (AG015)	17.40	51	11.39 (AG015)	18.13	19.47	20.18	20.47
2	07.47		10.16 (AG015)	07.33		10.51 (AG015)	06.57	07.07	06.22	05.54
	17.07	104	12.00 (AG015)	17.41	45	11.36 (AG015)	18.14	19.48	20.19	20.48
3	07.47		10.17 (AG015)	07.32		10.53 (AG015)	06.55	07.05	06.21	05.54
	17.08	104	12.01 (AG015)	17.42	38	11.31 (AG015)	18.16	19.49	20.20	20.48
4	07.47		10.17 (AG015)	07.31		10.58 (AG015)	06.54	07.03	06.19	05.54
	17.09	104	12.01 (AG015)	17.44	27	11.25 (AG015)	18.17	19.50	20.21	20.49
5	07.47		10.18 (AG015)	07.30		11.07 (AG015)	06.52	07.02	06.18	05.53
	17.10	103	12.01 (AG015)	17.45	9	11.16 (AG015)	18.18	19.51	20.22	20.50
6	07.47		10.19 (AG015)	07.29			06.51	07.00	06.17	05.53
	17.10	102	12.01 (AG015)	17.46			18.19	19.52	20.23	20.50
7	07.47		10.20 (AG015)	07.28			06.49	06.59	06.16	05.53
	17.11	102	12.02 (AG015)	17.47			18.20	19.53	20.24	20.51
8	07.47		10.20 (AG015)	07.26			06.47	06.57	06.15	05.52
	17.12	101	12.01 (AG015)	17.48			18.21	19.54	20.25	20.51
9	07.47		10.20 (AG015)	07.25			06.46	06.55	06.13	05.52
	17.13	101	12.01 (AG015)	17.50			18.22	19.55	20.26	20.52
10	07.46		10.21 (AG015)	07.24			06.44	06.54	06.12	05.52
	17.14	100	12.01 (AG015)	17.51			18.23	19.56	20.27	20.53
11	07.46		10.22 (AG015)	07.23			06.43	06.52	06.11	05.52
	17.15	99	12.01 (AG015)	17.52			18.24	19.57	20.28	20.53
12	07.46		10.22 (AG015)	07.22			06.41	06.51	06.10	05.52
	17.16	99	12.01 (AG015)	17.53			18.26	19.58	20.29	20.54
13	07.46		10.24 (AG015)	07.21			06.39	06.49	06.09	05.52
	17.18	97	12.01 (AG015)	17.55			18.27	19.59	20.30	20.54
14	07.45		10.24 (AG015)	07.19			06.38	06.47	06.08	05.52
	17.19	96	12.00 (AG015)	17.56			18.28	20.00	20.31	20.55
15	07.45		10.25 (AG015)	07.18			06.36	06.46	06.07	05.52
	17.20	95	12.00 (AG015)	17.57			18.29	20.01	20.32	20.55
16	07.45		10.26 (AG015)	07.17			06.35	06.44	06.06	05.52
	17.21	94	12.00 (AG015)	17.58			18.30	20.02	20.33	20.55
17	07.44		10.27 (AG015)	07.15			06.33	06.43	06.05	05.52
	17.22	92	11.59 (AG015)	17.59			18.31	20.03	20.34	20.56
18	07.44		10.28 (AG015)	07.14			06.31	06.41	06.04	05.52
	17.23	91	11.59 (AG015)	18.01			18.32	20.04	20.35	20.56
19	07.43		10.29 (AG015)	07.13			06.30	06.40	06.04	05.52
	17.24	89	11.58 (AG015)	18.02			18.33	20.05	20.36	20.56
20	07.43		10.29 (AG015)	07.11			06.28	06.38	06.03	05.52
	17.25	88	11.57 (AG015)	18.03			18.34	20.06	20.37	20.57
21	07.42		10.31 (AG015)	07.10			06.26	06.37	06.02	05.52
	17.27	86	11.57 (AG015)	18.04			18.35	20.07	20.38	20.57
22	07.41		10.32 (AG015)	07.09			06.25	06.35	06.01	05.52
	17.28	84	11.56 (AG015)	18.05			18.36	20.08	20.39	20.57
23	07.41		10.32 (AG015)	07.07			06.23	06.34	06.00	05.53
	17.29	83	11.55 (AG015)	18.06			18.37	20.10	20.39	20.57
24	07.40		10.34 (AG015)	07.06			06.21	06.33	06.00	05.53
	17.30	81	11.55 (AG015)	18.08			18.38	20.11	20.40	20.57
25	07.39		10.35 (AG015)	07.04			06.20	06.31	05.59	05.53
	17.31	78	11.53 (AG015)	18.09			18.39	20.12	20.41	20.58
26	07.39		10.37 (AG015)	07.03			06.18	06.30	05.58	05.53
	17.33	75	11.52 (AG015)	18.10			18.40	20.13	20.42	20.58
27	07.38		10.38 (AG015)	07.01			06.16	06.28	05.58	05.54
	17.34	72	11.50 (AG015)	18.11			18.41	20.14	20.43	20.58
28	07.37		10.39 (AG015)	07.00			06.15	06.27	05.57	05.54
	17.35	69	11.48 (AG015)	18.12			18.42	20.15	20.44	20.58
29	07.36		10.41 (AG015)				07.13	06.26	05.56	05.55
	17.36	65	11.46 (AG015)				19.44	20.16	20.44	20.58
30	07.35		10.43 (AG015)				07.12	06.24	05.56	05.55
	17.37	61	11.44 (AG015)				19.45	20.17	20.45	20.58
31	07.35		10.46 (AG015)				07.10		05.55	
	17.39	56	11.42 (AG015)				19.46		20.46	
Potential sun hours	299			298			370	398	447	451
Total, worst case		2775			170					

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R12 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (177)

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	05.55		06.19		06.49		07.18		06.52			07.26		10.04 (AG015)
	20.58		20.39		19.57		19.07		17.21			16.57	100	11.44 (AG015)
2	05.56		06.20		06.50		07.19		06.53			07.27		10.04 (AG015)
	20.58		20.38		19.55		19.05		17.20			16.57	100	11.44 (AG015)
3	05.56		06.21		06.51		07.20		06.54			07.28		10.05 (AG015)
	20.57		20.37		19.53		19.03		17.18			16.56	100	11.45 (AG015)
4	05.57		06.22		06.52		07.21		06.55			07.29		10.05 (AG015)
	20.57		20.36		19.52		19.02		17.17			16.56	101	11.46 (AG015)
5	05.58		06.23		06.53		07.22		06.57			07.30		10.05 (AG015)
	20.57		20.35		19.50		19.00		17.16			16.56	102	11.47 (AG015)
6	05.58		06.24		06.54		07.23		06.58		10.36 (AG015)	07.31		10.05 (AG015)
	20.57		20.33		19.48		18.59		17.15	13	10.49 (AG015)	16.56	102	11.47 (AG015)
7	05.59		06.25		06.55		07.25		06.59		10.28 (AG015)	07.32		10.05 (AG015)
	20.56		20.32		19.47		18.57		17.14	29	10.57 (AG015)	16.56	103	11.48 (AG015)
8	05.59		06.26		06.56		07.26		07.00		10.24 (AG015)	07.33		10.05 (AG015)
	20.56		20.31		19.45		18.55		17.13	38	11.02 (AG015)	16.56	103	11.48 (AG015)
9	06.00		06.27		06.57		07.27		07.01		10.20 (AG015)	07.34		10.05 (AG015)
	20.56		20.30		19.44		18.54		17.12	46	11.06 (AG015)	16.56	104	11.49 (AG015)
10	06.01		06.28		06.58		07.28		07.02		10.19 (AG015)	07.35		10.05 (AG015)
	20.55		20.29		19.42		18.52		17.11	51	11.10 (AG015)	16.56	104	11.49 (AG015)
11	06.01		06.29		06.59		07.29		07.04		10.16 (AG015)	07.36		10.06 (AG015)
	20.55		20.27		19.40		18.51		17.10	57	11.13 (AG015)	16.56	104	11.50 (AG015)
12	06.02		06.30		07.00		07.30		07.05		10.15 (AG015)	07.36		10.06 (AG015)
	20.55		20.26		19.39		18.49		17.09	61	11.16 (AG015)	16.56	105	11.51 (AG015)
13	06.03		06.31		07.01		07.31		07.06		10.13 (AG015)	07.37		10.07 (AG015)
	20.54		20.25		19.37		18.47		17.08	65	11.18 (AG015)	16.56	105	11.52 (AG015)
14	06.03		06.31		07.02		07.32		07.07		10.12 (AG015)	07.38		10.06 (AG015)
	20.54		20.23		19.35		18.46		17.07	69	11.21 (AG015)	16.56	106	11.52 (AG015)
15	06.04		06.32		07.03		07.33		07.08		10.11 (AG015)	07.39		10.07 (AG015)
	20.53		20.22		19.34		18.44		17.06	72	11.23 (AG015)	16.57	106	11.53 (AG015)
16	06.05		06.33		07.04		07.34		07.09		10.10 (AG015)	07.39		10.08 (AG015)
	20.52		20.21		19.32		18.43		17.05	75	11.25 (AG015)	16.57	105	11.53 (AG015)
17	06.06		06.34		07.05		07.35		07.11		10.08 (AG015)	07.40		10.07 (AG015)
	20.52		20.19		19.30		18.41		17.04	78	11.26 (AG015)	16.57	106	11.53 (AG015)
18	06.07		06.35		07.06		07.36		07.12		10.08 (AG015)	07.41		10.08 (AG015)
	20.51		20.18		19.28		18.40		17.04	81	11.29 (AG015)	16.57	106	11.54 (AG015)
19	06.07		06.36		07.07		07.37		07.13		10.07 (AG015)	07.41		10.09 (AG015)
	20.50		20.16		19.27		18.38		17.03	83	11.30 (AG015)	16.58	106	11.55 (AG015)
20	06.08		06.37		07.07		07.38		07.14		10.07 (AG015)	07.42		10.09 (AG015)
	20.50		20.15		19.25		18.37		17.02	84	11.31 (AG015)	16.58	106	11.55 (AG015)
21	06.09		06.38		07.08		07.39		07.15		10.06 (AG015)	07.43		10.10 (AG015)
	20.49		20.13		19.23		18.35		17.02	86	11.32 (AG015)	16.59	106	11.56 (AG015)
22	06.10		06.39		07.09		07.41		07.16		10.05 (AG015)	07.43		10.10 (AG015)
	20.48		20.12		19.22		18.34		17.01	88	11.33 (AG015)	16.59	106	11.56 (AG015)
23	06.11		06.40		07.10		07.42		07.18		10.06 (AG015)	07.44		10.11 (AG015)
	20.47		20.11		19.20		18.33		17.00	89	11.35 (AG015)	17.00	106	11.57 (AG015)
24	06.12		06.41		07.11		07.43		07.19		10.05 (AG015)	07.44		10.11 (AG015)
	20.47		20.09		19.18		18.31		17.00	91	11.36 (AG015)	17.00	106	11.57 (AG015)
25	06.13		06.42		07.12		06.44		07.20		10.05 (AG015)	07.44		10.11 (AG015)
	20.46		20.08		19.17		17.30		16.59	92	11.37 (AG015)	17.01	106	11.57 (AG015)
26	06.13		06.43		07.13		06.45		07.21		10.04 (AG015)	07.45		10.12 (AG015)
	20.45		20.06		19.15		17.28		16.59	94	11.38 (AG015)	17.01	106	11.58 (AG015)
27	06.14		06.44		07.14		06.46		07.22		10.04 (AG015)	07.45		10.13 (AG015)
	20.44		20.04		19.13		17.27		16.58	95	11.39 (AG015)	17.02	105	11.58 (AG015)
28	06.15		06.45		07.15		06.47		07.23		10.04 (AG015)	07.46		10.13 (AG015)
	20.43		20.03		19.12		17.26		16.58	96	11.40 (AG015)	17.03	106	11.59 (AG015)
29	06.16		06.46		07.16		06.48		07.24		10.04 (AG015)	07.46		10.13 (AG015)
	20.42		20.01		19.10		17.24		16.58	97	11.41 (AG015)	17.03	106	11.59 (AG015)
30	06.17		06.47		07.17		06.50		07.25		10.05 (AG015)	07.46		10.15 (AG015)
	20.41		20.00		19.08		17.23		16.57	98	11.43 (AG015)	17.04	105	12.00 (AG015)
31	06.18		06.48				06.51					07.46		10.15 (AG015)
	20.40		19.58				17.22					17.05	105	12.00 (AG015)
Potential sun hours	458		427		375		346		299			289		
Total, worst case										1828			3237	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R13 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (187)

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			07.08		08.10 (AG04)	06.23		06.53 (AG06)	05.55	
	17.06		17.40		18.13			19.47	37	08.47 (AG04)	20.18	36	07.29 (AG05)	20.47	
2	07.47		07.33		06.57			07.07		08.10 (AG04)	06.22		06.53 (AG06)	05.54	
	17.07		17.41		18.14			19.48	36	08.46 (AG04)	20.19	36	07.29 (AG05)	20.48	
3	07.47		07.32		06.55			07.05		08.11 (AG04)	06.21		06.54 (AG06)	05.54	
	17.08		17.42		18.16			19.49	33	08.44 (AG04)	20.20	35	07.29 (AG05)	20.48	
4	07.47		07.31		06.54			07.03		08.12 (AG04)	06.19		06.55 (AG06)	05.54	
	17.09		17.44		18.17			19.50	31	08.43 (AG04)	20.21	34	07.29 (AG05)	20.49	
5	07.47		07.30		06.52			07.02		08.13 (AG04)	06.18		06.56 (AG06)	05.53	
	17.10		17.45		18.18			19.51	27	08.40 (AG04)	20.22	34	07.30 (AG05)	20.50	
6	07.47		07.29		06.51			07.00		08.16 (AG04)	06.17		06.56 (AG06)	05.53	
	17.10		17.46		18.19			19.52	22	08.38 (AG04)	20.23	32	07.28 (AG05)	20.50	
7	07.47		07.28		06.49			06.59		08.18 (AG04)	06.16		06.58 (AG05)	05.53	
	17.11		17.47		18.20			19.53	17	08.35 (AG04)	20.24	30	07.28 (AG05)	20.51	
8	07.47		07.26		06.47			06.57		08.21 (AG04)	06.15		06.58 (AG05)	05.52	
	17.12		17.48		18.21			19.54	8	08.29 (AG04)	20.25	30	07.28 (AG05)	20.52	
9	07.47		07.25		06.46			06.55			06.13		06.59 (AG05)	05.52	
	17.13		17.50		18.22			19.55			20.26	29	07.28 (AG05)	20.52	
10	07.46		07.24		06.44			06.54			06.12		06.59 (AG05)	05.52	
	17.14		17.51		18.23			19.56			20.27	28	07.27 (AG05)	20.53	
11	07.46		07.23		06.43			06.52			06.11		07.00 (AG05)	05.52	
	17.15		17.52		18.24			19.57			20.28	27	07.27 (AG05)	20.53	
12	07.46		07.22		06.41		07.28 (AG04)	06.51			06.10		07.00 (AG05)	05.52	
	17.16		17.53		18.26	15	07.43 (AG04)	19.58			20.29	26	07.26 (AG05)	20.54	
13	07.46		07.21		06.39		07.24 (AG04)	06.49			06.09		07.01 (AG05)	05.52	
	17.18		17.55		18.27	21	07.45 (AG04)	19.59			20.30	24	07.25 (AG05)	20.54	
14	07.45		07.19		06.38		07.21 (AG04)	06.47			06.08		07.02 (AG05)	05.52	
	17.19		17.56		18.28	26	07.47 (AG04)	20.00			20.31	22	07.24 (AG05)	20.55	
15	07.45		07.18		06.36		07.19 (AG04)	06.46			06.07		07.02 (AG05)	05.52	
	17.20		17.57		18.29	30	07.49 (AG04)	20.01			20.32	21	07.23 (AG05)	20.55	
16	07.45		07.17		06.35		07.17 (AG04)	06.44			06.06		07.03 (AG05)	05.52	
	17.21		17.58		18.30	33	07.50 (AG04)	20.02			20.33	19	07.22 (AG05)	20.55	
17	07.44		07.15		06.33		07.15 (AG04)	06.43			06.05		07.05 (AG05)	05.52	
	17.22		17.59		18.31	36	07.51 (AG04)	20.03			20.34	15	07.20 (AG05)	20.56	
18	07.44		07.14		06.31		07.15 (AG04)	06.41			06.04		07.07 (AG05)	05.52	
	17.23		18.01		18.32	37	07.52 (AG04)	20.04			20.35	12	07.19 (AG05)	20.56	
19	07.43		07.13		06.30		07.13 (AG04)	06.40			06.04		07.10 (AG05)	05.52	
	17.24		18.02		18.33	40	07.53 (AG04)	20.05			20.36	6	07.16 (AG05)	20.56	
20	07.43		07.11		06.28		07.13 (AG04)	06.38			06.03			05.52	
	17.25		18.03		18.34	41	07.54 (AG04)	20.06			20.37			20.57	
21	07.42		07.10		06.26		07.12 (AG04)	06.37			06.02			05.52	
	17.27		18.04		18.35	41	07.53 (AG04)	20.07			20.38			20.57	
22	07.41		07.09		06.25		07.10 (AG04)	06.35		07.00 (AG06)	06.01			05.52	
	17.28		18.05		18.36	43	07.53 (AG04)	20.08	11	07.11 (AG06)	20.39			20.57	
23	07.41		07.07		06.23		07.11 (AG04)	06.34		06.58 (AG06)	06.00			05.53	
	17.29		18.06		18.37	43	07.54 (AG04)	20.10	21	07.19 (AG05)	20.39			20.57	
24	07.40		07.06		06.21		07.10 (AG04)	06.33		06.56 (AG06)	06.00			05.53	
	17.30		18.08		18.38	43	07.53 (AG04)	20.11	26	07.22 (AG05)	20.40			20.57	
25	07.39		07.04		06.20		07.09 (AG04)	06.31		06.56 (AG06)	05.59			05.53	
	17.31		18.09		18.39	43	07.52 (AG04)	20.12	28	07.24 (AG05)	20.41			20.58	
26	07.39		07.03		06.18		07.09 (AG04)	06.30		06.55 (AG06)	05.58			05.53	
	17.33		18.10		18.40	44	07.53 (AG04)	20.13	31	07.26 (AG05)	20.42			20.58	
27	07.38		07.01		06.16		07.09 (AG04)	06.28		06.54 (AG06)	05.58			05.54	
	17.34		18.11		18.41	43	07.52 (AG04)	20.14	32	07.26 (AG05)	20.43			20.58	
28	07.37		07.00		06.15		07.08 (AG04)	06.27		06.54 (AG06)	05.57			05.54	
	17.35		18.12		18.42	43	07.51 (AG04)	20.15	33	07.27 (AG05)	20.44			20.58	
29	07.36				07.13		08.09 (AG04)	06.26		06.54 (AG06)	05.56			05.55	
	17.36				19.44	42	08.51 (AG04)	20.16	34	07.28 (AG05)	20.44			20.58	
30	07.35				07.12		08.09 (AG04)	06.24		06.54 (AG06)	05.56			05.55	
	17.37				19.45	40	08.49 (AG04)	20.17	35	07.29 (AG05)	20.45			20.58	
31	07.35				07.10		08.09 (AG04)				05.55				
	17.39				19.46	39	08.48 (AG04)				20.46				
Potential sun hours	299		298		370			398			447			451	
Total, worst case						743			462			496			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R13 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (187)

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	05.55			06.19		07.10 (AG05)	06.49			07.18		08.05 (AG04)	06.52	07.26
	20.58			20.39	27	07.37 (AG05)	19.57			19.07	18	08.23 (AG04)	17.21	16.57
2	05.56			06.20		07.10 (AG05)	06.50			07.19		08.10 (AG04)	06.53	07.27
	20.58			20.38	27	07.37 (AG05)	19.55			19.05	7	08.17 (AG04)	17.20	16.57
3	05.56			06.21		07.10 (AG05)	06.51			07.20			06.54	07.28
	20.57			20.37	28	07.38 (AG05)	19.53			19.03			17.18	16.56
4	05.57			06.22		07.09 (AG05)	06.52		08.19 (AG04)	07.21			06.55	07.29
	20.57			20.36	29	07.38 (AG05)	19.52	7	08.26 (AG04)	19.02			17.17	16.56
5	05.57			06.23		07.08 (AG05)	06.53		08.14 (AG04)	07.22			06.57	07.30
	20.57			20.35	30	07.38 (AG05)	19.50	17	08.31 (AG04)	19.00			17.16	16.56
6	05.58			06.24		07.07 (AG06)	06.54		08.11 (AG04)	07.23			06.58	07.31
	20.57			20.33	31	07.38 (AG05)	19.49	22	08.33 (AG04)	18.59			17.15	16.56
7	05.59			06.25		07.05 (AG06)	06.55		08.08 (AG04)	07.25			06.59	07.32
	20.56			20.32	33	07.38 (AG05)	19.47	27	08.35 (AG04)	18.57			17.14	16.56
8	05.59			06.26		07.04 (AG06)	06.56		08.06 (AG04)	07.26			07.00	07.33
	20.56			20.31	34	07.38 (AG05)	19.45	31	08.37 (AG04)	18.55			17.13	16.56
9	06.00			06.27		07.03 (AG06)	06.57		08.05 (AG04)	07.27			07.01	07.34
	20.56			20.30	35	07.38 (AG05)	19.44	33	08.38 (AG04)	18.54			17.12	16.56
10	06.01			06.28		07.03 (AG06)	06.58		08.03 (AG04)	07.28			07.02	07.35
	20.55			20.29	35	07.38 (AG05)	19.42	36	08.39 (AG04)	18.52			17.11	16.56
11	06.01			06.29		07.02 (AG06)	06.59		08.02 (AG04)	07.29			07.04	07.36
	20.55			20.27	36	07.38 (AG05)	19.40	37	08.39 (AG04)	18.51			17.10	16.56
12	06.02			06.30		07.02 (AG06)	07.00		08.01 (AG04)	07.30			07.05	07.36
	20.55			20.26	35	07.37 (AG05)	19.39	39	08.40 (AG04)	18.49			17.09	16.56
13	06.03			06.31		07.01 (AG06)	07.01		08.00 (AG04)	07.31			07.06	07.37
	20.54			20.25	36	07.37 (AG05)	19.37	40	08.40 (AG04)	18.47			17.08	16.56
14	06.03			06.31		07.01 (AG06)	07.02		07.59 (AG04)	07.32			07.07	07.38
	20.54			20.23	35	07.36 (AG05)	19.35	42	08.41 (AG04)	18.46			17.07	16.56
15	06.04			06.32		07.01 (AG06)	07.03		07.59 (AG04)	07.33			07.08	07.39
	20.53			20.22	34	07.35 (AG05)	19.34	42	08.41 (AG04)	18.44			17.06	16.57
16	06.05			06.33		07.02 (AG06)	07.04		07.58 (AG04)	07.34			07.10	07.39
	20.52			20.21	32	07.34 (AG05)	19.32	43	08.41 (AG04)	18.43			17.05	16.57
17	06.06			06.34		07.02 (AG06)	07.05		07.58 (AG04)	07.35			07.11	07.40
	20.52			20.19	30	07.32 (AG05)	19.30	43	08.41 (AG04)	18.41			17.04	16.57
18	06.07			06.35		07.02 (AG06)	07.06		07.57 (AG04)	07.36			07.12	07.41
	20.51			20.18	29	07.31 (AG05)	19.28	44	08.41 (AG04)	18.40			17.04	16.57
19	06.07			06.36		07.03 (AG06)	07.07		07.57 (AG04)	07.37			07.13	07.41
	20.51			20.16	25	07.28 (AG05)	19.27	43	08.40 (AG04)	18.38			17.03	16.58
20	06.08			06.37		07.05 (AG06)	07.08		07.56 (AG04)	07.38			07.14	07.42
	20.50			20.15	16	07.23 (AG05)	19.25	43	08.39 (AG04)	18.37			17.02	16.58
21	06.09			06.38		07.05 (AG06)	07.08		07.56 (AG04)	07.39			07.15	07.43
	20.49			20.13	10	07.15 (AG06)	19.23	43	08.39 (AG04)	18.35			17.02	16.59
22	06.10			06.39			07.09		07.56 (AG04)	07.41			07.16	07.43
	20.48			20.12			19.22	42	08.38 (AG04)	18.34			17.01	16.59
23	06.11			06.40			07.10		07.56 (AG04)	07.42			07.18	07.44
	20.48			20.11			19.20	41	08.37 (AG04)	18.33			17.00	17.00
24	06.12			06.41			07.11		07.56 (AG04)	07.43			07.19	07.44
	20.47			20.09			19.18	40	08.36 (AG04)	18.31			17.00	17.00
25	06.13		07.19 (AG05)	06.42			07.12		07.57 (AG04)	06.44			07.20	07.45
	20.46	9	07.28 (AG05)	20.08			19.17	38	08.35 (AG04)	17.30			16.59	17.01
26	06.13		07.16 (AG05)	06.43			07.13		07.57 (AG04)	06.45			07.21	07.45
	20.45	14	07.30 (AG05)	20.06			19.15	37	08.34 (AG04)	17.28			16.59	17.01
27	06.14		07.15 (AG05)	06.44			07.14		07.58 (AG04)	06.46			07.22	07.45
	20.44	17	07.32 (AG05)	20.04			19.13	34	08.32 (AG04)	17.27			16.58	17.02
28	06.15		07.14 (AG05)	06.45			07.15		07.59 (AG04)	06.47			07.23	07.46
	20.43	19	07.33 (AG05)	20.03			19.12	32	08.31 (AG04)	17.26			16.58	17.03
29	06.16		07.13 (AG05)	06.46			07.16		08.01 (AG04)	06.48			07.24	07.46
	20.42	21	07.34 (AG05)	20.01			19.10	28	08.29 (AG04)	17.24			16.58	17.03
30	06.17		07.12 (AG05)	06.47			07.17		08.02 (AG04)	06.50			07.25	07.46
	20.41	23	07.35 (AG05)	20.00			19.08	24	08.26 (AG04)	17.23			16.57	17.04
31	06.18		07.11 (AG05)	06.48						06.51				07.46
	20.40	25	07.36 (AG05)	19.58						17.22				17.05
Potential sun hours	458			427			375			346			299	289
Total, worst case		128			627			948			25			

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 22

Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R14 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (185)

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			07.08		08.10 (AG04)	06.23		07.49 (AG04)	05.55		06.39 (AG05)
	17.06		17.40		18.13			19.47	29	08.39 (AG04)	20.18	50	08.39 (AG04)	20.47	33	07.12 (AG05)
2	07.47		07.33		06.57			07.07		08.06 (AG04)	06.22		07.50 (AG04)	05.54		06.39 (AG05)
	17.07		17.41		18.14			19.48	34	08.40 (AG04)	20.19	48	08.38 (AG04)	20.48	33	07.12 (AG05)
3	07.47		07.32		06.55			07.05		08.04 (AG04)	06.21		07.51 (AG04)	05.54		06.38 (AG05)
	17.08		17.42		18.16			19.49	38	08.42 (AG04)	20.20	46	08.37 (AG04)	20.48	34	07.12 (AG05)
4	07.47		07.31		06.54			07.03		08.02 (AG04)	06.19		07.52 (AG04)	05.54		06.38 (AG05)
	17.09		17.44		18.17			19.50	42	08.44 (AG04)	20.21	44	08.36 (AG04)	20.49	35	07.13 (AG05)
5	07.47		07.30		06.52			07.02		08.00 (AG04)	06.18		07.52 (AG04)	05.53		06.39 (AG05)
	17.10		17.45		18.18			19.51	45	08.45 (AG04)	20.22	42	08.34 (AG04)	20.50	35	07.14 (AG05)
6	07.47		07.29		06.51			07.00		07.58 (AG04)	06.17		07.53 (AG04)	05.53		06.38 (AG05)
	17.10		17.46		18.19			19.52	47	08.45 (AG04)	20.23	40	08.33 (AG04)	20.50	35	07.13 (AG05)
7	07.47		07.28		06.49			06.59		07.57 (AG04)	06.16		06.47 (AG06)	05.53		06.38 (AG05)
	17.11		17.47		18.20			19.53	50	08.47 (AG04)	20.24	40	08.31 (AG04)	20.51	36	07.14 (AG05)
8	07.47		07.26		06.47			06.57		07.55 (AG04)	06.15		06.43 (AG06)	05.52		06.38 (AG05)
	17.12		17.48		18.21			19.54	52	08.47 (AG04)	20.25	45	08.30 (AG04)	20.52	36	07.14 (AG05)
9	07.47		07.25		06.46			06.55		07.55 (AG04)	06.13		06.41 (AG06)	05.52		06.39 (AG05)
	17.13		17.50		18.22			19.55	53	08.48 (AG04)	20.26	45	08.28 (AG04)	20.52	36	07.15 (AG05)
10	07.46		07.24		06.44			06.54		07.53 (AG04)	06.12		06.40 (AG06)	05.52		06.39 (AG05)
	17.14		17.51		18.23			19.56	55	08.48 (AG04)	20.27	44	08.26 (AG04)	20.53	36	07.15 (AG05)
11	07.46		07.23		06.43			06.52		07.53 (AG04)	06.11		06.39 (AG06)	05.52		06.39 (AG05)
	17.15		17.52		18.24			19.57	56	08.49 (AG04)	20.28	42	08.24 (AG04)	20.53	36	07.15 (AG05)
12	07.46		07.22		06.41			06.51		07.51 (AG04)	06.10		06.38 (AG06)	05.52		06.39 (AG05)
	17.16		17.53		18.26			19.58	57	08.48 (AG04)	20.29	38	08.21 (AG04)	20.54	37	07.16 (AG05)
13	07.46		07.21		06.39			06.49		07.50 (AG04)	06.09		06.38 (AG06)	05.52		06.39 (AG05)
	17.18		17.55		18.27			19.59	58	08.48 (AG04)	20.30	31	08.17 (AG04)	20.54	37	07.16 (AG05)
14	07.45		07.19		06.38			06.47		07.50 (AG04)	06.08		06.37 (AG06)	05.52		06.40 (AG05)
	17.19		17.56		18.28			20.00	59	08.49 (AG04)	20.31	23	07.00 (AG06)	20.55	36	07.16 (AG05)
15	07.45		07.18		06.36			06.46		07.49 (AG04)	06.07		06.37 (AG06)	05.52		06.40 (AG05)
	17.20		17.57		18.29			20.01	59	08.48 (AG04)	20.32	23	07.00 (AG06)	20.55	37	07.17 (AG05)
16	07.45		07.17		06.35			06.44		07.49 (AG04)	06.06		06.36 (AG06)	05.52		06.40 (AG05)
	17.21		17.58		18.30			20.02	59	08.48 (AG04)	20.33	25	07.01 (AG06)	20.55	37	07.17 (AG05)
17	07.44		07.15		06.33			06.43		07.48 (AG04)	06.05		06.36 (AG06)	05.52		06.40 (AG05)
	17.22		17.59		18.31			20.03	60	08.48 (AG04)	20.34	25	07.01 (AG06)	20.56	37	07.17 (AG05)
18	07.44		07.14		06.31			06.41		07.48 (AG04)	06.04		06.37 (AG06)	05.52		06.40 (AG05)
	17.23		18.01		18.32			20.04	60	08.48 (AG04)	20.35	25	07.02 (AG06)	20.56	37	07.17 (AG05)
19	07.43		07.13		06.30			06.40		07.48 (AG04)	06.04		06.36 (AG06)	05.52		06.40 (AG05)
	17.24		18.02		18.33			20.05	60	08.48 (AG04)	20.36	25	07.01 (AG06)	20.56	37	07.17 (AG05)
20	07.43		07.11		06.28			06.38		07.47 (AG04)	06.03		06.36 (AG06)	05.52		06.40 (AG05)
	17.25		18.03		18.34			20.06	60	08.47 (AG04)	20.37	25	07.01 (AG06)	20.57	37	07.17 (AG05)
21	07.42		07.10		06.26			06.37		07.48 (AG04)	06.02		06.36 (AG06)	05.52		06.40 (AG05)
	17.27		18.04		18.35			20.07	59	08.47 (AG04)	20.38	25	07.01 (AG05)	20.57	37	07.17 (AG05)
22	07.41		07.09		06.25			06.35		07.47 (AG04)	06.01		06.37 (AG06)	05.52		06.41 (AG05)
	17.28		18.05		18.36			20.08	59	08.46 (AG04)	20.39	27	07.04 (AG05)	20.57	37	07.18 (AG05)
23	07.41		07.07		06.23			06.34		07.47 (AG04)	06.00		06.37 (AG06)	05.53		06.41 (AG05)
	17.29		18.06		18.37			20.10	59	08.46 (AG04)	20.39	28	07.05 (AG05)	20.57	37	07.18 (AG05)
24	07.40		07.06		06.21			06.33		07.47 (AG04)	06.00		06.37 (AG06)	05.53		06.41 (AG05)
	17.30		18.08		18.38			20.11	57	08.44 (AG04)	20.40	29	07.06 (AG05)	20.57	37	07.18 (AG05)
25	07.39		07.04		06.20			06.31		07.47 (AG04)	05.59		06.38 (AG06)	05.53		06.41 (AG05)
	17.31		18.09		18.39			20.12	57	08.44 (AG04)	20.41	29	07.07 (AG05)	20.58	37	07.18 (AG05)
26	07.39		07.03		06.18			06.30		07.48 (AG04)	05.58		06.38 (AG06)	05.53		06.42 (AG05)
	17.32		18.10		18.40			20.13	56	08.44 (AG04)	20.42	30	07.08 (AG05)	20.58	37	07.19 (AG05)
27	07.38		07.01		06.16			06.28		07.47 (AG04)	05.58		06.38 (AG06)	05.54		06.42 (AG05)
	17.34		18.11		18.41			20.14	55	08.42 (AG04)	20.43	30	07.08 (AG05)	20.58	37	07.19 (AG05)
28	07.37		07.00		06.15			06.27		07.48 (AG04)	05.57		06.39 (AG06)	05.54		06.42 (AG05)
	17.35		18.12		18.42			20.15	54	08.42 (AG04)	20.44	31	07.10 (AG05)	20.58	36	07.18 (AG05)
29	07.36				07.13			06.26		07.49 (AG04)	05.56		06.39 (AG05)	05.55		06.43 (AG05)
	17.36				19.44			20.16	52	08.41 (AG04)	20.44	31	07.10 (AG05)	20.58	36	07.19 (AG05)
30	07.35				07.12		08.19 (AG04)	06.24		07.49 (AG04)	05.56		06.39 (AG05)	05.55		06.42 (AG05)
	17.37				19.45	11	08.30 (AG04)	20.17	51	08.40 (AG04)	20.45	32	07.11 (AG05)	20.58	37	07.19 (AG05)
31	07.35				07.10		08.13 (AG04)				05.55		06.39 (AG05)			
	17.39				19.46	22	08.35 (AG04)				20.46	32	07.11 (AG05)			
Potential sun hours	299		298		370			398			447			451		
Total, worst case						33			1592			1050			1085	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R14 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (185)

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	05.55		06.43 (AG05)	06.19		06.49 (AG06)	06.49		07.52 (AG04)	07.18	06.52	07.26
	20.58	37	07.20 (AG05)	20.39	41	08.33 (AG04)	19.57	56	08.48 (AG04)	19.07	17.21	16.57
2	05.56		06.43 (AG05)	06.20		06.50 (AG06)	06.50		07.52 (AG04)	07.19	06.53	07.27
	20.58	36	07.19 (AG05)	20.38	44	08.36 (AG04)	19.55	55	08.47 (AG04)	19.05	17.20	16.57
3	05.56		06.44 (AG05)	06.21		06.51 (AG06)	06.51		07.53 (AG04)	07.20	06.54	07.28
	20.57	36	07.20 (AG05)	20.37	46	08.38 (AG04)	19.53	53	08.46 (AG04)	19.03	17.18	16.56
4	05.57		06.44 (AG05)	06.22		06.53 (AG06)	06.52		07.52 (AG04)	07.21	06.55	07.29
	20.57	35	07.19 (AG05)	20.36	44	08.39 (AG04)	19.52	52	08.44 (AG04)	19.02	17.17	16.56
5	05.57		06.44 (AG05)	06.23		06.54 (AG06)	06.53		07.53 (AG04)	07.22	06.57	07.30
	20.57	36	07.20 (AG05)	20.35	44	08.40 (AG04)	19.50	50	08.43 (AG04)	19.00	17.16	16.56
6	05.58		06.44 (AG05)	06.24		08.04 (AG04)	06.54		07.54 (AG04)	07.23	06.58	07.31
	20.57	35	07.19 (AG05)	20.33	37	08.41 (AG04)	19.49	47	08.41 (AG04)	18.59	17.15	16.56
7	05.59		06.45 (AG05)	06.25		08.03 (AG04)	06.55		07.55 (AG04)	07.25	06.59	07.32
	20.56	35	07.20 (AG05)	20.32	40	08.43 (AG04)	19.47	45	08.40 (AG04)	18.57	17.14	16.56
8	05.59		06.46 (AG05)	06.26		08.01 (AG04)	06.56		07.56 (AG04)	07.26	07.00	07.33
	20.56	34	07.20 (AG05)	20.31	43	08.44 (AG04)	19.45	42	08.38 (AG04)	18.55	17.13	16.56
9	06.00		06.45 (AG05)	06.27		08.00 (AG04)	06.57		07.57 (AG04)	07.27	07.01	07.34
	20.56	35	07.20 (AG05)	20.30	45	08.45 (AG04)	19.44	39	08.36 (AG04)	18.54	17.12	16.56
10	06.01		06.46 (AG05)	06.28		08.00 (AG04)	06.58		07.59 (AG04)	07.28	07.02	07.35
	20.55	34	07.20 (AG05)	20.29	46	08.46 (AG04)	19.42	35	08.34 (AG04)	18.52	17.11	16.56
11	06.01		06.47 (AG05)	06.29		07.59 (AG04)	06.59		08.01 (AG04)	07.29	07.04	07.36
	20.55	33	07.20 (AG05)	20.27	48	08.47 (AG04)	19.40	30	08.31 (AG04)	18.51	17.10	16.56
12	06.02		06.47 (AG05)	06.30		07.58 (AG04)	07.00		08.04 (AG04)	07.30	07.05	07.36
	20.55	32	07.19 (AG05)	20.26	50	08.48 (AG04)	19.39	24	08.28 (AG04)	18.49	17.09	16.56
13	06.03		06.47 (AG05)	06.31		07.57 (AG04)	07.01		08.09 (AG04)	07.31	07.06	07.37
	20.54	32	07.19 (AG05)	20.25	51	08.48 (AG04)	19.37	14	08.23 (AG04)	18.47	17.08	16.56
14	06.03		06.48 (AG05)	06.31		07.56 (AG04)	07.02			07.32	07.07	07.38
	20.54	31	07.19 (AG05)	20.23	53	08.49 (AG04)	19.35			18.46	17.07	16.56
15	06.04		06.48 (AG05)	06.32		07.56 (AG04)	07.03			07.33	07.08	07.39
	20.53	30	07.18 (AG05)	20.22	54	08.50 (AG04)	19.34			18.44	17.06	16.57
16	06.05		06.48 (AG06)	06.33		07.55 (AG04)	07.04			07.34	07.09	07.39
	20.52	30	07.18 (AG05)	20.21	55	08.50 (AG04)	19.32			18.43	17.05	16.57
17	06.06		06.48 (AG06)	06.34		07.55 (AG04)	07.05			07.35	07.11	07.40
	20.52	30	07.18 (AG05)	20.19	56	08.51 (AG04)	19.30			18.41	17.04	16.57
18	06.07		06.48 (AG06)	06.35		07.54 (AG04)	07.06			07.36	07.12	07.41
	20.51	29	07.17 (AG05)	20.18	57	08.51 (AG04)	19.28			18.40	17.04	16.57
19	06.07		06.48 (AG06)	06.36		07.54 (AG04)	07.07			07.37	07.13	07.41
	20.50	29	07.17 (AG05)	20.16	57	08.51 (AG04)	19.27			18.38	17.03	16.58
20	06.08		06.47 (AG06)	06.37		07.53 (AG04)	07.07			07.38	07.14	07.42
	20.50	28	07.15 (AG05)	20.15	58	08.51 (AG04)	19.25			18.37	17.02	16.58
21	06.09		06.47 (AG06)	06.38		07.52 (AG04)	07.08			07.39	07.15	07.43
	20.49	27	07.14 (AG05)	20.13	59	08.51 (AG04)	19.23			18.35	17.02	16.59
22	06.10		06.47 (AG06)	06.39		07.51 (AG04)	07.09			07.41	07.16	07.43
	20.48	26	07.13 (AG05)	20.12	60	08.51 (AG04)	19.22			18.34	17.01	16.59
23	06.11		06.47 (AG06)	06.40		07.51 (AG04)	07.10			07.42	07.18	07.44
	20.47	25	07.12 (AG06)	20.11	60	08.51 (AG04)	19.20			18.33	17.00	17.00
24	06.12		06.47 (AG06)	06.41		07.51 (AG04)	07.11			07.43	07.19	07.44
	20.47	25	07.12 (AG06)	20.09	60	08.51 (AG04)	19.18			18.31	17.00	17.00
25	06.12		06.47 (AG06)	06.42		07.51 (AG04)	07.12			06.44	07.20	07.44
	20.46	25	07.12 (AG06)	20.08	60	08.51 (AG04)	19.17			17.30	16.59	17.01
26	06.13		06.46 (AG06)	06.43		07.51 (AG04)	07.13			06.45	07.21	07.45
	20.45	25	07.11 (AG06)	20.06	59	08.50 (AG04)	19.15			17.28	16.59	17.01
27	06.14		06.47 (AG06)	06.44		07.51 (AG04)	07.14			06.46	07.22	07.45
	20.44	24	07.11 (AG06)	20.04	59	08.50 (AG04)	19.13			17.27	16.58	17.02
28	06.15		06.47 (AG06)	06.45		07.51 (AG04)	07.15			06.47	07.23	07.46
	20.43	24	07.11 (AG06)	20.03	59	08.50 (AG04)	19.12			17.26	16.58	17.03
29	06.16		06.47 (AG06)	06.46		07.51 (AG04)	07.16			06.48	07.24	07.46
	20.42	24	07.11 (AG06)	20.01	58	08.49 (AG04)	19.10			17.24	16.58	17.03
30	06.17		06.48 (AG06)	06.47		07.51 (AG04)	07.17			06.50	07.25	07.46
	20.41	23	07.11 (AG06)	20.00	58	08.49 (AG04)	19.08			17.23	16.57	17.04
31	06.18		06.48 (AG06)	06.48		07.51 (AG04)				06.51		07.46
	20.40	36	08.30 (AG04)	19.58	57	08.48 (AG04)				17.22		17.05
Potential sun hours	458			427			375			346	299	289
Total, worst case		941			1618			542				

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R15 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (176)

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		15.48 (AG014)	07.34		15.42 (AG015)	06.58		15.57 (AG015)	07.08	06.23	05.55
	17.06	38	16.40 (AG13)	17.40	72	16.54 (AG015)	18.13	46	16.43 (AG015)	19.47	20.18	20.47
2	07.47		15.49 (AG014)	07.33		15.42 (AG015)	06.57		15.59 (AG015)	07.07	06.22	05.54
	17.07	38	16.41 (AG13)	17.41	73	16.55 (AG015)	18.14	42	16.41 (AG015)	19.48	20.19	20.47
3	07.47		15.49 (AG014)	07.32		15.41 (AG015)	06.55		16.01 (AG015)	07.05	06.21	05.54
	17.08	41	16.42 (AG13)	17.42	73	16.54 (AG015)	18.16	38	16.39 (AG015)	19.49	20.20	20.48
4	07.47		15.50 (AG014)	07.31		15.41 (AG015)	06.54		16.03 (AG015)	07.03	06.19	05.54
	17.09	42	16.43 (AG13)	17.43	74	16.55 (AG015)	18.17	32	16.35 (AG015)	19.50	20.21	20.49
5	07.47		15.51 (AG014)	07.30		15.41 (AG015)	06.52		16.07 (AG015)	07.02	06.18	05.53
	17.09	44	16.44 (AG13)	17.45	74	16.55 (AG015)	18.18	26	16.33 (AG015)	19.51	20.22	20.50
6	07.47		15.52 (AG014)	07.29		15.41 (AG015)	06.51		16.11 (AG015)	07.00	06.17	05.53
	17.10	45	16.45 (AG13)	17.46	75	16.56 (AG015)	18.19	16	16.27 (AG015)	19.52	20.23	20.50
7	07.47		15.52 (AG015)	07.27		15.41 (AG015)	06.49			06.58	06.16	05.53
	17.11	48	16.46 (AG13)	17.47	75	16.56 (AG015)	18.20			19.53	20.24	20.51
8	07.47		15.51 (AG015)	07.26		15.41 (AG015)	06.47			06.57	06.15	05.52
	17.12	50	16.46 (AG13)	17.48	75	16.56 (AG015)	18.21			19.54	20.25	20.51
9	07.47		15.50 (AG015)	07.25		15.42 (AG015)	06.46			06.55	06.13	05.52
	17.13	55	16.48 (AG13)	17.50	75	16.57 (AG015)	18.22			19.55	20.26	20.52
10	07.46		15.50 (AG015)	07.24		15.42 (AG015)	06.44			06.54	06.12	05.52
	17.14	57	16.49 (AG13)	17.51	75	16.57 (AG015)	18.23			19.56	20.27	20.53
11	07.46		15.50 (AG015)	07.23		15.41 (AG015)	06.43			06.52	06.11	05.52
	17.15	59	16.50 (AG13)	17.52	75	16.56 (AG015)	18.24			19.57	20.28	20.53
12	07.46		15.49 (AG015)	07.22		15.42 (AG015)	06.41			06.51	06.10	05.52
	17.16	62	16.51 (AG13)	17.53	74	16.56 (AG015)	18.25			19.58	20.29	20.54
13	07.46		15.48 (AG015)	07.20		15.43 (AG015)	06.39			06.49	06.09	05.52
	17.18	64	16.52 (AG13)	17.54	73	16.56 (AG015)	18.27			19.59	20.30	20.54
14	07.45		15.47 (AG015)	07.19		15.43 (AG015)	06.38			06.47	06.08	05.52
	17.19	66	16.53 (AG13)	17.56	74	16.57 (AG015)	18.28			20.00	20.31	20.55
15	07.45		15.47 (AG015)	07.18		15.43 (AG015)	06.36			06.46	06.07	05.52
	17.20	68	16.55 (AG13)	17.57	73	16.56 (AG015)	18.29			20.01	20.32	20.55
16	07.45		15.47 (AG015)	07.17		15.44 (AG015)	06.35			06.44	06.06	05.52
	17.21	69	16.56 (AG13)	17.58	72	16.56 (AG015)	18.30			20.02	20.33	20.55
17	07.44		15.46 (AG015)	07.15		15.44 (AG015)	06.33			06.43	06.05	05.52
	17.22	71	16.57 (AG13)	17.59	72	16.56 (AG015)	18.31			20.03	20.34	20.56
18	07.44		15.45 (AG015)	07.14		15.44 (AG015)	06.31			06.41	06.04	05.52
	17.23	73	16.58 (AG13)	18.00	70	16.54 (AG015)	18.32			20.04	20.35	20.56
19	07.43		15.46 (AG015)	07.13		15.45 (AG015)	06.30			06.40	06.03	05.52
	17.24	73	16.59 (AG13)	18.02	69	16.54 (AG015)	18.33			20.05	20.36	20.56
20	07.43		15.45 (AG015)	07.11		15.46 (AG015)	06.28			06.38	06.03	05.52
	17.25	75	17.00 (AG13)	18.03	67	16.53 (AG015)	18.34			20.06	20.37	20.57
21	07.42		15.45 (AG015)	07.10		15.47 (AG015)	06.26			06.37	06.02	05.52
	17.27	77	17.02 (AG13)	18.04	66	16.53 (AG015)	18.35			20.07	20.38	20.57
22	07.41		15.44 (AG015)	07.09		15.48 (AG015)	06.25			06.35	06.01	05.52
	17.28	78	17.02 (AG13)	18.05	64	16.52 (AG015)	18.36			20.08	20.38	20.57
23	07.41		15.44 (AG015)	07.07		15.48 (AG015)	06.23			06.34	06.00	05.53
	17.29	77	17.01 (AG13)	18.06	63	16.51 (AG015)	18.37			20.09	20.39	20.57
24	07.40		15.44 (AG015)	07.06		15.50 (AG015)	06.21			06.33	06.00	05.53
	17.30	78	17.02 (AG13)	18.08	60	16.50 (AG015)	18.38			20.11	20.40	20.57
25	07.39		15.43 (AG015)	07.04		15.51 (AG015)	06.20			06.31	05.59	05.53
	17.31	78	17.01 (AG13)	18.09	58	16.49 (AG015)	18.39			20.12	20.41	20.58
26	07.39		15.43 (AG015)	07.03		15.52 (AG015)	06.18			06.30	05.58	05.53
	17.32	78	17.01 (AG13)	18.10	56	16.48 (AG015)	18.40			20.13	20.42	20.58
27	07.38		15.42 (AG015)	07.01		15.53 (AG015)	06.16			06.28	05.58	05.54
	17.34	78	17.00 (AG13)	18.11	53	16.46 (AG015)	18.41			20.14	20.43	20.58
28	07.37		15.42 (AG015)	07.00		15.55 (AG015)	06.15			06.27	05.57	05.54
	17.35	77	16.59 (AG13)	18.12	50	16.45 (AG015)	18.42			20.15	20.44	20.58
29	07.36		15.42 (AG015)				07.13			06.26	05.56	05.55
	17.36	75	16.57 (AG13)				19.43			20.16	20.44	20.58
30	07.35		15.41 (AG015)				07.12			06.24	05.56	05.55
	17.37	72	16.53 (AG13)				19.45			20.17	20.45	20.58
31	07.35		15.41 (AG015)				07.10				05.55	
	17.39	72	16.53 (AG015)				19.46				20.46	
Potential sun hours	299			298			370			398	447	451
Total, worst case		1978			1930			200				

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 25
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R15 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (176)

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	05.55		06.19		06.49		07.18			06.52		15.11 (AG015)	07.26		15.32 (AG015)
	20.58		20.39		19.57		19.07			17.21	75	16.26 (AG015)	16.57	60	16.33 (AG13)
2	05.56		06.20		06.50		07.19			06.53		15.10 (AG015)	07.27		15.33 (AG015)
	20.57		20.38		19.55		19.05			17.19	75	16.25 (AG015)	16.57	57	16.32 (AG13)
3	05.56		06.21		06.51		07.20			06.54		15.11 (AG015)	07.28		15.34 (AG015)
	20.57		20.37		19.53		19.03			17.18	75	16.26 (AG015)	16.56	55	16.32 (AG13)
4	05.57		06.22		06.52		07.21			06.55		15.11 (AG015)	07.29		15.36 (AG015)
	20.57		20.36		19.52		19.02			17.17	75	16.26 (AG015)	16.56	51	16.32 (AG13)
5	05.57		06.23		06.53		07.22			06.57		15.11 (AG015)	07.30		15.37 (AG015)
	20.57		20.35		19.50		19.00			17.16	74	16.25 (AG015)	16.56	48	16.31 (AG13)
6	05.58		06.24		06.54		07.23			06.58		15.11 (AG015)	07.31		15.38 (AG014)
	20.57		20.33		19.48		18.58			17.15	74	16.25 (AG015)	16.56	45	16.31 (AG13)
7	05.59		06.25		06.55		07.24		16.52 (AG015)	06.59		15.12 (AG015)	07.32		15.38 (AG014)
	20.56		20.32		19.47		18.57	6	16.58 (AG015)	17.14	74	16.26 (AG015)	16.56	44	16.31 (AG13)
8	05.59		06.26		06.56		07.26		16.44 (AG015)	07.00		15.12 (AG015)	07.33		15.37 (AG014)
	20.56		20.31		19.45		18.55	21	17.05 (AG015)	17.13	73	16.25 (AG015)	16.56	42	16.30 (AG13)
9	06.00		06.27		06.57		07.27		16.40 (AG015)	07.01		15.12 (AG015)	07.34		15.37 (AG014)
	20.56		20.30		19.44		18.54	30	17.10 (AG015)	17.12	73	16.25 (AG015)	16.56	41	16.30 (AG13)
10	06.01		06.28		06.58		07.28		16.37 (AG015)	07.02		15.13 (AG015)	07.35		15.38 (AG014)
	20.55		20.29		19.42		18.52	35	17.12 (AG015)	17.11	72	16.25 (AG015)	16.56	38	16.30 (AG13)
11	06.01		06.29		06.59		07.29		16.34 (AG015)	07.04		15.13 (AG015)	07.36		15.38 (AG014)
	20.55		20.27		19.40		18.50	40	17.14 (AG015)	17.10	72	16.25 (AG015)	16.56	39	16.31 (AG13)
12	06.02		06.30		07.00		07.30		16.31 (AG015)	07.05		15.13 (AG015)	07.36		15.38 (AG014)
	20.55		20.26		19.39		18.49	44	17.15 (AG015)	17.09	73	16.26 (AG13)	16.56	39	16.31 (AG13)
13	06.03		06.30		07.01		07.31		16.29 (AG015)	07.06		15.14 (AG015)	07.37		15.39 (AG014)
	20.54		20.25		19.37		18.47	48	17.17 (AG015)	17.08	75	16.29 (AG13)	16.56	38	16.31 (AG13)
14	06.03		06.31		07.02		07.32		16.27 (AG015)	07.07		15.15 (AG015)	07.38		15.38 (AG014)
	20.54		20.23		19.35		18.46	51	17.18 (AG015)	17.07	77	16.32 (AG13)	16.56	39	16.31 (AG13)
15	06.04		06.32		07.03		07.33		16.25 (AG015)	07.08		15.15 (AG015)	07.39		15.39 (AG014)
	20.53		20.22		19.34		18.44	54	17.19 (AG015)	17.06	78	16.33 (AG13)	16.57	37	16.31 (AG13)
16	06.05		06.33		07.04		07.34		16.23 (AG015)	07.09		15.16 (AG015)	07.39		15.40 (AG014)
	20.52		20.21		19.32		18.43	57	17.20 (AG015)	17.05	78	16.34 (AG13)	16.57	37	16.32 (AG13)
17	06.06		06.34		07.05		07.35		16.22 (AG015)	07.11		15.16 (AG015)	07.40		15.39 (AG014)
	20.52		20.19		19.30		18.41	59	17.21 (AG015)	17.04	78	16.34 (AG13)	16.57	37	16.31 (AG13)
18	06.07		06.35		07.06		07.36		16.21 (AG015)	07.12		15.17 (AG015)	07.41		15.40 (AG014)
	20.51		20.18		19.28		18.40	61	17.22 (AG015)	17.04	78	16.35 (AG13)	16.57	35	16.15 (AG014)
19	06.07		06.36		07.06		07.37		16.20 (AG015)	07.13		15.19 (AG015)	07.41		15.41 (AG014)
	20.50		20.16		19.27		18.38	63	17.23 (AG015)	17.03	77	16.36 (AG13)	16.58	35	16.16 (AG014)
20	06.08		06.37		07.07		07.38		16.18 (AG015)	07.14		15.19 (AG015)	07.42		15.41 (AG014)
	20.50		20.15		19.25		18.37	65	17.23 (AG015)	17.02	78	16.37 (AG13)	16.58	35	16.16 (AG014)
21	06.09		06.38		07.08		07.39		16.17 (AG015)	07.15		15.20 (AG015)	07.43		15.42 (AG014)
	20.49		20.13		19.23		18.35	67	17.24 (AG015)	17.02	77	16.37 (AG13)	16.59	35	16.17 (AG014)
22	06.10		06.39		07.09		07.41		16.16 (AG015)	07.16		15.21 (AG015)	07.43		15.42 (AG014)
	20.48		20.12		19.22		18.34	68	17.24 (AG015)	17.01	75	16.36 (AG13)	16.59	35	16.17 (AG014)
23	06.11		06.40		07.10		07.42		16.15 (AG015)	07.18		15.23 (AG015)	07.44		15.43 (AG014)
	20.47		20.10		19.20		18.33	69	17.24 (AG015)	17.00	73	16.36 (AG13)	17.00	35	16.18 (AG014)
24	06.12		06.41		07.11		07.43		16.15 (AG015)	07.19		15.23 (AG015)	07.44		15.43 (AG014)
	20.47		20.09		19.18		18.31	70	17.25 (AG015)	17.00	73	16.36 (AG13)	17.00	35	16.18 (AG014)
25	06.12		06.42		07.12		06.44		15.14 (AG015)	07.20		15.24 (AG015)	07.44		15.43 (AG014)
	20.46		20.07		19.17		17.30	71	16.25 (AG015)	16.59	71	16.35 (AG13)	17.01	35	16.18 (AG014)
26	06.13		06.43		07.13		06.45		15.13 (AG015)	07.21		15.25 (AG015)	07.45		15.44 (AG014)
	20.45		20.06		19.15		17.28	72	16.25 (AG015)	16.59	69	16.34 (AG13)	17.01	37	16.36 (AG13)
27	06.14		06.44		07.14		06.46		15.12 (AG015)	07.22		15.26 (AG015)	07.45		15.45 (AG014)
	20.44		20.04		19.13		17.27	73	16.25 (AG015)	16.58	68	16.34 (AG13)	17.02	36	16.36 (AG13)
28	06.15		06.45		07.15		06.47		15.12 (AG015)	07.23		15.27 (AG015)	07.46		15.45 (AG014)
	20.43		20.03		19.12		17.26	73	16.25 (AG015)	16.58	66	16.33 (AG13)	17.03	37	16.37 (AG13)
29	06.16		06.46		07.16		06.48		15.12 (AG015)	07.24		15.28 (AG015)	07.46		15.45 (AG014)
	20.42		20.01		19.10		17.24	74	16.26 (AG015)	16.58	64	16.32 (AG13)	17.03	37	16.37 (AG13)
30	06.17		06.47		07.17		06.50		15.12 (AG015)	07.25		15.31 (AG015)	07.46		15.47 (AG014)
	20.41		20.00		19.08		17.23	74	16.26 (AG015)	16.57	62	16.33 (AG13)	17.04	38	16.39 (AG13)
31	06.18		06.48				06.51		15.11 (AG015)				07.46		15.47 (AG014)
	20.40		19.58				17.22	75	16.26 (AG015)				17.05	39	16.40 (AG13)
Potential sun hours	458		427		375		346			299			289		
Total, worst case								1420			2202			1251	

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 26
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R16 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (183)

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	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	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	05.54	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	17.19	16.57
3	07.47	07.32	06.55	07.05	06.21	05.54	05.56	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	16.56
4	07.47	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29
	17.09	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57	07.30
	17.09	17.45	18.18	19.51	20.22	20.50	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	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.28	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32
	17.11	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	05.52	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	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
	17.16	17.53	18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.52	06.03	06.31	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	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	06.32	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	07.45	07.17	06.35	06.44	06.06	05.52	06.05	06.33	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	458	427	375	346	299	289
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:
Wpd_2020_06_22

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22/06/2020 15.45 / 27
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R17 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (184)

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 (AG015)	07.34			06.58			07.08		18.11 (AG04)	06.23		17.53 (AG04)	05.55		
	17.06	20	16.28 (AG015)	17.40			18.13			19.47	42	18.53 (AG04)	20.18	66	18.59 (AG04)	20.47		
2	07.47		16.09 (AG015)	07.33			06.57			07.07		18.09 (AG04)	06.22		17.54 (AG04)	05.54		
	17.07	18	16.27 (AG015)	17.41			18.14			19.48	45	18.54 (AG04)	20.19	64	18.58 (AG04)	20.47		
3	07.47		16.10 (AG015)	07.32			06.55			07.05		18.06 (AG04)	06.21		17.55 (AG04)	05.54		
	17.08	17	16.27 (AG015)	17.42			18.16			19.49	49	18.55 (AG04)	20.20	63	18.58 (AG04)	20.48		
4	07.47		16.11 (AG015)	07.31			06.54			07.03		18.05 (AG04)	06.19		17.56 (AG04)	05.54		
	17.09	16	16.27 (AG015)	17.43			18.17			19.50	52	18.57 (AG04)	20.21	61	18.57 (AG04)	20.49		
5	07.47		16.13 (AG015)	07.30			06.52			07.02		18.03 (AG04)	06.18		17.56 (AG04)	05.53		
	17.09	13	16.26 (AG015)	17.45			18.18			19.51	55	18.58 (AG04)	20.22	60	18.56 (AG04)	20.50		
6	07.47		16.15 (AG015)	07.29			06.51			07.00		18.01 (AG04)	06.17		17.56 (AG04)	05.53		
	17.10	11	16.26 (AG015)	17.46			18.19			19.52	57	18.58 (AG04)	20.23	59	18.55 (AG04)	20.50		
7	07.47		16.17 (AG015)	07.27			06.49			06.58		18.00 (AG04)	06.16		17.57 (AG04)	05.53		
	17.11	7	16.24 (AG015)	17.47			18.20			19.53	60	19.00 (AG04)	20.24	58	18.55 (AG04)	20.51		
8	07.47			07.26			06.47			06.57		17.59 (AG04)	06.15		17.58 (AG04)	05.52		
	17.12			17.48			18.21			19.54	61	19.00 (AG04)	20.25	56	18.54 (AG04)	20.51		
9	07.47			07.25			06.46			06.55		17.58 (AG04)	06.13		17.59 (AG04)	05.52		
	17.13			17.50			18.22			19.55	63	19.01 (AG04)	20.26	54	18.53 (AG04)	20.52		
10	07.46			07.24			06.44			06.54		17.57 (AG04)	06.12		18.00 (AG04)	05.52		
	17.14			17.51			18.23			19.56	65	19.02 (AG04)	20.27	52	18.52 (AG04)	20.53		
11	07.46			07.23			06.43			06.52		17.56 (AG04)	06.11		18.01 (AG04)	05.52		
	17.15			17.52			18.24			19.57	67	19.03 (AG04)	20.28	50	18.51 (AG04)	20.53		
12	07.46			07.22			06.41			06.51		17.55 (AG04)	06.10		18.02 (AG04)	05.52		
	17.16			17.53			18.25			19.58	67	19.02 (AG04)	20.29	48	18.50 (AG04)	20.54		
13	07.46			07.20			06.39			06.49		17.54 (AG04)	06.09		18.03 (AG04)	05.52		
	17.17			17.54			18.27			19.59	68	19.02 (AG04)	20.30	46	18.49 (AG04)	20.54		
14	07.45			07.19			06.38			06.47		17.54 (AG04)	06.08		18.04 (AG04)	05.52		
	17.19			17.56			18.28			20.00	69	19.03 (AG04)	20.31	44	18.48 (AG04)	20.55		
15	07.45			07.18			06.36			06.46		17.53 (AG04)	06.07		18.06 (AG04)	05.52		
	17.20			17.57			18.29			20.01	70	19.03 (AG04)	20.32	41	18.47 (AG04)	20.55		
16	07.45			07.17			06.35			06.44		17.53 (AG04)	06.06		18.07 (AG04)	05.52		
	17.21			17.58			18.30			20.02	70	19.03 (AG04)	20.33	39	18.46 (AG04)	20.55		
17	07.44			07.15			06.33			06.43		17.52 (AG04)	06.05		18.08 (AG04)	05.52		
	17.22			17.59			18.31			20.03	71	19.03 (AG04)	20.34	36	18.44 (AG04)	20.56		
18	07.44			07.14			06.31			06.41		17.52 (AG04)	06.04		18.11 (AG04)	05.52		
	17.23			18.00			18.32			20.04	71	19.03 (AG04)	20.35	33	18.44 (AG04)	20.56		
19	07.43			07.13			06.30			06.40		17.51 (AG04)	06.03		18.12 (AG04)	05.52		
	17.24			18.02			18.33			20.05	72	19.03 (AG04)	20.36	30	18.42 (AG04)	20.56		
20	07.43			07.11			06.28			06.38		17.52 (AG04)	06.03		18.14 (AG04)	05.52		
	17.25			18.03			18.34			20.06	71	19.03 (AG04)	20.37	26	18.40 (AG04)	20.57		
21	07.42			07.10			06.26			06.37		17.52 (AG04)	06.02		18.16 (AG04)	05.52		
	17.26			18.04			18.35			20.07	71	19.03 (AG04)	20.38	22	18.38 (AG04)	20.57		
22	07.41			07.09			06.25			06.35		17.51 (AG04)	06.01		18.19 (AG04)	05.52		
	17.28			18.05			18.36			20.08	71	19.02 (AG04)	20.38	17	18.36 (AG04)	20.57		
23	07.41			07.07			06.23			06.34		17.52 (AG04)	06.00		18.23 (AG04)	05.52		
	17.29			18.06			18.37			20.09	71	19.03 (AG04)	20.39	9	18.32 (AG04)	20.57		
24	07.40			07.06			06.21			06.33		17.51 (AG04)	06.00			05.53		
	17.30			18.08			18.38			20.11	71	19.02 (AG04)	20.40			20.57		
25	07.39			07.04			06.20			06.31		17.52 (AG04)	05.59			05.53		
	17.31			18.09			18.39			20.12	70	19.02 (AG04)	20.41			20.58		
26	07.39			07.03			06.18			06.30		17.52 (AG04)	05.58			05.53		
	17.32			18.10			18.40			20.13	70	19.02 (AG04)	20.42			20.58		
27	07.38			07.01			06.16			06.28		17.52 (AG04)	05.57			05.54		
	17.34			18.11			18.41			20.14	69	19.01 (AG04)	20.43			20.58		
28	07.37			07.00			06.15		17.30 (AG04)	06.27		17.52 (AG04)	05.57			05.54		
	17.35			18.12			18.42	6	17.36 (AG04)	20.15	68	19.00 (AG04)	20.44			20.58		
29	07.36						07.13		18.22 (AG04)	06.26		17.53 (AG04)	05.56			05.54		
	17.36						19.43	22	18.44 (AG04)	20.16	67	19.00 (AG04)	20.44			20.58		
30	07.35						07.11		18.17 (AG04)	06.24		17.53 (AG04)	05.56			05.55		
	17.37						19.45	31	18.48 (AG04)	20.17	66	18.59 (AG04)	20.45			20.58		
31	07.35						07.10		18.14 (AG04)				05.55					
	17.39						19.46	36	18.50 (AG04)				20.46					
Potential sun hours	299			298			370			398			447			451		
Total, worst case		102						95			1939			1034				

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 28
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R17 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (184)

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	05.55			06.19			18.12 (AG04)	06.49		17.55 (AG04)	07.18	06.52	07.26		
	20.58			20.39	49		19.01 (AG04)	19.57	67	19.02 (AG04)	19.07	17.21	16.57		
2	05.56			06.20			18.11 (AG04)	06.50		17.56 (AG04)	07.19	06.53	07.27		
	20.57			20.38	51		19.02 (AG04)	19.55	65	19.01 (AG04)	19.05	17.19	16.57		
3	05.56			06.21			18.10 (AG04)	06.51		17.55 (AG04)	07.20	06.54	07.28		
	20.57			20.37	53		19.03 (AG04)	19.53	63	18.58 (AG04)	19.03	17.18	16.56		
4	05.57			06.22			18.10 (AG04)	06.52		17.56 (AG04)	07.21	06.55	07.29		
	20.57			20.36	54		19.04 (AG04)	19.52	61	18.57 (AG04)	19.02	17.17	16.56		
5	05.57			06.23			18.08 (AG04)	06.53		17.56 (AG04)	07.22	06.57	07.30		16.02 (AG015)
	20.57			20.35	56		19.04 (AG04)	19.50	60	18.56 (AG04)	19.00	17.16	16.56	7	16.09 (AG015)
6	05.58			06.24			18.07 (AG04)	06.54		17.57 (AG04)	07.23	06.58	07.31		16.01 (AG015)
	20.57			20.33	58		19.05 (AG04)	19.48	58	18.55 (AG04)	18.58	17.15	16.56	11	16.12 (AG015)
7	05.59			06.25			18.06 (AG04)	06.55		17.58 (AG04)	07.24	06.59	07.32		16.00 (AG015)
	20.56			20.32	59		19.05 (AG04)	19.47	55	18.53 (AG04)	18.57	17.14	16.56	13	16.13 (AG015)
8	05.59			06.26			18.05 (AG04)	06.56		17.59 (AG04)	07.25	07.00	07.33		15.58 (AG015)
	20.56			20.31	61		19.06 (AG04)	19.45	52	18.51 (AG04)	18.55	17.13	16.56	16	16.14 (AG015)
9	06.00			06.27			18.04 (AG04)	06.57		18.00 (AG04)	07.27	07.01	07.34		15.58 (AG015)
	20.56			20.30	62		19.06 (AG04)	19.44	50	18.50 (AG04)	18.54	17.12	16.56	17	16.15 (AG015)
10	06.01			06.28			18.03 (AG04)	06.58		18.02 (AG04)	07.28	07.02	07.35		15.58 (AG015)
	20.55			20.29	64		19.07 (AG04)	19.42	46	18.48 (AG04)	18.52	17.11	16.56	18	16.16 (AG015)
11	06.01			06.29			18.03 (AG04)	06.59		18.03 (AG04)	07.29	07.04	07.36		15.58 (AG015)
	20.55			20.27	64		19.07 (AG04)	19.40	42	18.45 (AG04)	18.50	17.10	16.56	20	16.18 (AG015)
12	06.02			06.29			18.02 (AG04)	07.00		18.05 (AG04)	07.30	07.05	07.36		15.58 (AG015)
	20.55			20.26	66		19.08 (AG04)	19.39	37	18.42 (AG04)	18.49	17.09	16.56	21	16.19 (AG015)
13	06.03			06.30			18.01 (AG04)	07.01		18.08 (AG04)	07.31	07.06	07.37		15.59 (AG015)
	20.54			20.25	67		19.08 (AG04)	19.37	31	18.39 (AG04)	18.47	17.08	16.56	21	16.20 (AG015)
14	06.03			06.31			18.01 (AG04)	07.02		18.11 (AG04)	07.32	07.07	07.38		15.58 (AG015)
	20.54			20.23	67		19.08 (AG04)	19.35	24	18.35 (AG04)	18.46	17.07	16.56	22	16.20 (AG015)
15	06.04			06.32			18.00 (AG04)	07.03		18.18 (AG04)	07.33	07.08	07.39		15.58 (AG015)
	20.53			20.22	68		19.08 (AG04)	19.33	11	18.29 (AG04)	18.44	17.06	16.57	23	16.21 (AG015)
16	06.05			06.33			17.59 (AG04)	07.04			07.34	07.09	07.39		15.59 (AG015)
	20.52			20.21	69		19.08 (AG04)	19.32			18.43	17.05	16.57	23	16.22 (AG015)
17	06.06			06.34			17.59 (AG04)	07.05			07.35	07.11	07.40		15.58 (AG015)
	20.52			20.19	70		19.09 (AG04)	19.30			18.41	17.04	16.57	24	16.22 (AG015)
18	06.06			06.35			17.58 (AG04)	07.05			07.36	07.12	07.41		15.59 (AG015)
	20.51			20.18	71		19.09 (AG04)	19.28			18.40	17.04	16.57	24	16.23 (AG015)
19	06.07			06.36			17.58 (AG04)	07.06			07.37	07.13	07.41		16.00 (AG015)
	20.50			20.16	71		19.09 (AG04)	19.27			18.38	17.03	16.58	24	16.24 (AG015)
20	06.08			06.37			17.57 (AG04)	07.07			07.38	07.14	07.42		16.00 (AG015)
	20.50			20.15	70		19.07 (AG04)	19.25			18.37	17.02	16.58	24	16.24 (AG015)
21	06.09		18.31 (AG04)	06.38			17.56 (AG04)	07.08			07.39	07.15	07.43		16.01 (AG015)
	20.49	12	18.43 (AG04)	20.13	71		19.07 (AG04)	19.23			18.35	17.02	16.59	24	16.25 (AG015)
22	06.10		18.28 (AG04)	06.39			17.56 (AG04)	07.09			07.40	07.16	07.43		16.01 (AG015)
	20.48	19	18.47 (AG04)	20.12	71		19.07 (AG04)	19.22			18.34	17.01	16.59	24	16.25 (AG015)
23	06.11		18.25 (AG04)	06.40			17.56 (AG04)	07.10			07.42	07.18	07.44		16.02 (AG015)
	20.47	24	18.49 (AG04)	20.10	71		19.07 (AG04)	19.20			18.33	17.00	17.00	24	16.26 (AG015)
24	06.12		18.24 (AG04)	06.41			17.55 (AG04)	07.11			07.43	07.19	07.44		16.02 (AG015)
	20.47	27	18.51 (AG04)	20.09	71		19.06 (AG04)	19.18			18.31	17.00	17.00	24	16.26 (AG015)
25	06.12		18.22 (AG04)	06.42			17.55 (AG04)	07.12			06.44	07.20	07.44		16.02 (AG015)
	20.46	31	18.53 (AG04)	20.07	71		19.06 (AG04)	19.17			17.30	16.59	17.01	24	16.26 (AG015)
26	06.13		18.19 (AG04)	06.43			17.55 (AG04)	07.13			06.45	07.21	07.45		16.03 (AG015)
	20.45	35	18.54 (AG04)	20.06	71		19.06 (AG04)	19.15			17.28	16.59	17.01	24	16.27 (AG015)
27	06.14		18.18 (AG04)	06.44			17.55 (AG04)	07.14			06.46	07.22	07.45		16.04 (AG015)
	20.44	37	18.55 (AG04)	20.04	70		19.05 (AG04)	19.13			17.27	16.58	17.02	23	16.27 (AG015)
28	06.15		18.17 (AG04)	06.45			17.55 (AG04)	07.15			06.47	07.23	07.46		16.04 (AG015)
	20.43	40	18.57 (AG04)	20.03	70		19.05 (AG04)	19.12			17.26	16.58	17.03	23	16.27 (AG015)
29	06.16		18.16 (AG04)	06.46			17.55 (AG04)	07.16			06.48	07.24	07.46		16.05 (AG015)
	20.42	42	18.58 (AG04)	20.01	69		19.04 (AG04)	19.10			17.24	16.57	17.03	22	16.27 (AG015)
30	06.17		18.15 (AG04)	06.47			17.55 (AG04)	07.17			06.50	07.25	07.46		16.06 (AG015)
	20.41	44	18.59 (AG04)	20.00	68		19.03 (AG04)	19.08			17.23	16.57	17.04	22	16.28 (AG015)
31	06.18		18.13 (AG04)	06.48			17.55 (AG04)				06.51		07.46		16.07 (AG015)
	20.40	47	19.00 (AG04)	19.58	67		19.02 (AG04)				17.22		17.05	21	16.28 (AG015)
Potential sun hours	458			427			375				346	299	289		
Total, worst case		358			2020			722						563	

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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.45 / 29

Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R18 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (203)

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		10.00 (AG06)	07.34	06.58	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52			07.26		09.50 (AG06)
	17.06	49	10.49 (AG06)	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21			16.57	42	10.32 (AG06)
2	07.47		10.01 (AG06)	07.33	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	06.53			07.27		09.49 (AG06)
	17.07	48	10.49 (AG06)	17.41	18.14	19.48	20.19	20.48	20.58	20.38	19.55	19.05	17.19			16.57	44	10.33 (AG06)
3	07.47		10.02 (AG06)	07.32	06.55	07.05	06.21	05.54	05.56	06.21	06.51	07.20	06.54			07.28		09.49 (AG06)
	17.08	47	10.49 (AG06)	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18			16.56	44	10.33 (AG06)
4	07.47		10.02 (AG06)	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55			07.29		09.49 (AG06)
	17.09	47	10.49 (AG06)	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17			16.56	45	10.34 (AG06)
5	07.47		10.03 (AG06)	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57			07.30		09.50 (AG06)
	17.09	47	10.50 (AG06)	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16			16.56	45	10.35 (AG06)
6	07.47		10.04 (AG06)	07.29	06.51	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58			07.31		09.50 (AG06)
	17.10	46	10.50 (AG06)	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15			16.56	46	10.36 (AG06)
7	07.47		10.04 (AG06)	07.28	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59			07.32		09.50 (AG06)
	17.11	46	10.50 (AG06)	17.47	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14			16.56	47	10.37 (AG06)
8	07.47		10.04 (AG06)	07.26	06.47	06.57	06.15	05.52	05.59	06.26	06.56	07.25	07.00			07.33		09.49 (AG06)
	17.12	45	10.49 (AG06)	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13			16.56	47	10.36 (AG06)
9	07.47		10.05 (AG06)	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01			07.34		09.50 (AG06)
	17.13	44	10.49 (AG06)	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12			16.56	47	10.37 (AG06)
10	07.46		10.06 (AG06)	07.24	06.44	06.54	06.12	05.52	06.01	06.28	06.58	07.28	07.02			07.35		09.50 (AG06)
	17.14	44	10.50 (AG06)	17.51	18.23	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11			16.56	48	10.38 (AG06)
11	07.46		10.07 (AG06)	07.23	06.43	06.52	06.11	05.52	06.01	06.28	06.59	07.29	07.04			07.36		09.50 (AG06)
	17.15	43	10.50 (AG06)	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10			16.56	49	10.39 (AG06)
12	07.46		10.08 (AG06)	07.22	06.41	06.51	06.10	05.52	06.02	06.29	07.00	07.30	07.05			07.36		09.51 (AG06)
	17.16	41	10.49 (AG06)	17.53	18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09			16.56	48	10.39 (AG06)
13	07.46		10.09 (AG06)	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06			07.37		09.52 (AG06)
	17.17	40	10.49 (AG06)	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08			16.56	48	10.40 (AG06)
14	07.45		10.09 (AG06)	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07			07.38		09.51 (AG06)
	17.19	39	10.48 (AG06)	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07			16.56	49	10.40 (AG06)
15	07.45		10.11 (AG06)	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.03	07.33	07.08			07.39		09.52 (AG06)
	17.20	37	10.48 (AG06)	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06			16.56	49	10.41 (AG06)
16	07.45		10.12 (AG06)	07.17	06.35	06.44	06.06	05.51	06.05	06.33	07.04	07.34	07.09			07.39		09.53 (AG06)
	17.21	36	10.48 (AG06)	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.05			16.57	49	10.42 (AG06)
17	07.44		10.13 (AG06)	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11			07.40		09.52 (AG06)
	17.22	34	10.47 (AG06)	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04			16.57	50	10.42 (AG06)
18	07.44		10.15 (AG06)	07.14	06.31	06.41	06.04	05.52	06.06	06.35	07.05	07.36	07.12			07.41		09.53 (AG06)
	17.23	31	10.46 (AG06)	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04			16.57	50	10.43 (AG06)
19	07.43		10.16 (AG06)	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	07.37	07.13		10.01 (AG06)	07.41		09.54 (AG06)
	17.24	29	10.45 (AG06)	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03	9	10.10 (AG06)	16.58	50	10.44 (AG06)
20	07.43		10.17 (AG06)	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14		09.57 (AG06)	07.42		09.54 (AG06)
	17.25	26	10.43 (AG06)	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	17	10.14 (AG06)	16.58	49	10.43 (AG06)
21	07.42		10.20 (AG06)	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15		09.55 (AG06)	07.43		09.55 (AG06)
	17.26	22	10.42 (AG06)	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	22	10.17 (AG06)	16.59	49	10.44 (AG06)
22	07.41		10.22 (AG06)	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.41	07.16		09.53 (AG06)	07.43		09.55 (AG06)
	17.28	17	10.39 (AG06)	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	26	10.19 (AG06)	16.59	49	10.44 (AG06)
23	07.41		10.26 (AG06)	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.18		09.53 (AG06)	07.44		09.56 (AG06)
	17.29	9	10.35 (AG06)	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.00	29	10.22 (AG06)	17.00	49	10.45 (AG06)
24	07.40			07.06	06.21	06.33	05.59	05.53	06.12	06.41	07.11	07.43	07.19		09.52 (AG06)	07.44		09.56 (AG06)
	17.30			18.07	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	31	10.23 (AG06)	17.00	50	10.46 (AG06)
25	07.39			07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20		09.51 (AG06)	07.44		09.56 (AG06)
	17.31			18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	34	10.25 (AG06)	17.01	50	10.46 (AG06)
26	07.39			07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21		09.50 (AG06)	07.45		09.57 (AG06)
	17.32			18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	36	10.26 (AG06)	17.01	50	10.47 (AG06)
27	07.38			07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22		09.50 (AG06)	07.45		09.57 (AG06)
	17.34			18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	37	10.27 (AG06)	17.02	50	10.47 (AG06)
28	07.37			07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23		09.49 (AG06)	07.46		09.58 (AG06)
	17.35			18.12	18.42	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	39	10.28 (AG06)	17.03	49	10.47 (AG06)
29	07.36				07.13	06.26	05.56	05.54	06.16	06.46	07.16	06.48	07.24		09.49 (AG06)	07.46		09.58 (AG06)
	17.36				19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	40	10.29 (AG06)	17.03	49	10.47 (AG06)
30	07.35				07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25		09.50 (AG06)	07.46		09.59 (AG06)
	17.37				19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	41	10.31 (AG06)	17.04	49	10.48 (AG06)
31	07.35				07.10		05.55		06.18	06.48		06.51				07.46		10.00 (AG06)
	17.39				19.46		20.46		20.40	19.58		17.22				17.05	48	10.48 (AG06)
Potential sun hours	299			298	370	398	447	451	458	427	375	346	299			289		
Total, worst case		867												361			1488	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R19 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (181)

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	07.46	07.34			06.58		17.25 (AG015)	07.08			06.23		18.57 (AG04)	05.55
	17.06	17.40			18.13	13	17.38 (AG015)	19.47			20.18	24	19.21 (AG04)	20.47
2	07.47	07.33			06.57		17.28 (AG015)	07.07			06.22		18.58 (AG04)	05.54
	17.07	17.41			18.14	7	17.35 (AG015)	19.48			20.19	23	19.21 (AG04)	20.47
3	07.47	07.32			06.55			07.05			06.20		18.59 (AG04)	05.54
	17.08	17.42			18.15			19.49			20.20	21	19.20 (AG04)	20.48
4	07.47	07.31			06.54			07.03			06.19		19.00 (AG04)	05.54
	17.09	17.43			18.17			19.50			20.21	19	19.19 (AG04)	20.49
5	07.47	07.30			06.52			07.02			06.18		19.01 (AG04)	05.53
	17.09	17.45			18.18			19.51			20.22	16	19.17 (AG04)	20.50
6	07.47	07.29			06.51			07.00			06.17		19.03 (AG04)	05.53
	17.10	17.46			18.19			19.52			20.23	12	19.15 (AG04)	20.50
7	07.47	07.27			06.49			06.58			06.16		19.06 (AG04)	05.53
	17.11	17.47			18.20			19.53			20.24	6	19.12 (AG04)	20.51
8	07.47	07.26			06.47			06.57			06.15			05.52
	17.12	17.48			18.21			19.54			20.25			20.51
9	07.46	07.25			06.46			06.55			06.13			05.52
	17.13	17.50			18.22			19.55			20.26			20.52
10	07.46	07.24			06.44			06.54			06.12			05.52
	17.14	17.51			18.23			19.56			20.27			20.53
11	07.46	07.23			06.43			06.52			06.11			05.52
	17.15	17.52			18.24			19.57			20.28			20.53
12	07.46	07.22			06.41			06.50			06.10			05.52
	17.16	17.53			18.25			19.58			20.29			20.54
13	07.46	07.20			06.39			06.49			06.09			05.52
	17.17	17.54			18.27			19.59			20.30			20.54
14	07.45	07.19			06.38			06.47			06.08			05.51
	17.19	17.56			18.28			20.00			20.31			20.55
15	07.45	07.18			06.36			06.46			06.07			05.51
	17.20	17.57			18.29			20.01			20.32			20.55
16	07.45	07.17			06.35			06.44			06.06			05.51
	17.21	17.58			18.30			20.02			20.33			20.55
17	07.44	07.15			06.33			06.43		19.07 (AG04)	06.05			05.52
	17.22	17.59			18.31			20.03	9	19.16 (AG04)	20.34			20.56
18	07.44	07.14		17.27 (AG015)	06.31			06.41		19.05 (AG04)	06.04			05.52
	17.23	18.00	10	17.37 (AG015)	18.32			20.04	14	19.19 (AG04)	20.35			20.56
19	07.43	07.13		17.26 (AG015)	06.30			06.40		19.02 (AG04)	06.03			05.52
	17.24	18.02	13	17.39 (AG015)	18.33			20.05	18	19.20 (AG04)	20.36			20.56
20	07.43	07.11		17.24 (AG015)	06.28			06.38		19.01 (AG04)	06.03			05.52
	17.25	18.03	16	17.40 (AG015)	18.34			20.06	21	19.22 (AG04)	20.37			20.57
21	07.42	07.10		17.23 (AG015)	06.26			06.37		19.00 (AG04)	06.02			05.52
	17.26	18.04	18	17.41 (AG015)	18.35			20.07	23	19.23 (AG04)	20.38			20.57
22	07.41	07.08		17.23 (AG015)	06.25			06.35		18.59 (AG04)	06.01			05.52
	17.28	18.05	19	17.42 (AG015)	18.36			20.08	24	19.23 (AG04)	20.38			20.57
23	07.41	07.07		17.22 (AG015)	06.23			06.34		18.58 (AG04)	06.00			05.52
	17.29	18.06	20	17.42 (AG015)	18.37			20.09	26	19.24 (AG04)	20.39			20.57
24	07.40	07.06		17.22 (AG015)	06.21			06.33		18.57 (AG04)	05.59			05.53
	17.30	18.07	20	17.42 (AG015)	18.38			20.10	26	19.23 (AG04)	20.40			20.57
25	07.39	07.04		17.22 (AG015)	06.20			06.31		18.57 (AG04)	05.59			05.53
	17.31	18.09	20	17.42 (AG015)	18.39			20.12	27	19.24 (AG04)	20.41			20.58
26	07.39	07.03		17.23 (AG015)	06.18			06.30		18.57 (AG04)	05.58			05.53
	17.32	18.10	19	17.42 (AG015)	18.40			20.13	27	19.24 (AG04)	20.42			20.58
27	07.38	07.01		17.23 (AG015)	06.16			06.28		18.56 (AG04)	05.57			05.54
	17.34	18.11	17	17.40 (AG015)	18.41			20.14	27	19.23 (AG04)	20.43			20.58
28	07.37	07.00		17.24 (AG015)	06.15			06.27		18.57 (AG04)	05.57			05.54
	17.35	18.12	16	17.40 (AG015)	18.42			20.15	26	19.23 (AG04)	20.44			20.58
29	07.36				07.13			06.26		18.57 (AG04)	05.56			05.54
	17.36				19.43			20.16	26	19.23 (AG04)	20.44			20.58
30	07.35				07.11			06.24		18.57 (AG04)	05.56			05.55
	17.37				19.44			20.17	25	19.22 (AG04)	20.45			20.58
31	07.34				07.10						05.55			
	17.39				19.46						20.46			
Potential sun hours	299	298			370			398			447			451
Total, worst case			188			20			319			121		

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R19 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (181)

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	05.55	06.19			06.49	07.18			06.52	07.26
	20.58	20.39			19.56	19.07			17.21	16.57
2	05.56	06.20			06.50	07.19			06.53	07.27
	20.57	20.38			19.55	19.05			17.19	16.57
3	05.56	06.21			06.51	07.20			06.54	07.28
	20.57	20.37			19.53	19.03			17.18	16.56
4	05.57	06.22			06.52	07.21			06.55	07.29
	20.57	20.36			19.52	19.02			17.17	16.56
5	05.57	06.23			06.53	07.22			06.56	07.30
	20.57	20.35			19.50	19.00			17.16	16.56
6	05.58	06.24		19.14 (AG04)	06.54	07.23			06.58	07.31
	20.57	20.33	9	19.23 (AG04)	19.48	18.58			17.15	16.56
7	05.59	06.25		19.12 (AG04)	06.55	07.24			06.59	07.32
	20.56	20.32	13	19.25 (AG04)	19.47	18.57			17.14	16.56
8	05.59	06.26		19.10 (AG04)	06.56	07.25			07.00	07.33
	20.56	20.31	17	19.27 (AG04)	19.45	18.55			17.13	16.56
9	06.00	06.27		19.09 (AG04)	06.57	07.26			07.01	07.34
	20.56	20.30	19	19.28 (AG04)	19.43	18.54			17.12	16.56
10	06.01	06.27		19.08 (AG04)	06.58	07.28			07.02	07.35
	20.55	20.28	21	19.29 (AG04)	19.42	18.52			17.11	16.56
11	06.01	06.28		19.07 (AG04)	06.59	07.29			07.04	07.36
	20.55	20.27	23	19.30 (AG04)	19.40	18.50			17.10	16.56
12	06.02	06.29		19.06 (AG04)	07.00	07.30		18.00 (AG015)	07.05	07.36
	20.54	20.26	24	19.30 (AG04)	19.38	18.49	10	18.10 (AG015)	17.09	16.56
13	06.03	06.30		19.05 (AG04)	07.01	07.31		17.57 (AG015)	07.06	07.37
	20.54	20.25	26	19.31 (AG04)	19.37	18.47	15	18.12 (AG015)	17.08	16.56
14	06.03	06.31		19.05 (AG04)	07.02	07.32		17.56 (AG015)	07.07	07.38
	20.53	20.23	26	19.31 (AG04)	19.35	18.46	17	18.13 (AG015)	17.07	16.56
15	06.04	06.32		19.04 (AG04)	07.03	07.33		17.55 (AG015)	07.08	07.39
	20.53	20.22	27	19.31 (AG04)	19.33	18.44	18	18.13 (AG015)	17.06	16.56
16	06.05	06.33		19.04 (AG04)	07.04	07.34		17.54 (AG015)	07.09	07.39
	20.52	20.21	27	19.31 (AG04)	19.32	18.43	19	18.13 (AG015)	17.05	16.57
17	06.06	06.34		19.04 (AG04)	07.04	07.35		17.53 (AG015)	07.11	07.40
	20.52	20.19	27	19.31 (AG04)	19.30	18.41	20	18.13 (AG015)	17.04	16.57
18	06.06	06.35		19.04 (AG04)	07.05	07.36		17.53 (AG015)	07.12	07.41
	20.51	20.18	27	19.31 (AG04)	19.28	18.40	20	18.13 (AG015)	17.04	16.57
19	06.07	06.36		19.03 (AG04)	07.06	07.37		17.54 (AG015)	07.13	07.41
	20.50	20.16	26	19.29 (AG04)	19.27	18.38	19	18.13 (AG015)	17.03	16.58
20	06.08	06.37		19.03 (AG04)	07.07	07.38		17.54 (AG015)	07.14	07.42
	20.50	20.15	26	19.29 (AG04)	19.25	18.37	19	18.13 (AG015)	17.02	16.58
21	06.09	06.38		19.03 (AG04)	07.08	07.39		17.54 (AG015)	07.15	07.42
	20.49	20.13	25	19.28 (AG04)	19.23	18.35	18	18.12 (AG015)	17.02	16.59
22	06.10	06.39		19.04 (AG04)	07.09	07.40		17.55 (AG015)	07.16	07.43
	20.48	20.12	23	19.27 (AG04)	19.22	18.34	15	18.10 (AG015)	17.01	16.59
23	06.11	06.40		19.05 (AG04)	07.10	07.42		17.56 (AG015)	07.17	07.44
	20.47	20.10	21	19.26 (AG04)	19.20	18.32	13	18.09 (AG015)	17.00	17.00
24	06.12	06.41		19.06 (AG04)	07.11	07.43		17.58 (AG015)	07.19	07.44
	20.47	20.09	18	19.24 (AG04)	19.18	18.31	8	18.06 (AG015)	17.00	17.00
25	06.12	06.42		19.08 (AG04)	07.12	06.44			07.20	07.44
	20.46	20.07	14	19.22 (AG04)	19.17	17.30			16.59	17.01
26	06.13	06.43		19.10 (AG04)	07.13	06.45			07.21	07.45
	20.45	20.06	9	19.19 (AG04)	19.15	17.28			16.59	17.01
27	06.14	06.44			07.14	06.46			07.22	07.45
	20.44	20.04			19.13	17.27			16.58	17.02
28	06.15	06.45			07.15	06.47			07.23	07.45
	20.43	20.03			19.12	17.26			16.58	17.03
29	06.16	06.46			07.16	06.48			07.24	07.46
	20.42	20.01			19.10	17.24			16.57	17.03
30	06.17	06.47			07.17	06.50			07.25	07.46
	20.41	20.00			19.08	17.23			16.57	17.04
31	06.18	06.48				06.51				07.46
	20.40	19.58				17.22				17.05
Potential sun hours	458	427			375	346			299	289
Total, worst case			448				211			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R20 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (182)

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	07.46		07.34			06.58		17.27 (AG015)	07.08			06.23		18.58 (AG04)	05.55
	17.06		17.40			18.13	6	17.33 (AG015)	19.47			20.18	18	19.16 (AG04)	20.47
2	07.47		07.33			06.57			07.07			06.22		18.59 (AG04)	05.54
	17.07		17.41			18.14			19.48			20.19	16	19.15 (AG04)	20.47
3	07.47		07.32			06.55			07.05			06.20		19.01 (AG04)	05.54
	17.08		17.42			18.15			19.49			20.20	12	19.13 (AG04)	20.48
4	07.47		07.31			06.54			07.03			06.19		19.06 (AG04)	05.53
	17.09		17.43			18.17			19.50			20.21	3	19.09 (AG04)	20.49
5	07.47		07.30			06.52			07.02			06.18			05.53
	17.09		17.45			18.18			19.51			20.22			20.50
6	07.47		07.29			06.51			07.00			06.17			05.53
	17.10		17.46			18.19			19.52			20.23			20.50
7	07.47		07.27			06.49			06.58			06.16			05.53
	17.11		17.47			18.20			19.53			20.24			20.51
8	07.47		07.26			06.47			06.57			06.15			05.52
	17.12		17.48			18.21			19.54			20.25			20.51
9	07.46		07.25			06.46			06.55			06.13			05.52
	17.13		17.50			18.22			19.55			20.26			20.52
10	07.46		07.24			06.44			06.54			06.12			05.52
	17.14		17.51			18.23			19.56			20.27			20.53
11	07.46		07.23			06.43			06.52			06.11			05.52
	17.15		17.52			18.24			19.57			20.28			20.53
12	07.46		07.22			06.41			06.50			06.10			05.52
	17.16		17.53			18.25			19.58			20.29			20.54
13	07.46		07.20			06.39			06.49			06.09			05.52
	17.17		17.54			18.27			19.59			20.30			20.54
14	07.45		07.19			06.38			06.47			06.08			05.51
	17.19		17.56			18.28			20.00			20.31			20.55
15	07.45		07.18			06.36			06.46		19.04 (AG04)	06.07			05.51
	17.20		17.57			18.29			20.01	12	19.16 (AG04)	20.32			20.55
16	07.45		07.17		17.30 (AG015)	06.35			06.44		19.02 (AG04)	06.06			05.51
	17.21		17.58	2	17.32 (AG015)	18.30			20.02	16	19.18 (AG04)	20.33			20.55
17	07.44		07.15		17.25 (AG015)	06.33			06.43		18.59 (AG04)	06.05			05.52
	17.22		17.59	11	17.36 (AG015)	18.31			20.03	20	19.19 (AG04)	20.34			20.56
18	07.44		07.14		17.24 (AG015)	06.31			06.41		18.58 (AG04)	06.04			05.52
	17.23		18.00	14	17.38 (AG015)	18.32			20.04	22	19.20 (AG04)	20.35			20.56
19	07.43		07.13		17.23 (AG015)	06.30			06.40		18.57 (AG04)	06.03			05.52
	17.24		18.02	16	17.39 (AG015)	18.33			20.05	23	19.20 (AG04)	20.36			20.56
20	07.43		07.11		17.22 (AG015)	06.28			06.38		18.56 (AG04)	06.03			05.52
	17.25		18.03	18	17.40 (AG015)	18.34			20.06	25	19.21 (AG04)	20.37			20.57
21	07.42		07.10		17.21 (AG015)	06.26			06.37		18.56 (AG04)	06.02			05.52
	17.26		18.04	19	17.40 (AG015)	18.35			20.07	26	19.22 (AG04)	20.38			20.57
22	07.41		07.08		17.21 (AG015)	06.25			06.35		18.55 (AG04)	06.01			05.52
	17.28		18.05	20	17.41 (AG015)	18.36			20.08	27	19.22 (AG04)	20.38			20.57
23	07.41		07.07		17.21 (AG015)	06.23			06.34		18.55 (AG04)	06.00			05.52
	17.29		18.06	19	17.40 (AG015)	18.37			20.09	27	19.22 (AG04)	20.39			20.57
24	07.40		07.06		17.21 (AG015)	06.21			06.33		18.54 (AG04)	05.59			05.53
	17.30		18.07	20	17.41 (AG015)	18.38			20.10	27	19.21 (AG04)	20.40			20.57
25	07.39		07.04		17.21 (AG015)	06.20			06.31		18.55 (AG04)	05.59			05.53
	17.31		18.09	19	17.40 (AG015)	18.39			20.12	26	19.21 (AG04)	20.41			20.58
26	07.39		07.03		17.22 (AG015)	06.18			06.30		18.55 (AG04)	05.58			05.53
	17.32		18.10	17	17.39 (AG015)	18.40			20.13	26	19.21 (AG04)	20.42			20.58
27	07.38		07.01		17.23 (AG015)	06.16			06.28		18.55 (AG04)	05.57			05.54
	17.34		18.11	15	17.38 (AG015)	18.41			20.14	25	19.20 (AG04)	20.43			20.58
28	07.37		07.00		17.24 (AG015)	06.15			06.27		18.55 (AG04)	05.57			05.54
	17.35		18.12	12	17.36 (AG015)	18.42			20.15	24	19.19 (AG04)	20.44			20.58
29	07.36					07.13			06.26		18.56 (AG04)	05.56			05.54
	17.36					19.43			20.16	23	19.19 (AG04)	20.44			20.58
30	07.35					07.11			06.24		18.56 (AG04)	05.56			05.55
	17.37					19.44			20.17	21	19.17 (AG04)	20.45			20.58
31	07.34					07.10						05.55			
	17.39					19.46						20.46			
Potential sun hours	299		298			370			398			447			451
Total, worst case				202			6			370			49		

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R20 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (182)

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	05.55	06.19			06.49	07.18			06.52	07.26
	20.58	20.39			19.56	19.07			17.21	16.57
2	05.56	06.20			06.50	07.19			06.53	07.27
	20.57	20.38			19.55	19.05			17.19	16.57
3	05.56	06.21			06.51	07.20			06.54	07.28
	20.57	20.37			19.53	19.03			17.18	16.56
4	05.57	06.22			06.52	07.21			06.55	07.29
	20.57	20.36			19.52	19.02			17.17	16.56
5	05.57	06.23			06.53	07.22			06.56	07.30
	20.57	20.35			19.50	19.00			17.16	16.56
6	05.58	06.24			06.54	07.23			06.58	07.31
	20.57	20.33			19.48	18.58			17.15	16.56
7	05.59	06.25			06.55	07.24			06.59	07.32
	20.56	20.32			19.47	18.57			17.14	16.56
8	05.59	06.26			06.56	07.25			07.00	07.33
	20.56	20.31			19.45	18.55			17.13	16.56
9	06.00	06.27		19.13 (AG04)	06.57	07.26			07.01	07.34
	20.56	20.30	6	19.19 (AG04)	19.43	18.54			17.12	16.56
10	06.01	06.27		19.09 (AG04)	06.58	07.28			07.02	07.35
	20.55	20.28	13	19.22 (AG04)	19.42	18.52			17.11	16.56
11	06.01	06.28		19.08 (AG04)	06.59	07.29			07.04	07.36
	20.55	20.27	16	19.24 (AG04)	19.40	18.50			17.10	16.56
12	06.02	06.29		19.06 (AG04)	07.00	07.30			07.05	07.36
	20.54	20.26	19	19.25 (AG04)	19.38	18.49			17.09	16.56
13	06.03	06.30		19.05 (AG04)	07.01	07.31		17.59 (AG015)	07.06	07.37
	20.54	20.25	21	19.26 (AG04)	19.37	18.47	9	18.08 (AG015)	17.08	16.56
14	06.03	06.31		19.04 (AG04)	07.02	07.32		17.56 (AG015)	07.07	07.38
	20.53	20.23	23	19.27 (AG04)	19.35	18.46	13	18.09 (AG015)	17.07	16.56
15	06.04	06.32		19.03 (AG04)	07.03	07.33		17.55 (AG015)	07.08	07.39
	20.53	20.22	24	19.27 (AG04)	19.33	18.44	15	18.10 (AG015)	17.06	16.56
16	06.05	06.33		19.02 (AG04)	07.04	07.34		17.53 (AG015)	07.09	07.39
	20.52	20.21	26	19.28 (AG04)	19.32	18.43	18	18.11 (AG015)	17.05	16.57
17	06.06	06.34		19.02 (AG04)	07.04	07.35		17.52 (AG015)	07.11	07.40
	20.52	20.19	26	19.28 (AG04)	19.30	18.41	19	18.11 (AG015)	17.04	16.57
18	06.06	06.35		19.01 (AG04)	07.05	07.36		17.52 (AG015)	07.12	07.41
	20.51	20.18	27	19.28 (AG04)	19.28	18.40	19	18.11 (AG015)	17.04	16.57
19	06.07	06.36		19.00 (AG04)	07.06	07.37		17.52 (AG015)	07.13	07.41
	20.50	20.16	27	19.27 (AG04)	19.27	18.38	20	18.12 (AG015)	17.03	16.58
20	06.08	06.37		19.00 (AG04)	07.07	07.38		17.52 (AG015)	07.14	07.42
	20.50	20.15	27	19.27 (AG04)	19.25	18.37	20	18.12 (AG015)	17.02	16.58
21	06.09	06.38		19.00 (AG04)	07.08	07.39		17.52 (AG015)	07.15	07.42
	20.49	20.13	26	19.26 (AG04)	19.23	18.35	19	18.11 (AG015)	17.02	16.59
22	06.10	06.39		19.00 (AG04)	07.09	07.40		17.52 (AG015)	07.16	07.43
	20.48	20.12	26	19.26 (AG04)	19.22	18.34	18	18.10 (AG015)	17.01	16.59
23	06.11	06.40		19.00 (AG04)	07.10	07.42		17.53 (AG015)	07.17	07.44
	20.47	20.10	25	19.25 (AG04)	19.20	18.32	16	18.09 (AG015)	17.00	17.00
24	06.12	06.41		19.01 (AG04)	07.11	07.43		17.54 (AG015)	07.19	07.44
	20.47	20.09	23	19.24 (AG04)	19.18	18.31	13	18.07 (AG015)	17.00	17.00
25	06.12	06.42		19.01 (AG04)	07.12	06.44		16.57 (AG015)	07.20	07.44
	20.46	20.07	22	19.23 (AG04)	19.17	17.30	9	17.06 (AG015)	16.59	17.01
26	06.13	06.43		19.02 (AG04)	07.13	06.45			07.21	07.45
	20.45	20.06	20	19.22 (AG04)	19.15	17.28			16.59	17.01
27	06.14	06.44		19.04 (AG04)	07.14	06.46			07.22	07.45
	20.44	20.04	16	19.20 (AG04)	19.13	17.27			16.58	17.02
28	06.15	06.45		19.06 (AG04)	07.15	06.47			07.23	07.45
	20.43	20.03	11	19.17 (AG04)	19.12	17.26			16.58	17.03
29	06.16	06.46			07.16	06.48			07.24	07.46
	20.42	20.01			19.10	17.24			16.57	17.03
30	06.17	06.47			07.17	06.50			07.25	07.46
	20.41	20.00			19.08	17.23			16.57	17.04
31	06.18	06.48				06.51				07.46
	20.40	19.58				17.22				17.05
Potential sun hours	458	427			375	346			299	289
Total, worst case			424				208			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R21 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (180)

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	07.46	07.34		06.58		17.26 (AG015)	07.08		19.02 (AG04)	05.55
	17.06	17.40		18.13	19	17.45 (AG015)	19.47	20.18	26 19.28 (AG04)	20.47
2	07.47	07.33		06.57		17.27 (AG015)	07.07	06.22	19.02 (AG04)	05.54
	17.07	17.41		18.14	18	17.45 (AG015)	19.48	20.19	27 19.29 (AG04)	20.47
3	07.47	07.32		06.55		17.27 (AG015)	07.05	06.20	19.02 (AG04)	05.54
	17.08	17.42		18.15	16	17.43 (AG015)	19.49	20.20	27 19.29 (AG04)	20.48
4	07.47	07.31		06.54		17.28 (AG015)	07.03	06.19	19.02 (AG04)	05.54
	17.09	17.43		18.17	14	17.42 (AG015)	19.50	20.21	26 19.28 (AG04)	20.49
5	07.47	07.30		06.52		17.30 (AG015)	07.02	06.18	19.02 (AG04)	05.53
	17.09	17.45		18.18	10	17.40 (AG015)	19.51	20.22	25 19.27 (AG04)	20.50
6	07.47	07.29		06.51			07.00	06.17	19.02 (AG04)	05.53
	17.10	17.46		18.19			19.52	20.23	25 19.27 (AG04)	20.50
7	07.47	07.27		06.49			06.58	06.16	19.03 (AG04)	05.53
	17.11	17.47		18.20			19.53	20.24	23 19.26 (AG04)	20.51
8	07.47	07.26		06.47			06.57	06.15	19.04 (AG04)	05.52
	17.12	17.48		18.21			19.54	20.25	22 19.26 (AG04)	20.51
9	07.46	07.25		06.46			06.55	06.13	19.05 (AG04)	05.52
	17.13	17.50		18.22			19.55	20.26	20 19.25 (AG04)	20.52
10	07.46	07.24		06.44			06.54	06.12	19.06 (AG04)	05.52
	17.14	17.51		18.23			19.56	20.27	18 19.24 (AG04)	20.53
11	07.46	07.23		06.43			06.52	06.11	19.07 (AG04)	05.52
	17.15	17.52		18.24			19.57	20.28	15 19.22 (AG04)	20.53
12	07.46	07.22		06.41			06.50	06.10	19.09 (AG04)	05.52
	17.16	17.53		18.25			19.58	20.29	11 19.20 (AG04)	20.54
13	07.46	07.20		06.39			06.49	06.09	19.12 (AG04)	05.52
	17.17	17.54		18.27			19.59	20.30	5 19.17 (AG04)	20.54
14	07.45	07.19		06.38			06.47	06.08		05.51
	17.19	17.56		18.28			20.00	20.31		20.55
15	07.45	07.18		06.36			06.46	06.07		05.51
	17.20	17.57		18.29			20.01	20.32		20.55
16	07.45	07.17		06.35			06.44	06.06		05.51
	17.21	17.58		18.30			20.02	20.33		20.55
17	07.44	07.15		06.33			06.43	06.05		05.52
	17.22	17.59		18.31			20.03	20.34		20.56
18	07.44	07.14		06.31			06.41	06.04		05.52
	17.23	18.00		18.32			20.04	20.35		20.56
19	07.43	07.13		06.30			06.40	06.03		05.52
	17.24	18.02		18.33			20.05	20.36		20.56
20	07.43	07.11		06.28			06.38	06.03		05.52
	17.25	18.03		18.34			20.06	20.37		20.57
21	07.42	07.10	17.34 (AG015)	06.26			06.37	06.02		05.52
	17.26	18.04	5 17.39 (AG015)	18.35			20.07	20.38		20.57
22	07.41	07.08	17.31 (AG015)	06.25			06.35	19.11 (AG04)	06.01	05.52
	17.28	18.05	12 17.43 (AG015)	18.36			20.08	11 19.22 (AG04)	20.38	20.57
23	07.41	07.07	17.29 (AG015)	06.23			06.34	19.09 (AG04)	06.00	05.52
	17.29	18.06	15 17.44 (AG015)	18.37			20.09	15 19.24 (AG04)	20.39	20.57
24	07.40	07.06	17.28 (AG015)	06.21			06.33	19.07 (AG04)	05.59	05.53
	17.30	18.07	17 17.45 (AG015)	18.38			20.10	18 19.25 (AG04)	20.40	20.57
25	07.39	07.04	17.27 (AG015)	06.20			06.31	19.05 (AG04)	05.59	05.53
	17.31	18.09	18 17.45 (AG015)	18.39			20.12	22 19.27 (AG04)	20.41	20.58
26	07.39	07.03	17.27 (AG015)	06.18			06.30	19.05 (AG04)	05.58	05.53
	17.32	18.10	19 17.46 (AG015)	18.40			20.13	23 19.28 (AG04)	20.42	20.58
27	07.38	07.01	17.26 (AG015)	06.16			06.28	19.03 (AG04)	05.57	05.54
	17.34	18.11	20 17.46 (AG015)	18.41			20.14	25 19.28 (AG04)	20.43	20.58
28	07.37	07.00	17.26 (AG015)	06.15			06.27	19.03 (AG04)	05.57	05.54
	17.35	18.12	20 17.46 (AG015)	18.42			20.15	25 19.28 (AG04)	20.44	20.58
29	07.36			07.13			06.26	19.03 (AG04)	05.56	05.54
	17.36			19.43			20.16	26 19.29 (AG04)	20.44	20.58
30	07.35			07.11			06.24	19.02 (AG04)	05.56	05.55
	17.37			19.44			20.17	26 19.28 (AG04)	20.45	20.58
31	07.34			07.10					05.55	
	17.39			19.46					20.46	
Potential sun hours	299	298		370			398		447	451
Total, worst case			126		77			191	270	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R21 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (180)

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	05.55		06.19		19.19 (AG04)	06.49	07.18		06.52	07.26
	20.58		20.39	13	19.32 (AG04)	19.56	19.07		17.21	16.57
2	05.56		06.20		19.17 (AG04)	06.50	07.19		06.53	07.27
	20.57		20.38	16	19.33 (AG04)	19.55	19.05		17.19	16.57
3	05.56		06.21		19.16 (AG04)	06.51	07.20		06.54	07.28
	20.57		20.37	19	19.35 (AG04)	19.53	19.03		17.18	16.56
4	05.57		06.22		19.14 (AG04)	06.52	07.21		06.55	07.29
	20.57		20.36	21	19.35 (AG04)	19.52	19.02		17.17	16.56
5	05.57		06.23		19.13 (AG04)	06.53	07.22		06.56	07.30
	20.57		20.35	22	19.35 (AG04)	19.50	19.00		17.16	16.56
6	05.58		06.24		19.12 (AG04)	06.54	07.23		06.58	07.31
	20.57		20.33	24	19.36 (AG04)	19.48	18.58		17.15	16.56
7	05.59		06.25		19.12 (AG04)	06.55	07.24		06.59	07.32
	20.56		20.32	25	19.37 (AG04)	19.47	18.57		17.14	16.56
8	05.59		06.26		19.11 (AG04)	06.56	07.25	18.06 (AG015)	07.00	07.33
	20.56		20.31	26	19.37 (AG04)	19.45	18.55	7 18.13 (AG015)	17.13	16.56
9	06.00		06.27		19.11 (AG04)	06.57	07.26	18.03 (AG015)	07.01	07.34
	20.56		20.30	26	19.37 (AG04)	19.43	18.54	12 18.15 (AG015)	17.12	16.56
10	06.01		06.27		19.11 (AG04)	06.58	07.28	18.02 (AG015)	07.02	07.35
	20.55		20.28	26	19.37 (AG04)	19.42	18.52	16 18.18 (AG015)	17.11	16.56
11	06.01		06.28		19.10 (AG04)	06.59	07.29	18.01 (AG015)	07.04	07.36
	20.55		20.27	27	19.37 (AG04)	19.40	18.50	17 18.18 (AG015)	17.10	16.56
12	06.02		06.29		19.10 (AG04)	07.00	07.30	18.00 (AG015)	07.05	07.36
	20.54		20.26	27	19.37 (AG04)	19.38	18.49	19 18.19 (AG015)	17.09	16.56
13	06.03		06.30		19.10 (AG04)	07.01	07.31	17.59 (AG015)	07.06	07.37
	20.54		20.25	27	19.37 (AG04)	19.37	18.47	20 18.19 (AG015)	17.08	16.56
14	06.03		06.31		19.10 (AG04)	07.02	07.32	17.58 (AG015)	07.07	07.38
	20.53		20.23	27	19.37 (AG04)	19.35	18.46	20 18.18 (AG015)	17.07	16.56
15	06.04		06.32		19.11 (AG04)	07.03	07.33	17.58 (AG015)	07.08	07.39
	20.53		20.22	25	19.36 (AG04)	19.33	18.44	20 18.18 (AG015)	17.06	16.56
16	06.05		06.33		19.11 (AG04)	07.04	07.34	17.58 (AG015)	07.09	07.39
	20.52		20.21	24	19.35 (AG04)	19.32	18.43	19 18.17 (AG015)	17.05	16.57
17	06.06		06.34		19.12 (AG04)	07.04	07.35	17.58 (AG015)	07.11	07.40
	20.52		20.19	22	19.34 (AG04)	19.30	18.41	19 18.17 (AG015)	17.04	16.57
18	06.06		06.35		19.12 (AG04)	07.05	07.36	17.59 (AG015)	07.12	07.41
	20.51		20.18	21	19.33 (AG04)	19.28	18.40	16 18.15 (AG015)	17.04	16.57
19	06.07		06.36		19.13 (AG04)	07.06	07.37	18.01 (AG015)	07.13	07.41
	20.50		20.16	18	19.31 (AG04)	19.27	18.38	14 18.15 (AG015)	17.03	16.58
20	06.08		06.37		19.14 (AG04)	07.07	07.38	18.02 (AG015)	07.14	07.42
	20.50		20.15	15	19.29 (AG04)	19.25	18.37	11 18.13 (AG015)	17.02	16.58
21	06.09		06.38		19.17 (AG04)	07.08	07.39		07.15	07.42
	20.49		20.13	9	19.26 (AG04)	19.23	18.35		17.02	16.59
22	06.10		06.39			07.09	07.40		07.16	07.43
	20.48		20.12			19.22	18.34		17.01	16.59
23	06.11		06.40			07.10	07.42		07.17	07.44
	20.47		20.10			19.20	18.32		17.00	17.00
24	06.12		06.41			07.11	07.43		07.19	07.44
	20.47		20.09			19.18	18.31		17.00	17.00
25	06.12		06.42			07.12	06.44		07.20	07.44
	20.46		20.07			19.17	17.30		16.59	17.01
26	06.13		06.43			07.13	06.45		07.21	07.45
	20.45		20.06			19.15	17.28		16.59	17.01
27	06.14		06.44			07.14	06.46		07.22	07.45
	20.44		20.04			19.13	17.27		16.58	17.02
28	06.15		06.45			07.15	06.47		07.23	07.45
	20.43		20.03			19.12	17.26		16.58	17.03
29	06.16		06.46			07.16	06.48		07.24	07.46
	20.42		20.01			19.10	17.24		16.57	17.03
30	06.17		06.47			07.17	06.50		07.25	07.46
	20.41		20.00			19.08	17.23		16.57	17.04
31	06.18	19.21 (AG04)	06.48				06.51			07.46
	20.40	8 19.29 (AG04)	19.58				17.22			17.05
Potential sun hours	458		427			375	346		299	289
Total, worst case		8		460				210		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R23 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (188)

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	07.46			07.34		16.59 (AG015)	06.58			07.08		18.35 (AG04)	06.23			05.55		19.01 (AG05)
	17.06			17.40	17	17.16 (AG015)	18.13			19.47	20	18.55 (AG04)	20.18			20.47	36	19.37 (AG05)
2	07.47			07.33		16.59 (AG015)	06.57			07.07		18.36 (AG04)	06.22			05.54		19.01 (AG05)
	17.07			17.41	18	17.17 (AG015)	18.14			19.48	16	18.52 (AG04)	20.19			20.47	37	19.38 (AG05)
3	07.47			07.32		16.59 (AG015)	06.55			07.05		18.37 (AG04)	06.20			05.54		19.01 (AG05)
	17.08			17.42	19	17.18 (AG015)	18.15			19.49	12	18.49 (AG04)	20.20			20.48	36	19.37 (AG05)
4	07.47			07.31		17.00 (AG015)	06.54			07.03			06.19			05.53		19.02 (AG05)
	17.09			17.43	18	17.18 (AG015)	18.17			19.50			20.21			20.49	35	19.37 (AG05)
5	07.47			07.30		17.00 (AG015)	06.52			07.02			06.18			05.53		19.02 (AG05)
	17.09			17.45	18	17.18 (AG015)	18.18			19.51			20.22			20.50	36	19.38 (AG05)
6	07.47			07.29		17.01 (AG015)	06.51			07.00			06.17			05.53		19.02 (AG05)
	17.10			17.46	17	17.18 (AG015)	18.19			19.52			20.23			20.50	35	19.37 (AG05)
7	07.47			07.27		17.02 (AG015)	06.49			06.58			06.16		19.14 (AG05)	05.53		19.02 (AG05)
	17.11			17.47	15	17.17 (AG015)	18.20			19.53			20.24	7	19.21 (AG05)	20.51	35	19.37 (AG05)
8	07.47			07.26		17.04 (AG015)	06.47			06.57			06.14		19.10 (AG05)	05.52		19.03 (AG05)
	17.12			17.48	12	17.16 (AG015)	18.21			19.54			20.25	14	19.24 (AG05)	20.51	34	19.37 (AG05)
9	07.46			07.25		17.06 (AG015)	06.46			06.55			06.13		19.08 (AG05)	05.52		19.03 (AG05)
	17.13			17.50	8	17.14 (AG015)	18.22			19.55			20.26	19	19.27 (AG05)	20.52	35	19.38 (AG05)
10	07.46			07.24			06.44			06.54			06.12		19.06 (AG05)	05.52		19.04 (AG05)
	17.14			17.51			18.23			19.56			20.27	22	19.28 (AG05)	20.53	34	19.38 (AG05)
11	07.46			07.23			06.43			06.52			06.11		19.05 (AG05)	05.52		19.04 (AG05)
	17.15			17.52			18.24			19.57			20.28	25	19.30 (AG05)	20.53	34	19.38 (AG05)
12	07.46			07.22			06.41			06.50			06.10		19.03 (AG05)	05.52		19.04 (AG05)
	17.16			17.53			18.25			19.58			20.29	28	19.31 (AG05)	20.54	33	19.37 (AG05)
13	07.46			07.20			06.39			06.49			06.09		19.02 (AG05)	05.52		19.04 (AG05)
	17.17			17.54			18.27			19.59			20.30	30	19.32 (AG05)	20.54	33	19.37 (AG05)
14	07.45			07.19			06.38			06.47			06.08		19.02 (AG05)	05.51		19.05 (AG05)
	17.19			17.56			18.28			20.00			20.31	30	19.32 (AG05)	20.55	32	19.37 (AG05)
15	07.45			07.18			06.36			06.46			06.07		19.01 (AG05)	05.51		19.05 (AG05)
	17.20			17.57			18.29			20.01			20.32	32	19.33 (AG05)	20.55	32	19.37 (AG05)
16	07.45			07.17			06.35			06.44			06.06		19.00 (AG05)	05.51		19.05 (AG05)
	17.21			17.58			18.30			20.02			20.33	33	19.33 (AG05)	20.55	32	19.37 (AG05)
17	07.44			07.15			06.33			06.43			06.05		19.00 (AG05)	05.52		19.06 (AG05)
	17.22			17.59			18.31			20.03			20.34	34	19.34 (AG05)	20.56	32	19.38 (AG05)
18	07.44			07.14			06.31		17.47 (AG04)	06.41			06.04		19.00 (AG05)	05.52		19.07 (AG05)
	17.23			18.00			18.32	3	17.50 (AG04)	20.04			20.35	35	19.35 (AG05)	20.56	32	19.39 (AG05)
19	07.43			07.13			06.30		17.41 (AG04)	06.40			06.03		19.00 (AG05)	05.52		19.07 (AG05)
	17.24			18.02			18.33	13	17.54 (AG04)	20.05			20.36	35	19.35 (AG05)	20.56	32	19.39 (AG05)
20	07.43			07.11			06.28		17.39 (AG04)	06.38			06.03		18.59 (AG05)	05.52		19.07 (AG05)
	17.25			18.03			18.34	17	17.56 (AG04)	20.06			20.37	36	19.35 (AG05)	20.57	32	19.39 (AG05)
21	07.42			07.10			06.26		17.37 (AG04)	06.37			06.02		18.59 (AG05)	05.52		19.07 (AG05)
	17.26			18.04			18.35	21	17.58 (AG04)	20.07			20.38	36	19.35 (AG05)	20.57	32	19.39 (AG05)
22	07.41			07.08			06.25		17.36 (AG04)	06.35			06.01		18.59 (AG05)	05.52		19.07 (AG05)
	17.28			18.05			18.36	22	17.58 (AG04)	20.08			20.38	37	19.36 (AG05)	20.57	32	19.39 (AG05)
23	07.41			07.07			06.23		17.34 (AG04)	06.34			06.00		18.59 (AG05)	05.52		19.08 (AG05)
	17.29			18.06			18.37	25	17.59 (AG04)	20.09			20.39	37	19.36 (AG05)	20.57	32	19.40 (AG05)
24	07.40			07.06			06.21		17.34 (AG04)	06.33			05.59		18.59 (AG05)	05.53		19.08 (AG05)
	17.30			18.07			18.38	25	17.59 (AG04)	20.10			20.40	37	19.36 (AG05)	20.57	32	19.40 (AG05)
25	07.39		17.05 (AG015)	07.04			06.20		17.33 (AG04)	06.31			05.59		19.00 (AG05)	05.53		19.07 (AG05)
	17.31	2	17.07 (AG015)	18.09			18.39	26	17.59 (AG04)	20.12			20.41	37	19.37 (AG05)	20.58	32	19.39 (AG05)
26	07.39		17.03 (AG015)	07.03			06.18		17.32 (AG04)	06.30			05.58		18.59 (AG05)	05.53		19.08 (AG05)
	17.32	5	17.08 (AG015)	18.10			18.40	27	17.59 (AG04)	20.13			20.42	38	19.37 (AG05)	20.58	32	19.40 (AG05)
27	07.38		17.01 (AG015)	07.01			06.16		17.33 (AG04)	06.28			05.57		18.59 (AG05)	05.54		19.08 (AG05)
	17.34	8	17.09 (AG015)	18.11			18.41	26	17.59 (AG04)	20.14			20.43	37	19.36 (AG05)	20.58	32	19.40 (AG05)
28	07.37		17.00 (AG015)	07.00			06.15		17.32 (AG04)	06.27			05.57		19.00 (AG05)	05.54		19.08 (AG05)
	17.35	11	17.11 (AG015)	18.12			18.42	26	17.58 (AG04)	20.15			20.44	37	19.37 (AG05)	20.58	32	19.40 (AG05)
29	07.36		17.00 (AG015)				07.13		18.32 (AG04)	06.26			05.56		18.59 (AG05)	05.54		19.08 (AG05)
	17.36	12	17.12 (AG015)				19.43	25	18.57 (AG04)	20.16			20.44	38	19.37 (AG05)	20.58	33	19.41 (AG05)
30	07.35		16.59 (AG015)				07.11		18.33 (AG04)	06.24			05.56		19.00 (AG05)	05.55		19.08 (AG05)
	17.37	14	17.13 (AG015)				19.44	24	18.57 (AG04)	20.17			20.45	37	19.37 (AG05)	20.58	33	19.41 (AG05)
31	07.34		16.59 (AG015)				07.10		18.33 (AG04)				05.55		19.00 (AG05)			
	17.38	15	17.14 (AG015)				19.46	22	18.55 (AG04)				20.46	37	19.37 (AG05)			
Potential sun hours	299			298			370			398			447			451		
Total, worst case		67			142			302			48			788			999	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R23 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (188)

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	05.55		19.09 (AG05)	06.19		19.14 (AG05)	06.49			07.26
	20.58	33	19.42 (AG05)	20.39	27	19.41 (AG05)	19.57			16.57
2	05.56		19.08 (AG05)	06.20		19.16 (AG05)	06.50			07.27
	20.57	34	19.42 (AG05)	20.38	24	19.40 (AG05)	19.55			16.57
3	05.56		19.09 (AG05)	06.21		19.17 (AG05)	06.51			07.28
	20.57	34	19.43 (AG05)	20.37	21	19.38 (AG05)	19.53			16.56
4	05.57		19.08 (AG05)	06.22		19.18 (AG05)	06.52			07.29
	20.57	34	19.42 (AG05)	20.36	18	19.36 (AG05)	19.52			16.56
5	05.57		19.09 (AG05)	06.23		19.20 (AG05)	06.53			07.30
	20.57	34	19.43 (AG05)	20.35	13	19.33 (AG05)	19.50			16.56
6	05.58		19.08 (AG05)	06.24			06.54			07.31
	20.57	35	19.43 (AG05)	20.33			19.48			16.56
7	05.59		19.08 (AG05)	06.25			06.55			07.32
	20.56	36	19.44 (AG05)	20.32			19.47			16.56
8	05.59		19.09 (AG05)	06.26			06.56			07.33
	20.56	35	19.44 (AG05)	20.31			19.45			16.56
9	06.00		19.08 (AG05)	06.27			06.57	18.32 (AG04)		07.34
	20.56	36	19.44 (AG05)	20.30			19.43	18.43 (AG04)		16.56
10	06.01		19.09 (AG05)	06.27			06.58	18.29 (AG04)		07.35
	20.55	36	19.45 (AG05)	20.28			19.42	18.45 (AG04)		16.56
11	06.01		19.09 (AG05)	06.28			06.59	18.27 (AG04)		07.36
	20.55	36	19.45 (AG05)	20.27			19.40	18.47 (AG04)		16.56
12	06.02		19.08 (AG05)	06.29			07.00	18.25 (AG04)		07.36
	20.54	37	19.45 (AG05)	20.26			19.38	18.47 (AG04)		16.56
13	06.03		19.08 (AG05)	06.30			07.01	18.24 (AG04)		07.37
	20.54	37	19.45 (AG05)	20.25			19.37	18.48 (AG04)		16.56
14	06.03		19.09 (AG05)	06.31			07.02	18.23 (AG04)		07.38
	20.53	37	19.46 (AG05)	20.23			19.35	18.48 (AG04)		16.56
15	06.04		19.08 (AG05)	06.32			07.03	18.22 (AG04)		07.39
	20.53	37	19.45 (AG05)	20.22			19.33	18.48 (AG04)		16.56
16	06.05		19.08 (AG05)	06.33			07.04	18.22 (AG04)		07.39
	20.52	38	19.46 (AG05)	20.21			19.32	18.48 (AG04)		16.57
17	06.06		19.09 (AG05)	06.34			07.04	18.21 (AG04)		07.40
	20.52	37	19.46 (AG05)	20.19			19.30	18.48 (AG04)		16.57
18	06.06		19.09 (AG05)	06.35			07.05	18.20 (AG04)		07.41
	20.51	37	19.46 (AG05)	20.18			19.28	18.47 (AG04)		16.57
19	06.07		19.09 (AG05)	06.36			07.06	18.20 (AG04)		07.41
	20.50	38	19.47 (AG05)	20.16			19.27	18.46 (AG04)		16.58
20	06.08		19.09 (AG05)	06.37			07.07	18.20 (AG04)		07.42
	20.50	37	19.46 (AG05)	20.15			19.25	18.45 (AG04)		16.58
21	06.09		19.09 (AG05)	06.38			07.08	18.21 (AG04)		07.42
	20.49	37	19.46 (AG05)	20.13			19.23	18.44 (AG04)		16.59
22	06.10		19.09 (AG05)	06.39			07.09	18.21 (AG04)		07.43
	20.48	37	19.46 (AG05)	20.12			19.22	18.43 (AG04)		16.59
23	06.11		19.10 (AG05)	06.40			07.10	18.22 (AG04)		07.44
	20.47	36	19.46 (AG05)	20.10			19.20	18.41 (AG04)		17.00
24	06.12		19.10 (AG05)	06.41			07.11	18.24 (AG04)		07.44
	20.47	36	19.46 (AG05)	20.09			19.18	18.39 (AG04)		17.00
25	06.12		19.10 (AG05)	06.42			07.12	18.27 (AG04)		07.44
	20.46	36	19.46 (AG05)	20.07			19.17	18.35 (AG04)		17.01
26	06.13		19.10 (AG05)	06.43			07.13			07.45
	20.45	35	19.45 (AG05)	20.06			19.15			17.01
27	06.14		19.10 (AG05)	06.44			07.14			07.45
	20.44	34	19.44 (AG05)	20.04			19.13			17.02
28	06.15		19.11 (AG05)	06.45			07.15			07.45
	20.43	33	19.44 (AG05)	20.03			19.12			17.03
29	06.16		19.12 (AG05)	06.46			07.16			07.46
	20.42	31	19.43 (AG05)	20.01			19.10			17.03
30	06.17		19.13 (AG05)	06.47			07.17			07.46
	20.41	30	19.43 (AG05)	20.00			19.08			17.04
31	06.18		19.13 (AG05)	06.48						07.46
	20.40	29	19.42 (AG05)	19.58						17.05
Potential sun hours	458			427			375	346	299	289
Total, worst case		1092			103		362		210	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R24 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (189)

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	07.46			07.34		16.55 (AG015)	06.58			07.08			06.23		19.10 (AG05)	05.55		18.57 (AG05)
	17.06			17.40	19	17.14 (AG015)	18.13			19.47			20.18	3	19.13 (AG05)	20.47	32	19.29 (AG05)
2	07.47			07.33		16.56 (AG015)	06.57			07.07			06.22		19.05 (AG05)	05.54		18.58 (AG05)
	17.07			17.41	17	17.13 (AG015)	18.14			19.48			20.19	13	19.18 (AG05)	20.47	31	19.29 (AG05)
3	07.47			07.32		16.57 (AG015)	06.55			07.05			06.20		19.02 (AG05)	05.54		18.58 (AG05)
	17.08			17.42	16	17.13 (AG015)	18.15			19.49			20.20	19	19.21 (AG05)	20.48	30	19.28 (AG05)
4	07.47			07.31		16.58 (AG015)	06.54			07.03			06.19		19.00 (AG05)	05.53		18.59 (AG05)
	17.09			17.43	14	17.12 (AG015)	18.17			19.50			20.21	23	19.23 (AG05)	20.49	29	19.28 (AG05)
5	07.47			07.30		17.00 (AG015)	06.52			07.02			06.18		18.58 (AG05)	05.53		18.59 (AG05)
	17.09			17.45	11	17.11 (AG015)	18.18			19.51			20.22	26	19.24 (AG05)	20.50	29	19.28 (AG05)
6	07.47			07.29		17.03 (AG015)	06.51			07.00			06.17		18.57 (AG05)	05.53		18.59 (AG05)
	17.10			17.46	5	17.08 (AG015)	18.19			19.52			20.23	28	19.25 (AG05)	20.50	28	19.27 (AG05)
7	07.47			07.27			06.49			06.58			06.16		18.56 (AG05)	05.53		19.00 (AG05)
	17.11			17.47			18.20			19.53			20.24	30	19.26 (AG05)	20.51	27	19.27 (AG05)
8	07.47			07.26			06.47			06.57			06.14		18.55 (AG05)	05.52		19.01 (AG05)
	17.12			17.48			18.21			19.54			20.25	32	19.27 (AG05)	20.51	26	19.27 (AG05)
9	07.46			07.25			06.46			06.55			06.13		18.54 (AG05)	05.52		19.02 (AG05)
	17.13			17.50			18.22			19.55			20.26	34	19.28 (AG05)	20.52	25	19.27 (AG05)
10	07.46			07.24			06.44			06.54			06.12		18.54 (AG05)	05.52		19.02 (AG05)
	17.14			17.51			18.23			19.56			20.27	34	19.28 (AG05)	20.53	25	19.27 (AG05)
11	07.46			07.23			06.43			06.52			06.11		18.53 (AG05)	05.52		19.03 (AG05)
	17.15			17.52			18.24			19.57			20.28	36	19.29 (AG05)	20.53	24	19.27 (AG05)
12	07.46			07.22			06.41			06.50			06.10		18.53 (AG05)	05.52		19.03 (AG05)
	17.16			17.53			18.25			19.58			20.29	36	19.29 (AG05)	20.54	23	19.26 (AG05)
13	07.46			07.20			06.39			06.49			06.09		18.52 (AG05)	05.52		19.03 (AG05)
	17.17			17.54			18.27			19.59			20.30	37	19.29 (AG05)	20.54	23	19.26 (AG05)
14	07.45			07.19			06.38			06.47			06.08		18.52 (AG05)	05.51		19.04 (AG05)
	17.19			17.56			18.28			20.00			20.31	38	19.30 (AG05)	20.55	22	19.26 (AG05)
15	07.45			07.18			06.36		17.38 (AG04)	06.46			06.07		18.52 (AG05)	05.51		19.04 (AG05)
	17.20			17.57			18.29	13	17.51 (AG04)	20.01			20.32	38	19.30 (AG05)	20.55	22	19.26 (AG05)
16	07.45			07.17			06.35		17.35 (AG04)	06.44			06.06		18.52 (AG05)	05.51		19.05 (AG05)
	17.21			17.58			18.30	17	17.52 (AG04)	20.02			20.33	38	19.30 (AG05)	20.55	21	19.26 (AG05)
17	07.44			07.15			06.33		17.33 (AG04)	06.43			06.05		18.52 (AG05)	05.52		19.06 (AG05)
	17.22			17.59			18.31	20	17.53 (AG04)	20.03			20.34	38	19.30 (AG05)	20.56	21	19.27 (AG05)
18	07.44			07.14			06.31		17.32 (AG04)	06.41			06.04		18.52 (AG05)	05.52		19.06 (AG05)
	17.23			18.00			18.32	23	17.55 (AG04)	20.04			20.35	39	19.31 (AG05)	20.56	21	19.27 (AG05)
19	07.43			07.13			06.30		17.31 (AG04)	06.40			06.03		18.52 (AG05)	05.52		19.06 (AG05)
	17.24			18.02			18.33	24	17.55 (AG04)	20.05			20.36	38	19.30 (AG05)	20.56	21	19.27 (AG05)
20	07.43			07.11			06.28		17.29 (AG04)	06.38			06.03		18.52 (AG05)	05.52		19.06 (AG05)
	17.25			18.03			18.34	26	17.55 (AG04)	20.06			20.37	38	19.30 (AG05)	20.57	21	19.27 (AG05)
21	07.42		16.58 (AG015)	07.10			06.26		17.29 (AG04)	06.37			06.02		18.52 (AG05)	05.52		19.07 (AG05)
	17.26	4	17.02 (AG015)	18.04			18.35	27	17.56 (AG04)	20.07			20.38	38	19.30 (AG05)	20.57	20	19.27 (AG05)
22	07.41		16.57 (AG015)	07.08			06.25		17.29 (AG04)	06.35			06.01		18.53 (AG05)	05.52		19.07 (AG05)
	17.28	6	17.03 (AG015)	18.05			18.36	27	17.56 (AG04)	20.08			20.38	38	19.31 (AG05)	20.57	20	19.27 (AG05)
23	07.41		16.56 (AG015)	07.07			06.23		17.28 (AG04)	06.34			06.00		18.53 (AG05)	05.52		19.07 (AG05)
	17.29	8	17.04 (AG015)	18.06			18.37	27	17.55 (AG04)	20.09			20.39	37	19.30 (AG05)	20.57	21	19.28 (AG05)
24	07.40		16.55 (AG015)	07.06			06.21		17.29 (AG04)	06.33			05.59		18.53 (AG05)	05.53		19.07 (AG05)
	17.30	10	17.05 (AG015)	18.07			18.38	26	17.55 (AG04)	20.10			20.40	37	19.30 (AG05)	20.57	21	19.28 (AG05)
25	07.39		16.55 (AG015)	07.04			06.20		17.28 (AG04)	06.31			05.59		18.54 (AG05)	05.53		19.07 (AG05)
	17.31	12	17.07 (AG015)	18.09			18.39	26	17.54 (AG04)	20.12			20.41	36	19.30 (AG05)	20.58	21	19.28 (AG05)
26	07.39		16.55 (AG015)	07.03			06.18		17.28 (AG04)	06.30			05.58		18.54 (AG05)	05.53		19.08 (AG05)
	17.32	13	17.08 (AG015)	18.10			18.40	25	17.53 (AG04)	20.13			20.42	36	19.30 (AG05)	20.58	21	19.29 (AG05)
27	07.38		16.55 (AG015)	07.01			06.16		17.30 (AG04)	06.28			05.57		18.54 (AG05)	05.54		19.07 (AG05)
	17.34	14	17.09 (AG015)	18.11			18.41	22	17.52 (AG04)	20.14			20.43	35	19.29 (AG05)	20.58	22	19.29 (AG05)
28	07.37		16.54 (AG015)	07.00			06.15		17.30 (AG04)	06.27			05.57		18.55 (AG05)	05.54		19.07 (AG05)
	17.35	17	17.11 (AG015)	18.12			18.42	21	17.51 (AG04)	20.15			20.44	35	19.30 (AG05)	20.58	22	19.29 (AG05)
29	07.36		16.54 (AG015)				07.13		18.31 (AG04)	06.26			05.56		18.55 (AG05)	05.54		19.07 (AG05)
	17.36	18	17.12 (AG015)				19.43	17	18.48 (AG04)	20.16			20.44	34	19.29 (AG05)	20.58	23	19.30 (AG05)
30	07.35		16.55 (AG015)				07.11		18.33 (AG04)	06.24			05.56		18.56 (AG05)	05.55		19.07 (AG05)
	17.37	18	17.13 (AG015)				19.44	14	18.47 (AG04)	20.17			20.45	33	19.29 (AG05)	20.58	23	19.30 (AG05)
31	07.34		16.55 (AG015)				07.10		18.37 (AG04)				05.55		18.56 (AG05)			
	17.38	19	17.14 (AG015)				19.46	5	18.42 (AG04)				20.46	33	19.29 (AG05)			
Potential sun hours	299			298			370			398			447			451		
Total, worst case		139			82			360						1010			715	

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 39
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R24 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (189)

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	05.55		19.07 (AG05)	06.19		19.04 (AG05)	06.49			07.18	06.52			07.26
	20.58	24	19.31 (AG05)	20.39	36	19.40 (AG05)	19.57			19.07	17.21			16.57
2	05.56		19.07 (AG05)	06.20		19.04 (AG05)	06.50			07.19	06.53			07.27
	20.57	24	19.31 (AG05)	20.38	35	19.39 (AG05)	19.55			19.05	17.19			16.57
3	05.56		19.07 (AG05)	06.21		19.05 (AG05)	06.51			07.20	06.54			07.28
	20.57	25	19.32 (AG05)	20.37	34	19.39 (AG05)	19.53			19.03	17.18			16.56
4	05.57		19.06 (AG05)	06.22		19.04 (AG05)	06.52			07.21	06.55			07.29
	20.57	26	19.32 (AG05)	20.36	33	19.37 (AG05)	19.52			19.02	17.17			16.56
5	05.57		19.06 (AG05)	06.23		19.05 (AG05)	06.53			07.22	06.56		16.32 (AG015)	07.30
	20.57	27	19.33 (AG05)	20.35	31	19.36 (AG05)	19.50			19.00	17.16	6	16.38 (AG015)	16.56
6	05.58		19.06 (AG05)	06.24		19.06 (AG05)	06.54			07.23	06.58		16.30 (AG015)	07.31
	20.57	27	19.33 (AG05)	20.33	29	19.35 (AG05)	19.48			18.58	17.15	11	16.41 (AG015)	16.56
7	05.59		19.06 (AG05)	06.25		19.07 (AG05)	06.55			07.24	06.59		16.29 (AG015)	07.32
	20.56	28	19.34 (AG05)	20.32	27	19.34 (AG05)	19.47			18.57	17.14	14	16.43 (AG015)	16.56
8	05.59		19.06 (AG05)	06.26		19.08 (AG05)	06.56			07.25	07.00		16.28 (AG015)	07.33
	20.56	29	19.35 (AG05)	20.31	25	19.33 (AG05)	19.45			18.55	17.13	16	16.44 (AG015)	16.56
9	06.00		19.05 (AG05)	06.27		19.09 (AG05)	06.57			07.26	07.01		16.27 (AG015)	07.34
	20.56	30	19.35 (AG05)	20.30	22	19.31 (AG05)	19.43			18.54	17.12	17	16.44 (AG015)	16.56
10	06.01		19.05 (AG05)	06.27		19.11 (AG05)	06.58			07.28	07.02		16.26 (AG015)	07.35
	20.55	31	19.36 (AG05)	20.28	18	19.29 (AG05)	19.42			18.52	17.11	19	16.45 (AG015)	16.56
11	06.01		19.05 (AG05)	06.28		19.14 (AG05)	06.59			07.29	07.04		16.27 (AG015)	07.36
	20.55	32	19.37 (AG05)	20.27	12	19.26 (AG05)	19.40			18.50	17.10	19	16.46 (AG015)	16.56
12	06.02		19.04 (AG05)	06.29			07.00		18.31 (AG04)	07.30	07.05		16.27 (AG015)	07.36
	20.54	33	19.37 (AG05)	20.26			19.38	1	18.32 (AG04)	18.49	17.09	18	16.45 (AG015)	16.56
13	06.03		19.04 (AG05)	06.30			07.01		18.25 (AG04)	07.31	07.06		16.26 (AG015)	07.37
	20.54	33	19.37 (AG05)	20.25			19.37	12	18.37 (AG04)	18.47	17.08	18	16.44 (AG015)	16.56
14	06.03		19.04 (AG05)	06.31			07.02		18.22 (AG04)	07.32	07.07		16.26 (AG015)	07.38
	20.53	34	19.38 (AG05)	20.23			19.35	17	18.39 (AG04)	18.46	17.07	16	16.42 (AG015)	16.56
15	06.04		19.03 (AG05)	06.32			07.03		18.21 (AG04)	07.33	07.08		16.28 (AG015)	07.39
	20.53	35	19.38 (AG05)	20.22			19.33	20	18.41 (AG04)	18.44	17.06	14	16.42 (AG015)	16.56
16	06.05		19.03 (AG05)	06.33			07.04		18.19 (AG04)	07.34	07.09		16.28 (AG015)	07.39
	20.52	36	19.39 (AG05)	20.21			19.32	22	18.41 (AG04)	18.43	17.05	13	16.41 (AG015)	16.57
17	06.06		19.03 (AG05)	06.34			07.04		18.18 (AG04)	07.35	07.11		16.28 (AG015)	07.40
	20.52	36	19.39 (AG05)	20.19			19.30	24	18.42 (AG04)	18.41	17.04	12	16.40 (AG015)	16.57
18	06.06		19.03 (AG05)	06.35			07.05		18.16 (AG04)	07.36	07.12		16.29 (AG015)	07.41
	20.51	37	19.40 (AG05)	20.18			19.28	25	18.41 (AG04)	18.40	17.04	10	16.39 (AG015)	16.57
19	06.07		19.03 (AG05)	06.36			07.06		18.15 (AG04)	07.37	07.13		16.31 (AG015)	07.41
	20.50	37	19.40 (AG05)	20.16			19.27	26	18.41 (AG04)	18.38	17.03	8	16.39 (AG015)	16.58
20	06.08		19.03 (AG05)	06.37			07.07		18.14 (AG04)	07.38	07.14		16.32 (AG015)	07.42
	20.50	37	19.40 (AG05)	20.15			19.25	27	18.41 (AG04)	18.37	17.02	6	16.38 (AG015)	16.58
21	06.09		19.03 (AG05)	06.38			07.08		18.14 (AG04)	07.39	07.15		16.33 (AG015)	07.42
	20.49	37	19.40 (AG05)	20.13			19.23	27	18.41 (AG04)	18.35	17.02	4	16.37 (AG015)	16.59
22	06.10		19.03 (AG05)	06.39			07.09		18.14 (AG04)	07.40	07.16			07.43
	20.48	37	19.40 (AG05)	20.12			19.22	26	18.40 (AG04)	18.34	17.01			16.59
23	06.11		19.03 (AG05)	06.40			07.10		18.14 (AG04)	07.42	07.17			07.44
	20.47	38	19.41 (AG05)	20.10			19.20	26	18.40 (AG04)	18.32	17.00			17.00
24	06.12		19.03 (AG05)	06.41			07.11		18.14 (AG04)	07.43	07.19			07.44
	20.47	38	19.41 (AG05)	20.09			19.18	25	18.39 (AG04)	18.31	17.00			17.00
25	06.12		19.03 (AG05)	06.42			07.12		18.14 (AG04)	06.44	07.20			07.44
	20.46	38	19.41 (AG05)	20.07			19.17	24	18.38 (AG04)	17.30	16.59			17.01
26	06.13		19.02 (AG05)	06.43			07.13		18.15 (AG04)	06.45	07.21			07.45
	20.45	38	19.40 (AG05)	20.06			19.15	21	18.36 (AG04)	17.28	16.59			17.01
27	06.14		19.02 (AG05)	06.44			07.14		18.16 (AG04)	06.46	07.22			07.45
	20.44	38	19.40 (AG05)	20.04			19.13	19	18.35 (AG04)	17.27	16.58			17.02
28	06.15		19.02 (AG05)	06.45			07.15		18.18 (AG04)	06.47	07.23			07.45
	20.43	38	19.40 (AG05)	20.03			19.12	14	18.32 (AG04)	17.26	16.58			17.03
29	06.16		19.03 (AG05)	06.46			07.16		18.21 (AG04)	06.48	07.24			07.46
	20.42	37	19.40 (AG05)	20.01			19.10	8	18.29 (AG04)	17.24	16.57			17.03
30	06.17		19.03 (AG05)	06.47			07.17			06.50	07.25			07.46
	20.41	37	19.40 (AG05)	20.00			19.08			17.23	16.57			17.04
31	06.18		19.03 (AG05)	06.48						06.51				07.46
	20.40	37	19.40 (AG05)	19.58						17.22				17.05
Potential sun hours	458			427			375			346	299			289
Total, worst case		1034			302			364				221		

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 40
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R25 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (190)

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	07.46		07.34		06.58			07.08			06.23		18.40 (AG05)	05.55		18.46 (AG06)
	17.06		17.40		18.13			19.47			20.18	21	19.01 (AG05)	20.47	24	19.10 (AG06)
2	07.47		07.33		06.57			07.07			06.22		18.42 (AG05)	05.54		18.45 (AG06)
	17.07		17.41		18.14			19.48			20.19	17	18.59 (AG05)	20.47	27	19.12 (AG06)
3	07.47		07.32		06.55			07.05			06.20		18.44 (AG05)	05.54		18.43 (AG06)
	17.08		17.42		18.15			19.49			20.20	13	18.57 (AG05)	20.48	29	19.12 (AG06)
4	07.47		07.31		06.54			07.03			06.19		18.48 (AG05)	05.53		18.43 (AG06)
	17.08		17.43		18.17			19.50			20.21	5	18.53 (AG05)	20.49	31	19.14 (AG06)
5	07.47		07.30		06.52		17.30 (AG04)	07.02			06.18			05.53		18.43 (AG06)
	17.09		17.45		18.18	10	17.40 (AG04)	19.51			20.22			20.50	32	19.15 (AG06)
6	07.47		07.29		06.51		17.27 (AG04)	07.00			06.17			05.53		18.41 (AG06)
	17.10		17.46		18.19	15	17.42 (AG04)	19.52			20.23			20.50	34	19.15 (AG06)
7	07.47		07.27		06.49		17.25 (AG04)	06.58			06.16			05.53		18.41 (AG06)
	17.11		17.47		18.20	19	17.44 (AG04)	19.53			20.24			20.51	35	19.16 (AG06)
8	07.47		07.26		06.47		17.24 (AG04)	06.57			06.14			05.52		18.41 (AG06)
	17.12		17.48		18.21	20	17.44 (AG04)	19.54			20.25			20.51	36	19.17 (AG06)
9	07.46		07.25		06.46		17.22 (AG04)	06.55			06.13			05.52		18.41 (AG06)
	17.13		17.50		18.22	23	17.45 (AG04)	19.55			20.26			20.52	37	19.18 (AG06)
10	07.46		07.24		06.44		17.22 (AG04)	06.54		18.50 (AG05)	06.12			05.52		18.41 (AG06)
	17.14		17.51		18.23	23	17.45 (AG04)	19.56	9	18.59 (AG05)	20.27			20.53	38	19.19 (AG06)
11	07.46		07.23		06.43		17.21 (AG04)	06.52		18.45 (AG05)	06.11			05.52		18.41 (AG06)
	17.15		17.52		18.24	24	17.45 (AG04)	19.57	17	19.02 (AG05)	20.28			20.53	39	19.20 (AG06)
12	07.46		07.22		06.41		17.21 (AG04)	06.50		18.43 (AG05)	06.10			05.52		18.40 (AG06)
	17.16		17.53		18.25	25	17.46 (AG04)	19.58	21	19.04 (AG05)	20.29			20.54	39	19.19 (AG06)
13	07.46		07.20		06.39		17.21 (AG04)	06.49		18.41 (AG05)	06.09			05.52		18.40 (AG06)
	17.17		17.54		18.26	24	17.45 (AG04)	19.59	24	19.05 (AG05)	20.30			20.54	40	19.20 (AG06)
14	07.45		07.19		06.38		17.21 (AG04)	06.47		18.40 (AG05)	06.08			05.51		18.40 (AG06)
	17.18		17.56		18.28	23	17.44 (AG04)	20.00	27	19.07 (AG05)	20.31			20.55	40	19.20 (AG06)
15	07.45		07.18		06.36		17.22 (AG04)	06.46		18.38 (AG05)	06.07			05.51		18.40 (AG06)
	17.20		17.57		18.29	22	17.44 (AG04)	20.01	29	19.07 (AG05)	20.32			20.55	41	19.21 (AG06)
16	07.45		07.17		06.35		17.22 (AG04)	06.44		18.38 (AG05)	06.06			05.51		18.40 (AG06)
	17.21		17.58		18.30	20	17.42 (AG04)	20.02	30	19.08 (AG05)	20.33			20.55	41	19.21 (AG06)
17	07.44		07.15		06.33		17.22 (AG04)	06.43		18.36 (AG05)	06.05			05.52		18.41 (AG06)
	17.22		17.59		18.31	19	17.41 (AG04)	20.03	32	19.08 (AG05)	20.34			20.56	41	19.22 (AG06)
18	07.44		07.14		06.31		17.24 (AG04)	06.41		18.36 (AG05)	06.04			05.52		18.41 (AG06)
	17.23		18.00		18.32	15	17.39 (AG04)	20.04	33	19.09 (AG05)	20.35			20.56	41	19.22 (AG06)
19	07.43		07.13		06.30		17.26 (AG04)	06.40		18.35 (AG05)	06.03			05.52		18.41 (AG06)
	17.24		18.02		18.33	10	17.36 (AG04)	20.05	33	19.08 (AG05)	20.36			20.56	42	19.23 (AG06)
20	07.43		07.11		06.28			06.38		18.35 (AG05)	06.03			05.52		18.41 (AG06)
	17.25		18.03		18.34			20.06	34	19.09 (AG05)	20.37			20.57	42	19.23 (AG06)
21	07.42		07.10		06.26			06.37		18.35 (AG05)	06.02			05.52		18.41 (AG06)
	17.26		18.04		18.35			20.07	34	19.09 (AG05)	20.38			20.57	42	19.23 (AG06)
22	07.41		07.08		06.25			06.35		18.35 (AG05)	06.01			05.52		18.41 (AG06)
	17.28		18.05		18.36			20.08	33	19.08 (AG05)	20.38			20.57	42	19.23 (AG06)
23	07.41		07.07		06.23			06.34		18.35 (AG05)	06.00			05.52		18.42 (AG06)
	17.29		18.06		18.37			20.09	33	19.08 (AG05)	20.39			20.57	42	19.24 (AG06)
24	07.40		07.06		06.21			06.33		18.35 (AG05)	05.59			05.53		18.42 (AG06)
	17.30		18.07		18.38			20.10	32	19.07 (AG05)	20.40			20.57	42	19.24 (AG06)
25	07.39		07.04		06.20			06.31		18.35 (AG05)	05.59			05.53		18.42 (AG06)
	17.31		18.09		18.39			20.12	32	19.07 (AG05)	20.41			20.58	41	19.23 (AG06)
26	07.39		07.03		06.18			06.30		18.36 (AG05)	05.58			05.53		18.43 (AG06)
	17.32		18.10		18.40			20.13	31	19.07 (AG05)	20.42			20.58	41	19.24 (AG06)
27	07.38		07.01		06.16			06.28		18.36 (AG05)	05.57			05.54		18.43 (AG06)
	17.34		18.11		18.41			20.14	29	19.05 (AG05)	20.43			20.58	41	19.24 (AG06)
28	07.37		07.00		06.15			06.27		18.37 (AG05)	05.57			05.54		18.43 (AG06)
	17.35		18.12		18.42			20.15	28	19.05 (AG05)	20.44			20.58	40	19.23 (AG06)
29	07.36				07.13			06.26		18.38 (AG05)	05.56		18.51 (AG06)	05.54		18.44 (AG06)
	17.36				19.43			20.16	26	19.04 (AG05)	20.44	12	19.03 (AG06)	20.58	40	19.24 (AG06)
30	07.35				07.11			06.24		18.38 (AG05)	05.56		18.49 (AG06)	05.55		18.44 (AG06)
	17.37				19.44			20.17	24	19.02 (AG05)	20.45	17	19.06 (AG06)	20.58	39	19.23 (AG06)
31	07.34				07.10						05.55		18.47 (AG06)			
	17.38				19.46						20.46	21	19.08 (AG06)			
Potential sun hours	299		298		370			398			447			451		
Total, worst case						292			591			106			1139	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R25 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (190)

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	05.55		18.45 (AG06)	06.19		06.49		18.45 (AG05)	07.18		18.00 (AG04)	06.52	07.26
	20.58	39	19.24 (AG06)	20.39		19.56	17	19.02 (AG05)	19.07	24	18.24 (AG04)	17.21	16.57
2	05.56		18.45 (AG06)	06.20		06.50		18.49 (AG05)	07.19		18.00 (AG04)	06.53	07.27
	20.57	38	19.23 (AG06)	20.38		19.55	9	18.58 (AG05)	19.05	24	18.24 (AG04)	17.19	16.57
3	05.56		18.46 (AG06)	06.21		06.51			07.20		18.00 (AG04)	06.54	07.28
	20.57	37	19.23 (AG06)	20.37		19.53			19.03	23	18.23 (AG04)	17.18	16.56
4	05.57		18.46 (AG06)	06.22		06.52			07.21		18.00 (AG04)	06.55	07.29
	20.57	37	19.23 (AG06)	20.36		19.52			19.02	22	18.22 (AG04)	17.17	16.56
5	05.57		18.47 (AG06)	06.23		06.53			07.22		18.00 (AG04)	06.56	07.30
	20.57	36	19.23 (AG06)	20.35		19.50			19.00	21	18.21 (AG04)	17.16	16.56
6	05.58		18.47 (AG06)	06.24		06.54			07.23		18.00 (AG04)	06.58	07.31
	20.57	35	19.22 (AG06)	20.33		19.48			18.58	20	18.20 (AG04)	17.15	16.56
7	05.59		18.49 (AG06)	06.25		06.55			07.24		18.01 (AG04)	06.59	07.32
	20.56	33	19.22 (AG06)	20.32		19.47			18.57	17	18.18 (AG04)	17.14	16.56
8	05.59		18.50 (AG06)	06.26		06.56			07.25		18.03 (AG04)	07.00	07.33
	20.56	31	19.21 (AG06)	20.31		19.45			18.55	13	18.16 (AG04)	17.13	16.56
9	06.00		18.50 (AG06)	06.27	18.55 (AG05)	06.57			07.26		18.06 (AG04)	07.01	07.34
	20.56	30	19.20 (AG06)	20.30	8 19.03 (AG05)	19.43			18.54	6	18.12 (AG04)	17.12	16.56
10	06.00		18.52 (AG06)	06.27	18.52 (AG05)	06.58			07.28			07.02	07.35
	20.55	28	19.20 (AG06)	20.28	14 19.06 (AG05)	19.42			18.52			17.11	16.56
11	06.01		18.53 (AG06)	06.28	18.50 (AG05)	06.59			07.29			07.04	07.36
	20.55	26	19.19 (AG06)	20.27	18 19.08 (AG05)	19.40			18.50			17.10	16.56
12	06.02		18.54 (AG06)	06.29	18.48 (AG05)	07.00			07.30			07.05	07.36
	20.54	23	19.17 (AG06)	20.26	22 19.10 (AG05)	19.38			18.49			17.09	16.56
13	06.03		18.56 (AG06)	06.30	18.47 (AG05)	07.01			07.31			07.06	07.37
	20.54	20	19.16 (AG06)	20.25	24 19.11 (AG05)	19.37			18.47			17.08	16.56
14	06.03		18.59 (AG06)	06.31	18.45 (AG05)	07.02			07.32			07.07	07.38
	20.53	15	19.14 (AG06)	20.23	27 19.12 (AG05)	19.35			18.46			17.07	16.56
15	06.04		19.01 (AG06)	06.32	18.44 (AG05)	07.03			07.33			07.08	07.39
	20.53	9	19.10 (AG06)	20.22	28 19.12 (AG05)	19.33			18.44			17.06	16.56
16	06.05			06.33	18.43 (AG05)	07.04			07.34			07.09	07.39
	20.52			20.21	30 19.13 (AG05)	19.32			18.43			17.05	16.57
17	06.06			06.34	18.43 (AG05)	07.04			07.35			07.11	07.40
	20.52			20.19	30 19.13 (AG05)	19.30			18.41			17.04	16.57
18	06.06			06.35	18.42 (AG05)	07.05			07.36			07.12	07.41
	20.51			20.18	32 19.14 (AG05)	19.28			18.40			17.04	16.57
19	06.07			06.36	18.40 (AG05)	07.06			07.37			07.13	07.41
	20.50			20.16	33 19.13 (AG05)	19.27			18.38			17.03	16.58
20	06.08			06.37	18.40 (AG05)	07.07			07.38			07.14	07.42
	20.50			20.15	33 19.13 (AG05)	19.25			18.37			17.02	16.58
21	06.09			06.38	18.40 (AG05)	07.08			07.39			07.15	07.42
	20.49			20.13	33 19.13 (AG05)	19.23			18.35			17.02	16.59
22	06.10			06.39	18.39 (AG05)	07.09			07.40			07.16	07.43
	20.48			20.12	34 19.13 (AG05)	19.22			18.34			17.01	16.59
23	06.11			06.40	18.39 (AG05)	07.10			07.42			07.17	07.44
	20.47			20.10	33 19.12 (AG05)	19.20			18.32			17.00	17.00
24	06.12			06.41	18.39 (AG05)	07.11		18.11 (AG04)	07.43			07.19	07.44
	20.47			20.09	33 19.12 (AG05)	19.18	7	18.18 (AG04)	18.31			17.00	17.00
25	06.12			06.42	18.39 (AG05)	07.12		18.08 (AG04)	06.44			07.20	07.44
	20.46			20.07	32 19.11 (AG05)	19.17	13	18.21 (AG04)	17.30			16.59	17.01
26	06.13			06.43	18.39 (AG05)	07.13		18.05 (AG04)	06.45			07.21	07.45
	20.45			20.06	32 19.11 (AG05)	19.15	18	18.23 (AG04)	17.28			16.59	17.01
27	06.14			06.44	18.40 (AG05)	07.14		18.04 (AG04)	06.46			07.22	07.45
	20.44			20.04	30 19.10 (AG05)	19.13	19	18.23 (AG04)	17.27			16.58	17.02
28	06.15			06.45	18.40 (AG05)	07.15		18.02 (AG04)	06.47			07.23	07.45
	20.43			20.03	29 19.09 (AG05)	19.12	22	18.24 (AG04)	17.26			16.58	17.03
29	06.16			06.46	18.41 (AG05)	07.16		18.01 (AG04)	06.48			07.24	07.46
	20.42			20.01	26 19.07 (AG05)	19.10	23	18.24 (AG04)	17.24			16.57	17.03
30	06.17			06.47	18.42 (AG05)	07.17		18.01 (AG04)	06.50			07.25	07.46
	20.41			20.00	24 19.06 (AG05)	19.08	23	18.24 (AG04)	17.23			16.57	17.04
31	06.18			06.48	18.43 (AG05)				06.51				07.46
	20.40			19.58	21 19.04 (AG05)				17.22				17.05
Potential sun hours	458			427		375			346			299	289
Total, worst case		437			626		151			170			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R26 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (195)

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		17.08 (AG04)	07.08		18.17 (AG05)	06.23		17.44 (AG06)	05.55		18.07 (AG06)
	17.06		17.40			18.13	20	17.28 (AG04)	19.47	33	18.50 (AG05)	20.18	60	18.44 (AG06)	20.47	21	18.28 (AG06)
2	07.47		07.33			06.57		17.10 (AG04)	07.07		18.17 (AG05)	06.22		17.45 (AG06)	05.54		18.09 (AG06)
	17.07		17.41			18.14	17	17.27 (AG04)	19.48	32	18.49 (AG05)	20.19	59	18.44 (AG06)	20.47	18	18.27 (AG06)
3	07.47		07.32			06.55		17.11 (AG04)	07.05		18.17 (AG05)	06.20		17.45 (AG06)	05.54		18.10 (AG06)
	17.08		17.42			18.15	14	17.25 (AG04)	19.49	31	18.48 (AG05)	20.20	59	18.44 (AG06)	20.48	15	18.25 (AG06)
4	07.47		07.31			06.54		17.13 (AG04)	07.03		18.18 (AG05)	06.19		17.45 (AG06)	05.53		18.13 (AG06)
	17.08		17.43			18.17	9	17.22 (AG04)	19.50	29	18.47 (AG05)	20.21	59	18.44 (AG06)	20.49	10	18.23 (AG06)
5	07.47		07.30			06.52			07.02		18.18 (AG05)	06.18		17.44 (AG06)	05.53		18.17 (AG06)
	17.09		17.45			18.18			19.51	28	18.46 (AG05)	20.22	59	18.43 (AG06)	20.50	3	18.20 (AG06)
6	07.47		07.29			06.51			07.00		18.19 (AG05)	06.17		17.45 (AG06)	05.53		
	17.10		17.46			18.19			19.52	25	18.44 (AG05)	20.23	58	18.43 (AG06)	20.50		
7	07.47		07.27			06.49			06.58		18.20 (AG05)	06.16		17.45 (AG06)	05.53		
	17.11		17.47			18.20			19.53	23	18.43 (AG05)	20.24	58	18.43 (AG06)	20.51		
8	07.47		07.26			06.47			06.57		18.22 (AG05)	06.14		17.46 (AG06)	05.52		
	17.12		17.48			18.21			19.54	18	18.40 (AG05)	20.25	57	18.43 (AG06)	20.51		
9	07.46		07.25			06.46			06.55		18.24 (AG05)	06.13		17.46 (AG06)	05.52		
	17.13		17.50			18.22			19.55	14	18.38 (AG05)	20.26	57	18.43 (AG06)	20.52		
10	07.46		07.24			06.44			06.54		18.12 (AG06)	06.12		17.47 (AG06)	05.52		
	17.14		17.51			18.23			19.56	12	18.31 (AG05)	20.27	55	18.42 (AG06)	20.53		
11	07.46		07.23			06.43			06.52		18.06 (AG06)	06.11		17.47 (AG06)	05.52		
	17.15		17.52			18.24			19.57	21	18.27 (AG06)	20.28	55	18.42 (AG06)	20.53		
12	07.46		07.22			06.41			06.50		18.03 (AG06)	06.10		17.48 (AG06)	05.52		
	17.16		17.53			18.25			19.58	28	18.31 (AG06)	20.29	53	18.41 (AG06)	20.54		
13	07.46		07.20			06.39			06.49		17.59 (AG06)	06.09		17.48 (AG06)	05.52		
	17.17		17.54			18.26			19.59	34	18.33 (AG06)	20.30	53	18.41 (AG06)	20.54		
14	07.45		07.19			06.38			06.47		17.58 (AG06)	06.08		17.49 (AG06)	05.51		
	17.18		17.56			18.28			20.00	37	18.35 (AG06)	20.31	51	18.40 (AG06)	20.55		
15	07.45		07.18			06.36			06.46		17.55 (AG06)	06.07		17.49 (AG06)	05.51		
	17.20		17.57			18.29			20.01	41	18.36 (AG06)	20.32	51	18.40 (AG06)	20.55		
16	07.45		07.17			06.35			06.44		17.54 (AG06)	06.06		17.50 (AG06)	05.51		
	17.21		17.58			18.30			20.02	44	18.38 (AG06)	20.33	49	18.39 (AG06)	20.55		
17	07.44		07.15		17.15 (AG04)	06.33			06.43		17.52 (AG06)	06.05		17.50 (AG06)	05.51		
	17.22		17.59	9	17.24 (AG04)	18.31			20.03	47	18.39 (AG06)	20.34	49	18.39 (AG06)	20.56		
18	07.44		07.14		17.12 (AG04)	06.31			06.41		17.51 (AG06)	06.04		17.52 (AG06)	05.52		
	17.23		18.00	14	17.26 (AG04)	18.32			20.04	49	18.40 (AG06)	20.35	47	18.39 (AG06)	20.56		
19	07.43		07.13		17.11 (AG04)	06.30			06.40		17.50 (AG06)	06.03		17.53 (AG06)	05.52		
	17.24		18.02	17	17.28 (AG04)	18.33			20.05	50	18.40 (AG06)	20.36	45	18.38 (AG06)	20.56		
20	07.43		07.11		17.09 (AG04)	06.28		17.30 (AG05)	06.38		17.49 (AG06)	06.03		17.53 (AG06)	05.52		
	17.25		18.03	20	17.29 (AG04)	18.34	12	17.42 (AG05)	20.06	52	18.41 (AG06)	20.37	44	18.37 (AG06)	20.57		
21	07.42		07.10		17.08 (AG04)	06.26		17.27 (AG05)	06.37		17.49 (AG06)	06.02		17.54 (AG06)	05.52		
	17.26		18.04	22	17.30 (AG04)	18.35	19	17.46 (AG05)	20.07	53	18.42 (AG06)	20.38	42	18.36 (AG06)	20.57		
22	07.41		07.08		17.08 (AG04)	06.25		17.24 (AG05)	06.35		17.47 (AG06)	06.01		17.55 (AG06)	05.52		
	17.28		18.05	23	17.31 (AG04)	18.36	23	17.47 (AG05)	20.08	55	18.42 (AG06)	20.38	41	18.36 (AG06)	20.57		
23	07.41		07.07		17.07 (AG04)	06.23		17.22 (AG05)	06.34		17.47 (AG06)	06.00		17.56 (AG06)	05.52		
	17.29		18.06	24	17.31 (AG04)	18.37	26	17.48 (AG05)	20.09	56	18.43 (AG06)	20.39	40	18.36 (AG06)	20.57		
24	07.40		07.06		17.07 (AG04)	06.21		17.21 (AG05)	06.33		17.46 (AG06)	05.59		17.57 (AG06)	05.53		
	17.30		18.07	24	17.31 (AG04)	18.38	29	17.50 (AG05)	20.10	57	18.43 (AG06)	20.40	37	18.34 (AG06)	20.57		
25	07.39		07.04		17.07 (AG04)	06.20		17.20 (AG05)	06.31		17.46 (AG06)	05.59		17.58 (AG06)	05.53		
	17.31		18.09	24	17.31 (AG04)	18.39	30	17.50 (AG05)	20.12	58	18.44 (AG06)	20.41	36	18.34 (AG06)	20.58		
26	07.39		07.03		17.07 (AG04)	06.18		17.18 (AG05)	06.30		17.46 (AG06)	05.58		17.59 (AG06)	05.53		
	17.32		18.10	24	17.31 (AG04)	18.40	32	17.50 (AG05)	20.13	58	18.44 (AG06)	20.42	34	18.33 (AG06)	20.58		
27	07.38		07.01		17.07 (AG04)	06.16		17.18 (AG05)	06.28		17.45 (AG06)	05.57		18.00 (AG06)	05.54		
	17.34		18.11	23	17.30 (AG04)	18.41	33	17.51 (AG05)	20.14	59	18.44 (AG06)	20.43	32	18.32 (AG06)	20.58		
28	07.37		07.00		17.08 (AG04)	06.15		17.17 (AG05)	06.27		17.45 (AG06)	05.57		18.02 (AG06)	05.54		
	17.35		18.12	22	17.30 (AG04)	18.42	34	17.51 (AG05)	20.15	59	18.44 (AG06)	20.44	30	18.32 (AG06)	20.58		
29	07.36					07.13		18.17 (AG05)	06.26		17.45 (AG06)	05.56		18.02 (AG06)	05.54		
	17.36					19.43	33	18.50 (AG05)	20.16	59	18.44 (AG06)	20.44	28	18.30 (AG06)	20.58		
30	07.35					07.11		18.17 (AG05)	06.24		17.44 (AG06)	05.56		18.04 (AG06)	05.55		
	17.37					19.44	34	18.51 (AG05)	20.17	60	18.44 (AG06)	20.45	26	18.30 (AG06)	20.58		
31	07.34					07.10		18.16 (AG05)				05.55		18.05 (AG06)			
	17.38					19.46	34	18.50 (AG05)				20.46	23	18.28 (AG06)			
Potential sun hours	299		298			370			398			447			451		
Total, worst case				246			399			1222			1447			67	

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 43
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R26 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (195)

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	05.55			06.19			17.58 (AG06)	06.49			18.06 (AG06)	07.18			06.52	07.26
	20.58			20.39	54		18.52 (AG06)	19.57	21		18.27 (AG06)	19.07			17.21	16.57
2	05.56			06.20			17.58 (AG06)	06.50			18.11 (AG06)	07.19			06.53	07.27
	20.57			20.38	55		18.53 (AG06)	19.55	12		18.31 (AG05)	19.05			17.19	16.57
3	05.56			06.21			17.57 (AG06)	06.51			18.21 (AG05)	07.20			06.54	07.28
	20.57			20.37	56		18.53 (AG06)	19.53	14		18.35 (AG05)	19.03			17.18	16.56
4	05.57			06.22			17.56 (AG06)	06.52			18.19 (AG05)	07.21			06.55	07.29
	20.57			20.36	56		18.52 (AG06)	19.52	18		18.37 (AG05)	19.02			17.17	16.56
5	05.57			06.23			17.55 (AG06)	06.53			18.16 (AG05)	07.22			06.56	07.30
	20.57			20.35	57		18.52 (AG06)	19.50	23		18.39 (AG05)	19.00			17.16	16.56
6	05.58			06.24			17.55 (AG06)	06.54			18.15 (AG05)	07.23			06.58	07.31
	20.57			20.33	58		18.53 (AG06)	19.48	25		18.40 (AG05)	18.58			17.15	16.56
7	05.59			06.25			17.54 (AG06)	06.55			18.13 (AG05)	07.24			06.59	07.32
	20.56			20.32	59		18.53 (AG06)	19.47	28		18.41 (AG05)	18.57			17.14	16.56
8	05.59		18.21 (AG06)	06.26			17.54 (AG06)	06.56			18.12 (AG05)	07.25			07.00	07.33
	20.56	8	18.29 (AG06)	20.31	59		18.53 (AG06)	19.45	29		18.41 (AG05)	18.55			17.13	16.56
9	06.00		18.18 (AG06)	06.27			17.54 (AG06)	06.57			18.11 (AG05)	07.26	17.51 (AG04)		07.01	07.34
	20.56	13	18.31 (AG06)	20.30	59		18.53 (AG06)	19.43	31		18.42 (AG05)	18.54	2	17.53 (AG04)	17.12	16.56
10	06.00		18.17 (AG06)	06.27			17.53 (AG06)	06.58			18.10 (AG05)	07.28		17.47 (AG04)	07.02	07.35
	20.55	16	18.33 (AG06)	20.28	60		18.53 (AG06)	19.42	32		18.42 (AG05)	18.52	12	17.59 (AG04)	17.11	16.56
11	06.01		18.16 (AG06)	06.28			17.53 (AG06)	06.59			18.09 (AG05)	07.29		17.44 (AG04)	07.04	07.36
	20.55	19	18.35 (AG06)	20.27	60		18.53 (AG06)	19.40	33		18.42 (AG05)	18.50	16	18.00 (AG04)	17.10	16.56
12	06.02		18.14 (AG06)	06.29			17.53 (AG06)	07.00			18.09 (AG05)	07.30		17.43 (AG04)	07.05	07.36
	20.54	22	18.36 (AG06)	20.26	60		18.53 (AG06)	19.38	33		18.42 (AG05)	18.49	18	18.01 (AG04)	17.09	16.56
13	06.03		18.13 (AG06)	06.30			17.53 (AG06)	07.01			18.08 (AG05)	07.31		17.41 (AG04)	07.06	07.37
	20.54	25	18.38 (AG06)	20.25	59		18.52 (AG06)	19.37	34		18.42 (AG05)	18.47	21	18.02 (AG04)	17.08	16.56
14	06.03		18.12 (AG06)	06.31			17.53 (AG06)	07.02			18.08 (AG05)	07.32		17.40 (AG04)	07.07	07.38
	20.53	27	18.39 (AG06)	20.23	59		18.52 (AG06)	19.35	33		18.41 (AG05)	18.46	22	18.02 (AG04)	17.07	16.56
15	06.04		18.10 (AG06)	06.32			17.52 (AG06)	07.03			18.08 (AG05)	07.33		17.39 (AG04)	07.08	07.39
	20.53	29	18.39 (AG06)	20.22	60		18.52 (AG06)	19.33	33		18.41 (AG05)	18.44	24	18.03 (AG04)	17.06	16.56
16	06.05		18.10 (AG06)	06.33			17.52 (AG06)	07.04			18.08 (AG05)	07.34		17.39 (AG04)	07.09	07.39
	20.52	31	18.41 (AG06)	20.21	59		18.51 (AG06)	19.32	32		18.40 (AG05)	18.43	23	18.02 (AG04)	17.05	16.57
17	06.06		18.09 (AG06)	06.34			17.52 (AG06)	07.04			18.08 (AG05)	07.35		17.38 (AG04)	07.11	07.40
	20.52	33	18.42 (AG06)	20.19	59		18.51 (AG06)	19.30	31		18.39 (AG05)	18.41	24	18.02 (AG04)	17.04	16.57
18	06.06		18.08 (AG06)	06.35			17.53 (AG06)	07.05			18.07 (AG05)	07.36		17.38 (AG04)	07.12	07.41
	20.51	35	18.43 (AG06)	20.18	57		18.50 (AG06)	19.28	30		18.37 (AG05)	18.40	24	18.02 (AG04)	17.04	16.57
19	06.07		18.07 (AG06)	06.36			17.52 (AG06)	07.06			18.07 (AG05)	07.37		17.39 (AG04)	07.13	07.41
	20.50	36	18.43 (AG06)	20.16	57		18.49 (AG06)	19.27	29		18.36 (AG05)	18.38	23	18.02 (AG04)	17.03	16.58
20	06.08		18.06 (AG06)	06.37			17.52 (AG06)	07.07			18.08 (AG05)	07.38		17.39 (AG04)	07.14	07.42
	20.50	39	18.45 (AG06)	20.15	56		18.48 (AG06)	19.25	27		18.35 (AG05)	18.37	22	18.01 (AG04)	17.02	16.58
21	06.09		18.05 (AG06)	06.38			17.52 (AG06)	07.08			18.09 (AG05)	07.39		17.39 (AG04)	07.15	07.42
	20.49	41	18.46 (AG06)	20.13	55		18.47 (AG06)	19.23	24		18.33 (AG05)	18.35	21	18.00 (AG04)	17.02	16.59
22	06.10		18.05 (AG06)	06.39			17.53 (AG06)	07.09			18.11 (AG05)	07.40		17.40 (AG04)	07.16	07.43
	20.48	42	18.47 (AG06)	20.12	53		18.46 (AG06)	19.22	20		18.31 (AG05)	18.34	19	17.59 (AG04)	17.01	16.59
23	06.11		18.04 (AG06)	06.40			17.53 (AG06)	07.10			18.13 (AG05)	07.42		17.41 (AG04)	07.17	07.44
	20.47	43	18.47 (AG06)	20.10	52		18.45 (AG06)	19.20	15		18.28 (AG05)	18.32	16	17.57 (AG04)	17.00	17.00
24	06.12		18.04 (AG06)	06.41			17.54 (AG06)	07.11			18.17 (AG05)	07.43		17.42 (AG04)	07.19	07.44
	20.47	44	18.48 (AG06)	20.09	50		18.44 (AG06)	19.18	6		18.23 (AG05)	18.31	13	17.55 (AG04)	17.00	17.00
25	06.12		18.02 (AG06)	06.42			17.54 (AG06)	07.12				06.44		16.46 (AG04)	07.20	07.44
	20.46	46	18.48 (AG06)	20.07	49		18.43 (AG06)	19.17				17.30	7	16.53 (AG04)	16.59	17.01
26	06.13		18.01 (AG06)	06.43			17.55 (AG06)	07.13				06.45			07.21	07.45
	20.45	48	18.49 (AG06)	20.06	46		18.41 (AG06)	19.15				17.28			16.59	17.01
27	06.14		18.01 (AG06)	06.44			17.56 (AG06)	07.14				06.46			07.22	07.45
	20.44	49	18.50 (AG06)	20.04	44		18.40 (AG06)	19.13				17.27			16.58	17.02
28	06.15		18.00 (AG06)	06.45			17.57 (AG06)	07.15				06.47			07.23	07.45
	20.43	50	18.50 (AG06)	20.03	41		18.38 (AG06)	19.12				17.26			16.58	17.03
29	06.16		18.00 (AG06)	06.46			17.59 (AG06)	07.16				06.48			07.24	07.46
	20.42	51	18.51 (AG06)	20.01	37		18.36 (AG06)	19.10				17.24			16.57	17.03
30	06.17		17.59 (AG06)	06.47			18.01 (AG06)	07.17				06.50			07.25	07.46
	20.41	52	18.51 (AG06)	20.00	33		18.34 (AG06)	19.08				17.23			16.57	17.04
31	06.18		17.59 (AG06)	06.48			18.03 (AG06)					06.51				07.46
	20.40	53	18.52 (AG06)	19.58	28		18.31 (AG06)					17.22				17.05
Potential sun hours	458			427			375			346			299		289	
Total, worst case		852			1647			613			307					

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R27 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (193)

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		17.10 (AG04)	07.08		18.22 (AG05)	06.23		17.55 (AG06)	05.55		18.06 (AG06)
	17.06		17.40			18.13	24	17.34 (AG04)	19.47	32	18.54 (AG05)	20.18	55	18.50 (AG06)	20.47	39	18.45 (AG06)
2	07.47		07.33			06.57		17.11 (AG04)	07.07		18.21 (AG05)	06.22		17.55 (AG06)	05.54		18.07 (AG06)
	17.07		17.41			18.14	23	17.34 (AG04)	19.48	33	18.54 (AG05)	20.19	56	18.51 (AG06)	20.47	38	18.45 (AG06)
3	07.47		07.32			06.55		17.11 (AG04)	07.05		18.20 (AG05)	06.20		17.55 (AG06)	05.54		18.07 (AG06)
	17.08		17.42			18.15	22	17.33 (AG04)	19.49	33	18.53 (AG05)	20.20	56	18.51 (AG06)	20.48	37	18.44 (AG06)
4	07.47		07.31			06.54		17.11 (AG04)	07.03		18.21 (AG05)	06.19		17.55 (AG06)	05.53		18.09 (AG06)
	17.08		17.43			18.17	20	17.31 (AG04)	19.50	32	18.53 (AG05)	20.21	56	18.51 (AG06)	20.49	35	18.44 (AG06)
5	07.47		07.30			06.52		17.13 (AG04)	07.02		18.21 (AG05)	06.18		17.54 (AG06)	05.53		18.10 (AG06)
	17.09		17.45			18.18	17	17.30 (AG04)	19.51	31	18.52 (AG05)	20.22	57	18.51 (AG06)	20.50	34	18.44 (AG06)
6	07.47		07.29			06.51		17.14 (AG04)	07.00		18.20 (AG05)	06.17		17.54 (AG06)	05.53		18.10 (AG06)
	17.10		17.46			18.19	14	17.28 (AG04)	19.52	31	18.51 (AG05)	20.23	57	18.51 (AG06)	20.50	33	18.43 (AG06)
7	07.47		07.27			06.49		17.16 (AG04)	06.58		18.21 (AG05)	06.16		17.54 (AG06)	05.53		18.11 (AG06)
	17.11		17.47			18.20	10	17.26 (AG04)	19.53	30	18.51 (AG05)	20.24	57	18.51 (AG06)	20.51	32	18.43 (AG06)
8	07.47		07.26			06.47			06.57		18.21 (AG05)	06.14		17.54 (AG06)	05.52		18.12 (AG06)
	17.12		17.48			18.21			19.54	29	18.50 (AG05)	20.25	57	18.51 (AG06)	20.51	30	18.42 (AG06)
9	07.46		07.25			06.46			06.55		18.23 (AG05)	06.13		17.54 (AG06)	05.52		18.12 (AG06)
	17.13		17.50			18.22			19.55	26	18.49 (AG05)	20.26	57	18.51 (AG06)	20.52	30	18.42 (AG06)
10	07.46		07.24			06.44			06.54		18.23 (AG05)	06.12		17.55 (AG06)	05.52		18.13 (AG06)
	17.14		17.51			18.23			19.56	24	18.47 (AG05)	20.27	56	18.51 (AG06)	20.53	29	18.42 (AG06)
11	07.46		07.23			06.43			06.52		18.24 (AG05)	06.11		17.55 (AG06)	05.52		18.14 (AG06)
	17.15		17.52			18.24			19.57	21	18.45 (AG05)	20.28	56	18.51 (AG06)	20.53	28	18.42 (AG06)
12	07.46		07.22			06.41			06.50		18.27 (AG05)	06.10		17.55 (AG06)	05.52		18.14 (AG06)
	17.16		17.53			18.25			19.58	16	18.43 (AG05)	20.29	56	18.51 (AG06)	20.54	27	18.41 (AG06)
13	07.46		07.20			06.39			06.49		18.29 (AG05)	06.09		17.55 (AG06)	05.52		18.15 (AG06)
	17.17		17.54			18.26			19.59	11	18.40 (AG05)	20.30	56	18.51 (AG06)	20.54	26	18.41 (AG06)
14	07.45		07.19			06.38			06.47			06.08		17.55 (AG06)	05.51		18.15 (AG06)
	17.18		17.56			18.28			20.00			20.31	56	18.51 (AG06)	20.55	25	18.40 (AG06)
15	07.45		07.18			06.36			06.46			06.07		17.56 (AG06)	05.51		18.16 (AG06)
	17.20		17.57			18.29			20.01			20.32	54	18.50 (AG06)	20.55	24	18.40 (AG06)
16	07.45		07.17			06.35			06.44			06.06		17.56 (AG06)	05.51		18.16 (AG06)
	17.21		17.58			18.30			20.02			20.33	54	18.50 (AG06)	20.55	24	18.40 (AG06)
17	07.44		07.15			06.33			06.43		18.15 (AG06)	06.05		17.56 (AG06)	05.51		18.18 (AG06)
	17.22		17.59			18.31			20.03	18	18.33 (AG06)	20.34	54	18.50 (AG06)	20.56	23	18.41 (AG06)
18	07.44		07.14			06.31			06.41		18.12 (AG06)	06.04		17.58 (AG06)	05.52		18.18 (AG06)
	17.23		18.00			18.32			20.04	25	18.37 (AG06)	20.35	52	18.50 (AG06)	20.56	23	18.41 (AG06)
19	07.43		07.13			06.30			06.40		18.09 (AG06)	06.03		17.58 (AG06)	05.52		18.18 (AG06)
	17.24		18.02			18.33			20.05	30	18.39 (AG06)	20.36	52	18.50 (AG06)	20.56	23	18.41 (AG06)
20	07.43		07.11			06.28			06.38		18.07 (AG06)	06.03		17.58 (AG06)	05.52		18.18 (AG06)
	17.25		18.03			18.34			20.06	34	18.41 (AG06)	20.37	51	18.49 (AG06)	20.57	23	18.41 (AG06)
21	07.42		07.10		17.18 (AG04)	06.26			06.37		18.05 (AG06)	06.02		17.59 (AG06)	05.52		18.18 (AG06)
	17.26		18.04	10	17.28 (AG04)	18.35			20.07	38	18.43 (AG06)	20.38	50	18.49 (AG06)	20.57	23	18.41 (AG06)
22	07.41		07.08		17.16 (AG04)	06.25			06.35		18.03 (AG06)	06.01		17.59 (AG06)	05.52		18.18 (AG06)
	17.28		18.05	15	17.31 (AG04)	18.36			20.08	41	18.44 (AG06)	20.38	49	18.48 (AG06)	20.57	23	18.41 (AG06)
23	07.41		07.07		17.14 (AG04)	06.23			06.34		18.02 (AG06)	06.00		18.00 (AG06)	05.52		18.19 (AG06)
	17.29		18.06	18	17.32 (AG04)	18.37			20.09	44	18.46 (AG06)	20.39	48	18.48 (AG06)	20.57	23	18.42 (AG06)
24	07.40		07.06		17.13 (AG04)	06.21		17.34 (AG05)	06.33		18.00 (AG06)	05.59		18.00 (AG06)	05.53		18.19 (AG06)
	17.30		18.07	20	17.33 (AG04)	18.38	13	17.47 (AG05)	20.10	46	18.46 (AG06)	20.40	48	18.48 (AG06)	20.57	23	18.42 (AG06)
25	07.39		07.04		17.12 (AG04)	06.20		17.30 (AG05)	06.31		18.00 (AG06)	05.59		18.02 (AG06)	05.53		18.19 (AG06)
	17.31		18.09	21	17.33 (AG04)	18.39	19	17.49 (AG05)	20.12	47	18.47 (AG06)	20.41	46	18.48 (AG06)	20.58	23	18.42 (AG06)
26	07.39		07.03		17.11 (AG04)	06.18		17.28 (AG05)	06.30		17.59 (AG06)	05.58		18.02 (AG06)	05.53		18.19 (AG06)
	17.32		18.10	23	17.34 (AG04)	18.40	22	17.50 (AG05)	20.13	49	18.48 (AG06)	20.42	45	18.47 (AG06)	20.58	24	18.43 (AG06)
27	07.38		07.01		17.10 (AG04)	06.16		17.27 (AG05)	06.28		17.57 (AG06)	05.57		18.02 (AG06)	05.54		18.19 (AG06)
	17.34		18.11	24	17.34 (AG04)	18.41	25	17.52 (AG05)	20.14	51	18.48 (AG06)	20.43	44	18.46 (AG06)	20.58	24	18.43 (AG06)
28	07.37		07.00		17.11 (AG04)	06.15		17.25 (AG05)	06.27		17.57 (AG06)	05.57		18.03 (AG06)	05.54		18.18 (AG06)
	17.35		18.12	23	17.34 (AG04)	18.42	28	17.53 (AG05)	20.15	52	18.49 (AG06)	20.44	44	18.47 (AG06)	20.58	25	18.43 (AG06)
29	07.36					07.13		18.23 (AG05)	06.26		17.57 (AG06)	05.56		18.04 (AG06)	05.54		18.19 (AG06)
	17.36					19.43	30	18.53 (AG05)	20.16	53	18.50 (AG06)	20.44	42	18.46 (AG06)	20.58	26	18.45 (AG06)
30	07.35					07.11		18.23 (AG05)	06.24		17.55 (AG06)	05.56		18.05 (AG06)	05.55		18.18 (AG06)
	17.37					19.44	31	18.54 (AG05)	20.17	54	18.49 (AG06)	20.45	41	18.46 (AG06)	20.58	27	18.45 (AG06)
31	07.34					07.10		18.22 (AG05)				05.55		18.05 (AG06)			
	17.38					19.46	32	18.54 (AG05)				20.46	40	18.45 (AG06)			
Potential sun hours	299		298			370			398			447			451		
Total, worst case				154			330			931			1602			824	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R27 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (193)

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	05.55		18.18 (AG06)	06.19		18.06 (AG06)	06.49		18.24 (AG05)	07.18			06.52	07.26
	20.58	28	18.46 (AG06)	20.39	56	19.02 (AG06)	19.56	21	18.45 (AG05)	19.07			17.21	16.57
2	05.56		18.18 (AG06)	06.20		18.05 (AG06)	06.50		18.22 (AG05)	07.19			06.53	07.27
	20.57	28	18.46 (AG06)	20.38	57	19.02 (AG06)	19.55	24	18.46 (AG05)	19.05			17.19	16.57
3	05.56		18.18 (AG06)	06.21		18.05 (AG06)	06.51		18.20 (AG05)	07.20			06.54	07.28
	20.57	29	18.47 (AG06)	20.37	57	19.02 (AG06)	19.53	26	18.46 (AG05)	19.03			17.18	16.56
4	05.57		18.17 (AG06)	06.22		18.04 (AG06)	06.52		18.19 (AG05)	07.21			06.55	07.29
	20.57	30	18.47 (AG06)	20.36	57	19.01 (AG06)	19.52	28	18.47 (AG05)	19.02			17.17	16.56
5	05.57		18.17 (AG06)	06.23		18.04 (AG06)	06.53		18.17 (AG05)	07.22			06.56	07.30
	20.57	32	18.49 (AG06)	20.35	57	19.01 (AG06)	19.50	30	18.47 (AG05)	19.00			17.16	16.56
6	05.58		18.16 (AG06)	06.24		18.04 (AG06)	06.54		18.16 (AG05)	07.23		17.54 (AG04)	06.58	07.31
	20.57	33	18.49 (AG06)	20.33	57	19.01 (AG06)	19.48	31	18.47 (AG05)	18.58	6	18.00 (AG04)	17.15	16.56
7	05.59		18.16 (AG06)	06.25		18.04 (AG06)	06.55		18.16 (AG05)	07.24		17.50 (AG04)	06.59	07.32
	20.56	34	18.50 (AG06)	20.32	56	19.00 (AG06)	19.47	32	18.48 (AG05)	18.57	13	18.03 (AG04)	17.14	16.56
8	05.59		18.16 (AG06)	06.26		18.04 (AG06)	06.56		18.15 (AG05)	07.25		17.48 (AG04)	07.00	07.33
	20.56	35	18.51 (AG06)	20.31	56	19.00 (AG06)	19.45	32	18.47 (AG05)	18.55	16	18.04 (AG04)	17.13	16.56
9	06.00		18.15 (AG06)	06.27		18.04 (AG06)	06.57		18.15 (AG05)	07.26		17.46 (AG04)	07.01	07.34
	20.56	36	18.51 (AG06)	20.30	56	19.00 (AG06)	19.43	32	18.47 (AG05)	18.54	19	18.05 (AG04)	17.12	16.56
10	06.00		18.15 (AG06)	06.27		18.04 (AG06)	06.58		18.14 (AG05)	07.28		17.46 (AG04)	07.02	07.35
	20.55	37	18.52 (AG06)	20.28	56	19.00 (AG06)	19.42	33	18.47 (AG05)	18.52	21	18.07 (AG04)	17.11	16.56
11	06.01		18.15 (AG06)	06.28		18.04 (AG06)	06.59		18.14 (AG05)	07.29		17.45 (AG04)	07.04	07.36
	20.55	38	18.53 (AG06)	20.27	55	18.59 (AG06)	19.40	32	18.46 (AG05)	18.50	22	18.07 (AG04)	17.10	16.56
12	06.02		18.14 (AG06)	06.29		18.04 (AG06)	07.00		18.14 (AG05)	07.30		17.44 (AG04)	07.05	07.36
	20.54	39	18.53 (AG06)	20.26	55	18.59 (AG06)	19.38	32	18.46 (AG05)	18.49	23	18.07 (AG04)	17.09	16.56
13	06.03		18.13 (AG06)	06.30		18.04 (AG06)	07.01		18.14 (AG05)	07.31		17.44 (AG04)	07.06	07.37
	20.54	41	18.54 (AG06)	20.25	54	18.58 (AG06)	19.37	31	18.45 (AG05)	18.47	23	18.07 (AG04)	17.08	16.56
14	06.03		18.13 (AG06)	06.31		18.04 (AG06)	07.02		18.14 (AG05)	07.32		17.43 (AG04)	07.07	07.38
	20.53	42	18.55 (AG06)	20.23	53	18.57 (AG06)	19.35	30	18.44 (AG05)	18.46	24	18.07 (AG04)	17.07	16.56
15	06.04		18.12 (AG06)	06.32		18.05 (AG06)	07.03		18.15 (AG05)	07.33		17.43 (AG04)	07.08	07.39
	20.53	43	18.55 (AG06)	20.22	52	18.57 (AG06)	19.33	28	18.43 (AG05)	18.44	23	18.06 (AG04)	17.06	16.56
16	06.05		18.12 (AG06)	06.33		18.05 (AG06)	07.04		18.16 (AG05)	07.34		17.43 (AG04)	07.09	07.39
	20.52	44	18.56 (AG06)	20.21	51	18.56 (AG06)	19.32	26	18.42 (AG05)	18.43	23	18.06 (AG04)	17.05	16.57
17	06.06		18.12 (AG06)	06.34		18.06 (AG06)	07.04		18.17 (AG05)	07.35		17.43 (AG04)	07.11	07.40
	20.52	44	18.56 (AG06)	20.19	49	18.55 (AG06)	19.30	23	18.40 (AG05)	18.41	22	18.05 (AG04)	17.04	16.57
18	06.06		18.11 (AG06)	06.35		18.06 (AG06)	07.05		18.17 (AG05)	07.36		17.44 (AG04)	07.12	07.41
	20.51	46	18.57 (AG06)	20.18	48	18.54 (AG06)	19.28	20	18.37 (AG05)	18.40	19	18.03 (AG04)	17.04	16.57
19	06.07		18.10 (AG06)	06.36		18.06 (AG06)	07.06		18.19 (AG05)	07.37		17.46 (AG04)	07.13	07.41
	20.50	47	18.57 (AG06)	20.16	46	18.52 (AG06)	19.27	15	18.34 (AG05)	18.38	17	18.03 (AG04)	17.03	16.58
20	06.08		18.10 (AG06)	06.37		18.07 (AG06)	07.07		18.24 (AG05)	07.38		17.47 (AG04)	07.14	07.42
	20.50	48	18.58 (AG06)	20.15	43	18.50 (AG06)	19.25	4	18.28 (AG05)	18.37	14	18.01 (AG04)	17.02	16.58
21	06.09		18.09 (AG06)	06.38		18.08 (AG06)	07.08			07.39		17.49 (AG04)	07.15	07.42
	20.49	49	18.58 (AG06)	20.13	41	18.49 (AG06)	19.23			18.35	9	17.58 (AG04)	17.02	16.59
22	06.10		18.09 (AG06)	06.39		18.09 (AG06)	07.09			07.40			07.16	07.43
	20.48	50	18.59 (AG06)	20.12	38	18.47 (AG06)	19.22			18.34			17.01	16.59
23	06.11		18.09 (AG06)	06.40		18.11 (AG06)	07.10			07.42			07.17	07.44
	20.47	50	18.59 (AG06)	20.10	34	18.45 (AG06)	19.20			18.32			17.00	17.00
24	06.12		18.09 (AG06)	06.41		18.13 (AG06)	07.11			07.43			07.19	07.44
	20.47	51	19.00 (AG06)	20.09	30	18.43 (AG06)	19.18			18.31			17.00	17.00
25	06.12		18.07 (AG06)	06.42		18.15 (AG06)	07.12			06.44			07.20	07.44
	20.46	52	18.59 (AG06)	20.07	25	18.40 (AG06)	19.17			17.30			16.59	17.01
26	06.13		18.07 (AG06)	06.43		18.19 (AG06)	07.13			06.45			07.21	07.45
	20.45	53	19.00 (AG06)	20.06	17	18.36 (AG06)	19.15			17.28			16.59	17.01
27	06.14		18.07 (AG06)	06.44			07.14			06.46			07.22	07.45
	20.44	53	19.00 (AG06)	20.04			19.13			17.27			16.58	17.02
28	06.15		18.06 (AG06)	06.45			07.15			06.47			07.23	07.45
	20.43	55	19.01 (AG06)	20.03			19.12			17.26			16.58	17.03
29	06.16		18.06 (AG06)	06.46			07.16			06.48			07.24	07.46
	20.42	55	19.01 (AG06)	20.01			19.10			17.24			16.57	17.03
30	06.17		18.06 (AG06)	06.47		18.30 (AG05)	07.17			06.50			07.25	07.46
	20.41	55	19.01 (AG06)	20.00	11	18.41 (AG05)	19.08			17.23			16.57	17.04
31	06.18		18.06 (AG06)	06.48		18.26 (AG05)				06.51				07.46
	20.40	55	19.01 (AG06)	19.58	17	18.43 (AG05)				17.22				17.05
Potential sun hours	458			427			375			346			299	289
Total, worst case		1332			1284			530			294			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R28 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (192)

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	07.46		07.34			06.58		17.23 (AG04)	07.08		18.38 (AG05)	06.23		18.21 (AG06)	05.55		18.21 (AG06)
	17.06		17.40			18.13	15	17.38 (AG04)	19.47	20	18.58 (AG05)	20.18	38	18.59 (AG06)	20.47	42	19.03 (AG06)
2	07.47		07.33			06.57		17.22 (AG04)	07.07		18.36 (AG05)	06.22		18.20 (AG06)	05.54		18.22 (AG06)
	17.07		17.41			18.14	18	17.40 (AG04)	19.48	23	18.59 (AG05)	20.19	40	19.00 (AG06)	20.47	42	19.04 (AG06)
3	07.47		07.32			06.55		17.20 (AG04)	07.05		18.34 (AG05)	06.20		18.19 (AG06)	05.54		18.22 (AG06)
	17.08		17.42			18.15	20	17.40 (AG04)	19.49	25	18.59 (AG05)	20.20	42	19.01 (AG06)	20.48	41	19.03 (AG06)
4	07.47		07.31			06.54		17.19 (AG04)	07.03		18.33 (AG05)	06.19		18.19 (AG06)	05.53		18.23 (AG06)
	17.08		17.43			18.17	21	17.40 (AG04)	19.50	27	19.00 (AG05)	20.21	43	19.02 (AG06)	20.49	40	19.03 (AG06)
5	07.47		07.30			06.52		17.19 (AG04)	07.02		18.32 (AG05)	06.18		18.17 (AG06)	05.53		18.23 (AG06)
	17.09		17.45			18.18	22	17.41 (AG04)	19.51	28	19.00 (AG05)	20.22	45	19.02 (AG06)	20.50	40	19.03 (AG06)
6	07.47		07.29			06.51		17.18 (AG04)	07.00		18.31 (AG05)	06.17		18.17 (AG06)	05.53		18.23 (AG06)
	17.10		17.46			18.19	23	17.41 (AG04)	19.52	29	19.00 (AG05)	20.23	45	19.02 (AG06)	20.50	39	19.02 (AG06)
7	07.47		07.27			06.49		17.19 (AG04)	06.58		18.31 (AG05)	06.16		18.16 (AG06)	05.53		18.24 (AG06)
	17.11		17.47			18.20	22	17.41 (AG04)	19.53	30	19.01 (AG05)	20.24	47	19.03 (AG06)	20.51	38	19.02 (AG06)
8	07.47		07.26			06.47		17.18 (AG04)	06.57		18.30 (AG05)	06.14		18.16 (AG06)	05.52		18.25 (AG06)
	17.12		17.48			18.21	22	17.40 (AG04)	19.54	30	19.00 (AG05)	20.25	47	19.03 (AG06)	20.51	38	19.03 (AG06)
9	07.46		07.25			06.46		17.18 (AG04)	06.55		18.30 (AG05)	06.13		18.16 (AG06)	05.52		18.25 (AG06)
	17.13		17.50			18.22	21	17.39 (AG04)	19.55	31	19.01 (AG05)	20.26	48	19.04 (AG06)	20.52	38	19.03 (AG06)
10	07.46		07.24			06.44		17.20 (AG04)	06.54		18.30 (AG05)	06.12		18.15 (AG06)	05.52		18.26 (AG06)
	17.14		17.51			18.23	18	17.38 (AG04)	19.56	30	19.00 (AG05)	20.27	49	19.04 (AG06)	20.53	37	19.03 (AG06)
11	07.46		07.23			06.43		17.20 (AG04)	06.52		18.30 (AG05)	06.11		18.15 (AG06)	05.52		18.27 (AG06)
	17.15		17.52			18.24	16	17.36 (AG04)	19.57	29	18.59 (AG05)	20.28	49	19.04 (AG06)	20.53	36	19.03 (AG06)
12	07.46		07.22			06.41		17.22 (AG04)	06.50		18.30 (AG05)	06.10		18.15 (AG06)	05.52		18.26 (AG06)
	17.16		17.53			18.25	13	17.35 (AG04)	19.58	29	18.59 (AG05)	20.29	50	19.05 (AG06)	20.54	36	19.02 (AG06)
13	07.46		07.20			06.39		17.25 (AG04)	06.49		18.30 (AG05)	06.09		18.15 (AG06)	05.52		18.27 (AG06)
	17.17		17.54			18.26	6	17.31 (AG04)	19.59	27	18.57 (AG05)	20.30	50	19.05 (AG06)	20.54	35	19.02 (AG06)
14	07.45		07.19			06.38			06.47		18.31 (AG05)	06.08		18.15 (AG06)	05.51		18.27 (AG06)
	17.18		17.56			18.28			20.00	26	18.57 (AG05)	20.31	50	19.05 (AG06)	20.55	35	19.02 (AG06)
15	07.45		07.18			06.36			06.46		18.32 (AG05)	06.07		18.15 (AG06)	05.51		18.27 (AG06)
	17.20		17.57			18.29			20.01	23	18.55 (AG05)	20.32	50	19.05 (AG06)	20.55	35	19.02 (AG06)
16	07.45		07.17			06.35			06.44		18.33 (AG05)	06.06		18.15 (AG06)	05.51		18.28 (AG06)
	17.21		17.58			18.30			20.02	21	18.54 (AG05)	20.33	50	19.05 (AG06)	20.55	34	19.02 (AG06)
17	07.44		07.15			06.33			06.43		18.34 (AG05)	06.05		18.15 (AG06)	05.51		18.29 (AG06)
	17.22		17.59			18.31			20.03	17	18.51 (AG05)	20.34	50	19.05 (AG06)	20.56	34	19.03 (AG06)
18	07.44		07.14			06.31			06.41		18.37 (AG05)	06.04		18.16 (AG06)	05.52		18.29 (AG06)
	17.23		18.00			18.32			20.04	12	18.49 (AG05)	20.35	49	19.05 (AG06)	20.56	34	19.03 (AG06)
19	07.43		07.13			06.30			06.40			06.03		18.16 (AG06)	05.52		18.29 (AG06)
	17.24		18.02			18.33			20.05			20.36	49	19.05 (AG06)	20.56	34	19.03 (AG06)
20	07.43		07.11			06.28			06.38			06.03		18.16 (AG06)	05.52		18.30 (AG06)
	17.25		18.03			18.34			20.06			20.37	49	19.05 (AG06)	20.57	33	19.03 (AG06)
21	07.42		07.10			06.26			06.37			06.02		18.16 (AG06)	05.52		18.30 (AG06)
	17.26		18.04			18.35			20.07			20.38	49	19.05 (AG06)	20.57	33	19.03 (AG06)
22	07.41		07.08			06.25			06.35			06.01		18.16 (AG06)	05.52		18.30 (AG06)
	17.28		18.05			18.36			20.08			20.38	48	19.04 (AG06)	20.57	33	19.03 (AG06)
23	07.41		07.07			06.23			06.34			06.00		18.17 (AG06)	05.52		18.31 (AG06)
	17.29		18.06			18.37			20.09			20.39	48	19.05 (AG06)	20.57	33	19.04 (AG06)
24	07.40		07.06			06.21			06.33			05.59		18.17 (AG06)	05.53		18.30 (AG06)
	17.30		18.07			18.38			20.10			20.40	47	19.04 (AG06)	20.57	34	19.04 (AG06)
25	07.39		07.04			06.20			06.31		18.35 (AG06)	05.59		18.18 (AG06)	05.53		18.30 (AG06)
	17.31		18.09			18.39			20.12	12	18.47 (AG06)	20.41	47	19.05 (AG06)	20.58	34	19.04 (AG06)
26	07.39		07.03			06.18			06.30		18.31 (AG06)	05.58		18.18 (AG06)	05.53		18.31 (AG06)
	17.32		18.10			18.40			20.13	20	18.51 (AG06)	20.42	46	19.04 (AG06)	20.58	34	19.05 (AG06)
27	07.38		07.01		17.28 (AG04)	06.16			06.28		18.28 (AG06)	05.57		18.18 (AG06)	05.54		18.31 (AG06)
	17.34		18.11	5	17.33 (AG04)	18.41			20.14	25	18.53 (AG06)	20.43	46	19.04 (AG06)	20.58	34	19.05 (AG06)
28	07.37		07.00		17.25 (AG04)	06.15			06.27		18.26 (AG06)	05.57		18.19 (AG06)	05.54		18.30 (AG06)
	17.35		18.12	12	17.37 (AG04)	18.42			20.15	29	18.55 (AG06)	20.44	45	19.04 (AG06)	20.58	35	19.05 (AG06)
29	07.36					07.13			06.26		18.24 (AG06)	05.56		18.19 (AG06)	05.54		18.31 (AG06)
	17.36					19.43			20.16	33	18.57 (AG06)	20.44	45	19.04 (AG06)	20.58	35	19.06 (AG06)
30	07.35					07.11		18.44 (AG05)	06.24		18.22 (AG06)	05.56		18.20 (AG06)	05.55		18.30 (AG06)
	17.37					19.44	8	18.52 (AG05)	20.17	35	18.57 (AG06)	20.45	44	19.04 (AG06)	20.58	36	19.06 (AG06)
31	07.34					07.10		18.40 (AG05)				05.55		18.20 (AG06)			
	17.38					19.45	15	18.55 (AG05)				20.46	43	19.03 (AG06)			
Potential sun hours	299		298			370			398			447			451		
Total, worst case				17			260			611			1448			1082	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R28 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (192)

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	05.55		18.31 (AG06)	06.19	18.26 (AG06)	06.49	18.29 (AG05)	07.18	18.02 (AG04)	06.52	07.26
	20.58	36	19.07 (AG06)	20.39 49	19.15 (AG06)	19.56 30	18.59 (AG05)	19.07 10	18.12 (AG04)	17.21	16.57
2	05.56		18.30 (AG06)	06.20	18.26 (AG06)	06.50	18.29 (AG05)	07.19	17.59 (AG04)	06.53	07.27
	20.57	37	19.07 (AG06)	20.38 49	19.15 (AG06)	19.55 30	18.59 (AG05)	19.05 15	18.14 (AG04)	17.19	16.57
3	05.56		18.31 (AG06)	06.21	18.26 (AG06)	06.51	18.27 (AG05)	07.20	17.58 (AG04)	06.54	07.28
	20.57	37	19.08 (AG06)	20.37 49	19.15 (AG06)	19.53 31	18.58 (AG05)	19.03 17	18.15 (AG04)	17.18	16.56
4	05.57		18.30 (AG06)	06.22	18.25 (AG06)	06.52	18.27 (AG05)	07.21	17.56 (AG04)	06.55	07.29
	20.57	38	19.08 (AG06)	20.36 48	19.13 (AG06)	19.52 30	18.57 (AG05)	19.02 20	18.16 (AG04)	17.17	16.56
5	05.57		18.30 (AG06)	06.23	18.26 (AG06)	06.53	18.27 (AG05)	07.22	17.55 (AG04)	06.56	07.30
	20.57	38	19.08 (AG06)	20.35 47	19.13 (AG06)	19.50 30	18.57 (AG05)	19.00 21	18.16 (AG04)	17.16	16.56
6	05.58		18.30 (AG06)	06.24	18.26 (AG06)	06.54	18.27 (AG05)	07.23	17.54 (AG04)	06.58	07.31
	20.57	38	19.08 (AG06)	20.33 46	19.12 (AG06)	19.48 29	18.56 (AG05)	18.58 22	18.16 (AG04)	17.15	16.56
7	05.59		18.30 (AG06)	06.25	18.26 (AG06)	06.55	18.27 (AG05)	07.24	17.54 (AG04)	06.59	07.32
	20.56	39	19.09 (AG06)	20.32 46	19.12 (AG06)	19.47 28	18.55 (AG05)	18.57 22	18.16 (AG04)	17.14	16.56
8	05.59		18.30 (AG06)	06.26	18.27 (AG06)	06.56	18.27 (AG05)	07.25	17.53 (AG04)	07.00	07.33
	20.56	40	19.10 (AG06)	20.31 44	19.11 (AG06)	19.45 27	18.54 (AG05)	18.55 23	18.16 (AG04)	17.13	16.56
9	06.00		18.29 (AG06)	06.27	18.28 (AG06)	06.57	18.28 (AG05)	07.26	17.53 (AG04)	07.01	07.34
	20.56	41	19.10 (AG06)	20.30 42	19.10 (AG06)	19.43 25	18.53 (AG05)	18.54 22	18.15 (AG04)	17.12	16.56
10	06.00		18.29 (AG06)	06.27	18.28 (AG06)	06.58	18.29 (AG05)	07.28	17.54 (AG04)	07.02	07.35
	20.55	42	19.11 (AG06)	20.28 41	19.09 (AG06)	19.42 23	18.52 (AG05)	18.52 21	18.15 (AG04)	17.11	16.56
11	06.01		18.29 (AG06)	06.28	18.29 (AG06)	06.59	18.30 (AG05)	07.29	17.55 (AG04)	07.04	07.36
	20.55	43	19.12 (AG06)	20.27 39	19.08 (AG06)	19.40 20	18.50 (AG05)	18.50 19	18.14 (AG04)	17.10	16.56
12	06.02		18.28 (AG06)	06.29	18.30 (AG06)	07.00	18.32 (AG05)	07.30	17.56 (AG04)	07.05	07.36
	20.54	43	19.11 (AG06)	20.26 37	19.07 (AG06)	19.38 16	18.48 (AG05)	18.49 17	18.13 (AG04)	17.09	16.56
13	06.03		18.28 (AG06)	06.30	18.31 (AG06)	07.01	18.34 (AG05)	07.31	17.57 (AG04)	07.06	07.37
	20.54	44	19.12 (AG06)	20.25 35	19.06 (AG06)	19.37 10	18.44 (AG05)	18.47 14	18.11 (AG04)	17.08	16.56
14	06.03		18.28 (AG06)	06.31	18.32 (AG06)	07.02		07.32	17.59 (AG04)	07.07	07.38
	20.53	45	19.13 (AG06)	20.23 32	19.04 (AG06)	19.35		18.46 10	18.09 (AG04)	17.07	16.56
15	06.04		18.28 (AG06)	06.32	18.34 (AG06)	07.03		07.33		07.08	07.39
	20.53	44	19.12 (AG06)	20.22 28	19.02 (AG06)	19.33		18.44		17.06	16.56
16	06.05		18.28 (AG06)	06.33	18.36 (AG06)	07.03		07.34		07.09	07.39
	20.52	45	19.13 (AG06)	20.21 24	19.00 (AG06)	19.32		18.43		17.05	16.57
17	06.06		18.28 (AG06)	06.34	18.39 (AG06)	07.04		07.35		07.11	07.40
	20.52	46	19.14 (AG06)	20.19 18	18.57 (AG06)	19.30		18.41		17.04	16.57
18	06.06		18.28 (AG06)	06.35	18.43 (AG06)	07.05		07.36		07.12	07.41
	20.51	46	19.14 (AG06)	20.18 9	18.52 (AG06)	19.28		18.40		17.04	16.57
19	06.07		18.26 (AG06)	06.36		07.06		07.37		07.13	07.41
	20.50	48	19.14 (AG06)	20.16		19.27		18.38		17.03	16.58
20	06.08		18.26 (AG06)	06.37		07.07		07.38		07.14	07.42
	20.50	48	19.14 (AG06)	20.15		19.25		18.37		17.02	16.58
21	06.09		18.26 (AG06)	06.38		07.08		07.39		07.15	07.42
	20.49	49	19.15 (AG06)	20.13		19.23		18.35		17.02	16.59
22	06.10		18.26 (AG06)	06.39		07.09		07.40		07.16	07.43
	20.48	49	19.15 (AG06)	20.12		19.22		18.34		17.01	16.59
23	06.11		18.26 (AG06)	06.40		07.10		07.42		07.17	07.44
	20.47	49	19.15 (AG06)	20.10		19.20		18.32		17.00	17.00
24	06.12		18.26 (AG06)	06.41	18.45 (AG05)	07.11		07.43		07.19	07.44
	20.47	50	19.16 (AG06)	20.09 2	18.47 (AG05)	19.18		18.31		17.00	17.00
25	06.12		18.25 (AG06)	06.42	18.40 (AG05)	07.12		06.44		07.20	07.44
	20.46	50	19.15 (AG06)	20.07 12	18.52 (AG05)	19.17		17.30		16.59	17.01
26	06.13		18.25 (AG06)	06.43	18.37 (AG05)	07.13		06.45		07.21	07.45
	20.45	50	19.15 (AG06)	20.06 17	18.54 (AG05)	19.15		17.28		16.59	17.01
27	06.14		18.25 (AG06)	06.44	18.35 (AG05)	07.14		06.46		07.22	07.45
	20.44	50	19.15 (AG06)	20.04 21	18.56 (AG05)	19.13		17.27		16.58	17.02
28	06.15		18.25 (AG06)	06.45	18.34 (AG05)	07.15		06.47		07.23	07.45
	20.43	50	19.15 (AG06)	20.03 23	18.57 (AG05)	19.12		17.26		16.58	17.03
29	06.16		18.25 (AG06)	06.46	18.32 (AG05)	07.16		06.48		07.24	07.46
	20.42	50	19.15 (AG06)	20.01 26	18.58 (AG05)	19.10		17.24		16.57	17.03
30	06.17		18.26 (AG06)	06.47	18.31 (AG05)	07.17		06.50		07.25	07.46
	20.41	49	19.15 (AG06)	20.00 27	18.58 (AG05)	19.08		17.23		16.57	17.04
31	06.18		18.26 (AG06)	06.48	18.30 (AG05)			06.51			07.46
	20.40	49	19.15 (AG06)	19.58 29	18.59 (AG05)			17.22			17.05
Potential sun hours	458			427		375		346		299	289
Total, worst case		1383		840		329		253			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R29 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (191)

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	07.46		07.34		06.58		17.31 (AG04)		07.08		18.45 (AG05)	
	17.06		17.40		18.13	6	17.37 (AG04)		19.47	13	18.58 (AG05)	
2	07.47		07.33		06.57		17.28 (AG04)		07.07		18.42 (AG05)	
	17.07		17.41		18.14	13	17.41 (AG04)		19.48	18	19.00 (AG05)	
3	07.47		07.32		06.55		17.26 (AG04)		07.05		18.39 (AG05)	
	17.08		17.42		18.15	16	17.42 (AG04)		19.49	22	19.01 (AG05)	
4	07.47		07.31		06.54		17.24 (AG04)		07.03		18.39 (AG05)	
	17.08		17.43		18.17	18	17.42 (AG04)		19.50	24	19.03 (AG05)	
5	07.47		07.30		06.52		17.23 (AG04)		07.02		18.37 (AG05)	
	17.09		17.45		18.18	20	17.43 (AG04)		19.51	26	19.03 (AG05)	
6	07.47		07.29		06.51		17.22 (AG04)		07.00		18.36 (AG05)	
	17.10		17.46		18.19	21	17.43 (AG04)		19.52	27	19.03 (AG05)	
7	07.47		07.27		06.49		17.22 (AG04)		06.58		18.35 (AG05)	
	17.11		17.47		18.20	22	17.44 (AG04)		19.53	29	19.04 (AG05)	
8	07.47		07.26		06.47		17.22 (AG04)		06.57		18.34 (AG05)	
	17.12		17.48		18.21	21	17.43 (AG04)		19.54	29	19.03 (AG05)	
9	07.46		07.25		06.46		17.21 (AG04)		06.55		18.35 (AG05)	
	17.13		17.50		18.22	22	17.43 (AG04)		19.55	29	19.04 (AG05)	
10	07.46		07.24		06.44		17.22 (AG04)		06.54		18.34 (AG05)	
	17.14		17.51		18.23	21	17.43 (AG04)		19.56	29	19.03 (AG05)	
11	07.46		07.23		06.43		17.22 (AG04)		06.52		18.34 (AG05)	
	17.15		17.52		18.24	19	17.41 (AG04)		19.57	28	19.02 (AG05)	
12	07.46		07.22		06.41		17.24 (AG04)		06.50		18.34 (AG05)	
	17.16		17.53		18.25	17	17.41 (AG04)		19.58	28	19.02 (AG05)	
13	07.46		07.20		06.39		17.25 (AG04)		06.49		18.34 (AG05)	
	17.17		17.54		18.26	14	17.39 (AG04)		19.59	27	19.01 (AG05)	
14	07.45		07.19		06.38		17.26 (AG04)		06.47		18.35 (AG05)	
	17.18		17.56		18.28	9	17.35 (AG04)		20.00	25	19.00 (AG05)	
15	07.45		07.18		06.36				06.46		18.35 (AG05)	
	17.20		17.57		18.29				20.01	24	18.59 (AG05)	
16	07.45		07.17		06.34				06.44		18.37 (AG05)	
	17.21		17.58		18.30				20.02	21	18.58 (AG05)	
17	07.44		07.15		06.33				06.43		18.37 (AG05)	
	17.22		17.59		18.31				20.03	19	18.56 (AG05)	
18	07.44		07.14		06.31				06.41		18.40 (AG05)	
	17.23		18.00		18.32				20.04	14	18.54 (AG05)	
19	07.43		07.13		06.30				06.40		18.42 (AG05)	
	17.24		18.02		18.33				20.05	8	18.50 (AG05)	
20	07.43		07.11		06.28				06.38			
	17.25		18.03		18.34				20.06			
21	07.42		07.10		06.26				06.37			
	17.26		18.04		18.35				20.07			
22	07.41		07.08		06.25				06.35			
	17.28		18.05		18.36				20.08			
23	07.41		07.07		06.23				06.34			
	17.29		18.06		18.37				20.09			
24	07.40		07.06		06.21				06.33			
	17.30		18.07		18.38				20.10			
25	07.39		07.04		06.20				06.31		18.46 (AG06)	
	17.31		18.09		18.39				20.11	2	18.48 (AG06)	
26	07.39		07.03		06.18				06.30		18.39 (AG06)	
	17.32		18.10		18.40				20.13	16	18.55 (AG06)	
27	07.38		07.01		06.16				06.28		18.35 (AG06)	
	17.34		18.11		18.41				20.14	22	18.57 (AG06)	
28	07.37		07.00		06.15				06.27		18.33 (AG06)	
	17.35		18.12		18.42				20.15	27	19.00 (AG06)	
29	07.36				07.13				06.26		18.32 (AG06)	
	17.36				19.43				20.16	30	19.02 (AG06)	
30	07.35				07.11				06.24		18.29 (AG06)	
	17.37				19.44				20.17	33	19.02 (AG06)	
31	07.34				07.10		18.49 (AG05)					
	17.38				19.45	5	18.54 (AG05)					
Potential sun hours	299		298		370			398			447	
Total, worst case						244				570		1345

	June	
1	05.55	
	20.47	38
2	05.54	
	20.47	37
3	05.54	
	20.48	36
4	05.53	
	20.49	35
5	05.53	
	20.50	35
6	05.53	
	20.50	34
7	05.53	
	20.51	33
8	05.52	
	20.51	32
9	05.52	
	20.52	32
10	05.52	
	20.53	31
11	05.52	
	20.53	30
12	05.52	
	20.54	29
13	05.52	
	20.54	28
14	05.51	
	20.55	28
15	05.51	
	20.55	27
16	05.51	
	20.55	27
17	05.51	
	20.56	26
18	05.52	
	20.56	26
19	05.52	
	20.56	26
20	05.52	
	20.57	26
21	05.52	
	20.57	26
22	05.52	
	20.57	26
23	05.52	
	20.57	26
24	05.53	
	20.57	26
25	05.53	
	20.58	26
26	05.53	
	20.58	27
27	05.54	
	20.58	27
28	05.54	
	20.58	28
29	05.54	
	20.58	28
30	05.55	
	20.58	28
	451	
		883

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R29 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (191)

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	05.55		18.40 (AG06)	06.19		18.33 (AG06)	06.49		18.33 (AG05)	07.18		18.03 (AG04)	06.52	07.26
	20.58	29	19.09 (AG06)	20.39	47	19.20 (AG06)	19.56	29	19.02 (AG05)	19.07	16	18.19 (AG04)	17.21	16.57
2	05.56		18.39 (AG06)	06.20		18.33 (AG06)	06.50		18.33 (AG05)	07.19		18.01 (AG04)	06.53	07.27
	20.57	31	19.10 (AG06)	20.38	47	19.20 (AG06)	19.55	29	19.02 (AG05)	19.05	19	18.20 (AG04)	17.19	16.57
3	05.56		18.40 (AG06)	06.21		18.34 (AG06)	06.51		18.32 (AG05)	07.20		18.00 (AG04)	06.54	07.28
	20.57	31	19.11 (AG06)	20.37	45	19.19 (AG06)	19.53	29	19.01 (AG05)	19.03	20	18.20 (AG04)	17.18	16.56
4	05.57		18.39 (AG06)	06.22		18.33 (AG06)	06.52		18.31 (AG05)	07.21		17.59 (AG04)	06.55	07.29
	20.57	32	19.11 (AG06)	20.36	45	19.18 (AG06)	19.52	29	19.00 (AG05)	19.02	21	18.20 (AG04)	17.17	16.56
5	05.57		18.39 (AG06)	06.23		18.33 (AG06)	06.53		18.31 (AG05)	07.22		17.58 (AG04)	06.56	07.30
	20.57	33	19.12 (AG06)	20.35	45	19.18 (AG06)	19.50	29	19.00 (AG05)	19.00	22	18.20 (AG04)	17.16	16.56
6	05.58		18.38 (AG06)	06.24		18.34 (AG06)	06.54		18.32 (AG05)	07.23		17.58 (AG04)	06.58	07.31
	20.57	34	19.12 (AG06)	20.33	43	19.17 (AG06)	19.48	27	18.59 (AG05)	18.58	22	18.20 (AG04)	17.15	16.56
7	05.59		18.38 (AG06)	06.25		18.34 (AG06)	06.55		18.32 (AG05)	07.24		17.58 (AG04)	06.59	07.32
	20.56	35	19.13 (AG06)	20.32	43	19.17 (AG06)	19.47	26	18.58 (AG05)	18.57	21	18.19 (AG04)	17.14	16.56
8	05.59		18.39 (AG06)	06.26		18.34 (AG06)	06.56		18.33 (AG05)	07.25		17.58 (AG04)	07.00	07.33
	20.56	34	19.13 (AG06)	20.31	42	19.16 (AG06)	19.45	24	18.57 (AG05)	18.55	21	18.19 (AG04)	17.13	16.56
9	06.00		18.38 (AG06)	06.26		18.35 (AG06)	06.57		18.33 (AG05)	07.26		17.58 (AG04)	07.01	07.34
	20.56	35	19.13 (AG06)	20.30	40	19.15 (AG06)	19.43	22	18.55 (AG05)	18.54	19	18.17 (AG04)	17.12	16.56
10	06.00		18.38 (AG06)	06.27		18.36 (AG06)	06.58		18.35 (AG05)	07.28		18.00 (AG04)	07.02	07.35
	20.55	36	19.14 (AG06)	20.28	38	19.14 (AG06)	19.42	18	18.53 (AG05)	18.52	17	18.17 (AG04)	17.11	16.56
11	06.01		18.38 (AG06)	06.28		18.36 (AG06)	06.59		18.36 (AG05)	07.29		18.01 (AG04)	07.04	07.36
	20.55	37	19.15 (AG06)	20.27	37	19.13 (AG06)	19.40	15	18.51 (AG05)	18.50	14	18.15 (AG04)	17.10	16.56
12	06.02		18.37 (AG06)	06.29		18.37 (AG06)	07.00		18.40 (AG05)	07.30		18.02 (AG04)	07.05	07.36
	20.54	38	19.15 (AG06)	20.26	35	19.12 (AG06)	19.38	7	18.47 (AG05)	18.49	11	18.13 (AG04)	17.09	16.56
13	06.03		18.37 (AG06)	06.30		18.39 (AG06)	07.01			07.31			07.06	07.37
	20.54	39	19.16 (AG06)	20.25	32	19.11 (AG06)	19.37			18.47			17.08	16.56
14	06.03		18.37 (AG06)	06.31		18.40 (AG06)	07.02			07.32			07.07	07.38
	20.53	40	19.17 (AG06)	20.23	29	19.09 (AG06)	19.35			18.46			17.07	16.56
15	06.04		18.36 (AG06)	06.32		18.42 (AG06)	07.03			07.33			07.08	07.39
	20.53	40	19.16 (AG06)	20.22	25	19.07 (AG06)	19.33			18.44			17.06	16.56
16	06.05		18.36 (AG06)	06.33		18.44 (AG06)	07.03			07.34			07.09	07.39
	20.52	41	19.17 (AG06)	20.21	21	19.05 (AG06)	19.32			18.43			17.05	16.57
17	06.06		18.36 (AG06)	06.34		18.47 (AG06)	07.04			07.35			07.11	07.40
	20.52	42	19.18 (AG06)	20.19	14	19.01 (AG06)	19.30			18.41			17.04	16.57
18	06.06		18.36 (AG06)	06.35			07.05			07.36			07.12	07.41
	20.51	42	19.18 (AG06)	20.18			19.28			18.40			17.04	16.57
19	06.07		18.34 (AG06)	06.36			07.06			07.37			07.13	07.41
	20.50	44	19.18 (AG06)	20.16			19.27			18.38			17.03	16.58
20	06.08		18.34 (AG06)	06.37			07.07			07.38			07.14	07.42
	20.50	44	19.18 (AG06)	20.15			19.25			18.37			17.02	16.58
21	06.09		18.34 (AG06)	06.38			07.08			07.39			07.15	07.42
	20.49	45	19.19 (AG06)	20.13			19.23			18.35			17.01	16.59
22	06.10		18.34 (AG06)	06.39			07.09			07.40			07.16	07.43
	20.48	45	19.19 (AG06)	20.12			19.22			18.34			17.01	16.59
23	06.11		18.34 (AG06)	06.40			07.10			07.42			07.17	07.44
	20.47	46	19.20 (AG06)	20.10			19.20			18.32			17.00	17.00
24	06.11		18.34 (AG06)	06.41		18.45 (AG05)	07.11			07.43			07.19	07.44
	20.47	46	19.20 (AG06)	20.09	10	18.55 (AG05)	19.18			18.31			17.00	17.00
25	06.12		18.33 (AG06)	06.42		18.42 (AG05)	07.12			06.44			07.20	07.44
	20.46	46	19.19 (AG06)	20.07	15	18.57 (AG05)	19.17			17.30			16.59	17.01
26	06.13		18.33 (AG06)	06.43		18.40 (AG05)	07.13			06.45			07.21	07.45
	20.45	47	19.20 (AG06)	20.06	19	18.59 (AG05)	19.15			17.28			16.59	17.01
27	06.14		18.33 (AG06)	06.44		18.38 (AG05)	07.14			06.46			07.22	07.45
	20.44	47	19.20 (AG06)	20.04	22	19.00 (AG05)	19.13			17.27			16.58	17.02
28	06.15		18.33 (AG06)	06.45		18.37 (AG05)	07.15			06.47			07.23	07.45
	20.43	47	19.20 (AG06)	20.03	24	19.01 (AG05)	19.12			17.26			16.58	17.03
29	06.16		18.33 (AG06)	06.46		18.36 (AG05)	07.16		18.09 (AG04)	06.48			07.24	07.46
	20.42	47	19.20 (AG06)	20.01	25	19.01 (AG05)	19.10	5	18.14 (AG04)	17.24			16.57	17.03
30	06.17		18.33 (AG06)	06.47		18.35 (AG05)	07.17		18.05 (AG04)	06.50			07.25	07.46
	20.41	47	19.20 (AG06)	20.00	27	19.02 (AG05)	19.08	12	18.17 (AG04)	17.23			16.57	17.04
31	06.18		18.33 (AG06)	06.48		18.34 (AG05)				06.51				07.46
	20.40	47	19.20 (AG06)	19.58	28	19.02 (AG05)				17.22				17.05
Potential sun hours	458			427			375			346			299	289
Total, worst case		1247			798			301			223			

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 50
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R30 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (194)

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	07.46	17.06	07.34	17.40		06.58	18.13	21	17.16 (AG04)	17.37 (AG04)		07.08	19.47	28	18.27 (AG05)	18.55 (AG05)	06.23	20.18	40	18.09 (AG06)	18.49 (AG06)	05.55	20.47
2	07.47	17.07	07.33	17.41		06.57	18.14	21	17.16 (AG04)	17.37 (AG04)		07.07	19.48	28	18.26 (AG05)	18.54 (AG05)	06.22	20.19	39	18.10 (AG06)	18.49 (AG06)	05.54	20.47
3	07.47	17.08	07.32	17.42		06.55	18.15	21	17.16 (AG04)	17.37 (AG04)		07.05	19.49	27	18.26 (AG05)	18.53 (AG05)	06.20	20.20	37	18.11 (AG06)	18.48 (AG06)	05.54	20.48
4	07.47	17.08	07.31	17.43		06.54	18.17	20	17.16 (AG04)	17.36 (AG04)		07.03	19.50	25	18.27 (AG05)	18.52 (AG05)	06.19	20.21	36	18.12 (AG06)	18.48 (AG06)	05.53	20.49
5	07.47	17.09	07.30	17.45		06.52	18.18	18	17.17 (AG04)	17.35 (AG04)		07.02	19.51	24	18.27 (AG05)	18.51 (AG05)	06.18	20.22	34	18.12 (AG06)	18.46 (AG06)	05.53	20.50
6	07.47	17.10	07.29	17.46		06.51	18.19	17	17.17 (AG04)	17.34 (AG04)		07.00	19.52	21	18.28 (AG05)	18.49 (AG05)	06.17	20.23	32	18.13 (AG06)	18.45 (AG06)	05.53	20.50
7	07.47	17.11	07.27	17.47		06.49	18.20	13	17.19 (AG04)	17.32 (AG04)		06.58	19.53	18	18.30 (AG05)	18.48 (AG05)	06.16	20.24	30	18.14 (AG06)	18.44 (AG06)	05.53	20.51
8	07.47	17.12	07.26	17.48		06.47	18.21	8	17.21 (AG04)	17.29 (AG04)		06.57	19.54	14	18.31 (AG05)	18.45 (AG05)	06.14	20.25	28	18.15 (AG06)	18.43 (AG06)	05.52	20.51
9	07.46	17.13	07.25	17.50		06.46	18.22					06.55	19.55	14	18.28 (AG06)	18.42 (AG05)	06.13	20.26	24	18.17 (AG06)	18.41 (AG06)	05.52	20.52
10	07.46	17.14	07.24	17.51		06.44	18.23					06.54	19.56	19	18.23 (AG06)	18.42 (AG06)	06.12	20.27	21	18.19 (AG06)	18.40 (AG06)	05.52	20.53
11	07.46	17.15	07.23	17.52		06.43	18.24					06.52	19.57	24	18.20 (AG06)	18.44 (AG06)	06.11	20.28	17	18.21 (AG06)	18.38 (AG06)	05.52	20.53
12	07.46	17.16	07.22	17.53		06.41	18.25					06.50	19.58	29	18.18 (AG06)	18.47 (AG06)	06.10	20.29	11	18.24 (AG06)	18.35 (AG06)	05.52	20.54
13	07.46	17.17	07.20	17.54		06.39	18.26					06.49	19.59	31	18.16 (AG06)	18.47 (AG06)	06.09	20.30				05.52	20.54
14	07.45	17.18	07.19	17.56		06.38	18.28					06.47	20.00	34	18.15 (AG06)	18.49 (AG06)	06.08	20.31				05.51	20.55
15	07.45	17.20	07.18	17.57		06.36	18.29					06.46	20.01	36	18.13 (AG06)	18.49 (AG06)	06.07	20.32				05.51	20.55
16	07.45	17.21	07.17	17.58		06.34	18.30					06.44	20.02	39	18.12 (AG06)	18.51 (AG06)	06.06	20.33				05.51	20.55
17	07.44	17.22	07.15	17.59		06.33	18.31					06.43	20.03	40	18.11 (AG06)	18.51 (AG06)	06.05	20.34				05.51	20.56
18	07.44	17.23	07.14	18.00		06.31	18.32					06.41	20.04	42	18.10 (AG06)	18.52 (AG06)	06.04	20.35				05.52	20.56
19	07.43	17.24	07.13	18.02		06.30	18.33					06.40	20.05	42	18.09 (AG06)	18.51 (AG06)	06.03	20.36				05.52	20.56
20	07.43	17.25	07.11	18.03		06.28	18.34					06.38	20.06	43	18.09 (AG06)	18.52 (AG06)	06.03	20.37				05.52	20.57
21	07.42	17.26	07.10	18.04		06.26	18.35					06.37	20.07	44	18.09 (AG06)	18.53 (AG06)	06.02	20.38				05.52	20.57
22	07.41	17.28	07.08	18.05		06.25	18.36					06.35	20.08	44	18.08 (AG06)	18.52 (AG06)	06.01	20.38				05.52	20.57
23	07.41	17.29	07.07	18.06	4	17.25 (AG04)	06.23	18.37	12	17.36 (AG05)	17.48 (AG05)	06.34	20.09	44	18.08 (AG06)	18.52 (AG06)	06.00	20.39				05.52	20.57
24	07.40	17.30	07.06	18.07	11	17.22 (AG04)	17.33 (AG04)	06.21	18.38	17	17.34 (AG05)	17.51 (AG05)	06.33	20.10	44	18.08 (AG06)	18.52 (AG06)	05.59	20.40				05.53	20.57
25	07.39	17.31	07.04	18.09	16	17.19 (AG04)	17.35 (AG04)	06.20	18.39	20	17.32 (AG05)	17.52 (AG05)	06.31	20.11	44	18.08 (AG06)	18.52 (AG06)	05.59	20.41				05.53	20.58
26	07.39	17.32	07.03	18.10	18	17.18 (AG04)	17.36 (AG04)	06.18	18.40	23	17.30 (AG05)	17.53 (AG05)	06.30	20.13	44	18.08 (AG06)	18.52 (AG06)	05.58	20.42				05.53	20.58
27	07.38	17.34	07.01	18.11	19	17.17 (AG04)	17.36 (AG04)	06.16	18.41	25	17.29 (AG05)	17.54 (AG05)	06.28	20.14	43	18.08 (AG06)	18.51 (AG06)	05.57	20.43				05.54	20.58
28	07.37	17.35	07.00	18.12	20	17.17 (AG04)	17.37 (AG04)	06.15	18.42	26	17.28 (AG05)	17.54 (AG05)	06.27	20.15	43	18.08 (AG06)	18.51 (AG06)	05.57	20.44				05.54	20.58
29	07.36	17.36					07.13	19.43	27	18.27 (AG05)	18.54 (AG05)	06.26	20.16	42	18.09 (AG06)	18.51 (AG06)	05.56	20.44				05.54	20.58
30	07.35	17.37					07.11	19.44	28	18.27 (AG05)	18.55 (AG05)	06.24	20.17	41	18.08 (AG06)	18.49 (AG06)	05.56	20.45				05.55	20.58
31	07.34	17.38					07.10	19.45	28	18.26 (AG05)	18.54 (AG05)						05.55	20.46					
Potential sun hours	299		298				370					398					447					451	
Total, worst case					88				345					1011					349				

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 51
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R30 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (194)

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	05.55			06.19			18.33 (AG06)	06.49		18.20 (AG06)	07.18			06.52	07.26
	20.58			20.39	14		18.47 (AG06)	19.56	24	18.44 (AG06)	19.07			17.21	16.57
2	05.56			06.20			18.31 (AG06)	06.50		18.22 (AG06)	07.19			06.53	07.27
	20.57			20.38	18		18.49 (AG06)	19.55	19	18.41 (AG06)	19.05			17.19	16.57
3	05.56			06.21			18.29 (AG06)	06.51		18.25 (AG06)	07.20			06.54	07.28
	20.57			20.37	22		18.51 (AG06)	19.53	14	18.39 (AG05)	19.03			17.18	16.56
4	05.57			06.22			18.26 (AG06)	06.52		18.28 (AG05)	07.21			06.55	07.29
	20.57			20.36	25		18.51 (AG06)	19.52	14	18.42 (AG05)	19.02			17.17	16.56
5	05.57			06.23			18.25 (AG06)	06.53		18.26 (AG05)	07.22		18.00 (AG04)	06.56	07.30
	20.57			20.35	28		18.53 (AG06)	19.50	18	18.44 (AG05)	19.00	4	18.04 (AG04)	17.16	16.56
6	05.58			06.24			18.23 (AG06)	06.54		18.24 (AG05)	07.23		17.56 (AG04)	06.58	07.31
	20.57			20.33	31		18.54 (AG06)	19.48	21	18.45 (AG05)	18.58	11	18.07 (AG04)	17.15	16.56
7	05.59			06.25			18.22 (AG06)	06.55		18.23 (AG05)	07.24		17.53 (AG04)	06.59	07.32
	20.56			20.32	33		18.55 (AG06)	19.47	23	18.46 (AG05)	18.57	16	18.09 (AG04)	17.14	16.56
8	05.59			06.26			18.21 (AG06)	06.56		18.21 (AG05)	07.25		17.52 (AG04)	07.00	07.33
	20.56			20.31	35		18.56 (AG06)	19.45	25	18.46 (AG05)	18.55	17	18.09 (AG04)	17.13	16.56
9	06.00			06.26			18.20 (AG06)	06.57		18.20 (AG05)	07.26		17.51 (AG04)	07.01	07.34
	20.56			20.30	36		18.56 (AG06)	19.43	27	18.47 (AG05)	18.54	19	18.10 (AG04)	17.12	16.56
10	06.00			06.27			18.19 (AG06)	06.58		18.20 (AG05)	07.28		17.51 (AG04)	07.02	07.35
	20.55			20.28	38		18.57 (AG06)	19.42	27	18.47 (AG05)	18.52	20	18.11 (AG04)	17.11	16.56
11	06.01			06.28			18.18 (AG06)	06.59		18.19 (AG05)	07.29		17.50 (AG04)	07.04	07.36
	20.55			20.27	40		18.58 (AG06)	19.40	28	18.47 (AG05)	18.50	21	18.11 (AG04)	17.10	16.56
12	06.02			06.29			18.18 (AG06)	07.00		18.18 (AG05)	07.30		17.50 (AG04)	07.05	07.36
	20.54			20.26	40		18.58 (AG06)	19.38	28	18.46 (AG05)	18.49	21	18.11 (AG04)	17.09	16.56
13	06.03			06.30			18.17 (AG06)	07.01		18.18 (AG05)	07.31		17.49 (AG04)	07.06	07.37
	20.54			20.25	41		18.58 (AG06)	19.37	28	18.46 (AG05)	18.47	21	18.10 (AG04)	17.08	16.56
14	06.03			06.31			18.16 (AG06)	07.02		18.18 (AG05)	07.32		17.49 (AG04)	07.07	07.38
	20.53			20.23	43		18.59 (AG06)	19.35	27	18.45 (AG05)	18.46	20	18.09 (AG04)	17.07	16.56
15	06.04			06.32			18.16 (AG06)	07.03		18.18 (AG05)	07.33		17.50 (AG04)	07.08	07.39
	20.53			20.22	43		18.59 (AG06)	19.33	27	18.45 (AG05)	18.44	18	18.08 (AG04)	17.06	16.56
16	06.05			06.33			18.15 (AG06)	07.03		18.18 (AG05)	07.34		17.50 (AG04)	07.09	07.39
	20.52			20.21	44		18.59 (AG06)	19.32	26	18.44 (AG05)	18.43	17	18.07 (AG04)	17.05	16.57
17	06.06			06.34			18.15 (AG06)	07.04		18.18 (AG05)	07.35		17.51 (AG04)	07.11	07.40
	20.52			20.19	44		18.59 (AG06)	19.30	24	18.42 (AG05)	18.41	14	18.05 (AG04)	17.04	16.57
18	06.06			06.35			18.15 (AG06)	07.05		18.19 (AG05)	07.36		17.53 (AG04)	07.12	07.41
	20.51			20.18	44		18.59 (AG06)	19.28	21	18.40 (AG05)	18.40	10	18.03 (AG04)	17.04	16.57
19	06.07			06.36			18.13 (AG06)	07.06		18.20 (AG05)	07.37			07.13	07.41
	20.50			20.16	44		18.57 (AG06)	19.27	18	18.38 (AG05)	18.38			17.03	16.58
20	06.08			06.37			18.13 (AG06)	07.07		18.22 (AG05)	07.38			07.14	07.42
	20.50			20.15	44		18.57 (AG06)	19.25	14	18.36 (AG05)	18.37			17.02	16.58
21	06.09			06.38			18.13 (AG06)	07.08		18.26 (AG05)	07.39			07.15	07.42
	20.49			20.13	44		18.57 (AG06)	19.23	5	18.31 (AG05)	18.35			17.01	16.59
22	06.10			06.39			18.13 (AG06)	07.09			07.40			07.16	07.43
	20.48			20.12	43		18.56 (AG06)	19.22			18.34			17.01	16.59
23	06.11			06.40			18.13 (AG06)	07.10			07.42			07.17	07.44
	20.47			20.10	43		18.56 (AG06)	19.20			18.32			17.00	17.00
24	06.11			06.41			18.13 (AG06)	07.11			07.43			07.19	07.44
	20.47			20.09	42		18.55 (AG06)	19.18			18.31			17.00	17.00
25	06.12			06.42			18.13 (AG06)	07.12			06.44			07.20	07.44
	20.46			20.07	41		18.54 (AG06)	19.17			17.30			16.59	17.01
26	06.13			06.43			18.14 (AG06)	07.13			06.45			07.21	07.45
	20.45			20.06	40		18.54 (AG06)	19.15			17.28			16.59	17.01
27	06.14			06.44			18.14 (AG06)	07.14			06.46			07.22	07.45
	20.44			20.04	38		18.52 (AG06)	19.13			17.27			16.58	17.02
28	06.15			06.45			18.15 (AG06)	07.15			06.47			07.23	07.45
	20.43			20.03	36		18.51 (AG06)	19.12			17.26			16.58	17.03
29	06.16			06.46			18.16 (AG06)	07.16			06.48			07.24	07.46
	20.42			20.01	34		18.50 (AG06)	19.10			17.24			16.57	17.03
30	06.17			06.47			18.17 (AG06)	07.17			06.50			07.25	07.46
	20.41			20.00	31		18.48 (AG06)	19.08			17.23			16.57	17.04
31	06.18		18.38 (AG06)	06.48			18.18 (AG06)				06.51				07.46
	20.40	4	18.42 (AG06)	19.58	28		18.46 (AG06)				17.22				17.05
Potential sun hours	458			427			375				346			299	289
Total, worst case		4			1127			458				229			

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R31 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (200)

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	07.46	07.34		06.58		16.45 (AG06)	07.08	06.23	05.55	06.16 (AG09)
	17.06	17.40		18.13	45	17.30 (AG05)	19.47	20.18	20.47	11 06.27 (AG09)
2	07.47	07.33		06.57		16.44 (AG06)	07.07	06.22	05.54	06.16 (AG09)
	17.07	17.41		18.14	47	17.31 (AG05)	19.48	20.19	20.47	12 06.28 (AG09)
3	07.47	07.32	17.03 (AG04)	06.55		16.42 (AG06)	07.05	06.20	05.54	06.15 (AG09)
	17.08	17.42	4 17.07 (AG04)	18.15	48	17.30 (AG05)	19.49	20.20	20.48	13 06.28 (AG09)
4	07.47	07.31	17.00 (AG04)	06.54		16.41 (AG06)	07.03	06.19	05.53	06.15 (AG09)
	17.08	17.43	10 17.10 (AG04)	18.17	49	17.30 (AG05)	19.50	20.21	20.49	13 06.28 (AG09)
5	07.47	07.30	16.59 (AG04)	06.52		16.40 (AG06)	07.02	06.18	05.53	06.15 (AG09)
	17.09	17.45	13 17.12 (AG04)	18.18	50	17.30 (AG05)	19.51	20.22	20.50	14 06.29 (AG09)
6	07.47	07.29	16.58 (AG04)	06.51		16.39 (AG06)	07.00	06.17	05.53	06.14 (AG09)
	17.10	17.46	15 17.13 (AG04)	18.19	50	17.29 (AG05)	19.52	20.23	20.50	15 06.29 (AG09)
7	07.47	07.27	16.57 (AG04)	06.49		16.39 (AG06)	06.58	06.16	05.53	06.14 (AG09)
	17.11	17.47	17 17.14 (AG04)	18.20	50	17.29 (AG05)	19.53	20.24	20.51	15 06.29 (AG09)
8	07.47	07.26	16.57 (AG04)	06.47		16.38 (AG06)	06.57	06.14	05.52	06.14 (AG09)
	17.12	17.48	18 17.15 (AG04)	18.21	50	17.28 (AG05)	19.54	20.25	20.51	16 06.30 (AG09)
9	07.46	07.25	16.57 (AG04)	06.46		16.38 (AG06)	06.55	06.13	05.52	06.14 (AG09)
	17.13	17.50	19 17.16 (AG04)	18.22	49	17.27 (AG05)	19.55	20.26	20.52	16 06.30 (AG09)
10	07.46	07.24	16.56 (AG04)	06.44		16.38 (AG06)	06.54	06.12	05.52	06.14 (AG09)
	17.14	17.51	19 17.15 (AG04)	18.23	48	17.26 (AG05)	19.56	20.27	20.53	17 06.31 (AG09)
11	07.46	07.23	16.56 (AG04)	06.43		16.37 (AG06)	06.52	06.11	05.52	06.14 (AG09)
	17.15	17.52	20 17.16 (AG04)	18.24	46	17.23 (AG05)	19.57	20.28	20.53	17 06.31 (AG09)
12	07.46	07.22	16.57 (AG04)	06.41		16.38 (AG06)	06.50	06.10	05.52	06.13 (AG09)
	17.16	17.53	19 17.16 (AG04)	18.25	43	17.21 (AG05)	19.58	20.29	20.54	18 06.31 (AG09)
13	07.46	07.20	16.57 (AG04)	06.39		16.38 (AG06)	06.49	06.09	05.51	06.13 (AG09)
	17.17	17.54	18 17.15 (AG04)	18.26	37	17.15 (AG06)	19.59	20.30	20.54	18 06.31 (AG09)
14	07.45	07.19	16.57 (AG04)	06.38		16.38 (AG06)	06.47	06.08	05.51	06.13 (AG09)
	17.18	17.56	17 17.14 (AG04)	18.28	36	17.14 (AG06)	20.00	20.31	20.55	18 06.31 (AG09)
15	07.45	07.18	16.59 (AG04)	06.36		16.39 (AG06)	06.46	06.07	05.51	06.13 (AG09)
	17.20	17.57	14 17.13 (AG04)	18.29	34	17.13 (AG06)	20.01	20.32	20.55	18 06.31 (AG09)
16	07.45	07.17	17.00 (AG04)	06.34		16.39 (AG06)	06.44	06.06	05.51	06.13 (AG09)
	17.21	17.58	12 17.12 (AG04)	18.30	33	17.12 (AG06)	20.02	20.33	20.55	18 06.31 (AG09)
17	07.44	07.15	17.02 (AG04)	06.33		16.40 (AG06)	06.43	06.05	05.51	06.14 (AG09)
	17.22	17.59	7 17.09 (AG04)	18.31	30	17.10 (AG06)	20.03	20.34	20.56	19 06.33 (AG09)
18	07.44	07.14		06.31		16.42 (AG06)	06.41	06.04	05.52	06.14 (AG09)
	17.23	18.00		18.32	28	17.10 (AG06)	20.04	20.35	20.56	19 06.33 (AG09)
19	07.43	07.13		06.30		16.43 (AG06)	06.40	06.03	05.52	06.14 (AG09)
	17.24	18.02		18.33	24	17.07 (AG06)	20.05	20.36	20.56	19 06.33 (AG09)
20	07.43	07.11		06.28		16.44 (AG06)	06.38	06.03	05.52	06.14 (AG09)
	17.25	18.03		18.34	21	17.05 (AG06)	20.06	20.37	20.57	19 06.33 (AG09)
21	07.42	07.10		06.26		16.48 (AG06)	06.37	06.02	05.52	06.14 (AG09)
	17.26	18.04		18.35	14	17.02 (AG06)	20.07	20.38	20.57	19 06.33 (AG09)
22	07.41	07.08		06.25		16.54 (AG06)	06.35	06.01	05.52	06.14 (AG09)
	17.28	18.05		18.36	1	16.55 (AG06)	20.08	20.38	20.57	19 06.33 (AG09)
23	07.41	07.07		06.23			06.34	06.00	05.52	06.15 (AG09)
	17.29	18.06		18.37			20.09	20.39	20.57	19 06.34 (AG09)
24	07.40	07.06	17.17 (AG05)	06.21			06.32	05.59	05.53	06.15 (AG09)
	17.30	18.07	4 17.21 (AG05)	18.38			20.10	20.40	20.57	19 06.34 (AG09)
25	07.39	07.04	17.12 (AG05)	06.20			06.31	05.59	05.53	06.15 (AG09)
	17.31	18.09	13 17.25 (AG05)	18.39			20.12	20.41	20.58	19 06.34 (AG09)
26	07.39	07.03	16.53 (AG06)	06.18			06.30	05.58	05.53	06.16 (AG09)
	17.32	18.10	29 17.27 (AG05)	18.40			20.13	20.42	20.58	19 06.35 (AG09)
27	07.38	07.01	16.49 (AG06)	06.16			06.28	05.57	06.18 (AG09)	05.54 06.16 (AG09)
	17.34	18.11	39 17.28 (AG05)	18.41			20.14	20.43	2 06.20 (AG09)	20.58 18 06.34 (AG09)
28	07.37	07.00	16.47 (AG06)	06.15			06.27	05.57	06.18 (AG09)	05.54 06.16 (AG09)
	17.35	18.12	43 17.30 (AG05)	18.42			20.15	20.44	5 06.23 (AG09)	20.58 18 06.34 (AG09)
29	07.36			07.13			06.26	05.56	06.17 (AG09)	05.54 06.17 (AG09)
	17.36			19.43			20.16	20.44	7 06.24 (AG09)	20.58 18 06.35 (AG09)
30	07.35			07.11			06.24	05.56	06.17 (AG09)	05.55 06.17 (AG09)
	17.37			19.44			20.17	20.45	8 06.25 (AG09)	20.58 18 06.35 (AG09)
31	07.34			07.10				05.55	06.16 (AG09)	
	17.38			19.45				20.46	10 06.26 (AG09)	
Potential sun hours	299	298		370		398	447		451	
Total, worst case			350		833			32		511

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R31 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (200)

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	05.55		06.18 (AG09)	06.19			06.49			07.18		17.17 (AG06)	06.52		16.26 (AG04)	07.26		
	20.58	17	06.35 (AG09)	20.39			19.56			19.07	39	17.56 (AG05)	17.21	19	16.45 (AG04)	16.57		
2	05.56		06.18 (AG09)	06.20			06.50			07.19		17.16 (AG06)	06.53		16.25 (AG04)	07.27		
	20.57	17	06.35 (AG09)	20.38			19.55			19.05	45	18.01 (AG05)	17.19	20	16.45 (AG04)	16.56		
3	05.56		06.19 (AG09)	06.21			06.51			07.20		17.16 (AG06)	06.54		16.27 (AG04)	07.28		
	20.57	17	06.36 (AG09)	20.37			19.53			19.03	46	18.02 (AG05)	17.18	18	16.45 (AG04)	16.56		
4	05.57		06.19 (AG09)	06.22			06.52			07.21		17.15 (AG06)	06.55		16.27 (AG04)	07.29		
	20.57	16	06.35 (AG09)	20.36			19.52			19.02	49	18.04 (AG05)	17.17	17	16.44 (AG04)	16.56		
5	05.57		06.20 (AG09)	06.23			06.53			07.22		17.15 (AG06)	06.56		16.28 (AG04)	07.30		
	20.57	16	06.36 (AG09)	20.35			19.50			19.00	49	18.04 (AG05)	17.16	15	16.43 (AG04)	16.56		
6	05.58		06.20 (AG09)	06.24			06.54			07.23		17.15 (AG06)	06.58		16.29 (AG04)	07.31		
	20.57	15	06.35 (AG09)	20.33			19.48			18.58	50	18.05 (AG05)	17.15	13	16.42 (AG04)	16.56		
7	05.59		06.21 (AG09)	06.25			06.55			07.24		17.15 (AG06)	06.59		16.31 (AG04)	07.32		
	20.56	14	06.35 (AG09)	20.32			19.47			18.57	50	18.05 (AG05)	17.14	10	16.41 (AG04)	16.56		
8	05.59		06.22 (AG09)	06.26			06.56			07.25		17.15 (AG06)	07.00		16.34 (AG04)	07.33		
	20.56	14	06.36 (AG09)	20.31			19.45			18.55	50	18.05 (AG05)	17.13	3	16.37 (AG04)	16.56		
9	06.00		06.22 (AG09)	06.26			06.57			07.26		17.15 (AG06)	07.01			07.34		
	20.56	13	06.35 (AG09)	20.30			19.43			18.54	50	18.05 (AG05)	17.12			16.56		
10	06.00		06.23 (AG09)	06.27			06.58			07.28		17.16 (AG06)	07.02			07.35		
	20.55	12	06.35 (AG09)	20.28			19.42			18.52	49	18.05 (AG05)	17.11			16.56		
11	06.01		06.24 (AG09)	06.28			06.59			07.29		17.17 (AG06)	07.04			07.36		
	20.55	11	06.35 (AG09)	20.27			19.40			18.50	48	18.05 (AG05)	17.10			16.56		
12	06.02		06.24 (AG09)	06.29			07.00			07.30		17.18 (AG06)	07.05			07.36		
	20.54	10	06.34 (AG09)	20.26			19.38			18.49	46	18.04 (AG05)	17.09			16.56		
13	06.03		06.25 (AG09)	06.30			07.01			07.31		17.19 (AG06)	07.06			07.37		
	20.54	9	06.34 (AG09)	20.25			19.37			18.47	44	18.03 (AG05)	17.08			16.56		
14	06.03		06.26 (AG09)	06.31			07.02			07.32		17.21 (AG06)	07.07			07.38		
	20.53	8	06.34 (AG09)	20.23			19.35			18.46	41	18.02 (AG05)	17.07			16.56		
15	06.04		06.26 (AG09)	06.32			07.03			07.33		17.23 (AG06)	07.08			07.39		
	20.53	6	06.32 (AG09)	20.22			19.33			18.44	35	18.00 (AG05)	17.06			16.56		
16	06.05		06.27 (AG09)	06.33			07.03			07.34		17.27 (AG06)	07.09			07.39		
	20.52	4	06.31 (AG09)	20.21			19.32			18.43	22	17.58 (AG05)	17.05			16.57		
17	06.06			06.34			07.04			07.35		17.45 (AG05)	07.11			07.40		
	20.52			20.19			19.30			18.41	10	17.55 (AG05)	17.04			16.57		
18	06.06			06.35			07.05			07.36			07.12			07.41		
	20.51			20.18			19.28			18.40			17.04			16.57		
19	06.07			06.36			07.06			07.37			07.13			07.41		
	20.50			20.16			19.27			18.38			17.03			16.58		
20	06.08			06.37			07.07			07.38			07.14			07.42		
	20.50			20.15			19.25			18.37			17.02			16.58		
21	06.09			06.38			07.08			07.39			07.15			07.42		
	20.49			20.13			19.23			18.35			17.01			16.59		
22	06.10			06.39			07.09		17.33 (AG06)	07.40			07.16			07.43		
	20.48			20.12			19.22	13	17.46 (AG06)	18.34			17.01			16.59		
23	06.11			06.40			07.10		17.29 (AG06)	07.42			07.17			07.44		
	20.47			20.10			19.20	19	17.48 (AG06)	18.32			17.00			17.00		
24	06.11			06.41			07.11		17.27 (AG06)	07.43			07.19			07.44		
	20.47			20.09			19.18	23	17.50 (AG06)	18.31			17.00			17.00		
25	06.12			06.42			07.12		17.25 (AG06)	06.44		16.32 (AG04)	07.20			07.44		
	20.46			20.07			19.17	27	17.52 (AG06)	17.30	9	16.41 (AG04)	16.59			17.01		
26	06.13			06.43			07.13		17.23 (AG06)	06.45		16.30 (AG04)	07.21			07.45		
	20.45			20.06			19.15	30	17.53 (AG06)	17.28	12	16.42 (AG04)	16.59			17.01		
27	06.14			06.44			07.14		17.21 (AG06)	06.46		16.28 (AG04)	07.22			07.45		
	20.44			20.04			19.13	32	17.53 (AG06)	17.27	15	16.43 (AG04)	16.58			17.02		
28	06.15			06.45			07.15		17.20 (AG06)	06.47		16.27 (AG04)	07.23			07.45		
	20.43			20.03			19.12	34	17.54 (AG06)	17.26	17	16.44 (AG04)	16.58			17.03		
29	06.16			06.46			07.16		17.19 (AG06)	06.48		16.26 (AG04)	07.24			07.46		
	20.42			20.01			19.10	35	17.54 (AG06)	17.24	18	16.44 (AG04)	16.57			17.03		
30	06.17			06.47			07.17		17.18 (AG06)	06.50		16.26 (AG04)	07.25			07.46		
	20.41			20.00			19.08	36	17.54 (AG06)	17.23	19	16.45 (AG04)	16.57			17.04		
31	06.18			06.48						06.51		16.26 (AG04)				07.46		
	20.40			19.58						17.22	19	16.45 (AG04)				17.05		
Potential sun hours	458			427			375			346			299			289		
Total, worst case		199						249			832			115				

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R32 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (199)

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	07.46	07.34		06.58		07.08	06.23	05.55
	17.06	17.40		18.13		19.47	20.18	20.47
2	07.47	07.33		06.57		07.06	06.22	05.54
	17.07	17.41		18.14		19.48	20.19	20.47
3	07.47	07.32		06.55		17.23 (AG05)	07.05	06.20	05.54
	17.08	17.42		18.15	8	17.31 (AG05)	19.49	20.20	20.48
4	07.47	07.31		06.54		17.19 (AG05)	07.03	06.19	05.53
	17.08	17.43		18.17	14	17.33 (AG05)	19.50	20.21	20.49
5	07.47	07.30		06.52		17.18 (AG05)	07.02	06.18	05.53
	17.09	17.45		18.18	17	17.35 (AG05)	19.51	20.22	20.50
6	07.47	07.29		06.51		17.16 (AG05)	07.00	06.17	05.53
	17.10	17.46		18.19	20	17.36 (AG05)	19.52	20.23	20.50
7	07.47	07.27		06.49		17.11 (AG06)	06.58	06.16	05.53
	17.11	17.47		18.20	25	17.37 (AG05)	19.53	20.24	20.51
8	07.47	07.26		06.47		17.04 (AG06)	06.57	06.14	05.52
	17.12	17.48		18.21	33	17.37 (AG05)	19.54	20.25	20.51
9	07.46	07.25		06.46		17.01 (AG06)	06.55	06.13	05.52
	17.13	17.50		18.22	36	17.37 (AG05)	19.55	20.26	20.52
10	07.46	07.24	17.10 (AG04)	06.44		16.59 (AG06)	06.54	06.12	05.52
	17.14	17.51	6 17.16 (AG04)	18.23	38	17.37 (AG05)	19.56	20.27	20.53
11	07.46	07.23	17.08 (AG04)	06.43		16.57 (AG06)	06.52	06.11	05.52
	17.15	17.52	11 17.19 (AG04)	18.24	40	17.37 (AG05)	19.57	20.28	20.53
12	07.46	07.22	17.07 (AG04)	06.41		16.57 (AG06)	06.50	06.10	05.52
	17.16	17.53	14 17.21 (AG04)	18.25	40	17.37 (AG05)	19.58	20.29	20.54
13	07.46	07.20	17.06 (AG04)	06.39		16.55 (AG06)	06.49	06.09	05.51
	17.17	17.54	16 17.22 (AG04)	18.26	41	17.36 (AG05)	19.59	20.30	20.54
14	07.45	07.19	17.04 (AG04)	06.38		16.54 (AG06)	06.47	06.08	05.51
	17.18	17.56	18 17.22 (AG04)	18.28	40	17.34 (AG05)	20.00	20.31	20.55
15	07.45	07.18	17.04 (AG04)	06.36		16.54 (AG06)	06.46	06.07	05.51
	17.20	17.57	19 17.23 (AG04)	18.29	40	17.34 (AG05)	20.01	20.32	20.55
16	07.45	07.17	17.04 (AG04)	06.34		16.53 (AG06)	06.44	06.06	05.51
	17.21	17.58	19 17.23 (AG04)	18.30	39	17.32 (AG05)	20.02	20.33	20.55
17	07.44	07.15	17.04 (AG04)	06.33		16.52 (AG06)	06.43	06.05	05.51
	17.22	17.59	18 17.22 (AG04)	18.31	37	17.29 (AG05)	20.03	20.34	20.56
18	07.44	07.14	17.04 (AG04)	06.31		16.52 (AG06)	06.41	06.04	05.52
	17.23	18.00	19 17.23 (AG04)	18.32	35	17.27 (AG06)	20.04	20.35	20.56
19	07.43	07.13	17.05 (AG04)	06.30		16.52 (AG06)	06.40	06.03	05.52
	17.24	18.02	17 17.22 (AG04)	18.33	35	17.27 (AG06)	20.05	20.36	20.56
20	07.43	07.11	17.05 (AG04)	06.28		16.51 (AG06)	06.38	06.03	05.52
	17.25	18.03	16 17.21 (AG04)	18.34	35	17.26 (AG06)	20.06	20.37	20.57
21	07.42	07.10	17.07 (AG04)	06.26		16.52 (AG06)	06.37	06.02	05.52
	17.26	18.04	13 17.20 (AG04)	18.35	34	17.26 (AG06)	20.07	20.38	20.57
22	07.41	07.08	17.09 (AG04)	06.25		16.52 (AG06)	06.35	06.01	05.52
	17.28	18.05	10 17.19 (AG04)	18.36	33	17.25 (AG06)	20.08	20.38	20.57
23	07.41	07.07		06.23		16.52 (AG06)	06.34	06.00	05.52
	17.29	18.06		18.37	32	17.24 (AG06)	20.09	20.39	20.57
24	07.40	07.06		06.21		16.53 (AG06)	06.32	05.59	05.53
	17.30	18.07		18.38	30	17.23 (AG06)	20.10	20.40	20.57
25	07.39	07.04		06.20		16.54 (AG06)	06.31	05.59	05.53
	17.31	18.09		18.39	28	17.22 (AG06)	20.11	20.41	20.58
26	07.39	07.03		06.18		16.55 (AG06)	06.30	05.58	05.53
	17.32	18.10		18.40	25	17.20 (AG06)	20.13	20.42	20.58
27	07.38	07.01		06.16		16.57 (AG06)	06.28	05.57	05.54
	17.34	18.11		18.41	21	17.18 (AG06)	20.14	20.43	20.58
28	07.37	07.00		06.15		16.59 (AG06)	06.27	05.57	05.54
	17.35	18.12		18.42	16	17.15 (AG06)	20.15	20.44	20.58
29	07.36			07.13		18.02 (AG06)	06.26	05.56	05.54
	17.36			19.43	9	18.11 (AG06)	20.16	20.44	20.58
30	07.35			07.11			06.24	05.56	05.55
	17.37			19.44			20.17	20.45	20.58
31	07.34			07.10				05.55	
	17.38			19.45				20.46	
Potential sun hours	299	298		370		398	447	451
Total, worst case			196		801			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R32 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (199)

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	05.55		06.19		06.49			07.18		17.35 (AG06)	06.52		16.41 (AG04)	07.26	
	20.58		20.39		19.56			19.07	40	18.15 (AG05)	17.21	4	16.45 (AG04)	16.57	
2	05.56		06.20		06.50			07.19		17.35 (AG06)	06.53			07.27	
	20.57		20.38		19.55			19.05	40	18.15 (AG05)	17.19			16.56	
3	05.56		06.21		06.51			07.20		17.36 (AG06)	06.54			07.28	
	20.57		20.37		19.53			19.03	39	18.15 (AG05)	17.18			16.56	
4	05.57		06.22		06.52			07.21		17.38 (AG06)	06.55			07.29	
	20.57		20.36		19.52			19.02	37	18.15 (AG05)	17.17			16.56	
5	05.57		06.23		06.53			07.22		17.40 (AG06)	06.56			07.30	
	20.57		20.35		19.50			19.00	34	18.14 (AG05)	17.16			16.56	
6	05.58		06.24		06.54			07.23		17.43 (AG06)	06.58			07.31	
	20.57		20.33		19.48			18.58	30	18.13 (AG05)	17.15			16.56	
7	05.59		06.25		06.55			07.24		17.51 (AG05)	06.59			07.32	
	20.56		20.32		19.47			18.57	21	18.12 (AG05)	17.14			16.56	
8	05.59		06.26		06.56			07.25		17.52 (AG05)	07.00			07.33	
	20.56		20.31		19.45			18.55	19	18.11 (AG05)	17.13			16.56	
9	06.00		06.26		06.57			07.26		17.53 (AG05)	07.01			07.34	
	20.56		20.30		19.43			18.54	16	18.09 (AG05)	17.12			16.56	
10	06.00		06.27		06.58			07.28		17.56 (AG05)	07.02			07.35	
	20.55		20.28		19.42			18.52	11	18.07 (AG05)	17.11			16.56	
11	06.01		06.28		06.59			07.29		18.00 (AG05)	07.04			07.36	
	20.55		20.27		19.40			18.50	2	18.02 (AG05)	17.10			16.56	
12	06.02		06.29		07.00			07.30			07.05			07.36	
	20.54		20.26		19.38			18.49			17.09			16.56	
13	06.03		06.30		07.01			07.31			07.06			07.37	
	20.54		20.25		19.37			18.47			17.08			16.56	
14	06.03		06.31		07.02		17.54 (AG06)	07.32			07.07			07.38	
	20.53		20.23		19.35	8	18.02 (AG06)	18.46			17.07			16.56	
15	06.04		06.32		07.03		17.49 (AG06)	07.33			07.08			07.39	
	20.53		20.22		19.33	16	18.05 (AG06)	18.44			17.06			16.56	
16	06.05		06.33		07.03		17.47 (AG06)	07.34			07.09			07.39	
	20.52		20.21		19.32	20	18.07 (AG06)	18.43			17.05			16.57	
17	06.06		06.34		07.04		17.43 (AG06)	07.35			07.11			07.40	
	20.52		20.19		19.30	25	18.08 (AG06)	18.41			17.04			16.57	
18	06.06		06.35		07.05		17.42 (AG06)	07.36			07.12			07.41	
	20.51		20.18		19.28	27	18.09 (AG06)	18.40			17.04			16.57	
19	06.07		06.36		07.06		17.40 (AG06)	07.37		17.42 (AG04)	07.13			07.41	
	20.50		20.16		19.27	29	18.09 (AG06)	18.38	5	17.47 (AG04)	17.03			16.58	
20	06.08		06.37		07.07		17.39 (AG06)	07.38		17.39 (AG04)	07.14			07.42	
	20.50		20.15		19.25	31	18.10 (AG06)	18.37	11	17.50 (AG04)	17.02			16.58	
21	06.09		06.38		07.08		17.38 (AG06)	07.39		17.37 (AG04)	07.15			07.42	
	20.49		20.13		19.23	32	18.10 (AG06)	18.35	14	17.51 (AG04)	17.01			16.59	
22	06.10		06.39		07.09		17.37 (AG06)	07.40		17.36 (AG04)	07.16			07.43	
	20.48		20.12		19.22	33	18.10 (AG06)	18.34	16	17.52 (AG04)	17.01			16.59	
23	06.11		06.40		07.10		17.36 (AG06)	07.42		17.35 (AG04)	07.17			07.44	
	20.47		20.10		19.20	34	18.10 (AG06)	18.32	17	17.52 (AG04)	17.00			17.00	
24	06.11		06.41		07.11		17.35 (AG06)	07.43		17.34 (AG04)	07.19			07.44	
	20.47		20.09		19.18	35	18.10 (AG06)	18.31	18	17.52 (AG04)	17.00			17.00	
25	06.12		06.42		07.12		17.35 (AG06)	06.44		16.34 (AG04)	07.20			07.44	
	20.46		20.07		19.17	35	18.10 (AG06)	17.30	19	16.53 (AG04)	16.59			17.01	
26	06.13		06.43		07.13		17.34 (AG06)	06.45		16.34 (AG04)	07.21			07.45	
	20.45		20.06		19.15	36	18.10 (AG05)	17.28	19	16.53 (AG04)	16.59			17.01	
27	06.14		06.44		07.14		17.34 (AG06)	06.46		16.34 (AG04)	07.22			07.45	
	20.44		20.04		19.13	39	18.13 (AG05)	17.27	18	16.52 (AG04)	16.58			17.02	
28	06.15		06.45		07.15		17.34 (AG06)	06.47		16.34 (AG04)	07.23			07.45	
	20.43		20.03		19.12	40	18.14 (AG05)	17.26	17	16.51 (AG04)	16.58			17.03	
29	06.16		06.46		07.16		17.34 (AG06)	06.48		16.35 (AG04)	07.24			07.46	
	20.42		20.01		19.10	41	18.15 (AG05)	17.24	15	16.50 (AG04)	16.57			17.03	
30	06.17		06.47		07.17		17.34 (AG06)	06.50		16.37 (AG04)	07.25			07.46	
	20.41		20.00		19.08	41	18.15 (AG05)	17.23	13	16.50 (AG04)	16.57			17.04	
31	06.18		06.48					06.51		16.38 (AG04)				07.46	
	20.40		19.58					17.22	10	16.48 (AG04)				17.05	
Potential sun hours	458		427		375			346			299			289	
Total, worst case						522			481			4			

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R35 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (196)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	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	06.01	06.28	06.59	07.29	07.03	07.35
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.43
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R36 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (204)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.58	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	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	06.01	06.28	06.59	07.29	07.03	07.36
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.02	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.43
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R37 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (207)

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	07.46		13.20 (AG08)	07.34		13.48 (AG08)	06.58		08.28 (AG09)	07.08		06.23		06.42 (AG07)	05.55
	17.06	63	14.23 (AG08)	17.40	31	14.19 (AG08)	18.13	57	09.25 (AG09)	19.46		20.18	38	07.25 (AG10)	20.47
2	07.47		13.21 (AG08)	07.33		13.51 (AG08)	06.57		08.27 (AG09)	07.06		06.22		06.41 (AG07)	05.54
	17.07	62	14.23 (AG08)	17.41	26	14.17 (AG08)	18.14	57	09.24 (AG09)	19.48		20.19	39	07.25 (AG10)	20.47
3	07.47		13.21 (AG08)	07.32		13.56 (AG08)	06.55		08.27 (AG09)	07.05		06.20		06.40 (AG07)	05.54
	17.07	62	14.23 (AG08)	17.42	18	14.14 (AG08)	18.15	57	09.24 (AG09)	19.49		20.20	38	07.24 (AG10)	20.48
4	07.47		13.22 (AG08)	07.31			06.54		08.27 (AG09)	07.03		06.19		06.38 (AG07)	05.53
	17.08	62	14.24 (AG08)	17.43			18.17	56	09.23 (AG09)	19.50		20.21	40	07.23 (AG10)	20.49
5	07.47		13.22 (AG08)	07.30			06.52		08.28 (AG09)	07.02		06.18		06.37 (AG07)	05.53
	17.09	62	14.24 (AG08)	17.45			18.18	55	09.23 (AG09)	19.51		20.22	39	07.22 (AG10)	20.50
6	07.47		13.23 (AG08)	07.28			06.50		08.28 (AG09)	07.00		06.17		06.36 (AG07)	05.53
	17.10	62	14.25 (AG08)	17.46			18.19	54	09.22 (AG09)	19.52		20.23	37	07.21 (AG10)	20.50
7	07.47		13.22 (AG08)	07.27			06.49		08.28 (AG09)	06.58		06.16		06.35 (AG07)	05.52
	17.11	63	14.25 (AG08)	17.47			18.20	53	09.21 (AG09)	19.53		20.24	35	07.19 (AG10)	20.51
8	07.47		13.23 (AG08)	07.26		08.52 (AG09)	06.47		08.28 (AG09)	06.57		06.14		06.34 (AG07)	05.52
	17.12	62	14.25 (AG08)	17.48	13	09.05 (AG09)	18.21	52	09.20 (AG09)	19.54		20.25	32	07.18 (AG10)	20.51
9	07.46		13.24 (AG08)	07.25		08.48 (AG09)	06.46		08.29 (AG09)	06.55		06.13		06.33 (AG07)	05.52
	17.13	62	14.26 (AG08)	17.49	22	09.10 (AG09)	18.22	49	09.18 (AG09)	19.55		20.26	29	07.16 (AG10)	20.52
10	07.46		13.25 (AG08)	07.24		08.45 (AG09)	06.44		08.30 (AG09)	06.54		06.12		06.32 (AG07)	05.52
	17.14	61	14.26 (AG08)	17.51	27	09.12 (AG09)	18.23	47	09.17 (AG09)	19.56		20.27	23	07.12 (AG10)	20.53
11	07.46		13.24 (AG08)	07.23		08.42 (AG09)	06.43		08.30 (AG09)	06.52		06.11		06.31 (AG07)	05.52
	17.15	62	14.26 (AG08)	17.52	33	09.15 (AG09)	18.24	45	09.15 (AG09)	19.57		20.28	17	06.48 (AG07)	20.53
12	07.46		13.25 (AG08)	07.22		08.41 (AG09)	06.41		08.32 (AG09)	06.50		06.10		06.30 (AG07)	05.51
	17.16	62	14.27 (AG08)	17.53	36	09.17 (AG09)	18.25	42	09.14 (AG09)	19.58		20.29	17	06.47 (AG07)	20.54
13	07.46		13.26 (AG08)	07.20		08.39 (AG09)	06.39		08.32 (AG09)	06.49		06.09		06.30 (AG07)	05.51
	17.17	61	14.27 (AG08)	17.54	40	09.19 (AG09)	18.26	39	09.11 (AG09)	19.59		20.30	16	06.46 (AG07)	20.54
14	07.45		13.26 (AG08)	07.19		08.37 (AG09)	06.38		08.33 (AG09)	06.47		06.08		06.31 (AG07)	05.51
	17.18	61	14.27 (AG08)	17.56	42	09.19 (AG09)	18.28	36	09.09 (AG09)	20.00		20.31	14	06.45 (AG07)	20.54
15	07.45		13.27 (AG08)	07.18		08.36 (AG09)	06.36		08.36 (AG09)	06.46	07.07 (AG10)	06.07		06.32 (AG07)	05.51
	17.19	60	14.27 (AG08)	17.57	45	09.21 (AG09)	18.29	31	09.07 (AG09)	20.01	12 07.19 (AG10)	20.32	11	06.43 (AG07)	20.55
16	07.44		13.27 (AG08)	07.17		08.35 (AG09)	06.34		08.37 (AG09)	06.44	07.04 (AG10)	06.06		06.35 (AG07)	05.51
	17.21	60	14.27 (AG08)	17.58	47	09.22 (AG09)	18.30	27	09.04 (AG09)	20.02	18 07.22 (AG10)	20.33	5	06.40 (AG07)	20.55
17	07.44		13.29 (AG08)	07.15		08.34 (AG09)	06.33		08.40 (AG09)	06.43	07.02 (AG10)	06.05			05.51
	17.22	59	14.28 (AG08)	17.59	49	09.23 (AG09)	18.31	19	08.59 (AG09)	20.03	21 07.23 (AG10)	20.34			20.56
18	07.44		13.29 (AG08)	07.14		08.33 (AG09)	06.31		08.46 (AG09)	06.41	07.00 (AG10)	06.04			05.51
	17.23	58	14.27 (AG08)	18.00	51	09.24 (AG09)	18.32	7	08.53 (AG09)	20.04	25 07.25 (AG10)	20.35			20.56
19	07.43		13.30 (AG08)	07.13		08.33 (AG09)	06.30			06.40	06.59 (AG10)	06.03			05.52
	17.24	58	14.28 (AG08)	18.02	52	09.25 (AG09)	18.33			20.05	27 07.26 (AG10)	20.36			20.56
20	07.43		13.31 (AG08)	07.11		08.31 (AG09)	06.28			06.38	06.58 (AG10)	06.02			05.52
	17.25	57	14.28 (AG08)	18.03	54	09.25 (AG09)	18.34			20.06	29 07.27 (AG10)	20.37			20.57
21	07.42		13.32 (AG08)	07.10		08.31 (AG09)	06.26			06.37	06.56 (AG10)	06.02			05.52
	17.26	56	14.28 (AG08)	18.04	55	09.26 (AG09)	18.35			20.07	31 07.27 (AG10)	20.37			20.57
22	07.41		13.33 (AG08)	07.08		08.30 (AG09)	06.25			06.35	06.56 (AG10)	06.01			05.52
	17.28	55	14.28 (AG08)	18.05	55	09.25 (AG09)	18.36			20.08	31 07.27 (AG10)	20.38			20.57
23	07.41		13.34 (AG08)	07.07		08.29 (AG09)	06.23			06.34	06.56 (AG10)	06.00			05.52
	17.29	53	14.27 (AG08)	18.06	57	09.26 (AG09)	18.37			20.09	32 07.28 (AG10)	20.39			20.57
24	07.40		13.34 (AG08)	07.06		08.29 (AG09)	06.21			06.32	06.54 (AG10)	05.59			05.53
	17.30	53	14.27 (AG08)	18.07	58	09.27 (AG09)	18.38			20.10	34 07.28 (AG10)	20.40			20.57
25	07.39		13.36 (AG08)	07.04		08.29 (AG09)	06.20			06.31	06.54 (AG10)	05.59			05.53
	17.31	51	14.27 (AG08)	18.09	57	09.26 (AG09)	18.39			20.11	34 07.28 (AG10)	20.41			20.57
26	07.39		13.37 (AG08)	07.03		08.29 (AG09)	06.18			06.30	06.54 (AG10)	05.58			05.53
	17.32	49	14.26 (AG08)	18.10	58	09.27 (AG09)	18.40			20.13	34 07.28 (AG10)	20.42			20.58
27	07.38		13.39 (AG08)	07.01		08.28 (AG09)	06.16			06.28	06.54 (AG10)	05.57			05.54
	17.33	47	14.26 (AG08)	18.11	58	09.26 (AG09)	18.41			20.14	33 07.27 (AG10)	20.43			20.58
28	07.37		13.40 (AG08)	07.00		08.28 (AG09)	06.15			06.27	06.46 (AG07)	05.57			05.54
	17.35	45	14.25 (AG08)	18.12	58	09.26 (AG09)	18.42			20.15	34 07.27 (AG10)	20.44			20.58
29	07.36		13.42 (AG08)				07.13			06.26	06.45 (AG07)	05.56			05.54
	17.36	42	14.24 (AG08)				19.43			20.16	36 07.27 (AG10)	20.44			20.58
30	07.35		13.44 (AG08)				07.11			06.24	06.43 (AG07)	05.56			05.55
	17.37	38	14.22 (AG08)				19.44			20.17	37 07.26 (AG10)	20.45			20.58
31	07.34		13.46 (AG08)				07.10					05.55			
	17.38	35	14.21 (AG08)				19.45					20.46			
Potential sun hours	299			298			370			398		447			451
Total, worst case		1743			1042			783			468		430		

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R37 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (207)

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	05.55		06.19		06.41 (AG07)	06.49			07.18		09.11 (AG09)	06.52		08.15 (AG09)	07.26		13.07 (AG08)
	20.58		20.39	17	06.58 (AG07)	19.56			19.07	41	09.52 (AG09)	17.21	26	08.41 (AG09)	16.57	62	14.09 (AG08)
2	05.56		06.20		06.42 (AG07)	06.50			07.19		09.09 (AG09)	06.53		08.18 (AG09)	07.27		13.08 (AG08)
	20.57		20.38	17	06.59 (AG07)	19.55			19.05	44	09.53 (AG09)	17.19	20	08.38 (AG09)	16.56	61	14.09 (AG08)
3	05.56		06.21		06.42 (AG07)	06.51			07.20		09.08 (AG09)	06.54		08.23 (AG09)	07.28		13.08 (AG08)
	20.57		20.37	25	07.23 (AG10)	19.53			19.03	46	09.54 (AG09)	17.18	11	08.34 (AG09)	16.56	62	14.10 (AG08)
4	05.57		06.22		06.43 (AG07)	06.52			07.21		09.07 (AG09)	06.55			07.29		13.08 (AG08)
	20.57		20.36	31	07.26 (AG10)	19.52			19.02	48	09.55 (AG09)	17.17			16.56	62	14.10 (AG08)
5	05.57		06.23		06.44 (AG07)	06.53			07.22		09.05 (AG09)	06.56			07.30		13.08 (AG08)
	20.57		20.35	33	07.28 (AG10)	19.50			19.00	51	09.56 (AG09)	17.16			16.56	63	14.11 (AG08)
6	05.58		06.23		06.45 (AG07)	06.54			07.23		09.04 (AG09)	06.58			07.31		13.09 (AG08)
	20.57		20.33	36	07.30 (AG10)	19.48			18.58	52	09.56 (AG09)	17.15			16.56	62	14.11 (AG08)
7	05.58		06.24		06.46 (AG07)	06.55			07.24		09.04 (AG09)	06.59		13.33 (AG08)	07.32		13.08 (AG08)
	20.56		20.32	37	07.31 (AG10)	19.47			18.57	53	09.57 (AG09)	17.14	6	13.39 (AG08)	16.56	62	14.10 (AG08)
8	05.59		06.25		06.47 (AG07)	06.56			07.25		09.03 (AG09)	07.00		13.26 (AG08)	07.33		13.09 (AG08)
	20.56		20.31	38	07.32 (AG10)	19.45			18.55	54	09.57 (AG09)	17.13	19	13.45 (AG08)	16.56	62	14.11 (AG08)
9	06.00		06.26		06.48 (AG07)	06.57			07.26		09.02 (AG09)	07.01		13.22 (AG08)	07.34		13.09 (AG08)
	20.56		20.30	39	07.33 (AG10)	19.43			18.54	56	09.58 (AG09)	17.12	26	13.48 (AG08)	16.56	62	14.11 (AG08)
10	06.00		06.27		06.49 (AG07)	06.58			07.27		09.02 (AG09)	07.02		13.19 (AG08)	07.35		13.10 (AG08)
	20.55		20.28	39	07.33 (AG10)	19.42			18.52	57	09.59 (AG09)	17.11	31	13.50 (AG08)	16.56	62	14.12 (AG08)
11	06.01		06.28		06.50 (AG07)	06.59			07.29		09.02 (AG09)	07.04		13.17 (AG08)	07.36		13.10 (AG08)
	20.55		20.27	39	07.34 (AG10)	19.40			18.50	57	09.59 (AG09)	17.10	36	13.53 (AG08)	16.56	63	14.13 (AG08)
12	06.02		06.29		06.51 (AG07)	07.00			07.30		09.01 (AG09)	07.05		13.15 (AG08)	07.36		13.11 (AG08)
	20.54		20.26	38	07.34 (AG10)	19.38			18.49	58	09.59 (AG09)	17.09	39	13.54 (AG08)	16.56	62	14.13 (AG08)
13	06.02		06.30		06.52 (AG07)	07.01			07.31		09.01 (AG09)	07.06		13.14 (AG08)	07.37		13.12 (AG08)
	20.54		20.25	38	07.35 (AG10)	19.37			18.47	58	09.59 (AG09)	17.08	42	13.56 (AG08)	16.56	62	14.14 (AG08)
14	06.03		06.31		06.53 (AG07)	07.01			07.32		09.01 (AG09)	07.07		13.12 (AG08)	07.38		13.11 (AG08)
	20.53		20.23	36	07.35 (AG10)	19.35			18.46	58	09.59 (AG09)	17.07	45	13.57 (AG08)	16.56	63	14.14 (AG08)
15	06.04		06.32		07.02 (AG10)	07.02			07.33		09.00 (AG09)	07.08		13.12 (AG08)	07.39		13.12 (AG08)
	20.53		20.22	33	07.35 (AG10)	19.33			18.44	58	09.58 (AG09)	17.06	47	13.59 (AG08)	16.56	62	14.14 (AG08)
16	06.05		06.33		07.01 (AG10)	07.03			07.34		09.00 (AG09)	07.09		13.10 (AG08)	07.39		13.13 (AG08)
	20.52		20.20	34	07.35 (AG10)	19.32			18.43	58	09.58 (AG09)	17.05	49	13.59 (AG08)	16.57	62	14.15 (AG08)
17	06.06		06.34		07.01 (AG10)	07.04			07.35		09.00 (AG09)	07.11		13.09 (AG08)	07.40		13.13 (AG08)
	20.52		20.19	34	07.35 (AG10)	19.30			18.41	58	09.58 (AG09)	17.04	51	14.00 (AG08)	16.57	62	14.15 (AG08)
18	06.06		06.35		07.00 (AG10)	07.05			07.36		09.00 (AG09)	07.12		13.08 (AG08)	07.41		13.14 (AG08)
	20.51		20.18	34	07.34 (AG10)	19.28			18.40	57	09.57 (AG09)	17.04	53	14.01 (AG08)	16.57	62	14.16 (AG08)
19	06.07		06.36		07.00 (AG10)	07.06			07.37		09.01 (AG09)	07.13		13.09 (AG08)	07.41		13.14 (AG08)
	20.50		20.16	33	07.33 (AG10)	19.27			18.38	57	09.58 (AG09)	17.03	53	14.02 (AG08)	16.58	62	14.16 (AG08)
20	06.08		06.37		07.00 (AG10)	07.07			07.38		09.01 (AG09)	07.14		13.08 (AG08)	07.42		13.14 (AG08)
	20.50		20.15	33	07.33 (AG10)	19.25			18.37	56	09.57 (AG09)	17.02	55	14.03 (AG08)	16.58	62	14.16 (AG08)
21	06.09		06.38		07.01 (AG10)	07.08			07.39		09.02 (AG09)	07.15		13.07 (AG08)	07.42		13.15 (AG08)
	20.49		20.13	31	07.32 (AG10)	19.23			18.35	54	09.56 (AG09)	17.01	56	14.03 (AG08)	16.58	62	14.17 (AG08)
22	06.10		06.39		07.01 (AG10)	07.09			07.40		09.02 (AG09)	07.16		13.07 (AG08)	07.43		13.15 (AG08)
	20.48		20.12	30	07.31 (AG10)	19.22			18.34	53	09.55 (AG09)	17.01	57	14.04 (AG08)	16.59	62	14.17 (AG08)
23	06.11		06.40		07.02 (AG10)	07.10			07.42		09.02 (AG09)	07.17		13.06 (AG08)	07.43		13.15 (AG08)
	20.47		20.10	28	07.30 (AG10)	19.20			18.32	52	09.54 (AG09)	17.00	58	14.04 (AG08)	16.59	62	14.17 (AG08)
24	06.11		06.41		07.02 (AG10)	07.11			07.43		09.03 (AG09)	07.19		13.07 (AG08)	07.44		13.16 (AG08)
	20.47		20.09	27	07.29 (AG10)	19.18			18.31	50	09.53 (AG09)	17.00	58	14.05 (AG08)	17.00	62	14.18 (AG08)
25	06.12		06.42		07.03 (AG10)	07.12			06.44		08.05 (AG09)	07.20		13.07 (AG08)	07.44		13.16 (AG08)
	20.46		20.07	25	07.28 (AG10)	19.17			17.30	48	08.53 (AG09)	16.59	59	14.06 (AG08)	17.01	63	14.19 (AG08)
26	06.13		06.43		07.05 (AG10)	07.13		09.24 (AG09)	06.45		08.05 (AG09)	07.21		13.06 (AG08)	07.45		13.18 (AG08)
	20.45		20.06	21	07.26 (AG10)	19.15	16	09.40 (AG09)	17.28	47	08.52 (AG09)	16.59	60	14.06 (AG08)	17.01	62	14.20 (AG08)
27	06.14		06.44		07.07 (AG10)	07.14		09.20 (AG09)	06.46		08.06 (AG09)	07.22		13.06 (AG08)	07.45		13.18 (AG08)
	20.44		20.04	17	07.24 (AG10)	19.13	24	09.44 (AG09)	17.27	44	08.50 (AG09)	16.58	60	14.06 (AG08)	17.02	62	14.20 (AG08)
28	06.15	06.44 (AG07)	06.45		07.09 (AG10)	07.15		09.17 (AG09)	06.47		08.07 (AG09)	07.23		13.06 (AG08)	07.45		13.18 (AG08)
	20.43	8 06.52 (AG07)	20.03	12	07.21 (AG10)	19.12	29	09.46 (AG09)	17.26	42	08.49 (AG09)	16.58	61	14.07 (AG08)	17.03	62	14.20 (AG08)
29	06.16	06.42 (AG07)	06.46			07.16		09.15 (AG09)	06.48		08.08 (AG09)	07.24		13.06 (AG08)	07.46		13.18 (AG08)
	20.42	12 06.54 (AG07)	20.01			19.10	34	09.49 (AG09)	17.24	39	08.47 (AG09)	16.57	61	14.07 (AG08)	17.03	62	14.20 (AG08)
30	06.17	06.41 (AG07)	06.47			07.17		09.13 (AG09)	06.49		08.11 (AG09)	07.25		13.06 (AG08)	07.46		13.19 (AG08)
	20.41	15 06.56 (AG07)	20.00			19.08	37	09.50 (AG09)	17.23	35	08.46 (AG09)	16.57	62	14.08 (AG08)	17.04	62	14.21 (AG08)
31	06.18	06.40 (AG07)	06.48						06.51		08.13 (AG09)				07.46		13.20 (AG08)
	20.40	17 06.57 (AG07)	19.58						17.22	31	08.44 (AG09)				17.05	62	14.22 (AG08)
Potential sun hours	458		427			375			346			299			289		
Total, worst case		52		855			140			1572			1201			1925	

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 60
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R38 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (210)

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	07.46		09.55 (AG09)	07.34	09.57 (AG09)	06.58		06.23		06.42 (AG07)	05.55
	17.06	102	15.10 (AG08)	17.40 69	11.06 (AG09)	18.13		20.18	51	07.48 (AG10)	20.47
2	07.47		09.55 (AG09)	07.33	09.58 (AG09)	06.57		06.22		06.41 (AG07)	05.54
	17.07	104	15.11 (AG08)	17.41 68	11.06 (AG09)	18.14		20.19	51	07.47 (AG10)	20.47
3	07.47		09.55 (AG09)	07.32	09.58 (AG09)	06.55		06.20		06.40 (AG07)	05.54
	17.07	104	15.11 (AG08)	17.42 67	11.05 (AG09)	18.15		20.20	50	07.46 (AG10)	20.48
4	07.47		09.55 (AG09)	07.31	09.58 (AG09)	06.54		06.19		06.38 (AG07)	05.53
	17.08	105	15.12 (AG08)	17.43 67	11.05 (AG09)	18.16		20.21	47	07.43 (AG10)	20.49
5	07.47		09.55 (AG09)	07.30	09.59 (AG09)	06.52		06.18		06.37 (AG07)	05.53
	17.09	105	15.12 (AG08)	17.45 66	11.05 (AG09)	18.18		20.22	46	07.42 (AG10)	20.50
6	07.47		09.56 (AG09)	07.28	10.00 (AG09)	06.50		06.17		06.36 (AG07)	05.53
	17.10	106	15.13 (AG08)	17.46 64	11.04 (AG09)	18.19		20.23	43	07.40 (AG10)	20.50
7	07.47		09.55 (AG09)	07.27	10.00 (AG09)	06.49		06.58 07.31 (AG10)		06.16	06.35 (AG07)	05.52
	17.11	106	15.12 (AG08)	17.47 64	11.04 (AG09)	18.20		19.53 13 07.44 (AG10)		20.24	38	07.37 (AG10)	20.51
8	07.47		09.55 (AG09)	07.26	10.01 (AG09)	06.47		06.57 07.27 (AG10)		06.14	06.34 (AG07)	05.52
	17.12	107	15.13 (AG08)	17.48 62	11.03 (AG09)	18.21		19.54 20 07.47 (AG10)		20.25	25	06.59 (AG07)	20.51
9	07.46		09.55 (AG09)	07.25	10.02 (AG09)	06.46		06.55 07.25 (AG10)		06.13	06.34 (AG07)	05.52
	17.13	108	15.13 (AG08)	17.49 60	11.02 (AG09)	18.22		19.55 25 07.50 (AG10)		20.26	25	06.59 (AG07)	20.52
10	07.46		09.56 (AG09)	07.24	10.02 (AG09)	06.44		06.54 07.22 (AG10)		06.12	06.34 (AG07)	05.52
	17.14	108	15.14 (AG08)	17.51 58	11.00 (AG09)	18.23		19.56 29 07.51 (AG10)		20.27	24	06.58 (AG07)	20.53
11	07.46		09.55 (AG09)	07.23	10.03 (AG09)	06.43		06.52 07.20 (AG10)		06.11	06.35 (AG07)	05.52
	17.15	108	15.13 (AG08)	17.52 56	10.59 (AG09)	18.24		19.57 32 07.52 (AG10)		20.28	22	06.57 (AG07)	20.53
12	07.46		09.55 (AG09)	07.22	10.04 (AG09)	06.41		06.50 07.19 (AG10)		06.10	06.30 (AG11)	05.51
	17.16	109	15.14 (AG08)	17.53 54	10.58 (AG09)	18.25		19.58 34 07.53 (AG10)		20.29	21	06.56 (AG07)	20.54
13	07.46		09.56 (AG09)	07.20	10.05 (AG09)	06.39		06.49 07.17 (AG10)		06.09	06.29 (AG11)	05.51
	17.17	109	15.15 (AG08)	17.54 52	10.57 (AG09)	18.26		19.59 36 07.53 (AG10)		20.30	20	06.55 (AG07)	20.54
14	07.45		09.55 (AG09)	07.19	10.05 (AG09)	06.38		06.47 07.16 (AG10)		06.08	06.28 (AG11)	05.51
	17.18	109	15.14 (AG08)	17.56 50	10.55 (AG09)	18.27		20.00 39 07.55 (AG10)		20.31	19	06.54 (AG07)	20.54
15	07.45		09.56 (AG09)	07.18	10.07 (AG09)	06.36		06.46 07.15 (AG10)		06.07	06.27 (AG11)	05.51
	17.19	109	15.15 (AG08)	17.57 46	10.53 (AG09)	18.29		20.01 39 07.54 (AG10)		20.32	16	06.52 (AG07)	20.55
16	07.44		09.55 (AG09)	07.17	10.09 (AG09)	06.34		06.44 07.15 (AG10)		06.06	06.26 (AG11)	05.51
	17.21	108	15.14 (AG08)	17.58 42	10.51 (AG09)	18.30		20.02 40 07.55 (AG10)		20.33	11	06.49 (AG07)	20.55
17	07.44		09.56 (AG09)	07.15	10.10 (AG09)	06.33		06.43 07.13 (AG10)		06.05	06.25 (AG11)	05.51
	17.22	108	15.15 (AG08)	17.59 38	10.48 (AG09)	18.31		20.03 42 07.55 (AG10)		20.34	5	06.30 (AG11)	20.56
18	07.44		09.55 (AG09)	07.14	10.12 (AG09)	06.31		06.41 07.13 (AG10)		06.04	06.24 (AG11)	05.51
	17.23	108	15.14 (AG08)	18.00 33	10.45 (AG09)	18.32		20.04 42 07.55 (AG10)		20.35	5	06.29 (AG11)	20.56
19	07.43		09.56 (AG09)	07.13	10.15 (AG09)	06.30		06.40 07.12 (AG10)		06.03	06.24 (AG11)	05.52
	17.24	108	15.15 (AG08)	18.01 27	10.42 (AG09)	18.33		20.05 43 07.55 (AG10)		20.36	6	06.30 (AG11)	20.56
20	07.43		09.56 (AG09)	07.11	10.19 (AG09)	06.28		06.38 07.12 (AG10)		06.02	06.23 (AG11)	05.52
	17.25	106	15.14 (AG08)	18.03 17	10.36 (AG09)	18.34		20.06 43 07.55 (AG10)		20.37	6	06.29 (AG11)	20.57
21	07.42		09.56 (AG09)	07.10		06.26		06.37 07.12 (AG10)		06.02	06.22 (AG11)	05.52
	17.26	106	15.14 (AG08)	18.04		18.35		20.07 42 07.54 (AG10)		20.37	6	06.28 (AG11)	20.57
22	07.41		09.56 (AG09)	07.08		06.25		06.35 07.12 (AG10)		06.01	06.21 (AG11)	05.52
	17.27	105	15.14 (AG08)	18.05		18.36		20.08 42 07.54 (AG10)		20.38	6	06.27 (AG11)	20.57
23	07.41		09.56 (AG09)	07.07		06.23		06.34 07.12 (AG10)		06.00	06.21 (AG11)	05.52
	17.29	103	15.13 (AG08)	18.06		18.37		20.09 42 07.54 (AG10)		20.39	6	06.27 (AG11)	20.57
24	07.40		09.56 (AG09)	07.06		06.21		06.32 06.51 (AG07)		05.59	06.20 (AG11)	05.53
	17.30	101	15.12 (AG08)	18.07		18.38		20.10 45 07.53 (AG10)		20.40	5	06.25 (AG11)	20.57
25	07.39		09.57 (AG09)	07.04		06.20		06.31 06.50 (AG07)		05.59			05.53
	17.31	98	15.12 (AG08)	18.09		18.39		20.11 48 07.53 (AG10)		20.41			20.57
26	07.39		09.57 (AG09)	07.03		06.18		06.30 06.49 (AG07)		05.58			05.53
	17.32	95	15.10 (AG08)	18.10		18.40		20.12 49 07.53 (AG10)		20.42			20.58
27	07.38		09.57 (AG09)	07.01		06.16		06.28 06.47 (AG07)		05.57			05.54
	17.33	92	15.09 (AG08)	18.11		18.41		20.14 51 07.51 (AG10)		20.43			20.58
28	07.37		09.57 (AG09)	07.00		06.15		06.27 06.46 (AG07)		05.57			05.54
	17.35	87	15.07 (AG08)	18.12		18.42		20.15 52 07.51 (AG10)		20.44			20.58
29	07.36		09.57 (AG09)			07.13		06.26 06.45 (AG07)		05.56			05.54
	17.36	80	15.04 (AG08)			19.43		20.16 51 07.50 (AG10)		20.44			20.58
30	07.35		09.57 (AG09)			07.11		06.24 06.43 (AG07)		05.56			05.55
	17.37	69	11.06 (AG09)			19.44		20.17 52 07.49 (AG10)		20.45			20.58
31	07.34		09.57 (AG09)			07.10				05.55			
	17.38	69	11.06 (AG09)			19.45				20.46			
Potential sun hours	299		298			370		398		447			451
Total, worst case		3142		1060				951			554		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R38 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (210)

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	05.55			06.19		06.46 (AG07)	06.49		07.19 (AG10)	07.18			06.52		09.31 (AG09)	07.26		09.38 (AG09)
	20.58			20.39	21	07.07 (AG07)	19.56	32	07.51 (AG10)	19.07			17.21	59	10.30 (AG09)	16.57	108	14.56 (AG08)
2	05.56			06.20		06.45 (AG07)	06.50		07.20 (AG10)	07.19			06.53		09.30 (AG09)	07.27		09.39 (AG09)
	20.57			20.38	23	07.08 (AG07)	19.55	29	07.49 (AG10)	19.05			17.19	61	10.31 (AG09)	16.56	108	14.57 (AG08)
3	05.56			06.21		06.44 (AG07)	06.51		07.22 (AG10)	07.20			06.54		09.31 (AG09)	07.28		09.39 (AG09)
	20.57			20.37	24	07.08 (AG07)	19.53	25	07.47 (AG10)	19.03			17.18	62	10.33 (AG09)	16.56	107	14.57 (AG08)
4	05.57			06.22		06.43 (AG07)	06.52		07.24 (AG10)	07.21			06.55		09.30 (AG09)	07.29		09.40 (AG09)
	20.57			20.36	26	07.09 (AG07)	19.52	20	07.44 (AG10)	19.02			17.17	64	10.34 (AG09)	16.56	107	14.58 (AG08)
5	05.57			06.23		06.44 (AG07)	06.53		07.27 (AG10)	07.22			06.56		09.29 (AG09)	07.30		09.41 (AG09)
	20.57			20.34	31	07.43 (AG10)	19.50	14	07.41 (AG10)	19.00			17.16	65	10.34 (AG09)	16.56	106	14.58 (AG08)
6	05.58			06.23		06.45 (AG07)	06.54			07.23			06.58		09.29 (AG09)	07.31		09.42 (AG09)
	20.57			20.33	38	07.47 (AG10)	19.48			18.58			17.15	66	10.35 (AG09)	16.56	106	14.59 (AG08)
7	05.58			06.24		06.46 (AG07)	06.55			07.24			06.59		09.29 (AG09)	07.32		09.41 (AG09)
	20.56			20.32	44	07.50 (AG10)	19.47			18.57			17.14	67	10.36 (AG09)	16.56	105	14.58 (AG08)
8	05.59			06.25		06.47 (AG07)	06.56			07.25			07.00		09.29 (AG09)	07.33		09.42 (AG09)
	20.56			20.31	47	07.52 (AG10)	19.45			18.55			17.13	67	10.36 (AG09)	16.56	106	14.59 (AG08)
9	06.00			06.26		06.48 (AG07)	06.57			07.26			07.01		09.29 (AG09)	07.34		09.43 (AG09)
	20.56			20.30	48	07.53 (AG10)	19.43			18.53			17.12	68	10.37 (AG09)	16.56	104	14.59 (AG08)
10	06.00			06.27		06.49 (AG07)	06.58			07.27			07.02		09.28 (AG09)	07.35		09.44 (AG09)
	20.55			20.28	51	07.55 (AG10)	19.42			18.52			17.10	69	10.37 (AG09)	16.56	104	15.00 (AG08)
11	06.01			06.28		06.50 (AG07)	06.59			07.29			07.03		09.29 (AG09)	07.36		09.45 (AG09)
	20.55			20.27	51	07.56 (AG10)	19.40			18.50			17.10	69	10.38 (AG09)	16.56	102	15.00 (AG08)
12	06.02			06.29		06.51 (AG07)	07.00			07.30			07.05		09.29 (AG09)	07.36		09.46 (AG09)
	20.54			20.26	52	07.57 (AG10)	19.38			18.49			17.09	69	10.38 (AG09)	16.56	103	15.01 (AG08)
13	06.02			06.30		06.52 (AG07)	07.01			07.31			07.06		09.29 (AG09)	07.37		09.47 (AG09)
	20.54			20.25	53	07.58 (AG10)	19.37			18.47			17.08	81	14.36 (AG08)	16.56	102	15.02 (AG08)
14	06.03			06.31		06.53 (AG07)	07.01			07.32			07.07		09.29 (AG09)	07.38		09.46 (AG09)
	20.53			20.23	52	07.58 (AG10)	19.35			18.46			17.07	87	14.39 (AG08)	16.56	102	15.01 (AG08)
15	06.04			06.32		06.54 (AG07)	07.02			07.33			07.08		09.30 (AG09)	07.39		09.47 (AG09)
	20.53			20.22	52	07.59 (AG10)	19.33			18.44			17.06	92	14.42 (AG08)	16.56	101	15.02 (AG08)
16	06.05			06.33		06.55 (AG07)	07.03			07.34			07.09		09.30 (AG09)	07.39		09.48 (AG09)
	20.52			20.20	50	07.59 (AG10)	19.32			18.43			17.05	96	14.44 (AG08)	16.57	102	15.03 (AG08)
17	06.06			06.34		06.55 (AG07)	07.04			07.35			07.11		09.30 (AG09)	07.40		09.48 (AG09)
	20.52			20.19	50	07.59 (AG10)	19.30			18.41			17.04	98	14.45 (AG08)	16.57	101	15.03 (AG08)
18	06.06			06.35		06.56 (AG07)	07.05			07.36			07.12		09.30 (AG09)	07.41		09.49 (AG09)
	20.51			20.18	47	07.59 (AG10)	19.28			18.40			17.03	101	14.46 (AG08)	16.57	101	15.04 (AG08)
19	06.07		06.29 (AG11)	06.36		06.57 (AG07)	07.06			07.37			07.13		09.31 (AG09)	07.41		09.50 (AG09)
	20.50	4	06.33 (AG11)	20.16	45	07.59 (AG10)	19.27			18.38			17.03	103	14.48 (AG08)	16.58	100	15.04 (AG08)
20	06.08		06.30 (AG11)	06.37		07.17 (AG10)	07.07			07.38			07.14		09.31 (AG09)	07.42		09.50 (AG09)
	20.50	5	06.35 (AG11)	20.15	42	07.59 (AG10)	19.25			18.37			17.02	105	14.49 (AG08)	16.58	100	15.04 (AG08)
21	06.09		06.31 (AG11)	06.38		07.17 (AG10)	07.08			07.39		10.55 (AG09)	07.15		09.31 (AG09)	07.42		09.51 (AG09)
	20.49	6	06.37 (AG11)	20.13	42	07.59 (AG10)	19.23			18.35	6	11.01 (AG09)	17.01	106	14.49 (AG08)	16.58	100	15.05 (AG08)
22	06.10		06.32 (AG11)	06.39		07.16 (AG10)	07.09			07.40		10.48 (AG09)	07.16		09.32 (AG09)	07.43		09.51 (AG09)
	20.48	6	06.38 (AG11)	20.12	43	07.59 (AG10)	19.22			18.34	21	11.09 (AG09)	17.01	106	14.50 (AG08)	16.59	100	15.05 (AG08)
23	06.11		06.33 (AG11)	06.40		07.16 (AG10)	07.10			07.42		10.44 (AG09)	07.17		09.32 (AG09)	07.43		09.51 (AG09)
	20.47	6	06.39 (AG11)	20.10	43	07.59 (AG10)	19.20			18.32	29	11.13 (AG09)	17.00	108	14.51 (AG08)	16.59	100	15.05 (AG08)
24	06.11		06.34 (AG11)	06.41		07.16 (AG10)	07.11			07.43		10.41 (AG09)	07.19		09.33 (AG09)	07.44		09.52 (AG09)
	20.47	6	06.40 (AG11)	20.09	43	07.59 (AG10)	19.18			18.31	35	11.16 (AG09)	17.00	108	14.52 (AG08)	17.00	100	15.06 (AG08)
25	06.12		06.34 (AG11)	06.42		07.16 (AG10)	07.12			06.44		09.40 (AG09)	07.20		09.34 (AG09)	07.44		09.52 (AG09)
	20.46	6	06.40 (AG11)	20.07	42	07.58 (AG10)	19.17			17.30	39	10.19 (AG09)	16.59	108	14.53 (AG08)	17.01	101	15.07 (AG08)
26	06.13		06.35 (AG11)	06.43		07.16 (AG10)	07.13			06.45		09.38 (AG09)	07.21		09.34 (AG09)	07.45		09.53 (AG09)
	20.45	5	06.40 (AG11)	20.06	42	07.58 (AG10)	19.15			17.28	43	10.21 (AG09)	16.59	108	14.53 (AG08)	17.01	101	15.08 (AG08)
27	06.14		06.36 (AG11)	06.44		07.17 (AG10)	07.14			06.46		09.36 (AG09)	07.22		09.35 (AG09)	07.45		09.53 (AG09)
	20.44	5	06.41 (AG11)	20.04	40	07.57 (AG10)	19.13			17.27	47	10.23 (AG09)	16.58	109	14.54 (AG08)	17.02	102	15.08 (AG08)
28	06.15		06.37 (AG11)	06.45		07.17 (AG10)	07.15			06.47		09.35 (AG09)	07.23		09.35 (AG09)	07.45		09.53 (AG09)
	20.43	14	07.01 (AG07)	20.03	39	07.56 (AG10)	19.12			17.26	50	10.25 (AG09)	16.58	109	14.54 (AG08)	17.03	102	15.08 (AG08)
29	06.16		06.38 (AG11)	06.46		07.17 (AG10)	07.16			06.48		09.34 (AG09)	07.24		09.36 (AG09)	07.46		09.53 (AG09)
	20.42	16	07.03 (AG07)	20.01	38	07.55 (AG10)	19.10			17.24	52	10.26 (AG09)	16.57	109	14.55 (AG08)	17.03	101	15.08 (AG08)
30	06.17		06.39 (AG11)	06.47		07.18 (AG10)	07.17			06.49		09.33 (AG09)	07.25		09.36 (AG09)	07.46		09.54 (AG09)
	20.41	19	07.05 (AG07)	20.00	36	07.54 (AG10)	19.08			17.23	55	10.28 (AG09)	16.57	109	14.55 (AG08)	17.04	102	15.09 (AG08)
31	06.18		06.40 (AG11)	06.48		07.19 (AG10)				06.51		09.32 (AG09)				07.46		09.55 (AG09)
	20.40	20	07.06 (AG07)	19.58	34	07.53 (AG10)				17.22	57	10.29 (AG09)				17.05	103	15.10 (AG08)
Potential sun hours	458			427			375			346			299			289		
Total, worst case		118			1289			120			434			2629			3187	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R39 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (205)

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	07.46		07.33			06.58		17.02 (AG08)	07.08		16.33 (AG09)	06.23		16.40 (AG09)	05.55		17.15 (AG09)
	17.06		17.40			18.13	32	17.34 (AG08)	19.46	107	18.20 (AG09)	20.18	92	18.12 (AG09)	20.47	32	17.47 (AG09)
2	07.47		07.33			06.57		17.01 (AG08)	07.06		16.33 (AG09)	06.22		16.41 (AG09)	05.54		17.15 (AG09)
	17.07		17.41			18.14	33	17.34 (AG08)	19.47	108	18.21 (AG09)	20.19	91	18.12 (AG09)	20.47	30	17.45 (AG09)
3	07.47		07.32			06.55		17.01 (AG08)	07.05		16.32 (AG09)	06.20		16.42 (AG09)	05.54		17.17 (AG09)
	17.07		17.42			18.15	34	17.35 (AG08)	19.49	108	18.20 (AG09)	20.20	89	18.11 (AG09)	20.48	27	17.44 (AG09)
4	07.47		07.31			06.54		17.00 (AG08)	07.03		16.32 (AG09)	06.19		16.42 (AG09)	05.53		17.19 (AG09)
	17.08		17.43			18.16	35	17.35 (AG08)	19.50	109	18.21 (AG09)	20.21	88	18.10 (AG09)	20.49	24	17.43 (AG09)
5	07.47		07.30			06.52		17.01 (AG08)	07.02		16.31 (AG09)	06.18		16.43 (AG09)	05.53		17.21 (AG09)
	17.09		17.45			18.18	34	17.35 (AG08)	19.51	110	18.21 (AG09)	20.22	86	18.09 (AG09)	20.49	20	17.41 (AG09)
6	07.47		07.28			06.50		17.00 (AG08)	07.00		16.31 (AG09)	06.17		16.44 (AG09)	05.53		17.23 (AG09)
	17.10		17.46			18.19	35	17.35 (AG08)	19.52	110	18.21 (AG09)	20.23	85	18.09 (AG09)	20.50	17	17.40 (AG09)
7	07.47		07.27			06.49		17.01 (AG08)	06.58		16.31 (AG09)	06.16		16.45 (AG09)	05.52		17.25 (AG09)
	17.11		17.47			18.20	34	17.35 (AG08)	19.53	110	18.21 (AG09)	20.24	83	18.08 (AG09)	20.51	13	17.38 (AG09)
8	07.47		07.26			06.47		16.24 (AG09)	06.57		16.31 (AG09)	06.14		16.46 (AG09)	05.52		17.29 (AG09)
	17.12		17.48			18.21	50	17.34 (AG08)	19.54	110	18.21 (AG09)	20.25	82	18.08 (AG09)	20.51	7	17.36 (AG09)
9	07.46		07.25			06.46		16.16 (AG09)	06.55		16.31 (AG09)	06.13		16.47 (AG09)	05.52		
	17.13		17.49			18.22	64	17.33 (AG08)	19.55	110	18.21 (AG09)	20.26	80	18.07 (AG09)	20.52		
10	07.46		07.24			06.44		16.11 (AG09)	06.54		16.31 (AG09)	06.12		16.48 (AG09)	05.52		
	17.14		17.51			18.23	74	17.33 (AG08)	19.56	110	18.21 (AG09)	20.27	78	18.06 (AG09)	20.52		
11	07.46		07.23			06.43		16.07 (AG09)	06.52		16.30 (AG09)	06.11		16.49 (AG09)	05.52		
	17.15		17.52			18.24	79	17.31 (AG08)	19.57	110	18.20 (AG09)	20.28	77	18.06 (AG09)	20.53		
12	07.46		07.22			06.41		16.04 (AG09)	06.50		16.31 (AG09)	06.10		16.50 (AG09)	05.51		
	17.16		17.53			18.25	83	17.31 (AG08)	19.58	109	18.20 (AG09)	20.29	75	18.05 (AG09)	20.54		
13	07.46		07.20			06.39		16.01 (AG09)	06.49		16.31 (AG09)	06.09		16.51 (AG09)	05.51		
	17.17		17.54			18.26	86	17.29 (AG08)	19.59	109	18.20 (AG09)	20.30	73	18.04 (AG09)	20.54		
14	07.45		07.19			06.38		15.58 (AG09)	06.47		16.31 (AG09)	06.08		16.52 (AG09)	05.51		
	17.18		17.55			18.27	86	17.26 (AG08)	20.00	109	18.20 (AG09)	20.31	71	18.03 (AG09)	20.54		
15	07.45		07.18			06.36		15.56 (AG09)	06.46		16.31 (AG09)	06.07		16.53 (AG09)	05.51		
	17.19		17.57			18.29	86	17.24 (AG08)	20.01	108	18.19 (AG09)	20.32	69	18.02 (AG09)	20.55		
16	07.44		07.17			06.34		15.53 (AG09)	06.44		16.32 (AG09)	06.06		16.54 (AG09)	05.51		
	17.21		17.58			18.30	83	17.20 (AG08)	20.02	108	18.20 (AG09)	20.33	67	18.01 (AG09)	20.55		
17	07.44		07.15			06.33		15.51 (AG09)	06.43		16.32 (AG09)	06.05		16.55 (AG09)	05.51		
	17.22		17.59			18.31	78	17.09 (AG09)	20.03	107	18.19 (AG09)	20.34	65	18.00 (AG09)	20.56		
18	07.44		07.14			06.31		15.49 (AG09)	06.41		16.33 (AG09)	06.04		16.56 (AG09)	05.51		
	17.23		18.00			18.32	82	17.11 (AG09)	20.04	106	18.19 (AG09)	20.35	63	17.59 (AG09)	20.56		
19	07.43		07.13			06.29		15.47 (AG09)	06.40		16.32 (AG09)	06.03		16.58 (AG09)	05.52		
	17.24		18.01			18.33	85	17.12 (AG09)	20.05	106	18.18 (AG09)	20.36	61	17.59 (AG09)	20.56		
20	07.42		07.11			06.28		15.45 (AG09)	06.38		16.33 (AG09)	06.02		16.59 (AG09)	05.52		
	17.25		18.03			18.34	87	17.12 (AG09)	20.06	105	18.18 (AG09)	20.37	59	17.58 (AG09)	20.57		
21	07.42		07.10			06.26		15.44 (AG09)	06.37		16.33 (AG09)	06.02		17.00 (AG09)	05.52		
	17.26		18.04			18.35	90	17.14 (AG09)	20.07	104	18.17 (AG09)	20.37	57	17.57 (AG09)	20.57		
22	07.41		07.08		17.17 (AG08)	06.25		15.43 (AG09)	06.35		16.34 (AG09)	06.01		17.01 (AG09)	05.52		
	17.27		18.05	3	17.20 (AG08)	18.36	92	17.15 (AG09)	20.08	103	18.17 (AG09)	20.38	55	17.56 (AG09)	20.57		
23	07.41		07.07		17.12 (AG08)	06.23		15.41 (AG09)	06.34		16.35 (AG09)	06.00		17.03 (AG09)	05.52		
	17.29		18.06	14	17.26 (AG08)	18.37	94	17.15 (AG09)	20.09	102	18.17 (AG09)	20.39	53	17.56 (AG09)	20.57		
24	07.40		07.06		17.10 (AG08)	06.21		15.40 (AG09)	06.32		16.35 (AG09)	05.59		17.04 (AG09)	05.53		
	17.30		18.07	19	17.29 (AG08)	18.38	97	17.17 (AG09)	20.10	101	18.16 (AG09)	20.40	50	17.54 (AG09)	20.57		
25	07.39		07.04		17.07 (AG08)	06.20		15.39 (AG09)	06.31		16.36 (AG09)	05.59		17.04 (AG09)	05.53		
	17.31		18.08	24	17.31 (AG08)	18.39	98	17.17 (AG09)	20.11	100	18.16 (AG09)	20.41	49	17.53 (AG09)	20.57		
26	07.39		07.03		17.06 (AG08)	06.18		15.37 (AG09)	06.30		16.36 (AG09)	05.58		17.06 (AG09)	05.53		
	17.32		18.10	26	17.32 (AG08)	18.40	100	17.17 (AG09)	20.12	99	18.15 (AG09)	20.42	47	17.53 (AG09)	20.58		
27	07.38		07.01		17.04 (AG08)	06.16		15.37 (AG09)	06.28		16.37 (AG09)	05.57		17.07 (AG09)	05.53		
	17.33		18.11	29	17.33 (AG08)	18.41	102	17.19 (AG09)	20.14	97	18.14 (AG09)	20.43	44	17.51 (AG09)	20.58		
28	07.37		07.00		17.04 (AG08)	06.15		15.36 (AG09)	06.27		16.38 (AG09)	05.57		17.09 (AG09)	05.54		
	17.35		18.12	30	17.34 (AG08)	18.42	103	17.19 (AG09)	20.15	96	18.14 (AG09)	20.44	42	17.51 (AG09)	20.58		
29	07.36					07.13		16.35 (AG09)	06.26		16.39 (AG09)	05.56		17.10 (AG09)	05.54		
	17.36					19.43	104	18.19 (AG09)	20.16	95	18.14 (AG09)	20.44	40	17.50 (AG09)	20.58		
30	07.35					07.11		16.35 (AG09)	06.24		16.39 (AG09)	05.56		17.12 (AG09)	05.55		
	17.37					19.44	105	18.20 (AG09)	20.17	94	18.13 (AG09)	20.45	37	17.49 (AG09)	20.58		
31	07.34					07.10		16.34 (AG09)				05.55		17.13 (AG09)			
	17.38					19.45	106	18.20 (AG09)				20.46	34	17.47 (AG09)			
Potential sun hours	299		298			370			398			447			451		
Total, worst case				145			2351			3160			2042			170	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R39 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (205)

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	05.55			06.19		17.00 (AG09)	06.49		16.29 (AG09)	07.18		16.41 (AG09)	06.52	07.26
	20.57			20.39	76	18.16 (AG09)	19.56	110	18.19 (AG09)	19.06	85	18.09 (AG08)	17.20	16.57
2	05.56			06.20		16.59 (AG09)	06.50		16.29 (AG09)	07.19		16.44 (AG09)	06.53	07.27
	20.57			20.38	76	18.15 (AG09)	19.55	110	18.19 (AG09)	19.05	80	18.09 (AG08)	17.19	16.56
3	05.56			06.21		16.58 (AG09)	06.51		16.28 (AG09)	07.20		16.47 (AG09)	06.54	07.28
	20.57			20.37	78	18.16 (AG09)	19.53	110	18.18 (AG09)	19.03	76	18.10 (AG08)	17.18	16.56
4	05.57			06.22		16.57 (AG09)	06.52		16.28 (AG09)	07.21		16.51 (AG09)	06.55	07.29
	20.57			20.36	80	18.17 (AG09)	19.52	110	18.18 (AG09)	19.02	68	18.10 (AG08)	17.17	16.56
5	05.57		17.33 (AG09)	06.23		16.56 (AG09)	06.53		16.27 (AG09)	07.22		16.57 (AG09)	06.56	07.30
	20.57	10	17.43 (AG09)	20.34	81	18.17 (AG09)	19.50	110	18.17 (AG09)	19.00	57	18.10 (AG08)	17.16	16.56
6	05.58		17.30 (AG09)	06.23		16.55 (AG09)	06.54		16.27 (AG09)	07.23		17.36 (AG08)	06.58	07.31
	20.57	15	17.45 (AG09)	20.33	83	18.18 (AG09)	19.48	110	18.17 (AG09)	18.58	34	18.10 (AG08)	17.15	16.56
7	05.58		17.29 (AG09)	06.24		16.54 (AG09)	06.55		16.27 (AG09)	07.24		17.36 (AG08)	06.59	07.32
	20.56	19	17.48 (AG09)	20.32	85	18.19 (AG09)	19.47	109	18.16 (AG09)	18.57	34	18.10 (AG08)	17.14	16.56
8	05.59		17.26 (AG09)	06.25		16.53 (AG09)	06.56		16.26 (AG09)	07.25		17.35 (AG08)	07.00	07.33
	20.56	23	17.49 (AG09)	20.31	86	18.19 (AG09)	19.45	109	18.15 (AG09)	18.55	35	18.10 (AG08)	17.13	16.56
9	06.00		17.25 (AG09)	06.26		16.52 (AG09)	06.57		16.26 (AG09)	07.26		17.35 (AG08)	07.01	07.34
	20.56	26	17.51 (AG09)	20.30	88	18.20 (AG09)	19.43	109	18.15 (AG09)	18.53	35	18.10 (AG08)	17.11	16.56
10	06.00		17.24 (AG09)	06.27		16.51 (AG09)	06.58		16.26 (AG09)	07.27		17.35 (AG08)	07.02	07.35
	20.55	29	17.53 (AG09)	20.28	89	18.20 (AG09)	19.42	108	18.14 (AG09)	18.52	34	18.09 (AG08)	17.10	16.56
11	06.01		17.22 (AG09)	06.28		16.50 (AG09)	06.59		16.26 (AG09)	07.28		17.36 (AG08)	07.03	07.35
	20.55	31	17.53 (AG09)	20.27	91	18.21 (AG09)	19.40	107	18.13 (AG09)	18.50	33	18.09 (AG08)	17.09	16.56
12	06.02		17.22 (AG09)	06.29		16.49 (AG09)	07.00		16.26 (AG09)	07.30		17.36 (AG08)	07.05	07.36
	20.54	33	17.55 (AG09)	20.26	92	18.21 (AG09)	19.38	106	18.12 (AG09)	18.49	33	18.09 (AG08)	17.09	16.56
13	06.02		17.21 (AG09)	06.30		16.48 (AG09)	07.00		16.26 (AG09)	07.31		17.36 (AG08)	07.06	07.37
	20.54	36	17.57 (AG09)	20.24	93	18.21 (AG09)	19.37	105	18.11 (AG09)	18.47	32	18.08 (AG08)	17.08	16.56
14	06.03		17.20 (AG09)	06.31		16.47 (AG09)	07.01		16.26 (AG09)	07.32		17.36 (AG08)	07.07	07.38
	20.53	38	17.58 (AG09)	20.23	95	18.22 (AG09)	19.35	104	18.10 (AG09)	18.46	30	18.06 (AG08)	17.07	16.56
15	06.04		17.18 (AG09)	06.32		16.46 (AG09)	07.02		16.26 (AG09)	07.33		17.37 (AG08)	07.08	07.39
	20.53	41	17.59 (AG09)	20.22	96	18.22 (AG09)	19.33	103	18.09 (AG09)	18.44	28	18.05 (AG08)	17.06	16.56
16	06.05		17.17 (AG09)	06.33		16.45 (AG09)	07.03		16.25 (AG09)	07.34		17.38 (AG08)	07.09	07.39
	20.52	43	18.00 (AG09)	20.20	97	18.22 (AG09)	19.32	102	18.07 (AG09)	18.43	25	18.03 (AG08)	17.05	16.57
17	06.05		17.16 (AG09)	06.34		16.43 (AG09)	07.04		16.25 (AG09)	07.35		17.39 (AG08)	07.10	07.40
	20.52	46	18.02 (AG09)	20.19	98	18.21 (AG09)	19.30	101	18.06 (AG09)	18.41	22	18.01 (AG08)	17.04	16.57
18	06.06		17.15 (AG09)	06.35		16.42 (AG09)	07.05		16.26 (AG09)	07.36		17.41 (AG08)	07.12	07.41
	20.51	48	18.03 (AG09)	20.18	100	18.22 (AG09)	19.28	99	18.05 (AG09)	18.40	18	17.59 (AG08)	17.03	16.57
19	06.07		17.14 (AG09)	06.36		16.41 (AG09)	07.06		16.26 (AG09)	07.37		17.45 (AG08)	07.13	07.41
	20.50	49	18.03 (AG09)	20.16	101	18.22 (AG09)	19.27	97	18.03 (AG09)	18.38	12	17.57 (AG08)	17.03	16.58
20	06.08		17.13 (AG09)	06.37		16.40 (AG09)	07.07		16.27 (AG09)	07.38			07.14	07.42
	20.50	52	18.05 (AG09)	20.15	102	18.22 (AG09)	19.25	95	18.02 (AG09)	18.37			17.02	16.58
21	06.09		17.12 (AG09)	06.38		16.39 (AG09)	07.08		16.28 (AG09)	07.39			07.15	07.42
	20.49	54	18.06 (AG09)	20.13	103	18.22 (AG09)	19.23	92	18.00 (AG09)	18.35			17.01	16.58
22	06.10		17.11 (AG09)	06.39		16.38 (AG09)	07.09		16.28 (AG09)	07.40			07.16	07.43
	20.48	56	18.07 (AG09)	20.12	104	18.22 (AG09)	19.22	91	17.59 (AG09)	18.34			17.01	16.59
23	06.10		17.10 (AG09)	06.40		16.37 (AG09)	07.10		16.29 (AG09)	07.41			07.17	07.43
	20.47	58	18.08 (AG09)	20.10	105	18.22 (AG09)	19.20	88	17.57 (AG09)	18.32			17.00	16.59
24	06.11		17.09 (AG09)	06.41		16.36 (AG09)	07.11		16.30 (AG09)	07.43			07.19	07.44
	20.47	60	18.09 (AG09)	20.09	106	18.22 (AG09)	19.18	85	17.55 (AG09)	18.31			17.00	17.00
25	06.12		17.07 (AG09)	06.42		16.35 (AG09)	07.12		16.31 (AG09)	06.44			07.20	07.44
	20.46	62	18.09 (AG09)	20.07	107	18.22 (AG09)	19.16	83	17.54 (AG09)	17.30			16.59	17.01
26	06.13		17.06 (AG09)	06.43		16.35 (AG09)	07.13		16.33 (AG09)	06.45			07.21	07.45
	20.45	64	18.10 (AG09)	20.06	107	18.22 (AG09)	19.15	79	17.52 (AG09)	17.28			16.59	17.01
27	06.14		17.05 (AG09)	06.44		16.34 (AG09)	07.14		16.34 (AG09)	06.46			07.22	07.45
	20.44	66	18.11 (AG09)	20.04	107	18.21 (AG09)	19.13	80	17.59 (AG08)	17.27			16.58	17.02
28	06.15		17.04 (AG09)	06.45		16.33 (AG09)	07.15		16.35 (AG09)	06.47			07.23	07.45
	20.43	68	18.12 (AG09)	20.03	108	18.21 (AG09)	19.11	87	18.04 (AG08)	17.26			16.58	17.03
29	06.16		17.03 (AG09)	06.46		16.32 (AG09)	07.16		16.37 (AG09)	06.48			07.24	07.46
	20.42	70	18.13 (AG09)	20.01	109	18.21 (AG09)	19.10	88	18.06 (AG08)	17.24			16.57	17.03
30	06.17		17.02 (AG09)	06.47		16.32 (AG09)	07.17		16.39 (AG09)	06.49			07.25	07.46
	20.41	72	18.14 (AG09)	20.00	109	18.21 (AG09)	19.08	87	18.08 (AG08)	17.23			16.57	17.04
31	06.18		17.01 (AG09)	06.48		16.31 (AG09)				06.51				07.46
	20.40	74	18.15 (AG09)	19.58	109	18.20 (AG09)				17.22				17.05
Potential sun hours	458			427			375			346			299	289
Total, worst case		1243			2961			2974			771			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R40 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (206)

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	07.46	07.33		06.58		15.33 (AG09)	07.08	16.35 (AG09)	06.23	05.55	
	17.06	17.40		18.13	111	17.24 (AG08)	19.46	70	17.45 (AG09)	20.18	20.47
2	07.47	07.33		06.57		15.31 (AG09)	07.06	16.37 (AG09)	06.22	05.54	
	17.07	17.41		18.14	112	17.23 (AG08)	19.47	68	17.45 (AG09)	20.19	20.47
3	07.47	07.32		06.55		15.31 (AG09)	07.05	16.38 (AG09)	06.20	05.54	
	17.07	17.42		18.15	112	17.23 (AG08)	19.49	65	17.43 (AG09)	20.20	20.48
4	07.47	07.31		06.54		15.30 (AG09)	07.03	16.40 (AG09)	06.19	05.53	
	17.08	17.43		18.16	111	17.21 (AG08)	19.50	62	17.42 (AG09)	20.21	20.49
5	07.47	07.30		06.52		15.30 (AG09)	07.02	16.41 (AG09)	06.18	05.53	
	17.09	17.45		18.18	110	17.20 (AG08)	19.51	59	17.40 (AG09)	20.22	20.49
6	07.47	07.28		06.50		15.29 (AG09)	07.00	16.42 (AG09)	06.17	05.53	
	17.10	17.46		18.19	109	17.18 (AG08)	19.52	56	17.38 (AG09)	20.23	20.50
7	07.47	07.27		06.49		15.29 (AG09)	06.58	16.45 (AG09)	06.16	05.52	
	17.11	17.47		18.20	105	17.16 (AG08)	19.53	52	17.37 (AG09)	20.24	20.51
8	07.47	07.26		06.47		15.28 (AG09)	06.57	16.46 (AG09)	06.14	05.52	
	17.12	17.48		18.21	101	17.13 (AG08)	19.54	48	17.34 (AG09)	20.25	20.51
9	07.46	07.25		06.46		15.27 (AG09)	06.55	16.48 (AG09)	06.13	05.52	
	17.13	17.49		18.22	90	16.57 (AG09)	19.55	44	17.32 (AG09)	20.26	20.52
10	07.46	07.24		06.44		15.27 (AG09)	06.54	16.51 (AG09)	06.12	05.52	
	17.14	17.51		18.23	91	16.58 (AG09)	19.56	39	17.30 (AG09)	20.27	20.52
11	07.46	07.23		06.43		15.27 (AG09)	06.52	16.53 (AG09)	06.11	05.52	
	17.15	17.52		18.24	91	16.58 (AG09)	19.57	34	17.27 (AG09)	20.28	20.53
12	07.46	07.22		06.41		15.27 (AG09)	06.50	16.57 (AG09)	06.10	05.51	
	17.16	17.53		18.25	91	16.58 (AG09)	19.58	27	17.24 (AG09)	20.29	20.54
13	07.46	07.20		16.09 (AG09)	06.39		15.27 (AG09)	06.49	17.01 (AG09)	06.09	05.51
	17.17	17.54	12	16.21 (AG09)	18.26	91	16.58 (AG09)	19.59	18	17.19 (AG09)	20.30	20.54
14	07.45	07.19		16.02 (AG09)	06.38		15.26 (AG09)	06.47			06.08	05.51
	17.18	17.55	25	16.27 (AG09)	18.27	92	16.58 (AG09)	20.00			20.31	20.54
15	07.45	07.18		15.58 (AG09)	06.36		15.27 (AG09)	06.46			06.07	05.51
	17.19	17.57	41	17.13 (AG08)	18.29	91	16.58 (AG09)	20.01			20.32	20.55
16	07.44	07.17		15.55 (AG09)	06.34		15.27 (AG09)	06.44			06.06	05.51
	17.21	17.58	54	17.17 (AG08)	18.30	90	16.57 (AG09)	20.02			20.33	20.55
17	07.44	07.15		15.51 (AG09)	06.33		15.26 (AG09)	06.43			06.05	05.51
	17.22	17.59	65	17.19 (AG08)	18.31	91	16.57 (AG09)	20.03			20.34	20.56
18	07.44	07.14		15.49 (AG09)	06.31		15.27 (AG09)	06.41			06.04	05.51
	17.23	18.00	74	17.21 (AG08)	18.32	90	16.57 (AG09)	20.04			20.35	20.56
19	07.43	07.13		15.47 (AG09)	06.29		15.27 (AG09)	06.40			06.03	05.52
	17.24	18.01	82	17.23 (AG08)	18.33	89	16.56 (AG09)	20.05			20.36	20.56
20	07.42	07.11		15.45 (AG09)	06.28		15.27 (AG09)	06.38			06.02	05.52
	17.25	18.03	87	17.23 (AG08)	18.34	88	16.55 (AG09)	20.06			20.37	20.57
21	07.42	07.10		15.43 (AG09)	06.26		15.28 (AG09)	06.37			06.02	05.52
	17.26	18.04	92	17.24 (AG08)	18.35	88	16.56 (AG09)	20.07			20.37	20.57
22	07.41	07.08		15.41 (AG09)	06.25		15.28 (AG09)	06.35			06.01	05.52
	17.27	18.05	96	17.24 (AG08)	18.36	87	16.55 (AG09)	20.08			20.38	20.57
23	07.41	07.07		15.40 (AG09)	06.23		15.28 (AG09)	06.34			06.00	05.52
	17.29	18.06	100	17.25 (AG08)	18.37	86	16.54 (AG09)	20.09			20.39	20.57
24	07.40	07.06		15.39 (AG09)	06.21		15.29 (AG09)	06.32			05.59	05.53
	17.30	18.07	103	17.26 (AG08)	18.38	85	16.54 (AG09)	20.10			20.40	20.57
25	07.39	07.04		15.37 (AG09)	06.20		15.30 (AG09)	06.31			05.59	05.53
	17.31	18.08	106	17.25 (AG08)	18.39	83	16.53 (AG09)	20.11			20.41	20.57
26	07.39	07.03		15.37 (AG09)	06.18		15.30 (AG09)	06.30			05.58	05.53
	17.32	18.10	109	17.26 (AG08)	18.40	81	16.51 (AG09)	20.12			20.42	20.58
27	07.38	07.01		15.35 (AG09)	06.16		15.31 (AG09)	06.28			05.57	05.53
	17.33	18.11	110	17.25 (AG08)	18.41	80	16.51 (AG09)	20.14			20.43	20.58
28	07.37	07.00		15.34 (AG09)	06.15		15.32 (AG09)	06.27			05.57	05.54
	17.35	18.12	111	17.25 (AG08)	18.42	78	16.50 (AG09)	20.15			20.44	20.58
29	07.36				07.13		16.32 (AG09)	06.26			05.56	05.54
	17.36				19.43	77	17.49 (AG09)	20.16			20.44	20.58
30	07.35				07.11		16.34 (AG09)	06.24			05.56	05.55
	17.37				19.44	74	17.48 (AG09)	20.17			20.45	20.58
31	07.34				07.10		16.35 (AG09)				05.55	
	17.38				19.45	72	17.47 (AG09)				20.46	
Potential sun hours	299	298			370			398			447	451
Total, worst case			1267			2847			642			

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R40 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (206)

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	05.55	06.19			06.49		16.52 (AG09)	07.18		16.06 (AG09)	06.52	07.26
	20.57	20.39			19.56	34	17.26 (AG09)	19.06	91	17.37 (AG09)	17.20	16.57
2	05.56	06.20			06.50		16.49 (AG09)	07.19		16.05 (AG09)	06.53	07.27
	20.57	20.38			19.55	39	17.28 (AG09)	19.05	92	17.37 (AG09)	17.19	16.56
3	05.56	06.21			06.51		16.46 (AG09)	07.20		16.05 (AG09)	06.54	07.28
	20.57	20.37			19.53	44	17.30 (AG09)	19.03	91	17.36 (AG09)	17.18	16.56
4	05.57	06.22			06.52		16.43 (AG09)	07.21		16.05 (AG09)	06.55	07.29
	20.57	20.36			19.52	48	17.31 (AG09)	19.02	90	17.35 (AG09)	17.17	16.56
5	05.57	06.22			06.53		16.41 (AG09)	07.22		16.05 (AG09)	06.56	07.30
	20.57	20.34			19.50	52	17.33 (AG09)	19.00	93	17.46 (AG08)	17.16	16.56
6	05.58	06.23			06.54		16.39 (AG09)	07.23		16.04 (AG09)	06.58	07.31
	20.57	20.33			19.48	55	17.34 (AG09)	18.58	104	17.51 (AG08)	17.15	16.56
7	05.58	06.24			06.55		16.36 (AG09)	07.24		16.04 (AG09)	06.59	07.32
	20.56	20.32			19.47	59	17.35 (AG09)	18.57	108	17.53 (AG08)	17.14	16.56
8	05.59	06.25			06.56		16.34 (AG09)	07.25		16.04 (AG09)	07.00	07.33
	20.56	20.31			19.45	62	17.36 (AG09)	18.55	110	17.54 (AG08)	17.13	16.56
9	06.00	06.26			06.57		16.32 (AG09)	07.26		16.04 (AG09)	07.01	07.34
	20.56	20.30			19.43	65	17.37 (AG09)	18.53	111	17.55 (AG08)	17.11	16.56
10	06.00	06.27			06.58		16.31 (AG09)	07.27		16.05 (AG09)	07.02	07.35
	20.55	20.28			19.42	67	17.38 (AG09)	18.52	111	17.56 (AG08)	17.10	16.56
11	06.01	06.28			06.59		16.29 (AG09)	07.28		16.06 (AG09)	07.03	07.35
	20.55	20.27			19.40	69	17.38 (AG09)	18.50	111	17.57 (AG08)	17.09	16.56
12	06.02	06.29			07.00		16.27 (AG09)	07.30		16.06 (AG09)	07.05	07.36
	20.54	20.26			19.38	72	17.39 (AG09)	18.49	112	17.58 (AG08)	17.09	16.56
13	06.02	06.30			07.00		16.25 (AG09)	07.31		16.07 (AG09)	07.06	07.37
	20.54	20.24			19.37	74	17.39 (AG09)	18.47	111	17.58 (AG08)	17.08	16.56
14	06.03	06.31			07.01		16.24 (AG09)	07.32		16.07 (AG09)	07.07	07.38
	20.53	20.23			19.35	76	17.40 (AG09)	18.46	111	17.58 (AG08)	17.07	16.56
15	06.04	06.32			07.02		16.22 (AG09)	07.33		16.08 (AG09)	07.08	07.39
	20.53	20.22			19.33	78	17.40 (AG09)	18.44	110	17.58 (AG08)	17.06	16.56
16	06.05	06.33			07.03		16.20 (AG09)	07.34		16.08 (AG09)	07.09	07.39
	20.52	20.20			19.32	79	17.39 (AG09)	18.43	108	17.57 (AG08)	17.05	16.57
17	06.05	06.34			07.04		16.19 (AG09)	07.35		16.09 (AG09)	07.10	07.40
	20.52	20.19			19.30	81	17.40 (AG09)	18.41	106	17.57 (AG08)	17.04	16.57
18	06.06	06.35			07.05		16.17 (AG09)	07.36		16.10 (AG09)	07.12	07.41
	20.51	20.18			19.28	83	17.40 (AG09)	18.40	102	17.56 (AG08)	17.03	16.57
19	06.07	06.36			07.06		16.16 (AG09)	07.37		16.12 (AG09)	07.13	07.41
	20.50	20.16			19.27	84	17.40 (AG09)	18.38	100	17.57 (AG08)	17.03	16.58
20	06.08	06.37			07.07		16.15 (AG09)	07.38		16.13 (AG09)	07.14	07.42
	20.50	20.15			19.25	85	17.40 (AG09)	18.37	96	17.56 (AG08)	17.02	16.58
21	06.09	06.38			07.08		16.14 (AG09)	07.39		16.14 (AG09)	07.15	07.42
	20.49	20.13			19.23	86	17.40 (AG09)	18.35	91	17.55 (AG08)	17.01	16.58
22	06.10	06.39			07.09		16.13 (AG09)	07.40		16.16 (AG09)	07.16	07.43
	20.48	20.12			19.22	87	17.40 (AG09)	18.34	85	17.53 (AG08)	17.01	16.59
23	06.10	06.40			07.10		16.12 (AG09)	07.41		16.18 (AG09)	07.17	07.43
	20.47	20.10			19.20	88	17.40 (AG09)	18.32	79	17.52 (AG08)	17.00	16.59
24	06.11	06.41			07.11		16.11 (AG09)	07.43		16.19 (AG09)	07.19	07.44
	20.47	20.09			19.18	89	17.40 (AG09)	18.31	72	17.50 (AG08)	17.00	17.00
25	06.12	06.42			07.12		16.10 (AG09)	06.44		15.23 (AG09)	07.20	07.44
	20.46	20.07			19.16	89	17.39 (AG09)	17.30	62	16.49 (AG08)	16.59	17.01
26	06.13	06.43			07.13		16.09 (AG09)	06.45		15.25 (AG09)	07.21	07.45
	20.45	20.06			19.15	90	17.39 (AG09)	17.28	52	16.46 (AG08)	16.59	17.01
27	06.14	06.44			07.14		16.08 (AG09)	06.46		15.28 (AG09)	07.22	07.45
	20.44	20.04			19.13	91	17.39 (AG09)	17.27	36	16.41 (AG08)	16.58	17.02
28	06.15	06.45			07.15		16.07 (AG09)	06.47		15.33 (AG09)	07.23	07.45
	20.43	20.03			19.11	91	17.38 (AG09)	17.26	23	15.56 (AG09)	16.58	17.03
29	06.16	06.46			07.16		16.07 (AG09)	06.48		15.42 (AG09)	07.24	07.46
	20.42	20.01			19.10	91	17.38 (AG09)	17.24	4	15.46 (AG09)	16.57	17.03
30	06.17	06.47		17.02 (AG09)	07.17		16.06 (AG09)	06.49			07.25	07.46
	20.41	20.00	18	17.20 (AG09)	19.08	92	17.38 (AG09)	17.23			16.57	17.04
31	06.18	06.48		16.57 (AG09)				06.51				07.46
	20.40	19.58	27	17.24 (AG09)				17.22				17.05
Potential sun hours	458	427			375			346			299	289
Total, worst case			45			2200			2572			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R41 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (219)

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	07.46		12.18 (AG10)	07.33		13.02 (AG10)	06.58		07.46 (AG07)	07.08		08.35 (AG07)	06.23		06.42 (AG11)	05.55		
	17.06	106	16.11 (AG08)	17.40	21	13.23 (AG10)	18.13	70	08.56 (AG07)	19.46	68	09.43 (AG07)	20.18	37	07.19 (AG11)	20.47		
2	07.47		12.19 (AG10)	07.33			06.57		07.44 (AG07)	07.06		08.36 (AG07)	06.22		06.41 (AG11)	05.54		
	17.07	104	16.11 (AG08)	17.41			18.14	73	08.57 (AG07)	19.47	66	09.42 (AG07)	20.19	38	07.19 (AG11)	20.47		
3	07.47		12.19 (AG10)	07.32			06.55		07.44 (AG07)	07.05		08.36 (AG07)	06.20		06.40 (AG11)	05.54		
	17.07	105	16.11 (AG08)	17.42			18.15	74	08.58 (AG07)	19.49	64	09.40 (AG07)	20.20	39	07.19 (AG11)	20.48		
4	07.47		12.20 (AG10)	07.31			06.54		07.42 (AG07)	07.03		08.37 (AG07)	06.19		06.38 (AG11)	05.53		
	17.08	105	16.12 (AG08)	17.43			18.16	76	08.58 (AG07)	19.50	61	09.38 (AG07)	20.21	40	07.18 (AG11)	20.49		
5	07.47		12.21 (AG10)	07.30			06.52		07.42 (AG07)	07.02		08.38 (AG07)	06.18		06.37 (AG11)	05.53		
	17.09	103	16.12 (AG08)	17.44			18.18	77	08.59 (AG07)	19.51	59	09.37 (AG07)	20.22	40	07.17 (AG11)	20.49		
6	07.47		12.21 (AG10)	07.28			06.50		07.40 (AG07)	07.00		07.18 (AG12)	06.17		06.36 (AG11)	05.53		
	17.10	105	16.13 (AG08)	17.46			18.19	79	08.59 (AG07)	19.52	59	09.35 (AG07)	20.23	41	07.17 (AG11)	20.50		
7	07.47		12.21 (AG10)	07.27			06.49		07.40 (AG07)	06.58		07.17 (AG12)	06.15		06.36 (AG11)	05.52		
	17.11	104	16.13 (AG08)	17.47			18.20	80	09.00 (AG07)	19.53	57	09.33 (AG07)	20.24	41	07.17 (AG11)	20.51		
8	07.47		12.22 (AG10)	07.26			06.47		07.39 (AG07)	06.57		07.15 (AG12)	06.14		06.36 (AG11)	05.52		
	17.12	102	16.13 (AG08)	17.48			18.21	81	09.00 (AG07)	19.54	55	09.30 (AG07)	20.25	40	07.16 (AG11)	20.51		
9	07.46		12.23 (AG10)	07.25			06.46		07.38 (AG07)	06.55		07.13 (AG12)	06.13		06.37 (AG11)	05.52		
	17.13	102	16.14 (AG08)	17.49			18.22	82	09.00 (AG07)	19.55	54	09.28 (AG07)	20.26	39	07.16 (AG11)	20.52		
10	07.46		12.24 (AG10)	07.24			06.44		07.38 (AG07)	06.53		07.12 (AG12)	06.12		06.37 (AG11)	05.52		
	17.14	101	16.14 (AG08)	17.51			18.23	83	09.01 (AG07)	19.56	50	09.25 (AG07)	20.27	38	07.15 (AG11)	20.52		
11	07.46		12.24 (AG10)	07.23			06.42		07.37 (AG07)	06.52		07.10 (AG12)	06.11		06.38 (AG11)	05.52		
	17.15	101	16.14 (AG08)	17.52			18.24	83	09.00 (AG07)	19.57	46	09.22 (AG07)	20.28	37	07.15 (AG11)	20.53		
12	07.46		12.25 (AG10)	07.22			06.41		07.36 (AG07)	06.50		07.09 (AG12)	06.10		06.38 (AG11)	05.51		
	17.16	99	16.14 (AG08)	17.53			18.25	84	09.00 (AG07)	19.58	41	09.19 (AG07)	20.29	36	07.14 (AG11)	20.54		
13	07.46		12.26 (AG10)	07.20			06.39		07.36 (AG07)	06.49		07.07 (AG12)	06.09		06.39 (AG11)	05.51		
	17.17	97	16.14 (AG08)	17.54			18.26	84	09.00 (AG07)	19.59	34	09.14 (AG07)	20.30	34	07.13 (AG11)	20.54		
14	07.45		12.27 (AG10)	07.19			06.38		07.35 (AG07)	06.47		07.06 (AG12)	06.08		06.40 (AG11)	05.51		
	17.18	95	16.14 (AG08)	17.55			18.27	85	09.00 (AG07)	20.00	19	09.07 (AG07)	20.31	32	07.12 (AG11)	20.54		
15	07.45		12.28 (AG10)	07.18			06.36		07.35 (AG07)	06.46		07.04 (AG12)	06.07		06.41 (AG11)	05.51		
	17.19	93	16.14 (AG08)	17.57			18.29	85	09.00 (AG07)	20.01	14	07.18 (AG12)	20.32	30	07.11 (AG11)	20.55		
16	07.44		12.28 (AG10)	07.17			06.34		07.34 (AG07)	06.44		07.03 (AG11)	06.06		06.42 (AG11)	05.51		
	17.21	91	16.13 (AG08)	17.58			18.30	85	08.59 (AG07)	20.02	13	07.16 (AG12)	20.33	28	07.10 (AG11)	20.55		
17	07.44		12.30 (AG10)	07.15			06.33		07.33 (AG07)	06.43		07.01 (AG11)	06.05		06.43 (AG11)	05.51		
	17.22	88	16.13 (AG08)	17.59			18.31	86	08.59 (AG07)	20.03	12	07.13 (AG12)	20.34	26	07.09 (AG11)	20.56		
18	07.44		12.30 (AG10)	07.14		08.12 (AG07)	06.31		07.34 (AG07)	06.41		07.00 (AG11)	06.04		06.44 (AG11)	05.51		
	17.23	85	16.12 (AG08)	18.00	21	08.33 (AG07)	18.32	85	08.59 (AG07)	20.04	11	07.11 (AG11)	20.35	24	07.08 (AG11)	20.56		
19	07.43		12.32 (AG10)	07.13		08.07 (AG07)	06.29		07.33 (AG07)	06.40		06.58 (AG11)	06.03		06.46 (AG11)	05.51		
	17.24	79	16.11 (AG08)	18.01	31	08.38 (AG07)	18.33	85	08.58 (AG07)	20.05	14	07.12 (AG11)	20.36	21	07.07 (AG11)	20.56		
20	07.43		12.33 (AG10)	07.11		08.03 (AG07)	06.28		07.33 (AG07)	06.38		06.57 (AG11)	06.02		06.48 (AG11)	05.52		
	17.25	70	13.43 (AG10)	18.03	38	08.41 (AG07)	18.34	84	08.57 (AG07)	20.06	17	07.14 (AG11)	20.37	17	07.05 (AG11)	20.57		
21	07.42		12.35 (AG10)	07.10		08.01 (AG07)	06.26		07.33 (AG07)	06.37		06.55 (AG11)	06.02		06.50 (AG11)	05.52		
	17.26	68	13.43 (AG10)	18.04	43	08.44 (AG07)	18.35	84	08.57 (AG07)	20.07	20	07.15 (AG11)	20.37	12	07.02 (AG11)	20.57		
22	07.41		12.36 (AG10)	07.08		07.58 (AG07)	06.25		07.33 (AG07)	06.35		06.54 (AG11)	06.01		06.53 (AG11)	05.52		
	17.27	66	13.42 (AG10)	18.05	48	08.46 (AG07)	18.36	83	08.56 (AG07)	20.08	22	07.16 (AG11)	20.38	5	06.58 (AG11)	20.57		
23	07.41		12.37 (AG10)	07.07		07.56 (AG07)	06.23		07.32 (AG07)	06.34		06.53 (AG11)	06.00			05.52		
	17.29	64	13.41 (AG10)	18.06	52	08.48 (AG07)	18.37	82	08.54 (AG07)	20.09	24	07.17 (AG11)	20.39			20.57		
24	07.40		12.38 (AG10)	07.06		07.55 (AG07)	06.21		07.33 (AG07)	06.32		06.51 (AG11)	05.59			05.52		
	17.30	62	13.40 (AG10)	18.07	55	08.50 (AG07)	18.38	81	08.54 (AG07)	20.10	26	07.17 (AG11)	20.40			20.57		
25	07.39		12.41 (AG10)	07.04		07.52 (AG07)	06.20		07.33 (AG07)	06.31		06.50 (AG11)	05.59			05.53		
	17.31	59	13.40 (AG10)	18.08	59	08.51 (AG07)	18.39	80	08.53 (AG07)	20.11	28	07.18 (AG11)	20.41			20.57		
26	07.39		12.42 (AG10)	07.03		07.51 (AG07)	06.18		07.33 (AG07)	06.30		06.48 (AG11)	05.58			05.53		
	17.32	56	13.38 (AG10)	18.10	62	08.53 (AG07)	18.40	78	08.51 (AG07)	20.12	30	07.18 (AG11)	20.42			20.58		
27	07.38		12.44 (AG10)	07.01		07.49 (AG07)	06.16		07.33 (AG07)	06.28		06.47 (AG11)	05.57			05.53		
	17.33	53	13.37 (AG10)	18.11	65	08.54 (AG07)	18.41	78	08.51 (AG07)	20.13	31	07.18 (AG11)	20.43			20.58		
28	07.37		12.47 (AG10)	07.00		07.48 (AG07)	06.15		07.33 (AG07)	06.27		06.46 (AG11)	05.57			05.54		
	17.35	48	13.35 (AG10)	18.12	68	08.56 (AG07)	18.42	76	08.49 (AG07)	20.15	33	07.19 (AG11)	20.44			20.58		
29	07.36		12.49 (AG10)				07.13		08.33 (AG07)	06.25		06.45 (AG11)	05.56			05.54		
	17.36	44	13.33 (AG10)				19.43	75	09.48 (AG07)	20.16	34	07.19 (AG11)	20.44			20.58		
30	07.35		12.52 (AG10)				07.11		08.34 (AG07)	06.24		06.43 (AG11)	05.56			05.55		
	17.37	39	13.31 (AG10)				19.44	73	09.47 (AG07)	20.17	35	07.18 (AG11)	20.45			20.58		
31	07.34		12.56 (AG10)				07.10		08.34 (AG07)				05.55					
	17.38	32	13.28 (AG10)				19.45	71	09.45 (AG07)				20.46					
Potential sun hours	299			298			370			398			447			451		
Total, worst case		2526			563			2482			1097			695				

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R41 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (219)

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	05.55			06.19			06.49 (AG11)	06.49		07.09 (AG12)	07.18		08.15 (AG07)	06.52			07.26		12.06 (AG10)
	20.57			20.39	36		07.25 (AG11)	19.56	46	09.21 (AG07)	19.06	84	09.39 (AG07)	17.20			16.57	101	15.56 (AG08)
2	05.56			06.20			06.47 (AG11)	06.50		07.10 (AG12)	07.19		08.15 (AG07)	06.53			07.27		12.07 (AG10)
	20.57			20.38	38		07.25 (AG11)	19.55	50	09.23 (AG07)	19.05	84	09.39 (AG07)	17.19			16.56	101	15.57 (AG08)
3	05.56			06.21			06.47 (AG11)	06.51		07.11 (AG12)	07.20		08.15 (AG07)	06.54			07.28		12.07 (AG10)
	20.57			20.37	38		07.25 (AG11)	19.53	54	09.26 (AG07)	19.03	83	09.38 (AG07)	17.18			16.56	102	15.58 (AG08)
4	05.57			06.22			06.46 (AG11)	06.52		07.12 (AG12)	07.21		08.15 (AG07)	06.55			07.29		12.07 (AG10)
	20.57			20.36	40		07.26 (AG11)	19.52	55	09.27 (AG07)	19.02	83	09.38 (AG07)	17.17			16.56	102	15.58 (AG08)
5	05.57			06.22			06.46 (AG11)	06.53		07.13 (AG12)	07.22		08.15 (AG07)	06.56			07.30		12.07 (AG10)
	20.57			20.34	40		07.26 (AG11)	19.50	57	09.29 (AG07)	19.00	82	09.37 (AG07)	17.16			16.56	104	15.59 (AG08)
6	05.58			06.23			06.45 (AG11)	06.54		07.14 (AG12)	07.23		08.15 (AG07)	06.58			07.31		12.07 (AG10)
	20.57			20.33	42		07.27 (AG11)	19.48	59	09.31 (AG07)	18.58	81	09.36 (AG07)	17.15			16.56	104	15.59 (AG08)
7	05.58			06.24			06.46 (AG11)	06.55		08.33 (AG07)	07.24		08.16 (AG07)	06.59			07.32		12.07 (AG10)
	20.56			20.32	41		07.27 (AG11)	19.47	59	09.32 (AG07)	18.57	79	09.35 (AG07)	17.14			16.56	104	15.59 (AG08)
8	05.59			06.25			06.47 (AG11)	06.56		08.32 (AG07)	07.25		08.16 (AG07)	07.00			07.33		12.07 (AG10)
	20.56			20.31	40		07.27 (AG11)	19.45	61	09.33 (AG07)	18.55	78	09.34 (AG07)	17.12			16.56	105	15.59 (AG08)
9	06.00			06.26			06.48 (AG11)	06.57		08.30 (AG07)	07.26		08.17 (AG07)	07.01			07.34		12.07 (AG10)
	20.56			20.30	39		07.27 (AG11)	19.43	64	09.34 (AG07)	18.53	76	09.33 (AG07)	17.11			16.56	106	16.00 (AG08)
10	06.00			06.27			06.49 (AG11)	06.58		08.29 (AG07)	07.27		08.17 (AG07)	07.02		12.32 (AG10)	07.35		12.08 (AG10)
	20.55			20.28	38		07.27 (AG11)	19.42	66	09.35 (AG07)	18.52	75	09.32 (AG07)	17.10	22	12.54 (AG10)	16.56	104	16.00 (AG08)
11	06.01			06.28			06.50 (AG11)	06.59		08.28 (AG07)	07.28		08.19 (AG07)	07.03		12.28 (AG10)	07.35		12.08 (AG10)
	20.55			20.27	37		07.27 (AG11)	19.40	68	09.36 (AG07)	18.50	73	09.32 (AG07)	17.09	32	13.00 (AG10)	16.56	106	16.01 (AG08)
12	06.02			06.29			06.51 (AG11)	06.59		08.27 (AG07)	07.30		08.19 (AG07)	07.05		12.24 (AG10)	07.36		12.09 (AG10)
	20.54			20.26	36		07.27 (AG11)	19.38	70	09.37 (AG07)	18.49	72	09.31 (AG07)	17.09	39	13.03 (AG10)	16.56	105	16.01 (AG08)
13	06.02			06.30			06.52 (AG11)	07.00		08.26 (AG07)	07.31		08.20 (AG07)	07.06		12.21 (AG10)	07.37		12.09 (AG10)
	20.54			20.24	35		07.27 (AG11)	19.37	72	09.38 (AG07)	18.47	69	09.29 (AG07)	17.08	44	13.05 (AG10)	16.56	105	16.02 (AG08)
14	06.03			06.31			06.53 (AG11)	07.01		08.25 (AG07)	07.32		08.21 (AG07)	07.07		12.18 (AG10)	07.38		12.09 (AG10)
	20.53			20.23	34		07.27 (AG11)	19.35	74	09.39 (AG07)	18.46	67	09.28 (AG07)	17.07	49	13.07 (AG10)	16.56	105	16.01 (AG08)
15	06.04			06.32			06.54 (AG11)	07.02		08.23 (AG07)	07.33		08.22 (AG07)	07.08		12.17 (AG10)	07.39		12.10 (AG10)
	20.53			20.22	32		07.26 (AG11)	19.33	75	09.38 (AG07)	18.44	64	09.26 (AG07)	17.06	53	13.10 (AG10)	16.56	105	16.02 (AG08)
16	06.05			06.33			06.55 (AG11)	07.03		08.22 (AG07)	07.34		08.23 (AG07)	07.09		12.15 (AG10)	07.39		12.10 (AG10)
	20.52			20.20	31		07.26 (AG11)	19.32	77	09.39 (AG07)	18.43	61	09.24 (AG07)	17.05	56	13.11 (AG10)	16.57	106	16.03 (AG08)
17	06.05			06.34			06.55 (AG11)	07.04		08.21 (AG07)	07.35		08.24 (AG07)	07.10		12.14 (AG10)	07.40		12.10 (AG10)
	20.52			20.19	29		07.24 (AG11)	19.30	78	09.39 (AG07)	18.41	58	09.22 (AG07)	17.04	59	13.13 (AG10)	16.57	106	16.03 (AG08)
18	06.06			06.35			06.56 (AG11)	07.05		08.20 (AG07)	07.36		08.26 (AG07)	07.12		12.12 (AG10)	07.41		12.11 (AG10)
	20.51			20.18	28		07.24 (AG11)	19.28	80	09.40 (AG07)	18.40	54	09.20 (AG07)	17.03	62	13.14 (AG10)	16.57	105	16.03 (AG08)
19	06.07			06.36			06.57 (AG11)	07.06		08.19 (AG07)	07.37		08.28 (AG07)	07.13		12.12 (AG10)	07.41		12.11 (AG10)
	20.50			20.16	26		07.23 (AG11)	19.27	81	09.40 (AG07)	18.38	51	09.19 (AG07)	17.03	64	13.16 (AG10)	16.58	104	16.03 (AG08)
20	06.08			06.37			06.58 (AG11)	07.07		08.19 (AG07)	07.38		08.30 (AG07)	07.14		12.11 (AG10)	07.42		12.12 (AG10)
	20.50			20.15	24		07.22 (AG11)	19.25	82	09.41 (AG07)	18.37	47	09.17 (AG07)	17.02	66	13.17 (AG10)	16.58	104	16.04 (AG08)
21	06.09			06.38			06.59 (AG11)	07.08		08.18 (AG07)	07.39		08.32 (AG07)	07.15		12.10 (AG10)	07.42		12.13 (AG10)
	20.49			20.13	22		07.21 (AG11)	19.23	83	09.41 (AG07)	18.35	42	09.14 (AG07)	17.01	68	13.18 (AG10)	16.58	104	16.05 (AG08)
22	06.10		07.02 (AG11)	06.39			07.00 (AG11)	07.09		08.18 (AG07)	07.40		08.35 (AG07)	07.16		12.09 (AG10)	07.43		12.13 (AG10)
	20.48	9	07.11 (AG11)	20.12	19		07.19 (AG11)	19.22	83	09.41 (AG07)	18.34	35	09.10 (AG07)	17.01	70	13.19 (AG10)	16.59	104	16.05 (AG08)
23	06.10		06.59 (AG11)	06.40			07.01 (AG11)	07.10		08.17 (AG07)	07.41		08.38 (AG07)	07.17		12.08 (AG10)	07.43		12.13 (AG10)
	20.47	15	07.14 (AG11)	20.10	17		07.18 (AG11)	19.20	84	09.41 (AG07)	18.32	28	09.06 (AG07)	17.00	79	15.47 (AG08)	16.59	104	16.05 (AG08)
24	06.11		06.56 (AG11)	06.41			07.02 (AG11)	07.11		08.17 (AG07)	07.43		08.43 (AG07)	07.19		12.08 (AG10)	07.44		12.14 (AG10)
	20.47	19	07.15 (AG11)	20.09	14		07.16 (AG11)	19.18	84	09.41 (AG07)	18.31	18	09.01 (AG07)	17.00	85	15.50 (AG08)	17.00	104	16.06 (AG08)
25	06.12		06.55 (AG11)	06.42			07.03 (AG11)	07.12		08.16 (AG07)	06.44			07.20		12.08 (AG10)	07.44		12.14 (AG10)
	20.46	22	07.17 (AG11)	20.07	11		07.14 (AG11)	19.16	85	09.41 (AG07)	17.30			16.59	88	15.51 (AG08)	17.01	105	16.06 (AG08)
26	06.13		06.54 (AG11)	06.43			07.04 (AG11)	07.13		08.16 (AG07)	06.45			07.21		12.07 (AG10)	07.45		12.15 (AG10)
	20.45	25	07.19 (AG11)	20.06	12		07.16 (AG12)	19.15	85	09.41 (AG07)	17.28			16.59	91	15.52 (AG08)	17.01	105	16.07 (AG08)
27	06.14		06.53 (AG11)	06.44			07.05 (AG11)	07.14		08.16 (AG07)	06.46			07.22		12.07 (AG10)	07.45		12.15 (AG10)
	20.44	27	07.20 (AG11)	20.04	13		07.18 (AG12)	19.13	85	09.41 (AG07)	17.27			16.58	93	15.53 (AG08)	17.02	106	16.08 (AG08)
28	06.15		06.52 (AG11)	06.45			07.06 (AG12)	07.15		08.15 (AG07)	06.47			07.23		12.07 (AG10)	07.45		12.15 (AG10)
	20.43	29	07.21 (AG11)	20.03	14		07.20 (AG12)	19.11	86	09.41 (AG07)	17.26			16.58	95	15.54 (AG08)	17.02	106	16.08 (AG08)
29	06.16		06.51 (AG11)	06.46			07.07 (AG12)	07.16		08.15 (AG07)	06.48			07.24		12.06 (AG10)	07.46		12.16 (AG10)
	20.42	31	07.22 (AG11)	20.01	21		09.09 (AG07)	19.10	85	09.40 (AG07)	17.24			16.57	97	15.54 (AG08)	17.03	105	16.08 (AG08)
30	06.17		06.50 (AG11)	06.47			07.08 (AG12)	07.17		08.15 (AG07)	06.49			07.25		12.06 (AG10)	07.46		12.16 (AG10)
	20.41	33	07.23 (AG11)	20.00	34		09.15 (AG07)	19.08	85	09.40 (AG07)	17.23			16.57	99	15.55 (AG08)	17.04	105	16.09 (AG08)
31	06.18		06.49 (AG11)	06.48			07.09 (AG12)				06.51						07.46		12.18 (AG10)
	20.40	35	07.24 (AG11)	19.58	41		09.19 (AG07)				17.22						17.05	105	16.10 (AG08)
Potential sun hours	458			427			375			346			299			289			
Total, worst case		245			922			2173			1544			1411				3237	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R42 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (208)

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	07.46	07.33			06.58		16.33 (AG09)	07.08	06.23			05.55		06.16 (AG12)
	17.06	17.40			18.13	43	17.16 (AG08)	19.46	20.18			20.47	4	06.20 (AG12)
2	07.47	07.33			06.57		16.32 (AG09)	07.06	06.22			05.54		06.15 (AG12)
	17.07	17.41			18.14	37	17.09 (AG09)	19.47	20.19			20.47	4	06.19 (AG12)
3	07.47	07.32			06.55		16.33 (AG09)	07.05	06.20			05.54		06.15 (AG12)
	17.07	17.42			18.15	36	17.09 (AG09)	19.49	20.20			20.48	5	06.20 (AG12)
4	07.47	07.31			06.54		16.33 (AG09)	07.03	06.19			05.53		06.15 (AG12)
	17.08	17.43			18.16	35	17.08 (AG09)	19.50	20.21			20.49	5	06.20 (AG12)
5	07.47	07.29			06.52		16.34 (AG09)	07.01	06.18			05.53		06.14 (AG12)
	17.09	17.44			18.18	33	17.07 (AG09)	19.51	20.22			20.49	6	06.20 (AG12)
6	07.47	07.28			06.50		16.35 (AG09)	07.00	06.17			05.53		06.14 (AG12)
	17.10	17.46			18.19	31	17.06 (AG09)	19.52	20.23			20.50	6	06.20 (AG12)
7	07.47	07.27			06.49		16.36 (AG09)	06.58	06.15			05.52		06.14 (AG12)
	17.11	17.47			18.20	29	17.05 (AG09)	19.53	20.24			20.51	7	06.21 (AG12)
8	07.47	07.26			06.47		16.37 (AG09)	06.57	06.14			05.52		06.14 (AG12)
	17.12	17.48			18.21	26	17.03 (AG09)	19.54	20.25			20.51	7	06.21 (AG12)
9	07.46	07.25			06.46		16.39 (AG09)	06.55	06.13			05.52		06.14 (AG12)
	17.13	17.49			18.22	22	17.01 (AG09)	19.55	20.26			20.52	7	06.21 (AG12)
10	07.46	07.24			06.44		16.41 (AG09)	06.53	06.12			05.52		06.13 (AG12)
	17.14	17.51			18.23	18	16.59 (AG09)	19.56	20.27			20.52	7	06.20 (AG12)
11	07.46	07.23			06.42		16.45 (AG09)	06.52	06.11			05.52		06.13 (AG12)
	17.15	17.52			18.24	10	16.55 (AG09)	19.57	20.28			20.53	7	06.20 (AG12)
12	07.46	07.22			06.41			06.50	06.10			05.51		06.13 (AG12)
	17.16	17.53			18.25			19.58	20.29			20.54	8	06.21 (AG12)
13	07.45	07.20			06.39			06.49	06.09			05.51		06.13 (AG12)
	17.17	17.54			18.26			19.59	20.30			20.54	8	06.21 (AG12)
14	07.45	07.19			06.38			06.47	06.08			05.51		06.13 (AG12)
	17.18	17.55			18.27			20.00	20.31			20.54	8	06.21 (AG12)
15	07.45	07.18		16.47 (AG09)	06.36			06.46	06.07			05.51		06.13 (AG12)
	17.19	17.57	10	16.57 (AG09)	18.29			20.01	20.32			20.55	8	06.21 (AG12)
16	07.44	07.17		16.44 (AG09)	06.34			06.44	06.06			05.51		06.13 (AG12)
	17.21	17.58	26	17.17 (AG08)	18.30			20.02	20.33			20.55	8	06.21 (AG12)
17	07.44	07.15		16.41 (AG09)	06.33			06.43	06.05			05.51		06.13 (AG12)
	17.22	17.59	35	17.18 (AG08)	18.31			20.03	20.34			20.56	8	06.21 (AG12)
18	07.44	07.14		16.39 (AG09)	06.31			06.41	06.04			05.51		06.13 (AG12)
	17.23	18.00	41	17.20 (AG08)	18.32			20.04	20.35			20.56	8	06.21 (AG12)
19	07.43	07.13		16.38 (AG09)	06.29			06.40	06.03			05.51		06.14 (AG12)
	17.24	18.01	44	17.22 (AG08)	18.33			20.05	20.36			20.56	8	06.22 (AG12)
20	07.42	07.11		16.36 (AG09)	06.28			06.38	06.02			05.52		06.14 (AG12)
	17.25	18.03	46	17.22 (AG08)	18.34			20.06	20.37			20.57	8	06.22 (AG12)
21	07.42	07.10		16.36 (AG09)	06.26			06.37	06.02			05.52		06.14 (AG12)
	17.26	18.04	47	17.23 (AG08)	18.35			20.07	20.37			20.57	8	06.22 (AG12)
22	07.41	07.08		16.34 (AG09)	06.25			06.35	06.01			05.52		06.14 (AG12)
	17.27	18.05	48	17.22 (AG08)	18.36			20.08	20.38			20.57	8	06.22 (AG12)
23	07.41	07.07		16.34 (AG09)	06.23			06.34	06.00			05.52		06.14 (AG12)
	17.29	18.06	49	17.23 (AG08)	18.37			20.09	20.39			20.57	8	06.22 (AG12)
24	07.40	07.05		16.33 (AG09)	06.21			06.32	05.59			05.52		06.15 (AG12)
	17.30	18.07	49	17.22 (AG08)	18.38			20.10	20.40			20.57	8	06.23 (AG12)
25	07.39	07.04		16.33 (AG09)	06.20			06.31	05.59			05.53		06.15 (AG12)
	17.31	18.08	49	17.22 (AG08)	18.39			20.11	20.41			20.57	8	06.23 (AG12)
26	07.39	07.03		16.33 (AG09)	06.18			06.30	05.58			05.53		06.15 (AG12)
	17.32	18.10	48	17.21 (AG08)	18.40			20.12	20.42			20.58	8	06.23 (AG12)
27	07.38	07.01		16.33 (AG09)	06.16			06.28	05.57			05.53		06.16 (AG12)
	17.33	18.11	47	17.20 (AG08)	18.41			20.13	20.43			20.58	8	06.24 (AG12)
28	07.37	07.00		16.33 (AG09)	06.15			06.27	05.57		06.18 (AG12)	05.54		06.16 (AG12)
	17.35	18.12	46	17.19 (AG08)	18.42			20.15	20.43	1	06.19 (AG12)	20.58	8	06.24 (AG12)
29	07.36				07.13			06.25	05.56		06.17 (AG12)	05.54		06.17 (AG12)
	17.36				19.43			20.16	20.44	2	06.19 (AG12)	20.58	8	06.25 (AG12)
30	07.35				07.11			06.24	05.56		06.17 (AG12)	05.55		06.17 (AG12)
	17.37				19.44			20.17	20.45	2	06.19 (AG12)	20.58	8	06.25 (AG12)
31	07.34				07.10				05.55		06.16 (AG12)			
	17.38				19.45				20.46	3	06.19 (AG12)			
Potential sun hours	299	298			370			398	447			451		
Total, worst case			585			320				8			217	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R42 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (208)

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	05.55		06.17 (AG12)	06.19	06.49	07.18			06.52	07.26
	20.57	8	06.25 (AG12)	20.39	19.56	19.06			17.20	16.57
2	05.56		06.18 (AG12)	06.20	06.50	07.19		17.27 (AG09)	06.53	07.27
	20.57	7	06.25 (AG12)	20.38	19.55	19.05	3	17.30 (AG09)	17.19	16.56
3	05.56		06.18 (AG12)	06.21	06.51	07.20		17.20 (AG09)	06.54	07.28
	20.57	7	06.25 (AG12)	20.37	19.53	19.03	15	17.35 (AG09)	17.18	16.56
4	05.57		06.19 (AG12)	06.22	06.52	07.21		17.17 (AG09)	06.55	07.29
	20.57	7	06.26 (AG12)	20.36	19.52	19.02	21	17.38 (AG09)	17.17	16.56
5	05.57		06.20 (AG12)	06.22	06.53	07.22		17.15 (AG09)	06.56	07.30
	20.57	7	06.27 (AG12)	20.34	19.50	19.00	24	17.39 (AG09)	17.16	16.56
6	05.58		06.20 (AG12)	06.23	06.54	07.23		17.13 (AG09)	06.58	07.31
	20.57	6	06.26 (AG12)	20.33	19.48	18.58	27	17.40 (AG09)	17.15	16.56
7	05.58		06.21 (AG12)	06.24	06.55	07.24		17.11 (AG09)	06.59	07.32
	20.56	6	06.27 (AG12)	20.32	19.47	18.57	30	17.41 (AG09)	17.14	16.56
8	05.59		06.21 (AG12)	06.25	06.56	07.25		17.10 (AG09)	07.00	07.33
	20.56	6	06.27 (AG12)	20.31	19.45	18.55	32	17.42 (AG09)	17.12	16.56
9	06.00		06.22 (AG12)	06.26	06.57	07.26		17.08 (AG09)	07.01	07.34
	20.56	5	06.27 (AG12)	20.30	19.43	18.53	34	17.42 (AG09)	17.11	16.56
10	06.00		06.23 (AG12)	06.27	06.58	07.27		17.07 (AG09)	07.02	07.35
	20.55	5	06.28 (AG12)	20.28	19.42	18.52	35	17.42 (AG09)	17.10	16.56
11	06.01		06.23 (AG12)	06.28	06.59	07.28		17.07 (AG09)	07.03	07.35
	20.55	4	06.27 (AG12)	20.27	19.40	18.50	37	17.44 (AG09)	17.09	16.56
12	06.02		06.24 (AG12)	06.29	06.59	07.30		17.07 (AG09)	07.05	07.36
	20.54	3	06.27 (AG12)	20.26	19.38	18.49	41	17.48 (AG08)	17.09	16.56
13	06.02		06.25 (AG12)	06.30	07.00	07.31		17.06 (AG09)	07.06	07.37
	20.54	3	06.28 (AG12)	20.24	19.37	18.47	45	17.51 (AG08)	17.08	16.56
14	06.03		06.25 (AG12)	06.31	07.01	07.32		17.05 (AG09)	07.07	07.38
	20.53	2	06.27 (AG12)	20.23	19.35	18.46	47	17.52 (AG08)	17.07	16.56
15	06.04		06.26 (AG12)	06.32	07.02	07.33		17.05 (AG09)	07.08	07.39
	20.53	1	06.27 (AG12)	20.22	19.33	18.44	48	17.53 (AG08)	17.06	16.56
16	06.05			06.33	07.03	07.34		17.05 (AG09)	07.09	07.39
	20.52			20.20	19.32	18.43	48	17.53 (AG08)	17.05	16.57
17	06.05			06.34	07.04	07.35		17.05 (AG09)	07.10	07.40
	20.52			20.19	19.30	18.41	48	17.53 (AG08)	17.04	16.57
18	06.06			06.35	07.05	07.36		17.05 (AG09)	07.12	07.41
	20.51			20.18	19.28	18.40	48	17.53 (AG08)	17.03	16.57
19	06.07			06.36	07.06	07.37		17.05 (AG09)	07.13	07.41
	20.50			20.16	19.27	18.38	48	17.53 (AG08)	17.03	16.58
20	06.08			06.37	07.07	07.38		17.06 (AG09)	07.14	07.42
	20.50			20.15	19.25	18.37	48	17.54 (AG08)	17.02	16.58
21	06.09			06.38	07.08	07.39		17.07 (AG09)	07.15	07.42
	20.49			20.13	19.23	18.35	46	17.53 (AG08)	17.01	16.58
22	06.10			06.39	07.09	07.40		17.07 (AG09)	07.16	07.43
	20.48			20.12	19.22	18.34	45	17.52 (AG08)	17.01	16.59
23	06.10			06.40	07.10	07.41		17.08 (AG09)	07.17	07.43
	20.47			20.10	19.20	18.32	43	17.51 (AG08)	17.00	16.59
24	06.11			06.41	07.11	07.43		17.09 (AG09)	07.18	07.44
	20.46			20.09	19.18	18.31	41	17.50 (AG08)	17.00	17.00
25	06.12			06.42	07.12	06.44		16.12 (AG09)	07.20	07.44
	20.46			20.07	19.16	17.30	34	16.49 (AG08)	16.59	17.01
26	06.13			06.43	07.13	06.45		16.14 (AG09)	07.21	07.45
	20.45			20.06	19.15	17.28	24	16.46 (AG08)	16.59	17.01
27	06.14			06.44	07.14	06.46		16.18 (AG09)	07.22	07.45
	20.44			20.04	19.13	17.27	8	16.26 (AG09)	16.58	17.02
28	06.15			06.45	07.15	06.47			07.23	07.45
	20.43			20.03	19.11	17.26			16.58	17.02
29	06.16			06.46	07.16	06.48			07.24	07.46
	20.42			20.01	19.10	17.24			16.57	17.03
30	06.17			06.47	07.17	06.49			07.25	07.46
	20.41			20.00	19.08	17.23			16.57	17.04
31	06.18			06.48		06.51				07.46
	20.40			19.58		17.22				17.05
Potential sun hours	458			427	375	346			299	289
Total, worst case		77					920			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R43 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (211)

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	07.46	07.33		06.58		16.58 (AG09)	07.08		06.23	18.22 (AG10)	05.55
	17.06	17.40		18.13	25	17.23 (AG09)	19.46		20.18	47 19.09 (AG10)	20.47
2	07.47	07.32		06.57		16.57 (AG09)	07.06		06.22	18.22 (AG10)	05.54
	17.07	17.41		18.14	25	17.22 (AG09)	19.47		20.19	47 19.09 (AG10)	20.47
3	07.47	07.32		06.55		16.57 (AG09)	07.05		06.20	18.23 (AG10)	05.54
	17.07	17.42		18.15	26	17.23 (AG09)	19.48		20.20	46 19.09 (AG10)	20.48
4	07.47	07.30		06.54		16.56 (AG09)	07.03		06.19	18.22 (AG10)	05.53
	17.08	17.43		18.16	26	17.22 (AG09)	19.50		20.21	45 19.07 (AG10)	20.49
5	07.47	07.29		06.52		16.57 (AG09)	07.01		06.18	18.23 (AG10)	05.53
	17.09	17.44		18.18	25	17.22 (AG09)	19.51		20.22	44 19.07 (AG10)	20.49
6	07.47	07.28		06.50		16.57 (AG09)	07.00		06.17	18.24 (AG10)	05.53
	17.10	17.46		18.19	24	17.21 (AG09)	19.52		20.23	43 19.07 (AG10)	20.50
7	07.47	07.27		06.49		16.58 (AG09)	06.58		06.15	18.25 (AG10)	05.52
	17.11	17.47		18.20	23	17.21 (AG09)	19.53		20.24	41 19.06 (AG10)	20.51
8	07.47	07.26		06.47		16.59 (AG09)	06.57		06.14	18.25 (AG10)	05.52
	17.12	17.48		18.21	20	17.19 (AG09)	19.54		20.25	40 19.05 (AG10)	20.51
9	07.46	07.25		06.46		16.59 (AG09)	06.55		06.13	18.26 (AG10)	05.52
	17.13	17.49		18.22	18	17.17 (AG09)	19.55		20.26	39 19.05 (AG10)	20.52
10	07.46	07.24		06.44		17.02 (AG09)	06.53	18.44 (AG10)	06.12	18.27 (AG10)	05.52
	17.14	17.51		18.23	14	17.16 (AG09)	19.56	11 18.55 (AG10)	20.27	37 19.04 (AG10)	20.52
11	07.46	07.23		06.42		17.05 (AG09)	06.52	18.39 (AG10)	06.11	18.28 (AG10)	05.52
	17.15	17.52		18.24	6	17.11 (AG09)	19.57	20 18.59 (AG10)	20.28	35 19.03 (AG10)	20.53
12	07.46	07.22		06.41			06.50	18.36 (AG10)	06.10	18.29 (AG10)	05.51
	17.16	17.53		18.25			19.58	26 19.02 (AG10)	20.29	33 19.02 (AG10)	20.53
13	07.45	07.20		06.39			06.49	18.33 (AG10)	06.09	18.30 (AG10)	05.51
	17.17	17.54		18.26			19.59	30 19.03 (AG10)	20.30	31 19.01 (AG10)	20.54
14	07.45	07.19		06.38			06.47	18.32 (AG10)	06.08	18.32 (AG10)	05.51
	17.18	17.55		18.27			20.00	33 19.05 (AG10)	20.31	27 18.59 (AG10)	20.54
15	07.45	07.18		06.36			06.46	18.30 (AG10)	06.07	18.33 (AG10)	05.51
	17.19	17.57		18.28			20.01	36 19.06 (AG10)	20.32	25 18.58 (AG10)	20.55
16	07.44	07.16		06.34			06.44	18.29 (AG10)	06.06	18.35 (AG10)	05.51
	17.20	17.58		18.30			20.02	39 19.08 (AG10)	20.33	21 18.56 (AG10)	20.55
17	07.44	07.15		06.33			06.43	18.27 (AG10)	06.05	18.37 (AG10)	05.51
	17.22	17.59		18.31			20.03	41 19.08 (AG10)	20.34	17 18.54 (AG10)	20.56
18	07.44	07.14		06.31			06.41	18.26 (AG10)	06.04	18.39 (AG10)	05.51
	17.23	18.00		18.32			20.04	43 19.09 (AG10)	20.35	12 18.51 (AG10)	20.56
19	07.43	07.12		06.29			06.40	18.25 (AG10)	06.03		05.51
	17.24	18.01		18.33			20.05	44 19.09 (AG10)	20.36		20.56
20	07.42	07.11		06.28			06.38	18.24 (AG10)	06.02		05.52
	17.25	18.03		18.34			20.06	46 19.10 (AG10)	20.36		20.57
21	07.42	07.10		06.26			06.37	18.23 (AG10)	06.02		05.52
	17.26	18.04		18.35			20.07	47 19.10 (AG10)	20.37		20.57
22	07.41	07.08		06.24			06.35	18.23 (AG10)	06.01		05.52
	17.27	18.05		18.36			20.08	47 19.10 (AG10)	20.38		20.57
23	07.41	07.07	17.06 (AG09)	06.23			06.34	18.23 (AG10)	06.00		05.52
	17.29	18.06	9 17.15 (AG09)	18.37			20.09	48 19.11 (AG10)	20.39		20.57
24	07.40	07.05	17.03 (AG09)	06.21			06.32	18.22 (AG10)	05.59		05.52
	17.30	18.07	14 17.17 (AG09)	18.38			20.10	48 19.10 (AG10)	20.40		20.57
25	07.39	07.04	17.01 (AG09)	06.20			06.31	18.22 (AG10)	05.59		05.53
	17.31	18.08	19 17.20 (AG09)	18.39			20.11	49 19.11 (AG10)	20.41		20.57
26	07.39	07.03	17.01 (AG09)	06.18			06.30	18.21 (AG10)	05.58		05.53
	17.32	18.10	20 17.21 (AG09)	18.40			20.12	49 19.10 (AG10)	20.42		20.58
27	07.38	07.01	16.59 (AG09)	06.16			06.28	18.21 (AG10)	05.57		05.53
	17.33	18.11	23 17.22 (AG09)	18.41			20.13	49 19.10 (AG10)	20.43		20.58
28	07.37	07.00	16.58 (AG09)	06.15			06.27	18.22 (AG10)	05.57		05.54
	17.35	18.12	24 17.22 (AG09)	18.42			20.15	48 19.10 (AG10)	20.43		20.58
29	07.36			07.13			06.25	18.22 (AG10)	05.56		05.54
	17.36			19.43			20.16	48 19.10 (AG10)	20.44		20.58
30	07.35			07.11			06.24	18.21 (AG10)	05.56		05.55
	17.37			19.44			20.17	48 19.09 (AG10)	20.45		20.58
31	07.34			07.10					05.55		
	17.38			19.45					20.46		
Potential sun hours	299	298		370			398		447		451
Total, worst case			109		232			850		630	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R43 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (211)

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	05.55			06.19		18.39 (AG10)	06.49		18.38 (AG10)	07.18			06.52	07.26
	20.57			20.39	34	19.13 (AG10)	19.56	20	18.58 (AG10)	19.06			17.20	16.57
2	05.56			06.20		18.37 (AG10)	06.50		18.42 (AG10)	07.19			06.53	07.27
	20.57			20.38	36	19.13 (AG10)	19.55	11	18.53 (AG10)	19.05			17.19	16.56
3	05.56			06.21		18.36 (AG10)	06.51			07.20		17.41 (AG09)	06.54	07.28
	20.57			20.37	38	19.14 (AG10)	19.53			19.03	11	17.52 (AG09)	17.18	16.56
4	05.57			06.21		18.36 (AG10)	06.52			07.21		17.38 (AG09)	06.55	07.29
	20.57			20.36	39	19.15 (AG10)	19.52			19.02	16	17.54 (AG09)	17.17	16.56
5	05.57			06.22		18.35 (AG10)	06.53			07.22		17.36 (AG09)	06.56	07.30
	20.57			20.34	40	19.15 (AG10)	19.50			19.00	19	17.55 (AG09)	17.16	16.56
6	05.58			06.23		18.34 (AG10)	06.54			07.23		17.34 (AG09)	06.58	07.31
	20.57			20.33	42	19.16 (AG10)	19.48			18.58	22	17.56 (AG09)	17.15	16.56
7	05.58			06.24		18.33 (AG10)	06.55			07.24		17.33 (AG09)	06.59	07.32
	20.56			20.32	43	19.16 (AG10)	19.47			18.57	23	17.56 (AG09)	17.14	16.56
8	05.59			06.25		18.33 (AG10)	06.56			07.25		17.32 (AG09)	07.00	07.33
	20.56			20.31	44	19.17 (AG10)	19.45			18.55	25	17.57 (AG09)	17.12	16.55
9	06.00			06.26		18.32 (AG10)	06.57			07.26		17.31 (AG09)	07.01	07.34
	20.56			20.30	45	19.17 (AG10)	19.43			18.53	26	17.57 (AG09)	17.11	16.55
10	06.00			06.27		18.31 (AG10)	06.58			07.27		17.31 (AG09)	07.02	07.35
	20.55			20.28	47	19.18 (AG10)	19.42			18.52	25	17.56 (AG09)	17.10	16.56
11	06.01			06.28		18.31 (AG10)	06.59			07.28		17.31 (AG09)	07.03	07.35
	20.55			20.27	47	19.18 (AG10)	19.40			18.50	26	17.57 (AG09)	17.09	16.56
12	06.02			06.29		18.30 (AG10)	06.59			07.29		17.31 (AG09)	07.05	07.36
	20.54			20.26	48	19.18 (AG10)	19.38			18.49	26	17.57 (AG09)	17.08	16.56
13	06.02			06.30		18.30 (AG10)	07.00			07.31		17.31 (AG09)	07.06	07.37
	20.54			20.24	48	19.18 (AG10)	19.37			18.47	25	17.56 (AG09)	17.08	16.56
14	06.03			06.31		18.30 (AG10)	07.01			07.32		17.31 (AG09)	07.07	07.38
	20.53			20.23	48	19.18 (AG10)	19.35			18.46	24	17.55 (AG09)	17.07	16.56
15	06.04			06.32		18.29 (AG10)	07.02			07.33		17.32 (AG09)	07.08	07.39
	20.53			20.22	49	19.18 (AG10)	19.33			18.44	22	17.54 (AG09)	17.06	16.56
16	06.05			06.33		18.28 (AG10)	07.03			07.34		17.32 (AG09)	07.09	07.39
	20.52			20.20	49	19.17 (AG10)	19.32			18.43	20	17.52 (AG09)	17.05	16.57
17	06.05			06.34		18.28 (AG10)	07.04			07.35		17.34 (AG09)	07.10	07.40
	20.52			20.19	49	19.17 (AG10)	19.30			18.41	17	17.51 (AG09)	17.04	16.57
18	06.06			06.35		18.28 (AG10)	07.05			07.36		17.35 (AG09)	07.12	07.41
	20.51			20.18	48	19.16 (AG10)	19.28			18.40	13	17.48 (AG09)	17.03	16.57
19	06.07			06.36		18.28 (AG10)	07.06			07.37		17.39 (AG09)	07.13	07.41
	20.50			20.16	48	19.16 (AG10)	19.27			18.38	5	17.44 (AG09)	17.03	16.58
20	06.08			06.37		18.28 (AG10)	07.07			07.38			07.14	07.42
	20.50			20.15	48	19.16 (AG10)	19.25			18.37			17.02	16.58
21	06.09			06.38		18.28 (AG10)	07.08			07.39			07.15	07.42
	20.49			20.13	47	19.15 (AG10)	19.23			18.35			17.01	16.58
22	06.10			06.39		18.28 (AG10)	07.09			07.40			07.16	07.43
	20.48			20.12	46	19.14 (AG10)	19.21			18.34			17.01	16.59
23	06.10			06.40		18.28 (AG10)	07.10			07.41			07.17	07.43
	20.47			20.10	46	19.14 (AG10)	19.20			18.32			17.00	16.59
24	06.11			06.41		18.29 (AG10)	07.11			07.43			07.18	07.44
	20.46			20.09	44	19.13 (AG10)	19.18			18.31			17.00	17.00
25	06.12		18.52 (AG10)	06.42		18.29 (AG10)	07.12			06.44			07.20	07.44
	20.46	7	18.59 (AG10)	20.07	43	19.12 (AG10)	19.16			17.30			16.59	17.01
26	06.13		18.49 (AG10)	06.43		18.30 (AG10)	07.13			06.45			07.21	07.45
	20.45	14	19.03 (AG10)	20.06	41	19.11 (AG10)	19.15			17.28			16.58	17.01
27	06.14		18.46 (AG10)	06.44		18.31 (AG10)	07.14			06.46			07.22	07.45
	20.44	19	19.05 (AG10)	20.04	38	19.09 (AG10)	19.13			17.27			16.58	17.02
28	06.15		18.45 (AG10)	06.45		18.32 (AG10)	07.15			06.47			07.23	07.45
	20.43	22	19.07 (AG10)	20.03	36	19.08 (AG10)	19.11			17.25			16.58	17.02
29	06.16		18.43 (AG10)	06.46		18.33 (AG10)	07.16			06.48			07.24	07.46
	20.42	26	19.09 (AG10)	20.01	33	19.06 (AG10)	19.10			17.24			16.57	17.03
30	06.17		18.42 (AG10)	06.47		18.34 (AG10)	07.17			06.49			07.25	07.46
	20.41	28	19.10 (AG10)	20.00	30	19.04 (AG10)	19.08			17.23			16.57	17.04
31	06.18		18.40 (AG10)	06.48		18.35 (AG10)				06.51				07.46
	20.40	32	19.12 (AG10)	19.58	26	19.01 (AG10)				17.22				17.05
Potential sun hours	458			427			375			346			299	289
Total, worst case		148			1320			31			345			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R44 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (213)

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	07.46	07.33		06.58		07.08	18.02 (AG10)	06.23		05.55	06.16 (AG12)
	17.06	17.40		18.13		19.46	48 18.50 (AG10)	20.18		20.47	11 06.27 (AG12)
2	07.47	07.32		06.57		07.06	18.02 (AG10)	06.22		05.54	06.15 (AG12)
	17.07	17.41		18.14		19.47	49 18.51 (AG10)	20.19		20.47	12 06.27 (AG12)
3	07.47	07.32		06.55		07.05	18.01 (AG10)	06.20		05.54	06.15 (AG12)
	17.07	17.42		18.15		19.48	49 18.50 (AG10)	20.20		20.48	13 06.28 (AG12)
4	07.47	07.31		06.54		07.03	18.01 (AG10)	06.19		05.53	06.15 (AG12)
	17.08	17.43		18.16		19.50	49 18.50 (AG10)	20.21		20.49	14 06.29 (AG12)
5	07.47	07.29		06.52		07.01	18.01 (AG10)	06.18		05.53	06.14 (AG12)
	17.09	17.44		18.18		19.51	49 18.50 (AG10)	20.22		20.49	14 06.28 (AG12)
6	07.47	07.28		06.50		07.00	18.01 (AG10)	06.17		05.53	06.14 (AG12)
	17.10	17.46		18.19		19.52	48 18.49 (AG10)	20.23		20.50	15 06.29 (AG12)
7	07.47	07.27		06.49		06.58	18.02 (AG10)	06.15		05.52	06.14 (AG12)
	17.11	17.47		18.20		19.53	47 18.49 (AG10)	20.24		20.51	16 06.30 (AG12)
8	07.47	07.26		06.47		06.57	18.01 (AG10)	06.14		05.52	06.14 (AG12)
	17.12	17.48		18.21		19.54	47 18.48 (AG10)	20.25		20.51	16 06.30 (AG12)
9	07.46	07.25		06.46		06.55	18.01 (AG10)	06.13		05.52	06.14 (AG12)
	17.13	17.49		18.22		19.55	46 18.47 (AG10)	20.26		20.52	17 06.31 (AG12)
10	07.46	07.24		06.44		06.53	18.02 (AG10)	06.12		05.52	06.13 (AG12)
	17.14	17.51		18.23		19.56	44 18.46 (AG10)	20.27		20.52	17 06.30 (AG12)
11	07.46	07.23	16.54 (AG09)	06.42		06.52	18.02 (AG10)	06.11		05.52	06.13 (AG12)
	17.15	17.52	8 17.02 (AG09)	18.24		19.57	43 18.45 (AG10)	20.28		20.53	18 06.31 (AG12)
12	07.46	07.22	16.51 (AG09)	06.41		06.50	18.04 (AG10)	06.10		05.51	06.13 (AG12)
	17.16	17.53	14 17.05 (AG09)	18.25		19.58	40 18.44 (AG10)	20.29		20.53	18 06.31 (AG12)
13	07.45	07.20	16.50 (AG09)	06.39		06.49	18.04 (AG10)	06.09		05.51	06.13 (AG12)
	17.17	17.54	17 17.07 (AG09)	18.26		19.59	39 18.43 (AG10)	20.30		20.54	19 06.32 (AG12)
14	07.45	07.19	16.48 (AG09)	06.38		06.47	18.05 (AG10)	06.08		05.51	06.13 (AG12)
	17.18	17.55	20 17.08 (AG09)	18.27		20.00	37 18.42 (AG10)	20.31		20.54	19 06.32 (AG12)
15	07.45	07.18	16.47 (AG09)	06.36		06.46	18.06 (AG10)	06.07		05.51	06.13 (AG12)
	17.19	17.57	22 17.09 (AG09)	18.28		20.01	34 18.40 (AG10)	20.32		20.55	19 06.32 (AG12)
16	07.44	07.16	16.47 (AG09)	06.34		06.44	18.08 (AG10)	06.06		05.51	06.13 (AG12)
	17.20	17.58	23 17.10 (AG09)	18.30		20.02	31 18.39 (AG10)	20.33		20.55	19 06.32 (AG12)
17	07.44	07.15	16.45 (AG09)	06.33		06.43	18.09 (AG10)	06.05		05.51	06.13 (AG12)
	17.22	17.59	25 17.10 (AG09)	18.31		20.03	27 18.36 (AG10)	20.34		20.56	19 06.32 (AG12)
18	07.44	07.14	16.45 (AG09)	06.31		06.41	18.12 (AG10)	06.04		05.51	06.13 (AG12)
	17.23	18.00	26 17.11 (AG09)	18.32		20.04	22 18.34 (AG10)	20.35		20.56	20 06.33 (AG12)
19	07.43	07.12	16.46 (AG09)	06.29	17.25 (AG10)	06.40	18.14 (AG10)	06.03		05.51	06.14 (AG12)
	17.24	18.01	25 17.11 (AG09)	18.33	10 17.35 (AG10)	20.05	17 18.31 (AG10)	20.36		20.56	20 06.34 (AG12)
20	07.42	07.11	16.45 (AG09)	06.28	17.20 (AG10)	06.38	18.19 (AG10)	06.02		05.52	06.14 (AG12)
	17.25	18.03	25 17.10 (AG09)	18.34	19 17.39 (AG10)	20.06	7 18.26 (AG10)	20.37		20.57	20 06.34 (AG12)
21	07.42	07.10	16.45 (AG09)	06.26	17.17 (AG10)	06.37		06.02		05.52	06.14 (AG12)
	17.26	18.04	26 17.11 (AG09)	18.35	26 17.43 (AG10)	20.07		20.37		20.57	20 06.34 (AG12)
22	07.41	07.08	16.45 (AG09)	06.24	17.14 (AG10)	06.35		06.01		05.52	06.14 (AG12)
	17.27	18.05	25 17.10 (AG09)	18.36	30 17.44 (AG10)	20.08		20.38		20.57	20 06.34 (AG12)
23	07.41	07.07	16.46 (AG09)	06.23	17.12 (AG10)	06.34		06.00		05.52	06.14 (AG12)
	17.29	18.06	23 17.09 (AG09)	18.37	34 17.46 (AG10)	20.09		20.39		20.57	20 06.34 (AG12)
24	07.40	07.05	16.46 (AG09)	06.21	17.10 (AG10)	06.32		05.59		05.52	06.15 (AG12)
	17.30	18.07	22 17.08 (AG09)	18.38	37 17.47 (AG10)	20.10		20.40		20.57	20 06.35 (AG12)
25	07.39	07.04	16.48 (AG09)	06.20	17.09 (AG10)	06.31		05.59		05.53	06.15 (AG12)
	17.31	18.08	19 17.07 (AG09)	18.39	39 17.48 (AG10)	20.11		20.41		20.57	20 06.35 (AG12)
26	07.39	07.03	16.49 (AG09)	06.18	17.07 (AG10)	06.30		05.58	06.19 (AG12)	05.53	06.15 (AG12)
	17.32	18.10	17 17.06 (AG09)	18.40	42 17.49 (AG10)	20.12		20.42	2 06.21 (AG12)	20.58	19 06.34 (AG12)
27	07.38	07.01	16.51 (AG09)	06.16	17.06 (AG10)	06.28		05.57	06.18 (AG12)	05.53	06.16 (AG12)
	17.33	18.11	13 17.04 (AG09)	18.41	44 17.50 (AG10)	20.13		20.43	4 06.22 (AG12)	20.58	19 06.35 (AG12)
28	07.37	07.00	16.54 (AG09)	06.15	17.05 (AG10)	06.27		05.57	06.18 (AG12)	05.54	06.16 (AG12)
	17.35	18.12	5 16.59 (AG09)	18.42	45 17.50 (AG10)	20.15		20.43	6 06.24 (AG12)	20.58	19 06.35 (AG12)
29	07.36			07.13	18.04 (AG10)	06.25		05.56	06.17 (AG12)	05.54	06.17 (AG12)
	17.36			19.43	46 18.50 (AG10)	20.16		20.44	7 06.24 (AG12)	20.58	19 06.36 (AG12)
30	07.35			07.11	18.04 (AG10)	06.24		05.56	06.17 (AG12)	05.55	06.17 (AG12)
	17.37			19.44	47 18.51 (AG10)	20.17		20.45	9 06.26 (AG12)	20.58	18 06.35 (AG12)
31	07.34			07.10	18.03 (AG10)			05.55	06.16 (AG12)		
	17.38			19.45	48 18.51 (AG10)			20.46	10 06.26 (AG12)		
Potential sun hours	299	298		370		398		447		451	
Total, worst case			355		467		773		38		530

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R44 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (213)

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	05.55		06.17 (AG12)	06.19	06.49		18.01 (AG10)	07.18	06.52	07.26
	20.57	18	06.35 (AG12)	20.39	19.56	43	18.44 (AG10)	19.06	17.20	16.57
2	05.56		06.18 (AG12)	06.20	06.50		18.00 (AG10)	07.19	06.53	07.27
	20.57	18	06.36 (AG12)	20.38	19.55	44	18.44 (AG10)	19.05	17.19	16.56
3	05.56		06.18 (AG12)	06.21	06.51		17.59 (AG10)	07.20	06.54	07.28
	20.57	17	06.35 (AG12)	20.37	19.53	46	18.45 (AG10)	19.03	17.18	16.56
4	05.57		06.19 (AG12)	06.21	06.52		17.58 (AG10)	07.21	06.55	07.29
	20.57	17	06.36 (AG12)	20.36	19.52	47	18.45 (AG10)	19.02	17.17	16.56
5	05.57		06.20 (AG12)	06.22	06.53		17.58 (AG10)	07.22	06.56	07.30
	20.57	16	06.36 (AG12)	20.34	19.50	47	18.45 (AG10)	19.00	17.16	16.56
6	05.58		06.20 (AG12)	06.23	06.54		17.57 (AG10)	07.23	06.58	07.31
	20.57	15	06.35 (AG12)	20.33	19.48	48	18.45 (AG10)	18.58	17.15	16.56
7	05.58		06.21 (AG12)	06.24	06.55		17.56 (AG10)	07.24	06.59	07.32
	20.56	15	06.36 (AG12)	20.32	19.47	49	18.45 (AG10)	18.57	17.14	16.56
8	05.59		06.21 (AG12)	06.25	06.56		17.56 (AG10)	07.25	07.00	07.33
	20.56	14	06.35 (AG12)	20.31	19.45	49	18.45 (AG10)	18.55	17.12	16.55
9	06.00		06.22 (AG12)	06.26	06.57		17.55 (AG10)	07.26	07.01	07.34
	20.56	13	06.35 (AG12)	20.30	19.43	49	18.44 (AG10)	18.53	17.11	16.55
10	06.00		06.23 (AG12)	06.27	06.58		17.55 (AG10)	07.27	07.02	07.35
	20.55	12	06.35 (AG12)	20.28	19.42	49	18.44 (AG10)	18.52	17.10	16.56
11	06.01		06.23 (AG12)	06.28	06.59		17.55 (AG10)	07.28	07.03	07.35
	20.55	11	06.34 (AG12)	20.27	19.40	48	18.43 (AG10)	18.50	17.09	16.56
12	06.02		06.24 (AG12)	06.29	06.59		17.55 (AG10)	07.29	07.05	07.36
	20.54	10	06.34 (AG12)	20.26	19.38	48	18.43 (AG10)	18.49	17.08	16.56
13	06.02		06.25 (AG12)	06.30	07.00		17.55 (AG10)	07.31	07.06	07.37
	20.54	9	06.34 (AG12)	20.24	19.37	47	18.42 (AG10)	18.47	17.08	16.56
14	06.03		06.25 (AG12)	06.31	07.01		17.55 (AG10)	07.32	17.26 (AG09)	07.07	07.38
	20.53	8	06.33 (AG12)	20.23	19.35	46	18.41 (AG10)	18.46	9 17.35 (AG09)	17.07	16.56
15	06.04		06.26 (AG12)	06.32	07.02		17.54 (AG10)	07.33	17.22 (AG09)	07.08	07.39
	20.53	7	06.33 (AG12)	20.22	19.33	45	18.39 (AG10)	18.44	15 17.37 (AG09)	17.06	16.56
16	06.05		06.27 (AG12)	06.33	07.03		17.54 (AG10)	07.34	17.20 (AG09)	07.09	07.39
	20.52	5	06.32 (AG12)	20.20	19.32	44	18.38 (AG10)	18.43	18 17.38 (AG09)	17.05	16.57
17	06.05		06.28 (AG12)	06.34	07.04		17.55 (AG10)	07.35	17.19 (AG09)	07.10	07.40
	20.52	3	06.31 (AG12)	20.19	19.30	42	18.37 (AG10)	18.41	20 17.39 (AG09)	17.04	16.57
18	06.06		06.29 (AG12)	06.35	07.05		17.56 (AG10)	07.36	17.17 (AG09)	07.12	07.41
	20.51	1	06.30 (AG12)	20.18	19.28	40	18.36 (AG10)	18.40	23 17.40 (AG09)	17.03	16.57
19	06.07			06.36	07.06		17.56 (AG10)	07.37	17.16 (AG09)	07.13	07.41
	20.50			20.16	19.27	38	18.34 (AG10)	18.38	24 17.40 (AG09)	17.03	16.58
20	06.08			06.37	07.07		17.58 (AG10)	07.38	17.17 (AG09)	07.14	07.42
	20.50			20.15	19.25	34	18.32 (AG10)	18.37	24 17.41 (AG09)	17.02	16.58
21	06.09			06.38	07.08		17.59 (AG10)	07.39	17.16 (AG09)	07.15	07.42
	20.49			20.13	19.23	31	18.30 (AG10)	18.35	25 17.41 (AG09)	17.01	16.58
22	06.10			06.39	07.09		18.01 (AG10)	07.40	17.15 (AG09)	07.16	07.43
	20.48			20.12	19.21	27	18.28 (AG10)	18.34	26 17.41 (AG09)	17.01	16.59
23	06.10			06.40	18.22 (AG10)	07.10		18.03 (AG10)	07.41	17.15 (AG09)	07.17	07.43
	20.47			20.10	9 18.31 (AG10)	19.20	22	18.25 (AG10)	18.32	26 17.41 (AG09)	17.00	16.59
24	06.11			06.41	18.17 (AG10)	07.11		18.07 (AG10)	07.43	17.15 (AG09)	07.18	07.44
	20.46			20.09	18 18.35 (AG10)	19.18	13	18.20 (AG10)	18.31	25 17.40 (AG09)	17.00	17.00
25	06.12			06.42	18.14 (AG10)	07.12			06.44	16.16 (AG09)	07.20	07.44
	20.46			20.07	23 18.37 (AG10)	19.16			17.30	24 16.40 (AG09)	16.59	17.01
26	06.13			06.43	18.12 (AG10)	07.13			06.45	16.16 (AG09)	07.21	07.45
	20.45			20.06	27 18.39 (AG10)	19.15			17.28	23 16.39 (AG09)	16.58	17.01
27	06.14			06.44	18.10 (AG10)	07.14			06.46	16.17 (AG09)	07.22	07.45
	20.44			20.04	31 18.41 (AG10)	19.13			17.27	21 16.38 (AG09)	16.58	17.02
28	06.15			06.45	18.08 (AG10)	07.15			06.47	16.18 (AG09)	07.23	07.45
	20.43			20.03	34 18.42 (AG10)	19.11			17.25	19 16.37 (AG09)	16.58	17.02
29	06.16			06.46	18.06 (AG10)	07.16			06.48	16.19 (AG09)	07.24	07.46
	20.42			20.01	37 18.43 (AG10)	19.10			17.24	16 16.35 (AG09)	16.57	17.03
30	06.17			06.47	18.05 (AG10)	07.17			06.49	16.21 (AG09)	07.25	07.46
	20.41			20.00	39 18.44 (AG10)	19.08			17.23	13 16.34 (AG09)	16.57	17.04
31	06.18			06.48	18.02 (AG10)				06.51	16.24 (AG09)		07.46
	20.40			19.58	41 18.43 (AG10)				17.22	7 16.31 (AG09)		17.05
Potential sun hours	458			427		375			346		299	289
Total, worst case		209			259		996			358		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R45 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (217)

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	07.46	07.33	06.58			07.08		18.28 (AG07)	06.23	05.54
	17.06	17.39	18.13			19.46	35	19.03 (AG07)	20.18	20.47
2	07.47	07.32	06.57			07.06		18.28 (AG07)	06.22	05.54
	17.07	17.41	18.14			19.47	36	19.04 (AG07)	20.19	20.47
3	07.47	07.31	06.55			07.05		18.27 (AG07)	06.20	05.54
	17.07	17.42	18.15			19.48	37	19.04 (AG07)	20.20	20.48
4	07.47	07.30	06.53		17.26 (AG10)	07.03		18.26 (AG07)	06.19	05.53
	17.08	17.43	18.16	8	17.34 (AG10)	19.49	37	19.03 (AG07)	20.21	20.49
5	07.47	07.29	06.52		17.23 (AG10)	07.01		18.26 (AG07)	06.18	05.53
	17.09	17.44	18.18	14	17.37 (AG10)	19.51	38	19.04 (AG07)	20.22	20.49
6	07.47	07.28	06.50		17.21 (AG10)	07.00		18.25 (AG07)	06.17	05.53
	17.10	17.46	18.19	18	17.39 (AG10)	19.52	38	19.03 (AG07)	20.23	20.50
7	07.47	07.27	06.49		17.20 (AG10)	06.58		18.26 (AG07)	06.15	05.52
	17.11	17.47	18.20	20	17.40 (AG10)	19.53	37	19.03 (AG07)	20.24	20.51
8	07.46	07.26	06.47		17.18 (AG10)	06.57		18.26 (AG07)	06.14	05.52
	17.12	17.48	18.21	23	17.41 (AG10)	19.54	36	19.02 (AG07)	20.25	20.51
9	07.46	07.25	06.46		17.17 (AG10)	06.55		18.25 (AG07)	06.13	05.52
	17.13	17.49	18.22	24	17.41 (AG10)	19.55	36	19.01 (AG07)	20.26	20.52
10	07.46	07.24	06.44		17.17 (AG10)	06.53		18.26 (AG07)	06.12	05.52
	17.14	17.51	18.23	24	17.41 (AG10)	19.56	35	19.01 (AG07)	20.27	20.52
11	07.46	07.23	06.42		17.16 (AG10)	06.52		18.26 (AG07)	06.11	05.51
	17.15	17.52	18.24	25	17.41 (AG10)	19.57	33	18.59 (AG07)	20.28	20.53
12	07.46	07.21	06.41		17.15 (AG10)	06.50		18.27 (AG07)	06.10	05.51
	17.16	17.53	18.25	26	17.41 (AG10)	19.58	32	18.59 (AG07)	20.29	20.53
13	07.45	07.20	06.39		17.16 (AG10)	06.49		18.28 (AG07)	06.09	05.51
	17.17	17.54	18.26	25	17.41 (AG10)	19.59	29	18.57 (AG07)	20.30	20.54
14	07.45	07.19	06.38		17.16 (AG10)	06.47		18.29 (AG07)	06.08	05.51
	17.18	17.55	18.27	24	17.40 (AG10)	20.00	27	18.56 (AG07)	20.31	20.54
15	07.45	07.18	06.36		17.17 (AG10)	06.46		18.30 (AG07)	06.07	05.51
	17.19	17.57	18.28	23	17.40 (AG10)	20.01	24	18.54 (AG07)	20.32	20.55
16	07.44	07.16	06.34		17.17 (AG10)	06.44		18.32 (AG07)	06.06	05.51
	17.20	17.58	18.30	21	17.38 (AG10)	20.02	20	18.52 (AG07)	20.33	20.55
17	07.44	07.15	06.33		17.18 (AG10)	06.43		18.34 (AG07)	06.05	05.51
	17.22	17.59	18.31	18	17.36 (AG10)	20.03	15	18.49 (AG07)	20.34	20.56
18	07.43	07.14	06.31		17.20 (AG10)	06.41		18.40 (AG07)	06.04	05.51
	17.23	18.00	18.32	15	17.35 (AG10)	20.04	3	18.43 (AG07)	20.35	20.56
19	07.43	07.12	06.29		17.22 (AG10)	06.40			06.03	05.51
	17.24	18.01	18.33	10	17.32 (AG10)	20.05			20.36	20.56
20	07.42	07.11	06.28			06.38			06.02	05.52
	17.25	18.03	18.34			20.06			20.36	20.56
21	07.42	07.10	06.26			06.37			06.01	05.52
	17.26	18.04	18.35			20.07			20.37	20.57
22	07.41	07.08	06.24			06.35			06.01	05.52
	17.27	18.05	18.36			20.08			20.38	20.57
23	07.41	07.07	06.23			06.34			06.00	05.52
	17.29	18.06	18.37			20.09			20.39	20.57
24	07.40	07.05	06.21			06.32			05.59	05.52
	17.30	18.07	18.38			20.10			20.40	20.57
25	07.39	07.04	06.19		17.41 (AG07)	06.31			05.59	05.53
	17.31	18.08	18.39	14	17.55 (AG07)	20.11			20.41	20.57
26	07.38	07.03	06.18		17.37 (AG07)	06.29			05.58	05.53
	17.32	18.10	18.40	20	17.57 (AG07)	20.12			20.42	20.57
27	07.38	07.01	06.16		17.35 (AG07)	06.28			05.57	05.53
	17.33	18.11	18.41	25	18.00 (AG07)	20.13			20.43	20.58
28	07.37	07.00	06.15		17.33 (AG07)	06.27			05.57	05.54
	17.35	18.12	18.42	28	18.01 (AG07)	20.14			20.43	20.58
29	07.36		07.13		18.31 (AG07)	06.25			05.56	05.54
	17.36		19.43	31	19.02 (AG07)	20.16			20.44	20.58
30	07.35		07.11		18.31 (AG07)	06.24			05.55	05.55
	17.37		19.44	32	19.03 (AG07)	20.17			20.45	20.58
31	07.34		07.10		18.29 (AG07)				05.55	
	17.38		19.45	34	19.03 (AG07)				20.46	
Potential sun hours	299	298	370			398			447	451
Total, worst case				502			548			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R45 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (217)

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	05.55	20.57	06.19	20.39		06.49	19.56	33 18.58 (AG07)	07.18	19.06	25 17.55 (AG10) 18.20 (AG10)	06.52 17.20	07.26 16.57
2	05.56	20.57	06.20	20.38		06.50	19.55	35 18.24 (AG07) 18.59 (AG07)	07.19	19.05	25 17.55 (AG10) 18.20 (AG10)	06.53 17.19	07.27 16.56
3	05.56	20.57	06.20	20.37		06.51	19.53	36 18.23 (AG07) 18.59 (AG07)	07.20	19.03	25 17.54 (AG10) 18.19 (AG10)	06.54 17.18	07.28 16.56
4	05.57	20.57	06.21	20.36		06.52	19.52	36 18.23 (AG07) 18.59 (AG07)	07.21	19.01	25 17.54 (AG10) 18.19 (AG10)	06.55 17.17	07.29 16.56
5	05.57	20.57	06.22	20.34		06.53	19.50	37 18.22 (AG07) 18.59 (AG07)	07.22	19.00	24 17.54 (AG10) 18.18 (AG10)	06.56 17.16	07.30 16.56
6	05.58	20.57	06.23	20.33		06.54	19.48	38 18.21 (AG07) 18.59 (AG07)	07.23	18.58	21 17.55 (AG10) 18.16 (AG10)	06.58 17.15	07.31 16.56
7	05.58	20.56	06.24	20.32		06.55	19.47	38 18.21 (AG07) 18.59 (AG07)	07.24	18.57	19 17.56 (AG10) 18.15 (AG10)	06.59 17.13	07.32 16.55
8	05.59	20.56	06.25	20.31		06.56	19.45	37 18.21 (AG07) 18.58 (AG07)	07.25	18.55	16 17.57 (AG10) 18.13 (AG10)	07.00 17.12	07.33 16.55
9	06.00	20.56	06.26	20.30		06.57	19.43	37 18.21 (AG07) 18.58 (AG07)	07.26	18.53	11 17.59 (AG10) 18.10 (AG10)	07.01 17.11	07.34 16.55
10	06.00	20.55	06.27	20.28		06.57	19.42	36 18.21 (AG07) 18.57 (AG07)	07.27	18.52		07.02 17.10	07.35 16.55
11	06.01	20.55	06.28	20.27		06.58	19.40	35 18.21 (AG07) 18.56 (AG07)	07.28	18.50		07.03 17.09	07.35 16.56
12	06.02	20.54	06.29	20.26		06.59	19.38	34 18.21 (AG07) 18.55 (AG07)	07.29	18.49		07.05 17.08	07.36 16.56
13	06.02	20.54	06.30	20.24		07.00	19.37	32 18.22 (AG07) 18.54 (AG07)	07.31	18.47		07.06 17.08	07.37 16.56
14	06.03	20.53	06.31	20.23		07.01	19.35	31 18.21 (AG07) 18.52 (AG07)	07.32	18.46		07.07 17.07	07.38 16.56
15	06.04	20.53	06.32	20.22		07.02	19.33	28 18.22 (AG07) 18.50 (AG07)	07.33	18.44		07.08 17.06	07.39 16.56
16	06.05	20.52	06.33	20.20		07.03	19.32	26 18.23 (AG07) 18.49 (AG07)	07.34	18.42		07.09 17.05	07.39 16.56
17	06.05	20.52	06.34	20.19		07.04	19.30	21 18.25 (AG07) 18.46 (AG07)	07.35	18.41		07.10 17.04	07.40 16.57
18	06.06	20.51	06.35	20.18		07.05	19.28	16 18.27 (AG07) 18.43 (AG07)	07.36	18.39		07.12 17.03	07.41 16.57
19	06.07	20.50	06.36	20.16		07.06	19.27	5 18.32 (AG07) 18.37 (AG07)	07.37	18.38		07.13 17.03	07.41 16.57
20	06.08	20.50	06.37	20.15		07.07	19.25		07.38	18.37		07.14 17.02	07.42 16.58
21	06.09	20.49	06.38	20.13		07.08	19.23		07.39	18.35		07.15 17.01	07.42 16.58
22	06.10	20.48	06.39	20.12		07.09	19.21		07.40	18.34		07.16 17.01	07.43 16.59
23	06.10	20.47	06.40	20.10		07.10	19.20		07.41	18.32		07.17 17.00	07.43 16.59
24	06.11	20.46	06.41	20.09		07.11	19.18	8 18.06 (AG10) 18.14 (AG10)	07.43	18.31		07.18 16.59	07.44 17.00
25	06.12	20.46	06.42	20.07	6 18.42 (AG07) 18.48 (AG07)	07.12	19.16	14 18.03 (AG10) 18.17 (AG10)	06.44	17.29		07.20 16.59	07.44 17.00
26	06.13	20.45	06.43	20.06	15 18.37 (AG07) 18.52 (AG07)	07.13	19.15	17 18.01 (AG10) 18.18 (AG10)	06.45	17.28		07.21 16.58	07.45 17.01
27	06.14	20.44	06.44	20.04	20 18.34 (AG07) 18.54 (AG07)	07.14	19.13	20 17.59 (AG10) 18.19 (AG10)	06.46	17.27		07.22 16.58	07.45 17.02
28	06.15	20.43	06.45	20.03	24 18.32 (AG07) 18.56 (AG07)	07.15	19.11	22 17.58 (AG10) 18.20 (AG10)	06.47	17.25		07.23 16.58	07.45 17.02
29	06.16	20.42	06.46	20.01	27 18.30 (AG07) 18.57 (AG07)	07.16	19.10	24 17.56 (AG10) 18.20 (AG10)	06.48	17.24		07.24 16.57	07.46 17.03
30	06.17	20.41	06.47	20.00	29 18.29 (AG07) 18.58 (AG07)	07.17	19.08	24 17.56 (AG10) 18.20 (AG10)	06.49	17.23		07.25 16.57	07.46 17.04
31	06.18	20.40	06.48	19.58	32 18.26 (AG07) 18.58 (AG07)				06.51	17.22			07.46 17.05
Potential sun hours	458		427			375			346			299	289
Total, worst case				153			720			191			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R46 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (218)

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	07.46		07.33		06.58			07.08		18.23 (AG07)	06.23			05.54		19.07 (AG11)
	17.06		17.39		18.13			19.46	29	18.52 (AG07)	20.18			20.47	49	19.56 (AG11)
2	07.46		07.32		06.57		17.21 (AG10)	07.06		18.24 (AG07)	06.22			05.54		19.06 (AG11)
	17.06		17.41		18.14	11	17.32 (AG10)	19.47	28	18.52 (AG07)	20.19			20.47	50	19.56 (AG11)
3	07.47		07.31		06.55		17.19 (AG10)	07.05		18.24 (AG07)	06.20			05.54		19.06 (AG11)
	17.07		17.42		18.15	16	17.35 (AG10)	19.48	26	18.50 (AG07)	20.20			20.48	51	19.57 (AG11)
4	07.47		07.30		06.53		17.17 (AG10)	07.03		18.25 (AG07)	06.19			05.53		19.07 (AG11)
	17.08		17.43		18.16	19	17.36 (AG10)	19.49	24	18.49 (AG07)	20.21			20.49	51	19.58 (AG11)
5	07.47		07.29		06.52		17.17 (AG10)	07.01		18.27 (AG07)	06.18			05.53		19.06 (AG11)
	17.09		17.44		18.17	20	17.37 (AG10)	19.51	20	18.47 (AG07)	20.22			20.49	52	19.58 (AG11)
6	07.47		07.28		06.50		17.15 (AG10)	07.00		18.28 (AG07)	06.17			05.53		19.06 (AG11)
	17.10		17.46		18.19	22	17.37 (AG10)	19.52	17	18.45 (AG07)	20.23			20.50	52	19.58 (AG11)
7	07.47		07.27		06.49		17.15 (AG10)	06.58		18.32 (AG07)	06.15			05.52		19.06 (AG11)
	17.11		17.47		18.20	23	17.38 (AG10)	19.53	10	18.42 (AG07)	20.24			20.51	53	19.59 (AG11)
8	07.46		07.26		06.47		17.15 (AG10)	06.57			06.14			05.52		19.07 (AG11)
	17.12		17.48		18.21	22	17.37 (AG10)	19.54			20.25			20.51	52	19.59 (AG11)
9	07.46		07.25		06.46		17.14 (AG10)	06.55			06.13			05.52		19.07 (AG11)
	17.13		17.49		18.22	23	17.37 (AG10)	19.55			20.26			20.52	53	20.00 (AG11)
10	07.46		07.24		06.44		17.15 (AG10)	06.53			06.12			05.52		19.06 (AG11)
	17.14		17.51		18.23	22	17.37 (AG10)	19.56			20.27			20.52	53	19.59 (AG11)
11	07.46		07.23		06.42		17.15 (AG10)	06.52			06.11			05.51		19.06 (AG11)
	17.15		17.52		18.24	21	17.36 (AG10)	19.57			20.28			20.53	54	20.00 (AG11)
12	07.46		07.21		06.41		17.15 (AG10)	06.50			06.10			05.51		19.06 (AG11)
	17.16		17.53		18.25	19	17.34 (AG10)	19.58			20.29			20.53	54	20.00 (AG11)
13	07.45		07.20		06.39		17.16 (AG10)	06.49			06.09			05.51		19.06 (AG11)
	17.17		17.54		18.26	18	17.34 (AG10)	19.59			20.30			20.54	55	20.01 (AG11)
14	07.45		07.19		06.38		17.17 (AG10)	06.47			06.08			05.51		19.07 (AG11)
	17.18		17.55		18.27	14	17.31 (AG10)	20.00			20.31			20.54	54	20.01 (AG11)
15	07.45		07.18		06.36		17.19 (AG10)	06.46			06.07			05.51		19.07 (AG11)
	17.19		17.57		18.28	9	17.28 (AG10)	20.01			20.32			20.55	54	20.01 (AG11)
16	07.44		07.16		06.34			06.44			06.06		19.23 (AG11)	05.51		19.07 (AG11)
	17.20		17.58		18.30			20.02			20.33	14	19.37 (AG11)	20.55	54	20.01 (AG11)
17	07.44		07.15		06.33			06.43			06.05		19.20 (AG11)	05.51		19.07 (AG11)
	17.22		17.59		18.31			20.03			20.34	20	19.40 (AG11)	20.56	55	20.02 (AG11)
18	07.43		07.14		06.31		17.38 (AG07)	06.41			06.04		19.17 (AG11)	05.51		19.07 (AG11)
	17.23		18.00		18.32	9	17.47 (AG07)	20.04			20.35	25	19.42 (AG11)	20.56	55	20.02 (AG11)
19	07.43		07.12		06.29		17.34 (AG07)	06.40			06.03		19.15 (AG11)	05.51		19.08 (AG11)
	17.24		18.01		18.33	16	17.50 (AG07)	20.05			20.36	29	19.44 (AG11)	20.56	55	20.03 (AG11)
20	07.42		07.11		06.28		17.31 (AG07)	06.38			06.02		19.15 (AG11)	05.52		19.08 (AG11)
	17.25		18.03		18.34	21	17.52 (AG07)	20.06			20.36	31	19.46 (AG11)	20.56	55	20.03 (AG11)
21	07.42		07.10		06.26		17.29 (AG07)	06.37			06.01		19.13 (AG11)	05.52		19.08 (AG11)
	17.26		18.04		18.35	25	17.54 (AG07)	20.07			20.37	34	19.47 (AG11)	20.57	55	20.03 (AG11)
22	07.41		07.08		06.24		17.28 (AG07)	06.35			06.01		19.12 (AG11)	05.52		19.08 (AG11)
	17.27		18.05		18.36	26	17.54 (AG07)	20.08			20.38	36	19.48 (AG11)	20.57	55	20.03 (AG11)
23	07.41		07.07		06.23		17.26 (AG07)	06.34			06.00		19.12 (AG11)	05.52		19.08 (AG11)
	17.29		18.06		18.37	29	17.55 (AG07)	20.09			20.39	38	19.50 (AG11)	20.57	55	20.03 (AG11)
24	07.40		07.05		06.21		17.26 (AG07)	06.32			05.59		19.10 (AG11)	05.52		19.09 (AG11)
	17.30		18.07		18.38	30	17.56 (AG07)	20.10			20.40	41	19.51 (AG11)	20.57	55	20.04 (AG11)
25	07.39		07.04		06.19		17.24 (AG07)	06.31			05.58		19.09 (AG11)	05.53		19.09 (AG11)
	17.31		18.08		18.39	32	17.56 (AG07)	20.11			20.41	42	19.51 (AG11)	20.57	55	20.04 (AG11)
26	07.38		07.03		06.18		17.23 (AG07)	06.29			05.58		19.09 (AG11)	05.53		19.09 (AG11)
	17.32		18.10		18.40	32	17.55 (AG07)	20.12			20.42	43	19.52 (AG11)	20.57	55	20.04 (AG11)
27	07.38		07.01		06.16		17.24 (AG07)	06.28			05.57		19.08 (AG11)	05.53		19.10 (AG11)
	17.33		18.11		18.41	32	17.56 (AG07)	20.13			20.43	45	19.53 (AG11)	20.58	54	20.04 (AG11)
28	07.37		07.00		06.15		17.23 (AG07)	06.27			05.57		19.08 (AG11)	05.54		19.10 (AG11)
	17.35		18.12		18.42	32	17.55 (AG07)	20.14			20.43	46	19.54 (AG11)	20.58	54	20.04 (AG11)
29	07.36				07.13		18.22 (AG07)	06.25			05.56		19.08 (AG11)	05.54		19.11 (AG11)
	17.36				19.43	33	18.55 (AG07)	20.16			20.44	46	19.54 (AG11)	20.58	54	20.05 (AG11)
30	07.35				07.11		18.23 (AG07)	06.24			05.55		19.08 (AG11)	05.55		19.10 (AG11)
	17.37				19.44	32	18.55 (AG07)	20.17			20.45	47	19.55 (AG11)	20.58	54	20.04 (AG11)
31	07.34				07.10		18.23 (AG07)				05.55		19.07 (AG11)			
	17.38				19.45	31	18.54 (AG07)				20.46	48	19.55 (AG11)			
Potential sun hours	299		298		370			398			447			451		
Total, worst case						639			154			585			1607	

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 77
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R46 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (218)

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	05.55		19.10 (AG11)	06.19			07.18		17.55 (AG10)	06.52	07.26
	20.57	54	20.04 (AG11)	20.39	19.56		19.06	19	18.14 (AG10)	17.20	16.57
2	05.56		19.11 (AG11)	06.20	06.50		07.19		17.54 (AG10)	06.53	07.27
	20.57	54	20.05 (AG11)	20.38	19.55		19.05	20	18.14 (AG10)	17.19	16.56
3	05.56		19.11 (AG11)	06.20	06.51		07.20		17.53 (AG10)	06.54	07.28
	20.57	53	20.04 (AG11)	20.37	19.53		19.03	21	18.14 (AG10)	17.18	16.56
4	05.57		19.12 (AG11)	06.21	06.52		07.21		17.52 (AG10)	06.55	07.29
	20.57	53	20.05 (AG11)	20.36	19.51		19.01	22	18.14 (AG10)	17.17	16.56
5	05.57		19.12 (AG11)	06.22	06.53		18.28 (AG07)	07.22		17.51 (AG10)	06.56	07.30
	20.57	53	20.05 (AG11)	20.34	19.50	10	18.38 (AG07)	19.00	23	18.14 (AG10)	17.16	16.56
6	05.58		19.12 (AG11)	06.23	06.54		18.24 (AG07)	07.23		17.51 (AG10)	06.58	07.31
	20.57	53	20.05 (AG11)	20.33	19.48	17	18.41 (AG07)	18.58	23	18.14 (AG10)	17.15	16.56
7	05.58		19.13 (AG11)	06.24	06.55		18.22 (AG07)	07.24		17.51 (AG10)	06.59	07.32
	20.56	52	20.05 (AG11)	20.32	19.47	20	18.42 (AG07)	18.57	22	18.13 (AG10)	17.13	16.55
8	05.59		19.13 (AG11)	06.25	06.56		18.20 (AG07)	07.25		17.51 (AG10)	07.00	07.33
	20.56	51	20.04 (AG11)	20.31	19.45	24	18.44 (AG07)	18.55	21	18.12 (AG10)	17.12	16.55
9	06.00		19.14 (AG11)	06.26	06.57		18.18 (AG07)	07.26		17.52 (AG10)	07.01	07.34
	20.56	50	20.04 (AG11)	20.30	19.43	26	18.44 (AG07)	18.53	19	18.11 (AG10)	17.11	16.55
10	06.00		19.14 (AG11)	06.27	06.57		18.17 (AG07)	07.27		17.52 (AG10)	07.02	07.35
	20.55	51	20.05 (AG11)	20.28	19.42	28	18.45 (AG07)	18.52	17	18.09 (AG10)	17.10	16.55
11	06.01		19.14 (AG11)	06.28	06.58		18.16 (AG07)	07.28		17.54 (AG10)	07.03	07.35
	20.55	50	20.04 (AG11)	20.27	19.40	30	18.46 (AG07)	18.50	13	18.07 (AG10)	17.09	16.56
12	06.02		19.15 (AG11)	06.29	06.59		18.15 (AG07)	07.29		17.57 (AG10)	07.05	07.36
	20.54	49	20.04 (AG11)	20.26	19.38	31	18.46 (AG07)	18.49	9	18.06 (AG10)	17.08	16.56
13	06.02		19.16 (AG11)	06.30	07.00		18.14 (AG07)	07.31			07.06	07.37
	20.54	48	20.04 (AG11)	20.24	19.37	32	18.46 (AG07)	18.47			17.08	16.56
14	06.03		19.16 (AG11)	06.31	07.01		18.13 (AG07)	07.32			07.07	07.38
	20.53	47	20.03 (AG11)	20.23	19.35	32	18.45 (AG07)	18.46			17.07	16.56
15	06.04		19.17 (AG11)	06.32	07.02		18.12 (AG07)	07.33			07.08	07.39
	20.53	46	20.03 (AG11)	20.22	19.33	33	18.45 (AG07)	18.44			17.06	16.56
16	06.05		19.17 (AG11)	06.33	07.03		18.12 (AG07)	07.34			07.09	07.39
	20.52	45	20.02 (AG11)	20.20	19.32	32	18.44 (AG07)	18.42			17.05	16.56
17	06.05		19.18 (AG11)	06.34	07.04		18.12 (AG07)	07.35			07.10	07.40
	20.52	44	20.02 (AG11)	20.19	19.30	32	18.44 (AG07)	18.41			17.04	16.57
18	06.06		19.18 (AG11)	06.35	07.05		18.12 (AG07)	07.36			07.12	07.41
	20.51	43	20.01 (AG11)	20.18	19.28	31	18.43 (AG07)	18.39			17.03	16.57
19	06.07		19.19 (AG11)	06.36	07.06		18.12 (AG07)	07.37			07.13	07.41
	20.50	41	20.00 (AG11)	20.16	19.27	30	18.42 (AG07)	18.38			17.03	16.57
20	06.08		19.21 (AG11)	06.37	07.07		18.12 (AG07)	07.38			07.14	07.42
	20.50	39	20.00 (AG11)	20.15	19.25	29	18.41 (AG07)	18.37			17.02	16.58
21	06.09		19.22 (AG11)	06.38	07.08		18.13 (AG07)	07.39			07.15	07.42
	20.49	37	19.59 (AG11)	20.13	19.23	27	18.40 (AG07)	18.35			17.01	16.58
22	06.10		19.23 (AG11)	06.39	07.09		18.13 (AG07)	07.40			07.16	07.43
	20.48	35	19.58 (AG11)	20.12	19.21	25	18.38 (AG07)	18.34			17.01	16.59
23	06.10		19.24 (AG11)	06.40	07.10		18.15 (AG07)	07.41			07.17	07.43
	20.47	33	19.57 (AG11)	20.10	19.20	21	18.36 (AG07)	18.32			17.00	16.59
24	06.11		19.25 (AG11)	06.41	07.11		18.16 (AG07)	07.43			07.18	07.44
	20.46	30	19.55 (AG11)	20.09	19.18	18	18.34 (AG07)	18.31			16.59	17.00
25	06.12		19.27 (AG11)	06.42	07.12		18.19 (AG07)	06.44			07.20	07.44
	20.46	27	19.54 (AG11)	20.07	19.16	12	18.31 (AG07)	17.29			16.59	17.00
26	06.13		19.29 (AG11)	06.43	07.13			06.45			07.21	07.45
	20.45	23	19.52 (AG11)	20.06	19.15			17.28			16.58	17.01
27	06.14		19.31 (AG11)	06.44	07.14			06.46			07.22	07.45
	20.44	18	19.49 (AG11)	20.04	19.13			17.27			16.58	17.02
28	06.15		19.35 (AG11)	06.45	07.15		18.03 (AG10)	06.47			07.23	07.45
	20.43	11	19.46 (AG11)	20.03	19.11	5	18.08 (AG10)	17.25			16.58	17.02
29	06.16			06.46	07.16		17.59 (AG10)	06.48			07.24	07.46
	20.42			20.01	19.10	12	18.11 (AG10)	17.24			16.57	17.03
30	06.17			06.47	07.17		17.57 (AG10)	06.49			07.25	07.46
	20.41			20.00	19.08	16	18.13 (AG10)	17.23			16.57	17.04
31	06.18			06.48				06.51				07.46
	20.40			19.58				17.22				17.05
Potential sun hours	458			427	375			346			299	289
Total, worst case		1190				573			229			

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R47 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (221)

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	07.46		07.33		16.40 (AG10)	06.58	07.55 (AG12)	07.08	08.28 (AG12)	06.23	05.54
	17.06		17.39	19	16.59 (AG10)	18.13 82	17.27 (AG11)	19.46 127	18.27 (AG11)	20.18	20.47
2	07.47		07.32		16.40 (AG10)	06.57	07.52 (AG12)	07.06	08.29 (AG12)	06.22	05.54
	17.06		17.41	20	17.00 (AG10)	18.14 90	17.28 (AG11)	19.47 123	18.26 (AG11)	20.19	20.47
3	07.47		07.31		16.39 (AG10)	06.55	07.50 (AG12)	07.05	08.29 (AG12)	06.20	05.54
	17.07		17.42	22	17.01 (AG10)	18.15 99	17.30 (AG11)	19.48 119	18.24 (AG11)	20.20	20.48
4	07.47		07.30		16.39 (AG10)	06.53	07.48 (AG12)	07.03	08.29 (AG12)	06.19	05.53
	17.08		17.43	23	17.02 (AG07)	18.16 105	17.31 (AG11)	19.49 114	18.22 (AG11)	20.21	20.49
5	07.47		07.29		16.39 (AG10)	06.52	07.47 (AG12)	07.01	08.30 (AG12)	06.18	05.53
	17.09		17.44	24	17.03 (AG07)	18.17 111	17.33 (AG11)	19.51 107	18.20 (AG11)	20.22	20.49
6	07.47		07.28		16.39 (AG10)	06.50	07.45 (AG12)	07.00	08.30 (AG12)	06.17	05.53
	17.10		17.46	26	17.05 (AG07)	18.19 117	17.34 (AG11)	19.52 101	18.17 (AG11)	20.23	20.50
7	07.47		07.27		16.39 (AG10)	06.49	07.44 (AG12)	06.58	08.31 (AG12)	06.15	05.52
	17.11		17.47	27	17.06 (AG07)	18.20 120	17.35 (AG11)	19.53 94	18.15 (AG11)	20.24	20.51
8	07.47		07.26		16.39 (AG07)	06.47	07.42 (AG12)	06.57	08.31 (AG12)	06.14	05.52
	17.12		17.48	29	17.08 (AG07)	18.21 126	17.36 (AG11)	19.54 87	18.12 (AG11)	20.25	20.51
9	07.46		07.25		16.39 (AG07)	06.46	07.40 (AG12)	06.55	08.31 (AG12)	06.13	05.52
	17.13		17.49	30	17.09 (AG07)	18.22 130	17.36 (AG11)	19.55 74	18.06 (AG11)	20.26	20.52
10	07.46		07.24		16.37 (AG07)	06.44	07.39 (AG12)	06.53	08.33 (AG12)	06.12	05.52
	17.14		17.51	32	17.09 (AG07)	18.23 133	17.37 (AG11)	19.56 58	09.31 (AG12)	20.27	20.52
11	07.46		07.23		16.37 (AG07)	06.42	07.38 (AG12)	06.52	08.33 (AG12)	06.11	05.51
	17.15		17.52	32	17.09 (AG07)	18.24 136	17.37 (AG11)	19.57 56	09.29 (AG12)	20.28	20.53
12	07.46		07.22		16.37 (AG07)	06.41	07.36 (AG12)	06.50	08.35 (AG12)	06.10	05.51
	17.16		17.53	33	17.10 (AG07)	18.25 139	17.37 (AG11)	19.58 53	09.28 (AG12)	20.29	20.53
13	07.45		07.20		16.37 (AG07)	06.39	07.36 (AG12)	06.49	08.36 (AG12)	06.09	05.51
	17.17		17.54	34	17.11 (AG07)	18.26 141	17.38 (AG11)	19.59 49	09.25 (AG12)	20.30	20.54
14	07.45		07.19		16.36 (AG07)	06.38	07.35 (AG12)	06.47	08.38 (AG12)	06.08	05.51
	17.18		17.55	34	17.10 (AG07)	18.27 143	17.38 (AG11)	20.00 46	09.24 (AG12)	20.31	20.54
15	07.45		07.18		16.37 (AG07)	06.36	07.35 (AG12)	06.46	08.39 (AG12)	06.07	05.51
	17.19		17.57	33	17.10 (AG07)	18.28 144	17.39 (AG11)	20.01 42	09.21 (AG12)	20.32	20.55
16	07.44		07.16		16.37 (AG07)	06.34	07.33 (AG12)	06.44	08.41 (AG12)	06.06	05.51
	17.20		17.58	34	17.11 (AG07)	18.30 146	17.38 (AG11)	20.02 38	09.19 (AG12)	20.33	20.55
17	07.44		07.15		16.37 (AG07)	06.33	07.32 (AG12)	06.43	08.43 (AG12)	06.05	05.51
	17.22		17.59	33	17.10 (AG07)	18.31 148	17.38 (AG11)	20.03 32	09.15 (AG12)	20.34	20.56
18	07.43		07.14		16.37 (AG07)	06.31	07.32 (AG12)	06.41	08.46 (AG12)	06.04	05.51
	17.23		18.00	33	17.10 (AG07)	18.32 147	17.38 (AG11)	20.04 26	09.12 (AG12)	20.35	20.56
19	07.43		07.12		16.38 (AG07)	06.29	07.31 (AG12)	06.40	08.49 (AG12)	06.03	05.51
	17.24		18.01	31	17.09 (AG07)	18.33 149	17.38 (AG11)	20.05 18	09.07 (AG12)	20.36	20.56
20	07.42		07.11		16.38 (AG07)	06.28	07.30 (AG12)	06.38		06.02	05.52
	17.25		18.03	30	17.08 (AG07)	18.34 148	17.37 (AG11)	20.06		20.36	20.57
21	07.42		07.10		16.39 (AG07)	06.26	07.31 (AG12)	06.37		06.01	05.52
	17.26		18.04	29	17.08 (AG07)	18.35 148	17.37 (AG11)	20.07		20.37	20.57
22	07.41		07.08		16.40 (AG07)	06.24	07.30 (AG12)	06.35		06.01	05.52
	17.27		18.05	26	17.06 (AG07)	18.36 147	17.36 (AG11)	20.08		20.38	20.57
23	07.41		07.07		16.42 (AG07)	06.23	07.29 (AG12)	06.34		06.00	05.52
	17.29		18.06	23	17.05 (AG07)	18.37 147	17.36 (AG11)	20.09		20.39	20.57
24	07.40		07.05		16.43 (AG07)	06.21	07.29 (AG12)	06.32		05.59	05.52
	17.30		18.07	20	17.03 (AG07)	18.38 146	17.36 (AG11)	20.10		20.40	20.57
25	07.39		07.04		08.12 (AG12)	06.19	07.29 (AG12)	06.31		05.58	05.53
	17.31		18.08	27	17.01 (AG07)	18.39 144	17.35 (AG11)	20.11		20.41	20.57
26	07.39		07.03		08.05 (AG12)	06.18	07.28 (AG12)	06.29		05.58	05.53
	17.32		18.10	48	17.16 (AG11)	18.40 142	17.33 (AG11)	20.12		20.42	20.57
27	07.38		07.01		08.01 (AG12)	06.16	07.29 (AG12)	06.28		05.57	05.53
	17.33		18.11	58	17.21 (AG11)	18.41 140	17.33 (AG11)	20.13		20.43	20.58
28	07.37	16.47 (AG10)	07.00		07.57 (AG12)	06.15	07.28 (AG12)	06.27		05.57	05.54
	17.35	4 16.51 (AG10)	18.12	72	17.24 (AG11)	18.42 139	17.32 (AG11)	20.14		20.43	20.58
29	07.36	16.44 (AG10)				07.13	08.28 (AG12)	06.25		05.56	05.54
	17.36	10 16.54 (AG10)				19.43 137	18.31 (AG11)	20.16		20.44	20.58
30	07.35	16.42 (AG10)				07.11	08.29 (AG12)	06.24		05.55	05.55
	17.37	14 16.56 (AG10)				19.44 132	18.30 (AG11)	20.17		20.45	20.58
31	07.34	16.41 (AG10)				07.10	08.28 (AG12)			05.55	
	17.38	17 16.58 (AG10)				19.45 130	18.28 (AG11)			20.46	
Potential sun hours	299		298			370		398		447	451
Total, worst case		45		882		4106		1364			

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R47 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (221)

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	05.55	06.19		06.49		08.32 (AG12)	07.18	08.16 (AG12)	06.52	16.07 (AG07)	07.26
	20.57	20.39		19.56	56	09.28 (AG12)	19.06 140	18.17 (AG11)	17.20 31	16.38 (AG07)	16.57
2	05.56	06.20		06.50		08.31 (AG12)	07.19	08.16 (AG12)	06.53	16.08 (AG07)	07.27
	20.57	20.38		19.55	58	09.29 (AG12)	19.05 138	18.16 (AG11)	17.19 29	16.37 (AG07)	16.56
3	05.56	06.20		06.51		08.29 (AG12)	07.20	08.17 (AG12)	06.54	16.09 (AG07)	07.28
	20.57	20.37		19.53	74	18.04 (AG11)	19.03 134	18.15 (AG11)	17.18 28	16.37 (AG07)	16.56
4	05.57	06.21		06.52		08.28 (AG12)	07.21	08.17 (AG12)	06.55	16.09 (AG10)	07.29
	20.57	20.36		19.52	87	18.09 (AG11)	19.01 131	18.14 (AG11)	17.17 27	16.36 (AG07)	16.56
5	05.57	06.22		06.53		08.27 (AG12)	07.22	08.18 (AG12)	06.56	16.09 (AG10)	07.30
	20.57	20.34		19.50	94	18.11 (AG11)	19.00 128	18.13 (AG11)	17.16 26	16.35 (AG07)	16.56
6	05.58	06.23		06.54		08.26 (AG12)	07.23	08.19 (AG12)	06.58	16.09 (AG10)	07.31
	20.57	20.33		19.48	101	18.13 (AG11)	18.58 122	18.11 (AG11)	17.15 24	16.33 (AG07)	16.56
7	05.58	06.24		06.55		08.25 (AG12)	07.24	08.20 (AG12)	06.59	16.10 (AG10)	07.32
	20.56	20.32		19.47	107	18.15 (AG11)	18.57 119	18.10 (AG11)	17.13 22	16.32 (AG10)	16.55
8	05.59	06.25		06.56		08.24 (AG12)	07.25	08.21 (AG12)	07.00	16.10 (AG10)	07.33
	20.56	20.31		19.45	113	18.17 (AG11)	18.55 113	18.08 (AG11)	17.12 22	16.32 (AG10)	16.55
9	06.00	06.26		06.57		08.23 (AG12)	07.26	08.22 (AG12)	07.01	16.11 (AG10)	07.34
	20.56	20.30		19.43	118	18.18 (AG11)	18.53 108	18.07 (AG11)	17.11 20	16.31 (AG10)	16.55
10	06.00	06.27		06.57		08.22 (AG12)	07.27	08.23 (AG12)	07.02	16.11 (AG10)	07.35
	20.55	20.28		19.42	122	18.19 (AG11)	18.52 102	18.05 (AG11)	17.10 19	16.30 (AG10)	16.55
11	06.01	06.28		06.58		08.21 (AG12)	07.28	08.25 (AG12)	07.03	16.13 (AG10)	07.35
	20.55	20.27		19.40	127	18.20 (AG11)	18.50 94	18.03 (AG11)	17.09 17	16.30 (AG10)	16.56
12	06.02	06.29		06.59		08.20 (AG12)	07.29	08.27 (AG12)	07.05	16.14 (AG10)	07.36
	20.54	20.26		19.38	130	18.20 (AG11)	18.49 88	18.02 (AG11)	17.08 14	16.28 (AG10)	16.56
13	06.02	06.30		07.00		08.20 (AG12)	07.31	08.29 (AG12)	07.06	16.16 (AG10)	07.37
	20.54	20.24		19.37	133	18.21 (AG11)	18.47 78	17.59 (AG11)	17.08 10	16.26 (AG10)	16.56
14	06.03	06.31		07.01		08.18 (AG12)	07.32	08.32 (AG12)	07.07	16.20 (AG10)	07.38
	20.53	20.23		19.35	136	18.21 (AG11)	18.46 66	17.56 (AG11)	17.07 3	16.23 (AG10)	16.56
15	06.04	06.32		07.02		08.18 (AG12)	07.33	08.35 (AG12)	07.08		07.39
	20.53	20.22		19.33	138	18.21 (AG11)	18.44 52	17.52 (AG11)	17.06		16.56
16	06.05	06.33		07.03		08.17 (AG12)	07.34	08.39 (AG12)	07.09		07.39
	20.52	20.20		19.32	140	18.21 (AG11)	18.42 40	17.45 (AG11)	17.05		16.56
17	06.05	06.34		07.04		08.17 (AG12)	07.35	17.16 (AG07)	07.10		07.40
	20.52	20.19		19.30	142	18.22 (AG11)	18.41 17	17.33 (AG07)	17.04		16.57
18	06.06	06.35		07.05		08.16 (AG12)	07.36	17.14 (AG07)	07.12		07.41
	20.51	20.18		19.28	144	18.22 (AG11)	18.39 21	17.35 (AG07)	17.03		16.57
19	06.07	06.36		07.06		08.16 (AG12)	07.37	17.12 (AG07)	07.13		07.41
	20.50	20.16		19.27	145	18.22 (AG11)	18.38 24	17.36 (AG07)	17.03		16.57
20	06.08	06.37		07.07		08.15 (AG12)	07.38	17.11 (AG07)	07.14		07.42
	20.50	20.15		19.25	147	18.22 (AG11)	18.37 27	17.38 (AG07)	17.02		16.58
21	06.09	06.38		07.08		08.15 (AG12)	07.39	17.10 (AG07)	07.15		07.42
	20.49	20.13		19.23	147	18.22 (AG11)	18.35 29	17.39 (AG07)	17.01		16.58
22	06.10	06.39		07.09		08.15 (AG12)	07.40	17.09 (AG07)	07.16		07.43
	20.48	20.12		19.21	148	18.22 (AG11)	18.34 30	17.39 (AG07)	17.01		16.59
23	06.10	06.40		07.10		08.15 (AG12)	07.41	17.08 (AG07)	07.17		07.43
	20.47	20.10		19.20	148	18.21 (AG11)	18.32 31	17.39 (AG07)	17.00		16.59
24	06.11	06.41	08.53 (AG12)	07.11		08.15 (AG12)	07.43	17.07 (AG07)	07.18		07.44
	20.46	20.09	18 09.11 (AG12)	19.18	147	18.21 (AG11)	18.31 32	17.39 (AG07)	16.59		17.00
25	06.12	06.42	08.48 (AG12)	07.12		08.15 (AG12)	06.44	16.06 (AG07)	07.20		07.44
	20.46	20.07	27 09.15 (AG12)	19.16	148	18.21 (AG11)	17.29 33	16.39 (AG07)	16.59		17.00
26	06.13	06.43	08.45 (AG12)	07.13		08.15 (AG12)	06.45	16.07 (AG07)	07.21		07.45
	20.45	20.06	33 09.18 (AG12)	19.15	146	18.20 (AG11)	17.28 33	16.40 (AG07)	16.58		17.01
27	06.14	06.44	08.43 (AG12)	07.14		08.15 (AG12)	06.46	16.06 (AG07)	07.22		07.45
	20.44	20.04	38 09.21 (AG12)	19.13	146	18.20 (AG11)	17.27 34	16.40 (AG07)	16.58		17.02
28	06.15	06.45	08.40 (AG12)	07.15		08.15 (AG12)	06.47	16.06 (AG07)	07.23		07.45
	20.43	20.03	43 09.23 (AG12)	19.11	145	18.19 (AG11)	17.25 34	16.40 (AG07)	16.58		17.02
29	06.16	06.46	08.38 (AG12)	07.16		08.15 (AG12)	06.48	16.06 (AG07)	07.24		07.46
	20.42	20.01	47 09.25 (AG12)	19.10	144	18.19 (AG11)	17.24 33	16.39 (AG07)	16.57		17.03
30	06.17	06.47	08.37 (AG12)	07.17		08.15 (AG12)	06.49	16.07 (AG07)	07.25		07.46
	20.41	20.00	49 09.26 (AG12)	19.08	142	18.18 (AG11)	17.23 33	16.40 (AG07)	16.57		17.04
31	06.18	06.48	08.34 (AG12)				06.51	16.07 (AG07)			07.46
	20.40	19.58	53 09.27 (AG12)				17.22 32	16.39 (AG07)			17.05
Potential sun hours	458	427		375			346		299		289
Total, worst case			308		3773		2096		292		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R48 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (222)

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	07.46			07.33		16.41 (AG10)	06.58		07.57 (AG12)	07.08		08.44 (AG12)	06.23	05.54
	17.06			17.39	19	17.00 (AG10)	18.13	115	17.31 (AG11)	19.46	104	18.18 (AG11)	20.18	20.47
2	07.47			07.32		16.40 (AG10)	06.57		07.55 (AG12)	07.06		08.45 (AG12)	06.22	05.54
	17.06			17.41	21	17.01 (AG10)	18.14	121	17.32 (AG11)	19.47	97	18.16 (AG11)	20.19	20.47
3	07.47			07.31		16.40 (AG10)	06.55		07.55 (AG12)	07.05		08.45 (AG12)	06.20	05.54
	17.07			17.42	21	17.01 (AG10)	18.15	124	17.33 (AG11)	19.48	89	18.12 (AG11)	20.20	20.48
4	07.47			07.30		16.40 (AG10)	06.53		07.53 (AG12)	07.03		08.45 (AG12)	06.19	05.53
	17.08			17.43	23	17.03 (AG07)	18.16	129	17.34 (AG11)	19.49	76	18.06 (AG11)	20.21	20.49
5	07.47			07.29		16.40 (AG10)	06.52		07.53 (AG12)	07.01		08.47 (AG12)	06.18	05.53
	17.09			17.44	25	17.05 (AG07)	18.17	131	17.35 (AG11)	19.51	63	09.50 (AG12)	20.22	20.49
6	07.47			07.28		16.40 (AG10)	06.50		07.51 (AG12)	07.00		08.47 (AG12)	06.17	05.53
	17.10			17.46	26	17.06 (AG07)	18.19	137	17.36 (AG11)	19.52	61	09.48 (AG12)	20.23	20.50
7	07.47			07.27		16.40 (AG10)	06.49		07.51 (AG12)	06.58		08.49 (AG12)	06.15	05.52
	17.11			17.47	28	17.08 (AG07)	18.20	139	17.37 (AG11)	19.53	58	09.47 (AG12)	20.24	20.51
8	07.47			07.26		16.40 (AG07)	06.47		07.50 (AG12)	06.57		08.49 (AG12)	06.14	05.52
	17.12			17.48	29	17.09 (AG07)	18.21	141	17.37 (AG11)	19.54	55	09.44 (AG12)	20.25	20.51
9	07.46			07.25		16.40 (AG07)	06.46		07.48 (AG12)	06.55		08.50 (AG12)	06.13	05.52
	17.13			17.49	29	17.09 (AG07)	18.22	144	17.37 (AG11)	19.55	52	09.42 (AG12)	20.26	20.52
10	07.46			07.24		16.38 (AG07)	06.44		07.48 (AG12)	06.53		08.52 (AG12)	06.12	05.52
	17.14			17.51	31	17.09 (AG07)	18.23	146	17.38 (AG11)	19.56	48	09.40 (AG12)	20.27	20.52
11	07.46			07.23		16.38 (AG07)	06.42		07.47 (AG12)	06.52		08.53 (AG12)	06.11	05.51
	17.15			17.52	32	17.10 (AG07)	18.24	147	17.37 (AG11)	19.57	44	09.37 (AG12)	20.28	20.53
12	07.46			07.22		16.38 (AG07)	06.41		07.46 (AG12)	06.50		08.56 (AG12)	06.10	05.51
	17.16			17.53	33	17.11 (AG07)	18.25	148	17.37 (AG11)	19.58	39	09.35 (AG12)	20.29	20.53
13	07.45			07.20		16.38 (AG07)	06.39		07.46 (AG12)	06.49		08.58 (AG12)	06.09	05.51
	17.17			17.54	33	17.11 (AG07)	18.26	149	17.38 (AG11)	19.59	33	09.31 (AG12)	20.30	20.54
14	07.45			07.19		16.38 (AG07)	06.38		07.45 (AG12)	06.47		09.01 (AG12)	06.08	05.51
	17.18			17.55	32	17.10 (AG07)	18.27	149	17.37 (AG11)	20.00	27	09.28 (AG12)	20.31	20.54
15	07.45			07.18		16.38 (AG07)	06.36		07.45 (AG12)	06.46		09.05 (AG12)	06.07	05.51
	17.19			17.57	33	17.11 (AG07)	18.28	151	17.38 (AG11)	20.01	17	09.22 (AG12)	20.32	20.55
16	07.44			07.16		16.39 (AG07)	06.34		07.44 (AG12)	06.44			06.06	05.51
	17.20			17.58	32	17.11 (AG07)	18.30	150	17.37 (AG11)	20.02			20.33	20.55
17	07.44			07.15		16.38 (AG07)	06.33		07.44 (AG12)	06.43			06.05	05.51
	17.22			17.59	32	17.10 (AG07)	18.31	148	17.36 (AG11)	20.03			20.34	20.56
18	07.43			07.14		08.24 (AG12)	06.31		07.44 (AG12)	06.41			06.04	05.51
	17.23			18.00	50	17.10 (AG07)	18.32	149	17.37 (AG11)	20.04			20.35	20.56
19	07.43			07.12		08.20 (AG12)	06.29		07.43 (AG12)	06.40			06.03	05.51
	17.24			18.01	58	17.09 (AG07)	18.33	148	17.36 (AG11)	20.05			20.36	20.56
20	07.42			07.11		08.15 (AG12)	06.28		07.43 (AG12)	06.38			06.02	05.52
	17.25			18.03	64	17.08 (AG07)	18.34	146	17.35 (AG11)	20.06			20.36	20.57
21	07.42			07.10		08.13 (AG12)	06.26		07.43 (AG12)	06.37			06.01	05.52
	17.26			18.04	67	17.07 (AG07)	18.35	145	17.35 (AG11)	20.07			20.37	20.57
22	07.41			07.08		08.09 (AG12)	06.24		07.43 (AG12)	06.35			06.01	05.52
	17.27			18.05	70	17.05 (AG07)	18.36	143	17.34 (AG11)	20.08			20.38	20.57
23	07.41			07.07		08.08 (AG12)	06.23		07.42 (AG12)	06.34			06.00	05.52
	17.29			18.06	71	17.04 (AG07)	18.37	141	17.32 (AG11)	20.09			20.39	20.57
24	07.40			07.05		08.05 (AG12)	06.21		07.43 (AG12)	06.32			05.59	05.52
	17.30			18.07	87	17.18 (AG11)	18.38	139	17.32 (AG11)	20.10			20.40	20.57
25	07.39			07.04		08.04 (AG12)	06.19		07.43 (AG12)	06.31			05.58	05.53
	17.31			18.08	89	17.23 (AG11)	18.39	136	17.31 (AG11)	20.11			20.41	20.57
26	07.39			07.03		08.01 (AG12)	06.18		07.42 (AG12)	06.29			05.58	05.53
	17.32			18.10	95	17.25 (AG11)	18.40	133	17.29 (AG11)	20.12			20.42	20.57
27	07.38			07.01		08.00 (AG12)	06.16		07.43 (AG12)	06.28			05.57	05.53
	17.33			18.11	102	17.27 (AG11)	18.41	130	17.28 (AG11)	20.13			20.43	20.58
28	07.37		16.47 (AG10)	07.00		07.58 (AG12)	06.15		07.43 (AG12)	06.27			05.57	05.54
	17.35	6	16.53 (AG10)	18.12	110	17.29 (AG11)	18.42	126	17.27 (AG11)	20.14			20.43	20.58
29	07.36		16.44 (AG10)				07.13		08.43 (AG12)	06.25			05.56	05.54
	17.36	12	16.56 (AG10)				19.43	121	18.25 (AG11)	20.16			20.44	20.58
30	07.35		16.43 (AG10)				07.11		08.44 (AG12)	06.24			05.55	05.55
	17.37	14	16.57 (AG10)				19.44	116	18.23 (AG11)	20.17			20.45	20.58
31	07.34		16.42 (AG10)				07.10		08.44 (AG12)				05.55	
	17.38	17	16.59 (AG10)				19.45	111	18.21 (AG11)				20.46	
Potential sun hours	299			298			370			398			447	451
Total, worst case		49			1342			4253			863			

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R48 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (222)

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	05.55	20.57	06.19	20.39		06.49	19.56	44	08.52 (AG12)	09.36 (AG12)	149	07.18	19.06	149	08.25 (AG12)	18.17 (AG11)	31	06.52	17.20	31	16.08 (AG07)	16.39 (AG07)	07.26	16.57
2	05.56	20.57	06.20	20.38		06.50	19.55	48	08.50 (AG12)	09.38 (AG12)	146	07.19	19.05	146	08.26 (AG12)	18.16 (AG11)	29	06.53	17.19	29	16.09 (AG07)	16.38 (AG07)	07.27	16.56
3	05.56	20.57	06.20	20.37		06.51	19.53	52	08.48 (AG12)	09.40 (AG12)	145	07.20	19.03	145	08.26 (AG12)	18.15 (AG11)	28	06.54	17.18	28	16.10 (AG07)	16.38 (AG07)	07.28	16.56
4	05.57	20.57	06.21	20.36		06.52	19.52	54	08.47 (AG12)	09.41 (AG12)	144	07.21	19.01	144	08.26 (AG12)	18.15 (AG11)	27	06.55	17.17	27	16.10 (AG10)	16.37 (AG07)	07.29	16.56
5	05.57	20.57	06.22	20.34		06.53	19.50	58	08.45 (AG12)	09.43 (AG12)	142	07.22	19.00	142	08.26 (AG12)	18.14 (AG11)	26	06.56	17.16	26	16.10 (AG10)	16.36 (AG07)	07.30	16.56
6	05.58	20.57	06.23	20.33		06.54	19.48	61	08.43 (AG12)	09.44 (AG12)	140	07.23	18.58	140	08.26 (AG12)	18.13 (AG11)	25	06.58	17.15	25	16.10 (AG10)	16.35 (AG07)	07.31	16.56
7	05.58	20.56	06.24	20.32		06.55	19.47	63	08.42 (AG12)	09.45 (AG12)	138	07.24	18.57	138	08.27 (AG12)	18.12 (AG11)	23	06.59	17.13	23	16.11 (AG10)	16.34 (AG07)	07.32	16.55
8	05.59	20.56	06.25	20.31		06.56	19.45	74	08.41 (AG12)	18.01 (AG11)	134	07.25	18.55	134	08.27 (AG12)	18.10 (AG11)	21	07.00	17.12	21	16.11 (AG10)	16.32 (AG10)	07.33	16.55
9	06.00	20.56	06.26	20.30		06.57	19.43	88	08.39 (AG12)	18.06 (AG11)	131	07.26	18.53	131	08.27 (AG12)	18.09 (AG11)	20	07.01	17.11	20	16.11 (AG10)	16.31 (AG10)	07.34	16.55
10	06.00	20.55	06.27	20.28		06.57	19.42	97	08.38 (AG12)	18.09 (AG11)	127	07.27	18.52	127	08.28 (AG12)	18.08 (AG11)	19	07.02	17.10	19	16.12 (AG10)	16.31 (AG10)	07.35	16.55
11	06.01	20.55	06.28	20.27		06.58	19.40	104	08.37 (AG12)	18.11 (AG11)	122	07.28	18.50	122	08.29 (AG12)	18.06 (AG11)	17	07.03	17.09	17	16.14 (AG10)	16.31 (AG10)	07.35	16.56
12	06.02	20.54	06.29	20.26		06.59	19.38	110	08.36 (AG12)	18.13 (AG11)	118	07.29	18.49	118	08.30 (AG12)	18.05 (AG11)	14	07.05	17.08	14	16.15 (AG10)	16.29 (AG10)	07.36	16.56
13	06.02	20.54	06.30	20.24		07.00	19.37	116	08.35 (AG12)	18.14 (AG11)	113	07.31	18.47	113	08.31 (AG12)	18.04 (AG11)	11	07.06	17.08	11	16.16 (AG10)	16.27 (AG10)	07.37	16.56
14	06.03	20.53	06.31	20.23		07.01	19.35	122	08.33 (AG12)	18.15 (AG11)	108	07.32	18.46	108	08.32 (AG12)	18.02 (AG11)	6	07.07	17.07	6	16.19 (AG10)	16.25 (AG10)	07.38	16.56
15	06.04	20.53	06.32	20.22		07.02	19.33	125	08.32 (AG12)	18.16 (AG11)	100	07.33	18.44	100	08.33 (AG12)	17.59 (AG11)		07.08	17.06				07.39	16.56
16	06.05	20.52	06.33	20.20		07.03	19.32	129	08.31 (AG12)	18.16 (AG11)	92	07.34	18.42	92	08.34 (AG12)	17.56 (AG11)		07.09	17.05				07.39	16.56
17	06.05	20.52	06.34	20.19		07.04	19.30	132	08.31 (AG12)	18.17 (AG11)	90	07.35	18.41	90	08.36 (AG12)	17.53 (AG11)		07.10	17.04				07.40	16.57
18	06.06	20.51	06.35	20.18		07.05	19.28	136	08.30 (AG12)	18.18 (AG11)	86	07.36	18.39	86	08.37 (AG12)	17.48 (AG11)		07.12	17.03				07.41	16.57
19	06.07	20.50	06.36	20.16		07.06	19.27	138	08.29 (AG12)	18.18 (AG11)	71	07.37	18.38	71	08.39 (AG12)	17.35 (AG07)		07.13	17.03				07.41	16.57
20	06.08	20.50	06.37	20.15		07.07	19.25	141	08.29 (AG12)	18.19 (AG11)	69	07.38	18.37	69	08.42 (AG12)	17.37 (AG07)		07.14	17.02				07.42	16.58
21	06.09	20.49	06.38	20.13		07.08	19.23	143	08.28 (AG12)	18.19 (AG11)	67	07.39	18.35	67	08.44 (AG12)	17.38 (AG07)		07.15	17.01				07.42	16.58
22	06.10	20.48	06.39	20.12		07.09	19.21	145	08.28 (AG12)	18.19 (AG11)	63	07.40	18.34	63	08.47 (AG12)	17.39 (AG07)		07.16	17.01				07.43	16.59
23	06.10	20.47	06.40	20.10		07.10	19.20	147	08.27 (AG12)	18.19 (AG11)	56	07.41	18.32	56	08.50 (AG12)	17.39 (AG07)		07.17	17.00				07.43	16.59
24	06.11	20.46	06.41	20.09		07.11	19.18	147	08.27 (AG12)	18.19 (AG11)	45	07.43	18.31	45	08.56 (AG12)	17.39 (AG07)		07.18	16.59				07.44	17.00
25	06.12	20.46	06.42	20.07		07.12	19.16	149	08.26 (AG12)	18.19 (AG11)	31	06.44	17.29	31	16.08 (AG07)	16.39 (AG07)		07.20	16.59				07.44	17.00
26	06.13	20.45	06.43	20.06		07.13	19.15	149	08.26 (AG12)	18.19 (AG11)	32	06.45	17.28	32	16.08 (AG07)	16.40 (AG07)		07.21	16.58				07.45	17.01
27	06.14	20.44	06.44	20.04		07.14	19.13	149	08.26 (AG12)	18.19 (AG11)	32	06.46	17.27	32	16.08 (AG07)	16.40 (AG07)		07.22	16.58				07.45	17.02
28	06.15	20.43	06.45	20.03	19	09.06 (AG12)	07.15	149	08.26 (AG12)	18.18 (AG11)	33	06.47	17.25	33	16.07 (AG07)	16.40 (AG07)		07.23	16.58				07.45	17.02
29	06.16	20.42	06.46	20.01	27	09.02 (AG12)	09.29 (AG12)	149	08.26 (AG12)	18.18 (AG11)	33	06.48	17.24	33	16.07 (AG07)	16.40 (AG07)		07.24	16.57				07.46	17.03
30	06.17	20.41	06.47	20.00	34	08.58 (AG12)	09.32 (AG12)	148	08.26 (AG12)	18.17 (AG11)	32	06.49	17.23	32	16.08 (AG07)	16.40 (AG07)		07.25	16.57				07.46	17.04
31	06.18	20.40	06.48	19.58	39	08.55 (AG12)	09.34 (AG12)					06.51	17.22	32	16.08 (AG07)	16.40 (AG07)							07.46	17.05
Potential sun hours	458		427			375			346						299								289	
Total, worst case					119			3367			2821						297							

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R49 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (212)

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	07.46		12.00 (AG09)	07.33			06.58			07.08		07.44 (AG10)	06.23		06.42 (AG07)	05.55		
	17.06	94	15.47 (AG08)	17.40			18.13			19.46	55	08.39 (AG10)	20.18	54	08.15 (AG10)	20.47		
2	07.47		12.00 (AG09)	07.33			06.57			07.06		07.44 (AG10)	06.22		06.41 (AG07)	05.54		
	17.07	94	15.47 (AG08)	17.41			18.14			19.48	56	08.40 (AG10)	20.19	49	08.12 (AG10)	20.47		
3	07.47		12.01 (AG09)	07.32			06.55			07.05		07.42 (AG10)	06.20		06.40 (AG07)	05.54		
	17.07	93	15.48 (AG08)	17.42			18.15			19.49	58	08.40 (AG10)	20.20	42	08.08 (AG10)	20.48		
4	07.47		12.02 (AG09)	07.31			06.54			07.03		07.42 (AG10)	06.19		06.38 (AG07)	05.53		
	17.08	92	15.48 (AG08)	17.43			18.16			19.50	58	08.40 (AG10)	20.21	32	07.10 (AG07)	20.49		
5	07.47		12.03 (AG09)	07.30			06.52			07.02		07.41 (AG10)	06.18		06.37 (AG07)	05.53		
	17.09	91	15.49 (AG08)	17.45			18.18			19.51	59	08.40 (AG10)	20.22	33	07.10 (AG07)	20.49		
6	07.47		12.04 (AG09)	07.28			06.50			07.00		07.40 (AG10)	06.17		06.36 (AG07)	05.53		
	17.10	90	15.49 (AG08)	17.46			18.19			19.52	60	08.40 (AG10)	20.23	34	07.10 (AG07)	20.50		
7	07.47		12.04 (AG09)	07.27			06.49			06.58		07.40 (AG10)	06.16		06.36 (AG07)	05.52		
	17.11	89	15.49 (AG08)	17.47			18.20			19.53	60	08.40 (AG10)	20.24	33	07.09 (AG07)	20.51		
8	07.47		12.05 (AG09)	07.26			06.47			06.57		07.39 (AG10)	06.14		06.37 (AG07)	05.52		
	17.12	87	15.49 (AG08)	17.48			18.21			19.54	61	08.40 (AG10)	20.25	32	07.09 (AG07)	20.51		
9	07.46		12.07 (AG09)	07.25			06.46			06.55		07.39 (AG10)	06.13		06.37 (AG07)	05.52		
	17.13	86	15.50 (AG08)	17.49			18.22			19.55	61	08.40 (AG10)	20.26	31	07.08 (AG07)	20.52		
10	07.46		12.08 (AG09)	07.24			06.44			06.54		07.38 (AG10)	06.12		06.38 (AG07)	05.52		
	17.14	84	15.50 (AG08)	17.51			18.23			19.56	61	08.39 (AG10)	20.27	29	07.07 (AG07)	20.53		
11	07.46		12.09 (AG09)	07.23			06.43			06.52		07.37 (AG10)	06.11		06.39 (AG07)	05.52		
	17.15	82	15.50 (AG08)	17.52			18.24			19.57	62	08.39 (AG10)	20.28	27	07.06 (AG07)	20.53		
12	07.46		12.10 (AG09)	07.22			06.41			06.50		07.38 (AG10)	06.10		06.40 (AG07)	05.51		
	17.16	80	15.51 (AG08)	17.53			18.25			19.58	61	08.39 (AG10)	20.29	25	07.05 (AG07)	20.54		
13	07.46		12.12 (AG09)	07.20			06.39			06.49		07.37 (AG10)	06.09		06.41 (AG07)	05.51		
	17.17	77	15.51 (AG08)	17.54			18.26			19.59	61	08.38 (AG10)	20.30	23	07.04 (AG07)	20.54		
14	07.45		12.13 (AG09)	07.19			06.38			06.47		07.37 (AG10)	06.08		06.42 (AG07)	05.51		
	17.18	75	15.51 (AG08)	17.56			18.27			20.00	61	08.38 (AG10)	20.31	21	07.03 (AG07)	20.54		
15	07.45		12.16 (AG09)	07.18			06.36			06.46		07.37 (AG10)	06.07		06.44 (AG07)	05.51		
	17.19	70	15.51 (AG08)	17.57			18.29			20.01	60	08.37 (AG10)	20.32	17	07.01 (AG07)	20.55		
16	07.44		12.17 (AG09)	07.17			06.34			06.44		07.37 (AG10)	06.06		06.46 (AG07)	05.51		
	17.21	67	15.51 (AG08)	17.58			18.30			20.02	59	08.36 (AG10)	20.33	13	06.59 (AG07)	20.55		
17	07.44		12.20 (AG09)	07.15			06.33			06.43		07.37 (AG10)	06.05		06.48 (AG07)	05.51		
	17.22	61	15.51 (AG08)	17.59			18.31			20.03	58	08.35 (AG10)	20.34	8	06.56 (AG07)	20.56		
18	07.44		12.23 (AG09)	07.14			06.31			06.41		07.38 (AG10)	06.04			05.51		
	17.23	54	15.50 (AG08)	18.00			18.32			20.04	57	08.35 (AG10)	20.35			20.56		
19	07.43		12.28 (AG09)	07.13			06.29			06.40		06.58 (AG07)	06.03			05.52		
	17.24	45	15.51 (AG08)	18.01			18.33			20.05	61	08.33 (AG10)	20.36			20.56		
20	07.43		15.23 (AG08)	07.11			06.28			06.38		06.57 (AG07)	06.02			05.52		
	17.25	27	15.50 (AG08)	18.03			18.34			20.06	64	08.33 (AG10)	20.37			20.57		
21	07.42		15.24 (AG08)	07.10			06.26			06.37		06.55 (AG07)	06.02			05.52		
	17.26	26	15.50 (AG08)	18.04			18.35			20.07	65	08.31 (AG10)	20.37			20.57		
22	07.41		15.25 (AG08)	07.08			06.25		07.09 (AG10)	06.35		06.54 (AG07)	06.01			05.52		
	17.27	24	15.49 (AG08)	18.05			18.36	12	07.21 (AG10)	20.08	65	08.30 (AG10)	20.38			20.57		
23	07.41		15.27 (AG08)	07.07			06.23		07.03 (AG10)	06.34		06.53 (AG07)	06.00			05.52		
	17.29	21	15.48 (AG08)	18.06			18.37	23	07.26 (AG10)	20.09	67	08.30 (AG10)	20.39			20.57		
24	07.40		15.28 (AG08)	07.06			06.21		07.00 (AG10)	06.32		06.51 (AG07)	05.59			05.53		
	17.30	19	15.47 (AG08)	18.07			18.38	30	07.30 (AG10)	20.10	67	08.28 (AG10)	20.40			20.57		
25	07.39		15.32 (AG08)	07.04			06.20		06.57 (AG10)	06.31		06.50 (AG07)	05.59			05.53		
	17.31	14	15.46 (AG08)	18.09			18.39	35	07.32 (AG10)	20.11	67	08.27 (AG10)	20.41			20.57		
26	07.39		15.35 (AG08)	07.03			06.18		06.54 (AG10)	06.30		06.48 (AG07)	05.58			05.53		
	17.32	7	15.42 (AG08)	18.10			18.40	39	07.33 (AG10)	20.12	65	08.25 (AG10)	20.42			20.58		
27	07.38			07.01			06.16		06.53 (AG10)	06.28		06.47 (AG07)	05.57			05.53		
	17.33			18.11			18.41	42	07.35 (AG10)	20.14	64	08.23 (AG10)	20.43			20.58		
28	07.37			07.00			06.15		06.50 (AG10)	06.27		06.46 (AG07)	05.57			05.54		
	17.35			18.12			18.42	46	07.36 (AG10)	20.15	63	08.22 (AG10)	20.44			20.58		
29	07.36						07.13		07.48 (AG10)	06.26		06.45 (AG07)	05.56			05.54		
	17.36						19.43	49	08.37 (AG10)	20.16	60	08.20 (AG10)	20.44			20.58		
30	07.35						07.11		07.47 (AG10)	06.24		06.43 (AG07)	05.56			05.55		
	17.37						19.44	51	08.38 (AG10)	20.17	57	08.17 (AG10)	20.45			20.58		
31	07.34						07.10		07.46 (AG10)				05.55					
	17.38						19.45	52	08.38 (AG10)				20.46					
Potential sun hours	299			298			370			398			447			451		
Total, worst case		1649						379			1833			503				

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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Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R49 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (212)

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	05.55			06.19		06.50 (AG07)	06.49		07.36 (AG10)	07.18		06.52			07.26		11.51 (AG09)
	20.58			20.39	26	07.16 (AG07)	19.56	62	08.38 (AG10)	19.07		17.20			16.57	82	15.32 (AG08)
2	05.56			06.20		06.49 (AG07)	06.50		07.36 (AG10)	07.19		06.53			07.27		11.51 (AG09)
	20.57			20.38	28	07.17 (AG07)	19.55	61	08.37 (AG10)	19.05		17.19			16.56	84	15.33 (AG08)
3	05.56			06.21		06.48 (AG07)	06.51		07.36 (AG10)	07.20		06.54			07.28		11.51 (AG09)
	20.57			20.37	29	07.17 (AG07)	19.53	61	08.37 (AG10)	19.03		17.18			16.56	86	15.34 (AG08)
4	05.57			06.22		06.47 (AG07)	06.52		07.36 (AG10)	07.21		06.55			07.29		11.50 (AG09)
	20.57			20.36	31	07.18 (AG07)	19.52	61	08.37 (AG10)	19.02		17.17			16.56	87	15.34 (AG08)
5	05.57			06.23		06.46 (AG07)	06.53		07.36 (AG10)	07.22		06.56			07.30		11.50 (AG09)
	20.57			20.34	32	07.18 (AG07)	19.50	60	08.36 (AG10)	19.00		17.16			16.56	89	15.35 (AG08)
6	05.58			06.23		06.46 (AG07)	06.54		07.36 (AG10)	07.23		06.58			07.31		11.50 (AG09)
	20.57			20.33	33	07.19 (AG07)	19.48	60	08.36 (AG10)	18.58		17.15			16.56	90	15.35 (AG08)
7	05.58			06.24		06.46 (AG07)	06.55		07.36 (AG10)	07.24		06.59			07.32		11.49 (AG09)
	20.56			20.32	33	07.19 (AG07)	19.47	59	08.35 (AG10)	18.57		17.14			16.56	91	15.35 (AG08)
8	05.59			06.25		06.47 (AG07)	06.56		07.36 (AG10)	07.25		07.00			07.33		11.49 (AG09)
	20.56			20.31	33	07.20 (AG07)	19.45	59	08.35 (AG10)	18.55		17.13			16.56	92	15.35 (AG08)
9	06.00			06.26		06.48 (AG07)	06.57		07.36 (AG10)	07.26		07.01			07.34		11.49 (AG09)
	20.56			20.30	32	07.20 (AG07)	19.43	58	08.34 (AG10)	18.53		17.11			16.56	93	15.36 (AG08)
10	06.00			06.27		06.49 (AG07)	06.58		07.37 (AG10)	07.27		07.02			07.35		11.49 (AG09)
	20.55			20.28	45	08.18 (AG10)	19.42	56	08.33 (AG10)	18.52		17.10			16.56	94	15.36 (AG08)
11	06.01			06.28		06.50 (AG07)	06.59		07.37 (AG10)	07.28		07.03			07.36		11.50 (AG09)
	20.55			20.27	51	08.22 (AG10)	19.40	55	08.32 (AG10)	18.50		17.09			16.56	94	15.37 (AG08)
12	06.02			06.29		06.51 (AG07)	07.00		07.38 (AG10)	07.30		07.05			07.36		11.50 (AG09)
	20.54			20.26	56	08.25 (AG10)	19.38	53	08.31 (AG10)	18.49		17.09			16.56	95	15.38 (AG08)
13	06.02			06.30		06.52 (AG07)	07.00		07.38 (AG10)	07.31		07.06			07.37		11.50 (AG09)
	20.54			20.25	59	08.27 (AG10)	19.37	52	08.30 (AG10)	18.47		17.08			16.56	96	15.38 (AG08)
14	06.03			06.31		06.53 (AG07)	07.01		07.39 (AG10)	07.32		07.07			07.38		11.50 (AG09)
	20.53			20.23	62	08.29 (AG10)	19.35	49	08.28 (AG10)	18.46		17.07			16.56	95	15.38 (AG08)
15	06.04			06.32		06.54 (AG07)	07.02		07.40 (AG10)	07.33		07.08			07.39		11.51 (AG09)
	20.53			20.22	63	08.30 (AG10)	19.33	46	08.26 (AG10)	18.44		17.06			16.56	95	15.39 (AG08)
16	06.05			06.33		06.55 (AG07)	07.03		07.40 (AG10)	07.34		07.09		15.08 (AG08)	07.39		11.51 (AG09)
	20.52			20.20	64	08.31 (AG10)	19.32	44	08.24 (AG10)	18.43		17.05	8	15.16 (AG08)	16.57	95	15.39 (AG08)
17	06.05			06.34		06.55 (AG07)	07.04		07.42 (AG10)	07.35		07.11		15.04 (AG08)	07.40		11.51 (AG09)
	20.52			20.19	66	08.32 (AG10)	19.30	40	08.22 (AG10)	18.41		17.04	15	15.19 (AG08)	16.57	96	15.39 (AG08)
18	06.06			06.35		06.56 (AG07)	07.05		07.44 (AG10)	07.36		07.12		15.02 (AG08)	07.41		11.52 (AG09)
	20.51			20.18	66	08.33 (AG10)	19.28	35	08.19 (AG10)	18.40		17.03	19	15.21 (AG08)	16.57	96	15.40 (AG08)
19	06.07			06.36		06.57 (AG07)	07.06		07.46 (AG10)	07.37		07.13		15.02 (AG08)	07.41		11.52 (AG09)
	20.50			20.16	66	08.34 (AG10)	19.27	31	08.17 (AG10)	18.38		17.03	21	15.23 (AG08)	16.58	97	15.41 (AG08)
20	06.08			06.37		06.58 (AG07)	07.07		07.48 (AG10)	07.38		07.14		15.00 (AG08)	07.42		11.52 (AG09)
	20.50			20.15	66	08.35 (AG10)	19.25	25	08.13 (AG10)	18.37		17.02	24	15.24 (AG08)	16.58	97	15.41 (AG08)
21	06.09			06.38		06.59 (AG07)	07.08		07.53 (AG10)	07.39		07.15		14.59 (AG08)	07.42		11.53 (AG09)
	20.49			20.13	65	08.35 (AG10)	19.23	15	08.08 (AG10)	18.35		17.01	26	15.25 (AG08)	16.58	97	15.42 (AG08)
22	06.10			06.39		07.00 (AG07)	07.09			07.40		07.16		14.59 (AG08)	07.43		11.53 (AG09)
	20.48			20.12	64	08.36 (AG10)	19.22			18.34		17.01	27	15.26 (AG08)	16.59	97	15.42 (AG08)
23	06.10			06.40		07.01 (AG07)	07.10			07.41		07.17		12.04 (AG09)	07.43		11.53 (AG09)
	20.47			20.10	63	08.37 (AG10)	19.20			18.32		17.00	45	15.27 (AG08)	16.59	97	15.42 (AG08)
24	06.11			06.41		07.02 (AG07)	07.11			07.43		07.19		12.01 (AG09)	07.44		11.54 (AG09)
	20.47			20.09	60	08.37 (AG10)	19.18			18.31		17.00	54	15.28 (AG08)	17.00	97	15.43 (AG08)
25	06.12			06.42		07.41 (AG10)	07.12			06.44		07.20		11.58 (AG09)	07.44		11.54 (AG09)
	20.46			20.07	57	08.38 (AG10)	19.17			17.30		16.59	61	15.29 (AG08)	17.01	97	15.43 (AG08)
26	06.13			06.43		07.40 (AG10)	07.13			06.45		07.21		11.56 (AG09)	07.45		11.56 (AG09)
	20.45			20.06	58	08.38 (AG10)	19.15			17.28		16.59	66	15.30 (AG08)	17.01	96	15.44 (AG08)
27	06.14		06.58 (AG07)	06.44		07.39 (AG10)	07.14			06.46		07.22		11.55 (AG09)	07.45		11.56 (AG09)
	20.44	10	07.08 (AG07)	20.04	59	08.38 (AG10)	19.13			17.27		16.58	70	15.30 (AG08)	17.02	96	15.44 (AG08)
28	06.15		06.55 (AG07)	06.45		07.39 (AG10)	07.15			06.47		07.23		11.53 (AG09)	07.45		11.56 (AG09)
	20.43	16	07.11 (AG07)	20.03	59	08.38 (AG10)	19.11			17.26		16.58	75	15.31 (AG08)	17.03	95	15.44 (AG08)
29	06.16		06.54 (AG07)	06.46		07.38 (AG10)	07.16			06.48		07.24		11.52 (AG09)	07.46		11.57 (AG09)
	20.42	18	07.12 (AG07)	20.01	61	08.39 (AG10)	19.10			17.24		16.57	77	15.31 (AG08)	17.03	95	15.45 (AG08)
30	06.17		06.52 (AG07)	06.47		07.38 (AG10)	07.17			06.49		07.25		11.51 (AG09)	07.46		11.57 (AG09)
	20.41	22	07.14 (AG07)	20.00	61	08.39 (AG10)	19.08			17.23		16.57	80	15.32 (AG08)	17.04	96	15.45 (AG08)
31	06.18		06.51 (AG07)	06.48		07.37 (AG10)				06.51					07.46		11.59 (AG09)
	20.40	24	07.15 (AG07)	19.58	62	08.39 (AG10)				17.22					17.05	95	15.46 (AG08)
Potential sun hours	458			427			375			346		299			289		
Total, worst case		90			1610			1042					668			2902	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R50 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (166)

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		11.48 (AG01)	07.34	06.58		07.08		07.45 (AG03)	06.23	07.49 (AG03)	05.55
	17.06	153	16.33 (AG02)	17.40	18.13		19.47	82	09.07 (AG03)	20.18	52 08.41 (AG03)	20.47
2	07.47		11.49 (AG01)	07.33	06.57		07.07		07.44 (AG03)	06.22	07.51 (AG03)	05.54
	17.07	152	16.34 (AG02)	17.41	18.15		19.48	83	09.07 (AG03)	20.19	48 08.39 (AG03)	20.48
3	07.47		11.50 (AG01)	07.32	06.55		07.05		07.43 (AG03)	06.21	07.52 (AG03)	05.54
	17.08	151	16.34 (AG02)	17.42	18.16		19.49	83	09.06 (AG03)	20.20	46 08.38 (AG03)	20.48
4	07.47		11.51 (AG01)	07.31	06.54		07.03		07.43 (AG03)	06.19	07.54 (AG03)	05.54
	17.09	150	16.35 (AG02)	17.44	18.17		19.50	83	09.06 (AG03)	20.21	42 08.36 (AG03)	20.49
5	07.47		11.52 (AG01)	07.30	06.52		07.02		07.42 (AG03)	06.18	07.56 (AG03)	05.53
	17.10	149	16.35 (AG02)	17.45	18.18		19.51	84	09.06 (AG03)	20.22	38 08.34 (AG03)	20.50
6	07.47		11.53 (AG01)	07.29	06.51		07.00		07.42 (AG03)	06.17	07.57 (AG03)	05.53
	17.11	147	16.35 (AG02)	17.46	18.19		19.52	84	09.06 (AG03)	20.23	34 08.31 (AG03)	20.50
7	07.47		11.54 (AG01)	07.28	06.49		06.59		07.41 (AG03)	06.16	08.00 (AG03)	05.53
	17.11	146	16.36 (AG02)	17.47	18.20		19.53	84	09.05 (AG03)	20.24	29 08.29 (AG03)	20.51
8	07.47		11.54 (AG01)	07.26	06.48		06.57		07.40 (AG03)	06.15	08.03 (AG03)	05.53
	17.12	145	16.35 (AG02)	17.49	18.21		19.54	84	09.04 (AG03)	20.25	22 08.25 (AG03)	20.52
9	07.47		11.55 (AG01)	07.25	06.46		06.55		07.41 (AG03)	06.14	08.07 (AG03)	05.52
	17.13	144	16.36 (AG02)	17.50	18.22		19.55	83	09.04 (AG03)	20.26	14 08.21 (AG03)	20.52
10	07.46		11.57 (AG01)	07.24	06.44		06.54		07.40 (AG03)	06.12		05.52
	17.14	141	16.36 (AG02)	17.51	18.23		19.56	83	09.03 (AG03)	20.27		20.53
11	07.46		11.58 (AG01)	07.23	06.43		06.52		07.40 (AG03)	06.11		05.52
	17.16	140	16.37 (AG02)	17.52	18.24		19.57	83	09.03 (AG03)	20.28		20.53
12	07.46		11.59 (AG01)	07.22	06.41		07.23 (AG03)	06.51	07.40 (AG03)	06.10		05.52
	17.17	137	16.36 (AG02)	17.53	18.26	18	07.41 (AG03)	19.58	82 09.02 (AG03)	20.29		20.54
13	07.46		12.00 (AG01)	07.21	06.40		07.17 (AG03)	06.49	07.40 (AG03)	06.09		05.52
	17.18	136	16.37 (AG02)	17.55	18.27	29	07.46 (AG03)	19.59	82 09.02 (AG03)	20.30		20.54
14	07.45		12.02 (AG01)	07.19	06.38		07.13 (AG03)	06.48	07.40 (AG03)	06.08		05.52
	17.19	133	16.37 (AG02)	17.56	18.28	36	07.49 (AG03)	20.00	81 09.01 (AG03)	20.31		20.55
15	07.45		12.03 (AG01)	07.18	06.36		07.10 (AG03)	06.46	07.41 (AG03)	06.07		05.52
	17.20	131	16.37 (AG02)	17.57	18.29	43	07.53 (AG03)	20.01	80 09.01 (AG03)	20.32		20.55
16	07.45		12.05 (AG01)	07.17	06.35		07.07 (AG03)	06.44	07.40 (AG03)	06.06		05.52
	17.21	128	16.37 (AG02)	17.58	18.30	48	07.55 (AG03)	20.02	79 08.59 (AG03)	20.33		20.55
17	07.44		12.06 (AG01)	07.15	06.33		07.05 (AG03)	06.43	07.41 (AG03)	06.05		05.52
	17.22	124	16.37 (AG02)	17.59	18.31	52	07.57 (AG03)	20.03	78 08.59 (AG03)	20.34		20.56
18	07.44		12.09 (AG01)	07.14	06.31		07.02 (AG03)	06.41	07.41 (AG03)	06.04		05.52
	17.23	120	16.37 (AG02)	18.01	18.32	57	07.59 (AG03)	20.04	77 08.58 (AG03)	20.35		20.56
19	07.43		12.10 (AG01)	07.13	06.30		07.00 (AG03)	06.40	07.41 (AG03)	06.04		05.52
	17.24	115	16.36 (AG02)	18.02	18.33	60	08.00 (AG03)	20.05	76 08.57 (AG03)	20.36		20.56
20	07.43		12.12 (AG01)	07.11	06.28		06.59 (AG03)	06.38	07.41 (AG03)	06.03		05.52
	17.25	111	16.36 (AG02)	18.03	18.34	63	08.02 (AG03)	20.06	74 08.55 (AG03)	20.37		20.57
21	07.42		12.15 (AG01)	07.10	06.26		06.57 (AG03)	06.37	07.42 (AG03)	06.02		05.52
	17.27	105	16.36 (AG02)	18.04	18.35	65	08.02 (AG03)	20.07	73 08.55 (AG03)	20.38		20.57
22	07.41		12.18 (AG01)	07.09	06.25		06.55 (AG03)	06.36	07.42 (AG03)	06.01		05.52
	17.28	98	16.35 (AG02)	18.05	18.36	68	08.03 (AG03)	20.09	71 08.53 (AG03)	20.39		20.57
23	07.41		12.20 (AG01)	07.07	06.23		06.54 (AG03)	06.34	07.43 (AG03)	06.00		05.53
	17.29	91	16.34 (AG02)	18.06	18.37	70	08.04 (AG03)	20.10	69 08.52 (AG03)	20.39		20.57
24	07.40		12.25 (AG01)	07.06	06.21		06.52 (AG03)	06.33	07.44 (AG03)	06.00		05.53
	17.30	82	16.34 (AG02)	18.08	18.38	73	08.05 (AG03)	20.11	68 08.52 (AG03)	20.40		20.57
25	07.39		12.29 (AG01)	07.04	06.20		06.51 (AG03)	06.31	07.44 (AG03)	05.59		05.53
	17.31	73	16.33 (AG02)	18.09	18.39	74	08.05 (AG03)	20.12	66 08.50 (AG03)	20.41		20.58
26	07.39		12.34 (AG01)	07.03	06.18		06.50 (AG03)	06.30	07.45 (AG03)	05.58		05.54
	17.33	60	16.32 (AG02)	18.10	18.40	76	08.06 (AG03)	20.13	64 08.49 (AG03)	20.42		20.58
27	07.38		12.46 (AG01)	07.01	06.17		06.49 (AG03)	06.29	07.45 (AG03)	05.58		05.54
	17.34	35	16.31 (AG02)	18.11	18.41	77	08.06 (AG03)	20.14	62 08.47 (AG03)	20.43		20.58
28	07.37		16.06 (AG02)	07.00	06.15		06.47 (AG03)	06.27	07.46 (AG03)	05.57		05.54
	17.35	23	16.29 (AG02)	18.12	18.43	79	08.06 (AG03)	20.15	60 08.46 (AG03)	20.44		20.58
29	07.36		16.09 (AG02)		07.13		07.47 (AG03)	06.26	07.47 (AG03)	05.56		05.55
	17.36	17	16.26 (AG02)		19.44	80	09.07 (AG03)	20.16	58 08.45 (AG03)	20.44		20.58
30	07.35		16.13 (AG02)		07.12		07.46 (AG03)	06.25	07.49 (AG03)	05.56		05.55
	17.37	10	16.23 (AG02)		19.45	81	09.07 (AG03)	20.17	54 08.43 (AG03)	20.45		20.58
31	07.35				07.10		07.45 (AG03)			05.55		
	17.39				19.46	81	09.06 (AG03)			20.46		
Potential sun hours	299			298	370			398		447		451
Total, worst case		3347				1230			2270		325	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R50 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (166)

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		07.39 (AG03)	07.18		07.59 (AG03)	06.52			07.26		11.40 (AG01)
	20.58		20.39			19.57	83	09.02 (AG03)	19.07	23	08.22 (AG03)	17.21			16.57	140	16.19 (AG02)
2	05.56		06.20			06.50		07.39 (AG03)	07.19		08.09 (AG03)	06.53			07.27		11.40 (AG01)
	20.58		20.38			19.55	83	09.02 (AG03)	19.05	3	08.12 (AG03)	17.20			16.57	141	16.19 (AG02)
3	05.57		06.21		08.23 (AG03)	06.51		07.39 (AG03)	07.20			06.54			07.28		11.39 (AG01)
	20.57		20.37	3	08.26 (AG03)	19.53	83	09.02 (AG03)	19.03			17.18			16.57	144	16.20 (AG02)
4	05.57		06.22		08.16 (AG03)	06.52		07.38 (AG03)	07.21			06.55			07.29		11.39 (AG01)
	20.57		20.36	18	08.34 (AG03)	19.52	84	09.02 (AG03)	19.02			17.17			16.56	144	16.20 (AG02)
5	05.58		06.23		08.12 (AG03)	06.53		07.37 (AG03)	07.23			06.57			07.30		11.39 (AG01)
	20.57		20.35	25	08.37 (AG03)	19.50	84	09.01 (AG03)	19.00			17.16			16.56	146	16.21 (AG02)
6	05.58		06.24		08.09 (AG03)	06.54		07.37 (AG03)	07.24			06.58			07.31		11.39 (AG01)
	20.57		20.33	31	08.40 (AG03)	19.49	84	09.01 (AG03)	18.59			17.15			16.56	147	16.21 (AG02)
7	05.59		06.25		08.06 (AG03)	06.55		07.37 (AG03)	07.25			06.59			07.32		11.39 (AG01)
	20.56		20.32	35	08.41 (AG03)	19.47	84	09.01 (AG03)	18.57			17.14			16.56	149	16.22 (AG02)
8	05.59		06.26		08.04 (AG03)	06.56		07.37 (AG03)	07.26			07.00			07.33		11.39 (AG01)
	20.56		20.31	40	08.44 (AG03)	19.45	84	09.01 (AG03)	18.55			17.13			16.56	150	16.23 (AG02)
9	06.00		06.27		08.02 (AG03)	06.57		07.37 (AG03)	07.27			07.01			07.34		11.38 (AG01)
	20.56		20.30	43	08.45 (AG03)	19.44	83	09.00 (AG03)	18.54			17.12			16.56	151	16.22 (AG02)
10	06.01		06.28		08.01 (AG03)	06.58		07.37 (AG03)	07.28			07.02			07.35		11.38 (AG01)
	20.55		20.29	46	08.47 (AG03)	19.42	83	09.00 (AG03)	18.52			17.11			16.56	152	16.23 (AG02)
11	06.01		06.29		07.59 (AG03)	06.59		07.37 (AG03)	07.29			07.04			07.36		11.38 (AG01)
	20.55		20.27	50	08.49 (AG03)	19.40	82	08.59 (AG03)	18.51			17.10			16.56	153	16.23 (AG02)
12	06.02		06.30		07.58 (AG03)	07.00		07.37 (AG03)	07.30			07.05		15.44 (AG02)	07.36		11.39 (AG01)
	20.55		20.26	52	08.50 (AG03)	19.39	82	08.59 (AG03)	18.49			17.09	11	15.55 (AG02)	16.56	153	16.24 (AG02)
13	06.03		06.31		07.56 (AG03)	07.01		07.37 (AG03)	07.31			07.06		15.41 (AG02)	07.37		11.39 (AG01)
	20.54		20.25	55	08.51 (AG03)	19.37	81	08.58 (AG03)	18.47			17.08	18	15.59 (AG02)	16.56	154	16.25 (AG02)
14	06.04		06.32		07.55 (AG03)	07.02		07.37 (AG03)	07.32			07.07		15.39 (AG02)	07.38		11.39 (AG01)
	20.54		20.23	58	08.53 (AG03)	19.35	80	08.57 (AG03)	18.46			17.07	23	16.02 (AG02)	16.56	154	16.24 (AG02)
15	06.04		06.33		07.54 (AG03)	07.03		07.38 (AG03)	07.33			07.08		12.18 (AG01)	07.39		11.39 (AG01)
	20.53		20.22	60	08.54 (AG03)	19.34	78	08.56 (AG03)	18.44			17.06	37	16.04 (AG02)	16.57	155	16.25 (AG02)
16	06.05		06.34		07.52 (AG03)	07.04		07.38 (AG03)	07.34			07.10		12.07 (AG01)	07.39		11.40 (AG01)
	20.52		20.21	63	08.55 (AG03)	19.32	78	08.56 (AG03)	18.43			17.05	61	16.05 (AG02)	16.57	155	16.26 (AG02)
17	06.06		06.35		07.51 (AG03)	07.05		07.38 (AG03)	07.35			07.11		12.02 (AG01)	07.40		11.39 (AG01)
	20.52		20.19	65	08.56 (AG03)	19.30	77	08.55 (AG03)	18.41			17.05	73	16.06 (AG02)	16.57	155	16.26 (AG02)
18	06.07		06.35		07.50 (AG03)	07.06		07.39 (AG03)	07.36			07.12		11.59 (AG01)	07.41		11.40 (AG01)
	20.51		20.18	67	08.57 (AG03)	19.29	74	08.53 (AG03)	18.40			17.04	82	16.08 (AG02)	16.58	156	16.27 (AG02)
19	06.07		06.36		07.49 (AG03)	07.07		07.40 (AG03)	07.37			07.13		11.55 (AG01)	07.41		11.41 (AG01)
	20.51		20.16	69	08.58 (AG03)	19.27	72	08.52 (AG03)	18.38			17.03	91	16.09 (AG02)	16.58	156	16.28 (AG02)
20	06.08		06.37		07.48 (AG03)	07.08		07.40 (AG03)	07.38			07.14		11.53 (AG01)	07.42		11.41 (AG01)
	20.50		20.15	70	08.58 (AG03)	19.25	71	08.51 (AG03)	18.37			17.02	98	16.10 (AG02)	16.58	155	16.27 (AG02)
21	06.09		06.38		07.47 (AG03)	07.09		07.40 (AG03)	07.39			07.15		11.50 (AG01)	07.43		11.42 (AG01)
	20.49		20.14	72	08.59 (AG03)	19.23	69	08.49 (AG03)	18.35			17.02	105	16.11 (AG02)	16.59	155	16.28 (AG02)
22	06.10		06.39		07.46 (AG03)	07.10		07.41 (AG03)	07.41			07.16		11.48 (AG01)	07.43		11.42 (AG01)
	20.48		20.12	73	08.59 (AG03)	19.22	66	08.47 (AG03)	18.34			17.01	111	16.12 (AG02)	16.59	155	16.28 (AG02)
23	06.11		06.40		07.45 (AG03)	07.10		07.42 (AG03)	07.42			07.18		11.47 (AG01)	07.44		11.43 (AG01)
	20.48		20.11	74	08.59 (AG03)	19.20	63	08.45 (AG03)	18.33			17.00	115	16.13 (AG02)	17.00	155	16.29 (AG02)
24	06.12		06.41		07.44 (AG03)	07.11		07.43 (AG03)	07.43			07.19		11.46 (AG01)	07.44		11.43 (AG01)
	20.47		20.09	76	09.00 (AG03)	19.18	61	08.44 (AG03)	18.31			17.00	120	16.14 (AG02)	17.00	156	16.30 (AG02)
25	06.13		06.42		07.43 (AG03)	07.12		07.44 (AG03)	06.44			07.20		11.44 (AG01)	07.45		11.43 (AG01)
	20.46		20.08	77	09.00 (AG03)	19.17	58	08.42 (AG03)	17.30			16.59	124	16.15 (AG02)	17.01	156	16.30 (AG02)
26	06.13		06.43		07.43 (AG03)	07.13		07.46 (AG03)	06.45			07.21		11.43 (AG01)	07.45		11.44 (AG01)
	20.45		20.06	78	09.01 (AG03)	19.15	53	08.39 (AG03)	17.29			16.59	127	16.15 (AG02)	17.02	155	16.31 (AG02)
27	06.14		06.44		07.42 (AG03)	07.14		07.48 (AG03)	06.46			07.22		11.42 (AG01)	07.45		11.45 (AG01)
	20.44		20.04	79	09.01 (AG03)	19.13	49	08.37 (AG03)	17.27			16.58	131	16.16 (AG02)	17.02	155	16.31 (AG02)
28	06.15		06.45		07.41 (AG03)	07.15		07.50 (AG03)	06.47			07.23		11.41 (AG01)	07.46		11.45 (AG01)
	20.43		20.03	81	09.02 (AG03)	19.12	44	08.34 (AG03)	17.26			16.58	133	16.16 (AG02)	17.03	155	16.31 (AG02)
29	06.16		06.46		07.41 (AG03)	07.16		07.52 (AG03)	06.48			07.24		11.40 (AG01)	07.46		11.45 (AG01)
	20.42		20.01	81	09.02 (AG03)	19.10	39	08.31 (AG03)	17.25			16.58	136	16.17 (AG02)	17.04	155	16.31 (AG02)
30	06.17		06.47		07.40 (AG03)	07.17		07.55 (AG03)	06.50			07.25		11.41 (AG01)	07.46		11.47 (AG01)
	20.41		20.00	82	09.02 (AG03)	19.08	32	08.27 (AG03)	17.23			16.57	137	16.18 (AG02)	17.04	154	16.33 (AG02)
31	06.18		06.48		07.40 (AG03)				06.51						07.46		11.47 (AG01)
	20.40		19.58	82	09.02 (AG03)				17.22						17.05	154	16.33 (AG02)
Potential sun hours	457		427			375			346			299			289		
Total, worst case				1705			2144			26			1733			4715	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R51 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (167)

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		13.27 (AG01)	07.34		16.25 (AG02)	06.58		07.49 (AG03)	07.08		08.09 (AG03)	06.23		08.14 (AG03)	05.55		
	17.06	124	16.41 (AG02)	17.40	19	16.44 (AG02)	18.13	56	08.45 (AG03)	19.47	115	10.04 (AG03)	20.18	78	09.32 (AG03)	20.47		
2	07.47		13.28 (AG01)	07.33		16.27 (AG02)	06.57		07.47 (AG03)	07.07		08.09 (AG03)	06.22		08.15 (AG03)	05.54		
	17.07	122	16.41 (AG02)	17.41	14	16.41 (AG02)	18.14	61	08.48 (AG03)	19.48	114	10.03 (AG03)	20.19	76	09.31 (AG03)	20.48		
3	07.47		13.29 (AG01)	07.32			06.55		07.44 (AG03)	07.05		08.08 (AG03)	06.21		08.16 (AG03)	05.54		
	17.08	122	16.42 (AG02)	17.42			18.16	66	08.50 (AG03)	19.49	114	10.02 (AG03)	20.20	74	09.30 (AG03)	20.48		
4	07.47		13.30 (AG01)	07.31			06.54		07.42 (AG03)	07.03		08.08 (AG03)	06.19		08.17 (AG03)	05.54		
	17.09	123	16.43 (AG02)	17.44			18.17	70	08.52 (AG03)	19.50	114	10.02 (AG03)	20.21	71	09.28 (AG03)	20.49		
5	07.47		13.31 (AG01)	07.30			06.52		07.39 (AG03)	07.02		08.07 (AG03)	06.18		08.19 (AG03)	05.53		
	17.10	122	16.44 (AG02)	17.45			18.18	75	08.54 (AG03)	19.51	114	10.01 (AG03)	20.22	68	09.27 (AG03)	20.50		
6	07.47		13.32 (AG01)	07.29			06.51		07.37 (AG03)	07.00		08.08 (AG03)	06.17		08.19 (AG03)	05.53		
	17.11	122	16.45 (AG02)	17.46			18.19	78	08.55 (AG03)	19.52	113	10.01 (AG03)	20.23	66	09.25 (AG03)	20.50		
7	07.47		13.33 (AG01)	07.28			06.49		07.35 (AG03)	06.59		08.07 (AG03)	06.16		08.20 (AG03)	05.53		
	17.11	121	16.46 (AG02)	17.47			18.20	82	08.57 (AG03)	19.53	113	10.00 (AG03)	20.24	63	09.23 (AG03)	20.51		
8	07.47		13.33 (AG01)	07.26			06.48		07.33 (AG03)	06.57		08.07 (AG03)	06.15		08.21 (AG03)	05.52		
	17.12	122	16.47 (AG02)	17.49			18.21	85	08.58 (AG03)	19.54	112	09.59 (AG03)	20.25	61	09.22 (AG03)	20.52		
9	07.47		13.34 (AG01)	07.25			06.46		07.32 (AG03)	06.55		08.07 (AG03)	06.14		08.23 (AG03)	05.52		
	17.13	121	16.48 (AG02)	17.50			18.22	88	09.00 (AG03)	19.55	111	09.58 (AG03)	20.26	57	09.20 (AG03)	20.52		
10	07.46		13.36 (AG01)	07.24			06.44		07.30 (AG03)	06.54		08.06 (AG03)	06.12		08.24 (AG03)	05.52		
	17.14	120	16.49 (AG02)	17.51			18.23	90	09.00 (AG03)	19.56	111	09.57 (AG03)	20.27	54	09.18 (AG03)	20.53		
11	07.46		13.37 (AG01)	07.23			06.43		07.28 (AG03)	06.52		08.07 (AG03)	06.11		08.26 (AG03)	05.52		
	17.16	120	16.50 (AG02)	17.52			18.24	93	09.01 (AG03)	19.57	110	09.57 (AG03)	20.28	51	09.17 (AG03)	20.53		
12	07.46		13.38 (AG01)	07.22			06.41		07.27 (AG03)	06.51		08.07 (AG03)	06.10		08.27 (AG03)	05.52		
	17.17	117	16.49 (AG02)	17.53			18.26	96	09.03 (AG03)	19.58	108	09.55 (AG03)	20.29	48	09.15 (AG03)	20.54		
13	07.46		13.40 (AG01)	07.21			06.40		07.25 (AG03)	06.49		08.07 (AG03)	06.09		08.29 (AG03)	05.52		
	17.18	115	16.50 (AG02)	17.55			18.27	98	09.03 (AG03)	19.59	108	09.55 (AG03)	20.30	44	09.13 (AG03)	20.54		
14	07.45		13.41 (AG01)	07.19			06.38		07.24 (AG03)	06.48		08.07 (AG03)	06.08		08.31 (AG03)	05.52		
	17.19	115	16.51 (AG02)	17.56			18.28	99	09.03 (AG03)	20.00	106	09.53 (AG03)	20.31	40	09.11 (AG03)	20.55		
15	07.45		13.42 (AG01)	07.18			06.36		07.23 (AG03)	06.46		08.07 (AG03)	06.07		08.33 (AG03)	05.52		
	17.20	113	16.51 (AG02)	17.57			18.29	102	09.05 (AG03)	20.01	106	09.53 (AG03)	20.32	36	09.09 (AG03)	20.55		
16	07.45		13.44 (AG01)	07.17			06.35		07.21 (AG03)	06.44		08.07 (AG03)	06.06		08.35 (AG03)	05.52		
	17.21	110	16.51 (AG02)	17.58			18.30	104	09.05 (AG03)	20.02	104	09.51 (AG03)	20.33	31	09.06 (AG03)	20.55		
17	07.44		13.45 (AG01)	07.15			06.33		07.21 (AG03)	06.43		08.08 (AG03)	06.05		08.38 (AG03)	05.52		
	17.22	108	16.51 (AG02)	17.59			18.31	105	09.06 (AG03)	20.03	102	09.50 (AG03)	20.34	26	09.04 (AG03)	20.56		
18	07.44		13.48 (AG01)	07.14			06.31		07.19 (AG03)	06.41		08.07 (AG03)	06.04		08.42 (AG03)	05.52		
	17.23	104	16.52 (AG02)	18.01			18.32	107	09.06 (AG03)	20.04	102	09.49 (AG03)	20.35	18	09.00 (AG03)	20.56		
19	07.43		13.49 (AG01)	07.13			06.30		07.18 (AG03)	06.40		08.08 (AG03)	06.04		08.47 (AG03)	05.52		
	17.24	101	16.51 (AG02)	18.02			18.33	108	09.06 (AG03)	20.05	100	09.48 (AG03)	20.36	7	08.54 (AG03)	20.56		
20	07.43		13.51 (AG01)	07.11			06.28		07.18 (AG03)	06.38		08.08 (AG03)	06.03			05.52		
	17.25	97	16.51 (AG02)	18.03			18.34	109	09.07 (AG03)	20.06	98	09.46 (AG03)	20.37			20.57		
21	07.42		13.54 (AG01)	07.10			06.26		07.16 (AG03)	06.37		08.09 (AG03)	06.02			05.52		
	17.27	93	16.52 (AG02)	18.04			18.35	111	09.07 (AG03)	20.07	97	09.46 (AG03)	20.38			20.57		
22	07.41		13.56 (AG01)	07.09			06.25		07.15 (AG03)	06.36		08.08 (AG03)	06.01			05.52		
	17.28	89	16.51 (AG02)	18.05			18.36	111	09.06 (AG03)	20.09	96	09.44 (AG03)	20.39			20.57		
23	07.41		13.58 (AG01)	07.07			06.23		07.15 (AG03)	06.34		08.09 (AG03)	06.00			05.53		
	17.29	84	16.51 (AG02)	18.06			18.37	112	09.07 (AG03)	20.10	94	09.43 (AG03)	20.39			20.57		
24	07.40		14.02 (AG01)	07.06			06.21		07.14 (AG03)	06.33		08.10 (AG03)	06.00			05.53		
	17.30	77	16.51 (AG02)	18.08			18.38	113	09.07 (AG03)	20.11	92	09.42 (AG03)	20.40			20.57		
25	07.39		14.06 (AG01)	07.04		08.08 (AG03)	06.20		07.13 (AG03)	06.31		08.10 (AG03)	05.59			05.53		
	17.31	70	16.51 (AG02)	18.09	19	08.27 (AG03)	18.39	113	09.06 (AG03)	20.12	90	09.40 (AG03)	20.41			20.58		
26	07.39		14.10 (AG01)	07.03		08.01 (AG03)	06.18		07.13 (AG03)	06.30		08.11 (AG03)	05.58			05.54		
	17.33	60	16.50 (AG02)	18.10	33	08.34 (AG03)	18.40	114	09.07 (AG03)	20.13	88	09.39 (AG03)	20.42			20.58		
27	07.38		14.17 (AG01)	07.01		07.56 (AG03)	06.17		07.12 (AG03)	06.29		08.11 (AG03)	05.58			05.54		
	17.34	45	16.49 (AG02)	18.11	42	08.38 (AG03)	18.41	114	09.06 (AG03)	20.14	86	09.37 (AG03)	20.43			20.58		
28	07.37		16.17 (AG02)	07.00		07.53 (AG03)	06.15		07.11 (AG03)	06.27		08.12 (AG03)	05.57			05.54		
	17.35	31	16.48 (AG02)	18.12	49	08.42 (AG03)	18.43	114	09.05 (AG03)	20.15	84	09.36 (AG03)	20.44			20.58		
29	07.36		16.18 (AG02)				07.13		08.11 (AG03)	06.26		08.13 (AG03)	05.56			05.55		
	17.36	29	16.47 (AG02)				19.44	115	10.06 (AG03)	20.16	82	09.35 (AG03)	20.44			20.58		
30	07.35		16.20 (AG02)				07.12		08.10 (AG03)	06.25		08.14 (AG03)	05.56			05.55		
	17.37	26	16.46 (AG02)				19.45	115	10.05 (AG03)	20.17	80	09.34 (AG03)	20.45			20.58		
31	07.35		16.22 (AG02)				07.10		08.09 (AG03)				05.55					
	17.39	24	16.46 (AG02)				19.46	115	10.04 (AG03)				20.46					
Potential sun hours	299			298			370			398			447			451		
Total, worst case		2947			176			3019			3064			969				

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R51 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (167)

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			08.37 (AG03)	06.49		08.06 (AG03)	07.18		08.05 (AG03)	06.52			07.26		13.19 (AG01)
	20.58			20.39	49		09.26 (AG03)	19.57	110	09.56 (AG03)	19.07	97	09.42 (AG03)	17.21			16.57	120	16.32 (AG02)
2	05.56			06.20			08.36 (AG03)	06.50		08.05 (AG03)	07.19		08.06 (AG03)	06.53			07.27		13.19 (AG01)
	20.58			20.38	52		09.28 (AG03)	19.55	111	09.56 (AG03)	19.05	94	09.40 (AG03)	17.20			16.57	120	16.32 (AG02)
3	05.57			06.21			08.34 (AG03)	06.51		08.05 (AG03)	07.20		08.07 (AG03)	06.54			07.28		13.18 (AG01)
	20.57			20.37	56		09.30 (AG03)	19.53	111	09.56 (AG03)	19.03	92	09.39 (AG03)	17.18			16.57	121	16.32 (AG02)
4	05.57			06.22			08.33 (AG03)	06.52		08.05 (AG03)	07.21		08.08 (AG03)	06.55			07.29		13.18 (AG01)
	20.57			20.36	58		09.31 (AG03)	19.52	112	09.57 (AG03)	19.02	89	09.37 (AG03)	17.17			16.56	122	16.32 (AG02)
5	05.58			06.23			08.32 (AG03)	06.53		08.03 (AG03)	07.23		08.09 (AG03)	06.57			07.30		13.18 (AG01)
	20.57			20.35	61		09.33 (AG03)	19.50	113	09.56 (AG03)	19.00	86	09.35 (AG03)	17.16			16.56	121	16.31 (AG02)
6	05.58			06.24			08.30 (AG03)	06.54		08.03 (AG03)	07.24		08.10 (AG03)	06.58			07.31		13.18 (AG01)
	20.57			20.33	64		09.34 (AG03)	19.49	113	09.56 (AG03)	18.59	83	09.33 (AG03)	17.15			16.56	122	16.31 (AG02)
7	05.59			06.25			08.28 (AG03)	06.55		08.02 (AG03)	07.25		08.11 (AG03)	06.59			07.32		13.18 (AG01)
	20.56			20.32	67		09.35 (AG03)	19.47	114	09.56 (AG03)	18.57	80	09.31 (AG03)	17.14			16.56	122	16.31 (AG02)
8	05.59			06.26			08.27 (AG03)	06.56		08.02 (AG03)	07.26		08.14 (AG03)	07.00		16.02 (AG02)	07.33		13.18 (AG01)
	20.56			20.31	69		09.36 (AG03)	19.45	114	09.56 (AG03)	18.55	76	09.30 (AG03)	17.13	5	16.07 (AG02)	16.56	123	16.31 (AG02)
9	06.00			06.27			08.26 (AG03)	06.57		08.02 (AG03)	07.27		08.15 (AG03)	07.01		15.57 (AG02)	07.34		13.17 (AG01)
	20.56			20.30	71		09.37 (AG03)	19.44	114	09.56 (AG03)	18.54	73	09.28 (AG03)	17.12	15	16.12 (AG02)	16.56	122	16.30 (AG02)
10	06.01			06.28			08.25 (AG03)	06.58		08.02 (AG03)	07.28		08.17 (AG03)	07.02		15.55 (AG02)	07.35		13.17 (AG01)
	20.55			20.29	74		09.39 (AG03)	19.42	114	09.56 (AG03)	18.52	69	09.26 (AG03)	17.11	20	16.15 (AG02)	16.56	122	16.30 (AG02)
11	06.01			06.29			08.23 (AG03)	06.59		08.01 (AG03)	07.29		08.19 (AG03)	07.04		15.53 (AG02)	07.36		13.17 (AG01)
	20.55			20.27	77		09.40 (AG03)	19.40	115	09.56 (AG03)	18.51	64	09.23 (AG03)	17.10	24	16.17 (AG02)	16.56	124	16.31 (AG02)
12	06.02			06.30			08.22 (AG03)	07.00		08.01 (AG03)	07.30		08.21 (AG03)	07.05		15.51 (AG02)	07.36		13.18 (AG01)
	20.55			20.26	79		09.41 (AG03)	19.39	115	09.56 (AG03)	18.49	59	09.20 (AG03)	17.09	27	16.18 (AG02)	16.56	123	16.31 (AG02)
13	06.03			06.31			08.21 (AG03)	07.01		08.01 (AG03)	07.31		08.24 (AG03)	07.06		15.50 (AG02)	07.37		13.18 (AG01)
	20.54			20.25	81		09.42 (AG03)	19.37	115	09.56 (AG03)	18.47	53	09.17 (AG03)	17.08	29	16.19 (AG02)	16.56	123	16.31 (AG02)
14	06.04			06.32			08.20 (AG03)	07.02		08.01 (AG03)	07.32		08.27 (AG03)	07.07		15.50 (AG02)	07.38		13.18 (AG01)
	20.54			20.23	83		09.43 (AG03)	19.35	115	09.56 (AG03)	18.46	46	09.13 (AG03)	17.07	31	16.21 (AG02)	16.56	123	16.31 (AG02)
15	06.04			06.33			08.19 (AG03)	07.03		08.01 (AG03)	07.33		08.30 (AG03)	07.08		13.49 (AG01)	07.39		13.18 (AG01)
	20.53			20.22	85		09.44 (AG03)	19.34	115	09.56 (AG03)	18.44	39	09.09 (AG03)	17.06	46	16.22 (AG02)	16.57	124	16.31 (AG02)
16	06.05			06.34			08.18 (AG03)	07.04		08.01 (AG03)	07.34		08.35 (AG03)	07.10		13.43 (AG01)	07.39		13.19 (AG01)
	20.52			20.21	87		09.45 (AG03)	19.32	114	09.55 (AG03)	18.43	28	09.03 (AG03)	17.05	60	16.23 (AG02)	16.57	123	16.32 (AG02)
17	06.06			06.35			08.18 (AG03)	07.05		08.01 (AG03)	07.35		08.44 (AG03)	07.11		13.39 (AG01)	07.40		13.18 (AG01)
	20.52			20.19	88		09.46 (AG03)	19.30	114	09.55 (AG03)	18.41	9	08.53 (AG03)	17.05	70	16.24 (AG02)	16.57	123	16.31 (AG02)
18	06.07			06.35			08.17 (AG03)	07.06		08.01 (AG03)	07.36			07.12		13.36 (AG01)	07.41		13.19 (AG01)
	20.51			20.18	90		09.47 (AG03)	19.29	113	09.54 (AG03)	18.40			17.04	77	16.25 (AG02)	16.58	123	16.32 (AG02)
19	06.07			06.36			08.16 (AG03)	07.07		08.01 (AG03)	07.37			07.13		13.33 (AG01)	07.41		13.20 (AG01)
	20.51			20.16	92		09.48 (AG03)	19.27	113	09.54 (AG03)	18.38			17.03	84	16.26 (AG02)	16.58	123	16.33 (AG02)
20	06.08			06.37			08.15 (AG03)	07.08		08.01 (AG03)	07.38			07.14		13.31 (AG01)	07.42		13.20 (AG01)
	20.50			20.15	94		09.49 (AG03)	19.25	112	09.53 (AG03)	18.37			17.02	89	16.26 (AG02)	16.58	123	16.33 (AG02)
21	06.09			06.38			08.14 (AG03)	07.09		08.00 (AG03)	07.39			07.15		13.29 (AG01)	07.43		13.21 (AG01)
	20.49			20.14	96		09.50 (AG03)	19.23	112	09.52 (AG03)	18.35			17.02	93	16.27 (AG02)	16.59	123	16.34 (AG02)
22	06.10			06.39			08.12 (AG03)	07.10		08.01 (AG03)	07.41			07.16		13.27 (AG01)	07.43		13.21 (AG01)
	20.48			20.12	98		09.50 (AG03)	19.22	110	09.51 (AG03)	18.34			17.01	97	16.27 (AG02)	16.59	123	16.34 (AG02)
23	06.11			06.40			08.12 (AG03)	07.10		08.01 (AG03)	07.42			07.18		13.26 (AG01)	07.44		13.22 (AG01)
	20.47			20.11	98		09.50 (AG03)	19.20	109	09.50 (AG03)	18.33			17.00	101	16.28 (AG02)	17.00	123	16.35 (AG02)
24	06.12			06.41			08.11 (AG03)	07.11		08.01 (AG03)	07.43			07.19		13.25 (AG01)	07.44		13.22 (AG01)
	20.47			20.09	100		09.51 (AG03)	19.18	109	09.50 (AG03)	18.31			17.00	104	16.29 (AG02)	17.00	123	16.35 (AG02)
25	06.13		08.55 (AG03)	06.42			08.10 (AG03)	07.12		08.02 (AG03)	06.44			07.20		13.23 (AG01)	07.44		13.22 (AG01)
	20.46	13	09.08 (AG03)	20.08	102		09.52 (AG03)	19.17	107	09.49 (AG03)	17.30			16.59	108	16.29 (AG02)	17.01	123	16.35 (AG02)
26	06.13		08.51 (AG03)	06.43			08.09 (AG03)	07.13		08.02 (AG03)	06.45			07.21		13.22 (AG01)	07.45		13.23 (AG01)
	20.45	22	09.13 (AG03)	20.06	103		09.52 (AG03)	19.15	106	09.48 (AG03)	17.29			16.59	110	16.29 (AG02)	17.02	123	16.36 (AG02)
27	06.14		08.47 (AG03)	06.44			08.09 (AG03)	07.14		08.03 (AG03)	06.46			07.22		13.21 (AG01)	07.45		13.23 (AG01)
	20.44	28	09.15 (AG03)	20.04	104		09.53 (AG03)	19.13	104	09.47 (AG03)	17.27			16.58	113	16.30 (AG02)	17.02	124	16.37 (AG02)
28	06.15		08.44 (AG03)	06.45			08.08 (AG03)	07.15		08.03 (AG03)	06.47			07.23		13.20 (AG01)	07.46		13.24 (AG01)
	20.43	34	09.18 (AG03)	20.03	106		09.54 (AG03)	19.12	103	09.46 (AG03)	17.26			16.58	115	16.30 (AG02)	17.03	124	16.37 (AG02)
29	06.16		08.42 (AG03)	06.46			08.08 (AG03)	07.16		08.04 (AG03)	06.48			07.24		13.20 (AG01)	07.46		13.24 (AG01)
	20.42	38	09.20 (AG03)	20.01	106		09.54 (AG03)	19.10	100	09.44 (AG03)	17.25			16.58	115	16.30 (AG02)	17.04	123	16.37 (AG02)
30	06.17		08.40 (AG03)	06.47			08.07 (AG03)	07.17		08.04 (AG03)	06.50			07.25		13.20 (AG01)	07.46		13.26 (AG01)
	20.41	42	09.22 (AG03)	20.00	108		09.55 (AG03)	19.08	99	09.43 (AG03)	17.23			16.57	117	16.31 (AG02)	17.04	123	16.39 (AG02)
31	06.18		08.39 (AG03)	06.48			08.06 (AG03)				06.51						07.46		13.26 (AG01)
	20.40	45	09.24 (AG03)	19.58	109		09.55 (AG03)				17.22						17.05	124	16.40 (AG02)
Potential sun hours	457			427				375			346			299			289		
Total, worst case		222			2607				3326			1137			1650			3803	

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 88

Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R52 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (169)

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 (AG03)	07.34		08.04 (AG03)	06.58		08.14 (AG03)	07.08			06.23			05.55		06.16 (AG014)
	17.06	55	09.04 (AG03)	17.40	85	09.29 (AG03)	18.13	58	09.12 (AG03)	19.47			20.18			20.47	28	06.44 (AG014)
2	07.47		08.09 (AG03)	07.33		08.04 (AG03)	06.57		08.16 (AG03)	07.07			06.22			05.54		06.16 (AG014)
	17.07	56	09.05 (AG03)	17.41	86	09.30 (AG03)	18.14	55	09.11 (AG03)	19.48			20.19			20.48	28	06.44 (AG014)
3	07.47		08.09 (AG03)	07.32		08.04 (AG03)	06.55		08.17 (AG03)	07.05			06.21			05.54		06.15 (AG014)
	17.08	57	09.06 (AG03)	17.42	86	09.30 (AG03)	18.16	51	09.08 (AG03)	19.49			20.20			20.48	29	06.44 (AG014)
4	07.47		08.09 (AG03)	07.31		08.03 (AG03)	06.54		08.20 (AG03)	07.03			06.19			05.54		06.15 (AG014)
	17.09	58	09.07 (AG03)	17.44	86	09.29 (AG03)	18.17	46	09.06 (AG03)	19.50			20.21			20.49	29	06.44 (AG014)
5	07.47		08.09 (AG03)	07.30		08.03 (AG03)	06.52		08.21 (AG03)	07.02			06.18			05.53		06.15 (AG014)
	17.10	59	09.08 (AG03)	17.45	86	09.29 (AG03)	18.18	42	09.03 (AG03)	19.51			20.22			20.50	30	06.45 (AG014)
6	07.47		08.09 (AG03)	07.29		08.03 (AG03)	06.51		08.23 (AG03)	07.00			06.17			05.53		06.15 (AG014)
	17.11	60	09.09 (AG03)	17.46	87	09.30 (AG03)	18.19	36	08.59 (AG03)	19.52			20.23			20.50	30	06.45 (AG014)
7	07.47		08.09 (AG03)	07.28		08.03 (AG03)	06.49		08.27 (AG03)	06.59			06.16			05.53		06.14 (AG014)
	17.11	61	09.10 (AG03)	17.47	87	09.30 (AG03)	18.20	29	08.56 (AG03)	19.53			20.24			20.51	31	06.45 (AG014)
8	07.47		08.08 (AG03)	07.26		08.03 (AG03)	06.48		08.31 (AG03)	06.57			06.15			05.52		06.14 (AG014)
	17.12	62	09.10 (AG03)	17.49	87	09.30 (AG03)	18.21	19	08.50 (AG03)	19.54			20.25			20.52	31	06.45 (AG014)
9	07.47		08.08 (AG03)	07.25		08.04 (AG03)	06.46			06.55			06.14			05.52		06.14 (AG014)
	17.13	64	09.12 (AG03)	17.50	86	09.30 (AG03)	18.22			19.55			20.26			20.52	31	06.45 (AG014)
10	07.46		08.08 (AG03)	07.24		08.04 (AG03)	06.44			06.54			06.12			05.52		06.14 (AG014)
	17.14	65	09.13 (AG03)	17.51	86	09.30 (AG03)	18.23			19.56			20.27			20.53	32	06.46 (AG014)
11	07.46		08.08 (AG03)	07.23		08.03 (AG03)	06.43			06.52			06.11			05.52		06.14 (AG014)
	17.15	66	09.14 (AG03)	17.52	86	09.29 (AG03)	18.24			19.57			20.28			20.53	32	06.46 (AG014)
12	07.46		08.07 (AG03)	07.22		08.04 (AG03)	06.41			06.51			06.10			05.52		06.14 (AG014)
	17.17	67	09.14 (AG03)	17.53	85	09.29 (AG03)	18.26			19.58			20.29			20.54	32	06.46 (AG014)
13	07.46		08.07 (AG03)	07.21		08.04 (AG03)	06.40			06.49			06.09			05.52		06.14 (AG014)
	17.18	69	09.16 (AG03)	17.55	85	09.29 (AG03)	18.27			19.59			20.30			20.54	32	06.46 (AG014)
14	07.45		08.07 (AG03)	07.19		08.05 (AG03)	06.38			06.48			06.08			05.52		06.14 (AG014)
	17.19	70	09.17 (AG03)	17.56	84	09.29 (AG03)	18.28			20.00			20.31			20.55	33	06.47 (AG014)
15	07.45		08.06 (AG03)	07.18		08.04 (AG03)	06.36			06.46			06.07		06.27 (AG014)	05.52		06.14 (AG014)
	17.20	71	09.17 (AG03)	17.57	84	09.28 (AG03)	18.29			20.01			20.32	3	06.30 (AG014)	20.55	33	06.47 (AG014)
16	07.45		08.06 (AG03)	07.17		08.05 (AG03)	06.35			06.44			06.06		06.26 (AG014)	05.52		06.14 (AG014)
	17.21	73	09.19 (AG03)	17.58	83	09.28 (AG03)	18.30			20.02			20.33	6	06.32 (AG014)	20.55	33	06.47 (AG014)
17	07.44		08.05 (AG03)	07.15		08.06 (AG03)	06.33			06.43			06.05		06.26 (AG014)	05.52		06.14 (AG014)
	17.22	74	09.19 (AG03)	17.59	81	09.27 (AG03)	18.31			20.03			20.34	9	06.35 (AG014)	20.56	33	06.47 (AG014)
18	07.44		08.06 (AG03)	07.14		08.05 (AG03)	06.31			06.41			06.04		06.25 (AG014)	05.52		06.14 (AG014)
	17.23	74	09.20 (AG03)	18.01	81	09.26 (AG03)	18.32			20.04			20.35	11	06.36 (AG014)	20.56	33	06.47 (AG014)
19	07.43		08.05 (AG03)	07.13		08.06 (AG03)	06.30			06.40			06.04		06.24 (AG014)	05.52		06.14 (AG014)
	17.24	76	09.21 (AG03)	18.02	80	09.26 (AG03)	18.33			20.05			20.36	13	06.37 (AG014)	20.56	33	06.47 (AG014)
20	07.43		08.04 (AG03)	07.11		08.06 (AG03)	06.28			06.38			06.03		06.23 (AG014)	05.52		06.14 (AG014)
	17.25	77	09.21 (AG03)	18.03	78	09.24 (AG03)	18.34			20.06			20.37	15	06.38 (AG014)	20.57	33	06.47 (AG014)
21	07.42		08.05 (AG03)	07.10		08.07 (AG03)	06.26			06.37			06.02		06.22 (AG014)	05.52		06.14 (AG014)
	17.27	78	09.23 (AG03)	18.04	77	09.24 (AG03)	18.35			20.07			20.38	17	06.39 (AG014)	20.57	33	06.47 (AG014)
22	07.42		08.04 (AG03)	07.09		08.08 (AG03)	06.25			06.36			06.01		06.22 (AG014)	05.52		06.15 (AG014)
	17.28	79	09.23 (AG03)	18.05	75	09.23 (AG03)	18.36			20.09			20.39	18	06.40 (AG014)	20.57	33	06.48 (AG014)
23	07.41		08.04 (AG03)	07.07		08.08 (AG03)	06.23			06.34			06.00		06.21 (AG014)	05.53		06.15 (AG014)
	17.29	80	09.24 (AG03)	18.06	73	09.21 (AG03)	18.37			20.10			20.39	19	06.40 (AG014)	20.57	33	06.48 (AG014)
24	07.40		08.05 (AG03)	07.06		08.10 (AG03)	06.21			06.33			06.00		06.20 (AG014)	05.53		06.15 (AG014)
	17.30	80	09.25 (AG03)	18.08	71	09.21 (AG03)	18.38			20.11			20.40	21	06.41 (AG014)	20.57	33	06.48 (AG014)
25	07.39		08.04 (AG03)	07.04		08.10 (AG03)	06.20			06.31			05.59		06.20 (AG014)	05.53		06.15 (AG014)
	17.31	81	09.25 (AG03)	18.09	69	09.19 (AG03)	18.39			20.12			20.41	22	06.42 (AG014)	20.58	33	06.48 (AG014)
26	07.39		08.04 (AG03)	07.03		08.11 (AG03)	06.18			06.30			05.58		06.19 (AG014)	05.54		06.16 (AG014)
	17.33	82	09.26 (AG03)	18.10	67	09.18 (AG03)	18.40			20.13			20.42	23	06.42 (AG014)	20.58	33	06.49 (AG014)
27	07.38		08.03 (AG03)	07.01		08.12 (AG03)	06.17			06.29			05.58		06.19 (AG014)	05.54		06.16 (AG014)
	17.34	83	09.26 (AG03)	18.11	64	09.16 (AG03)	18.41			20.14			20.43	24	06.43 (AG014)	20.58	33	06.49 (AG014)
28	07.37		08.03 (AG03)	07.00		08.14 (AG03)	06.15			06.27			05.57		06.18 (AG014)	05.54		06.17 (AG014)
	17.35	84	09.27 (AG03)	18.12	60	09.14 (AG03)	18.43			20.15			20.44	25	06.43 (AG014)	20.58	33	06.50 (AG014)
29	07.36		08.03 (AG03)				07.13			06.26			05.56		06.18 (AG014)	05.55		06.17 (AG014)
	17.36	84	09.27 (AG03)				19.44			20.16			20.44	26	06.44 (AG014)	20.58	32	06.49 (AG014)
30	07.35		08.03 (AG03)				07.12			06.25			05.56		06.17 (AG014)	05.55		06.17 (AG014)
	17.37	85	09.28 (AG03)				19.45			20.17			20.45	26	06.43 (AG014)	20.58	32	06.49 (AG014)
31	07.35		08.04 (AG03)				07.10						05.55		06.17 (AG014)			
	17.39	85	09.29 (AG03)				19.46						20.46	27	06.44 (AG014)			
Potential sun hours	299			298			370			398			447			451		
Total, worst case		2215			2245			336						305			954	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R52 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (169)

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 (AG014)	06.19		06.49		07.18			06.52		07.33 (AG03)	07.26		07.50 (AG03)
	20.58	32	06.50 (AG014)	20.39		19.57		19.07			17.21	86	08.59 (AG03)	16.57	66	08.56 (AG03)
2	05.56		06.18 (AG014)	06.20		06.50		07.19			06.53		07.33 (AG03)	07.27		07.51 (AG03)
	20.58	32	06.50 (AG014)	20.38		19.55		19.05			17.20	87	09.00 (AG03)	16.57	65	08.56 (AG03)
3	05.57		06.19 (AG014)	06.21		06.51		07.20			06.54		07.33 (AG03)	07.28		07.52 (AG03)
	20.57	32	06.51 (AG014)	20.37		19.53		19.03			17.18	87	09.00 (AG03)	16.56	64	08.56 (AG03)
4	05.57		06.19 (AG014)	06.22		06.52		07.21			06.55		07.33 (AG03)	07.29		07.53 (AG03)
	20.57	31	06.50 (AG014)	20.36		19.52		19.02			17.17	87	09.00 (AG03)	16.56	62	08.55 (AG03)
5	05.58		06.20 (AG014)	06.23		06.53		07.23		09.11 (AG03)	06.57		07.33 (AG03)	07.30		07.54 (AG03)
	20.57	31	06.51 (AG014)	20.35		19.50		19.00	12	09.23 (AG03)	17.16	86	08.59 (AG03)	16.56	61	08.55 (AG03)
6	05.58		06.21 (AG014)	06.24		06.54		07.24		09.05 (AG03)	06.58		07.34 (AG03)	07.31		07.55 (AG03)
	20.57	30	06.51 (AG014)	20.33		19.49		18.59	24	09.29 (AG03)	17.15	86	09.00 (AG03)	16.56	60	08.55 (AG03)
7	05.59		06.21 (AG014)	06.25		06.55		07.25		09.02 (AG03)	06.59		07.33 (AG03)	07.32		07.56 (AG03)
	20.56	30	06.51 (AG014)	20.32		19.47		18.57	32	09.34 (AG03)	17.14	87	09.00 (AG03)	16.56	59	08.55 (AG03)
8	05.59		06.22 (AG014)	06.26		06.56		07.26		08.58 (AG03)	07.00		07.33 (AG03)	07.33		07.57 (AG03)
	20.56	30	06.52 (AG014)	20.31		19.45		18.55	39	09.37 (AG03)	17.13	87	09.00 (AG03)	16.56	58	08.55 (AG03)
9	06.00		06.22 (AG014)	06.27		06.57		07.27		08.55 (AG03)	07.01		07.33 (AG03)	07.34		07.57 (AG03)
	20.56	29	06.51 (AG014)	20.30		19.44		18.54	44	09.39 (AG03)	17.12	86	08.59 (AG03)	16.56	57	08.54 (AG03)
10	06.01		06.23 (AG014)	06.28		06.58		07.28		08.53 (AG03)	07.02		07.35 (AG03)	07.35		07.58 (AG03)
	20.55	29	06.52 (AG014)	20.29		19.42		18.52	49	09.42 (AG03)	17.11	85	09.00 (AG03)	16.56	56	08.54 (AG03)
11	06.01		06.24 (AG014)	06.29		06.59		07.29		08.51 (AG03)	07.04		07.35 (AG03)	07.36		07.59 (AG03)
	20.55	28	06.52 (AG014)	20.27		19.40		18.51	52	09.43 (AG03)	17.10	85	09.00 (AG03)	16.56	56	08.55 (AG03)
12	06.02		06.24 (AG014)	06.30		07.00		07.30		08.49 (AG03)	07.05		07.35 (AG03)	07.36		08.00 (AG03)
	20.55	27	06.51 (AG014)	20.26		19.39		18.49	56	09.45 (AG03)	17.09	84	08.59 (AG03)	16.56	55	08.55 (AG03)
13	06.03		06.25 (AG014)	06.31		07.01		07.31		08.47 (AG03)	07.06		07.35 (AG03)	07.37		08.01 (AG03)
	20.54	27	06.52 (AG014)	20.25		19.37		18.47	59	09.46 (AG03)	17.08	84	08.59 (AG03)	16.56	54	08.55 (AG03)
14	06.04		06.26 (AG014)	06.32		07.02		07.32		08.45 (AG03)	07.07		07.36 (AG03)	07.38		08.01 (AG03)
	20.54	26	06.52 (AG014)	20.23		19.35		18.46	63	09.48 (AG03)	17.07	84	09.00 (AG03)	16.56	53	08.54 (AG03)
15	06.04		06.27 (AG014)	06.33		07.03		07.33		08.44 (AG03)	07.08		07.36 (AG03)	07.39		08.02 (AG03)
	20.53	25	06.52 (AG014)	20.22		19.34		18.44	65	09.49 (AG03)	17.06	83	08.59 (AG03)	16.57	53	08.55 (AG03)
16	06.05		06.27 (AG014)	06.34		07.04		07.34		08.42 (AG03)	07.10		07.37 (AG03)	07.39		08.03 (AG03)
	20.52	24	06.51 (AG014)	20.21		19.32		18.43	68	09.50 (AG03)	17.05	82	08.59 (AG03)	16.57	52	08.55 (AG03)
17	06.06		06.28 (AG014)	06.35		07.05		07.35		08.41 (AG03)	07.11		07.37 (AG03)	07.40		08.03 (AG03)
	20.52	23	06.51 (AG014)	20.19		19.30		18.41	70	09.51 (AG03)	17.05	81	08.58 (AG03)	16.57	52	08.55 (AG03)
18	06.07		06.29 (AG014)	06.35		07.06		07.36		08.41 (AG03)	07.12		07.39 (AG03)	07.41		08.04 (AG03)
	20.51	22	06.51 (AG014)	20.18		19.29		18.40	72	09.53 (AG03)	17.04	80	08.59 (AG03)	16.58	52	08.56 (AG03)
19	06.07		06.30 (AG014)	06.36		07.07		07.37		08.40 (AG03)	07.13		07.39 (AG03)	07.41		08.05 (AG03)
	20.51	21	06.51 (AG014)	20.16		19.27		18.38	73	09.53 (AG03)	17.03	80	08.59 (AG03)	16.58	51	08.56 (AG03)
20	06.08		06.31 (AG014)	06.37		07.08		07.38		08.39 (AG03)	07.14		07.39 (AG03)	07.42		08.05 (AG03)
	20.50	20	06.51 (AG014)	20.15		19.25		18.37	75	09.54 (AG03)	17.02	79	08.58 (AG03)	16.58	51	08.56 (AG03)
21	06.09		06.31 (AG014)	06.38		07.09		07.39		08.38 (AG03)	07.15		07.40 (AG03)	07.43		08.06 (AG03)
	20.49	19	06.50 (AG014)	20.14		19.23		18.35	76	09.54 (AG03)	17.02	78	08.58 (AG03)	16.59	51	08.57 (AG03)
22	06.10		06.32 (AG014)	06.39		07.10		07.41		08.37 (AG03)	07.16		07.40 (AG03)	07.43		08.06 (AG03)
	20.48	17	06.49 (AG014)	20.12		19.22		18.34	78	09.55 (AG03)	17.01	77	08.57 (AG03)	16.59	51	08.57 (AG03)
23	06.11		06.33 (AG014)	06.40		07.10		07.42		08.36 (AG03)	07.18		07.42 (AG03)	07.44		08.07 (AG03)
	20.48	16	06.49 (AG014)	20.11		19.20		18.33	79	09.55 (AG03)	17.00	76	08.58 (AG03)	17.00	51	08.58 (AG03)
24	06.12		06.34 (AG014)	06.41		07.11		07.43		08.36 (AG03)	07.19		07.43 (AG03)	07.44		08.07 (AG03)
	20.47	14	06.48 (AG014)	20.09		19.18		18.31	81	09.57 (AG03)	17.00	74	08.57 (AG03)	17.00	51	08.58 (AG03)
25	06.13		06.35 (AG014)	06.42		07.12		06.44		07.35 (AG03)	07.20		07.43 (AG03)	07.45		08.07 (AG03)
	20.46	12	06.47 (AG014)	20.08		19.17		17.30	82	08.57 (AG03)	16.59	74	08.57 (AG03)	17.01	51	08.58 (AG03)
26	06.13		06.36 (AG014)	06.43		07.13		06.45		07.35 (AG03)	07.21		07.44 (AG03)	07.45		08.08 (AG03)
	20.45	10	06.46 (AG014)	20.06		19.15		17.29	82	08.57 (AG03)	16.59	73	08.57 (AG03)	17.02	52	09.00 (AG03)
27	06.14		06.36 (AG014)	06.44		07.14		06.46		07.34 (AG03)	07.22		07.45 (AG03)	07.45		08.08 (AG03)
	20.44	8	06.44 (AG014)	20.04		19.13		17.27	84	08.58 (AG03)	16.58	71	08.56 (AG03)	17.02	52	09.00 (AG03)
28	06.15		06.37 (AG014)	06.45		07.15		06.47		07.33 (AG03)	07.23		07.46 (AG03)	07.46		08.08 (AG03)
	20.43	5	06.42 (AG014)	20.03		19.12		17.26	85	08.58 (AG03)	16.58	70	08.56 (AG03)	17.03	53	09.01 (AG03)
29	06.16			06.46		07.16		06.48		07.34 (AG03)	07.24		07.47 (AG03)	07.46		08.08 (AG03)
	20.42			20.01		19.10		17.25	85	08.59 (AG03)	16.58	69	08.56 (AG03)	17.04	53	09.01 (AG03)
30	06.17			06.47		07.17		06.50		07.33 (AG03)	07.25		07.49 (AG03)	07.46		08.09 (AG03)
	20.41			20.00		19.08		17.23	86	08.59 (AG03)	16.57	67	08.56 (AG03)	17.04	54	09.03 (AG03)
31	06.18			06.48				06.51		07.33 (AG03)				07.46		08.09 (AG03)
	20.40			19.58				17.22	86	08.59 (AG03)				17.05	54	09.03 (AG03)
Potential sun hours	458			427		375		346			299			289		
Total, worst case		650							1757			2415			1710	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R53 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (215)

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	07.46		14.45 (AG09)	07.33		10.42 (AG10)	06.58		09.53 (AG10)	07.08		10.31 (AG10)	06.23		06.42 (AG07)	05.55		06.16 (AG11)
	17.06	47	15.32 (AG09)	17.40	66	16.36 (AG08)	18.13	149	12.22 (AG10)	19.46	177	13.28 (AG10)	20.18	126	11.57 (AG10)	20.47	93	11.12 (AG10)
2	07.47		14.46 (AG09)	07.33		10.38 (AG10)	06.57		09.52 (AG10)	07.06		10.32 (AG10)	06.22		06.41 (AG07)	05.54		06.15 (AG11)
	17.07	46	15.32 (AG09)	17.41	72	16.35 (AG08)	18.14	150	12.22 (AG10)	19.47	176	13.28 (AG10)	20.19	126	11.55 (AG10)	20.47	91	11.10 (AG10)
3	07.47		14.46 (AG09)	07.32		10.35 (AG10)	06.55		09.51 (AG10)	07.05		10.31 (AG10)	06.20		06.40 (AG07)	05.54		06.15 (AG11)
	17.07	46	15.32 (AG09)	17.42	75	16.33 (AG08)	18.15	152	12.23 (AG10)	19.49	176	13.27 (AG10)	20.20	125	11.53 (AG10)	20.48	86	11.08 (AG10)
4	07.47		14.47 (AG09)	07.31		10.33 (AG10)	06.54		09.50 (AG10)	07.03		10.30 (AG10)	06.19		06.38 (AG07)	05.53		06.15 (AG11)
	17.08	46	15.33 (AG09)	17.43	76	16.31 (AG08)	18.16	154	12.24 (AG10)	19.50	176	13.26 (AG10)	20.21	124	11.50 (AG10)	20.49	80	07.35 (AG07)
5	07.47		14.47 (AG09)	07.30		10.30 (AG10)	06.52		09.49 (AG10)	07.02		10.31 (AG10)	06.18		06.37 (AG07)	05.53		06.14 (AG11)
	17.09	46	15.33 (AG09)	17.44	72	11.42 (AG10)	18.18	156	12.25 (AG10)	19.51	175	13.26 (AG10)	20.22	124	11.48 (AG10)	20.49	81	07.35 (AG07)
6	07.47		14.48 (AG09)	07.28		10.28 (AG10)	06.50		09.48 (AG10)	07.00		10.30 (AG10)	06.17		06.36 (AG07)	05.53		06.14 (AG11)
	17.10	46	15.34 (AG09)	17.46	77	11.45 (AG10)	18.19	157	12.25 (AG10)	19.52	174	13.24 (AG10)	20.23	124	11.47 (AG10)	20.50	81	07.35 (AG07)
7	07.47		14.48 (AG09)	07.27		10.26 (AG10)	06.49		09.48 (AG10)	06.58		10.31 (AG10)	06.15		06.35 (AG07)	05.52		06.14 (AG11)
	17.11	45	15.33 (AG09)	17.47	82	11.48 (AG10)	18.20	159	12.27 (AG10)	19.53	173	13.24 (AG10)	20.24	123	11.45 (AG10)	20.51	81	07.35 (AG07)
8	07.47		14.49 (AG09)	07.26		10.24 (AG10)	06.47		09.46 (AG10)	06.57		10.30 (AG10)	06.14		06.34 (AG07)	05.52		06.14 (AG11)
	17.12	44	15.33 (AG09)	17.48	86	11.50 (AG10)	18.21	161	12.27 (AG10)	19.54	172	13.22 (AG10)	20.25	123	11.43 (AG10)	20.51	82	07.36 (AG07)
9	07.46		14.49 (AG09)	07.25		10.22 (AG10)	06.46		09.45 (AG10)	06.55		10.29 (AG10)	06.13		06.33 (AG07)	05.52		06.14 (AG11)
	17.13	45	15.34 (AG09)	17.49	91	11.53 (AG10)	18.22	162	12.27 (AG10)	19.55	170	13.19 (AG10)	20.26	123	11.42 (AG10)	20.52	82	07.36 (AG07)
10	07.46		14.50 (AG09)	07.24		10.19 (AG10)	06.44		09.45 (AG10)	06.54		10.30 (AG10)	06.12		06.32 (AG07)	05.52		06.13 (AG11)
	17.14	44	15.34 (AG09)	17.51	95	11.54 (AG10)	18.23	163	12.28 (AG10)	19.56	167	13.17 (AG10)	20.27	122	11.40 (AG10)	20.52	82	07.35 (AG07)
11	07.46		14.50 (AG09)	07.23		10.17 (AG10)	06.43		09.44 (AG10)	06.52		10.29 (AG10)	06.11		06.31 (AG07)	05.52		06.13 (AG11)
	17.15	51	16.23 (AG08)	17.52	99	11.56 (AG10)	18.24	164	12.28 (AG10)	19.57	165	13.14 (AG10)	20.28	121	11.38 (AG10)	20.53	82	07.35 (AG07)
12	07.46		14.51 (AG09)	07.22		10.16 (AG10)	06.41		09.43 (AG10)	06.50		10.30 (AG10)	06.10		06.30 (AG07)	05.51		06.13 (AG11)
	17.16	53	16.25 (AG08)	17.53	103	11.59 (AG10)	18.25	165	12.28 (AG10)	19.58	161	13.11 (AG10)	20.29	120	11.37 (AG10)	20.54	83	07.36 (AG07)
13	07.46		14.52 (AG09)	07.20		10.14 (AG10)	06.39		09.42 (AG10)	06.49		10.29 (AG10)	06.09		06.29 (AG07)	05.51		06.13 (AG11)
	17.17	56	16.27 (AG08)	17.54	107	12.01 (AG10)	18.26	167	12.29 (AG10)	19.59	157	13.06 (AG10)	20.30	119	11.35 (AG10)	20.54	83	07.36 (AG07)
14	07.45		14.53 (AG09)	07.19		10.12 (AG10)	06.38		09.41 (AG10)	06.47		10.30 (AG10)	06.08		06.28 (AG07)	05.51		06.13 (AG11)
	17.18	56	16.28 (AG08)	17.55	110	12.02 (AG10)	18.27	168	12.29 (AG10)	20.00	152	13.02 (AG10)	20.31	119	11.34 (AG10)	20.54	83	07.36 (AG07)
15	07.45		14.54 (AG09)	07.18		10.11 (AG10)	06.36		09.41 (AG10)	06.46		10.29 (AG10)	06.07		06.27 (AG07)	05.51		06.13 (AG11)
	17.19	58	16.30 (AG08)	17.57	113	12.04 (AG10)	18.29	169	12.30 (AG10)	20.01	147	12.56 (AG10)	20.32	118	11.33 (AG10)	20.55	83	07.36 (AG07)
16	07.44		14.54 (AG09)	07.17		10.10 (AG10)	06.34		09.40 (AG10)	06.44		10.30 (AG10)	06.06		06.26 (AG07)	05.51		06.13 (AG11)
	17.21	59	16.31 (AG08)	17.58	116	12.06 (AG10)	18.30	170	12.30 (AG10)	20.02	140	12.50 (AG10)	20.33	117	11.31 (AG10)	20.55	83	07.36 (AG07)
17	07.44		14.56 (AG09)	07.15		10.08 (AG10)	06.33		09.39 (AG10)	06.43		10.29 (AG10)	06.05		06.25 (AG07)	05.51		06.13 (AG11)
	17.22	58	16.32 (AG08)	17.59	119	12.07 (AG10)	18.31	171	12.30 (AG10)	20.03	135	12.44 (AG10)	20.34	116	11.30 (AG10)	20.56	83	07.36 (AG07)
18	07.44		14.56 (AG09)	07.14		10.06 (AG10)	06.31		09.39 (AG10)	06.41		10.30 (AG10)	06.04		06.25 (AG07)	05.51		06.14 (AG11)
	17.23	60	16.33 (AG08)	18.00	123	12.09 (AG10)	18.32	172	12.31 (AG10)	20.04	130	12.40 (AG10)	20.35	113	11.28 (AG10)	20.56	83	07.37 (AG07)
19	07.43		14.58 (AG09)	07.13		10.05 (AG10)	06.29		09.38 (AG10)	06.40		10.29 (AG10)	06.03		06.25 (AG07)	05.52		06.14 (AG11)
	17.24	58	16.34 (AG08)	18.01	125	12.10 (AG10)	18.33	173	12.31 (AG10)	20.05	125	12.34 (AG10)	20.36	113	11.28 (AG10)	20.56	83	07.37 (AG07)
20	07.43		14.59 (AG09)	07.11		10.03 (AG10)	06.28		09.37 (AG10)	06.38		10.30 (AG10)	06.02		06.25 (AG07)	05.52		06.14 (AG11)
	17.25	57	16.34 (AG08)	18.03	128	12.11 (AG10)	18.34	174	12.31 (AG10)	20.06	120	12.30 (AG10)	20.37	110	11.26 (AG10)	20.57	83	07.37 (AG07)
21	07.42		15.01 (AG09)	07.10		10.03 (AG10)	06.26		09.37 (AG10)	06.37		10.30 (AG10)	06.02		06.24 (AG07)	05.52		06.14 (AG11)
	17.26	56	16.36 (AG08)	18.04	130	12.13 (AG10)	18.35	175	12.32 (AG10)	20.07	116	12.26 (AG10)	20.37	110	11.25 (AG10)	20.57	83	07.37 (AG07)
22	07.41		15.02 (AG09)	07.08		10.01 (AG10)	06.25		09.36 (AG10)	06.35		10.30 (AG10)	06.01		06.24 (AG07)	05.52		06.14 (AG11)
	17.27	54	16.36 (AG08)	18.05	133	12.14 (AG10)	18.36	175	12.31 (AG10)	20.08	113	12.23 (AG10)	20.38	108	11.24 (AG10)	20.57	83	07.37 (AG07)
23	07.41		15.03 (AG09)	07.07		10.00 (AG10)	06.23		09.35 (AG10)	06.34		10.31 (AG10)	06.00		06.21 (AG11)	05.52		06.15 (AG11)
	17.29	53	16.36 (AG08)	18.06	135	12.15 (AG10)	18.37	176	12.31 (AG10)	20.09	108	12.19 (AG10)	20.39	107	11.23 (AG10)	20.57	83	07.38 (AG07)
24	07.40		15.05 (AG09)	07.06		09.59 (AG10)	06.21		09.36 (AG10)	06.32		10.30 (AG10)	05.59		06.20 (AG11)	05.53		06.15 (AG11)
	17.30	50	16.36 (AG08)	18.07	138	12.17 (AG10)	18.38	176	12.32 (AG10)	20.10	105	12.15 (AG10)	20.40	107	11.22 (AG10)	20.57	83	07.38 (AG07)
25	07.39		15.08 (AG09)	07.04		09.57 (AG10)	06.20		09.35 (AG10)	06.31		06.50 (AG12)	05.59		06.19 (AG11)	05.53		06.15 (AG11)
	17.31	46	16.37 (AG08)	18.08	141	12.18 (AG10)	18.39	176	12.31 (AG10)	20.11	120	12.13 (AG10)	20.41	105	11.20 (AG10)	20.57	83	07.38 (AG07)
26	07.39		15.11 (AG09)	07.03		09.57 (AG10)	06.18		09.34 (AG10)	06.30		06.48 (AG07)	05.58		06.19 (AG11)	05.53		06.15 (AG11)
	17.32	42	16.38 (AG08)	18.10	142	12.19 (AG10)	18.40	177	12.31 (AG10)	20.12	123	12.09 (AG10)	20.42	104	11.20 (AG10)	20.58	83	07.38 (AG07)
27	07.38		15.15 (AG09)	07.01		09.55 (AG10)	06.16		09.34 (AG10)	06.28		06.47 (AG07)	05.57		06.18 (AG11)	05.53		06.16 (AG11)
	17.33	32	16.37 (AG08)	18.11	145	12.20 (AG10)	18.41	177	12.31 (AG10)	20.14	125	12.07 (AG10)	20.43	103	11.18 (AG10)	20.58	83	07.39 (AG07)
28	07.37		16.13 (AG08)	07.00		09.55 (AG10)	06.15		09.33 (AG10)	06.27		06.46 (AG07)	05.57		06.18 (AG11)	05.54		06.16 (AG11)
	17.35	24	16.37 (AG08)	18.12	146	12.21 (AG10)	18.42	177	12.30 (AG10)	20.15	125	12.04 (AG10)	20.44	102	11.18 (AG10)	20.58	83	07.39 (AG07)
29	07.36		16.13 (AG08)				07.13		10.33 (AG10)	06.25		06.45 (AG07)	05.56		06.17 (AG11)	05.54		06.17 (AG11)
	17.36	24	16.37 (AG08)				19.43	177	13.30 (AG10)	20.16	126	12.02 (AG10)	20.44	100	11.16 (AG10)	20.58	83	07.40 (AG07)
30	07.35		10.52 (AG10)				07.11		10.33 (AG10)	06.24		06.43 (AG07)	05.56		06.17 (AG11)	05.55		06.17 (AG11)
	17.37	48	16.37 (AG08)				19.44	177	13.30 (AG10)	20.17	126	11.59 (AG10)	20.45	98	11.15 (AG10)	20.58	83	07.40 (AG07)
31	07.34		10.46 (AG10)				07.10		10.32 (AG10)				05.55		06.16 (AG11)			
	17.38	58	16.36 (AG08)				19.45	177	13.29 (AG10)				20.46	96	11.13 (AG10)			
Potential sun hours	299			298			370			398			447			451		
Total, worst case		1508			3045			5196			4355			3546			2498	

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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.45 / 91

Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R53 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (215)

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	05.55		06.18 (AG11)	06.19		06.41 (AG07)	06.49		10.28 (AG10)	07.18		10.22 (AG10)	06.52		09.49 (AG10)	07.26		14.32 (AG09)
	20.57	83	07.41 (AG07)	20.39	120	11.48 (AG10)	19.56	165	13.13 (AG10)	19.06	166	13.08 (AG10)	17.20	94	11.23 (AG10)	16.57	51	16.05 (AG08)
2	05.56		06.18 (AG11)	06.20		06.41 (AG07)	06.50		10.28 (AG10)	07.19		10.22 (AG10)	06.53		09.51 (AG10)	07.27		14.33 (AG09)
	20.57	82	07.40 (AG07)	20.38	121	11.49 (AG10)	19.55	167	13.15 (AG10)	19.05	165	13.07 (AG10)	17.19	90	11.21 (AG10)	16.56	44	15.17 (AG09)
3	05.56		06.19 (AG11)	06.21		06.42 (AG07)	06.51		10.27 (AG10)	07.20		10.22 (AG10)	06.54		09.54 (AG10)	07.28		14.33 (AG09)
	20.57	82	07.41 (AG07)	20.37	122	11.50 (AG10)	19.53	170	13.17 (AG10)	19.03	164	13.06 (AG10)	17.18	86	11.20 (AG10)	16.56	45	15.18 (AG09)
4	05.57		06.19 (AG11)	06.22		06.43 (AG07)	06.52		10.27 (AG10)	07.21		10.22 (AG10)	06.55		09.56 (AG10)	07.29		14.34 (AG09)
	20.57	82	07.41 (AG07)	20.36	123	11.52 (AG10)	19.52	172	13.19 (AG10)	19.02	163	13.05 (AG10)	17.17	81	11.17 (AG10)	16.56	45	15.19 (AG09)
5	05.57		06.20 (AG11)	06.22		06.44 (AG07)	06.53		10.27 (AG10)	07.22		10.23 (AG10)	06.56		09.58 (AG10)	07.30		14.34 (AG09)
	20.57	82	07.42 (AG07)	20.34	122	11.53 (AG10)	19.50	173	13.20 (AG10)	19.00	161	13.04 (AG10)	17.16	76	11.14 (AG10)	16.56	45	15.19 (AG09)
6	05.58		06.20 (AG11)	06.23		06.45 (AG07)	06.54		10.26 (AG10)	07.23		10.23 (AG10)	06.58		10.00 (AG10)	07.31		14.34 (AG09)
	20.57	81	07.41 (AG07)	20.33	124	11.55 (AG10)	19.48	174	13.20 (AG10)	18.58	160	13.03 (AG10)	17.15	72	11.12 (AG10)	16.56	46	15.20 (AG09)
7	05.58		06.21 (AG11)	06.24		06.46 (AG07)	06.55		10.26 (AG10)	07.24		10.23 (AG10)	06.59		10.04 (AG10)	07.32		14.33 (AG09)
	20.56	81	07.42 (AG07)	20.32	125	11.57 (AG10)	19.47	175	13.21 (AG10)	18.57	158	13.01 (AG10)	17.14	77	16.03 (AG08)	16.56	46	15.19 (AG09)
8	05.59		06.21 (AG11)	06.25		06.47 (AG07)	06.56		10.26 (AG10)	07.25		10.24 (AG10)	07.00		10.07 (AG10)	07.33		14.34 (AG09)
	20.56	81	07.42 (AG07)	20.31	124	11.58 (AG10)	19.45	175	13.21 (AG10)	18.55	156	13.00 (AG10)	17.12	73	16.04 (AG08)	16.56	46	15.20 (AG09)
9	06.00		06.22 (AG11)	06.26		06.48 (AG07)	06.57		10.25 (AG10)	07.26		10.24 (AG10)	07.01		10.10 (AG10)	07.34		14.34 (AG09)
	20.56	83	11.14 (AG10)	20.30	125	12.00 (AG10)	19.43	176	13.21 (AG10)	18.53	155	12.59 (AG10)	17.11	71	16.06 (AG08)	16.56	46	15.20 (AG09)
10	06.00		06.23 (AG11)	06.27		06.49 (AG07)	06.58		10.25 (AG10)	07.27		10.24 (AG10)	07.02		10.13 (AG10)	07.35		14.35 (AG09)
	20.55	89	11.17 (AG10)	20.28	126	12.02 (AG10)	19.42	177	13.22 (AG10)	18.52	154	12.58 (AG10)	17.10	65	16.06 (AG08)	16.56	46	15.21 (AG09)
11	06.01		06.23 (AG11)	06.28		06.50 (AG07)	06.59		10.25 (AG10)	07.28		10.26 (AG10)	07.03		10.19 (AG10)	07.35		14.35 (AG09)
	20.55	92	11.19 (AG10)	20.27	125	12.04 (AG10)	19.40	177	13.22 (AG10)	18.50	151	12.57 (AG10)	17.09	57	16.08 (AG08)	16.56	47	15.22 (AG09)
12	06.02		06.24 (AG11)	06.29		06.51 (AG07)	07.00		10.24 (AG10)	07.30		10.26 (AG10)	07.05		10.24 (AG10)	07.36		14.36 (AG09)
	20.54	95	11.21 (AG10)	20.26	126	12.06 (AG10)	19.38	177	13.21 (AG10)	18.49	150	12.56 (AG10)	17.09	48	16.09 (AG08)	16.56	46	15.22 (AG09)
13	06.02		06.25 (AG11)	06.30		06.52 (AG07)	07.00		10.24 (AG10)	07.31		10.27 (AG10)	07.06		15.45 (AG08)	07.37		14.36 (AG09)
	20.54	97	11.23 (AG10)	20.24	125	12.08 (AG10)	19.37	177	13.21 (AG10)	18.47	148	12.55 (AG10)	17.08	24	16.09 (AG08)	16.56	47	15.23 (AG09)
14	06.03		06.25 (AG11)	06.31		06.53 (AG07)	07.01		10.24 (AG10)	07.32		10.27 (AG10)	07.07		15.45 (AG08)	07.38		14.36 (AG09)
	20.53	100	11.24 (AG10)	20.23	125	12.10 (AG10)	19.35	177	13.21 (AG10)	18.46	146	12.53 (AG10)	17.07	24	16.09 (AG08)	16.56	47	15.23 (AG09)
15	06.04		06.26 (AG11)	06.32		06.54 (AG07)	07.02		10.24 (AG10)	07.33		10.28 (AG10)	07.08		14.47 (AG09)	07.39		14.37 (AG09)
	20.53	100	11.25 (AG10)	20.22	126	12.13 (AG10)	19.33	177	13.21 (AG10)	18.44	144	12.52 (AG10)	17.06	33	16.10 (AG08)	16.56	46	15.23 (AG09)
16	06.05		06.27 (AG11)	06.33		06.55 (AG07)	07.03		10.22 (AG10)	07.34		10.29 (AG10)	07.09		14.43 (AG09)	07.39		14.37 (AG09)
	20.52	103	11.27 (AG10)	20.20	125	12.15 (AG10)	19.32	177	13.19 (AG10)	18.43	141	12.50 (AG10)	17.05	42	16.10 (AG08)	16.57	47	15.24 (AG09)
17	06.05		06.28 (AG11)	06.34		06.55 (AG07)	07.04		10.22 (AG10)	07.35		10.29 (AG10)	07.10		14.41 (AG09)	07.40		14.37 (AG09)
	20.52	104	11.28 (AG10)	20.19	123	12.16 (AG10)	19.30	177	13.19 (AG10)	18.41	140	12.49 (AG10)	17.04	46	16.10 (AG08)	16.57	47	15.24 (AG09)
18	06.06		06.29 (AG11)	06.35		07.00 (AG07)	07.05		10.22 (AG10)	07.36		10.30 (AG10)	07.12		14.39 (AG09)	07.41		14.38 (AG09)
	20.51	105	11.30 (AG10)	20.18	117	12.19 (AG10)	19.28	176	13.18 (AG10)	18.40	137	12.47 (AG10)	17.03	50	16.10 (AG08)	16.57	47	15.25 (AG09)
19	06.07		06.29 (AG11)	06.36		10.36 (AG10)	07.06		10.22 (AG10)	07.37		10.32 (AG10)	07.13		14.38 (AG09)	07.41		14.38 (AG09)
	20.50	106	11.30 (AG10)	20.16	106	12.22 (AG10)	19.27	176	13.18 (AG10)	18.38	134	12.46 (AG10)	17.03	53	16.11 (AG08)	16.58	47	15.25 (AG09)
20	06.08		06.30 (AG11)	06.37		10.35 (AG10)	07.07		10.22 (AG10)	07.38		10.33 (AG10)	07.14		14.37 (AG09)	07.42		14.39 (AG09)
	20.50	106	11.32 (AG10)	20.15	110	12.25 (AG10)	19.25	175	13.17 (AG10)	18.37	132	12.45 (AG10)	17.02	54	16.11 (AG08)	16.58	47	15.26 (AG09)
21	06.09		06.31 (AG11)	06.38		10.35 (AG10)	07.08		10.22 (AG10)	07.39		10.34 (AG10)	07.15		14.36 (AG09)	07.42		14.40 (AG09)
	20.49	107	11.33 (AG10)	20.13	113	12.28 (AG10)	19.23	175	13.17 (AG10)	18.35	129	12.43 (AG10)	17.01	56	16.11 (AG08)	16.58	47	15.27 (AG09)
22	06.10		06.35 (AG07)	06.39		10.34 (AG10)	07.09		10.22 (AG10)	07.40		10.34 (AG10)	07.16		14.35 (AG09)	07.43		14.40 (AG09)
	20.48	108	11.35 (AG10)	20.12	117	12.31 (AG10)	19.22	174	13.16 (AG10)	18.34	127	12.41 (AG10)	17.01	58	16.11 (AG08)	16.59	47	15.27 (AG09)
23	06.10		06.35 (AG07)	06.40		10.34 (AG10)	07.10		10.21 (AG10)	07.41		10.35 (AG10)	07.17		14.34 (AG09)	07.43		14.40 (AG09)
	20.47	110	11.36 (AG10)	20.10	121	12.35 (AG10)	19.20	174	13.15 (AG10)	18.32	125	12.40 (AG10)	17.00	58	16.10 (AG08)	16.59	47	15.27 (AG09)
24	06.11		06.35 (AG07)	06.41		10.33 (AG10)	07.11		10.21 (AG10)	07.43		10.36 (AG10)	07.19		14.34 (AG09)	07.44		14.41 (AG09)
	20.47	112	11.37 (AG10)	20.09	126	12.39 (AG10)	19.18	174	13.15 (AG10)	18.31	122	12.38 (AG10)	17.00	60	16.11 (AG08)	17.00	47	15.28 (AG09)
25	06.12		06.35 (AG07)	06.42		10.33 (AG10)	07.12		10.21 (AG10)	06.44		09.39 (AG10)	07.20		14.34 (AG09)	07.44		14.41 (AG09)
	20.46	114	11.38 (AG10)	20.07	130	12.43 (AG10)	19.16	173	13.14 (AG10)	17.30	118	11.37 (AG10)	16.59	58	16.10 (AG08)	17.01	47	15.28 (AG09)
26	06.13		06.35 (AG07)	06.43		10.32 (AG10)	07.13		10.21 (AG10)	06.45		09.40 (AG10)	07.21		14.33 (AG09)	07.45		14.42 (AG09)
	20.45	115	11.39 (AG10)	20.06	136	12.48 (AG10)	19.15	172	13.13 (AG10)	17.28	115	11.35 (AG10)	16.59	59	16.10 (AG08)	17.01	47	15.29 (AG09)
27	06.14		06.36 (AG07)	06.44		10.32 (AG10)	07.14		10.21 (AG10)	06.46		09.41 (AG10)	07.22		14.33 (AG09)	07.45		14.42 (AG09)
	20.44	117	11.41 (AG10)	20.04	141	12.53 (AG10)	19.13	171	13.12 (AG10)	17.27	112	11.33 (AG10)	16.58	58	16.09 (AG08)	17.02	47	15.29 (AG09)
28	06.15		06.37 (AG07)	06.45		10.31 (AG10)	07.15		10.22 (AG10)	06.47		09.42 (AG10)	07.23		14.33 (AG09)	07.45		14.43 (AG09)
	20.43	116	11.42 (AG10)	20.03	147	12.58 (AG10)	19.11	169	13.11 (AG10)	17.26	109	11.31 (AG10)	16.58	56	16.08 (AG08)	17.02	46	15.29 (AG09)
29	06.16		06.38 (AG07)	06.46		10.31 (AG10)	07.16		10.22 (AG10)	06.48		09.44 (AG10)	07.24		14.33 (AG09)	07.46		14.43 (AG09)
	20.42	118	11.44 (AG10)	20.01	152	13.03 (AG10)	19.10	168	13.10 (AG10)	17.24	105	11.29 (AG10)	16.57	56	16.08 (AG08)	17.03	47	15.30 (AG09)
30	06.17		06.39 (AG07)	06.47		10.30 (AG10)	07.17		10.22 (AG10)	06.49		09.46 (AG10)	07.25		14.32 (AG09)	07.46		14.43 (AG09)
	20.41	119	11.45 (AG10)	20.00	157	13.07 (AG10)	19.08	167	13.09 (AG10)	17.23	102	11.28 (AG10)	16.57	54	16.07 (AG08)	17.04	47	15.30 (AG09)
31	06.18		06.40 (AG07)	06.48		10.30 (AG10)				06.51		09.48 (AG10)				07.46		14.45 (AG09)
	20.40	120	11.47 (AG10)	19.58	161	13.11 (AG10)				17.22	98	11.26 (AG10)				17.05	46	15.31 (AG09)
Potential sun hours	458			427			375			346			299			289		
Total, worst case		3090			3941			5207			4287			1789			1443	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R54 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (158)

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	07.08	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		20.58	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	07.19	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	17.42	18.16	19.49	20.20	20.48		20.57	20.37	19.53	19.04	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53		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	16.56
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	20.34	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	17.47	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		05.59	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52		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	07.03	07.35
	17.15	17.51	18.23	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	06.11	05.52		06.01	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	06.10	05.52	06.42 (AG01)	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	18.26	19.58	20.29	20.54	6 06.48 (AG01)	20.55	20.26	19.39	18.49	17.09	16.56
13	07.46	07.21	06.40	06.49	06.09	05.52	06.41 (AG01)	06.03	06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	9 06.50 (AG01)	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	06.40 (AG01)	06.04	06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	11 06.51 (AG01)	20.54	20.23	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	06.07	05.52	06.39 (AG01)	06.04	06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	13 06.52 (AG01)	20.53	20.22	19.34	18.44	17.06	16.57
16	07.45	07.17	06.35	06.45	06.06	05.52	06.39 (AG01)	06.05	06.34	07.04	07.34	07.10	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	14 06.53 (AG01)	20.52	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.38 (AG01)	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	15 06.53 (AG01)	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	06.38 (AG01)	06.07	06.36	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	16 06.54 (AG01)	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	06.38 (AG01)	06.08	06.37	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	16 06.54 (AG01)	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.38 (AG01)	06.08	06.37	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.06	20.37	20.57	16 06.54 (AG01)	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.38 (AG01)	06.09	06.38	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	16 06.54 (AG01)	20.49	20.14	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.01	05.52	06.39 (AG01)	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	16 06.55 (AG01)	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.39 (AG01)	06.11	06.40	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	20.39	20.57	16 06.55 (AG01)	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	06.39 (AG01)	06.12	06.41	07.12	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.58	16 06.55 (AG01)	20.47	20.09	19.18	18.31	17.00	17.00
25	07.40	07.04	06.20	06.31	05.59	05.53	06.40 (AG01)	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	15 06.55 (AG01)	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.41 (AG01)	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.58	14 06.55 (AG01)	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	06.41 (AG01)	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	13 06.54 (AG01)	20.44	20.05	19.13	17.27	16.59	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.43 (AG01)	06.15	06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.43	20.15	20.44	20.58	11 06.54 (AG01)	20.43	20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.57	05.55	06.43 (AG01)	06.16	06.46	07.16	06.49	07.24	07.46
	17.36		19.44	20.16	20.45	20.58	10 06.53 (AG01)	20.42	20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55	06.44 (AG01)	06.17	06.47	07.17	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	8 06.52 (AG01)	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55			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	289
Total, worst case							251						

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R55 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (165)

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		12.37 (AG02)	07.34		12.56 (AG02)	06.58			07.08		08.16 (AG01)	06.23		06.58 (AG03)	05.55		
	17.06	120	14.37 (AG02)	17.40	107	14.43 (AG02)	18.13			19.47	64	09.20 (AG01)	20.18	40	07.38 (AG03)	20.47		
2	07.47		12.38 (AG02)	07.33		12.57 (AG02)	06.57		07.49 (AG01)	07.07		08.16 (AG01)	06.22		06.58 (AG03)	05.55		
	17.07	119	14.37 (AG02)	17.41	105	14.42 (AG02)	18.15	18	08.07 (AG01)	19.48	63	09.19 (AG01)	20.19	40	07.38 (AG03)	20.48		
3	07.47		12.38 (AG02)	07.32		12.58 (AG02)	06.55		07.44 (AG01)	07.05		08.16 (AG01)	06.21		06.59 (AG03)	05.54		
	17.08	120	14.38 (AG02)	17.42	104	14.42 (AG02)	18.16	27	08.11 (AG01)	19.49	61	09.17 (AG01)	20.20	39	07.38 (AG03)	20.48		
4	07.47		12.38 (AG02)	07.31		12.59 (AG02)	06.54		07.41 (AG01)	07.03		08.17 (AG01)	06.19		06.59 (AG03)	05.54		
	17.09	120	14.38 (AG02)	17.44	101	14.40 (AG02)	18.17	34	08.15 (AG01)	19.50	59	09.16 (AG01)	20.21	38	07.37 (AG03)	20.49		
5	07.47		12.39 (AG02)	07.30		13.00 (AG02)	06.52		07.37 (AG01)	07.02		08.17 (AG01)	06.18		06.59 (AG03)	05.53		
	17.10	120	14.39 (AG02)	17.45	100	14.40 (AG02)	18.18	40	08.17 (AG01)	19.51	58	09.15 (AG01)	20.22	38	07.37 (AG03)	20.50		
6	07.47		12.40 (AG02)	07.29		13.02 (AG02)	06.51		07.35 (AG01)	07.00		08.18 (AG01)	06.17		06.59 (AG03)	05.53		
	17.11	119	14.39 (AG02)	17.46	97	14.39 (AG02)	18.19	43	08.18 (AG01)	19.52	56	09.14 (AG01)	20.23	36	07.35 (AG03)	20.50		
7	07.47		12.40 (AG02)	07.28		13.03 (AG02)	06.49		07.33 (AG01)	06.59		08.19 (AG01)	06.16		07.00 (AG03)	05.53		
	17.12	120	14.40 (AG02)	17.47	96	14.39 (AG02)	18.20	48	08.21 (AG01)	19.53	53	09.12 (AG01)	20.24	35	07.35 (AG03)	20.51		
8	07.47		12.40 (AG02)	07.26		13.05 (AG02)	06.48		07.31 (AG01)	06.57		08.19 (AG01)	06.15		07.00 (AG03)	05.53		
	17.12	120	14.40 (AG02)	17.49	93	14.38 (AG02)	18.21	51	08.22 (AG01)	19.54	51	09.10 (AG01)	20.25	34	07.34 (AG03)	20.52		
9	07.47		12.40 (AG02)	07.25		13.07 (AG02)	06.46		07.30 (AG01)	06.55		08.21 (AG01)	06.14		07.01 (AG03)	05.52		
	17.13	120	14.40 (AG02)	17.50	90	14.37 (AG02)	18.22	53	08.23 (AG01)	19.55	48	09.09 (AG01)	20.26	32	07.33 (AG03)	20.52		
10	07.46		12.41 (AG02)	07.24		13.10 (AG02)	06.44		07.28 (AG01)	06.54		08.21 (AG01)	06.12		07.02 (AG03)	05.52		06.14 (AG014)
	17.15	120	14.41 (AG02)	17.51	86	14.36 (AG02)	18.23	56	08.24 (AG01)	19.56	45	09.06 (AG01)	20.27	31	07.33 (AG03)	20.53	3	06.17 (AG014)
11	07.46		12.42 (AG02)	07.23		13.11 (AG02)	06.43		07.26 (AG01)	06.52		08.23 (AG01)	06.11		07.03 (AG03)	05.52		06.14 (AG014)
	17.16	119	14.41 (AG02)	17.52	83	14.34 (AG02)	18.25	59	08.25 (AG01)	19.57	42	09.05 (AG01)	20.28	29	07.32 (AG03)	20.53	5	06.19 (AG014)
12	07.46		12.42 (AG02)	07.22		13.14 (AG02)	06.41		07.25 (AG01)	06.51		08.24 (AG01)	06.10		07.04 (AG03)	05.52		06.14 (AG014)
	17.17	119	14.41 (AG02)	17.53	79	14.33 (AG02)	18.26	61	08.26 (AG01)	19.58	38	09.02 (AG01)	20.29	26	07.30 (AG03)	20.54	6	06.20 (AG014)
13	07.46		12.43 (AG02)	07.21		13.16 (AG02)	06.40		07.24 (AG01)	06.49		08.27 (AG01)	06.09		07.05 (AG03)	05.52		06.14 (AG014)
	17.18	119	14.42 (AG02)	17.55	76	14.32 (AG02)	18.27	62	08.26 (AG01)	19.59	33	09.00 (AG01)	20.30	24	07.29 (AG03)	20.54	7	06.21 (AG014)
14	07.45		12.44 (AG02)	07.19		13.20 (AG02)	06.38		07.22 (AG01)	06.48		08.29 (AG01)	06.08		07.06 (AG03)	05.52		06.14 (AG014)
	17.19	118	14.42 (AG02)	17.56	71	14.31 (AG02)	18.28	64	08.26 (AG01)	20.00	27	08.56 (AG01)	20.31	22	07.28 (AG03)	20.55	8	06.22 (AG014)
15	07.45		12.43 (AG02)	07.18		13.22 (AG02)	06.36		07.22 (AG01)	06.46		07.18 (AG03)	06.07		07.08 (AG03)	05.52		06.14 (AG014)
	17.20	119	14.42 (AG02)	17.57	66	14.28 (AG02)	18.29	65	08.27 (AG01)	20.01	28	08.53 (AG01)	20.32	18	07.26 (AG03)	20.55	8	06.22 (AG014)
16	07.45		12.44 (AG02)	07.17		13.26 (AG02)	06.35		07.21 (AG01)	06.45		07.13 (AG03)	06.06		07.10 (AG03)	05.52		06.14 (AG014)
	17.21	119	14.43 (AG02)	17.58	60	14.26 (AG02)	18.30	66	08.27 (AG01)	20.02	24	08.45 (AG01)	20.33	14	07.24 (AG03)	20.55	9	06.23 (AG014)
17	07.44		12.44 (AG02)	07.15		13.31 (AG02)	06.33		07.20 (AG01)	06.43		07.11 (AG03)	06.05		07.14 (AG03)	05.52		06.14 (AG014)
	17.22	119	14.43 (AG02)	17.59	53	14.24 (AG02)	18.31	68	08.28 (AG01)	20.03	22	07.33 (AG03)	20.34	7	07.21 (AG03)	20.56	9	06.23 (AG014)
18	07.44		12.46 (AG02)	07.14		13.35 (AG02)	06.31		07.19 (AG01)	06.41		07.08 (AG03)	06.05			05.52		06.14 (AG014)
	17.23	117	14.43 (AG02)	18.01	45	14.20 (AG02)	18.32	69	08.28 (AG01)	20.04	26	07.34 (AG03)	20.35			20.56	9	06.23 (AG014)
19	07.43		12.46 (AG02)	07.13		13.41 (AG02)	06.30		07.18 (AG01)	06.40		07.07 (AG03)	06.04			05.52		06.14 (AG014)
	17.24	117	14.43 (AG02)	18.02	35	14.16 (AG02)	18.33	69	08.27 (AG01)	20.05	29	07.36 (AG03)	20.36			20.56	9	06.23 (AG014)
20	07.43		12.46 (AG02)	07.11		13.51 (AG02)	06.28		07.18 (AG01)	06.39		07.05 (AG03)	06.03			05.52		06.14 (AG014)
	17.26	117	14.43 (AG02)	18.03	18	14.09 (AG02)	18.34	70	08.28 (AG01)	20.06	31	07.36 (AG03)	20.37			20.57	10	06.24 (AG014)
21	07.42		12.47 (AG02)	07.10			06.26		07.17 (AG01)	06.37		07.04 (AG03)	06.02			05.52		06.14 (AG014)
	17.27	117	14.44 (AG02)	18.04			18.35	70	08.27 (AG01)	20.07	33	07.37 (AG03)	20.38			20.57	10	06.24 (AG014)
22	07.42		12.47 (AG02)	07.09			06.25		07.16 (AG01)	06.36		07.02 (AG03)	06.01			05.52		06.15 (AG014)
	17.28	116	14.43 (AG02)	18.05			18.36	71	08.27 (AG01)	20.09	35	07.37 (AG03)	20.39			20.57	10	06.25 (AG014)
23	07.41		12.48 (AG02)	07.07			06.23		07.17 (AG01)	06.34		07.02 (AG03)	06.00			05.53		06.15 (AG014)
	17.29	115	14.43 (AG02)	18.07			18.37	70	08.27 (AG01)	20.10	36	07.38 (AG03)	20.39			20.57	9	06.24 (AG014)
24	07.40		12.49 (AG02)	07.06			06.22		07.16 (AG01)	06.33		07.01 (AG03)	06.00			05.53		06.15 (AG014)
	17.30	115	14.44 (AG02)	18.08			18.38	70	08.26 (AG01)	20.11	38	07.39 (AG03)	20.40			20.58	9	06.24 (AG014)
25	07.39		12.50 (AG02)	07.04			06.20		07.15 (AG01)	06.31		07.00 (AG03)	05.59			05.53		06.16 (AG014)
	17.31	114	14.44 (AG02)	18.09			18.39	70	08.25 (AG01)	20.12	39	07.39 (AG03)	20.41			20.58	9	06.25 (AG014)
26	07.39		12.50 (AG02)	07.03			06.18		07.16 (AG01)	06.30		07.00 (AG03)	05.58			05.54		06.16 (AG014)
	17.33	113	14.43 (AG02)	18.10			18.40	69	08.25 (AG01)	20.13	39	07.39 (AG03)	20.42			20.58	9	06.25 (AG014)
27	07.38		12.51 (AG02)	07.01			06.17		07.15 (AG01)	06.29		07.00 (AG03)	05.58			05.54		06.16 (AG014)
	17.34	112	14.43 (AG02)	18.11			18.42	69	08.24 (AG01)	20.14	39	07.39 (AG03)	20.43			20.58	8	06.24 (AG014)
28	07.37		12.52 (AG02)	07.00			06.15		07.15 (AG01)	06.27		06.59 (AG03)	05.57			05.54		06.17 (AG014)
	17.35	111	14.43 (AG02)	18.12			18.43	68	08.23 (AG01)	20.15	40	07.39 (AG03)	20.44			20.58	8	06.25 (AG014)
29	07.36		12.52 (AG02)				07.13		08.16 (AG01)	06.26		06.59 (AG03)	05.57			05.55		06.17 (AG014)
	17.36	111	14.43 (AG02)				19.44	67	09.23 (AG01)	20.16	40	07.39 (AG03)	20.45			20.58	7	06.24 (AG014)
30	07.35		12.54 (AG02)				07.12		08.15 (AG01)	06.25		06.59 (AG03)	05.56			05.55		06.17 (AG014)
	17.37	109	14.43 (AG02)				19.45	67	09.22 (AG01)	20.17	40	07.39 (AG03)	20.45			20.58	6	06.23 (AG014)
31	07.35		12.55 (AG02)				07.10		08.15 (AG01)				05.55					
	17.39	108	14.43 (AG02)				19.46	66	09.21 (AG01)				20.46					
Potential sun hours	299			298			370			398			447			451		
Total, worst case		3622			1565			1780			1237			503			168	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R55 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (165)

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 (AG014)	06.19		07.14 (AG03)	06.49		08.22 (AG01)	07.18		08.03 (AG01)	06.52		12.38 (AG02)	07.26		12.24 (AG02)
	20.58	5	06.23 (AG014)	20.39	28	07.42 (AG03)	19.57	42	09.04 (AG01)	19.07	62	09.05 (AG01)	17.21	87	14.05 (AG02)	16.57	119	14.23 (AG02)
2	05.56		06.18 (AG014)	06.20		07.13 (AG03)	06.50		08.20 (AG01)	07.19		08.04 (AG01)	06.53		12.37 (AG02)	07.27		12.24 (AG02)
	20.58	4	06.22 (AG014)	20.38	30	07.43 (AG03)	19.55	45	09.05 (AG01)	19.05	60	09.04 (AG01)	17.20	90	14.07 (AG02)	16.57	120	14.24 (AG02)
3	05.57			06.21		07.12 (AG03)	06.51		08.19 (AG01)	07.20		08.05 (AG01)	06.54		12.35 (AG02)	07.28		12.25 (AG02)
	20.57			20.37	32	07.44 (AG03)	19.53	48	09.07 (AG01)	19.03	57	09.02 (AG01)	17.18	93	14.08 (AG02)	16.57	119	14.24 (AG02)
4	05.57			06.22		07.11 (AG03)	06.52		08.17 (AG01)	07.22		08.06 (AG01)	06.55		12.33 (AG02)	07.29		12.25 (AG02)
	20.57			20.36	33	07.44 (AG03)	19.52	51	09.08 (AG01)	19.02	55	09.01 (AG01)	17.17	96	14.09 (AG02)	16.56	120	14.25 (AG02)
5	05.58			06.23		07.11 (AG03)	06.53		08.15 (AG01)	07.23		08.07 (AG01)	06.57		12.31 (AG02)	07.30		12.25 (AG02)
	20.57			20.35	34	07.45 (AG03)	19.50	53	09.08 (AG01)	19.00	52	08.59 (AG01)	17.16	98	14.09 (AG02)	16.56	120	14.25 (AG02)
6	05.58			06.24		07.10 (AG03)	06.54		08.13 (AG01)	07.24		08.08 (AG01)	06.58		12.31 (AG02)	07.31		12.26 (AG02)
	20.57			20.34	36	07.46 (AG03)	19.49	56	09.09 (AG01)	18.59	49	08.57 (AG01)	17.15	100	14.11 (AG02)	16.56	119	14.25 (AG02)
7	05.59			06.25		07.08 (AG03)	06.55		08.12 (AG01)	07.25		08.10 (AG01)	06.59		12.30 (AG02)	07.32		12.26 (AG02)
	20.56			20.32	37	07.45 (AG03)	19.47	58	09.10 (AG01)	18.57	46	08.56 (AG01)	17.14	101	14.11 (AG02)	16.56	120	14.26 (AG02)
8	05.59			06.26		07.08 (AG03)	06.56		08.11 (AG01)	07.26		08.12 (AG01)	07.00		12.28 (AG02)	07.33		12.27 (AG02)
	20.56			20.31	38	07.46 (AG03)	19.45	59	09.10 (AG01)	18.55	42	08.54 (AG01)	17.13	104	14.12 (AG02)	16.56	119	14.26 (AG02)
9	06.00			06.27		07.08 (AG03)	06.57		08.10 (AG01)	07.27		08.14 (AG01)	07.01		12.27 (AG02)	07.34		12.26 (AG02)
	20.56			20.30	38	07.46 (AG03)	19.44	61	09.11 (AG01)	18.54	37	08.51 (AG01)	17.12	105	14.12 (AG02)	16.56	120	14.26 (AG02)
10	06.01			06.28		07.07 (AG03)	06.58		08.09 (AG01)	07.28		08.16 (AG01)	07.03		12.27 (AG02)	07.35		12.27 (AG02)
	20.55			20.29	39	07.46 (AG03)	19.42	63	09.12 (AG01)	18.52	32	08.48 (AG01)	17.11	106	14.13 (AG02)	16.56	120	14.27 (AG02)
11	06.01			06.29		07.07 (AG03)	06.59		08.08 (AG01)	07.29		08.20 (AG01)	07.04		12.26 (AG02)	07.36		12.27 (AG02)
	20.55			20.27	40	07.47 (AG03)	19.40	64	09.12 (AG01)	18.51	24	08.44 (AG01)	17.10	108	14.14 (AG02)	16.56	120	14.27 (AG02)
12	06.02			06.30		07.07 (AG03)	07.00		08.07 (AG01)	07.30		08.25 (AG01)	07.05		12.25 (AG02)	07.36		12.28 (AG02)
	20.55			20.26	40	07.47 (AG03)	19.39	66	09.13 (AG01)	18.49	13	08.38 (AG01)	17.09	109	14.14 (AG02)	16.56	120	14.28 (AG02)
13	06.03			06.31		07.07 (AG03)	07.01		08.06 (AG01)	07.31			07.06		12.24 (AG02)	07.37		12.28 (AG02)
	20.54			20.25	40	07.47 (AG03)	19.37	67	09.13 (AG01)	18.47			17.08	111	14.15 (AG02)	16.56	120	14.28 (AG02)
14	06.04			06.32		07.06 (AG03)	07.02		08.06 (AG01)	07.32			07.07		12.25 (AG02)	07.38		12.28 (AG02)
	20.54			20.23	41	07.47 (AG03)	19.35	67	09.13 (AG01)	18.46			17.07	111	14.16 (AG02)	16.56	120	14.28 (AG02)
15	06.04			06.33		07.06 (AG03)	07.03		08.05 (AG01)	07.33			07.08		12.24 (AG02)	07.39		12.29 (AG02)
	20.53			20.22	40	07.46 (AG03)	19.34	69	09.14 (AG01)	18.44			17.06	112	14.16 (AG02)	16.57	120	14.29 (AG02)
16	06.05			06.34		07.07 (AG03)	07.04		08.05 (AG01)	07.34			07.10		12.23 (AG02)	07.39		12.30 (AG02)
	20.52			20.21	39	07.46 (AG03)	19.32	69	09.14 (AG01)	18.43			17.05	113	14.16 (AG02)	16.57	120	14.30 (AG02)
17	06.06			06.35		07.07 (AG03)	07.05		08.04 (AG01)	07.35			07.11		12.23 (AG02)	07.40		12.29 (AG02)
	20.52			20.19	39	07.46 (AG03)	19.30	70	09.14 (AG01)	18.41			17.05	114	14.17 (AG02)	16.57	120	14.29 (AG02)
18	06.07			06.36		07.07 (AG03)	07.06		08.04 (AG01)	07.36			07.12		12.23 (AG02)	07.41		12.30 (AG02)
	20.51			20.18	38	07.45 (AG03)	19.29	70	09.14 (AG01)	18.40			17.04	115	14.18 (AG02)	16.58	120	14.30 (AG02)
19	06.07			06.36		07.07 (AG03)	07.07		08.03 (AG01)	07.37			07.13		12.23 (AG02)	07.41		12.31 (AG02)
	20.51			20.16	38	07.45 (AG03)	19.27	71	09.14 (AG01)	18.38			17.03	115	14.18 (AG02)	16.58	120	14.31 (AG02)
20	06.08			06.37		07.08 (AG03)	07.08		08.03 (AG01)	07.38			07.14		12.22 (AG02)	07.42		12.31 (AG02)
	20.50			20.15	36	07.44 (AG03)	19.25	70	09.13 (AG01)	18.37			17.02	116	14.18 (AG02)	16.58	120	14.31 (AG02)
21	06.09			06.38		07.08 (AG03)	07.09		08.02 (AG01)	07.40			07.15		12.22 (AG02)	07.43		12.32 (AG02)
	20.49			20.14	35	07.43 (AG03)	19.24	70	09.12 (AG01)	18.36			17.02	117	14.19 (AG02)	16.59	120	14.32 (AG02)
22	06.10			06.39		07.08 (AG03)	07.10		08.02 (AG01)	07.41		14.17 (AG02)	07.16		12.22 (AG02)	07.43		12.32 (AG02)
	20.48			20.12	33	07.41 (AG03)	19.22	70	09.12 (AG01)	18.34	25	14.42 (AG02)	17.01	117	14.19 (AG02)	16.59	120	14.32 (AG02)
23	06.11			06.40		07.09 (AG03)	07.11		08.02 (AG01)	07.42		14.09 (AG02)	07.18		12.23 (AG02)	07.44		12.33 (AG02)
	20.48			20.11	31	07.40 (AG03)	19.20	69	09.11 (AG01)	18.33	38	14.47 (AG02)	17.01	117	14.20 (AG02)	17.00	120	14.33 (AG02)
24	06.12			06.41		07.10 (AG03)	07.11		08.02 (AG01)	07.43		14.04 (AG02)	07.19		12.23 (AG02)	07.44		12.33 (AG02)
	20.47			20.09	28	07.38 (AG03)	19.18	69	09.11 (AG01)	18.31	48	14.52 (AG02)	17.00	117	14.20 (AG02)	17.00	120	14.33 (AG02)
25	06.13			06.42		07.11 (AG03)	07.12		08.02 (AG01)	06.44		12.59 (AG02)	07.20		12.23 (AG02)	07.45		12.33 (AG02)
	20.46			20.08	25	07.36 (AG03)	19.17	68	09.10 (AG01)	17.30	55	13.54 (AG02)	16.59	118	14.21 (AG02)	17.01	120	14.33 (AG02)
26	06.14			06.43		07.13 (AG03)	07.13		08.02 (AG01)	06.45		12.55 (AG02)	07.21		12.22 (AG02)	07.45		12.34 (AG02)
	20.45			20.06	21	07.34 (AG03)	19.15	68	09.10 (AG01)	17.29	61	13.56 (AG02)	16.59	119	14.21 (AG02)	17.02	120	14.34 (AG02)
27	06.14		07.22 (AG03)	06.44		07.15 (AG03)	07.14		08.02 (AG01)	06.46		12.51 (AG02)	07.22		12.23 (AG02)	07.45		12.35 (AG02)
	20.44	10	07.32 (AG03)	20.05	25	08.48 (AG01)	19.13	67	09.09 (AG01)	17.27	67	13.58 (AG02)	16.58	118	14.21 (AG02)	17.02	120	14.35 (AG02)
28	06.15		07.19 (AG03)	06.45		07.20 (AG03)	07.15		08.02 (AG01)	06.47		12.48 (AG02)	07.23		12.23 (AG02)	07.46		12.35 (AG02)
	20.43	16	07.35 (AG03)	20.03	27	08.54 (AG01)	19.12	66	09.08 (AG01)	17.26	72	14.00 (AG02)	16.58	119	14.22 (AG02)	17.03	120	14.35 (AG02)
29	06.16		07.18 (AG03)	06.46		08.30 (AG01)	07.16		08.02 (AG01)	06.49		12.46 (AG02)	07.24		12.23 (AG02)	07.46		12.35 (AG02)
	20.42	19	07.37 (AG03)	20.01	27	08.57 (AG01)	19.10	65	09.07 (AG01)	17.25	76	14.02 (AG02)	16.58	119	14.22 (AG02)	17.04	120	14.35 (AG02)
30	06.17		07.16 (AG03)	06.47		08.27 (AG01)	07.17		08.03 (AG01)	06.50		12.43 (AG02)	07.25		12.24 (AG02)	07.46		12.36 (AG02)
	20.41	23	07.39 (AG03)	20.00	33	09.00 (AG01)	19.08	63	09.06 (AG01)	17.23	80	14.03 (AG02)	16.57	119	14.23 (AG02)	17.04	120	14.36 (AG02)
31	06.18		07.15 (AG03)	06.48		08.24 (AG01)				06.51		12.40 (AG02)				07.46		12.37 (AG02)
	20.40	25	07.40 (AG03)	19.58	38	09.02 (AG01)				17.22	84	14.04 (AG02)				17.05	120	14.37 (AG02)
Potential sun hours	457			427			375			346			299			289		
Total, worst case		102			1059			1894			1135			3284			3716	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R56 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (163)

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		17.19 (AG02)	07.08			06.23		16.04 (AG01)	05.55		15.56 (AG01)
	17.06		17.40			18.13	24	17.43 (AG02)	19.47			20.18	129	18.13 (AG01)	20.47	161	18.37 (AG01)
2	07.47		07.33			06.57		17.17 (AG02)	07.07			06.22		16.03 (AG01)	05.54		15.57 (AG01)
	17.07		17.41			18.14	29	17.46 (AG02)	19.48			20.19	132	18.15 (AG01)	20.48	160	18.37 (AG01)
3	07.47		07.32			06.55		17.15 (AG02)	07.05			06.21		16.02 (AG01)	05.54		15.56 (AG01)
	17.08		17.42			18.16	32	17.47 (AG02)	19.49			20.20	134	18.16 (AG01)	20.48	161	18.37 (AG01)
4	07.47		07.31			06.54		17.13 (AG02)	07.03			06.19		16.01 (AG01)	05.54		15.57 (AG01)
	17.09		17.44			18.17	36	17.49 (AG02)	19.50			20.21	136	18.17 (AG01)	20.49	161	18.38 (AG01)
5	07.47		07.30			06.52		17.12 (AG02)	07.02			06.18		16.00 (AG01)	05.53		15.58 (AG01)
	17.10		17.45			18.18	38	17.50 (AG02)	19.51			20.22	139	18.19 (AG01)	20.50	161	18.39 (AG01)
6	07.47		07.29			06.51		17.10 (AG02)	07.00			06.17		15.59 (AG01)	05.53		15.58 (AG01)
	17.11		17.46			18.19	40	17.50 (AG02)	19.52			20.23	140	18.19 (AG01)	20.50	161	18.39 (AG01)
7	07.47		07.28			06.49		17.09 (AG02)	06.59			06.16		15.58 (AG01)	05.53		15.58 (AG01)
	17.11		17.47			18.20	42	17.51 (AG02)	19.53			20.24	142	18.20 (AG01)	20.51	161	18.39 (AG01)
8	07.47		07.26			06.48		17.08 (AG02)	06.57			06.15		15.57 (AG01)	05.53		15.58 (AG01)
	17.12		17.49			18.21	44	17.52 (AG02)	19.54			20.25	144	18.21 (AG01)	20.51	161	18.39 (AG01)
9	07.47		07.25			06.46		17.08 (AG02)	06.55			06.14		15.57 (AG01)	05.52		15.59 (AG01)
	17.13		17.50			18.22	45	17.53 (AG02)	19.55			20.26	145	18.22 (AG01)	20.52	161	18.40 (AG01)
10	07.46		07.24			06.44		17.07 (AG02)	06.54			06.12		15.56 (AG01)	05.52		15.59 (AG01)
	17.14		17.51			18.23	45	17.52 (AG02)	19.56			20.27	147	18.23 (AG01)	20.53	161	18.40 (AG01)
11	07.46		07.23			06.43		17.06 (AG02)	06.52			06.11		15.56 (AG01)	05.52		15.59 (AG01)
	17.16		17.52			18.24	46	17.52 (AG02)	19.57			20.28	148	18.24 (AG01)	20.53	162	18.41 (AG01)
12	07.46		07.22			06.41		17.06 (AG02)	06.51			06.10		15.55 (AG01)	05.52		16.00 (AG01)
	17.17		17.53			18.26	47	17.53 (AG02)	19.58			20.29	150	18.25 (AG01)	20.54	161	18.41 (AG01)
13	07.46		07.21			06.40		17.05 (AG02)	06.49			06.09		15.55 (AG01)	05.52		16.00 (AG01)
	17.18		17.55			18.27	47	17.52 (AG02)	19.59			20.30	150	18.25 (AG01)	20.54	162	18.42 (AG01)
14	07.45		07.19			06.38		17.04 (AG02)	06.48			06.08		15.55 (AG01)	05.52		16.00 (AG01)
	17.19		17.56			18.28	48	17.52 (AG02)	20.00			20.31	151	18.26 (AG01)	20.55	162	18.42 (AG01)
15	07.45		07.18			06.36		17.05 (AG02)	06.46		16.55 (AG01)	06.07		15.54 (AG01)	05.52		16.01 (AG01)
	17.20		17.57			18.29	47	17.52 (AG02)	20.01	35	17.30 (AG01)	20.32	153	18.27 (AG01)	20.55	161	18.42 (AG01)
16	07.45		07.17			06.35		17.04 (AG02)	06.44		16.47 (AG01)	06.06		15.54 (AG01)	05.52		16.01 (AG01)
	17.21		17.58			18.30	47	17.51 (AG02)	20.02	50	17.37 (AG01)	20.33	153	18.27 (AG01)	20.55	161	18.42 (AG01)
17	07.44		07.15			06.33		17.05 (AG02)	06.43		16.42 (AG01)	06.05		15.55 (AG01)	05.52		16.01 (AG01)
	17.22		17.59			18.31	47	17.52 (AG02)	20.03	60	17.42 (AG01)	20.34	154	18.29 (AG01)	20.56	162	18.43 (AG01)
18	07.44		07.14			06.31		17.05 (AG02)	06.41		16.37 (AG01)	06.04		15.54 (AG01)	05.52		16.01 (AG01)
	17.23		18.01			18.32	46	17.51 (AG02)	20.04	69	17.46 (AG01)	20.35	155	18.29 (AG01)	20.56	162	18.43 (AG01)
19	07.43		07.13			06.30		17.05 (AG02)	06.40		16.33 (AG01)	06.04		15.54 (AG01)	05.52		16.01 (AG01)
	17.24		18.02			18.33	45	17.50 (AG02)	20.05	77	17.50 (AG01)	20.36	156	18.30 (AG01)	20.56	162	18.43 (AG01)
20	07.43		07.11			06.28		17.06 (AG02)	06.38		16.29 (AG01)	06.03		15.54 (AG01)	05.52		16.01 (AG01)
	17.25		18.03			18.34	43	17.49 (AG02)	20.06	83	17.52 (AG01)	20.37	156	18.30 (AG01)	20.57	162	18.43 (AG01)
21	07.42		07.10			06.26		17.06 (AG02)	06.37		16.26 (AG01)	06.02		15.54 (AG01)	05.52		16.01 (AG01)
	17.27		18.04			18.35	42	17.48 (AG02)	20.07	89	17.55 (AG01)	20.38	157	18.31 (AG01)	20.57	162	18.43 (AG01)
22	07.41		07.09			06.25		17.06 (AG02)	06.36		16.22 (AG01)	06.01		15.55 (AG01)	05.52		16.02 (AG01)
	17.28		18.05			18.36	41	17.47 (AG02)	20.09	95	17.57 (AG01)	20.39	157	18.32 (AG01)	20.57	162	18.44 (AG01)
23	07.41		07.07			06.23		17.08 (AG02)	06.34		16.20 (AG01)	06.00		15.54 (AG01)	05.53		16.02 (AG01)
	17.29		18.06			18.37	38	17.46 (AG02)	20.10	100	18.00 (AG01)	20.39	158	18.32 (AG01)	20.57	162	18.44 (AG01)
24	07.40		07.06			06.21		17.08 (AG02)	06.33		16.18 (AG01)	06.00		15.54 (AG01)	05.53		16.02 (AG01)
	17.30		18.08			18.38	36	17.44 (AG02)	20.11	105	18.03 (AG01)	20.40	158	18.32 (AG01)	20.57	162	18.44 (AG01)
25	07.39		07.04			06.20		17.09 (AG02)	06.31		16.15 (AG01)	05.59		15.55 (AG01)	05.53		16.02 (AG01)
	17.31		18.09			18.39	33	17.42 (AG02)	20.12	109	18.04 (AG01)	20.41	159	18.34 (AG01)	20.58	162	18.44 (AG01)
26	07.39		07.03			06.18		17.11 (AG02)	06.30		16.13 (AG01)	05.58		15.55 (AG01)	05.54		16.03 (AG01)
	17.33		18.10			18.40	30	17.41 (AG02)	20.13	113	18.06 (AG01)	20.42	159	18.34 (AG01)	20.58	162	18.45 (AG01)
27	07.38		07.01		17.28 (AG02)	06.17		17.13 (AG02)	06.29		16.10 (AG01)	05.58		15.55 (AG01)	05.54		16.03 (AG01)
	17.34		18.11	6	17.34 (AG02)	18.41	25	17.38 (AG02)	20.14	117	18.07 (AG01)	20.43	160	18.35 (AG01)	20.58	161	18.44 (AG01)
28	07.37		07.00		17.23 (AG02)	06.15		17.15 (AG02)	06.27		16.09 (AG01)	05.57		15.55 (AG01)	05.54		16.03 (AG01)
	17.35		18.12	18	17.41 (AG02)	18.43	19	17.34 (AG02)	20.15	120	18.09 (AG01)	20.44	160	18.35 (AG01)	20.58	162	18.45 (AG01)
29	07.36					07.13		18.20 (AG02)	06.26		16.08 (AG01)	05.56		15.56 (AG01)	05.55		16.03 (AG01)
	17.36					19.44	11	18.31 (AG02)	20.16	123	18.11 (AG01)	20.44	160	18.36 (AG01)	20.58	162	18.45 (AG01)
30	07.35					07.12			06.25		16.06 (AG01)	05.56		15.56 (AG01)	05.55		16.03 (AG01)
	17.37					19.45			20.17	126	18.12 (AG01)	20.45	160	18.36 (AG01)	20.58	161	18.44 (AG01)
31	07.35					07.10						05.55		15.56 (AG01)			
	17.39					19.46						20.46	161	18.37 (AG01)			
Potential sun hours	299		298			370			398			447			451		
Total, worst case				24			1113			1471			4663			4844	

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 96
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R56 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (163)

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		16.04 (AG01)	06.19	16.06 (AG01)	06.49	17.44 (AG02)	06.52	07.26	
	20.58	161	18.45 (AG01)	20.39 149	18.35 (AG01)	19.57	19.07 48	18.32 (AG02)	17.21	16.57
2	05.56		16.03 (AG01)	06.20	16.07 (AG01)	06.50	17.44 (AG02)	06.53	07.27	
	20.58	162	18.45 (AG01)	20.38 147	18.34 (AG01)	19.55	19.05 47	18.31 (AG02)	17.20	16.57
3	05.57		16.04 (AG01)	06.21	16.07 (AG01)	06.51	17.44 (AG02)	06.54	07.28	
	20.57	161	18.45 (AG01)	20.37 146	18.33 (AG01)	19.53	19.03 46	18.30 (AG02)	17.18	16.57
4	05.57		16.03 (AG01)	06.22	16.08 (AG01)	06.52	17.44 (AG02)	06.55	07.29	
	20.57	162	18.45 (AG01)	20.36 144	18.32 (AG01)	19.52	19.02 45	18.29 (AG02)	17.17	16.56
5	05.58		16.04 (AG01)	06.23	16.08 (AG01)	06.53	17.44 (AG02)	06.57	07.30	
	20.57	161	18.45 (AG01)	20.35 143	18.31 (AG01)	19.50	19.00 44	18.28 (AG02)	17.16	16.56
6	05.58		16.04 (AG01)	06.24	16.09 (AG01)	06.54	17.45 (AG02)	06.58	07.31	
	20.57	162	18.46 (AG01)	20.33 141	18.30 (AG01)	19.49	18.59 42	18.27 (AG02)	17.15	16.56
7	05.59		16.04 (AG01)	06.25	16.09 (AG01)	06.55	17.45 (AG02)	06.59	07.32	
	20.56	161	18.45 (AG01)	20.32 139	18.28 (AG01)	19.47	18.57 41	18.26 (AG02)	17.14	16.56
8	05.59		16.04 (AG01)	06.26	16.09 (AG01)	06.56	17.47 (AG02)	07.00	07.33	
	20.56	161	18.45 (AG01)	20.31 138	18.27 (AG01)	19.45	18.55 39	18.26 (AG02)	17.13	16.56
9	06.00		16.04 (AG01)	06.27	16.10 (AG01)	06.57	17.47 (AG02)	07.01	07.34	
	20.56	161	18.45 (AG01)	20.30 136	18.26 (AG01)	19.44	18.54 37	18.24 (AG02)	17.12	16.56
10	06.01		16.04 (AG01)	06.28	16.11 (AG01)	06.58	17.49 (AG02)	07.02	07.35	
	20.55	161	18.45 (AG01)	20.29 133	18.24 (AG01)	19.42	18.52 34	18.23 (AG02)	17.11	16.56
11	06.01		16.04 (AG01)	06.29	16.12 (AG01)	06.59	17.50 (AG02)	07.04	07.36	
	20.55	161	18.45 (AG01)	20.27 131	18.23 (AG01)	19.40	18.51 31	18.21 (AG02)	17.10	16.56
12	06.02		16.04 (AG01)	06.30	16.13 (AG01)	07.00	17.51 (AG02)	07.05	07.36	
	20.55	160	18.44 (AG01)	20.26 128	18.21 (AG01)	19.39	18.49 27	18.18 (AG02)	17.09	16.56
13	06.03		16.04 (AG01)	06.31	16.14 (AG01)	07.01	17.54 (AG02)	07.06	07.37	
	20.54	160	18.44 (AG01)	20.25 126	18.20 (AG01)	19.37	18.47 21	18.15 (AG02)	17.08	16.56
14	06.04		16.04 (AG01)	06.32	16.16 (AG01)	07.02	18.11 (AG02)	07.32	07.07	07.38
	20.54	160	18.44 (AG01)	20.23 122	18.18 (AG01)	19.35 9	18.20 (AG02)	18.46 14	18.11 (AG02)	17.07 16.56
15	06.04		16.05 (AG01)	06.33	16.17 (AG01)	07.03	18.06 (AG02)	07.33		07.08 07.39
	20.53	159	18.44 (AG01)	20.22 119	18.16 (AG01)	19.34 18	18.24 (AG02)	18.44		17.06 16.57
16	06.05		16.04 (AG01)	06.34	16.19 (AG01)	07.04	18.02 (AG02)	07.34		07.10 07.39
	20.52	159	18.43 (AG01)	20.21 115	18.14 (AG01)	19.32 25	18.27 (AG02)	18.43		17.05 16.57
17	06.06		16.04 (AG01)	06.35	16.20 (AG01)	07.05	18.00 (AG02)	07.35		07.11 07.40
	20.52	159	18.43 (AG01)	20.19 112	18.12 (AG01)	19.30 28	18.28 (AG02)	18.41		17.05 16.57
18	06.07		16.04 (AG01)	06.35	16.22 (AG01)	07.06	17.58 (AG02)	07.36		07.12 07.41
	20.51	159	18.43 (AG01)	20.18 108	18.10 (AG01)	19.29 32	18.30 (AG02)	18.40		17.04 16.58
19	06.07		16.05 (AG01)	06.36	16.24 (AG01)	07.07	17.56 (AG02)	07.37		07.13 07.41
	20.50	158	18.43 (AG01)	20.16 104	18.08 (AG01)	19.27 35	18.31 (AG02)	18.38		17.03 16.58
20	06.08		16.05 (AG01)	06.37	16.26 (AG01)	07.08	17.54 (AG02)	07.38		07.14 07.42
	20.50	158	18.43 (AG01)	20.15 99	18.05 (AG01)	19.25 38	18.32 (AG02)	18.37		17.02 16.58
21	06.09		16.04 (AG01)	06.38	16.28 (AG01)	07.09	17.52 (AG02)	07.39		07.15 07.43
	20.49	158	18.42 (AG01)	20.14 95	18.03 (AG01)	19.23 40	18.32 (AG02)	18.35		17.02 16.59
22	06.10		16.04 (AG01)	06.39	16.30 (AG01)	07.10	17.50 (AG02)	07.41		07.16 07.43
	20.48	157	18.41 (AG01)	20.12 89	17.59 (AG01)	19.22 42	18.32 (AG02)	18.34		17.01 16.59
23	06.11		16.04 (AG01)	06.40	16.33 (AG01)	07.10	17.49 (AG02)	07.42		07.18 07.44
	20.47	157	18.41 (AG01)	20.11 83	17.56 (AG01)	19.20 44	18.33 (AG02)	18.33		17.00 17.00
24	06.12		16.05 (AG01)	06.41	16.36 (AG01)	07.11	17.48 (AG02)	07.43		07.19 07.44
	20.47	156	18.41 (AG01)	20.09 76	17.52 (AG01)	19.18 45	18.33 (AG02)	18.31		17.00 17.00
25	06.13		16.05 (AG01)	06.42	16.40 (AG01)	07.12	17.47 (AG02)	06.44		07.20 07.44
	20.46	155	18.40 (AG01)	20.08 68	17.48 (AG01)	19.17 46	18.33 (AG02)	17.30		16.59 17.01
26	06.14		16.05 (AG01)	06.43	16.44 (AG01)	07.13	17.46 (AG02)	06.45		07.21 07.45
	20.45	155	18.40 (AG01)	20.06 59	17.43 (AG01)	19.15 47	18.33 (AG02)	17.29		16.59 17.02
27	06.14		16.04 (AG01)	06.44	16.50 (AG01)	07.14	17.46 (AG02)	06.46		07.22 07.45
	20.44	154	18.38 (AG01)	20.04 48	17.38 (AG01)	19.13 47	18.33 (AG02)	17.27		16.58 17.02
28	06.15		16.05 (AG01)	06.45	16.57 (AG01)	07.15	17.45 (AG02)	06.47		07.23 07.46
	20.43	153	18.38 (AG01)	20.03 33	17.30 (AG01)	19.12 48	18.33 (AG02)	17.26		16.58 17.03
29	06.16		16.05 (AG01)	06.46		07.16	17.45 (AG02)	06.48		07.24 07.46
	20.42	152	18.37 (AG01)	20.01		19.10 47	18.32 (AG02)	17.25		16.58 17.04
30	06.17		16.05 (AG01)	06.47		07.17	17.44 (AG02)	06.50		07.25 07.46
	20.41	151	18.36 (AG01)	20.00		19.08 48	18.32 (AG02)	17.23		16.57 17.04
31	06.18		16.06 (AG01)	06.48				06.51		07.46
	20.40	150	18.36 (AG01)	19.58				17.22		17.05
Potential sun hours	457		427		375		346		299	289
Total, worst case		4904		3131		639		516		

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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Licensed user:

Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:

22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R57 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (160)

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	07.08	06.23	18.52 (AG02)	05.55	05.56	06.19	19.08 (AG02)	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18 38	19.30 (AG02)	20.47	20.58	20.39 26	19.34 (AG02)	19.57	19.07	17.21	16.57
2	07.47	07.33	06.57	07.07	06.22	18.52 (AG02)	05.54	05.56	06.20	19.07 (AG02)	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.48	20.19 38	19.30 (AG02)	20.48	20.57	20.38 28	19.35 (AG02)	19.55	19.05	17.20	16.57
3	07.47	07.32	06.55	07.05	06.21	18.52 (AG02)	05.54	05.57	06.21	19.06 (AG02)	06.51	07.20	06.54	07.28
	17.08	17.42	18.16	19.49	20.20 38	19.30 (AG02)	20.48	20.57	20.37 30	19.36 (AG02)	19.53	19.03	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	18.53 (AG02)	05.54	05.57	06.22	19.05 (AG02)	06.52	07.21	06.55	07.29
	17.09	17.44	18.17	19.50	20.21 37	19.30 (AG02)	20.49	20.57	20.36 32	19.37 (AG02)	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	18.53 (AG02)	05.53	05.58	06.23	19.05 (AG02)	06.53	07.22	06.57	07.30
	17.10	17.45	18.18	19.51	20.22 36	19.29 (AG02)	20.50	20.57	20.35 33	19.38 (AG02)	19.50	19.00	17.16	16.56
6	07.47	07.29	06.51	07.00	06.17	18.53 (AG02)	05.53	05.58	06.24	19.04 (AG02)	06.54	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	20.23 35	19.28 (AG02)	20.50	20.57	20.33 34	19.38 (AG02)	19.49	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	06.16	18.53 (AG02)	05.53	05.59	06.25	19.02 (AG02)	06.55	07.25	06.59	07.32
	17.11	17.47	18.20	19.53	20.24 35	19.28 (AG02)	20.51	20.56	20.32 36	19.38 (AG02)	19.47	18.57	17.14	16.56
8	07.47	07.26	06.48	06.57	06.15	18.54 (AG02)	05.53	05.59	06.26	19.02 (AG02)	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25 33	19.27 (AG02)	20.51	20.56	20.31 36	19.38 (AG02)	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	18.55 (AG02)	05.52	06.00	06.27	19.01 (AG02)	06.57	07.27	07.01	07.34
	17.13	17.50	18.22	19.55	20.26 31	19.26 (AG02)	20.52	20.56	20.30 38	19.39 (AG02)	19.44	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	18.56 (AG02)	05.52	06.01	06.28	19.01 (AG02)	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27 29	19.25 (AG02)	20.53	20.55	20.29 38	19.39 (AG02)	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.11	18.57 (AG02)	05.52	06.01	06.29	19.00 (AG02)	06.59	07.29	07.04	07.36
	17.16	17.52	18.24	19.57	20.28 27	19.24 (AG02)	20.53	20.55	20.27 39	19.39 (AG02)	19.40	18.51	17.10	16.56
12	07.46	07.22	06.41	06.51	06.10	18.58 (AG02)	05.52	06.02	06.30	19.00 (AG02)	07.00	07.30	07.05	07.36
	17.17	17.53	18.26	19.58	20.29 25	19.23 (AG02)	20.54	20.55	20.26 39	19.39 (AG02)	19.39	18.49	17.09	16.56
13	07.46	07.21	06.40	06.49	06.09	18.59 (AG02)	05.52	06.03	06.31	19.00 (AG02)	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30 23	19.22 (AG02)	20.54	20.54	20.25 39	19.39 (AG02)	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.48	06.08	19.01 (AG02)	05.52	06.04	06.32	19.00 (AG02)	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31 19	19.20 (AG02)	20.55	20.54	20.23 39	19.39 (AG02)	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46 19.14 (AG02)	06.07	19.03 (AG02)	05.52	06.04	06.33	19.00 (AG02)	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01 1 19.15 (AG02)	20.32 15	19.18 (AG02)	20.55	20.53	20.22 39	19.39 (AG02)	19.34	18.44	17.06	16.57
16	07.45	07.17	06.35	06.44 19.07 (AG02)	06.06	19.05 (AG02)	05.52	06.05	06.34	19.00 (AG02)	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02 14 19.21 (AG02)	20.33 10	19.15 (AG02)	20.55	20.52	20.21 38	19.38 (AG02)	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43 19.04 (AG02)	06.05		05.52	06.06	06.35	19.00 (AG02)	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03 20 19.24 (AG02)	20.34		20.56	20.52	20.19 38	19.38 (AG02)	19.30	18.41	17.05	16.57
18	07.44	07.14	06.31	06.41 19.01 (AG02)	06.04		05.52	06.07	06.35	19.00 (AG02)	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04 25 19.26 (AG02)	20.35		20.56	20.51	20.18 37	19.37 (AG02)	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40 19.00 (AG02)	06.04		05.52	06.07	06.36	19.00 (AG02)	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05 28 19.28 (AG02)	20.36		20.56	20.50	20.16 37	19.37 (AG02)	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.38 18.58 (AG02)	06.03		05.52	06.08	06.37	19.01 (AG02)	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06 30 19.28 (AG02)	20.37		20.57	20.50	20.15 35	19.36 (AG02)	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37 18.57 (AG02)	06.02		05.52	06.09	06.38	19.01 (AG02)	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07 32 19.29 (AG02)	20.38		20.57	20.49	20.13 34	19.35 (AG02)	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36 18.55 (AG02)	06.01		05.52	06.10	06.39	19.01 (AG02)	07.09	07.41	07.16	07.43
	17.28	18.05	18.36	20.08 34 19.29 (AG02)	20.38		20.57	20.48	20.12 32	19.33 (AG02)	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34 18.55 (AG02)	06.00		05.53	06.11	06.40	19.02 (AG02)	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10 35 19.30 (AG02)	20.39		20.57	20.47	20.11 30	19.32 (AG02)	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33 18.54 (AG02)	06.00		05.53	06.12	06.41	19.03 (AG02)	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11 37 19.31 (AG02)	20.40		20.57	20.47	20.09 27	19.30 (AG02)	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31 18.53 (AG02)	05.59		05.53	06.13	06.42	19.04 (AG02)	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12 38 19.31 (AG02)	20.41		20.58	20.46	20.08 24	19.28 (AG02)	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30 18.53 (AG02)	05.58		05.54	06.13	06.43	19.06 (AG02)	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	20.13 38 19.31 (AG02)	20.42		20.58	20.45	20.06 20	19.26 (AG02)	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29 18.52 (AG02)	05.58		05.54	06.14 19.19 (AG02)	06.44	19.09 (AG02)	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14 39 19.31 (AG02)	20.43		20.58	20.44 4 19.23 (AG02)	20.04 14	19.23 (AG02)	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27 18.52 (AG02)	05.57		05.54	06.15 19.15 (AG02)	06.45		07.15	06.47	07.23	07.46
	17.35	18.12	18.43	20.15 39 19.31 (AG02)	20.44		20.58	20.43 12 19.27 (AG02)	20.03		19.12	17.26	16.58	17.03
29	07.36		07.13	06.26 18.52 (AG02)	05.56		05.55	06.16 19.12 (AG02)	06.46		07.16	06.48	07.24	07.46
	17.36		19.44	20.16 39 19.31 (AG02)	20.44		20.58	20.42 18 19.30 (AG02)	20.01		19.10	17.25	16.58	17.04
30	07.35		07.12	06.25 18.52 (AG02)	05.56		05.55	06.17 19.11 (AG02)	06.47		07.17	06.50	07.25	07.46
	17.37		19.45	20.17 39 19.31 (AG02)	20.45		20.58	20.41 20 19.31 (AG02)	20.00		19.08	17.23	16.57	17.04
31	07.35		07.10		05.55			06.18 19.09 (AG02)	06.48			06.51		07.46
	17.39		19.46		20.46			20.40 24 19.33 (AG02)	19.58			17.22		17.05
Potential sun hours	299	298	370	398	447	451	457	427	375	346	299	289		
Total, worst case				488	469		78	892						

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R58 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (164)

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		07.08		18.06 (AG01)	06.23	05.55
	17.06	17.40	18.13		19.47	49	18.55 (AG01)	20.18	20.47
2	07.47	07.33	06.57		17.38 (AG02)	07.07		18.05 (AG01)	06.22	05.54
	17.07	17.41	18.14	12	17.50 (AG02)	19.48	49	18.54 (AG01)	20.19	20.48
3	07.47	07.32	06.55		17.35 (AG02)	07.05		18.05 (AG01)	06.21	05.54
	17.08	17.42	18.16	17	17.52 (AG02)	19.49	48	18.53 (AG01)	20.20	20.48
4	07.47	07.31	06.54		17.34 (AG02)	07.03		18.06 (AG01)	06.19	05.54
	17.09	17.44	18.17	20	17.54 (AG02)	19.50	47	18.53 (AG01)	20.21	20.49
5	07.47	07.30	06.52		17.32 (AG02)	07.02		18.06 (AG01)	06.18	05.53
	17.10	17.45	18.18	22	17.54 (AG02)	19.51	46	18.52 (AG01)	20.22	20.50
6	07.47	07.29	06.51		17.30 (AG02)	07.00		18.07 (AG01)	06.17	05.53
	17.11	17.46	18.19	25	17.55 (AG02)	19.52	44	18.51 (AG01)	20.23	20.50
7	07.47	07.28	06.49		17.30 (AG02)	06.59		18.07 (AG01)	06.16	05.53
	17.11	17.47	18.20	26	17.56 (AG02)	19.53	43	18.50 (AG01)	20.24	20.51
8	07.47	07.26	06.48		17.29 (AG02)	06.57		18.08 (AG01)	06.15	05.52
	17.12	17.48	18.21	27	17.56 (AG02)	19.54	40	18.48 (AG01)	20.25	20.51
9	07.47	07.25	06.46		17.29 (AG02)	06.55		18.09 (AG01)	06.14	05.52
	17.13	17.50	18.22	27	17.56 (AG02)	19.55	38	18.47 (AG01)	20.26	20.52
10	07.46	07.24	06.44		17.28 (AG02)	06.54		18.10 (AG01)	06.12	05.52
	17.14	17.51	18.23	28	17.56 (AG02)	19.56	35	18.45 (AG01)	20.27	20.53
11	07.46	07.23	06.43		17.27 (AG02)	06.52		18.12 (AG01)	06.11	05.52
	17.15	17.52	18.24	28	17.55 (AG02)	19.57	32	18.44 (AG01)	20.28	20.53
12	07.46	07.22	06.41		17.28 (AG02)	06.51		18.13 (AG01)	06.10	05.52
	17.17	17.53	18.26	27	17.55 (AG02)	19.58	29	18.42 (AG01)	20.29	20.54
13	07.46	07.21	06.40		17.28 (AG02)	06.49		18.15 (AG01)	06.09	05.52
	17.18	17.55	18.27	26	17.54 (AG02)	19.59	25	18.40 (AG01)	20.30	20.54
14	07.45	07.19	06.38		17.28 (AG02)	06.48		18.17 (AG01)	06.08	05.52
	17.19	17.56	18.28	25	17.53 (AG02)	20.00	19	18.36 (AG01)	20.31	20.55
15	07.45	07.18	06.36		17.26 (AG01)	06.46		18.21 (AG01)	06.07	05.52
	17.20	17.57	18.29	27	17.53 (AG02)	20.01	10	18.31 (AG01)	20.32	20.55
16	07.45	07.17	06.35		17.22 (AG01)	06.44			06.06	05.52
	17.21	17.58	18.30	29	17.51 (AG02)	20.02			20.33	20.55
17	07.44	07.15	06.33		17.19 (AG01)	06.43			06.05	05.52
	17.22	17.59	18.31	30	17.49 (AG01)	20.03			20.34	20.56
18	07.44	07.14	06.31		17.17 (AG01)	06.41			06.04	05.52
	17.23	18.01	18.32	34	17.51 (AG01)	20.04			20.35	20.56
19	07.43	07.13	06.30		17.15 (AG01)	06.40			06.04	05.52
	17.24	18.02	18.33	37	17.52 (AG01)	20.05			20.36	20.56
20	07.43	07.11	06.28		17.14 (AG01)	06.38			06.03	05.52
	17.25	18.03	18.34	39	17.53 (AG01)	20.06			20.37	20.57
21	07.42	07.10	06.26		17.12 (AG01)	06.37			06.02	05.52
	17.27	18.04	18.35	42	17.54 (AG01)	20.07			20.38	20.57
22	07.41	07.09	06.25		17.11 (AG01)	06.36			06.01	05.52
	17.28	18.05	18.36	43	17.54 (AG01)	20.08			20.38	20.57
23	07.41	07.07	06.23		17.10 (AG01)	06.34			06.00	05.53
	17.29	18.06	18.37	46	17.56 (AG01)	20.10			20.39	20.57
24	07.40	07.06	06.21		17.09 (AG01)	06.33			06.00	05.53
	17.30	18.08	18.38	47	17.56 (AG01)	20.11			20.40	20.57
25	07.39	07.04	06.20		17.08 (AG01)	06.31			05.59	05.53
	17.31	18.09	18.39	48	17.56 (AG01)	20.12			20.41	20.58
26	07.39	07.03	06.18		17.08 (AG01)	06.30			05.58	05.53
	17.33	18.10	18.40	48	17.56 (AG01)	20.13			20.42	20.58
27	07.38	07.01	06.17		17.07 (AG01)	06.29			05.58	05.54
	17.34	18.11	18.41	49	17.56 (AG01)	20.14			20.43	20.58
28	07.37	07.00	06.15		17.06 (AG01)	06.27			05.57	05.54
	17.35	18.12	18.42	50	17.56 (AG01)	20.15			20.44	20.58
29	07.36		07.13		18.06 (AG01)	06.26			05.56	05.55
	17.36		19.44	50	18.56 (AG01)	20.16			20.44	20.58
30	07.35		07.12		18.06 (AG01)	06.24			05.56	05.55
	17.37		19.45	49	18.55 (AG01)	20.17			20.45	20.58
31	07.35		07.10		18.05 (AG01)				05.55	
	17.39		19.46	50	18.55 (AG01)				20.46	
Potential sun hours	299	298	370		398			447	451
Total, worst case				1028		554			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R58 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (164)

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		18.11 (AG01)	07.18		18.07 (AG02)	06.52	07.26
	20.58	20.39			19.57	32	18.43 (AG01)	19.07	27	18.34 (AG02)	17.21	16.57
2	05.56	06.20			06.50		18.09 (AG01)	07.19		18.06 (AG02)	06.53	07.27
	20.57	20.38			19.55	35	18.44 (AG01)	19.05	28	18.34 (AG02)	17.20	16.57
3	05.56	06.21			06.51		18.07 (AG01)	07.20		18.06 (AG02)	06.54	07.28
	20.57	20.37			19.53	38	18.45 (AG01)	19.03	28	18.34 (AG02)	17.18	16.56
4	05.57	06.22			06.52		18.06 (AG01)	07.21		18.05 (AG02)	06.55	07.29
	20.57	20.36			19.52	40	18.46 (AG01)	19.02	28	18.33 (AG02)	17.17	16.56
5	05.58	06.23			06.53		18.03 (AG01)	07.22		18.05 (AG02)	06.57	07.30
	20.57	20.35			19.50	43	18.46 (AG01)	19.00	28	18.33 (AG02)	17.16	16.56
6	05.58	06.24			06.54		18.02 (AG01)	07.23		18.05 (AG02)	06.58	07.31
	20.57	20.33			19.49	44	18.46 (AG01)	18.59	27	18.32 (AG02)	17.15	16.56
7	05.59	06.25			06.55		18.01 (AG01)	07.25		18.05 (AG02)	06.59	07.32
	20.56	20.32			19.47	46	18.47 (AG01)	18.57	26	18.31 (AG02)	17.14	16.56
8	05.59	06.26			06.56		18.00 (AG01)	07.26		18.07 (AG02)	07.00	07.33
	20.56	20.31			19.45	47	18.47 (AG01)	18.55	24	18.31 (AG02)	17.13	16.56
9	06.00	06.27			06.57		17.59 (AG01)	07.27		18.08 (AG02)	07.01	07.34
	20.56	20.30			19.44	48	18.47 (AG01)	18.54	21	18.29 (AG02)	17.12	16.56
10	06.01	06.28			06.58		17.59 (AG01)	07.28		18.09 (AG02)	07.02	07.35
	20.55	20.29			19.42	48	18.47 (AG01)	18.52	18	18.27 (AG02)	17.11	16.56
11	06.01	06.29			06.59		17.58 (AG01)	07.29		18.11 (AG02)	07.04	07.36
	20.55	20.27			19.40	49	18.47 (AG01)	18.51	14	18.25 (AG02)	17.10	16.56
12	06.02	06.30			07.00		17.57 (AG01)	07.30		18.14 (AG02)	07.05	07.36
	20.55	20.26			19.39	50	18.47 (AG01)	18.49	7	18.21 (AG02)	17.09	16.56
13	06.03	06.31			07.01		17.57 (AG01)	07.31			07.06	07.37
	20.54	20.25			19.37	50	18.47 (AG01)	18.47			17.08	16.56
14	06.04	06.32			07.02		17.57 (AG01)	07.32			07.07	07.38
	20.54	20.23			19.35	49	18.46 (AG01)	18.46			17.07	16.56
15	06.04	06.33			07.03		17.56 (AG01)	07.33			07.08	07.39
	20.53	20.22			19.34	50	18.46 (AG01)	18.44			17.06	16.57
16	06.05	06.34			07.04		17.56 (AG01)	07.34			07.09	07.39
	20.52	20.21			19.32	49	18.45 (AG01)	18.43			17.05	16.57
17	06.06	06.34			07.05		17.56 (AG01)	07.35			07.11	07.40
	20.52	20.19			19.30	49	18.45 (AG01)	18.41			17.05	16.57
18	06.07	06.35			07.06		17.56 (AG01)	07.36			07.12	07.41
	20.51	20.18			19.29	48	18.44 (AG01)	18.40			17.04	16.58
19	06.07	06.36			07.07		17.56 (AG01)	07.37			07.13	07.41
	20.50	20.16			19.27	47	18.43 (AG01)	18.38			17.03	16.58
20	06.08	06.37			07.08		17.55 (AG01)	07.38			07.14	07.42
	20.50	20.15			19.25	46	18.41 (AG01)	18.37			17.02	16.58
21	06.09	06.38			07.08		17.56 (AG01)	07.39			07.15	07.43
	20.49	20.13			19.23	44	18.40 (AG01)	18.35			17.02	16.59
22	06.10	06.39			07.09		17.56 (AG01)	07.41			07.16	07.43
	20.48	20.12			19.22	43	18.39 (AG01)	18.34			17.01	16.59
23	06.11	06.40			07.10		17.57 (AG01)	07.42			07.18	07.44
	20.47	20.11			19.20	40	18.37 (AG01)	18.33			17.00	17.00
24	06.12	06.41			07.11		17.58 (AG01)	07.43			07.19	07.44
	20.47	20.09			19.18	38	18.36 (AG01)	18.31			17.00	17.00
25	06.13	06.42			07.12		17.59 (AG01)	06.44			07.20	07.44
	20.46	20.08			19.17	35	18.34 (AG01)	17.30			16.59	17.01
26	06.13	06.43			07.13		18.01 (AG01)	06.45			07.21	07.45
	20.45	20.06			19.15	31	18.32 (AG01)	17.28			16.59	17.02
27	06.14	06.44			07.14		18.02 (AG01)	06.46			07.22	07.45
	20.44	20.04			19.13	30	18.32 (AG02)	17.27			16.58	17.02
28	06.15	06.45		18.22 (AG01)	07.15		18.05 (AG01)	06.47			07.23	07.46
	20.43	20.03	12	18.34 (AG01)	19.12	28	18.33 (AG02)	17.26			16.58	17.03
29	06.16	06.46		18.18 (AG01)	07.16		18.09 (AG02)	06.48			07.24	07.46
	20.42	20.01	20	18.38 (AG01)	19.10	24	18.33 (AG02)	17.25			16.58	17.04
30	06.17	06.47		18.15 (AG01)	07.17		18.08 (AG02)	06.50			07.25	07.46
	20.41	20.00	25	18.40 (AG01)	19.08	26	18.34 (AG02)	17.23			16.57	17.04
31	06.18	06.48		18.13 (AG01)				06.51				07.46
	20.40	19.58	29	18.42 (AG01)				17.22				17.05
Potential sun hours	457	427			375			346			299	289
Total, worst case			86			1247			276			

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R59 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (186)

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		07.08			06.23		08.04 (AG04)	05.55		06.32 (AG06)
	17.06		17.40		18.13		19.47			20.18	85	09.29 (AG04)	20.47	92	09.15 (AG04)
2	07.47		07.33		06.57		07.07		08.46 (AG04)	06.22		08.04 (AG04)	05.54		06.32 (AG06)
	17.07		17.41		18.14		19.48	23	09.09 (AG04)	20.19	85	09.29 (AG04)	20.48	91	09.15 (AG04)
3	07.47		07.32		06.55		07.05		08.40 (AG04)	06.21		08.04 (AG04)	05.54		06.32 (AG06)
	17.08		17.42		18.16		19.49	33	09.13 (AG04)	20.20	85	09.29 (AG04)	20.48	90	09.14 (AG04)
4	07.47		07.31		06.54		07.03		08.37 (AG04)	06.19		08.04 (AG04)	05.54		06.32 (AG06)
	17.09		17.43		18.17		19.50	40	09.17 (AG04)	20.21	85	09.29 (AG04)	20.49	89	09.14 (AG04)
5	07.47		07.30		06.52		07.02		08.33 (AG04)	06.18		08.03 (AG04)	05.53		06.33 (AG06)
	17.09		17.45		18.18		19.51	46	09.19 (AG04)	20.22	85	09.28 (AG04)	20.50	89	09.14 (AG04)
6	07.47		07.29		06.51		07.00		08.30 (AG04)	06.17		08.03 (AG04)	05.53		06.32 (AG06)
	17.10		17.46		18.19		19.52	51	09.21 (AG04)	20.23	84	09.27 (AG04)	20.50	88	09.13 (AG04)
7	07.47		07.28		06.49		06.59		08.28 (AG04)	06.16		08.03 (AG04)	05.53		06.32 (AG06)
	17.11		17.47		18.20		19.53	55	09.23 (AG04)	20.24	84	09.27 (AG04)	20.51	88	09.13 (AG04)
8	07.47		07.26		06.47		06.57		08.26 (AG04)	06.15		08.03 (AG04)	05.52		06.33 (AG06)
	17.12		17.48		18.21		19.54	58	09.24 (AG04)	20.25	84	09.27 (AG04)	20.51	86	09.13 (AG04)
9	07.47		07.25		06.46		06.55		08.24 (AG04)	06.13		08.03 (AG04)	05.52		06.33 (AG06)
	17.13		17.50		18.22		19.55	62	09.26 (AG04)	20.26	83	09.26 (AG04)	20.52	86	09.13 (AG04)
10	07.46		07.24		06.44		06.54		08.22 (AG04)	06.12		08.04 (AG04)	05.52		06.34 (AG06)
	17.14		17.51		18.23		19.56	65	09.27 (AG04)	20.27	82	09.26 (AG04)	20.53	84	09.13 (AG04)
11	07.46		07.23		06.43		06.52		08.21 (AG04)	06.11		08.04 (AG04)	05.52		06.34 (AG06)
	17.15		17.52		18.24		19.57	67	09.28 (AG04)	20.28	81	09.25 (AG04)	20.53	84	09.13 (AG04)
12	07.46		07.22		06.41		06.51		08.19 (AG04)	06.10		08.04 (AG04)	05.52		06.34 (AG06)
	17.16		17.53		18.25		19.58	70	09.29 (AG04)	20.29	81	09.25 (AG04)	20.54	84	09.13 (AG04)
13	07.46		07.21		06.39		06.49		08.17 (AG04)	06.09		08.04 (AG04)	05.52		06.35 (AG06)
	17.18		17.55		18.27		19.59	72	09.29 (AG04)	20.30	80	09.24 (AG04)	20.54	82	09.13 (AG04)
14	07.45		07.19		06.38		06.47		08.16 (AG04)	06.08		08.04 (AG04)	05.52		06.35 (AG06)
	17.19		17.56		18.28		20.00	74	09.30 (AG04)	20.31	80	09.24 (AG04)	20.55	82	09.13 (AG04)
15	07.45		07.18		06.36		06.46		08.14 (AG04)	06.07		08.04 (AG04)	05.52		06.35 (AG06)
	17.20		17.57		18.29		20.01	76	09.30 (AG04)	20.32	79	09.23 (AG04)	20.55	82	09.13 (AG04)
16	07.45		07.17		06.35		06.44		08.14 (AG04)	06.06		06.42 (AG06)	05.52		06.35 (AG06)
	17.21		17.58		18.30		20.02	77	09.31 (AG04)	20.33	82	09.22 (AG04)	20.55	81	09.13 (AG04)
17	07.44		07.15		06.33		06.43		08.12 (AG04)	06.05		06.39 (AG06)	05.52		06.36 (AG06)
	17.22		17.59		18.31		20.03	79	09.31 (AG04)	20.34	88	09.22 (AG04)	20.56	81	09.13 (AG04)
18	07.44		07.14		06.31		06.41		08.12 (AG04)	06.04		06.38 (AG06)	05.52		06.36 (AG06)
	17.23		18.01		18.32		20.04	79	09.31 (AG04)	20.35	91	09.22 (AG04)	20.56	81	09.13 (AG04)
19	07.43		07.13		06.30		06.40		08.10 (AG04)	06.03		06.36 (AG06)	05.52		06.36 (AG06)
	17.24		18.02		18.33		20.05	81	09.31 (AG04)	20.36	93	09.21 (AG04)	20.56	81	09.13 (AG04)
20	07.43		07.11		06.28		06.38		08.10 (AG04)	06.03		06.35 (AG06)	05.52		06.36 (AG06)
	17.25		18.03		18.34		20.06	82	09.32 (AG04)	20.37	94	09.20 (AG04)	20.57	81	09.13 (AG04)
21	07.42		07.10		06.26		06.37		08.09 (AG04)	06.02		06.34 (AG06)	05.52		06.36 (AG06)
	17.27		18.04		18.35		20.07	83	09.32 (AG04)	20.38	96	09.20 (AG04)	20.57	81	09.13 (AG04)
22	07.41		07.09		06.25		06.35		08.08 (AG04)	06.01		06.34 (AG06)	05.52		06.37 (AG06)
	17.28		18.05		18.36		20.08	84	09.32 (AG04)	20.39	96	09.20 (AG04)	20.57	81	09.14 (AG04)
23	07.41		07.07		06.23		06.34		08.08 (AG04)	06.00		06.33 (AG06)	05.53		06.37 (AG06)
	17.29		18.06		18.37		20.10	84	09.32 (AG04)	20.39	96	09.19 (AG04)	20.57	81	09.14 (AG04)
24	07.40		07.06		06.21		06.33		08.07 (AG04)	06.00		06.32 (AG06)	05.53		06.37 (AG06)
	17.30		18.08		18.38		20.11	84	09.31 (AG04)	20.40	96	09.18 (AG04)	20.57	81	09.14 (AG04)
25	07.39		07.04		06.20		06.31		08.06 (AG04)	05.59		06.33 (AG06)	05.53		06.37 (AG06)
	17.31		18.09		18.39		20.12	85	09.31 (AG04)	20.41	95	09.18 (AG04)	20.58	81	09.14 (AG04)
26	07.39		07.03		06.18		06.30		08.06 (AG04)	05.58		06.32 (AG06)	05.53		06.37 (AG06)
	17.32		18.10		18.40		20.13	86	09.32 (AG04)	20.42	95	09.17 (AG04)	20.58	81	09.15 (AG04)
27	07.38		07.01		06.16		06.28		08.05 (AG04)	05.58		06.31 (AG06)	05.54		06.37 (AG06)
	17.34		18.11		18.41		20.14	86	09.31 (AG04)	20.43	96	09.17 (AG04)	20.58	82	09.15 (AG04)
28	07.37		07.00		06.15		06.27		08.05 (AG04)	05.57		06.32 (AG06)	05.54		06.37 (AG06)
	17.35		18.12		18.42		20.15	86	09.31 (AG04)	20.44	95	09.17 (AG04)	20.58	82	09.15 (AG04)
29	07.36				07.13		06.26		08.05 (AG04)	05.56		06.31 (AG06)	05.55		06.38 (AG06)
	17.36				19.44		20.16	86	09.31 (AG04)	20.44	95	09.16 (AG04)	20.58	82	09.16 (AG04)
30	07.35				07.12		06.24		08.05 (AG04)	05.56		06.32 (AG06)	05.55		06.37 (AG06)
	17.37				19.45		20.17	86	09.31 (AG04)	20.45	93	09.16 (AG04)	20.58	84	09.16 (AG04)
31	07.35				07.10					05.55		06.31 (AG06)			
	17.39				19.46					20.46	93	09.15 (AG04)			
Potential sun hours	299		298		370		398			447			451		
Total, worst case								2040			2737			2518	

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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.45 / 101
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R59 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (186)

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	05.55		06.38 (AG06)	06.19		08.14 (AG04)	06.49		08.20 (AG04)	07.18	06.52	07.26
	20.58	84	09.17 (AG04)	20.39	81	09.35 (AG04)	19.57	67	09.27 (AG04)	19.07	17.21	16.57
2	05.56		06.38 (AG06)	06.20		08.14 (AG04)	06.50		08.21 (AG04)	07.19	06.53	07.27
	20.58	85	09.17 (AG04)	20.38	82	09.36 (AG04)	19.55	65	09.26 (AG04)	19.05	17.19	16.57
3	05.56		06.38 (AG06)	06.21		08.14 (AG04)	06.51		08.22 (AG04)	07.20	06.54	07.28
	20.57	85	09.18 (AG04)	20.37	82	09.36 (AG04)	19.53	62	09.24 (AG04)	19.03	17.18	16.56
4	05.57		06.38 (AG06)	06.22		08.14 (AG04)	06.52		08.23 (AG04)	07.21	06.55	07.29
	20.57	86	09.18 (AG04)	20.36	83	09.37 (AG04)	19.52	58	09.21 (AG04)	19.02	17.17	16.56
5	05.57		06.39 (AG06)	06.23		08.13 (AG04)	06.53		08.24 (AG04)	07.22	06.57	07.30
	20.57	87	09.19 (AG04)	20.35	83	09.36 (AG04)	19.50	55	09.19 (AG04)	19.00	17.16	16.56
6	05.58		06.38 (AG06)	06.24		08.13 (AG04)	06.54		08.26 (AG04)	07.23	06.58	07.31
	20.57	87	09.19 (AG04)	20.33	84	09.37 (AG04)	19.48	51	09.17 (AG04)	18.58	17.15	16.56
7	05.59		06.39 (AG06)	06.25		08.13 (AG04)	06.55		08.28 (AG04)	07.24	06.59	07.32
	20.56	88	09.20 (AG04)	20.32	84	09.37 (AG04)	19.47	46	09.14 (AG04)	18.57	17.14	16.56
8	05.59		06.39 (AG06)	06.26		08.13 (AG04)	06.56		08.31 (AG04)	07.26	07.00	07.33
	20.56	90	09.21 (AG04)	20.31	84	09.37 (AG04)	19.45	40	09.11 (AG04)	18.55	17.13	16.56
9	06.00		06.39 (AG06)	06.27		08.13 (AG04)	06.57		08.34 (AG04)	07.27	07.01	07.34
	20.56	90	09.21 (AG04)	20.30	85	09.38 (AG04)	19.44	33	09.07 (AG04)	18.54	17.12	16.56
10	06.01		06.39 (AG06)	06.28		08.13 (AG04)	06.58		08.38 (AG04)	07.28	07.02	07.35
	20.55	92	09.22 (AG04)	20.29	85	09.38 (AG04)	19.42	25	09.03 (AG04)	18.52	17.11	16.56
11	06.01		06.40 (AG06)	06.29		08.13 (AG04)	06.59		08.48 (AG04)	07.29	07.04	07.36
	20.55	92	09.23 (AG04)	20.27	85	09.38 (AG04)	19.40	5	08.53 (AG04)	18.51	17.10	16.56
12	06.02		06.39 (AG06)	06.30		08.13 (AG04)	07.00			07.30	07.05	07.36
	20.55	93	09.23 (AG04)	20.26	85	09.38 (AG04)	19.39			18.49	17.09	16.56
13	06.03		06.40 (AG06)	06.30		08.13 (AG04)	07.01			07.31	07.06	07.37
	20.54	94	09.24 (AG04)	20.25	85	09.38 (AG04)	19.37			18.47	17.08	16.56
14	06.03		06.41 (AG06)	06.31		08.13 (AG04)	07.02			07.32	07.07	07.38
	20.54	93	09.25 (AG04)	20.23	85	09.38 (AG04)	19.35			18.46	17.07	16.56
15	06.04		06.40 (AG06)	06.32		08.13 (AG04)	07.03			07.33	07.08	07.39
	20.53	94	09.25 (AG04)	20.22	85	09.38 (AG04)	19.34			18.44	17.06	16.57
16	06.05		06.41 (AG06)	06.33		08.13 (AG04)	07.04			07.34	07.09	07.39
	20.52	95	09.26 (AG04)	20.21	85	09.38 (AG04)	19.32			18.43	17.05	16.57
17	06.06		06.41 (AG06)	06.34		08.13 (AG04)	07.05			07.35	07.11	07.40
	20.52	96	09.27 (AG04)	20.19	85	09.38 (AG04)	19.30			18.41	17.04	16.57
18	06.07		06.42 (AG06)	06.35		08.13 (AG04)	07.06			07.36	07.12	07.41
	20.51	95	09.27 (AG04)	20.18	85	09.38 (AG04)	19.28			18.40	17.04	16.57
19	06.07		06.43 (AG06)	06.36		08.13 (AG04)	07.07			07.37	07.13	07.41
	20.50	95	09.28 (AG04)	20.16	85	09.38 (AG04)	19.27			18.38	17.03	16.58
20	06.08		06.42 (AG06)	06.37		08.13 (AG04)	07.07			07.38	07.14	07.42
	20.50	96	09.28 (AG04)	20.15	84	09.37 (AG04)	19.25			18.37	17.02	16.58
21	06.09		06.43 (AG06)	06.38		08.13 (AG04)	07.08			07.39	07.15	07.43
	20.49	96	09.29 (AG04)	20.13	83	09.36 (AG04)	19.23			18.35	17.02	16.59
22	06.10		06.44 (AG06)	06.39		08.13 (AG04)	07.09			07.41	07.16	07.43
	20.48	96	09.30 (AG04)	20.12	83	09.36 (AG04)	19.22			18.34	17.01	16.59
23	06.11		06.45 (AG06)	06.40		08.14 (AG04)	07.10			07.42	07.18	07.44
	20.47	95	09.31 (AG04)	20.11	81	09.35 (AG04)	19.20			18.33	17.00	17.00
24	06.12		06.46 (AG06)	06.41		08.14 (AG04)	07.11			07.43	07.19	07.44
	20.47	93	09.31 (AG04)	20.09	81	09.35 (AG04)	19.18			18.31	17.00	17.00
25	06.12		06.47 (AG06)	06.42		08.15 (AG04)	07.12			06.44	07.20	07.44
	20.46	92	09.32 (AG04)	20.07	79	09.34 (AG04)	19.17			17.30	16.59	17.01
26	06.13		06.48 (AG06)	06.43		08.15 (AG04)	07.13			06.45	07.21	07.45
	20.45	91	09.32 (AG04)	20.06	79	09.34 (AG04)	19.15			17.28	16.59	17.01
27	06.14		06.50 (AG06)	06.44		08.16 (AG04)	07.14			06.46	07.22	07.45
	20.44	87	09.32 (AG04)	20.04	77	09.33 (AG04)	19.13			17.27	16.58	17.02
28	06.15		08.15 (AG04)	06.45		08.16 (AG04)	07.15			06.47	07.23	07.46
	20.43	78	09.33 (AG04)	20.03	76	09.32 (AG04)	19.12			17.26	16.58	17.03
29	06.16		08.15 (AG04)	06.46		08.17 (AG04)	07.16			06.48	07.24	07.46
	20.42	79	09.34 (AG04)	20.01	74	09.31 (AG04)	19.10			17.24	16.58	17.03
30	06.17		08.15 (AG04)	06.47		08.18 (AG04)	07.17			06.50	07.25	07.46
	20.41	79	09.34 (AG04)	20.00	72	09.30 (AG04)	19.08			17.23	16.57	17.04
31	06.18		08.15 (AG04)	06.48		08.19 (AG04)				06.51		07.46
	20.40	80	09.35 (AG04)	19.58	70	09.29 (AG04)				17.22		17.05
Potential sun hours	458			427			375			346	299	289
Total, worst case		2783			2537			507				

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 102
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R60 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (178)

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		15.34 (AG015)	07.34	06.58	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52			07.26		15.21 (AG015)
	17.06	66	16.40 (AG13)	17.40	18.13	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21			16.57	64	16.28 (AG13)
2	07.47		15.34 (AG015)	07.33	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	06.53			07.27		15.22 (AG015)
	17.07	67	16.41 (AG13)	17.41	18.14	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.19			16.57	65	16.29 (AG13)
3	07.47		15.35 (AG015)	07.32	06.55	07.05	06.21	05.54	05.56	06.21	06.51	07.20	06.54			07.28		15.22 (AG015)
	17.08	67	16.42 (AG13)	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18			16.56	66	16.30 (AG13)
4	07.47		15.35 (AG015)	07.31	06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55			07.29		15.22 (AG015)
	17.09	68	16.43 (AG13)	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17			16.56	68	16.31 (AG13)
5	07.47		15.36 (AG015)	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57			07.30		15.22 (AG015)
	17.09	68	16.44 (AG13)	17.45	18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16			16.56	69	16.31 (AG13)
6	07.47		15.36 (AG015)	07.29	06.51	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58			07.31		15.22 (AG015)
	17.10	69	16.45 (AG13)	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15			16.56	69	16.31 (AG13)
7	07.47		15.37 (AG015)	07.27	06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59			07.32		15.23 (AG015)
	17.11	69	16.46 (AG13)	17.47	18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14			16.56	68	16.31 (AG13)
8	07.47		15.37 (AG015)	07.26	06.47	06.57	06.15	05.52	05.59	06.26	06.56	07.26	07.00			07.33		15.22 (AG015)
	17.12	68	16.46 (AG13)	17.48	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13			16.56	68	16.30 (AG13)
9	07.47		15.38 (AG015)	07.25	06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01			07.34		15.23 (AG015)
	17.13	66	16.46 (AG13)	17.50	18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12			16.56	67	16.30 (AG13)
10	07.46		15.38 (AG015)	07.24	06.44	06.54	06.12	05.52	06.01	06.28	06.58	07.28	07.02			07.35		15.23 (AG015)
	17.14	66	16.46 (AG13)	17.51	18.23	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11			16.56	67	16.30 (AG13)
11	07.46		15.39 (AG015)	07.23	06.43	06.52	06.11	05.52	06.01	06.29	06.59	07.29	07.04			07.36		15.24 (AG015)
	17.15	64	16.46 (AG13)	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10			16.56	67	16.31 (AG13)
12	07.46		15.39 (AG015)	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05			07.36		15.24 (AG015)
	17.16	62	16.45 (AG13)	17.53	18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09			16.56	67	16.31 (AG13)
13	07.46		15.40 (AG015)	07.20	06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06		15.34 (AG015)	07.37		15.25 (AG015)
	17.17	60	16.45 (AG13)	17.54	18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	14	15.48 (AG015)	16.56	66	16.31 (AG13)
14	07.45		15.41 (AG015)	07.19	06.38	06.47	06.08	05.52	06.03	06.31	07.02	07.32	07.07		15.32 (AG015)	07.38		15.24 (AG015)
	17.19	55	16.43 (AG13)	17.56	18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	20	15.52 (AG015)	16.56	67	16.31 (AG13)
15	07.45		15.42 (AG015)	07.18	06.36	06.46	06.07	05.52	06.04	06.32	07.03	07.33	07.08		15.30 (AG015)	07.39		15.25 (AG015)
	17.20	47	16.40 (AG13)	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.34	18.44	17.06	24	15.54 (AG015)	16.57	66	16.31 (AG13)
16	07.45		15.43 (AG015)	07.17	06.35	06.44	06.06	05.52	06.05	06.33	07.04	07.34	07.09		15.28 (AG015)	07.39		15.26 (AG015)
	17.21	46	16.29 (AG015)	17.58	18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.05	28	15.56 (AG015)	16.57	66	16.32 (AG13)
17	07.44		15.43 (AG015)	07.15	06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11		15.26 (AG015)	07.40		15.26 (AG015)
	17.22	45	16.28 (AG015)	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	31	15.57 (AG015)	16.57	65	16.31 (AG13)
18	07.44		15.44 (AG015)	07.14	06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12		15.25 (AG015)	07.41		15.27 (AG015)
	17.23	43	16.27 (AG015)	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	33	15.58 (AG015)	16.57	65	16.32 (AG13)
19	07.43		15.45 (AG015)	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	07.37	07.13		15.25 (AG015)	07.41		15.27 (AG015)
	17.24	43	16.28 (AG015)	18.02	18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03	35	16.00 (AG015)	16.58	66	16.33 (AG13)
20	07.43		15.46 (AG015)	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14		15.24 (AG015)	07.42		15.27 (AG015)
	17.25	41	16.27 (AG015)	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	37	16.01 (AG015)	16.58	66	16.33 (AG13)
21	07.42		15.48 (AG015)	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15		15.23 (AG015)	07.43		15.28 (AG015)
	17.27	39	16.27 (AG015)	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	39	16.02 (AG015)	16.59	65	16.33 (AG13)
22	07.41		15.49 (AG015)	07.09	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.41	07.16		15.22 (AG015)	07.43		15.28 (AG015)
	17.28	37	16.26 (AG015)	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	41	16.03 (AG015)	16.59	65	16.33 (AG13)
23	07.41		15.50 (AG015)	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.18		15.22 (AG015)	07.44		15.29 (AG015)
	17.29	35	16.25 (AG015)	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.00	43	16.05 (AG015)	17.00	65	16.34 (AG13)
24	07.40		15.52 (AG015)	07.06	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19		15.22 (AG015)	07.44		15.29 (AG015)
	17.30	33	16.25 (AG015)	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	43	16.05 (AG015)	17.00	66	16.35 (AG13)
25	07.39		15.53 (AG015)	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20		15.22 (AG015)	07.44		15.30 (AG015)
	17.31	31	16.24 (AG015)	18.09	18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	44	16.06 (AG015)	17.01	65	16.35 (AG13)
26	07.39		15.55 (AG015)	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21		15.21 (AG015)	07.45		15.31 (AG015)
	17.32	28	16.23 (AG015)	18.10	18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	46	16.07 (AG015)	17.01	65	16.36 (AG13)
27	07.38		15.57 (AG015)	07.01	06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22		15.21 (AG015)	07.45		15.31 (AG015)
	17.34	24	16.21 (AG015)	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	46	16.07 (AG015)	17.02	65	16.36 (AG13)
28	07.37		15.59 (AG015)	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23		15.21 (AG015)	07.46		15.31 (AG015)
	17.35	20	16.19 (AG015)	18.12	18.42	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	55	16.23 (AG13)	17.03	66	16.37 (AG13)
29	07.36		16.03 (AG015)		07.13	06.26	05.56	05.54	06.16	06.46	07.16	06.48	07.24		15.21 (AG015)	07.46		15.31 (AG015)
	17.36	13	16.16 (AG015)		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	58	16.25 (AG13)	17.03	66	16.37 (AG13)
30	07.35				07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25		15.21 (AG015)	07.46		15.33 (AG015)
	17.37				19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	62	16.27 (AG13)	17.04	66	16.39 (AG13)
31	07.35				07.10		05.55		06.18	06.48		06.51				07.46		15.33 (AG015)
	17.39				19.46		20.46		20.40	19.58		17.22				17.05	67	16.40 (AG13)
Potential sun hours	299			298	370	398	447	451	458	427	375	346	299			289		
Total, worst case		1440												699			2053	

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:

Wpd_2020_06_22

Printed/Page

22/06/2020 15.45 / 103

Licensed user:

Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:

22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R61 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (179)

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		15.48 (AG015)	07.34	16.09 (AG015)	06.58	07.08	06.23	05.55	05.55	06.19	06.49	07.18	06.52	07.26	15.34 (AG015)
	17.06	52	16.40 (AG13)	17.40	24 16.33 (AG015)	18.13	19.47	20.18	20.47	20.58	20.39	19.57	19.07	17.21	16.57	59 16.33 (AG13)
2	07.47		15.48 (AG015)	07.33	16.12 (AG015)	06.57	07.07	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27	15.34 (AG015)
	17.07	53	16.41 (AG13)	17.41	19 16.31 (AG015)	18.14	19.48	20.19	20.47	20.57	20.38	19.55	19.05	17.19	16.57	58 16.32 (AG13)
3	07.47		15.48 (AG015)	07.32	16.15 (AG015)	06.55	07.05	06.21	05.54	05.56	06.21	06.51	07.20	06.54	07.28	15.34 (AG015)
	17.08	54	16.42 (AG13)	17.42	13 16.28 (AG015)	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56	58 16.32 (AG13)
4	07.47		15.49 (AG015)	07.31		06.54	07.03	06.19	05.54	05.57	06.22	06.52	07.21	06.55	07.29	15.35 (AG015)
	17.09	54	16.43 (AG13)	17.43		18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56	57 16.32 (AG13)
5	07.47		15.49 (AG015)	07.30		06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.57	07.30	15.35 (AG015)
	17.09	55	16.44 (AG13)	17.45		18.18	19.51	20.22	20.50	20.57	20.35	19.50	19.00	17.16	16.56	56 16.31 (AG13)
6	07.47		15.50 (AG015)	07.29		06.51	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31	15.36 (AG015)
	17.10	55	16.45 (AG13)	17.46		18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56	55 16.31 (AG13)
7	07.47		15.50 (AG015)	07.27		06.49	06.58	06.16	05.53	05.59	06.25	06.55	07.24	06.59	07.32	15.36 (AG015)
	17.11	56	16.46 (AG13)	17.47		18.20	19.53	20.24	20.51	20.56	20.32	19.47	18.57	17.14	16.56	55 16.31 (AG13)
8	07.47		15.50 (AG015)	07.26		06.47	06.57	06.15	05.52	05.59	06.26	06.56	07.26	07.00	15.46 (AG015)	07.33 15.36 (AG015)
	17.12	56	16.46 (AG13)	17.48		18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	14 16.00 (AG015)	16.56 54 16.30 (AG13)
9	07.47		15.50 (AG015)	07.25		06.46	06.55	06.13	05.52	06.00	06.27	06.57	07.27	07.01	15.42 (AG015)	07.34 15.36 (AG015)
	17.13	58	16.48 (AG13)	17.50		18.22	19.55	20.26	20.52	20.56	20.30	19.44	18.54	17.12	20 16.02 (AG015)	16.56 54 16.30 (AG13)
10	07.46		15.51 (AG015)	07.24		06.44	06.54	06.12	05.52	06.01	06.28	06.58	07.28	07.02	15.41 (AG015)	07.35 15.37 (AG015)
	17.14	58	16.49 (AG13)	17.51		18.23	19.56	20.27	20.53	20.55	20.29	19.42	18.52	17.11	24 16.05 (AG015)	16.56 53 16.30 (AG13)
11	07.46		15.52 (AG015)	07.23		06.43	06.52	06.11	05.52	06.01	06.29	06.59	07.29	07.04	15.39 (AG015)	07.36 15.38 (AG015)
	17.15	58	16.50 (AG13)	17.52		18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	28 16.07 (AG015)	16.56 53 16.31 (AG13)
12	07.46		15.51 (AG015)	07.22		06.41	06.51	06.10	05.52	06.02	06.29	07.00	07.30	07.05	15.37 (AG015)	07.36 15.38 (AG015)
	17.16	60	16.51 (AG13)	17.53		18.25	19.58	20.29	20.54	20.55	20.26	19.39	18.49	17.09	31 16.08 (AG015)	16.56 53 16.31 (AG13)
13	07.46		15.52 (AG015)	07.20		06.39	06.49	06.09	05.52	06.03	06.30	07.01	07.31	07.06	15.36 (AG015)	07.37 15.39 (AG015)
	17.17	60	16.52 (AG13)	17.54		18.27	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	33 16.09 (AG015)	16.56 52 16.31 (AG13)
14	07.45		15.52 (AG015)	07.19		06.38	06.47	06.08	05.52	06.03	06.31	07.02	07.32	07.07	15.36 (AG015)	07.38 15.39 (AG015)
	17.19	59	16.51 (AG13)	17.56		18.28	20.00	20.31	20.55	20.54	20.23	19.35	18.46	17.07	35 16.11 (AG015)	16.56 52 16.31 (AG13)
15	07.45		15.53 (AG015)	07.18		06.36	06.46	06.07	05.52	06.04	06.32	07.03	07.33	07.08	15.35 (AG015)	07.39 15.40 (AG015)
	17.20	58	16.51 (AG13)	17.57		18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	37 16.12 (AG015)	16.57 51 16.31 (AG13)
16	07.45		15.54 (AG015)	07.17		06.35	06.44	06.06	05.52	06.05	06.33	07.04	07.34	07.09	15.34 (AG015)	07.39 15.40 (AG015)
	17.21	57	16.51 (AG13)	17.58		18.30	20.02	20.33	20.55	20.52	20.21	19.32	18.43	17.05	39 16.13 (AG015)	16.57 52 16.32 (AG13)
17	07.44		15.54 (AG015)	07.15		06.33	06.43	06.05	05.52	06.06	06.34	07.05	07.35	07.11	15.33 (AG015)	07.40 15.40 (AG015)
	17.22	56	16.50 (AG13)	17.59		18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	40 16.13 (AG015)	16.57 51 16.31 (AG13)
18	07.44		15.54 (AG015)	07.14		06.31	06.41	06.04	05.52	06.07	06.35	07.06	07.36	07.12	15.32 (AG015)	07.41 15.41 (AG015)
	17.23	54	16.48 (AG13)	18.00		18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	42 16.14 (AG015)	16.57 51 16.32 (AG13)
19	07.43		15.55 (AG015)	07.13		06.30	06.40	06.03	05.52	06.07	06.36	07.06	07.37	07.13	15.33 (AG015)	07.41 15.42 (AG015)
	17.24	46	16.41 (AG015)	18.02		18.33	20.05	20.36	20.56	20.50	20.16	19.27	18.38	17.03	43 16.16 (AG015)	16.58 51 16.33 (AG13)
20	07.43		15.56 (AG015)	07.11		06.28	06.38	06.03	05.52	06.08	06.37	07.07	07.38	07.14	15.32 (AG015)	07.42 15.42 (AG015)
	17.25	45	16.41 (AG015)	18.03		18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	44 16.16 (AG015)	16.58 51 16.33 (AG13)
21	07.42		15.57 (AG015)	07.10		06.26	06.37	06.02	05.52	06.09	06.38	07.08	07.39	07.15	15.32 (AG015)	07.43 15.43 (AG015)
	17.27	44	16.41 (AG015)	18.04		18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	44 16.16 (AG015)	16.59 50 16.33 (AG13)
22	07.41		15.57 (AG015)	07.09		06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.41	07.16	15.32 (AG015)	07.43 15.43 (AG015)
	17.28	44	16.41 (AG015)	18.05		18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	45 16.17 (AG015)	16.59 50 16.33 (AG13)
23	07.41		15.58 (AG015)	07.07		06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.18	15.32 (AG015)	07.44 15.44 (AG015)
	17.29	43	16.41 (AG015)	18.06		18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.33	17.00	46 16.18 (AG015)	17.00 50 16.34 (AG13)
24	07.40		15.59 (AG015)	07.06		06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	15.32 (AG015)	07.44 15.44 (AG015)
	17.30	42	16.41 (AG015)	18.08		18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	54 16.26 (AG13)	17.00 51 16.35 (AG13)
25	07.39		16.00 (AG015)	07.04		06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	15.32 (AG015)	07.44 15.44 (AG015)
	17.31	40	16.40 (AG015)	18.09		18.39	20.12	20.41	20.58	20.46	20.07	19.17	17.30	16.59	56 16.28 (AG13)	17.01 51 16.35 (AG13)
26	07.39		16.01 (AG015)	07.03		06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	15.32 (AG015)	07.45 15.45 (AG015)
	17.32	39	16.40 (AG015)	18.10		18.40	20.13	20.42	20.58	20.45	20.06	19.15	17.28	16.59	57 16.29 (AG13)	17.01 51 16.36 (AG13)
27	07.38		16.02 (AG015)	07.01		06.16	06.28	05.58	05.54	06.14	06.44	07.14	06.46	07.22	15.32 (AG015)	07.45 15.45 (AG015)
	17.34	37	16.39 (AG015)	18.11		18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	58 16.30 (AG13)	17.02 51 16.36 (AG13)
28	07.37		16.03 (AG015)	07.00		06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	15.32 (AG015)	07.46 15.46 (AG015)
	17.35	35	16.38 (AG015)	18.12		18.42	20.15	20.44	20.58	20.43	20.03	19.12	17.26	16.58	59 16.31 (AG13)	17.03 51 16.37 (AG13)
29	07.36		16.04 (AG015)			07.13	06.26	05.56	05.54	06.16	06.46	07.16	06.48	07.24	15.32 (AG015)	07.46 15.46 (AG015)
	17.36	33	16.37 (AG015)			19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.58	60 16.32 (AG13)	17.03 51 16.37 (AG13)
30	07.35		16.06 (AG015)			07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.50	07.25	15.34 (AG015)	07.46 15.47 (AG015)
	17.37	30	16.36 (AG015)			19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	59 16.33 (AG13)	17.04 52 16.39 (AG13)
31	07.35		16.07 (AG015)			07.10		05.55		06.18	06.48		06.51			07.46 15.47 (AG015)
	17.39	28	16.35 (AG015)			19.46		20.46		20.40	19.58		17.22			17.05 53 16.40 (AG13)
Potential sun hours	299			298		370	398	447	451	458	427	375	346	299		289
Total, worst case		1519			56										968	1637

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 104
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R62 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (209)

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	07.46		12.49 (AG08)	07.34		08.46 (AG09)	06.58		08.42 (AG09)	07.08			06.23		06.42 (AG07)	05.55		
	17.06	47	13.36 (AG08)	17.40	27	09.13 (AG09)	18.13	32	09.14 (AG09)	19.46			20.18	17	06.59 (AG07)	20.47		
2	07.47		12.50 (AG08)	07.33		08.45 (AG09)	06.57		08.44 (AG09)	07.06			06.22		06.43 (AG07)	05.54		
	17.07	46	13.36 (AG08)	17.41	30	09.15 (AG09)	18.14	28	09.12 (AG09)	19.48			20.19	15	06.58 (AG07)	20.47		
3	07.47		12.51 (AG08)	07.32		08.43 (AG09)	06.55		08.45 (AG09)	07.05			06.20		06.45 (AG07)	05.54		
	17.07	46	13.37 (AG08)	17.42	33	09.16 (AG09)	18.15	24	09.09 (AG09)	19.49			20.20	12	06.57 (AG07)	20.48		
4	07.47		12.52 (AG08)	07.31		08.42 (AG09)	06.54		08.48 (AG09)	07.03		07.27 (AG10)	06.19		06.47 (AG07)	05.53		
	17.08	45	13.37 (AG08)	17.43	36	09.18 (AG09)	18.17	17	09.05 (AG09)	19.50	9	07.36 (AG10)	20.21	6	06.53 (AG07)	20.49		
5	07.47		12.53 (AG08)	07.30		08.41 (AG09)	06.52		08.54 (AG09)	07.02		07.23 (AG10)	06.18			05.53		
	17.09	44	13.37 (AG08)	17.45	38	09.19 (AG09)	18.18	5	08.59 (AG09)	19.51	16	07.39 (AG10)	20.22			20.50		
6	07.47		12.54 (AG08)	07.28		08.40 (AG09)	06.50			07.00		07.20 (AG10)	06.17			05.53		
	17.10	43	13.37 (AG08)	17.46	40	09.20 (AG09)	18.19			19.52	20	07.40 (AG10)	20.23			20.50		
7	07.47		12.54 (AG08)	07.27		08.40 (AG09)	06.49			06.58		07.19 (AG10)	06.16			05.52		
	17.11	42	13.36 (AG08)	17.47	41	09.21 (AG09)	18.20			19.53	23	07.42 (AG10)	20.24			20.51		
8	07.47		12.55 (AG08)	07.26		08.39 (AG09)	06.47			06.57		07.17 (AG10)	06.14			05.52		
	17.12	41	13.36 (AG08)	17.48	43	09.22 (AG09)	18.21			19.54	26	07.43 (AG10)	20.25			20.51		
9	07.46		12.57 (AG08)	07.25		08.39 (AG09)	06.46			06.55		07.16 (AG10)	06.13			05.52		
	17.13	39	13.36 (AG08)	17.49	44	09.23 (AG09)	18.22			19.55	28	07.44 (AG10)	20.26			20.52		
10	07.46		12.58 (AG08)	07.24		08.37 (AG09)	06.44			06.54		07.15 (AG10)	06.12			05.52		
	17.14	38	13.36 (AG08)	17.51	46	09.23 (AG09)	18.23			19.56	29	07.44 (AG10)	20.27			20.53		
11	07.46		13.00 (AG08)	07.23		08.37 (AG09)	06.43			06.52		07.14 (AG10)	06.11			05.52		
	17.15	35	13.35 (AG08)	17.52	47	09.24 (AG09)	18.24			19.57	30	07.44 (AG10)	20.28			20.53		
12	07.46		13.01 (AG08)	07.22		08.37 (AG09)	06.41			06.50		07.14 (AG10)	06.10			05.51		
	17.16	33	13.34 (AG08)	17.53	48	09.25 (AG09)	18.25			19.58	30	07.44 (AG10)	20.29			20.54		
13	07.46		13.03 (AG08)	07.20		08.37 (AG09)	06.39			06.49		07.13 (AG10)	06.09			05.51		
	17.17	31	13.34 (AG08)	17.54	48	09.25 (AG09)	18.26			19.59	31	07.44 (AG10)	20.30			20.54		
14	07.45		13.04 (AG08)	07.19		08.36 (AG09)	06.38			06.47		07.13 (AG10)	06.08			05.51		
	17.18	28	13.32 (AG08)	17.56	49	09.25 (AG09)	18.28			20.00	31	07.44 (AG10)	20.31			20.55		
15	07.45		13.07 (AG08)	07.18		08.36 (AG09)	06.36			06.46		07.12 (AG10)	06.07			05.51		
	17.19	24	13.31 (AG08)	17.57	49	09.25 (AG09)	18.29			20.01	31	07.43 (AG10)	20.32			20.55		
16	07.44		13.09 (AG08)	07.17		08.36 (AG09)	06.34			06.44		07.13 (AG10)	06.06			05.51		
	17.21	20	13.29 (AG08)	17.58	49	09.25 (AG09)	18.30			20.02	30	07.43 (AG10)	20.33			20.55		
17	07.44		13.14 (AG08)	07.15		08.35 (AG09)	06.33			06.43		07.12 (AG10)	06.05			05.51		
	17.22	12	13.26 (AG08)	17.59	50	09.25 (AG09)	18.31			20.03	30	07.42 (AG10)	20.34			20.56		
18	07.44			07.14		08.36 (AG09)	06.31			06.41		07.13 (AG10)	06.04			05.51		
	17.23			18.00	49	09.25 (AG09)	18.32			20.04	29	07.42 (AG10)	20.35			20.56		
19	07.43			07.13		08.36 (AG09)	06.30			06.40		06.58 (AG07)	06.03			05.52		
	17.24			18.02	49	09.25 (AG09)	18.33			20.05	29	07.40 (AG10)	20.36			20.56		
20	07.43			07.11		08.36 (AG09)	06.28			06.38		06.57 (AG07)	06.02			05.52		
	17.25			18.03	48	09.24 (AG09)	18.34			20.06	30	07.40 (AG10)	20.37			20.57		
21	07.42			07.10		08.36 (AG09)	06.26			06.37		06.55 (AG07)	06.02			05.52		
	17.26			18.04	48	09.24 (AG09)	18.35			20.07	31	07.38 (AG10)	20.38			20.57		
22	07.41			07.08		08.36 (AG09)	06.25			06.35		06.54 (AG07)	06.01			05.52		
	17.28			18.05	46	09.22 (AG09)	18.36			20.08	30	07.37 (AG10)	20.38			20.57		
23	07.41			07.07		08.37 (AG09)	06.23			06.34		06.53 (AG07)	06.00			05.52		
	17.29			18.06	45	09.22 (AG09)	18.37			20.09	28	07.35 (AG10)	20.39			20.57		
24	07.40			07.06		08.38 (AG09)	06.21			06.32		06.51 (AG07)	05.59			05.53		
	17.30			18.07	44	09.22 (AG09)	18.38			20.10	25	07.32 (AG10)	20.40			20.57		
25	07.39			07.04		08.38 (AG09)	06.20			06.31		06.50 (AG07)	05.59			05.53		
	17.31			18.09	42	09.20 (AG09)	18.39			20.11	18	07.28 (AG10)	20.41			20.58		
26	07.39			07.03		08.39 (AG09)	06.18			06.30		06.49 (AG07)	05.58			05.53		
	17.32			18.10	40	09.19 (AG09)	18.40			20.13	14	07.03 (AG07)	20.42			20.58		
27	07.38			07.01		08.39 (AG09)	06.16			06.28		06.47 (AG07)	05.57			05.54		
	17.33			18.11	38	09.17 (AG09)	18.41			20.14	15	07.02 (AG07)	20.43			20.58		
28	07.37			07.00		08.41 (AG09)	06.15			06.27		06.46 (AG07)	05.57			05.54		
	17.35			18.12	35	09.16 (AG09)	18.42			20.15	16	07.02 (AG07)	20.44			20.58		
29	07.36		08.55 (AG09)				07.13			06.26		06.45 (AG07)	05.56			05.54		
	17.36	8	09.03 (AG09)				19.43			20.16	17	07.02 (AG07)	20.44			20.58		
30	07.35		08.51 (AG09)				07.11			06.24		06.43 (AG07)	05.56			05.55		
	17.37	17	09.08 (AG09)				19.44			20.17	17	07.00 (AG07)	20.45			20.58		
31	07.34		08.48 (AG09)				07.10						05.55					
	17.38	23	09.11 (AG09)				19.45						20.46					
Potential sun hours	299			298			370			398			447			451		
Total, worst case		662			1202			106			663			50				

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R62 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (209)

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	05.55	20.58	06.19	20.39		06.49	19.56	30 07.14 (AG10) 07.44 (AG10)	07.18	19.07		06.52	17.21	46 08.07 (AG09) 08.53 (AG09)	07.26	16.57	35 12.42 (AG08) 13.17 (AG08)
2	05.56	20.57	06.20	20.38		06.50	19.55	29 07.13 (AG10) 07.42 (AG10)	07.19	19.05		06.53	17.19	44 08.08 (AG09) 08.52 (AG09)	07.27	16.56	38 12.41 (AG08) 13.19 (AG08)
3	05.56	20.57	06.21	20.37		06.51	19.53	28 07.13 (AG10) 07.41 (AG10)	07.20	19.03		06.54	17.18	43 08.09 (AG09) 08.52 (AG09)	07.28	16.56	39 12.41 (AG08) 13.20 (AG08)
4	05.57	20.57	06.22	20.36		06.52	19.52	26 07.14 (AG10) 07.40 (AG10)	07.21	19.02		06.55	17.17	41 08.10 (AG09) 08.51 (AG09)	07.29	16.56	41 12.40 (AG08) 13.21 (AG08)
5	05.57	20.57	06.23	20.35		06.53	19.50	23 07.15 (AG10) 07.38 (AG10)	07.22	19.00		06.56	17.16	40 08.10 (AG09) 08.50 (AG09)	07.30	16.56	42 12.40 (AG08) 13.22 (AG08)
6	05.58	20.57	06.23	20.33		06.54	19.48	20 07.16 (AG10) 07.36 (AG10)	07.23	18.58		06.58	17.15	38 08.11 (AG09) 08.49 (AG09)	07.31	16.56	43 12.40 (AG08) 13.23 (AG08)
7	05.58	20.56	06.24	20.32		06.55	19.47	16 07.18 (AG10) 07.34 (AG10)	07.24	18.57		06.59	17.14	36 08.13 (AG09) 08.49 (AG09)	07.32	16.56	44 12.40 (AG08) 13.24 (AG08)
8	05.59	20.56	06.25	20.31		06.56	19.45	9 07.21 (AG10) 07.30 (AG10)	07.25	18.55		07.00	17.13	33 08.14 (AG09) 08.47 (AG09)	07.33	16.56	45 12.39 (AG08) 13.24 (AG08)
9	06.00	20.56	06.26	20.30	9 06.55 (AG07) 07.04 (AG07)	06.57	19.43		07.26	18.54	12 09.25 (AG09) 09.37 (AG09)	07.01	17.12	29 08.16 (AG09) 08.45 (AG09)	07.34	16.56	46 12.39 (AG08) 13.25 (AG08)
10	06.00	20.55	06.27	20.28	13 06.53 (AG07) 07.06 (AG07)	06.58	19.42		07.27	18.52	21 09.21 (AG09) 09.42 (AG09)	07.02	17.11	27 08.17 (AG09) 08.44 (AG09)	07.35	16.56	46 12.39 (AG08) 13.25 (AG08)
11	06.01	20.55	06.28	20.27	15 06.52 (AG07) 07.07 (AG07)	06.59	19.40		07.29	18.50	26 09.19 (AG09) 09.45 (AG09)	07.04	17.10	22 08.20 (AG09) 08.42 (AG09)	07.36	16.56	47 12.39 (AG08) 13.26 (AG08)
12	06.02	20.54	06.29	20.26	17 06.51 (AG07) 07.08 (AG07)	07.00	19.38		07.30	18.49	31 09.16 (AG09) 09.47 (AG09)	07.05	17.09	16 08.23 (AG09) 08.39 (AG09)	07.36	16.56	47 12.40 (AG08) 13.27 (AG08)
13	06.02	20.54	06.30	20.25	17 06.52 (AG07) 07.09 (AG07)	07.01	19.37		07.31	18.47	34 09.14 (AG09) 09.48 (AG09)	07.06	17.08	8 08.27 (AG09) 08.35 (AG09)	07.37	16.56	48 12.40 (AG08) 13.28 (AG08)
14	06.03	20.53	06.31	20.23	17 06.53 (AG07) 07.10 (AG07)	07.01	19.35		07.32	18.46	36 09.13 (AG09) 09.49 (AG09)	07.07	17.07		07.38	16.56	49 12.39 (AG08) 13.28 (AG08)
15	06.04	20.53	06.32	20.22	16 06.54 (AG07) 07.10 (AG07)	07.02	19.33		07.33	18.44	39 09.11 (AG09) 09.50 (AG09)	07.08	17.06		07.39	16.56	49 12.40 (AG08) 13.29 (AG08)
16	06.05	20.52	06.33	20.20	15 06.55 (AG07) 07.10 (AG07)	07.03	19.32		07.34	18.43	41 09.10 (AG09) 09.51 (AG09)	07.09	17.05		07.39	16.57	49 12.41 (AG08) 13.30 (AG08)
17	06.06	20.52	06.34	20.19	14 06.56 (AG07) 07.10 (AG07)	07.04	19.30		07.35	18.41	43 09.09 (AG09) 09.52 (AG09)	07.11	17.04		07.40	16.57	50 12.40 (AG08) 13.30 (AG08)
18	06.06	20.51	06.35	20.18	20 06.56 (AG07) 07.35 (AG10)	07.05	19.28		07.36	18.40	44 09.08 (AG09) 09.52 (AG09)	07.12	17.04		07.41	16.57	50 12.41 (AG08) 13.31 (AG08)
19	06.07	20.50	06.36	20.16	26 06.57 (AG07) 07.38 (AG10)	07.06	19.27		07.37	18.38	46 09.08 (AG09) 09.54 (AG09)	07.13	17.03		07.41	16.58	50 12.42 (AG08) 13.32 (AG08)
20	06.08	20.50	06.37	20.15	28 06.58 (AG07) 07.40 (AG10)	07.07	19.25		07.38	18.37	47 09.07 (AG09) 09.54 (AG09)	07.14	17.02		07.42	16.58	50 12.42 (AG08) 13.32 (AG08)
21	06.09	20.49	06.38	20.13	30 06.59 (AG07) 07.42 (AG10)	07.08	19.23		07.39	18.35	47 09.07 (AG09) 09.54 (AG09)	07.15	17.01		07.42	16.58	50 12.43 (AG08) 13.33 (AG08)
22	06.10	20.48	06.39	20.12	30 07.00 (AG07) 07.43 (AG10)	07.09	19.22		07.40	18.34	49 09.06 (AG09) 09.55 (AG09)	07.16	17.01		07.43	16.59	50 12.43 (AG08) 13.33 (AG08)
23	06.11	20.47	06.40	20.10	30 07.01 (AG07) 07.44 (AG10)	07.10	19.20		07.42	18.32	49 09.06 (AG09) 09.55 (AG09)	07.17	17.00		07.43	16.59	50 12.43 (AG08) 13.33 (AG08)
24	06.11	20.47	06.41	20.09	28 07.02 (AG07) 07.44 (AG10)	07.11	19.18		07.43	18.31	49 09.05 (AG09) 09.54 (AG09)	07.19	17.00		07.44	17.00	50 12.44 (AG08) 13.34 (AG08)
25	06.12	20.46	06.42	20.07	29 07.16 (AG10) 07.45 (AG10)	07.12	19.17		06.44	17.30	49 08.06 (AG09) 08.55 (AG09)	07.20	16.59	12 12.52 (AG08) 13.04 (AG08)	07.44	17.01	50 12.44 (AG08) 13.34 (AG08)
26	06.13	20.45	06.43	20.06	30 07.15 (AG10) 07.45 (AG10)	07.13	19.15		06.45	17.28	49 08.06 (AG09) 08.55 (AG09)	07.21	16.59	19 12.49 (AG08) 13.08 (AG08)	07.45	17.01	50 12.45 (AG08) 13.35 (AG08)
27	06.14	20.44	06.44	20.04	30 07.15 (AG10) 07.45 (AG10)	07.14	19.13		06.46	17.27	49 08.06 (AG09) 08.55 (AG09)	07.22	16.58	24 12.46 (AG08) 13.10 (AG08)	07.45	17.02	50 12.45 (AG08) 13.35 (AG08)
28	06.15	20.43	06.45	20.03	31 07.14 (AG10) 07.45 (AG10)	07.15	19.12		06.47	17.26	48 08.06 (AG09) 08.54 (AG09)	07.23	16.58	28 12.44 (AG08) 13.12 (AG08)	07.45	17.03	49 12.46 (AG08) 13.35 (AG08)
29	06.16	20.42	06.46	20.01	31 07.14 (AG10) 07.45 (AG10)	07.16	19.10		06.48	17.24	48 08.06 (AG09) 08.54 (AG09)	07.24	16.57	31 12.43 (AG08) 13.14 (AG08)	07.46	17.03	49 12.46 (AG08) 13.35 (AG08)
30	06.17	20.41	06.47	20.00	31 07.14 (AG10) 07.45 (AG10)	07.17	19.08		06.49	17.23	47 08.07 (AG09) 08.54 (AG09)	07.25	16.57	33 12.42 (AG08) 13.15 (AG08)	07.46	17.04	48 12.48 (AG08) 13.36 (AG08)
31	06.18	20.40	06.48	19.58	30 07.14 (AG10) 07.44 (AG10)				06.51	17.22	47 08.07 (AG09) 08.54 (AG09)				07.46	17.05	48 12.48 (AG08) 13.36 (AG08)
Potential sun hours	458		427			375			346			299			289		
Total, worst case				537			181			951			570			1452	

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)

Project:
Wpd_2020_06_22

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22/06/2020 15.45 / 106
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R63 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (201)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	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	06.01	06.28	06.59	07.29	07.03	07.35
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.56	18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.19	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	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	18.32	17.00	16.59
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R64 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (198)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	05.56	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.47	20.19	20.47	20.57	20.38	19.55	19.05	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.16	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.29	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.23	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.53	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	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	06.01	06.28	06.59	07.28	07.03	07.35
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.51	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.45	07.20	06.39	06.49	06.09	05.51	06.02	06.30	07.00	07.31	07.06	07.37
	17.17	17.54	18.26	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	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.56	18.27	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.19	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.10	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.03	16.57
19	07.43	07.13	06.29	06.40	06.03	05.52	06.07	06.36	07.06	07.37	07.13	07.41
	17.24	18.01	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	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.58
22	07.41	07.08	06.25	06.35	06.01	05.52	06.10	06.39	07.09	07.40	07.16	07.43
	17.27	18.05	18.36	20.08	20.38	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.52	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	18.32	17.00	16.59
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.46	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.33	18.11	18.41	20.13	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	20.15	20.43	20.58	20.43	20.03	19.11	17.26	16.58	17.03
29	07.36		07.13	06.26	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R65 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (214)

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	07.46	07.33		06.58		07.08		17.41 (AG10)	06.23		05.55	06.16 (AG12)
	17.06	17.40		18.13		19.46	57	18.38 (AG10)	20.18		20.47	22 06.38 (AG12)
2	07.47	07.32		06.57		07.06		17.42 (AG10)	06.22		05.54	06.15 (AG12)
	17.07	17.41		18.14		19.47	56	18.38 (AG10)	20.19		20.47	22 06.37 (AG12)
3	07.47	07.32		06.55		07.05		17.41 (AG10)	06.20		05.54	06.15 (AG12)
	17.07	17.42		18.15		19.48	57	18.38 (AG10)	20.20		20.48	22 06.37 (AG12)
4	07.47	07.31	16.43 (AG09)	06.54		07.03		17.41 (AG10)	06.19		05.53	06.15 (AG12)
	17.08	17.43	6 16.49 (AG09)	18.16		19.50	56	18.37 (AG10)	20.21		20.49	23 06.38 (AG12)
5	07.47	07.29	16.40 (AG09)	06.52		07.01		17.42 (AG10)	06.18		05.53	06.14 (AG12)
	17.09	17.44	12 16.52 (AG09)	18.18		19.51	55	18.37 (AG10)	20.22		20.49	23 06.37 (AG12)
6	07.47	07.28	16.38 (AG09)	06.50		07.00		17.42 (AG10)	06.17		05.53	06.14 (AG12)
	17.10	17.46	17 16.55 (AG09)	18.19		19.52	53	18.35 (AG10)	20.23		20.50	23 06.37 (AG12)
7	07.47	07.27	16.37 (AG09)	06.49		06.58		17.43 (AG10)	06.15		05.52	06.14 (AG12)
	17.11	17.47	19 16.56 (AG09)	18.20		19.53	52	18.35 (AG10)	20.24		20.51	24 06.38 (AG12)
8	07.47	07.26	16.36 (AG09)	06.47		06.57		17.43 (AG10)	06.14		05.52	06.14 (AG12)
	17.12	17.48	22 16.58 (AG09)	18.21		19.54	51	18.34 (AG10)	20.25		20.51	24 06.38 (AG12)
9	07.46	07.25	16.35 (AG09)	06.46		06.55		17.43 (AG10)	06.13		05.52	06.14 (AG12)
	17.13	17.49	24 16.59 (AG09)	18.22		19.55	50	18.33 (AG10)	20.26		20.52	24 06.38 (AG12)
10	07.46	07.24	16.34 (AG09)	06.44		06.53		17.45 (AG10)	06.12		05.52	06.13 (AG12)
	17.14	17.51	25 16.59 (AG09)	18.23		19.56	47	18.32 (AG10)	20.27		20.52	24 06.37 (AG12)
11	07.46	07.23	16.34 (AG09)	06.42		06.52		17.45 (AG10)	06.11		05.52	06.13 (AG12)
	17.15	17.52	26 17.00 (AG09)	18.24		19.57	45	18.30 (AG10)	20.28		20.53	24 06.37 (AG12)
12	07.46	07.22	16.34 (AG09)	06.41		06.50		17.47 (AG10)	06.10		05.51	06.13 (AG12)
	17.16	17.53	27 17.01 (AG09)	18.25		19.58	43	18.30 (AG10)	20.29		20.53	24 06.37 (AG12)
13	07.45	07.20	16.34 (AG09)	06.39	17.08 (AG10)	06.49		17.47 (AG10)	06.09		05.51	06.13 (AG12)
	17.17	17.54	27 17.01 (AG09)	18.26	14 17.22 (AG10)	19.59	41	18.28 (AG10)	20.30		20.54	24 06.37 (AG12)
14	07.45	07.19	16.33 (AG09)	06.38	17.03 (AG10)	06.47		17.49 (AG10)	06.08	06.28 (AG12)	05.51	06.13 (AG12)
	17.18	17.55	27 17.00 (AG09)	18.27	23 17.26 (AG10)	20.00	37	18.26 (AG10)	20.31	2 06.30 (AG12)	20.54	24 06.37 (AG12)
15	07.45	07.18	16.33 (AG09)	06.36	17.00 (AG10)	06.46		17.50 (AG10)	06.07	06.27 (AG12)	05.51	06.13 (AG12)
	17.19	17.57	28 17.01 (AG09)	18.28	30 17.30 (AG10)	20.01	34	18.24 (AG10)	20.32	5 06.32 (AG12)	20.55	24 06.37 (AG12)
16	07.44	07.16	16.34 (AG09)	06.34	16.57 (AG10)	06.44		17.52 (AG10)	06.06	06.26 (AG12)	05.51	06.14 (AG12)
	17.21	17.58	27 17.01 (AG09)	18.30	34 17.31 (AG10)	20.02	30	18.22 (AG10)	20.33	7 06.33 (AG12)	20.55	23 06.37 (AG12)
17	07.44	07.15	16.34 (AG09)	06.33	16.55 (AG10)	06.43		17.54 (AG10)	06.05	06.25 (AG12)	05.51	06.14 (AG12)
	17.22	17.59	26 17.00 (AG09)	18.31	38 17.33 (AG10)	20.03	25	18.19 (AG10)	20.34	8 06.33 (AG12)	20.56	23 06.37 (AG12)
18	07.44	07.14	16.34 (AG09)	06.31	16.53 (AG10)	06.41		17.57 (AG10)	06.04	06.24 (AG12)	05.51	06.14 (AG12)
	17.23	18.00	26 17.00 (AG09)	18.32	42 17.35 (AG10)	20.04	20	18.17 (AG10)	20.35	10 06.34 (AG12)	20.56	24 06.38 (AG12)
19	07.43	07.12	16.36 (AG09)	06.29	16.51 (AG10)	06.40		18.01 (AG10)	06.03	06.24 (AG12)	05.51	06.15 (AG12)
	17.24	18.01	23 16.59 (AG09)	18.33	45 17.36 (AG10)	20.05	10	18.11 (AG10)	20.36	11 06.35 (AG12)	20.56	24 06.39 (AG12)
20	07.42	07.11	16.36 (AG09)	06.28	16.49 (AG10)	06.38			06.02	06.23 (AG12)	05.52	06.15 (AG12)
	17.25	18.03	22 16.58 (AG09)	18.34	47 17.36 (AG10)	20.06			20.37	12 06.35 (AG12)	20.57	24 06.39 (AG12)
21	07.42	07.10	16.38 (AG09)	06.26	16.49 (AG10)	06.37			06.02	06.22 (AG12)	05.52	06.15 (AG12)
	17.26	18.04	19 16.57 (AG09)	18.35	49 17.38 (AG10)	20.07			20.37	14 06.36 (AG12)	20.57	24 06.39 (AG12)
22	07.41	07.08	16.39 (AG09)	06.24	16.47 (AG10)	06.35			06.01	06.21 (AG12)	05.52	06.15 (AG12)
	17.27	18.05	15 16.54 (AG09)	18.36	51 17.38 (AG10)	20.08			20.38	15 06.36 (AG12)	20.57	24 06.39 (AG12)
23	07.41	07.07	16.42 (AG09)	06.23	16.46 (AG10)	06.34			06.00	06.21 (AG12)	05.52	06.15 (AG12)
	17.29	18.06	10 16.52 (AG09)	18.37	52 17.38 (AG10)	20.09			20.39	16 06.37 (AG12)	20.57	24 06.39 (AG12)
24	07.40	07.05		06.21	16.46 (AG10)	06.32			05.59	06.20 (AG12)	05.52	06.16 (AG12)
	17.30	18.07		18.38	53 17.39 (AG10)	20.10			20.40	17 06.37 (AG12)	20.57	24 06.40 (AG12)
25	07.39	07.04		06.20	16.44 (AG10)	06.31			05.59	06.19 (AG12)	05.53	06.16 (AG12)
	17.31	18.08		18.39	55 17.39 (AG10)	20.11			20.41	17 06.36 (AG12)	20.57	23 06.39 (AG12)
26	07.39	07.03		06.18	16.43 (AG10)	06.30			05.58	06.19 (AG12)	05.53	06.16 (AG12)
	17.32	18.10		18.40	56 17.39 (AG10)	20.12			20.42	18 06.37 (AG12)	20.58	23 06.39 (AG12)
27	07.38	07.01		06.16	16.43 (AG10)	06.28			05.57	06.18 (AG12)	05.53	06.17 (AG12)
	17.33	18.11		18.41	57 17.40 (AG10)	20.13			20.43	19 06.37 (AG12)	20.58	23 06.40 (AG12)
28	07.37	07.00		06.15	16.43 (AG10)	06.27			05.57	06.18 (AG12)	05.54	06.16 (AG12)
	17.35	18.12		18.42	56 17.39 (AG10)	20.15			20.43	20 06.38 (AG12)	20.58	24 06.40 (AG12)
29	07.36			07.13	17.42 (AG10)	06.25			05.56	06.17 (AG12)	05.54	06.17 (AG12)
	17.36			19.43	57 18.39 (AG10)	20.16			20.44	20 06.37 (AG12)	20.58	24 06.41 (AG12)
30	07.35			07.11	17.42 (AG10)	06.24			05.56	06.17 (AG12)	05.55	06.17 (AG12)
	17.37			19.44	58 18.40 (AG10)	20.17			20.45	21 06.38 (AG12)	20.58	24 06.41 (AG12)
31	07.34			07.10	17.42 (AG10)				05.55	06.16 (AG12)		
	17.38			19.45	57 18.39 (AG10)				20.46	21 06.37 (AG12)		
Potential sun hours	299	298		370		398			447		451	
Total, worst case			428		874		819			253		706

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R65 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (214)

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	05.55		06.17 (AG12)	06.19			06.49		17.44 (AG10)	07.18			06.52		16.04 (AG09)	07.26
	20.57	24	06.41 (AG12)	20.39			19.56	45	18.29 (AG10)	19.06			17.20	25	16.29 (AG09)	16.57
2	05.56		06.18 (AG12)	06.20			06.50		17.43 (AG10)	07.19			06.53		16.04 (AG09)	07.27
	20.57	24	06.42 (AG12)	20.38			19.55	47	18.30 (AG10)	19.05			17.19	24	16.28 (AG09)	16.56
3	05.56		06.18 (AG12)	06.21			06.51		17.41 (AG10)	07.20			06.54		16.06 (AG09)	07.28
	20.57	24	06.42 (AG12)	20.37			19.53	50	18.31 (AG10)	19.03			17.18	21	16.27 (AG09)	16.56
4	05.57		06.19 (AG12)	06.21			06.52		17.40 (AG10)	07.21			06.55		16.07 (AG09)	07.29
	20.57	24	06.43 (AG12)	20.36			19.52	51	18.31 (AG10)	19.02			17.17	19	16.26 (AG09)	16.56
5	05.57		06.20 (AG12)	06.22			06.53		17.39 (AG10)	07.22			06.56		16.08 (AG09)	07.30
	20.57	24	06.44 (AG12)	20.34			19.50	52	18.31 (AG10)	19.00			17.16	16	16.24 (AG09)	16.56
6	05.58		06.20 (AG12)	06.23			06.54		17.38 (AG10)	07.23			06.58		16.10 (AG09)	07.31
	20.57	23	06.43 (AG12)	20.33			19.48	54	18.32 (AG10)	18.58			17.15	12	16.22 (AG09)	16.56
7	05.58		06.21 (AG12)	06.24			06.55		17.37 (AG10)	07.24			06.59		16.15 (AG09)	07.32
	20.56	23	06.44 (AG12)	20.32			19.47	55	18.32 (AG10)	18.57			17.14	4	16.19 (AG09)	16.56
8	05.59		06.21 (AG12)	06.25			06.56		17.36 (AG10)	07.25			07.00			07.33
	20.56	23	06.44 (AG12)	20.31			19.45	56	18.32 (AG10)	18.55			17.12			16.55
9	06.00		06.22 (AG12)	06.26			06.57		17.36 (AG10)	07.26			07.01			07.34
	20.56	23	06.45 (AG12)	20.30			19.43	56	18.32 (AG10)	18.53			17.11			16.55
10	06.00		06.23 (AG12)	06.27			06.58		17.35 (AG10)	07.27			07.02			07.35
	20.55	22	06.45 (AG12)	20.28			19.42	57	18.32 (AG10)	18.52			17.10			16.56
11	06.01		06.23 (AG12)	06.28			06.59		17.34 (AG10)	07.28			07.03			07.35
	20.55	22	06.45 (AG12)	20.27			19.40	57	18.31 (AG10)	18.50			17.09			16.56
12	06.02		06.24 (AG12)	06.29			06.59		17.34 (AG10)	07.29			07.05			07.36
	20.54	21	06.45 (AG12)	20.26			19.38	57	18.31 (AG10)	18.49			17.08			16.56
13	06.02		06.25 (AG12)	06.30			07.00		17.33 (AG10)	07.31			07.06			07.37
	20.54	21	06.46 (AG12)	20.24			19.37	58	18.31 (AG10)	18.47			17.08			16.56
14	06.03		06.25 (AG12)	06.31			07.01		17.33 (AG10)	07.32			07.07			07.38
	20.53	20	06.45 (AG12)	20.23			19.35	57	18.30 (AG10)	18.46			17.07			16.56
15	06.04		06.26 (AG12)	06.32			07.02		17.32 (AG10)	07.33			07.08			07.39
	20.53	20	06.46 (AG12)	20.22			19.33	57	18.29 (AG10)	18.44			17.06			16.56
16	06.05		06.27 (AG12)	06.33			07.03		17.32 (AG10)	07.34			07.09			07.39
	20.52	19	06.46 (AG12)	20.20			19.32	56	18.28 (AG10)	18.43			17.05			16.57
17	06.05		06.28 (AG12)	06.34			07.04		17.32 (AG10)	07.35			07.10			07.40
	20.52	19	06.47 (AG12)	20.19			19.30	55	18.27 (AG10)	18.41			17.04			16.57
18	06.06		06.29 (AG12)	06.35			07.05		17.32 (AG10)	07.36		17.17 (AG09)	07.12			07.41
	20.51	18	06.47 (AG12)	20.18			19.28	55	18.27 (AG10)	18.40	2	17.19 (AG09)	17.03			16.57
19	06.07		06.29 (AG12)	06.36			07.06		17.32 (AG10)	07.37		17.11 (AG09)	07.13			07.41
	20.50	17	06.46 (AG12)	20.16			19.27	54	18.26 (AG10)	18.38	13	17.24 (AG09)	17.03			16.58
20	06.08		06.30 (AG12)	06.37			07.07		17.32 (AG10)	07.38		17.10 (AG09)	07.14			07.42
	20.50	16	06.46 (AG12)	20.15			19.25	53	18.25 (AG10)	18.37	17	17.27 (AG09)	17.02			16.58
21	06.09		06.31 (AG12)	06.38			07.08		17.32 (AG10)	07.39		17.08 (AG09)	07.15			07.42
	20.49	15	06.46 (AG12)	20.13			19.23	52	18.24 (AG10)	18.35	20	17.28 (AG09)	17.01			16.58
22	06.10		06.32 (AG12)	06.39			07.09		17.33 (AG10)	07.40		17.06 (AG09)	07.16			07.43
	20.48	14	06.46 (AG12)	20.12			19.22	49	18.22 (AG10)	18.34	23	17.29 (AG09)	17.01			16.59
23	06.10		06.33 (AG12)	06.40			07.10		17.33 (AG10)	07.41		17.05 (AG09)	07.17			07.43
	20.47	13	06.46 (AG12)	20.10			19.20	48	18.21 (AG10)	18.32	24	17.29 (AG09)	17.00			16.59
24	06.11		06.33 (AG12)	06.41		18.04 (AG10)	07.11		17.34 (AG10)	07.43		17.04 (AG09)	07.18			07.44
	20.46	12	06.45 (AG12)	20.09	12	18.16 (AG10)	19.18	45	18.19 (AG10)	18.31	25	17.29 (AG09)	17.00			17.00
25	06.12		06.34 (AG12)	06.42		18.00 (AG10)	07.12		17.35 (AG10)	06.44		16.04 (AG09)	07.20			07.44
	20.46	11	06.45 (AG12)	20.07	20	18.20 (AG10)	19.16	43	18.18 (AG10)	17.30	27	16.31 (AG09)	16.59			17.01
26	06.13		06.35 (AG12)	06.43		17.57 (AG10)	07.13		17.36 (AG10)	06.45		16.03 (AG09)	07.21			07.45
	20.45	9	06.44 (AG12)	20.06	26	18.23 (AG10)	19.15	40	18.16 (AG10)	17.28	28	16.31 (AG09)	16.59			17.01
27	06.14		06.36 (AG12)	06.44		17.54 (AG10)	07.14		17.38 (AG10)	06.46		16.03 (AG09)	07.22			07.45
	20.44	8	06.44 (AG12)	20.04	31	18.25 (AG10)	19.13	36	18.14 (AG10)	17.27	27	16.30 (AG09)	16.58			17.02
28	06.15		06.37 (AG12)	06.45		17.52 (AG10)	07.15		17.40 (AG10)	06.47		16.03 (AG09)	07.23			07.45
	20.43	6	06.43 (AG12)	20.03	34	18.26 (AG10)	19.11	31	18.11 (AG10)	17.26	27	16.30 (AG09)	16.58			17.02
29	06.16		06.38 (AG12)	06.46		17.50 (AG10)	07.16		17.42 (AG10)	06.48		16.02 (AG09)	07.24			07.46
	20.42	4	06.42 (AG12)	20.01	37	18.27 (AG10)	19.10	26	18.08 (AG10)	17.24	28	16.30 (AG09)	16.57			17.03
30	06.17		06.39 (AG12)	06.47		17.48 (AG10)	07.17		17.46 (AG10)	06.49		16.03 (AG09)	07.25			07.46
	20.41	2	06.41 (AG12)	20.00	41	18.29 (AG10)	19.08	18	18.04 (AG10)	17.23	27	16.30 (AG09)	16.57			17.04
31	06.18			06.48		17.45 (AG10)				06.51		16.04 (AG09)				07.46
	20.40			19.58	44	18.29 (AG10)				17.22	25	16.29 (AG09)				17.05
Potential sun hours	458			427			375			346			299			289
Total, worst case		521			245			1470			313			121		

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R66 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (197)

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	05.55	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.46	20.18	20.47	20.57	20.39	19.56	19.07	17.21	16.57
2	07.47	07.33	06.57	07.06	06.22	05.54	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	17.19	16.56
3	07.47	07.32	06.55	07.05	06.20	05.54	05.56	06.21	06.51	07.20	06.54	07.28
	17.08	17.42	18.15	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.56
4	07.47	07.31	06.54	07.03	06.19	05.53	05.57	06.22	06.52	07.21	06.55	07.29
	17.08	17.43	18.17	19.50	20.21	20.49	20.57	20.36	19.52	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.57	06.23	06.53	07.22	06.56	07.30
	17.09	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	07.28	06.50	07.00	06.17	05.53	05.58	06.24	06.54	07.23	06.58	07.31
	17.10	17.46	18.19	19.52	20.23	20.50	20.57	20.33	19.48	18.58	17.15	16.56
7	07.47	07.27	06.49	06.58	06.16	05.52	05.58	06.24	06.55	07.24	06.59	07.32
	17.11	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	06.14	05.52	05.59	06.25	06.56	07.25	07.00	07.33
	17.12	17.48	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	06.13	05.52	06.00	06.26	06.57	07.26	07.01	07.34
	17.13	17.49	18.22	19.55	20.26	20.52	20.56	20.30	19.43	18.54	17.12	16.56
10	07.46	07.24	06.44	06.54	06.12	05.52	06.00	06.27	06.58	07.27	07.02	07.35
	17.14	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	06.01	06.28	06.59	07.29	07.03	07.35
	17.15	17.52	18.24	19.57	20.28	20.53	20.55	20.27	19.40	18.50	17.10	16.56
12	07.46	07.22	06.41	06.50	06.10	05.52	06.02	06.29	07.00	07.30	07.05	07.36
	17.16	17.53	18.25	19.58	20.29	20.54	20.54	20.26	19.38	18.49	17.09	16.56
13	07.46	07.20	06.39	06.49	06.09	05.51	06.03	06.30	07.01	07.31	07.06	07.37
	17.17	17.54	18.26	19.59	20.30	20.54	20.54	20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.47	06.08	05.51	06.03	06.31	07.01	07.32	07.07	07.38
	17.18	17.56	18.28	20.00	20.31	20.54	20.53	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.51	06.04	06.32	07.02	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	20.53	20.22	19.33	18.44	17.06	16.56
16	07.44	07.17	06.34	06.44	06.06	05.51	06.05	06.33	07.03	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	06.05	05.51	06.06	06.34	07.04	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	20.52	20.19	19.30	18.41	17.04	16.57
18	07.44	07.14	06.31	06.41	06.04	05.51	06.06	06.35	07.05	07.36	07.12	07.41
	17.23	18.00	18.32	20.04	20.35	20.56	20.51	20.18	19.28	18.40	17.04	16.57
19	07.43	07.13	06.30	06.40	06.03	05.52	06.07	06.36	07.06	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	07.43	07.11	06.28	06.38	06.02	05.52	06.08	06.37	07.07	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
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
	17.26	18.04	18.35	20.07	20.37	20.57	20.49	20.13	19.23	18.35	17.01	16.59
22	07.41	07.08	06.25	06.35	06.01	05.52	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	07.41	07.07	06.23	06.34	06.00	05.52	06.11	06.40	07.10	07.42	07.17	07.43
	17.29	18.06	18.37	20.09	20.39	20.57	20.47	20.10	19.20	18.32	17.00	17.00
24	07.40	07.06	06.21	06.32	05.59	05.53	06.11	06.41	07.11	07.43	07.19	07.44
	17.30	18.07	18.38	20.10	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.12	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.11	20.41	20.57	20.46	20.07	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.53	06.13	06.43	07.13	06.45	07.21	07.45
	17.32	18.10	18.40	20.12	20.42	20.58	20.45	20.06	19.15	17.28	16.59	17.01
27	07.38	07.01	06.16	06.28	05.57	05.54	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	06.47	07.23	07.45
	17.35	18.12	18.42	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	05.56	05.54	06.16	06.46	07.16	06.48	07.24	07.46
	17.36		19.43	20.16	20.44	20.58	20.42	20.01	19.10	17.24	16.57	17.03
30	07.35		07.11	06.24	05.56	05.55	06.17	06.47	07.17	06.49	07.25	07.46
	17.37		19.44	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.34		07.10		05.55		06.18	06.48		06.51		07.46
	17.38		19.45		20.46		20.40	19.58		17.22		17.05
Potential sun hours	299	298	370	398	447	451	458	427	375	346	299	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R67 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (156)

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	07.08	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	20.58	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	07.19	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	07.20	06.54	07.28
	17.08	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	07.28	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	05.59	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	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	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	20.55	20.54	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	07.39
	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	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	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	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	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	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	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	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	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	06.16	06.46	07.16	06.49	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	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R68 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (155)

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	07.08	06.23	05.55		05.56	20.10 (AG02)	06.19	06.49	07.18	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	20.47		20.58	8 20.18 (AG02)	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	20.11 (AG02)	06.20	06.50	07.19	06.53	07.27
	17.07	17.41	18.14	19.48	20.19	20.47		20.57	5 20.16 (AG02)	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	17.42	18.16	19.49	20.20	20.48		20.57		20.37	19.53	19.03	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53		05.58		06.23	06.53	07.22	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	16.56
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	07.28	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		05.59		06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.51		20.56		20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52		06.00		06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52		20.08 (AG02) 06.01		06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	19.56	20.27	20.53	3	20.11 (AG02) 20.55		20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52		20.06 (AG02) 06.01		06.29	06.59	07.29	07.04	07.36
	17.16	17.52	18.24	19.57	20.28	20.53	7	20.13 (AG02) 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		20.05 (AG02) 06.02		06.30	07.00	07.30	07.05	07.36
	17.17	17.53	18.26	19.58	20.29	20.54	9	20.14 (AG02) 20.55		20.26	19.39	18.49	17.09	16.56
13	07.46	07.21	06.40	06.49	06.09	05.52		20.05 (AG02) 06.03		06.31	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	20.30	20.54	11	20.16 (AG02) 20.54		20.25	19.37	18.47	17.08	16.56
14	07.45	07.19	06.38	06.48	06.08	05.52		20.04 (AG02) 06.04		06.32	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	20.31	20.55	12	20.16 (AG02) 20.54		20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52		20.04 (AG02) 06.04		06.33	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	20.32	20.55	13	20.17 (AG02) 20.53		20.22	19.34	18.44	17.06	16.57
16	07.45	07.17	06.35	06.44	06.06	05.52		20.04 (AG02) 06.05		06.34	07.04	07.34	07.09	07.39
	17.21	17.58	18.30	20.02	20.33	20.55	14	20.18 (AG02) 20.52		20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52		20.03 (AG02) 06.06		06.35	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	20.34	20.56	15	20.18 (AG02) 20.52		20.19	19.30	18.41	17.05	16.57
18	07.44	07.14	06.31	06.41	06.04	05.52		20.03 (AG02) 06.07		06.35	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	20.35	20.56	15	20.18 (AG02) 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		20.03 (AG02) 06.07		06.36	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	20.36	20.56	16	20.19 (AG02) 20.50		20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.38	06.03	05.52		20.03 (AG02) 06.08		06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	16	20.19 (AG02) 20.50		20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52		20.03 (AG02) 06.09		06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	16	20.19 (AG02) 20.49		20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52		20.04 (AG02) 06.10		06.39	07.09	07.41	07.16	07.43
	17.28	18.05	18.36	20.08	20.38	20.57	16	20.20 (AG02) 20.48		20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53		20.04 (AG02) 06.11		06.40	07.10	07.42	07.18	07.44
	17.29	18.06	18.37	20.10	20.39	20.57	16	20.20 (AG02) 20.47		20.11	19.20	18.33	17.00	17.00
24	07.40	07.06	06.21	06.33	06.00	05.53		20.04 (AG02) 06.12		06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	15	20.19 (AG02) 20.47		20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53		20.04 (AG02) 06.13		06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	15	20.19 (AG02) 20.46		20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54		20.06 (AG02) 06.14		06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	20.13	20.42	20.58	14	20.20 (AG02) 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		20.06 (AG02) 06.14		06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	13	20.19 (AG02) 20.44		20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54		20.07 (AG02) 06.15		06.45	07.15	06.47	07.23	07.46
	17.35	18.12	18.42	20.15	20.44	20.58	13	20.20 (AG02) 20.43		20.03	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	05.56	05.55		20.07 (AG02) 06.16		06.46	07.16	06.48	07.24	07.46
	17.36		19.44	20.16	20.44	20.58	12	20.19 (AG02) 20.42		20.01	19.10	17.25	16.58	17.04
30	07.35		07.12	06.25	05.56	05.55		20.08 (AG02) 06.17		06.47	07.17	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	10	20.18 (AG02) 20.41		20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55			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	289
Total, worst case							271		13					

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:
Wpd_2020_06_22

Printed/Page
22/06/2020 15.45 / 113
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R69 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (154)

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	07.08	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	20.58	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	07.19	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	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.03	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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	07.28	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	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	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.05	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	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	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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22/06/2020 15.45 / 114
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R70 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (153)

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	07.08	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	20.58	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	07.19	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	07.20	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	07.47	07.31	06.54	07.03	06.19	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	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	05.58	06.23	06.53	07.22	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	16.56
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	07.28	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	05.59	06.26	06.56	07.26	07.00	07.33
	17.12	17.49	18.21	19.54	20.25	20.51	20.56	20.31	19.45	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	06.00	06.27	06.57	07.27	07.01	07.34
	17.13	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	06.12	05.52	06.01	06.28	06.58	07.28	07.02	07.35
	17.14	17.51	18.23	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	06.11	05.52	06.01	06.29	06.59	07.29	07.04	07.36
	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	07.22	06.41	06.51	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	18.47	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	20.55	20.54	20.23	19.35	18.46	17.07	16.56
15	07.45	07.18	06.36	06.46	06.07	05.52	06.04	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	07.45	07.17	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	20.21	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	06.41	06.05	05.52	06.07	06.35	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	06.07	06.36	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	07.43	07.11	06.28	06.38	06.03	05.52	06.08	06.37	07.08	07.38	07.14	07.42
	17.25	18.03	18.34	20.06	20.37	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	17.27	18.04	18.35	20.07	20.38	20.57	20.49	20.13	19.23	18.35	17.02	16.59
22	07.41	07.09	06.25	06.36	06.01	05.52	06.10	06.39	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	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	07.10	07.42	07.18	07.44
	17.29	18.06	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	06.21	06.33	06.00	05.53	06.12	06.41	07.11	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	20.40	20.57	20.47	20.09	19.18	18.31	17.00	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.41	20.14	20.43	20.58	20.44	20.04	19.13	17.27	16.58	17.02
28	07.37	07.00	06.15	06.27	05.57	05.54	06.15	06.45	07.15	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	05.56	05.55	06.16	06.46	07.16	06.48	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	06.50	07.25	07.46
	17.37		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R71 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (170)

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		07.59 (AG03)	06.58	07.08			06.23		06.57 (AG014)	05.55
	17.06	17.40	9	08.08 (AG03)	18.13	19.47			20.18	35	07.32 (AG13)	20.47
2	07.47	07.33		07.56 (AG03)	06.57	07.07			06.22		07.00 (AG13)	05.55
	17.07	17.41	16	08.12 (AG03)	18.15	19.48			20.19	31	07.31 (AG13)	20.48
3	07.47	07.32		07.54 (AG03)	06.55	07.05			06.21		07.01 (AG13)	05.54
	17.08	17.42	20	08.14 (AG03)	18.16	19.49			20.20	29	07.30 (AG13)	20.48
4	07.47	07.31		07.51 (AG03)	06.54	07.03			06.19		07.02 (AG13)	05.54
	17.09	17.44	24	08.15 (AG03)	18.17	19.50			20.21	27	07.29 (AG13)	20.49
5	07.47	07.30		07.50 (AG03)	06.52	07.02			06.18		07.03 (AG13)	05.53
	17.10	17.45	27	08.17 (AG03)	18.18	19.51			20.22	25	07.28 (AG13)	20.50
6	07.47	07.29		07.49 (AG03)	06.51	07.00			06.17		07.03 (AG13)	05.53
	17.11	17.46	29	08.18 (AG03)	18.19	19.52			20.23	23	07.26 (AG13)	20.50
7	07.47	07.28		07.48 (AG03)	06.49	06.59			06.16		07.05 (AG13)	05.53
	17.12	17.47	31	08.19 (AG03)	18.20	19.53			20.24	20	07.25 (AG13)	20.51
8	07.47	07.26		07.47 (AG03)	06.48	06.57			06.15		07.07 (AG13)	05.53
	17.12	17.49	34	08.21 (AG03)	18.21	19.54			20.25	16	07.23 (AG13)	20.52
9	07.47	07.25		07.47 (AG03)	06.46	06.55			06.14		07.09 (AG13)	05.52
	17.13	17.50	34	08.21 (AG03)	18.22	19.55			20.26	11	07.20 (AG13)	20.52
10	07.46	07.24		07.47 (AG03)	06.44	06.54			06.12			05.52
	17.14	17.51	35	08.22 (AG03)	18.23	19.56			20.27			20.53
11	07.46	07.23		07.45 (AG03)	06.43	06.52			06.11			05.52
	17.16	17.52	37	08.22 (AG03)	18.25	19.57			20.28			20.53
12	07.46	07.22		07.45 (AG03)	06.41	06.51			06.10			05.52
	17.17	17.53	38	08.23 (AG03)	18.26	19.58			20.29			20.54
13	07.46	07.21		07.45 (AG03)	06.40	06.49	07.16 (AG13)		06.09			05.52
	17.18	17.55	38	08.23 (AG03)	18.27	19.59	9	07.25 (AG13)	20.30			20.54
14	07.45	07.19		07.45 (AG03)	06.38	06.48		07.11 (AG13)	06.08			05.52
	17.19	17.56	39	08.24 (AG03)	18.28	20.00	17	07.28 (AG13)	20.31			20.55
15	07.45	07.18		07.45 (AG03)	06.36	06.46		07.05 (AG014)	06.07			05.52
	17.20	17.57	38	08.23 (AG03)	18.29	20.01	24	07.30 (AG13)	20.32			20.55
16	07.45	07.17		07.45 (AG03)	06.35	06.45		07.03 (AG014)	06.06			05.52
	17.21	17.58	38	08.23 (AG03)	18.30	20.02	28	07.31 (AG13)	20.33			20.55
17	07.44	07.15		07.45 (AG03)	06.33	06.43		07.02 (AG014)	06.05			05.52
	17.22	17.59	38	08.23 (AG03)	18.31	20.03	31	07.33 (AG13)	20.34			20.56
18	07.44	07.14		07.45 (AG03)	06.31	06.41		07.00 (AG014)	06.05			05.52
	17.23	18.01	38	08.23 (AG03)	18.32	20.04	33	07.33 (AG13)	20.35			20.56
19	07.43	07.13		07.46 (AG03)	06.30	06.40		06.59 (AG014)	06.04			05.52
	17.24	18.02	36	08.22 (AG03)	18.33	20.05	35	07.34 (AG13)	20.36			20.56
20	07.43	07.11		07.46 (AG03)	06.28	06.39		06.57 (AG014)	06.03			05.52
	17.25	18.03	36	08.22 (AG03)	18.34	20.06	37	07.34 (AG13)	20.37			20.57
21	07.42	07.10		07.46 (AG03)	06.26	06.37		06.56 (AG014)	06.02			05.52
	17.27	18.04	35	08.21 (AG03)	18.35	20.08	39	07.35 (AG13)	20.38			20.57
22	07.42	07.09		07.48 (AG03)	06.25	06.36		06.54 (AG014)	06.01			05.52
	17.28	18.05	32	08.20 (AG03)	18.36	20.09	40	07.34 (AG13)	20.39			20.57
23	07.41	07.07		07.48 (AG03)	06.23	06.34		06.53 (AG014)	06.00			05.53
	17.29	18.06	31	08.19 (AG03)	18.37	20.10	42	07.35 (AG13)	20.39			20.57
24	07.40	07.06		07.49 (AG03)	06.22	06.33		06.52 (AG014)	06.00			05.53
	17.30	18.08	29	08.18 (AG03)	18.38	20.11	43	07.35 (AG13)	20.40			20.58
25	07.40	07.04		07.50 (AG03)	06.20	06.31		06.52 (AG014)	05.59			05.53
	17.31	18.09	26	08.16 (AG03)	18.39	20.12	43	07.35 (AG13)	20.41			20.58
26	07.39	07.03		07.52 (AG03)	06.18	06.30		06.52 (AG014)	05.58			05.54
	17.33	18.10	22	08.14 (AG03)	18.40	20.13	43	07.35 (AG13)	20.42			20.58
27	07.38	07.01		07.54 (AG03)	06.17	06.29		06.52 (AG014)	05.58			05.54
	17.34	18.11	17	08.11 (AG03)	18.42	20.14	42	07.34 (AG13)	20.43			20.58
28	07.37	07.00		07.59 (AG03)	06.15	06.27		06.53 (AG014)	05.57			05.54
	17.35	18.12	8	08.07 (AG03)	18.43	20.15	41	07.34 (AG13)	20.44			20.58
29	07.36				07.13	06.26		06.54 (AG014)	05.56			05.55
	17.36				19.44	20.16	39	07.33 (AG13)	20.45			20.58
30	07.36				07.12	06.25		06.56 (AG014)	05.56			05.55
	17.37				19.45	20.17	37	07.33 (AG13)	20.45			20.58
31	07.35				07.10				05.55			
	17.39				19.46				20.46			
Potential sun hours	299	298			370	398			447			451
Total, worst case			835				623			217		

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R71 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (170)

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	07.18		06.52	07.16 (AG03)	07.26
	20.58	20.39		19.57	19.07		17.21 35	07.51 (AG03)	16.57
2	05.56	06.20		06.50	07.19		06.53	07.17 (AG03)	07.27
	20.58	20.38		19.55	19.05		17.20 34	07.51 (AG03)	16.57
3	05.57	06.21	07.23 (AG13)	06.51	07.20		06.54	07.17 (AG03)	07.28
	20.57	20.37 5	07.28 (AG13)	19.53	19.03		17.18 33	07.50 (AG03)	16.57
4	05.57	06.22	07.19 (AG13)	06.52	07.22		06.55	07.18 (AG03)	07.29
	20.57	20.36 13	07.32 (AG13)	19.52	19.02		17.17 31	07.49 (AG03)	16.56
5	05.58	06.23	07.17 (AG13)	06.53	07.23		06.57	07.19 (AG03)	07.30
	20.57	20.35 17	07.34 (AG13)	19.50	19.00		17.16 29	07.48 (AG03)	16.56
6	05.58	06.24	07.15 (AG13)	06.54	07.24		06.58	07.21 (AG03)	07.31
	20.57	20.34 21	07.36 (AG13)	19.49	18.59		17.15 26	07.47 (AG03)	16.56
7	05.59	06.25	07.13 (AG13)	06.55	07.25		06.59	07.22 (AG03)	07.32
	20.57	20.32 23	07.36 (AG13)	19.47	18.57		17.14 24	07.46 (AG03)	16.56
8	05.59	06.26	07.11 (AG13)	06.56	07.26		07.00	07.24 (AG03)	07.33
	20.56	20.31 26	07.37 (AG13)	19.45	18.55		17.13 20	07.44 (AG03)	16.56
9	06.00	06.27	07.10 (AG13)	06.57	07.27		07.01	07.26 (AG03)	07.34
	20.56	20.30 28	07.38 (AG13)	19.44	18.54		17.12 16	07.42 (AG03)	16.56
10	06.01	06.28	07.09 (AG13)	06.58	07.28		07.03	07.30 (AG03)	07.35
	20.55	20.29 30	07.39 (AG13)	19.42	18.52		17.11 9	07.39 (AG03)	16.56
11	06.01	06.29	07.09 (AG13)	06.59	07.29		07.04		07.36
	20.55	20.27 31	07.40 (AG13)	19.40	18.51		17.10		16.56
12	06.02	06.30	07.05 (AG014)	07.00	07.30		07.05		07.37
	20.55	20.26 35	07.40 (AG13)	19.39	18.49		17.09		16.56
13	06.03	06.31	07.03 (AG014)	07.01	07.31		07.06		07.37
	20.54	20.25 38	07.41 (AG13)	19.37	18.47		17.08		16.56
14	06.04	06.32	07.02 (AG014)	07.02	07.32	08.29 (AG03)	07.07		07.38
	20.54	20.23 39	07.41 (AG13)	19.35	18.46 12	08.41 (AG03)	17.07		16.56
15	06.04	06.33	07.01 (AG014)	07.03	07.33	08.26 (AG03)	07.08		07.39
	20.53	20.22 40	07.41 (AG13)	19.34	18.44 18	08.44 (AG03)	17.06		16.57
16	06.05	06.34	07.00 (AG014)	07.04	07.34	08.23 (AG03)	07.10		07.40
	20.52	20.21 41	07.41 (AG13)	19.32	18.43 23	08.46 (AG03)	17.05		16.57
17	06.06	06.35	06.59 (AG014)	07.05	07.35	08.21 (AG03)	07.11		07.40
	20.52	20.19 42	07.41 (AG13)	19.30	18.41 27	08.48 (AG03)	17.05		16.57
18	06.07	06.36	06.58 (AG014)	07.06	07.36	08.20 (AG03)	07.12		07.41
	20.51	20.18 43	07.41 (AG13)	19.29	18.40 30	08.50 (AG03)	17.04		16.58
19	06.07	06.36	06.58 (AG014)	07.07	07.37	08.19 (AG03)	07.13		07.41
	20.51	20.16 43	07.41 (AG13)	19.27	18.38 32	08.51 (AG03)	17.03		16.58
20	06.08	06.37	06.59 (AG014)	07.08	07.38	08.18 (AG03)	07.14		07.42
	20.50	20.15 42	07.41 (AG13)	19.25	18.37 33	08.51 (AG03)	17.02		16.58
21	06.09	06.38	07.00 (AG014)	07.09	07.40	08.17 (AG03)	07.15		07.43
	20.49	20.14 40	07.40 (AG13)	19.24	18.36 35	08.52 (AG03)	17.02		16.59
22	06.10	06.39	07.00 (AG014)	07.10	07.41	08.16 (AG03)	07.16		07.43
	20.48	20.12 39	07.39 (AG13)	19.22	18.34 36	08.52 (AG03)	17.01		16.59
23	06.11	06.40	07.01 (AG014)	07.11	07.42	08.15 (AG03)	07.18		07.44
	20.48	20.11 37	07.38 (AG13)	19.20	18.33 37	08.52 (AG03)	17.01		17.00
24	06.12	06.41	07.02 (AG014)	07.11	07.43	08.16 (AG03)	07.19		07.44
	20.47	20.09 35	07.37 (AG13)	19.18	18.31 37	08.53 (AG03)	17.00		17.00
25	06.13	06.42	07.03 (AG014)	07.12	06.44	07.15 (AG03)	07.20		07.45
	20.46	20.08 33	07.36 (AG13)	19.17	17.30 38	07.53 (AG03)	16.59		17.01
26	06.14	06.43	07.04 (AG014)	07.13	06.45	07.15 (AG03)	07.21		07.45
	20.45	20.06 31	07.35 (AG13)	19.15	17.29 38	07.53 (AG03)	16.59		17.02
27	06.14	06.44	07.05 (AG014)	07.14	06.46	07.14 (AG03)	07.22		07.45
	20.44	20.05 28	07.33 (AG13)	19.13	17.27 39	07.53 (AG03)	16.58		17.02
28	06.15	06.45	07.06 (AG014)	07.15	06.47	07.14 (AG03)	07.23		07.46
	20.43	20.03 23	07.31 (AG13)	19.12	17.26 38	07.52 (AG03)	16.58		17.03
29	06.16	06.46	07.12 (AG13)	07.16	06.49	07.15 (AG03)	07.24		07.46
	20.42	20.01 16	07.28 (AG13)	19.10	17.25 38	07.53 (AG03)	16.58		17.04
30	06.17	06.47	07.16 (AG13)	07.17	06.50	07.15 (AG03)	07.25		07.46
	20.41	20.00 8	07.24 (AG13)	19.08	17.23 37	07.52 (AG03)	16.57		17.04
31	06.18	06.48			06.51	07.15 (AG03)			07.46
	20.40	19.58			17.22 37	07.52 (AG03)			17.05
Potential sun hours	458	427		375	346		299		289
Total, worst case			847			585		257	

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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Licensed user:

Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:

22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R72 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (157)

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		07.08		06.23			05.55			19.05 (AG02)	05.56		19.11 (AG02)	06.19		19.29 (AG02)	06.49		07.18		06.52		07.26
	17.06		17.40		18.13		19.47		20.18			20.47	51		19.56 (AG02)	20.58	52	20.03 (AG02)	20.39	21	19.50 (AG02)	19.57		19.07		17.21		16.57
2	07.47		07.33		06.57		07.07		06.22			05.55			19.06 (AG02)	05.56		19.11 (AG02)	06.20		19.32 (AG02)	06.50		07.19		06.53		07.27
	17.07		17.41		18.15		19.48		20.19			20.48	50		19.56 (AG02)	20.58	52	20.03 (AG02)	20.38	15	19.47 (AG02)	19.55		19.05		17.20		16.57
3	07.47		07.32		06.55		07.05		06.21			05.54			19.05 (AG02)	05.57		19.11 (AG02)	06.21			06.51		07.20		06.54		07.28
	17.08		17.42		18.16		19.49		20.20			20.48	51		19.56 (AG02)	20.57	52	20.03 (AG02)	20.37			19.53		19.03		17.18		16.57
4	07.47		07.31		06.54		07.03		06.19			05.54			19.05 (AG02)	05.57		19.11 (AG02)	06.22			06.52		07.21		06.55		07.29
	17.09		17.44		18.17		19.50		20.21			20.49	52		19.57 (AG02)	20.57	52	20.03 (AG02)	20.36			19.52		19.02		17.17		16.56
5	07.47		07.30		06.52		07.02		06.18			05.53			19.06 (AG02)	05.58		19.12 (AG02)	06.23			06.53		07.22		06.57		07.30
	17.10		17.45		18.18		19.51		20.22			20.50	51		19.57 (AG02)	20.57	51	20.03 (AG02)	20.35			19.50		19.00		17.16		16.56
6	07.47		07.29		06.51		07.00		06.17			05.53			19.06 (AG02)	05.58		19.12 (AG02)	06.24			06.54		07.24		06.58		07.31
	17.11		17.46		18.19		19.52		20.23			20.50	52		19.58 (AG02)	20.57	52	20.04 (AG02)	20.33			19.49		18.59		17.15		16.56
7	07.47		07.28		06.49		06.59		06.16			05.53			19.05 (AG02)	05.59		19.12 (AG02)	06.25			06.55		07.25		06.59		07.32
	17.12		17.47		18.20		19.53		20.24			20.51	52		19.57 (AG02)	20.56	52	20.04 (AG02)	20.32			19.47		18.57		17.14		16.56
8	07.47		07.26		06.48		06.57		06.15			05.53			19.06 (AG02)	05.59		19.13 (AG02)	06.26			06.56		07.26		07.00		07.33
	17.12		17.49		18.21		19.54		20.25			20.51	52		19.58 (AG02)	20.56	51	20.04 (AG02)	20.31			19.45		18.55		17.13		16.56
9	07.47		07.25		06.46		06.55		06.14			05.52			19.06 (AG02)	06.00		19.12 (AG02)	06.27			06.57		07.27		07.01		07.34
	17.13		17.50		18.22		19.55		20.26			20.52	52		19.58 (AG02)	20.56	51	20.03 (AG02)	20.30			19.44		18.54		17.12		16.56
10	07.46		07.24		06.44		06.54		06.12		19.24 (AG02)	05.52			19.06 (AG02)	06.01		19.13 (AG02)	06.28			06.58		07.28		07.02		07.35
	17.14		17.51		18.23		19.56		20.27	10	19.34 (AG02)	20.53	53		19.59 (AG02)	20.55	51	20.04 (AG02)	20.29			19.42		18.52		17.11		16.56
11	07.46		07.23		06.43		06.52		06.11		19.20 (AG02)	05.52			19.07 (AG02)	06.01		19.13 (AG02)	06.29			06.59		07.29		07.04		07.36
	17.16		17.52		18.24		19.57		20.28	18	19.38 (AG02)	20.53	52		19.59 (AG02)	20.55	51	20.04 (AG02)	20.27			19.40		18.51		17.10		16.56
12	07.46		07.22		06.41		06.51		06.10		19.18 (AG02)	05.52			19.07 (AG02)	06.02		19.13 (AG02)	06.30			07.00		07.30		07.05		07.36
	17.17		17.53		18.26		19.58		20.29	22	19.40 (AG02)	20.54	52		19.59 (AG02)	20.55	50	20.03 (AG02)	20.26			19.39		18.49		17.09		16.56
13	07.46		07.21		06.40		06.49		06.09		19.16 (AG02)	05.52			19.07 (AG02)	06.03		19.14 (AG02)	06.31			07.01		07.31		07.06		07.37
	17.18		17.55		18.27		19.59		20.30	26	19.42 (AG02)	20.54	52		19.59 (AG02)	20.54	50	20.04 (AG02)	20.25			19.37		18.47		17.08		16.56
14	07.45		07.19		06.38		06.48		06.08		19.14 (AG02)	05.52			19.07 (AG02)	06.04		19.14 (AG02)	06.32			07.02		07.32		07.07		07.38
	17.19		17.56		18.28		20.00		20.31	30	19.44 (AG02)	20.55	53		20.00 (AG02)	20.54	50	20.04 (AG02)	20.23			19.35		18.46		17.07		16.56
15	07.45		07.18		06.36		06.46		06.07		19.12 (AG02)	05.52			19.08 (AG02)	06.04		19.15 (AG02)	06.33			07.03		07.33		07.08		07.39
	17.20		17.57		18.29		20.01		20.32	33	19.45 (AG02)	20.55	52		20.00 (AG02)	20.53	49	20.04 (AG02)	20.22			19.34		18.44		17.06		16.57
16	07.45		07.17		06.35		06.44		06.06		19.11 (AG02)	05.52			19.08 (AG02)	06.05		19.14 (AG02)	06.34			07.04		07.34		07.09		07.39
	17.21		17.58		18.30		20.02		20.33	35	19.46 (AG02)	20.55	52		20.00 (AG02)	20.52	49	20.03 (AG02)	20.21			19.32		18.43		17.05		16.57
17	07.44		07.15		06.33		06.43		06.05		19.11 (AG02)	05.52			19.08 (AG02)	06.06		19.15 (AG02)	06.35			07.05		07.35		07.11		07.40
	17.22		17.59		18.31		20.03		20.34	37	19.48 (AG02)	20.56	52		20.00 (AG02)	20.52	48	20.03 (AG02)	20.19			19.30		18.41		17.05		16.57
18	07.44		07.14		06.31		06.41		06.05		19.10 (AG02)	05.52			19.08 (AG02)	06.07		19.16 (AG02)	06.35			07.06		07.36		07.12		07.41
	17.23		18.01		18.32		20.04		20.35	39	19.49 (AG02)	20.56	52		20.00 (AG02)	20.51	47	20.03 (AG02)	20.18			19.29		18.40		17.04		16.58
19	07.43		07.13		06.30		06.40		06.04		19.09 (AG02)	05.52			19.08 (AG02)	06.07		19.16 (AG02)	06.36			07.07		07.37		07.13		07.41
	17.24		18.02		18.33		20.05		20.36	40	19.49 (AG02)	20.56	52		20.00 (AG02)	20.50	47	20.03 (AG02)	20.16			19.27		18.38		17.03		16.58
20	07.43		07.11		06.28		06.38		06.03		19.08 (AG02)	05.52			19.08 (AG02)	06.08		19.17 (AG02)	06.37			07.08		07.38		07.14		07.42
	17.25		18.03		18.34		20.06		20.37	42	19.50 (AG02)	20.57	52		20.00 (AG02)	20.50	46	20.03 (AG02)	20.15			19.25		18.37		17.02		16.58
21	07.42		07.10		06.26		06.37		06.02		19.07 (AG02)	05.52			19.08 (AG02)	06.09		19.17 (AG02)	06.38			07.09		07.39		07.15		07.43
	17.27		18.04		18.35		20.07		20.38	43	19.50 (AG02)	20.57	52		20.00 (AG02)	20.49	45	20.02 (AG02)	20.13			19.23		18.35		17.02		16.59
22	07.41		07.09		06.25		06.36		06.01		19.07 (AG02)	05.52			19.09 (AG02)	06.10		19.17 (AG02)	06.39			07.10		07.41		07.16		07.43
	17.28		18.05		18.36		20.08		20.39	45	19.52 (AG02)	20.57	52		20.01 (AG02)	20.48	44	20.01 (AG02)	20.12			19.22		18.34		17.01		16.59
23	07.41		07.07		06.23		06.34		06.00		19.07 (AG02)	05.53			19.09 (AG02)	06.11		19.18 (AG02)	06.40			07.10		07.42		07.18		07.44
	17.29		18.06		18.37		20.10		20.39	45	19.52 (AG02)	20.57	52		20.01 (AG02)	20.47	43	20.01 (AG02)	20.11			19.20		18.33		17.01		17.00
24	07.40		07.06		06.21		06.33		06.00		19.06 (AG02)	05.53			19.09 (AG02)	06.12		19.19 (AG02)	06.41			07.11		07.43		07.19		07.44
	17.30		18.08		18.38		20.11		20.40	46	19.52 (AG02)	20.57	52		20.01 (AG02)	20.47	41	20.00 (AG02)	20.09			19.18		18.31		17.00		17.00
25	07.39		07.04		06.20		06.31		05.59		19.06 (AG02)	05.53			19.09 (AG02)	06.13		19.20 (AG02)	06.42			07.12		06.44		07.20		07.44
	17.31		18.09		18.39		20.12		20.41	47	19.53 (AG02)	20.58	52		20.01 (AG02)	20.46	40	20.00 (AG02)	20.08			19.17		17.30		16.59		17.01
26	07.39		07.03		06.18		06.30		05.58		19.06 (AG02)	05.54			19.10 (AG02)	06.14		19.21 (AG02)	06.43			07.13		06.45		07.21		07.45
	17.33		18.10		18.40		20.13		20.42	48	19.54 (AG02)	20.58	52		20.02 (AG02)	20.45	38	19.59 (AG02)	20.06			19.15		17.29		16.59		17.02
27	07.38		07.01		06.17		06.29		05.58		19.06 (AG02)	05.54			19.10 (AG02)	06.14		19.21 (AG02)	06.44			07.14		06.46		07.22		07.45
	17.34		18.11		18.41		20.14		20.43	49	19.55 (AG02)	20.58	52		20.02 (AG02)	20.44	36	19.57 (AG02)	20.04			19.13		17.27		16.58		17.02
28	07.37		07.00		06.15		06.27		05.57		19.06 (AG02)	05.54			19.10 (AG02)	06.15		19.22 (AG02)	06.45			07.15		06.47		07.23		07.46
	17.35		18.12		18.43		20.15		20.44	48	19.54 (AG02)	20.58	53		20.03 (AG02)	20.43	34	19.56 (AG02)	20.03			19.12		17.26		16.58		17.03
29	07.36				07.13		06.26		05.56		19.06 (AG02)	05.55			19.10 (AG02)	06.16		19.24 (AG02)	06.46			07.16		06.48		07.24		07.46
	17.36				19.44		20.16		20.44	49	19.55 (AG02)	20.58	53		20.03 (AG02)	20.42	31	19.55 (AG02)	20.01			19.10		17.25		16.58		17.04
30	07.35				07.12		06.25		05.56		19.05 (AG02)	05.55			19.10 (AG02)	06.17		19.25 (AG02)	06.47			07.17		06.50		07.25		07.46
	17.37				19.45		20.17		20.45	50	19.55 (AG02)	20.58	52		20.02 (AG02)	20.41	29	19.54 (AG02)	20.00			19.08		17.23		16.57		17.04
31	07.35				07.10				05.55		19.06 (AG02)					06.18		19.27 (AG02)	06.48					06.51				07.46
	17.39				19.46				20.46	50	19.56 (AG02)					20.40	25	19.52 (AG02)	19.58					17.22				17.05
Potential sun hours	299		298		370		398		447			451				457			427			375		346		299		289
Total, worst case										852			1559				1409			36								

Table layout: For each day in 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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R73 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (162)

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			07.08		18.53 (AG02)	06.23		18.49 (AG01)	05.55	
	17.06		17.40		18.13			19.47	11	19.04 (AG02)	20.18	22	19.11 (AG01)	20.47	
2	07.47		07.33		06.57			07.07			06.22		18.51 (AG01)	05.54	
	17.07		17.41		18.14			19.48			20.19	18	19.09 (AG01)	20.47	
3	07.47		07.32		06.55			07.05			06.21		18.54 (AG01)	05.54	
	17.08		17.42		18.16			19.49			20.20	13	19.07 (AG01)	20.48	
4	07.47		07.31		06.54			07.03			06.19		18.59 (AG01)	05.54	
	17.09		17.44		18.17			19.50			20.21	2	19.01 (AG01)	20.49	
5	07.47		07.30		06.52			07.02			06.18			05.53	
	17.10		17.45		18.18			19.51			20.22			20.50	
6	07.47		07.29		06.51			07.00			06.17			05.53	
	17.11		17.46		18.19			19.52			20.23			20.50	
7	07.47		07.28		06.49			06.59		19.00 (AG01)	06.16			05.53	
	17.11		17.47		18.20			19.53	11	19.11 (AG01)	20.24			20.51	
8	07.47		07.26		06.47			06.57		18.55 (AG01)	06.15			05.52	
	17.12		17.48		18.21			19.54	19	19.14 (AG01)	20.25			20.51	
9	07.47		07.25		06.46			06.55		18.53 (AG01)	06.14			05.52	
	17.13		17.50		18.22			19.55	24	19.17 (AG01)	20.26			20.52	
10	07.46		07.24		06.44			06.54		18.51 (AG01)	06.12			05.52	
	17.14		17.51		18.23			19.56	27	19.18 (AG01)	20.27			20.53	
11	07.46		07.23		06.43			06.52		18.50 (AG01)	06.11			05.52	
	17.15		17.52		18.24			19.57	29	19.19 (AG01)	20.28			20.53	
12	07.46		07.22		06.41			06.51		18.48 (AG01)	06.10			05.52	
	17.17		17.53		18.26			19.58	32	19.20 (AG01)	20.29			20.54	
13	07.46		07.20		06.39			06.49		18.47 (AG01)	06.09			05.52	
	17.18		17.55		18.27			19.59	34	19.21 (AG01)	20.30			20.54	
14	07.45		07.19		06.38			06.48		18.46 (AG01)	06.08			05.52	
	17.19		17.56		18.28			20.00	35	19.21 (AG01)	20.31			20.55	
15	07.45		07.18		06.36			06.46		18.45 (AG01)	06.07			05.52	
	17.20		17.57		18.29			20.01	36	19.21 (AG01)	20.32			20.55	
16	07.45		07.17		06.35			06.44		18.44 (AG01)	06.06			05.52	
	17.21		17.58		18.30			20.02	37	19.21 (AG01)	20.33			20.55	
17	07.44		07.15		06.33			06.43		18.43 (AG01)	06.05			05.52	
	17.22		17.59		18.31			20.03	38	19.21 (AG01)	20.34			20.56	
18	07.44		07.14		06.31		17.59 (AG02)	06.41		18.43 (AG01)	06.04			05.52	
	17.23		18.01		18.32	7	18.06 (AG02)	20.04	38	19.21 (AG01)	20.35			20.56	
19	07.43		07.13		06.30		17.55 (AG02)	06.40		18.44 (AG01)	06.04			05.52	
	17.24		18.02		18.33	13	18.08 (AG02)	20.05	38	19.22 (AG01)	20.36			20.56	
20	07.43		07.11		06.28		17.54 (AG02)	06.38		18.43 (AG01)	06.03			05.52	
	17.25		18.03		18.34	17	18.11 (AG02)	20.06	38	19.21 (AG01)	20.37			20.57	
21	07.42		07.10		06.26		17.52 (AG02)	06.37		18.43 (AG01)	06.02			05.52	
	17.27		18.04		18.35	19	18.11 (AG02)	20.07	38	19.21 (AG01)	20.38			20.57	
22	07.41		07.09		06.25		17.50 (AG02)	06.36		18.43 (AG01)	06.01			05.52	
	17.28		18.05		18.36	22	18.12 (AG02)	20.08	37	19.20 (AG01)	20.38			20.57	
23	07.41		07.07		06.23		17.50 (AG02)	06.34		18.43 (AG01)	06.00			05.53	
	17.29		18.06		18.37	23	18.13 (AG02)	20.10	37	19.20 (AG01)	20.39			20.57	
24	07.40		07.06		06.21		17.49 (AG02)	06.33		18.43 (AG01)	06.00			05.53	
	17.30		18.08		18.38	23	18.12 (AG02)	20.11	36	19.19 (AG01)	20.40			20.57	
25	07.39		07.04		06.20		17.48 (AG02)	06.31		18.44 (AG01)	05.59			05.53	
	17.31		18.09		18.39	24	18.12 (AG02)	20.12	34	19.18 (AG01)	20.41			20.58	
26	07.39		07.03		06.18		17.48 (AG02)	06.30		18.45 (AG01)	05.58			05.53	
	17.33		18.10		18.40	24	18.12 (AG02)	20.13	33	19.18 (AG01)	20.42			20.58	
27	07.38		07.01		06.16		17.48 (AG02)	06.29		18.45 (AG01)	05.58			05.54	
	17.34		18.11		18.41	23	18.11 (AG02)	20.14	31	19.16 (AG01)	20.43			20.58	
28	07.37		07.00		06.15		17.48 (AG02)	06.27		18.46 (AG01)	05.57			05.54	
	17.35		18.12		18.42	22	18.10 (AG02)	20.15	30	19.16 (AG01)	20.44			20.58	
29	07.36				07.13		18.49 (AG02)	06.26		18.47 (AG01)	05.56			05.55	
	17.36				19.44	21	19.10 (AG02)	20.16	28	19.15 (AG01)	20.44			20.58	
30	07.35				07.12		18.49 (AG02)	06.24		18.48 (AG01)	05.56			05.55	
	17.37				19.45	19	19.08 (AG02)	20.17	25	19.13 (AG01)	20.45			20.58	
31	07.35				07.10		18.50 (AG02)				05.55				
	17.39				19.46	16	19.06 (AG02)				20.46				
Potential sun hours	299		298		370			398			447			451	
Total, worst case						273			776			55			

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R73 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (162)

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	05.55	06.19		06.49		18.49 (AG01)	07.18	06.52	07.26
	20.58	20.39		19.57	29	19.18 (AG01)	19.07	17.21	16.57
2	05.56	06.20		06.50		18.50 (AG01)	07.19	06.53	07.27
	20.57	20.38		19.55	27	19.17 (AG01)	19.05	17.20	16.57
3	05.56	06.21		06.51		18.51 (AG01)	07.20	06.54	07.28
	20.57	20.37		19.53	24	19.15 (AG01)	19.03	17.18	16.56
4	05.57	06.22		06.52		18.53 (AG01)	07.21	06.55	07.29
	20.57	20.36		19.52	19	19.12 (AG01)	19.02	17.17	16.56
5	05.58	06.23		06.53		18.55 (AG01)	07.22	06.57	07.30
	20.57	20.35		19.50	12	19.07 (AG01)	19.00	17.16	16.56
6	05.58	06.24		06.54			07.23	06.58	07.31
	20.57	20.33		19.49			18.59	17.15	16.56
7	05.59	06.25		06.55			07.25	06.59	07.32
	20.56	20.32		19.47			18.57	17.14	16.56
8	05.59	06.26		06.56			07.26	07.00	07.33
	20.56	20.31		19.45			18.55	17.13	16.56
9	06.00	06.27	19.05 (AG01)	06.57			07.27	07.01	07.34
	20.56	20.30	8 19.13 (AG01)	19.44			18.54	17.12	16.56
10	06.01	06.28	19.01 (AG01)	06.58			07.28	07.02	07.35
	20.55	20.29	15 19.16 (AG01)	19.42			18.52	17.11	16.56
11	06.01	06.29	18.59 (AG01)	06.59		18.45 (AG02)	07.29	07.04	07.36
	20.55	20.27	20 19.19 (AG01)	19.40	11	18.56 (AG02)	18.51	17.10	16.56
12	06.02	06.30	18.57 (AG01)	07.00		18.43 (AG02)	07.30	07.05	07.36
	20.55	20.26	23 19.20 (AG01)	19.39	15	18.58 (AG02)	18.49	17.09	16.56
13	06.03	06.31	18.56 (AG01)	07.01		18.41 (AG02)	07.31	07.06	07.37
	20.54	20.25	26 19.22 (AG01)	19.37	18	18.59 (AG02)	18.47	17.08	16.56
14	06.04	06.32	18.54 (AG01)	07.02		18.39 (AG02)	07.32	07.07	07.38
	20.54	20.23	29 19.23 (AG01)	19.35	21	19.00 (AG02)	18.46	17.07	16.56
15	06.04	06.33	18.53 (AG01)	07.03		18.38 (AG02)	07.33	07.08	07.39
	20.53	20.22	30 19.23 (AG01)	19.34	22	19.00 (AG02)	18.44	17.06	16.57
16	06.05	06.33	18.52 (AG01)	07.04		18.37 (AG02)	07.34	07.09	07.39
	20.52	20.21	32 19.24 (AG01)	19.32	23	19.00 (AG02)	18.43	17.05	16.57
17	06.06	06.34	18.51 (AG01)	07.05		18.37 (AG02)	07.35	07.11	07.40
	20.52	20.19	34 19.25 (AG01)	19.30	23	19.00 (AG02)	18.41	17.05	16.57
18	06.07	06.35	18.50 (AG01)	07.06		18.36 (AG02)	07.36	07.12	07.41
	20.51	20.18	35 19.25 (AG01)	19.28	24	19.00 (AG02)	18.40	17.04	16.58
19	06.07	06.36	18.50 (AG01)	07.07		18.36 (AG02)	07.37	07.13	07.41
	20.50	20.16	36 19.26 (AG01)	19.27	24	19.00 (AG02)	18.38	17.03	16.58
20	06.08	06.37	18.49 (AG01)	07.08		18.35 (AG02)	07.38	07.14	07.42
	20.50	20.15	37 19.26 (AG01)	19.25	23	18.58 (AG02)	18.37	17.02	16.58
21	06.09	06.38	18.47 (AG01)	07.08		18.35 (AG02)	07.39	07.15	07.43
	20.49	20.13	38 19.25 (AG01)	19.23	22	18.57 (AG02)	18.35	17.02	16.59
22	06.10	06.39	18.47 (AG01)	07.09		18.36 (AG02)	07.41	07.16	07.43
	20.48	20.12	38 19.25 (AG01)	19.22	20	18.56 (AG02)	18.34	17.01	16.59
23	06.11	06.40	18.47 (AG01)	07.10		18.37 (AG02)	07.42	07.18	07.44
	20.47	20.11	38 19.25 (AG01)	19.20	17	18.54 (AG02)	18.33	17.00	17.00
24	06.12	06.41	18.46 (AG01)	07.11		18.38 (AG02)	07.43	07.19	07.44
	20.47	20.09	39 19.25 (AG01)	19.18	14	18.52 (AG02)	18.31	17.00	17.00
25	06.13	06.42	18.46 (AG01)	07.12		18.40 (AG02)	06.44	07.20	07.44
	20.46	20.07	38 19.24 (AG01)	19.17	9	18.49 (AG02)	17.30	16.59	17.01
26	06.13	06.43	18.46 (AG01)	07.13			06.45	07.21	07.45
	20.45	20.06	38 19.24 (AG01)	19.15			17.28	16.59	17.02
27	06.14	06.44	18.46 (AG01)	07.14			06.46	07.22	07.45
	20.44	20.04	37 19.23 (AG01)	19.13			17.27	16.58	17.02
28	06.15	06.45	18.47 (AG01)	07.15			06.47	07.23	07.46
	20.43	20.03	36 19.23 (AG01)	19.12			17.26	16.58	17.03
29	06.16	06.46	18.47 (AG01)	07.16			06.48	07.24	07.46
	20.42	20.01	35 19.22 (AG01)	19.10			17.25	16.58	17.04
30	06.17	06.47	18.47 (AG01)	07.17			06.50	07.25	07.46
	20.41	20.00	34 19.21 (AG01)	19.08			17.23	16.57	17.04
31	06.18	06.48	18.48 (AG01)				06.51		07.46
	20.40	19.58	32 19.20 (AG01)				17.22		17.05
Potential sun hours	457	427		375			346	299	289
Total, worst case			728		397				

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R74 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (173)

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		07.23 (AG13)	07.08	07.27 (AG014)	06.23	05.55
	17.06	17.40		18.13	46	08.09 (AG13)	19.47	106 09.20 (AG13)	20.18	20.47
2	07.47	07.33		06.57		07.20 (AG13)	07.07	07.25 (AG014)	06.22	05.54
	17.07	17.41		18.14	51	08.11 (AG13)	19.48	108 09.19 (AG13)	20.19	20.48
3	07.47	07.32		06.55		07.18 (AG13)	07.05	07.23 (AG014)	06.21	06.40 (AG015) 05.54
	17.08	17.42		18.16	55	08.13 (AG13)	19.49	109 09.18 (AG13)	20.20	4 06.44 (AG015) 20.48
4	07.47	07.31		06.54		07.16 (AG13)	07.03	07.22 (AG014)	06.19	06.39 (AG015) 05.54
	17.09	17.44		18.17	59	08.15 (AG13)	19.50	110 09.17 (AG13)	20.21	7 06.46 (AG015) 20.49
5	07.47	07.30		06.52		07.14 (AG13)	07.02	07.20 (AG014)	06.18	06.38 (AG015) 05.53
	17.10	17.45		18.18	62	08.16 (AG13)	19.51	111 09.16 (AG13)	20.22	9 06.47 (AG015) 20.50
6	07.47	07.29		06.51		07.12 (AG13)	07.00	07.19 (AG014)	06.17	06.36 (AG015) 05.53
	17.11	17.46		18.19	65	08.17 (AG13)	19.52	111 09.15 (AG13)	20.23	11 06.47 (AG015) 20.50
7	07.47	07.28		06.49		07.11 (AG13)	06.59	07.17 (AG014)	06.16	06.35 (AG015) 05.53
	17.11	17.47		18.20	68	08.19 (AG13)	19.53	112 09.14 (AG13)	20.24	13 06.48 (AG015) 20.51
8	07.47	07.26		06.48		07.09 (AG13)	06.57	07.15 (AG014)	06.15	06.34 (AG015) 05.52
	17.12	17.48		18.21	71	08.20 (AG13)	19.54	111 09.12 (AG13)	20.25	15 06.49 (AG015) 20.52
9	07.47	07.25		06.46		07.08 (AG13)	06.55	07.14 (AG014)	06.14	06.33 (AG015) 05.52
	17.13	17.50		18.22	73	08.21 (AG13)	19.55	112 09.12 (AG13)	20.26	16 06.49 (AG015) 20.52
10	07.46	07.24		06.44		07.06 (AG13)	06.54	07.12 (AG014)	06.12	06.32 (AG015) 05.52
	17.14	17.51		18.23	76	08.22 (AG13)	19.56	111 09.10 (AG13)	20.27	18 06.50 (AG015) 20.53
11	07.46	07.23		06.43		07.04 (AG13)	06.52	07.11 (AG014)	06.11	06.31 (AG015) 05.52
	17.15	17.52		18.24	78	08.22 (AG13)	19.57	110 09.09 (AG13)	20.28	19 06.50 (AG015) 20.53
12	07.46	07.22		06.41		07.04 (AG13)	06.51	07.09 (AG014)	06.10	06.30 (AG015) 05.52
	17.17	17.53		18.26	79	08.23 (AG13)	19.58	109 09.07 (AG13)	20.29	20 06.50 (AG015) 20.54
13	07.46	07.21		06.40		07.02 (AG13)	06.49	07.09 (AG014)	06.09	06.29 (AG015) 05.52
	17.18	17.55		18.27	82	08.24 (AG13)	19.59	107 09.06 (AG13)	20.30	21 06.50 (AG015) 20.54
14	07.45	07.19		06.38		07.01 (AG13)	06.48	07.08 (AG014)	06.08	06.28 (AG015) 05.52
	17.19	17.56		18.28	83	08.24 (AG13)	20.00	104 09.04 (AG13)	20.31	22 06.50 (AG015) 20.55
15	07.45	07.18		06.36		07.00 (AG13)	06.46	07.08 (AG014)	06.07	06.27 (AG015) 05.52
	17.20	17.57		18.29	85	08.25 (AG13)	20.01	101 09.02 (AG13)	20.32	23 06.50 (AG015) 20.55
16	07.45	07.17		06.35		06.59 (AG13)	06.44	07.09 (AG014)	06.06	06.26 (AG015) 05.52
	17.21	17.58		18.30	86	08.25 (AG13)	20.02	96 09.01 (AG13)	20.33	24 06.50 (AG015) 20.55
17	07.44	07.15		06.33		06.59 (AG13)	06.43	07.10 (AG014)	06.05	06.26 (AG015) 05.52
	17.22	17.59		18.31	86	08.25 (AG13)	20.03	92 09.00 (AG13)	20.34	24 06.50 (AG015) 20.56
18	07.44	07.14		06.31		06.58 (AG13)	06.41	07.11 (AG014)	06.04	06.25 (AG015) 05.52
	17.23	18.01		18.32	87	08.25 (AG13)	20.04	85 08.57 (AG13)	20.35	25 06.50 (AG015) 20.56
19	07.43	07.13		06.30		06.57 (AG13)	06.40	07.12 (AG014)	06.04	06.24 (AG015) 05.52
	17.24	18.02		18.33	88	08.25 (AG13)	20.05	80 08.56 (AG13)	20.36	25 06.49 (AG015) 20.56
20	07.43	07.11		06.28		06.57 (AG13)	06.38	07.13 (AG014)	06.03	06.24 (AG015) 05.52
	17.25	18.03		18.34	89	08.26 (AG13)	20.06	74 08.53 (AG13)	20.37	25 06.49 (AG015) 20.57
21	07.42	07.10		06.26		06.56 (AG13)	06.37	07.15 (AG014)	06.02	06.24 (AG015) 05.52
	17.27	18.04		18.35	89	08.25 (AG13)	20.07	65 08.51 (AG13)	20.38	24 06.48 (AG015) 20.57
22	07.42	07.09		06.25		06.55 (AG13)	06.36	07.17 (AG014)	06.01	06.25 (AG015) 05.52
	17.28	18.05		18.36	90	08.25 (AG13)	20.09	56 08.48 (AG13)	20.39	23 06.48 (AG015) 20.57
23	07.41	07.07		06.23		06.55 (AG13)	06.34	07.22 (AG014)	06.00	06.26 (AG015) 05.53
	17.29	18.06		18.37	90	08.25 (AG13)	20.10	42 08.46 (AG13)	20.39	22 06.48 (AG015) 20.57
24	07.40	07.06		06.21		06.54 (AG13)	06.33	08.11 (AG13)	06.00	06.26 (AG015) 05.53
	17.30	18.08		18.38	90	08.24 (AG13)	20.11	31 08.42 (AG13)	20.40	21 06.47 (AG015) 20.58
25	07.39	07.04	07.43 (AG13)	06.20		06.53 (AG13)	06.31	08.15 (AG13)	05.59	06.28 (AG015) 05.53
	17.31	18.09	6 07.49 (AG13)	18.39	91	08.24 (AG13)	20.12	24 08.39 (AG13)	20.41	19 06.47 (AG015) 20.58
26	07.39	07.03	07.34 (AG13)	06.18		06.54 (AG13)	06.30	08.21 (AG13)	05.58	06.28 (AG015) 05.53
	17.33	18.10	24 07.58 (AG13)	18.40	90	08.24 (AG13)	20.13	12 08.33 (AG13)	20.42	17 06.45 (AG015) 20.58
27	07.38	07.01	07.29 (AG13)	06.17		06.53 (AG13)	06.29		05.58	06.30 (AG015) 05.54
	17.34	18.11	33 08.02 (AG13)	18.41	90	08.23 (AG13)	20.14		20.43	15 06.45 (AG015) 20.58
28	07.37	07.00	07.26 (AG13)	06.15		06.33 (AG014)	06.27		05.57	06.31 (AG015) 05.54
	17.35	18.12	40 08.06 (AG13)	18.43	91	08.22 (AG13)	20.15		20.44	12 06.43 (AG015) 20.58
29	07.36			07.13		07.32 (AG014)	06.26		05.56	06.32 (AG015) 05.55
	17.36			19.44	97	09.22 (AG13)	20.16		20.44	10 06.42 (AG015) 20.58
30	07.35			07.12		07.30 (AG014)	06.25		05.56	06.35 (AG015) 05.55
	17.37			19.45	101	09.21 (AG13)	20.17		20.45	5 06.40 (AG015) 20.58
31	07.35			07.10		07.28 (AG014)			05.55	
	17.39			19.46	103	09.20 (AG13)			20.46	
Potential sun hours	299	298		370		398		447		451
Total, worst case			103		2491		2289		489	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R74 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (173)

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		06.41 (AG015)	06.49	07.10 (AG014)	07.18	07.42 (AG13)	06.52	07.26
	20.58		20.39	20	07.01 (AG015)	19.57 110	09.08 (AG13)	19.07 80	09.02 (AG13)	17.21	16.57
2	05.56		06.20		06.42 (AG015)	06.50	07.11 (AG014)	07.19	07.42 (AG13)	06.53	07.27
	20.58		20.38	19	07.01 (AG015)	19.55 111	09.09 (AG13)	19.05 79	09.01 (AG13)	17.20	16.57
3	05.56		06.21		06.43 (AG015)	06.51	07.12 (AG014)	07.20	07.43 (AG13)	06.54	07.28
	20.57		20.37	17	07.00 (AG015)	19.53 112	09.10 (AG13)	19.03 77	09.00 (AG13)	17.18	16.56
4	05.57		06.22		06.44 (AG015)	06.52	07.13 (AG014)	07.21	07.44 (AG13)	06.55	07.29
	20.57		20.36	16	07.00 (AG015)	19.52 111	09.10 (AG13)	19.02 75	08.59 (AG13)	17.17	16.56
5	05.58		06.23		06.45 (AG015)	06.53	07.13 (AG014)	07.23	07.45 (AG13)	06.57	07.30
	20.57		20.35	14	06.59 (AG015)	19.50 112	09.10 (AG13)	19.00 72	08.57 (AG13)	17.16	16.56
6	05.58		06.24		06.45 (AG015)	06.54	07.14 (AG014)	07.24	07.46 (AG13)	06.58	07.31
	20.57		20.33	13	06.58 (AG015)	19.49 111	09.10 (AG13)	18.59 69	08.55 (AG13)	17.15	16.56
7	05.59		06.25		06.46 (AG015)	06.55	07.15 (AG014)	07.25	07.48 (AG13)	06.59	07.32
	20.56		20.32	11	06.57 (AG015)	19.47 112	09.11 (AG13)	18.57 67	08.55 (AG13)	17.14	16.56
8	05.59		06.26		06.47 (AG015)	06.56	07.16 (AG014)	07.26	07.49 (AG13)	07.00	07.33
	20.56		20.31	9	06.56 (AG015)	19.45 111	09.11 (AG13)	18.55 64	08.53 (AG13)	17.13	16.56
9	06.00		06.27		06.48 (AG015)	06.57	07.17 (AG014)	07.27	07.50 (AG13)	07.01	07.34
	20.56		20.30	6	06.54 (AG015)	19.44 110	09.12 (AG13)	18.54 61	08.51 (AG13)	17.12	16.56
10	06.01		06.28		06.49 (AG015)	06.58	07.18 (AG014)	07.28	07.51 (AG13)	07.02	07.35
	20.55		20.29	3	06.52 (AG015)	19.42 108	09.12 (AG13)	18.52 58	08.49 (AG13)	17.11	16.56
11	06.01		06.29			06.59	07.19 (AG014)	07.29	07.53 (AG13)	07.04	07.36
	20.55		20.27			19.40 106	09.12 (AG13)	18.51 53	08.46 (AG13)	17.10	16.56
12	06.02		06.30			07.00	07.20 (AG014)	07.30	07.55 (AG13)	07.05	07.36
	20.55		20.26			19.39 104	09.12 (AG13)	18.49 49	08.44 (AG13)	17.09	16.56
13	06.03		06.31			07.01	07.21 (AG014)	07.31	07.57 (AG13)	07.06	07.37
	20.54		20.25			19.37 102	09.12 (AG13)	18.47 44	08.41 (AG13)	17.08	16.56
14	06.04	06.42 (AG015)	06.32			07.02	07.22 (AG014)	07.32	08.00 (AG13)	07.07	07.38
	20.54 8	06.50 (AG015)	20.23			19.35 98	09.12 (AG13)	18.46 37	08.37 (AG13)	17.07	16.56
15	06.04	06.41 (AG015)	06.33			07.03	07.23 (AG014)	07.33	08.03 (AG13)	07.08	07.39
	20.53 11	06.52 (AG015)	20.22			19.34 92	09.12 (AG13)	18.44 30	08.33 (AG13)	17.06	16.57
16	06.05	06.39 (AG015)	06.34			07.04	07.42 (AG13)	07.34	08.08 (AG13)	07.10	07.39
	20.52 14	06.53 (AG015)	20.21			19.32 90	09.12 (AG13)	18.43 20	08.28 (AG13)	17.05	16.57
17	06.06	06.38 (AG015)	06.34		08.26 (AG13)	07.05	07.42 (AG13)	07.35		07.11	07.40
	20.52 16	06.54 (AG015)	20.19	16	08.42 (AG13)	19.30 90	09.12 (AG13)	18.41		17.05	16.57
18	06.07	06.38 (AG015)	06.35		08.21 (AG13)	07.06	07.42 (AG13)	07.36		07.12	07.41
	20.51 17	06.55 (AG015)	20.18	25	08.46 (AG13)	19.29 90	09.12 (AG13)	18.40		17.04	16.58
19	06.07	06.37 (AG015)	06.36		08.18 (AG13)	07.07	07.41 (AG13)	07.37		07.13	07.41
	20.51 20	06.57 (AG015)	20.16	32	08.50 (AG13)	19.27 91	09.12 (AG13)	18.38		17.03	16.58
20	06.08	06.36 (AG015)	06.37		07.26 (AG014)	07.08	07.41 (AG13)	07.38		07.14	07.42
	20.50 21	06.57 (AG015)	20.15	45	08.52 (AG13)	19.25 90	09.11 (AG13)	18.37		17.02	16.58
21	06.09	06.35 (AG015)	06.38		07.22 (AG014)	07.09	07.40 (AG13)	07.39		07.15	07.43
	20.49 23	06.58 (AG015)	20.14	59	08.55 (AG13)	19.23 90	09.10 (AG13)	18.35		17.02	16.59
22	06.10	06.35 (AG015)	06.39		07.19 (AG014)	07.10	07.40 (AG13)	07.41		07.16	07.43
	20.48 23	06.58 (AG015)	20.12	67	08.56 (AG13)	19.22 90	09.10 (AG13)	18.34		17.01	16.59
23	06.11	06.35 (AG015)	06.40		07.17 (AG014)	07.10	07.40 (AG13)	07.42		07.18	07.44
	20.48 24	06.59 (AG015)	20.11	74	08.57 (AG13)	19.20 89	09.09 (AG13)	18.33		17.00	17.00
24	06.12	06.34 (AG015)	06.41		07.15 (AG014)	07.11	07.40 (AG13)	07.43		07.19	07.44
	20.47 26	07.00 (AG015)	20.09	81	08.59 (AG13)	19.18 88	09.08 (AG13)	18.31		17.00	17.00
25	06.13	06.35 (AG015)	06.42		07.13 (AG014)	07.12	07.40 (AG13)	06.44		07.20	07.45
	20.46 25	07.00 (AG015)	20.08	88	09.01 (AG13)	19.17 88	09.08 (AG13)	17.30		16.59	17.01
26	06.13	06.36 (AG015)	06.43		07.12 (AG014)	07.13	07.40 (AG13)	06.45		07.21	07.45
	20.45 25	07.01 (AG015)	20.06	92	09.02 (AG13)	19.15 87	09.07 (AG13)	17.29		16.59	17.02
27	06.14	06.36 (AG015)	06.44		07.11 (AG014)	07.14	07.40 (AG13)	06.46		07.22	07.45
	20.44 24	07.00 (AG015)	20.04	97	09.03 (AG13)	19.13 86	09.06 (AG13)	17.27		16.58	17.02
28	06.15	06.37 (AG015)	06.45		07.10 (AG014)	07.15	07.41 (AG13)	06.47		07.23	07.46
	20.43 23	07.00 (AG015)	20.03	100	09.04 (AG13)	19.12 84	09.05 (AG13)	17.26		16.58	17.03
29	06.16	06.38 (AG015)	06.46		07.09 (AG014)	07.16	07.41 (AG13)	06.48		07.24	07.46
	20.42 23	07.01 (AG015)	20.01	104	09.05 (AG13)	19.10 84	09.05 (AG13)	17.25		16.58	17.04
30	06.17	06.39 (AG015)	06.47		07.09 (AG014)	07.17	07.41 (AG13)	06.50		07.25	07.46
	20.41 22	07.01 (AG015)	20.00	107	09.06 (AG13)	19.08 82	09.03 (AG13)	17.23		16.57	17.04
31	06.18	06.40 (AG015)	06.48		07.09 (AG014)			06.51			07.46
	20.40 21	07.01 (AG015)	19.58	109	09.07 (AG13)			17.22			17.05
Potential sun hours	458		427		375		346		299	289	
Total, worst case	366		1224		2929		935				

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R75 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (202)

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		16.22 (AG04)	07.34	15.26 (AG06)	06.58	07.08	06.23		05.55		06.31 (AG08)
	17.06	14	16.36 (AG04)	17.40	75	16.55 (AG05)	18.13	19.47	20.18		20.47	19	06.50 (AG08)
2	07.47		16.22 (AG04)	07.33	15.26 (AG06)	06.57	07.07	06.22		05.54		06.32 (AG08)
	17.07	14	16.36 (AG04)	17.41	79	16.57 (AG05)	18.14	19.48	20.19		20.47	18	06.50 (AG08)
3	07.47		16.22 (AG04)	07.32	15.27 (AG06)	06.55	07.05	06.20		05.54		06.32 (AG08)
	17.08	15	16.37 (AG04)	17.42	80	16.58 (AG05)	18.15	19.49	20.20		20.48	17	06.49 (AG08)
4	07.47		16.22 (AG04)	07.31	15.27 (AG06)	06.54	07.03	06.19		05.53		06.34 (AG08)
	17.08	16	16.38 (AG04)	17.43	82	16.59 (AG05)	18.17	19.50	20.21		20.49	15	06.49 (AG08)
5	07.47		16.22 (AG04)	07.30	15.27 (AG06)	06.52	07.02	06.18		05.53		06.35 (AG08)
	17.09	17	16.39 (AG04)	17.45	83	17.00 (AG05)	18.18	19.51	20.22		20.50	14	06.49 (AG08)
6	07.47		15.43 (AG06)	07.29	15.28 (AG06)	06.51	07.00	06.17		05.53		06.35 (AG08)
	17.10	24	16.40 (AG04)	17.46	84	17.01 (AG05)	18.19	19.52	20.23		20.50	12	06.47 (AG08)
7	07.47		15.39 (AG06)	07.27	15.28 (AG06)	06.49	06.58	06.16		06.36 (AG08)	05.53		06.36 (AG08)
	17.11	32	16.40 (AG04)	17.47	86	17.02 (AG05)	18.20	19.53	20.24	7	06.43 (AG08)	20.51	11	06.47 (AG08)
8	07.47		15.38 (AG06)	07.26	15.29 (AG06)	06.47	06.57	06.14		06.34 (AG08)	05.52		06.38 (AG08)
	17.12	35	16.41 (AG04)	17.48	85	17.02 (AG05)	18.21	19.54	20.25	12	06.46 (AG08)	20.51	8	06.46 (AG08)
9	07.47		15.37 (AG06)	07.25	15.29 (AG06)	06.46	06.55	06.13		06.33 (AG08)	05.52		06.39 (AG08)
	17.13	40	16.42 (AG04)	17.50	86	17.03 (AG05)	18.22	19.55	20.26	15	06.48 (AG08)	20.52	6	06.45 (AG08)
10	07.46		15.36 (AG06)	07.24	15.30 (AG06)	06.44	06.54	06.12		06.32 (AG08)	05.52			
	17.14	44	16.43 (AG04)	17.51	84	17.03 (AG05)	18.23	19.56	20.27	17	06.49 (AG08)	20.53		
11	07.46		15.35 (AG06)	07.23	15.30 (AG06)	06.43	06.52	06.11		06.31 (AG08)	05.52			
	17.15	47	16.44 (AG04)	17.52	83	17.02 (AG05)	18.24	19.57	20.28	19	06.50 (AG08)	20.53		
12	07.46		15.34 (AG06)	07.22	15.31 (AG06)	06.41	06.50	06.10		06.30 (AG08)	05.52			
	17.16	50	16.44 (AG04)	17.53	82	17.03 (AG05)	18.25	19.58	20.29	21	06.51 (AG08)	20.54		
13	07.46		15.33 (AG06)	07.20	15.32 (AG06)	06.39	06.49	06.09		06.29 (AG08)	05.52			
	17.17	53	16.45 (AG04)	17.54	80	17.03 (AG05)	18.26	19.59	20.30	22	06.51 (AG08)	20.54		
14	07.45		15.32 (AG06)	07.19	15.32 (AG06)	06.38	06.47	06.08		06.28 (AG08)	05.51			
	17.18	55	16.45 (AG04)	17.56	79	17.02 (AG05)	18.28	20.00	20.31	24	06.52 (AG08)	20.55		
15	07.45		15.32 (AG06)	07.18	15.33 (AG06)	06.36	06.46	06.07		06.27 (AG08)	05.51			
	17.20	57	16.46 (AG04)	17.57	75	17.01 (AG05)	18.29	20.01	20.32	25	06.52 (AG08)	20.55		
16	07.45		15.32 (AG06)	07.17	15.35 (AG06)	06.35	06.44	06.06		06.26 (AG08)	05.51			
	17.21	59	16.47 (AG04)	17.58	72	17.01 (AG05)	18.30	20.02	20.33	26	06.52 (AG08)	20.55		
17	07.44		15.31 (AG06)	07.15	15.36 (AG06)	06.33	06.43	06.05		06.26 (AG08)	05.51			
	17.22	62	16.47 (AG04)	17.59	69	17.01 (AG05)	18.31	20.03	20.34	26	06.52 (AG08)	20.56		
18	07.44		15.30 (AG06)	07.14	15.37 (AG06)	06.31	06.41	06.04		06.27 (AG08)	05.52			
	17.23	64	16.47 (AG04)	18.00	63	16.59 (AG05)	18.32	20.04	20.35	26	06.53 (AG08)	20.56		
19	07.43		15.30 (AG06)	07.13	15.39 (AG06)	06.30	06.40	06.03		06.26 (AG08)	05.52			
	17.24	64	16.47 (AG04)	18.02	57	16.58 (AG05)	18.33	20.05	20.36	27	06.53 (AG08)	20.56		
20	07.43		15.29 (AG06)	07.11	15.40 (AG06)	06.28	06.38	06.03		06.26 (AG08)	05.52			
	17.25	65	16.47 (AG04)	18.03	51	16.56 (AG05)	18.34	20.06	20.37	27	06.53 (AG08)	20.57		
21	07.42		15.29 (AG06)	07.10	15.43 (AG06)	06.26	06.37	06.02		06.26 (AG08)	05.52			
	17.26	67	16.48 (AG04)	18.04	41	16.54 (AG05)	18.35	20.07	20.38	27	06.53 (AG08)	20.57		
22	07.41		15.29 (AG06)	07.08	15.47 (AG06)	06.25	06.35	06.01		06.26 (AG08)	05.52			
	17.28	66	16.47 (AG04)	18.05	25	16.49 (AG05)	18.36	20.08	20.38	26	06.52 (AG08)	20.57		
23	07.41		15.28 (AG06)	07.07	15.50 (AG06)	06.23	06.34	06.00		06.27 (AG08)	05.52			
	17.29	67	16.47 (AG04)	18.06	13	16.03 (AG06)	18.37	20.09	20.39	26	06.53 (AG08)	20.57		
24	07.40		15.27 (AG06)	07.06			06.21	06.33	05.59		06.27 (AG08)	05.53		
	17.30	67	16.46 (AG04)	18.07			18.38	20.10	20.40	25	06.52 (AG08)	20.57		
25	07.39		15.28 (AG06)	07.04			06.20	06.31	05.59		06.28 (AG08)	05.53		
	17.31	66	16.46 (AG04)	18.09			18.39	20.12	20.41	25	06.53 (AG08)	20.58		
26	07.39		15.27 (AG06)	07.03			06.18	06.30	05.58		06.28 (AG08)	05.53		
	17.32	66	16.45 (AG04)	18.10			18.40	20.13	20.42	24	06.52 (AG08)	20.58		
27	07.38		15.27 (AG06)	07.01			06.16	06.28	05.57		06.28 (AG08)	05.54		
	17.34	63	16.44 (AG04)	18.11			18.41	20.14	20.43	24	06.52 (AG08)	20.58		
28	07.37		15.27 (AG06)	07.00			06.15	06.27	05.57		06.29 (AG08)	05.54		
	17.35	60	16.42 (AG04)	18.12			18.42	20.15	20.44	23	06.52 (AG08)	20.58		
29	07.36		15.27 (AG06)				07.13	06.26	05.56		06.29 (AG08)	05.54		
	17.36	61	16.49 (AG05)				19.43	20.16	20.44	22	06.51 (AG08)	20.58		
30	07.35		15.26 (AG06)				07.11	06.24	05.56		06.30 (AG08)	05.55		
	17.37	69	16.52 (AG05)				19.44	20.17	20.45	21	06.51 (AG08)	20.58		
31	07.34		15.26 (AG06)				07.10		05.55		06.30 (AG08)			
	17.38	73	16.54 (AG05)				19.46		20.46	20	06.50 (AG08)			
Potential sun hours	299			298		370	398	447				451		
Total, worst case		1552			1614				557				120	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R75 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (202)

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	05.55			06.19		06.41 (AG08)	06.49	07.18			06.52		14.59 (AG06)	07.26		15.17 (AG06)
	20.58			20.39	20	07.01 (AG08)	19.57	19.07			17.21	85	16.32 (AG05)	16.57	47	16.26 (AG04)
2	05.56			06.20		06.42 (AG08)	06.50	07.19			06.53		14.58 (AG06)	07.27		15.19 (AG06)
	20.57			20.38	18	07.00 (AG08)	19.55	19.05			17.19	85	16.31 (AG05)	16.57	44	16.26 (AG04)
3	05.56		06.45 (AG08)	06.21		06.43 (AG08)	06.51	07.20			06.54		14.58 (AG06)	07.28		15.20 (AG06)
	20.57	5	06.50 (AG08)	20.37	16	06.59 (AG08)	19.53	19.03			17.18	86	16.32 (AG05)	16.56	41	16.26 (AG04)
4	05.57		06.43 (AG08)	06.22		06.43 (AG08)	06.52	07.21			06.55		14.58 (AG06)	07.29		15.23 (AG06)
	20.57	8	06.51 (AG08)	20.36	14	06.57 (AG08)	19.52	19.02			17.17	85	16.31 (AG05)	16.56	36	16.26 (AG04)
5	05.57		06.43 (AG08)	06.23		06.44 (AG08)	06.53	07.22			06.57		14.57 (AG06)	07.30		15.25 (AG06)
	20.57	10	06.53 (AG08)	20.35	11	06.55 (AG08)	19.50	19.00			17.16	85	16.31 (AG05)	16.56	32	16.26 (AG04)
6	05.58		06.41 (AG08)	06.24		06.49 (AG08)	06.54	07.23			06.58		14.57 (AG06)	07.31		15.28 (AG06)
	20.57	12	06.53 (AG08)	20.33	1	06.50 (AG08)	19.48	18.58			17.15	83	16.30 (AG05)	16.56	26	16.26 (AG04)
7	05.59		06.41 (AG08)	06.25			06.55	07.24			06.59		14.58 (AG06)	07.32		16.09 (AG04)
	20.56	13	06.54 (AG08)	20.32			19.47	18.57			17.14	82	16.30 (AG05)	16.56	17	16.26 (AG04)
8	05.59		06.41 (AG08)	06.26			06.56	07.25			07.00		14.58 (AG06)	07.33		16.09 (AG04)
	20.56	15	06.56 (AG08)	20.31			19.45	18.55			17.13	80	16.29 (AG05)	16.56	16	16.25 (AG04)
9	06.00		06.40 (AG08)	06.26			06.57	07.26			07.01		14.57 (AG06)	07.34		16.10 (AG04)
	20.56	16	06.56 (AG08)	20.30			19.43	18.54			17.12	79	16.28 (AG05)	16.56	15	16.25 (AG04)
10	06.00		06.40 (AG08)	06.27			06.58	07.28			07.02		14.57 (AG06)	07.35		16.11 (AG04)
	20.55	17	06.57 (AG08)	20.28			19.42	18.52			17.11	75	16.26 (AG05)	16.56	15	16.26 (AG04)
11	06.01		06.40 (AG08)	06.28			06.59	07.29			07.04		14.58 (AG06)	07.36		16.12 (AG04)
	20.55	18	06.58 (AG08)	20.27			19.40	18.50			17.10	73	16.26 (AG05)	16.56	14	16.26 (AG04)
12	06.02		06.39 (AG08)	06.29			07.00	07.30			07.05		14.58 (AG06)	07.36		16.13 (AG04)
	20.54	19	06.58 (AG08)	20.26			19.38	18.49			17.09	67	16.23 (AG05)	16.56	13	16.26 (AG04)
13	06.03		06.38 (AG08)	06.30			07.01	07.31			07.06		14.59 (AG06)	07.37		16.14 (AG04)
	20.54	21	06.59 (AG08)	20.25			19.37	18.47			17.08	60	16.20 (AG05)	16.56	12	16.26 (AG04)
14	06.03		06.38 (AG08)	06.31			07.02	07.32			07.07		14.59 (AG06)	07.38		16.15 (AG04)
	20.53	22	07.00 (AG08)	20.23			19.35	18.46			17.07	60	16.14 (AG04)	16.56	10	16.25 (AG04)
15	06.04		06.37 (AG08)	06.32			07.03	07.33			07.08		15.00 (AG06)	07.39		16.16 (AG04)
	20.53	23	07.00 (AG08)	20.22			19.33	18.44			17.06	63	16.17 (AG04)	16.56	9	16.25 (AG04)
16	06.05		06.37 (AG08)	06.33			07.04	07.34			07.09		15.00 (AG06)	07.39		16.17 (AG04)
	20.52	24	07.01 (AG08)	20.21			19.32	18.43			17.05	66	16.18 (AG04)	16.57	9	16.26 (AG04)
17	06.06		06.37 (AG08)	06.34			07.04	07.35			07.11		15.01 (AG06)	07.40		16.18 (AG04)
	20.52	24	07.01 (AG08)	20.19			19.30	18.41			17.04	66	16.19 (AG04)	16.57	7	16.25 (AG04)
18	06.06		06.37 (AG08)	06.35			07.05	07.36			07.12		15.01 (AG06)	07.41		16.19 (AG04)
	20.51	25	07.02 (AG08)	20.18			19.28	18.40			17.04	67	16.20 (AG04)	16.57	6	16.25 (AG04)
19	06.07		06.36 (AG08)	06.36			07.06	07.37		16.20 (AG06)	07.13		15.03 (AG06)	07.41		16.20 (AG04)
	20.50	26	07.02 (AG08)	20.16			19.27	18.38	16	16.36 (AG06)	17.03	67	16.22 (AG04)	16.58	6	16.26 (AG04)
20	06.08		06.36 (AG08)	06.37			07.07	07.38		16.16 (AG06)	07.14		15.04 (AG06)	07.42		16.20 (AG04)
	20.50	26	07.02 (AG08)	20.15			19.25	18.37	32	17.22 (AG05)	17.02	66	16.22 (AG04)	16.58	5	16.25 (AG04)
21	06.09		06.36 (AG08)	06.38			07.08	07.39		16.13 (AG06)	07.15		15.04 (AG06)	07.43		16.21 (AG04)
	20.49	27	07.03 (AG08)	20.13			19.23	18.35	44	17.25 (AG05)	17.01	67	16.23 (AG04)	16.59	5	16.26 (AG04)
22	06.10		06.36 (AG08)	06.39			07.09	07.40		16.10 (AG06)	07.16		15.05 (AG06)	07.43		16.21 (AG04)
	20.48	27	07.03 (AG08)	20.12			19.22	18.34	53	17.27 (AG05)	17.01	65	16.23 (AG04)	16.59	5	16.26 (AG04)
23	06.11		06.37 (AG08)	06.40			07.10	07.42		16.08 (AG06)	07.17		15.07 (AG06)	07.44		16.22 (AG04)
	20.47	26	07.03 (AG08)	20.10			19.20	18.32	59	17.28 (AG05)	17.00	64	16.24 (AG04)	17.00	5	16.27 (AG04)
24	06.11		06.37 (AG08)	06.41			07.11	07.43		16.06 (AG06)	07.19		15.08 (AG06)	07.44		16.22 (AG04)
	20.47	27	07.04 (AG08)	20.09			19.18	18.31	65	17.29 (AG05)	17.00	64	16.25 (AG04)	17.00	6	16.28 (AG04)
25	06.12		06.36 (AG08)	06.42			07.12	06.44		15.06 (AG06)	07.20		15.09 (AG06)	07.44		16.22 (AG04)
	20.46	27	07.03 (AG08)	20.07			19.17	17.30	69	16.31 (AG05)	16.59	62	16.25 (AG04)	17.01	6	16.28 (AG04)
26	06.13		06.36 (AG08)	06.43			07.13	06.45		15.04 (AG06)	07.21		15.10 (AG06)	07.45		16.23 (AG04)
	20.45	27	07.03 (AG08)	20.06			19.15	17.28	73	16.31 (AG05)	16.59	59	16.25 (AG04)	17.01	7	16.30 (AG04)
27	06.14		06.37 (AG08)	06.44			07.14	06.46		15.03 (AG06)	07.22		15.11 (AG06)	07.45		16.22 (AG04)
	20.44	26	07.03 (AG08)	20.04			19.13	17.27	75	16.31 (AG05)	16.58	57	16.25 (AG04)	17.02	8	16.30 (AG04)
28	06.15		06.37 (AG08)	06.45			07.15	06.47		15.01 (AG06)	07.23		15.12 (AG06)	07.46		16.22 (AG04)
	20.43	26	07.03 (AG08)	20.03			19.12	17.26	79	16.31 (AG05)	16.58	56	16.25 (AG04)	17.03	9	16.31 (AG04)
29	06.16		06.38 (AG08)	06.46			07.16	06.48		15.01 (AG06)	07.24		15.13 (AG06)	07.46		16.22 (AG04)
	20.42	24	07.02 (AG08)	20.01			19.10	17.24	81	16.32 (AG05)	16.57	53	16.25 (AG04)	17.03	10	16.32 (AG04)
30	06.17		06.39 (AG08)	06.47			07.17	06.50		15.00 (AG06)	07.25		15.15 (AG06)	07.46		16.23 (AG04)
	20.41	23	07.02 (AG08)	20.00			19.08	17.23	82	16.32 (AG05)	16.57	50	16.25 (AG04)	17.04	11	16.34 (AG04)
31	06.18		06.40 (AG08)	06.48				06.51		14.59 (AG06)				07.46		16.22 (AG04)
	20.40	22	07.02 (AG08)	19.58				17.22	84	16.32 (AG05)				17.05	12	16.34 (AG04)
Potential sun hours	458			427			375	346			299			289		
Total, worst case		606			80				812			2077			464	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R76 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (216)

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	07.46		07.33		16.36 (AG09)	06.58	16.47 (AG10)	07.08	17.49 (AG07)	06.23	17.40 (AG07)	05.54	06.26 (AG12)
	17.06		17.40	17	16.53 (AG09)	18.13	37	17.24 (AG10)	19.46	60	18.49 (AG07)	20.18	69	18.49 (AG07)	20.47	34	07.00 (AG12)
2	07.47		07.32		16.36 (AG09)	06.57		16.46 (AG10)	07.06		17.48 (AG07)	06.22		06.41 (AG12)	05.54		06.25 (AG12)
	17.07		17.41	18	16.54 (AG09)	18.14	38	17.24 (AG10)	19.47	63	18.51 (AG07)	20.19	72	18.49 (AG07)	20.47	34	06.59 (AG12)
3	07.47		07.32		16.35 (AG09)	06.55		16.46 (AG10)	07.05		17.46 (AG07)	06.20		06.40 (AG12)	05.54		06.26 (AG12)
	17.07		17.42	20	16.55 (AG09)	18.15	38	17.24 (AG10)	19.48	65	18.51 (AG07)	20.20	76	18.48 (AG07)	20.48	33	06.59 (AG12)
4	07.47		07.30		16.35 (AG09)	06.53		16.46 (AG10)	07.03		17.44 (AG07)	06.19		06.38 (AG12)	05.53		06.27 (AG12)
	17.08		17.43	21	16.56 (AG09)	18.16	38	17.24 (AG10)	19.50	68	18.52 (AG07)	20.21	78	18.47 (AG07)	20.49	32	06.59 (AG12)
5	07.47		07.29		16.35 (AG09)	06.52		16.46 (AG10)	07.01		17.44 (AG07)	06.18		06.37 (AG12)	05.53		06.27 (AG12)
	17.09		17.44	21	16.56 (AG09)	18.18	38	17.24 (AG10)	19.51	69	18.53 (AG07)	20.22	79	18.46 (AG07)	20.49	31	06.58 (AG12)
6	07.47		07.28		16.35 (AG09)	06.50		16.46 (AG10)	07.00		17.42 (AG07)	06.17		06.36 (AG12)	05.53		06.28 (AG12)
	17.10		17.46	22	16.57 (AG09)	18.19	38	17.24 (AG10)	19.52	71	18.53 (AG07)	20.23	79	18.45 (AG07)	20.50	31	06.59 (AG12)
7	07.47		07.27		16.35 (AG09)	06.49		16.46 (AG10)	06.58		17.42 (AG07)	06.15		06.35 (AG12)	05.52		06.28 (AG12)
	17.11		17.47	22	16.57 (AG09)	18.20	38	17.24 (AG10)	19.53	72	18.54 (AG07)	20.24	80	18.44 (AG07)	20.51	31	06.59 (AG12)
8	07.47		07.26		16.35 (AG09)	06.47		16.46 (AG10)	06.57		17.41 (AG07)	06.14		06.34 (AG12)	05.52		06.29 (AG12)
	17.12		17.48	22	16.57 (AG09)	18.21	37	17.23 (AG10)	19.54	73	18.54 (AG07)	20.25	81	18.44 (AG07)	20.51	30	06.59 (AG12)
9	07.46		07.25		16.36 (AG09)	06.46		16.46 (AG10)	06.55		17.40 (AG07)	06.13		06.33 (AG12)	05.52		06.30 (AG12)
	17.13		17.49	21	16.57 (AG09)	18.22	36	17.22 (AG10)	19.55	74	18.54 (AG07)	20.26	81	18.43 (AG07)	20.52	29	06.59 (AG12)
10	07.46		07.24		16.36 (AG09)	06.44		16.47 (AG10)	06.53		17.39 (AG07)	06.12		06.32 (AG12)	05.52		06.29 (AG12)
	17.14		17.51	20	16.56 (AG09)	18.23	34	17.21 (AG10)	19.56	76	18.55 (AG07)	20.27	80	18.42 (AG07)	20.52	29	06.58 (AG12)
11	07.46		07.23		16.37 (AG09)	06.42		16.48 (AG10)	06.52		17.38 (AG07)	06.11		06.31 (AG12)	05.52		06.30 (AG12)
	17.15		17.52	19	16.56 (AG09)	18.24	32	17.20 (AG10)	19.57	77	18.55 (AG07)	20.28	80	18.41 (AG07)	20.53	28	06.58 (AG12)
12	07.46		07.22		16.38 (AG09)	06.41		16.48 (AG10)	06.50		17.39 (AG07)	06.10		06.30 (AG12)	05.51		06.30 (AG12)
	17.16		17.53	17	16.55 (AG09)	18.25	30	17.18 (AG10)	19.58	76	18.55 (AG07)	20.29	79	18.40 (AG07)	20.53	28	06.58 (AG12)
13	07.45		07.20		16.39 (AG09)	06.39		16.50 (AG10)	06.49		17.38 (AG07)	06.09		06.29 (AG12)	05.51		06.31 (AG12)
	17.17		17.54	15	16.54 (AG09)	18.26	27	17.17 (AG10)	19.59	77	18.55 (AG07)	20.30	79	18.39 (AG07)	20.54	27	06.58 (AG12)
14	07.45		07.19		16.41 (AG09)	06.38		16.51 (AG10)	06.47		17.38 (AG07)	06.08		06.28 (AG12)	05.51		06.31 (AG12)
	17.18		17.55	10	16.51 (AG09)	18.27	24	17.15 (AG10)	20.00	77	18.55 (AG07)	20.31	76	18.37 (AG07)	20.54	27	06.58 (AG12)
15	07.45		07.18			06.36		16.54 (AG10)	06.46		17.37 (AG07)	06.07		06.27 (AG12)	05.51		06.32 (AG12)
	17.19		17.57			18.28	19	17.13 (AG10)	20.01	78	18.55 (AG07)	20.32	75	18.36 (AG07)	20.55	26	06.58 (AG12)
16	07.44		07.16			06.34		16.57 (AG10)	06.44		17.37 (AG07)	06.06		06.26 (AG12)	05.51		06.32 (AG12)
	17.20		17.58			18.30	12	17.09 (AG10)	20.02	78	18.55 (AG07)	20.33	74	18.35 (AG07)	20.55	26	06.58 (AG12)
17	07.44		07.15			06.33			06.43		17.37 (AG07)	06.05		06.25 (AG12)	05.51		06.33 (AG12)
	17.22		17.59			18.31			20.03	78	18.55 (AG07)	20.34	71	18.33 (AG07)	20.56	25	06.58 (AG12)
18	07.44		07.14			06.31			06.41		17.37 (AG07)	06.04		06.24 (AG12)	05.51		06.33 (AG12)
	17.23		18.00			18.32			20.04	78	18.55 (AG07)	20.35	69	18.31 (AG07)	20.56	25	06.58 (AG12)
19	07.43		07.12			06.29			06.40		17.36 (AG07)	06.03		06.24 (AG12)	05.51		06.34 (AG12)
	17.24		18.01			18.33			20.05	78	18.54 (AG07)	20.36	67	18.31 (AG07)	20.56	25	06.59 (AG12)
20	07.42		07.11		17.02 (AG10)	06.28			06.38		17.37 (AG07)	06.02		06.23 (AG12)	05.52		06.34 (AG12)
	17.25		18.03	9	17.11 (AG10)	18.34			20.06	77	18.54 (AG07)	20.36	63	18.28 (AG07)	20.57	25	06.59 (AG12)
21	07.42		07.10		16.58 (AG10)	06.26			06.37		17.36 (AG07)	06.02		06.22 (AG12)	05.52		06.34 (AG12)
	17.26		18.04	17	17.15 (AG10)	18.35			20.07	78	18.54 (AG07)	20.37	60	18.26 (AG07)	20.57	25	06.59 (AG12)
22	07.41		07.08		16.55 (AG10)	06.24			06.35		17.37 (AG07)	06.01		06.22 (AG12)	05.52		06.34 (AG12)
	17.27		18.05	22	17.17 (AG10)	18.36			20.08	77	18.54 (AG07)	20.38	53	18.23 (AG07)	20.57	25	06.59 (AG12)
23	07.41		07.07		16.54 (AG10)	06.23			06.34		17.37 (AG07)	06.00		06.23 (AG12)	05.52		06.34 (AG12)
	17.29		18.06	25	17.19 (AG10)	18.37			20.09	77	18.54 (AG07)	20.39	40	18.17 (AG07)	20.57	25	06.59 (AG12)
24	07.40		07.05		16.51 (AG10)	06.21		17.12 (AG07)	06.32		17.37 (AG07)	05.59		06.23 (AG12)	05.52		06.35 (AG12)
	17.30		18.07	29	17.20 (AG10)	18.38	20	17.32 (AG07)	20.10	76	18.53 (AG07)	20.40	38	07.01 (AG12)	20.57	25	07.00 (AG12)
25	07.39		07.04		16.50 (AG10)	06.20		17.06 (AG07)	06.31		17.38 (AG07)	05.59		06.22 (AG12)	05.53		06.35 (AG12)
	17.31		18.08	32	17.22 (AG10)	18.39	31	17.37 (AG07)	20.11	75	18.53 (AG07)	20.41	38	07.00 (AG12)	20.57	25	07.00 (AG12)
26	07.39		07.03		16.50 (AG10)	06.18		17.02 (AG07)	06.30		17.37 (AG07)	05.58		06.23 (AG12)	05.53		06.34 (AG12)
	17.32		18.10	33	17.23 (AG10)	18.40	37	17.39 (AG07)	20.12	74	18.51 (AG07)	20.42	38	07.01 (AG12)	20.58	26	07.00 (AG12)
27	07.38		07.01		16.48 (AG10)	06.16		17.00 (AG07)	06.28		17.38 (AG07)	05.57		06.23 (AG12)	05.53		06.35 (AG12)
	17.33		18.11	35	17.23 (AG10)	18.41	42	17.42 (AG07)	20.13	73	18.51 (AG07)	20.43	37	07.00 (AG12)	20.58	26	07.01 (AG12)
28	07.37		07.00		16.47 (AG10)	06.15		16.57 (AG07)	06.27		17.39 (AG07)	05.57		06.24 (AG12)	05.54		06.35 (AG12)
	17.35		18.12	36	17.23 (AG10)	18.42	47	17.44 (AG07)	20.14	72	18.51 (AG07)	20.43	37	07.01 (AG12)	20.58	26	07.01 (AG12)
29	07.36	16.41 (AG09)				07.13		17.54 (AG07)	06.25		17.39 (AG07)	05.56		06.24 (AG12)	05.54		06.35 (AG12)
	17.36	6 16.47 (AG09)				19.43	51	18.45 (AG07)	20.16	71	18.50 (AG07)	20.44	36	07.00 (AG12)	20.58	27	07.02 (AG12)
30	07.35	16.39 (AG09)				07.11		17.53 (AG07)	06.24		17.39 (AG07)	05.55		06.25 (AG12)	05.55		06.35 (AG12)
	17.37	11 16.50 (AG09)				19.44	55	18.48 (AG07)	20.17	70	18.49 (AG07)	20.45	35	07.00 (AG12)	20.58	27	07.02 (AG12)
31	07.34	16.37 (AG09)				07.10		17.51 (AG07)				05.55		06.25 (AG12)			
	17.38	15 16.52 (AG09)				19.45	57	18.48 (AG07)				20.46	35	07.00 (AG12)			
Potential sun hours	299		298			370			398			447			451		
Total, worst case		32		503			856			2208			1955			833	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R76 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (216)

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	05.55		06.34 (AG12)	06.19		06.41 (AG12)	06.49		17.37 (AG07)	07.18		17.28 (AG10)	06.52		16.05 (AG09)	07.26
	20.57	28	07.02 (AG12)	20.39	80	18.51 (AG07)	19.56	77	18.54 (AG07)	19.06	29	17.57 (AG10)	17.20	21	16.26 (AG09)	16.57
2	05.56		06.35 (AG12)	06.20		06.41 (AG12)	06.50		17.37 (AG07)	07.19		17.27 (AG10)	06.53		16.05 (AG09)	07.27
	20.57	28	07.03 (AG12)	20.38	80	18.51 (AG07)	19.55	76	18.53 (AG07)	19.05	31	17.58 (AG10)	17.19	21	16.26 (AG09)	16.56
3	05.56		06.34 (AG12)	06.21		06.42 (AG12)	06.51		17.38 (AG07)	07.20		17.25 (AG10)	06.54		16.05 (AG09)	07.28
	20.57	29	07.03 (AG12)	20.37	81	18.52 (AG07)	19.53	74	18.52 (AG07)	19.03	33	17.58 (AG10)	17.18	22	16.27 (AG09)	16.56
4	05.57		06.34 (AG12)	06.21		06.43 (AG12)	06.52		17.38 (AG07)	07.21		17.24 (AG10)	06.55		16.05 (AG09)	07.29
	20.57	30	07.04 (AG12)	20.36	81	18.53 (AG07)	19.52	73	18.51 (AG07)	19.01	35	17.59 (AG10)	17.17	22	16.27 (AG09)	16.56
5	05.57		06.35 (AG12)	06.22		06.44 (AG12)	06.53		17.38 (AG07)	07.22		17.23 (AG10)	06.56		16.04 (AG09)	07.30
	20.57	30	07.05 (AG12)	20.34	81	18.54 (AG07)	19.50	72	18.50 (AG07)	19.00	36	17.59 (AG10)	17.16	23	16.27 (AG09)	16.56
6	05.58		06.34 (AG12)	06.23		06.45 (AG12)	06.54		17.38 (AG07)	07.23		17.22 (AG10)	06.58		16.04 (AG09)	07.31
	20.57	31	07.05 (AG12)	20.33	80	18.54 (AG07)	19.48	71	18.49 (AG07)	18.58	37	17.59 (AG10)	17.15	22	16.26 (AG09)	16.56
7	05.58		06.34 (AG12)	06.24		06.46 (AG12)	06.55		17.39 (AG07)	07.24		17.21 (AG10)	06.59		16.06 (AG09)	07.32
	20.56	31	07.05 (AG12)	20.32	80	18.55 (AG07)	19.47	69	18.48 (AG07)	18.57	38	17.59 (AG10)	17.14	21	16.27 (AG09)	16.56
8	05.59		06.33 (AG12)	06.25		06.47 (AG12)	06.56		17.39 (AG07)	07.25		17.21 (AG10)	07.00		16.06 (AG09)	07.33
	20.56	32	07.05 (AG12)	20.31	79	18.56 (AG07)	19.45	68	18.47 (AG07)	18.55	38	17.59 (AG10)	17.12	20	16.26 (AG09)	16.55
9	06.00		06.34 (AG12)	06.26		06.48 (AG12)	06.57		17.40 (AG07)	07.26		17.20 (AG10)	07.01		16.06 (AG09)	07.34
	20.56	32	07.06 (AG12)	20.30	77	18.56 (AG07)	19.43	65	18.45 (AG07)	18.53	39	17.59 (AG10)	17.11	19	16.25 (AG09)	16.55
10	06.00		06.34 (AG12)	06.27		06.49 (AG12)	06.58		17.41 (AG07)	07.27		17.20 (AG10)	07.02		16.07 (AG09)	07.35
	20.55	33	07.07 (AG12)	20.28	74	18.57 (AG07)	19.42	63	18.44 (AG07)	18.52	38	17.58 (AG10)	17.10	17	16.24 (AG09)	16.56
11	06.01		06.33 (AG12)	06.28		17.50 (AG07)	06.58		17.42 (AG07)	07.28		17.21 (AG10)	07.03		16.09 (AG09)	07.35
	20.55	34	07.07 (AG12)	20.27	67	18.57 (AG07)	19.40	60	18.42 (AG07)	18.50	38	17.59 (AG10)	17.09	15	16.24 (AG09)	16.56
12	06.02		06.33 (AG12)	06.29		17.49 (AG07)	06.59		17.43 (AG07)	07.29		17.21 (AG10)	07.05		16.11 (AG09)	07.36
	20.54	35	07.08 (AG12)	20.26	69	18.58 (AG07)	19.38	58	18.41 (AG07)	18.49	37	17.58 (AG10)	17.08	11	16.22 (AG09)	16.56
13	06.02		06.33 (AG12)	06.30		17.48 (AG07)	07.00		17.44 (AG07)	07.31		17.21 (AG10)	07.06		16.13 (AG09)	07.37
	20.54	35	07.08 (AG12)	20.24	70	18.58 (AG07)	19.37	55	18.39 (AG07)	18.47	36	17.57 (AG10)	17.08	6	16.19 (AG09)	16.56
14	06.03		06.32 (AG12)	06.31		17.47 (AG07)	07.01		17.45 (AG07)	07.32		17.21 (AG10)	07.07			07.38
	20.53	36	07.08 (AG12)	20.23	72	18.59 (AG07)	19.35	52	18.37 (AG07)	18.46	35	17.56 (AG10)	17.07			16.56
15	06.04		06.32 (AG12)	06.32		17.46 (AG07)	07.02		17.46 (AG07)	07.33		17.21 (AG10)	07.08			07.39
	20.53	37	07.09 (AG12)	20.22	73	18.59 (AG07)	19.33	48	18.34 (AG07)	18.44	34	17.55 (AG10)	17.06			16.56
16	06.05		06.33 (AG12)	06.33		17.45 (AG07)	07.03		17.48 (AG07)	07.34		17.22 (AG10)	07.09			07.39
	20.52	36	07.09 (AG12)	20.20	73	18.58 (AG07)	19.32	43	18.31 (AG07)	18.43	32	17.54 (AG10)	17.05			16.57
17	06.05		06.33 (AG12)	06.34		17.44 (AG07)	07.04		17.50 (AG07)	07.35		17.22 (AG10)	07.10			07.40
	20.52	37	07.10 (AG12)	20.19	74	18.58 (AG07)	19.30	38	18.28 (AG07)	18.41	31	17.53 (AG10)	17.04			16.57
18	06.06		06.32 (AG12)	06.35		17.43 (AG07)	07.05		17.53 (AG07)	07.36		17.23 (AG10)	07.12			07.41
	20.51	37	07.09 (AG12)	20.18	75	18.58 (AG07)	19.28	32	18.25 (AG07)	18.40	28	17.51 (AG10)	17.03			16.57
19	06.07		06.32 (AG12)	06.36		17.43 (AG07)	07.06		17.57 (AG07)	07.37		17.25 (AG10)	07.13			07.41
	20.50	38	07.10 (AG12)	20.16	75	18.58 (AG07)	19.27	23	18.20 (AG07)	18.38	24	17.49 (AG10)	17.03			16.58
20	06.08		06.32 (AG12)	06.37		17.42 (AG07)	07.07		18.04 (AG07)	07.38		17.27 (AG10)	07.14			07.42
	20.50	38	07.10 (AG12)	20.15	77	18.59 (AG07)	19.25	8	18.12 (AG07)	18.37	21	17.48 (AG10)	17.02			16.58
21	06.09		06.32 (AG12)	06.38		17.42 (AG07)	07.08			07.39		17.30 (AG10)	07.15			07.42
	20.49	49	18.31 (AG07)	20.13	77	18.59 (AG07)	19.23			18.35	15	17.45 (AG10)	17.01			16.58
22	06.10		06.32 (AG12)	06.39		17.41 (AG07)	07.09			07.40		17.36 (AG10)	07.16			07.43
	20.48	57	18.35 (AG07)	20.12	77	18.58 (AG07)	19.21			18.34	2	17.38 (AG10)	17.01			16.59
23	06.10		06.33 (AG12)	06.40		17.41 (AG07)	07.10			07.41			07.17			07.43
	20.47	61	18.38 (AG07)	20.10	77	18.58 (AG07)	19.20			18.32			17.00			16.59
24	06.11		06.33 (AG12)	06.41		17.40 (AG07)	07.11			07.43			07.18			07.44
	20.46	66	18.39 (AG07)	20.09	78	18.58 (AG07)	19.18			18.31			17.00			17.00
25	06.12		06.34 (AG12)	06.42		17.40 (AG07)	07.12			06.44			07.20			07.44
	20.46	68	18.41 (AG07)	20.07	78	18.58 (AG07)	19.16			17.30			16.59			17.00
26	06.13		06.35 (AG12)	06.43		17.39 (AG07)	07.13			06.45			07.21			07.45
	20.45	71	18.43 (AG07)	20.06	79	18.58 (AG07)	19.15			17.28			16.58			17.01
27	06.14		06.36 (AG12)	06.44		17.39 (AG07)	07.14		17.40 (AG10)	06.46		16.14 (AG09)	07.22			07.45
	20.44	72	18.44 (AG07)	20.04	78	18.57 (AG07)	19.13	8	17.48 (AG10)	17.27	4	16.18 (AG09)	16.58			17.02
28	06.15		06.37 (AG12)	06.45		17.39 (AG07)	07.15		17.36 (AG10)	06.47		16.10 (AG09)	07.23			07.45
	20.43	75	18.46 (AG07)	20.03	78	18.57 (AG07)	19.11	16	17.52 (AG10)	17.25	11	16.21 (AG09)	16.58			17.02
29	06.16		06.38 (AG12)	06.46		17.39 (AG07)	07.16		17.33 (AG10)	06.48		16.08 (AG09)	07.24			07.46
	20.42	76	18.47 (AG07)	20.01	77	18.56 (AG07)	19.10	21	17.54 (AG10)	17.24	15	16.23 (AG09)	16.57			17.03
30	06.17		06.39 (AG12)	06.47		17.39 (AG07)	07.17		17.30 (AG10)	06.49		16.07 (AG09)	07.25			07.46
	20.41	77	18.49 (AG07)	20.00	77	18.56 (AG07)	19.08	26	17.56 (AG10)	17.23	18	16.25 (AG09)	16.57			17.04
31	06.18		06.40 (AG12)	06.48		17.37 (AG07)				06.51		16.06 (AG09)				07.46
	20.40	78	18.50 (AG07)	19.58	77	18.54 (AG07)				17.22	19	16.25 (AG09)				17.05
Potential sun hours	458			427			375			346			299			289
Total, worst case		1417			2371			1196			754			240		

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R77 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (220)

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	07.46		07.33			06.58		17.07 (AG07)	07.08		18.23 (AG11)	06.23		08.03 (AG12)	05.54		07.54 (AG12)
	17.06		17.39			18.13	29	17.36 (AG07)	19.46	49	19.12 (AG11)	20.18	136	10.19 (AG12)	20.47	142	10.16 (AG12)
2	07.47		07.32			06.57		17.06 (AG07)	07.06		18.23 (AG11)	06.22		08.02 (AG12)	05.54		07.53 (AG12)
	17.06		17.41			18.14	30	17.36 (AG07)	19.47	50	19.13 (AG11)	20.19	138	10.20 (AG12)	20.47	142	10.15 (AG12)
3	07.47		07.31			06.55		17.06 (AG07)	07.05		09.05 (AG12)	06.20		08.01 (AG12)	05.54		07.53 (AG12)
	17.07		17.42			18.15	30	17.36 (AG07)	19.48	80	19.12 (AG11)	20.20	139	10.20 (AG12)	20.48	142	10.15 (AG12)
4	07.47		07.30			06.53		17.06 (AG07)	07.03		08.58 (AG12)	06.19		08.00 (AG12)	05.53		07.54 (AG12)
	17.08		17.43			18.16	29	17.35 (AG07)	19.49	94	19.12 (AG11)	20.21	139	10.19 (AG12)	20.49	141	10.15 (AG12)
5	07.47		07.29			06.52		17.07 (AG07)	07.01		08.53 (AG12)	06.18		07.59 (AG12)	05.53		07.53 (AG12)
	17.09		17.44			18.17	28	17.35 (AG07)	19.51	105	19.12 (AG11)	20.22	140	10.19 (AG12)	20.49	142	10.15 (AG12)
6	07.47		07.28			06.50		17.07 (AG07)	07.00		08.48 (AG12)	06.17		07.59 (AG12)	05.53		07.54 (AG12)
	17.10		17.46			18.19	27	17.34 (AG07)	19.52	114	19.12 (AG11)	20.23	140	10.19 (AG12)	20.50	141	10.15 (AG12)
7	07.47		07.27			06.49		17.08 (AG07)	06.58		08.45 (AG12)	06.15		07.58 (AG12)	05.52		07.54 (AG12)
	17.11		17.47			18.20	25	17.33 (AG07)	19.53	120	19.12 (AG11)	20.24	141	10.19 (AG12)	20.51	141	10.15 (AG12)
8	07.46		07.26			06.47		17.09 (AG07)	06.57		08.41 (AG12)	06.14		07.58 (AG12)	05.52		07.54 (AG12)
	17.12		17.48			18.21	22	17.31 (AG07)	19.54	127	19.11 (AG11)	20.25	141	10.19 (AG12)	20.51	141	10.15 (AG12)
9	07.46		07.25			06.46		17.10 (AG07)	06.55		08.37 (AG12)	06.13		07.57 (AG12)	05.52		07.55 (AG12)
	17.13		17.49			18.22	19	17.29 (AG07)	19.55	132	19.10 (AG11)	20.26	142	10.19 (AG12)	20.52	141	10.16 (AG12)
10	07.46		07.24			06.44		17.13 (AG07)	06.53		08.35 (AG12)	06.12		07.57 (AG12)	05.52		07.54 (AG12)
	17.14		17.51			18.23	14	17.27 (AG07)	19.56	137	19.10 (AG11)	20.27	142	10.19 (AG12)	20.52	141	10.15 (AG12)
11	07.46		07.23		17.11 (AG10)	06.42		17.16 (AG07)	06.52		08.32 (AG12)	06.11		07.57 (AG12)	05.51		07.54 (AG12)
	17.15		17.52	2	17.13 (AG10)	18.24	7	17.23 (AG07)	19.57	140	19.09 (AG11)	20.28	142	10.19 (AG12)	20.53	141	10.15 (AG12)
12	07.46		07.21		17.07 (AG10)	06.41			06.50		08.30 (AG12)	06.10		07.56 (AG12)	05.51		07.54 (AG12)
	17.16		17.53	11	17.18 (AG10)	18.25			19.58	144	19.09 (AG11)	20.29	143	10.19 (AG12)	20.53	141	10.15 (AG12)
13	07.45		07.20		17.05 (AG10)	06.39			06.49		08.27 (AG12)	06.09		07.56 (AG12)	05.51		07.55 (AG12)
	17.17		17.54	15	17.20 (AG10)	18.26			19.59	147	19.08 (AG11)	20.30	143	10.19 (AG12)	20.54	140	10.15 (AG12)
14	07.45		07.19		17.03 (AG10)	06.38			06.47		08.26 (AG12)	06.08		07.55 (AG12)	05.51		07.55 (AG12)
	17.18		17.55	17	17.20 (AG10)	18.27			20.00	149	19.08 (AG11)	20.31	143	10.18 (AG12)	20.54	140	10.15 (AG12)
15	07.45		07.18		17.03 (AG10)	06.36			06.46		08.23 (AG12)	06.07		07.55 (AG12)	05.51		07.55 (AG12)
	17.19		17.57	19	17.22 (AG10)	18.28			20.01	151	19.06 (AG11)	20.32	143	10.18 (AG12)	20.55	140	10.15 (AG12)
16	07.44		07.16		17.02 (AG10)	06.34			06.44		08.22 (AG12)	06.06		07.55 (AG12)	05.51		07.55 (AG12)
	17.20		17.58	20	17.22 (AG10)	18.30			20.02	152	19.06 (AG11)	20.33	143	10.18 (AG12)	20.55	141	10.16 (AG12)
17	07.44		07.15		17.01 (AG10)	06.33			06.43		08.20 (AG12)	06.05		07.54 (AG12)	05.51		07.55 (AG12)
	17.22		17.59	21	17.22 (AG10)	18.31			20.03	153	19.04 (AG11)	20.34	143	10.17 (AG12)	20.56	141	10.16 (AG12)
18	07.43		07.14		17.02 (AG10)	06.31			06.41		08.19 (AG12)	06.04		07.54 (AG12)	05.51		07.55 (AG12)
	17.23		18.00	21	17.23 (AG10)	18.32			20.04	153	19.03 (AG11)	20.35	143	10.17 (AG12)	20.56	141	10.16 (AG12)
19	07.43		07.12		17.02 (AG10)	06.29			06.40		08.16 (AG12)	06.03		07.53 (AG12)	05.51		07.57 (AG12)
	17.24		18.01	21	17.23 (AG10)	18.33			20.05	154	19.01 (AG11)	20.36	144	10.17 (AG12)	20.56	140	10.17 (AG12)
20	07.42		07.11		17.01 (AG10)	06.28			06.38		08.15 (AG12)	06.02		07.54 (AG12)	05.52		07.57 (AG12)
	17.25		18.03	24	17.25 (AG07)	18.34			20.06	153	19.00 (AG11)	20.36	143	10.17 (AG12)	20.56	140	10.17 (AG12)
21	07.42		07.10		17.02 (AG10)	06.26		17.50 (AG11)	06.37		08.13 (AG12)	06.01		07.54 (AG12)	05.52		07.57 (AG12)
	17.26		18.04	27	17.29 (AG07)	18.35	3	17.53 (AG11)	20.07	151	18.57 (AG11)	20.37	143	10.17 (AG12)	20.57	140	10.17 (AG12)
22	07.41		07.08		17.02 (AG10)	06.24		17.42 (AG11)	06.35		08.12 (AG12)	06.01		07.53 (AG12)	05.52		07.57 (AG12)
	17.27		18.05	29	17.31 (AG07)	18.36	18	18.00 (AG11)	20.08	150	18.55 (AG11)	20.38	143	10.16 (AG12)	20.57	140	10.17 (AG12)
23	07.41		07.07		17.04 (AG10)	06.23		17.38 (AG11)	06.34		08.10 (AG12)	06.00		07.54 (AG12)	05.52		07.57 (AG12)
	17.29		18.06	29	17.33 (AG07)	18.37	25	18.03 (AG11)	20.09	147	18.52 (AG11)	20.39	143	10.17 (AG12)	20.57	140	10.17 (AG12)
24	07.40		07.05		17.04 (AG10)	06.21		17.36 (AG11)	06.32		08.10 (AG12)	05.59		07.53 (AG12)	05.52		07.58 (AG12)
	17.30		18.07	30	17.34 (AG07)	18.38	30	18.06 (AG11)	20.10	139	18.48 (AG11)	20.40	143	10.16 (AG12)	20.57	140	10.18 (AG12)
25	07.39		07.04		17.07 (AG10)	06.19		17.33 (AG11)	06.31		08.09 (AG12)	05.58		07.53 (AG12)	05.53		07.57 (AG12)
	17.31		18.08	28	17.35 (AG07)	18.39	34	18.07 (AG11)	20.11	129	10.18 (AG12)	20.41	143	10.16 (AG12)	20.57	141	10.18 (AG12)
26	07.38		07.03		17.08 (AG07)	06.18		17.31 (AG11)	06.29		08.07 (AG12)	05.58		07.53 (AG12)	05.53		07.57 (AG12)
	17.32		18.10	27	17.35 (AG07)	18.40	37	18.08 (AG11)	20.12	131	10.18 (AG12)	20.42	143	10.16 (AG12)	20.57	141	10.18 (AG12)
27	07.38		07.01		17.07 (AG07)	06.16		17.30 (AG11)	06.28		08.06 (AG12)	05.57		07.53 (AG12)	05.53		07.58 (AG12)
	17.33		18.11	29	17.36 (AG07)	18.41	40	18.10 (AG11)	20.13	133	10.19 (AG12)	20.43	143	10.16 (AG12)	20.58	140	10.18 (AG12)
28	07.37		07.00		17.06 (AG07)	06.15		17.28 (AG11)	06.27		08.05 (AG12)	05.57		07.53 (AG12)	05.54		07.58 (AG12)
	17.35		18.12	30	17.36 (AG07)	18.42	42	18.10 (AG11)	20.14	134	10.19 (AG12)	20.43	143	10.16 (AG12)	20.58	140	10.18 (AG12)
29	07.36					07.13		18.26 (AG11)	06.25		08.04 (AG12)	05.56		07.53 (AG12)	05.54		07.59 (AG12)
	17.36					19.43	44	19.10 (AG11)	20.16	135	10.19 (AG12)	20.44	142	10.15 (AG12)	20.58	140	10.19 (AG12)
30	07.35					07.11		18.26 (AG11)	06.24		08.03 (AG12)	05.55		07.54 (AG12)	05.55		07.59 (AG12)
	17.37					19.44	46	19.12 (AG11)	20.17	136	10.19 (AG12)	20.45	142	10.16 (AG12)	20.58	140	10.19 (AG12)
31	07.34					07.10		18.24 (AG11)				05.55		07.53 (AG12)			
	17.38					19.45	48	19.12 (AG11)				20.46	142	10.15 (AG12)			
Potential sun hours	299		298			370			398			447			451		
Total, worst case				400			627			3889			4398			4221	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R77 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (220)

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	05.55		07.58 (AG12)	06.19	08.06 (AG12)	06.49	08.31 (AG12)	07.18	06.52	07.26
	20.57	141	10.19 (AG12)	20.39 143	10.29 (AG12)	19.56 140	19.08 (AG11)	19.06	17.20	16.57
2	05.56		07.59 (AG12)	06.20	08.06 (AG12)	06.50	08.33 (AG12)	07.19	06.53	07.27
	20.57	141	10.20 (AG12)	20.38 143	10.29 (AG12)	19.55 137	19.08 (AG11)	19.05	17.19	16.56
3	05.56		07.59 (AG12)	06.20	08.07 (AG12)	06.51	08.35 (AG12)	07.20	17.52 (AG07)	06.54 07.28
	20.57	141	10.20 (AG12)	20.37 142	10.29 (AG12)	19.53 132	19.08 (AG11)	19.03 12	18.04 (AG07)	17.18 16.56
4	05.57		07.59 (AG12)	06.21	08.07 (AG12)	06.52	08.38 (AG12)	07.21	17.49 (AG07)	06.55 07.29
	20.57	141	10.20 (AG12)	20.36 142	10.29 (AG12)	19.51 127	19.08 (AG11)	19.01 17	18.06 (AG07)	17.17 16.56
5	05.57		08.00 (AG12)	06.22	08.08 (AG12)	06.53	08.41 (AG12)	07.22	17.46 (AG07)	06.56 07.30
	20.57	141	10.21 (AG12)	20.34 141	10.29 (AG12)	19.50 120	19.08 (AG11)	19.00 21	18.07 (AG07)	17.16 16.56
6	05.58		08.00 (AG12)	06.23	08.08 (AG12)	06.54	08.44 (AG12)	07.23	17.45 (AG07)	06.58 07.31
	20.57	141	10.21 (AG12)	20.33 141	10.29 (AG12)	19.48 115	19.08 (AG11)	18.58 23	18.08 (AG07)	17.15 16.56
7	05.58		08.00 (AG12)	06.24	08.09 (AG12)	06.55	08.48 (AG12)	07.24	17.43 (AG07)	06.59 07.32
	20.56	142	10.22 (AG12)	20.32 140	10.29 (AG12)	19.47 105	19.07 (AG11)	18.57 26	18.09 (AG07)	17.13 16.55
8	05.59		08.00 (AG12)	06.25	08.09 (AG12)	06.56	08.52 (AG12)	07.25	17.42 (AG07)	07.00 07.33
	20.56	142	10.22 (AG12)	20.31 140	10.29 (AG12)	19.45 96	19.07 (AG11)	18.55 27	18.09 (AG07)	17.12 16.55
9	06.00		08.01 (AG12)	06.26	08.10 (AG12)	06.57	08.59 (AG12)	07.26	17.41 (AG07)	07.01 07.34
	20.56	141	10.22 (AG12)	20.30 139	10.29 (AG12)	19.43 81	19.06 (AG11)	18.53 28	18.09 (AG07)	17.11 16.55
10	06.00		08.01 (AG12)	06.27	08.10 (AG12)	06.57	18.16 (AG11)	07.27	17.40 (AG07)	07.02 07.35
	20.55	142	10.23 (AG12)	20.28 139	10.29 (AG12)	19.42 50	19.06 (AG11)	18.52 30	18.10 (AG07)	17.10 16.55
11	06.01		08.01 (AG12)	06.28	08.11 (AG12)	06.58	18.16 (AG11)	07.28	17.40 (AG07)	07.03 07.35
	20.55	142	10.23 (AG12)	20.27 137	10.28 (AG12)	19.40 49	19.05 (AG11)	18.50 29	18.09 (AG07)	17.09 16.56
12	06.02		08.01 (AG12)	06.29	08.11 (AG12)	06.59	18.16 (AG11)	07.29	17.40 (AG07)	07.05 07.36
	20.54	142	10.23 (AG12)	20.26 137	10.28 (AG12)	19.38 48	19.04 (AG11)	18.49 30	18.10 (AG07)	17.08 16.56
13	06.02		08.02 (AG12)	06.30	08.12 (AG12)	07.00	18.17 (AG11)	07.31	17.40 (AG07)	07.06 07.37
	20.54	142	10.24 (AG12)	20.24 136	10.28 (AG12)	19.37 46	19.03 (AG11)	18.47 30	18.10 (AG07)	17.08 16.56
14	06.03		08.01 (AG12)	06.31	08.13 (AG12)	07.01	18.16 (AG11)	07.32	17.40 (AG07)	07.07 07.38
	20.53	143	10.24 (AG12)	20.23 134	10.27 (AG12)	19.35 45	19.01 (AG11)	18.46 29	18.09 (AG07)	17.07 16.56
15	06.04		08.02 (AG12)	06.32	08.12 (AG12)	07.02	18.17 (AG11)	07.33	17.40 (AG07)	07.08 07.39
	20.53	142	10.24 (AG12)	20.22 134	10.26 (AG12)	19.33 43	19.00 (AG11)	18.44 28	18.08 (AG07)	17.06 16.56
16	06.05		08.02 (AG12)	06.33	08.13 (AG12)	07.03	18.18 (AG11)	07.34	17.40 (AG07)	07.09 07.39
	20.52	143	10.25 (AG12)	20.20 132	10.25 (AG12)	19.32 40	18.58 (AG11)	18.42 27	18.07 (AG07)	17.05 16.56
17	06.05		08.03 (AG12)	06.34	08.14 (AG12)	07.04	18.19 (AG11)	07.35	17.38 (AG10)	07.10 07.40
	20.52	142	10.25 (AG12)	20.19 131	10.25 (AG12)	19.30 37	18.56 (AG11)	18.41 28	18.06 (AG07)	17.04 16.57
18	06.06		08.02 (AG12)	06.35	08.15 (AG12)	07.05	18.20 (AG11)	07.36	17.35 (AG10)	07.12 07.41
	20.51	143	10.25 (AG12)	20.18 129	10.24 (AG12)	19.28 35	18.55 (AG11)	18.39 30	18.05 (AG07)	17.03 16.57
19	06.07		08.03 (AG12)	06.36	08.16 (AG12)	07.06	18.21 (AG11)	07.37	17.34 (AG10)	07.13 07.41
	20.50	143	10.26 (AG12)	20.16 141	18.55 (AG11)	19.27 31	18.52 (AG11)	18.38 29	18.03 (AG07)	17.03 16.57
20	06.08		08.03 (AG12)	06.37	08.16 (AG12)	07.07	18.23 (AG11)	07.38	17.34 (AG10)	07.14 07.42
	20.50	143	10.26 (AG12)	20.15 146	18.58 (AG11)	19.25 27	18.50 (AG11)	18.37 28	18.02 (AG07)	17.02 16.58
21	06.09		08.03 (AG12)	06.38	08.17 (AG12)	07.08	18.26 (AG11)	07.39	17.33 (AG10)	07.15 07.42
	20.49	144	10.27 (AG12)	20.13 149	19.00 (AG11)	19.23 20	18.46 (AG11)	18.35 26	17.59 (AG07)	17.01 16.58
22	06.10		08.04 (AG12)	06.39	08.18 (AG12)	07.09	18.31 (AG11)	07.40	17.32 (AG10)	07.16 07.43
	20.48	143	10.27 (AG12)	20.12 151	19.02 (AG11)	19.21 10	18.41 (AG11)	18.34 21	17.53 (AG10)	17.01 16.59
23	06.10		08.04 (AG12)	06.40	08.19 (AG12)	07.10		07.41	17.31 (AG10)	07.17 07.43
	20.47	144	10.28 (AG12)	20.10 153	19.04 (AG11)	19.20		18.32 22	17.53 (AG10)	17.00 16.59
24	06.11		08.04 (AG12)	06.41	08.20 (AG12)	07.11		07.43	17.31 (AG10)	07.18 07.44
	20.46	143	10.27 (AG12)	20.09 154	19.05 (AG11)	19.18		18.31 21	17.52 (AG10)	16.59 17.00
25	06.12		08.04 (AG12)	06.42	08.22 (AG12)	07.12		06.44	16.31 (AG10)	07.20 07.44
	20.46	143	10.27 (AG12)	20.07 153	19.06 (AG11)	19.16		17.29 21	16.52 (AG10)	16.59 17.00
26	06.13		08.04 (AG12)	06.43	08.23 (AG12)	07.13		06.45	16.32 (AG10)	07.21 07.45
	20.45	144	10.28 (AG12)	20.06 153	19.07 (AG11)	19.15		17.28 20	16.52 (AG10)	16.58 17.01
27	06.14		08.05 (AG12)	06.44	08.24 (AG12)	07.14		06.46	16.33 (AG10)	07.22 07.45
	20.44	143	10.28 (AG12)	20.04 152	19.08 (AG11)	19.13		17.27 18	16.51 (AG10)	16.58 17.02
28	06.15		08.05 (AG12)	06.45	08.25 (AG12)	07.15		06.47	16.33 (AG10)	07.23 07.45
	20.43	144	10.29 (AG12)	20.03 150	19.08 (AG11)	19.11		17.25 17	16.50 (AG10)	16.58 17.02
29	06.16		08.06 (AG12)	06.46	08.27 (AG12)	07.16		06.48	16.34 (AG10)	07.24 07.46
	20.42	143	10.29 (AG12)	20.01 149	19.09 (AG11)	19.10		17.24 14	16.48 (AG10)	16.57 17.03
30	06.17		08.06 (AG12)	06.47	08.29 (AG12)	07.17		06.49	16.37 (AG10)	07.25 07.46
	20.41	143	10.29 (AG12)	20.00 146	19.09 (AG11)	19.08		17.23 10	16.47 (AG10)	16.57 17.04
31	06.18		08.07 (AG12)	06.48	08.29 (AG12)			06.51		07.46
	20.40	142	10.29 (AG12)	19.58 144	19.08 (AG11)			17.22		17.05
Potential sun hours	458			427		375		346		299 289
Total, worst case		4414		4421		1534		662		

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 128
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R78 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (223)

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	07.08	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	20.58	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	07.19	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	07.20	06.54	07.28
	17.08	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.18	16.57
4	07.47	07.31	06.54	07.03	06.19	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	07.28	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	05.59	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	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	20.53	20.55	20.29	19.42	18.52	17.11	16.56
11	07.46	07.23	06.43	06.52	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	20.55	20.54	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	07.39
	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	06.03	05.52	06.08	06.37	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	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	07.09	07.39	07.15	07.43
	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	07.42	07.09	06.25	06.36	06.01	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	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	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.12	06.44	07.20	07.44
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	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	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	06.16	06.46	07.16	06.49	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	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
31	07.35		07.10		05.55		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	289
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:
Wpd_2020_06_22

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22/06/2020 15.45 / 129

Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R79 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (224)

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	07.08	06.23	07.25 (AG02)	05.55	05.56	06.19	06.49	07.18 (AG02)	07.19	06.52	07.26
	17.06	17.40	18.13	19.47	20.18	8 07.33 (AG02)	20.47	20.58	20.39	19.57	31 07.49 (AG02)	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	07.18 (AG02)	07.20	06.53	07.27
	17.07	17.41	18.15	19.48	20.19		20.48	20.58	20.38	19.55	30 07.48 (AG02)	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	07.19 (AG02)	07.21	06.54	07.28
	17.08	17.42	18.16	19.49	20.20		20.48	20.57	20.37	19.53	27 07.46 (AG02)	19.04	17.18	16.57
4	07.47	07.31	06.54	07.04	06.20		05.54	05.57	06.22	06.52	07.21 (AG02)	07.22	06.56	07.29
	17.09	17.44	18.17	19.50	20.21		20.49	20.57	20.36	19.52	24 07.45 (AG02)	19.02	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18		05.53	05.58	06.23	06.53	07.22 (AG02)	07.23	06.57	07.30
	17.10	17.45	18.18	19.51	20.22		20.50	20.57	20.35	19.50	20 07.42 (AG02)	19.00	17.16	16.56
6	07.47	07.29	06.51	07.00	07.29 (AG02)	06.17	05.53	05.58	06.24	06.54	07.24 (AG02)	07.24	06.58	07.31
	17.11	17.46	18.19	19.52	14 07.43 (AG02)	20.23	20.50	20.57	20.34	19.49	14 07.38 (AG02)	18.59	17.15	16.56
7	07.47	07.28	06.49	06.59	07.25 (AG02)	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 07.45 (AG02)	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	07.23 (AG02)	06.15	05.53	06.00	06.26	06.56		07.26	07.00	07.33
	17.13	17.49	18.21	19.54	24 07.47 (AG02)	20.25	20.52	20.56	20.31	19.45		18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	07.21 (AG02)	06.14	05.52	06.00	06.27	06.57		07.27	07.01	07.34
	17.14	17.50	18.22	19.55	27 07.48 (AG02)	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	07.19 (AG02)	06.13	05.52	06.01	06.28	06.58		07.28	07.03	07.35
	17.15	17.51	18.23	19.56	30 07.49 (AG02)	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	07.19 (AG02)	06.11	05.52	06.01	06.29	06.59		07.29	07.04	07.36
	17.16	17.52	18.25	19.57	31 07.50 (AG02)	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	07.17 (AG02)	06.10	05.52	06.02	06.30	07.33 (AG02)	07.00	07.30	07.05	07.37
	17.17	17.53	18.26	19.58	33 07.50 (AG02)	20.29	20.54	20.55	20.26	10 07.43 (AG02)	19.39	18.49	17.09	16.56
13	07.46	07.21	06.40	06.49	07.10 (AG01)	06.09	05.52	06.03	06.31	07.30 (AG02)	07.01	07.31	07.06	07.37
	17.18	17.55	18.27	19.59	41 07.51 (AG02)	20.30	20.54	20.54	20.25	16 07.46 (AG02)	19.37	18.48	17.08	16.56
14	07.45	07.19	06.38	06.48	07.06 (AG01)	06.08	05.52	06.04	06.32	07.13 (AG01)	07.02	07.32	07.07	07.38
	17.19	17.56	18.28	20.00	45 07.51 (AG02)	20.31	20.55	20.54	20.23	30 07.48 (AG02)	19.35	18.46	17.07	16.57
15	07.45	07.18	06.36	06.46	07.05 (AG01)	06.07	05.52	06.04	06.33	07.11 (AG01)	07.03	07.33	07.08	07.39
	17.20	17.57	18.29	20.01	47 07.52 (AG02)	20.32	20.55	20.53	20.22	36 07.49 (AG02)	19.34	18.44	17.06	16.57
16	07.45	07.17	06.35	06.45	07.03 (AG01)	06.06	05.52	06.05	06.34	07.09 (AG01)	07.04	07.34	07.10	07.40
	17.21	17.58	18.30	20.02	48 07.51 (AG02)	20.33	20.55	20.52	20.21	42 07.51 (AG02)	19.32	18.43	17.05	16.57
17	07.44	07.15	06.33	06.43	07.02 (AG01)	06.05	05.52	06.06	06.35	07.08 (AG01)	07.05	07.35	07.11	07.40
	17.22	17.59	18.31	20.03	49 07.51 (AG02)	20.34	20.56	20.52	20.19	44 07.52 (AG02)	19.30	18.41	17.05	16.57
18	07.44	07.14	06.31	06.42	07.01 (AG01)	06.05	05.52	06.07	06.36	07.07 (AG01)	07.06	07.36	07.12	07.41
	17.23	18.01	18.32	20.04	49 07.50 (AG02)	20.35	20.56	20.51	20.18	45 07.52 (AG02)	19.29	18.40	17.04	16.58
19	07.43	07.13	06.30	06.40	07.01 (AG01)	06.04	05.52	06.08	06.37	07.06 (AG01)	07.07	07.37	07.13	07.41
	17.24	18.02	18.33	20.05	50 07.51 (AG02)	20.36	20.56	20.51	20.16	47 07.53 (AG02)	19.27	18.38	17.03	16.58
20	07.43	07.11	06.28	06.39	07.00 (AG01)	06.03	05.52	06.08	06.38	07.05 (AG01)	07.08	07.38	07.14	07.42
	17.26	18.03	18.34	20.07	49 07.49 (AG02)	20.37	20.57	20.50	20.15	49 07.54 (AG02)	19.25	18.37	17.02	16.58
21	07.42	07.10	06.27	06.37	07.00 (AG01)	06.02	05.52	06.09	06.39	07.05 (AG01)	07.09	07.40	07.15	07.43
	17.27	18.04	18.35	20.08	49 07.49 (AG02)	20.38	20.57	20.49	20.14	49 07.54 (AG02)	19.24	18.36	17.02	16.59
22	07.42	07.09	06.25	06.36	06.59 (AG01)	06.01	05.53	06.10	06.39	07.05 (AG01)	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	49 07.48 (AG02)	20.39	20.57	20.48	20.12	49 07.54 (AG02)	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	07.00 (AG01)	06.00	05.53	06.11	06.40	07.04 (AG01)	07.11	07.42	07.18	07.44
	17.29	18.07	18.37	20.10	48 07.48 (AG02)	20.39	20.57	20.48	20.11	49 07.53 (AG02)	19.20	18.33	17.01	17.00
24	07.40	07.06	06.22	06.33	07.00 (AG01)	06.00	05.53	06.12	06.41	07.04 (AG01)	07.12	07.43	07.19	07.44
	17.30	18.08	18.38	20.11	47 07.47 (AG02)	20.40	20.58	20.47	20.09	49 07.53 (AG02)	19.19	18.31	17.00	17.00
25	07.40	07.04	06.20	06.31	07.00 (AG01)	05.59	05.53	06.13	06.42	07.04 (AG01)	07.13	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	45 07.45 (AG02)	20.41	20.58	20.46	20.08	49 07.53 (AG02)	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	07.01 (AG01)	05.58	05.54	06.14	06.43	07.04 (AG01)	07.14	06.45	07.21	07.45
	17.33	18.10	18.41	20.13	44 07.45 (AG02)	20.42	20.58	20.45	20.06	49 07.53 (AG02)	19.15	17.29	16.59	17.02
27	07.38	07.01	06.17	06.29	07.03 (AG01)	05.58	05.54	06.14	06.44	07.05 (AG01)	07.15	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	40 07.43 (AG02)	20.43	20.58	20.44	20.05	48 07.53 (AG02)	19.13	17.27	16.59	17.02
28	07.37	07.00	06.15	06.27	07.03 (AG01)	05.57	05.54	06.15	06.45	07.06 (AG01)	07.16	06.47	07.23	07.46
	17.35	18.12	18.43	20.15	36 07.41 (AG02)	20.44	20.58	20.43	20.03	46 07.52 (AG02)	19.12	17.26	16.58	17.03
29	07.36		07.13	06.26	07.06 (AG01)	05.57	05.55	06.16	06.46	07.07 (AG01)	07.17	06.49	07.24	07.46
	17.36		19.44	20.16	28 07.40 (AG02)	20.45	20.58	20.42	20.01	45 07.52 (AG02)	19.10	17.25	16.58	17.04
30	07.36		07.12	06.25	07.22 (AG02)	05.56	05.55	06.17	06.47	07.10 (AG01)	07.18	06.50	07.25	07.46
	17.38		19.45	20.17	15 07.37 (AG02)	20.45	20.58	20.41	20.00	41 07.51 (AG02)	19.08	17.23	16.57	17.04
31	07.35		07.10			05.56		06.18	06.48	07.17 (AG02)		06.51		07.46
	17.39		19.46			20.46		20.40	19.58	33 07.50 (AG02)		17.22		17.05
Potential sun hours	299	298	370	398	447	451	457	427	375	346	299	289
Total, worst case				958	8			826	146			

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 130
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R80 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (225)

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	07.08	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	20.58	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	07.19	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	17.42	18.16	19.49	20.20	20.48	20.57	20.37	19.53	19.04	17.18	16.57
4	07.47	07.31	06.54	07.03	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	17.17	16.56
5	07.47	07.30	06.52	07.02	06.18	05.53	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	16.56
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	20.34	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	17.47	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	05.59	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	18.55	17.13	16.56
9	07.47	07.25	06.46	06.55	06.14	05.52	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	07.03	07.35
	17.15	17.51	18.23	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	06.11	05.52	06.01	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	06.10	05.52	06.02	06.30	07.00	07.30	07.05	07.36
	17.17	17.53	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	06.09	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	20.55	20.54	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	07.39
	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	07.45	07.17	06.35	06.45	06.06	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	17.05	16.57
17	07.44	07.15	06.33	06.43	06.05	05.52	06.06	06.35	07.05	07.35	07.11	07.40
	17.22	17.59	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	20.51	20.16	19.27	18.38	17.03	16.58
20	07.43	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	20.57	20.50	20.15	19.25	18.37	17.02	16.58
21	07.42	07.10	06.26	06.37	06.02	05.52	06.09	06.38	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	05.52	06.10	06.39	07.10	07.41	07.16	07.43
	17.28	18.05	18.36	20.09	20.39	20.57	20.48	20.12	19.22	18.34	17.01	16.59
23	07.41	07.07	06.23	06.34	06.00	05.53	06.11	06.40	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	06.41	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	17.00
25	07.39	07.04	06.20	06.31	05.59	05.53	06.13	06.42	07.13	06.44	07.20	07.45
	17.31	18.09	18.39	20.12	20.41	20.58	20.46	20.08	19.17	17.30	16.59	17.01
26	07.39	07.03	06.18	06.30	05.58	05.54	06.14	06.43	07.13	06.45	07.21	07.45
	17.33	18.10	18.40	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	06.14	06.44	07.14	06.46	07.22	07.45
	17.34	18.11	18.42	20.14	20.43	20.58	20.44	20.05	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	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	06.16	06.46	07.16	06.49	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	06.50	07.25	07.46
	17.38		19.45	20.17	20.45	20.58	20.41	20.00	19.08	17.23	16.57	17.04
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	289
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:
Wpd_2020_06_22

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22/06/2020 15.45 / 131

Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R81 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (226)

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	07.46		10.35 (AG10)	07.33		10.59 (AG10)	06.58			07.08		08.07 (AG07)	06.23		06.42 (AG11)	05.55		
	17.06	107	15.56 (AG08)	17.40	51	11.50 (AG10)	18.13			19.46	51	08.58 (AG07)	20.18	31	07.13 (AG11)	20.47		
2	07.47		10.35 (AG10)	07.33		11.01 (AG10)	06.57		07.34 (AG07)	07.06		08.08 (AG07)	06.22		06.42 (AG11)	05.54		
	17.07	107	15.56 (AG08)	17.41	47	11.48 (AG10)	18.14	15	07.49 (AG07)	19.47	49	08.57 (AG07)	20.19	30	07.12 (AG11)	20.47		
3	07.47		10.36 (AG10)	07.32		11.03 (AG10)	06.55		07.30 (AG07)	07.05		08.09 (AG07)	06.20		06.43 (AG11)	05.54		
	17.07	106	15.57 (AG08)	17.42	42	11.45 (AG10)	18.15	24	07.54 (AG07)	19.49	46	08.55 (AG07)	20.20	29	07.12 (AG11)	20.48		
4	07.47		10.36 (AG10)	07.31		11.06 (AG10)	06.54		07.26 (AG07)	07.03		08.09 (AG07)	06.19		06.42 (AG11)	05.53		
	17.08	106	15.57 (AG08)	17.43	36	11.42 (AG10)	18.16	31	07.57 (AG07)	19.50	44	08.53 (AG07)	20.21	28	07.10 (AG11)	20.49		
5	07.47		10.37 (AG10)	07.30		11.10 (AG10)	06.52		07.24 (AG07)	07.02		08.11 (AG07)	06.18		06.44 (AG11)	05.53		
	17.09	104	15.57 (AG08)	17.44	28	11.38 (AG10)	18.18	36	08.00 (AG07)	19.51	41	08.52 (AG07)	20.22	25	07.09 (AG11)	20.49		
6	07.47		10.37 (AG10)	07.28		11.16 (AG10)	06.50		07.21 (AG07)	07.00		07.18 (AG12)	06.17		06.45 (AG11)	05.53		
	17.10	103	15.57 (AG08)	17.46	15	11.31 (AG10)	18.19	40	08.01 (AG07)	19.52	39	08.49 (AG07)	20.23	23	07.08 (AG11)	20.50		
7	07.47		10.37 (AG10)	07.27			06.49		07.20 (AG07)	06.58		07.17 (AG12)	06.15		06.46 (AG11)	05.52		
	17.11	102	15.56 (AG08)	17.47			18.20	43	08.03 (AG07)	19.53	37	08.47 (AG07)	20.24	20	07.06 (AG11)	20.51		
8	07.47		10.38 (AG10)	07.26			06.47		07.18 (AG07)	06.57		07.15 (AG12)	06.14		06.48 (AG11)	05.52		
	17.12	100	15.56 (AG08)	17.48			18.21	46	08.04 (AG07)	19.54	33	08.44 (AG07)	20.25	16	07.04 (AG11)	20.51		
9	07.46		10.39 (AG10)	07.25			06.46		07.16 (AG07)	06.55		07.13 (AG12)	06.13		06.51 (AG11)	05.52		
	17.13	99	15.56 (AG08)	17.49			18.22	49	08.05 (AG07)	19.55	29	08.40 (AG07)	20.26	11	07.02 (AG11)	20.52		
10	07.46		10.39 (AG10)	07.24			06.44		07.15 (AG07)	06.53		07.12 (AG12)	06.12			05.52		
	17.14	97	15.56 (AG08)	17.51			18.23	51	08.06 (AG07)	19.56	19	08.35 (AG07)	20.27			20.53		
11	07.46		10.39 (AG10)	07.23			06.43		07.13 (AG07)	06.52		07.10 (AG12)	06.11			05.52		
	17.15	94	15.54 (AG08)	17.52			18.24	54	08.07 (AG07)	19.57	9	07.19 (AG12)	20.28			20.53		
12	07.46		10.40 (AG10)	07.22			06.41		07.13 (AG07)	06.50		07.09 (AG12)	06.10			05.51		
	17.16	89	15.53 (AG08)	17.53			18.25	55	08.08 (AG07)	19.58	10	07.19 (AG12)	20.29			20.54		
13	07.46		10.41 (AG10)	07.20			06.39		07.12 (AG07)	06.49		07.07 (AG12)	06.09			05.51		
	17.17	83	12.04 (AG10)	17.54			18.26	56	08.08 (AG07)	19.59	10	07.17 (AG12)	20.30			20.54		
14	07.45		10.41 (AG10)	07.19			06.38		07.10 (AG07)	06.47		07.06 (AG11)	06.08			05.51		
	17.18	83	12.04 (AG10)	17.55			18.27	58	08.08 (AG07)	20.00	10	07.16 (AG12)	20.31			20.54		
15	07.45		10.42 (AG10)	07.18			06.36		07.10 (AG07)	06.46		07.04 (AG11)	06.07			05.51		
	17.19	82	12.04 (AG10)	17.57			18.29	59	08.09 (AG07)	20.01	9	07.13 (AG12)	20.32			20.55		
16	07.44		10.42 (AG10)	07.17			06.34		07.09 (AG07)	06.44		07.03 (AG11)	06.06			05.51		
	17.21	82	12.04 (AG10)	17.58			18.30	60	08.09 (AG07)	20.02	9	07.12 (AG11)	20.33			20.55		
17	07.44		10.44 (AG10)	07.15			06.33		07.08 (AG07)	06.43		07.01 (AG11)	06.05			05.51		
	17.22	80	12.04 (AG10)	17.59			18.31	60	08.08 (AG07)	20.03	12	07.13 (AG11)	20.34			20.56		
18	07.44		10.44 (AG10)	07.14			06.31		07.08 (AG07)	06.41		07.00 (AG11)	06.04			05.51		
	17.23	79	12.03 (AG10)	18.00			18.32	61	08.09 (AG07)	20.04	14	07.14 (AG11)	20.35			20.56		
19	07.43		10.45 (AG10)	07.13			06.29		07.07 (AG07)	06.40		06.58 (AG11)	06.03			05.51		
	17.24	79	12.04 (AG10)	18.01			18.33	62	08.09 (AG07)	20.05	17	07.15 (AG11)	20.36			20.56		
20	07.43		10.45 (AG10)	07.11			06.28		07.06 (AG07)	06.38		06.57 (AG11)	06.02			05.52		
	17.25	78	12.03 (AG10)	18.03			18.34	62	08.08 (AG07)	20.06	18	07.15 (AG11)	20.37			20.57		
21	07.42		10.47 (AG10)	07.10			06.26		07.06 (AG07)	06.37		06.55 (AG11)	06.02			05.52		
	17.26	76	12.03 (AG10)	18.04			18.35	62	08.08 (AG07)	20.07	20	07.15 (AG11)	20.37			20.57		
22	07.41		10.47 (AG10)	07.08			06.25		07.06 (AG07)	06.35		06.54 (AG11)	06.01			05.52		
	17.27	75	12.02 (AG10)	18.05			18.36	62	08.08 (AG07)	20.08	22	07.16 (AG11)	20.38			20.57		
23	07.41		10.48 (AG10)	07.07			06.23		07.05 (AG07)	06.34		06.53 (AG11)	06.00			05.52		
	17.29	74	12.02 (AG10)	18.06			18.37	62	08.07 (AG07)	20.09	23	07.16 (AG11)	20.39			20.57		
24	07.40		10.49 (AG10)	07.06			06.21		07.06 (AG07)	06.32		06.51 (AG11)	05.59			05.52		
	17.30	72	12.01 (AG10)	18.07			18.38	61	08.07 (AG07)	20.10	25	07.16 (AG11)	20.40			20.57		
25	07.39		10.50 (AG10)	07.04			06.20		07.05 (AG07)	06.31		06.50 (AG11)	05.59			05.53		
	17.31	71	12.01 (AG10)	18.08			18.39	61	08.06 (AG07)	20.11	26	07.16 (AG11)	20.41			20.57		
26	07.39		10.51 (AG10)	07.03			06.18		07.05 (AG07)	06.30		06.48 (AG11)	05.58			05.53		
	17.32	69	12.00 (AG10)	18.10			18.40	60	08.05 (AG07)	20.12	27	07.15 (AG11)	20.42			20.58		
27	07.38		10.52 (AG10)	07.01			06.16		07.06 (AG07)	06.28		06.47 (AG11)	05.57			05.53		
	17.33	66	11.58 (AG10)	18.11			18.41	58	08.04 (AG07)	20.14	28	07.15 (AG11)	20.43			20.58		
28	07.37		10.53 (AG10)	07.00			06.15		07.06 (AG07)	06.27		06.46 (AG11)	05.57			05.54		
	17.35	64	11.57 (AG10)	18.12			18.42	57	08.03 (AG07)	20.15	29	07.15 (AG11)	20.44			20.58		
29	07.36		10.54 (AG10)				07.13		08.06 (AG07)	06.25		06.45 (AG11)	05.56			05.54		
	17.36	62	11.56 (AG10)				19.43	56	09.02 (AG07)	20.16	30	07.15 (AG11)	20.44			20.58		
30	07.35		10.56 (AG10)				07.11		08.07 (AG07)	06.24		06.43 (AG11)	05.56			05.55		
	17.37	58	11.54 (AG10)				19.44	54	09.01 (AG07)	20.17	30	07.13 (AG11)	20.45			20.58		
31	07.34		10.57 (AG10)				07.10		08.07 (AG07)				05.55					
	17.38	55	11.52 (AG10)				19.45	53	09.00 (AG07)				20.46					
Potential sun hours	299			298			370			398			447			451		
Total, worst case		2602			219			1568			766			213				

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:
Wpd_2020_06_22

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22/06/2020 15.45 / 132
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R81 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (226)

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	05.55		06.19			06.49		07.09 (AG12)	07.18		07.51 (AG07)	06.52			07.26		10.21 (AG10)
	20.58		20.39			19.56	9	07.18 (AG12)	19.06	56	08.47 (AG07)	17.20			16.57	94	15.36 (AG08)
2	05.56		06.20			06.50		07.10 (AG12)	07.19		07.52 (AG07)	06.53			07.27		10.22 (AG10)
	20.57		20.38			19.55	20	08.33 (AG07)	19.05	54	08.46 (AG07)	17.19			16.56	97	15.39 (AG08)
3	05.56		06.21		07.04 (AG11)	06.51		07.11 (AG12)	07.20		07.52 (AG07)	06.54			07.28		10.23 (AG10)
	20.57		20.37	4	07.08 (AG11)	19.53	28	08.38 (AG07)	19.03	52	08.44 (AG07)	17.18			16.56	99	15.40 (AG08)
4	05.57		06.22		07.00 (AG11)	06.52		07.12 (AG12)	07.21		07.53 (AG07)	06.55			07.29		10.23 (AG10)
	20.57		20.36	12	07.12 (AG11)	19.52	33	08.41 (AG07)	19.02	50	08.43 (AG07)	17.17			16.56	100	15.41 (AG08)
5	05.57		06.22		06.57 (AG11)	06.53		07.13 (AG12)	07.22		07.54 (AG07)	06.56		10.45 (AG10)	07.30		10.23 (AG10)
	20.57		20.34	18	07.15 (AG11)	19.50	36	08.43 (AG07)	19.00	47	08.41 (AG07)	17.16	17	11.02 (AG10)	16.56	102	15.42 (AG08)
6	05.58		06.23		06.56 (AG11)	06.54		07.14 (AG12)	07.23		07.55 (AG07)	06.58		10.39 (AG10)	07.31		10.24 (AG10)
	20.57		20.33	20	07.16 (AG11)	19.48	39	08.45 (AG07)	18.58	45	08.40 (AG07)	17.15	29	11.08 (AG10)	16.56	102	15.43 (AG08)
7	05.58		06.24		06.54 (AG11)	06.55		08.06 (AG07)	07.24		07.56 (AG07)	06.59		10.37 (AG10)	07.32		10.23 (AG10)
	20.56		20.32	24	07.18 (AG11)	19.47	41	08.47 (AG07)	18.57	42	08.38 (AG07)	17.14	36	11.13 (AG10)	16.56	104	15.43 (AG08)
8	05.59		06.25		06.53 (AG11)	06.56		08.05 (AG07)	07.25		07.58 (AG07)	07.00		10.34 (AG10)	07.33		10.23 (AG10)
	20.56		20.31	26	07.19 (AG11)	19.45	43	08.48 (AG07)	18.55	38	08.36 (AG07)	17.12	42	11.16 (AG10)	16.56	106	15.44 (AG08)
9	06.00		06.26		06.52 (AG11)	06.57		08.03 (AG07)	07.26		08.00 (AG07)	07.01		10.32 (AG10)	07.34		10.24 (AG10)
	20.56		20.30	28	07.20 (AG11)	19.43	46	08.49 (AG07)	18.53	33	08.33 (AG07)	17.11	47	11.19 (AG10)	16.56	106	15.45 (AG08)
10	06.00		06.27		06.51 (AG11)	06.58		08.01 (AG07)	07.27		08.02 (AG07)	07.02		10.30 (AG10)	07.35		10.24 (AG10)
	20.55		20.28	30	07.21 (AG11)	19.42	49	08.50 (AG07)	18.52	28	08.30 (AG07)	17.10	51	11.21 (AG10)	16.56	107	15.45 (AG08)
11	06.01		06.28		06.50 (AG11)	06.59		08.00 (AG07)	07.28		08.06 (AG07)	07.03		10.29 (AG10)	07.36		10.25 (AG10)
	20.55		20.27	31	07.21 (AG11)	19.40	51	08.51 (AG07)	18.50	21	08.27 (AG07)	17.09	55	11.24 (AG10)	16.56	107	15.46 (AG08)
12	06.02		06.29		06.51 (AG11)	07.00		07.59 (AG07)	07.30		08.12 (AG07)	07.05		10.28 (AG10)	07.36		10.25 (AG10)
	20.54		20.26	31	07.22 (AG11)	19.38	53	08.52 (AG07)	18.49	8	08.20 (AG07)	17.09	58	11.26 (AG10)	16.56	108	15.47 (AG08)
13	06.02		06.30		06.52 (AG11)	07.00		07.58 (AG07)	07.31			07.06		10.26 (AG10)	07.37		10.26 (AG10)
	20.54		20.25	30	07.22 (AG11)	19.37	54	08.52 (AG07)	18.47			17.08	62	11.28 (AG10)	16.56	108	15.48 (AG08)
14	06.03		06.31		06.53 (AG11)	07.01		07.57 (AG07)	07.32			07.07		10.25 (AG10)	07.38		10.26 (AG10)
	20.53		20.23	30	07.23 (AG11)	19.35	56	08.53 (AG07)	18.46			17.07	64	11.29 (AG10)	16.56	109	15.48 (AG08)
15	06.04		06.32		06.54 (AG11)	07.02		07.56 (AG07)	07.33			07.08		10.25 (AG10)	07.39		10.26 (AG10)
	20.53		20.22	29	07.23 (AG11)	19.33	57	08.53 (AG07)	18.44			17.06	66	11.31 (AG10)	16.56	110	15.49 (AG08)
16	06.05		06.33		06.55 (AG11)	07.03		07.54 (AG07)	07.34			07.09		10.24 (AG10)	07.39		10.27 (AG10)
	20.52		20.20	28	07.23 (AG11)	19.32	59	08.53 (AG07)	18.43			17.05	69	11.33 (AG10)	16.57	109	15.49 (AG08)
17	06.05		06.34		06.55 (AG11)	07.04		07.53 (AG07)	07.35			07.11		10.23 (AG10)	07.40		10.27 (AG10)
	20.52		20.19	27	07.22 (AG11)	19.30	60	08.53 (AG07)	18.41			17.04	71	11.34 (AG10)	16.57	109	15.49 (AG08)
18	06.06		06.35		06.56 (AG11)	07.05		07.53 (AG07)	07.36			07.12		10.23 (AG10)	07.41		10.28 (AG10)
	20.51		20.18	26	07.22 (AG11)	19.28	60	08.53 (AG07)	18.40			17.03	72	11.35 (AG10)	16.57	109	15.50 (AG08)
19	06.07		06.36		06.57 (AG11)	07.06		07.52 (AG07)	07.37			07.13		10.23 (AG10)	07.41		10.29 (AG10)
	20.50		20.16	24	07.21 (AG11)	19.27	61	08.53 (AG07)	18.38			17.03	74	11.37 (AG10)	16.58	109	15.51 (AG08)
20	06.08		06.37		06.58 (AG11)	07.07		07.52 (AG07)	07.38			07.14		10.22 (AG10)	07.42		10.29 (AG10)
	20.50		20.15	23	07.21 (AG11)	19.25	61	08.53 (AG07)	18.37			17.02	75	11.37 (AG10)	16.58	109	15.51 (AG08)
21	06.09		06.38		06.59 (AG11)	07.08		07.51 (AG07)	07.39			07.15		10.22 (AG10)	07.42		10.30 (AG10)
	20.49		20.13	22	07.21 (AG11)	19.23	62	08.53 (AG07)	18.35			17.01	76	11.38 (AG10)	16.58	109	15.52 (AG08)
22	06.10		06.39		07.00 (AG11)	07.09		07.51 (AG07)	07.40			07.16		10.21 (AG10)	07.43		10.29 (AG10)
	20.48		20.12	20	07.20 (AG11)	19.22	62	08.53 (AG07)	18.34			17.01	78	11.39 (AG10)	16.59	110	15.52 (AG08)
23	06.10		06.40		07.01 (AG11)	07.10		07.51 (AG07)	07.41			07.17		10.21 (AG10)	07.43		10.30 (AG10)
	20.47		20.10	18	07.19 (AG11)	19.20	61	08.52 (AG07)	18.32			17.00	79	11.40 (AG10)	16.59	109	15.52 (AG08)
24	06.11		06.41		07.02 (AG11)	07.11		07.50 (AG07)	07.43			07.19		10.22 (AG10)	07.44		10.31 (AG10)
	20.47		20.09	16	07.18 (AG11)	19.18	62	08.52 (AG07)	18.31			17.00	79	11.41 (AG10)	17.00	109	15.53 (AG08)
25	06.12		06.42		07.03 (AG11)	07.12		07.50 (AG07)	06.44			07.20		10.22 (AG10)	07.44		10.31 (AG10)
	20.46		20.07	14	07.17 (AG11)	19.16	62	08.52 (AG07)	17.30			16.59	80	11.42 (AG10)	17.01	109	15.53 (AG08)
26	06.13		06.43		07.04 (AG11)	07.13		07.50 (AG07)	06.45			07.21		10.21 (AG10)	07.45		10.32 (AG10)
	20.45		20.06	12	07.16 (AG11)	19.15	61	08.51 (AG07)	17.28			16.59	82	11.43 (AG10)	17.01	109	15.54 (AG08)
27	06.14		06.44		07.05 (AG11)	07.14		07.50 (AG07)	06.46			07.22		10.21 (AG10)	07.45		10.32 (AG10)
	20.44		20.04	9	07.14 (AG11)	19.13	60	08.50 (AG07)	17.27			16.58	82	11.43 (AG10)	17.02	109	15.54 (AG08)
28	06.15		06.45		07.06 (AG11)	07.15		07.50 (AG07)	06.47			07.23		10.21 (AG10)	07.45		10.32 (AG10)
	20.43		20.03	9	07.15 (AG12)	19.11	60	08.50 (AG07)	17.26			16.58	83	11.44 (AG10)	17.02	110	15.55 (AG08)
29	06.16		06.46		07.07 (AG11)	07.16		07.50 (AG07)	06.48			07.24		10.21 (AG10)	07.46		10.33 (AG10)
	20.42		20.01	10	07.17 (AG12)	19.10	59	08.49 (AG07)	17.24			16.57	83	11.44 (AG10)	17.03	109	15.55 (AG08)
30	06.17		06.47		07.08 (AG12)	07.17		07.51 (AG07)	06.49			07.25		10.21 (AG10)	07.46		10.33 (AG10)
	20.41		20.00	10	07.18 (AG12)	19.08	57	08.48 (AG07)	17.23			16.57	88	15.33 (AG08)	17.04	109	15.55 (AG08)
31	06.18		06.48		07.09 (AG12)				06.51						07.46		10.34 (AG10)
	20.40		19.58	10	07.19 (AG12)				17.22						17.05	108	15.56 (AG08)
Potential sun hours	458		427			375			346			299			289		
Total, worst case				591			1522			474			1698			3304	

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:
Wpd_2020_06_22

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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R82 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (227)

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	07.46	07.33		06.58		17.01 (AG09)	07.08			06.23	18.33 (AG10)	05.55
	17.06	17.40		18.13	24	17.25 (AG09)	19.46			20.18	23 18.56 (AG10)	20.47
2	07.47	07.32		06.57		17.00 (AG09)	07.06			06.22	18.35 (AG10)	05.54
	17.07	17.41		18.14	24	17.24 (AG09)	19.47			20.19	19 18.54 (AG10)	20.47
3	07.47	07.31		06.55		17.00 (AG09)	07.05		18.47 (AG10)	06.20	18.38 (AG10)	05.54
	17.07	17.42		18.15	24	17.24 (AG09)	19.48	6	18.53 (AG10)	20.20	13 18.51 (AG10)	20.48
4	07.47	07.30		06.53		17.00 (AG09)	07.03		18.41 (AG10)	06.19		05.53
	17.08	17.43		18.16	23	17.23 (AG09)	19.50	17	18.58 (AG10)	20.21		20.49
5	07.47	07.29		06.52		17.01 (AG09)	07.01		18.38 (AG10)	06.18		05.53
	17.09	17.44		18.18	22	17.23 (AG09)	19.51	23	19.01 (AG10)	20.22		20.49
6	07.47	07.28		06.50		17.01 (AG09)	07.00		18.35 (AG10)	06.17		05.53
	17.10	17.46		18.19	21	17.22 (AG09)	19.52	27	19.02 (AG10)	20.23		20.50
7	07.47	07.27		06.49		17.03 (AG09)	06.58		18.34 (AG10)	06.15		05.52
	17.11	17.47		18.20	18	17.21 (AG09)	19.53	30	19.04 (AG10)	20.24		20.51
8	07.47	07.26		06.47		17.04 (AG09)	06.57		18.32 (AG10)	06.14		05.52
	17.12	17.48		18.21	15	17.19 (AG09)	19.54	33	19.05 (AG10)	20.25		20.51
9	07.46	07.25		06.46		17.06 (AG09)	06.55		18.30 (AG10)	06.13		05.52
	17.13	17.49		18.22	10	17.16 (AG09)	19.55	36	19.06 (AG10)	20.26		20.52
10	07.46	07.24		06.44			06.53		18.29 (AG10)	06.12		05.52
	17.14	17.51		18.23			19.56	38	19.07 (AG10)	20.27		20.52
11	07.46	07.23		06.42			06.52		18.28 (AG10)	06.11		05.52
	17.15	17.52		18.24			19.57	39	19.07 (AG10)	20.28		20.53
12	07.46	07.22		06.41			06.50		18.27 (AG10)	06.10		05.51
	17.16	17.53		18.25			19.58	41	19.08 (AG10)	20.29		20.53
13	07.45	07.20		06.39			06.49		18.26 (AG10)	06.09		05.51
	17.17	17.54		18.26			19.59	42	19.08 (AG10)	20.30		20.54
14	07.45	07.19		06.38			06.47		18.26 (AG10)	06.08		05.51
	17.18	17.55		18.27			20.00	42	19.08 (AG10)	20.31		20.54
15	07.45	07.18		06.36			06.46		18.25 (AG10)	06.07		05.51
	17.19	17.57		18.28			20.01	43	19.08 (AG10)	20.32		20.55
16	07.44	07.16		06.34			06.44		18.25 (AG10)	06.06		05.51
	17.20	17.58		18.30			20.02	43	19.08 (AG10)	20.33		20.55
17	07.44	07.15		06.33			06.43		18.25 (AG10)	06.05		05.51
	17.22	17.59		18.31			20.03	43	19.08 (AG10)	20.34		20.56
18	07.43	07.14		06.31			06.41		18.25 (AG10)	06.04		05.51
	17.23	18.00		18.32			20.04	43	19.08 (AG10)	20.35		20.56
19	07.43	07.12		06.29			06.40		18.24 (AG10)	06.03		05.51
	17.24	18.01		18.33			20.05	43	19.07 (AG10)	20.36		20.56
20	07.42	07.11		06.28			06.38		18.25 (AG10)	06.02		05.52
	17.25	18.03		18.34			20.06	42	19.07 (AG10)	20.36		20.57
21	07.42	07.10		06.26			06.37		18.24 (AG10)	06.02		05.52
	17.26	18.04		18.35			20.07	42	19.06 (AG10)	20.37		20.57
22	07.41	07.08		17.11 (AG09)	06.24		06.35		18.25 (AG10)	06.01		05.52
	17.27	18.05	4	17.15 (AG09)	18.36		20.08	41	19.06 (AG10)	20.38		20.57
23	07.41	07.07		17.07 (AG09)	06.23		06.34		18.26 (AG10)	06.00		05.52
	17.29	18.06	12	17.19 (AG09)	18.37		20.09	40	19.06 (AG10)	20.39		20.57
24	07.40	07.05		17.05 (AG09)	06.21		06.32		18.26 (AG10)	05.59		05.52
	17.30	18.07	16	17.21 (AG09)	18.38		20.10	38	19.04 (AG10)	20.40		20.57
25	07.39	07.04		17.04 (AG09)	06.20		06.31		18.27 (AG10)	05.59		05.53
	17.31	18.08	19	17.23 (AG09)	18.39		20.11	37	19.04 (AG10)	20.41		20.57
26	07.39	07.03		17.03 (AG09)	06.18		06.30		18.27 (AG10)	05.58		05.53
	17.32	18.10	21	17.24 (AG09)	18.40		20.12	35	19.02 (AG10)	20.42		20.58
27	07.38	07.01		17.02 (AG09)	06.16		06.28		18.28 (AG10)	05.57		05.53
	17.33	18.11	22	17.24 (AG09)	18.41		20.13	33	19.01 (AG10)	20.43		20.58
28	07.37	07.00		17.01 (AG09)	06.15		06.27		18.29 (AG10)	05.57		05.54
	17.35	18.12	23	17.24 (AG09)	18.42		20.14	31	19.00 (AG10)	20.43		20.58
29	07.36				07.13		06.25		18.30 (AG10)	05.56		05.54
	17.36				19.43		20.16	29	18.59 (AG10)	20.44		20.58
30	07.35				07.11		06.24		18.31 (AG10)	05.56		05.55
	17.37				19.44		20.17	26	18.57 (AG10)	20.45		20.58
31	07.34				07.10					05.55		
	17.38				19.45					20.46		
Potential sun hours	299	298			370		398			447		451
Total, worst case			117			181		983			55	

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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Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it
Calculated:
22/06/2020 15.30/2.9.207

SHADOW - Calendar

Calculation: Shadow_2020_06_22_progetto **Shadow receptor:** R82 - Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (227)

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	05.55	06.19		06.49		18.27 (AG10)	07.18		06.52	07.26
	20.57	20.39		19.56	39	19.06 (AG10)	19.06		17.20	16.57
2	05.56	06.20		06.50		18.27 (AG10)	07.19		06.53	07.27
	20.57	20.38		19.55	38	19.05 (AG10)	19.05		17.19	16.56
3	05.56	06.21		06.51		18.28 (AG10)	07.20		06.54	07.28
	20.57	20.37		19.53	36	19.04 (AG10)	19.03		17.18	16.56
4	05.57	06.21		06.52		18.29 (AG10)	07.21	17.46 (AG09)	06.55	07.29
	20.57	20.36		19.52	33	19.02 (AG10)	19.01	5 17.51 (AG09)	17.17	16.56
5	05.57	06.22		06.53		18.30 (AG10)	07.22	17.42 (AG09)	06.56	07.30
	20.57	20.34		19.50	30	19.00 (AG10)	19.00	12 17.54 (AG09)	17.16	16.56
6	05.58	06.23		06.54		18.31 (AG10)	07.23	17.39 (AG09)	06.58	07.31
	20.57	20.33		19.48	28	18.59 (AG10)	18.58	17 17.56 (AG09)	17.15	16.56
7	05.58	06.24		06.55		18.33 (AG10)	07.24	17.38 (AG09)	06.59	07.32
	20.56	20.32		19.47	23	18.56 (AG10)	18.57	19 17.57 (AG09)	17.14	16.56
8	05.59	06.25		06.56		18.35 (AG10)	07.25	17.36 (AG09)	07.00	07.33
	20.56	20.31		19.45	18	18.53 (AG10)	18.55	22 17.58 (AG09)	17.12	16.55
9	06.00	06.26	18.51 (AG10)	06.57		18.40 (AG10)	07.26	17.35 (AG09)	07.01	07.34
	20.56	20.30	4 18.55 (AG10)	19.43	8	18.48 (AG10)	18.53	23 17.58 (AG09)	17.11	16.55
10	06.00	06.27	18.46 (AG10)	06.58			07.27	17.34 (AG09)	07.02	07.35
	20.55	20.28	14 19.00 (AG10)	19.42			18.52	24 17.58 (AG09)	17.10	16.56
11	06.01	06.28	18.43 (AG10)	06.58			07.28	17.35 (AG09)	07.03	07.35
	20.55	20.27	20 19.03 (AG10)	19.40			18.50	24 17.59 (AG09)	17.09	16.56
12	06.02	06.29	18.41 (AG10)	06.59			07.29	17.34 (AG09)	07.05	07.36
	20.54	20.26	24 19.05 (AG10)	19.38			18.49	24 17.58 (AG09)	17.08	16.56
13	06.02	06.30	18.39 (AG10)	07.00			07.31	17.34 (AG09)	07.06	07.37
	20.54	20.24	27 19.06 (AG10)	19.37			18.47	24 17.58 (AG09)	17.08	16.56
14	06.03	06.31	18.38 (AG10)	07.01			07.32	17.34 (AG09)	07.07	07.38
	20.53	20.23	29 19.07 (AG10)	19.35			18.46	23 17.57 (AG09)	17.07	16.56
15	06.04	06.32	18.36 (AG10)	07.02			07.33	17.34 (AG09)	07.08	07.39
	20.53	20.22	32 19.08 (AG10)	19.33			18.44	22 17.56 (AG09)	17.06	16.56
16	06.05	06.33	18.34 (AG10)	07.03			07.34	17.35 (AG09)	07.09	07.39
	20.52	20.20	34 19.08 (AG10)	19.32			18.43	20 17.55 (AG09)	17.05	16.57
17	06.05	06.34	18.33 (AG10)	07.04			07.35	17.36 (AG09)	07.10	07.40
	20.52	20.19	36 19.09 (AG10)	19.30			18.41	18 17.54 (AG09)	17.04	16.57
18	06.06	06.35	18.32 (AG10)	07.05			07.36	17.37 (AG09)	07.12	07.41
	20.51	20.18	38 19.10 (AG10)	19.28			18.40	15 17.52 (AG09)	17.03	16.57
19	06.07	06.36	18.31 (AG10)	07.06			07.37	17.39 (AG09)	07.13	07.41
	20.50	20.16	39 19.10 (AG10)	19.27			18.38	10 17.49 (AG09)	17.03	16.58
20	06.08	06.37	18.30 (AG10)	07.07			07.38		07.14	07.42
	20.50	20.15	40 19.10 (AG10)	19.25			18.37		17.02	16.58
21	06.09	06.38	18.30 (AG10)	07.08			07.39		07.15	07.42
	20.49	20.13	41 19.11 (AG10)	19.23			18.35		17.01	16.58
22	06.10	06.39	18.29 (AG10)	07.09			07.40		07.16	07.43
	20.48	20.12	42 19.11 (AG10)	19.21			18.34		17.01	16.59
23	06.10	06.40	18.29 (AG10)	07.10			07.41		07.17	07.43
	20.47	20.10	42 19.11 (AG10)	19.20			18.32		17.00	16.59
24	06.11	06.41	18.28 (AG10)	07.11			07.43		07.18	07.44
	20.46	20.09	43 19.11 (AG10)	19.18			18.31		17.00	17.00
25	06.12	06.42	18.28 (AG10)	07.12			06.44		07.20	07.44
	20.46	20.07	43 19.11 (AG10)	19.16			17.30		16.59	17.01
26	06.13	06.43	18.27 (AG10)	07.13			06.45		07.21	07.45
	20.45	20.06	44 19.11 (AG10)	19.15			17.28		16.58	17.01
27	06.14	06.44	18.27 (AG10)	07.14			06.46		07.22	07.45
	20.44	20.04	43 19.10 (AG10)	19.13			17.27		16.58	17.02
28	06.15	06.45	18.27 (AG10)	07.15			06.47		07.23	07.45
	20.43	20.03	43 19.10 (AG10)	19.11			17.25		16.58	17.02
29	06.16	06.46	18.27 (AG10)	07.16			06.48		07.24	07.46
	20.42	20.01	42 19.09 (AG10)	19.10			17.24		16.57	17.03
30	06.17	06.47	18.27 (AG10)	07.17			06.49		07.25	07.46
	20.41	20.00	42 19.09 (AG10)	19.08			17.23		16.57	17.04
31	06.18	06.48	18.26 (AG10)				06.51			07.46
	20.40	19.58	41 19.07 (AG10)				17.22			17.05
Potential sun hours	458	427		375			346		299	289
Total, worst case			803		253			302		

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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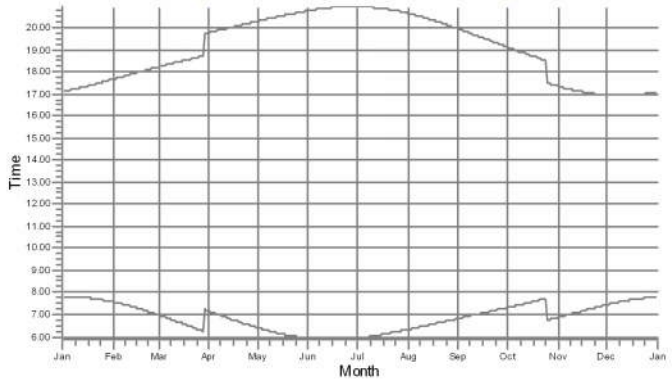
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

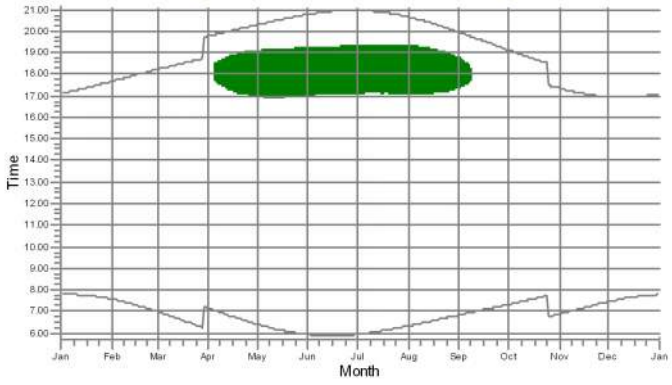
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_progetto

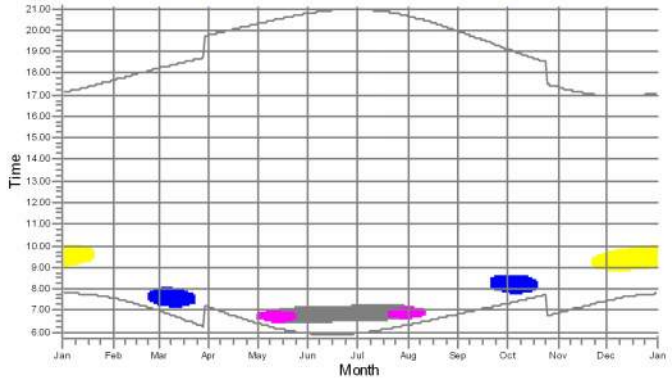
R02: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (159)



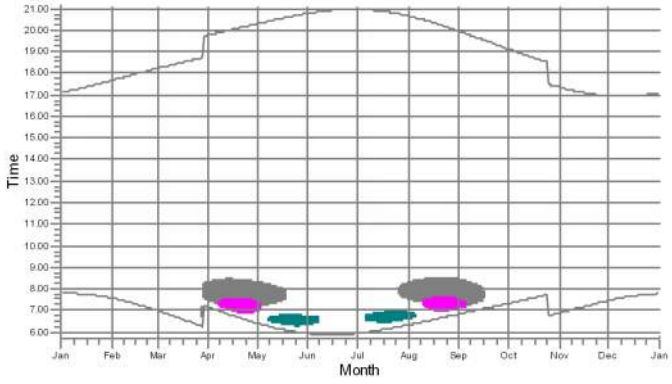
R04: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (161)



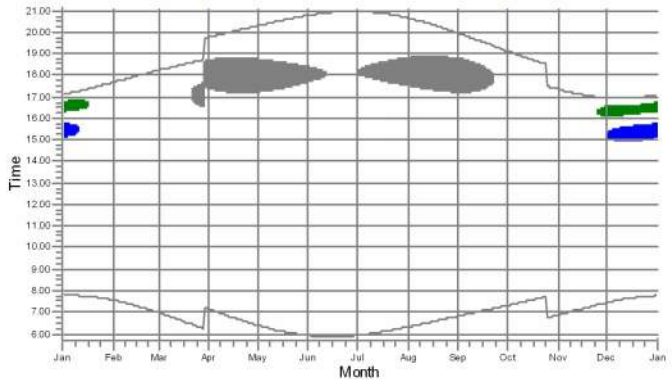
R06: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (168)



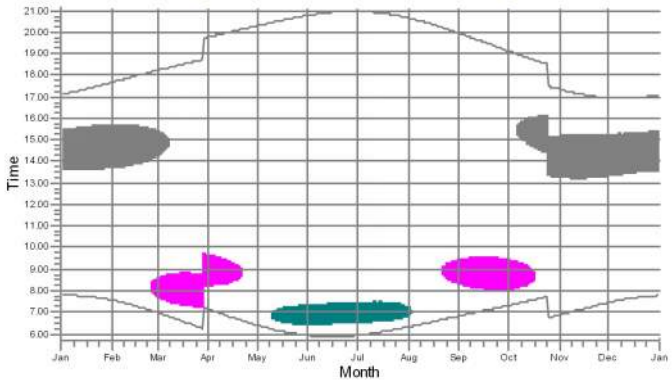
R07: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (171)



R08: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (172)



R09: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (174)



WTGs

- AG02: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (41)
- AG01: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (42)
- AG03: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (43)
- AG13: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (44)
- AG014: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (45)
- AG015: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (46)

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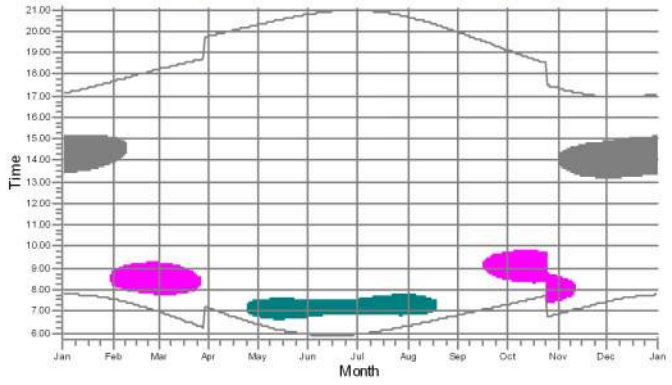
Licensed user:
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

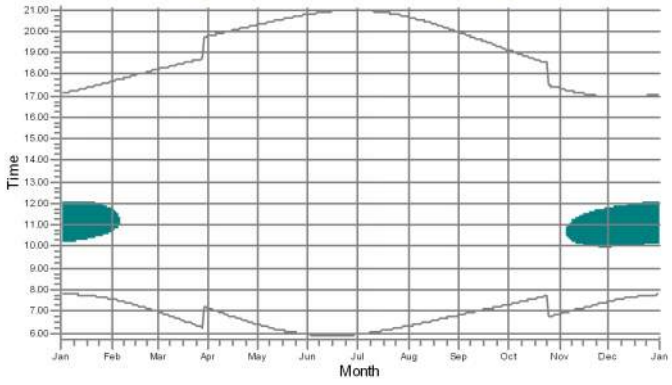
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_progetto

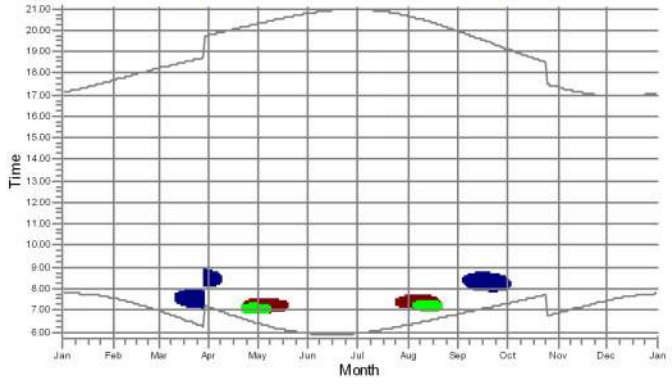
R10: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (175)



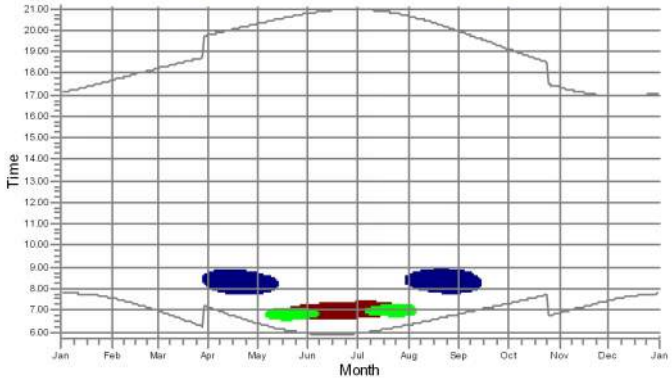
R12: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (177)



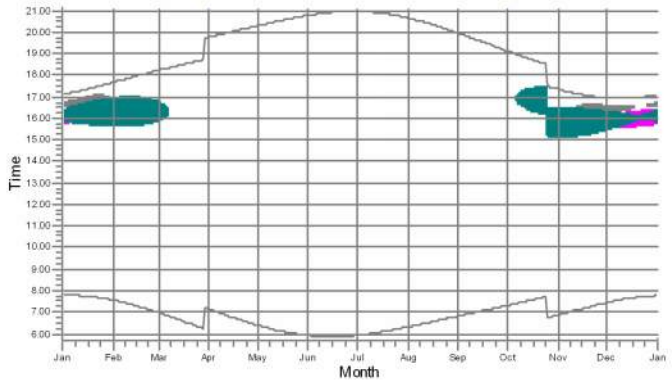
R13: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (187)



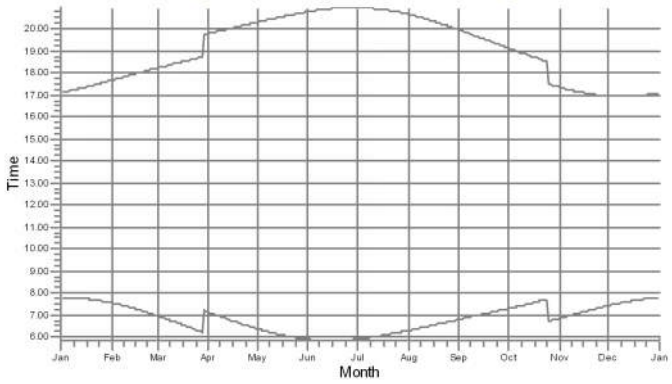
R14: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (185)



R15: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (176)



R16: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (183)



WTGs

- AG13: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (44)
- AG014: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (45)
- AG015: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (46)
- AG04: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (47)
- AG05: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (48)
- AG06: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (49)

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

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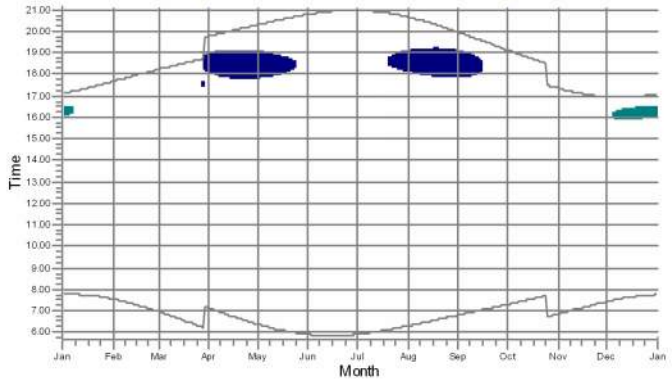
22/06/2020 15.30/2.9.207

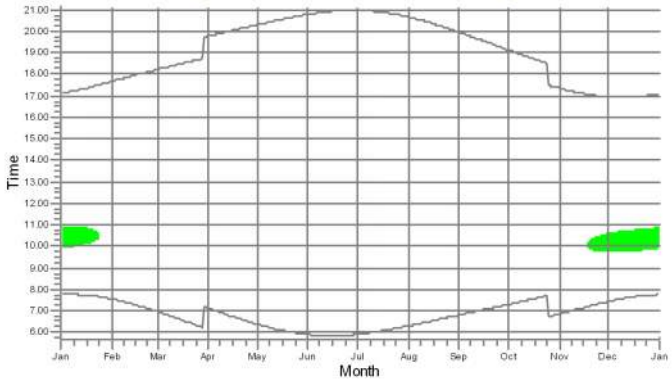
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_progetto

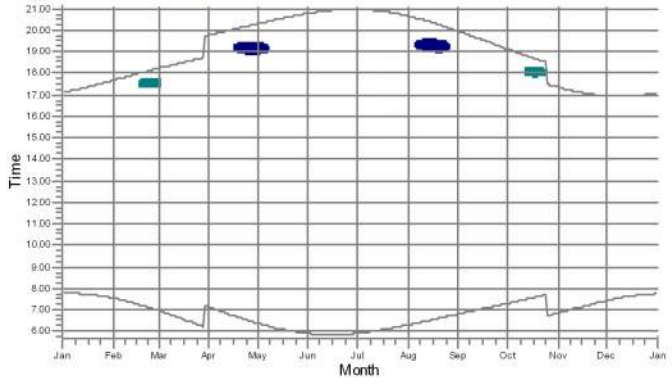
R17: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (184)



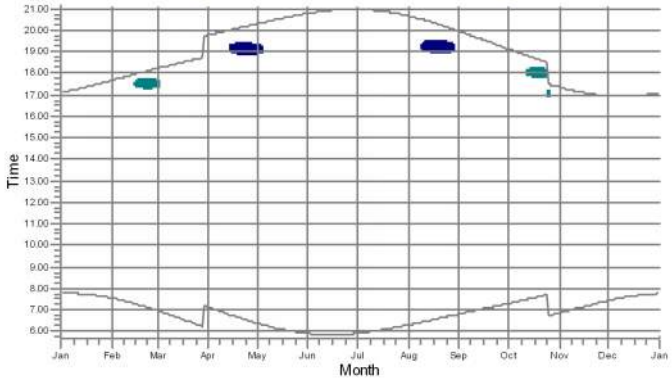
R18: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (203)



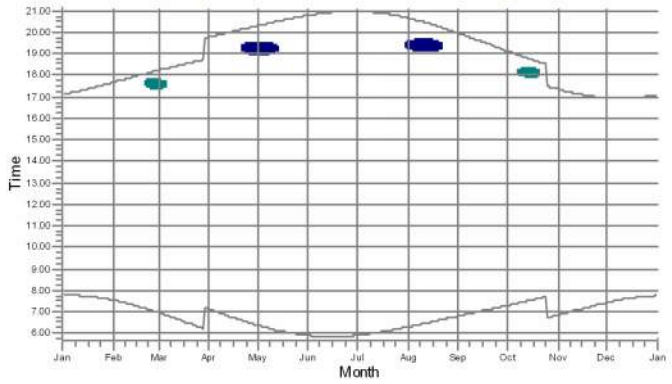
R19: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (181)



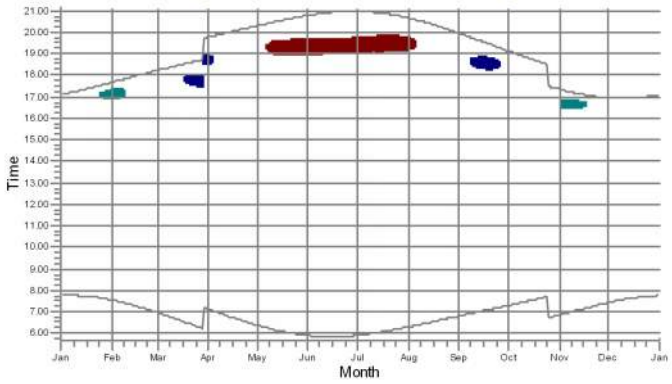
R20: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (182)



R21: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (180)



R23: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (188)



WTGs

AG015: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (46)
AG04: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (47)
AG05: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (48)
AG06: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (49)

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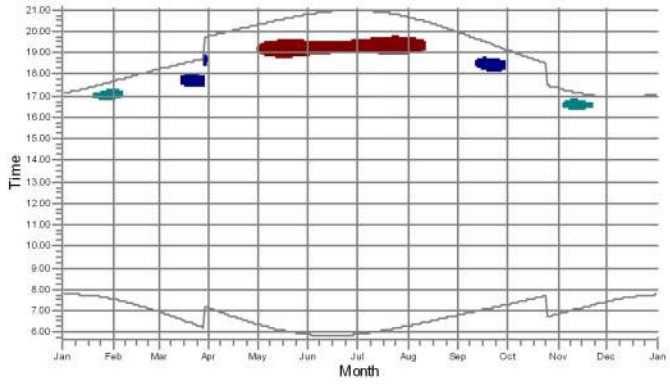
Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
22/06/2020 15.30/2.9.207

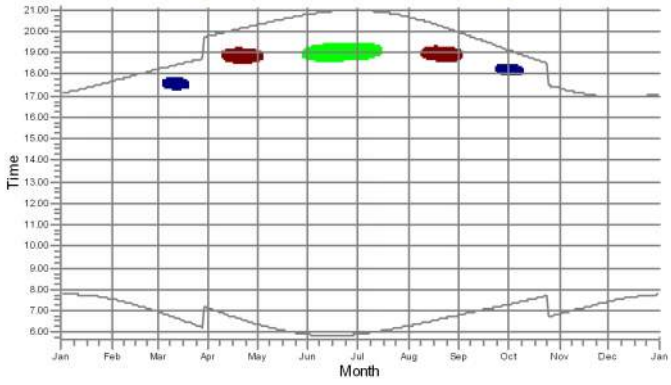
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_progetto

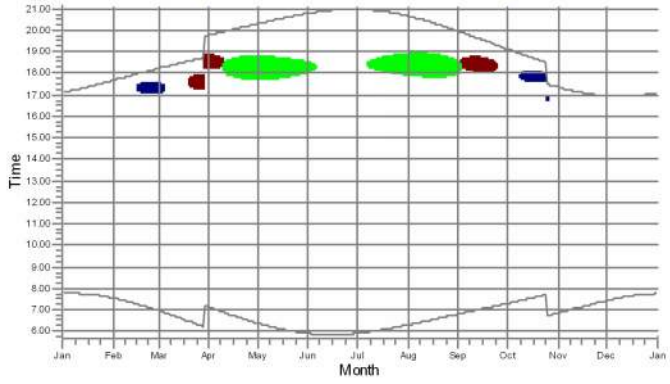
R24: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (189)



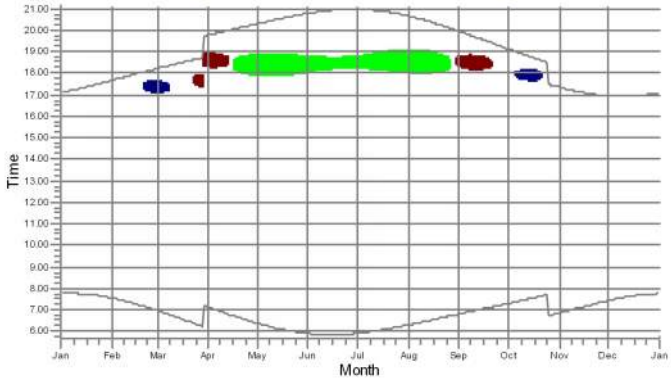
R25: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (190)



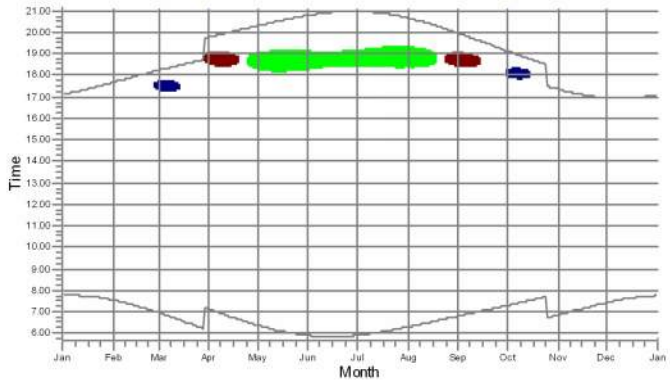
R26: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (195)



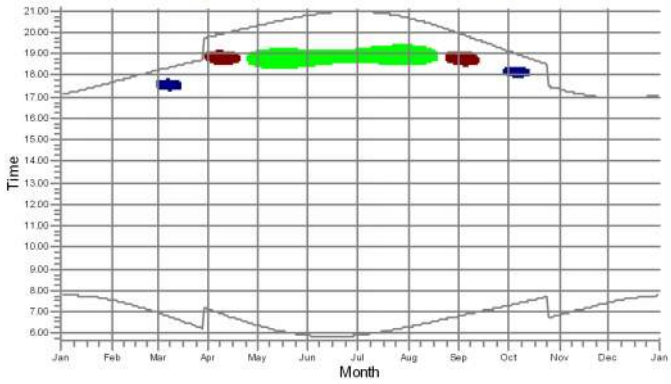
R27: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (193)



R28: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (192)



R29: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (191)



WTGs

AG015: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (46)
AG04: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (47)
AG05: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (48)
AG06: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (49)

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

Calculated:
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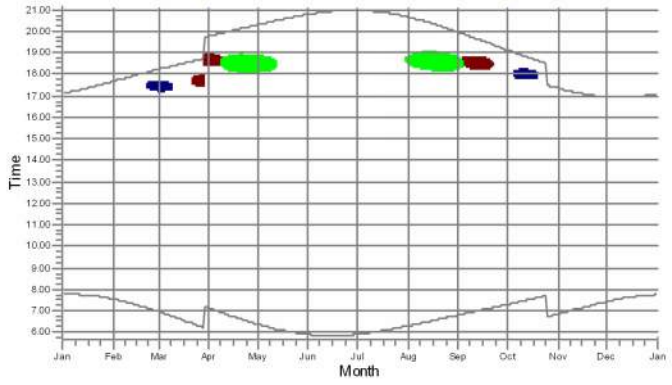
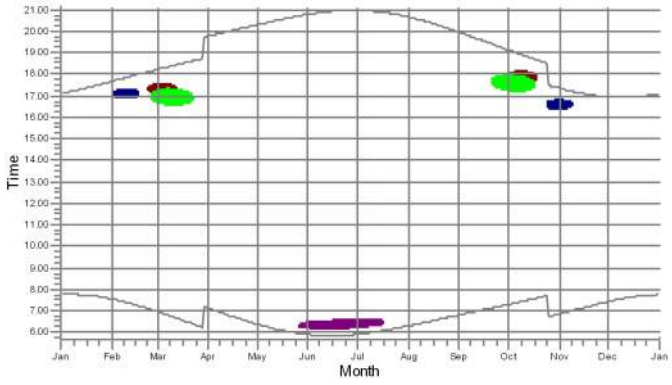
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_progetto

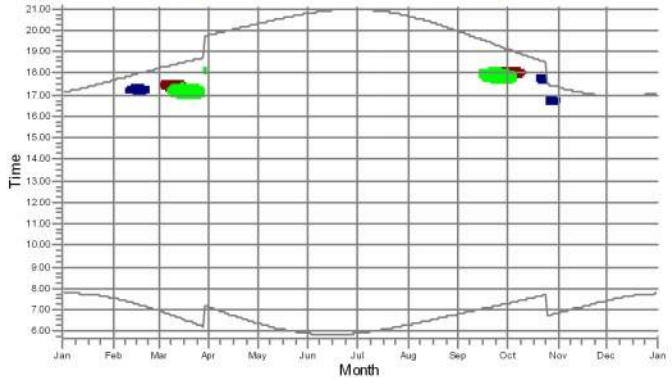
R30: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (194)



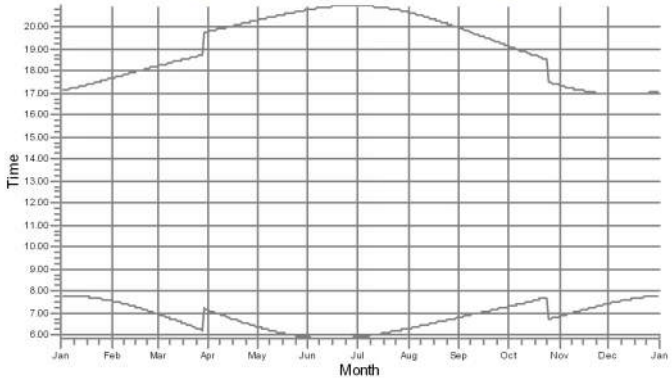
R31: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (200)



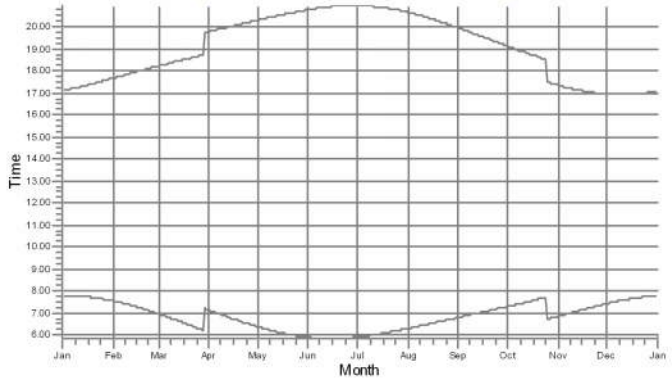
R32: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (199)



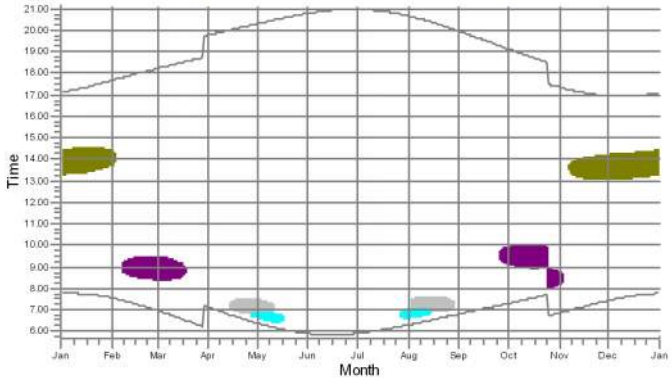
R35: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (196)



R36: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (204)



R37: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (207)



WTGs

- AG04: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (47)
- AG05: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (48)
- AG06: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (49)
- AG08: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (50)
- AG09: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (51)
- AG10: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (52)
- AG07: GE 158 H149m GE 158_utente 4200 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (53)

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Ing. Giuseppe Frongia
Via Tigellio 22
IT-09123 Cagliari
+39 070 658297
Giuseppe Frongia / giuse.frongia@tiscali.it

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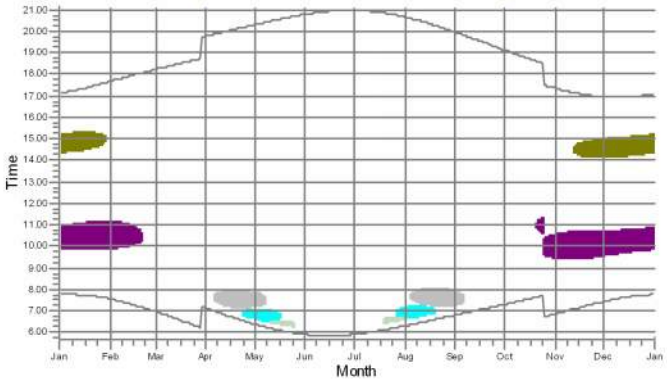
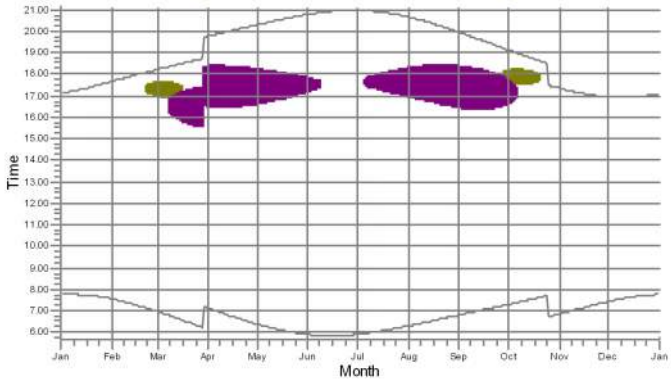
SHADOW - Calendar, graphical

Calculation: Shadow_2020_06_22_progetto

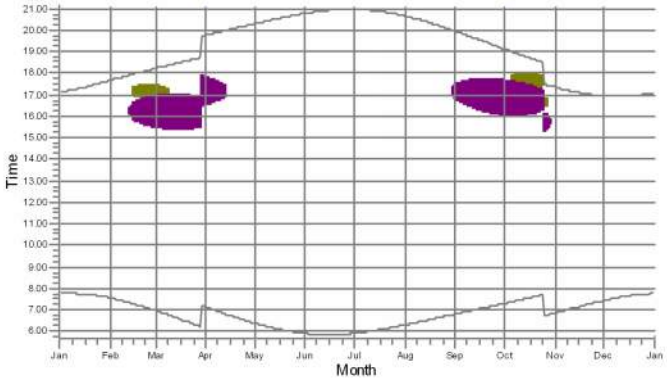
R38: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (210)



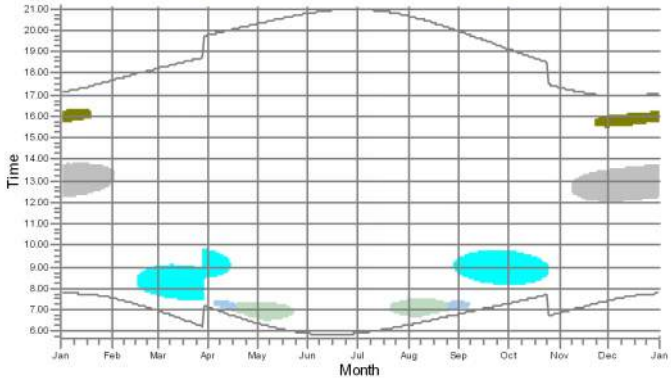
R39: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (205)



R40: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (206)



R41: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (219)



R42: Shadow Receptor: 1,2 × 1,4 Azimuth: 0,0° Slope: 90,0° (208)