



AUTORIZZAZIONE UNICA EX D. LGS. N. 387/2003



PROGETTO DEFINITIVO PARCO EOLICO COLBRARO TURSI

Titolo elaborato:

STUDIO SUGLI EFFETTI DELLO SHADOW FLICKERING

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1. PREMESSA

Nella presente trattazione si descrive l'evoluzione giornaliera delle ombre generate dalle pale eoliche facenti parte dell'impianto eolico denominato "Colobraro Tursi" al fine di verificare che l'alternanza ciclica dell'ombra non arrechi danni alla salute su un possibile ricettore.

2. DESCRIZIONE DEL PROGETTO

L'impianto eolico presenta una potenza nominale totale pari a 60 MWp ed è costituito da 10 aerogeneratori, di potenza nominale pari a 6 MWp, altezza torre pari a 125 m e rotore pari a 150 m, collegati tra loro mediante un cavidotto interrato in media tensione che convoglia l'elettricità presso una Stazione Elettrica Utente (SEU) di trasformazione 150/30 kV al fine di collegarsi alla Rete di Trasmissione Nazionale (RTN) Terna attraverso un cavidotto in alta tensione.

L'impianto interessa prevalentemente i Comuni di Colobraro, ove ricadono 5 aerogeneratori, Tursi, ove ricadono 5 aerogeneratori, e il Comune di Sant'Arcangelo, dove verrà realizzata la SEU 150/30 kV contenuta all'interno di una Stazione Elettrica Condivisa (SEC) con altri produttori di energia.

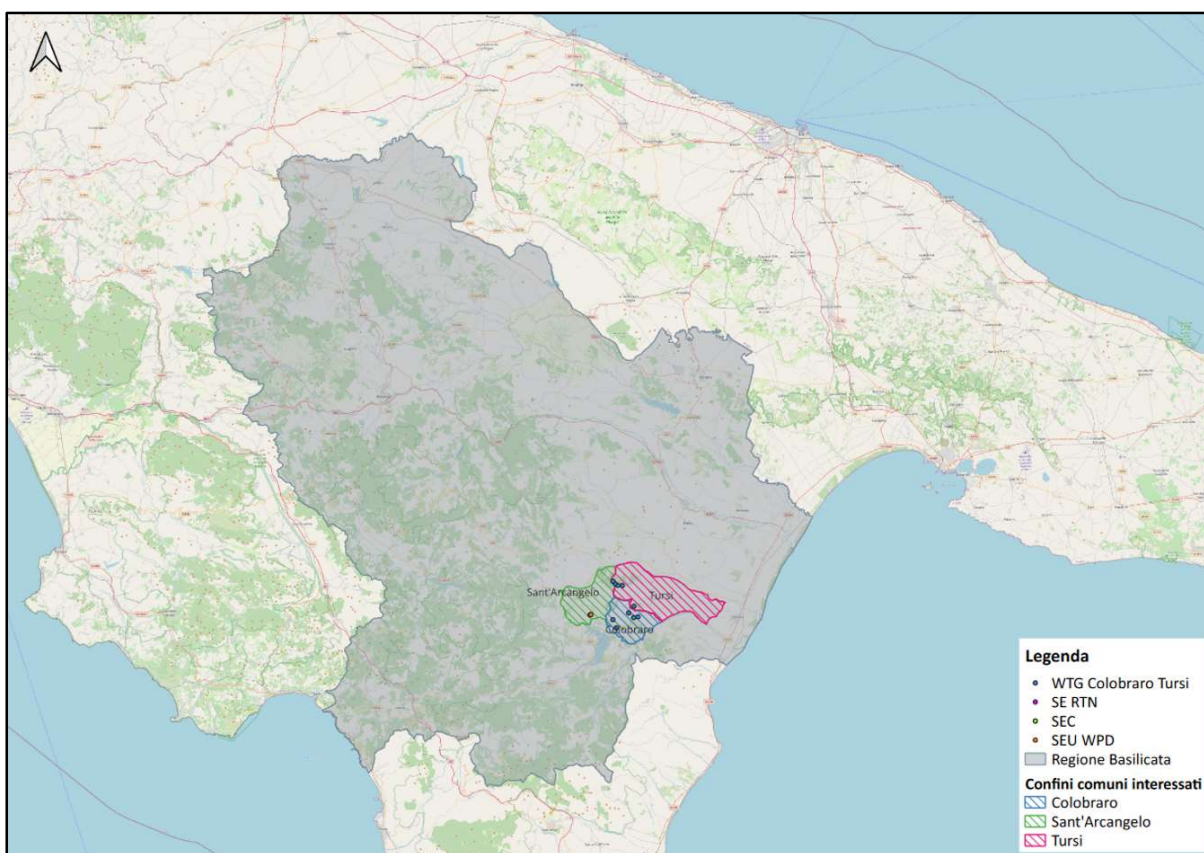


Figura 2.1: Inquadramento territoriale - Limiti amministrativi comuni interessati

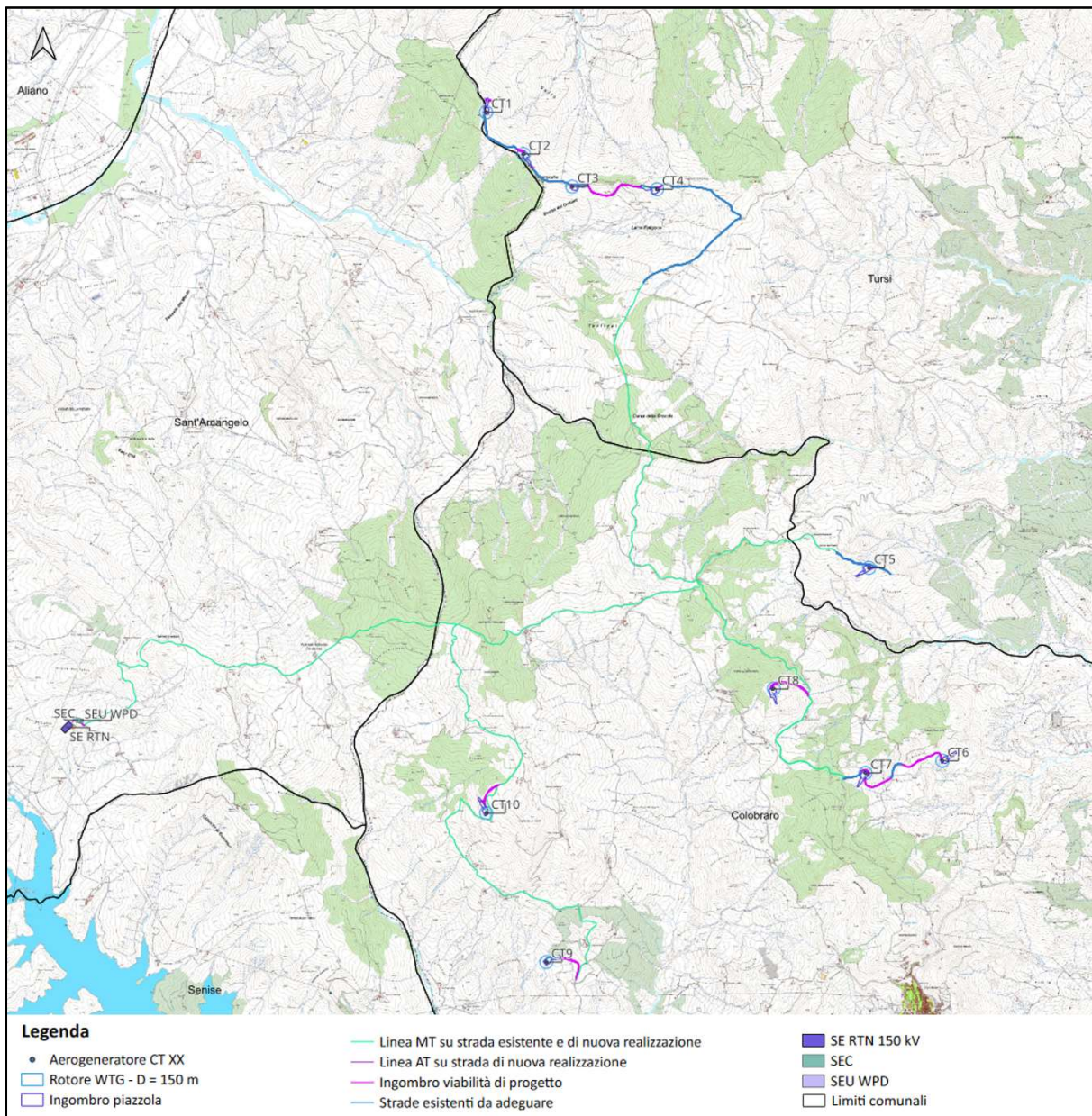


Figura 2.2: Layout d'impianto su CTR

Il Parco eolico risulta suddiviso in tre parti, quella ricadente ad ovest del centro abitato di Colobraro (Zona 1 – rettangolo Rosso), costituita da 2 WTG (Wind Turbine Generator) e che si sviluppa lungo un crinale tra i 400 m e i 700 m s.l.m., in corrispondenza delle C.de Serre, Sirianni, Murge, Santamaria e Cozzo della Croce, quella ricadente a Nord Ovest del centro abitato di Tursi (Zona 2 – rettangolo azzurro), costituita da 4 WTG e che si sviluppa su un altipiano a circa 500 m s.l.m., in corrispondenza della C.da Il Monticello, e quella ricadente in prossimità del confine tra il Comune di Colobraro e il Comune di Tursi (Zona 3 – rettangolo verde), costituita da 4 WTG, che si sviluppa su un altipiano a

circa 500 m s.l.m, in corrispondenza della C.da Cozzo della Lite (Colobraro) e C.da Cozzo di Penne (Tursi) (Figura 2.3 ÷ 2.6).

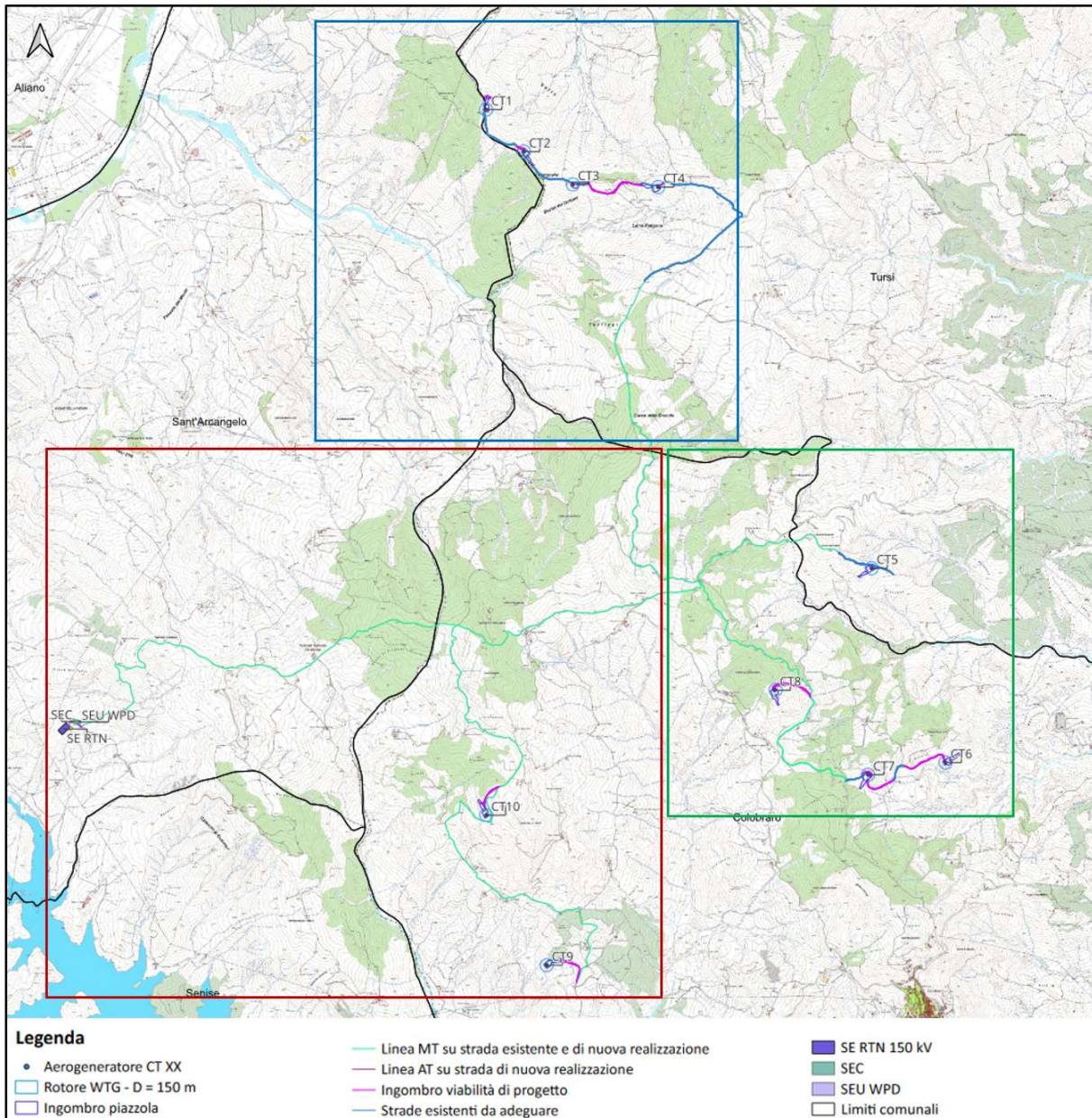


Figura 2.3: Layout d’impianto suddiviso in zone su CTR: Zona 1 - rettangolo rosso, Zona 2 - rettangolo azzurro, Zona 3 - rettangolo verde

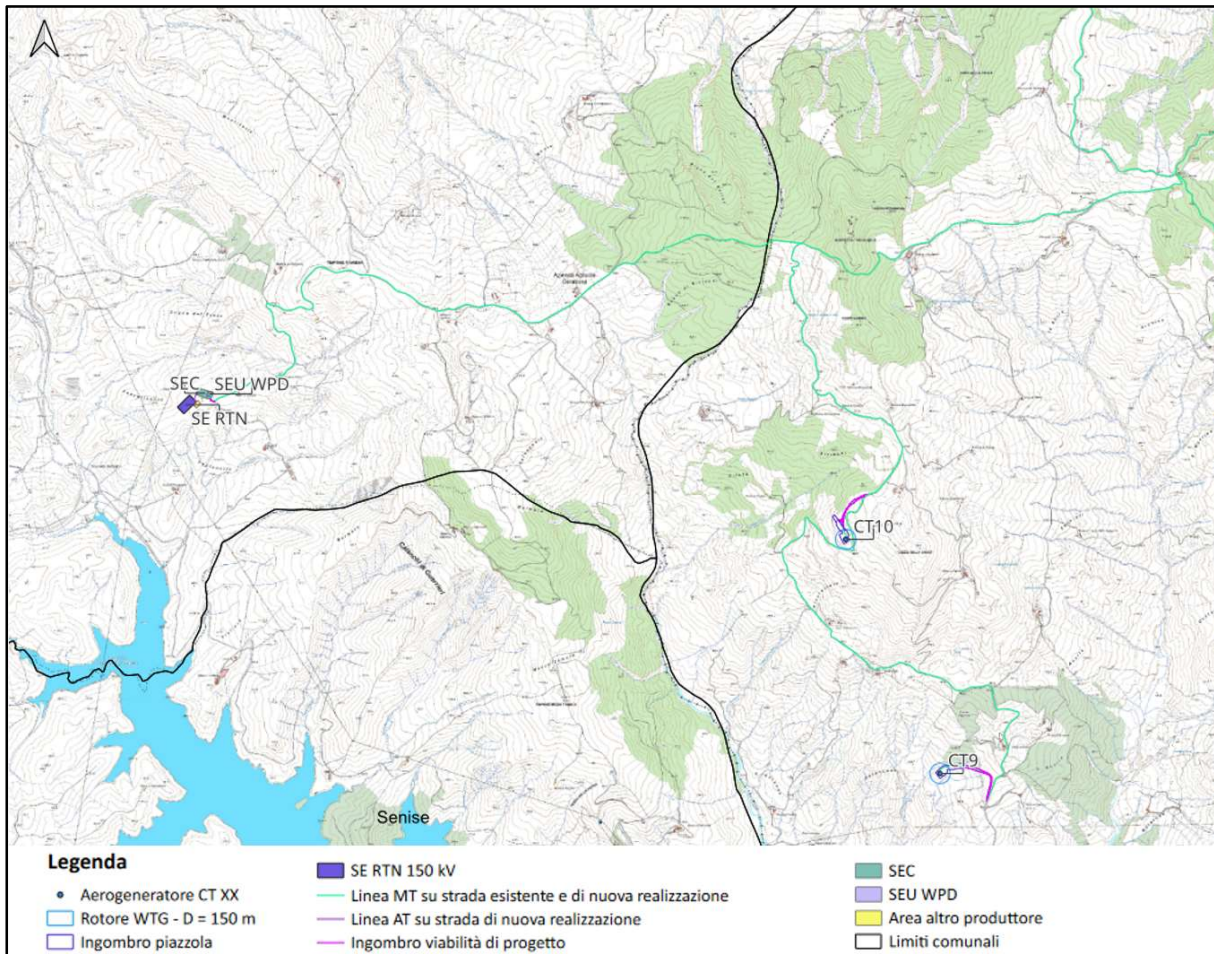


Figura 2.4: Layout d'impianto relativo alla zona 1 su CTR

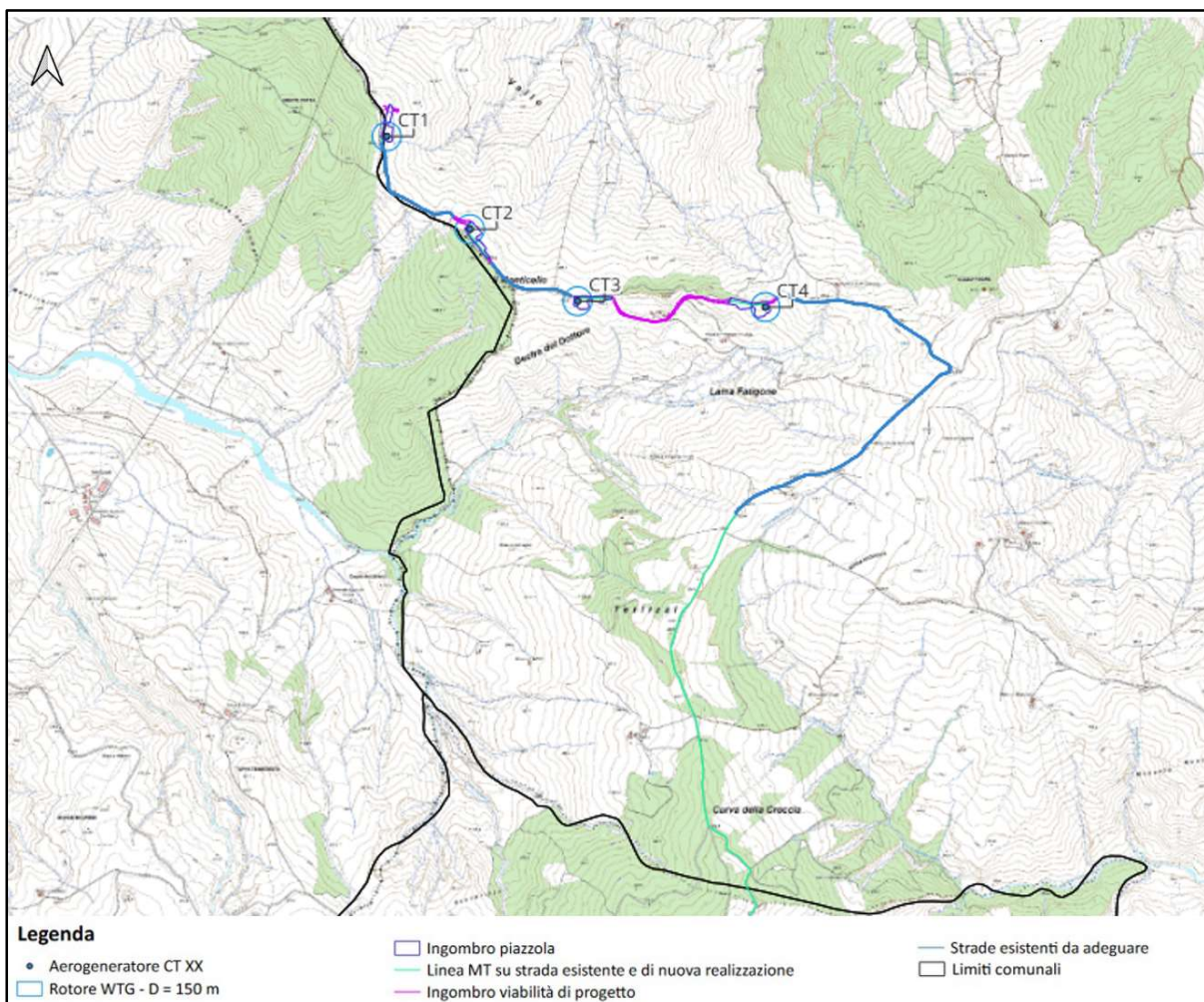


Figura 2.5: Layout d'impianto relativo alla zona 2 su CTR

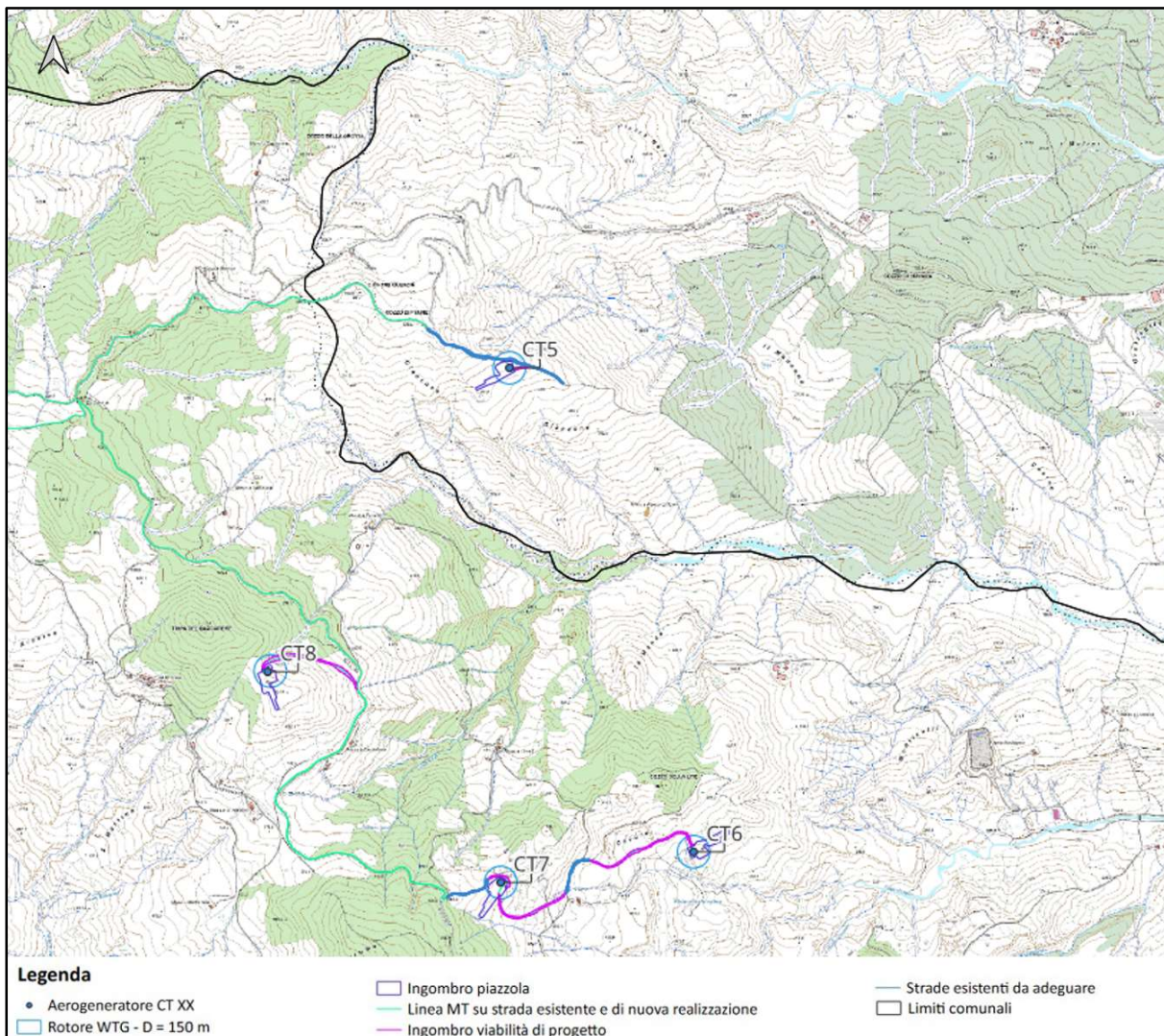


Figura 2.6: Layout d’impianto relativo alla zona 3 su CTR

Le turbine eoliche sono collegate mediante un sistema di linee elettriche interrato di Media Tensione a 30 kV allocate prevalentemente in corrispondenza del sistema di viabilità interna, necessario alla costruzione e alla gestione futura dell’impianto e realizzato prevalentemente adeguando il sistema viario esistente e realizzando nuovi tratti di raccordo per consentire il transito dei mezzi eccezionali.

Le linee elettriche in Media Tensione vengono collegate alla SEU 150/30 kV, posizionata ad Ovest rispetto agli aerogeneratori di progetto.

La soluzione di connessione (Soluzione Tecnica Minima Generale STMG - Codice Pratica (CP) del preventivo di connessione 202000607 del 08.07.2020) prevede che l’impianto eolico venga collegato in antenna a 150 kV su una nuova Stazione Elettrica (SE) di smistamento a 150 kV della RTN nel Comune di Sant’Arcangelo, da inserire in doppio entra – esce alle linee RTN a 150 kV “Aliano – Senise” e “Pisticci – Rotonda”.

Il Gestore ha, inoltre, prescritto che lo stallo assegnato dovrà essere condiviso con altri produttori e, pertanto, la SEU 150/30 kV sarà realizzata all'interno di una stazione in comune con altri produttori e collegata alla Stazione Elettrica RTN Terna mediante una linea in Alta Tensione a 150 kV interrata.

La società proponente ha accettato la soluzione di connessione alla RTN proposta da Terna e, nell'ambito della procedura prevista dal Regolamento del Gestore per la connessione degli impianti alla RTN, ha predisposto il progetto del Parco Eolico Colobraro Tursi e quello relativo a tutte le opere da realizzare per collegamento alla RTN al fine di ottenere il previsto benessere dal Gestore.

L'area di progetto è servita dalla SS 598 (Val D'Agri), per quanto riguarda la parte d'impianto che si sviluppa nel comune di Tursi, e dalla SS 653 (Sinnica), per quanto riguarda la parte d'impianto che si sviluppa nel comune di Colobraro.

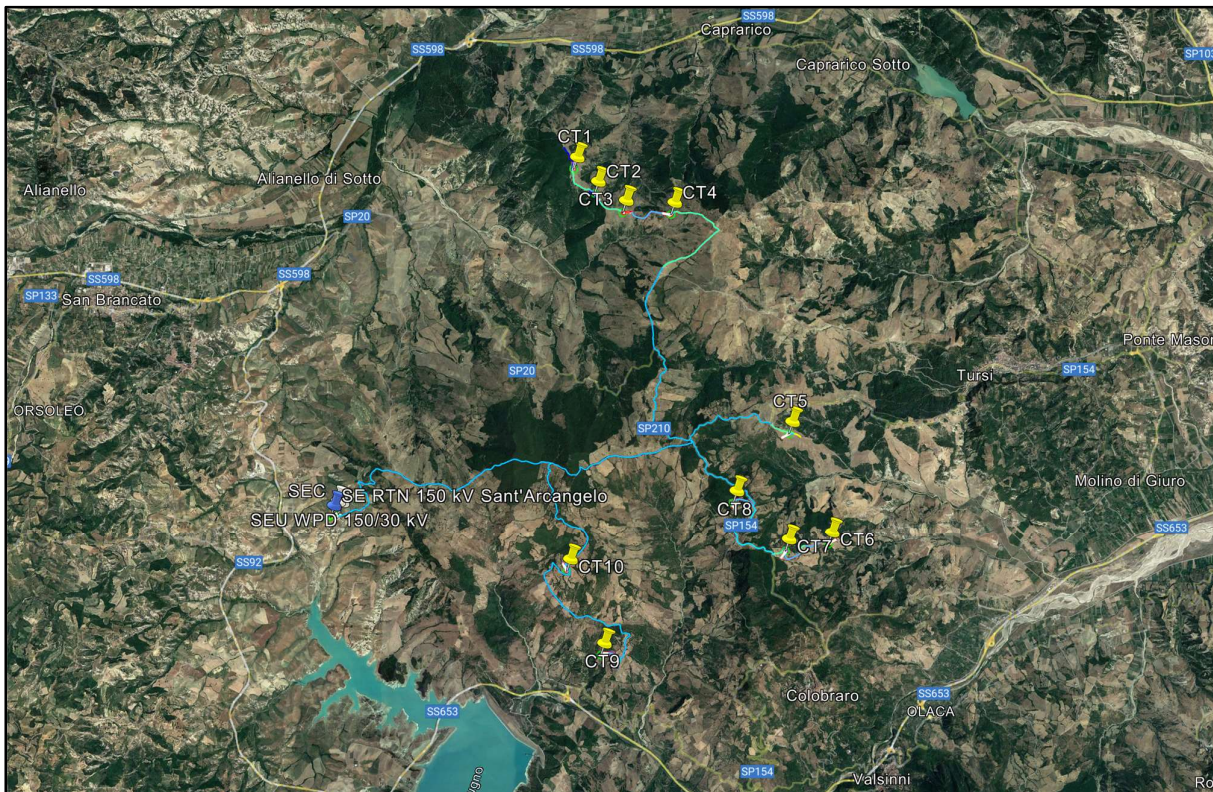


Figura 2.7: Layout d'impianto su immagine satellitare

2.1. Caratteristiche tecniche dell'aerogeneratore

L'aerogeneratore è una macchina rotante che trasforma l'energia cinetica del vento in energia elettrica ed è essenzialmente costituito da una torre (suddivisa in più parti), dalla navicella, dal Drive Train, dall'Hub e tre pale che costituiscono il rotore.

Per il presente progetto una delle possibili macchine che potrebbe essere installata è il modello Vestas V 150, di potenza nominale pari a 6,0 MWp, altezza torre all'hub pari a 125 m e diametro del rotore pari a 150 m (**Figura 2.1.1**).

Oltre ai componenti sopra elencati, un sistema di controllo esegue il controllo della potenza ruotando le pale intorno al proprio asse principale e il controllo dell'orientamento della navicella, detto controllo dell'imbardata, che permette l'allineamento della macchina rispetto alla direzione del vento.

Il rotore, a passo variabile, è in resina epossidica rinforzata con fibra di vetro ed è posto sopravvento al sostegno con mozzo rigido in acciaio.

Altre caratteristiche principali sono riassunte nella **Tabella 2.1.1**.

Le caratteristiche dell'aerogeneratore descritto sono quelle ritenute idonee in base a quanto disponibile oggi sul mercato, in futuro potrà essere possibile cambiare il modello dell'aerogeneratore senza modificare in maniera sostanziale l'impatto ambientale e i limiti di sicurezza previsti.

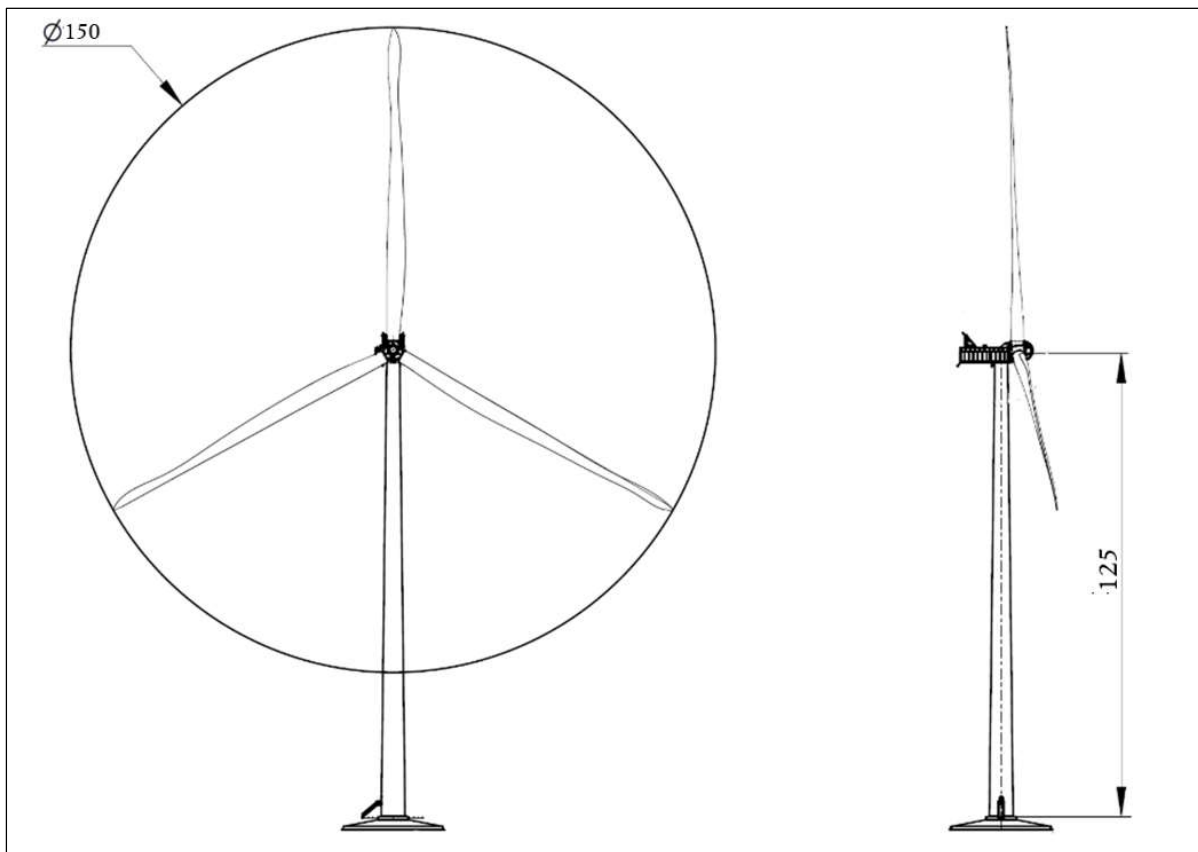


Figura 2.1.1: Profilo aerogeneratore V150 – 6,0 MWp – HH = 125 m – D = 150 m

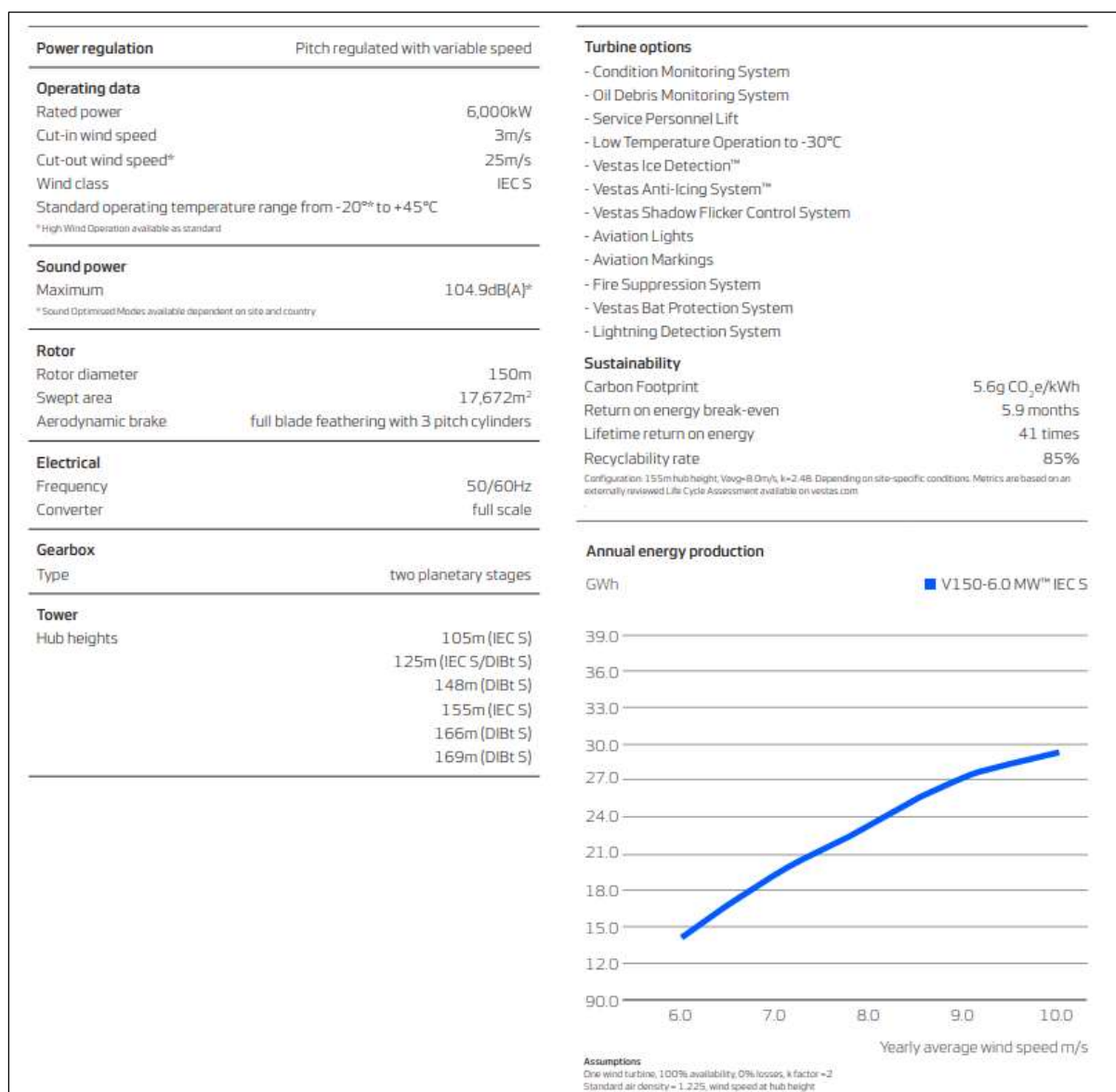


Tabella 2.1.1: Specifiche tecniche aerogeneratore di progetto

2.2. Viabilità e piazzole

La viabilità e le piazzole del parco eolico sono elementi progettati considerando la fase di costruzione e la fase di esercizio dell'impianto eolico.

In merito alla viabilità, come detto sopra, si è cercato di utilizzare il sistema viario esistente adeguandolo al passaggio dei mezzi eccezionali. Tale indirizzo progettuale ha consentito di minimizzare l'impatto sul territorio e di ripristinare tratti di viabilità comunale e interpoderali che si trovano in stato di dissesto migliorando l'accessibilità dei luoghi anche alla popolazione locale.

Nei casi in cui tale approccio non è stato perseguibile sono stati progettati tratti di nuova viabilità seguendo il profilo naturale del terreno senza interferire con il reticolo idrografico presente in sito.

Nella **Figura 2.2.1** è riportata una sezione stradale tipo di riferimento per i tratti di viabilità da adeguare e per quelli di nuova realizzazione.

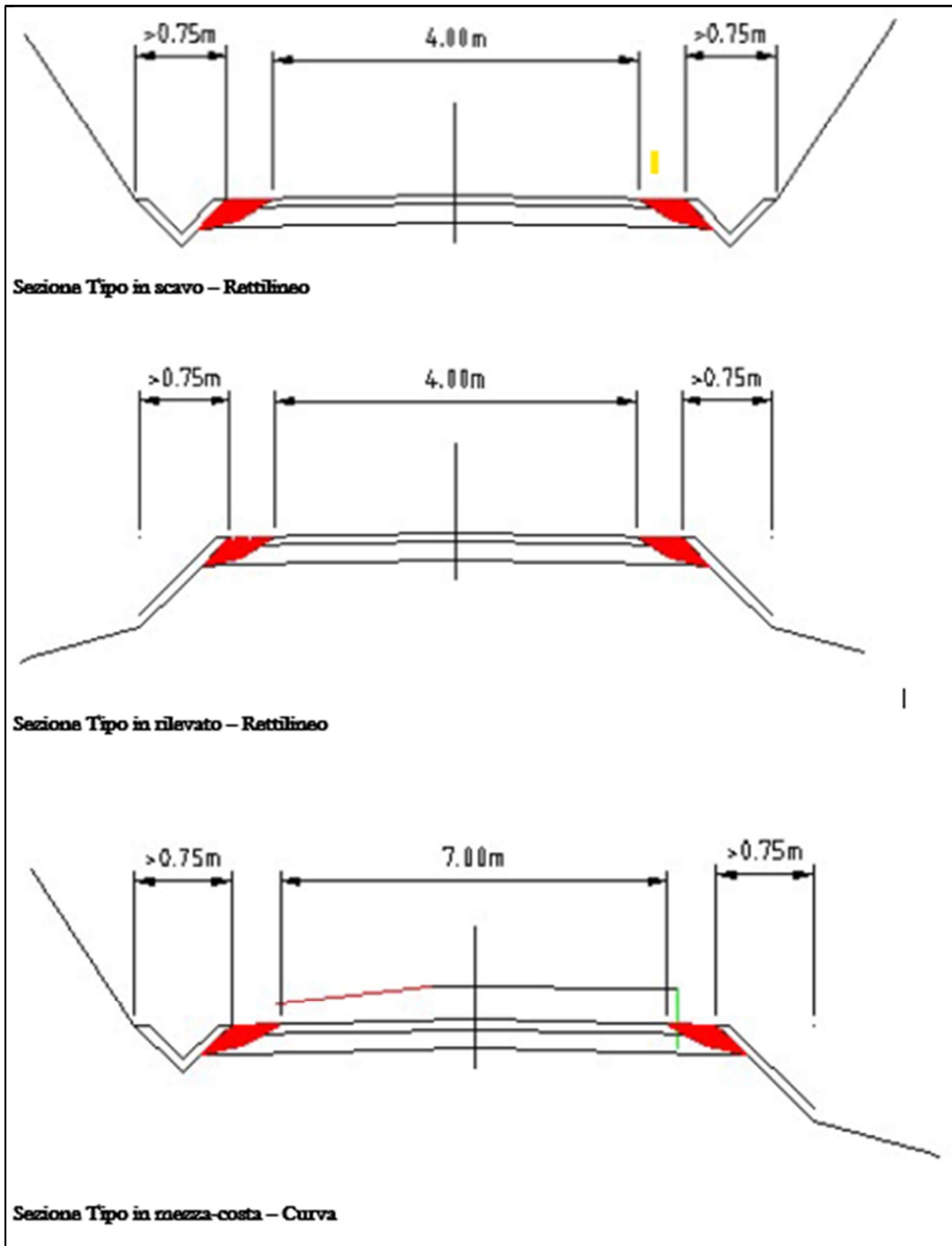


Figura 2.2.1: Sezioni tipo viabilità parco eolico

La progettazione delle piazzole da realizzare per l'installazione di ogni aerogeneratore prevede due configurazioni, la prima necessaria all'installazione dell'aerogeneratore e la seconda, a seguito di opere di ripristino parziale, necessaria alla fase di esercizio e manutenzione dell'impianto (**Figura 2.2.2**).

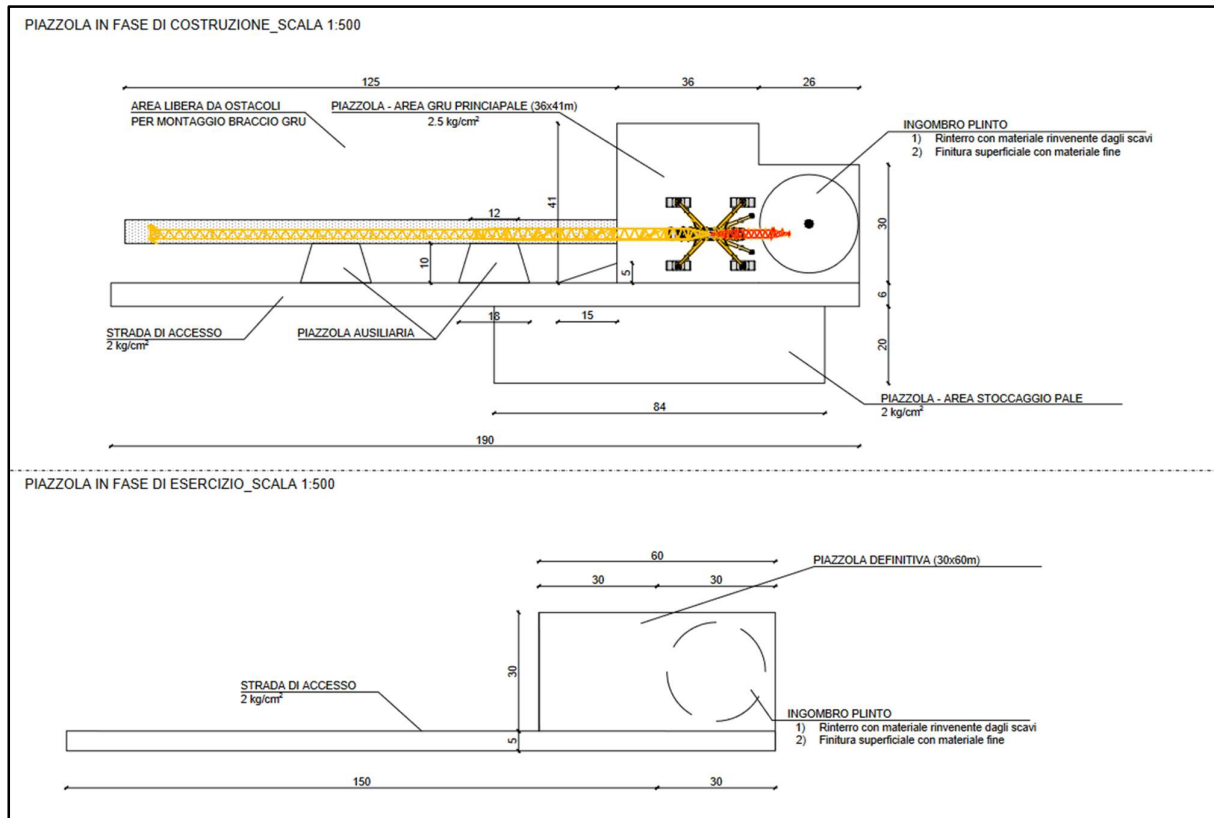


Figura 2.2.2: Planimetria piazzola tipo per la fase di installazione e fase di esercizio e manutenzione

3. CARATTERISTICHE PRINCIPALI DEL PARCO EOLICO

L'impianto eolico sarà costituito essenzialmente da 10 aerogeneratori la cui posizione è stata stabilita a seguito di valutazioni che riguardano diversi aspetti quali l'esposizione a tutti i settori della rosa dei venti, la morfologia del territorio, la distanza da fabbricati e strade esistenti ed utilizzate da un elevato numero di veicoli, distanza dal centro abitato e da beni monumentali presenti nell'area oltre agli aspetti legati alla sicurezza e volti a minimizzare l'impatto sull'ambiente:

- ottemperare alle previsioni della normativa vigente e delle linee guida sia nazionali che regionali;
- minimizzare l'impatto visivo;
- migliorare in sistema viario esistente al fine di migliorare l'accessibilità ai terreni per lo sviluppo dell'agricoltura e dell'allevamento di animali;
- disposizione delle macchine ad una distanza reciproca minima pari ad almeno 450 m, atta a minimizzare l'effetto scia, l'effetto selva e l'impatto sull'avifauna;

- condizioni di massima sicurezza, sia in fase di installazione che di esercizio.

La disposizione finale del parco è stata verificata e confermata a seguito di uno studio di fattibilità condotto sulla base delle informazioni sugli aspetti vincolistici dal punto di vista ambientale e paesaggistico e sulla base dei sopralluoghi svolti sul posto per verificare le interferenze presenti in sito e la fattibilità di realizzazione delle opere.

Si riportano di seguito le coordinate delle posizioni scelte per l'installazione degli aerogeneratori:

ID	Comune	Latitudine [°]	Longitudine [°]	Foglio	Particella
CT01	Tursi	40.282335°	16.368039°	3	37
CT02	Tursi	40.277595°	16.372991°	3	41
CT03	Tursi	40.274128°	16.379539°	32	1
CT04	Tursi	40.273810°	16.391662°	32	50
CT05	Tursi	40.233869°	16.419128°	36	111
CT06	Colobraro	40.213621°	16.428702°	34	149-150
CT07	Colobraro	40.212481°	16.418209°	33	22
CT08	Colobraro	40.221432°	16.405832°	6	96
CT09	Colobraro	40.193271°	16.374365°	16	99
CT10	Colobraro	40.208915°	16.366502°	10	189

Tabella 2.1: Localizzazione planimetrica degli aerogeneratori di progetto

Il progetto prevede l'adeguamento di tratti di strada esistenti, in particolare strade comunali, e la realizzazione di una nuova viabilità a servizio degli aerogeneratori di progetto, ossia di una rete viaria interna al parco che si snoderà seguendo lo sviluppo degli esistenti tratturi non vincolati dalla Soprintendenza.

La disponibilità delle aree, necessaria per l'installazione degli aerogeneratori e le relative opere connesse, è garantita grazie alla Dichiarazione di Pubblica utilità ai sensi degli artt. 52-quater "Disposizioni generali in materia di conformità urbanistica, apposizione del vincolo preordinato all'esproprio e pubblica utilità" e 52-quinquies "Disposizioni particolari per le infrastrutture lineari energetiche facenti parte delle reti energetiche nazionali" D.P.R. 327/2001 a conclusione del procedimento autorizzatorio di cui all'art.12, d.lgs. 387/2003 e gli effetti dell'Autorizzazione Unica ottenuta dopo opportuna conferenza di servizi.

Tutte le aree oggetto interessate dal progetto sono riportate nello specifico elaborato di progetto “CTEG009 Piano Particolare di esproprio descrittivo”.

4. FENOMENO DI SHADOW FLIKERING

La presenza delle turbine eoliche provoca la proiezione dell'ombra sulle aree ad esse adiacenti in presenza di luce solare diretta.

Il fenomeno causa effetti quasi statici dovuti alla presenza della torre fissa ed effetti dinamici legati alla rotazione del rotore delle tre pale della turbina.

Gli effetti statici possono aumentare, nelle prime ed ultime ore del giorno, la probabilità di formazione di ghiaccio su eventuali strade asfaltate soggette a traffico.

Gli effetti dinamici si traducono in una variazione alternata di intensità luminosa che, a lungo andare, può provocare fastidio agli occupanti le abitazioni le cui finestre risultano esposte al fenomeno stesso.

Lo “**shadow flickering**” descrive appunto l'effetto stroboscopico delle ombre proiettate dalle pale rotanti degli aerogeneratori allorché il sole si trova alle loro spalle, come si evince dalla **Figura 4.1**.



Figura 4.1: Ombre proiettate dalle pale in rotazione di una turbina

Il conseguente effetto sugli individui è simile a quello che si sperimenterebbe in seguito alle variazioni di intensità luminosa di una lampada ad incandescenza a causa di continui sbalzi della tensione della rete di alimentazione elettrica.

Lo shadow flickering risulta assente nei casi di presenza di nuvole e nebbia che oscurano il sole e nei casi in cui le pale dell'aerogeneratore sono a riposo (per esempio in assenza del vento).

Per effettuare l'analisi del fenomeno vengono considerati alcuni parametri che ne influenzano la rilevanza.

Il primo di essi da tenere in conto è la frequenza di rotazione delle pale; in particolare, le frequenze che possono provocare un senso di fastidio sono comprese tra i 2,5 ed i 20 Hz.

Solitamente gli aerogeneratori tripala operano ad una velocità di rotazione inferiore ai 35 giri al minuto, corrispondente ad una frequenza di passaggio delle pale sulla verticale inferiore a 1,75 Hz, minore, quindi, della frequenza critica di 2,5 Hz.

Inoltre, i generatori di grande potenza (dal MW in su) raramente superano la velocità di rotazione di 20 giri al minuto, corrispondente a frequenze di passaggio delle pale ampiamente minori di quelle ritenute fastidiose per la maggioranza degli individui.

Un ulteriore aspetto da considerare per l'analisi della durata del fenomeno è la relazione spaziale tra un aerogeneratore ed un ricettore (abitazione), così come la direzione del vento.

Per distanze dell'ordine dei 300 m il fenomeno è più rilevante all'alba oppure al tramonto, ovvero in quelle ore in cui le ombre risultano molto lunghe per effetto della piccola elevazione solare. Al di là di una certa distanza l'effetto delle ombre è meno consistente perché il diametro del sole risulta essere di gran lunga superiore rispetto allo spessore della singola pala.

In questo scenario la condizione più penalizzante corrisponde al caso in cui il piano del rotore risulta essere ortogonale alla congiungente tra sole e ricettore; infatti, in tali condizioni, l'ombra proiettata darà origine ad un cerchio di diametro pari al rotore dell'aerogeneratore.

L'effetto dello shadow flickering risulta evidente e fastidioso in quegli ambienti con finestrate rivolte verso le ombre.

In linea di massima, si può ritenere che l'area soggetta al fenomeno in questione non si estenda oltre i 500 ÷ 1000 m dall'aerogeneratore e le zone a maggiore impatto ricadono entro i 300 m di distanza dalle turbine.

Al fine di analizzare qualitativamente e quantitativamente il fenomeno, risulta necessario individuare la posizione occupata dal sole in maniera univoca tramite due coordinate angolari, azimut ed altezza.

L'azimut per convenzione è l'angolo valutato sul piano orizzontale ed in senso orario, a partire dal nord geografico fino alla proiezione della congiungente (origine del sistema) - sole sul piano orizzontale stesso, ovvero il punto direttamente sotto al sole.

L'altezza o elevazione è misurata sul piano verticale, partendo da tale punto sino ad arrivare in corrispondenza del sole.

Tali coordinate variano con continuità grazie al moto della Terra intorno al sole e la traiettoria descritta nel cielo dal sole è assimilabile ad un arco; ogni giorno si caratterizza per un proprio arco, il quale si discosta, se pur di poco, da quello del giorno immediatamente precedente e successivo.

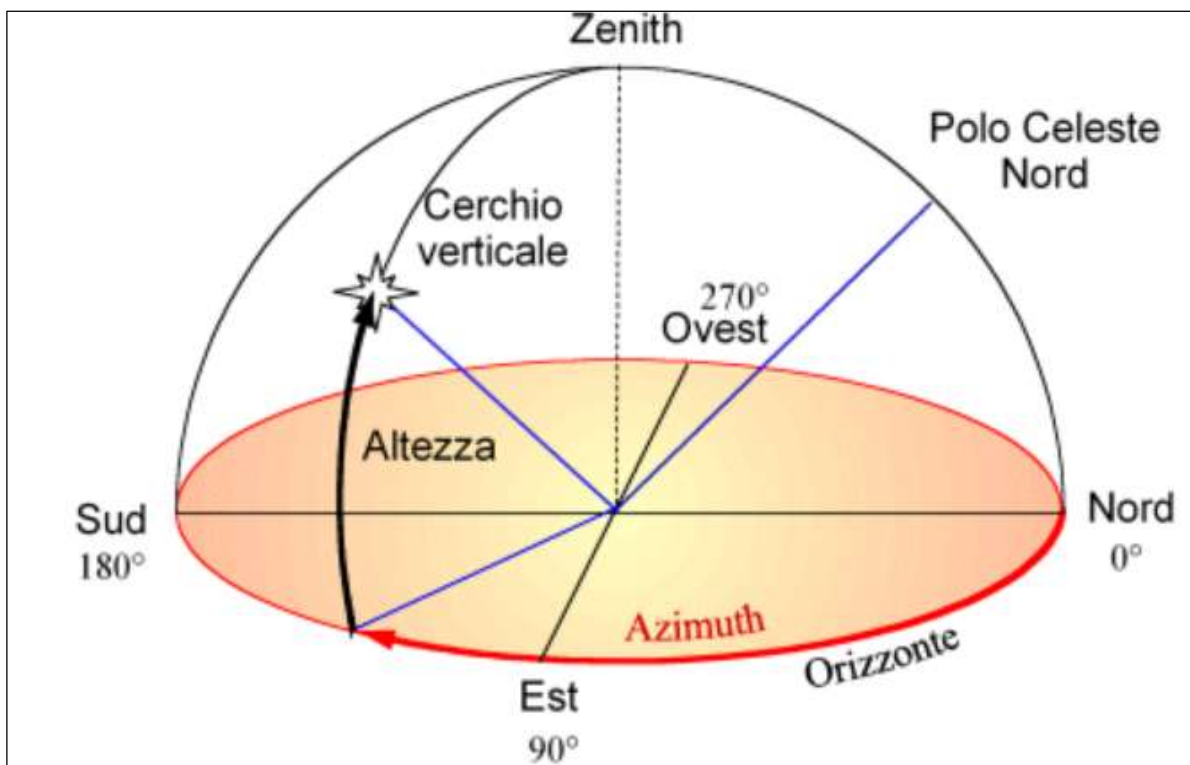


Figura 4.2: Coordinate azimuth ed altezza per identificare la posizione del sole

La durata del giorno non coincide con la durata della luce naturale in quanto prima dell'alba e dopo il tramonto sono individuabili due periodi, detti crepuscolo (rispettivamente crepuscolo mattutino e crepuscolo serale o serotino), durante i quali giunge a terra una luce diffusa naturale fornita dai livelli più esterni dell'atmosfera, i quali, trovandosi a quote più elevate, ricevono luce solare diretta per un tempo più lungo riflettendola in parte verso la terra.

Pertanto, la durata dell'illuminazione del sole è pari alla somma della durata del giorno e della durata del crepuscolo mattutino e serale.

5. RIFERIMENTI NORMATIVI

L'effetto Shadow – Flickering è più pronunciato alle latitudini settentrionali durante i mesi invernali; infatti, soprattutto nel Nord Europa, l'effetto della minore altezza del sole all'orizzonte è più rilevante.

Pertanto, alcuni paesi hanno adottato dei limiti di legge relativi all'esposizione all'effetto in questione.

In Italia non esistono specifiche norme o linee guida che regolamentino il fenomeno e definiscano i limiti di esposizione in termini di ore o giorni all'anno.

Tuttavia, al fine di fornire una valutazione dell'impatto del fenomeno anche in termini quantitativi, si è cercato di mantenere l'esposizione allo shadow – flickering di ogni ricettore al di sotto delle 30 ore annue, parametro considerato di qualità a livello internazionale.

In particolare, la seguente trattazione fa riferimento alle norme e linee guida tedesche, in base alle quali il fenomeno in questione deve essere valutato nei casi seguenti:

- Fino alle distanze in corrispondenza delle quali il rotore dell'aerogeneratore copre il 20 % del disco solare (per distanze superiori a quella menzionata lo shadow-flickering arreca danni considerati trascurabili);
- per angoli del sole sull'orizzonte superiori a 3°;
- ad un'altezza di 2 m dal suolo.

Inoltre, come anticipato, le linee guida tedesche stabiliscono i limiti di esposizione al fenomeno di:

- 30 ore all'anno;
- 30 minuti al giorno.

6. IPOTESI E METODO DI CALCOLO

L'obiettivo della trattazione è la stima quantitativa dell'effetto shadow flickering prodotto dall'impianto eolico, fenomeno per cui si genera una intermittenza dell'ombra a seguito del movimento del rotore dell'aerogeneratore quando in esercizio (in particolare quando il piano del rotore risulta perpendicolare alla congiungente tra l'osservatore e il sole) e che potrebbe risultare fastidioso per un osservatore.

Nell'analisi condotta sono stati considerati 10 aerogeneratori di nuova realizzazione e relativi al progetto del Parco Eolico Colobrarò Tursi.

Gli aerogeneratori di progetto hanno un'altezza al mozzo di 125 m, diametro del rotore di 150 m, potenza nominale di 6 MWp e 8,42 giri al minuto (RPM medio).

La verifica è stata effettuata in corrispondenza di 34 ricettori, rappresentativi di fabbricati di "civile abitazione", riportati nella **Tabella 6.1**, sui quali l'effetto trattato potrebbe avere una certa rilevanza:

Ricettore	Coordinate UTM WGS 84, 33°		Comune	WTG più vicina	Distanza WTG più vicina	Foglio	Particella	Stato accatastament o
	Latitudine	Longitudine						
Rx 09	40.297680°	16.019876°	Colobrarò	CT8	503	5	91	A02
Rx 14	40.291262°	16.031401°	Colobrarò	CT8	556	6	140	A02
Rx 15	40.220883°	16.399969°	Colobrarò	CT8	564	6	263	A03

Ricettore	Coordinate UTM WGS 84, 33°		Comune	WTG più vicina	Distanza WTG più vicina	Foglio	Particella	Stato accatastament o
	Latitudine	Longitudine						
Rx 18	40.216850°	16.403220°	Colobrarò	CT8	637	7	34	A02
Rx 22	40.216882°	16.402866°	Colobrarò	CT8	504	6	158	A03
Rx 26	40.215762°	16.404775°	Colobrarò	CT8	505	6	176	A03
Rx 27	40.218427°	16.410246°	Colobrarò	CT8	510	6	176	A03
Rx 28	40.217404°	16.408879°	Colobrarò	CT6	915	35	55	A04
Rx 30	40.217526°	16.408972°	Colobrarò	CT6	906	34	196	A03
Rx 31	40.205824°	16.425278°	Colobrarò	CT6	933	34	196	A03
Rx 32	40.220891°	16.433588°	Colobrarò	CT6	977	34	196	A03
Rx 33	40.221265°	16.433324°	Colobrarò	CT6	957	34	196	A03
Rx 39	40.221461°	16.433911°	Colobrarò	CT7	643	34	6/239	A03
Rx 40	40.221275°	16.433911°	Colobrarò	CT10	796	9	114/115	A03
Rx 43	40.218280°	16.418271°	Colobrarò	CT10	1032	9	104/59	A03
Rx 45	40.213738°	16.373411°	Colobrarò	CT10	1077	9	135	A04
Rx 46	40.217653°	16.370621°	Colobrarò	CT10	965	10	219	A03
Rx 47	40.218156°	16.370330°	Colobrarò	CT10	561	11	79	N.A.
Rx 57	40.217611°	16.366370°	Colobrarò	CT10	899	11	101	A03
Rx 58	40.212277°	16.371397°	Colobrarò	CT10	919	11	101	A03
Rx 59	40.206856°	16.376691°	Colobrarò	CT10	934	11	101	A03
Rx 60	40.206546°	16.376818°	Colobrarò	CT10	603	17	267	A02
Rx 64	40.206460°	16.376989°	Colobrarò	CT10	628	17	262	A03
Rx 65	40.203651°	16.364859°	Colobrarò	CT9	504	16	252	A03
Rx 70	40.203389°	16.364931°	Colobrarò	CT9	861	16	256	A03
Rx 71	40.195370°	16.379614°	Colobrarò	CT9	854	16	256	A03

Ricettore	Coordinate UTM WGS 84, 33°		Comune	WTG più vicina	Distanza WTG più vicina	Foglio	Particella	Stato accatastament o
	Latitudine	Longitudine						
Rx 73	40.196759°	16.383382°	Colobraro	CT9	611	16	245	A02
Rx 77	40.196532°	16.383391°	Colobraro	CT9	1055	18	179	C02
Rx 78	40.191772°	16.381264°	Colobraro	CT9	1083	18	184	TERRENI
Rx 79	40.188489°	16.363658°	Colobraro	CT9	971	17	182	A03
Rx 82	40.188588°	16.363212°	Colobraro	CT9	878	17	260	TERRENI
Rx 84	40.194077°	16.363002°	Colobraro	CT9	936	17	60	TERRENI
Rx 94	40.200021°	16.368970°	TURSI	CT4	1005	32	155/154	F06
Rx 95	40.200249°	16.368170°	TURSI	CT4	807	32	139	A03

Tabella 6.1: Ricettori oggetto di verifica

La distribuzione dei suddetti ricettori rispetto agli aerogeneratori è riportata nelle figure seguenti:

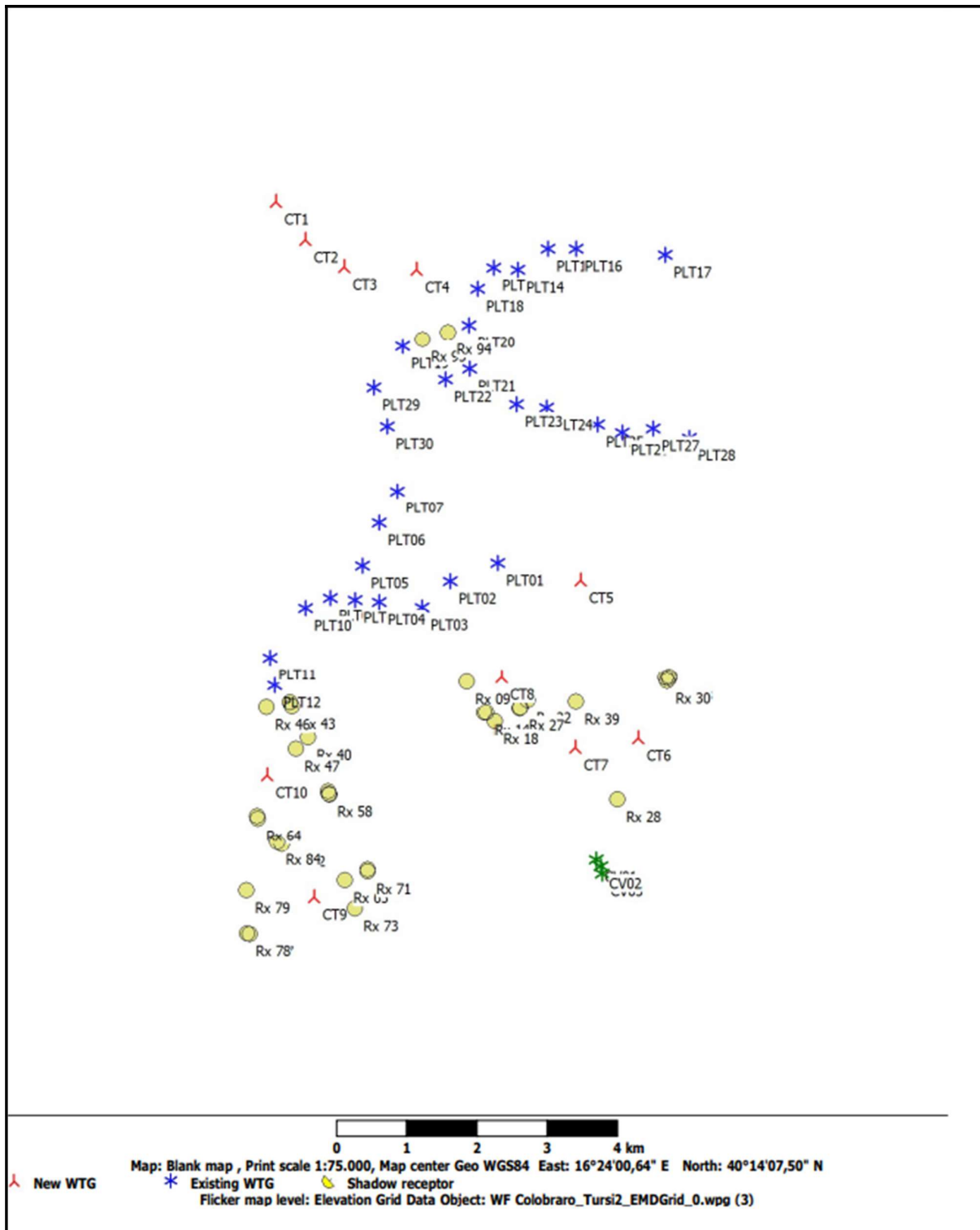


Figura 6.1: Localizzazione dei ricettori rispetto agli aerogeneratori di progetto

Il software impiegato per effettuare la verifica di sicurezza all'effetto shadow flickering è il WindPRO versione 3.5.

Tale software esegue la valutazione di zone di influenza degli aerogeneratori (ZVI), considerando l'orografia del terreno e altezza dell'osservatore (nel caso specifico altezza della finestra di un'abitazione) pari a 2 m, prima di effettuare il calcolo flicker in modo da escludere il contributo di quegli aerogeneratori che non sono visibili dal ricettore.

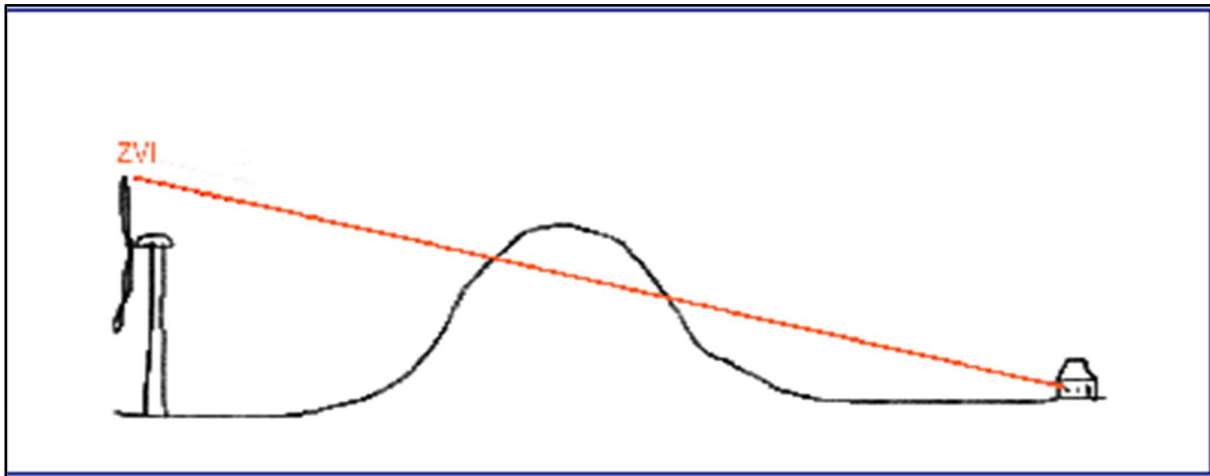


Figura 6.2: Impatto della ZVI, l'orografia del territorio può rendere non visibile l'aerogeneratore al ricettore

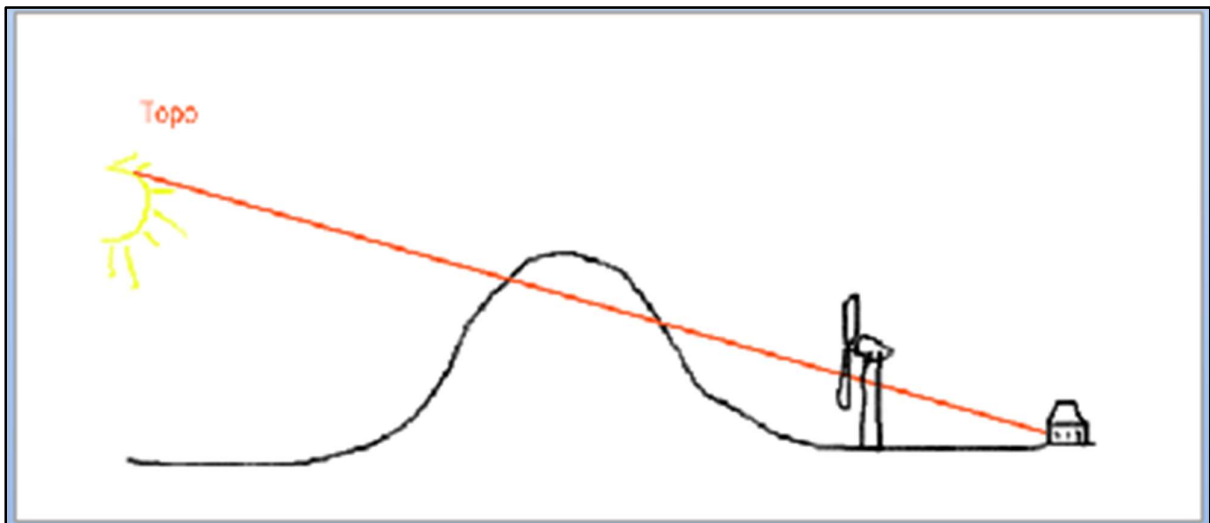


Figura 6.3: Impatto dell'orografia del territorio sull'ombreggiamento

Nella prima stima effettuata (**worst case**) si assumono le seguenti ipotesi restrittive:

- l'impianto eolico sempre in funzione durante le ore di sole;
- altezza minima del sole sull'orizzonte pari a 3° ;
- piano del rotore sempre ortogonale alla congiungente tra l'osservatore e il sole;
- totale assenza di ostacoli o schermi vegetazionali presenti negli spazi circostanti i possibili ricettori e che potrebbero inficiare il fenomeno;

- ricettori in modalità “green house”, ovvero le finestre delle abitazioni attenzionate non orientate in una particolare direzione ma omnidirezionali.

Inoltre, in una seconda stima, allo scopo di pervenire a valori più realistici di impatto (**real case**), si è impiegato il valore di eliofania, che tiene in conto del numero medio di ore di cielo libero da nubi durante il giorno, e le ore di funzionamento degli aerogeneratori in presenza del sole.

Per l’area in esame, è stato considerato il valore medio annuale di 7,40 h come da fonte ISPRA con riferimento al Comune di Aliano e le ore di funzionamento degli aerogeneratori in presenza del sole in funzione della direzione del vento, come riportato nelle tabelle seguenti:

MESE	gen	feb	mar	apr	mag	giu	lug	ago	set	ott	nov	dic
GIORNI	31	28	31	30	31	30	31	31	30	31	30	31
PROB. MEDIA ELIOFANIA	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40

Tabella 6.2: Probabilità medie di eliofania e ore di funzionamento aerogeneratori in presenza del sole

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Somma
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

Tabella 6.3: Ore di funzionamento degli aerogeneratori in presenza del sole in funzione della direzione del vento (ipotesi di funzionamento dell’impianto per 80% del totale ore annue)

Il modello numerico utilizzato, al pari degli altri presenti sul mercato, produce statisticamente un output relativo al valore atteso delle ore d’ombra per anno relativo ai ricettori.

7. CONCLUSIONI

Nella **Figura 7.1** sono rappresentati i ricettori attenzionati rispetto alle posizioni degli aerogeneratori di progetto e gli intervalli delle ore d’ombra per anno ottenute dalla simulazione effettuata nell’area d’impianto.

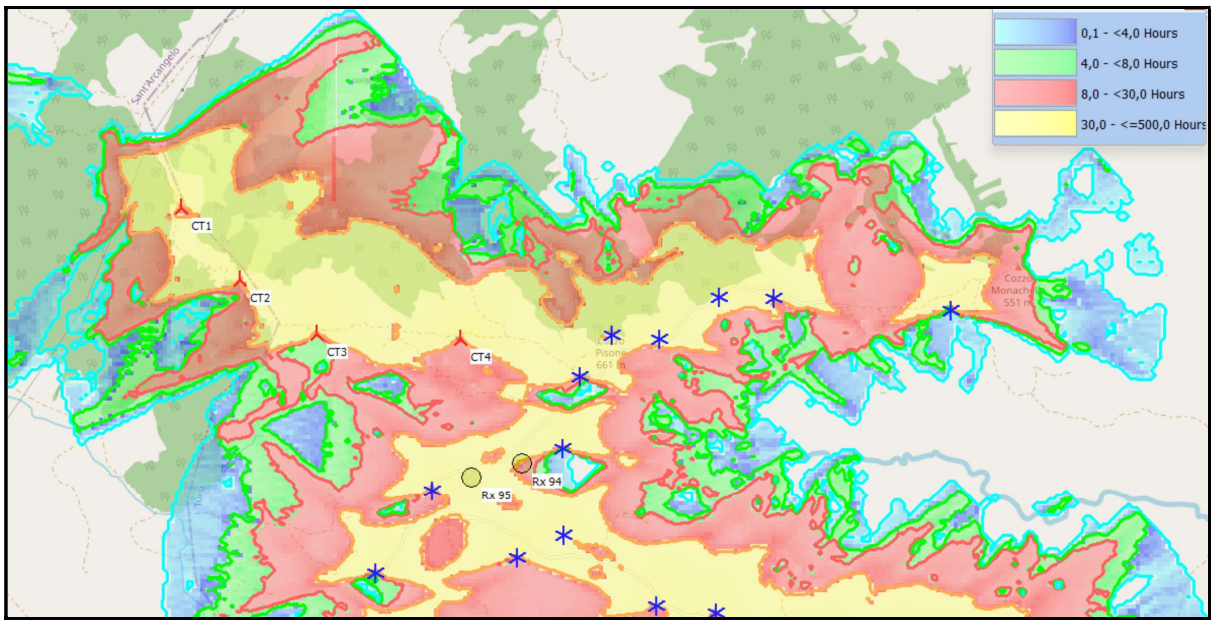


Figura 7.1.1: Localizzazione dei ricettori attenzionati rispetto agli aerogeneratori di progetto e ore d'ombra per anno

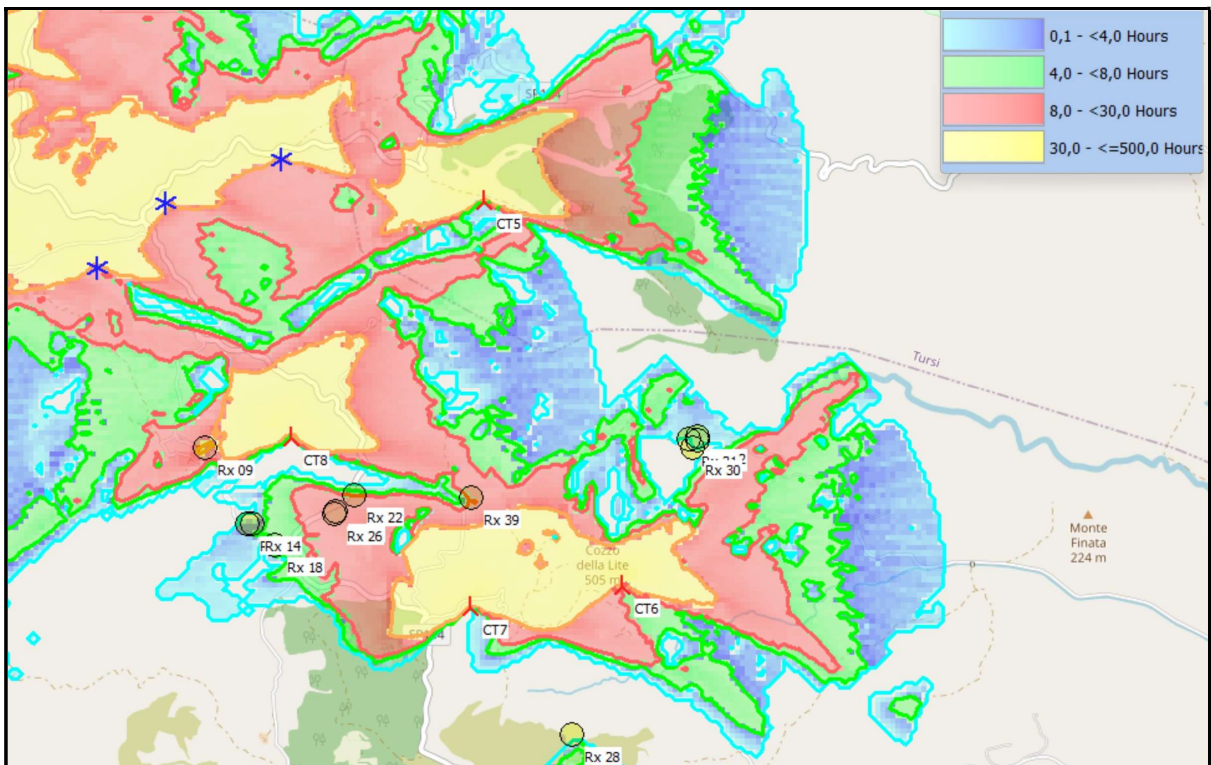


Figura 7.1.2: Localizzazione dei ricettori attenzionati rispetto agli aerogeneratori di progetto e ore d'ombra per anno

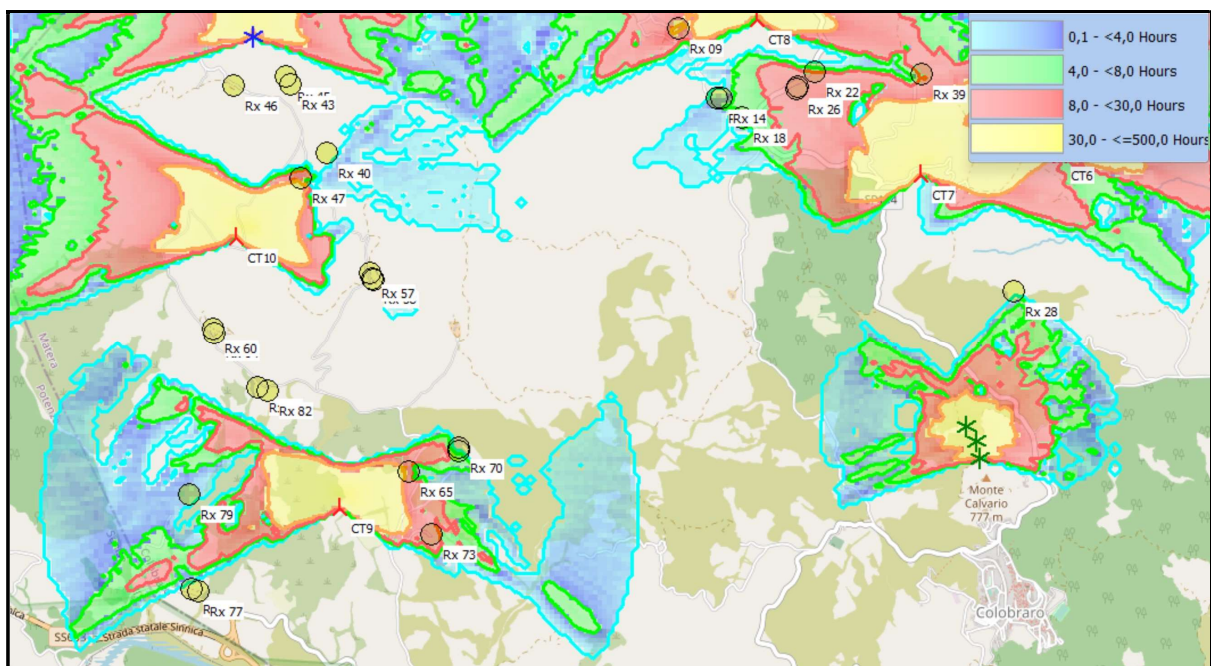


Figura 7.1.3: Localizzazione dei ricettori attenzionati rispetto agli aerogeneratori di progetto e ore d'ombra per anno – zona 3

Nella **Tabella 7.1** si riportano i valori attesi delle ore d'ombra intermittente per anno relativamente ai ricettori considerati nelle ipotesi precedentemente indicate:

Ricettore	ORE/ANNO – WORST CASE	ORE/ANNO – REAL CASE (EXPECTED VALUES)
Rx 09	114:46	35:53
Rx 14	9:33	3:36
Rx 15	9:10	3:27
Rx 18	12:12	4:32
Rx 22	19:25	7:25
Rx 26	47:41	19:04
Rx 27	48:15	19:17
Rx 28	0:00	0:00
Rx 30	0:00	0:00
Rx 31	0:09	0:03
Rx 32	2:16	1:00
Rx 33	1:27	0:38
Rx 39	36:21	11:02
Rx 40	0:00	0:00
Rx 43	0:00	0:00
Rx 45	0:00	0:00
Rx 46	0:00	0:00
Rx 47	63:50	29:48

Ricettore	ORE/ANNO – WORST CASE	ORE/ANNO – REAL CASE (EXPECTED VALUES)
Rx 57	0:00	0:00
Rx 58	0:00	0:00
Rx 59	0:00	0:00
Rx 60	0:00	0:00
Rx 64	0:00	0:00
Rx 65	54:26	24:29
Rx 70	0:00	0:00
Rx 71	13:29	5:56
Rx 73	76:02	21:31
Rx 77	0:00	0:00
Rx 78	0:00	0:00
Rx 79	6:46	2:20
Rx 82	0:00	0:00
Rx 84	0:00	0:00
Rx 94	60:35	21:59
Rx 95	148:49	52:38

Tabella 7.1: Ore d'ombra intermittente per anno sui ricettori nel worst case e real case

Dai risultati riportati nella **Tabella 7.1** si evince che, nelle ipotesi precedentemente elencate e con riferimento al real case, per i ricettori attenzionati, il valore atteso delle ore d'ombra intermittente per anno è inferiore al valore di 30 ore/anno, parametro considerato di qualità a livello internazionale, eccetto che per i ricettori Rx 09 e Rx 95.

Tuttavia, come si evince dall'allegato Real Case, il parco eolico "Colobrarò Tursi" non genera effetto di Shadow Flickering sul ricettore Rx 95.

Per il ricettore Rx 09, la seguente figura mostra come tra il ricettore e l'aerogeneratore CT8 si interpone una fitta vegetazione esistente che tende ad attenuare il fenomeno delle ombreggiature intermittenti.



Figura 7.2: Localizzazione del ricettore Rx 09 rispetto all' aerogeneratore CT8

Come l'immagine precedentemente riportata evidenzia, l'immobile Rx 09 risulta essere schermato dagli alberi presenti nelle vicinanze e nella direzione verso l'aerogeneratore.

Tale situazione non è presa in considerazione nel calcolo sopra riportato e, pertanto, è possibile ritenere che l'effetto dello shadow flickering sull'immobile di cui sopra sia molto più attenuato di quello stimato.

Come detto, nell'analisi condotta sono state adottate ipotesi molto restrittive, tra le quali quella secondo cui l'impianto sia sempre in funzione durante le ore di sole, il piano del rotore sempre ortogonale alla congiungente tra l'osservatore e il sole e ci sia totale assenza di ostacoli o schermi vegetazionali presenti negli spazi circostanti i possibili ricettori e che potrebbero attenuare il fenomeno.

Nella stima effettuata è stata considerata l'ulteriore ipotesi conservativa secondo la quale i ricettori siano in modalità "green house", ovvero le finestre delle abitazioni attenzionate siano omnidirezionali, situazione non sempre verificata nella realtà.

Nello scenario reale ci si aspetta che il fenomeno, quindi, risulti ulteriormente meno rilevante di quello a cui ha condotto la stima effettuata.

Pertanto, si può ragionevolmente affermare che l'effetto shadow flickering non abbia un impatto negativo sul territorio circostante, in particolare sui fabbricati adibiti a "civile abitazione".

**8. ALLEGATO 1: SHADOW – MAIN RESULT – ELABORAZIONE MEDIANTE IL SOFTWARE
WINDPRO 3.4 – WORST CASE**

SHADOW - Main Result

Calculation: Worst Case

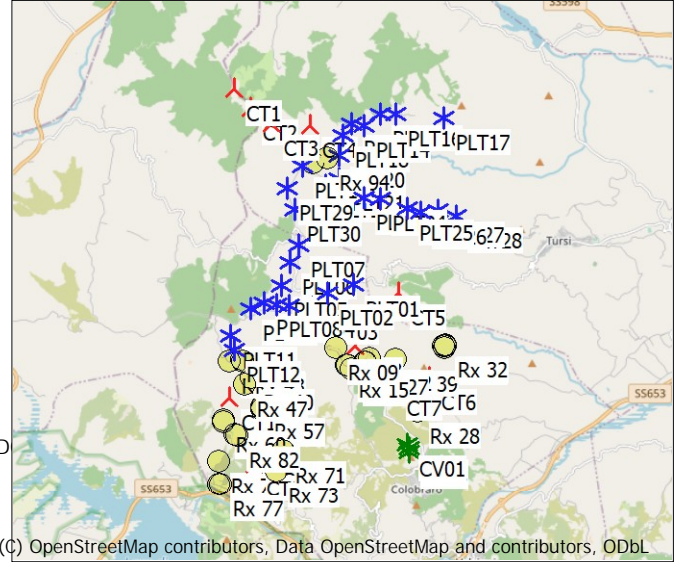
Assumptions for shadow calculations

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: Elevation Grid Data Object: WF Colobraro_Tursi2_EMD
Obstacles used in calculation
Receptor grid resolution: 1,0 m
Topographic shadow included in calculation

All coordinates are in
Geo [deg,min,sec]-WGS84



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL
Scale 1:200.000
New WTG Existing WTG Shadow receptor

WTGs

	Longitude	Latitude	Z	Row data/Description	WTG type			Shadow data					
					Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Calculation distance [m]	RPM [RPM]	
CT1	16°22'04,94" E	40°16'56,40" N	466,8	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0	
CT10	16°21'59,41" E	40°12'32,09" N	645,2	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0	
CT2	16°22'22,77" E	40°16'39,34" N	476,9	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0	
CT3	16°22'46,34" E	40°16'26,86" N	491,2	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0	
CT4	16°23'29,98" E	40°16'25,72" N	520,6	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0	
CT5	16°25'08,86" E	40°14'01,93" N	493,1	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0	
CT6	16°25'43,33" E	40°12'49,04" N	399,6	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0	
CT7	16°25'05,55" E	40°12'44,93" N	558,0	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0	
CT8	16°24'20,99" E	40°13'17,17" N	643,9	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0	
CT9	16°22'27,71" E	40°11'35,78" N	336,8	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0	
CV01	16°25'18,06" E	40°11'52,85" N	783,7	VESTAS V52 850 52....	No	VESTAS	V52-850	850	52,0	65,0	969	26,0	
CV02	16°25'20,74" E	40°11'49,84" N	777,0	VESTAS V52 850 52....	No	VESTAS	V52-850	850	52,0	65,0	969	26,0	
CV03	16°25'21,52" E	40°11'46,36" N	770,3	VESTAS V52 850 52....	No	VESTAS	V52-850	850	52,0	65,0	969	26,0	
PLT01	16°24'18,56" E	40°14'10,05" N	579,0	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT02	16°23'49,84" E	40°14'01,79" N	648,4	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT03	16°23'32,72" E	40°13'49,52" N	695,2	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT04	16°23'06,88" E	40°13'52,85" N	720,6	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT05	16°22'57,02" E	40°14'08,78" N	697,9	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT06	16°23'07,05" E	40°14'28,46" N	656,4	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT07	16°23'17,91" E	40°14'43,52" N	631,6	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT08	16°22'52,32" E	40°13'52,85" N	754,4	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT09	16°22'37,48" E	40°13'53,78" N	764,5	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT10	16°22'22,64" E	40°13'49,22" N	786,9	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT11	16°22'01,26" E	40°13'26,47" N	810,0	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT12	16°22'04,05" E	40°13'13,62" N	788,4	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT13	16°24'16,29" E	40°16'26,76" N	657,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT14	16°24'30,90" E	40°16'25,80" N	597,3	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT15	16°24'49,20" E	40°16'35,35" N	545,9	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT16	16°25'05,99" E	40°16'35,18" N	554,2	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT17	16°25'59,82" E	40°16'32,36" N	560,9	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT18	16°24'06,56" E	40°16'17,06" N	623,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT19	16°23'21,52" E	40°15'50,47" N	550,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT20	16°24'01,40" E	40°16'00,41" N	606,1	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT21	16°24'01,73" E	40°15'39,95" N	626,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT22	16°23'47,29" E	40°15'34,97" N	594,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT23	16°24'30,12" E	40°15'23,67" N	586,1	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	
PLT24	16°24'48,31" E	40°15'22,17" N	569,1	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9	

To be continued on next page...

SHADOW - Main Result

Calculation: Worst Case

...continued from previous page

	Longitude	Latitude	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
PLT25	16°25'19,04" E	40°15'14,39" N	552,8	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT26	16°25'33,87" E	40°15'10,71" N	531,1	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT27	16°25'52,61" E	40°15'12,57" N	491,6	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT28	16°26'14,39" E	40°15'08,22" N	493,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT29	16°23'04,10" E	40°15'31,38" N	566,3	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT30	16°23'12,18" E	40°15'13,50" N	561,5	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9

Shadow receptor-Input

No.	Longitude	Latitude	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Rx 09	16°23'59,89" E	40°13'15,18" N	593,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 14	16°24'11,60" E	40°13'00,75" N	578,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 15	16°24'10,36" E	40°13'00,73" N	575,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 18	16°24'17,12" E	40°12'56,76" N	579,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 22	16°24'36,86" E	40°13'06,36" N	549,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 26	16°24'31,96" E	40°13'02,66" N	547,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 27	16°24'32,30" E	40°13'03,09" N	549,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 28	16°25'30,97" E	40°12'21,00" N	483,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 30	16°26'00,97" E	40°13'15,34" N	330,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 31	16°25'59,84" E	40°13'16,77" N	322,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 32	16°26'02,10" E	40°13'17,38" N	323,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 33	16°26'02,08" E	40°13'16,59" N	326,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 39	16°25'05,80" E	40°13'05,86" N	453,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 40	16°22'24,35" E	40°12'49,48" N	677,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 43	16°22'14,29" E	40°13'03,63" N	752,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 45	16°22'13,22" E	40°13'05,41" N	756,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 46	16°21'58,93" E	40°13'03,40" N	718,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 47	16°22'17,07" E	40°12'44,25" N	708,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 57	16°22'36,15" E	40°12'24,70" N	618,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 58	16°22'36,58" E	40°12'23,63" N	618,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 59	16°22'37,07" E	40°12'23,24" N	618,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 60	16°21'53,51" E	40°12'13,21" N	511,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 64	16°21'53,82" E	40°12'12,22" N	503,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 65	16°22'46,59" E	40°11'43,39" N	441,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 70	16°23'00,18" E	40°11'48,33" N	428,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 71	16°23'00,18" E	40°11'47,58" N	431,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 73	16°22'52,55" E	40°11'30,38" N	362,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 77	16°21'49,20" E	40°11'18,61" N	216,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 78	16°21'47,60" E	40°11'19,05" N	217,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 79	16°21'46,92" E	40°11'38,70" N	292,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 82	16°22'08,29" E	40°12'00,08" N	459,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 84	16°22'05,41" E	40°12'00,89" N	457,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 94	16°23'48,93" E	40°15'56,87" N	570,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 95	16°23'33,33" E	40°15'53,56" N	545,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0

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]
Rx 09	114:46	180	0:58
Rx 14	9:33	36	0:24
Rx 15	9:10	36	0:23
Rx 18	12:12	39	0:28
Rx 22	19:25	44	0:33
Rx 26	47:41	94	0:38
Rx 27	48:15	90	0:38
Rx 28	0:00	0	0:00
Rx 30	0:00	0	0:00

To be continued on next page...

SHADOW - Main Result

Calculation: Worst Case

...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]
Rx 31	0:09	6	0:02
Rx 32	2:16	18	0:12
Rx 33	1:27	16	0:09
Rx 39	36:21	103	0:32
Rx 40	0:00	0	0:00
Rx 43	0:00	0	0:00
Rx 45	0:00	0	0:00
Rx 46	0:00	0	0:00
Rx 47	63:50	74	1:04
Rx 57	0:00	0	0:00
Rx 58	0:00	0	0:00
Rx 59	0:00	0	0:00
Rx 60	0:00	0	0:00
Rx 64	0:00	0	0:00
Rx 65	54:26	122	0:44
Rx 70	0:00	0	0:00
Rx 71	13:29	56	0:22
Rx 73	76:02	127	0:45
Rx 77	0:00	0	0:00
Rx 78	0:00	0	0:00
Rx 79	6:46	36	0:16
Rx 82	0:00	0	0:00
Rx 84	0:00	0	0:00
Rx 94	60:35	133	0:48
Rx 95	148:49	222	1:13

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

No.	Name	Worst case [h/year]
CT1	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (1)	0:00
CT10	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (10)	63:50
CT2	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (2)	0:00
CT3	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (3)	0:00
CT4	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (4)	0:00
CT5	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (5)	0:00
CT6	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (6)	8:09
CT7	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (7)	96:03
CT8	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (8)	137:25
CT9	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (9)	137:14
CV01	VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (14)	0:00
CV02	VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (15)	0:00
CV03	VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (16)	0:00
PLT01	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (17)	0:00
PLT02	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (18)	0:00
PLT03	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (19)	0:00
PLT04	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (20)	0:00
PLT05	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (21)	0:00
PLT06	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (22)	0:00
PLT07	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (23)	0:00
PLT08	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (24)	0:00
PLT09	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (25)	0:00
PLT10	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (26)	0:00
PLT11	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (27)	0:00
PLT12	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (28)	0:00
PLT13	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (29)	0:00
PLT14	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (30)	0:00
PLT15	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (31)	0:00
PLT16	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (32)	0:00
PLT17	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (33)	0:00
PLT18	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (34)	0:00
PLT19	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (35)	108:06
PLT20	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (36)	69:24

To be continued on next page...

Project:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via G. Garibaldi, 15
IT-74023 Grottaglie (TA)

Gaetano D'Oronzio / info@gecodor.it
Calculated:
25/07/2023 13:11/3.5.587

SHADOW - Main Result

Calculation: Worst Case

...continued from previous page

No.	Name	Worst case [h/year]
PLT21	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (37)	17:10
PLT22	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (38)	0:00
PLT23	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (39)	0:00
PLT24	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (40)	0:00
PLT25	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (41)	0:00
PLT26	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (42)	0:00
PLT27	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (43)	0:00
PLT28	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (44)	0:00
PLT29	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (45)	10:21
PLT30	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (46)	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

SHADOW - Calendar

Calculation: Worst Case Shadow receptor: Rx 09 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:17 16:39		07:05 17:13	06:30 17:46	06:40 19:18			05:56 19:49		07:16 (CT8) 08:05 (CT8)	05:28 20:18		07:05 (CT8) 07:58 (CT8)
2	07:18 16:40		07:04 17:14	06:29 17:47	06:39 19:19			05:55 19:50	49	07:15 (CT8) 08:05 (CT8)	05:27 20:18	53	07:06 (CT8) 07:58 (CT8)
3	07:18 16:41		07:03 17:15	06:27 17:48	06:37 19:20			05:53 19:51	50	07:14 (CT8) 08:05 (CT8)	05:27 20:19	52	07:06 (CT8) 07:57 (CT8)
4	07:18 16:42		07:02 17:16	06:25 17:49	06:36 19:21			05:52 19:52	51	07:13 (CT8) 08:05 (CT8)	05:27 20:20	51	07:07 (CT8) 07:57 (CT8)
5	07:18 16:43	07:40 (CT7) 1	07:01 17:17	06:24 17:50	06:34 19:22			05:51 19:53	52	07:13 (CT8) 08:05 (CT8)	05:26 20:20	49	07:08 (CT8) 07:57 (CT8)
6	07:18 16:43	07:39 (CT7) 1	07:00 17:19	06:22 17:51	06:32 19:24			05:50 19:54	52	07:12 (CT8) 08:05 (CT8)	05:26 20:21	49	07:07 (CT8) 07:56 (CT8)
7	07:18 16:44	07:39 (CT7) 2	06:59 17:20	06:21 17:52	06:31 19:25			05:49 19:55	53	07:11 (CT8) 08:05 (CT8)	05:26 20:22	48	07:08 (CT8) 07:56 (CT8)
8	07:18 16:45	07:39 (CT7) 3	06:58 17:21	06:19 17:53	06:29 19:26			05:47 19:56	54	07:11 (CT8) 08:05 (CT8)	05:26 20:22	47	07:09 (CT8) 07:56 (CT8)
9	07:18 16:46	07:39 (CT7) 4	06:57 17:22	06:18 17:54	06:28 19:27			05:46 19:57	54	07:10 (CT8) 08:05 (CT8)	05:25 20:23	46	07:10 (CT8) 07:56 (CT8)
10	07:17 16:47	07:39 (CT7) 5	06:56 17:23	06:16 17:55	06:26 19:28			05:45 19:58	55	07:10 (CT8) 08:05 (CT8)	05:25 20:23	46	07:10 (CT8) 07:56 (CT8)
11	07:17 16:48	07:38 (CT7) 6	06:54 17:25	06:15 17:57	06:25 19:29			05:44 19:59	56	07:09 (CT8) 08:05 (CT8)	05:25 20:24	45	07:11 (CT8) 07:56 (CT8)
12	07:17 16:49	07:44 (CT7) 7	06:53 17:26	06:13 17:58	06:23 19:30			05:43 20:00	56	07:08 (CT8) 08:04 (CT8)	05:25 20:24	45	07:11 (CT8) 07:56 (CT8)
13	07:17 16:50	07:38 (CT7) 8	06:52 17:27	06:11 17:59	06:21 19:31			05:42 20:01	56	07:08 (CT8) 08:04 (CT8)	05:25 20:25	44	07:12 (CT8) 07:56 (CT8)
14	07:16 16:52	07:37 (CT7) 8	06:51 17:28	06:10 18:00	06:20 19:32	07:33 (CT8) 8	05:41 07:41 (CT8)	05:41 20:02	57	07:07 (CT8) 08:04 (CT8)	05:25 20:25	44	07:12 (CT8) 07:56 (CT8)
15	07:16 16:53	07:45 (CT7) 9	06:49 17:29	06:08 18:01	06:18 19:33	07:30 (CT8) 18	05:40 07:48 (CT8)	05:40 20:03	57	07:30 (CT8) 08:03 (CT8)	05:40 20:26	43	07:13 (CT8) 07:56 (CT8)
16	07:16 16:54	07:36 (CT7) 10	06:48 17:31	06:07 18:02	06:17 19:34	07:28 (CT8) 23	05:39 07:51 (CT8)	05:39 20:04	56	07:06 (CT8) 08:03 (CT8)	05:25 20:26	43	07:13 (CT8) 07:56 (CT8)
17	07:15 16:55	07:36 (CT7) 11	06:47 17:32	06:05 18:03	06:15 19:35	07:28 (CT8) 26	05:38 07:54 (CT8)	05:38 20:05	57	07:05 (CT8) 08:02 (CT8)	05:25 20:27	43	07:13 (CT8) 07:56 (CT8)
18	07:15 16:56	07:47 (CT7) 11	06:46 17:33	06:03 18:04	06:14 19:36	07:26 (CT8) 29	05:37 07:55 (CT8)	05:37 20:06	57	07:05 (CT8) 08:02 (CT8)	05:25 20:27	43	07:13 (CT8) 07:56 (CT8)
19	07:14 16:57	07:35 (CT7) 12	06:44 17:34	06:02 18:05	06:12 19:37	07:26 (CT8) 31	05:36 07:57 (CT8)	05:36 20:07	57	07:05 (CT8) 08:02 (CT8)	05:25 20:27	42	07:14 (CT8) 07:56 (CT8)
20	07:14 16:58	07:34 (CT7) 12	06:43 17:35	06:00 18:06	06:11 19:38	07:24 (CT8) 34	05:36 07:58 (CT8)	05:36 20:08	58	07:04 (CT8) 08:02 (CT8)	05:25 20:27	42	07:14 (CT8) 07:56 (CT8)
21	07:13 16:59	07:34 (CT7) 13	06:42 17:36	05:58 18:07	06:09 19:39	07:24 (CT8) 36	05:35 08:00 (CT8)	05:35 20:09	57	07:04 (CT8) 08:01 (CT8)	05:25 20:28	42	07:14 (CT8) 07:56 (CT8)
22	07:13 17:01	07:34 (CT7) 12	06:40 17:38	05:57 18:08	06:08 19:40	07:23 (CT8) 38	05:34 08:01 (CT8)	05:34 20:09	58	07:03 (CT8) 08:01 (CT8)	05:25 20:28	42	07:15 (CT8) 07:57 (CT8)
23	07:12 17:02	07:33 (CT7) 12	06:39 17:39	05:55 18:09	06:07 19:41	07:22 (CT8) 39	05:33 08:01 (CT8)	05:33 20:10	58	07:03 (CT8) 08:01 (CT8)	05:26 20:28	42	07:15 (CT8) 07:57 (CT8)
24	07:11 17:03	07:34 (CT7) 11	06:37 17:40	05:54 18:10	06:05 19:42	07:21 (CT8) 41	05:33 08:02 (CT8)	05:33 20:11	58	07:03 (CT8) 08:00 (CT8)	05:26 20:28	42	07:15 (CT8) 07:57 (CT8)
25	07:11 17:04	07:35 (CT7) 8	06:36 17:41	05:52 18:11	06:04 19:43	07:21 (CT8) 42	05:32 08:03 (CT8)	05:32 20:12	58	07:02 (CT8) 08:00 (CT8)	05:26 20:28	43	07:14 (CT8) 07:57 (CT8)
26	07:10 17:05		06:34 17:42	05:50 18:12	06:02 19:44	07:19 (CT8) 44	05:31 08:03 (CT8)	05:31 20:13	58	07:02 (CT8) 08:00 (CT8)	05:27 20:28	43	07:15 (CT8) 07:58 (CT8)
27	07:09 17:06		06:33 17:43	05:49 18:13	06:01 19:45	07:19 (CT8) 45	05:31 08:04 (CT8)	05:31 20:14	57	07:02 (CT8) 07:59 (CT8)	05:27 20:29	43	07:15 (CT8) 07:58 (CT8)
28	07:08 17:08		06:31 17:44	05:47 18:14	06:00 19:46	07:18 (CT8) 47	05:30 08:05 (CT8)	05:30 20:15	56	07:03 (CT8) 07:59 (CT8)	05:27 20:29	44	07:14 (CT8) 07:58 (CT8)
29	07:08 17:09			06:45 19:15	05:58 19:47	07:17 (CT8) 47	05:29 08:04 (CT8)	05:29 20:15	55	07:03 (CT8) 07:58 (CT8)	05:28 20:29	44	07:15 (CT8) 07:59 (CT8)
30	07:07 17:10			06:44 19:16	05:57 19:48	07:16 (CT8) 49	05:29 08:05 (CT8)	05:29 20:16	54	07:04 (CT8) 07:58 (CT8)	05:28 20:29	44	07:15 (CT8) 07:59 (CT8)
31	07:06 17:11			06:42 19:17				05:28 20:17	54	07:04 (CT8) 07:58 (CT8)			
Potential sun hours	300		298	370	398	597	446	1714		450	1354		
Total, worst case	166												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Worst Case Shadow receptor: Rx 09 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)
Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, 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	05:29		07:15 (CT8)	05:52		07:19 (CT8)	06:21	06:50	06:23		06:57	07:20 (CT7)
	20:28	45	08:00 (CT8)	20:10	56	08:15 (CT8)	19:28	18:39	16:53		16:30	6 07:26 (CT7)
2	05:29		07:14 (CT8)	05:53		07:19 (CT8)	06:22	06:51	06:24		06:58	07:21 (CT7)
	20:28	46	08:00 (CT8)	20:09	55	08:14 (CT8)	19:27	18:37	16:52		16:30	5 07:26 (CT7)
3	05:30		07:15 (CT8)	05:54		07:19 (CT8)	06:23	06:52	06:26		06:59	07:22 (CT7)
	20:28	46	08:01 (CT8)	20:08	55	08:14 (CT8)	19:25	18:36	16:51		16:29	4 07:26 (CT7)
4	05:30		07:14 (CT8)	05:55		07:20 (CT8)	06:24	06:53	06:27		07:00	07:23 (CT7)
	20:28	47	08:01 (CT8)	20:07	55	08:15 (CT8)	19:23	18:34	16:50		16:29	3 07:26 (CT7)
5	05:31		07:14 (CT8)	05:56		07:21 (CT8)	06:25	06:54	06:28		07:01	07:24 (CT7)
	20:28	48	08:02 (CT8)	20:06	54	08:15 (CT8)	19:22	18:32	16:49		16:29	2 07:26 (CT7)
6	05:31		07:14 (CT8)	05:56		07:21 (CT8)	06:26	06:55	06:29		07:02	07:25 (CT7)
	20:28	48	08:02 (CT8)	20:05	54	08:15 (CT8)	19:20	18:31	16:48		16:29	2 07:27 (CT7)
7	05:32		07:14 (CT8)	05:57		07:22 (CT8)	06:27	06:56	06:30		07:03	07:26 (CT7)
	20:27	49	08:03 (CT8)	20:03	53	08:15 (CT8)	19:19	18:29	16:47		16:29	1 07:27 (CT7)
8	05:32		07:14 (CT8)	05:58		07:22 (CT8)	06:28	06:57	06:31		07:04	
	20:27	50	08:04 (CT8)	20:02	53	08:15 (CT8)	19:17	18:28	16:45		16:29	
9	05:33		07:13 (CT8)	05:59		07:23 (CT8)	06:29	06:58	06:33		07:05	
	20:27	51	08:04 (CT8)	20:01	51	08:14 (CT8)	19:15	18:26	16:44		16:29	
10	05:34		07:14 (CT8)	06:00		07:23 (CT8)	06:30	06:59	06:34		07:06	
	20:26	51	08:05 (CT8)	20:00	51	08:14 (CT8)	19:14	18:24	16:43		16:29	
11	05:34		07:14 (CT8)	06:01		07:24 (CT8)	06:31	07:00	06:35		07:07	
	20:26	52	08:06 (CT8)	19:59	50	08:14 (CT8)	19:12	18:23	16:42		16:29	
12	05:35		07:13 (CT8)	06:02		07:25 (CT8)	06:32	07:01	06:36		07:07	
	20:25	53	08:06 (CT8)	19:57	49	08:14 (CT8)	19:10	18:21	16:42		16:29	
13	05:36		07:13 (CT8)	06:03		07:24 (CT8)	06:33	07:02	06:37		07:08	
	20:25	54	08:07 (CT8)	19:56	48	08:12 (CT8)	19:09	18:20	16:41		16:29	
14	05:36		07:13 (CT8)	06:04		07:25 (CT8)	06:34	07:03	06:38		07:09	
	20:24	54	08:07 (CT8)	19:55	47	08:12 (CT8)	19:07	18:18	16:40		16:29	
15	05:37		07:12 (CT8)	06:05		07:25 (CT8)	06:35	07:05	06:39		07:10	
	20:24	55	08:07 (CT8)	19:53	46	08:11 (CT8)	19:05	18:17	16:39		16:30	
16	05:38		07:12 (CT8)	06:06		07:26 (CT8)	06:36	07:06	06:41		07:10	
	20:23	56	08:08 (CT8)	19:52	45	08:11 (CT8)	19:04	18:15	16:38		16:30	
17	05:39		07:12 (CT8)	06:07		07:26 (CT8)	06:37	07:07	06:42	07:08 (CT7)	07:11	
	20:23	57	08:09 (CT8)	19:51	44	08:10 (CT8)	19:02	18:14	16:37	8 07:16 (CT7)	16:30	
18	05:40		07:12 (CT8)	06:08		07:27 (CT8)	06:38	07:08	06:43	07:08 (CT7)	07:12	
	20:22	58	08:10 (CT8)	19:49	42	08:09 (CT8)	19:00	18:12	16:37	11 07:19 (CT7)	16:31	
19	05:40		07:12 (CT8)	06:09		07:27 (CT8)	06:39	07:09	06:44	07:08 (CT7)	07:12	
	20:21	57	08:09 (CT8)	19:48	41	08:08 (CT8)	18:59	18:11	16:36	12 07:20 (CT7)	16:31	
20	05:41		07:13 (CT8)	06:10		07:28 (CT8)	06:40	07:10	06:45	07:09 (CT7)	07:13	
	20:21	57	08:10 (CT8)	19:46	39	08:07 (CT8)	18:57	18:09	16:35	12 07:21 (CT7)	16:31	
21	05:42		07:13 (CT8)	06:11		07:28 (CT8)	06:40	07:11	06:46	07:09 (CT7)	07:13	
	20:20	58	08:11 (CT8)	19:45	38	08:06 (CT8)	18:55	18:08	16:35	13 07:22 (CT7)	16:32	
22	05:43		07:14 (CT8)	06:12		07:29 (CT8)	06:41	07:12	06:47	07:10 (CT7)	07:14	
	20:19	57	08:11 (CT8)	19:43	35	08:04 (CT8)	18:54	18:06	16:34	12 07:22 (CT7)	16:32	
23	05:44		07:15 (CT8)	06:13		07:29 (CT8)	06:42	07:13	06:49	07:11 (CT7)	07:14	
	20:19	57	08:12 (CT8)	19:42	34	08:03 (CT8)	18:52	18:05	16:33	12 07:23 (CT7)	16:33	
24	05:45		07:15 (CT8)	06:14		07:30 (CT8)	06:43	07:14	06:50	07:13 (CT7)	07:15	
	20:18	58	08:13 (CT8)	19:41	31	08:01 (CT8)	18:50	18:04	16:33	11 07:24 (CT7)	16:33	
25	05:45		07:15 (CT8)	06:15		07:30 (CT8)	06:44	06:15	06:51	07:14 (CT7)	07:15	
	20:17	57	08:12 (CT8)	19:39	29	07:59 (CT8)	18:49	17:02	16:32	11 07:25 (CT7)	16:34	
26	05:46		07:15 (CT8)	06:16		07:30 (CT8)	06:45	06:16	06:52	07:15 (CT7)	07:16	
	20:16	58	08:13 (CT8)	19:38	25	07:55 (CT8)	18:47	17:01	16:32	10 07:25 (CT7)	16:35	
27	05:47		07:16 (CT8)	06:17		07:30 (CT8)	06:46	06:18	06:53	07:16 (CT7)	07:16	
	20:15	57	08:13 (CT8)	19:36	22	07:52 (CT8)	18:45	17:00	16:31	9 07:25 (CT7)	16:35	
28	05:48		07:17 (CT8)	06:18		07:31 (CT8)	06:47	06:19	06:54	07:17 (CT7)	07:16	
	20:14	57	08:14 (CT8)	19:34	18	07:49 (CT8)	18:44	16:58	16:31	8 07:25 (CT7)	16:36	
29	05:49		07:17 (CT8)	06:19		07:35 (CT8)	06:48	06:20	06:55	07:18 (CT7)	07:17	
	20:13	57	08:14 (CT8)	19:33	6	07:41 (CT8)	18:42	16:57	16:31	8 07:26 (CT7)	16:37	
30	05:50		07:18 (CT8)	06:20			06:49	06:21	06:56	07:19 (CT7)	07:17	
	20:12	56	08:14 (CT8)	19:31			18:40	16:56	16:30	7 07:26 (CT7)	16:37	
31	05:51		07:19 (CT8)	06:20				06:22			07:17	
	20:11	56	08:15 (CT8)	19:30				16:55			16:38	
Potential sun hours	456			426		375	346	300	144		290	23
Total, worst case	1662			1226								

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

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

Calculation: Worst Case Shadow receptor: Rx 14 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (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	07:17 16:39	07:05 17:13	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:44 (CT7) 06:57 (CT7)
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:46 (CT7) 06:57 (CT7)
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:23 16:51	06:47 (CT7) 06:58 (CT7)
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:24 16:50	06:48 (CT7) 06:54 (CT7)
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:25 16:49	06:49 (CT7) 06:52 (CT7)
6	07:18 16:43	07:00 17:19	07:19 (CT7) 17:51	06:22 19:23	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:26 16:48	06:52 (CT7) 06:59 (CT7)
7	07:18 16:44	06:59 17:20	07:18 (CT7) 17:52	06:21 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:19	06:56 18:29	06:27 16:47	06:48 (CT7) 06:54 (CT7)
8	07:18 16:45	06:58 17:21	07:17 (CT7) 17:53	06:19 19:26	05:47 19:56	05:26 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:28 16:45	06:49 (CT7) 06:55 (CT7)
9	07:18 16:46	06:57 17:22	07:16 (CT7) 17:54	06:18 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:29 16:44	06:50 (CT7) 06:56 (CT7)
10	07:17 16:47	06:55 17:23	07:15 (CT7) 17:55	06:16 19:28	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:30 16:43	06:51 (CT7) 06:57 (CT7)
11	07:17 16:48	06:54 17:25	07:14 (CT7) 17:57	06:15 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:31 16:42	06:52 (CT7) 06:58 (CT7)
12	07:17 16:49	06:53 17:26	07:12 (CT7) 17:58	06:13 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:32 16:42	06:53 (CT7) 06:59 (CT7)
13	07:17 16:50	06:52 17:27	07:11 (CT7) 17:59	06:11 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:33 16:41	06:54 (CT7) 06:59 (CT7)
14	07:16 16:52	06:51 17:28	07:10 (CT7) 18:00	06:10 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:34 16:40	06:55 (CT7) 06:59 (CT7)
15	07:16 16:53	06:49 17:29	07:09 (CT7) 18:01	06:08 19:33	06:18 20:03	05:40 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:35 16:39	06:56 (CT7) 06:59 (CT7)
16	07:16 16:54	06:48 17:31	07:07 (CT7) 18:02	06:07 19:34	06:17 20:04	05:39 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:36 16:38	06:57 (CT7) 06:59 (CT7)
17	07:15 16:55	06:47 17:32	07:06 (CT7) 18:03	06:05 19:35	06:15 20:05	05:38 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:37 16:37	06:58 (CT7) 06:59 (CT7)
18	07:15 16:56	06:46 17:33	07:05 (CT7) 18:04	06:03 19:36	06:14 20:06	05:37 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:38 16:37	06:59 (CT7) 06:59 (CT7)
19	07:14 16:57	06:44 17:34	07:05 (CT7) 18:05	06:02 19:37	06:12 20:07	05:36 20:27	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:39 16:36	06:59 (CT7) 06:59 (CT7)
20	07:14 16:58	06:43 17:35	07:07 (CT7) 18:06	06:00 19:38	06:11 20:08	05:36 20:27	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:40 16:35	06:59 (CT7) 06:59 (CT7)
21	07:13 16:59	06:41 17:36	07:07 (CT7) 18:07	05:58 19:39	06:09 20:09	05:35 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:41 16:34	06:59 (CT7) 06:59 (CT7)
22	07:13 17:01	06:40 17:38	07:25 (CT7) 18:08	05:57 19:40	06:08 20:09	05:34 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:42 16:34	06:59 (CT7) 06:59 (CT7)
23	07:12 17:02	06:39 17:39	07:13 (CT7) 18:09	05:55 19:41	06:07 20:10	05:33 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:43 16:33	06:59 (CT7) 06:59 (CT7)
24	07:11 17:03	06:37 17:40	07:20 (CT7) 18:10	05:54 19:42	06:05 20:11	05:33 20:28	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:44 16:33	06:59 (CT7) 06:59 (CT7)
25	07:11 17:04	06:36 17:41	07:19 (CT7) 18:11	05:52 19:43	06:04 20:12	05:32 20:28	05:45 20:17	06:15 19:39	06:44 18:49	07:15 18:02	06:45 16:32	06:59 (CT7) 06:59 (CT7)
26	07:10 17:05	06:34 17:42	07:18 (CT7) 18:12	05:50 19:44	06:02 20:13	05:31 20:28	05:46 20:16	06:16 19:37	06:45 18:47	07:16 18:01	06:46 16:32	06:59 (CT7) 06:59 (CT7)
27	07:09 17:06	06:33 17:43	07:17 (CT7) 18:13	05:49 19:45	06:01 20:14	05:31 20:29	05:47 20:15	06:17 19:36	06:46 18:45	07:17 18:00	06:47 16:31	06:59 (CT7) 06:59 (CT7)
28	07:08 17:08	06:31 17:44	07:16 (CT7) 18:14	05:47 19:46	06:00 20:15	05:30 20:29	05:48 20:14	06:18 19:34	06:47 18:44	07:18 18:00	06:48 16:31	06:59 (CT7) 06:59 (CT7)
29	07:07 17:09	06:30 17:45	07:15 (CT7) 18:15	05:46 19:47	05:58 20:16	05:29 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 18:00	06:49 16:31	06:59 (CT7) 06:59 (CT7)
30	07:07 17:10	06:29 17:46	07:14 (CT7) 18:16	05:45 19:48	05:57 20:17	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:40	07:20 18:00	06:50 16:31	06:59 (CT7) 06:59 (CT7)
31	07:06 17:11	06:28 17:47	07:13 (CT7) 18:17	05:44 19:49	05:56 20:18	05:27 20:30	05:51 20:11	06:21 19:30	06:50 18:40	07:21 18:00	06:51 16:31	06:59 (CT7) 06:59 (CT7)
Potential sun hours	300	298	284	370	398	446	456	426	375	346	247	300
Total, worst case												42

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

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

Calculation: Worst Case Shadow receptor: Rx 15 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (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	07:17 16:39	07:05 17:13	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:44 (CT7) 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:46 (CT7) 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:47 (CT7) 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	06:48 (CT7) 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	07:18 (CT7) 07:21 (CT7)	06:21 17:52	05:49 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	07:17 (CT7) 07:23 (CT7)	06:19 17:53	05:47 19:56	05:26 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	07:16 (CT7) 07:25 (CT7)	06:18 17:54	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	07:15 (CT7) 07:26 (CT7)	06:16 17:55	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	07:14 (CT7) 07:27 (CT7)	06:15 17:57	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	07:12 (CT7) 07:27 (CT7)	06:13 17:58	05:43 19:59	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:50	06:52 17:27	07:11 (CT7) 07:28 (CT7)	06:11 17:59	05:42 19:59	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	07:10 (CT7) 07:29 (CT7)	06:10 18:00	05:41 19:32	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	07:09 (CT7) 07:29 (CT7)	06:08 18:01	05:40 19:33	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	07:07 (CT7) 07:28 (CT7)	06:07 18:02	05:39 19:34	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	07:06 (CT7) 07:28 (CT7)	06:05 18:03	05:38 19:35	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	07:05 (CT7) 07:28 (CT7)	06:03 18:04	05:37 19:36	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	07:04 (CT7) 07:27 (CT7)	06:02 18:05	05:36 19:37	05:25 20:27	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	07:27 (CT7) 07:05 (CT7)	06:00 18:06	05:35 19:38	05:25 20:27	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	07:05 (CT7) 07:24 (CT7)	05:58 18:07	05:35 19:39	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:35	07:13 16:32
22	07:13 17:01	06:40 17:38	07:07 (CT7) 07:23 (CT7)	05:57 18:08	05:34 19:40	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	07:09 (CT7) 07:21 (CT7)	05:55 18:09	05:33 19:41	05:26 20:10	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	07:13 (CT7) 07:16 (CT7)	05:54 18:10	05:33 19:42	05:26 20:11	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:49 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	07:16 (CT7) 07:16 (CT7)	05:52 18:11	05:32 19:43	05:26 20:12	05:45 20:17	06:15 19:39	06:44 18:49	07:15 18:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	07:16 (CT7) 07:16 (CT7)	05:50 18:12	05:31 19:44	05:27 20:13	05:46 20:16	06:16 19:37	06:45 18:47	07:16 18:01	06:52 16:32	07:16 16:35
27	07:09 17:06	06:33 17:43	07:16 (CT7) 07:16 (CT7)	05:49 18:13	05:31 19:45	05:27 20:14	05:47 20:15	06:17 19:36	06:46 18:45	07:17 18:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	07:16 (CT7) 07:16 (CT7)	05:47 18:14	05:30 19:46	05:27 20:15	05:48 20:14	06:18 19:34	06:47 18:44	07:18 18:00	06:54 16:31	07:16 16:36
29	07:07 17:09	06:30 17:45	07:16 (CT7) 07:16 (CT7)	05:45 18:15	05:29 19:47	05:28 20:15	05:49 20:13	06:19 19:33	06:48 18:42	07:19 18:00	06:55 16:31	07:17 16:37
30	07:07 17:10	06:29 17:46	07:16 (CT7) 07:16 (CT7)	05:44 18:16	05:29 19:48	05:28 20:16	05:50 20:12	06:20 19:31	06:49 18:40	07:20 18:00	06:56 16:30	07:17 16:37
31	07:06 17:11	06:28 17:47	07:16 (CT7) 07:16 (CT7)	05:42 18:17	05:28 19:49	05:28 20:17	05:51 20:11	06:20 19:30	06:22 18:40	07:21 18:00	06:57 16:30	07:17 16:38
Potential sun hours	300	298	272	370	398	446	456	426	375	346	251	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 18 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (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	July	August	September	October	November	December
1	07:17 16:39	07:05 17:13	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	07:02 (CT7) 19:20	06:37 19:51	05:53 20:19	05:27 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	07:13 (CT7) 19:21	06:36 19:52	05:52 20:20	05:27 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:49		06:34 19:52	05:51 20:20	05:26 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:58 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51		06:32 19:53	05:50 20:20	05:26 20:28	05:56 20:06	06:26 19:22	06:55 18:32	06:29 16:49	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52		06:31 19:55	05:49 20:22	05:32 20:27	05:57 20:03	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53		06:29 19:56	05:47 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:45	07:04 16:29
9	07:17 16:46	06:57 17:22	06:18 17:54		06:28 19:57	05:46 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	06:16 17:55		06:26 19:58	05:45 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57		06:25 19:59	05:44 20:24	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58		06:23 19:30	05:43 20:00	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	07:11 (CT7)	06:21 19:31	05:42 20:01	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	07:10 (CT7)	06:20 19:32	05:41 20:02	05:36 20:25	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	06:08 18:01	07:09 (CT7)	06:18 19:33	05:40 20:03	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	07:07 (CT7)	06:17 19:34	05:39 20:04	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	07:06 (CT7)	06:15 19:35	05:38 20:05	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	07:05 (CT7)	06:14 19:36	05:37 20:06	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	07:03 (CT7)	06:12 19:37	05:36 20:07	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	07:02 (CT7)	06:11 19:38	05:36 20:08	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	07:00 (CT7)	06:09 19:39	05:35 20:09	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:59 (CT7)	06:08 19:40	05:34 20:09	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:58 (CT7)	06:07 19:41	05:33 20:10	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:56 (CT7)	06:05 19:42	05:33 20:11	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:55 (CT7)	06:04 19:43	05:32 20:12	05:45 20:17	06:15 19:39	06:44 18:49	07:15 18:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:54 (CT7)	06:02 19:44	05:31 20:13	05:46 20:16	06:16 19:37	06:45 18:47	07:16 18:01	06:52 16:32	07:16 16:35
27	07:09 17:06	06:33 17:43	05:49 18:13	06:53 (CT7)	06:01 19:45	05:31 20:14	05:47 20:15	06:17 19:36	06:46 18:45	07:17 18:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:52 (CT7)	06:00 19:46	05:30 20:15	05:48 20:14	06:18 19:34	06:47 18:44	07:19 18:00	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15		05:58 19:47	05:29 20:15	05:49 20:13	06:19 19:33	06:48 18:42	07:20 18:00	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16		05:57 19:48	05:29 20:16	05:50 20:12	06:20 19:31	06:49 18:40	07:21 18:00	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:56 20:17	05:28 20:17	05:51 20:11	06:20 19:30	06:22 18:40	07:22 18:00	06:57 16:55	07:17 16:38
Potential sun hours	300	298	316	370	48	398	446	450	426	375	346	368
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 22 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (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	July	August	September	October	November	December	
1	07:17 16:39	08:14 (CT7) 17:12	07:05 17:46	06:30 19:18	06:40 19:49	05:56 20:18	05:28 20:28	05:29 20:10	05:52 19:28	06:21 18:39	06:50 16:53	06:23 16:30	08:07 (CT7) 14 08:21 (CT7)
2	07:18 16:40	08:15 (CT7) 17:14	07:04 17:47	06:28 19:19	06:39 19:50	05:55 20:18	05:27 20:28	05:29 20:09	05:53 19:27	06:22 18:37	06:51 16:52	06:24 16:30	08:06 (CT7) 16 08:22 (CT7)
3	07:18 16:41	08:15 (CT7) 17:15	07:03 17:48	06:27 19:20	06:37 19:51	05:53 20:19	05:27 20:28	05:29 20:08	05:54 19:25	06:23 18:36	06:52 16:51	06:26 16:29	08:05 (CT7) 19 08:24 (CT7)
4	07:18 16:42	08:16 (CT7) 17:16	07:02 17:49	06:25 19:21	06:36 19:52	05:52 20:20	05:27 20:28	05:30 20:07	05:55 19:23	06:24 18:34	06:53 16:50	06:27 16:29	08:04 (CT7) 21 08:25 (CT7)
5	07:18 16:42	08:17 (CT7) 17:17	07:01 17:50	06:24 19:22	06:34 19:53	05:51 20:20	05:26 20:28	05:31 20:06	05:55 19:22	06:25 18:32	06:54 16:49	06:28 16:29	08:04 (CT7) 23 08:27 (CT7)
6	07:18 16:43	08:17 (CT7) 17:19	07:00 17:51	06:22 19:23	06:32 19:54	05:50 20:21	05:26 20:28	05:31 20:05	05:56 19:20	06:26 18:31	06:55 16:48	06:29 16:29	08:04 (CT7) 24 08:28 (CT7)
7	07:18 16:44	08:19 (CT7) 17:20	06:59 17:52	06:21 19:24	06:31 19:55	05:48 20:22	05:26 20:27	05:32 20:03	05:57 19:19	06:27 18:29	06:56 16:46	06:30 16:29	08:03 (CT7) 26 08:29 (CT7)
8	07:18 16:45	08:20 (CT7) 17:21	06:58 17:53	06:19 19:26	06:29 19:56	05:47 20:22	05:25 20:27	05:32 20:02	05:58 19:17	06:28 18:27	06:57 16:45	06:31 16:29	08:03 (CT7) 27 08:30 (CT7)
9	07:17 16:46	08:22 (CT7) 17:22	06:57 17:54	06:18 19:27	06:28 19:57	05:46 20:23	05:25 20:27	05:33 20:01	05:59 19:15	06:29 18:26	06:58 16:44	06:32 16:29	08:03 (CT7) 28 08:31 (CT7)
10	07:17 16:47	08:24 (CT7) 17:23	06:55 17:55	06:16 19:28	06:26 19:58	05:45 20:23	05:25 20:26	05:34 20:00	06:00 19:14	06:30 18:24	06:59 16:43	06:34 16:29	08:04 (CT7) 28 08:32 (CT7)
11	07:17 16:48	08:25 (CT7) 17:25	06:54 17:56	06:15 19:29	06:25 19:59	05:44 20:24	05:25 20:26	05:34 20:00	06:01 19:12	06:31 18:23	07:00 16:42	06:35 16:29	08:04 (CT7) 29 08:33 (CT7)
12	07:17 16:49	08:28 (CT7) 17:26	06:53 17:58	06:13 19:30	06:23 20:00	05:43 20:24	05:25 20:25	05:35 19:57	06:02 19:10	06:32 18:21	07:01 16:42	06:36 16:29	08:04 (CT7) 30 08:34 (CT7)
13	07:17 16:50	08:37 (CT7) 17:27	06:52 17:59	06:11 19:31	06:21 20:01	05:42 20:25	05:25 20:25	05:36 19:56	06:03 19:09	06:33 18:20	07:02 16:41	06:37 16:29	08:04 (CT7) 30 08:34 (CT7)
14	07:16 16:52	08:41 (CT7) 17:28	06:51 18:00	06:10 19:32	06:20 20:02	05:41 20:25	05:25 20:24	05:36 19:55	06:04 19:07	06:34 18:18	07:03 16:40	06:38 16:29	08:04 (CT7) 31 08:35 (CT7)
15	07:16 16:53	08:42 (CT7) 17:29	06:49 18:01	06:08 19:33	06:18 20:03	05:40 20:26	05:25 20:24	05:37 19:53	06:05 19:05	06:35 18:17	07:05 16:39	06:39 16:30	08:05 (CT7) 31 08:36 (CT7)
16	07:16 16:54	08:43 (CT7) 17:31	06:48 18:02	06:07 19:34	06:17 20:04	05:39 20:26	05:25 20:23	05:38 19:52	06:06 19:04	06:36 18:15	07:06 16:38	06:41 16:30	08:04 (CT7) 32 08:36 (CT7)
17	07:15 16:55	08:44 (CT7) 17:32	06:47 18:03	06:05 19:35	06:15 20:05	05:38 20:27	05:25 20:23	05:39 19:51	06:07 19:02	06:37 18:14	07:07 16:37	06:42 16:30	08:05 (CT7) 32 08:37 (CT7)
18	07:15 16:56	08:45 (CT7) 17:33	06:46 18:04	06:03 19:36	06:14 20:06	05:37 20:27	05:25 20:22	05:40 19:49	06:08 19:00	06:38 18:12	07:08 16:37	06:43 16:31	08:06 (CT7) 32 08:38 (CT7)
19	07:14 16:57	08:46 (CT7) 17:34	06:44 18:05	06:02 19:37	06:12 20:07	05:36 20:27	05:25 20:21	05:40 19:48	06:09 18:59	06:39 18:11	07:09 16:36	06:44 16:31	08:06 (CT7) 32 08:38 (CT7)
20	07:14 16:58	08:47 (CT7) 17:35	06:43 18:06	06:00 19:38	06:11 20:08	05:36 20:27	05:25 20:21	05:41 19:46	06:10 18:57	06:39 18:09	07:10 16:35	06:45 16:31	08:06 (CT7) 33 08:39 (CT7)
21	07:13 16:59	08:48 (CT7) 17:36	06:42 18:07	06:00 19:39	06:10 20:09	05:35 20:28	05:25 20:20	05:42 19:45	06:11 18:55	06:40 18:08	07:11 16:34	06:46 16:32	08:06 (CT7) 33 08:39 (CT7)
22	07:13 17:01	08:49 (CT7) 17:38	06:41 18:08	06:00 19:40	06:09 20:09	05:35 20:28	05:25 20:19	05:42 19:43	06:12 18:54	06:41 18:06	07:12 16:34	06:47 16:32	08:07 (CT7) 33 08:40 (CT7)
23	07:12 17:02	08:50 (CT7) 17:39	06:40 18:09	06:00 19:41	06:08 20:10	05:34 20:28	05:25 20:18	05:43 19:42	06:13 18:52	06:42 18:05	07:13 16:33	06:48 16:33	08:07 (CT7) 33 08:40 (CT7)
24	07:11 17:03	08:51 (CT7) 17:40	06:39 18:10	06:00 19:42	06:07 20:11	05:33 20:28	05:25 20:18	05:44 19:40	06:14 18:50	06:43 18:04	07:14 16:33	06:49 16:33	08:08 (CT7) 33 08:41 (CT7)
25	07:11 17:04	08:52 (CT7) 17:41	06:38 18:11	06:00 19:43	06:06 20:12	05:33 20:28	05:25 20:17	05:45 19:39	06:14 18:49	06:44 18:02	07:15 16:32	06:50 16:32	08:08 (CT7) 32 08:41 (CT7)
26	07:10 17:05	08:53 (CT7) 17:42	06:37 18:12	06:00 19:44	06:07 20:13	05:32 20:28	05:25 20:16	05:46 19:37	06:15 18:47	06:45 18:01	07:16 16:32	06:51 16:32	08:09 (CT7) 32 08:41 (CT7)
27	07:09 17:06	08:54 (CT7) 17:43	06:36 18:13	06:00 19:45	06:08 20:14	05:31 20:29	05:25 20:15	05:47 19:36	06:16 18:45	06:46 18:00	07:17 16:31	06:52 16:31	08:09 (CT7) 32 08:42 (CT7)
28	07:08 17:08	08:55 (CT7) 17:44	06:35 18:14	06:00 19:46	06:09 20:15	05:30 20:29	05:25 20:14	05:48 19:34	06:17 18:44	06:47 18:00	07:18 16:31	06:53 16:31	08:10 (CT7) 31 08:42 (CT7)
29	07:07 17:09	08:56 (CT7) 17:45	06:34 18:15	06:00 19:47	06:10 20:16	05:29 20:29	05:25 20:13	05:49 19:33	06:18 18:42	06:48 18:00	07:19 16:30	06:54 16:30	08:11 (CT7) 31 08:42 (CT7)
30	07:07 17:10	08:57 (CT7) 17:46	06:33 18:16	06:00 19:48	06:11 20:17	05:28 20:28	05:25 20:12	05:50 19:31	06:19 18:40	06:49 18:00	07:20 16:30	06:55 16:30	08:11 (CT7) 31 08:42 (CT7)
31	07:06 17:11	08:58 (CT7) 17:47	06:32 18:17	06:00 19:49	06:12 20:18	05:27 20:27	05:25 20:11	05:51 19:30	06:20 18:40	06:50 18:00	07:21 16:30	06:56 16:30	08:12 (CT7) 30 08:42 (CT7)
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290	889
Total, worst case	267										9		

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

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

Calculation: Worst Case Shadow receptor: Rx 26 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (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	07:17 16:39	07:43 (CT7) 17:13	07:05 17:46	07:52 (CT7) 17:46	06:30 19:18	06:40 19:49	05:56 20:18	05:28 20:28	05:29 20:10	05:52 19:28	06:21 18:39	06:50 16:53	06:23 16:30	07:25 (CT7) 07:59 (CT7)	
2	07:18 16:40	07:43 (CT7) 17:14	07:04 17:15	07:53 (CT7) 17:47	06:39 19:19	06:39 19:50	05:55 20:18	05:27 20:28	05:29 20:09	05:53 20:07	06:22 19:27	06:51 16:52	06:24 16:30	07:26 (CT7) 07:59 (CT7)	
3	07:18 16:41	07:43 (CT7) 17:15	07:03 17:15	07:55 (CT7) 17:48	06:37 19:20	06:37 19:51	05:53 20:19	05:27 20:28	05:30 20:08	05:54 19:25	06:23 18:36	06:52 16:51	06:26 16:29	07:26 (CT7) 07:59 (CT7)	
4	07:18 16:42	07:43 (CT7) 17:16	07:02 17:16	07:56 (CT7) 17:49	06:36 19:21	06:36 19:52	05:52 20:20	05:27 20:28	05:30 20:07	05:55 19:23	06:24 18:34	06:53 16:50	06:27 16:29	07:27 (CT7) 07:59 (CT7)	
5	07:18 16:43	07:43 (CT7) 17:17	07:01 17:17	07:58 (CT7) 17:50	06:34 19:22	06:34 19:53	05:51 20:20	05:26 20:28	05:31 20:06	05:55 19:22	06:25 18:32	06:54 16:49	06:28 12 07:30 (CT7)	07:01 16:29	07:28 (CT7) 07:59 (CT7)
6	07:18 16:43	07:43 (CT7) 17:19	07:00 17:19	08:01 (CT7) 17:51	06:32 19:23	06:32 19:54	05:50 20:21	05:26 20:28	05:31 20:05	05:56 19:20	06:26 18:31	06:55 16:48	06:29 18 07:28 (CT7)	07:02 16:29	07:29 (CT7) 07:59 (CT7)
7	07:18 16:44	07:43 (CT7) 17:20	06:59 17:20	08:12 (CT7) 17:52	06:31 19:24	06:31 19:55	05:49 20:22	05:26 20:27	05:32 20:03	05:57 19:19	06:27 18:29	06:56 16:46	06:30 22 07:48 (CT7)	07:03 16:29	07:29 (CT7) 07:59 (CT7)
8	07:18 16:45	07:43 (CT7) 17:21	06:58 17:21	08:15 (CT7) 17:53	06:31 19:26	06:31 19:56	05:47 20:22	05:25 20:27	05:32 20:02	05:58 19:17	06:28 18:27	06:57 16:45	06:31 25 07:49 (CT7)	07:04 16:29	07:30 (CT7) 08:00 (CT7)
9	07:17 16:46	07:43 (CT7) 17:22	06:57 17:22	08:16 (CT7) 17:54	06:30 19:27	06:30 19:57	05:46 20:23	05:25 20:27	05:33 20:01	05:59 19:15	06:29 18:26	06:58 16:44	06:32 27 07:50 (CT7)	07:05 16:29	07:31 (CT7) 08:00 (CT7)
10	07:17 16:47	07:44 (CT7) 17:23	06:55 17:23	08:17 (CT7) 17:55	06:30 19:28	06:30 19:58	05:45 20:23	05:25 20:26	05:34 20:00	06:00 19:14	06:30 18:24	06:59 16:43	06:30 29 07:52 (CT7)	07:06 16:29	07:32 (CT7) 08:00 (CT7)
11	07:17 16:48	07:43 (CT7) 17:25	06:54 17:25	08:18 (CT7) 17:56	06:25 19:29	06:25 19:59	05:44 20:24	05:25 20:26	05:36 19:59	06:31 19:12	06:31 18:23	06:35 16:42	06:31 31 07:53 (CT7)	07:06 16:29	07:33 (CT7) 08:00 (CT7)
12	07:17 16:49	07:43 (CT7) 17:26	06:53 17:26	08:19 (CT7) 17:57	06:23 19:30	06:23 19:59	05:43 20:24	05:25 20:25	05:35 19:57	06:02 19:10	06:32 18:21	06:36 16:42	06:32 32 07:54 (CT7)	07:07 16:29	07:34 (CT7) 08:00 (CT7)
13	07:17 16:50	07:44 (CT7) 17:27	06:52 17:27	08:20 (CT7) 17:58	06:21 19:31	06:21 19:59	05:42 20:25	05:25 20:25	05:36 19:56	06:03 19:09	06:33 18:20	06:37 16:41	06:33 34 07:54 (CT7)	07:08 16:29	07:34 (CT7) 08:00 (CT7)
14	07:16 16:52	07:43 (CT7) 17:28	06:51 17:28	08:21 (CT7) 18:00	06:20 19:32	06:20 19:59	05:41 20:25	05:25 20:24	05:36 19:55	06:04 19:07	06:34 18:18	06:38 16:40	06:34 35 07:56 (CT7)	07:09 16:29	07:35 (CT7) 08:00 (CT7)
15	07:16 16:53	07:44 (CT7) 17:29	06:49 17:29	08:22 (CT7) 18:01	06:18 19:33	06:18 19:59	05:40 20:26	05:25 20:24	05:37 19:53	06:05 19:05	06:35 18:17	06:39 16:39	06:35 36 07:57 (CT7)	07:10 16:30	07:36 (CT7) 08:01 (CT7)
16	07:16 16:54	07:43 (CT7) 17:31	06:48 17:31	08:23 (CT7) 18:02	06:17 19:34	06:17 19:59	05:39 20:26	05:25 20:23	05:38 19:52	06:06 19:04	06:36 18:15	06:41 16:38	06:36 37 07:58 (CT7)	07:10 16:30	07:36 (CT7) 08:00 (CT7)
17	07:15 16:55	07:44 (CT7) 17:32	06:47 17:32	08:24 (CT7) 18:03	06:15 19:35	06:15 19:59	05:38 20:27	05:25 20:23	05:39 19:51	06:07 19:02	06:37 18:14	06:42 16:37	06:37 38 07:59 (CT7)	07:11 16:30	07:37 (CT7) 08:01 (CT7)
18	07:15 16:56	07:44 (CT7) 17:33	06:46 17:33	08:25 (CT7) 18:04	06:14 19:36	06:14 19:59	05:37 20:27	05:25 20:22	05:40 19:49	06:08 19:00	06:38 18:12	06:43 16:37	06:38 39 07:59 (CT7)	07:12 16:31	07:38 (CT7) 08:02 (CT7)
19	07:14 16:57	07:45 (CT7) 17:34	06:44 17:34	08:26 (CT7) 18:05	06:12 19:37	06:12 19:59	05:36 20:27	05:25 20:21	05:40 19:48	06:09 18:59	06:39 18:11	06:44 16:36	06:40 38 07:59 (CT7)	07:12 16:31	07:39 (CT7) 08:01 (CT7)
20	07:14 16:58	07:44 (CT7) 17:35	06:43 17:35	08:27 (CT7) 18:06	06:11 19:38	06:11 19:59	05:36 20:27	05:25 20:21	05:41 19:46	06:10 18:57	06:40 18:09	06:45 16:35	06:41 38 07:59 (CT7)	07:13 16:31	07:40 (CT7) 08:02 (CT7)
21	07:13 16:59	07:45 (CT7) 17:36	06:41 17:36	08:28 (CT7) 18:07	06:10 19:39	06:10 19:59	05:35 20:28	05:25 20:20	05:42 19:45	06:11 18:55	06:41 18:08	06:46 16:34	06:42 38 07:59 (CT7)	07:13 16:32	07:41 (CT7) 08:02 (CT7)
22	07:13 17:01	07:45 (CT7) 17:38	06:40 17:38	08:29 (CT7) 18:08	06:09 19:40	06:09 19:59	05:35 20:28	05:25 20:19	05:43 19:43	06:12 18:54	06:41 18:06	06:47 16:34	06:43 38 07:59 (CT7)	07:14 16:32	07:42 (CT7) 08:03 (CT7)
23	07:12 17:02	07:45 (CT7) 17:39	06:39 17:39	08:30 (CT7) 18:09	06:08 19:41	06:08 19:59	05:34 20:28	05:25 20:18	05:43 19:42	06:13 18:52	06:42 18:05	06:48 16:33	06:44 37 07:59 (CT7)	07:14 16:33	07:43 (CT7) 08:03 (CT7)
24	07:11 17:03	07:45 (CT7) 17:40	06:37 17:40	08:31 (CT7) 18:10	06:07 19:42	06:07 19:59	05:33 20:28	05:25 20:18	05:45 19:40	06:14 18:50	06:43 18:04	06:49 16:33	06:45 37 07:59 (CT7)	07:15 16:33	07:44 (CT7) 08:04 (CT7)
25	07:11 17:04	07:47 (CT7) 17:41	06:36 17:41	08:32 (CT7) 18:11	06:06 19:43	06:06 19:59	05:32 20:28	05:26 20:17	05:45 19:39	06:15 18:49	06:44 17:02	06:51 16:32	06:46 37 07:59 (CT7)	07:15 16:34	07:45 (CT7) 08:04 (CT7)
26	07:10 17:05	07:47 (CT7) 17:42	06:34 17:42	08:33 (CT7) 18:12	06:05 19:44	06:05 19:59	05:27 20:28	05:26 20:16	05:46 19:37	06:16 18:47	06:45 17:01	06:52 16:32	06:47 37 07:59 (CT7)	07:16 16:34	07:46 (CT7) 08:05 (CT7)
27	07:09 17:06	07:47 (CT7) 17:43	06:33 17:43	08:34 (CT7) 18:13	06:04 19:45	06:04 19:59	05:27 20:29	05:27 20:15	05:47 19:36	06:17 18:45	06:46 17:00	06:53 16:31	06:48 36 07:59 (CT7)	07:16 16:35	07:47 (CT7) 08:06 (CT7)
28	07:08 17:08	07:48 (CT7) 17:44	06:31 17:44	08:35 (CT7) 18:14	06:03 19:46	06:03 19:59	05:27 20:29	05:27 20:14	05:48 19:34	06:18 18:44	06:47 16:58	06:54 16:31	06:49 36 07:59 (CT7)	07:16 16:36	07:48 (CT7) 08:07 (CT7)
29	07:07 17:09	07:48 (CT7) 17:45	06:29 17:45	08:36 (CT7) 18:15	06:02 19:47	06:02 19:59	05:28 20:29	05:28 20:13	05:49 19:33	06:19 18:42	06:48 16:57	06:55 16:30	06:50 35 07:59 (CT7)	07:17 16:37	07:49 (CT7) 08:07 (CT7)
30	07:07 17:10	07:49 (CT7) 17:46	06:28 17:46	08:37 (CT7) 18:16	06:01 19:48	06:01 19:59	05:28 20:28	05:28 20:12	05:50 19:31	06:19 18:40	06:49 16:56	06:56 16:30	06:51 35 07:59 (CT7)	07:17 16:37	07:50 (CT7) 08:08 (CT7)
31	07:06 17:11	07:51 (CT7) 17:47	06:27 17:47	08:38 (CT7) 18:17	06:00 19:49	06:00 19:59	05:28 20:17	05:28 20:11	06:20 19:30	06:22 18:40	06:56 16:55	06:57 16:30	06:52 35 07:59 (CT7)	07:17 16:38	07:51 (CT7) 08:08 (CT7)
Potential sun hours	300	298	298	370	398	446	450	456	426	375	346	300	853	290	822
Total, worst case	1057	129	370	398	446	450	456	426	375	346	300	853	290	822	

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

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

Calculation: Worst Case Shadow receptor: Rx 27 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (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	July	August	September	October	November	December		
1	07:17 16:39	07:43 (CT7) 17:13	07:05 17:13	07:58 (CT7) 17:46	06:30 19:18	06:40 19:49	05:56 20:18	05:28 20:28	05:29 20:10	05:52 19:28	06:21 18:39	06:50 16:53	06:23 16:30	07:26 (CT7) 08:03 (CT7)
2	07:18 16:40	07:43 (CT7) 17:14	07:04 17:14	07:59 (CT7) 17:47	06:28 19:19	06:39 19:50	05:55 20:18	05:27 20:28	05:29 20:09	05:53 20:09	06:22 19:27	06:51 16:52	06:24 16:30	07:27 (CT7) 08:03 (CT7)
3	07:18 16:41	07:43 (CT7) 17:15	07:03 17:15	08:02 (CT7) 17:48	06:27 19:20	06:37 19:51	05:53 20:19	05:27 20:28	05:30 20:08	05:54 19:25	06:23 18:36	06:52 16:51	06:26 16:30	07:27 (CT7) 08:03 (CT7)
4	07:18 16:42	07:44 (CT7) 17:16	07:02 17:16	08:06 (CT7) 17:49	06:25 19:21	06:36 19:52	05:52 20:20	05:27 20:28	05:30 20:07	05:55 19:23	06:24 18:34	06:53 16:50	06:27 16:30	07:28 (CT7) 08:03 (CT7)
5	07:18 16:42	07:44 (CT7) 17:17	07:01 17:17	08:13 (CT7) 17:50	06:24 19:22	06:34 19:53	05:51 20:20	05:26 20:28	05:31 20:06	05:55 19:22	06:25 18:32	06:54 16:49	06:28 16:30	07:29 (CT7) 08:04 (CT7)
6	07:18 16:43	07:43 (CT7) 17:19	07:00 17:19	08:13 (CT7) 17:51	06:22 19:23	06:32 19:54	05:50 20:21	05:26 20:28	05:31 20:05	05:56 19:20	06:26 18:31	06:55 16:48	06:29 16:30	07:29 (CT7) 08:04 (CT7)
7	07:18 16:44	07:43 (CT7) 17:20	06:59 17:20	08:13 (CT7) 17:52	06:21 19:24	06:31 19:55	05:49 20:22	05:26 20:27	05:32 20:03	05:57 19:19	06:27 18:29	06:56 16:46	06:30 16:30	07:30 (CT7) 08:04 (CT7)
8	07:18 16:45	07:44 (CT7) 17:21	06:58 17:21	08:13 (CT7) 17:53	06:19 19:26	06:29 19:56	05:47 20:22	05:25 20:27	05:32 20:02	05:58 19:17	06:28 18:27	06:57 16:45	06:31 16:30	07:31 (CT7) 08:04 (CT7)
9	07:17 16:46	07:44 (CT7) 17:22	06:57 17:22	08:13 (CT7) 17:54	06:18 19:27	06:28 19:57	05:46 20:23	05:25 20:27	05:33 20:01	05:59 19:15	06:29 18:26	06:58 16:44	06:32 16:30	07:31 (CT7) 08:05 (CT7)
10	07:17 16:47	07:45 (CT7) 17:23	06:55 17:23	08:13 (CT7) 17:55	06:16 19:28	06:26 19:58	05:45 20:23	05:25 20:26	05:34 20:00	06:00 19:14	06:30 18:24	06:59 16:43	06:34 16:30	07:32 (CT7) 08:05 (CT7)
11	07:17 16:48	07:44 (CT7) 17:25	06:54 17:25	08:13 (CT7) 17:56	06:15 19:29	06:25 19:59	05:44 20:24	05:25 20:26	05:34 20:00	06:01 19:12	06:31 18:23	06:35 16:42	06:35 16:30	07:33 (CT7) 08:05 (CT7)
12	07:17 16:49	07:45 (CT7) 17:26	06:53 17:26	08:13 (CT7) 17:57	06:13 19:30	06:23 19:59	05:43 20:24	05:25 20:25	05:35 20:02	06:02 19:10	06:32 18:21	06:36 16:42	06:36 16:30	07:34 (CT7) 08:05 (CT7)
13	07:17 16:50	07:45 (CT7) 17:27	06:52 17:27	08:13 (CT7) 17:58	06:11 19:31	06:21 19:59	05:42 20:24	05:25 20:25	05:36 20:02	06:03 19:09	06:33 18:20	06:37 16:41	06:37 16:30	07:35 (CT7) 08:05 (CT7)
14	07:16 16:52	07:45 (CT7) 17:28	06:51 17:28	08:13 (CT7) 17:59	06:10 19:32	06:20 19:59	05:41 20:25	05:25 20:24	05:36 19:55	06:04 19:07	06:34 18:18	06:38 16:40	06:38 16:30	07:35 (CT7) 08:06 (CT7)
15	07:16 16:53	07:46 (CT7) 17:29	06:49 17:29	08:13 (CT7) 18:00	06:08 19:32	06:18 19:59	05:40 20:25	05:25 20:24	05:37 19:55	06:05 19:07	06:35 18:18	06:39 16:40	06:39 16:30	07:36 (CT7) 08:06 (CT7)
16	07:16 16:54	07:45 (CT7) 17:31	06:48 17:31	08:13 (CT7) 18:01	06:07 19:33	06:17 19:59	05:39 20:26	05:25 20:24	05:38 19:53	06:06 19:05	06:36 18:17	06:41 16:39	06:41 16:30	07:36 (CT7) 08:06 (CT7)
17	07:15 16:55	07:46 (CT7) 17:32	06:47 17:32	08:13 (CT7) 18:02	06:05 19:34	06:15 19:59	05:38 20:26	05:25 20:23	05:39 19:52	06:07 19:04	06:37 18:15	06:42 16:38	06:42 16:30	07:37 (CT7) 08:06 (CT7)
18	07:15 16:56	07:46 (CT7) 17:33	06:46 17:33	08:13 (CT7) 18:03	06:03 19:35	06:14 19:58	05:37 20:27	05:40 20:23	06:08 19:51	06:38 19:02	07:08 18:14	06:43 16:37	06:43 16:30	07:38 (CT7) 08:06 (CT7)
19	07:14 16:57	07:47 (CT7) 17:34	06:44 17:34	08:13 (CT7) 18:04	06:02 19:36	06:12 19:59	05:36 20:27	05:40 20:22	06:09 19:49	06:39 19:00	07:09 18:12	06:44 16:37	06:44 16:30	07:39 (CT7) 08:07 (CT7)
20	07:14 16:58	07:47 (CT7) 17:35	06:43 17:35	08:13 (CT7) 18:05	06:00 19:37	06:11 19:59	05:36 20:27	05:41 20:21	06:10 19:48	06:40 18:59	07:10 18:11	06:45 16:36	06:45 16:30	07:40 (CT7) 08:07 (CT7)
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22	07:13 17:01	07:48 (CT7) 17:38	06:40 17:38	08:13 (CT7) 18:07	05:57 19:39	06:08 19:59	05:34 20:28	05:25 20:20	06:12 19:45	06:41 18:55	07:12 18:08	06:47 16:34	06:47 16:30	07:42 (CT7) 08:08 (CT7)
23	07:12 17:02	07:48 (CT7) 17:39	06:39 17:39	08:13 (CT7) 18:08	05:55 19:40	06:07 19:59	05:33 20:28	05:24 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	06:49 16:30	07:43 (CT7) 08:09 (CT7)
24	07:11 17:03	07:49 (CT7) 17:40	06:37 17:40	08:13 (CT7) 18:09	05:53 19:41	06:05 19:59	05:33 20:28	05:26 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	06:50 16:30	07:44 (CT7) 08:10 (CT7)
25	07:11 17:04	07:50 (CT7) 17:41	06:36 17:41	08:13 (CT7) 18:10	05:52 19:42	06:04 19:59	05:32 20:28	05:26 20:17	06:15 19:39	06:44 18:49	07:15 18:02	06:51 16:32	06:51 16:30	07:45 (CT7) 08:11 (CT7)
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30	07:07 17:10	07:54 (CT7) 17:46	06:27 17:46	08:13 (CT7) 18:15	05:44 19:47	05:57 19:59	05:29 20:29	05:28 20:13	06:19 19:33	06:49 18:42	07:20 18:00	06:56 16:30	06:56 16:30	07:50 (CT7) 08:15 (CT7)
31	07:06 17:11	07:56 (CT7) 17:47	06:25 17:47	08:13 (CT7) 18:16	05:42 19:48	05:56 19:59	05:28 20:28	05:27 20:12	06:20 19:31	06:50 18:40	07:21 18:00	06:57 16:30	06:57 16:30	07:51 (CT7) 08:16 (CT7)
Potential sun hours	300	298		370	398	446	450	456	426	375	346	300	769	981
Total, worst case	1081	64		370	398	446	450	456	426	375	346	300	769	981

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

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

Calculation: Worst Case Shadow receptor: Rx 28 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 30 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 31 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor 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	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:28	05:46 20:16	06:16 19:37	06:45 18:47	06:16 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	06:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:17 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28	05:49 20:13	06:18 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case		4									5	

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

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

Calculation: Worst CaseShadow receptor: Rx 32 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor 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	07:17 16:39	07:05 17:12	15:40 (CT7) 17:45	06:30 19:18	06:40 19:18	05:56 20:18	05:28 20:28	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	
2	07:17 16:40	07:04 17:14	15:41 (CT7) 17:47	06:28 19:19	06:39 19:19	05:54 20:18	05:27 20:28	05:29 20:28	05:53 20:09	06:22 19:26	06:51 18:37	06:24 16:52	
3	07:18 16:41	07:03 17:15	15:41 (CT7) 17:48	06:27 19:20	06:37 19:20	05:53 20:19	05:27 20:28	05:29 20:28	05:53 20:08	06:23 19:25	06:52 18:35	06:25 16:51	
4	07:18 16:41	07:02 17:16	15:43 (CT7) 17:49	06:25 19:21	06:35 19:21	05:52 20:20	05:27 20:28	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	
5	07:18 16:42	07:01 17:17	15:45 (CT7) 17:50	06:24 19:22	06:34 19:22	05:51 20:20	05:26 20:28	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	
6	07:18 16:43	07:00 17:18	15:54 (CT7) 17:50	06:22 19:23	06:32 19:23	05:50 20:21	05:26 20:27	05:31 20:27	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	
7	07:18 16:44	06:59 17:20	15:54 (CT7) 17:52	06:21 19:24	06:31 19:24	05:48 20:22	05:26 20:27	05:32 20:27	05:57 20:03	06:27 19:18	06:56 18:29	06:30 16:46	
8	07:18 16:45	06:58 17:21	15:54 (CT7) 17:53	06:21 19:25	06:29 19:25	05:47 20:22	05:25 20:27	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	
9	07:17 16:46	06:57 17:22	15:54 (CT7) 17:54	06:21 19:26	06:28 19:26	05:46 20:23	05:25 20:27	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	
10	07:17 16:47	06:55 17:23	15:54 (CT7) 17:55	06:16 19:27	06:26 19:27	05:45 20:23	05:25 20:26	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	
11	07:17 16:48	06:54 17:25	15:54 (CT7) 17:56	06:14 19:28	06:24 19:28	05:44 20:24	05:25 20:26	05:36 20:26	06:01 19:58	06:31 19:12	07:00 18:23	06:35 16:42	
12	07:17 16:49	06:53 17:26	15:54 (CT7) 17:57	06:13 19:30	06:23 19:30	05:43 20:20	05:25 20:25	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	
13	07:17 16:50	06:52 17:27	15:54 (CT7) 17:59	06:11 19:31	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	
14	07:16 16:51	06:51 17:28	15:54 (CT7) 18:00	06:10 19:32	06:20 19:32	05:41 20:02	05:25 20:24	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	
15	07:16 16:52	06:49 17:29	15:54 (CT7) 18:01	06:08 19:33	06:18 19:33	05:40 20:03	05:25 20:24	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39	
16	07:15 16:54	06:48 17:30	15:54 (CT7) 18:02	06:06 19:34	06:17 19:34	05:39 20:04	05:25 20:23	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:40 16:38	
17	07:15 16:55	06:47 17:32	15:54 (CT7) 18:03	06:05 19:35	06:15 19:35	05:38 20:05	05:25 20:23	05:39 20:23	06:07 19:50	06:37 19:02	07:07 18:14	06:42 16:37	
18	07:15 16:56	06:45 17:33	15:54 (CT7) 18:04	06:03 19:36	06:14 19:36	05:37 20:06	05:25 20:22	05:39 20:22	06:08 19:49	06:37 19:00	07:08 18:12	06:43 16:36	
19	07:14 16:57	06:44 17:34	15:54 (CT7) 18:05	06:02 19:37	06:12 19:37	05:36 20:07	05:25 20:21	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	
20	07:14 16:58	06:43 17:35	15:54 (CT7) 18:06	06:00 19:38	06:11 19:38	05:35 20:08	05:25 20:21	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	
21	07:13 16:59	06:41 17:36	15:54 (CT7) 18:07	05:58 19:39	06:09 19:39	05:35 20:08	05:25 20:20	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	
22	07:12 17:00	06:40 17:37	15:54 (CT7) 18:08	05:57 19:40	06:08 19:40	05:34 20:09	05:25 20:19	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	
23	07:12 17:02	06:39 17:39	15:54 (CT7) 18:09	05:55 19:41	06:06 19:41	05:33 20:10	05:26 20:18	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	
24	07:11 17:03	06:37 17:40	15:54 (CT7) 18:10	05:53 19:42	06:05 19:42	05:32 20:11	05:26 20:18	05:44 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	
25	07:10 17:04	06:36 17:41	15:54 (CT7) 18:11	05:52 19:43	06:04 19:43	05:32 20:12	05:26 20:17	05:45 20:17	06:15 19:39	06:44 18:49	07:15 18:02	06:51 16:32	
26	07:10 17:05	06:34 17:42	15:54 (CT7) 18:12	05:50 19:44	06:02 19:44	05:31 20:13	05:26 20:16	05:46 20:16	06:16 19:37	06:45 18:47	07:16 18:01	06:52 16:32	
27	07:09 17:06	06:33 17:43	15:54 (CT7) 18:13	05:48 19:45	06:01 19:45	05:30 20:14	05:27 20:15	05:47 20:15	06:17 19:36	06:46 18:45	07:17 18:00	06:53 16:31	
28	07:08 17:08	06:31 17:44	15:37 (CT7) 17:44	05:47 19:46	06:00 19:46	05:30 20:14	05:27 20:14	05:48 20:14	06:17 19:34	06:47 18:44	07:19 18:00	06:54 16:31	
29	07:07 17:09	06:30 17:45	15:38 (CT7) 17:45	05:46 19:47	05:58 19:47	05:29 20:15	05:28 20:13	05:49 20:13	06:18 19:33	06:48 18:42	07:20 18:00	06:55 16:30	
30	07:07 17:10	06:29 17:46	15:41 (CT7) 17:46	05:45 19:48	05:57 19:48	05:29 20:16	05:28 20:12	05:50 20:12	06:19 19:31	06:49 18:40	07:21 18:00	06:56 16:30	
31	07:06 17:11	06:28 17:47	15:43 (CT7) 17:47	05:44 19:49	05:56 19:49	05:28 20:17	05:28 20:11	05:51 20:11	06:20 19:30	06:52 18:40	07:22 18:00	06:57 16:30	
Potential sun hours	300	298		370	398	446	450	456	426	375	346	300	290
Total, worst case	17	50										69	

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

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

SHADOW - Calendar

Calculation: Worst Case Shadow receptor: Rx 33 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (12)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:17 16:39	07:05 17:12	15:41 (CT7) 15:44 (CT7)	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:17 16:40	07:04 17:14	15:42 (CT7) 15:46 (CT7)	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:26	06:51 18:37	06:24 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	15:42 (CT7) 15:47 (CT7)	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:53 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	15:43 (CT7) 15:50 (CT7)	06:25 17:49	06:35 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	15:44 (CT7) 15:52 (CT7)	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:18	15:46 (CT7) 15:54 (CT7)	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:27	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	07:02 16:29
7	07:18 16:44	06:59 17:20	15:49 (CT7) 15:55 (CT7)	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:18	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	15:55 (CT7)	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:17 16:46	06:57 17:22		06:18 17:54	06:28 19:26	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23		06:16 17:55	06:26 19:27	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:44 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25		06:14 17:56	06:24 19:28	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:58	06:31 19:12	07:00 18:23	06:35 16:42	07:06 16:29
12	07:17 16:49	06:53 17:26		06:13 17:57	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27		06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28		06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:49 17:29		06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39	07:10 16:30
16	07:15 16:54	06:48 17:30		06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:40 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32		06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26	05:39 20:23	06:07 19:50	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:45 17:33		06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:37 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34		06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35		06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36		05:58 18:07	06:09 19:39	05:35 20:08	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:12 17:00	06:40 17:37		05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39		05:55 18:09	06:06 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40		05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:10 17:04	06:36 17:41		05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42		05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:28	05:46 20:16	06:16 19:37	06:45 18:47	06:52 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43		05:48 18:13	06:01 19:45	05:30 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	06:53 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44		05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:17 19:34	06:47 18:44	06:54 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09	06:30 17:45		05:45 18:15	05:58 19:47	05:29 20:15	05:28 20:28	05:49 20:13	06:18 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10	06:29 17:46		05:44 18:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11	15:40 (CT7) 15:41 (CT7)		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298		370	398	446	450	456	426	375	346	300	290
Total, worst case	1	41									45		

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

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

Calculation: Worst Case Shadow receptor: Rx 39 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)

Assumptions for shadow calculations

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

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

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

The WTG is always operating

	January	February	March	April	May	June	
1	07:17 16:39	07:05 17:12	07:36 (CT6) 07:55 (CT6)	06:30 17:45	06:40 19:18	05:56 19:49	18:34 (CT8) 19:02 (CT8)
2	07:18 16:40	07:04 17:14	07:34 (CT6) 07:54 (CT6)	06:28 17:47	06:39 19:19	05:54 19:50	18:34 (CT8) 19:03 (CT8)
3	07:18 16:41	07:03 17:15	07:33 (CT6) 07:52 (CT6)	06:27 17:48	06:37 19:20	05:53 19:51	18:34 (CT8) 19:03 (CT8)
4	07:18 16:42	07:02 17:16	07:34 (CT6) 07:51 (CT6)	06:25 17:49	06:36 19:21	05:52 19:52	18:34 (CT8) 19:03 (CT8)
5	07:18 16:42	07:01 17:17	07:36 (CT6) 07:47 (CT6)	06:24 17:50	06:34 19:22	05:51 19:53	18:34 (CT8) 19:04 (CT8)
6	07:18 16:43	07:00 17:19		06:22 17:51	06:32 19:23	05:50 19:54	18:33 (CT8) 19:04 (CT8)
7	07:18 16:44	06:59 17:20		06:21 17:52	06:31 19:24	05:48 19:55	18:34 (CT8) 19:04 (CT8)
8	07:18 16:45	06:58 17:21		06:19 17:53	06:29 19:25	05:47 19:56	18:34 (CT8) 19:05 (CT8)
9	07:17 16:46	06:57 17:22		06:18 17:54	06:28 19:27	05:46 19:57	18:34 (CT8) 19:05 (CT8)
10	07:17 16:47	06:55 17:23		06:16 17:55	06:26 19:28	05:45 19:58	18:34 (CT8) 19:06 (CT8)
11	07:17 16:48	06:54 17:25		06:14 17:56	06:24 19:29	05:44 19:59	18:35 (CT8) 19:06 (CT8)
12	07:17 16:49	06:53 17:26		06:13 17:58	06:23 19:30	05:43 20:00	18:34 (CT8) 19:05 (CT8)
13	07:17 16:50	06:52 17:27		06:11 17:59	06:21 19:31	05:42 20:01	18:34 (CT8) 19:06 (CT8)
14	07:16 16:51	06:51 17:28		06:10 18:00	06:20 19:32	05:41 20:02	18:34 (CT8) 19:06 (CT8)
15	07:16 16:53	06:49 17:29		06:08 18:01	06:18 19:33	05:40 20:03	18:34 (CT8) 19:06 (CT8)
16	07:16 16:54	06:48 17:31		06:06 18:02	06:17 19:34	05:39 20:04	18:36 (CT8) 19:07 (CT8)
17	07:15 16:55	07:54 (CT6) 07:55 (CT6)	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	18:36 (CT8) 19:07 (CT8)
18	07:15 16:56	1 07:53 (CT6) 07:55 (CT6)	06:45 17:33	06:03 18:04	06:14 19:36	05:37 20:06	18:36 (CT8) 19:08 (CT8)
19	07:14 16:57	2 07:53 (CT6) 07:56 (CT6)	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	18:36 (CT8) 19:08 (CT8)
20	07:14 16:58	3 07:51 (CT6) 07:56 (CT6)	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	18:36 (CT8) 19:08 (CT8)
21	07:13 16:59	5 07:50 (CT6) 07:57 (CT6)	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:09	18:46 (CT8) 18:48 (CT8)
22	07:13 17:00	7 07:49 (CT6) 07:57 (CT6)	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	18:41 (CT8) 18:52 (CT8)
23	07:12 17:02	8 07:47 (CT6) 07:57 (CT6)	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	18:40 (CT8) 18:54 (CT8)
24	07:11 17:03	10 07:46 (CT6) 07:57 (CT6)	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	18:38 (CT8) 18:55 (CT8)
25	07:11 17:04	11 07:45 (CT6) 07:58 (CT6)	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	18:37 (CT8) 18:56 (CT8)
26	07:10 17:05	13 07:43 (CT6) 07:57 (CT6)	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	18:37 (CT8) 18:58 (CT8)
27	07:09 17:06	14 07:42 (CT6) 07:57 (CT6)	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	18:36 (CT8) 18:58 (CT8)
28	07:08 17:08	15 07:41 (CT6) 07:57 (CT6)	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	18:36 (CT8) 19:00 (CT8)
29	07:07 17:09	16 07:39 (CT6) 07:56 (CT6)		06:45 19:15	05:58 19:47	05:29 20:15	18:35 (CT8) 19:00 (CT8)
30	07:07 17:10	17 07:38 (CT6) 07:55 (CT6)		06:44 19:16	05:57 19:48	05:29 20:16	18:35 (CT8) 19:01 (CT8)
31	07:06 17:11	19 07:37 (CT6) 07:56 (CT6)		06:42 19:17		05:28 20:17	18:34 (CT8) 19:01 (CT8)
Potential sun hours	300	298	370	398	446	208	450
Total, worst case	158	86				208	932

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

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

Calculation: Worst Case Shadow receptor: Rx 39 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	July	August	September	October	November	December
1	05:28 20:28	18:39 (CT8) 19:10 (CT8)	05:52 20:10	06:21 19:28	06:50 18:39	06:57 16:53
2	05:29 20:28	18:39 (CT8) 19:10 (CT8)	05:53 20:09	06:22 19:27	06:51 18:37	06:58 16:52
3	05:29 20:28	18:39 (CT8) 19:10 (CT8)	05:54 20:08	06:23 19:25	06:52 18:35	06:59 16:51
4	05:30 20:28	18:39 (CT8) 19:10 (CT8)	05:55 20:07	06:24 19:23	06:53 18:34	07:00 16:50
5	05:31 20:28	18:40 (CT8) 19:10 (CT8)	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49
6	05:31 20:28	18:40 (CT8) 19:10 (CT8)	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48
7	05:32 20:27	18:40 (CT8) 19:10 (CT8)	05:57 20:03	06:27 19:19	06:56 18:29	06:30 16:46
8	05:32 20:27	18:41 (CT8) 19:11 (CT8)	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45
9	05:33 20:27	18:41 (CT8) 19:10 (CT8)	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44
10	05:34 20:26	18:41 (CT8) 19:10 (CT8)	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43
11	05:34 20:26	18:41 (CT8) 19:09 (CT8)	06:01 19:58	06:31 19:12	07:00 18:23	06:35 16:42
12	05:35 20:25	18:42 (CT8) 19:09 (CT8)	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41
13	05:36 20:25	18:43 (CT8) 19:09 (CT8)	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41
14	05:36 20:24	18:44 (CT8) 19:09 (CT8)	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40
15	05:37 20:24	18:44 (CT8) 19:08 (CT8)	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39
16	05:38 20:23	18:45 (CT8) 19:08 (CT8)	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38
17	05:39 20:23	18:46 (CT8) 19:08 (CT8)	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37
18	05:39 20:22	18:47 (CT8) 19:07 (CT8)	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36
19	05:40 20:21	18:47 (CT8) 19:05 (CT8)	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36
20	05:41 20:21	18:48 (CT8) 19:04 (CT8)	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35
21	05:42 20:20	18:50 (CT8) 19:03 (CT8)	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34
22	05:43 20:19	18:53 (CT8) 19:01 (CT8)	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34
23	05:44 20:18		06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33
24	05:44 20:18		06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33
25	05:45 20:17		06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32
26	05:46 20:16		06:16 19:37	06:45 18:47	06:52 17:01	06:52 16:32
27	05:47 20:15		06:17 19:36	06:46 18:45	06:53 17:00	06:53 16:31
28	05:48 20:14		06:18 19:34	06:47 18:44	06:54 16:58	06:54 16:31
29	05:49 20:13		06:18 19:33	06:48 18:42	06:20 16:57	06:55 16:30
30	05:50 20:12		06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30
31	05:51 20:11		06:20 19:30		06:22 16:54	
Potential sun hours	456		426	375	346	300
Total, worst case	552				245	290

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

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

Calculation: Worst Case Shadow receptor: Rx 40 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:47	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 43 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:47	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:46 20:17	06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 45 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (16)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
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9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
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12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
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27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
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31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 46 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
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4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
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16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
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23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
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27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
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31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 47 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:18 16:39	15:08 (CT10) 16:10 (CT10)	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30	14:58 (CT10) 15:54 (CT10)
2	07:18 16:40	15:09 (CT10) 16:10 (CT10)	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30	14:58 (CT10) 15:54 (CT10)
3	07:18 16:41	15:09 (CT10) 16:10 (CT10)	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30	14:58 (CT10) 15:55 (CT10)
4	07:18 16:42	15:10 (CT10) 16:11 (CT10)	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29	14:58 (CT10) 15:56 (CT10)
5	07:18 16:43	15:11 (CT10) 16:11 (CT10)	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29	14:58 (CT10) 15:57 (CT10)
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13	07:17 16:51	15:17 (CT10) 16:11 (CT10)	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29	14:58 (CT10) 16:01 (CT10)
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Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	635	290	1911
Total, worst case	1284											635		1911

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

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

Calculation: Worst Case Shadow receptor: Rx 57 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (19)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
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31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 58 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (20)

Assumptions for shadow calculations

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

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

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

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:54 16:58	06:54 16:31	07:16 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 59 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (21)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
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Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 60 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (22)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:54	06:57 16:30
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Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 64 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (23)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
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16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:32
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:34
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:45 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:52 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:59	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	290
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 65 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (24)

Assumptions for shadow calculations

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

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

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

The WTG is always operating

	January	February	March	April	May	June		
1	07:17	16:02 (CT9)	07:05	16:11 (CT9)	06:30	06:41	05:56	05:28
	16:39	16:14 (CT9)	17:13	16:50 (CT9)	17:46	19:18	19:49	20:18
2	07:18	16:02 (CT9)	07:04	16:12 (CT9)	06:29	06:39	05:55	05:28
	16:40	16:15 (CT9)	17:14	16:51 (CT9)	17:47	19:19	19:50	20:18
3	07:18	16:03 (CT9)	07:03	16:12 (CT9)	06:27	06:37	05:53	05:27
	16:41	16:16 (CT9)	17:15	16:52 (CT9)	17:48	19:20	19:51	20:19
4	07:18	16:03 (CT9)	07:02	16:13 (CT9)	06:26	06:36	05:52	05:27
	16:42	16:17 (CT9)	17:16	16:53 (CT9)	17:49	19:22	19:52	20:20
5	07:18	16:03 (CT9)	07:01	16:14 (CT9)	06:24	06:34	05:51	05:27
	16:43	16:18 (CT9)	17:18	16:55 (CT9)	17:50	19:23	19:53	20:20
6	07:18	16:03 (CT9)	07:00	16:14 (CT9)	06:22	06:33	05:50	05:26
	16:44	16:18 (CT9)	17:19	16:55 (CT9)	17:51	19:24	19:54	20:21
7	07:18	16:03 (CT9)	06:59	16:14 (CT9)	06:21	06:31	05:49	05:26
	16:45	16:19 (CT9)	17:20	16:57 (CT9)	17:52	19:25	19:55	20:22
8	07:18	16:03 (CT9)	06:58	16:15 (CT9)	06:19	06:29	05:48	05:26
	16:46	16:20 (CT9)	17:21	16:58 (CT9)	17:53	19:26	19:56	20:22
9	07:18	16:04 (CT9)	06:57	16:17 (CT9)	06:18	06:28	05:46	05:25
	16:46	16:21 (CT9)	17:22	17:00 (CT9)	17:54	19:27	19:57	20:23
10	07:17	16:04 (CT9)	06:56	16:18 (CT9)	06:16	06:26	05:45	05:25
	16:48	16:23 (CT9)	17:24	17:01 (CT9)	17:56	19:28	19:58	20:23
11	07:17	16:04 (CT9)	06:54	16:19 (CT9)	06:15	06:25	05:44	05:25
	16:49	16:23 (CT9)	17:25	17:03 (CT9)	17:57	19:29	19:59	20:24
12	07:17	16:04 (CT9)	06:53	16:20 (CT9)	06:13	06:23	05:43	05:25
	16:50	16:24 (CT9)	17:26	17:03 (CT9)	17:58	19:30	20:00	20:24
13	07:17	16:05 (CT9)	06:52	16:21 (CT9)	06:11	06:22	05:42	05:25
	16:51	16:26 (CT9)	17:27	17:05 (CT9)	17:59	19:31	20:01	20:25
14	07:16	16:04 (CT9)	06:51	16:23 (CT9)	06:10	06:20	05:41	05:25
	16:52	16:26 (CT9)	17:28	17:06 (CT9)	18:00	19:32	20:02	20:25
15	07:16	16:05 (CT9)	06:49	16:25 (CT9)	06:08	06:18	05:40	05:25
	16:53	16:28 (CT9)	17:30	17:08 (CT9)	18:01	19:33	20:03	20:26
16	07:16	16:05 (CT9)	06:48	16:26 (CT9)	06:07	06:17	05:39	05:25
	16:54	16:29 (CT9)	17:31	17:07 (CT9)	18:02	19:34	20:04	20:26
17	07:15	16:05 (CT9)	06:47	16:29 (CT9)	06:05	06:15	05:38	05:25
	16:55	16:30 (CT9)	17:32	17:05 (CT9)	18:03	19:35	20:05	20:27
18	07:15	16:05 (CT9)	06:46	16:32 (CT9)	06:03	06:14	05:37	05:25
	16:56	16:31 (CT9)	17:33	17:03 (CT9)	18:04	19:36	20:06	20:27
19	07:14	16:06 (CT9)	06:44	16:34 (CT9)	06:02	06:13	05:37	05:25
	16:57	16:33 (CT9)	17:34	16:59 (CT9)	18:05	19:37	20:07	20:27
20	07:14	16:06 (CT9)	06:43	16:39 (CT9)	06:00	06:11	05:36	05:25
	16:58	16:34 (CT9)	17:35	16:55 (CT9)	18:06	19:38	20:08	20:27
21	07:13	16:07 (CT9)	06:42		05:59	06:10	05:35	05:25
	17:00	16:35 (CT9)	17:37		18:07	19:39	20:09	20:28
22	07:13	16:07 (CT9)	06:40		05:57	06:08	05:34	05:26
	17:01	16:36 (CT9)	17:38		18:08	19:40	20:10	20:28
23	07:12	16:07 (CT9)	06:39		05:55	06:07	05:33	05:26
	17:02	16:37 (CT9)	17:39		18:09	19:41	20:10	20:28
24	07:11	16:08 (CT9)	06:37		05:54	06:05	05:33	05:26
	17:03	16:39 (CT9)	17:40		18:10	19:42	20:11	20:28
25	07:11	16:08 (CT9)	06:36		05:52	06:04	05:32	05:26
	17:04	16:40 (CT9)	17:41		18:11	19:43	20:12	20:28
26	07:10	16:08 (CT9)	06:34		05:50	06:03	05:31	05:27
	17:05	16:41 (CT9)	17:42		18:12	19:44	20:13	20:28
27	07:09	16:08 (CT9)	06:33		05:49	06:01	05:31	05:27
	17:07	16:42 (CT9)	17:43		18:13	19:45	20:14	20:29
28	07:08	16:08 (CT9)	06:32		05:47	06:00	05:30	05:27
	17:08	16:44 (CT9)	17:45		18:14	19:46	20:15	20:29
29	07:08	16:09 (CT9)			06:45	05:59	05:30	05:28
	17:09	16:45 (CT9)			19:15	19:47	20:15	20:29
30	07:07	16:10 (CT9)			06:44	05:57	05:29	05:28
	17:10	16:47 (CT9)			19:16	19:48	20:16	20:29
31	07:06	16:11 (CT9)			06:42		05:29	
	17:11	16:48 (CT9)			19:17		20:17	
Potential sun hours	300		298		370	398	446	449
Total, worst case	749		778					

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

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

Calculation: Worst Case Shadow receptor: Rx 65 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (24)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	July	August	September	October	November	December
1	05:29 20:28	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	15:47 (CT9) 16:30
2	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:24 16:52	15:46 (CT9) 16:30
3	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	15:45 (CT9) 16:30
4	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	15:44 (CT9) 16:29
5	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	15:43 (CT9) 16:29
6	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	15:43 (CT9) 16:29
7	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	15:43 (CT9) 16:29
8	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	15:42 (CT9) 16:29
9	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	15:41 (CT9) 16:29
10	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	15:42 (CT9) 16:29
11	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	15:41 (CT9) 16:29
12	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	15:41 (CT9) 16:29
13	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	15:41 (CT9) 16:29
14	05:37 20:24	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	15:41 (CT9) 16:30
15	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	15:41 (CT9) 16:30
16	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	15:41 (CT9) 16:30
17	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	15:41 (CT9) 16:30
18	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	15:42 (CT9) 16:31
19	05:41 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	15:42 (CT9) 16:31
20	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	15:42 (CT9) 16:31
21	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	15:42 (CT9) 16:32
22	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	17:08 (CT9) 06:47	15:42 (CT9) 16:32
23	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	17:04 (CT9) 17:31 (CT9)	15:42 (CT9) 16:33
24	05:45 20:18	06:14 19:41	06:44 18:50	07:14 18:04	17:00 (CT9) 17:33 (CT9)	15:43 (CT9) 16:33
25	05:46 20:17	06:15 19:39	06:44 18:49	07:15 18:02	15:58 (CT9) 16:36 (CT9)	15:44 (CT9) 16:34
26	05:46 20:16	06:16 19:38	06:45 18:47	07:16 18:01	15:55 (CT9) 16:37 (CT9)	15:44 (CT9) 16:35
27	05:47 20:15	06:17 19:36	06:46 18:45	07:17 18:00	15:53 (CT9) 16:36 (CT9)	15:44 (CT9) 16:35
28	05:48 20:14	06:18 19:35	06:47 18:44	07:18 18:00	15:52 (CT9) 16:36 (CT9)	15:44 (CT9) 16:36
29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 17:59	15:51 (CT9) 16:34 (CT9)	15:45 (CT9) 16:37
30	05:50 20:12	06:20 19:31	06:49 18:41	07:20 17:58	15:49 (CT9) 16:33 (CT9)	15:45 (CT9) 16:37
31	05:51 20:11	06:21 19:30	06:50 18:40	07:21 17:57	15:48 (CT9) 16:31 (CT9)	15:45 (CT9) 16:38
Potential sun hours	456	426	375	346	300	291
Total, worst case				376	993	370

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

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

Calculation: Worst Case Shadow receptor: Rx 70 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (25)

Assumptions for shadow calculations

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

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

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

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:20	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:22 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:47	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:24	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:49 17:30	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:37 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:58 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:26 20:28	05:43 20:19	06:12 19:43	06:42 18:54	07:12 18:07	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:28	05:46 20:16	06:16 19:38	06:45 18:47	06:52 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:53 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	06:54 16:58	06:54 16:31	07:16 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
Total, worst case												

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

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

Calculation: Worst CaseShadow receptor: Rx 71 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (26)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:17 16:39	07:05 17:13	16:32 (CT9) 17:46	06:30 19:18	06:41 19:49	05:56 20:18	05:28 20:28	05:29 20:10	05:52 19:28	06:22 18:39	06:50 16:53	06:23 16:30 (CT9)	06:57 16:30
2	07:18 16:40	07:04 17:14	16:33 (CT9) 17:47	06:29 19:19	06:39 19:50	05:55 20:18	05:29 20:28	05:29 20:09	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29 (CT9)
3	07:18 16:41	07:03 17:15	16:33 (CT9) 17:48	06:27 19:20	06:37 19:51	05:53 20:19	05:27 20:28	05:30 20:08	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:49	06:59 16:28 (CT9)
4	07:18 16:42	07:02 17:16	16:34 (CT9) 17:49	06:26 19:22	06:36 19:52	05:52 20:20	05:27 20:28	05:30 20:07	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:26 (CT9)
5	07:18 16:43	07:01 17:18	16:34 (CT9) 17:50	06:24 19:23	06:34 19:53	05:51 20:20	05:26 20:28	05:31 20:06	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:25 (CT9)
6	07:18 16:44	07:00 17:19	16:34 (CT9) 17:51	06:22 19:24	06:33 19:54	05:50 20:21	05:26 20:28	05:31 20:05	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:25 (CT9)
7	07:18 16:45	06:59 17:20	16:35 (CT9) 17:52	06:21 19:25	06:31 19:55	05:49 20:22	05:26 20:27	05:32 20:04	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:23 (CT9)
8	07:18 16:45	06:58 17:21	16:36 (CT9) 17:53	06:19 19:26	06:29 19:56	05:48 20:22	05:26 20:27	05:33 20:02	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:22 (CT9)
9	07:18 16:46	06:57 17:22	16:37 (CT9) 17:54	06:18 19:27	06:28 19:57	05:46 20:23	05:25 20:27	05:33 20:01	05:59 19:15	06:29 18:26	06:58 18:26	06:33 16:45	07:05 16:21 (CT9)
10	07:17 16:47	06:56 17:24	16:39 (CT9) 17:56	06:16 19:28	06:26 19:58	05:45 20:23	05:25 20:26	05:34 20:00	06:00 19:14	06:30 18:24	06:59 18:24	06:34 16:44	07:06 16:20 (CT9)
11	07:17 16:49	06:54 17:25	16:40 (CT9) 17:57	06:15 19:29	06:25 19:59	05:44 20:24	05:25 20:26	05:34 19:59	06:01 19:12	06:31 18:23	07:00 18:23	06:35 16:43	07:07 16:19 (CT9)
12	07:17 16:50	06:53 17:26	16:41 (CT9) 17:58	06:13 19:30	06:23 20:00	05:43 20:24	05:25 20:25	05:35 19:57	06:02 19:10	06:32 18:21	07:01 18:21	06:36 16:42	07:07 16:18 (CT9)
13	07:17 16:51	06:52 17:27	16:43 (CT9) 17:59	06:11 19:31	06:22 20:01	05:42 20:25	05:25 20:25	05:36 19:56	06:03 19:09	06:33 18:20	07:02 18:20	06:37 16:41	07:08 16:17 (CT9)
14	07:16 16:52	06:51 17:28	16:47 (CT9) 18:00	06:10 19:32	06:20 20:02	05:41 20:25	05:25 20:24	05:37 19:55	06:04 19:07	06:34 18:18	07:04 18:18	06:38 16:40	07:09 16:17 (CT9)
15	07:16 16:53	06:49 17:30	16:52 (CT9) 18:01	06:08 19:33	06:18 20:03	05:40 20:26	05:25 20:24	05:37 19:53	06:05 19:05	06:35 18:17	07:05 18:17	06:39 16:39	07:10 16:15 (CT9)
16	07:16 16:54	06:48 17:31	16:57 (CT9) 18:02	06:07 19:34	06:17 20:04	05:39 20:26	05:25 20:23	05:38 19:52	06:06 19:04	06:36 18:15	07:06 18:15	06:41 16:38	07:10 16:14 (CT9)
17	07:15 16:55	06:47 17:32	17:01 (CT9) 18:03	06:05 19:35	06:15 20:05	05:38 20:27	05:25 20:23	05:39 19:51	06:07 19:02	06:37 18:14	07:07 18:14	06:42 16:37	07:11 16:13 (CT9)
18	07:15 16:56	06:46 17:33	17:02 (CT9) 18:04	06:03 19:36	06:14 20:06	05:37 20:27	05:25 20:22	06:08 19:49	06:38 19:00	07:08 18:12	07:08 18:12	06:43 16:37	07:12 16:13 (CT9)
19	07:14 16:57	16:31 (CT9) 17:34	17:03 (CT9) 18:05	06:02 19:37	06:12 20:07	05:37 20:27	05:25 20:21	06:09 19:48	06:39 18:59	07:09 18:11	07:09 18:11	06:44 16:36	07:12 16:12 (CT9)
20	07:14 16:58	16:32 (CT9) 17:35	17:04 (CT9) 18:06	06:01 19:38	06:11 20:08	05:36 20:27	05:25 20:21	06:09 19:46	06:39 18:57	07:09 18:09	07:09 18:09	06:45 16:35	07:13 16:11 (CT9)
21	07:13 17:00	16:31 (CT9) 17:37	17:05 (CT9) 18:07	06:00 19:39	06:10 20:09	05:35 20:28	05:25 20:20	06:11 19:45	06:11 18:55	07:11 18:08	07:11 18:08	06:46 16:35	07:13 16:10 (CT9)
22	07:13 17:01	16:31 (CT9) 17:38	17:06 (CT9) 18:08	05:57 19:40	06:08 20:09	05:34 20:28	05:26 20:19	06:12 19:43	06:42 18:54	07:12 18:07	07:12 18:07	06:47 16:34	07:14 16:10 (CT9)
23	07:12 17:02	16:30 (CT9) 17:39	17:07 (CT9) 18:09	05:55 19:41	06:07 20:10	05:33 20:28	05:26 20:19	06:13 19:42	06:42 18:52	07:13 18:05	07:13 18:05	06:49 16:33	07:14 16:09 (CT9)
24	07:11 17:03	16:31 (CT9) 17:40	17:10 (CT9) 18:10	05:54 19:42	06:05 20:11	05:33 20:28	05:26 20:18	06:14 19:41	06:43 18:50	07:14 18:04	07:14 18:04	06:50 16:33	07:15 16:15 (CT9)
25	07:11 17:04	16:31 (CT9) 17:41	17:11 (CT9) 18:11	05:52 19:43	06:04 20:12	05:32 20:28	05:26 20:17	06:15 19:39	06:44 18:49	07:15 18:02	07:15 18:02	06:51 16:32	07:15 16:16 (CT9)
26	07:10 17:05	16:31 (CT9) 17:42	17:12 (CT9) 18:12	05:50 19:44	06:03 20:13	05:31 20:28	05:27 20:16	06:16 19:38	06:45 18:47	07:16 18:01	07:16 18:01	06:52 16:32	07:16 16:17 (CT9)
27	07:09 17:07	16:31 (CT9) 17:43	17:13 (CT9) 18:13	05:49 19:45	06:01 20:14	05:31 20:29	05:27 20:15	06:17 19:36	06:46 18:45	07:17 18:00	07:17 18:00	06:53 16:31	07:16 16:18 (CT9)
28	07:08 17:08	16:31 (CT9) 17:45	17:14 (CT9) 18:14	05:47 19:46	06:00 20:15	05:30 20:29	05:27 20:14	06:18 19:34	06:47 18:44	07:18 18:00	07:18 18:00	06:54 16:31	07:16 16:19 (CT9)
29	07:08 17:09	16:31 (CT9) 17:45	17:15 (CT9) 18:15	06:45 19:47	05:59 20:15	05:30 20:29	05:28 20:13	06:19 19:33	06:48 18:42	07:19 18:00	07:19 18:00	06:55 16:31	07:17 16:20 (CT9)
30	07:07 17:10	16:32 (CT9) 17:46	17:16 (CT9) 18:16	06:44 19:48	05:57 20:16	05:29 20:29	05:28 20:12	06:20 19:31	06:49 18:41	07:20 18:00	07:20 18:00	06:56 16:31	07:17 16:21 (CT9)
31	07:06 17:11	16:32 (CT9) 17:46	17:17 (CT9) 18:17	06:42 19:48	05:56 20:17	05:28 20:29	05:27 20:11	06:21 19:30	06:50 18:41	07:21 18:00	07:21 18:00	06:57 16:31	07:17 16:22 (CT9)
Potential sun hours	300	298	300	300	300	300	300	300	300	300	300	300	
Total, worst case	117	283	370	398	446	449	456	426	375	346	88	321	291

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

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

Calculation: Worst Case Shadow receptor: Rx 73 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (27)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April		May		June	
1	07:17 16:39	07:05 17:13	06:30 17:46	06:41 19:18		05:56 19:49		18:37 (CT9) 20:18	45 18:41 (CT9)
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19		05:55 19:50	30	18:37 (CT9) 20:18	44 18:42 (CT9)
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20		05:53 19:51	31	18:36 (CT9) 20:19	44 18:42 (CT9)
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22		05:52 19:52	33	18:35 (CT9) 20:20	44 18:43 (CT9)
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23		05:51 19:53	34	18:35 (CT9) 20:20	43 18:44 (CT9)
6	07:18 16:44	07:00 17:19	06:22 17:51	06:33 19:24		05:50 19:54	34	18:35 (CT9) 20:21	43 18:45 (CT9)
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25		05:49 19:55	35	18:34 (CT9) 20:22	42 18:45 (CT9)
8	07:18 16:46	06:58 17:21	06:19 17:53	06:29 19:26		05:48 19:56	37	18:34 (CT9) 20:22	42 18:45 (CT9)
9	07:18 16:47	06:57 17:22	06:18 17:54	06:28 19:27		05:46 19:57	38	18:34 (CT9) 20:23	42 18:46 (CT9)
10	07:17 16:48	06:56 17:24	06:16 17:56	06:26 19:28		05:45 19:58	38	18:34 (CT9) 20:23	40 18:47 (CT9)
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29		05:44 19:59	39	18:34 (CT9) 20:24	39 18:48 (CT9)
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30		05:43 20:00	39	18:34 (CT9) 20:24	38 18:49 (CT9)
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31		05:42 20:01	40	18:34 (CT9) 20:25	37 18:49 (CT9)
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32		05:41 20:02	41	18:34 (CT9) 20:25	37 18:49 (CT9)
15	07:16 16:53	06:49 17:30	06:08 18:01	06:18 19:33		05:40 20:03	41	18:34 (CT9) 20:26	37 18:50 (CT9)
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34		05:39 20:04	42	18:34 (CT9) 20:26	36 18:50 (CT9)
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35		05:38 20:05	42	18:34 (CT9) 20:27	36 18:50 (CT9)
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36		05:37 20:06	43	18:35 (CT9) 20:27	36 18:50 (CT9)
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37		05:37 20:07	43	18:35 (CT9) 20:27	36 18:51 (CT9)
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	2	18:58 (CT9) 19:00 (CT9)	43	18:36 (CT9) 20:27	35 18:51 (CT9)
21	07:13 17:00	06:42 17:37	05:58 18:07	06:10 19:39	7	18:54 (CT9) 19:01 (CT9)	43	18:36 (CT9) 20:27	35 18:51 (CT9)
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	10	18:51 (CT9) 19:02 (CT9)	43	18:36 (CT9) 20:28	35 18:52 (CT9)
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	13	18:49 (CT9) 19:02 (CT9)	43	18:37 (CT9) 20:28	35 18:52 (CT9)
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	16	18:46 (CT9) 19:03 (CT9)	44	18:37 (CT9) 20:28	35 18:52 (CT9)
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	18	18:45 (CT9) 19:04 (CT9)	44	18:37 (CT9) 20:28	35 18:52 (CT9)
26	07:10 17:05	06:34 17:42	05:50 18:12	06:03 19:44	20	18:44 (CT9) 19:04 (CT9)	44	18:38 (CT9) 20:28	36 18:52 (CT9)
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	22	18:42 (CT9) 19:05 (CT9)	44	18:38 (CT9) 20:29	36 18:52 (CT9)
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	24	18:40 (CT9) 19:06 (CT9)	44	18:39 (CT9) 20:29	36 18:52 (CT9)
29	07:08 17:09		06:45 19:15	05:59 19:47	26	18:38 (CT9) 19:05 (CT9)	45	18:39 (CT9) 20:29	37 18:52 (CT9)
30	07:07 17:10		06:44 19:16	05:57 19:48	27	18:38 (CT9) 19:06 (CT9)	45	18:40 (CT9) 20:29	37 18:51 (CT9)
31	07:06 17:11		06:42 19:17		28	18:38 (CT9) 20:17	45	18:40 (CT9) 19:26 (CT9)	38 18:51 (CT9)
Potential sun hours	300	298	370	398		446		449	1150
Total, worst case				213		1252			

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

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

Calculation: Worst Case Shadow receptor: Rx 73 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (27)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	July	August	September	October	November	December	
1	05:29 20:28	18:52 (CT9) 05:52 19:30 (CT9) 20:10	39	18:45 (CT9) 06:22 19:24 (CT9) 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	05:29 20:28	18:51 (CT9) 05:53 19:30 (CT9) 20:09	39	18:45 (CT9) 06:22 19:24 (CT9) 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	05:30 20:28	18:51 (CT9) 05:54 19:31 (CT9) 20:08	38	18:44 (CT9) 06:23 19:22 (CT9) 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	05:30 20:28	18:51 (CT9) 05:55 19:31 (CT9) 20:07	38	18:44 (CT9) 06:24 19:22 (CT9) 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	05:31 20:28	18:51 (CT9) 05:56 19:33 (CT9) 20:06	37	18:44 (CT9) 06:25 19:21 (CT9) 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	05:31 20:28	18:51 (CT9) 05:57 19:34 (CT9) 20:05	36	18:44 (CT9) 06:26 19:20 (CT9) 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	05:32 20:27	18:50 (CT9) 05:58 19:33 (CT9) 20:04	36	18:44 (CT9) 06:27 19:20 (CT9) 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	05:33 20:27	18:51 (CT9) 05:59 19:34 (CT9) 20:02	34	18:45 (CT9) 06:28 19:19 (CT9) 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	05:33 20:27	18:50 (CT9) 05:59 19:34 (CT9) 20:01	33	18:45 (CT9) 06:29 19:18 (CT9) 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	05:34 20:26	18:50 (CT9) 06:00 19:34 (CT9) 20:00	32	18:45 (CT9) 06:30 19:17 (CT9) 19:14	06:59 18:24	06:34 16:44	07:06 16:29
11	05:35 20:26	18:50 (CT9) 06:01 19:34 (CT9) 19:59	30	18:46 (CT9) 06:31 19:16 (CT9) 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	05:35 20:25	18:49 (CT9) 06:02 19:33 (CT9) 19:57	30	18:46 (CT9) 06:32 19:16 (CT9) 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	05:36 20:25	18:49 (CT9) 06:03 19:33 (CT9) 19:56	28	18:47 (CT9) 06:33 19:15 (CT9) 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	05:37 20:24	18:49 (CT9) 06:04 19:33 (CT9) 19:55	27	18:47 (CT9) 06:34 19:14 (CT9) 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	05:37 20:24	18:49 (CT9) 06:05 19:33 (CT9) 19:53	25	18:47 (CT9) 06:35 19:12 (CT9) 19:05	07:05 18:17	06:39 16:39	07:10 16:30
16	05:38 20:23	18:48 (CT9) 06:06 19:32 (CT9) 19:52	23	18:48 (CT9) 06:36 19:11 (CT9) 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	05:39 20:23	18:48 (CT9) 06:07 19:32 (CT9) 19:51	21	18:49 (CT9) 06:37 19:10 (CT9) 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	05:40 20:22	18:48 (CT9) 06:08 19:32 (CT9) 19:49	19	18:50 (CT9) 06:38 19:09 (CT9) 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	05:41 20:21	18:47 (CT9) 06:09 19:32 (CT9) 19:48	17	18:51 (CT9) 06:39 19:08 (CT9) 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	05:41 20:21	18:46 (CT9) 06:10 19:30 (CT9) 19:46	15	18:52 (CT9) 06:40 19:07 (CT9) 18:57	07:10 18:09	06:45 16:35	07:13 16:32
21	05:42 20:20	18:46 (CT9) 06:11 19:30 (CT9) 19:45	12	18:54 (CT9) 06:41 19:06 (CT9) 18:55	07:11 18:08	06:46 16:35	07:13 16:32
22	05:43 20:19	18:46 (CT9) 06:12 19:30 (CT9) 19:43	9	18:56 (CT9) 06:42 19:05 (CT9) 18:54	07:12 18:07	06:47 16:34	07:14 16:32
23	05:44 20:19	18:46 (CT9) 06:13 19:30 (CT9) 19:42	6	18:59 (CT9) 06:43 19:05 (CT9) 18:52	07:13 18:05	06:49 16:33	07:14 16:33
24	05:45 20:18	18:46 (CT9) 06:14 19:29 (CT9) 19:41			18:52 18:04	06:50 16:30	07:15 16:33
25	05:46 20:17	18:46 (CT9) 06:15 19:29 (CT9) 19:39			06:44 18:49	06:51 17:02	07:15 16:34
26	05:46 20:16	18:45 (CT9) 06:16 19:27 (CT9) 19:38			06:45 18:47	06:52 17:01	07:16 16:35
27	05:47 20:15	18:45 (CT9) 06:17 19:27 (CT9) 19:36			06:46 18:45	06:53 17:00	07:16 16:35
28	05:48 20:14	18:45 (CT9) 06:18 19:27 (CT9) 19:34			06:47 18:44	06:54 16:58	07:16 16:36
29	05:49 20:13	18:45 (CT9) 06:19 19:26 (CT9) 19:33			06:48 18:42	06:55 16:57	07:17 16:37
30	05:50 20:12	18:45 (CT9) 06:20 19:26 (CT9) 19:31			06:49 18:41	06:56 16:56	07:17 16:37
31	05:51 20:11	18:45 (CT9) 06:21 19:25 (CT9) 19:30				06:57 16:55	07:17 16:38
Potential sun hours	456	426	375	346	300	291	
Total, worst case	1323	624					

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

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

Calculation: Worst Case Shadow receptor: Rx 77 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (28)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:54	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:54 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:24 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:27 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:46	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:47	06:57 17:22	06:18 17:55	06:28 19:27	05:46 19:57	05:26 20:23	05:33 20:27	06:00 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:48	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:01 20:00	06:30 19:14	06:59 18:25	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:12 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
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18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:38 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:32
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:26 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:33
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:34 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:34	07:15 16:33
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25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:45 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:06	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:47 20:16	06:16 19:38	06:45 18:47	06:57 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	06:58 17:00	06:53 16:32	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:28 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:59 16:59	06:54 16:31	07:16 16:36
29	07:08 17:09		06:46 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:38
31	07:06 17:12		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 78 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (29)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:54	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:54 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:24 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
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7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
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9	07:18 16:47	06:57 17:22	06:18 17:55	06:28 19:27	05:46 19:57	05:26 20:23	05:33 20:27	06:00 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
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12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:11	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:12 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:38	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:38 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:32
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:26 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:33
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:34 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:34	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:34
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:45 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:06	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:47 20:16	06:16 19:38	06:45 18:47	06:52 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	06:53 17:00	06:53 16:32	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:28 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:54 16:59	06:54 16:31	07:16 16:36
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31	07:06 17:12		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 79 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (30)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor 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	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19								
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	16 07:57 (CT9)	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:54
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	15 07:55 (CT9)	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	15 07:54 (CT9)	05:52 19:52	05:27 20:19	05:30 20:28	05:54 20:08	06:24 19:25	06:52 18:36	06:26 16:51
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	15 07:52 (CT9)	05:51 19:52	05:27 20:20	05:31 20:28	05:56 20:07	06:25 19:24	06:54 18:34	06:28 16:50
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	13 07:49 (CT9)	05:50 19:53	05:26 20:21	05:31 20:28	05:57 20:06	06:26 19:22	07:31 (CT9) 18:32	06:55 16:49
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	11 07:46 (CT9)	05:49 19:54	05:26 20:21	05:32 20:28	05:58 20:05	06:27 19:20	07:42 (CT9) 18:31	06:56 16:48
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10	07:17 16:48	06:56 17:24	06:16 17:56	06:26 19:28		05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	07:47 (CT9) 18:25	06:59 16:44
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29		05:44 19:59	05:25 20:24	05:35 20:26	06:01 19:59	06:31 19:12	07:48 (CT9) 18:23	07:00 16:43
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30		05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:11	07:49 (CT9) 18:21	07:02 16:42
13	07:17 16:51	06:52 17:27	06:12 17:59	06:22 19:31		05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:50 (CT9) 18:20	07:03 16:41
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32		05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:51 (CT9) 18:18	07:04 16:40
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33		05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:52 (CT9) 18:17	07:05 16:39
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34		05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:53 (CT9) 18:15	07:06 16:38
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35		05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:54 (CT9) 18:14	07:07 16:38
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36		05:38 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:55 (CT9) 18:12	07:08 16:37
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37		05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:56 (CT9) 18:11	07:09 16:36
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38		05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:57 (CT9) 18:09	07:10 16:35
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39		05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:58 (CT9) 18:08	07:11 16:35
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40		05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:59 (CT9) 18:07	07:12 16:34
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25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43		05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:45 18:49	07:59 (CT9) 18:02	07:15 16:32
26	07:10 17:06	06:35 17:42	05:50 18:12	06:03 19:44		05:31 20:13	05:27 20:29	05:47 20:16	06:16 19:38	06:45 18:47	07:59 (CT9) 18:01	07:16 16:32
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28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46		05:30 20:15	05:28 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:59 (CT9) 18:00	07:18 16:31
29	07:08 17:09	06:32 17:45	05:47 18:14	06:00 19:46		05:30 20:15	05:28 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:59 (CT9) 18:00	07:18 16:31
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31	07:06 17:12	06:30 17:47	05:45 18:16	05:57 19:48		05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	07:59 (CT9) 18:00	07:20 16:30
Potential sun hours	300	298	370	398	85	446	449	456	426	375	205	346
Total, worst case			116									291

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

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

SHADOW - Calendar

Calculation: Worst Case Shadow receptor: Rx 82 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (31)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:27 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
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9	07:18 16:47	06:57 17:22	06:18 17:55	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	06:00 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:48	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:25	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
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16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
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19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:32
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22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
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26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 84 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (32)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:27 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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9	07:18 16:47	06:57 17:22	06:18 17:55	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	06:00 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
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12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:12 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:32
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:34
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
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31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
Total, worst case												

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

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

Calculation: Worst Case Shadow receptor: Rx 94 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (33)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	15:54 (PLT29) 17:12	07:05 17:46	06:30 17:19 (PLT19)	06:40 19:18	05:56 19:49
2	07:18 16:40	15:54 (PLT29) 17:14	07:04 17:47	06:29 17:48	06:39 19:19	05:54 19:50
3	07:18 16:41	15:55 (PLT29) 17:15	07:03 17:48	06:27 17:48	06:37 19:20	05:53 19:51
4	07:18 16:42	15:56 (PLT29) 17:16	07:02 17:49	06:26 17:49	06:36 19:22	05:52 19:52
5	07:18 16:42	15:57 (PLT29) 17:17	07:01 17:50	06:24 17:50	06:34 19:23	05:51 19:53
6	07:18 16:43	15:58 (PLT29) 17:19	07:00 17:51	06:22 17:51	06:32 19:24	05:50 19:54
7	07:18 16:44	15:58 (PLT29) 17:20	06:59 17:52	06:21 17:52	06:31 19:25	05:48 19:55
8	07:18 16:45	15:59 (PLT29) 17:21	06:58 17:53	06:19 17:53	06:29 19:26	05:47 19:56
9	07:18 16:46	16:01 (PLT29) 17:22	06:57 17:54	06:18 17:54	06:28 19:27	05:46 19:57
10	07:18 16:47	16:03 (PLT29) 17:23	06:56 17:55	06:16 17:55	06:26 19:28	05:45 19:58
11	07:17 16:48	16:09 (PLT29) 17:23	06:56 17:55	06:15 17:55	06:25 19:29	05:44 19:59
12	07:17 16:49	16:09 (PLT29) 17:24	06:55 17:56	06:14 17:56	06:24 19:30	05:43 20:00
13	07:17 16:50	16:09 (PLT29) 17:25	06:54 17:57	06:13 17:57	06:23 19:31	05:42 20:01
14	07:16 16:51	16:09 (PLT29) 17:26	06:53 17:58	06:12 17:58	06:22 19:32	05:41 20:02
15	07:16 16:53	16:09 (PLT29) 17:27	06:52 17:59	06:11 17:59	06:21 19:33	05:40 20:03
16	07:16 16:54	16:09 (PLT29) 17:28	06:51 18:00	06:10 18:00	06:20 19:34	05:39 20:04
17	07:15 16:55	16:09 (PLT29) 17:29	06:50 18:01	06:09 18:01	06:19 19:35	05:38 20:05
18	07:15 16:56	16:09 (PLT29) 17:30	06:49 18:02	06:08 18:02	06:18 19:36	05:37 20:06
19	07:14 16:57	16:09 (PLT29) 17:31	06:48 18:03	06:07 18:03	06:17 19:37	05:36 20:07
20	07:14 16:58	16:09 (PLT29) 17:32	06:47 18:04	06:06 18:04	06:16 19:38	05:35 20:08
21	07:13 16:59	16:09 (PLT29) 17:33	06:46 18:05	06:05 18:05	06:15 19:39	05:34 20:09
22	07:13 17:00	16:09 (PLT29) 17:34	06:45 18:06	06:04 18:06	06:14 19:40	05:33 20:10
23	07:12 17:02	16:09 (PLT29) 17:35	06:44 18:07	06:03 18:07	06:13 19:41	05:32 20:11
24	07:11 17:03	16:09 (PLT29) 17:36	06:43 18:08	06:02 18:08	06:12 19:42	05:31 20:12
25	07:11 17:04	16:09 (PLT29) 17:37	06:42 18:09	06:01 18:09	06:11 19:43	05:30 20:13
26	07:10 17:05	16:09 (PLT29) 17:38	06:41 18:10	06:00 18:10	06:10 19:44	05:29 20:14
27	07:09 17:06	16:09 (PLT29) 17:39	06:40 18:11	05:59 18:11	06:09 19:45	05:28 20:15
28	07:08 17:08	16:09 (PLT29) 17:40	06:39 18:12	05:58 18:12	06:08 19:46	05:27 20:16
29	07:08 17:09	16:09 (PLT29) 17:41	06:38 18:13	05:57 18:13	06:07 19:47	05:26 20:17
30	07:07 17:10	16:09 (PLT29) 17:42	06:37 18:14	05:56 18:14	06:06 19:48	05:25 20:18
31	07:06 17:11	16:09 (PLT29) 17:43	06:36 18:15	05:55 18:15	06:05 19:49	05:24 20:19
Potential sun hours	300	298	370	398	446	450
Total, worst case	130	347	239	398	54	1294

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

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

Calculation: Worst Case Shadow receptor: Rx 94 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (33)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, 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	05:28 20:29	07:01 (PLT20) 07:46 (PLT20)	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53
2	05:29 20:29	07:02 (PLT20) 07:45 (PLT20)	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:30
3	05:29 20:28	07:03 (PLT20) 07:45 (PLT20)	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:29
4	05:30 20:28	07:03 (PLT20) 07:44 (PLT20)	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:29
5	05:30 20:28	07:04 (PLT20) 07:44 (PLT20)	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:29
6	05:31 20:28	07:05 (PLT20) 07:43 (PLT20)	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:29
7	05:32 20:27	07:06 (PLT20) 07:43 (PLT20)	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:46
8	05:32 20:27	07:07 (PLT20) 07:43 (PLT20)	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:45
9	05:33 20:27	07:08 (PLT20) 07:41 (PLT20)	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44
10	05:34 20:26	07:10 (PLT20) 07:36 (PLT20)	06:00 19:59	06:30 19:14	06:59 18:24	06:34 16:43
11	05:34 20:26	07:11 (PLT20) 07:39 (PLT20)	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42
12	05:35 20:26	07:13 (PLT20) 07:38 (PLT20)	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41
13	05:36 20:25	07:15 (PLT20) 07:36 (PLT20)	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41
14	05:36 20:25	07:18 (PLT20) 07:34 (PLT20)	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40
15	05:37 20:24	07:22 (PLT20) 07:29 (PLT20)	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39
16	05:38 20:24		06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38
17	05:39 20:23		06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37
18	05:39 20:22		06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:30
19	05:40 20:22		06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:31
20	05:41 20:21		06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:31
21	05:42 20:20		06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:32
22	05:43 20:19		06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:32
23	05:44 20:19		06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33
24	05:44 20:18		06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33
25	05:45 20:17		06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:34
26	05:46 20:16		06:16 19:38	06:45 18:47	07:17 17:01	06:52 16:34
27	05:47 20:15		06:17 19:36	06:46 18:45	07:18 17:00	06:53 16:35
28	05:48 20:14		06:18 19:35	06:47 18:44	07:19 16:58	06:54 16:36
29	05:49 20:13		06:19 19:33	06:48 18:42	07:20 16:57	06:55 16:36
30	05:50 20:12		06:19 19:31	06:49 18:40	07:21 16:56	06:56 16:37
31	05:51 20:11		06:20 19:30		06:22 16:54	07:17 16:38
Potential sun hours	457	426	375	346	300	290
Total, worst case	483			597		491

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

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

Calculation: Worst Case Shadow receptor: Rx 95 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (34)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor 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	07:18 16:39	07:05 17:12	08:02 (PLT21) 08:23 (PLT21)	06:30 17:46	15:53 (PLT19) 16:46 (PLT19)	06:40 19:18
2	07:18 16:40	07:04 17:14	08:01 (PLT21) 08:24 (PLT21)	06:29 17:47	15:51 (PLT19) 16:47 (PLT19)	06:39 19:19
3	07:18 16:41	07:03 17:15	08:01 (PLT21) 08:25 (PLT21)	06:27 17:48	15:50 (PLT19) 16:48 (PLT19)	06:37 19:20
4	07:18 16:42	07:02 17:16	08:00 (PLT21) 08:26 (PLT21)	06:26 17:49	15:49 (PLT19) 16:49 (PLT19)	06:36 19:22
5	07:18 16:42	07:01 17:17	08:00 (PLT21) 08:27 (PLT21)	06:24 17:50	15:48 (PLT19) 16:50 (PLT19)	06:34 19:23
6	07:18 16:43	07:00 17:19	07:59 (PLT21) 08:28 (PLT21)	06:22 17:51	15:46 (PLT19) 16:51 (PLT19)	06:32 19:24
7	07:18 16:44	06:59 17:20	07:58 (PLT21) 08:27 (PLT21)	06:21 17:52	15:46 (PLT19) 16:52 (PLT19)	06:31 19:25
8	07:18 16:45	06:58 17:21	07:58 (PLT21) 08:27 (PLT21)	06:19 17:53	15:45 (PLT19) 16:52 (PLT19)	06:29 19:26
9	07:18 16:46	06:57 17:22	07:58 (PLT21) 08:28 (PLT21)	06:18 17:54	15:44 (PLT19) 16:52 (PLT19)	06:28 19:27
10	07:18 16:47	06:56 17:23	07:59 (PLT21) 08:28 (PLT21)	06:16 17:55	15:43 (PLT19) 16:53 (PLT19)	06:26 19:28
11	07:17 16:48	06:54 17:25	07:59 (PLT21) 08:28 (PLT21)	06:15 17:57	15:42 (PLT19) 16:53 (PLT19)	06:25 19:29
12	07:17 16:49	06:53 17:26	08:00 (PLT21) 08:28 (PLT21)	06:13 17:58	15:42 (PLT19) 16:54 (PLT19)	06:23 19:30
13	07:17 16:50	06:52 17:27	07:59 (PLT21) 08:27 (PLT21)	06:11 17:59	15:42 (PLT19) 16:53 (PLT19)	06:21 19:31
14	07:17 16:51	06:51 17:28	08:00 (PLT21) 08:26 (PLT21)	06:10 18:00	15:41 (PLT19) 16:53 (PLT19)	06:20 19:32
15	07:16 16:53	06:50 17:29	08:01 (PLT21) 08:26 (PLT21)	06:08 18:01	15:41 (PLT19) 16:54 (PLT19)	06:18 19:33
16	07:16 16:54	06:48 17:31	08:02 (PLT21) 08:24 (PLT21)	06:07 18:02	15:41 (PLT19) 16:53 (PLT19)	06:17 19:34
17	07:15 16:55	06:47 17:32	08:03 (PLT21) 08:23 (PLT21)	06:05 18:03	15:40 (PLT19) 16:52 (PLT19)	06:15 19:35
18	07:15 16:56	06:46 17:33	08:05 (PLT21) 08:21 (PLT21)	06:03 18:04	15:41 (PLT19) 16:52 (PLT19)	06:14 19:36
19	07:14 16:57	06:44 17:34	08:07 (PLT21) 08:17 (PLT21)	06:02 18:05	15:40 (PLT19) 16:52 (PLT19)	06:12 19:37
20	07:14 16:58	06:43 17:35	06:00 18:06	06:00 18:06	15:40 (PLT19) 16:51 (PLT19)	06:11 19:38
21	07:13 16:59	06:42 17:36	05:58 18:07	05:58 18:07	15:41 (PLT19) 16:52 (PLT19)	06:09 19:39
22	07:13 17:00	06:40 17:38	16:15 (PLT19) 16:25 (PLT19)	05:57 18:08	15:41 (PLT19) 16:51 (PLT19)	06:08 19:40
23	07:12 17:02	06:39 17:39	16:09 (PLT19) 16:32 (PLT19)	05:55 18:09	15:40 (PLT19) 16:50 (PLT19)	06:07 19:41
24	07:11 17:03	06:37 17:40	16:04 (PLT19) 16:35 (PLT19)	05:54 18:10	15:41 (PLT19) 16:51 (PLT19)	06:05 19:42
25	07:11 17:04	06:36 17:41	16:02 (PLT19) 16:39 (PLT19)	05:52 18:11	15:42 (PLT19) 16:49 (PLT19)	06:04 19:43
26	07:10 17:05	06:35 17:42	15:59 (PLT19) 16:40 (PLT19)	05:50 18:12	15:43 (PLT19) 16:48 (PLT19)	06:02 19:44
27	07:09 17:06	06:33 17:43	15:57 (PLT19) 16:43 (PLT19)	05:49 18:13	15:43 (PLT19) 16:47 (PLT19)	06:01 19:45
28	07:08 17:08	06:32 17:44	15:55 (PLT19) 16:44 (PLT19)	05:47 18:14	15:43 (PLT19) 16:46 (PLT19)	06:00 19:46
29	07:08 17:09	08:08 (PLT21) 08:17 (PLT21)		06:45 19:15	16:45 (PLT19) 17:45 (PLT19)	05:58 19:47
30	07:07 17:10	15 08:05 (PLT21) 08:20 (PLT21)		06:44 19:16	16:45 (PLT19) 17:44 (PLT19)	05:57 19:48
31	07:06 17:11	08:04 (PLT21) 08:22 (PLT21)		06:42 19:17	16:46 (PLT19) 17:42 (PLT19)	05:56 19:49
Potential sun hours	300	298	370	398	353	446
Total, worst case	42	708	2057	353	611	965

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

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

SHADOW - Calendar

Calculation: Worst Case Shadow receptor: Rx 95 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (34)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

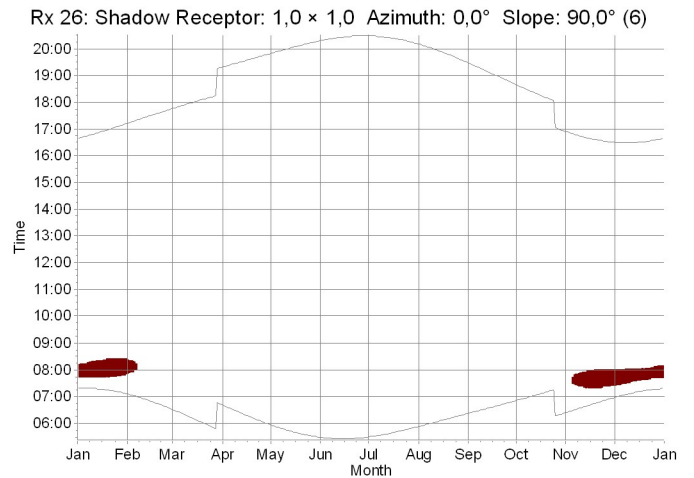
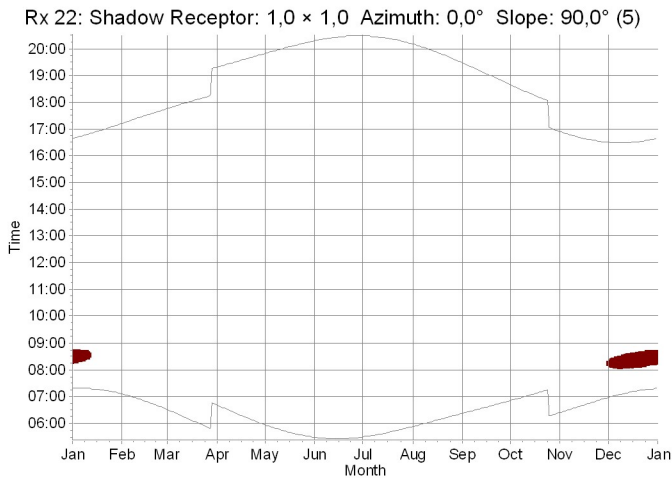
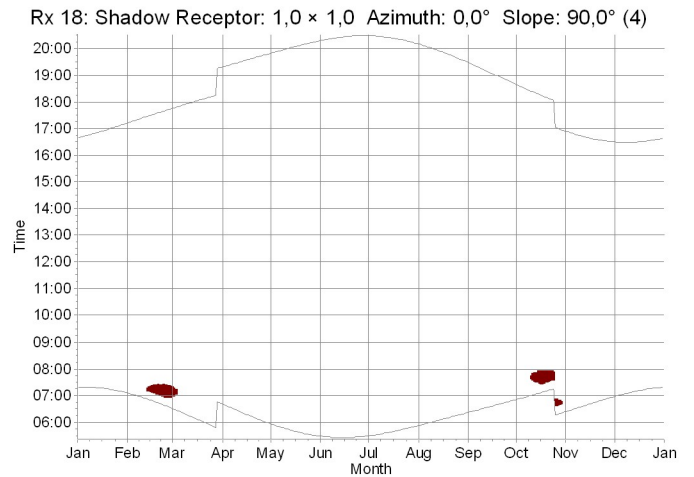
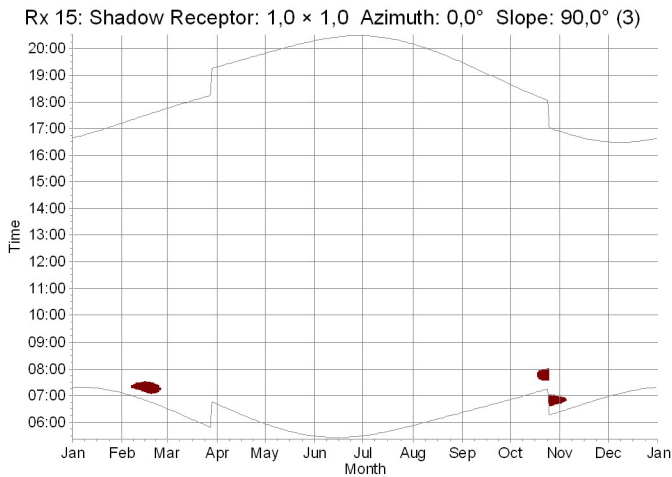
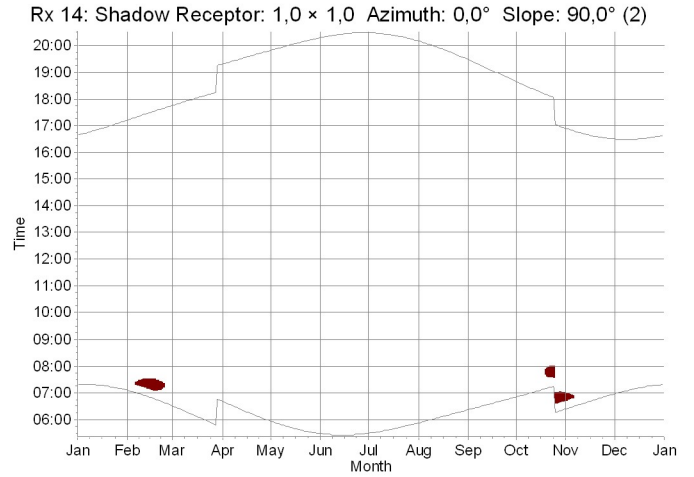
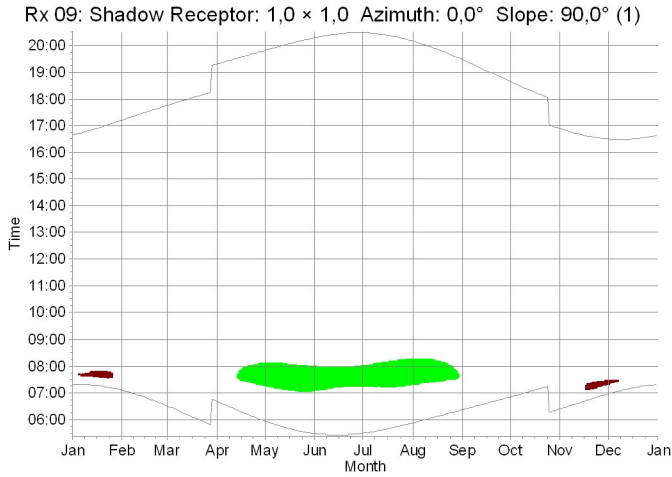
	July		August		September		October		November		December	
1	05:28	06:36 (PLT20)	05:52	06:48 (PLT20)	06:21	06:50	16:21 (PLT19)	06:23	07:28 (PLT21)	06:57		
	20:29	32 07:08 (PLT20)	20:10	14 07:02 (PLT20)	19:28	18:39	71 17:32 (PLT19)	16:53	30 07:58 (PLT21)	16:30		
2	05:29	06:36 (PLT20)	05:53	06:51 (PLT20)	06:22	06:51	16:21 (PLT19)	06:25	07:28 (PLT21)	06:58		
	20:29	32 07:08 (PLT20)	20:09	8 06:59 (PLT20)	19:27	18:37	71 17:32 (PLT19)	16:52	30 07:58 (PLT21)	16:30		
3	05:29	06:36 (PLT20)	05:54		06:23	17:02 (PLT19)	06:52	16:21 (PLT19)	06:26	07:28 (PLT21)	06:59	
	20:28	33 07:09 (PLT20)	20:08		19:25	18 17:20 (PLT19)	18:36	70 17:31 (PLT19)	16:51	29 07:57 (PLT21)	16:29	
4	05:30	06:36 (PLT20)	05:55		06:24	16:57 (PLT19)	06:53	16:21 (PLT19)	06:27	07:28 (PLT21)	07:00	
	20:28	33 07:09 (PLT20)	20:07		19:24	26 17:23 (PLT19)	18:34	69 17:30 (PLT19)	16:50	29 07:57 (PLT21)	16:29	
5	05:30	06:36 (PLT20)	05:55		06:25	16:54 (PLT19)	06:54	16:21 (PLT19)	06:28	07:29 (PLT21)	07:01	
	20:28	33 07:09 (PLT20)	20:06		19:22	32 17:26 (PLT19)	18:32	68 17:29 (PLT19)	16:49	28 07:57 (PLT21)	16:29	
6	05:31	06:36 (PLT20)	05:56		06:26	16:51 (PLT19)	06:55	16:21 (PLT19)	06:29	07:30 (PLT21)	07:02	
	20:28	33 07:09 (PLT20)	20:05		19:20	37 17:28 (PLT19)	18:31	67 17:28 (PLT19)	16:48	27 07:57 (PLT21)	16:29	
7	05:32	06:36 (PLT20)	05:57		06:27	16:48 (PLT19)	06:56	16:22 (PLT19)	06:30	07:30 (PLT21)	07:03	
	20:27	34 07:10 (PLT20)	20:04		19:19	41 17:29 (PLT19)	18:29	65 17:27 (PLT19)	16:46	26 07:56 (PLT21)	16:29	
8	05:32	06:37 (PLT20)	05:58		06:28	16:45 (PLT19)	06:57	16:22 (PLT19)	06:31	07:31 (PLT21)	07:04	
	20:27	34 07:11 (PLT20)	20:02		19:17	45 17:30 (PLT19)	18:28	63 17:25 (PLT19)	16:45	24 07:55 (PLT21)	16:29	
9	05:33	06:36 (PLT20)	05:59		06:29	16:43 (PLT19)	06:58	16:23 (PLT19)	06:33	07:32 (PLT21)	07:05	
	20:27	34 07:10 (PLT20)	20:01		19:15	48 17:31 (PLT19)	18:26	61 17:24 (PLT19)	16:44	23 07:55 (PLT21)	16:29	
10	05:34	06:37 (PLT20)	06:00		06:30	16:42 (PLT19)	06:59	16:24 (PLT19)	06:34	07:33 (PLT21)	07:06	
	20:26	34 07:11 (PLT20)	20:00		19:14	50 17:32 (PLT19)	18:24	59 17:23 (PLT19)	16:43	21 07:54 (PLT21)	16:29	
11	05:34	06:36 (PLT20)	06:01		06:31	16:40 (PLT19)	07:00	16:24 (PLT19)	06:35	07:35 (PLT21)	07:07	
	20:26	34 07:10 (PLT20)	19:59		19:12	53 17:33 (PLT19)	18:23	57 17:21 (PLT19)	16:42	17 07:52 (PLT21)	16:29	
12	05:35	06:36 (PLT20)	06:02		06:32	16:38 (PLT19)	07:01	16:25 (PLT19)	06:36	07:36 (PLT21)	07:08	
	20:26	35 07:11 (PLT20)	19:57		19:10	56 17:34 (PLT19)	18:21	54 17:19 (PLT19)	16:41	15 07:51 (PLT21)	16:29	
13	05:36	06:37 (PLT20)	06:03		06:33	16:36 (PLT19)	07:03	16:27 (PLT19)	06:37	07:37 (PLT21)	07:08	
	20:25	34 07:11 (PLT20)	19:56		19:09	59 17:35 (PLT19)	18:20	52 17:19 (PLT19)	16:41	9 07:49 (PLT21)	16:29	
14	05:36	06:37 (PLT20)	06:04		06:34	16:35 (PLT19)	07:04	16:29 (PLT19)	06:38		07:09	
	20:25	35 07:12 (PLT20)	19:55		19:07	60 17:35 (PLT19)	18:18	48 17:17 (PLT19)	16:40		16:29	
15	05:37	06:37 (PLT20)	06:05		06:35	16:34 (PLT19)	07:05	16:30 (PLT19)	06:40		07:10	
	20:24	34 07:11 (PLT20)	19:53		19:05	62 17:36 (PLT19)	18:17	44 17:14 (PLT19)	16:39		16:30	
16	05:38	06:37 (PLT20)	06:06		06:36	16:32 (PLT19)	07:06	16:32 (PLT19)	06:41		07:11	
	20:24	35 07:12 (PLT20)	19:52		19:04	64 17:36 (PLT19)	18:15	40 17:12 (PLT19)	16:38		16:30	
17	05:39	06:38 (PLT20)	06:07		06:37	16:31 (PLT19)	07:07	16:34 (PLT19)	06:42		07:11	
	20:23	34 07:12 (PLT20)	19:51		19:02	66 17:37 (PLT19)	18:14	35 17:09 (PLT19)	16:37		16:30	
18	05:39	06:38 (PLT20)	06:08		06:38	16:30 (PLT19)	07:08	16:37 (PLT19)	06:43		07:12	
	20:22	34 07:12 (PLT20)	19:49		19:00	67 17:37 (PLT19)	18:12	29 17:06 (PLT19)	16:36		16:30	
19	05:40	06:38 (PLT20)	06:09		06:39	16:28 (PLT19)	07:09	16:41 (PLT19)	06:44		07:12	
	20:22	33 07:11 (PLT20)	19:48		18:59	68 17:36 (PLT19)	18:11	20 17:01 (PLT19)	16:36		16:31	
20	05:41	06:38 (PLT20)	06:10		06:40	16:27 (PLT19)	07:10		06:45		07:13	
	20:21	33 07:11 (PLT20)	19:46		18:57	69 17:36 (PLT19)	18:09		16:35		16:31	
21	05:42	06:39 (PLT20)	06:11		06:41	16:26 (PLT19)	07:11		06:46		07:14	
	20:20	32 07:11 (PLT20)	19:45		18:55	70 17:36 (PLT19)	18:08		16:34		16:32	
22	05:43	06:39 (PLT20)	06:12		06:41	16:25 (PLT19)	07:12		06:48		07:14	
	20:19	32 07:11 (PLT20)	19:44		18:54	71 17:36 (PLT19)	18:06		16:34		16:32	
23	05:44	06:40 (PLT20)	06:13		06:42	16:24 (PLT19)	07:13	08:37 (PLT21)	06:49		07:15	
	20:19	31 07:11 (PLT20)	19:42		18:52	72 17:36 (PLT19)	18:05	12 08:49 (PLT21)	16:33		16:33	
24	05:44	06:39 (PLT20)	06:14		06:43	16:24 (PLT19)	07:14	08:34 (PLT21)	06:50		07:15	
	20:18	31 07:10 (PLT20)	19:41		18:50	72 17:36 (PLT19)	18:04	17 08:51 (PLT21)	16:33		16:33	
25	05:45	06:40 (PLT20)	06:15		06:44	16:23 (PLT19)	06:15	07:32 (PLT21)	06:51		07:16	
	20:17	30 07:10 (PLT20)	19:39		18:49	72 17:35 (PLT19)	17:02	21 07:53 (PLT21)	16:32		16:34	
26	05:46	06:41 (PLT20)	06:16		06:45	16:23 (PLT19)	06:17	07:31 (PLT21)	06:52		07:16	
	20:16	28 07:09 (PLT20)	19:38		18:47	72 17:35 (PLT19)	17:01	23 07:54 (PLT21)	16:32		16:34	
27	05:47	06:42 (PLT20)	06:17		06:46	16:22 (PLT19)	06:18	07:31 (PLT21)	06:53		07:16	
	20:15	27 07:09 (PLT20)	19:36		18:45	73 17:35 (PLT19)	17:00	25 07:56 (PLT21)	16:31		16:35	
28	05:48	06:43 (PLT20)	06:18		06:47	16:22 (PLT19)	06:19	07:30 (PLT21)	06:54		07:17	
	20:14	25 07:08 (PLT20)	19:35		18:44	72 17:34 (PLT19)	16:58	26 07:56 (PLT21)	16:31		16:36	
29	05:49	06:44 (PLT20)	06:19		06:48	16:21 (PLT19)	06:20	07:29 (PLT21)	06:55		07:17	
	20:13	23 07:07 (PLT20)	19:33		18:42	73 17:34 (PLT19)	16:57	27 07:56 (PLT21)	16:30		16:36	
30	05:50	06:45 (PLT20)	06:19		06:49	16:21 (PLT19)	06:21	07:28 (PLT21)	06:56		07:17	
	20:12	21 07:06 (PLT20)	19:31		18:40	72 17:33 (PLT19)	16:56	29 07:57 (PLT21)	16:30		16:37	
31	05:51	06:47 (PLT20)	06:20				06:22	07:28 (PLT21)			07:17	
	20:11	18 07:05 (PLT20)	19:30				16:55	29 07:57 (PLT21)			16:38	
Potential sun hours	457		426		375		346		300		290	
Total, worst case	971		22		1640		1252		308			

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

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

Calculation: Worst Case



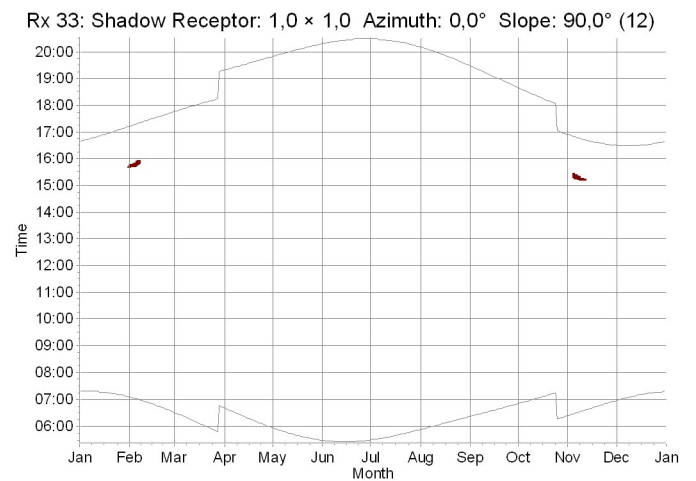
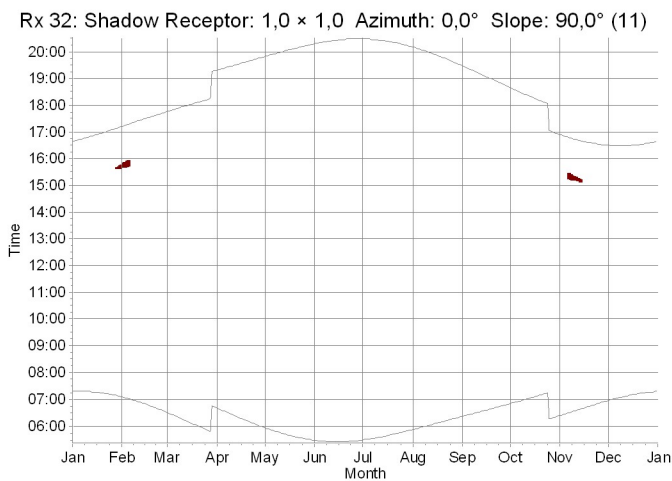
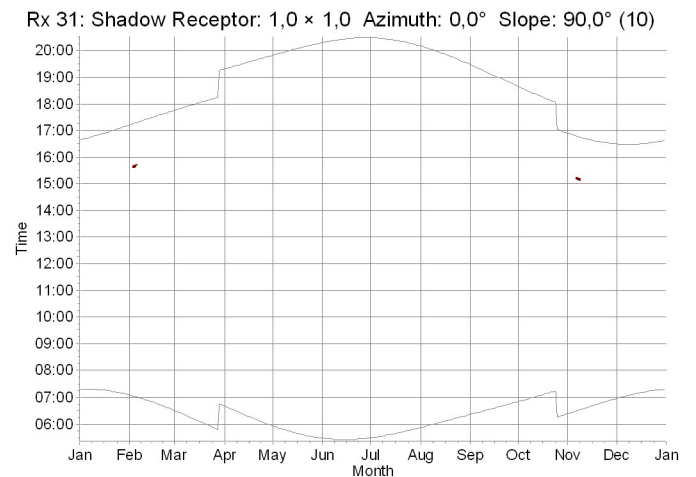
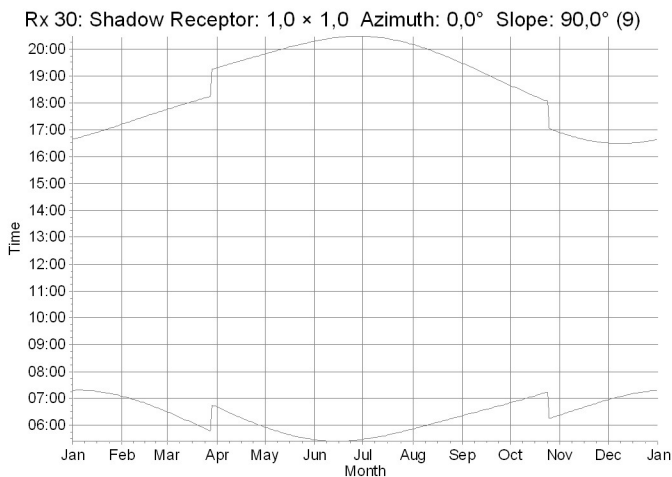
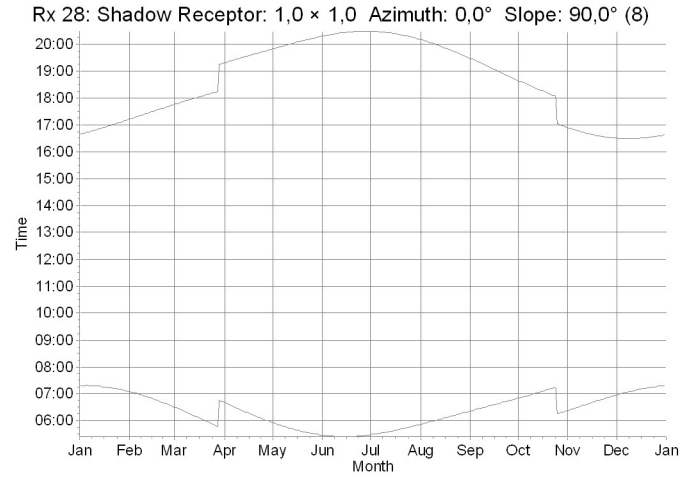
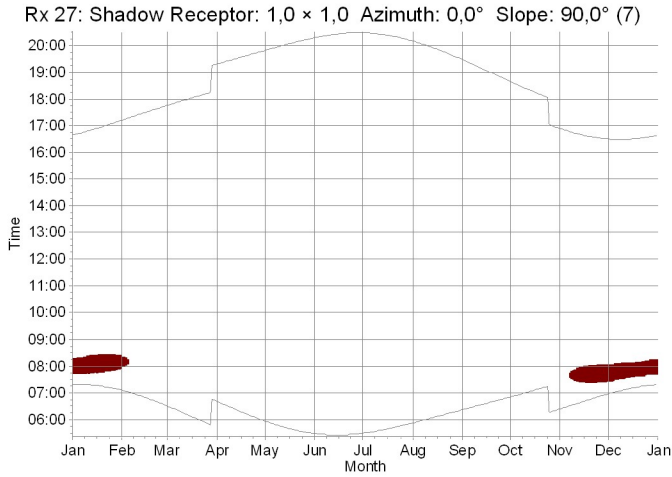
WTGs

CT7: VESTAS V150-6.0 6000 150.0 IOfI hub: 125,0 m (TOT: 200,0 m) (7)

CT8: VESTAS V150-6.0 6000 150.0 IOfI hub: 125,0 m (TOT: 200,0 m) (8)

SHADOW - Calendar, graphical

Calculation: Worst Case

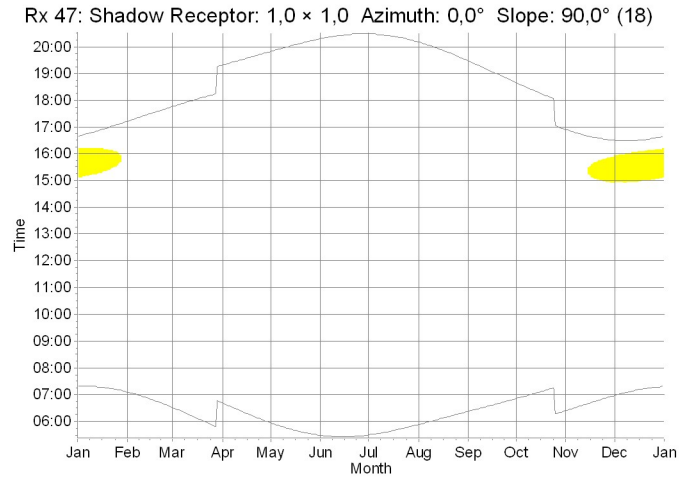
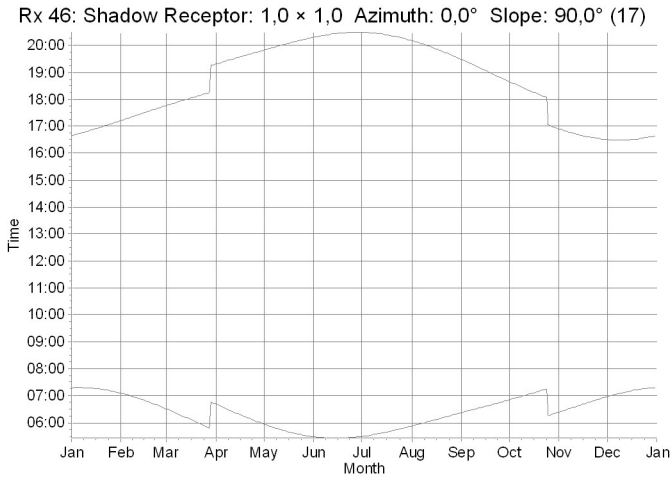
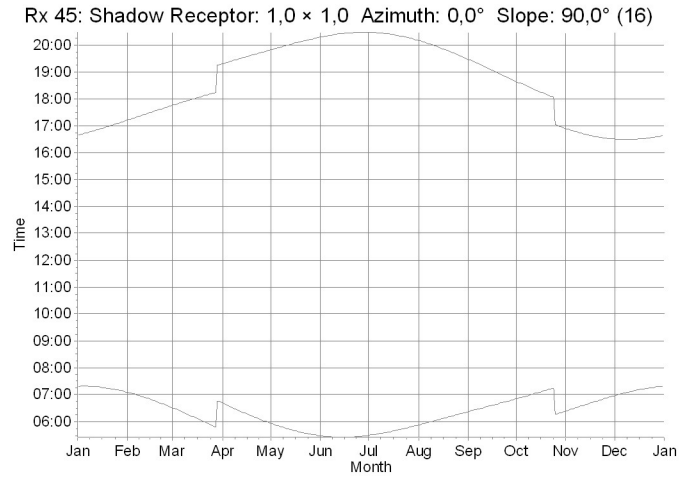
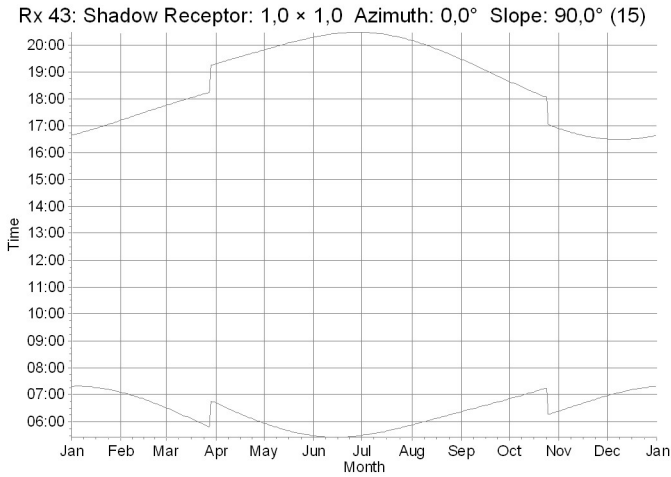
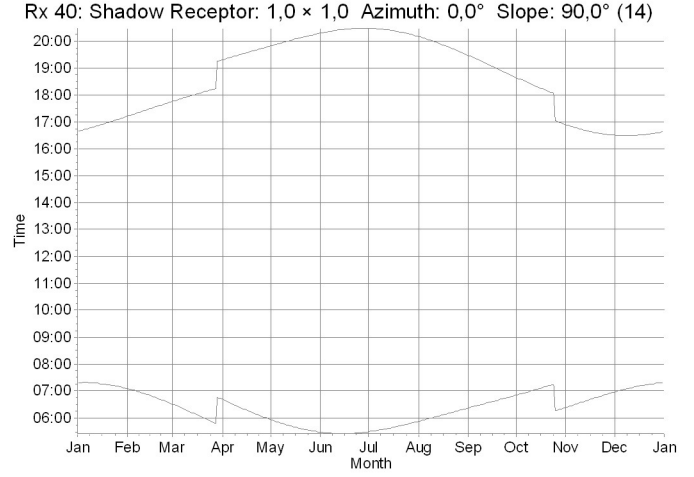
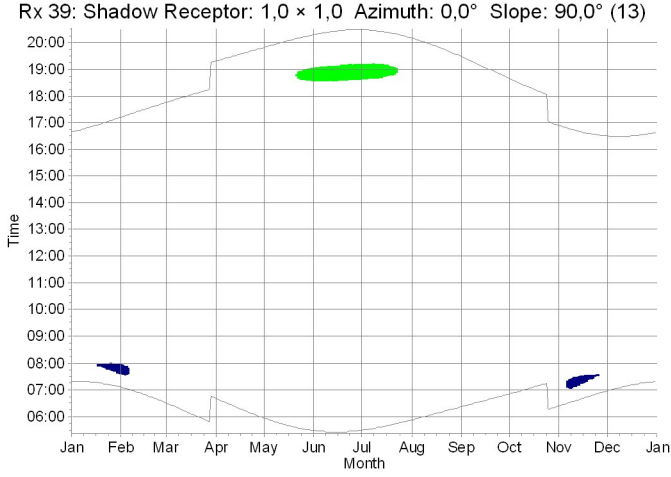


WTGs

CT7: VESTAS V150-6.0 6000 150.0 IOL hub: 125.0 m (TOT: 200.0 m) (7)

SHADOW - Calendar, graphical

Calculation: Worst Case



WTGs

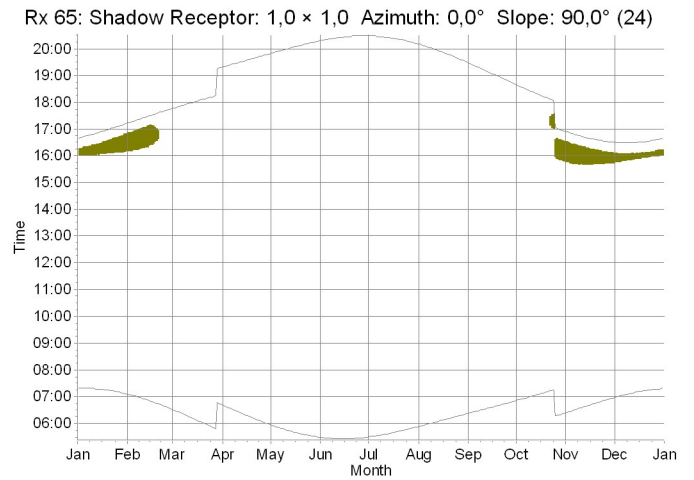
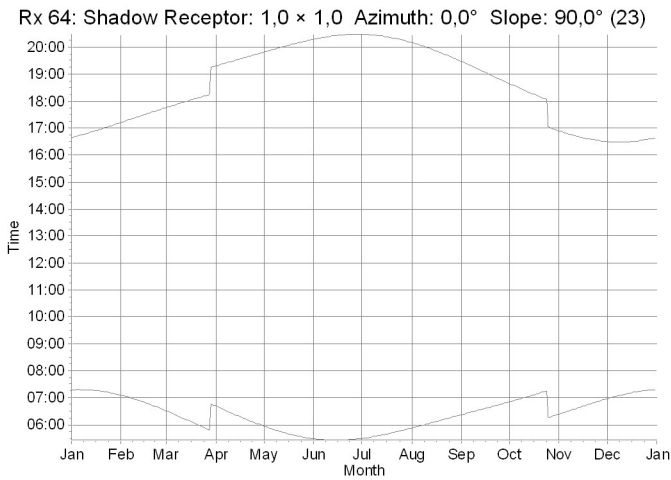
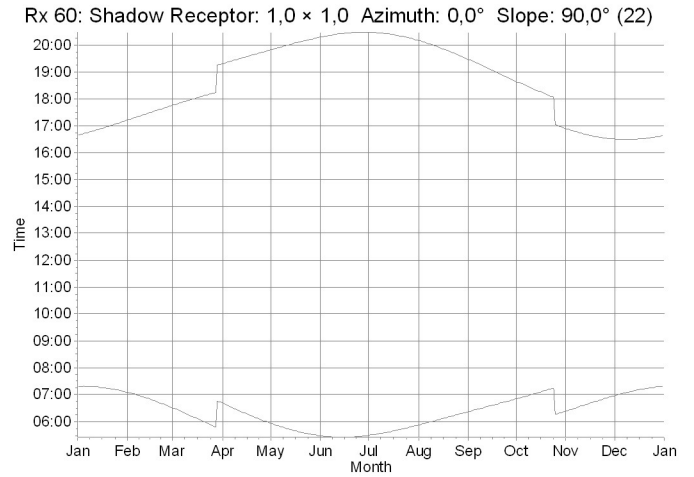
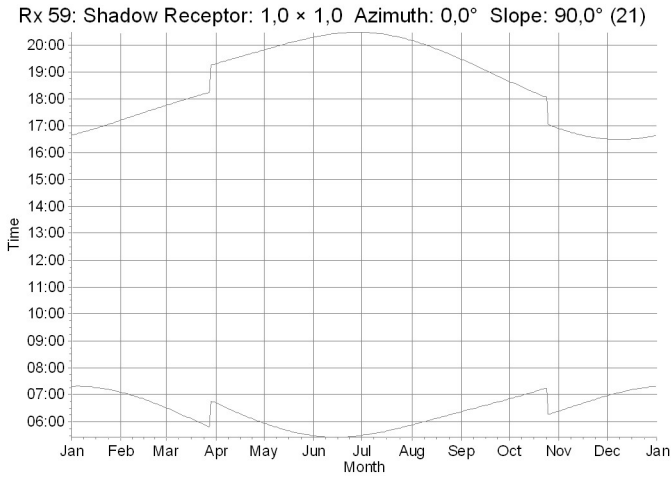
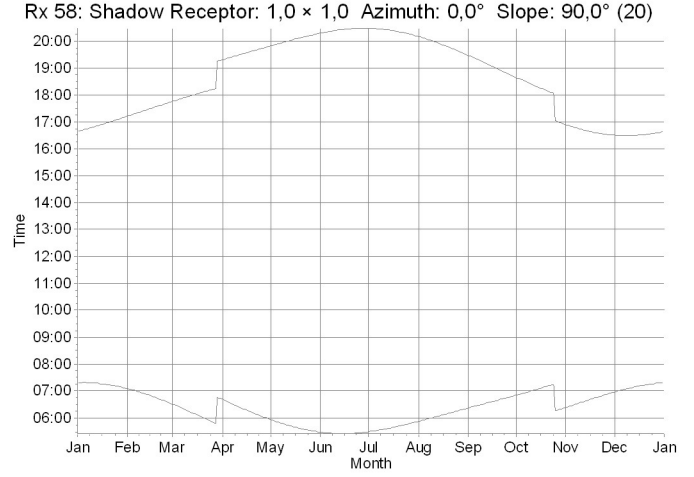
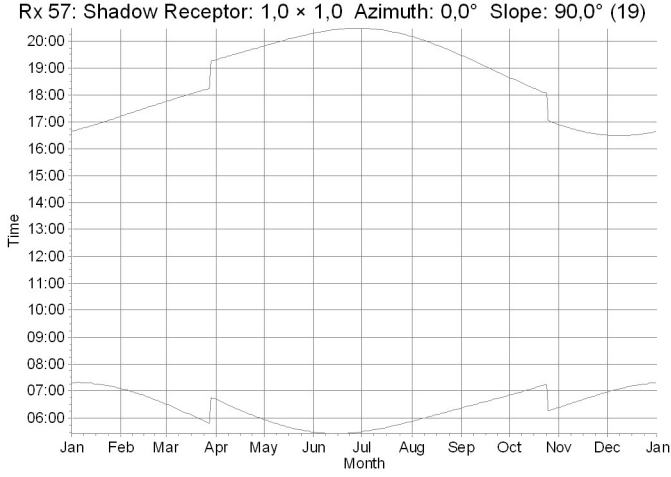
CT10: VESTAS V150-6.0 6000 150.0 IOf hub: 125.0 m (TOT: 200.0 m) (10)

CT6: VESTAS V150-6.0 6000 150.0 IOf hub: 125.0 m (TOT: 200.0 m) (6)

CT8: VESTAS V150-6.0 6000 150.0 IOf hub: 125.0 m (TOT: 200.0 m) (8)

SHADOW - Calendar, graphical

Calculation: Worst Case

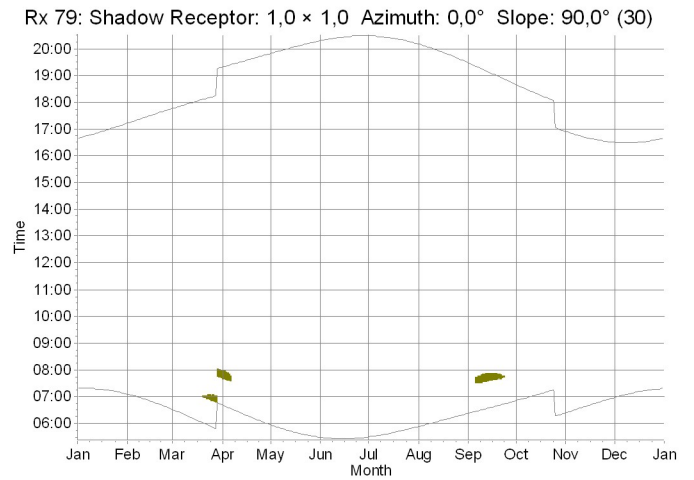
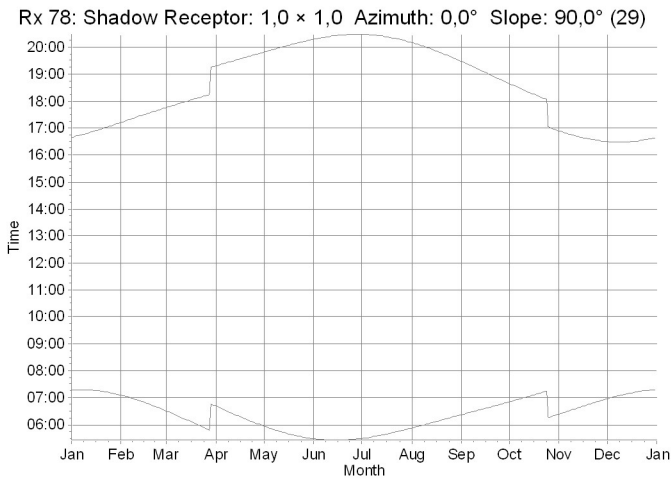
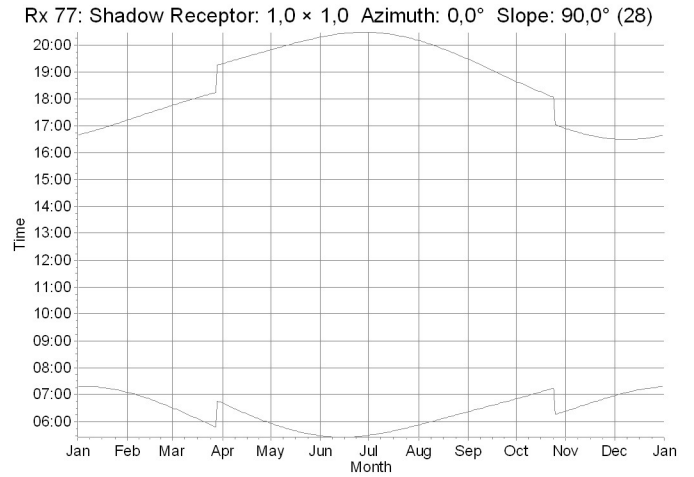
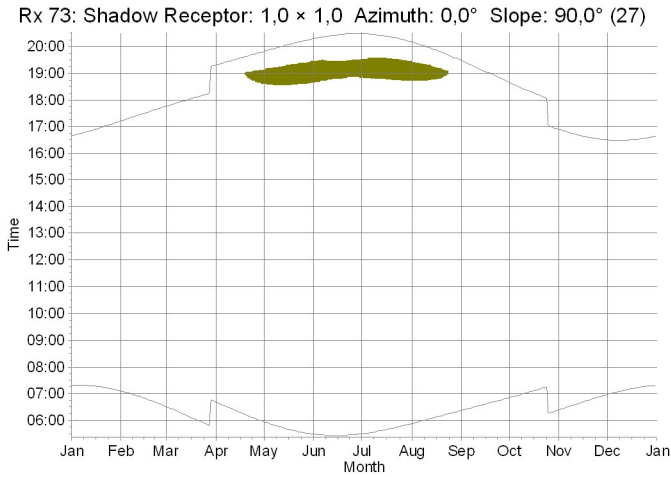
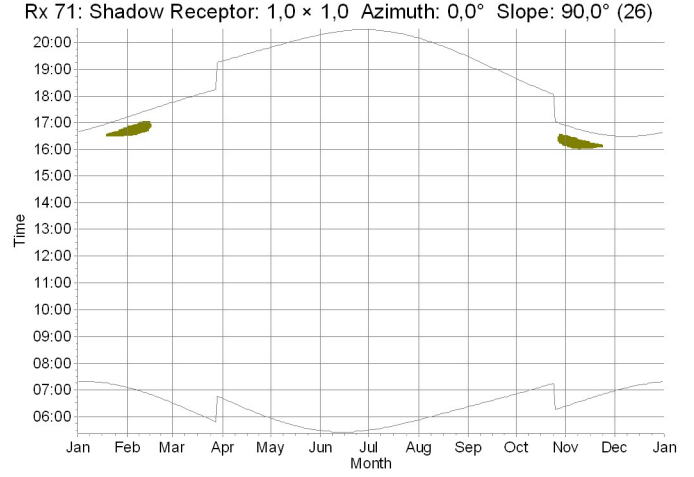
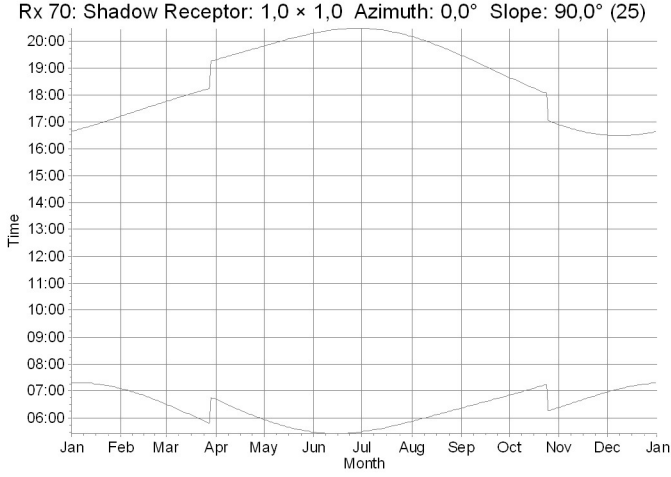


WTGs

CT9, VESTAS V150-6.0 6000 150.0 IOL hub: 125.0 m (TOT: 200.0 m) (9)

SHADOW - Calendar, graphical

Calculation: Worst Case

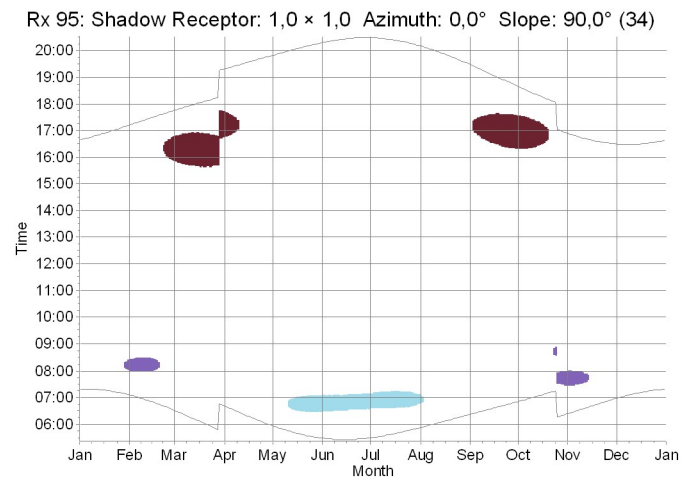
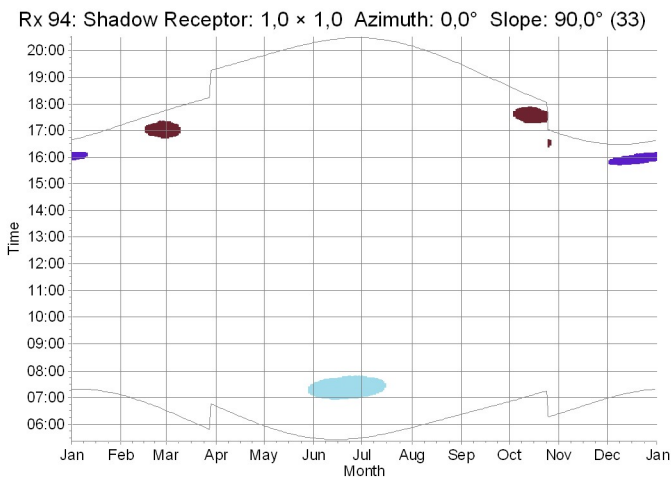
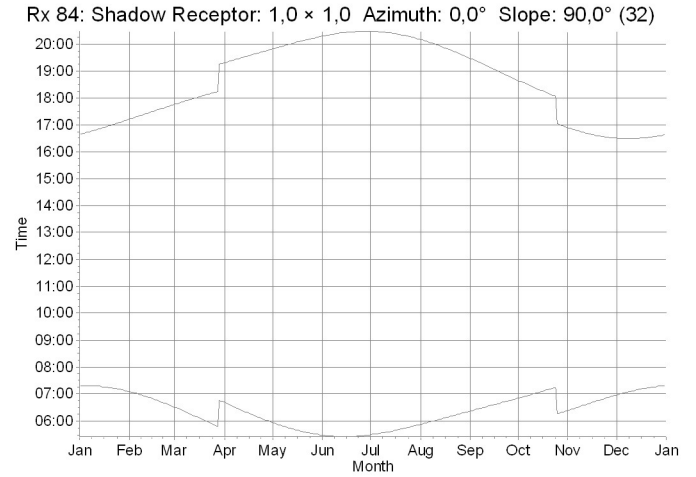
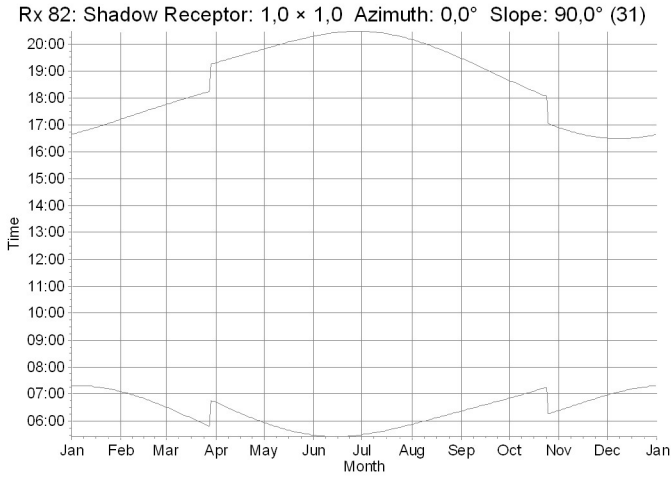


WTGs

CT9, VESTAS V150-6.0 6000 150.0 IOI hub: 125.0 m (TOT: 200.0 m) (9)

SHADOW - Calendar, graphical

Calculation: Worst Case



WTGs

- PLT19: SENVION MM100 60Hz 2000 100.0 IQI hub: 100.0 m (TOT: 150.0 m) (35)
- PLT20: SENVION MM100 60Hz 2000 100.0 IQI hub: 100.0 m (TOT: 150.0 m) (36)
- PLT21: SENVION MM100 60Hz 2000 100.0 IQI hub: 100.0 m (TOT: 150.0 m) (37)
- PLT29: SENVION MM100 60Hz 2000 100.0 IQI hub: 100.0 m (TOT: 150.0 m) (45)

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CT1 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (1)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:24 16:53	06:58 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:27 20:19	05:29 20:29	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:59 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:29 20:29	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	07:00 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:01 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:28	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:23	05:32 20:27	05:58 20:03	06:28 19:17	06:57 18:28	06:32 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:18 16:47	06:56 17:23	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:27	06:00 20:00	06:30 19:14	07:00 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:55 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:01 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:58	06:32 19:11	07:02 18:21	06:36 16:42	07:08 16:29
13	07:17 16:50	06:52 17:27	06:12 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:59	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:17 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:39 16:40	07:09 16:29
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:54	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:24	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:11 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:30
19	07:15 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:28	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:13 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:47	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:47 16:34	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:20	06:12 19:44	06:42 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:12 17:03	06:38 17:40	05:54 18:10	06:05 19:42	05:33 20:12	05:26 20:29	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:16 17:02	06:51 16:32	07:16 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	06:18 17:00	06:53 16:31	07:16 16:35
28	07:09 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:13	06:20 19:32	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:18		05:28 20:17		05:51 20:12	06:21 19:30		06:22 16:55		07:18 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CT10 - VESTAS V150-6.0 6000 150.0 IO! hub: 125,0 m (TOT: 200,0 m) (10)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 15:08-16:10/62 16:39	07:05 06:30 17:13 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53		06:57 14:58-15:54/56 16:30	
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	Potential sun hours Sum of minutes with flicker	300 1284	298 0	370 0	398 0	446 0	450 0	456 0	426 0	375 0	346 0	300 635	290 1911

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

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

Calculation: Worst Case WTG: CT2 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 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	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:29 20:29	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	07:00 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
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9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
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13	07:17 16:50	06:52 17:27	06:12 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:59	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:17 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:39 16:40	07:09 16:29
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16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:24	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:11 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
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19	07:15 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:28	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:13 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:47	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
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22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:20	06:12 19:44	06:42 18:54	07:12 18:06	06:48 16:34	07:14 16:32
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31	07:06 17:11		06:42 19:18		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CT3 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 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	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:54	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:11 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:13 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:47	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:47 16:34	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:20	06:12 19:44	06:42 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
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25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:16 17:02	06:51 16:32	07:16 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:18 17:00	06:53 16:31	07:16 16:35
28	07:09 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:32	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CT4 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 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	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 20:19	05:29 20:29	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:54 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:48 19:55	05:26 20:22	05:32 20:28	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29
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10	07:18 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:27	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:08 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:17 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:11 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:47 16:34	07:14 16:32
22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:15 17:02	06:51 16:32	07:16 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:34
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28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

Calculation: Worst Case WTG: CT5 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 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	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
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15	07:16 16:53	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
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28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:16 16:36
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30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CT6 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 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	07:17 16:39	07:05 17:12	07:36-07:55/19 17:45	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	
2	07:17 16:40	07:04 17:14	07:34-07:54/20 17:47	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	
3	07:18 16:41	07:03 17:15	07:33-07:52/19 17:48	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 16:51	
4	07:18 16:42	07:02 17:16	07:34-07:51/17 17:49	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	
5	07:18 16:42	07:01 17:17	07:36-07:47/11 17:50	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	
6	07:18 16:43	07:00 17:19	07:00 17:19	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:27	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	
7	07:18 16:44	06:59 17:20	06:59 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:18	06:56 18:29	06:30 16:46	
8	07:18 16:45	06:58 17:21	06:58 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	
9	07:17 16:46	06:57 17:22	06:57 17:22	06:18 17:54	06:28 19:26	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	
10	07:17 16:47	06:55 17:23	06:55 17:23	06:16 17:55	06:26 19:27	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	
11	07:17 16:48	06:54 17:25	06:54 17:25	06:14 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:58	06:31 19:12	07:00 18:23	06:35 16:42	
12	07:17 16:49	06:53 17:26	06:53 17:26	06:13 17:57	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	
13	07:17 16:50	06:52 17:27	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	
14	07:16 16:51	06:51 17:28	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	
15	07:16 16:53	06:49 17:29	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39	
16	07:15 16:54	06:48 17:31	06:48 17:31	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:40 16:38	
17	07:15 16:55	07:54-07:55/1 17:32	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26	05:39 20:23	06:07 19:50	06:37 19:02	07:07 18:14	06:42 16:37	
18	07:15 16:56	07:53-07:55/2 17:33	06:45 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	
19	07:14 16:57	07:53-07:56/3 17:34	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	
20	07:14 16:58	07:51-07:56/5 17:35	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	
21	07:13 16:59	07:50-07:57/7 17:36	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:08	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	
22	07:12 17:00	07:49-07:57/8 17:38	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	
23	07:12 17:02	07:47-07:57/10 17:39	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	
24	07:11 17:03	07:46-07:57/11 17:40	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	
25	07:10 17:04	07:45-07:58/13 17:41	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	06:15 17:02	06:51 16:32	
26	07:10 17:05	07:43-07:57/14 17:42	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:28	05:46 20:16	06:16 19:37	06:45 18:47	06:16 17:01	06:52 16:32	
27	07:09 17:06	07:42-07:57/15 17:43	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	06:17 17:00	06:53 16:31	
28	07:08 17:08	07:41-07:57/16 17:44	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:17 19:34	06:45 18:44	06:19 16:58	06:54 16:31	
29	07:07 17:09	07:39-07:56/17 17:45	06:29 17:45	06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28	05:49 20:13	06:18 19:33	06:48 18:42	06:20 16:57	06:55 16:30	
30	07:07 17:10	07:38-07:55/17 17:46	06:28 17:46	06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	
31	07:06 17:11	07:37-07:56/19 17:47	06:27 17:47	06:42 19:17	05:56 20:17	05:28 20:17	05:28 20:28	05:51 20:11	06:20 19:30	06:47 16:54	06:22 16:54	06:57 16:38	
Potential sun hours	300	298	298	370	398	446	450	456	426	375	346	300	290
Sum of minutes with flicker	158	86	86	0	0	0	0	0	0	0	0	245	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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CT7 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 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	07:17 07:43-08:43/60 16:39	07:05 15:40-15:49/9 17:12 07:52-08:21/29	06:30 06:58-07:18/20 17:45	06:40 19:18	05:56 19:49	05:28 20:18
2	07:18 07:43-08:43/60 16:40	07:04 15:41-15:51/10 17:14 07:53-08:20/27	06:28 06:59-07:16/17 17:47	06:39 19:19	05:55 19:50	05:27 20:18
3	07:18 07:43-08:43/60 16:41	07:03 15:41-15:52/11 07:55-08:19/24 17:15 15:38-15:39/1	06:27 07:02-07:13/11 17:48	06:37 19:20	05:53 19:51	05:27 20:19
4	07:18 07:43-08:43/60 16:42	07:02 15:43-15:54/11 07:56-08:17/21 17:16 15:39-15:41/2	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20
5	07:18 07:43-08:43/60 16:42 07:40-07:41/1	07:01 15:44-15:54/10 07:58-08:15/17 17:17 15:42-15:43/1	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20
6	07:18 07:43-08:42/59 16:43 07:39-07:40/1	07:00 15:46-15:54/8 07:19-07:23/4 17:19 08:01-08:12/11	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21
7	07:18 07:43-08:18/35 07:39-07:41/2 16:44 08:19-08:42/23	06:59 15:49-15:55/6 17:20 07:18-07:25/7	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22
8	07:18 07:43-08:19/36 07:39-07:42/3 16:45 08:20-08:42/22	06:58 07:17-07:26/9 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22
9	07:17 07:39-08:20/41 16:46 08:22-08:41/19	06:57 07:16-07:27/11 17:22	06:18 17:54	06:28 19:26	05:46 19:57	05:25 20:23
10	07:17 07:39-08:21/42 16:47 08:24-08:41/17	06:55 07:15-07:28/13 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:23
11	07:17 07:38-08:21/43 16:48 08:25-08:39/14	06:54 07:14-07:29/15 17:25	06:14 17:56	06:24 19:29	05:44 19:59	05:25 20:24
12	07:17 07:38-08:22/44 16:49 08:28-08:37/9	06:53 07:12-07:29/17 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:24
13	07:17 07:38-08:23/45 16:50	06:52 07:11-07:29/18 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25
14	07:16 07:37-08:22/45 16:51	06:51 07:10-07:30/20 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25
15	07:16 07:37-08:23/46 16:53	06:49 07:09-07:30/21 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26
16	07:16 07:36-08:23/47 16:54	06:48 07:07-07:29/22 17:31	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26
17	07:15 07:36-08:24/48 16:55	06:47 07:06-07:29/23 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26
18	07:15 07:35-08:24/49 16:56	06:45 07:05-07:29/24 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27
19	07:14 07:35-08:25/50 16:57	06:44 07:03-07:27/24 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27
20	07:14 07:34-08:25/51 16:58	06:43 07:02-07:27/25 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27
21	07:13 07:34-08:25/51 16:59	06:41 07:00-07:25/25 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28
22	07:12 07:34-08:25/51 17:01	06:40 06:59-07:23/24 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28
23	07:12 07:33-08:25/52 17:02	06:39 06:58-07:24/26 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28
24	07:11 07:34-08:24/50 17:03	06:37 06:56-07:23/27 17:40	05:53 18:10	06:05 19:42	05:33 20:11	05:26 20:28
25	07:11 07:47-08:25/38 17:04 07:35-07:43/8	06:36 06:55-07:23/28 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28
26	07:10 07:47-08:25/38 17:05	06:34 06:55-07:21/26 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:28
27	07:09 07:47-08:24/37 17:06	06:33 06:56-07:21/25 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:28
28	07:08 15:37-15:39/2 17:08 07:48-08:23/35	06:31 06:56-07:19/23 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28
29	07:07 15:38-15:41/3 17:09 07:48-08:23/35		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28
30	07:07 15:38-15:43/5 17:10 07:49-08:22/33		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28
31	07:06 15:38-15:45/7 17:11 07:51-08:22/31		06:42 19:17		05:28 20:17	
Potential sun hours	300	298	370	398	446	450
Sum of minutes with flicker	1568	655	48	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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CT7 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 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	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 06:44-06:57/13 16:53	06:57 07:20-08:03/43 16:30 08:07-08:21/14
2	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 06:46-06:57/11 16:52	06:58 07:21-08:03/42 16:30 08:06-08:22/16
3	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 06:47-06:56/9 16:51	06:59 07:22-08:03/41 16:29 08:05-08:24/19
4	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 15:18-15:25/7 16:50 06:48-06:54/6	07:00 07:27-08:03/36 07:23-07:26/3 16:29 08:04-08:25/21
5	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 15:15-15:24/9 06:49-06:52/3 16:49 07:30-07:42/12	07:01 07:28-08:27/59 16:29 07:24-07:26/2
6	05:31 20:27	05:56 20:05	06:26 19:20	06:55 18:31	06:29 15:15-15:25/10 07:28-07:46/18 16:48 15:12-15:14/2	07:02 07:29-08:28/59 16:29 07:25-07:27/2
7	05:32 20:27	05:57 20:03	06:27 19:19	06:56 18:29	06:30 15:13-15:25/12 07:26-07:48/22 16:46 15:10-15:12/2	07:03 07:29-08:29/60 16:29 07:26-07:27/1
8	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 15:12-15:23/11 07:24-07:49/25 16:45 15:09-15:10/1	07:04 07:30-08:30/60 16:29
9	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 15:11-15:21/10 16:44 07:23-07:50/27	07:05 07:31-08:31/60 16:29
10	05:34 20:26	06:00 19:58	06:30 19:14	06:59 07:39-07:44/5 18:24	06:34 15:11-15:19/8 16:43 07:23-07:52/29	07:06 07:32-08:32/60 16:29
11	05:34 20:26	06:01 19:58	06:31 19:12	07:00 07:34-07:48/14 18:23	06:35 15:10-15:17/7 16:42 07:22-07:53/31	07:06 07:33-08:33/60 16:29
12	05:35 20:25	06:02 19:57	06:32 19:10	07:01 07:32-07:50/18 18:21	06:36 15:10-15:15/5 16:42 07:21-07:54/33	07:07 07:34-08:34/60 16:29
13	05:36 20:25	06:03 19:56	06:33 19:09	07:02 07:30-07:51/21 18:20	06:37 15:09-15:13/4 16:41 07:20-07:55/35	07:08 07:34-08:34/60 16:29
14	05:36 20:24	06:04 19:55	06:34 19:07	07:03 07:29-07:53/24 18:18	06:38 15:09-15:11/2 16:40 07:21-07:56/35	07:09 07:35-08:35/60 16:29
15	05:37 20:24	06:05 19:53	06:35 19:05	07:04 07:28-07:54/26 18:17	06:39 07:20-07:57/37 16:39	07:10 07:36-08:36/60 16:30
16	05:38 20:23	06:06 19:52	06:36 19:04	07:06 07:27-07:54/27 18:15	06:41 07:20-07:58/38 16:38	07:10 07:36-08:36/60 16:30
17	05:39 20:23	06:07 19:51	06:37 19:02	07:07 07:27-07:54/27 18:14	06:42 07:20-07:58/38 16:37 07:08-07:16/8	07:11 07:37-08:37/60 16:30
18	05:40 20:22	06:08 19:49	06:38 19:00	07:08 07:28-07:54/26 18:12	06:43 07:08-07:58/50 16:37	07:12 07:38-08:38/60 16:31
19	05:40 20:21	06:09 19:48	06:39 18:59	07:09 07:29-07:54/25 18:11	06:44 07:08-08:00/52 16:36	07:12 07:38-08:38/60 16:31
20	05:41 20:21	06:10 19:46	06:39 18:57	07:10 07:30-07:54/24 18:09	06:45 07:09-08:00/51 16:35	07:13 07:38-08:39/61 16:31
21	05:42 20:20	06:11 19:45	06:40 18:55	07:11 07:31-07:56/25 18:08	06:46 07:09-08:00/51 16:34	07:13 07:38-08:39/61 16:32
22	05:43 20:19	06:12 19:43	06:41 18:54	07:12 07:33-07:58/25 18:06	06:47 07:10-08:01/51 16:34	07:14 07:39-08:40/61 16:32
23	05:44 20:18	06:13 19:42	06:42 18:52	07:13 07:34-07:58/24 18:05	06:49 07:11-08:01/50 16:33	07:14 07:39-08:40/61 16:33
24	05:45 20:18	06:14 19:40	06:43 18:50	07:14 07:35-07:59/24 18:04	06:50 07:13-08:02/49 16:33	07:15 07:40-08:41/61 16:33
25	05:45 20:17	06:15 19:39	06:44 18:49	06:15 06:36-06:59/23 17:02	06:51 07:14-08:02/48 16:32	07:15 07:41-08:41/60 16:34
26	05:46 20:16	06:16 19:37	06:45 18:47	06:16 06:37-06:59/22 17:01	06:52 07:15-08:02/47 16:32	07:16 07:41-08:41/60 16:34
27	05:47 20:15	06:17 19:36	06:46 18:45	06:18 06:38-06:59/21 17:00	06:53 07:16-08:02/46 16:31	07:16 07:42-08:42/60 16:35
28	05:48 20:14	06:18 19:34	06:47 18:44	06:19 06:40-07:00/20 16:58	06:54 07:17-08:02/45 16:31	07:16 07:42-08:42/60 16:36
29	05:49 20:13	06:18 19:33	06:48 18:42	06:20 06:41-06:59/18 16:57	06:55 07:18-08:03/45 16:30	07:17 07:42-08:42/60 16:36
30	05:50 20:12	06:19 19:31	06:49 18:40	06:21 06:42-06:59/17 16:56	06:56 07:19-08:03/44 16:30 08:09-08:18/9	07:17 07:42-08:42/60 16:37
31	05:51 20:11	06:20 19:30		06:22 06:43-06:58/15 16:54		07:17 07:42-08:42/60 16:38
Potential sun hours	456	426	375	346	300	290
Sum of minutes with flicker	0	0	0	471	1158	1863

Table 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

SHADOW - Calendar per WTG

Calculation: Worst CaseWTG: CT8 - VESTAS V150-6.0 6000 150.0 !OI! hub: 125,0 m (TOT: 200,0 m) (8)

Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

Table with columns for months (January to December) and rows for days (1 to 31), containing sun rise/set times and shadow flicker minutes.

Potential sun hours Sum of minutes with flicker

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CT9 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (9)

Assumptions for shadow calculations

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

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

The rotor 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	07:18 16:02-16:14/12 16:39	07:05 16:11-16:50/39 17:13	06:30 17:46	06:41 07:41-07:57/16 19:18	05:56 18:37-19:07/30 19:49	05:28 18:41-19:26/45 20:18
2	07:18 16:02-16:15/13 16:40	07:04 16:12-16:51/39 17:14	06:29 17:47	06:39 07:40-07:55/15 19:19	05:55 18:37-19:08/31 19:50	05:28 18:42-19:26/44 20:18
3	07:18 16:03-16:16/13 16:41	07:03 16:12-16:52/40 17:15	06:27 17:48	06:37 07:39-07:54/15 19:21	05:53 18:36-19:09/33 19:51	05:27 18:42-19:26/44 20:19
4	07:18 16:03-16:17/14 16:42	07:02 16:13-16:53/40 17:16	06:26 17:49	06:36 07:37-07:52/15 19:22	05:52 18:35-19:09/34 19:52	05:27 18:43-19:27/44 20:20
5	07:18 16:03-16:18/15 16:43	07:01 16:14-16:55/41 17:18	06:24 17:50	06:34 07:36-07:49/13 19:23	05:51 18:35-19:09/34 19:53	05:27 18:44-19:27/43 20:20
6	07:18 16:03-16:18/15 16:44	07:00 16:14-16:55/41 17:19	06:22 17:51	06:33 07:35-07:46/11 19:24	05:50 18:35-19:10/35 19:54	05:26 18:45-19:28/43 20:21
7	07:18 16:03-16:19/16 16:45	06:59 16:14-16:57/43 17:20	06:21 17:52	06:31 19:25	05:49 18:34-19:11/37 19:55	05:26 18:45-19:27/42 20:22
8	07:18 16:03-16:20/17 16:46	06:58 16:15-16:58/43 17:21	06:19 17:53	06:29 19:26	05:48 18:34-19:12/38 19:56	05:26 18:45-19:27/42 20:22
9	07:18 16:04-16:21/17 16:47	06:57 16:17-17:00/43 17:22	06:18 17:54	06:28 19:27	05:46 18:34-19:12/38 19:57	05:25 18:46-19:26/40 20:23
10	07:17 16:04-16:23/19 16:48	06:56 16:18-17:01/43 17:24	06:16 17:56	06:26 19:28	05:45 18:34-19:13/39 19:58	05:25 18:47-19:26/39 20:23
11	07:17 16:04-16:23/19 16:49	06:54 16:19-17:03/44 17:25	06:15 17:57	06:25 19:29	05:44 18:34-19:13/39 19:59	05:25 18:48-19:26/38 20:24
12	07:17 16:04-16:24/20 16:50	06:53 16:20-17:03/43 17:26	06:13 17:58	06:23 19:30	05:43 18:34-19:14/40 20:00	05:25 18:48-19:26/38 20:25
13	07:17 16:05-16:26/21 16:51	06:52 16:21-17:05/44 17:27	06:11 17:59	06:22 19:31	05:42 18:34-19:15/41 20:01	05:25 18:49-19:26/37 20:25
14	07:16 16:04-16:26/22 16:52	06:51 16:23-17:06/43 17:28	06:10 18:00	06:20 19:32	05:41 18:34-19:15/41 20:02	05:25 18:49-19:26/37 20:25
15	07:16 16:05-16:28/23 16:53	06:50 16:25-17:08/43 17:30	06:08 18:01	06:19 19:33	05:40 18:34-19:16/42 20:03	05:25 18:50-19:26/36 20:26
16	07:16 16:05-16:29/24 16:54	06:48 16:26-17:07/41 17:31	06:07 18:02	06:17 19:34	05:39 18:34-19:16/42 20:04	05:25 18:50-19:26/36 20:26
17	07:15 16:05-16:30/25 16:55	06:47 16:29-17:05/36 17:32	06:05 18:03	06:16 19:35	05:38 18:34-19:17/43 20:05	05:25 18:50-19:26/36 20:27
18	07:15 16:05-16:31/26 16:56	06:46 16:32-17:03/31 17:33	06:03 18:04	06:14 19:36	05:37 18:35-19:18/43 20:06	05:25 18:50-19:26/36 20:27
19	07:14 16:06-16:33/27 16:57	06:44 16:34-16:59/25 17:34	06:02 18:05	06:13 18:58-19:00/2 19:37	05:37 18:35-19:18/43 20:07	05:25 18:51-19:26/35 20:27
20	07:14 16:06-16:34/28 16:58	06:43 16:39-16:55/16 17:35	06:00 06:59-07:01/2 18:06	06:11 18:54-19:01/7 19:38	05:36 18:36-19:19/43 20:08	05:25 18:51-19:26/35 20:28
21	07:13 16:07-16:35/28 17:00	06:42 17:37	05:59 06:58-07:01/3 18:07	06:10 18:51-19:01/10 19:39	05:35 18:36-19:19/43 20:09	05:25 18:51-19:26/35 20:28
22	07:13 16:07-16:36/29 17:01	06:40 17:38	05:57 06:56-07:01/5 18:08	06:08 18:49-19:02/13 19:40	05:34 18:37-19:20/43 20:10	05:26 18:52-19:27/35 20:28
23	07:12 16:07-16:37/30 17:02	06:39 17:39	05:55 06:56-07:02/6 18:09	06:07 18:46-19:02/16 19:41	05:33 18:37-19:21/44 20:10	05:26 18:52-19:27/35 20:28
24	07:11 16:08-16:39/31 17:03	06:37 17:40	05:54 06:54-07:02/8 18:10	06:05 18:45-19:03/18 19:42	05:33 18:37-19:21/44 20:11	05:26 18:52-19:27/35 20:28
25	07:11 16:08-16:40/32 17:04	06:36 17:41	05:52 06:51-07:01/10 18:11	06:04 18:44-19:04/20 19:43	05:32 18:38-19:22/44 20:12	05:26 18:52-19:28/36 20:28
26	07:10 16:08-16:41/33 17:05	06:35 17:42	05:50 06:50-07:02/12 18:12	06:03 18:42-19:04/22 19:44	05:31 18:38-19:22/44 20:13	05:27 18:52-19:28/36 20:29
27	07:09 16:08-16:42/34 17:07	06:33 17:43	05:49 06:49-07:01/12 18:13	06:01 18:41-19:05/24 19:45	05:31 18:38-19:22/44 20:14	05:27 18:52-19:28/36 20:29
28	07:08 16:08-16:44/36 17:08	06:32 17:45	05:47 06:47-07:00/13 18:14	06:00 18:40-19:06/26 19:46	05:30 18:39-19:24/45 20:15	05:27 18:52-19:29/37 20:29
29	07:08 16:09-16:45/36 17:09		06:45 07:46-08:00/14 19:15	05:59 18:38-19:05/27 19:47	05:30 18:39-19:24/45 20:15	05:28 18:52-19:29/37 20:29
30	07:07 16:10-16:47/37 17:10		06:44 07:44-07:59/15 19:16	05:57 18:38-19:06/28 19:48	05:29 18:40-19:25/45 20:16	05:28 18:51-19:29/38 20:29
31	07:06 16:11-16:48/37 17:11		06:42 07:42-07:58/16 19:17		05:29 18:41-19:26/45 20:17	
Potential sun hours	300	298	370	398	446	449
Sum of minutes with flicker	749	778	116	298	1252	1150

Table 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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CT9 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (9)

Assumptions for shadow calculations

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

The sun is shining all the day, 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	05:29 18:52-19:30/38 20:28	05:52 18:45-19:24/39 20:10	06:22 19:28	06:50 18:39	06:23 15:47-16:31/44 16:53	06:57 15:46-16:05/19 16:30
2	05:29 18:51-19:30/39 20:28	05:53 18:45-19:24/39 20:09	06:23 19:27	06:51 18:37	06:24 15:46-16:29/43 16:52	06:58 15:46-16:05/19 16:30
3	05:30 18:51-19:31/40 20:28	05:54 18:44-19:22/38 20:08	06:23 19:25	06:52 18:36	06:26 15:45-16:28/43 16:51	06:59 15:47-16:04/17 16:30
4	05:30 18:51-19:31/40 20:28	05:55 18:44-19:22/38 20:07	06:24 19:24	06:53 18:34	06:27 15:44-16:26/42 16:50	07:00 15:47-16:04/17 16:29
5	05:31 18:51-19:33/42 20:28	05:56 18:44-19:21/37 20:06	06:25 19:22	06:54 18:32	06:28 15:43-16:25/42 16:49	07:01 15:48-16:04/16 16:29
6	05:31 18:51-19:34/43 20:28	05:57 18:44-19:20/36 20:05	06:26 07:31-07:42/11 19:20	06:55 18:31	06:29 15:43-16:25/42 16:48	07:02 15:49-16:04/15 16:29
7	05:32 18:50-19:33/43 20:27	05:58 18:44-19:20/36 20:04	06:27 07:32-07:45/13 19:19	06:56 18:29	06:30 15:43-16:23/40 16:47	07:03 15:49-16:04/15 16:29
8	05:33 18:51-19:34/43 20:27	05:59 18:45-19:19/34 20:02	06:28 07:31-07:46/15 19:17	06:57 18:28	06:31 15:42-16:22/40 16:46	07:04 15:50-16:04/14 16:29
9	05:33 18:50-19:34/44 20:27	05:59 18:45-19:18/33 20:01	06:29 07:32-07:47/15 19:15	06:58 18:26	06:33 15:41-16:21/40 16:45	07:05 15:51-16:04/13 16:29
10	05:34 18:50-19:34/44 20:26	06:00 18:45-19:17/32 20:00	06:30 07:33-07:48/15 19:14	06:59 18:24	06:34 15:42-16:20/38 16:44	07:06 15:51-16:04/13 16:29
11	05:35 18:50-19:34/44 20:26	06:01 18:46-19:16/30 19:59	06:31 07:33-07:49/16 19:12	07:00 18:23	06:35 15:41-16:19/38 16:43	07:07 15:52-16:04/12 16:29
12	05:35 18:49-19:33/44 20:25	06:02 18:46-19:16/30 19:57	06:32 07:34-07:50/16 19:10	07:01 18:21	06:36 15:41-16:18/37 16:42	07:07 15:53-16:05/12 16:29
13	05:36 18:49-19:33/44 20:25	06:03 18:47-19:15/28 19:56	06:33 07:35-07:50/15 19:09	07:03 18:20	06:37 15:41-16:17/36 16:41	07:08 15:53-16:04/11 16:29
14	05:37 18:49-19:33/44 20:24	06:04 18:47-19:14/27 19:55	06:34 07:36-07:50/14 19:07	07:04 18:18	06:38 15:41-16:17/36 16:40	07:09 15:54-16:04/10 16:30
15	05:37 18:49-19:33/44 20:24	06:05 18:47-19:12/25 19:53	06:35 07:37-07:50/13 19:05	07:05 18:17	06:40 15:41-16:15/34 16:39	07:10 15:55-16:05/10 16:30
16	05:38 18:48-19:32/44 20:23	06:06 18:48-19:11/23 19:52	06:36 07:38-07:50/12 19:04	07:06 18:15	06:41 15:41-16:14/33 16:38	07:10 15:54-16:04/10 16:30
17	05:39 18:48-19:32/44 20:23	06:07 18:49-19:10/21 19:51	06:37 07:38-07:50/12 19:02	07:07 18:14	06:42 15:41-16:13/32 16:37	07:11 15:55-16:05/10 16:30
18	05:40 18:48-19:32/44 20:22	06:08 18:50-19:09/19 19:49	06:38 07:39-07:50/11 19:00	07:08 18:12	06:43 15:42-16:13/31 16:37	07:12 15:56-16:06/10 16:31
19	05:41 18:47-19:32/45 20:21	06:09 18:51-19:08/17 19:48	06:39 07:41-07:49/8 18:59	07:09 18:11	06:44 15:42-16:12/30 16:36	07:12 15:56-16:05/9 16:31
20	05:41 18:46-19:30/44 20:21	06:10 18:52-19:07/15 19:46	06:40 07:42-07:49/7 18:57	07:10 18:09	06:45 15:42-16:11/29 16:35	07:13 15:57-16:06/9 16:32
21	05:42 18:46-19:30/44 20:20	06:11 18:54-19:06/12 19:45	06:41 07:41-07:47/6 18:55	07:11 18:08	06:46 15:42-16:10/28 16:35	07:13 15:57-16:06/9 16:32
22	05:43 18:46-19:30/44 20:19	06:12 18:56-19:05/9 19:44	06:42 07:42-07:46/4 18:54	07:12 17:08-17:27/19 18:07	06:48 15:42-16:10/28 16:34	07:14 15:58-16:07/9 16:32
23	05:44 18:46-19:30/44 20:19	06:13 18:59-19:05/6 19:42	06:43 07:43-07:45/2 18:52	07:13 17:04-17:31/27 18:05	06:49 15:42-16:09/27 16:33	07:14 15:58-16:07/9 16:33
24	05:45 18:46-19:29/43 20:18	06:14 19:41	06:43 18:50	07:14 17:00-17:33/33 18:04	06:50 15:43-16:09/26 16:33	07:15 15:59-16:08/9 16:34
25	05:46 18:46-19:29/43 20:17	06:15 19:39	06:44 18:49	06:15 15:58-16:36/38 17:02	06:51 15:44-16:08/24 16:32	07:15 15:59-16:09/10 16:34
26	05:46 18:45-19:27/42 20:16	06:16 19:38	06:45 18:47	06:17 15:55-16:37/42 17:01	06:52 15:44-16:08/24 16:32	07:16 15:59-16:09/10 16:35
27	05:47 18:45-19:27/42 20:15	06:17 19:36	06:46 18:46	06:18 15:53-16:36/43 17:00	06:53 15:44-16:07/23 16:31	07:16 16:00-16:10/10 16:35
28	05:48 18:45-19:27/42 20:14	06:18 19:35	06:47 18:44	06:19 15:52-16:36/44 16:58	06:54 15:44-16:06/22 16:31	07:16 16:00-16:11/11 16:36
29	05:49 18:45-19:26/41 20:13	06:19 19:33	06:48 18:42	06:20 15:51-16:34/43 16:57	06:55 15:45-16:06/21 16:31	07:17 16:01-16:11/10 16:37
30	05:50 18:45-19:26/41 20:12	06:20 19:31	06:49 18:41	06:21 15:49-16:33/44 16:56	06:56 15:45-16:05/20 16:30	07:17 16:01-16:12/11 16:37
31	05:51 18:45-19:25/40 20:11	06:21 19:30	 	06:22 15:48-16:31/43 16:55	 	07:17 16:01-16:12/11 16:38
Potential sun hours	456	426	375	346	300	291
Sum of minutes with flicker	1323	624	205	376	993	370

Table 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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CV01 - VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (14)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:17 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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9	07:17 16:46	06:57 17:22	06:18 17:54	06:28 19:26	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	06:16 17:55	06:26 19:27	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
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13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39	07:09 16:30
16	07:15 16:54	06:48 17:31	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:40 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26	05:39 20:23	06:07 19:50	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:45 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:08	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:12 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:10 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:28	05:46 20:16	06:16 19:37	06:45 18:47	06:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	06:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:18 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CV02 - VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (15)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:17 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
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7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:18	06:56 18:29	06:30 16:46	07:03 16:29
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28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:18 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:16 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: CV03 - VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (16)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:17 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
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5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39	07:09 16:30
16	07:15 16:54	06:48 17:31	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:40 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26	05:39 20:23	06:07 19:50	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:45 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:08	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:12 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:10 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:28	05:46 20:16	06:16 19:37	06:45 18:47	06:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	06:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:18 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:16 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
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) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT01 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (17)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
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14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:25	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33
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28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:16 16:36
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30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT02 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (18)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
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7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
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16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
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22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
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28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT03 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (19)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT04 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (20)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT05 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (21)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT06 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (22)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT07 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (23)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:27 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:17 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
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20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
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26	07:10 17:05	06:35 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:34
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28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

Calculation: Worst Case WTG: PLT08 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (24)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:37	05:58 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
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26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT09 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (25)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
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13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
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16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

Calculation: Worst Case WTG: PLT10 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (26)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
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10	07:18 16:47	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	07:06 16:29
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13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
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15	07:16 16:53	06:50 17:30	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
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19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
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21	07:13 16:59	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
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26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:35
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28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT11 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (27)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
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18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
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21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
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23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT12 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (28)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT13 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (29)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT14 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (30)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT15 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (31)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:53 20:08	06:23 19:25	06:52 18:35	06:26 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:26 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:21	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:18	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:17 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:33 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
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12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:40	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:24 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:24 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:29
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17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
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20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:00	06:40 17:37	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:06 19:41	05:33 20:10	05:25 20:28	05:43 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
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28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:17 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT16 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (32)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:53 20:08	06:23 19:25	06:52 18:35	06:26 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:26 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
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11	07:17 16:48	06:54 17:24	06:15 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
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13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:40	07:08 16:29
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17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:00	06:40 17:37	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:06 19:41	05:33 20:10	05:25 20:28	05:43 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
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27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:16 19:36	06:46 18:45	06:18 16:59	06:53 16:31	07:16 16:35
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT17 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (33)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:51 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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18	07:15 16:57	06:46 17:34	06:03 18:05	06:14 19:37	05:37 20:07	05:25 20:27	05:39 20:21	06:08 19:48	06:37 18:59	07:08 18:11	06:43 16:36	07:12 16:31
19	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
20	07:14 16:59	06:43 17:36	06:00 18:07	06:11 19:39	05:35 20:09	05:25 20:28	05:41 20:20	06:10 19:45	06:39 18:55	07:10 18:08	06:45 16:34	07:13 16:31
21	07:13 17:00	06:41 17:37	05:58 18:08	06:09 19:40	05:35 20:10	05:25 20:28	05:42 20:19	06:11 19:43	06:40 18:54	07:11 18:06	06:46 16:34	07:13 16:32
22	07:13 17:01	06:40 17:39	05:57 18:09	06:08 19:41	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:42	06:41 18:52	07:12 18:05	06:47 16:33	07:14 16:32
23	07:12 17:01	06:39 17:39	05:55 18:09	06:06 19:41	05:33 20:10	05:25 20:28	05:43 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:32
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:40	06:43 18:50	07:14 18:03	06:50 16:32	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:15 19:37	06:45 18:47	07:16 17:01	06:52 16:31	07:16 16:34
27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:16 19:36	06:46 18:45	07:17 16:59	06:53 16:31	07:16 16:35
28	07:08 17:07	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:17 19:34	06:47 18:44	07:18 16:58	06:54 16:31	07:16 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:27 20:29	05:49 20:13	06:18 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT18 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (34)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 20:19	05:29 20:29	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:26 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:18 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:29
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:15 17:02	06:51 16:32	07:16 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:16	05:27 20:29	05:49 20:13	06:18 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT19 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (35)
Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	16:21-17:32/71	06:23 16:53
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:27 20:19	05:29 20:29	05:53 20:09	06:22 19:27	06:51 18:37	16:21-17:32/71	06:25 16:52
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	17:02-17:20/18	06:26 16:51
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	16:57-17:23/26	06:27 16:50
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	16:54-17:26/32	06:28 16:49
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	16:51-17:28/37	06:29 16:48
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:48 19:55	05:26 20:22	05:32 20:28	05:57 20:04	06:27 19:19	06:56 18:29	16:48-17:29/41	06:30 16:46
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:23	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:28	16:45-17:30/45	06:31 16:45
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	16:43-17:31/48	06:33 16:44
10	07:18 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	16:42-17:32/50	06:34 16:43
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	16:40-17:33/53	06:35 16:42
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	16:38-17:34/56	06:36 16:42
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	16:36-17:35/59	06:37 16:41
14	07:17 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	16:35-17:35/60	06:38 16:40
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:26 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	16:34-17:36/62	06:40 16:39
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	16:32-17:36/64	06:41 16:38
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	16:31-17:37/66	06:42 16:37
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	16:30-17:37/67	06:43 16:37
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	16:28-17:36/68	06:44 16:36
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	16:27-17:36/69	06:45 16:35
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	16:26-17:36/70	06:46 16:34
22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:41 18:54	07:12 18:06	16:25-17:36/71	06:48 16:34
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	16:24-17:36/72	06:49 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:41	06:43 18:50	07:14 18:04	16:24-17:36/72	06:50 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	07:15 18:03	16:23-17:35/72	06:51 16:32
26	07:10 17:05	06:35 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 18:02	16:23-17:35/72	06:52 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	07:17 18:00	16:22-17:35/73	06:53 16:35
28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 18:00	16:22-17:34/72	06:54 16:36
29	07:08 17:09	06:45 17:45	06:45 18:14	06:58 19:47	05:29 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 18:00	16:21-17:34/73	06:55 16:37
30	07:07 17:10	06:44 17:46	06:44 18:15	06:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:40	07:20 18:00	16:21-17:33/72	06:56 16:38
31	07:06 17:11	06:42 17:47	06:42 18:16	06:56 19:49	05:28 20:17	05:27 20:30	05:51 20:11	06:20 19:30	06:49 18:40	07:21 18:00	16:21-17:33/72	06:57 16:39
Potential sun hours	300	298	370	398	446	450	457	426	375	346	1628	290
Sum of minutes with flicker	0	584	2281	353	0	0	0	0	1640	1628	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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT20 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (36)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 06:29-07:03/34 20:18 07:04-07:31/27	05:28 06:36-07:46/70 20:29	05:52 06:48-07:02/14 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 06:29-07:33/64 20:19	05:29 06:36-07:45/69 20:29	05:53 06:51-06:59/8 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 06:29-07:33/64 20:19	05:29 06:36-07:45/69 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:26 17:49	06:36 19:21	05:52 19:52	05:26 06:29-07:35/66 20:20	05:30 06:36-07:44/68 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 06:30-07:36/66 20:21	05:30 06:36-07:44/68 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:24	05:50 19:54	05:26 06:30-07:37/67 20:21	05:31 06:36-07:43/67 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:48 19:55	05:26 06:30-07:38/68 20:22	05:32 06:36-07:43/67 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 06:31-07:39/68 20:22	05:32 06:37-07:43/66 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 06:31-07:40/69 20:23	05:33 06:36-07:41/65 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
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11	07:17 16:48	06:54 17:25	06:15 17:57	06:24 19:29	05:44 06:40-06:51/11 19:59	05:25 06:32-07:41/69 20:24	05:34 06:36-07:10/34 20:26 07:11-07:39/28	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
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13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 06:35-06:55/20 20:01	05:25 06:32-07:41/69 20:25	05:36 06:37-07:11/34 20:25 07:15-07:36/21	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
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23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 06:29-07:02/33 20:10	05:26 06:35-07:46/71 20:28	05:44 06:40-07:11/31 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
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Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	665	2068	1409	22	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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT21 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (37)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 08:02-08:23/21 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 07:28-07:58/30 16:53	06:57 16:30	
2	07:18 16:40	07:04 08:01-08:24/23 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 07:28-07:58/30 16:52	06:58 16:30	
3	07:18 16:41	07:03 08:01-08:25/24 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 07:28-07:57/29 16:51	06:59 16:29	
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	Potential sun hours Sum of minutes with flicker	300 42	298 471	370 0	398 0	446 0	450 0	457 0	426 0	375 0	346 209	300 308	290 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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT22 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (38)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
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19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
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25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:15 17:02	06:51 16:32	07:15 16:34
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30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT23 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (39)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:21	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	07:02 16:29
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10	07:17 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
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16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
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19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
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22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
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28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT24 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (40)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:53 20:08	06:23 19:25	06:52 18:35	06:26 16:51	06:59 16:29
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5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:21	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT25 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (41)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:53 20:08	06:23 19:25	06:52 18:35	06:26 16:51	06:59 16:29
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Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT26 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (42)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT27 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (43)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:28	05:46 20:16	06:16 19:37	06:45 18:47	06:16 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:16 19:36	06:46 18:45	06:18 16:59	06:53 16:31	07:16 16:35
28	07:08 17:07	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:17 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:27 20:29	05:49 20:13	06:18 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT28 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (44)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:52 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:53 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:26 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:48	07:01 16:29
6	07:18 16:43	07:00 17:18	06:22 17:51	06:32 19:23	05:49 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:18	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:17 16:46	06:57 17:22	06:18 17:54	06:27 19:26	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	06:16 17:55	06:26 19:27	05:45 19:58	05:25 20:23	05:33 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:24	06:14 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:58	06:31 19:12	07:00 18:23	06:35 16:42	07:06 16:29
12	07:17 16:49	06:53 17:26	06:13 17:57	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:40	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:24 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:24 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:16	06:39 16:39	07:10 16:29
16	07:16 16:53	06:48 17:30	06:06 18:02	06:17 19:34	05:39 20:04	05:24 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:13	06:42 16:37	07:11 16:30
18	07:15 16:56	06:45 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:37 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:13 17:00	06:40 17:37	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:06 19:41	05:33 20:10	05:25 20:28	05:43 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:40	06:43 18:50	07:14 18:03	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	06:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:28	05:46 20:16	06:15 19:37	06:45 18:47	06:16 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:16 19:36	06:46 18:45	06:18 16:59	06:53 16:31	07:16 16:35
28	07:08 17:07	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:17 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:27 20:29	05:49 20:13	06:18 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT29 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (45)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 15:54-16:11/17 16:39	07:05 06:30 17:13 17:46	06:41 05:56 19:18 19:49	05:28 05:28 20:18 20:29	05:52 06:21 19:28 18:39	06:50 06:23 16:53 16:30	06:57 06:57 15:46-15:52/6					
2	07:18 15:54-16:11/17 16:40	07:04 06:29 17:14 17:47	06:39 05:55 19:19 19:50	05:27 05:29 20:19 20:29	05:53 06:22 20:09 19:27	06:51 06:25 16:52 16:30	06:58 06:58 15:44-15:54/9					
3	07:18 15:55-16:11/16 16:41	07:03 06:27 17:15 17:48	06:37 05:53 19:21 19:51	05:27 05:29 20:19 20:28	05:54 06:23 20:08 19:25	06:52 06:26 16:51 16:29	06:59 06:59 15:44-15:54/9					
4	07:18 15:56-16:11/15 16:42	07:02 06:26 17:16 17:49	06:36 05:52 19:22 19:52	05:27 05:30 20:20 20:28	05:55 06:24 20:07 19:24	06:53 06:27 16:50 16:29	07:00 07:00 15:44-15:55/11					
5	07:18 15:57-16:11/14 16:42	07:01 06:24 17:17 17:50	06:34 05:51 19:23 19:53	05:26 05:31 20:21 20:28	05:55 06:25 20:06 19:22	06:54 06:28 16:49 16:29	07:01 07:01 15:44-15:56/12					
6	07:18 15:58-16:11/13 16:43	07:00 06:22 17:19 17:51	06:32 05:50 19:24 19:54	05:26 05:32 20:21 20:28	05:56 06:26 20:05 19:20	06:55 06:30 16:48 16:29	07:02 07:02 15:44-15:57/13					
7	07:18 15:58-16:10/12 16:44	06:59 06:21 17:20 17:52	06:31 05:49 19:25 19:55	05:26 05:32 20:22 20:28	05:57 06:27 20:04 19:19	06:56 06:30 16:47 16:29	07:03 07:03 15:44-15:58/14					
8	07:18 15:59-16:10/11 16:45	06:58 06:19 17:21 17:53	06:29 05:47 19:26 19:56	05:25 05:32 20:23 20:27	05:58 06:28 20:02 19:17	06:57 06:31 16:45 16:29	07:04 07:04 15:43-15:58/15					
9	07:18 16:01-16:10/9 16:46	06:57 06:18 17:22 17:54	06:28 05:46 19:27 19:57	05:25 05:33 20:23 20:27	05:59 06:29 20:01 19:15	06:58 06:33 16:44 16:29	07:05 07:05 15:43-15:59/16					
10	07:18 16:03-16:09/6 16:47	06:56 06:16 17:23 17:55	06:26 05:45 19:28 19:58	05:25 05:34 20:24 20:26	06:00 06:30 19:14 18:24	06:59 06:34 16:43 16:29	07:06 07:06 15:44-16:00/16					
11	07:17 16:48 16:48	06:54 06:15 17:25 17:57	06:25 05:44 19:29 19:59	05:25 05:34 20:24 20:26	06:01 06:31 19:59 19:12	07:00 06:35 16:42 16:29	07:07 07:07 15:44-16:01/17					
12	07:17 16:49 16:49	06:53 06:13 17:26 17:58	06:23 05:43 19:30 20:00	05:25 05:35 20:25 20:26	06:02 06:32 19:57 19:10	07:01 06:36 16:42 16:29	07:08 07:08 15:44-16:02/18					
13	07:17 16:50 16:50	06:52 06:11 17:27 17:59	06:21 05:42 19:31 20:01	05:25 05:36 20:25 20:25	06:03 06:33 19:56 19:09	07:03 06:41 16:41 16:29	07:08 07:08 15:45-16:02/17					
14	07:17 16:51 16:51	06:51 06:10 17:28 18:00	06:20 05:41 19:32 20:02	05:25 05:36 20:26 20:25	06:04 06:34 19:57 19:07	07:04 06:38 16:40 16:29	07:09 07:09 15:44-16:02/18					
15	07:16 16:53 16:53	06:50 06:08 17:29 18:01	06:18 05:40 19:33 20:03	05:25 05:37 20:26 20:24	06:05 06:35 19:53 19:05	07:05 06:40 16:39 16:30	07:10 07:10 15:45-16:03/18					
16	07:16 16:54 16:54	06:48 06:07 17:31 18:02	06:17 05:39 19:34 20:04	05:25 05:38 20:26 20:24	06:06 06:36 19:52 19:04	07:06 06:41 16:38 16:30	07:11 07:11 15:46-16:04/18					
17	07:15 16:55 16:55	06:47 06:05 17:32 18:03	06:15 05:38 19:35 20:05	05:25 05:39 20:27 20:23	06:07 06:37 19:51 19:02	07:07 06:42 16:37 16:30	07:12 07:12 15:46-16:04/18					
18	07:15 16:56 16:56	06:46 06:03 17:33 18:04	06:14 05:37 19:36 20:06	05:25 05:40 20:27 20:22	06:08 06:38 19:49 19:00	07:08 06:43 16:37 16:30	07:12 07:12 15:46-16:05/19					
19	07:14 16:57 16:57	06:44 06:02 17:34 18:05	06:12 05:36 19:37 20:07	05:25 05:40 20:27 20:22	06:09 06:39 19:48 18:59	07:09 06:44 16:36 16:31	07:12 07:12 15:47-16:06/19					
20	07:14 16:58 16:58	06:43 06:00 17:35 18:06	06:11 05:36 19:38 20:08	05:25 05:41 20:28 20:21	06:10 06:40 19:46 18:57	07:10 06:45 16:35 16:31	07:13 07:13 15:47-16:05/18					
21	07:13 16:59 16:59	06:42 05:58 17:36 18:07	06:09 05:35 19:39 20:09	05:25 05:42 20:28 20:20	06:11 06:41 19:45 18:55	07:11 06:47 16:34 16:32	07:14 07:14 15:48-16:06/18					
22	07:13 17:01 17:01	06:40 05:57 17:38 18:08	06:08 05:34 19:40 20:10	05:25 05:43 20:29 20:19	06:12 06:42 19:44 18:54	07:12 06:48 16:34 16:32	07:14 07:14 15:48-16:06/18					
23	07:12 17:02 17:02	06:39 05:55 17:39 18:09	06:07 05:33 19:41 20:11	05:26 05:44 20:28 20:19	06:13 06:43 19:42 18:52	07:13 06:49 16:33 16:33	07:15 07:15 15:48-16:06/18					
24	07:11 17:03 17:03	06:37 05:54 17:40 18:10	06:05 05:33 19:42 20:11	05:26 05:45 20:28 20:18	06:14 06:43 19:41 18:50	07:14 06:50 16:33 16:33	07:15 07:15 15:49-16:08/19					
25	07:11 17:04 17:04	06:36 05:52 17:41 18:11	06:04 05:32 19:43 20:12	05:26 05:45 20:29 20:17	06:15 06:44 19:39 18:49	07:16 06:51 16:32 16:34	07:16 07:16 15:49-16:08/19					
26	07:10 17:05 17:05	06:35 05:50 17:42 18:12	06:02 05:31 19:44 20:13	05:26 05:46 20:29 20:16	06:16 06:45 19:38 18:47	07:17 06:52 16:32 16:34	07:16 07:16 15:50-16:09/19					
27	07:09 17:06 17:06	06:33 05:49 17:43 18:13	06:01 05:31 19:45 20:14	05:27 05:47 20:29 20:15	06:17 06:46 19:36 18:45	07:18 06:53 16:31 16:35	07:16 07:16 15:51-16:09/18					
28	07:08 17:08 17:08	06:32 05:47 17:44 18:14	06:00 05:30 19:46 20:15	05:27 05:48 20:29 20:14	06:18 06:47 19:35 18:44	07:19 06:54 16:31 16:36	07:17 07:17 15:51-16:09/18					
29	07:08 17:09 17:09	06:45 05:58 19:15 19:47	05:29 05:28 20:16 20:29	05:49 05:49 20:13 20:29	06:19 06:19 19:33 18:42	07:17 06:55 16:30 16:36	07:17 07:17 15:51-16:09/18					
30	07:07 17:10 17:10	06:44 05:57 19:16 19:48	05:29 05:28 20:16 20:29	05:49 05:49 20:12 20:29	06:20 06:20 19:31 18:41	07:17 06:56 16:30 16:37	07:17 07:17 15:52-16:09/17					
31	07:06 17:11 17:11	06:42 05:56 19:17 19:49	05:28 05:28 20:17 20:30	05:51 05:51 20:11 20:28	06:20 06:20 19:30 18:40	07:17 06:56 16:30 16:37	07:17 07:17 15:53-16:10/17					
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	130	0	0	0	0	0	0	0	0	0	0	491

Table 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

SHADOW - Calendar per WTG

Calculation: Worst Case WTG: PLT30 - SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (46)

Assumptions for shadow calculations

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

- The sun is shining all the day, from sunrise to sunset
- The rotor 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	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:27 20:19	05:29 20:29	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:18 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:08 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:15 17:02	06:51 16:32	07:16 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

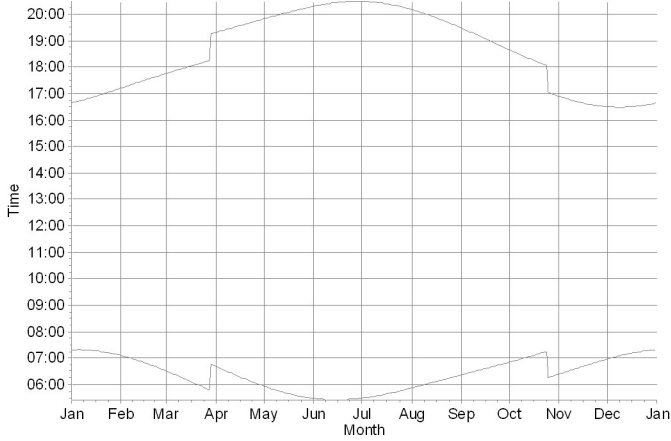
Table layout: For each day in each month the following matrix apply

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

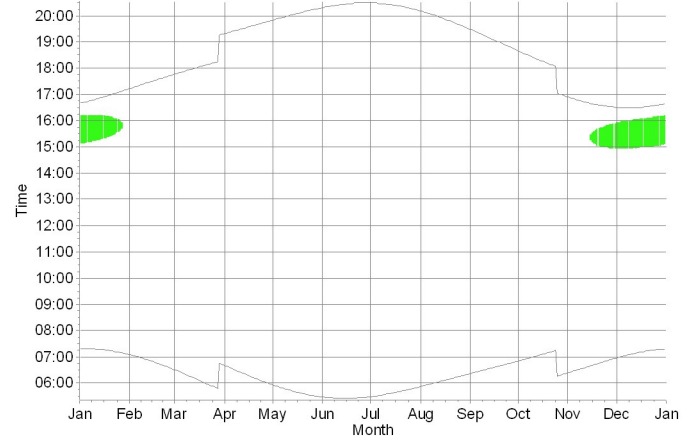
SHADOW - Calendar per WTG, graphical

Calculation: Worst Case

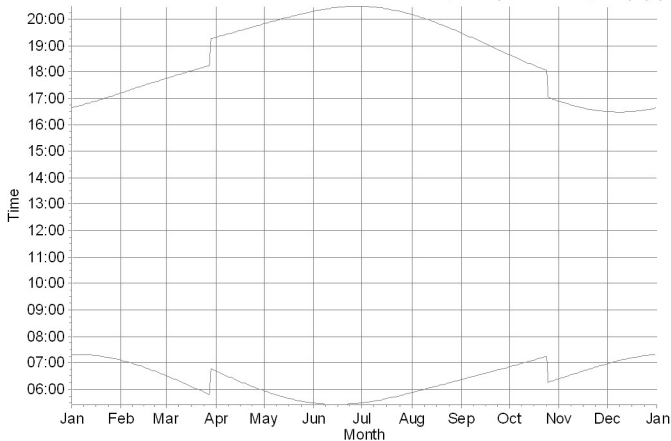
CT1: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (1)



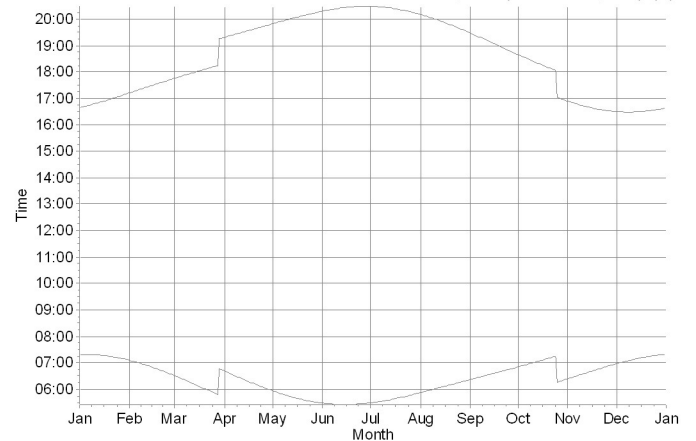
CT10: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (10)



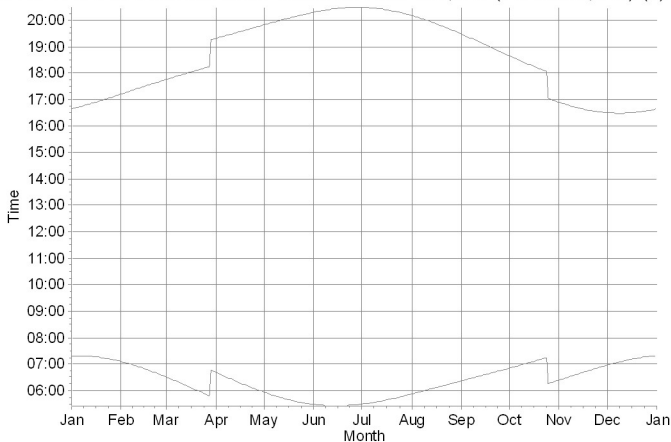
CT2: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (2)



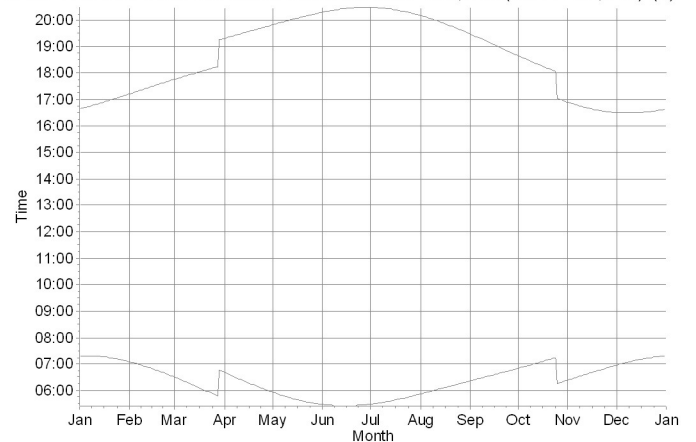
CT3: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (3)



CT4: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (4)



CT5: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (5)



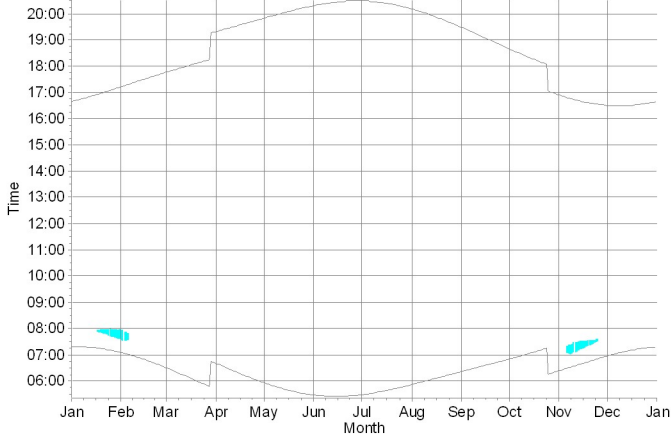
Shadow receptors

Rx 47: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (18)

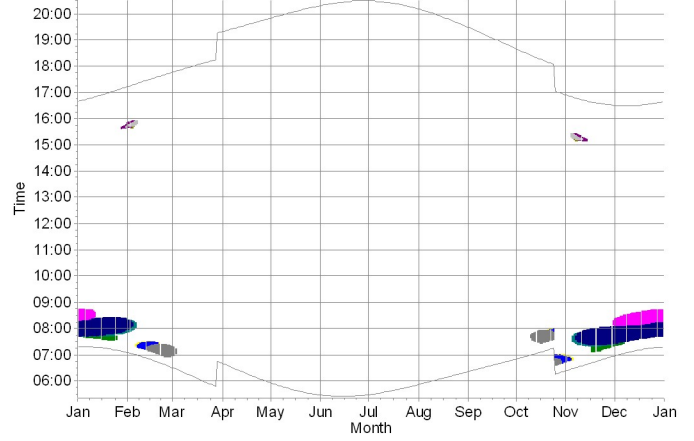
SHADOW - Calendar per WTG, graphical

Calculation: Worst Case

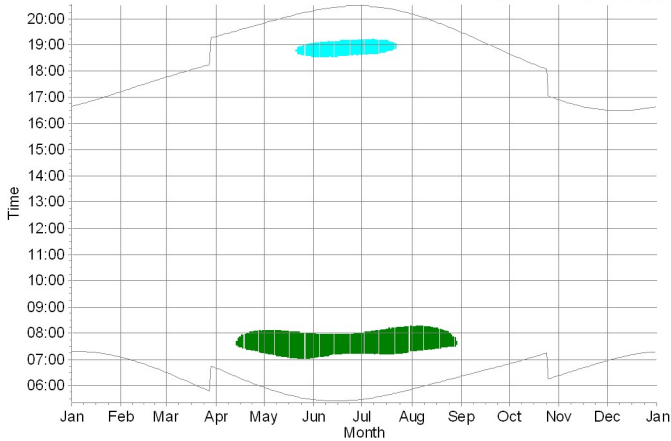
CT6: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (6)



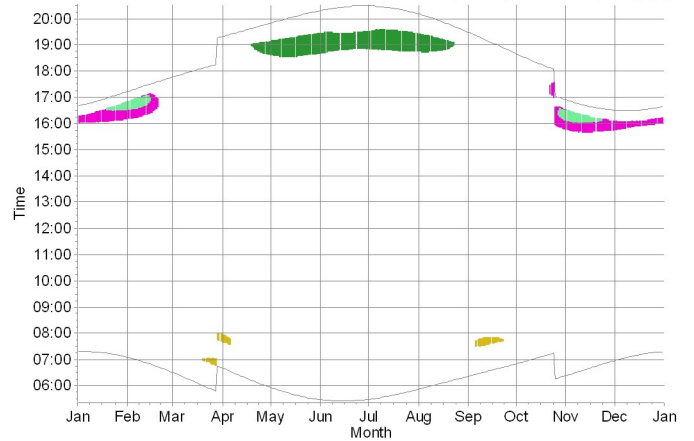
CT7: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (7)



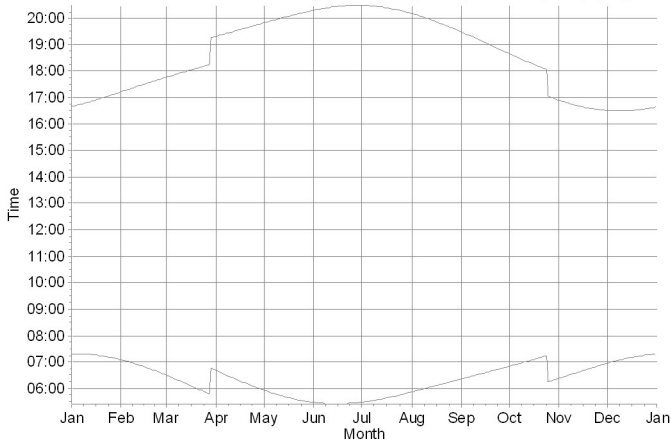
CT8: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (8)



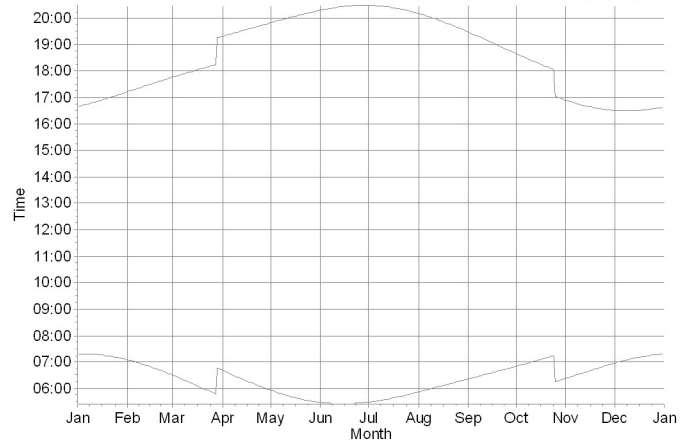
CT9: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (9)



CV01: VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (14)



CV02: VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (15)

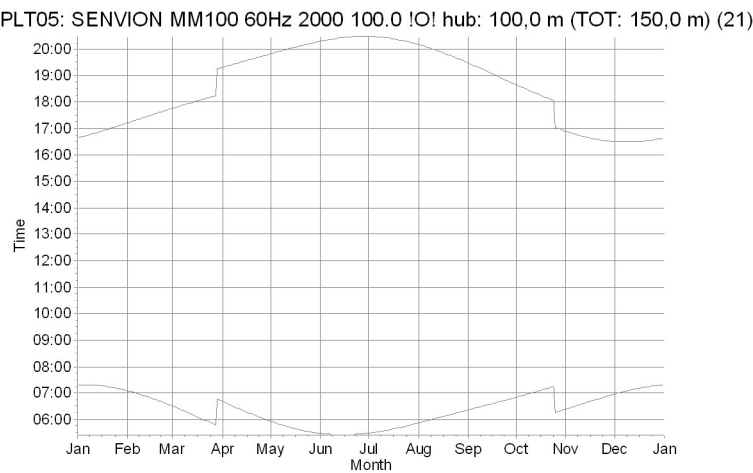
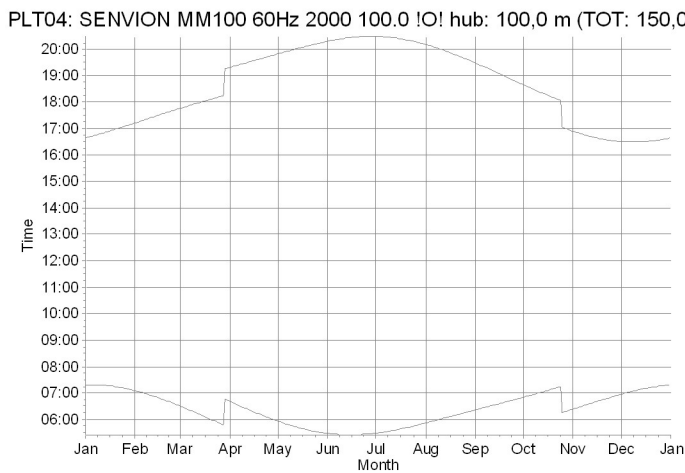
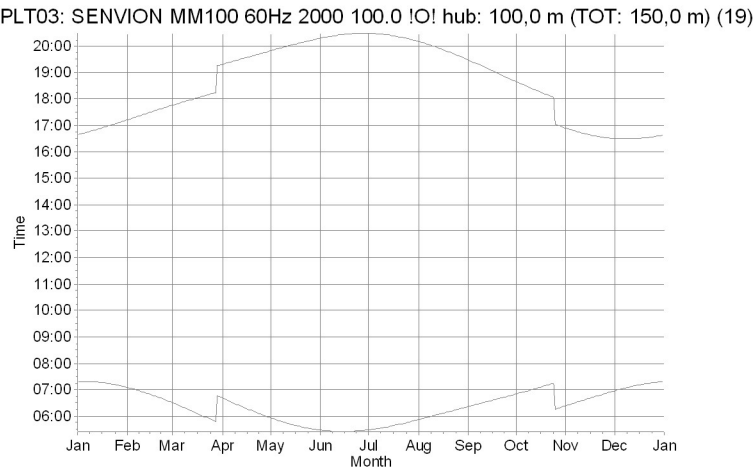
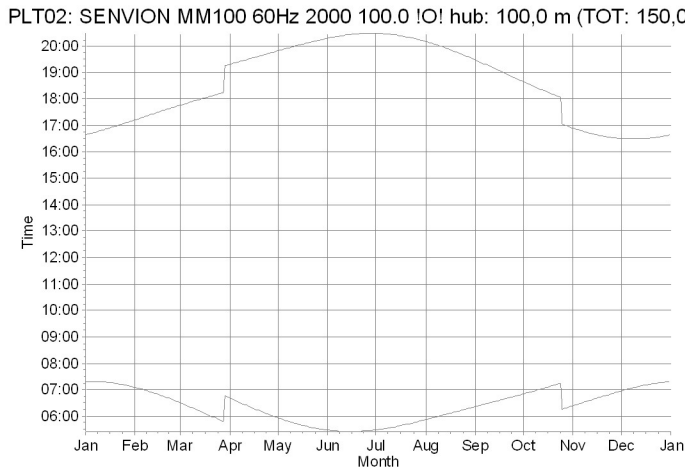
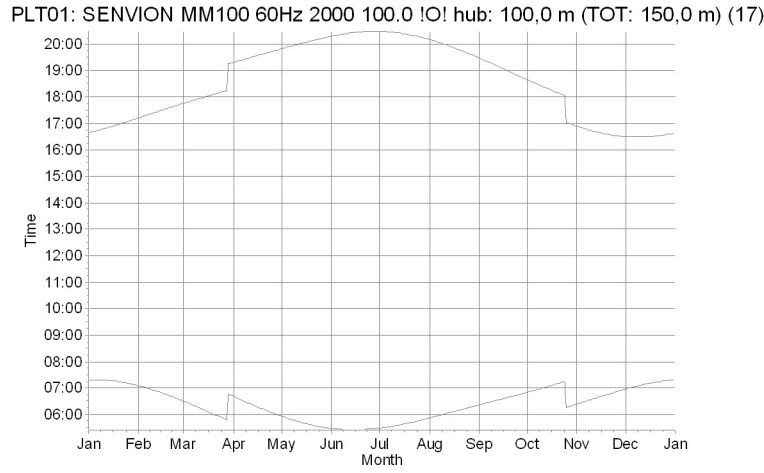
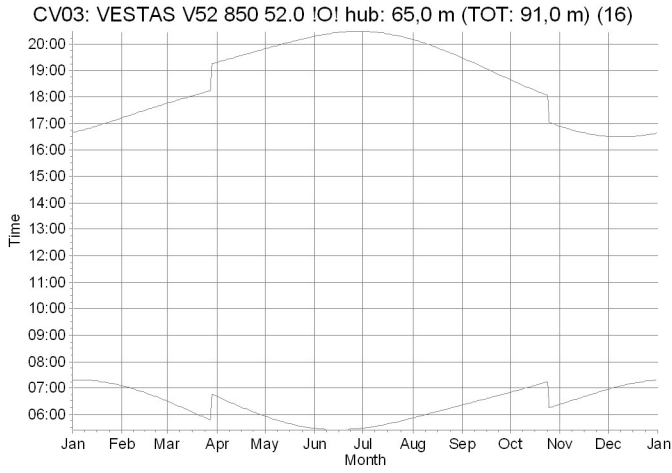


Shadow receptors

- | | | |
|--|---|---|
| Rx 09: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (1) | Rx 26: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (6) | Rx 39: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (13) |
| Rx 14: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (2) | Rx 27: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (7) | Rx 65: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (24) |
| Rx 15: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (3) | Rx 31: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (10) | Rx 71: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (26) |
| Rx 18: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (4) | Rx 32: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (11) | Rx 73: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (27) |
| Rx 22: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (5) | Rx 33: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (12) | Rx 79: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (30) |

SHADOW - Calendar per WTG, graphical

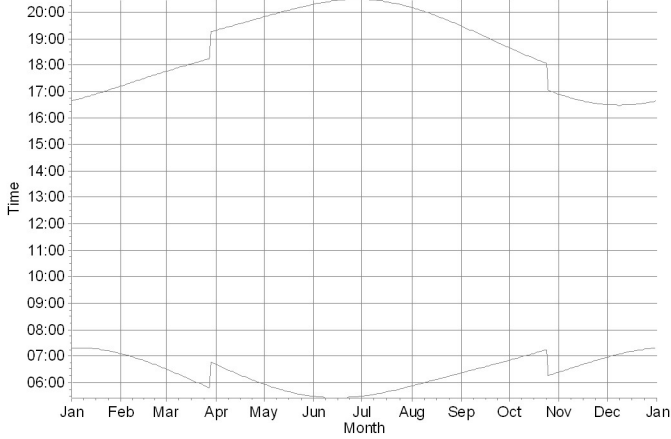
Calculation: Worst Case



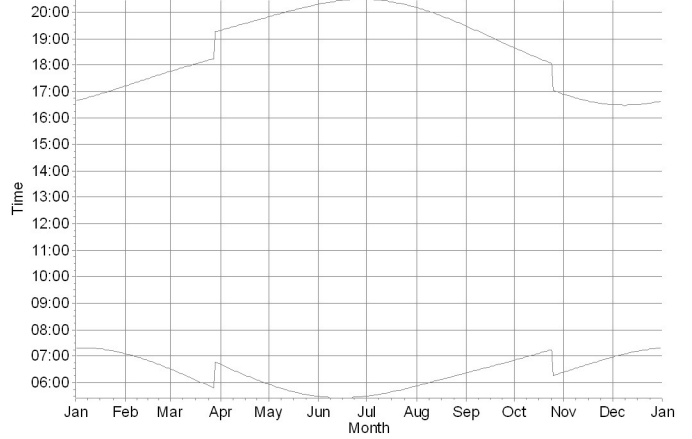
SHADOW - Calendar per WTG, graphical

Calculation: Worst Case

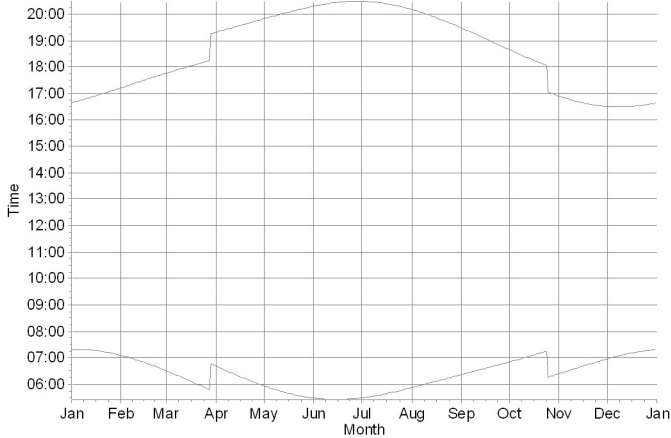
PLT06: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



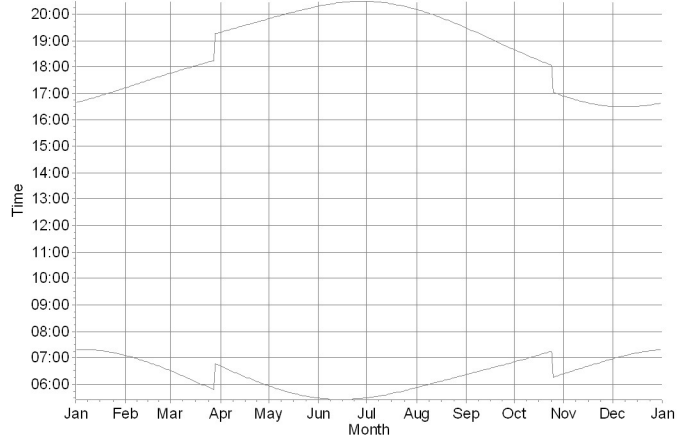
PLT07: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (23)



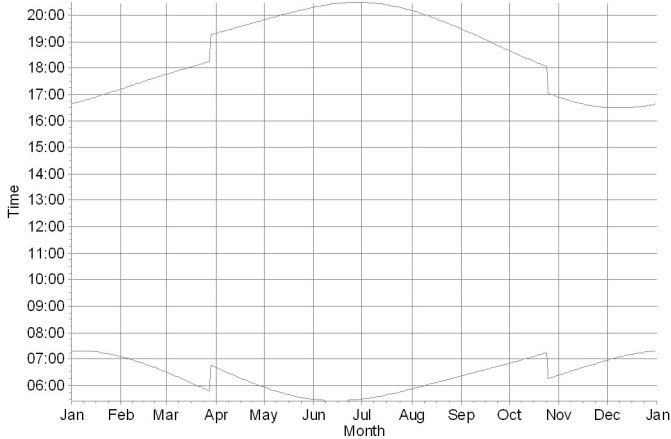
PLT08: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



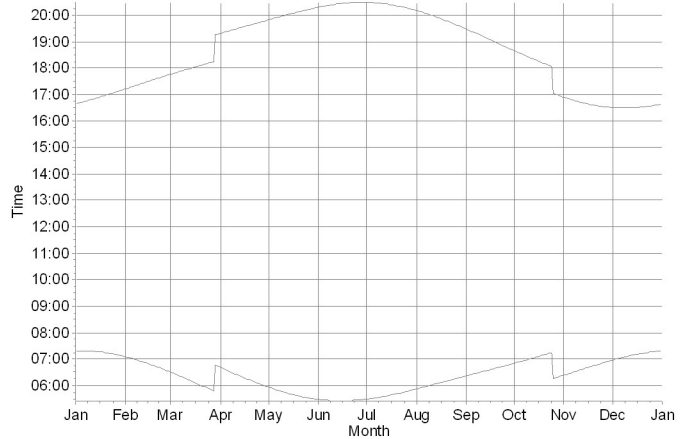
PLT09: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (25)



PLT10: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



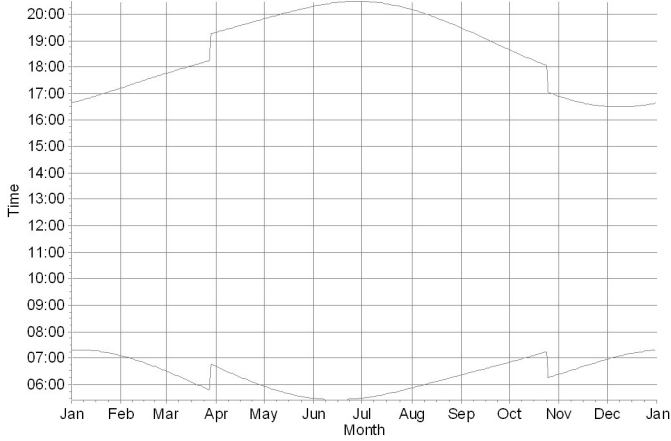
PLT11: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (27)



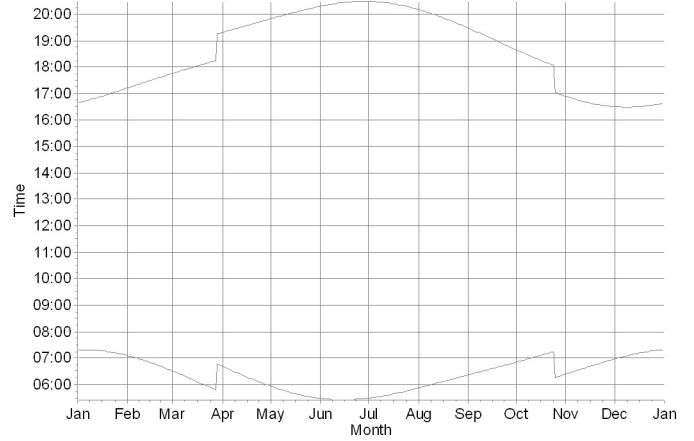
SHADOW - Calendar per WTG, graphical

Calculation: Worst Case

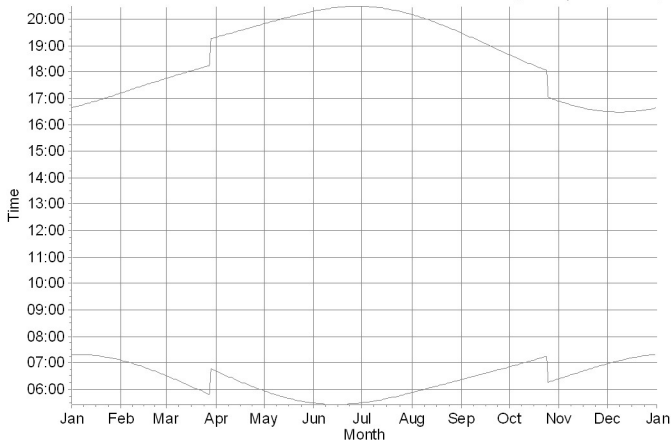
PLT12: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



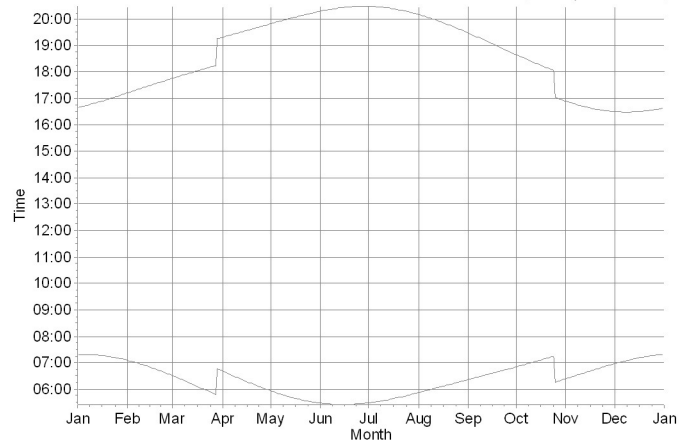
PLT13: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (29)



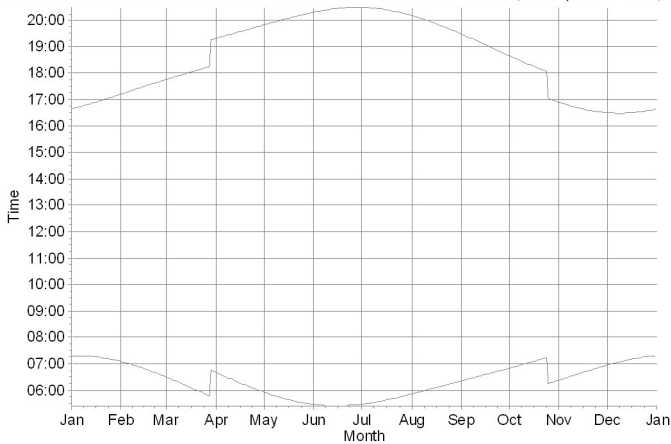
PLT14: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



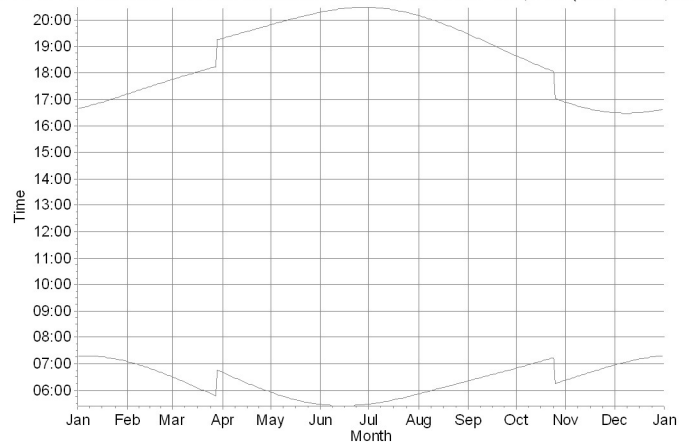
PLT15: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (31)



PLT16: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



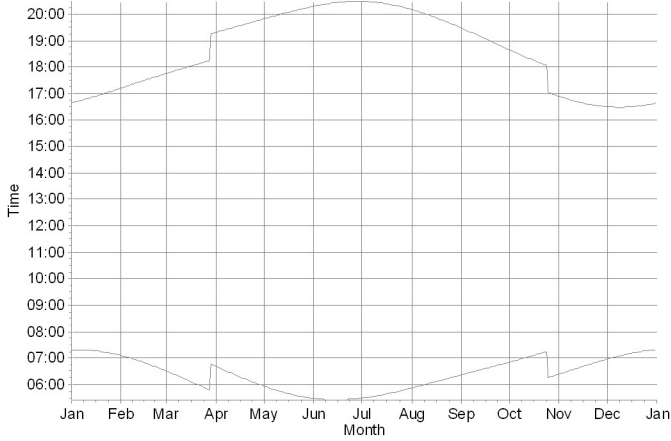
PLT17: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (33)



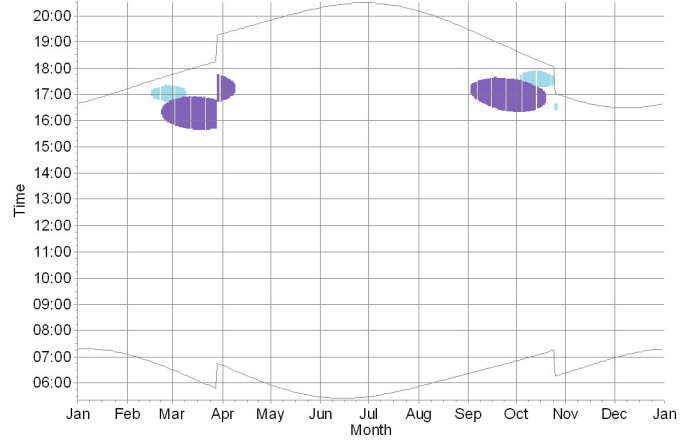
SHADOW - Calendar per WTG, graphical

Calculation: Worst Case

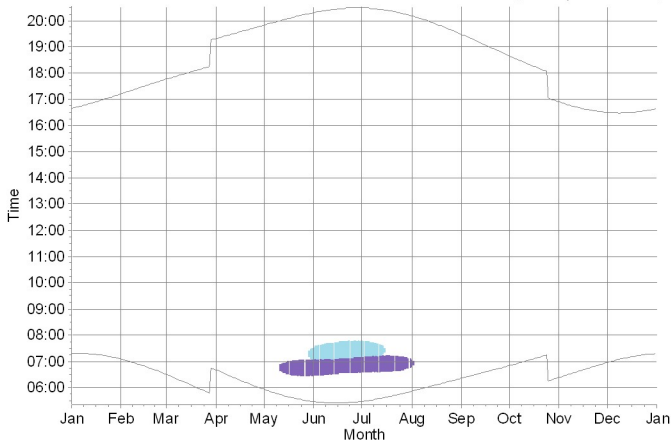
PLT18: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



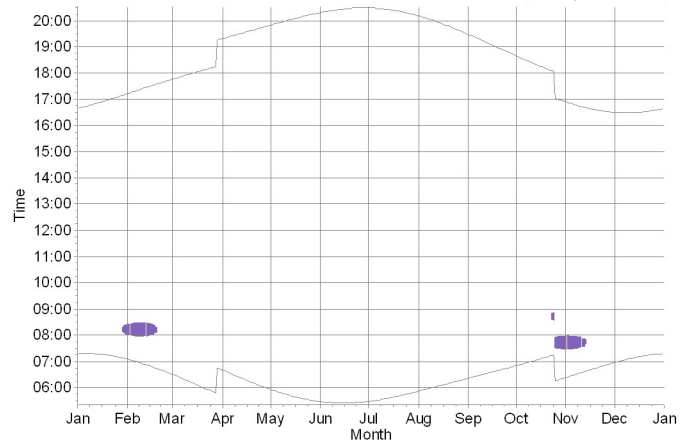
PLT19: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (35)



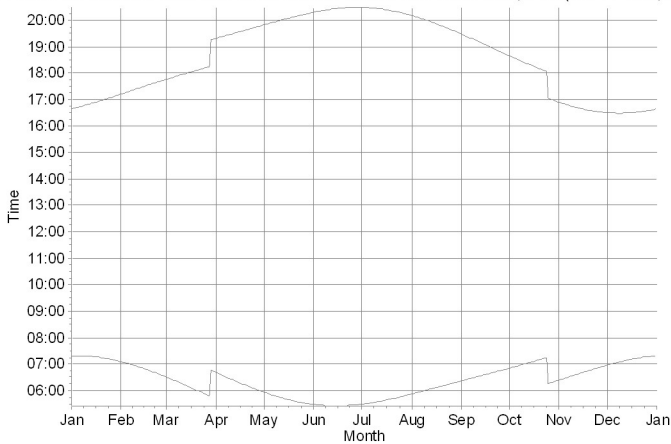
PLT20: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



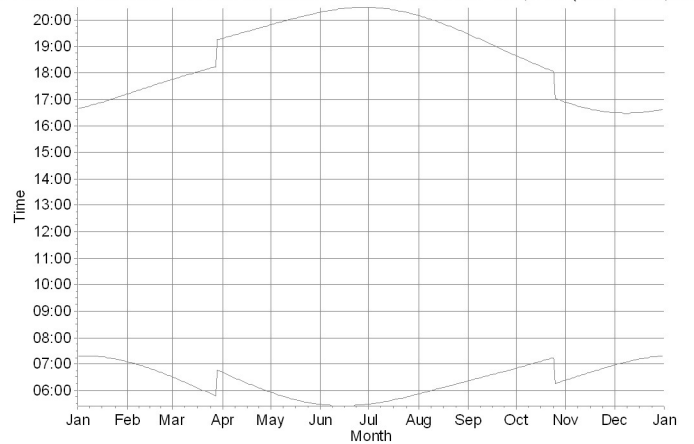
PLT21: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (37)



PLT22: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



PLT23: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (39)



Shadow receptors

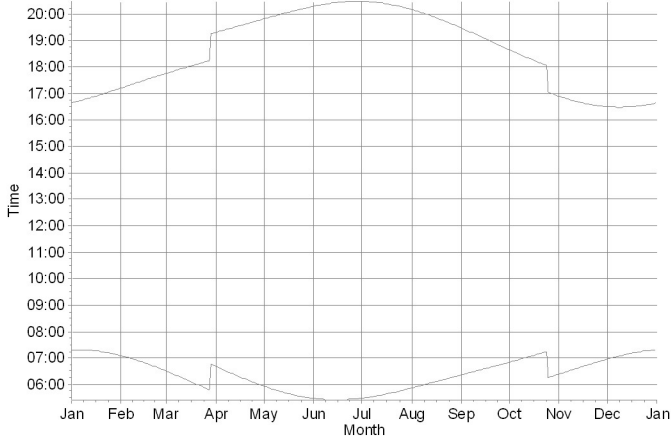
Rx 94: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (33)

Rx 95: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (34)

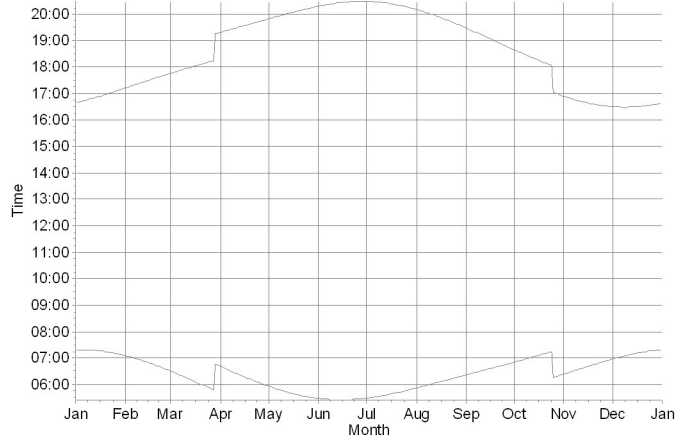
SHADOW - Calendar per WTG, graphical

Calculation: Worst Case

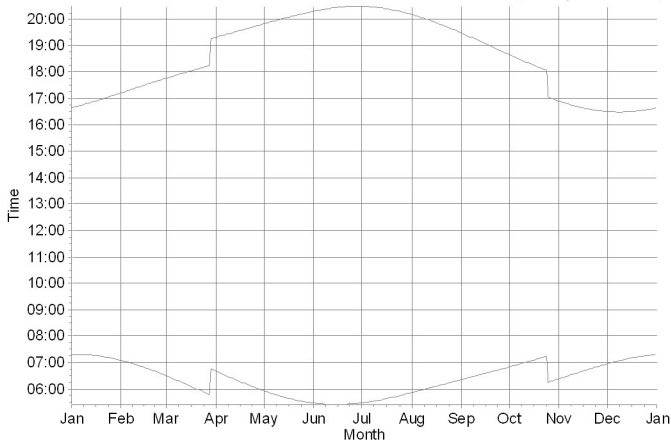
PLT24: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



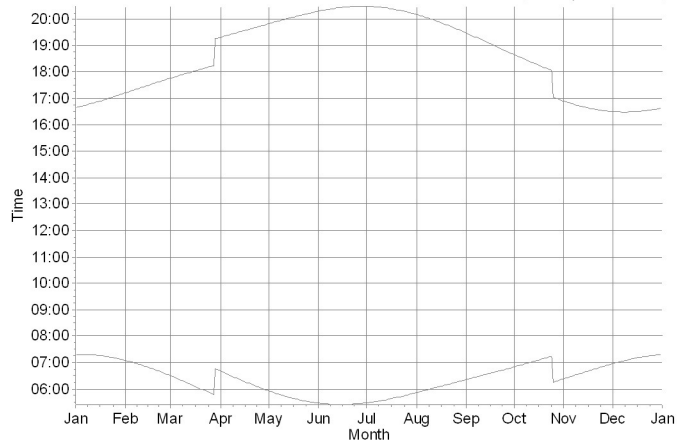
PLT25: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (41)



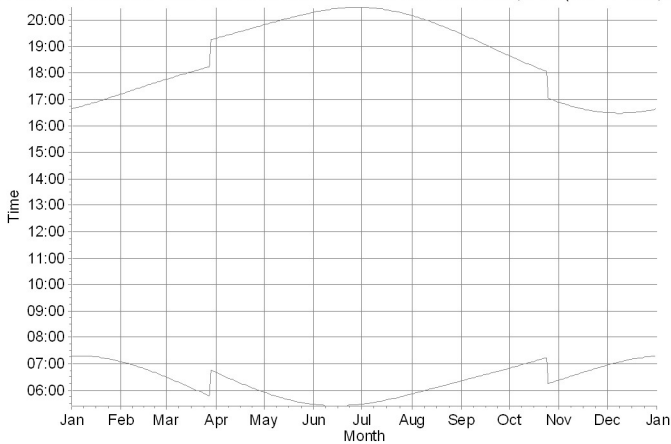
PLT26: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



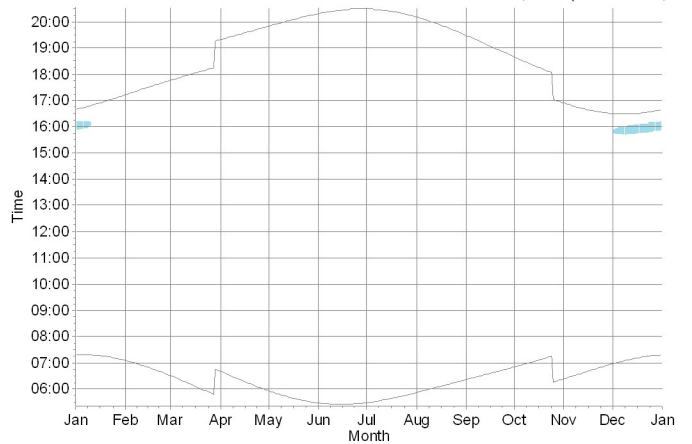
PLT27: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (43)



PLT28: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



PLT29: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (45)



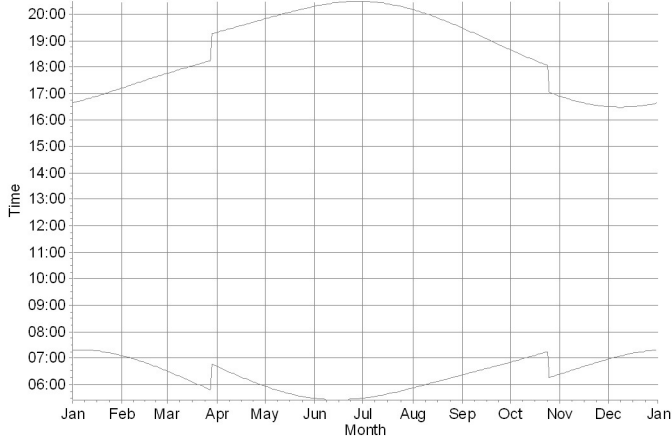
Shadow receptors

Rx 94: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (33)

SHADOW - Calendar per WTG, graphical

Calculation: Worst Case

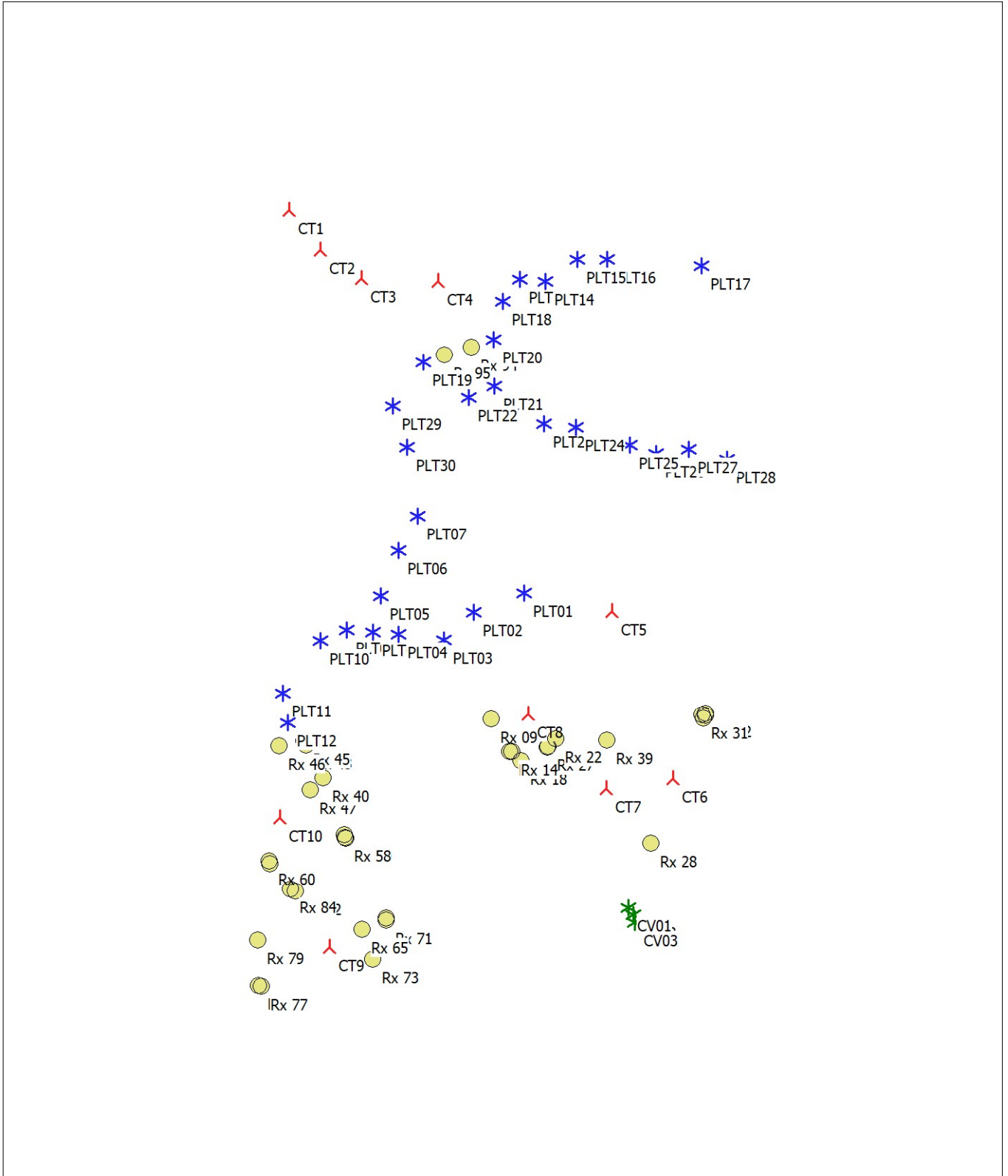
PLT30: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (46)



Shadow receptors

SHADOW - Map

Calculation: Worst Case



Map: Blank map , Print scale 1:75.000, Map center Geo WGS84 East: 16°24'00,64" E North: 40°14'07,50" N

🚶 New WTG * Existing WTG 🟡 Shadow receptor

Flicker map level: Elevation Grid Data Object: WF Colobraro_Tursi2_EMDGrid_0.wpg (3)

9. ALLEGATO 2: SHADOW – MAIN RESULT – ELABORAZIONE MEDIANTE IL SOFTWARE WINDPRO 3.4 – EXPECTED VALUES

SHADOW - Main Result

Calculation: Real Case

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

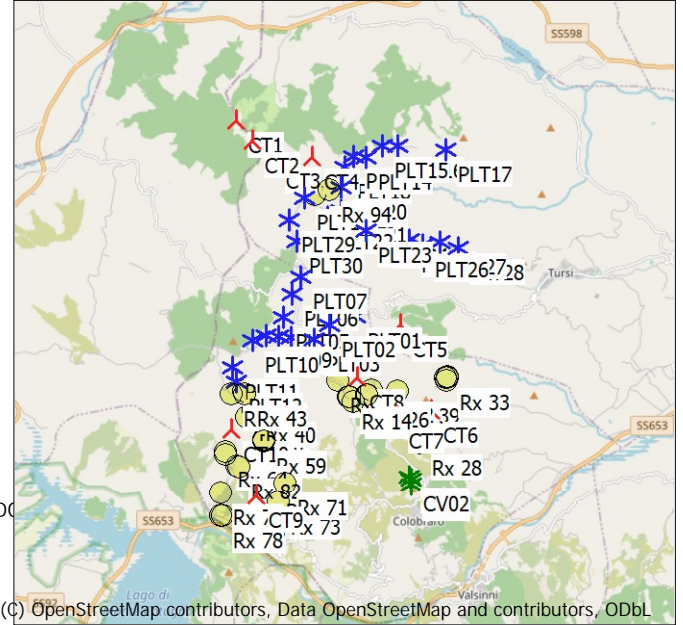
Minimum sun height over horizon for influence 3 °
Day step for calculation 1 days
Time step for calculation 1 minutes

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

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: Elevation Grid Data Object: WF Colobraro_Tursi2_EMD
Obstacles used in calculation
Receptor grid resolution: 1,0 m
Topographic shadow included in calculation

All coordinates are in
Geo [deg,min,sec]-WGS84



WTGs

	Longitude	Latitude	Z	Row data/Description	WTG type				Shadow data			
					Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Calculation distance [m]	RPM [RPM]
CT1	16°22'04,94" E	40°16'56,40" N	466,8	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0
CT10	16°21'59,41" E	40°12'32,09" N	645,2	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0
CT2	16°22'22,77" E	40°16'39,34" N	476,9	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0
CT3	16°22'46,34" E	40°16'26,86" N	491,2	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0
CT4	16°23'29,98" E	40°16'25,72" N	520,6	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0
CT5	16°25'08,86" E	40°14'01,93" N	493,1	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0
CT6	16°25'43,33" E	40°12'49,04" N	399,6	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0
CT7	16°25'05,55" E	40°12'44,93" N	558,0	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0
CT8	16°24'20,99" E	40°13'17,17" N	643,9	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0
CT9	16°22'27,71" E	40°11'35,78" N	336,8	VESTAS V150-6.0 60...	Yes	VESTAS	V150-6.0-6.000	6.000	150,0	125,0	1.900	0,0
CV01	16°25'18,06" E	40°11'52,85" N	783,7	VESTAS V52 850 52....	No	VESTAS	V52-850	850	52,0	65,0	969	26,0
CV02	16°25'20,74" E	40°11'49,84" N	777,0	VESTAS V52 850 52....	No	VESTAS	V52-850	850	52,0	65,0	969	26,0
CV03	16°25'21,52" E	40°11'46,36" N	770,3	VESTAS V52 850 52....	No	VESTAS	V52-850	850	52,0	65,0	969	26,0
PLT01	16°24'18,56" E	40°14'10,05" N	579,0	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT02	16°23'49,84" E	40°14'01,79" N	648,4	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT03	16°23'32,72" E	40°13'49,52" N	695,2	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT04	16°23'06,88" E	40°13'52,21" N	720,6	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT05	16°22'57,02" E	40°14'08,78" N	697,9	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT06	16°23'07,05" E	40°14'28,46" N	656,4	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT07	16°23'17,91" E	40°14'43,52" N	631,6	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT08	16°22'52,32" E	40°13'52,85" N	754,4	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT09	16°22'37,48" E	40°13'53,78" N	764,5	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT10	16°22'22,64" E	40°13'49,22" N	786,9	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT11	16°22'01,26" E	40°13'26,47" N	810,0	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT12	16°22'04,05" E	40°13'13,62" N	788,4	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT13	16°24'16,29" E	40°16'26,76" N	657,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT14	16°24'30,90" E	40°16'25,80" N	597,3	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT15	16°24'49,20" E	40°16'35,35" N	545,9	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT16	16°25'05,99" E	40°16'35,18" N	554,2	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT17	16°25'59,82" E	40°16'32,36" N	560,9	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT18	16°24'06,56" E	40°16'17,06" N	623,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT19	16°23'21,52" E	40°15'50,47" N	550,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT20	16°24'01,40" E	40°16'00,41" N	606,1	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT21	16°24'01,73" E	40°15'39,95" N	626,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9

To be continued on next page...

SHADOW - Main Result

Calculation: Real Case

...continued from previous page

	Longitude	Latitude	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
PLT22	16°23'47,29" E	40°15'34,97" N	594,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT23	16°24'30,12" E	40°15'23,67" N	586,1	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT24	16°24'48,31" E	40°15'22,17" N	569,1	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT25	16°25'19,04" E	40°15'14,39" N	552,8	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT26	16°25'33,87" E	40°15'10,71" N	531,1	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT27	16°25'52,61" E	40°15'12,57" N	491,6	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT28	16°26'14,39" E	40°15'08,22" N	493,7	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT29	16°23'04,10" E	40°15'31,38" N	566,3	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9
PLT30	16°23'12,18" E	40°15'13,50" N	561,5	SENVION MM100 60...	Yes	SENVION	MM100-2.000	2.000	100,0	100,0	1.564	13,9

Shadow receptor-Input

No.	Longitude	Latitude	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Rx 09	16°23'59,89" E	40°13'15,18" N	593,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 14	16°24'11,60" E	40°13'00,75" N	578,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 15	16°24'10,36" E	40°13'00,73" N	575,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 18	16°24'17,12" E	40°12'56,76" N	579,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 22	16°24'36,86" E	40°13'06,36" N	549,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 26	16°24'31,96" E	40°13'02,66" N	547,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 27	16°24'32,30" E	40°13'03,09" N	549,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 28	16°25'30,97" E	40°12'21,00" N	483,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 30	16°26'00,97" E	40°13'15,34" N	330,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 31	16°25'59,84" E	40°13'16,77" N	322,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 32	16°26'02,10" E	40°13'17,38" N	323,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 33	16°26'02,08" E	40°13'16,59" N	326,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 39	16°25'05,80" E	40°13'05,86" N	453,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 40	16°22'24,35" E	40°12'49,48" N	677,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 43	16°22'14,29" E	40°13'03,63" N	752,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 45	16°22'13,22" E	40°13'05,41" N	756,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 46	16°21'58,93" E	40°13'03,40" N	718,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 47	16°22'17,07" E	40°12'44,25" N	708,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 57	16°22'36,15" E	40°12'24,70" N	618,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 58	16°22'36,58" E	40°12'23,63" N	618,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 59	16°22'37,07" E	40°12'23,24" N	618,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 60	16°21'53,51" E	40°12'13,21" N	511,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 64	16°21'53,82" E	40°12'12,22" N	503,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 65	16°22'46,59" E	40°11'43,39" N	441,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 70	16°23'00,18" E	40°11'48,33" N	428,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 71	16°23'00,18" E	40°11'47,58" N	431,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 73	16°22'52,55" E	40°11'30,38" N	362,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 77	16°21'49,20" E	40°11'18,61" N	216,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 78	16°21'47,60" E	40°11'19,05" N	217,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 79	16°21'46,92" E	40°11'38,70" N	292,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 82	16°22'08,29" E	40°12'00,08" N	459,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 84	16°22'05,41" E	40°12'00,89" N	457,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 94	16°23'48,93" E	40°15'56,87" N	570,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Rx 95	16°23'33,33" E	40°15'53,56" N	545,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0

Calculation Results

Shadow receptor

Shadow, expected values

No.	Shadow hours per year [h/year]
Rx 09	35:53
Rx 14	3:36
Rx 15	3:27
Rx 18	4:32
Rx 22	7:25
Rx 26	19:04

To be continued on next page...

SHADOW - Main Result

Calculation: Real Case

...continued from previous page

Shadow, expected values

No.	Shadow hours per year [h/year]
Rx 27	19:17
Rx 28	0:00
Rx 30	0:00
Rx 31	0:03
Rx 32	1:00
Rx 33	0:38
Rx 39	11:02
Rx 40	0:00
Rx 43	0:00
Rx 45	0:00
Rx 46	0:00
Rx 47	29:48
Rx 57	0:00
Rx 58	0:00
Rx 59	0:00
Rx 60	0:00
Rx 64	0:00
Rx 65	24:29
Rx 70	0:00
Rx 71	5:56
Rx 73	21:31
Rx 77	0:00
Rx 78	0:00
Rx 79	2:20
Rx 82	0:00
Rx 84	0:00
Rx 94	21:59
Rx 95	52:38

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

No.	Name	Expected [h/year]
CT1	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (1)	0:00
CT10	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (10)	29:48
CT2	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (2)	0:00
CT3	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (3)	0:00
CT4	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (4)	0:00
CT5	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (5)	0:00
CT6	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (6)	3:14
CT7	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (7)	38:07
CT8	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (8)	41:21
CT9	VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (9)	48:18
CV01	VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (14)	0:00
CV02	VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (15)	0:00
CV03	VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (16)	0:00
PLT01	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (17)	0:00
PLT02	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (18)	0:00
PLT03	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (19)	0:00
PLT04	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (20)	0:00
PLT05	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (21)	0:00
PLT06	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (22)	0:00
PLT07	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (23)	0:00
PLT08	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (24)	0:00
PLT09	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (25)	0:00
PLT10	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (26)	0:00
PLT11	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (27)	0:00
PLT12	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (28)	0:00
PLT13	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (29)	0:00
PLT14	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (30)	0:00
PLT15	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (31)	0:00
PLT16	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (32)	0:00
PLT17	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (33)	0:00

To be continued on next page...

Project:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via G. Garibaldi, 15
IT-74023 Grottaglie (TA)

Gaetano D'Oronzio / info@gecodor.it
Calculated:
25/07/2023 13:32/3.5.587

SHADOW - Main Result

Calculation: Real Case

...continued from previous page

No.	Name	Expected [h/year]
PLT18	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (34)	0:00
PLT19	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (35)	40:51
PLT20	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (36)	20:50
PLT21	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (37)	6:26
PLT22	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (38)	0:00
PLT23	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (39)	0:00
PLT24	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (40)	0:00
PLT25	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (41)	0:00
PLT26	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (42)	0:00
PLT27	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (43)	0:00
PLT28	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (44)	0:00
PLT29	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (45)	4:58
PLT30	SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (46)	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 09 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	
1	07:17 16:39	07:05 17:13	06:30 17:46	06:40 17:18	05:56 19:49	07:16 (CT8) 05:28 20:18	
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	07:15 (CT8) 05:27 20:18	
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	07:14 (CT8) 05:27 20:19	
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	07:13 (CT8) 05:27 20:20	
5	07:18 16:43	07:40 (CT7) 07:41 (CT7)	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	07:13 (CT8) 05:26 20:20
6	07:18 16:43	07:39 (CT7) 07:40 (CT7)	07:00 17:19	06:22 17:51	06:32 19:24	05:50 19:54	07:12 (CT8) 05:26 20:21
7	07:18 16:44	07:39 (CT7) 07:41 (CT7)	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	07:11 (CT8) 05:26 20:22
8	07:18 16:45	07:39 (CT7) 07:42 (CT7)	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	07:11 (CT8) 05:26 20:22
9	07:18 16:46	07:39 (CT7) 07:43 (CT7)	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	07:10 (CT8) 05:25 20:23
10	07:17 16:47	07:39 (CT7) 07:44 (CT7)	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	07:10 (CT8) 05:25 20:23
11	07:17 16:48	07:38 (CT7) 07:44 (CT7)	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	07:09 (CT8) 05:25 20:24
12	07:17 16:49	07:38 (CT7) 07:45 (CT7)	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	07:08 (CT8) 05:25 20:24
13	07:17 16:50	07:38 (CT7) 07:46 (CT7)	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	07:08 (CT8) 05:25 20:25
14	07:16 16:52	07:37 (CT7) 07:45 (CT7)	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	07:07 (CT8) 05:25 20:25
15	07:16 16:53	07:37 (CT7) 07:46 (CT7)	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	07:07 (CT8) 05:25 20:26
16	07:16 16:54	07:46 (CT7) 07:36 (CT7)	06:48 06:48	06:07 06:07	06:17 19:34	05:39 20:04	07:06 (CT8) 05:25 20:26
17	07:15 16:55	07:46 (CT7) 07:36 (CT7)	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	07:05 (CT8) 05:25 20:27
18	07:15 16:56	07:35 (CT7) 07:46 (CT7)	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	07:05 (CT8) 05:25 20:27
19	07:14 16:57	07:35 (CT7) 07:47 (CT7)	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	07:05 (CT8) 05:25 20:27
20	07:14 16:58	07:47 (CT7) 07:34 (CT7)	06:43 06:43	06:00 06:11	06:11 19:38	05:36 20:08	07:04 (CT8) 05:25 20:27
21	07:13 16:59	07:46 (CT7) 07:34 (CT7)	06:42 17:35	05:58 18:06	06:09 19:38	05:35 20:08	07:04 (CT8) 05:25 20:27
22	07:13 17:01	07:47 (CT7) 07:34 (CT7)	06:42 17:36	05:57 18:07	06:08 19:39	05:34 20:09	07:03 (CT8) 05:25 20:28
23	07:12 17:02	07:46 (CT7) 07:33 (CT7)	06:41 17:37	05:56 18:08	06:07 19:40	05:33 20:09	07:03 (CT8) 05:26 20:28
24	07:11 17:03	07:45 (CT7) 07:33 (CT7)	06:40 17:38	05:55 18:09	06:06 19:41	05:32 20:10	07:03 (CT8) 05:26 20:28
25	07:11 17:04	07:45 (CT7) 07:35 (CT7)	06:39 17:40	05:54 18:10	06:05 19:42	05:31 20:11	07:03 (CT8) 05:26 20:28
26	07:10 17:05	07:45 (CT7) 07:35 (CT7)	06:36 17:41	05:52 18:11	06:04 19:43	05:30 20:12	07:02 (CT8) 05:26 20:28
27	07:09 17:06	07:43 (CT7) 07:34 (CT7)	06:34 17:42	05:50 18:12	06:02 19:44	05:29 20:13	07:02 (CT8) 05:27 20:28
28	07:08 17:08	06:33 17:43	05:49 18:13	06:01 19:45	06:01 19:46	05:28 20:14	07:02 (CT8) 05:27 20:29
29	07:08 17:09	06:31 17:44	05:47 18:14	06:00 19:46	06:00 19:47	05:27 20:15	07:03 (CT8) 05:28 20:29
30	07:07 17:10	06:45 19:15	05:58 19:15	06:00 19:47	06:00 19:48	05:26 20:15	07:03 (CT8) 05:28 20:29
31	07:06 17:11	06:44 19:16	05:57 19:16	06:00 19:48	06:00 19:49	05:25 20:16	07:04 (CT8) 05:28 20:29
Potential sun hours	300	298	370	398	446	450	
Total, worst case	166			597	1714	1354	
Sun reduction	0,77			0,56	0,51	0,49	
Oper. time red.	0,89			0,89	0,89	0,89	
Wind dir. red.	0,60			0,67	0,67	0,67	
Total reduction	0,41			0,33	0,31	0,30	
Total, real	68			199	527	400	

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

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

Calculation: Real CaseShadow receptor: Rx 09 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	July		August		September		October		November		December	
1	05:29	07:15 (CT8)	05:52	07:19 (CT8)	06:21	06:50	06:23	06:57	07:20 (CT7)			
	20:28	45 08:00 (CT8)	20:10	56 08:15 (CT8)	19:28	18:39	16:53	16:30	6 07:26 (CT7)			
2	05:29	07:14 (CT8)	05:53	07:19 (CT8)	06:22	06:51	06:24	06:58	07:21 (CT7)			
	20:28	46 08:00 (CT8)	20:09	55 08:14 (CT8)	19:27	18:37	16:52	16:30	5 07:26 (CT7)			
3	05:30	07:15 (CT8)	05:54	07:19 (CT8)	06:23	06:52	06:26	06:59	07:22 (CT7)			
	20:28	46 08:01 (CT8)	20:08	55 08:14 (CT8)	19:25	18:36	16:51	16:29	4 07:26 (CT7)			
4	05:30	07:14 (CT8)	05:55	07:20 (CT8)	06:24	06:53	06:27	07:00	07:23 (CT7)			
	20:28	47 08:01 (CT8)	20:07	55 08:15 (CT8)	19:23	18:34	16:50	16:29	3 07:26 (CT7)			
5	05:31	07:14 (CT8)	05:56	07:21 (CT8)	06:25	06:54	06:28	07:01	07:24 (CT7)			
	20:28	48 08:02 (CT8)	20:06	54 08:15 (CT8)	19:22	18:32	16:49	16:29	2 07:26 (CT7)			
6	05:31	07:14 (CT8)	05:56	07:21 (CT8)	06:26	06:55	06:29	07:02	07:25 (CT7)			
	20:28	48 08:02 (CT8)	20:05	54 08:15 (CT8)	19:20	18:31	16:48	16:29	2 07:27 (CT7)			
7	05:32	07:14 (CT8)	05:57	07:22 (CT8)	06:27	06:56	06:30	07:03	07:26 (CT7)			
	20:27	49 08:03 (CT8)	20:03	53 08:15 (CT8)	19:19	18:29	16:47	16:29	1 07:27 (CT7)			
8	05:32	07:14 (CT8)	05:58	07:22 (CT8)	06:28	06:57	06:31	07:04				
	20:27	50 08:04 (CT8)	20:02	53 08:15 (CT8)	19:17	18:28	16:45	16:29				
9	05:33	07:13 (CT8)	05:59	07:23 (CT8)	06:29	06:58	06:33	07:05				
	20:27	51 08:04 (CT8)	20:01	51 08:14 (CT8)	19:15	18:26	16:44	16:29				
10	05:34	07:14 (CT8)	06:00	07:23 (CT8)	06:30	06:59	06:34	07:06				
	20:26	51 08:05 (CT8)	20:00	51 08:14 (CT8)	19:14	18:24	16:43	16:29				
11	05:34	07:14 (CT8)	06:01	07:24 (CT8)	06:31	07:00	06:35	07:07				
	20:26	52 08:06 (CT8)	19:59	50 08:14 (CT8)	19:12	18:23	16:42	16:29				
12	05:35	07:13 (CT8)	06:02	07:25 (CT8)	06:32	07:01	06:36	07:07				
	20:25	53 08:06 (CT8)	19:57	49 08:14 (CT8)	19:10	18:21	16:42	16:29				
13	05:36	07:13 (CT8)	06:03	07:24 (CT8)	06:33	07:02	06:37	07:08				
	20:25	54 08:07 (CT8)	19:56	48 08:12 (CT8)	19:09	18:20	16:41	16:29				
14	05:36	07:13 (CT8)	06:04	07:25 (CT8)	06:34	07:03	06:38	07:09				
	20:24	54 08:07 (CT8)	19:55	47 08:12 (CT8)	19:07	18:18	16:40	16:29				
15	05:37	07:12 (CT8)	06:05	07:25 (CT8)	06:35	07:05	06:39	07:10				
	20:24	55 08:07 (CT8)	19:53	46 08:11 (CT8)	19:05	18:17	16:39	16:30				
16	05:38	07:12 (CT8)	06:06	07:26 (CT8)	06:36	07:06	06:41	07:10				
	20:23	56 08:08 (CT8)	19:52	45 08:11 (CT8)	19:04	18:15	16:38	16:30				
17	05:39	07:12 (CT8)	06:07	07:26 (CT8)	06:37	07:07	06:42	07:11				
	20:23	57 08:09 (CT8)	19:51	44 08:10 (CT8)	19:02	18:14	16:37	8 07:16 (CT7)	16:30			
18	05:40	07:12 (CT8)	06:08	07:27 (CT8)	06:38	07:08	06:43	07:08 (CT7)	07:12			
	20:22	58 08:10 (CT8)	19:49	42 08:09 (CT8)	19:00	18:12	16:37	11 07:19 (CT7)	16:31			
19	05:40	07:12 (CT8)	06:09	07:27 (CT8)	06:39	07:09	06:44	07:08 (CT7)	07:12			
	20:21	57 08:09 (CT8)	19:48	41 08:08 (CT8)	18:59	18:11	16:36	12 07:20 (CT7)	16:31			
20	05:41	07:13 (CT8)	06:10	07:28 (CT8)	06:40	07:10	06:45	07:09 (CT7)	07:13			
	20:21	57 08:10 (CT8)	19:46	39 08:07 (CT8)	18:57	18:09	16:35	12 07:21 (CT7)	16:31			
21	05:42	07:13 (CT8)	06:11	07:28 (CT8)	06:40	07:11	06:46	07:09 (CT7)	07:13			
	20:20	58 08:11 (CT8)	19:45	38 08:06 (CT8)	18:55	18:08	16:35	13 07:22 (CT7)	16:32			
22	05:43	07:14 (CT8)	06:12	07:29 (CT8)	06:41	07:12	06:47	07:10 (CT7)	07:14			
	20:19	57 08:11 (CT8)	19:43	35 08:04 (CT8)	18:54	18:06	16:34	12 07:22 (CT7)	16:32			
23	05:44	07:15 (CT8)	06:13	07:29 (CT8)	06:42	07:13	06:49	07:11 (CT7)	07:14			
	20:19	57 08:12 (CT8)	19:42	34 08:03 (CT8)	18:52	18:05	16:33	12 07:23 (CT7)	16:33			
24	05:45	07:15 (CT8)	06:14	07:30 (CT8)	06:43	07:14	06:50	07:13 (CT7)	07:15			
	20:18	58 08:13 (CT8)	19:41	31 08:01 (CT8)	18:50	18:04	16:33	11 07:24 (CT7)	16:33			
25	05:45	07:15 (CT8)	06:15	07:30 (CT8)	06:44	06:15	06:51	07:14 (CT7)	07:15			
	20:17	57 08:12 (CT8)	19:39	29 07:59 (CT8)	18:49	17:02	16:32	11 07:25 (CT7)	16:34			
26	05:46	07:15 (CT8)	06:16	07:30 (CT8)	06:45	06:16	06:52	07:15 (CT7)	07:16			
	20:16	58 08:13 (CT8)	19:38	25 07:55 (CT8)	18:47	17:01	16:32	10 07:25 (CT7)	16:35			
27	05:47	07:16 (CT8)	06:17	07:30 (CT8)	06:46	06:18	06:53	07:16 (CT7)	07:16			
	20:15	57 08:13 (CT8)	19:36	22 07:52 (CT8)	18:45	17:00	16:31	9 07:25 (CT7)	16:35			
28	05:48	07:17 (CT8)	06:18	07:31 (CT8)	06:47	06:19	06:54	07:17 (CT7)	07:16			
	20:14	57 08:14 (CT8)	19:34	18 07:49 (CT8)	18:44	16:58	16:31	8 07:25 (CT7)	16:36			
29	05:49	07:17 (CT8)	06:19	07:35 (CT8)	06:48	06:20	06:55	07:18 (CT7)	07:17			
	20:13	57 08:14 (CT8)	19:33	6 07:41 (CT8)	18:42	16:57	16:31	8 07:26 (CT7)	16:37			
30	05:50	07:18 (CT8)	06:20		06:49	06:21	06:56	07:19 (CT7)	07:17			
	20:12	56 08:14 (CT8)	19:31		18:40	16:56	16:30	7 07:26 (CT7)	16:37			
31	05:51	07:19 (CT8)	06:20			06:22			07:17			
	20:11	56 08:15 (CT8)	19:30			16:55			16:38			
Potential sun hours	456		426		375	346	300		290			
Total, worst case	1662		1226				144		23			
Sun reduction	0,50		0,54				0,74		0,79			
Oper. time red.	0,89		0,89				0,89		0,89			
Wind dir. red.	0,67		0,67				0,60		0,60			
Total reduction	0,30		0,32				0,40		0,42			
Total, real	499		394				57		10			

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

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

Calculation: Real CaseShadow receptor: Rx 14 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (2)
Assumptions for shadow calculations

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:17	07:05	06:30	06:40	05:56	05:28	05:29	05:52	06:21	06:50	06:23	06:44 (CT7)	06:57
	16:39	17:13	17:46	19:18	19:49	20:18	20:28	20:10	19:28	18:39	16:53	13 06:57 (CT7)	16:30
2	07:18	07:04	06:28	06:39	05:55	05:27	05:29	05:53	06:22	06:51	06:24	06:46 (CT7)	06:58
	16:40	17:14	17:47	19:19	19:50	20:18	20:28	20:09	19:27	18:37	16:52	11 06:57 (CT7)	16:30
3	07:18	07:03	06:27	06:37	05:53	05:27	05:30	05:54	06:23	06:52	06:26	06:47 (CT7)	06:59
	16:41	17:15	17:48	19:20	19:51	20:19	20:28	20:08	19:25	18:36	16:51	9 06:56 (CT7)	16:29
4	07:18	07:02	06:25	06:36	05:52	05:27	05:30	05:55	06:24	06:53	06:27	06:48 (CT7)	07:00
	16:42	17:16	17:49	19:21	19:52	20:20	20:28	20:07	19:23	18:34	16:50	6 06:54 (CT7)	16:29
5	07:18	07:01	06:24	06:34	05:51	05:26	05:31	05:56	06:25	06:54	06:28	06:49 (CT7)	07:01
	16:43	17:17	17:50	19:22	19:53	20:20	20:28	20:06	19:22	18:32	16:49	3 06:52 (CT7)	16:29
6	07:18	07:00	07:19 (CT7)	06:22	06:32	05:50	05:26	05:31	05:56	06:26	06:55	06:29	07:02
	16:43	17:19	4 07:23 (CT7)	17:51	19:23	19:54	20:21	20:28	20:05	19:20	18:31	16:48	16:29
7	07:18	06:59	07:18 (CT7)	06:21	06:31	05:49	05:26	05:32	05:57	06:27	06:56	06:30	07:03
	16:44	17:20	7 07:25 (CT7)	17:52	19:25	19:55	20:22	20:27	20:03	19:19	18:29	16:47	16:29
8	07:18	06:58	07:17 (CT7)	06:19	06:29	05:47	05:26	05:32	05:58	06:28	06:57	06:31	07:04
	16:45	17:21	9 07:26 (CT7)	17:53	19:26	19:56	20:22	20:27	20:02	19:17	18:28	16:45	16:29
9	07:18	06:57	07:16 (CT7)	06:18	06:28	05:46	05:25	05:33	05:59	06:29	06:58	06:32	07:05
	16:46	17:22	11 07:27 (CT7)	17:54	19:27	19:57	20:23	20:27	20:01	19:15	18:26	16:44	16:29
10	07:17	06:55	07:15 (CT7)	06:16	06:26	05:45	05:25	05:34	06:00	06:30	06:59	06:34	07:06
	16:47	17:23	13 07:28 (CT7)	17:55	19:28	19:58	20:23	20:26	20:00	19:14	18:24	16:43	16:29
11	07:17	06:54	07:14 (CT7)	06:15	06:25	05:44	05:25	05:34	06:01	06:31	07:00	06:35	07:07
	16:48	17:25	15 07:29 (CT7)	17:57	19:29	19:59	20:24	20:26	19:59	19:12	18:23	16:42	16:29
12	07:17	06:53	07:12 (CT7)	06:13	06:23	05:43	05:25	05:35	06:02	06:32	07:01	06:36	07:07
	16:49	17:26	17 07:29 (CT7)	17:58	19:30	20:00	20:24	20:25	19:57	19:10	18:21	16:42	16:29
13	07:17	06:52	07:11 (CT7)	06:11	06:21	05:42	05:25	05:36	06:03	06:33	07:02	06:37	07:08
	16:50	17:27	18 07:29 (CT7)	17:59	19:31	20:01	20:25	20:25	19:56	19:09	18:20	16:41	16:29
14	07:16	06:51	07:10 (CT7)	06:10	06:20	05:41	05:25	05:36	06:04	06:34	07:03	06:38	07:09
	16:52	17:28	20 07:30 (CT7)	18:00	19:32	20:02	20:25	20:24	19:55	19:07	18:18	16:40	16:29
15	07:16	06:49	07:09 (CT7)	06:08	06:18	05:40	05:25	05:37	06:05	06:35	07:05	06:39	07:10
	16:53	17:29	21 07:30 (CT7)	18:01	19:33	20:03	20:26	20:24	19:53	19:05	18:17	16:39	16:30
16	07:16	06:48	07:07 (CT7)	06:07	06:17	05:39	05:25	05:38	06:06	06:36	07:06	06:41	07:10
	16:54	17:31	22 07:29 (CT7)	18:02	19:34	20:04	20:26	20:23	19:52	19:04	18:15	16:38	16:30
17	07:15	06:47	07:06 (CT7)	06:05	06:15	05:38	05:25	05:39	06:07	06:37	07:07	06:42	07:11
	16:55	17:32	23 07:29 (CT7)	18:03	19:35	20:05	20:27	20:23	19:51	19:02	18:14	16:37	16:30
18	07:15	06:46	07:05 (CT7)	06:03	06:14	05:37	05:25	05:40	06:08	06:38	07:08	06:43	07:12
	16:56	17:33	24 07:29 (CT7)	18:04	19:36	20:06	20:27	20:22	19:49	19:00	18:12	16:37	16:31
19	07:14	06:44	07:05 (CT7)	06:02	06:12	05:36	05:25	05:40	06:09	06:39	07:09	06:44	07:12
	16:57	17:34	22 07:27 (CT7)	18:05	19:37	20:07	20:27	20:21	19:48	18:59	18:11	10 07:42 (CT7)	16:34
20	07:14	06:43	07:07 (CT7)	06:00	06:11	05:36	05:25	05:41	06:10	06:40	07:10	07:39 (CT7)	16:45
	16:58	17:35	20 07:27 (CT7)	18:06	19:38	20:08	20:27	20:21	19:46	18:57	18:09	15 07:54 (CT7)	16:35
21	07:13	06:41	07:07 (CT7)	05:58	06:09	05:35	05:25	05:42	06:11	06:40	07:11	07:37 (CT7)	16:46
	16:59	17:36	18 07:25 (CT7)	18:07	19:39	20:09	20:28	20:20	19:45	18:55	18:08	19 07:56 (CT7)	16:34
22	07:13	06:40	07:10 (CT7)	05:57	06:08	05:34	05:25	05:43	06:12	06:41	07:12	07:37 (CT7)	16:47
	17:01	17:38	13 07:23 (CT7)	18:08	19:40	20:09	20:28	20:19	19:43	18:54	18:06	21 07:58 (CT7)	16:34
23	07:12	06:39	07:13 (CT7)	05:55	06:07	05:33	05:26	05:44	06:13	06:42	07:13	07:36 (CT7)	16:49
	17:02	17:39	7 07:20 (CT7)	18:09	19:41	20:10	20:28	20:18	19:42	18:52	18:05	22 07:58 (CT7)	16:33
24	07:11	06:37		05:54	06:05	05:33	05:26	05:45	06:14	06:43	07:14	07:35 (CT7)	16:50
	17:03	17:40		18:10	19:42	20:11	20:28	20:18	19:40	18:50	18:04	24 07:59 (CT7)	16:33
25	07:11	06:36		05:52	06:04	05:32	05:26	05:45	06:15	06:44	07:15	06:36 (CT7)	16:51
	17:04	17:41		18:11	19:43	20:12	20:28	20:17	19:39	18:49	17:02	23 06:59 (CT7)	16:32
26	07:10	06:34		05:50	06:02	05:31	05:27	05:46	06:16	06:45	07:16	06:37 (CT7)	16:52
	17:05	17:42		18:12	19:44	20:13	20:28	20:16	19:37	18:47	17:01	22 06:59 (CT7)	16:32
27	07:09	06:33		05:49	06:01	05:31	05:27	05:47	06:17	06:46	07:17	06:38 (CT7)	16:53
	17:06	17:43		18:13	19:45	20:14	20:29	20:15	19:36	18:45	17:00	21 06:59 (CT7)	16:31
28	07:08	06:31		05:47	06:00	05:30	05:27	05:48	06:18	06:47	07:19	06:40 (CT7)	16:54
	17:08	17:44		18:14	19:46	20:15	20:29	20:14	19:34	18:44	16:58	20 07:00 (CT7)	16:31
29	07:07			06:45	05:58	05:29	05:28	05:49	06:19	06:48	07:20	06:41 (CT7)	16:55
	17:09			19:15	19:47	20:15	20:29	20:13	19:33	18:42	16:57	18 06:59 (CT7)	16:31
30	07:07			06:44	05:57	05:29	05:28	05:50	06:20	06:49	07:21	06:42 (CT7)	16:56
	17:10			19:16	19:48	20:16	20:29	20:12	19:31	18:40	16:56	17 06:59 (CT7)	16:30
31	07:06			06:42		05:28		05:51	06:20	06:49	07:22	06:43 (CT7)	16:57
	17:11			19:17		20:17		20:11	19:30	18:40	16:55	15 06:58 (CT7)	16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300		290
Total, worst case		284								247		42	
Sun reduction		0,69								0,66		0,74	
Oper. time red.		0,89								0,89		0,89	
Wind dir. red.		0,62								0,62		0,62	
Total reduction		0,38								0,37		0,41	
Total, real		109								90		17	

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 15 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)
Assumptions for shadow calculations
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:13	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:44 (CT7) 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:46 (CT7) 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:47 (CT7) 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	06:48 (CT7) 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	06:50 (CT7) 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	06:50 (CT7) 16:29
7	07:18 16:44	06:59 17:20	07:18 (CT7) 07:21 (CT7)	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:19	06:56 18:29	06:30 16:47
8	07:18 16:45	06:58 17:21	07:17 (CT7) 07:23 (CT7)	06:19 17:53	06:29 19:26	05:47 19:56	05:26 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:45
9	07:18 16:46	06:57 17:22	07:16 (CT7) 07:25 (CT7)	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44
10	07:17 16:47	06:55 17:23	07:15 (CT7) 07:26 (CT7)	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43
11	07:17 16:48	06:54 17:25	07:14 (CT7) 07:27 (CT7)	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42
12	07:17 16:49	06:53 17:26	07:12 (CT7) 07:28 (CT7)	06:13 17:58	06:23 20:00	05:43 20:24	05:25 20:25	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42
13	07:17 16:50	06:52 17:27	07:11 (CT7) 07:28 (CT7)	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41
14	07:16 16:52	06:51 17:28	07:10 (CT7) 07:28 (CT7)	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40
15	07:16 16:53	06:49 17:29	07:09 (CT7) 07:29 (CT7)	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39
16	07:16 16:54	06:48 17:31	07:07 (CT7) 07:28 (CT7)	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38
17	07:15 16:55	06:47 17:32	07:06 (CT7) 07:28 (CT7)	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37
18	07:15 16:56	06:46 17:33	07:05 (CT7) 07:28 (CT7)	06:03 18:04	06:14 19:36	05:37 20:07	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37
19	07:14 16:57	06:44 17:34	07:04 (CT7) 07:27 (CT7)	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36
20	07:14 16:58	06:43 17:35	07:05 (CT7) 07:26 (CT7)	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35
21	07:13 16:59	06:42 17:36	07:05 (CT7) 07:24 (CT7)	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:35
22	07:13 17:01	06:40 17:38	07:07 (CT7) 07:23 (CT7)	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34
23	07:12 17:02	06:39 17:39	07:09 (CT7) 07:21 (CT7)	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33
24	07:11 17:03	06:37 17:40	07:13 (CT7) 07:16 (CT7)	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33
25	07:11 17:04	06:36 17:41	07:11 (CT7) 07:16 (CT7)	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32
26	07:10 17:05	06:34 17:42	07:10 (CT7) 07:15 (CT7)	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:28	05:46 20:16	06:16 19:37	06:45 18:47	07:16 17:01	06:52 16:32
27	07:09 17:06	06:33 17:43	07:09 (CT7) 07:14 (CT7)	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	07:17 17:00	06:53 16:31
28	07:08 17:08	06:31 17:44	07:08 (CT7) 07:13 (CT7)	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	07:19 16:58	06:54 16:31
29	07:07 17:09	06:30 17:45	07:07 (CT7) 07:12 (CT7)	05:45 18:15	05:58 19:47	05:29 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:20 16:57	06:55 16:31
30	07:07 17:10	06:30 17:46	07:07 (CT7) 07:12 (CT7)	05:44 18:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:40	07:21 16:56	06:56 16:30
31	07:06 17:11	06:30 17:47	07:06 (CT7) 07:11 (CT7)	05:42 18:17	05:56 19:49	05:28 20:17	05:27 20:30	05:51 20:11	06:20 19:30	06:48 18:40	07:22 16:55	06:57 (CT7) 16:30
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case		272								251		27
Sun reduction		0,69								0,66		0,74
Oper. time red.		0,89								0,89		0,89
Wind dir. red.		0,62								0,62		0,62
Total reduction		0,38								0,37		0,41
Total, real		104								92		11

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 18 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:13	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:26 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:45	07:04 16:29
9	07:17 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:28	05:46 20:16	06:16 19:37	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	07:19 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09	06:29 17:45	05:45 18:15	05:58 19:47	05:29 20:15	05:28 20:29	05:49 20:14	06:19 19:34	06:48 18:44	07:20 16:58	06:55 16:31	07:17 16:36
30	07:07 17:10	06:27 17:46	05:44 18:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:20 19:31	06:49 18:40	07:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11	06:25 17:47	05:42 18:17	06:42 19:17	05:28 20:17	05:28 20:11	05:51 20:11	06:20 19:30	06:22 18:40	07:22 16:55	06:57 16:30	07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case		316	48							368		
Sun reduction		0,69	0,62							0,66		
Oper. time red.		0,89	0,89							0,89		
Wind dir. red.		0,62	0,62							0,62		
Total reduction		0,38	0,34							0,37		
Total, real		121	16							135		

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

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

Project:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
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Calculated:
25/07/2023 13:32/3.5.587

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 22 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (5)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December			
1	07:17	08:14 (CT7)	07:05	06:30	06:40	05:56	05:28	05:29	05:52	06:21	06:50	06:23	06:57	08:07 (CT7)	
	16:39	29 08:43 (CT7)	17:12	17:46	19:18	19:49	20:18	20:28	20:10	19:28	18:39	16:53	16:30	14 08:21 (CT7)	
2	07:18	08:15 (CT7)	07:04	06:28	06:39	05:55	05:27	05:29	05:53	06:22	06:51	06:24	06:58	08:06 (CT7)	
	16:40	28 08:43 (CT7)	17:14	17:47	19:19	19:50	20:18	20:28	20:09	19:27	18:37	16:52	16:30	16 08:22 (CT7)	
3	07:18	08:15 (CT7)	07:03	06:27	06:37	05:53	05:27	05:29	05:54	06:23	06:52	06:26	06:59	08:05 (CT7)	
	16:41	28 08:43 (CT7)	17:15	17:48	19:20	19:51	20:19	20:28	20:08	19:25	18:36	16:51	16:29	19 08:24 (CT7)	
4	07:18	08:16 (CT7)	07:02	06:25	06:36	05:52	05:27	05:30	05:55	06:24	06:53	06:27	07:00	08:04 (CT7)	
	16:42	27 08:43 (CT7)	17:16	17:49	19:21	19:52	20:20	20:28	20:07	19:23	18:34	16:50	16:29	21 08:25 (CT7)	
5	07:18	08:17 (CT7)	07:01	06:24	06:34	05:51	05:26	05:31	05:55	06:25	06:54	06:28	07:01	08:04 (CT7)	
	16:42	26 08:43 (CT7)	17:17	17:50	19:22	19:53	20:20	20:28	20:06	19:22	18:32	16:49	16:29	23 08:27 (CT7)	
6	07:18	08:17 (CT7)	07:00	06:22	06:32	05:50	05:26	05:31	05:56	06:26	06:55	06:29	07:02	08:04 (CT7)	
	16:43	25 08:42 (CT7)	17:19	17:51	19:23	19:54	20:21	20:28	20:05	19:20	18:31	16:48	16:29	24 08:28 (CT7)	
7	07:18	08:19 (CT7)	06:59	06:21	06:31	05:48	05:26	05:32	05:57	06:27	06:56	06:30	07:03	08:03 (CT7)	
	16:44	23 08:42 (CT7)	17:20	17:52	19:24	19:55	20:22	20:27	20:03	19:19	18:29	16:46	16:29	26 08:29 (CT7)	
8	07:18	08:20 (CT7)	06:58	06:19	06:29	05:47	05:25	05:32	05:58	06:28	06:57	06:31	07:04	08:03 (CT7)	
	16:45	22 08:42 (CT7)	17:21	17:53	19:26	19:56	20:22	20:27	20:02	19:17	18:27	16:45	16:29	27 08:30 (CT7)	
9	07:17	08:22 (CT7)	06:57	06:18	06:28	05:46	05:25	05:33	05:59	06:29	06:58	06:32	07:05	08:03 (CT7)	
	16:46	19 08:41 (CT7)	17:22	17:54	19:27	19:57	20:23	20:27	20:01	19:15	18:26	16:44	16:29	28 08:31 (CT7)	
10	07:17	08:24 (CT7)	06:55	06:16	06:26	05:45	05:25	05:34	06:00	06:30	06:59	06:34	07:06	08:04 (CT7)	
	16:47	17 08:41 (CT7)	17:23	17:55	19:28	19:58	20:23	20:26	20:00	19:14	18:24	16:43	16:29	28 08:32 (CT7)	
11	07:17	08:25 (CT7)	06:54	06:15	06:25	05:44	05:25	05:34	06:01	06:31	07:00	06:35	07:06	08:04 (CT7)	
	16:48	14 08:39 (CT7)	17:25	17:56	19:29	19:59	20:24	20:26	19:59	19:12	18:23	16:42	16:29	29 08:33 (CT7)	
12	07:17	08:28 (CT7)	06:53	06:13	06:23	05:43	05:25	05:35	06:02	06:32	07:01	06:36	07:07	08:04 (CT7)	
	16:49	9 08:37 (CT7)	17:26	17:58	19:30	20:00	20:24	20:25	19:57	19:10	18:21	16:42	16:29	30 08:34 (CT7)	
13	07:17		06:52	06:11	06:21	05:42	05:25	05:36	06:03	06:33	07:02	06:37	07:08	08:04 (CT7)	
	16:50		17:27	17:59	19:31	20:01	20:25	20:25	19:56	19:09	18:20	16:41	16:29	30 08:34 (CT7)	
14	07:16		06:51	06:10	06:20	05:41	05:25	05:36	06:04	06:34	07:03	06:38	07:09	08:04 (CT7)	
	16:52		17:28	18:00	19:32	20:02	20:25	20:24	19:55	19:07	18:18	16:40	16:29	31 08:35 (CT7)	
15	07:16		06:49	06:08	06:18	05:40	05:25	05:37	06:05	06:35	07:05	06:39	07:10	08:05 (CT7)	
	16:53		17:29	18:01	19:33	20:03	20:26	20:24	19:53	19:05	18:17	16:39	16:30	31 08:36 (CT7)	
16	07:16		06:48	06:07	06:17	05:39	05:25	05:38	06:06	06:36	07:06	06:41	07:10	08:04 (CT7)	
	16:54		17:31	18:02	19:34	20:04	20:26	20:23	19:52	19:04	18:15	16:38	16:30	32 08:36 (CT7)	
17	07:15		06:47	06:05	06:15	05:38	05:25	05:39	06:07	06:37	07:07	06:42	07:11	08:05 (CT7)	
	16:55		17:32	18:03	19:35	20:05	20:27	20:23	19:51	19:02	18:14	16:37	16:30	32 08:37 (CT7)	
18	07:15		06:46	06:03	06:14	05:37	05:25	05:40	06:08	06:38	07:08	06:43	07:12	08:06 (CT7)	
	16:56		17:33	18:04	19:36	20:06	20:27	20:22	19:49	19:00	18:12	16:37	16:31	32 08:38 (CT7)	
19	07:14		06:44	06:02	06:12	05:36	05:25	05:40	06:09	06:39	07:09	06:44	07:12	08:06 (CT7)	
	16:57		17:34	18:05	19:37	20:07	20:27	20:21	19:48	18:59	18:11	16:36	16:31	32 08:38 (CT7)	
20	07:14		06:43	06:00	06:11	05:36	05:25	05:41	06:10	06:39	07:10	06:45	07:13	08:06 (CT7)	
	16:58		17:35	18:06	19:38	20:08	20:27	20:21	19:46	18:57	18:09	16:35	16:31	33 08:39 (CT7)	
21	07:13		06:41	05:58	06:09	05:35	05:25	05:42	06:11	06:40	07:11	06:46	07:13	08:06 (CT7)	
	16:59		17:36	18:07	19:39	20:09	20:28	20:20	19:45	18:55	18:08	16:34	16:32	33 08:39 (CT7)	
22	07:13		06:40	05:57	06:08	05:34	05:25	05:43	06:12	06:41	07:12	06:47	07:14	08:07 (CT7)	
	17:01		17:38	18:08	19:40	20:09	20:28	20:19	19:43	18:54	18:06	16:34	16:32	33 08:40 (CT7)	
23	07:12		06:39	05:55	06:07	05:33	05:26	05:44	06:13	06:42	07:13	06:49	07:14	08:07 (CT7)	
	17:02		17:39	18:09	19:41	20:10	20:28	20:18	19:42	18:52	18:05	16:33	16:33	33 08:40 (CT7)	
24	07:11		06:37	05:53	06:05	05:33	05:26	05:45	06:14	06:43	07:14	06:50	07:15	08:08 (CT7)	
	17:03		17:40	18:10	19:42	20:11	20:28	20:18	19:40	18:50	18:04	16:33	16:33	33 08:41 (CT7)	
25	07:11		06:36	05:52	06:04	05:32	05:26	05:45	06:15	06:44	07:15	06:51	07:15	08:09 (CT7)	
	17:04		17:41	18:11	19:43	20:12	20:28	20:17	19:39	18:49	17:02	16:32	16:34	32 08:41 (CT7)	
26	07:10		06:34	05:50	06:02	05:31	05:27	05:46	06:16	06:45	07:16	06:52	07:16	08:09 (CT7)	
	17:05		17:42	18:12	19:44	20:13	20:28	20:16	19:37	18:47	17:01	16:32	16:34	32 08:41 (CT7)	
27	07:09		06:33	05:49	06:01	05:31	05:27	05:47	06:17	06:46	07:17	06:53	07:16	08:10 (CT7)	
	17:06		17:43	18:13	19:45	20:14	20:29	20:15	19:36	18:45	17:00	16:31	16:35	32 08:42 (CT7)	
28	07:08		06:31	05:47	06:00	05:30	05:27	05:48	06:18	06:47	07:18	06:54	07:16	08:11 (CT7)	
	17:08		17:44	18:14	19:46	20:15	20:29	20:14	19:34	18:44	16:58	16:31	16:36	31 08:42 (CT7)	
29	07:07			06:45	05:58	05:29	05:28	05:49	06:19	06:48	07:19	06:55	07:17	08:11 (CT7)	
	17:09			19:15	19:47	20:15	20:29	20:13	19:33	18:42	16:57	16:30	16:37	31 08:42 (CT7)	
30	07:07			06:44	05:57	05:29	05:28	05:50	06:19	06:49	07:20	06:56		08:09 (CT7)	
	17:10			19:16	19:48	20:16	20:28	20:12	19:31	18:40	16:56	16:30	9	08:18 (CT7)	
31	07:06			06:42		05:28		05:51	06:20		06:22			08:12 (CT7)	
	17:11			19:17		20:17		20:11	19:30		16:55		16:38	30 08:42 (CT7)	
Potential sun hours	300		298		398		450		456		375		300		290
Total, worst case		267										9			889
Sun reduction		0,77										0,74			0,79
Oper. time red.		0,89										0,89			0,89
Wind dir. red.		0,55										0,55			0,55
Total reduction		0,37										0,36			0,39
Total, real		100										3			343

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 26 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:17 16:39	07:43 (CT7) 08:10 (CT7)	07:05 17:13	07:52 (CT7) 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30	07:25 (CT7) 07:59 (CT7)
2	07:18 16:40	07:43 (CT7) 08:11 (CT7)	07:04 17:14	07:53 (CT7) 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30	07:26 (CT7) 07:59 (CT7)
3	07:18 16:41	07:43 (CT7) 08:12 (CT7)	07:03 17:15	07:55 (CT7) 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29	07:26 (CT7) 07:59 (CT7)
4	07:18 16:42	07:43 (CT7) 08:12 (CT7)	07:02 17:16	07:56 (CT7) 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29	07:27 (CT7) 07:59 (CT7)
5	07:18 16:43	07:43 (CT7) 08:13 (CT7)	07:01 17:17	07:58 (CT7) 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29	07:28 (CT7) 07:59 (CT7)
6	07:18 16:43	07:43 (CT7) 08:13 (CT7)	07:00 17:19	08:01 (CT7) 17:51	06:22 19:23	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29	07:29 (CT7) 07:59 (CT7)
7	07:18 16:44	07:43 (CT7) 08:14 (CT7)	06:59 17:20	06:21 17:52	06:31 19:24	05:49 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29	07:29 (CT7) 07:59 (CT7)
8	07:18 16:45	07:43 (CT7) 08:15 (CT7)	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29	07:30 (CT7) 08:00 (CT7)
9	07:17 16:46	07:43 (CT7) 08:16 (CT7)	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29	07:31 (CT7) 08:00 (CT7)
10	07:17 16:47	07:44 (CT7) 08:17 (CT7)	06:55 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29	07:32 (CT7) 08:00 (CT7)
11	07:17 16:48	07:43 (CT7) 08:17 (CT7)	06:54 17:25	06:15 17:56	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:06 16:29	07:33 (CT7) 08:00 (CT7)
12	07:17 16:49	07:43 (CT7) 08:18 (CT7)	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	06:58 18:21	06:36 16:42	07:07 16:29	07:34 (CT7) 08:00 (CT7)
13	07:17 16:50	07:44 (CT7) 08:19 (CT7)	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29	07:34 (CT7) 08:00 (CT7)
14	07:16 16:52	07:43 (CT7) 08:19 (CT7)	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29	07:35 (CT7) 08:00 (CT7)
15	07:16 16:53	07:44 (CT7) 08:20 (CT7)	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	07:10 16:30	07:36 (CT7) 08:01 (CT7)
16	07:16 16:54	07:43 (CT7) 08:20 (CT7)	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30	07:36 (CT7) 08:00 (CT7)
17	07:15 16:55	07:44 (CT7) 08:21 (CT7)	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30	07:37 (CT7) 08:01 (CT7)
18	07:15 16:56	07:44 (CT7) 08:21 (CT7)	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31	07:38 (CT7) 08:02 (CT7)
19	07:14 16:57	07:45 (CT7) 08:22 (CT7)	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31	07:38 (CT7) 08:01 (CT7)
20	07:14 16:58	07:44 (CT7) 08:22 (CT7)	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31	07:39 (CT7) 08:02 (CT7)
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23	07:12 17:02	07:45 (CT7) 08:23 (CT7)	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33	07:40 (CT7) 08:03 (CT7)
24	07:11 17:03	07:45 (CT7) 08:23 (CT7)	06:37 17:40	05:53 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33	07:41 (CT7) 08:04 (CT7)
25	07:11 17:04	07:47 (CT7) 08:23 (CT7)	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	06:45 17:02	06:51 16:32	07:15 16:34	07:41 (CT7) 08:04 (CT7)
26	07:10 17:05	07:47 (CT7) 08:23 (CT7)	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:28	05:46 20:16	06:16 19:37	06:45 18:47	06:46 17:01	06:52 16:32	07:16 16:34	07:41 (CT7) 08:05 (CT7)
27	07:09 17:06	07:47 (CT7) 08:23 (CT7)	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:46 17:00	06:53 16:31	07:16 16:35	07:42 (CT7) 08:06 (CT7)
28	07:08 17:08	07:48 (CT7) 08:23 (CT7)	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	06:47 16:58	06:54 16:31	07:16 16:36	07:42 (CT7) 08:07 (CT7)
29	07:07 17:09	07:48 (CT7) 08:22 (CT7)	06:30 17:45	05:45 18:15	05:58 19:47	05:29 20:15	05:29 20:29	05:49 20:13	06:19 19:33	06:20 18:42	06:58 16:57	06:55 16:30	07:17 16:37	07:42 (CT7) 08:07 (CT7)
30	07:07 17:10	07:49 (CT7) 08:22 (CT7)	06:29 17:46	05:44 18:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37	07:42 (CT7) 08:08 (CT7)
31	07:06 17:11	07:51 (CT7) 08:22 (CT7)	06:28 17:47	05:42 19:17	06:06 20:17	05:28 20:17	05:51 20:11	06:20 19:30	06:22 18:40	06:52 16:55	07:17 16:30	06:57 16:35	07:17 16:38	07:42 (CT7) 08:08 (CT7)
Potential sun hours	300	298	300	370	398	446	450	456	426	375	346	300	290	
Total, worst case	1057											853		822
Sun reduction	0,77											0,74		0,79
Oper. time red.	0,89											0,89		0,89
Wind dir. red.	0,59											0,59		0,59
Total reduction	0,40											0,39		0,41
Total, real	425	47										332		341

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 27 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:17 16:39	07:43 (CT7) 08:15 (CT7)	07:05 17:13	07:58 (CT7) 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30	07:26 (CT7) 08:03 (CT7)
2	07:18 16:40	07:43 (CT7) 08:16 (CT7)	07:04 17:14	07:59 (CT7) 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30	07:27 (CT7) 08:03 (CT7)
3	07:18 16:41	07:43 (CT7) 08:16 (CT7)	07:03 17:15	08:02 (CT7) 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29	07:27 (CT7) 08:03 (CT7)
4	07:18 16:42	07:44 (CT7) 08:17 (CT7)	07:02 17:16	08:06 (CT7) 17:49	06:25 19:21	05:36 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29	07:28 (CT7) 08:03 (CT7)
5	07:18 16:42	07:44 (CT7) 08:18 (CT7)	07:01 17:17	08:13 (CT7) 17:50	06:24 19:22	05:34 19:53	05:26 20:20	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29	07:29 (CT7) 08:04 (CT7)
6	07:18 16:43	07:43 (CT7) 08:18 (CT7)	07:00 17:19	08:17 (CT7) 17:51	06:22 19:23	05:50 19:54	05:26 20:20	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29	07:29 (CT7) 08:04 (CT7)
7	07:18 16:44	07:43 (CT7) 08:18 (CT7)	06:59 17:20	08:17 (CT7) 17:52	06:21 19:24	05:49 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:19	06:56 18:29	06:30 16:46	8 07:35 (CT7) 16:29	07:30 (CT7) 08:04 (CT7)
8	07:18 16:45	07:44 (CT7) 08:19 (CT7)	06:58 17:21	08:18 (CT7) 17:53	06:19 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:31 (CT7) 16:29	07:31 (CT7) 08:04 (CT7)
9	07:17 16:46	07:44 (CT7) 08:20 (CT7)	06:57 17:22	08:19 (CT7) 17:54	06:18 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:29 (CT7) 16:29	07:31 (CT7) 08:05 (CT7)
10	07:17 16:47	07:45 (CT7) 08:21 (CT7)	06:55 17:23	08:20 (CT7) 17:55	06:16 19:28	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:28 (CT7) 16:29	07:32 (CT7) 08:05 (CT7)
11	07:17 16:48	07:44 (CT7) 08:21 (CT7)	06:54 17:25	08:22 (CT7) 17:56	06:15 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	23 07:51 (CT7) 16:29	07:33 (CT7) 08:05 (CT7)
12	07:17 16:49	07:45 (CT7) 08:22 (CT7)	06:53 17:26	08:23 (CT7) 17:58	06:13 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	26 07:53 (CT7) 16:29	07:34 (CT7) 08:06 (CT7)
13	07:17 16:50	07:45 (CT7) 08:23 (CT7)	06:52 17:27	08:24 (CT7) 17:59	06:11 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	28 07:54 (CT7) 16:29	07:34 (CT7) 08:06 (CT7)
14	07:16 16:52	07:45 (CT7) 08:23 (CT7)	06:51 17:28	08:25 (CT7) 18:00	06:10 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	30 07:55 (CT7) 16:29	07:35 (CT7) 08:06 (CT7)
15	07:16 16:53	07:46 (CT7) 08:24 (CT7)	06:49 17:29	08:26 (CT7) 18:01	06:08 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	33 07:56 (CT7) 16:30	07:36 (CT7) 08:06 (CT7)
16	07:16 16:54	07:45 (CT7) 08:23 (CT7)	06:48 17:31	08:27 (CT7) 18:02	06:07 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	33 07:57 (CT7) 16:30	07:36 (CT7) 08:06 (CT7)
17	07:15 16:55	07:46 (CT7) 08:24 (CT7)	06:47 17:32	08:28 (CT7) 18:03	06:05 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	34 07:58 (CT7) 16:30	07:37 (CT7) 08:06 (CT7)
18	07:15 16:56	07:46 (CT7) 08:24 (CT7)	06:46 17:33	08:29 (CT7) 18:04	06:03 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	35 07:59 (CT7) 16:31	07:38 (CT7) 08:07 (CT7)
19	07:14 16:57	07:47 (CT7) 08:25 (CT7)	06:44 17:34	08:30 (CT7) 18:05	06:02 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	35 07:59 (CT7) 16:31	07:38 (CT7) 08:07 (CT7)
20	07:14 16:58	07:47 (CT7) 08:25 (CT7)	06:43 17:35	08:31 (CT7) 18:06	06:00 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	37 08:00 (CT7) 16:31	07:38 (CT7) 08:08 (CT7)
21	07:13 16:59	07:48 (CT7) 08:25 (CT7)	06:41 17:36	08:32 (CT7) 18:07	05:58 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	37 08:01 (CT7) 16:32	07:39 (CT7) 08:08 (CT7)
22	07:13 17:01	07:48 (CT7) 08:26 (CT7)	06:40 17:38	08:33 (CT7) 18:08	05:57 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	38 08:02 (CT7) 16:32	07:39 (CT7) 08:09 (CT7)
23	07:12 17:02	07:48 (CT7) 08:26 (CT7)	06:39 17:39	08:34 (CT7) 18:09	05:55 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	38 08:03 (CT7) 16:33	07:39 (CT7) 08:09 (CT7)
24	07:11 17:03	07:49 (CT7) 08:27 (CT7)	06:37 17:40	08:35 (CT7) 18:10	05:53 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	38 08:04 (CT7) 16:33	07:40 (CT7) 08:10 (CT7)
25	07:11 17:04	07:50 (CT7) 08:27 (CT7)	06:36 17:41	08:36 (CT7) 18:11	05:52 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	38 08:05 (CT7) 16:34	07:41 (CT7) 08:10 (CT7)
26	07:10 17:05	07:51 (CT7) 08:28 (CT7)	06:34 17:42	08:37 (CT7) 18:12	05:50 19:44	05:31 20:13	05:27 20:28	05:46 20:16	06:16 19:37	06:45 18:47	07:16 17:01	06:52 16:32	38 08:06 (CT7) 16:34	07:41 (CT7) 08:10 (CT7)
27	07:09 17:06	07:51 (CT7) 08:28 (CT7)	06:33 17:43	08:38 (CT7) 18:13	05:49 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	07:17 17:00	06:53 16:31	37 08:07 (CT7) 16:35	07:42 (CT7) 08:12 (CT7)
28	07:08 17:08	07:52 (CT7) 08:29 (CT7)	06:31 17:44	08:39 (CT7) 18:14	05:47 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	07:18 16:58	06:54 16:31	37 08:08 (CT7) 16:36	07:42 (CT7) 08:12 (CT7)
29	07:07 17:09	07:53 (CT7) 08:29 (CT7)	06:30 17:45	08:40 (CT7) 18:15	05:45 19:47	05:29 20:15	05:29 20:13	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:30	37 08:09 (CT7) 16:37	07:42 (CT7) 08:12 (CT7)
30	07:07 17:10	07:54 (CT7) 08:30 (CT7)	06:29 17:46	08:41 (CT7) 18:16	05:44 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	07:20 16:56	06:56 16:30	37 08:10 (CT7) 16:37	07:42 (CT7) 08:13 (CT7)
31	07:06 17:11	07:56 (CT7) 08:31 (CT7)	06:28 17:47	08:42 (CT7) 18:17	05:42 19:49	05:28 20:17	05:28 20:29	05:51 20:11	06:20 19:30	06:22 18:40	06:55 16:55	06:57 16:30	37 08:11 (CT7) 16:38	07:42 (CT7) 08:13 (CT7)
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	769	290	981
Total, worst case	1081	64										769	290	981
Sun reduction	0.77	0.69										0.74	0.79	0.79
Oper. time red.	0.89	0.89										0.89	0.89	0.89
Wind dir. red.	0.58	0.58										0.58	0.58	0.58
Total reduction	0.40	0.36										0.39	0.41	0.41
Total, real	432	23									297	405	405	405

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 28 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:17 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:27	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:18	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:17 16:46	06:57 17:22	06:18 17:54	06:28 19:26	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	06:16 17:55	06:26 19:27	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:14 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:58	06:31 19:12	07:00 18:23	06:35 16:42	07:06 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39	07:09 16:30
16	07:15 16:54	06:48 17:31	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:40 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26	05:39 20:23	06:07 19:50	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:45 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:08	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:12 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:10 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:28	05:46 20:16	06:16 19:37	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:18 19:34	06:47 18:44	07:19 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28	05:49 20:13	06:18 19:33	06:48 18:42	07:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	07:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 30 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:17 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:26	06:51 18:37	06:24 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:18	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:27	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:18	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:17 16:46	06:57 17:22	06:18 17:54	06:28 19:26	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	06:16 17:55	06:26 19:27	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:14 17:56	06:24 19:28	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:58	06:31 19:12	07:00 18:23	06:35 16:42	07:06 16:29
12	07:17 16:49	06:53 17:26	06:13 17:57	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39	07:10 16:30
16	07:15 16:54	06:48 17:30	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:40 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26	05:39 20:23	06:07 19:50	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:45 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:37 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:08	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:12 17:00	06:40 17:37	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:06 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
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26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:28	05:46 20:16	06:16 19:37	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:17 19:34	06:47 18:44	07:18 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28	05:49 20:13	06:18 19:33	06:48 18:42	07:19 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 31 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:17 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:18	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:27	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	15:12 (CT7) 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:18	06:56 18:29	06:30 16:46	2 15:12 (CT7) 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	1 15:10 (CT7) 16:29
9	07:17 16:46	06:57 17:22	06:18 17:54	06:28 19:26	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	16:29 16:29
10	07:17 16:47	06:55 17:23	06:16 17:55	06:26 19:27	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:14 17:56	06:24 19:28	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:58	06:31 19:12	07:00 18:23	06:35 16:42	07:06 16:29
12	07:17 16:49	06:53 17:26	06:13 17:57	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39	07:10 16:30
16	07:15 16:54	06:48 17:30	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:40 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26	05:39 20:23	06:07 19:50	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:45 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:37 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:08	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:12 17:00	06:40 17:37	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:06 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:10 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	07:14 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:28	05:46 20:16	06:16 19:37	06:45 18:47	07:15 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	07:16 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:17 19:34	06:47 18:44	07:19 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28	05:49 20:13	06:18 19:33	06:48 18:42	07:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	07:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:28 20:17	05:28 20:17	05:28 20:11	05:51 20:11	06:20 19:30	06:22 16:54	07:22 16:54	07:17 16:38	07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												5
Sun reduction												0,74
Oper. time red.												0,89
Wind dir. red.												0,68
Total reduction												0,45
Total, real												2

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

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

Calculation: Real CaseShadow receptor: Rx 32 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:17	07:05	15:40 (CT7)	06:30	06:40	05:56	05:28	05:28	05:52	06:21	06:50	06:23	06:57	
	16:39	17:12	9 15:49 (CT7)	17:45	19:18	19:49	20:18	20:28	20:10	19:28	18:39	16:53	16:30	
2	07:17	07:04	15:41 (CT7)	06:28	06:39	05:54	05:27	05:29	05:53	06:22	06:51	06:24	06:58	
	16:40	17:14	10 15:51 (CT7)	17:47	19:19	19:50	20:18	20:28	20:09	19:26	18:37	16:52	16:29	
3	07:18	07:03	15:41 (CT7)	06:27	06:37	05:53	05:27	05:29	05:53	06:23	06:52	06:25	06:59	
	16:41	17:15	11 15:52 (CT7)	17:48	19:20	19:51	20:19	20:28	20:08	19:25	18:35	16:51	16:29	
4	07:18	07:02	15:43 (CT7)	06:25	06:35	05:52	05:27	05:30	05:54	06:24	06:53	06:27	07:00	
	16:41	17:16	11 15:54 (CT7)	17:49	19:21	19:52	20:20	20:28	20:07	19:23	18:34	16:50	16:29	
5	07:18	07:01	15:45 (CT7)	06:24	06:34	05:51	05:26	05:30	05:55	06:25	06:54	06:28	07:01	
	16:42	17:17	9 15:54 (CT7)	17:50	19:22	19:53	20:20	20:28	20:06	19:22	18:32	16:49	16:29	
6	07:18	07:00		06:22	06:32	05:50	05:26	05:31	05:56	06:26	06:55	06:29	15:15 (CT7)	07:02
	16:43	17:18		17:51	19:23	19:54	20:21	20:27	20:05	19:20	18:31	16:47	10 15:25 (CT7)	16:29
7	07:18	06:59		06:21	06:31	05:48	05:26	05:32	05:57	06:27	06:56	06:30	15:13 (CT7)	07:03
	16:44	17:20		17:52	19:24	19:55	20:22	20:27	20:03	19:18	18:29	16:46	12 15:25 (CT7)	16:29
8	07:18	06:58		06:19	06:29	05:47	05:25	05:32	05:58	06:28	06:57	06:31	15:12 (CT7)	07:04
	16:45	17:21		17:53	19:25	19:56	20:22	20:27	20:02	19:17	18:27	16:45	11 15:23 (CT7)	16:29
9	07:17	06:57		06:18	06:28	05:46	05:25	05:33	05:59	06:29	06:58	06:32	15:11 (CT7)	07:05
	16:46	17:22		17:54	19:26	19:57	20:23	20:27	20:01	19:15	18:26	16:44	10 15:21 (CT7)	16:29
10	07:17	06:55		06:16	06:26	05:45	05:25	05:34	06:00	06:30	06:59	06:34	15:11 (CT7)	07:06
	16:47	17:23		17:55	19:27	19:58	20:23	20:26	20:00	19:14	18:24	16:43	8 15:19 (CT7)	16:29
11	07:17	06:54		06:14	06:24	05:44	05:25	05:34	06:01	06:31	07:00	06:35	15:10 (CT7)	07:06
	16:48	17:25		17:56	19:28	19:59	20:24	20:26	19:58	19:12	18:23	16:42	7 15:17 (CT7)	16:29
12	07:17	06:53		06:13	06:23	05:43	05:25	05:35	06:02	06:32	07:01	06:36	15:10 (CT7)	07:07
	16:49	17:26		17:57	19:30	20:00	20:24	20:25	19:57	19:10	18:21	16:41	5 15:15 (CT7)	16:29
13	07:17	06:52		06:11	06:21	05:42	05:25	05:36	06:03	06:33	07:02	06:37	15:09 (CT7)	07:08
	16:50	17:27		17:59	19:31	20:01	20:25	20:25	19:56	19:09	18:20	16:41	4 15:13 (CT7)	16:29
14	07:16	06:51		06:10	06:20	05:41	05:25	05:36	06:04	06:34	07:03	06:38	15:09 (CT7)	07:09
	16:51	17:28		18:00	19:32	20:02	20:25	20:24	19:55	19:07	18:18	16:40	2 15:11 (CT7)	16:29
15	07:16	06:49		06:08	06:18	05:40	05:25	05:37	06:05	06:35	07:04	06:39		07:10
	16:52	17:29		18:01	19:33	20:03	20:26	20:24	19:53	19:05	18:17	16:39		16:30
16	07:15	06:48		06:06	06:17	05:39	05:25	05:38	06:06	06:36	07:05	06:40		07:10
	16:54	17:30		18:02	19:34	20:04	20:26	20:23	19:52	19:04	18:15	16:38		16:30
17	07:15	06:47		06:05	06:15	05:38	05:25	05:39	06:07	06:37	07:07	06:42		07:11
	16:55	17:32		18:03	19:35	20:05	20:26	20:23	19:50	19:02	18:14	16:37		16:30
18	07:15	06:45		06:03	06:14	05:37	05:25	05:39	06:08	06:37	07:08	06:43		07:12
	16:56	17:33		18:04	19:36	20:06	20:27	20:22	19:49	19:00	18:12	16:36		16:30
19	07:14	06:44		06:02	06:12	05:36	05:25	05:40	06:09	06:38	07:09	06:44		07:12
	16:57	17:34		18:05	19:37	20:07	20:27	20:21	19:48	18:59	18:11	16:36		16:31
20	07:14	06:43		06:00	06:11	05:35	05:25	05:41	06:10	06:39	07:10	06:45		07:13
	16:58	17:35		18:06	19:38	20:08	20:27	20:21	19:46	18:57	18:09	16:35		16:31
21	07:13	06:41		05:58	06:09	05:35	05:25	05:42	06:11	06:40	07:11	06:46		07:13
	16:59	17:36		18:07	19:39	20:08	20:28	20:20	19:45	18:55	18:08	16:34		16:32
22	07:12	06:40		05:57	06:08	05:34	05:25	05:43	06:12	06:41	07:12	06:47		07:14
	17:00	17:37		18:08	19:40	20:09	20:28	20:19	19:43	18:54	18:06	16:34		16:32
23	07:12	06:39		05:55	06:06	05:33	05:26	05:44	06:13	06:42	07:13	06:48		07:14
	17:02	17:39		18:09	19:41	20:10	20:28	20:18	19:42	18:52	18:05	16:33		16:33
24	07:11	06:37		05:53	06:05	05:32	05:26	05:44	06:14	06:43	07:14	06:50		07:15
	17:03	17:40		18:10	19:42	20:11	20:28	20:18	19:40	18:50	18:04	16:33		16:33
25	07:10	06:36		05:52	06:04	05:32	05:26	05:45	06:15	06:44	06:15	06:51		07:15
	17:04	17:41		18:11	19:43	20:12	20:28	20:17	19:39	18:49	17:02	16:32		16:34
26	07:10	06:34		05:50	06:02	05:31	05:26	05:46	06:16	06:45	06:16	06:52		07:16
	17:05	17:42		18:12	19:44	20:13	20:28	20:16	19:37	18:47	17:01	16:32		16:34
27	07:09	06:33		05:48	06:01	05:30	05:27	05:47	06:17	06:46	06:17	06:53		07:16
	17:06	17:43		18:13	19:45	20:14	20:28	20:15	19:36	18:45	17:00	16:31		16:35
28	07:08	2 15:37 (CT7)	06:31	05:47	06:00	05:30	05:27	05:48	06:17	06:47	06:19	06:54		07:16
	17:08	15:38 (CT7)	17:44	18:14	19:46	20:14	20:28	20:14	19:34	18:44	16:58	16:31		16:36
29	07:07	3 15:41 (CT7)		06:45	05:58	05:29	05:28	05:49	06:18	06:48	06:20	06:55		07:17
	17:09	15:38 (CT7)		19:15	19:47	20:15	20:28	20:13	19:33	18:42	16:57	16:30		16:36
30	07:07	5 15:43 (CT7)		06:44	05:57	05:29	05:28	05:50	06:19	06:49	06:21	06:56		07:17
	17:10	15:38 (CT7)		19:16	19:48	20:16	20:28	20:12	19:31	18:40	16:56	16:30		16:37
31	07:06			06:42		05:28		05:51	06:20		06:22			07:17
	17:11	7 15:45 (CT7)		19:17		20:17		20:11	19:30		16:54			16:38
Potential sun hours	300	298		370	398	446	450	456	426	375	346	300		290
Total, worst case	17		50									69		
Sun reduction	0,77		0,69									0,74		
Oper. time red.	0,89		0,89									0,89		
Wind dir. red.	0,68		0,68									0,68		
Total reduction	0,47		0,43									0,45		
Total, real	8		21									31		

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 33 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (12)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:17	07:05	15:41 (CT7)	06:30	06:40	05:56	05:28	05:28	05:52	06:21	06:50	06:23	06:57	
	16:39	17:12	3 15:44 (CT7)	17:45	19:18	19:49	20:18	20:28	20:10	19:28	18:39	16:53	16:30	
2	07:17	07:04	15:42 (CT7)	06:28	06:39	05:54	05:27	05:29	05:53	06:22	06:51	06:24	06:58	
	16:40	17:14	4 15:46 (CT7)	17:47	19:19	19:50	20:18	20:28	20:09	19:26	18:37	16:52	16:29	
3	07:18	07:03	15:42 (CT7)	06:27	06:37	05:53	05:27	05:29	05:53	06:23	06:52	06:25	06:59	
	16:41	17:15	5 15:47 (CT7)	17:48	19:20	19:51	20:19	20:28	20:08	19:25	18:35	16:51	16:29	
4	07:18	07:02	15:43 (CT7)	06:25	06:35	05:52	05:27	05:30	05:54	06:24	06:53	06:27	15:18 (CT7)	07:00
	16:41	17:16	7 15:50 (CT7)	17:49	19:21	19:52	20:20	20:28	20:07	19:23	18:34	16:50	7 15:25 (CT7)	16:29
5	07:18	07:01	15:44 (CT7)	06:24	06:34	05:51	05:26	05:30	05:55	06:25	06:54	06:28	15:15 (CT7)	07:01
	16:42	17:17	8 15:52 (CT7)	17:50	19:22	19:53	20:20	20:28	20:06	19:22	18:32	16:49	9 15:24 (CT7)	16:29
6	07:18	07:00	15:46 (CT7)	06:22	06:32	05:50	05:26	05:31	05:56	06:26	06:55	06:29	15:15 (CT7)	07:02
	16:43	17:18	8 15:54 (CT7)	17:51	19:23	19:54	20:21	20:27	20:05	19:20	18:31	16:47	8 15:23 (CT7)	16:29
7	07:18	06:59	15:49 (CT7)	06:21	06:31	05:48	05:26	05:32	05:57	06:27	06:56	06:30	15:13 (CT7)	07:03
	16:44	17:20	6 15:55 (CT7)	17:52	19:24	19:55	20:22	20:27	20:03	19:18	18:29	16:46	7 15:20 (CT7)	16:29
8	07:18	06:58	06:58	06:19	06:29	05:47	05:25	05:32	05:58	06:28	06:57	06:31	15:12 (CT7)	07:04
	16:45	17:21	17:21	17:53	19:25	19:56	20:22	20:27	20:02	19:17	18:27	16:45	6 15:18 (CT7)	16:29
9	07:17	06:57	06:57	06:18	06:28	05:46	05:25	05:33	05:59	06:29	06:58	06:32	15:12 (CT7)	07:05
	16:46	17:22	17:22	17:54	19:26	19:57	20:23	20:27	20:01	19:15	18:26	16:44	4 15:16 (CT7)	16:29
10	07:17	06:55	06:55	06:16	06:26	05:45	05:25	05:34	06:00	06:30	06:59	06:34	15:12 (CT7)	07:06
	16:47	17:23	17:23	17:55	19:27	19:58	20:23	20:26	20:00	19:14	18:24	16:43	3 15:15 (CT7)	16:29
11	07:17	06:54	06:54	06:14	06:24	05:44	05:25	05:34	06:01	06:31	07:00	06:35	15:12 (CT7)	07:06
	16:48	17:25	17:25	17:56	19:28	19:59	20:24	20:26	19:58	19:12	18:23	16:42	1 15:13 (CT7)	16:29
12	07:17	06:53	06:53	06:13	06:23	05:43	05:25	05:35	06:02	06:32	07:01	06:36	07:07	16:29
	16:49	17:26	17:26	17:57	19:30	20:00	20:24	20:25	19:57	19:10	18:21	16:41	16:29	07:08
13	07:17	06:52	06:52	06:11	06:21	05:42	05:25	05:36	06:03	06:33	07:02	06:37	16:29	07:08
	16:50	17:27	17:27	17:59	19:31	20:01	20:25	20:25	19:56	19:09	18:20	16:41	16:29	07:08
14	07:16	06:51	06:51	06:10	06:20	05:41	05:25	05:36	06:04	06:34	07:03	06:38	16:29	07:09
	16:51	17:28	17:28	18:00	19:32	20:02	20:25	20:24	19:55	19:07	18:18	16:40	16:29	07:09
15	07:16	06:49	06:49	06:08	06:18	05:40	05:25	05:37	06:05	06:35	07:04	06:39	16:29	07:10
	16:52	17:29	17:29	18:01	19:33	20:03	20:26	20:24	19:53	19:05	18:17	16:39	16:30	07:10
16	07:15	06:48	06:48	06:06	06:17	05:39	05:25	05:38	06:06	06:36	07:05	06:40	16:30	07:10
	16:54	17:30	17:30	18:02	19:34	20:04	20:26	20:23	19:52	19:04	18:15	16:38	16:30	07:10
17	07:15	06:47	06:47	06:05	06:15	05:38	05:25	05:39	06:07	06:37	07:07	06:42	16:30	07:11
	16:55	17:32	17:32	18:03	19:35	20:05	20:26	20:23	19:50	19:02	18:14	16:37	16:30	07:11
18	07:15	06:45	06:45	06:03	06:14	05:37	05:25	05:39	06:08	06:37	07:08	06:43	16:30	07:12
	16:56	17:33	17:33	18:04	19:36	20:06	20:27	20:22	19:49	19:00	18:12	16:36	16:30	07:12
19	07:14	06:44	06:44	06:02	06:12	05:36	05:25	05:40	06:09	06:38	07:09	06:44	16:30	07:12
	16:57	17:34	17:34	18:05	19:37	20:07	20:27	20:21	19:48	18:59	18:11	16:36	16:31	07:12
20	07:14	06:43	06:43	06:00	06:11	05:35	05:25	05:41	06:10	06:39	07:10	06:45	16:31	07:13
	16:58	17:35	17:35	18:06	19:38	20:08	20:27	20:21	19:46	18:57	18:09	16:35	16:31	07:13
21	07:13	06:41	06:41	05:58	06:09	05:35	05:25	05:42	06:11	06:40	07:11	06:46	16:32	07:13
	16:59	17:36	17:36	18:07	19:39	20:08	20:28	20:20	19:45	18:55	18:08	16:34	16:32	07:13
22	07:12	06:40	06:40	05:57	06:08	05:34	05:25	05:43	06:12	06:41	07:12	06:47	16:32	07:14
	17:00	17:37	17:37	18:08	19:40	20:09	20:28	20:19	19:43	18:54	18:06	16:34	16:32	07:14
23	07:12	06:39	06:39	05:55	06:06	05:33	05:26	05:44	06:13	06:42	07:13	06:48	16:33	07:14
	17:02	17:39	17:39	18:09	19:41	20:10	20:28	20:18	19:42	18:52	18:05	16:33	16:33	07:14
24	07:11	06:37	06:37	05:53	06:05	05:32	05:26	05:44	06:14	06:43	07:14	06:50	16:33	07:15
	17:03	17:40	17:40	18:10	19:42	20:11	20:28	20:18	19:40	18:50	18:04	16:33	16:34	07:15
25	07:10	06:36	06:36	05:52	06:04	05:32	05:26	05:45	06:15	06:44	06:15	06:51	16:34	07:15
	17:04	17:41	17:41	18:11	19:43	20:12	20:28	20:17	19:39	18:49	17:02	16:32	16:34	07:15
26	07:10	06:34	06:34	05:50	06:02	05:31	05:26	05:46	06:16	06:45	06:16	06:52	16:34	07:16
	17:05	17:42	17:42	18:12	19:44	20:13	20:28	20:16	19:37	18:47	17:01	16:32	16:34	07:16
27	07:09	06:33	06:33	05:48	06:01	05:30	05:27	05:47	06:17	06:46	06:17	06:53	16:35	07:16
	17:06	17:43	17:43	18:13	19:45	20:14	20:28	20:15	19:36	18:45	17:00	16:31	16:35	07:16
28	07:08	06:31	06:31	05:47	06:00	05:30	05:27	05:48	06:17	06:47	06:19	06:54	16:36	07:16
	17:08	17:44	17:44	18:14	19:46	20:14	20:28	20:14	19:34	18:44	16:58	16:31	16:36	07:17
29	07:07	06:45	06:45	05:58	05:29	05:28	05:28	05:49	06:18	06:48	06:20	06:55	16:36	07:17
	17:09	17:19	17:19	19:15	19:47	20:15	20:28	20:13	19:33	18:42	16:57	16:30	16:36	07:17
30	07:07	06:44	06:44	05:57	05:29	05:28	05:28	05:50	06:19	06:49	06:21	06:56	16:37	07:17
	17:10	17:16	17:16	19:16	19:48	20:16	20:28	20:12	19:31	18:40	16:56	16:30	16:37	07:17
31	07:06	15:40 (CT7)	15:41 (CT7)	06:42	05:28	05:28	05:28	05:51	06:20	06:49	06:22	06:56	16:37	07:17
	17:11	1	15:41 (CT7)	19:17	20:17	20:17	20:11	19:30	19:30	16:54	16:34	06:52	16:38	07:17
Potential sun hours	300	298		370	398	446	450	456	426	375	346	300	290	
Total, worst case	1												45	
Sun reduction	0,77		0,69										0,74	
Oper. time red.	0,89		0,89										0,89	
Wind dir. red.	0,69		0,69										0,69	
Total reduction	0,47		0,43										0,45	
Total, real	0		17										20	

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 39 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

	January	February	March	April	May	June
1	07:17 16:39	07:05 17:12	07:36 (CT6) 17:45	06:30 17:45	06:40 19:18	05:56 19:49
2	07:18 16:40	07:04 17:14	07:34 (CT6) 17:47	06:28 17:47	06:39 19:19	05:54 19:50
3	07:18 16:41	07:03 17:15	07:33 (CT6) 17:48	06:27 19:20	06:37 19:51	05:53 20:19
4	07:18 16:42	07:02 17:16	07:34 (CT6) 17:49	06:25 19:21	06:36 19:52	05:52 20:20
5	07:18 16:42	07:01 17:17	07:36 (CT6) 17:50	06:24 19:22	06:34 19:53	05:51 20:20
6	07:18 16:43	07:00 17:19	07:47 (CT6) 17:51	06:22 17:51	06:32 19:23	05:50 19:54
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22
9	07:17 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23
10	07:17 16:47	06:55 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:23
11	07:17 16:48	06:54 17:25	06:14 17:56	06:24 19:29	05:44 19:59	05:25 20:24
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:24
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25
15	07:16 16:53	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26
16	07:16 16:54	06:48 17:31	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26
17	07:15 16:55	07:54 (CT6) 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26
18	07:15 16:56	07:53 (CT6) 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27
19	07:14 16:57	07:53 (CT6) 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27
20	07:14 16:58	07:51 (CT6) 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27
21	07:13 16:59	07:50 (CT6) 17:36	05:58 18:07	06:09 19:39	05:35 20:09	18:46 (CT8) 20:28
22	07:13 17:00	07:49 (CT6) 17:38	05:57 18:08	06:08 19:40	05:34 20:09	18:41 (CT8) 20:28
23	07:12 17:02	07:47 (CT6) 17:39	05:55 18:09	06:07 19:41	05:33 20:10	18:40 (CT8) 20:28
24	07:11 17:03	07:46 (CT6) 17:40	05:53 18:10	06:05 19:42	05:32 20:11	18:38 (CT8) 20:28
25	07:11 17:04	07:45 (CT6) 17:41	05:52 18:11	06:04 19:43	05:32 20:12	18:37 (CT8) 20:28
26	07:10 17:05	07:43 (CT6) 17:42	05:50 18:12	06:02 19:44	05:31 20:13	18:37 (CT8) 20:28
27	07:09 17:06	07:42 (CT6) 17:43	05:49 18:13	06:01 19:45	05:31 20:14	18:36 (CT8) 20:28
28	07:08 17:08	07:41 (CT6) 17:44	05:47 18:14	06:00 19:46	05:30 20:15	18:36 (CT8) 20:28
29	07:07 17:09	07:39 (CT6) 17:45	06:45 19:15	05:58 19:47	05:29 20:15	18:35 (CT8) 20:28
30	07:07 17:10	07:38 (CT6) 17:46	06:44 19:16	05:57 19:48	05:29 20:16	18:35 (CT8) 20:28
31	07:06 17:11	07:37 (CT6) 17:47	06:42 19:17	05:56 19:49	05:28 20:17	18:34 (CT8) 20:28
Potential sun hours	300	298	370	398	446	450
Total, worst case	158	86			208	932
Sun reduction	0,77	0,69			0,51	0,49
Oper. time red.	0,89	0,89			0,89	0,89
Wind dir. red.	0,60	0,60			0,62	0,62
Total reduction	0,41	0,37			0,29	0,27
Total, real	65	32			59	255

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

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

Calculation: Real CaseShadow receptor: Rx 39 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

	July	August	September	October	November	December
1	05:28	18:39 (CT8)	05:52	06:21	06:50	06:23
	20:28	31 19:10 (CT8)	20:10	19:28	18:39	16:53
2	05:29	18:39 (CT8)	05:53	06:22	06:51	06:24
	20:28	31 19:10 (CT8)	20:09	19:27	18:37	16:52
3	05:29	18:39 (CT8)	05:54	06:23	06:52	06:25
	20:28	31 19:10 (CT8)	20:08	19:25	18:35	16:51
4	05:30	18:39 (CT8)	05:55	06:24	06:53	06:27
	20:28	31 19:10 (CT8)	20:07	19:23	18:34	16:50
5	05:31	18:40 (CT8)	05:55	06:25	06:54	06:28
	20:28	30 19:10 (CT8)	20:06	19:22	18:32	16:49
6	05:31	18:40 (CT8)	05:56	06:26	06:55	06:29
	20:28	30 19:10 (CT8)	20:05	19:20	18:31	16:48
7	05:32	18:40 (CT8)	05:57	06:27	06:56	06:30
	20:27	30 19:10 (CT8)	20:03	19:19	18:29	16:46
8	05:32	18:41 (CT8)	05:58	06:28	06:57	06:31
	20:27	30 19:11 (CT8)	20:02	19:17	18:27	16:45
9	05:33	18:41 (CT8)	05:59	06:29	06:58	06:32
	20:27	29 19:10 (CT8)	20:01	19:15	18:26	16:44
10	05:34	18:41 (CT8)	06:00	06:30	06:59	06:34
	20:26	29 19:10 (CT8)	20:00	19:14	18:24	16:43
11	05:34	18:41 (CT8)	06:01	06:31	07:00	06:35
	20:26	28 19:09 (CT8)	19:58	19:12	18:23	16:42
12	05:35	18:42 (CT8)	06:02	06:32	07:01	06:36
	20:25	27 19:09 (CT8)	19:57	19:10	18:21	16:41
13	05:36	18:43 (CT8)	06:03	06:33	07:02	06:37
	20:25	26 19:09 (CT8)	19:56	19:09	18:20	16:41
14	05:36	18:44 (CT8)	06:04	06:34	07:03	06:38
	20:24	25 19:09 (CT8)	19:55	19:07	18:18	16:40
15	05:37	18:44 (CT8)	06:05	06:35	07:04	06:39
	20:24	24 19:08 (CT8)	19:53	19:05	18:17	16:39
16	05:38	18:45 (CT8)	06:06	06:36	07:06	06:41
	20:23	23 19:08 (CT8)	19:52	19:04	18:15	16:38
17	05:39	18:46 (CT8)	06:07	06:37	07:07	06:42
	20:23	22 19:08 (CT8)	19:51	19:02	18:14	16:37
18	05:39	18:47 (CT8)	06:08	06:38	07:08	06:43
	20:22	20 19:07 (CT8)	19:49	19:00	18:12	16:36
19	05:40	18:47 (CT8)	06:09	06:39	07:09	06:44
	20:21	18 19:05 (CT8)	19:48	18:59	18:11	16:36
20	05:41	18:48 (CT8)	06:10	06:39	07:10	06:45
	20:21	16 19:04 (CT8)	19:46	18:57	18:09	16:35
21	05:42	18:50 (CT8)	06:11	06:40	07:11	06:46
	20:20	13 19:03 (CT8)	19:45	18:55	18:08	16:34
22	05:43	18:53 (CT8)	06:12	06:41	07:12	06:47
	20:19	8 19:01 (CT8)	19:43	18:54	18:06	16:34
23	05:44		06:13	06:42	07:13	06:49
	20:18		19:42	18:52	18:05	16:33
24	05:44		06:14	06:43	07:14	06:50
	20:18		19:40	18:50	18:04	16:33
25	05:45		06:15	06:44	06:15	06:51
	20:17		19:39	18:49	17:02	16:32
26	05:46		06:16	06:45	06:16	06:52
	20:16		19:37	18:47	17:01	16:32
27	05:47		06:17	06:46	06:18	06:53
	20:15		19:36	18:45	17:00	16:31
28	05:48		06:18	06:47	06:19	06:54
	20:14		19:34	18:44	16:58	16:31
29	05:49		06:18	06:48	06:20	06:55
	20:13		19:33	18:42	16:57	16:30
30	05:50		06:19	06:49	06:21	06:56
	20:12		19:31	18:40	16:56	16:30
31	05:51		06:20		06:22	
	20:11		19:30		16:54	16:38
Potential sun hours	456	426	375	346	300	290
Total, worst case	552				245	
Sun reduction	0,50				0,74	
Oper. time red.	0,89				0,89	
Wind dir. red.	0,62				0,60	
Total reduction	0,28				0,40	
Total, real	154				98	

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 40 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (14)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:47	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:56 20:17	05:29 20:17		05:51 20:11	06:21 19:30		07:21 16:55	06:57 16:30	07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 43 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:47	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:56 20:17	05:29 20:17		05:51 20:11	06:21 19:30		07:21 16:55	06:57 16:30	07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 45 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (16)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:47	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:56 19:49	05:29 20:17		05:51 20:11	06:21 19:30		07:21 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 46 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
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9	07:18 16:46	06:57 17:22	06:18 17:55	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
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11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:01 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:11	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:12 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:55 20:17	05:29 20:17		05:51 20:11	06:21 19:30		07:21 16:55	06:57 16:30	07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via G. Garibaldi, 15
IT-74023 Grottaglie (TA)

Gaetano D'Oronzio / info@gecodor.it
Calculated:
25/07/2023 13:32/3.5.587

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 47 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (18)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December							
1	07:18	15:08 (CT10)	07:05	06:30	06:41	05:56	05:28	05:29	05:52	06:22	06:50	06:23	14:58 (CT10)						
	16:39	62 16:10 (CT10)	17:13	17:46	19:18	19:49	20:18	20:29	20:10	19:28	18:39	16:53	16:30	56 15:54 (CT10)					
2	07:18	15:09 (CT10)	07:04	06:29	06:39	05:55	05:28	05:29	05:53	06:23	06:51	06:25	16:30	56 15:54 (CT10)					
	16:40	61 16:10 (CT10)	17:14	17:47	19:20	19:50	20:18	20:28	20:09	19:27	18:37	16:52	16:30	56 15:54 (CT10)					
3	07:18	15:09 (CT10)	07:03	06:27	06:37	05:53	05:27	05:30	05:54	06:23	06:52	06:26	16:30	56 15:54 (CT10)					
	16:41	61 16:10 (CT10)	17:15	17:48	19:21	19:51	20:19	20:28	20:08	19:25	18:36	16:51	16:30	57 15:55 (CT10)					
4	07:18	15:10 (CT10)	07:02	06:26	06:36	05:52	05:27	05:30	05:55	06:24	06:53	06:27	16:30	57 15:55 (CT10)					
	16:42	61 16:11 (CT10)	17:16	17:49	19:22	19:52	20:20	20:28	20:07	19:24	18:34	16:50	16:29	58 15:56 (CT10)					
5	07:18	15:11 (CT10)	07:01	06:24	06:34	05:51	05:26	05:31	05:56	06:25	06:54	06:28	16:29	58 15:56 (CT10)					
	16:43	60 16:11 (CT10)	17:18	17:50	19:23	19:53	20:21	20:28	20:06	19:22	18:32	16:49	16:29	59 15:57 (CT10)					
6	07:18	15:12 (CT10)	07:00	06:23	06:33	05:50	05:26	05:31	05:57	06:26	06:55	06:29	16:29	59 15:57 (CT10)					
	16:44	59 16:11 (CT10)	17:19	17:51	19:24	19:54	20:21	20:28	20:05	19:20	18:31	16:48	16:29	59 15:57 (CT10)					
7	07:18	15:12 (CT10)	06:59	06:21	06:31	05:49	05:26	05:32	05:58	06:27	06:56	06:30	16:29	59 15:57 (CT10)					
	16:45	58 16:10 (CT10)	17:20	17:52	19:25	19:55	20:22	20:27	20:04	19:19	18:29	16:47	16:29	60 15:57 (CT10)					
8	07:18	15:13 (CT10)	06:58	06:19	06:29	05:48	05:26	05:33	05:59	06:28	06:57	06:31	16:29	60 15:57 (CT10)					
	16:45	58 16:11 (CT10)	17:21	17:53	19:26	19:56	20:22	20:27	20:02	19:17	18:28	16:46	16:29	61 15:58 (CT10)					
9	07:18	15:14 (CT10)	06:57	06:18	06:28	05:46	05:25	05:33	05:59	06:29	06:58	06:33	16:29	61 15:58 (CT10)					
	16:46	57 16:11 (CT10)	17:22	17:54	19:27	19:57	20:23	20:27	20:01	19:15	18:26	16:45	16:29	61 15:59 (CT10)					
10	07:17	15:15 (CT10)	06:56	06:16	06:26	05:45	05:25	05:34	06:00	06:30	06:59	06:34	16:29	61 15:59 (CT10)					
	16:47	56 16:11 (CT10)	17:24	17:56	19:28	19:58	20:24	20:26	20:00	19:14	18:24	16:44	16:29	61 15:59 (CT10)					
11	07:17	15:15 (CT10)	06:54	06:15	06:25	05:44	05:25	05:34	06:01	06:31	07:00	06:35	16:29	61 15:59 (CT10)					
	16:49	55 16:10 (CT10)	17:25	17:57	19:29	19:59	20:24	20:26	19:59	19:12	18:23	16:43	16:29	62 16:00 (CT10)					
12	07:17	15:16 (CT10)	06:53	06:13	06:23	05:43	05:25	05:35	06:02	06:32	07:02	06:36	16:29	62 16:00 (CT10)					
	16:50	55 16:11 (CT10)	17:26	17:58	19:30	20:00	20:25	20:26	19:57	19:10	18:21	16:42	16:29	62 16:01 (CT10)					
13	07:17	15:17 (CT10)	06:52	06:11	06:22	05:42	05:25	05:36	06:03	06:33	07:03	06:37	16:29	63 16:01 (CT10)					
	16:51	54 16:11 (CT10)	17:27	17:59	19:31	20:01	20:25	20:25	19:56	19:09	18:20	16:41	16:29	63 16:01 (CT10)					
14	07:16	15:18 (CT10)	06:51	06:10	06:20	05:41	05:25	05:37	06:04	06:34	07:04	06:38	16:29	63 16:01 (CT10)					
	16:52	52 16:10 (CT10)	17:28	18:00	19:32	20:02	20:25	20:25	19:55	19:07	18:18	16:40	16:30	62 16:01 (CT10)					
15	07:16	15:19 (CT10)	06:50	06:08	06:19	05:40	05:25	05:37	06:05	06:35	07:05	06:40	16:30	62 16:01 (CT10)					
	16:53	51 16:10 (CT10)	17:30	18:01	19:33	20:03	20:26	20:24	19:53	19:06	18:17	16:39	11 15:27 (CT10)	16:30	63 16:02 (CT10)				
16	07:16	15:21 (CT10)	06:48	06:07	06:17	05:39	05:25	05:38	06:06	06:36	07:06	06:41	16:30	63 16:03 (CT10)					
	16:54	49 16:10 (CT10)	17:31	18:02	19:34	20:04	20:26	20:23	19:52	19:04	18:15	16:38	19 15:31 (CT10)	16:30	63 16:03 (CT10)				
17	07:15	15:22 (CT10)	06:47	06:05	06:15	05:38	05:25	05:39	06:07	06:37	07:07	06:42	16:30	63 16:03 (CT10)					
	16:55	47 16:09 (CT10)	17:32	18:03	19:35	20:05	20:27	20:23	19:51	19:02	18:14	16:37	25 15:34 (CT10)	16:30	63 16:03 (CT10)				
18	07:15	15:23 (CT10)	06:46	06:03	06:14	05:37	05:25	05:40	06:08	06:38	07:08	06:43	16:30	63 16:03 (CT10)					
	16:56	46 16:09 (CT10)	17:33	18:04	19:36	20:06	20:27	20:22	19:49	19:01	18:12	16:37	30 15:37 (CT10)	16:31	63 16:04 (CT10)				
19	07:14	15:24 (CT10)	06:44	06:02	06:13	05:37	05:25	05:40	06:09	06:39	07:09	06:44	16:31	63 16:04 (CT10)					
	16:57	44 16:08 (CT10)	17:34	18:05	19:37	20:07	20:27	20:22	19:48	18:59	18:11	16:36	34 15:39 (CT10)	16:31	63 16:04 (CT10)				
20	07:14	15:25 (CT10)	06:43	06:00	06:11	05:36	05:25	05:41	06:10	06:40	07:10	06:45	16:31	63 16:04 (CT10)					
	16:58	42 16:07 (CT10)	17:35	18:06	19:38	20:08	20:28	20:21	19:46	18:57	18:09	16:35	37 15:41 (CT10)	16:31	64 16:05 (CT10)				
21	07:13	15:27 (CT10)	06:42	05:59	06:10	05:35	05:25	05:42	06:11	06:41	07:11	06:46	16:31	64 16:05 (CT10)					
	17:00	40 16:07 (CT10)	17:37	18:07	19:39	20:09	20:28	20:20	19:45	18:56	18:08	16:35	39 15:42 (CT10)	16:32	64 16:05 (CT10)				
22	07:13	15:29 (CT10)	06:40	05:57	06:08	05:34	05:26	05:43	06:12	06:42	07:12	06:48	16:32	64 16:06 (CT10)					
	17:01	37 16:06 (CT10)	17:38	18:08	19:40	20:10	20:28	20:19	19:44	18:54	18:07	16:34	42 15:43 (CT10)	16:32	64 16:06 (CT10)				
23	07:12	15:30 (CT10)	06:39	05:55	06:07	05:33	05:26	05:44	06:13	06:43	07:13	06:49	16:32	64 16:06 (CT10)					
	17:02	34 16:04 (CT10)	17:39	18:09	19:41	20:10	20:28	20:19	19:42	18:52	18:05	16:33	44 15:45 (CT10)	16:33	64 16:06 (CT10)				
24	07:11	15:33 (CT10)	06:37	05:54	06:05	05:33	05:26	05:45	06:14	06:44	07:14	06:50	16:33	64 16:07 (CT10)					
	17:03	30 16:03 (CT10)	17:40	18:10	19:42	20:11	20:28	20:18	19:41	18:51	18:04	16:33	46 15:46 (CT10)	16:33	64 16:07 (CT10)				
25	07:11	15:36 (CT10)	06:36	05:52	06:04	05:32	05:26	05:46	06:15	06:44	07:15	06:51	16:33	64 16:07 (CT10)					
	17:04	25 16:01 (CT10)	17:41	18:11	19:43	20:12	20:28	20:17	19:39	18:49	17:02	16:32	47 15:47 (CT10)	16:34	63 16:07 (CT10)				
26	07:10	15:39 (CT10)	06:35	05:50	06:03	05:31	05:27	05:46	06:16	06:45	07:16	06:52	16:34	63 16:07 (CT10)					
	17:05	19 15:58 (CT10)	17:42	18:12	19:44	20:13	20:29	20:16	19:38	18:47	17:01	16:32	49 15:48 (CT10)	16:35	63 16:07 (CT10)				
27	07:09	15:43 (CT10)	06:33	05:49	06:01	05:31	05:27	05:47	06:17	06:46	07:17	06:53	16:35	63 16:08 (CT10)					
	17:07	11 15:54 (CT10)	17:43	18:13	19:45	20:14	20:29	20:15	19:36	18:46	17:00	16:31	51 15:49 (CT10)	16:35	63 16:08 (CT10)				
28	07:08	15:47 (CT10)	06:32	05:47	06:00	05:30	05:27	05:48	06:18	06:47	07:18	06:54	16:35	63 16:08 (CT10)					
	17:08		17:45	18:14	19:46	20:15	20:29	20:14	19:35	18:44	16:58	16:31	52 15:50 (CT10)	16:36	63 16:08 (CT10)				
29	07:08			06:45	05:59	05:30	05:28	05:49	06:19	06:48	07:19	06:55	16:36	63 16:08 (CT10)					
	17:09			19:15	19:47	20:15	20:29	20:13	19:33	18:42	16:57	16:31	54 15:51 (CT10)	16:37	62 16:08 (CT10)				
30	07:07			06:44	05:57	05:29	05:28	05:50	06:20	06:49	07:20	06:56	16:37	62 16:08 (CT10)					
	17:10			19:16	19:48	20:16	20:29	20:12	19:31	18:41	16:56	16:30	55 15:52 (CT10)	16:37	63 16:09 (CT10)				
31	07:06			06:42		05:29		05:51	06:21		06:22		16:38	62 16:10 (CT10)					
	17:11			19:17		20:17		20:11	19:30		16:55		290						
Potential sun hours	300		298		398		446		456		375		346		300		635		1911
Total, worst case	1284																635		1911
Sun reduction	0,77																0,74		0,79
Oper. time red.	0,89																0,89		0,89
Wind dir. red.	0,68																0,68		0,68
Total reduction	0,46																0,45		0,48
Total, real	593																284		911

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 57 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (19)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:22 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:47	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:16 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:56 19:49	05:29 20:17	05:29 20:30	05:51 20:11	06:21 19:30		07:21 16:55	06:57 16:30	07:18 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 58 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (20)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:22 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:47	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:16 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:56 20:17	05:29 20:17		05:51 20:11	06:21 19:30		07:21 16:55	06:57 16:30	07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 59 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (21)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 60 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (22)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:54	06:57 16:30
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31	07:06 17:11		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 64 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (23)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:54	06:57 16:30
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10	07:17 16:48	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:25	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:11	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:12 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:32
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:34
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:45 18:49	06:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:59	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:56 20:17	05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	290
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 65 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (24)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	
1	07:17 16:39	16:02 (CT9) 16:14 (CT9)	07:05 17:13	16:11 (CT9) 16:50 (CT9)	06:30 17:46	06:41 19:18	05:28 20:18
2	07:18 16:40	16:02 (CT9) 16:15 (CT9)	07:04 17:14	16:12 (CT9) 16:51 (CT9)	06:29 17:47	06:39 19:19	05:28 20:18
3	07:18 16:41	16:03 (CT9) 16:16 (CT9)	07:03 17:15	16:12 (CT9) 16:52 (CT9)	06:27 17:48	06:37 19:20	05:27 20:19
4	07:18 16:42	16:03 (CT9) 16:17 (CT9)	07:02 17:16	16:13 (CT9) 16:53 (CT9)	06:26 17:49	06:36 19:22	05:27 20:20
5	07:18 16:43	16:03 (CT9) 16:18 (CT9)	07:01 17:18	16:14 (CT9) 16:55 (CT9)	06:24 17:50	06:34 19:23	05:27 20:20
6	07:18 16:44	16:03 (CT9) 16:18 (CT9)	07:00 17:19	16:14 (CT9) 16:55 (CT9)	06:22 17:51	06:33 19:24	05:26 20:21
7	07:18 16:45	16:03 (CT9) 16:19 (CT9)	06:59 17:20	16:14 (CT9) 16:57 (CT9)	06:21 17:52	06:31 19:25	05:26 20:22
8	07:18 16:46	16:03 (CT9) 16:20 (CT9)	06:58 17:21	16:15 (CT9) 16:58 (CT9)	06:19 17:53	06:29 19:26	05:26 20:22
9	07:18 16:46	16:04 (CT9) 16:21 (CT9)	06:57 17:22	16:17 (CT9) 17:00 (CT9)	06:18 17:54	06:28 19:27	05:46 20:23
10	07:17 16:48	16:04 (CT9) 16:23 (CT9)	06:56 17:24	16:18 (CT9) 17:01 (CT9)	06:16 17:56	06:26 19:28	05:25 20:23
11	07:17 16:49	16:04 (CT9) 16:23 (CT9)	06:54 17:25	16:19 (CT9) 17:03 (CT9)	06:15 17:57	06:25 19:29	05:44 20:24
12	07:17 16:50	16:04 (CT9) 16:24 (CT9)	06:53 17:26	16:20 (CT9) 17:03 (CT9)	06:13 17:58	06:23 19:30	05:43 20:24
13	07:17 16:51	16:05 (CT9) 16:26 (CT9)	06:52 17:27	16:21 (CT9) 17:05 (CT9)	06:11 17:59	06:22 19:31	05:42 20:25
14	07:16 16:52	16:04 (CT9) 16:26 (CT9)	06:51 17:28	16:23 (CT9) 17:06 (CT9)	06:10 18:00	06:20 19:32	05:41 20:25
15	07:16 16:53	16:05 (CT9) 16:28 (CT9)	06:49 17:30	16:25 (CT9) 17:08 (CT9)	06:08 18:01	06:18 19:33	05:40 20:26
16	07:16 16:54	16:05 (CT9) 16:29 (CT9)	06:48 17:31	16:26 (CT9) 17:07 (CT9)	06:07 18:02	06:17 19:34	05:39 20:26
17	07:15 16:55	16:05 (CT9) 16:30 (CT9)	06:47 17:32	16:29 (CT9) 17:05 (CT9)	06:05 18:03	06:15 19:35	05:38 20:27
18	07:15 16:56	16:05 (CT9) 16:31 (CT9)	06:46 17:33	16:32 (CT9) 17:03 (CT9)	06:03 18:04	06:14 19:36	05:37 20:27
19	07:14 16:57	16:06 (CT9) 16:33 (CT9)	06:44 17:34	16:34 (CT9) 16:59 (CT9)	06:02 18:05	06:13 19:37	05:37 20:27
20	07:14 16:58	16:06 (CT9) 16:34 (CT9)	06:43 17:35	16:39 (CT9) 18:06	06:00 19:38	06:11 20:08	05:36 20:27
21	07:13 17:00	16:07 (CT9) 16:35 (CT9)	06:42 17:37	16:55 (CT9) 18:07	05:59 19:39	06:10 20:09	05:35 20:28
22	07:13 17:01	16:07 (CT9) 16:36 (CT9)	06:40 17:38	18:08	05:57 19:40	06:08 20:10	05:34 20:28
23	07:12 17:02	16:07 (CT9) 16:37 (CT9)	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28
24	07:11 17:03	16:08 (CT9) 16:39 (CT9)	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28
25	07:11 17:04	16:08 (CT9) 16:40 (CT9)	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28
26	07:10 17:05	16:08 (CT9) 16:41 (CT9)	06:34 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:28
27	07:09 17:07	16:08 (CT9) 16:42 (CT9)	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29
28	07:08 17:08	16:08 (CT9) 16:44 (CT9)	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29
29	07:08 17:09	16:09 (CT9) 16:45 (CT9)		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29
30	07:07 17:10	16:10 (CT9) 16:47 (CT9)		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29
31	07:06 17:11	16:11 (CT9) 16:48 (CT9)		06:42 19:17		05:29 20:17	
Potential sun hours	300	298	370	398	446	449	
Total, worst case	749	778					
Sun reduction	0,77	0,69					
Oper. time red.	0,89	0,89					
Wind dir. red.	0,69	0,69					
Total reduction	0,47	0,43					
Total, real	352	332					

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

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

Calculation: Real CaseShadow receptor: Rx 65 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (24)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

	July	August	September	October	November	December
1	05:29 20:28	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	15:47 (CT9) 16:30
2	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:24 16:52	15:46 (CT9) 16:30
3	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	15:45 (CT9) 16:30
4	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	15:44 (CT9) 16:29
5	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	15:43 (CT9) 16:29
6	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	15:43 (CT9) 16:29
7	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	15:43 (CT9) 16:29
8	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	15:42 (CT9) 16:29
9	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	15:41 (CT9) 16:29
10	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	15:42 (CT9) 16:29
11	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	15:41 (CT9) 16:29
12	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	15:41 (CT9) 16:29
13	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	15:41 (CT9) 16:29
14	05:37 20:24	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	15:41 (CT9) 16:30
15	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	15:41 (CT9) 16:30
16	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	15:41 (CT9) 16:30
17	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	15:41 (CT9) 16:30
18	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	15:42 (CT9) 16:31
19	05:41 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	15:42 (CT9) 16:31
20	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	15:42 (CT9) 16:31
21	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	15:42 (CT9) 16:32
22	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:47 16:34	15:42 (CT9) 16:32
23	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	15:42 (CT9) 16:33
24	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	15:43 (CT9) 16:33
25	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	15:44 (CT9) 16:34
26	05:46 20:16	06:16 19:38	06:45 18:47	07:17 17:01	06:52 16:32	15:44 (CT9) 16:35
27	05:47 20:15	06:17 19:36	06:46 18:45	07:18 17:00	06:53 16:31	15:44 (CT9) 16:35
28	05:48 20:14	06:18 19:35	06:47 18:44	07:19 16:58	06:54 16:31	15:44 (CT9) 16:36
29	05:49 20:13	06:19 19:33	06:48 18:42	07:20 16:57	06:55 16:31	15:45 (CT9) 16:37
30	05:50 20:12	06:20 19:31	06:49 18:41	07:21 16:56	06:56 16:30	15:45 (CT9) 16:37
31	05:51 20:11	06:21 19:30	06:22 16:55	15:48 (CT9) 16:31	06:56 16:31	15:45 (CT9) 16:38
Potential sun hours	456	426	375	346	300	291
Total, worst case				376	993	370
Sun reduction				0,66	0,74	0,79
Oper. time red.				0,89	0,89	0,89
Wind dir. red.				0,69	0,69	0,69
Total reduction				0,41	0,46	0,49
Total, real				153	452	180

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

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

Calculation: Real CaseShadow receptor: Rx 70 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (25)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:20	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:22 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:47	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:24	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:49 17:30	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:37 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 17:00	06:42 17:37	05:58 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:26 20:28	05:43 20:19	06:12 19:43	06:42 18:54	07:12 18:07	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:28	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	07:18 16:58	06:54 16:31	07:16 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:55 19:49	05:29 20:17	05:29 20:30	05:51 20:11	06:21 19:30	06:50 16:55	07:21 16:55	06:57 16:30	07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via G. Garibaldi, 15
IT-74023 Grottaglie (TA)

Gaetano D'Oronzio / info@gecodor.it
Calculated:
25/07/2023 13:32/3.5.587

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 71 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (26)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

Table with columns for months (January to December) and rows for time intervals (07:17 to 17:11). Includes summary rows for Potential sun hours, Total, worst case, Sun reduction, Oper. time red., Wind dir. red., Total reduction, and Total, real.

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)

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 73 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (27)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

	January	February	March	April	May	June
1	07:17 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	18:37 (CT9) 20:18
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	18:37 (CT9) 20:18
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	18:36 (CT9) 20:19
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	18:35 (CT9) 20:20
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	18:35 (CT9) 20:20
6	07:18 16:44	07:00 17:19	06:22 17:51	06:33 19:24	05:50 19:54	18:35 (CT9) 20:21
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	18:34 (CT9) 20:22
8	07:18 16:46	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	18:34 (CT9) 20:22
9	07:18 16:47	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	18:34 (CT9) 20:23
10	07:17 16:48	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	18:34 (CT9) 20:23
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	18:34 (CT9) 20:24
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	18:34 (CT9) 20:24
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	18:34 (CT9) 20:25
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	18:34 (CT9) 20:25
15	07:16 16:53	06:49 17:30	06:08 18:01	06:18 19:33	05:40 20:03	18:34 (CT9) 20:26
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	18:34 (CT9) 20:26
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	18:34 (CT9) 20:27
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	18:35 (CT9) 20:27
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	18:35 (CT9) 20:27
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	18:36 (CT9) 20:27
21	07:13 17:00	06:42 17:37	05:58 18:07	06:10 19:39	05:35 20:09	18:36 (CT9) 20:28
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	18:37 (CT9) 20:28
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	18:37 (CT9) 20:28
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	18:37 (CT9) 20:28
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	18:38 (CT9) 20:28
26	07:10 17:05	06:34 17:42	05:50 18:12	06:03 19:44	05:31 20:13	18:38 (CT9) 20:28
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	18:38 (CT9) 20:29
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	18:39 (CT9) 20:29
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	18:39 (CT9) 20:29
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	18:40 (CT9) 20:29
31	07:06 17:11		06:42 19:17		05:29 20:17	18:41 (CT9) 19:26 (CT9)
Potential sun hours	300	298	370	398	446	449
Total, worst case				213	1252	1150
Sun reduction				0,56	0,51	0,49
Oper. time red.				0,89	0,89	0,89
Wind dir. red.				0,62	0,62	0,62
Total reduction				0,31	0,28	0,27
Total, real				66	357	315

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 73 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (27)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	July	August	September	October	November	December					
1	05:29	18:52 (CT9)	05:52	18:45 (CT9)	06:22	06:50	06:23	06:57			
	20:28	38 19:30 (CT9)	20:10	39 19:24 (CT9)	19:28	18:39	16:53	16:30			
2	05:29	18:51 (CT9)	05:53	18:45 (CT9)	06:22	06:51	06:24	06:58			
	20:28	39 19:30 (CT9)	20:09	39 19:24 (CT9)	19:27	18:37	16:52	16:30			
3	05:30	18:51 (CT9)	05:54	18:44 (CT9)	06:23	06:52	06:26	06:59			
	20:28	40 19:31 (CT9)	20:08	38 19:22 (CT9)	19:25	18:36	16:51	16:30			
4	05:30	18:51 (CT9)	05:55	18:44 (CT9)	06:24	06:53	06:27	07:00			
	20:28	40 19:31 (CT9)	20:07	38 19:22 (CT9)	19:23	18:34	16:50	16:29			
5	05:31	18:51 (CT9)	05:56	18:44 (CT9)	06:25	06:54	06:28	07:01			
	20:28	42 19:33 (CT9)	20:06	37 19:21 (CT9)	19:22	18:32	16:49	16:29			
6	05:31	18:51 (CT9)	05:57	18:44 (CT9)	06:26	06:55	06:29	07:02			
	20:28	43 19:34 (CT9)	20:05	36 19:20 (CT9)	19:20	18:31	16:48	16:29			
7	05:32	18:50 (CT9)	05:58	18:44 (CT9)	06:27	06:56	06:30	07:03			
	20:27	43 19:33 (CT9)	20:04	36 19:20 (CT9)	19:19	18:29	16:47	16:29			
8	05:33	18:51 (CT9)	05:59	18:45 (CT9)	06:28	06:57	06:31	07:04			
	20:27	43 19:34 (CT9)	20:02	34 19:19 (CT9)	19:17	18:28	16:46	16:29			
9	05:33	18:50 (CT9)	05:59	18:45 (CT9)	06:29	06:58	06:33	07:05			
	20:27	44 19:34 (CT9)	20:01	33 19:18 (CT9)	19:15	18:26	16:45	16:29			
10	05:34	18:50 (CT9)	06:00	18:45 (CT9)	06:30	06:59	06:34	07:06			
	20:26	44 19:34 (CT9)	20:00	32 19:17 (CT9)	19:14	18:24	16:44	16:29			
11	05:35	18:50 (CT9)	06:01	18:46 (CT9)	06:31	07:00	06:35	07:07			
	20:26	44 19:34 (CT9)	19:59	30 19:16 (CT9)	19:12	18:23	16:43	16:29			
12	05:35	18:49 (CT9)	06:02	18:46 (CT9)	06:32	07:01	06:36	07:07			
	20:25	44 19:33 (CT9)	19:57	30 19:16 (CT9)	19:10	18:21	16:42	16:29			
13	05:36	18:49 (CT9)	06:03	18:47 (CT9)	06:33	07:02	06:37	07:08			
	20:25	44 19:33 (CT9)	19:56	28 19:15 (CT9)	19:09	18:20	16:41	16:29			
14	05:37	18:49 (CT9)	06:04	18:47 (CT9)	06:34	07:04	06:38	07:09			
	20:24	44 19:33 (CT9)	19:55	27 19:14 (CT9)	19:07	18:18	16:40	16:30			
15	05:37	18:49 (CT9)	06:05	18:47 (CT9)	06:35	07:05	06:39	07:10			
	20:24	44 19:33 (CT9)	19:53	25 19:12 (CT9)	19:05	18:17	16:39	16:30			
16	05:38	18:48 (CT9)	06:06	18:48 (CT9)	06:36	07:06	06:41	07:10			
	20:23	44 19:32 (CT9)	19:52	23 19:11 (CT9)	19:04	18:15	16:38	16:30			
17	05:39	18:48 (CT9)	06:07	18:49 (CT9)	06:37	07:07	06:42	07:11			
	20:23	44 19:32 (CT9)	19:51	21 19:10 (CT9)	19:02	18:14	16:37	16:30			
18	05:40	18:48 (CT9)	06:08	18:50 (CT9)	06:38	07:08	06:43	07:12			
	20:22	44 19:32 (CT9)	19:49	19 19:09 (CT9)	19:00	18:12	16:37	16:31			
19	05:41	18:47 (CT9)	06:09	18:51 (CT9)	06:39	07:09	06:44	07:12			
	20:21	45 19:32 (CT9)	19:48	17 19:08 (CT9)	18:59	18:11	16:36	16:31			
20	05:41	18:46 (CT9)	06:10	18:52 (CT9)	06:40	07:10	06:45	07:13			
	20:21	44 19:30 (CT9)	19:46	15 19:07 (CT9)	18:57	18:09	16:35	16:32			
21	05:42	18:46 (CT9)	06:11	18:54 (CT9)	06:41	07:11	06:46	07:13			
	20:20	44 19:30 (CT9)	19:45	12 19:06 (CT9)	18:55	18:08	16:35	16:32			
22	05:43	18:46 (CT9)	06:12	18:56 (CT9)	06:42	07:12	06:47	07:14			
	20:19	44 19:30 (CT9)	19:43	9 19:05 (CT9)	18:54	18:07	16:34	16:32			
23	05:44	18:46 (CT9)	06:13	18:59 (CT9)	06:43	07:13	06:49	07:14			
	20:19	44 19:30 (CT9)	19:42	6 19:05 (CT9)	18:52	18:05	16:33	16:33			
24	05:45	18:46 (CT9)	06:14	06:43	07:14	06:50	07:15				
	20:18	43 19:29 (CT9)	19:41	18:50	18:04	16:33	16:33				
25	05:46	18:46 (CT9)	06:15	06:44	06:15	06:51	07:15				
	20:17	43 19:29 (CT9)	19:39	18:49	17:02	16:32	16:34				
26	05:46	18:45 (CT9)	06:16	06:45	06:17	06:52	07:16				
	20:16	42 19:27 (CT9)	19:38	18:47	17:01	16:32	16:35				
27	05:47	18:45 (CT9)	06:17	06:46	06:18	06:53	07:16				
	20:15	42 19:27 (CT9)	19:36	18:45	17:00	16:31	16:35				
28	05:48	18:45 (CT9)	06:18	06:47	06:19	06:54	07:16				
	20:14	42 19:27 (CT9)	19:34	18:44	16:58	16:31	16:36				
29	05:49	18:45 (CT9)	06:19	06:48	06:20	06:55	07:17				
	20:13	41 19:26 (CT9)	19:33	18:42	16:57	16:31	16:37				
30	05:50	18:45 (CT9)	06:20	06:49	06:21	06:56	07:17				
	20:12	41 19:26 (CT9)	19:31	18:41	16:56	16:30	16:37				
31	05:51	18:45 (CT9)	06:21		06:22		07:17				
	20:11	40 19:25 (CT9)	19:30		16:55		16:38				
Potential sun hours	456		426		375		346		300		291
Total, worst case	1323		624								
Sun reduction	0,50		0,54								
Oper. time red.	0,89		0,89								
Wind dir. red.	0,62		0,62								
Total reduction	0,28		0,30								
Total, real	368		186								

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

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

Calculation: Real CaseShadow receptor: Rx 77 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (28)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:54	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:54 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:24 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:27 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:46	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:47	06:57 17:22	06:18 17:55	06:28 19:27	05:46 19:57	05:26 20:23	05:33 20:27	06:00 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:48	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:01 20:00	06:30 19:14	06:59 18:25	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:12 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:38	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:38 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:32
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:26 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:33
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:34 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:34	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:34
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:45 18:49	06:45 17:02	06:51 16:32	07:15 16:34
26	07:10 17:06	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:47 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	06:18 17:00	06:53 16:32	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:28 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:59	06:54 16:31	07:16 16:36
29	07:08 17:09		06:46 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:38
31	07:06 17:12		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 78 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (29)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:54	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:54 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:24 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:27 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:46	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:47	06:57 17:22	06:18 17:55	06:28 19:27	05:46 19:57	05:26 20:23	05:33 20:27	06:00 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:48	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:01 20:00	06:30 19:14	06:59 18:25	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:11	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:12 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:38	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:38 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:32
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:26 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:33
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:34 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:34	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:34
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:45 18:49	06:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:06	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:47 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	06:18 17:00	06:53 16:32	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:28 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:59	06:54 16:31	07:16 16:36
29	07:08 17:09		06:46 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:38
31	07:06 17:12		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via G. Garibaldi, 15
IT-74023 Grottaglie (TA)

Gaetano D'Oronzio / info@gecodor.it
Calculated:
25/07/2023 13:32/3.5.587

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 79 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (30)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December				
1	07:18	07:05	06:30	06:41	07:41 (CT9)	05:56	05:28	05:29	05:52	06:22	06:50	06:23	06:57			
	16:39	17:13	17:46	19:19	16	07:57 (CT9)	19:49	20:18	20:29	20:10	19:28	18:39	16:54	16:30		
2	07:18	07:04	06:29	06:39	07:40 (CT9)	05:55	05:28	05:29	05:53	06:23	06:51	06:25	06:58			
	16:40	17:14	17:47	19:20	15	07:55 (CT9)	19:50	20:18	20:28	20:09	19:27	18:37	16:52	16:30		
3	07:18	07:03	06:27	06:37	07:39 (CT9)	05:54	05:27	05:30	05:54	06:24	06:52	06:26	06:59			
	16:41	17:15	17:48	19:21	15	07:54 (CT9)	19:51	20:19	20:28	20:08	19:25	18:36	16:51	16:30		
4	07:18	07:02	06:26	06:36	07:37 (CT9)	05:52	05:27	05:30	05:55	06:24	06:53	06:27	07:00			
	16:42	17:16	17:49	19:22	15	07:52 (CT9)	19:52	20:20	20:28	20:07	19:24	18:34	16:50	16:29		
5	07:18	07:01	06:24	06:34	07:36 (CT9)	05:51	05:27	05:31	05:56	06:25	06:54	06:28	07:01			
	16:43	17:18	17:50	19:23	13	07:49 (CT9)	19:53	20:21	20:28	20:06	19:22	18:32	16:49	16:29		
6	07:18	07:00	06:23	06:33	07:35 (CT9)	05:50	05:26	05:31	05:57	06:26	07:31 (CT9)	06:55	06:29	07:02		
	16:44	17:19	17:51	19:24	11	07:46 (CT9)	19:54	20:21	20:28	20:05	19:20	11	07:42 (CT9)	18:31	16:48	16:29
7	07:18	06:59	06:21	06:31	05:49	05:26	05:32	05:58	06:27	07:32 (CT9)	06:56	06:30	07:03			
	16:45	17:20	17:52	19:25	19:55	05:22	05:27	05:59	06:28	07:31 (CT9)	06:57	06:31	07:04			
8	07:18	06:58	06:19	06:29	05:48	05:26	05:33	05:59	06:28	07:31 (CT9)	06:57	06:31	07:04			
	16:46	17:21	17:53	19:26	19:56	05:22	05:27	06:02	06:29	07:32 (CT9)	06:58	06:33	07:05			
9	07:18	06:57	06:18	06:28	05:46	05:26	05:33	06:00	06:29	07:32 (CT9)	06:58	06:33	07:05			
	16:47	17:22	17:55	19:27	19:57	05:23	05:27	06:01	06:30	07:33 (CT9)	06:59	06:34	07:06			
10	07:17	06:56	06:16	06:26	05:45	05:25	05:34	06:00	06:30	07:33 (CT9)	06:59	06:34	07:06			
	16:48	17:24	17:56	19:28	19:58	05:24	05:26	06:00	06:30	07:33 (CT9)	06:59	06:34	07:06			
11	07:17	06:54	06:15	06:25	05:44	05:25	05:35	06:01	06:31	07:33 (CT9)	07:00	06:35	07:07			
	16:49	17:25	17:57	19:29	19:59	05:24	05:26	06:01	06:31	07:33 (CT9)	07:00	06:35	07:07			
12	07:17	06:53	06:13	06:23	05:43	05:25	05:35	06:02	06:32	07:34 (CT9)	07:02	06:36	07:07			
	16:50	17:26	17:58	19:30	20:00	05:25	05:26	06:02	06:32	07:34 (CT9)	07:02	06:36	07:07			
13	07:17	06:52	06:12	06:22	05:42	05:25	05:36	06:03	06:33	07:35 (CT9)	07:03	06:37	07:08			
	16:51	17:27	17:59	19:31	20:01	05:25	05:26	06:03	06:33	07:35 (CT9)	07:03	06:37	07:08			
14	07:16	06:51	06:10	06:20	05:41	05:25	05:37	06:04	06:34	07:36 (CT9)	07:04	06:38	07:09			
	16:52	17:28	18:00	19:32	20:02	05:25	05:26	06:04	06:34	07:36 (CT9)	07:04	06:38	07:09			
15	07:16	06:50	06:08	06:19	05:40	05:25	05:37	06:05	06:35	07:37 (CT9)	07:05	06:40	07:10			
	16:53	17:30	18:01	19:33	20:03	05:26	05:27	06:05	06:35	07:37 (CT9)	07:05	06:40	07:10			
16	07:16	06:48	06:07	06:17	05:39	05:25	05:38	06:06	06:36	07:38 (CT9)	07:06	06:41	07:10			
	16:54	17:31	18:02	19:34	20:04	05:26	05:27	06:06	06:36	07:38 (CT9)	07:06	06:41	07:10			
17	07:15	06:47	06:05	06:16	05:38	05:25	05:39	06:07	06:37	07:38 (CT9)	07:07	06:42	07:11			
	16:55	17:32	18:03	19:35	20:05	05:26	05:27	06:07	06:37	07:38 (CT9)	07:07	06:42	07:11			
18	07:15	06:46	06:03	06:14	05:38	05:25	05:40	06:08	06:38	07:39 (CT9)	07:08	06:43	07:12			
	16:56	17:33	18:04	19:36	20:06	05:26	05:27	06:08	06:38	07:39 (CT9)	07:08	06:43	07:12			
19	07:14	06:44	06:02	06:13	05:37	05:25	05:41	06:09	06:39	07:41 (CT9)	07:09	06:44	07:12			
	16:57	17:34	18:05	19:37	20:07	05:26	05:27	06:09	06:39	07:41 (CT9)	07:09	06:44	07:12			
20	07:14	06:43	06:00	06:11	05:36	05:25	05:41	06:10	06:40	07:42 (CT9)	07:10	06:45	07:13			
	16:58	17:35	18:06	2	07:01 (CT9)	19:38	20:08	20:21	19:46	18:57	7	07:49 (CT9)	18:09	16:35	16:32	
21	07:13	06:42	05:59	06:58 (CT9)	06:10	05:35	05:25	05:42	06:11	06:41	07:41 (CT9)	07:11	06:46	07:14		
	17:00	17:37	18:07	3	07:01 (CT9)	19:39	20:09	20:28	20:20	19:45	6	07:47 (CT9)	18:08	16:35	16:32	
22	07:13	06:40	05:57	06:56 (CT9)	06:08	05:34	05:26	05:43	06:12	06:42	07:42 (CT9)	07:12	06:48	07:14		
	17:01	17:38	18:08	5	07:01 (CT9)	19:40	20:10	20:28	20:19	19:44	4	07:46 (CT9)	18:07	16:34	16:32	
23	07:12	06:39	05:55	06:56 (CT9)	06:07	05:33	05:26	05:44	06:13	06:43	07:43 (CT9)	07:13	06:49	07:15		
	17:02	17:39	18:09	6	07:02 (CT9)	19:41	20:10	20:28	20:19	19:42	2	07:45 (CT9)	18:05	16:34	16:33	
24	07:11	06:37	05:54	06:54 (CT9)	06:05	05:33	05:26	05:45	06:14	06:44	07:44	07:14	06:50	07:15		
	17:03	17:40	18:10	8	07:02 (CT9)	19:42	20:11	20:28	20:18	19:41	18:51	18:04	16:33	16:34		
25	07:11	06:36	05:52	06:51 (CT9)	06:04	05:32	05:26	05:46	06:15	06:45	07:45	07:15	06:51	07:15		
	17:04	17:41	18:11	10	07:01 (CT9)	19:43	20:12	20:28	20:17	19:39	18:49	17:02	16:32	16:34		
26	07:10	06:35	05:50	06:50 (CT9)	06:03	05:31	05:27	05:47	06:16	06:45	07:46	07:16	06:52	07:16		
	17:06	17:42	18:12	12	07:02 (CT9)	19:44	20:13	20:29	20:16	19:38	18:47	17:01	16:32	16:35		
27	07:09	06:33	05:49	06:49 (CT9)	06:01	05:31	05:27	05:47	06:17	06:46	07:47	07:17	06:53	07:16		
	17:07	17:43	18:13	12	07:01 (CT9)	19:45	20:14	20:29	20:15	19:36	18:46	17:00	16:32	16:35		
28	07:08	06:32	05:47	06:47 (CT9)	06:00	05:30	05:28	05:48	06:18	06:47	07:48	07:18	06:54	07:17		
	17:08	17:45	18:14	13	07:00 (CT9)	19:46	20:15	20:29	20:14	19:35	18:44	16:59	16:31	16:36		
29	07:08	06:46	06:14	07:46 (CT9)	05:59	05:30	05:28	05:49	06:19	06:48	07:49	07:19	06:55	07:17		
	17:09	17:45	18:15	14	08:00 (CT9)	19:47	20:15	20:29	20:13	19:33	18:42	16:57	16:31	16:37		
30	07:07	06:44	06:15	07:44 (CT9)	05:57	05:29	05:28	05:50	06:20	06:49	07:50	07:20	06:56	07:17		
	17:10	17:46	18:16	15	07:59 (CT9)	19:48	20:16	20:29	20:12	19:31	18:41	16:56	16:30	16:38		
31	07:06	06:42	06:16	07:42 (CT9)	05:56	05:29	05:28	05:51	06:21	06:50	07:51	07:21	06:57	07:17		
	17:12	17:48	18:18	16	07:58 (CT9)	19:49	20:17	20:30	20:13	19:32	18:42	16:55	16:30	16:38		
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291				
Total, worst case			116	85					205							
Sun reduction			0,62	0,56					0,59							
Oper. time red.			0,89	0,89					0,89							
Wind dir. red.			0,65	0,65					0,65							
Total reduction			0,36	0,33					0,35							
Total, real			42	28					71							

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 82 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (31)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:27 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:46	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:47	06:57 17:22	06:18 17:55	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	06:00 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:48	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:25	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:32
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:34
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:56 19:49	05:29 20:17	05:29 20:30	05:51 20:11	06:21 19:30		07:21 16:55	06:57 16:30	07:18 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 84 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (32)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:18	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:27 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:44	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:45	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:46	06:58 17:21	06:19 17:53	06:29 19:26	05:48 19:56	05:26 20:22	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	07:04 16:29
9	07:18 16:47	06:57 17:22	06:18 17:55	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	06:00 20:01	06:29 19:15	06:58 18:26	06:33 16:45	07:05 16:29
10	07:17 16:48	06:56 17:24	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:25	06:34 16:44	07:06 16:29
11	07:17 16:49	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:50	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:12 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:19 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:16 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:13 19:37	05:37 20:07	05:25 20:27	05:41 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:32
21	07:13 17:00	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:46 16:35	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:26 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:34
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17	05:55 20:17	05:29 20:17		05:51 20:11	06:21 19:30		07:21 16:55	06:57 16:30	07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 94 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (33)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June		
1	07:18 16:39	15:54 (PLT29) 16:11 (PLT29)	07:05 17:12	06:30 17:46	16:46 (PLT19) 17:18 (PLT19)	05:56 19:18	05:28 20:18	07:04 (PLT20) 07:31 (PLT20)
2	07:18 16:40	15:54 (PLT29) 16:11 (PLT29)	07:04 17:14	06:29 17:47	16:45 (PLT19) 17:18 (PLT19)	05:54 19:19	05:27 20:19	07:03 (PLT20) 07:33 (PLT20)
3	07:18 16:41	15:55 (PLT29) 16:11 (PLT29)	07:03 17:15	06:27 17:48	16:46 (PLT19) 17:18 (PLT19)	05:53 19:20	05:27 20:19	07:01 (PLT20) 07:33 (PLT20)
4	07:18 16:42	15:56 (PLT29) 16:11 (PLT29)	07:02 17:16	06:26 17:49	16:46 (PLT19) 17:17 (PLT19)	05:52 19:22	05:27 20:20	07:01 (PLT20) 07:35 (PLT20)
5	07:18 16:42	15:57 (PLT29) 16:11 (PLT29)	07:01 17:17	06:24 17:50	16:48 (PLT19) 17:16 (PLT19)	05:51 19:23	05:26 20:21	07:00 (PLT20) 07:36 (PLT20)
6	07:18 16:43	15:58 (PLT29) 16:11 (PLT29)	07:00 17:19	06:22 17:51	16:48 (PLT19) 17:14 (PLT19)	05:50 19:24	05:26 20:21	06:59 (PLT20) 07:37 (PLT20)
7	07:18 16:44	15:58 (PLT29) 16:10 (PLT29)	06:59 17:20	06:21 17:52	16:50 (PLT19) 17:13 (PLT19)	05:48 19:25	05:26 20:22	06:58 (PLT20) 07:38 (PLT20)
8	07:18 16:45	15:59 (PLT29) 16:10 (PLT29)	06:58 17:21	06:19 17:53	16:51 (PLT19) 17:11 (PLT19)	05:47 19:26	05:25 20:22	06:58 (PLT20) 07:39 (PLT20)
9	07:18 16:46	16:01 (PLT29) 16:10 (PLT29)	06:57 17:22	06:18 17:54	16:54 (PLT19) 17:07 (PLT19)	05:46 19:27	05:25 20:23	06:58 (PLT20) 07:40 (PLT20)
10	07:18 16:47	16:03 (PLT29) 16:09 (PLT29)	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	06:58 (PLT20) 07:40 (PLT20)
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	06:57 (PLT20) 07:41 (PLT20)	
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	06:56 (PLT20) 07:41 (PLT20)	
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	06:56 (PLT20) 07:41 (PLT20)	
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	06:56 (PLT20) 07:42 (PLT20)	
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	06:56 (PLT20) 07:42 (PLT20)	
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	06:56 (PLT20) 07:43 (PLT20)	
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	06:57 (PLT20) 07:44 (PLT20)	
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	06:57 (PLT20) 07:44 (PLT20)	
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	06:57 (PLT20) 07:45 (PLT20)	
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	06:57 (PLT20) 07:45 (PLT20)	
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	06:57 (PLT20) 07:45 (PLT20)	
22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	06:57 (PLT20) 07:45 (PLT20)	
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	06:58 (PLT20) 07:46 (PLT20)	
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:32 20:11	05:26 20:28	06:58 (PLT20) 07:45 (PLT20)	
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	06:58 (PLT20) 07:45 (PLT20)	
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	06:59 (PLT20) 07:46 (PLT20)	
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:30 20:14	05:27 20:29	06:59 (PLT20) 07:46 (PLT20)	
28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	06:59 (PLT20) 07:45 (PLT20)	
29	07:08 17:09	06:45 19:15	05:58 19:15	05:58 19:47	05:29 20:16	05:28 20:29	07:00 (PLT20) 07:46 (PLT20)	
30	07:07 17:10	06:44 19:16	05:57 19:16	05:57 19:48	05:29 20:16	05:28 20:29	07:00 (PLT20) 07:45 (PLT20)	
31	07:06 17:11	06:42 19:17	05:56 19:17	05:56 19:49	05:28 20:17	05:28 20:29	07:00 (PLT20) 07:45 (PLT20)	
Potential sun hours	300	298	370	398	446	450		
Total, worst case	130	347	239		54	1294		
Sun reduction	0,77	0,69	0,62		0,51	0,49		
Oper. time red.	0,89	0,89	0,89		0,89	0,89		
Wind dir. red.	0,68	0,67	0,67		0,68	0,68		
Total reduction	0,47	0,42	0,37		0,31	0,30		
Total, real	61	144	89		17	387		

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

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

Calculation: Real CaseShadow receptor: Rx 94 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (33)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	July		August		September		October		November		December	
1	05:28		07:01 (PLT20)	05:52	06:21	06:50			06:23	06:57		
	20:29	45	07:46 (PLT20)	20:10	19:28	18:39			16:53	16:30		
2	05:29		07:02 (PLT20)	05:53	06:22	06:51			06:25	06:58		15:46 (PLT29)
	20:29	43	07:45 (PLT20)	20:09	19:27	18:37			16:52	16:30	6	15:52 (PLT29)
3	05:29		07:03 (PLT20)	05:54	06:23	06:52			06:26	06:59		15:45 (PLT29)
	20:28	42	07:45 (PLT20)	20:08	19:25	18:36			16:51	16:29	9	15:54 (PLT29)
4	05:30		07:03 (PLT20)	05:54	06:24	06:53		17:33 (PLT19)	06:27	07:00		15:44 (PLT29)
	20:28	41	07:44 (PLT20)	20:07	19:23	18:34	10	17:43 (PLT19)	16:50	16:29	11	15:55 (PLT29)
5	05:30		07:04 (PLT20)	05:55	06:25	06:54		17:29 (PLT19)	06:28	07:01		15:44 (PLT29)
	20:28	40	07:44 (PLT20)	20:06	19:22	18:32	17	17:46 (PLT19)	16:49	16:29	12	15:56 (PLT29)
6	05:31		07:05 (PLT20)	05:56	06:26	06:55		17:27 (PLT19)	06:29	07:02		15:44 (PLT29)
	20:28	38	07:43 (PLT20)	20:05	19:20	18:31	21	17:48 (PLT19)	16:48	16:29	13	15:57 (PLT29)
7	05:32		07:06 (PLT20)	05:57	06:27	06:56		17:25 (PLT19)	06:30	07:03		15:44 (PLT29)
	20:27	37	07:43 (PLT20)	20:04	19:19	18:29	24	17:49 (PLT19)	16:46	16:29	14	15:58 (PLT29)
8	05:32		07:07 (PLT20)	05:58	06:28	06:57		17:23 (PLT19)	06:31	07:04		15:43 (PLT29)
	20:27	36	07:43 (PLT20)	20:02	19:17	18:28	27	17:50 (PLT19)	16:45	16:29	15	15:58 (PLT29)
9	05:33		07:08 (PLT20)	05:59	06:29	06:58		17:22 (PLT19)	06:33	07:05		15:43 (PLT29)
	20:27	33	07:41 (PLT20)	20:01	19:15	18:26	29	17:51 (PLT19)	16:44	16:29	16	15:59 (PLT29)
10	05:34		07:10 (PLT20)	06:00	06:30	06:59		17:20 (PLT19)	06:34	07:06		15:44 (PLT29)
	20:26	31	07:41 (PLT20)	20:00	19:14	18:24	31	17:51 (PLT19)	16:43	16:29	16	16:00 (PLT29)
11	05:34		07:11 (PLT20)	06:01	06:31	07:00		17:19 (PLT19)	06:35	07:07		15:44 (PLT29)
	20:26	28	07:39 (PLT20)	19:59	19:12	18:23	33	17:52 (PLT19)	16:42	16:29	17	16:01 (PLT29)
12	05:35		07:13 (PLT20)	06:02	06:32	07:01		17:19 (PLT19)	06:36	07:07		15:44 (PLT29)
	20:26	25	07:38 (PLT20)	19:57	19:10	18:21	33	17:52 (PLT19)	16:41	16:29	18	16:02 (PLT29)
13	05:36		07:15 (PLT20)	06:03	06:33	07:02		17:19 (PLT19)	06:37	07:08		15:45 (PLT29)
	20:25	21	07:36 (PLT20)	19:56	19:09	18:20	34	17:53 (PLT19)	16:41	16:29	17	16:02 (PLT29)
14	05:36		07:18 (PLT20)	06:04	06:34	07:04		17:18 (PLT19)	06:38	07:09		15:44 (PLT29)
	20:25	16	07:34 (PLT20)	19:55	19:07	18:18	35	17:53 (PLT19)	16:40	16:29	18	16:02 (PLT29)
15	05:37		07:22 (PLT20)	06:05	06:35	07:05		17:18 (PLT19)	06:40	07:10		15:45 (PLT29)
	20:24	7	07:29 (PLT20)	19:53	19:05	18:17	34	17:52 (PLT19)	16:39	16:30	18	16:03 (PLT29)
16	05:38			06:06	06:36	07:06		17:18 (PLT19)	06:41	07:10		15:46 (PLT29)
	20:24			19:52	19:04	18:15	34	17:52 (PLT19)	16:38	16:30	18	16:04 (PLT29)
17	05:39			06:07	06:37	07:07		17:18 (PLT19)	06:42	07:11		15:46 (PLT29)
	20:23			19:51	19:02	18:14	33	17:51 (PLT19)	16:37	16:30	18	16:04 (PLT29)
18	05:39			06:08	06:38	07:08		17:18 (PLT19)	06:43	07:12		15:46 (PLT29)
	20:22			19:49	19:00	18:12	31	17:49 (PLT19)	16:36	16:30	19	16:05 (PLT29)
19	05:40			06:09	06:39	07:09		17:18 (PLT19)	06:44	07:12		15:47 (PLT29)
	20:22			19:48	18:59	18:11	30	17:48 (PLT19)	16:36	16:31	19	16:06 (PLT29)
20	05:41			06:10	06:40	07:10		17:18 (PLT19)	06:45	07:13		15:47 (PLT29)
	20:21			19:46	18:57	18:09	28	17:46 (PLT19)	16:35	16:31	18	16:05 (PLT29)
21	05:42			06:11	06:41	07:11		17:20 (PLT19)	06:46	07:14		15:48 (PLT29)
	20:20			19:45	18:55	18:08	25	17:45 (PLT19)	16:34	16:32	18	16:06 (PLT29)
22	05:43			06:12	06:41	07:12		17:20 (PLT19)	06:48	07:14		15:48 (PLT29)
	20:19			19:44	18:54	18:06	24	17:44 (PLT19)	16:34	16:32	18	16:06 (PLT29)
23	05:44			06:13	06:42	07:13		17:21 (PLT19)	06:49	07:15		15:48 (PLT29)
	20:19			19:42	18:52	18:05	21	17:42 (PLT19)	16:33	16:33	18	16:06 (PLT29)
24	05:44			06:14	06:43	07:14		17:23 (PLT19)	06:50	07:15		15:49 (PLT29)
	20:18			19:41	18:50	18:04	18	17:41 (PLT19)	16:33	16:33	19	16:08 (PLT29)
25	05:45			06:15	06:44	06:15		16:24 (PLT19)	06:51	07:16		15:49 (PLT29)
	20:17			19:39	18:49	17:02	15	16:39 (PLT19)	16:32	16:34	19	16:08 (PLT29)
26	05:46			06:16	06:45	06:17		16:27 (PLT19)	06:52	07:16		15:50 (PLT29)
	20:16			19:38	18:47	17:01	10	16:37 (PLT19)	16:32	16:34	19	16:09 (PLT29)
27	05:47			06:17	06:46	06:18			06:53	07:16		15:51 (PLT29)
	20:15			19:36	18:45	17:00			16:31	16:35	18	16:09 (PLT29)
28	05:48			06:18	06:47	06:19			06:54	07:17		15:51 (PLT29)
	20:14			19:35	18:44	16:58			16:31	16:36	18	16:09 (PLT29)
29	05:49			06:19	06:48	06:20			06:55	07:17		15:51 (PLT29)
	20:13			19:33	18:42	16:57			16:30	16:36	18	16:09 (PLT29)
30	05:50			06:19	06:49	06:21			06:56	07:17		15:52 (PLT29)
	20:12			19:31	18:40	16:56			16:30	16:37	17	16:09 (PLT29)
31	05:51			06:20		06:22				07:17		15:53 (PLT29)
	20:11			19:30		16:54				16:38	17	16:10 (PLT29)
Potential sun hours	457			426	375	346		300		290		
Total, worst case	483											491
Sun reduction	0,50											0,79
Oper. time red.	0,89											0,89
Wind dir. red.	0,68											0,68
Total reduction	0,30											0,48
Total, real	147											238

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

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

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via G. Garibaldi, 15
IT-74023 Grottaglie (TA)

Gaetano D'Oronzio / info@gecodor.it
Calculated:
25/07/2023 13:32/3.5.587

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 95 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (34)
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June
1	07:18	07:05	08:02 (PLT21) 06:30	15:53 (PLT19) 06:40	16:47 (PLT19) 05:56	05:28 06:29 (PLT20)
	16:39	17:12 21	08:23 (PLT21) 17:46	53 16:46 (PLT19) 19:18	17:41 (PLT19) 19:49	20:18 34 07:03 (PLT20)
2	07:18	07:04	08:01 (PLT21) 06:29	15:51 (PLT19) 06:39	16:48 (PLT19) 05:55	05:27 06:29 (PLT20)
	16:40	17:14 23	08:24 (PLT21) 17:47	56 16:47 (PLT19) 19:19	51 17:39 (PLT19) 19:50	20:19 35 07:04 (PLT20)
3	07:18	07:03	08:01 (PLT21) 06:27	15:50 (PLT19) 06:37	16:49 (PLT19) 05:53	05:27 06:29 (PLT20)
	16:41	17:15 24	08:25 (PLT21) 17:48	58 16:48 (PLT19) 19:20	48 17:37 (PLT19) 19:51	20:19 34 07:03 (PLT20)
4	07:18	07:02	08:00 (PLT21) 06:26	15:49 (PLT19) 06:36	16:51 (PLT19) 05:52	05:27 06:29 (PLT20)
	16:42	17:16 26	08:26 (PLT21) 17:49	60 16:49 (PLT19) 19:22	45 17:36 (PLT19) 19:52	20:20 34 07:03 (PLT20)
5	07:18	07:01	08:00 (PLT21) 06:24	15:48 (PLT19) 06:34	16:53 (PLT19) 05:51	05:26 06:30 (PLT20)
	16:42	17:17 27	08:27 (PLT21) 17:50	62 16:50 (PLT19) 19:23	41 17:34 (PLT19) 19:53	20:21 34 07:04 (PLT20)
6	07:18	07:00	07:59 (PLT21) 06:22	15:46 (PLT19) 06:32	16:55 (PLT19) 05:50	05:26 06:30 (PLT20)
	16:43	17:19 29	08:28 (PLT21) 17:51	65 16:51 (PLT19) 19:24	37 17:32 (PLT19) 19:54	20:21 33 07:03 (PLT20)
7	07:18	06:59	07:58 (PLT21) 06:21	15:46 (PLT19) 06:31	16:57 (PLT19) 05:48	05:26 06:30 (PLT20)
	16:44	17:20 29	08:27 (PLT21) 17:52	66 16:52 (PLT19) 19:25	32 17:29 (PLT19) 19:55	20:22 33 07:03 (PLT20)
8	07:18	06:58	07:58 (PLT21) 06:19	15:45 (PLT19) 06:29	17:00 (PLT19) 05:47	05:25 06:31 (PLT20)
	16:45	17:21 29	08:27 (PLT21) 17:53	67 16:52 (PLT19) 19:26	27 17:27 (PLT19) 19:56	20:23 33 07:04 (PLT20)
9	07:18	06:57	07:58 (PLT21) 06:18	15:44 (PLT19) 06:28	17:04 (PLT19) 05:46	05:25 06:31 (PLT20)
	16:46	17:22 30	08:28 (PLT21) 17:54	68 16:52 (PLT19) 19:27	18 17:22 (PLT19) 19:57	20:23 33 07:04 (PLT20)
10	07:18	06:56	07:59 (PLT21) 06:16	15:43 (PLT19) 06:26	05:45	05:25 06:31 (PLT20)
	16:47	17:23 29	08:28 (PLT21) 17:55	70 16:53 (PLT19) 19:28	19:58	20:24 33 07:04 (PLT20)
11	07:17	06:54	07:59 (PLT21) 06:15	15:42 (PLT19) 06:25	05:44	05:25 06:32 (PLT20)
	16:48	17:25 29	08:28 (PLT21) 17:57	71 16:53 (PLT19) 19:29	19:59	11 06:40 (PLT20) 20:24 32 07:04 (PLT20)
12	07:17	06:53	08:00 (PLT21) 06:13	15:42 (PLT19) 06:23	05:43	06:37 (PLT20) 20:25 06:31 (PLT20)
	16:49	17:26 28	08:28 (PLT21) 17:58	72 16:54 (PLT19) 19:30	20:00	16 06:53 (PLT20) 20:25 32 07:03 (PLT20)
13	07:17	06:52	07:59 (PLT21) 06:11	15:42 (PLT19) 06:21	05:42	06:35 (PLT20) 20:25 06:32 (PLT20)
	16:50	17:27 28	08:27 (PLT21) 17:59	71 16:53 (PLT19) 19:31	20:01	20 06:55 (PLT20) 20:25 31 07:03 (PLT20)
14	07:17	06:51	08:00 (PLT21) 06:10	15:41 (PLT19) 06:20	05:41	06:34 (PLT20) 20:25 06:32 (PLT20)
	16:51	17:28 26	08:26 (PLT21) 18:00	72 16:53 (PLT19) 19:32	20:02	22 06:56 (PLT20) 20:26 32 07:04 (PLT20)
15	07:16	06:50	08:01 (PLT21) 06:08	15:41 (PLT19) 06:18	05:40	06:33 (PLT20) 20:25 06:32 (PLT20)
	16:53	17:29 25	08:26 (PLT21) 18:01	73 16:54 (PLT19) 19:33	20:03	24 06:57 (PLT20) 20:26 32 07:04 (PLT20)
16	07:16	06:48	08:02 (PLT21) 06:07	15:41 (PLT19) 06:17	05:39	06:32 (PLT20) 20:25 06:32 (PLT20)
	16:54	17:31 22	08:24 (PLT21) 18:02	72 16:53 (PLT19) 19:34	20:04	26 06:58 (PLT20) 20:26 32 07:04 (PLT20)
17	07:15	06:47	08:03 (PLT21) 06:05	15:40 (PLT19) 06:15	05:38	06:31 (PLT20) 20:25 06:34 (PLT20)
	16:55	17:32 20	08:23 (PLT21) 18:03	72 16:52 (PLT19) 19:35	20:05	28 06:59 (PLT20) 20:27 31 07:05 (PLT20)
18	07:15	06:46	08:05 (PLT21) 06:03	15:41 (PLT19) 06:14	05:37	06:30 (PLT20) 20:25 06:34 (PLT20)
	16:56	17:33 16	08:21 (PLT21) 18:04	72 16:53 (PLT19) 19:36	20:06	29 06:59 (PLT20) 20:27 31 07:05 (PLT20)
19	07:14	06:44	08:07 (PLT21) 06:02	15:40 (PLT19) 06:12	05:36	06:30 (PLT20) 20:25 06:34 (PLT20)
	16:57	17:34 10	08:17 (PLT21) 18:05	72 16:52 (PLT19) 19:37	20:07	30 07:00 (PLT20) 20:27 31 07:05 (PLT20)
20	07:14	06:43	06:00	15:40 (PLT19) 06:11	05:36	06:30 (PLT20) 20:25 06:34 (PLT20)
	16:58	17:35	18:06	71 16:51 (PLT19) 19:38	20:08	31 07:01 (PLT20) 20:28 31 07:05 (PLT20)
21	07:13	06:42	05:58	15:41 (PLT19) 06:09	05:35	06:29 (PLT20) 20:25 06:34 (PLT20)
	16:59	17:36	18:07	71 16:52 (PLT19) 19:39	20:09	32 07:01 (PLT20) 20:28 31 07:05 (PLT20)
22	07:13	06:40	16:15 (PLT19) 05:57	15:41 (PLT19) 06:08	05:34	06:28 (PLT20) 20:25 06:34 (PLT20)
	17:00	17:38 10	16:25 (PLT19) 18:08	70 16:51 (PLT19) 19:40	20:10	33 07:01 (PLT20) 20:28 31 07:05 (PLT20)
23	07:12	06:39	16:09 (PLT19) 05:55	15:40 (PLT19) 06:07	05:33	06:29 (PLT20) 20:26 06:35 (PLT20)
	17:02	17:39 23	16:32 (PLT19) 18:09	70 16:50 (PLT19) 19:41	20:11	33 07:02 (PLT20) 20:28 31 07:06 (PLT20)
24	07:11	06:37	16:04 (PLT19) 05:54	15:41 (PLT19) 06:05	05:32	06:28 (PLT20) 20:26 06:35 (PLT20)
	17:03	17:40 31	16:35 (PLT19) 18:10	69 16:50 (PLT19) 19:42	20:11	34 07:02 (PLT20) 20:28 31 07:06 (PLT20)
25	07:11	06:36	16:02 (PLT19) 05:52	15:42 (PLT19) 06:04	05:32	06:28 (PLT20) 20:26 06:35 (PLT20)
	17:04	17:41 37	16:39 (PLT19) 18:11	67 16:49 (PLT19) 19:43	20:12	34 07:02 (PLT20) 20:29 31 07:06 (PLT20)
26	07:10	06:35	15:59 (PLT19) 05:50	15:43 (PLT19) 06:02	05:31	06:28 (PLT20) 20:26 06:35 (PLT20)
	17:05	17:42 41	16:40 (PLT19) 18:12	65 16:48 (PLT19) 19:44	20:13	35 07:03 (PLT20) 20:29 32 07:07 (PLT20)
27	07:09	06:33	15:57 (PLT19) 05:49	15:43 (PLT19) 06:01	05:30	06:28 (PLT20) 20:27 06:35 (PLT20)
	17:06	17:43 46	16:43 (PLT19) 18:13	64 16:47 (PLT19) 19:45	20:14	34 07:02 (PLT20) 20:29 32 07:07 (PLT20)
28	07:08	06:32	15:55 (PLT19) 05:47	15:43 (PLT19) 06:00	05:30	06:28 (PLT20) 20:27 06:35 (PLT20)
	17:08	17:44 49	16:44 (PLT19) 18:14	63 16:46 (PLT19) 19:46	20:15	35 07:03 (PLT20) 20:29 32 07:07 (PLT20)
29	07:08	08:08 (PLT21)	06:45	16:45 (PLT19) 05:58	05:29	06:28 (PLT20) 20:28 06:36 (PLT20)
	17:09	9 08:17 (PLT21)	19:15	60 17:45 (PLT19) 19:47	20:16	35 07:03 (PLT20) 20:29 31 07:07 (PLT20)
30	07:07	08:05 (PLT21)	06:44	16:45 (PLT19) 05:57	05:29	06:29 (PLT20) 20:28 06:35 (PLT20)
	17:10	15 08:20 (PLT21)	19:16	59 17:44 (PLT19) 19:48	20:16	34 07:03 (PLT20) 20:29 32 07:07 (PLT20)
31	07:06	08:04 (PLT21)	06:42	16:46 (PLT19)	05:28	06:28 (PLT20)
	17:11	18 08:22 (PLT21)	19:17	56 17:42 (PLT19)	20:17	35 07:03 (PLT20)
Potential sun hours	300	298	370	398	446	450
Total, worst case	42	708	2057	353	611	965
Sun reduction	0,77	0,69	0,62	0,56	0,51	0,49
Oper. time red.	0,89	0,89	0,89	0,89	0,89	0,89
Wind dir. red.	0,60	0,62	0,67	0,67	0,67	0,67
Total reduction	0,41	0,39	0,38	0,34	0,31	0,30
Total, real	17	274	772	119	189	287

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

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

SHADOW - Calendar

Calculation: Real CaseShadow receptor: Rx 95 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (34)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

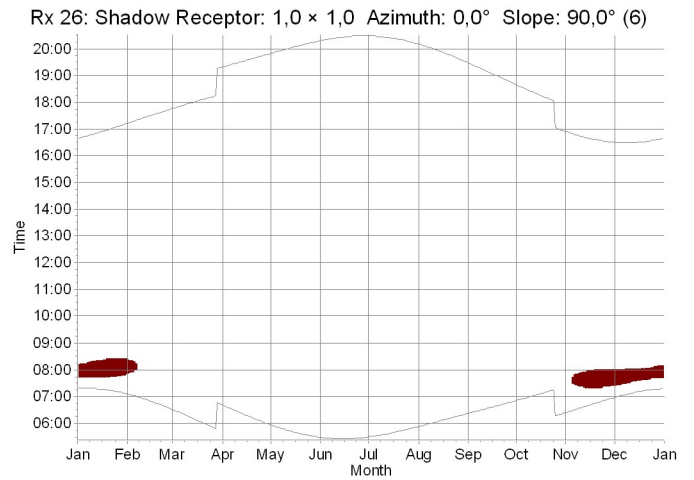
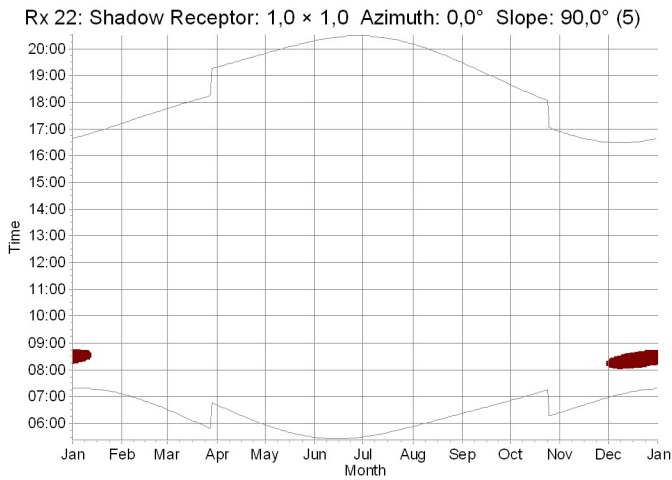
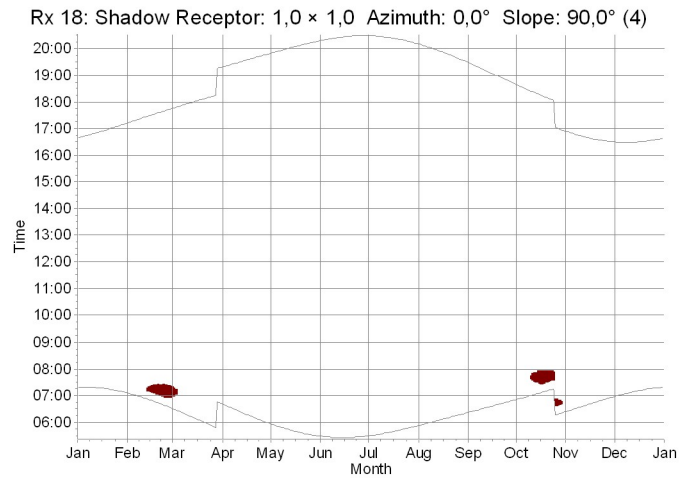
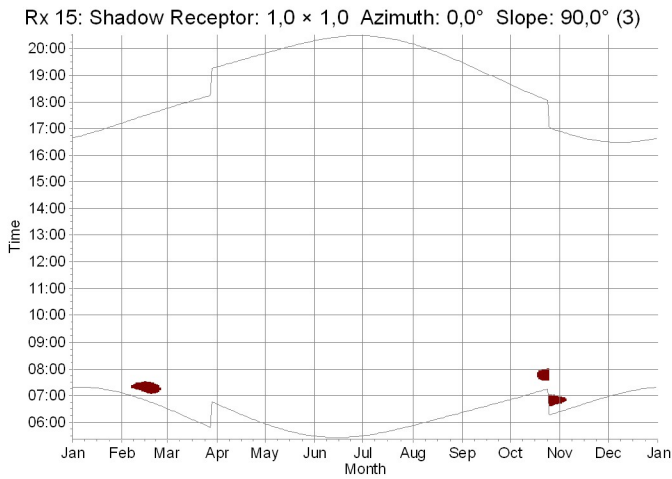
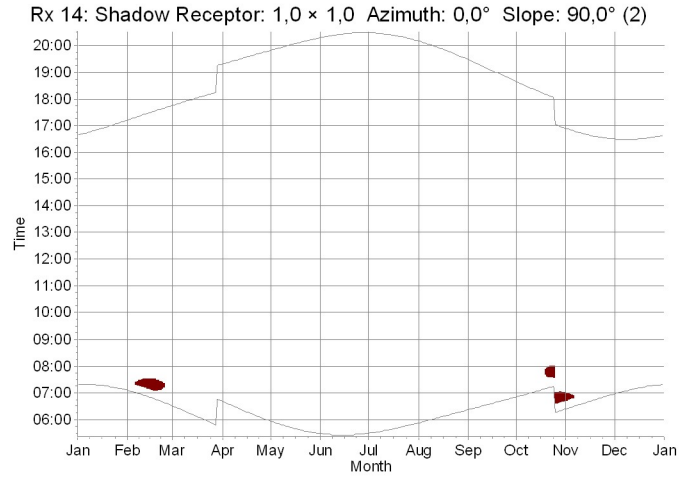
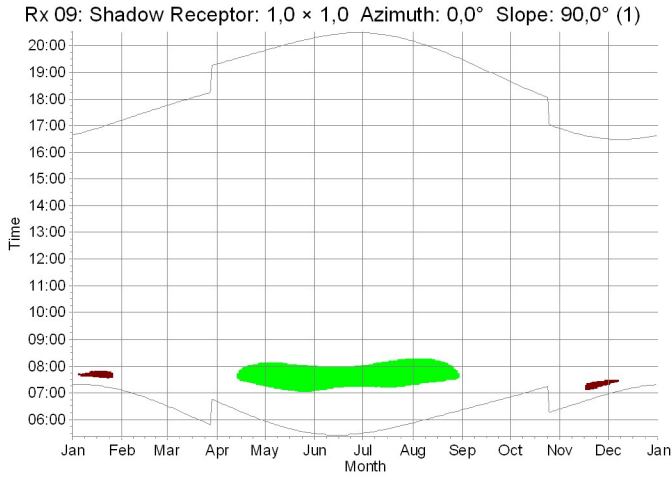
	July		August		September		October		November		December	
1	05:28	06:36 (PLT20)	05:52	06:48 (PLT20)	06:21	06:50	16:21 (PLT19)	06:23	07:28 (PLT21)	06:57		
	20:29	32 07:08 (PLT20)	20:10	14 07:02 (PLT20)	19:28	18:39	71 17:32 (PLT19)	16:53	30 07:58 (PLT21)	16:30		
2	05:29	06:36 (PLT20)	05:53	06:51 (PLT20)	06:22	06:51	16:21 (PLT19)	06:25	07:28 (PLT21)	06:58		
	20:29	32 07:08 (PLT20)	20:09	8 06:59 (PLT20)	19:27	18:37	71 17:32 (PLT19)	16:52	30 07:58 (PLT21)	16:30		
3	05:29	06:36 (PLT20)	05:54		06:23	17:02 (PLT19)	06:52	16:21 (PLT19)	06:26	07:28 (PLT21)	06:59	
	20:28	33 07:09 (PLT20)	20:08		19:25	18:36	70 17:31 (PLT19)	16:51	29 07:57 (PLT21)	16:29		
4	05:30	06:36 (PLT20)	05:55		06:24	16:57 (PLT19)	06:53	16:21 (PLT19)	06:27	07:28 (PLT21)	07:00	
	20:28	33 07:09 (PLT20)	20:07		19:24	18:34	69 17:30 (PLT19)	16:50	29 07:57 (PLT21)	16:29		
5	05:30	06:36 (PLT20)	05:55		06:25	16:54 (PLT19)	06:54	16:21 (PLT19)	06:28	07:29 (PLT21)	07:01	
	20:28	33 07:09 (PLT20)	20:06		19:22	18:32	68 17:29 (PLT19)	16:49	28 07:57 (PLT21)	16:29		
6	05:31	06:36 (PLT20)	05:56		06:26	16:51 (PLT19)	06:55	16:21 (PLT19)	06:29	07:30 (PLT21)	07:02	
	20:28	33 07:09 (PLT20)	20:05		19:20	18:31	67 17:28 (PLT19)	16:48	27 07:57 (PLT21)	16:29		
7	05:32	06:36 (PLT20)	05:57		06:27	16:48 (PLT19)	06:56	16:22 (PLT19)	06:30	07:30 (PLT21)	07:03	
	20:27	34 07:10 (PLT20)	20:04		19:19	18:29	65 17:27 (PLT19)	16:46	26 07:56 (PLT21)	16:29		
8	05:32	06:37 (PLT20)	05:58		06:28	16:45 (PLT19)	06:57	16:22 (PLT19)	06:31	07:31 (PLT21)	07:04	
	20:27	34 07:11 (PLT20)	20:02		19:17	18:28	63 17:25 (PLT19)	16:45	24 07:55 (PLT21)	16:29		
9	05:33	06:36 (PLT20)	05:59		06:29	16:43 (PLT19)	06:58	16:23 (PLT19)	06:33	07:32 (PLT21)	07:05	
	20:27	34 07:10 (PLT20)	20:01		19:15	18:26	61 17:24 (PLT19)	16:44	23 07:55 (PLT21)	16:29		
10	05:34	06:37 (PLT20)	06:00		06:30	16:42 (PLT19)	06:59	16:24 (PLT19)	06:34	07:33 (PLT21)	07:06	
	20:26	34 07:11 (PLT20)	20:00		19:14	18:24	59 17:23 (PLT19)	16:43	21 07:54 (PLT21)	16:29		
11	05:34	06:36 (PLT20)	06:01		06:31	16:40 (PLT19)	07:00	16:24 (PLT19)	06:35	07:35 (PLT21)	07:07	
	20:26	34 07:10 (PLT20)	19:59		19:12	18:23	57 17:21 (PLT19)	16:42	17 07:52 (PLT21)	16:29		
12	05:35	06:36 (PLT20)	06:02		06:32	16:38 (PLT19)	07:01	16:25 (PLT19)	06:36	07:36 (PLT21)	07:08	
	20:26	35 07:11 (PLT20)	19:57		19:10	18:21	54 17:19 (PLT19)	16:41	15 07:51 (PLT21)	16:29		
13	05:36	06:37 (PLT20)	06:03		06:33	16:36 (PLT19)	07:03	16:27 (PLT19)	06:37	07:40 (PLT21)	07:08	
	20:25	34 07:11 (PLT20)	19:56		19:09	18:20	52 17:19 (PLT19)	16:41	9 07:49 (PLT21)	16:29		
14	05:36	06:37 (PLT20)	06:04		06:34	16:35 (PLT19)	07:04	16:29 (PLT19)	06:38	07:09		
	20:25	35 07:12 (PLT20)	19:55		19:07	18:18	48 17:17 (PLT19)	16:40		16:29		
15	05:37	06:37 (PLT20)	06:05		06:35	16:34 (PLT19)	07:05	16:30 (PLT19)	06:40	07:10		
	20:24	34 07:11 (PLT20)	19:53		19:05	18:17	44 17:14 (PLT19)	16:39		16:30		
16	05:38	06:37 (PLT20)	06:06		06:36	16:32 (PLT19)	07:06	16:32 (PLT19)	06:41	07:11		
	20:24	35 07:12 (PLT20)	19:52		19:04	18:15	40 17:12 (PLT19)	16:38		16:30		
17	05:39	06:38 (PLT20)	06:07		06:37	16:31 (PLT19)	07:07	16:34 (PLT19)	06:42	07:11		
	20:23	34 07:12 (PLT20)	19:51		19:02	18:14	35 17:09 (PLT19)	16:37		16:30		
18	05:39	06:38 (PLT20)	06:08		06:38	16:30 (PLT19)	07:08	16:37 (PLT19)	06:43	07:12		
	20:22	34 07:12 (PLT20)	19:49		19:00	18:12	29 17:06 (PLT19)	16:36		16:30		
19	05:40	06:38 (PLT20)	06:09		06:39	16:28 (PLT19)	07:09	16:41 (PLT19)	06:44	07:12		
	20:22	33 07:11 (PLT20)	19:48		18:59	18:11	20 17:01 (PLT19)	16:36		16:31		
20	05:41	06:38 (PLT20)	06:10		06:40	16:27 (PLT19)	07:10		06:45	07:13		
	20:21	33 07:11 (PLT20)	19:46		18:57	18:09		16:35		16:31		
21	05:42	06:39 (PLT20)	06:11		06:41	16:26 (PLT19)	07:11		06:46	07:14		
	20:20	32 07:11 (PLT20)	19:45		18:55	18:08		16:34		16:32		
22	05:43	06:39 (PLT20)	06:12		06:41	16:25 (PLT19)	07:12		06:48	07:14		
	20:19	32 07:11 (PLT20)	19:44		18:54	18:06		16:34		16:32		
23	05:44	06:40 (PLT20)	06:13		06:42	16:24 (PLT19)	07:13	08:37 (PLT21)	06:49	07:15		
	20:19	31 07:11 (PLT20)	19:42		18:52	18:05	12 08:49 (PLT21)	16:33		16:33		
24	05:44	06:39 (PLT20)	06:14		06:43	16:24 (PLT19)	07:14	08:34 (PLT21)	06:50	07:15		
	20:18	31 07:10 (PLT20)	19:41		18:50	18:04	17 08:51 (PLT21)	16:33		16:33		
25	05:45	06:40 (PLT20)	06:15		06:44	16:23 (PLT19)	06:15	07:32 (PLT21)	06:51	07:16		
	20:17	30 07:10 (PLT20)	19:39		18:49	17:02	21 07:53 (PLT21)	16:32		16:34		
26	05:46	06:41 (PLT20)	06:16		06:45	16:23 (PLT19)	06:17	07:31 (PLT21)	06:52	07:16		
	20:16	28 07:09 (PLT20)	19:38		18:47	17:01	23 07:54 (PLT21)	16:32		16:34		
27	05:47	06:42 (PLT20)	06:17		06:46	16:22 (PLT19)	06:18	07:31 (PLT21)	06:53	07:16		
	20:15	27 07:09 (PLT20)	19:36		18:45	17:00	25 07:56 (PLT21)	16:31		16:35		
28	05:48	06:43 (PLT20)	06:18		06:47	16:22 (PLT19)	06:19	07:30 (PLT21)	06:54	07:17		
	20:14	25 07:08 (PLT20)	19:35		18:44	16:58	26 07:56 (PLT21)	16:31		16:36		
29	05:49	06:44 (PLT20)	06:19		06:48	16:21 (PLT19)	06:20	07:29 (PLT21)	06:55	07:17		
	20:13	23 07:07 (PLT20)	19:33		18:42	16:57	27 07:56 (PLT21)	16:30		16:36		
30	05:50	06:45 (PLT20)	06:19		06:49	16:21 (PLT19)	06:21	07:28 (PLT21)	06:56	07:17		
	20:12	21 07:06 (PLT20)	19:31		18:40	17:33 (PLT19)	16:56	07:57 (PLT21)	16:30	16:37		
31	05:51	06:47 (PLT20)	06:20				06:22	07:28 (PLT21)		07:17		
	20:11	18 07:05 (PLT20)	19:30				16:55	29 07:57 (PLT21)		16:38		
Potential sun hours	457		426		375	346		300		290		
Total, worst case	971				1640		1252		308			
Sun reduction	0,50		0,54		0,59		0,66		0,74			
Oper. time red.	0,89		0,89		0,89		0,89		0,89			
Wind dir. red.	0,67		0,67		0,67		0,66		0,60			
Total reduction	0,30		0,32		0,36		0,39		0,40			
Total, real	293		7		587		492		122			

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

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

SHADOW - Calendar, graphical

Calculation: Real Case



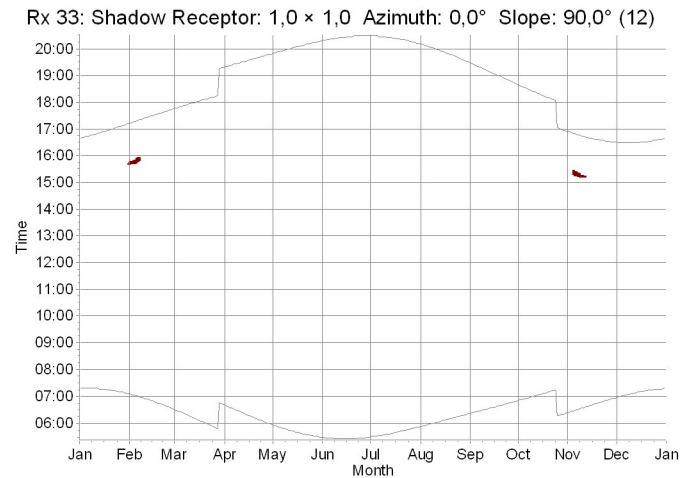
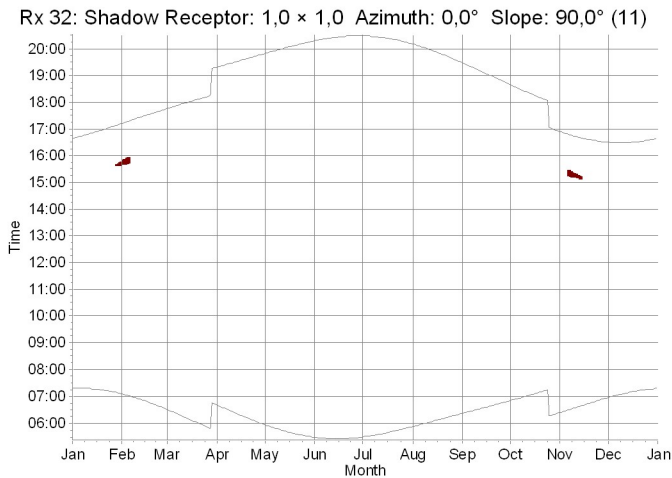
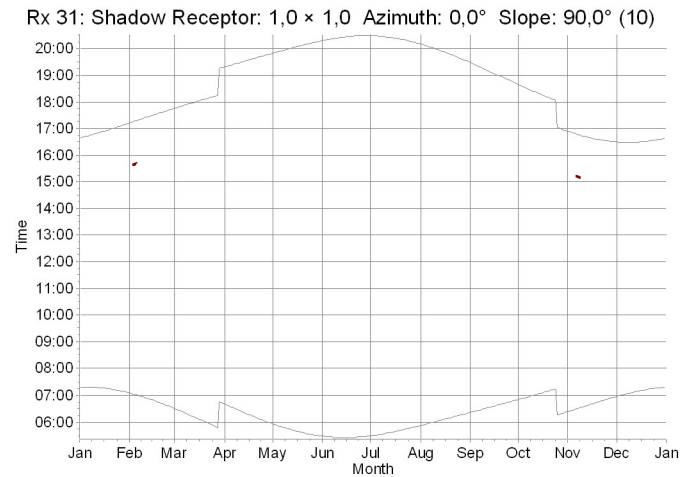
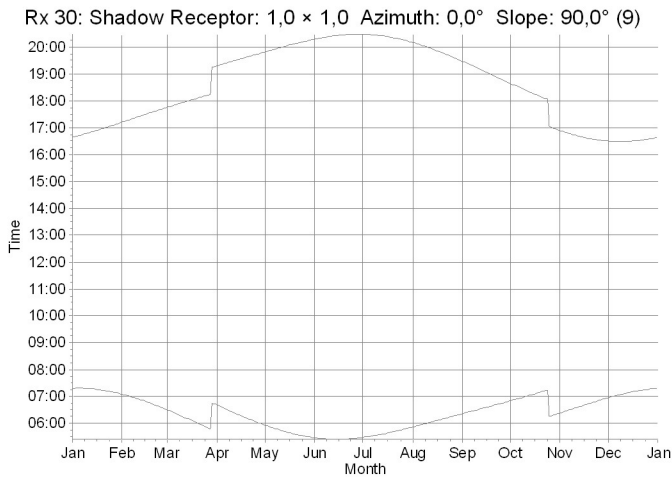
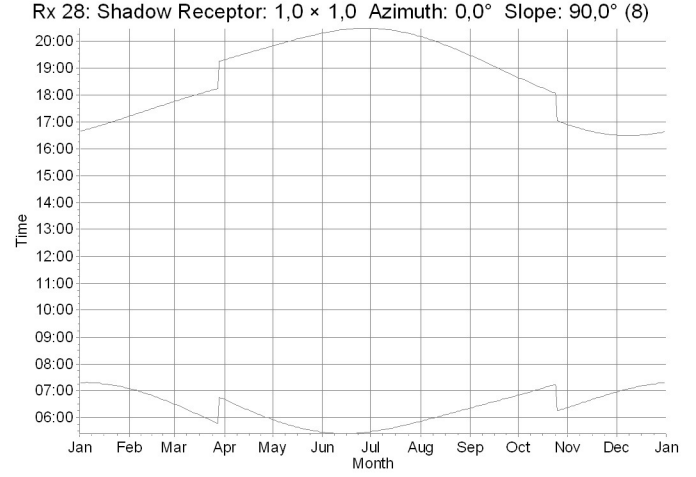
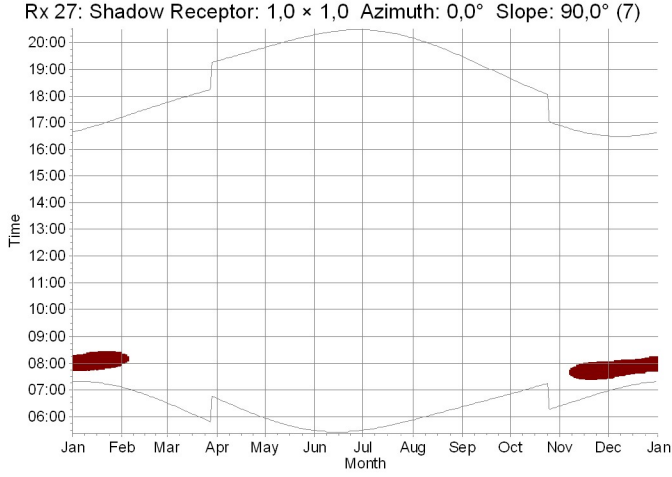
WTGs

CT7: VESTAS V150-6.0 6000 150.0 IOfI hub: 125,0 m (TOT: 200,0 m) (7)

CT8: VESTAS V150-6.0 6000 150.0 IOfI hub: 125,0 m (TOT: 200,0 m) (8)

SHADOW - Calendar, graphical

Calculation: Real Case

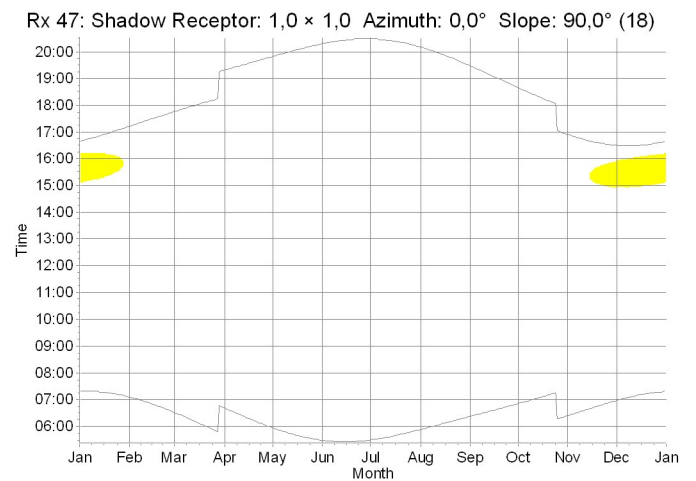
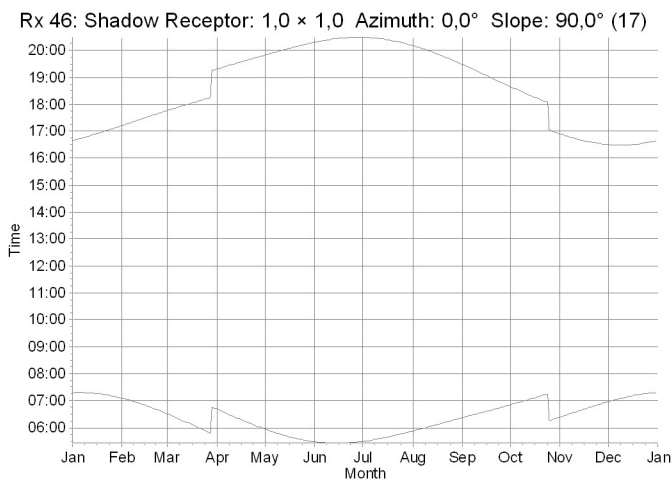
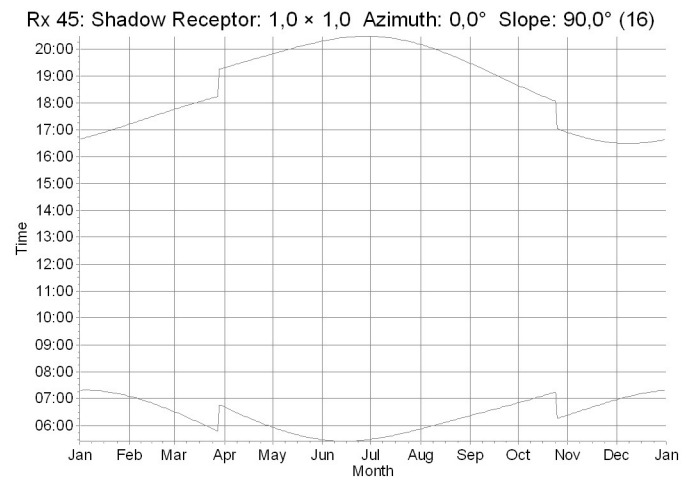
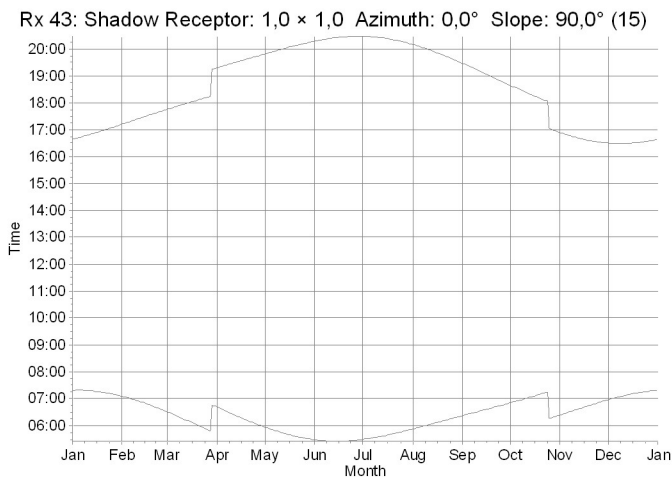
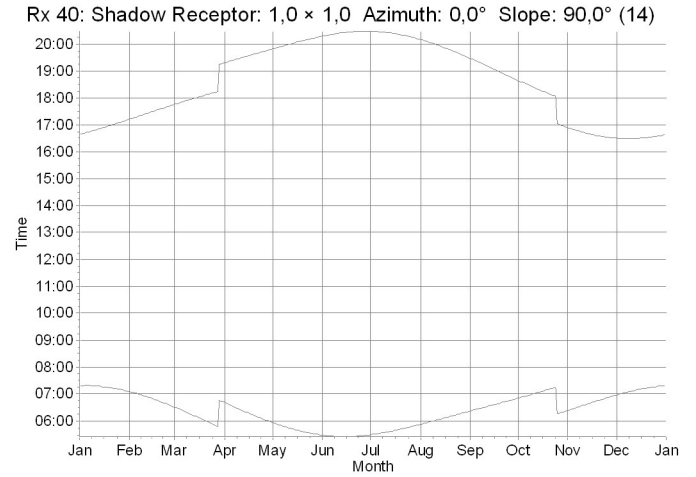
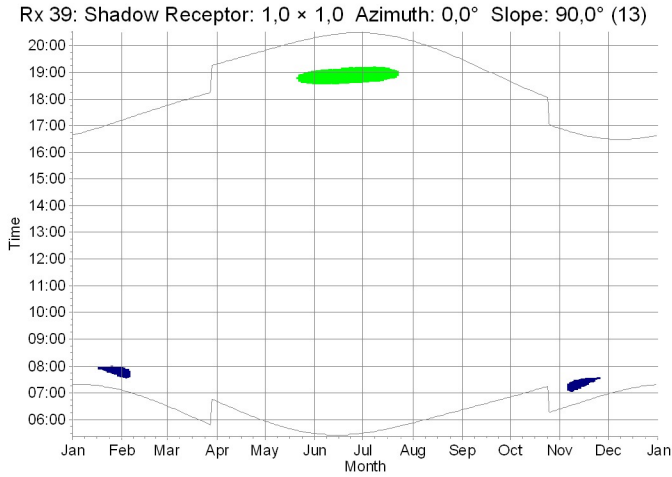


WTGs

CT7: VESTAS V150-6.0 6000 150.0 IOL hub: 125.0 m (TOT: 200.0 m) (7)

SHADOW - Calendar, graphical

Calculation: Real Case



WTGs

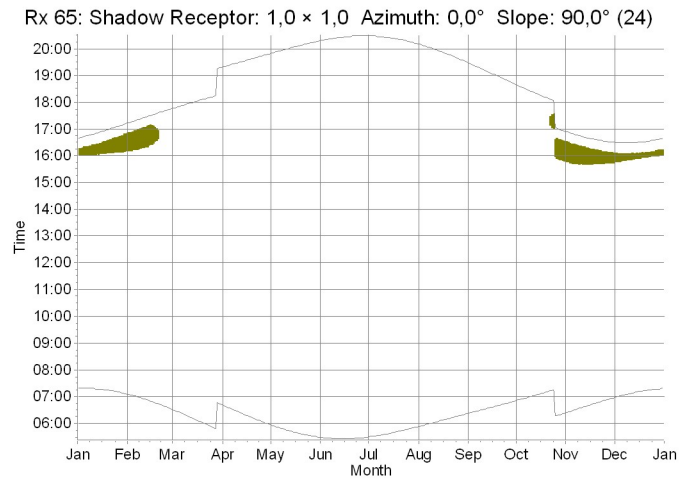
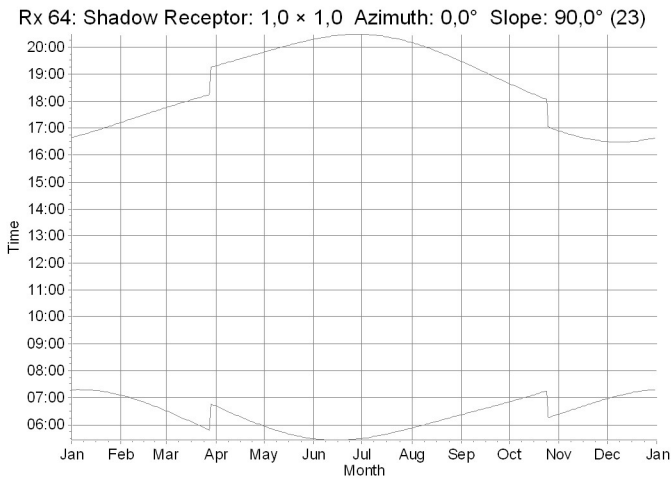
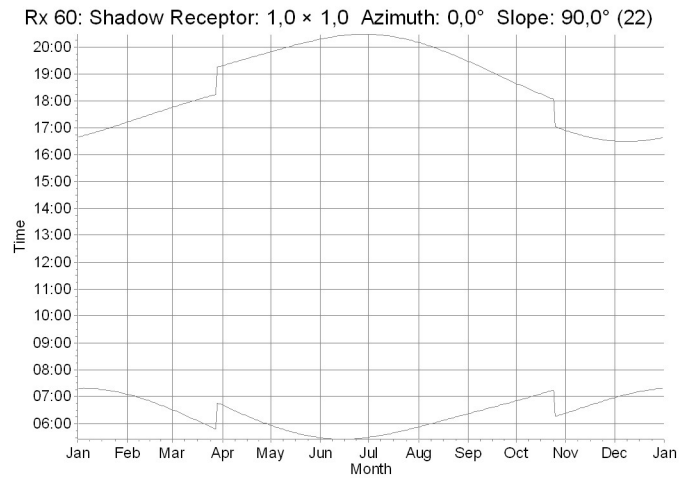
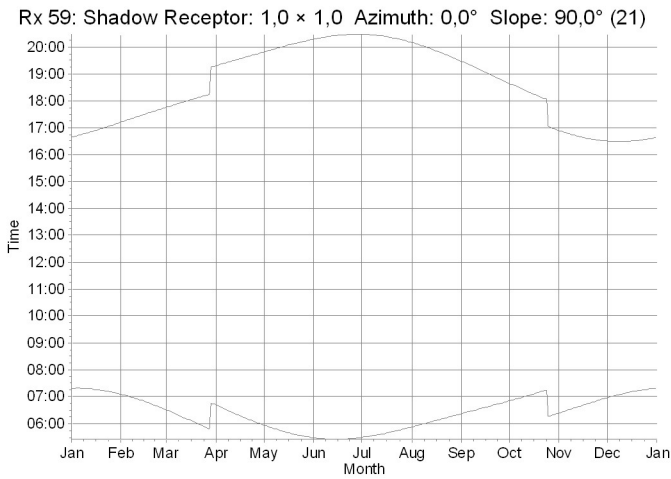
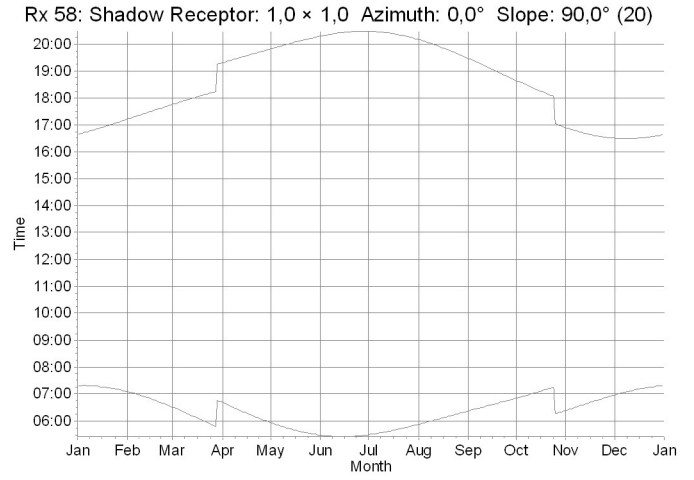
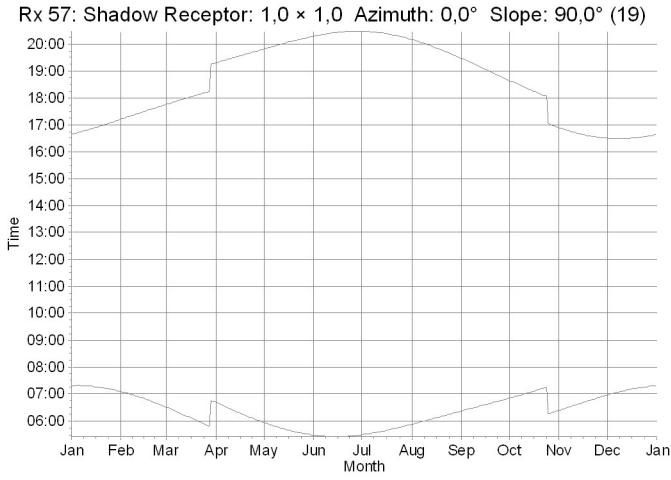
CT10: VESTAS V150-6.0 6000 150.0 IQH hub: 125.0 m (TOT: 200.0 m) (10)

CT6: VESTAS V150-6.0 6000 150.0 IQH hub: 125.0 m (TOT: 200.0 m) (6)

CT8: VESTAS V150-6.0 6000 150.0 IQH hub: 125.0 m (TOT: 200.0 m) (8)

SHADOW - Calendar, graphical

Calculation: Real Case

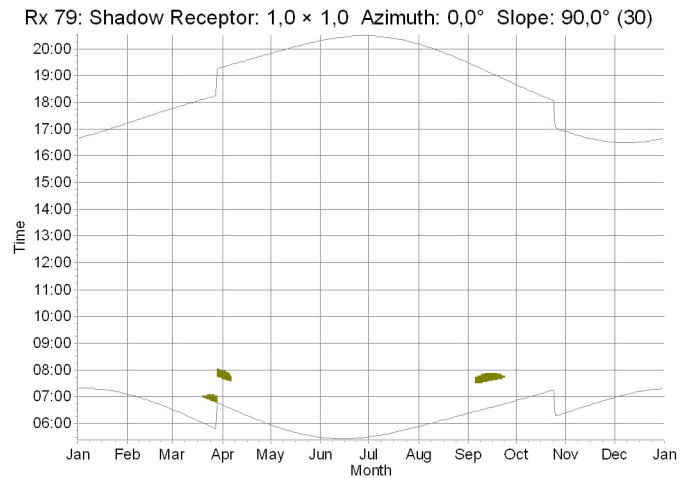
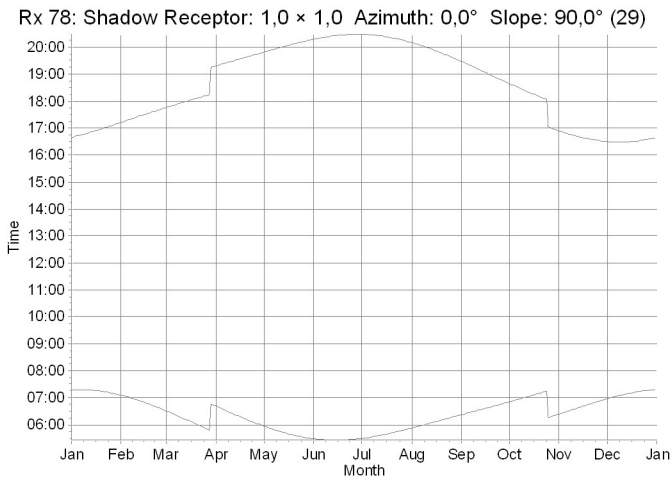
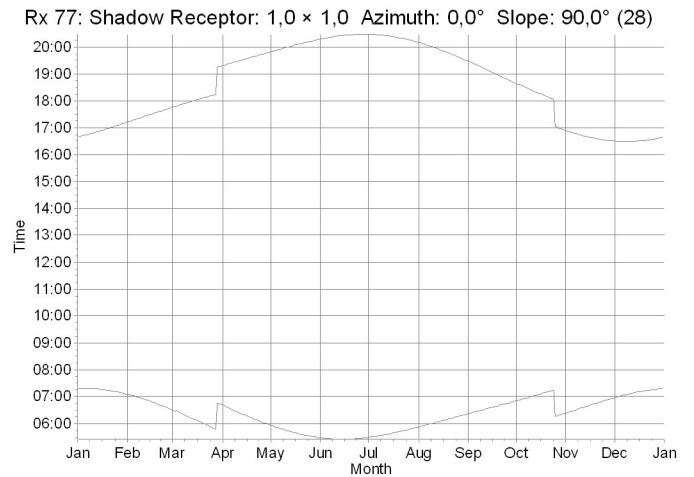
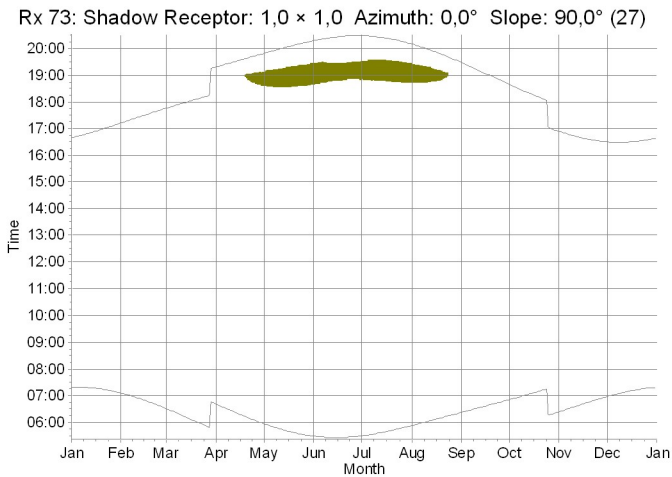
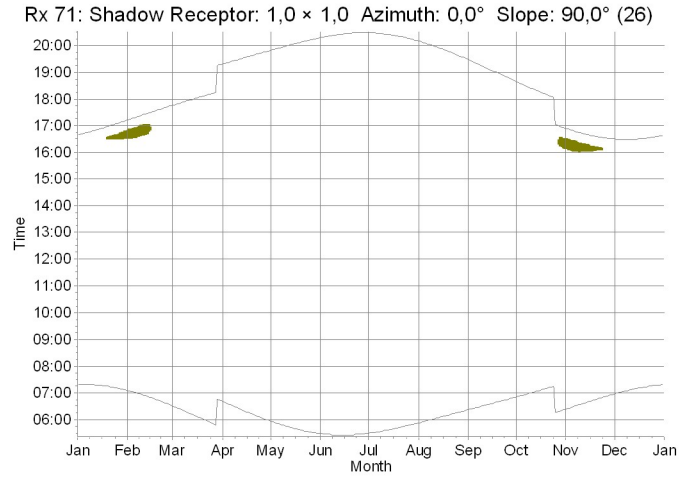
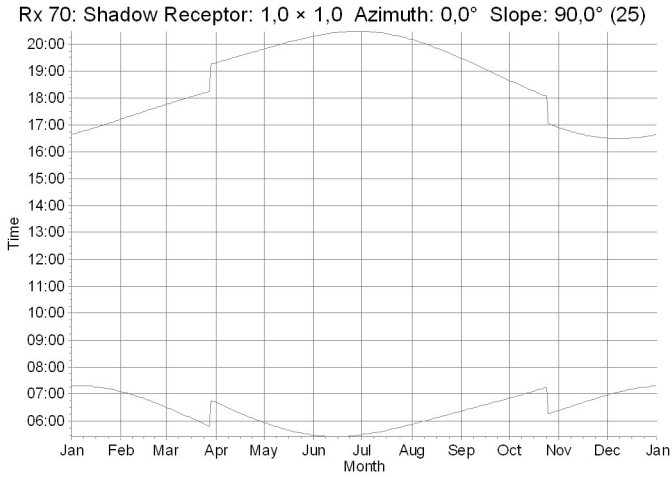


WTGs

CT9, VESTAS V150-6.0 6000 150.0 IOL hub: 125.0 m (TOT: 200.0 m) (9)

SHADOW - Calendar, graphical

Calculation: Real Case

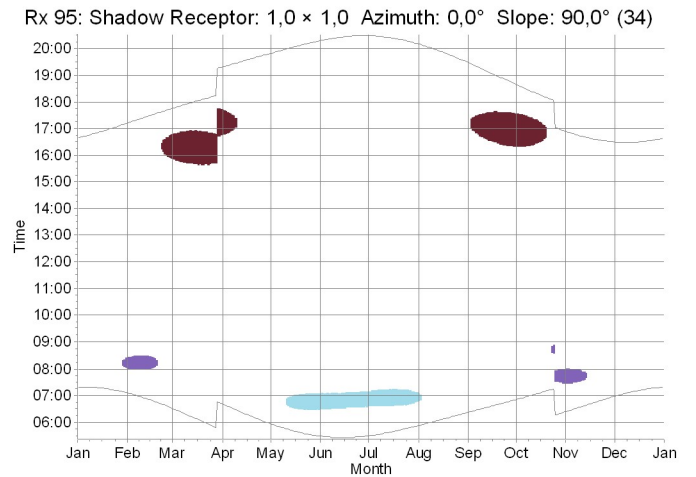
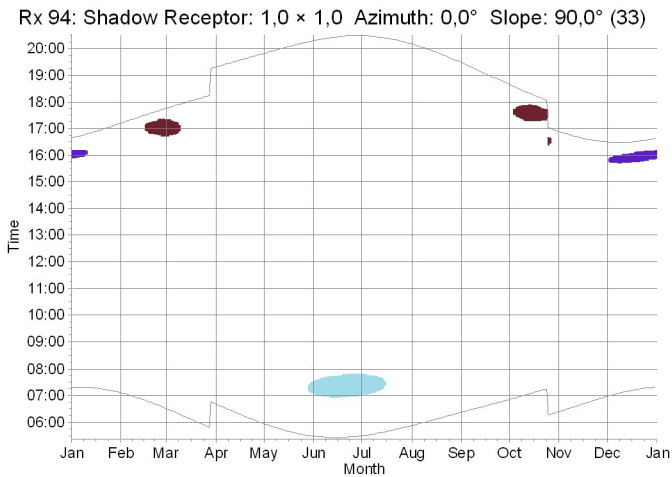
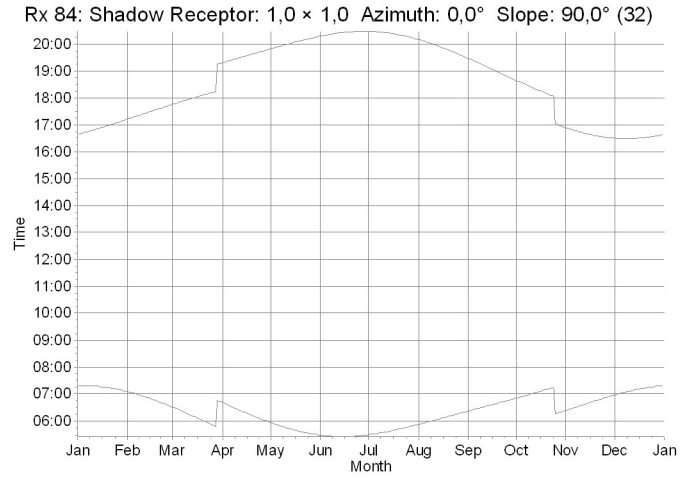
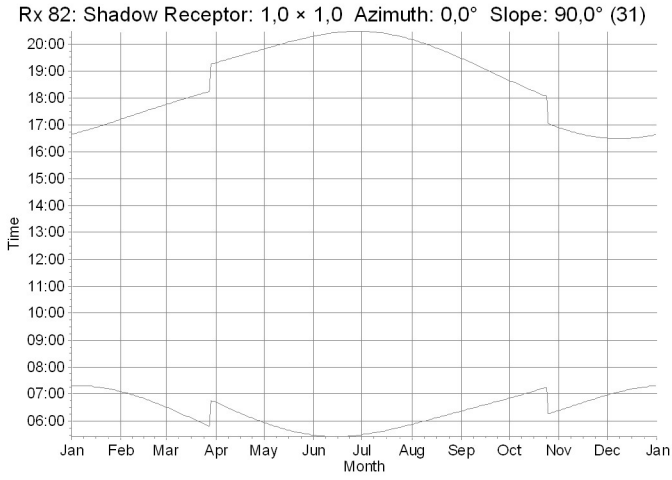


WTGs

CT9, VESTAS V150-6.0 6000 150.0 IOL hub: 125.0 m (TOT: 200.0 m) (9)

SHADOW - Calendar, graphical

Calculation: Real Case



WTGs

PLT19: SENVION MM100 60Hz 2000 100.0 IOI hub: 100.0 m (TOT: 150.0 m) (35)
PLT20: SENVION MM100 60Hz 2000 100.0 IOI hub: 100.0 m (TOT: 150.0 m) (36)

PLT21: SENVION MM100 60Hz 2000 100.0 IOI hub: 100.0 m (TOT: 150.0 m) (37)
PLT29: SENVION MM100 60Hz 2000 100.0 IOI hub: 100.0 m (TOT: 150.0 m) (45)

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CT1 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (1)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:24 16:53	06:58 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:27 20:19	05:29 20:29	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:59 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:29 20:29	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	07:00 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:01 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:23 17:51	06:33 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:28	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:23	05:32 20:27	05:58 20:03	06:28 19:17	06:57 18:28	06:32 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:18 16:47	06:56 17:23	06:16 17:56	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:27	06:00 20:00	06:30 19:14	07:00 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:55 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:01 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:58	06:32 19:11	07:02 18:21	06:36 16:42	07:08 16:29
13	07:17 16:50	06:52 17:27	06:12 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:17 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:39 16:40	07:09 16:29
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:54	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:27	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:11 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:01	07:08 18:12	06:43 16:37	07:12 16:30
19	07:15 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:28	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:13 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:47	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:37	05:59 18:07	06:10 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:56	07:11 18:08	06:47 16:34	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:20	06:12 19:44	06:42 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:12 17:03	06:38 17:40	05:54 18:10	06:05 19:42	05:33 20:12	05:26 20:29	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	07:14 17:02	06:51 16:32	07:16 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:15 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	07:16 17:00	06:53 16:31	07:16 16:35
28	07:09 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:16 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:17 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:13	06:20 19:32	06:49 18:41	07:17 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:18		05:28 20:17		05:51 20:12	06:21 19:30		06:22 16:55		07:18 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CT10 - VESTAS V150-6.0 6000 150.0 IO! hub: 125,0 m (TOT: 200,0 m) (10)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 15:08-16:10/62 16:39	07:05 06:30 17:13 17:46	06:41 19:19 17:17 17:49	05:56 19:49 19:22 19:52	05:28 20:29 20:10 19:28	05:29 20:29 20:10 19:28	05:52 20:10 19:28 18:39	06:22 19:28 18:39 16:53	06:50 18:39 16:53 16:25	06:23 16:53 16:25 16:30	06:23 16:51 16:25 16:30	06:57 14:58-15:54/56 16:30
2	07:18 15:09-16:10/61 16:40	07:04 06:29 17:14 17:47	06:39 19:20 17:47 19:20	05:55 19:50 19:22 19:52	05:28 20:28 20:10 19:28	05:29 20:28 20:10 19:28	05:53 20:09 20:07 19:24	06:23 19:27 18:37 16:52	06:51 18:37 16:52 16:30	06:23 18:37 16:52 16:30	06:25 18:37 16:52 16:30	06:58 14:58-15:54/56 16:30
3	07:18 15:09-16:10/61 16:41	07:03 06:27 17:15 17:48	06:37 19:21 17:48 19:21	05:53 19:51 19:22 19:52	05:27 20:28 20:10 19:28	05:30 20:28 20:10 19:28	05:54 20:08 20:07 19:24	06:23 19:25 18:36 16:51	06:52 18:36 16:51 16:30	06:26 18:36 16:51 16:30	06:26 18:36 16:51 16:30	06:59 14:58-15:55/57 16:30
4	07:18 15:10-16:11/61 16:43	07:02 06:26 17:16 17:49	06:36 19:23 17:49 19:23	05:52 19:53 19:22 19:52	05:27 20:20 20:10 19:28	05:30 20:20 20:10 19:28	05:55 20:07 19:24 16:53	06:24 19:24 18:34 16:50	06:53 19:24 18:34 16:50	06:27 19:24 18:34 16:50	06:27 19:24 18:34 16:50	07:00 14:58-15:56/58 16:29
5	07:18 15:11-16:11/60 16:43	07:01 06:24 17:18 17:50	06:34 19:23 17:50 19:23	05:51 19:53 19:23 19:53	05:27 20:21 20:10 19:28	05:31 20:21 20:10 19:28	05:56 20:06 19:22 16:54	06:25 19:22 18:32 16:49	06:54 19:22 18:32 16:49	06:28 19:22 18:32 16:49	06:28 19:22 18:32 16:49	07:01 14:58-15:57/59 16:29
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7	07:18 15:12-16:10/58 16:45	06:59 06:21 17:20 17:52	06:31 19:25 17:52 19:25	05:49 19:55 19:25 19:55	05:26 20:22 20:10 19:28	05:32 20:22 20:10 19:28	05:58 20:04 19:19 18:29	06:27 19:19 18:29 16:47	06:56 18:29 16:47 16:30	06:30 18:29 16:47 16:30	06:30 18:29 16:47 16:30	07:03 14:57-15:57/60 16:29
8	07:18 15:13-16:11/58 16:46	06:58 06:19 17:21 17:53	06:29 19:26 17:53 19:26	05:48 19:56 19:26 19:56	05:26 20:22 20:10 19:28	05:33 20:22 20:10 19:28	05:59 20:02 19:17 18:28	06:28 19:17 18:28 16:46	06:57 18:28 16:46 16:30	06:31 18:28 16:46 16:30	06:31 18:28 16:46 16:30	07:04 14:57-15:58/61 16:29
9	07:18 15:14-16:11/57 16:47	06:57 06:18 17:22 17:55	06:28 19:27 17:55 19:27	05:46 19:57 19:27 19:57	05:25 20:23 20:10 19:28	05:33 20:23 20:10 19:28	05:59 20:01 19:15 18:26	06:29 19:15 18:26 16:45	06:58 18:26 16:45 16:30	06:33 18:26 16:45 16:30	06:33 18:26 16:45 16:30	07:05 14:58-15:59/61 16:29
10	07:17 15:15-16:11/56 16:48	06:56 06:16 17:24 17:56	06:26 19:28 17:56 19:28	05:45 19:58 19:28 19:58	05:25 20:24 20:10 19:28	05:34 20:24 20:10 19:28	06:00 20:00 19:14 18:25	06:30 19:14 18:25 16:44	06:59 18:25 16:44 16:30	06:34 18:25 16:44 16:30	06:34 18:25 16:44 16:30	07:06 14:58-15:59/61 16:29
11	07:17 15:15-16:10/55 16:49	06:54 06:15 17:25 17:57	06:25 19:29 17:57 19:29	05:44 19:59 19:29 19:59	05:25 20:24 20:10 19:28	05:35 20:24 20:10 19:28	06:01 19:12 18:23 16:43	06:31 19:12 18:23 16:43	07:00 18:23 16:43 16:30	06:35 18:23 16:43 16:30	06:35 18:23 16:43 16:30	07:07 14:58-16:00/62 16:29
12	07:17 15:16-16:11/55 16:50	06:53 06:13 17:26 17:58	06:23 19:30 17:58 19:30	05:43 20:00 19:30 20:00	05:25 20:25 20:10 19:28	05:35 20:25 20:10 19:28	06:02 19:10 18:21 16:42	06:32 19:10 18:21 16:42	07:02 18:21 16:42 16:30	06:36 18:21 16:42 16:30	06:36 18:21 16:42 16:30	07:07 14:59-16:01/62 16:29
13	07:17 15:17-16:11/54 16:51	06:52 06:12 17:27 17:59	06:22 19:31 17:59 19:31	05:42 20:01 19:31 20:01	05:25 20:25 20:10 19:28	05:36 20:25 20:10 19:28	06:03 19:09 18:20 16:41	06:33 19:09 18:20 16:41	07:03 18:20 16:41 16:30	06:37 18:20 16:41 16:30	06:37 18:20 16:41 16:30	07:08 14:58-16:01/63 16:29
14	07:16 15:18-16:10/52 16:52	06:51 06:10 17:28 18:00	06:20 19:32 18:00 19:32	05:41 20:02 19:32 20:02	05:25 20:26 20:10 19:28	05:37 20:26 20:10 19:28	06:04 19:07 18:18 16:40	06:34 19:07 18:18 16:40	07:04 18:18 16:40 16:30	06:38 18:18 16:40 16:30	06:38 18:18 16:40 16:30	07:09 14:59-16:01/62 16:30
15	07:16 15:19-16:10/51 16:53	06:50 06:08 17:30 18:01	06:19 19:33 18:01 19:33	05:40 20:03 19:33 20:03	05:25 20:26 20:10 19:28	05:37 20:26 20:10 19:28	06:05 19:06 18:17 16:39	06:35 19:06 18:17 16:39	07:05 18:17 16:39 16:30	06:40 18:17 16:39 16:30	06:40 18:17 16:39 16:30	07:10 14:59-16:02/63 16:30
16	07:16 15:21-16:10/49 16:54	06:48 06:07 17:31 18:02	06:17 19:34 18:02 19:34	05:39 20:04 19:34 20:04	05:25 20:26 20:10 19:28	05:38 20:26 20:10 19:28	06:06 19:04 18:15 16:38	06:36 19:04 18:15 16:38	07:06 18:15 16:38 16:30	06:41 18:15 16:38 16:30	06:41 18:15 16:38 16:30	07:10 15:00-16:03/63 16:30
17	07:15 15:22-16:09/47 16:55	06:47 06:05 17:32 18:03	06:16 19:35 18:03 19:35	05:38 20:05 19:35 20:05	05:25 20:27 20:10 19:28	05:39 20:27 20:10 19:28	06:07 19:02 18:14 16:37	06:37 19:02 18:14 16:37	07:07 18:14 16:37 16:30	06:42 18:14 16:37 16:30	06:42 18:14 16:37 16:30	07:11 15:00-16:03/63 16:30
18	07:15 15:23-16:09/46 16:56	06:46 06:03 17:33 18:04	06:14 19:36 18:04 19:36	05:37 20:06 19:36 20:06	05:25 20:27 20:10 19:28	05:40 20:27 20:10 19:28	06:08 19:01 18:12 16:37	06:38 19:01 18:12 16:37	07:08 18:12 16:37 16:30	06:43 18:12 16:37 16:30	06:43 18:12 16:37 16:30	07:12 15:01-16:04/63 16:31
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21	07:13 15:27-16:07/40 17:00	06:42 05:59 17:37 18:07	06:10 19:39 18:07 19:39	05:35 20:09 19:39 20:09	05:25 20:28 20:10 19:28	05:42 20:28 20:10 19:28	06:11 18:56 18:08 16:35	06:41 18:56 18:08 16:35	07:11 18:08 16:35 16:30	06:46 18:08 16:35 16:30	06:46 18:08 16:35 16:30	07:14 15:01-16:05/64 16:32
22	07:13 15:29-16:06/37 17:01	06:40 05:57 17:38 18:08	06:08 19:40 18:08 19:40	05:34 20:10 19:40 20:10	05:26 20:28 20:10 19:28	05:43 20:28 20:10 19:28	06:12 18:54 18:15 16:38	06:42 18:54 18:15 16:38	07:12 18:15 16:38 16:30	06:48 18:15 16:38 16:30	06:48 18:15 16:38 16:30	07:14 15:02-16:06/64 16:32
23	07:12 15:30-16:04/34 17:02	06:39 05:55 17:39 18:09	06:07 19:41 18:09 19:41	05:33 20:10 19:41 20:10	05:26 20:28 20:10 19:28	05:44 20:28 20:10 19:28	06:13 18:52 18:05 16:33	06:43 18:52 18:05 16:33	07:13 18:05 16:33 16:30	06:49 18:05 16:33 16:30	06:49 18:05 16:33 16:30	07:15 15:02-16:06/64 16:33
24	07:11 15:33-16:03/30 17:03	06:37 05:54 17:40 18:10	06:05 19:42 18:10 19:42	05:33 20:11 19:42 20:11	05:26 20:28 20:10 19:28	05:45 20:28 20:10 19:28	06:14 18:51 18:15 16:38	06:44 18:51 18:15 16:38	07:14 18:15 16:38 16:30	06:50 18:15 16:38 16:30	06:50 18:15 16:38 16:30	07:15 15:03-16:07/64 16:33
25	07:11 15:36-16:01/25 17:04	06:36 05:52 17:41 18:11	06:04 19:43 18:11 19:43	05:32 20:12 19:43 20:12	05:26 20:29 20:10 19:28	05:46 20:29 20:10 19:28	06:15 18:49 17:02 16:32	06:44 18:49 17:02 16:32	07:15 17:02 16:32 16:30	06:51 17:02 16:32 16:30	06:51 17:02 16:32 16:30	07:15 15:04-16:07/63 16:34
26	07:10 15:39-15:58/19 17:05	06:35 05:50 17:42 18:12	06:03 19:44 18:12 19:44	05:31 20:13 19:44 20:13	05:27 20:29 20:10 19:28	05:46 20:29 20:10 19:28	06:16 18:47 17:01 16:32	06:45 18:47 17:01 16:32	07:16 17:01 16:32 16:30	06:52 17:01 16:32 16:30	06:52 17:01 16:32 16:30	07:16 15:04-16:07/63 16:35
27	07:09 15:43-15:54/11 17:07	06:33 05:49 17:43 18:13	06:01 19:45 18:13 19:45	05:31 20:14 19:45 20:14	05:27 20:29 20:10 19:28	05:47 20:29 20:10 19:28	06:17 18:46 17:00 16:31	06:46 18:46 17:00 16:31	07:17 17:00 16:31 16:30	06:53 17:00 16:31 16:30	06:53 17:00 16:31 16:30	07:16 15:05-16:08/63 16:35
28	07:08 17:08 17:08	06:32 05:47 17:45 18:14	06:00 19:46 18:14 19:46	05:30 20:15 19:46 20:15	05:27 20:29 20:10 19:28	05:48 20:29 20:10 19:28	06:18 18:44 16:58 16:31	06:47 18:44 16:58 16:31	07:18 16:58 16:31 16:30	06:54 16:58 16:31 16:30	06:54 16:58 16:31 16:30	07:17 15:05-16:08/63 16:36
29	07:08 17:09 17:09	06:45 05:59 19:15 19:47	05:59 20:15 19:47 20:15	05:30 20:15 19:47 20:15	05:28 20:29 20:10 19:28	05:49 20:29 20:10 19:28	06:19 18:42 16:57 16:31	06:48 18:42 16:57 16:31	07:19 16:57 16:31 16:30	06:55 16:57 16:31 16:30	06:55 16:57 16:31 16:30	07:17 15:06-16:08/62 16:37
30	07:07 17:10 17:10	06:44 05:57 19:16 19:48	05:57 20:16 19:48 20:16	05:29 20:16 19:48 20:16	05:28 20:29 20:10 19:28	05:50 20:29 20:10 19:28	06:20					

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CT2 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (2)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:27 20:19	05:29 20:29	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:29 20:29	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	07:00 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
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20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:47	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
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29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	07:19 16:57	06:55 16:30	07:17 16:36
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31	07:06 17:11		06:42 19:18		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CT3 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (3)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

| January | February | March | April | May | June | July | August | September | October | November | December

1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CT4 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (4)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:08 16:29
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14	07:17 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CT5 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (5)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

Project:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via G. Garibaldi, 15
IT-74023 Grottaglie (TA)

Gaetano D'Oronzio / info@gecodor.it
Calculated:
25/07/2023 13:32/3.5.587

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CT6 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (6)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:17 16:39	07:05 07:36-07:55/19 17:12	06:30 06:40 17:45 19:18	06:40 19:18 19:49 20:18	05:56 20:18 20:28 20:10	05:28 20:18 20:28 20:10	05:28 20:18 20:28 20:10	05:52 20:10 19:28 18:39	06:21 19:28 18:39 16:53	06:23 16:53 16:30 16:30	06:23 16:53 16:30 16:30	06:57 16:30 16:30 16:30	
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17	07:15 16:55	07:54-07:55/1 06:47	06:05 18:03 19:35 20:05	06:15 20:05 20:26 20:28	05:38 20:26 20:23 20:10	05:25 20:23 20:23 20:10	05:39 20:23 19:50 19:02	06:07 19:02 18:14 16:37	06:37 18:14 16:37 16:29	06:37 16:29 16:29 16:29	06:37 16:29 16:29 16:29	07:11 16:30 16:30 16:30	
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19	07:14 16:57	07:53-07:56/3 06:44	06:02 17:34 18:05 19:37	06:12 20:07 20:27 20:28	05:36 20:27 20:22 20:10	05:25 20:22 20:22 20:10	06:09 20:21 19:48 18:59	06:38 18:59 18:11 16:36	06:39 18:11 16:36 16:29	06:39 16:29 16:29 16:29	06:39 16:29 16:29 16:29	07:12 16:31 16:31 16:31	
20	07:14 16:58	07:51-07:56/5 06:43	06:00 17:35 18:06 19:38	06:11 20:08 20:27 20:28	05:36 20:27 20:22 20:10	05:25 20:22 20:22 20:10	06:10 20:21 19:46 18:57	06:39 18:57 18:09 16:35	06:40 18:09 16:35 16:29	06:40 16:29 16:29 16:29	06:40 16:29 16:29 16:29	07:13 16:31 16:31 16:31	
21	07:13 16:59	07:50-07:57/7 06:41	05:58 18:07 19:39 20:08	06:09 20:08 20:28 20:28	05:35 20:28 20:23 20:10	05:25 20:23 20:23 20:10	06:11 20:20 19:45 18:55	06:40 18:55 18:08 16:34	06:41 18:08 16:34 16:29	06:41 16:29 16:29 16:29	06:41 16:29 16:29 16:29	07:13 16:32 16:32 16:32	
22	07:12 17:00	07:49-07:57/8 17:38	05:57 18:08 19:40 20:09	06:08 20:09 20:28 20:28	05:34 20:28 20:23 20:10	05:25 20:23 20:23 20:10	06:12 20:19 19:43 18:54	06:41 18:54 18:06 16:34	06:42 18:06 16:34 16:29	06:42 16:29 16:29 16:29	06:42 16:29 16:29 16:29	07:14 16:32 16:32 16:32	
23	07:12 17:02	07:47-07:57/10 17:39	05:55 18:09 19:41 20:10	06:07 20:10 20:28 20:28	05:33 20:28 20:23 20:10	05:26 20:23 20:23 20:10	06:13 20:18 19:42 18:52	06:42 18:52 18:05 16:33	06:43 18:05 16:33 16:29	06:43 16:29 16:29 16:29	06:43 16:29 16:29 16:29	07:14 16:33 16:33 16:33	
24	07:11 17:03	07:46-07:57/11 17:40	05:53 18:10 19:42 20:11	06:05 20:11 20:28 20:28	05:32 20:28 20:23 20:10	05:26 20:23 20:23 20:10	06:14 20:19 19:43 18:54	06:43 18:54 18:06 16:34	06:44 18:06 16:34 16:29	06:44 16:29 16:29 16:29	06:44 16:29 16:29 16:29	07:15 16:33 16:33 16:33	
25	07:10 17:04	07:45-07:58/13 17:41	05:52 18:11 19:43 20:12	06:04 20:12 20:28 20:28	05:32 20:28 20:23 20:10	05:26 20:23 20:23 20:10	06:15 20:19 19:39 18:49	06:44 18:49 17:02 16:32	06:45 17:02 16:32 16:29	06:45 16:29 16:29 16:29	06:45 16:29 16:29 16:29	07:15 16:34 16:34 16:34	
26	07:10 17:05	07:43-07:57/14 17:42	05:50 18:12 19:44 20:13	06:02 20:13 20:28 20:28	05:31 20:28 20:23 20:10	05:26 20:23 20:23 20:10	06:16 20:16 19:37 18:47	06:45 18:47 17:01 16:32	06:46 17:01 16:32 16:29	06:46 16:29 16:29 16:29	06:46 16:29 16:29 16:29	07:16 16:34 16:34 16:34	
27	07:09 17:06	07:42-07:57/15 17:43	05:48 18:13 19:45 20:14	06:01 20:14 20:28 20:28	05:30 20:28 20:23 20:10	05:27 20:23 20:23 20:10	06:17 20:15 19:36 18:45	06:46 18:45 17:00 16:31	06:47 17:00 16:31 16:29	06:47 16:29 16:29 16:29	06:47 16:29 16:29 16:29	07:16 16:35 16:35 16:35	
28	07:08 17:08	07:41-07:57/16 17:44	05:47 18:14 19:46 20:14	06:00 20:14 20:28 20:28	05:30 20:28 20:23 20:10	05:27 20:23 20:23 20:10	06:17 20:14 19:34 18:44	06:47 18:44 16:58 16:31	06:48 16:58 16:31 16:29	06:48 16:29 16:29 16:29	06:48 16:29 16:29 16:29	07:16 16:36 16:36 16:36	
29	07:07 17:09	07:39-07:56/17 17:41	06:45 19:15 19:47 20:15	05:58 20:15 20:28 20:28	05:29 20:28 20:23 20:10	05:28 20:23 20:23 20:10	06:18 20:13 19:33 18:42	06:48 18:42 16:57 16:30	06:49 16:57 16:30 16:29	06:49 16:29 16:29 16:29	06:49 16:29 16:29 16:29	07:17 16:36 16:36 16:36	
30	07:07 17:10	07:38-07:55/17 17:10	06:44 19:16 19:48 20:16	05:57 20:16 20:28 20:28	05:29 20:28 20:23 20:10	05:28 20:23 20:23 20:10	06:19 20:12 19:31 18:40	06:49 18:40 16:56 16:30	06:50 16:56 16:30 16:29	06:50 16:29 16:29 16:29	06:50 16:29 16:29 16:29	07:17 16:37 16:37 16:37	
31	07:06 17:11	07:37-07:56/19 17:11	06:42 19:17 19:47 20:17	05:58 20:17 20:28 20:28	05:28 20:28 20:23 20:10	05:28 20:23 20:23 20:10	06:20 20:11 19:30 18:40	06:51 18:40 16:54 16:30	06:52 16:54 16:30 16:29	06:52 16:29 16:29 16:29	06:52 16:29 16:29 16:29	07:17 16:38 16:38 16:38	
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	245	290
Sum of minutes with flicker	158	86	0	0	0	0	0	0	0	0	245	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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: CT7 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (7)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

	January	February	March	April	May	June
1	07:17 07:43-08:43/60 16:39	07:05 15:40-15:49/9 17:12 07:52-08:21/29	06:30 06:58-07:18/20 17:45	06:40 19:18	05:56 19:49	05:28 20:18
2	07:18 07:43-08:43/60 16:40	07:04 15:41-15:51/10 17:14 07:53-08:20/27	06:28 06:59-07:16/17 17:47	06:39 19:19	05:55 19:50	05:27 20:18
3	07:18 07:43-08:43/60 16:41	07:03 15:41-15:52/11 07:55-08:19/24 17:15 15:38-15:39/1	06:27 07:02-07:13/11 17:48	06:37 19:20	05:53 19:51	05:27 20:19
4	07:18 07:43-08:43/60 16:42	07:02 15:43-15:54/11 07:56-08:17/21 17:16 15:39-15:41/2	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20
5	07:18 07:43-08:43/60 16:42 07:40-07:41/1	07:01 15:44-15:54/10 07:58-08:15/17 17:17 15:42-15:43/1	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20
6	07:18 07:43-08:42/59 16:43 07:39-07:40/1	07:00 15:46-15:54/8 07:19-07:23/4 17:19 08:01-08:12/11	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21
7	07:18 07:43-08:18/35 07:39-07:41/2 16:44 08:19-08:42/23	06:59 15:49-15:55/6 17:20 07:18-07:25/7	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22
8	07:18 07:43-08:19/36 07:39-07:42/3 16:45 08:20-08:42/22	06:58 07:17-07:26/9 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22
9	07:17 07:39-08:20/41 16:46 08:22-08:41/19	06:57 07:16-07:27/11 17:22	06:18 17:54	06:28 19:26	05:46 19:57	05:25 20:23
10	07:17 07:39-08:21/42 16:47 08:24-08:41/17	06:55 07:15-07:28/13 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:23
11	07:17 07:38-08:21/43 16:48 08:25-08:39/14	06:54 07:14-07:29/15 17:25	06:14 17:56	06:24 19:29	05:44 19:59	05:25 20:24
12	07:17 07:38-08:22/44 16:49 08:28-08:37/9	06:53 07:12-07:29/17 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:24
13	07:17 07:38-08:23/45 16:50	06:52 07:11-07:29/18 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25
14	07:16 07:37-08:22/45 16:51	06:51 07:10-07:30/20 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25
15	07:16 07:37-08:23/46 16:53	06:49 07:09-07:30/21 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26
16	07:16 07:36-08:23/47 16:54	06:48 07:07-07:29/22 17:31	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26
17	07:15 07:36-08:24/48 16:55	06:47 07:06-07:29/23 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26
18	07:15 07:35-08:24/49 16:56	06:45 07:05-07:29/24 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27
19	07:14 07:35-08:25/50 16:57	06:44 07:03-07:27/24 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27
20	07:14 07:34-08:25/51 16:58	06:43 07:02-07:27/25 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27
21	07:13 07:34-08:25/51 16:59	06:41 07:00-07:25/25 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28
22	07:12 07:34-08:25/51 17:01	06:40 06:59-07:23/24 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28
23	07:12 07:33-08:25/52 17:02	06:39 06:58-07:24/26 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28
24	07:11 07:34-08:24/50 17:03	06:37 06:56-07:23/27 17:40	05:53 18:10	06:05 19:42	05:33 20:11	05:26 20:28
25	07:11 07:47-08:25/38 17:04 07:35-07:43/8	06:36 06:55-07:23/28 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28
26	07:10 07:47-08:25/38 17:05	06:34 06:55-07:21/26 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:28
27	07:09 07:47-08:24/37 17:06	06:33 06:56-07:21/25 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:28
28	07:08 15:37-15:39/2 17:08 07:48-08:23/35	06:31 06:56-07:19/23 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28
29	07:07 15:38-15:41/3 17:09 07:48-08:23/35		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28
30	07:07 15:38-15:43/5 17:10 07:49-08:22/33		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28
31	07:06 15:38-15:45/7 17:11 07:51-08:22/31		06:42 19:17		05:28 20:17	
Potential sun hours	300	298	370	398	446	450
Sum of minutes with flicker	1568	655	48	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

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CT7 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (7)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	July	August	September	October	November	December
1	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 06:44-06:57/13 16:53	06:57 07:20-08:03/43 16:30 08:07-08:21/14
2	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 06:46-06:57/11 16:52	06:58 07:21-08:03/42 16:30 08:06-08:22/16
3	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 06:47-06:56/9 16:51	06:59 07:22-08:03/41 16:29 08:05-08:24/19
4	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 15:18-15:25/7 16:50 06:48-06:54/6	07:00 07:27-08:03/36 07:23-07:26/3 16:29 08:04-08:25/21
5	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 15:15-15:24/9 06:49-06:52/3 16:49 07:30-07:42/12	07:01 07:28-08:27/59 16:29 07:24-07:26/2
6	05:31 20:27	05:56 20:05	06:26 19:20	06:55 18:31	06:29 15:15-15:25/10 07:28-07:46/18 16:48 15:12-15:14/2	07:02 07:29-08:28/59 16:29 07:25-07:27/2
7	05:32 20:27	05:57 20:03	06:27 19:19	06:56 18:29	06:30 15:13-15:25/12 07:26-07:48/22 16:46 15:10-15:12/2	07:03 07:29-08:29/60 16:29 07:26-07:27/1
8	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 15:12-15:23/11 07:24-07:49/25 16:45 15:09-15:10/1	07:04 07:30-08:30/60 16:29
9	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 15:11-15:21/10 16:44 07:23-07:50/27	07:05 07:31-08:31/60 16:29
10	05:34 20:26	06:00 20:00	06:30 19:14	06:59 07:39-07:44/5 18:24	06:34 15:11-15:19/8 16:43 07:23-07:52/29	07:06 07:32-08:32/60 16:29
11	05:34 20:26	06:01 19:58	06:31 19:12	07:00 07:34-07:48/14 18:23	06:35 15:10-15:17/7 16:42 07:22-07:53/31	07:06 07:33-08:33/60 16:29
12	05:35 20:25	06:02 19:57	06:32 19:10	07:01 07:32-07:50/18 18:21	06:36 15:10-15:15/5 16:42 07:21-07:54/33	07:07 07:34-08:34/60 16:29
13	05:36 20:25	06:03 19:56	06:33 19:09	07:02 07:30-07:51/21 18:20	06:37 15:09-15:13/4 16:41 07:20-07:55/35	07:08 07:34-08:34/60 16:29
14	05:36 20:24	06:04 19:55	06:34 19:07	07:03 07:29-07:53/24 18:18	06:38 15:09-15:11/2 16:40 07:21-07:56/35	07:09 07:35-08:35/60 16:29
15	05:37 20:24	06:05 19:53	06:35 19:05	07:04 07:28-07:54/26 18:17	06:39 07:20-07:57/37 16:39	07:10 07:36-08:36/60 16:30
16	05:38 20:23	06:06 19:52	06:36 19:04	07:06 07:27-07:54/27 18:15	06:41 07:20-07:58/38 16:38	07:10 07:36-08:36/60 16:30
17	05:39 20:23	06:07 19:51	06:37 19:02	07:07 07:27-07:54/27 18:14	06:42 07:20-07:58/38 16:37 07:08-07:16/8	07:11 07:37-08:37/60 16:30
18	05:40 20:22	06:08 19:49	06:38 19:00	07:08 07:28-07:54/26 18:12	06:43 07:08-07:58/50 16:37	07:12 07:38-08:38/60 16:31
19	05:40 20:21	06:09 19:48	06:39 18:59	07:09 07:29-07:54/25 18:11	06:44 07:08-08:00/52 16:36	07:12 07:38-08:38/60 16:31
20	05:41 20:21	06:10 19:46	06:39 18:57	07:10 07:30-07:54/24 18:09	06:45 07:09-08:00/51 16:35	07:13 07:38-08:39/61 16:31
21	05:42 20:20	06:11 19:45	06:40 18:55	07:11 07:31-07:56/25 18:08	06:46 07:09-08:00/51 16:34	07:13 07:38-08:39/61 16:32
22	05:43 20:19	06:12 19:43	06:41 18:54	07:12 07:33-07:58/25 18:06	06:47 07:10-08:01/51 16:34	07:14 07:39-08:40/61 16:32
23	05:44 20:18	06:13 19:42	06:42 18:52	07:13 07:34-07:58/24 18:05	06:49 07:11-08:01/50 16:33	07:14 07:39-08:40/61 16:33
24	05:45 20:18	06:14 19:40	06:43 18:50	07:14 07:35-07:59/24 18:04	06:50 07:13-08:02/49 16:33	07:15 07:40-08:41/61 16:33
25	05:45 20:17	06:15 19:39	06:44 18:49	06:15 06:36-06:59/23 17:02	06:51 07:14-08:02/48 16:32	07:15 07:41-08:41/60 16:34
26	05:46 20:16	06:16 19:37	06:45 18:47	06:16 06:37-06:59/22 17:01	06:52 07:15-08:02/47 16:32	07:16 07:41-08:41/60 16:34
27	05:47 20:15	06:17 19:36	06:46 18:45	06:18 06:38-06:59/21 17:00	06:53 07:16-08:02/46 16:31	07:16 07:42-08:42/60 16:35
28	05:48 20:14	06:18 19:34	06:47 18:44	06:19 06:40-07:00/20 16:58	06:54 07:17-08:02/45 16:31	07:16 07:42-08:42/60 16:36
29	05:49 20:13	06:18 19:33	06:48 18:42	06:20 06:41-06:59/18 16:57	06:55 07:18-08:03/45 16:30	07:17 07:42-08:42/60 16:36
30	05:50 20:12	06:19 19:31	06:49 18:40	06:21 06:42-06:59/17 16:56	06:56 07:19-08:03/44 16:30	07:17 07:42-08:42/60 16:37
31	05:51 20:11	06:20 19:30		06:22 06:43-06:58/15 16:54		07:17 07:42-08:42/60 16:38
Potential sun hours	456	426	375	346	300	290
Sum of minutes with flicker	0	0	0	471	1158	1863

Table 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:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via G. Garibaldi, 15
IT-74023 Grottaglie (TA)

Gaetano D'Oronzio / info@gecodor.it
Calculated:
25/07/2023 13:32/3.5.587

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: CT8 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (8)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:13	06:30 17:46	06:40 19:18	05:56 07:16-08:05/49 19:49	05:28 18:34-19:02/28 20:18 07:05-07:58/53	05:29 18:39-19:10/31 20:28 07:15-08:00/45	05:52 07:19-08:14/55 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:55 07:15-08:05/50 19:50	05:27 18:34-19:03/29 20:18 07:06-07:58/52	05:29 18:39-19:10/31 20:28 07:14-08:00/46	05:53 07:19-08:14/55 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 07:14-08:05/51 19:51	05:27 18:34-19:03/29 20:19 07:06-07:57/51	05:30 18:39-19:10/31 20:28 07:15-08:01/46	05:54 07:19-08:14/55 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 07:13-08:05/52 19:52	05:27 18:34-19:03/29 20:20 07:07-07:57/50	05:30 18:39-19:10/31 20:28 07:14-08:01/47	05:55 07:20-08:15/55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:22	05:51 07:13-08:05/52 19:53	05:26 18:34-19:04/30 20:20 07:08-07:57/49	05:31 18:40-19:10/30 20:28 07:14-08:02/48	05:55 07:21-08:15/54 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:23	05:50 07:12-08:05/53 19:54	05:26 18:34-19:04/31 20:21 07:07-07:56/49	05:31 18:40-19:10/30 20:28 07:14-08:02/48	05:56 07:21-08:15/54 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:49 07:11-08:05/54 19:55	05:26 18:34-19:04/30 20:22 07:08-07:56/48	05:32 18:40-19:10/30 20:27 07:14-08:03/49	05:57 07:22-08:15/53 20:03	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 07:11-08:05/54 19:56	05:25 18:34-19:05/31 20:22 07:09-07:56/47	05:32 18:41-19:11/30 20:27 07:14-08:04/50	05:58 07:22-08:15/53 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 07:10-08:05/55 19:57	05:25 18:34-19:05/31 20:23 07:10-07:56/46	05:33 18:41-19:10/29 20:27 07:13-08:04/51	05:59 07:23-08:14/51 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	06:16 17:55	06:26 19:28	05:45 07:10-08:05/55 19:58	05:25 18:34-19:06/32 20:23 07:10-07:56/46	05:34 18:41-19:10/29 20:26 07:14-08:05/51	06:00 07:23-08:14/51 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 07:09-08:05/56 19:59	05:25 18:35-19:06/31 20:24 07:11-07:56/45	05:34 18:41-19:09/28 20:26 07:14-08:06/52	06:01 07:24-08:14/50 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 07:08-08:04/56 20:00	05:24 07:11-07:56/45 20:25 07:13-08:06/53	05:35 18:42-19:09/27 20:27 07:13-08:04/51	06:02 07:25-08:14/49 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 07:08-08:04/56 20:01	05:24 07:11-07:56/45 20:25 07:12-07:56/44	05:36 18:43-19:09/26 20:25 07:13-08:07/54	06:03 07:24-08:12/48 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 07:33-07:41/8 19:32	05:41 07:07-08:04/57 20:02	05:25 18:34-19:06/32 20:25 07:12-07:56/44	05:36 18:44-19:09/25 20:24 07:13-08:07/54	06:04 07:25-08:12/47 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	06:08 18:01	06:18 07:30-07:48/18 19:33	05:40 07:07-08:03/56 20:03	05:25 18:34-19:06/32 20:26 07:13-07:56/43	05:37 18:44-19:08/24 20:24 07:12-08:07/55	06:05 07:25-08:11/46 19:53	06:35 19:05	06:39 18:17	06:39 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 07:28-07:51/23 19:34	05:39 07:06-08:03/57 20:04	05:25 18:36-19:07/31 20:26 07:13-07:56/43	05:38 18:45-19:08/23 20:23 07:12-08:08/56	06:06 07:26-08:11/45 19:52	06:36 19:04	06:41 18:15	07:10 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 07:28-07:54/26 19:35	05:38 07:05-08:02/57 20:05	05:25 18:36-19:07/31 20:27 07:13-07:56/43	05:39 18:46-19:08/22 20:23 07:12-08:09/57	06:07 07:26-08:10/44 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 07:26-07:55/29 19:36	05:37 07:05-08:02/57 20:06	05:25 18:36-19:08/32 20:27 07:13-07:56/43	05:40 18:47-19:07/20 20:22 07:12-08:10/58	06:08 07:27-08:09/42 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 07:26-07:57/31 19:37	05:36 07:05-08:02/57 20:07	05:25 18:36-19:08/32 20:27 07:14-07:56/42	05:40 18:47-19:05/18 20:21 07:12-08:09/57	06:09 07:27-08:08/41 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 07:24-07:58/34 19:38	05:36 07:04-08:02/58 20:08	05:25 18:36-19:08/32 20:27 07:14-07:56/42	05:41 18:48-19:04/16 20:21 07:13-08:10/57	06:10 07:28-08:07/39 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 07:24-08:00/36 19:39	05:35 18:46-18:48/2 20:09 07:04-08:01/57	05:25 18:36-19:08/32 20:28 07:14-07:56/42	05:42 18:50-19:03/13 20:20 07:13-08:11/58	06:11 07:28-08:06/38 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 07:23-08:01/38 19:40	05:34 18:41-18:52/11 20:09 07:03-08:01/58	05:25 18:36-19:08/32 20:28 07:15-07:57/42	05:43 18:53-19:01/8 20:19 07:14-08:11/57	06:12 07:29-08:04/35 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 07:22-08:01/39 19:41	05:33 18:40-18:54/14 20:10 07:03-08:01/58	05:26 18:37-19:09/32 20:28 07:15-07:57/42	05:44 07:15-08:12/57 20:18	06:13 07:29-08:03/34 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 07:21-08:02/41 19:42	05:33 18:38-18:55/17 20:11 07:03-08:00/57	05:26 18:37-19:09/32 20:28 07:15-07:57/42	05:45 07:15-08:13/58 20:18	06:14 07:30-08:01/31 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 07:21-08:03/42 19:43	05:32 18:37-18:56/19 20:12 07:02-08:00/58	05:26 18:37-19:08/31 20:28 07:14-07:57/43	05:45 07:15-08:12/57 20:17	06:15 07:30-07:59/29 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 07:19-08:03/44 19:44	05:31 18:37-18:58/21 20:13 07:02-08:00/58	05:27 18:38-19:09/31 20:28 07:15-07:58/43	05:46 07:15-08:13/58 20:16	06:16 07:30-07:55/25 19:37	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 07:19-08:04/45 19:45	05:31 18:36-18:58/22 20:14 07:02-07:59/57	05:27 18:38-19:09/32 20:29 07:15-07:58/43	05:47 07:16-08:13/57 20:15	06:17 07:30-07:52/22 19:36	06:46 18:45	07:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 07:18-08:05/47 19:46	05:30 18:36-19:00/24 20:15 07:03-07:59/56	05:27 18:37-19:09/32 20:29 07:14-07:58/44	05:48 07:17-08:14/57 20:14	06:18 07:31-07:49/18 19:34	06:47 18:44	07:19 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09	06:30 17:45	05:45 18:15	06:05 07:17-08:04/47 19:47	05:29 18:35-19:00/25 20:15 07:03-07:58/55	05:28 18:38-19:10/32 20:29 07:15-07:59/44	05:49 07:17-08:14/57 20:13	06:19 07:35-07:41/6 19:33	06:48 18:42	07:20 16:57	06:55 16:30	07:17 16:37
30	07:07 17:10	06:30 17:46	05:44 19:16	06:06 07:16-08:05/49 19:48	05:29 18:35-19:01/26 20:16 07:04-07:58/54	05:28 18:38-19:09/31 20:29 07:15-07:59/44	05:50 07:18-08:14/56 20:12	06:19 19:31	06:49 18:40	07:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11	06:30 17:47	05:42 19:17	06:07 07:15-08:06/50 19:49	05:28 18:34-19:01/27 20:17 07:04-07:58/54	05:27 18:38-19:09/31 20:29 07:15-07:59/44	05:51 07:19-08:15/56 20:11	06:20 19:30	06:50 18:45	07:22 16:55	06:57 16:30	07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Sum of minutes with flicker	0	0	0	597	1922	2286	2214	1226	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

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CT9 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (9)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

	January	February	March	April	May	June
1	07:18 16:02-16:14/12 16:39	07:05 16:11-16:50/39 17:13	06:30 17:46	06:41 07:41-07:57/16 19:18	05:56 18:37-19:07/30 19:49	05:28 18:41-19:26/45 20:18
2	07:18 16:02-16:15/13 16:40	07:04 16:12-16:51/39 17:14	06:29 17:47	06:39 07:40-07:55/15 19:19	05:55 18:37-19:08/31 19:50	05:28 18:42-19:26/44 20:18
3	07:18 16:03-16:16/13 16:41	07:03 16:12-16:52/40 17:15	06:27 17:48	06:37 07:39-07:54/15 19:21	05:53 18:36-19:09/33 19:51	05:27 18:42-19:26/44 20:19
4	07:18 16:03-16:17/14 16:42	07:02 16:13-16:53/40 17:16	06:26 17:49	06:36 07:37-07:52/15 19:22	05:52 18:35-19:09/34 19:52	05:27 18:43-19:27/44 20:20
5	07:18 16:03-16:18/15 16:43	07:01 16:14-16:55/41 17:18	06:24 17:50	06:34 07:36-07:49/13 19:23	05:51 18:35-19:09/34 19:53	05:27 18:44-19:27/43 20:20
6	07:18 16:03-16:18/15 16:44	07:00 16:14-16:55/41 17:19	06:22 17:51	06:33 07:35-07:46/11 19:24	05:50 18:35-19:10/35 19:54	05:26 18:45-19:28/43 20:21
7	07:18 16:03-16:19/16 16:45	06:59 16:14-16:57/43 17:20	06:21 17:52	06:31 19:25	05:49 18:34-19:11/37 19:55	05:26 18:45-19:27/42 20:22
8	07:18 16:03-16:20/17 16:46	06:58 16:15-16:58/43 17:21	06:19 17:53	06:29 19:26	05:48 18:34-19:12/38 19:56	05:26 18:45-19:27/42 20:22
9	07:18 16:04-16:21/17 16:47	06:57 16:17-17:00/43 17:22	06:18 17:54	06:28 19:27	05:46 18:34-19:12/38 19:57	05:25 18:46-19:26/40 20:23
10	07:17 16:04-16:23/19 16:48	06:56 16:18-17:01/43 17:24	06:16 17:56	06:26 19:28	05:45 18:34-19:13/39 19:58	05:25 18:47-19:26/39 20:23
11	07:17 16:04-16:23/19 16:49	06:54 16:19-17:03/44 17:25	06:15 17:57	06:25 19:29	05:44 18:34-19:13/39 19:59	05:25 18:48-19:26/38 20:24
12	07:17 16:04-16:24/20 16:50	06:53 16:20-17:03/43 17:26	06:13 17:58	06:23 19:30	05:43 18:34-19:14/40 20:00	05:25 18:48-19:26/38 20:25
13	07:17 16:05-16:26/21 16:51	06:52 16:21-17:05/44 17:27	06:11 17:59	06:22 19:31	05:42 18:34-19:15/41 20:01	05:25 18:49-19:26/37 20:25
14	07:16 16:04-16:26/22 16:52	06:51 16:23-17:06/43 17:28	06:10 18:00	06:20 19:32	05:41 18:34-19:15/41 20:02	05:25 18:49-19:26/37 20:25
15	07:16 16:05-16:28/23 16:53	06:50 16:25-17:08/43 17:30	06:08 18:01	06:19 19:33	05:40 18:34-19:16/42 20:03	05:25 18:50-19:26/36 20:26
16	07:16 16:05-16:29/24 16:54	06:48 16:26-17:07/41 17:31	06:07 18:02	06:17 19:34	05:39 18:34-19:16/42 20:04	05:25 18:50-19:26/36 20:26
17	07:15 16:05-16:30/25 16:55	06:47 16:29-17:05/36 17:32	06:05 18:03	06:16 19:35	05:38 18:34-19:17/43 20:05	05:25 18:50-19:26/36 20:27
18	07:15 16:05-16:31/26 16:56	06:46 16:32-17:03/31 17:33	06:03 18:04	06:14 19:36	05:37 18:35-19:18/43 20:06	05:25 18:50-19:26/36 20:27
19	07:14 16:06-16:33/27 16:57	06:44 16:34-16:59/25 17:34	06:02 18:05	06:13 18:58-19:00/2 19:37	05:37 18:35-19:18/43 20:07	05:25 18:51-19:26/35 20:27
20	07:14 16:06-16:34/28 16:58	06:43 16:39-16:55/16 17:35	06:00 06:59-07:01/2 18:06	06:11 18:54-19:01/7 19:38	05:36 18:36-19:19/43 20:08	05:25 18:51-19:26/35 20:28
21	07:13 16:07-16:35/28 17:00	06:42 17:37	05:59 06:58-07:01/3 18:07	06:10 18:51-19:01/10 19:39	05:35 18:36-19:19/43 20:09	05:25 18:51-19:26/35 20:28
22	07:13 16:07-16:36/29 17:01	06:40 17:38	05:57 06:56-07:01/5 18:08	06:08 18:49-19:02/13 19:40	05:34 18:37-19:20/43 20:10	05:26 18:52-19:27/35 20:28
23	07:12 16:07-16:37/30 17:02	06:39 17:39	05:55 06:56-07:02/6 18:09	06:07 18:46-19:02/16 19:41	05:33 18:37-19:21/44 20:10	05:26 18:52-19:27/35 20:28
24	07:11 16:08-16:39/31 17:03	06:37 17:40	05:54 06:54-07:02/8 18:10	06:05 18:45-19:03/18 19:42	05:33 18:37-19:21/44 20:11	05:26 18:52-19:27/35 20:28
25	07:11 16:08-16:40/32 17:04	06:36 17:41	05:52 06:51-07:01/10 18:11	06:04 18:44-19:04/20 19:43	05:32 18:38-19:22/44 20:12	05:26 18:52-19:28/36 20:28
26	07:10 16:08-16:41/33 17:05	06:35 17:42	05:50 06:50-07:02/12 18:12	06:03 18:42-19:04/22 19:44	05:31 18:38-19:22/44 20:13	05:27 18:52-19:28/36 20:29
27	07:09 16:08-16:42/34 17:07	06:33 17:43	05:49 06:49-07:01/12 18:13	06:01 18:41-19:05/24 19:45	05:31 18:38-19:22/44 20:14	05:27 18:52-19:28/36 20:29
28	07:08 16:08-16:44/36 17:08	06:32 17:45	05:47 06:47-07:00/13 18:14	06:00 18:40-19:06/26 19:46	05:30 18:39-19:24/45 20:15	05:27 18:52-19:29/37 20:29
29	07:08 16:09-16:45/36 17:09		06:45 07:46-08:00/14 19:15	05:59 18:38-19:05/27 19:47	05:30 18:39-19:24/45 20:15	05:28 18:52-19:29/37 20:29
30	07:07 16:10-16:47/37 17:10		06:44 07:44-07:59/15 19:16	05:57 18:38-19:06/28 19:48	05:29 18:40-19:25/45 20:16	05:28 18:51-19:29/38 20:29
31	07:06 16:11-16:48/37 17:11		06:42 07:42-07:58/16 19:17		05:29 18:41-19:26/45 20:17	
Potential sun hours	300	298	370	398	446	449
Sum of minutes with flicker	749	778	116	298	1252	1150

Table 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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: CT9 - VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (9)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

	July	August	September	October	November	December
1	05:29 18:52-19:30/38 20:28	05:52 18:45-19:24/39 20:10	06:22 19:28	06:50 18:39	06:23 15:47-16:31/44 16:53	06:57 15:46-16:05/19 16:30
2	05:29 18:51-19:30/39 20:28	05:53 18:45-19:24/39 20:09	06:23 19:27	06:51 18:37	06:24 15:46-16:29/43 16:52	06:58 15:46-16:05/19 16:30
3	05:30 18:51-19:31/40 20:28	05:54 18:44-19:22/38 20:08	06:23 19:25	06:52 18:36	06:26 15:45-16:28/43 16:51	06:59 15:47-16:04/17 16:30
4	05:30 18:51-19:31/40 20:28	05:55 18:44-19:22/38 20:07	06:24 19:24	06:53 18:34	06:27 15:44-16:26/42 16:50	07:00 15:47-16:04/17 16:29
5	05:31 18:51-19:33/42 20:28	05:56 18:44-19:21/37 20:06	06:25 19:22	06:54 18:32	06:28 15:43-16:25/42 16:49	07:01 15:48-16:04/16 16:29
6	05:31 18:51-19:34/43 20:28	05:57 18:44-19:20/36 20:05	06:26 07:31-07:42/11 19:20	06:55 18:31	06:29 15:43-16:25/42 16:48	07:02 15:49-16:04/15 16:29
7	05:32 18:50-19:33/43 20:27	05:58 18:44-19:20/36 20:04	06:27 07:32-07:45/13 19:19	06:56 18:29	06:30 15:43-16:23/40 16:47	07:03 15:49-16:04/15 16:29
8	05:33 18:51-19:34/43 20:27	05:59 18:45-19:19/34 20:02	06:28 07:31-07:46/15 19:17	06:57 18:28	06:31 15:42-16:22/40 16:46	07:04 15:50-16:04/14 16:29
9	05:33 18:50-19:34/44 20:27	05:59 18:45-19:18/33 20:01	06:29 07:32-07:47/15 19:15	06:58 18:26	06:33 15:41-16:21/40 16:45	07:05 15:51-16:04/13 16:29
10	05:34 18:50-19:34/44 20:26	06:00 18:45-19:17/32 20:00	06:30 07:33-07:48/15 19:14	06:59 18:24	06:34 15:42-16:20/38 16:44	07:06 15:51-16:04/13 16:29
11	05:35 18:50-19:34/44 20:26	06:01 18:46-19:16/30 19:59	06:31 07:33-07:49/16 19:12	07:00 18:23	06:35 15:41-16:19/38 16:43	07:07 15:52-16:04/12 16:29
12	05:35 18:49-19:33/44 20:25	06:02 18:46-19:16/30 19:57	06:32 07:34-07:50/16 19:10	07:01 18:21	06:36 15:41-16:18/37 16:42	07:07 15:53-16:05/12 16:29
13	05:36 18:49-19:33/44 20:25	06:03 18:47-19:15/28 19:56	06:33 07:35-07:50/15 19:09	07:03 18:20	06:37 15:41-16:17/36 16:41	07:08 15:53-16:04/11 16:29
14	05:37 18:49-19:33/44 20:24	06:04 18:47-19:14/27 19:55	06:34 07:36-07:50/14 19:07	07:04 18:18	06:38 15:41-16:17/36 16:40	07:09 15:54-16:04/10 16:30
15	05:37 18:49-19:33/44 20:24	06:05 18:47-19:12/25 19:53	06:35 07:37-07:50/13 19:05	07:05 18:17	06:40 15:41-16:15/34 16:39	07:10 15:55-16:05/10 16:30
16	05:38 18:48-19:32/44 20:23	06:06 18:48-19:11/23 19:52	06:36 07:38-07:50/12 19:04	07:06 18:15	06:41 15:41-16:14/33 16:38	07:10 15:54-16:04/10 16:30
17	05:39 18:48-19:32/44 20:23	06:07 18:49-19:10/21 19:51	06:37 07:38-07:50/12 19:02	07:07 18:14	06:42 15:41-16:13/32 16:37	07:11 15:55-16:05/10 16:30
18	05:40 18:48-19:32/44 20:22	06:08 18:50-19:09/19 19:49	06:38 07:39-07:50/11 19:00	07:08 18:12	06:43 15:42-16:13/31 16:37	07:12 15:56-16:06/10 16:31
19	05:41 18:47-19:32/45 20:21	06:09 18:51-19:08/17 19:48	06:39 07:41-07:49/8 18:59	07:09 18:11	06:44 15:42-16:12/30 16:36	07:12 15:56-16:05/9 16:31
20	05:41 18:46-19:30/44 20:21	06:10 18:52-19:07/15 19:46	06:40 07:42-07:49/7 18:57	07:10 18:09	06:45 15:42-16:11/29 16:35	07:13 15:57-16:06/9 16:32
21	05:42 18:46-19:30/44 20:20	06:11 18:54-19:06/12 19:45	06:41 07:41-07:47/6 18:55	07:11 18:08	06:46 15:42-16:10/28 16:35	07:13 15:57-16:06/9 16:32
22	05:43 18:46-19:30/44 20:19	06:12 18:56-19:05/9 19:44	06:42 07:42-07:46/4 18:54	07:12 17:08-17:27/19 18:07	06:48 15:42-16:10/28 16:34	07:14 15:58-16:07/9 16:32
23	05:44 18:46-19:30/44 20:19	06:13 18:59-19:05/6 19:42	06:43 07:43-07:45/2 18:52	07:13 17:04-17:31/27 18:05	06:49 15:42-16:09/27 16:33	07:14 15:58-16:07/9 16:33
24	05:45 18:46-19:29/43 20:18	06:14 19:41	06:43 18:50	07:14 17:00-17:33/33 18:04	06:50 15:43-16:09/26 16:33	07:15 15:59-16:08/9 16:34
25	05:46 18:46-19:29/43 20:17	06:15 19:39	06:44 18:49	06:15 15:58-16:36/38 17:02	06:51 15:44-16:08/24 16:32	07:15 15:59-16:09/10 16:34
26	05:46 18:45-19:27/42 20:16	06:16 19:38	06:45 18:47	06:17 15:55-16:37/42 17:01	06:52 15:44-16:08/24 16:32	07:16 15:59-16:09/10 16:35
27	05:47 18:45-19:27/42 20:15	06:17 19:36	06:46 18:46	06:18 15:53-16:36/43 17:00	06:53 15:44-16:07/23 16:31	07:16 16:00-16:10/10 16:35
28	05:48 18:45-19:27/42 20:14	06:18 19:35	06:47 18:44	06:19 15:52-16:36/44 16:58	06:54 15:44-16:06/22 16:31	07:16 16:00-16:11/11 16:36
29	05:49 18:45-19:26/41 20:13	06:19 19:33	06:48 18:42	06:20 15:51-16:34/43 16:57	06:55 15:45-16:06/21 16:31	07:17 16:01-16:11/10 16:37
30	05:50 18:45-19:26/41 20:12	06:20 19:31	06:49 18:41	06:21 15:49-16:33/44 16:56	06:56 15:45-16:05/20 16:30	07:17 16:01-16:12/11 16:37
31	05:51 18:45-19:25/40 20:11	06:21 19:30	 	06:22 15:48-16:31/43 16:55	 	07:17 16:01-16:12/11 16:38
Potential sun hours	456	426	375	346	300	291
Sum of minutes with flicker	1323	624	205	376	993	370

Table 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

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CV01 - VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (14)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:27	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:18	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:17 16:46	06:57 17:22	06:18 17:54	06:28 19:26	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	06:16 17:55	06:26 19:27	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:14 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:58	06:31 19:12	07:00 18:23	06:35 16:42	07:06 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	06:39 16:39	07:09 16:30
16	07:15 16:54	06:48 17:31	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:40 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26	05:39 20:23	06:07 19:50	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:45 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:08	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:12 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:10 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:28	05:46 20:16	06:16 19:37	06:45 18:47	06:16 17:01	06:52 16:32	07:16 16:35
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	06:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:18 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: CV02 - VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (15)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:10 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:28	05:46 20:16	06:16 19:37	06:45 18:47	06:16 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	06:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:18 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
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

SHADOW - Calendar per WTG

Calculation: Real Case WTG: CV03 - VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (16)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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8	07:17 16:45	06:58 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
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27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 18:45	06:53 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:18 19:34	06:47 18:44	06:54 16:58	06:54 16:31	07:16 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	291
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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT01 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (17)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:25	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
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16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
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23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT02 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (18)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
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11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
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23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
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28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:34	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT03 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (19)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
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27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT04 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (20)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

| January | February | March | April | May | June | July | August | September | October | November | December

1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT05 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (21)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:27 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
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5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT06 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (22)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT07 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (23)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:52 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:53 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:54 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT08 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (24)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT09 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (25)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
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17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
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20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT10 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (26)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:02 18:21	06:36 16:42	07:07 16:29
13	07:17 16:51	06:52 17:27	06:11 17:59	06:22 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:37 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:30
15	07:16 16:53	06:50 17:30	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:06	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
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23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:50	07:14 18:04	06:50 16:33	07:15 16:33
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26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:35
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30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT11 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (27)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:19	05:56 19:49	05:28 20:18	05:29 20:29	05:52 20:10	06:22 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:20	05:55 19:50	05:28 20:19	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:30
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:43	07:01 17:18	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:44 18:51	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:46 20:17	06:15 19:39	06:44 18:49	06:16 17:02	06:51 16:32	07:16 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:03 19:44	05:31 20:13	05:27 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:35
27	07:09 17:07	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:46	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:45	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:59 19:47	05:30 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:31	07:17 16:37
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:21 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT12 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (28)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

| January | February | March | April | May | June | July | August | September | October | November | December

1	07:18	07:05	06:30	06:41	05:56	05:28	05:29	05:52	06:22	06:50	06:23	06:57
	16:39	17:13	17:46	19:19	19:49	20:18	20:29	20:10	19:28	18:39	16:53	16:30
2	07:18	07:04	06:29	06:39	05:55	05:28	05:29	05:53	06:23	06:51	06:25	06:58
	16:40	17:14	17:47	19:20	19:50	20:19	20:28	20:09	19:27	18:37	16:52	16:30
3	07:18	07:03	06:27	06:37	05:53	05:27	05:30	05:54	06:23	06:52	06:26	06:59
	16:41	17:15	17:48	19:21	19:51	20:19	20:28	20:08	19:25	18:36	16:51	16:30
4	07:18	07:02	06:26	06:36	05:52	05:27	05:30	05:55	06:24	06:53	06:27	07:00
	16:42	17:16	17:49	19:22	19:52	20:20	20:28	20:07	19:24	18:34	16:50	16:29
5	07:18	07:01	06:24	06:34	05:51	05:26	05:31	05:56	06:25	06:54	06:28	07:01
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6	07:18	07:00	06:23	06:33	05:50	05:26	05:31	05:57	06:26	06:55	06:29	07:02
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30	07:07		06:44	05:57	05:29	05:28	05:50	06:20	06:49	06:21	06:56	07:17
	17:10		19:16	19:48	20:16	20:29	20:12	19:31	18:41	16:56	16:30	16:37
31	07:06		06:42		05:29		05:51	06:21		06:22		07:17
	17:11		19:17		20:17		20:11	19:30		16:55		16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT13 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (29)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 20:19	05:29 20:29	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:53 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:26 17:49	06:36 19:21	05:52 19:52	05:26 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:18	06:22 17:51	06:32 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:18 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:33 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:29
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
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22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:01	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:25 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
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28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
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30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:19 19:31	06:49 18:40	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT14 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (30)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29
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18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:14 16:32
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27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	07:17 17:00	06:53 16:31	07:16 16:35
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		07:21 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT15 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (31)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

[January | February | March | April | May | June | July | August | September | October | November | December]

1	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:00	06:40 17:37	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:01	06:39 17:39	05:55 18:09	06:06 19:41	05:33 20:10	05:25 20:28	05:43 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:17 19:34	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:27 20:29	05:49 20:13	06:18 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

Calculation: Real CaseWTG: PLT16 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (32)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:52 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:53 20:08	06:23 19:25	06:52 18:35	06:26 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:26 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:21	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:18	06:22 17:51	06:32 19:23	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:17 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:33 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:24	06:15 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:40	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:24 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:24 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:29
16	07:16 16:54	06:48 17:30	06:06 18:02	06:17 19:34	05:39 20:04	05:24 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:00	06:40 17:37	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:01	06:39 17:39	05:55 18:09	06:06 19:41	05:33 20:10	05:25 20:28	05:43 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:16 19:36	06:46 18:45	07:17 16:59	06:53 16:31	07:16 16:35
28	07:08 17:07	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:17 19:34	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:27 20:29	05:49 20:13	06:18 19:33	06:48 18:42	07:19 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:19 19:31	06:49 18:40	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT17 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (33)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:51 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:13	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:52 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29
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14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:24 20:25	05:36 20:25	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
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17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:24 20:27	05:38 20:23	06:07 19:51	06:37 19:02	07:07 18:13	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:37 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
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22	07:13 17:00	06:40 17:37	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:01	06:39 17:39	05:55 18:09	06:06 19:41	05:33 20:10	05:25 20:28	05:43 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:32
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26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:15 19:37	06:45 18:47	07:16 17:01	06:52 16:31	07:16 16:34
27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:16 19:36	06:46 18:45	07:17 16:59	06:53 16:31	07:16 16:35
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT18 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (34)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:18 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:29
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:01	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:02	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:03	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:16 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	07:17 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	07:18 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:16	05:27 20:29	05:49 20:13	06:18 19:33	06:48 18:42	07:19 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:19 19:31	06:49 18:40	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

Project:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via G. Garibaldi, 15
IT-74023 Grottaglie (TA)

Gaetano D'Oronzio / info@gecodor.it
Calculated:
25/07/2023 13:32/3.5.587

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT19 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (35)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 15:53-17:19/86 17:46	06:40 16:47-17:41/54 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 16:21-17:32/71 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 15:51-17:18/87 17:47	06:39 16:48-17:39/51 19:19	05:55 19:50	05:27 20:19	05:29 20:29	05:53 20:09	06:22 19:27	06:51 16:21-17:32/71 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 15:50-17:18/88 17:48	06:37 16:49-17:37/48 19:21	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 17:02-17:20/18 19:25	06:52 16:21-17:31/70 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 15:49-17:17/88 17:49	06:36 16:51-17:36/45 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 16:57-17:23/26 19:24	06:53 16:21-17:30/69 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 15:48-17:16/88 17:50	06:34 16:53-17:34/41 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:55 20:06	06:25 16:54-17:26/32 19:22	06:54 16:21-17:46/85 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 15:46-17:14/88 17:51	06:32 16:55-17:32/37 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 16:51-17:28/37 19:20	06:55 16:21-17:48/87 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 15:46-17:13/87 17:52	06:31 16:57-17:29/32 19:25	05:48 19:55	05:26 20:22	05:32 20:28	05:57 20:04	06:27 16:48-17:29/41 19:19	06:56 16:22-17:49/87 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 15:45-17:11/86 17:53	06:29 17:00-17:27/27 19:26	05:47 19:56	05:25 20:23	05:32 20:27	05:58 20:02	06:28 16:45-17:30/45 19:17	06:57 16:22-17:50/88 18:28	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 15:44-16:52/68 17:54	06:28 17:04-17:22/18 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 16:43-17:31/48 19:15	06:58 16:23-17:51/88 18:26	06:33 16:44	07:05 16:29
10	07:18 16:47	06:56 17:23	06:16 15:43-16:53/70 17:55	06:26 19:28 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 16:42-17:32/50 19:14	06:59 16:24-17:51/87 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 15:42-16:53/71 17:57	06:25 19:29 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 16:40-17:33/53 19:12	07:00 16:24-17:52/88 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 15:42-16:54/72 17:58	06:23 19:30 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 16:38-17:34/56 19:10	07:01 16:25-17:52/87 18:21	06:36 16:42	07:08 16:29
13	07:17 16:50	06:52 17:27	06:11 15:42-16:53/71 17:59	06:21 19:31 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 16:36-17:35/59 19:09	07:03 16:27-17:53/86 18:20	06:37 16:41	07:08 16:29
14	07:17 16:51	06:51 17:28	06:10 15:41-16:53/72 18:00	06:20 19:32 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 16:35-17:35/60 19:07	07:04 16:29-17:17/48 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:50 17:29	06:08 15:41-16:54/73 18:01	06:18 19:33 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 16:34-17:36/62 19:05	07:05 16:30-17:14/44 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 15:41-16:53/72 18:02	06:17 19:34 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 16:32-17:36/64 19:04	07:06 16:32-17:12/40 18:15	06:41 16:38	07:11 16:30
17	07:15 16:55	06:47 17:32	06:05 15:40-16:52/72 18:03	06:15 19:35 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 16:31-17:37/66 19:02	07:07 16:34-17:09/35 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 15:41-16:53/72 18:04	06:14 19:36 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 16:30-17:37/67 19:00	07:08 16:37-17:06/29 18:12	06:43 16:37	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 15:40-16:52/72 18:05	06:12 19:37 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 16:28-17:36/68 18:59	07:09 16:41-17:01/20 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 15:40-16:51/71 18:06	06:11 19:38 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 16:27-17:36/69 18:57	07:10 17:18-17:46/28 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 15:41-16:52/71 18:07	06:09 19:39 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 16:26-17:36/70 18:55	07:11 17:20-17:45/25 18:08	06:46 16:34	07:14 16:32
22	07:13 17:00	06:40 17:38	05:57 15:41-16:51/70 18:08	06:08 19:40 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:42 16:25-17:36/71 18:54	07:12 17:20-17:44/24 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 15:40-16:50/70 18:09	06:07 19:41 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:42 16:24-17:36/72 18:52	07:13 17:21-17:42/21 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 15:41-16:50/69 18:10	06:05 19:42 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:41	06:43 16:24-17:36/72 18:50	07:14 17:23-17:41/18 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 15:42-16:49/67 18:11	06:04 19:43 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 16:23-17:35/72 18:49	06:15 16:24-16:39/15 17:02	06:51 16:34	07:16 16:32
26	07:10 17:05	06:35 17:42	05:50 15:43-16:48/65 18:12	06:02 19:44 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 16:23-17:35/72 18:47	06:17 16:27-16:37/10 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 15:43-16:47/64 18:13	06:01 19:45 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 16:22-17:35/73 18:45	06:18 17:00 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:44	05:47 15:43-16:46/63 18:14	06:00 19:46 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 16:22-17:34/72 18:44	06:19 16:58 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09	06:32 17:45	05:45 16:45-17:45/60 18:15	05:58 19:47 19:47	05:29 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 16:21-17:34/73 18:42	06:20 16:57 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10	06:31 17:46	05:44 16:45-17:44/59 18:16	05:57 19:48 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 16:21-17:33/72 18:40	06:21 16:56 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11	06:30 17:47	05:42 16:46-17:42/56 18:17	05:56 19:49 19:49	05:28 20:17	05:27 20:29	05:51 20:11	06:20 19:30	06:50 16:21-17:33/72 18:40	06:22 16:55 16:55	06:57 16:31	07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	584	2281	353	0	0	0	0	1640	1628	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:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via G. Garibaldi, 15
IT-74023 Grottaglie (TA)

Gaetano D'Oronzio / info@gecodor.it
Calculated:
25/07/2023 13:32/3.5.587

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT20 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (36)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 06:29-07:03/34 20:18 07:04-07:31/27	05:28 06:36-07:46/70 20:29	05:52 06:48-07:02/14 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 06:29-07:33/64 20:19	05:29 06:36-07:45/69 20:29	05:53 06:51-06:59/8 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 06:29-07:33/64 20:19	05:29 06:36-07:45/69 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:26 17:49	06:36 19:21	05:52 19:52	05:27 06:29-07:35/66 20:20	05:30 06:36-07:44/68 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 06:30-07:36/66 20:21	05:30 06:36-07:44/68 20:28	05:57 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:24	05:50 19:54	05:26 06:30-07:37/67 20:21	05:31 06:36-07:43/67 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:48 19:55	05:26 06:30-07:38/68 20:22	05:32 06:36-07:43/67 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 06:31-07:39/68 20:22	05:32 06:37-07:43/66 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 06:31-07:40/69 20:23	05:33 06:36-07:41/65 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:18 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 06:31-07:40/69 20:24	05:34 06:37-07:41/64 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:24 19:29	05:44 19:59	06:32-07:41/69 20:24	05:34 06:36-07:10/34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	06:37-06:53/16 20:25	05:35 06:36-07:11/35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	06:35-06:55/20 20:25	05:36 06:37-07:11/34 20:26	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	06:34-06:56/22 20:25	05:37 06:37-07:12/35 20:26	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	06:33-06:57/24 20:26	05:37 06:37-07:11/34 20:27	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:53	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	06:32-06:58/26 20:26	05:38 06:37-07:12/35 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:54	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	06:31-06:59/28 20:27	05:39 06:38-07:12/34 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:55	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	06:30-06:59/29 20:27	05:39 06:38-07:12/34 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	06:30-07:00/30 20:27	05:40 06:38-07:11/33 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	06:30-07:01/31 20:28	05:41 06:38-07:11/33 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	06:29-07:01/32 20:28	05:42 06:39-07:11/32 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	06:28-07:01/33 20:28	05:43 06:39-07:11/32 20:19	06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	06:29-07:02/33 20:28	05:44 06:40-07:11/31 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:32 20:11	06:28-07:02/34 20:28	05:44 06:39-07:10/31 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	06:28-07:02/34 20:29	05:45 06:40-07:10/30 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:16 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	06:28-07:03/35 20:29	05:46 06:41-07:09/28 20:16	06:16 19:38	06:45 18:47	07:17 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:30 20:14	06:28-07:02/34 20:29	05:47 06:42-07:09/27 20:15	06:17 19:36	06:46 18:45	07:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	06:28-07:03/35 20:29	05:48 06:43-07:08/25 20:14	06:18 19:35	06:47 18:44	07:19 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09	06:31 17:45	05:46 18:15	05:58 19:47	05:29 20:16	06:28-07:03/35 20:29	05:49 06:44-07:07/23 20:13	06:19 19:33	06:48 18:42	07:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10	06:30 17:46	05:44 18:16	05:57 19:48	05:29 20:17	06:29-07:03/34 20:29	05:50 06:45-07:06/21 20:12	06:19 19:31	06:49 18:40	07:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11	06:29 17:47	05:42 18:17	05:56 19:49	05:28 20:18	06:28-07:03/35 20:29	05:51 06:47-07:05/18 20:11	06:20 19:30	06:48 18:39	07:22 16:54	06:57 16:30	07:17 16:38
	Potential sun hours	300	298	370	398	446	450	426	375	346	300	290
	Sum of minutes with flicker	0	0	0	0	665	2068	1409	22	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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT21 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (37)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18	07:05 08:02-08:23/21	06:30	06:40	05:56	05:28	05:28	05:52	06:21	06:50	06:23 07:28-07:58/30	06:57
	16:39	17:12	17:46	19:18	19:49	20:18	20:29	20:10	19:28	18:39	16:53	16:30
2	07:18	07:04 08:01-08:24/23	06:29	06:39	05:54	05:27	05:29	05:53	06:22	06:51	06:24 07:28-07:58/30	06:58
	16:40	17:14	17:47	19:19	19:50	20:19	20:28	20:09	19:27	18:37	16:52	16:30
3	07:18	07:03 08:01-08:25/24	06:27	06:37	05:53	05:27	05:29	05:54	06:23	06:52	06:26 07:28-07:57/29	06:59
	16:41	17:15	17:48	19:20	19:51	20:19	20:28	20:08	19:25	18:36	16:51	16:29
4	07:18	07:02 08:00-08:26/26	06:26	06:36	05:52	05:27	05:30	05:54	06:24	06:53	06:27 07:28-07:57/29	07:00
	16:42	17:16	17:49	19:21	19:52	20:20	20:28	20:07	19:23	18:34	16:50	16:29
5	07:18	07:01 08:00-08:27/27	06:24	06:34	05:51	05:26	05:30	05:55	06:25	06:54	06:28 07:29-07:57/28	07:01
	16:42	17:17	17:50	19:23	19:53	20:21	20:28	20:06	19:22	18:32	16:49	16:29
6	07:18	07:00 07:59-08:28/29	06:22	06:32	05:50	05:26	05:31	05:56	06:26	06:55	06:29 07:30-07:57/27	07:02
	16:43	17:19	17:51	19:24	19:54	20:21	20:28	20:05	19:20	18:31	16:48	16:29
7	07:18	06:59 07:58-08:27/29	06:21	06:31	05:48	05:26	05:32	05:57	06:27	06:56	06:30 07:30-07:56/26	07:03
	16:44	17:20	17:52	19:25	19:55	20:22	20:27	20:04	19:19	18:29	16:46	16:29
8	07:18	06:58 07:58-08:27/29	06:19	06:29	05:47	05:25	05:32	05:58	06:28	06:57	06:31 07:31-07:55/24	07:04
	16:45	17:21	17:53	19:26	19:56	20:22	20:27	20:02	19:17	18:27	16:45	16:29
9	07:18	06:57 07:58-08:28/30	06:18	06:28	05:46	05:25	05:33	05:59	06:29	06:58	06:33 07:32-07:55/23	07:05
	16:46	17:22	17:54	19:27	19:57	20:23	20:27	20:01	19:15	18:26	16:44	16:29
10	07:17	06:56 07:59-08:28/29	06:16	06:26	05:45	05:25	05:34	06:00	06:30	06:59	06:34 07:33-07:54/21	07:06
	16:47	17:23	17:55	19:28	19:58	20:24	20:26	20:00	19:14	18:24	16:43	16:29
11	07:17	06:54 07:59-08:28/29	06:15	06:24	05:44	05:25	05:34	06:01	06:31	07:00	06:35 07:35-07:52/17	07:07
	16:48	17:25	17:57	19:29	19:59	20:24	20:26	19:59	19:12	18:23	16:42	16:29
12	07:17	06:53 08:00-08:28/28	06:13	06:23	05:43	05:25	05:35	06:02	06:32	07:01	06:36 07:36-07:51/15	07:07
	16:49	17:26	17:58	19:30	20:00	20:25	20:26	19:57	19:10	18:21	16:41	16:29
13	07:17	06:52 07:59-08:27/28	06:11	06:21	05:42	05:25	05:36	06:03	06:33	07:02	06:37 07:40-07:49/9	07:08
	16:50	17:27	17:59	19:31	20:01	20:25	20:25	19:56	19:09	18:20	16:41	16:29
14	07:16	06:51 08:00-08:26/26	06:10	06:20	05:41	05:25	05:36	06:04	06:34	07:04	06:38	07:09
	16:51	17:28	18:00	19:32	20:02	20:26	20:25	19:55	19:07	18:18	16:40	16:29
15	07:16	06:50 08:01-08:26/25	06:08	06:18	05:40	05:25	05:37	06:05	06:35	07:05	06:40	07:10
	16:53	17:29	18:01	19:33	20:03	20:26	20:24	19:53	19:05	18:17	16:39	16:30
16	07:16	06:48 08:02-08:24/22	06:07	06:17	05:39	05:25	05:38	06:06	06:36	07:06	06:41	07:10
	16:54	17:31	18:02	19:34	20:04	20:26	20:23	19:52	19:04	18:15	16:38	16:30
17	07:15	06:47 08:03-08:23/20	06:05	06:15	05:38	05:25	05:39	06:07	06:37	07:07	06:42	07:11
	16:55	17:32	18:03	19:35	20:05	20:27	20:23	19:51	19:02	18:14	16:37	16:30
18	07:15	06:46 08:05-08:21/16	06:03	06:14	05:37	05:25	05:39	06:08	06:38	07:08	06:43	07:12
	16:56	17:33	18:04	19:36	20:06	20:27	20:22	19:49	19:00	18:12	16:36	16:30
19	07:14	06:44 08:07-08:17/10	06:02	06:12	05:36	05:25	05:40	06:09	06:39	07:09	06:44	07:12
	16:57	17:34	18:05	19:37	20:07	20:27	20:22	19:48	18:59	18:11	16:36	16:31
20	07:14	06:43	06:00	06:11	05:36	05:25	05:41	06:10	06:40	07:10	06:45	07:13
	16:58	17:35	18:06	19:38	20:08	20:28	20:21	19:46	18:57	18:09	16:35	16:31
21	07:13	06:42	05:58	06:09	05:35	05:25	05:42	06:11	06:40	07:11	06:46	07:14
	16:59	17:36	18:07	19:39	20:09	20:28	20:20	19:45	18:55	18:08	16:34	16:32
22	07:13	06:40	05:57	06:08	05:34	05:25	05:43	06:12	06:41	07:12	06:48	07:14
	17:00	17:38	18:08	19:40	20:10	20:28	20:19	19:44	18:54	18:06	16:34	16:32
23	07:12	06:39	05:55	06:07	05:33	05:26	05:44	06:13	06:42	07:13 08:37-08:49/12	06:49	07:15
	17:02	17:39	18:09	19:41	20:10	20:28	20:19	19:42	18:52	18:05	16:33	16:33
24	07:11	06:37	05:54	06:05	05:32	05:26	05:44	06:14	06:43	07:14 08:34-08:51/17	06:50	07:15
	17:03	17:40	18:10	19:42	20:11	20:28	20:18	19:41	18:50	18:04	16:33	16:33
25	07:11	06:36	05:52	06:04	05:32	05:26	05:45	06:15	06:44	06:15 07:32-07:53/21	06:51	07:15
	17:04	17:41	18:11	19:43	20:12	20:29	20:17	19:39	18:49	17:02	16:32	16:34
26	07:10	06:34	05:50	06:02	05:31	05:26	05:46	06:16	06:45	06:17 07:31-07:54/23	06:52	07:16
	17:05	17:42	18:12	19:44	20:13	20:29	20:16	19:38	18:47	17:01	16:32	16:34
27	07:09	06:33	05:49	06:01	05:30	05:27	05:47	06:17	06:46	06:18 07:31-07:56/25	06:53	07:16
	17:06	17:43	18:13	19:45	20:14	20:29	20:15	19:36	18:45	17:00	16:31	16:35
28	07:08	06:32	05:47	06:00	05:30	05:27	05:48	06:18	06:47	06:19 07:30-07:56/26	06:54	07:17
	17:08	17:44	18:14	19:46	20:15	20:29	20:14	19:35	18:44	16:58	16:31	16:36
29	07:08 08:08-08:17/9		06:45 05:58	05:29	05:28	05:49	06:19	06:48	06:20 07:29-07:56/27	06:55	07:17	
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30	07:07 08:05-08:20/15		06:44 05:57	05:29	05:28	05:50	06:19	06:49	06:21 07:28-07:57/29	06:56	07:17	
	17:10		19:16	19:48	20:16	20:29	20:12	19:31	18:40	16:56	16:30	16:37
31	07:06 08:04-08:22/18		06:42		05:28		05:51	06:20	06:22 07:28-07:57/29	06:57	07:17	
	17:11		19:17		20:17		20:11	19:30	16:54		16:38	
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	42	471	0	0	0	0	0	0	0	209	308	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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT22 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (38)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:46	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 20:19	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
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7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:17 16:47	06:54 17:23	06:15 17:55	06:25 19:28	05:44 19:58	05:25 20:24	05:34 20:26	06:01 20:00	06:31 19:14	07:00 18:24	06:35 16:43	07:07 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:00	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:41 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:01	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:17 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:18 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:19 16:58	06:54 16:31	07:17 16:36
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT23 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (39)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40	7,40

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
869	432	261	329	461	361	264	550	1.934	978	538	855	7.832

	January	February	March	April	May	June	July	August	September	October	November	December
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1	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:25 17:49	06:36 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
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11	07:17 16:48	06:54 17:25	06:15 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		07:21 16:54		07:17 16:38

Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT24 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (40)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT25 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (41)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT26 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (42)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT27 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (43)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
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31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT28 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (44)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 17:47	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:52 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 16:29
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:53 20:08	06:23 19:25	06:52 18:35	06:25 16:51	06:59 16:29
4	07:18 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:26 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:28	05:55 20:06	06:25 19:22	06:54 18:32	06:28 16:48	07:01 16:29
6	07:18 16:43	07:00 17:18	06:22 17:51	06:32 19:23	05:49 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:47	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:22	05:32 20:27	05:57 20:03	06:27 19:18	06:56 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:25	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	06:31 16:45	07:04 16:29
9	07:17 16:46	06:57 17:22	06:18 17:54	06:27 19:26	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	06:16 17:55	06:26 19:27	05:45 19:58	05:25 20:23	05:33 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:24	06:14 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:58	06:31 19:12	07:00 18:23	06:35 16:42	07:06 16:29
12	07:17 16:49	06:53 17:26	06:13 17:57	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	06:37 16:40	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:24 20:25	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	06:38 16:40	07:09 16:29
15	07:16 16:52	06:49 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:24 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:16	06:39 16:39	07:10 16:29
16	07:16 16:53	06:48 17:30	06:06 18:02	06:17 19:34	05:39 20:04	05:24 20:26	05:38 20:23	06:06 19:52	06:36 19:04	07:05 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:13	06:42 16:37	07:11 16:30
18	07:15 16:56	06:45 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:37 19:00	07:08 18:12	06:43 16:36	07:12 16:30
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:35 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:13 17:00	06:40 17:37	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:01	06:39 17:39	05:55 18:09	06:06 19:41	05:33 20:10	05:25 20:28	05:43 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:14 16:33
24	07:11 17:03	06:37 17:40	05:53 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:40	06:43 18:50	07:14 18:03	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:28	05:46 20:16	06:15 19:37	06:45 18:47	07:16 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:14	05:27 20:29	05:47 20:15	06:16 19:36	06:46 18:45	07:17 16:59	06:53 16:31	07:16 16:35
28	07:08 17:07	06:31 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:17 19:34	06:47 18:44	07:18 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:27 20:29	05:49 20:13	06:18 19:33	06:48 18:42	07:19 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:54		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT29 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (45)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:18 15:54-16:11/17 16:39 16:40	07:05 06:30 17:13 17:46	06:41 05:56 19:18 19:49	05:28 05:28 20:18 20:29	05:52 05:52 20:10 19:28	06:21 06:50 19:28 18:39	06:23 06:57 16:53 16:30	06:57 16:30						
2	07:18 15:54-16:11/17 16:41	07:04 06:29 17:14 17:47	06:39 06:39 19:19 19:50	05:55 05:27 20:19 20:29	05:53 05:29 20:09 20:09	06:22 06:51 19:27 18:37	06:25 06:58 16:52 16:30	15:46-15:52/6 16:30						
3	07:18 15:55-16:11/16 16:41	07:03 06:27 17:15 17:48	06:37 06:37 19:21 19:51	05:53 05:27 20:19 20:28	05:54 05:29 20:08 20:08	06:23 06:52 19:25 18:36	06:26 06:51 16:51 16:29	15:45-15:54/9 16:29						
4	07:18 15:56-16:11/15 16:42	07:02 06:26 17:16 17:49	06:36 06:36 19:22 19:52	05:52 05:27 20:20 20:28	05:55 06:24 20:07 19:24	06:24 06:53 18:34 16:50	06:27 07:00 16:29 16:29	15:44-15:55/11 16:29						
5	07:18 15:57-16:11/14 16:42	07:01 06:24 17:17 17:50	06:34 06:34 19:23 19:53	05:51 05:26 20:21 20:28	05:55 20:06 19:22 18:32	06:25 06:54 16:49 16:29	06:28 07:01 15:44-15:56/12 16:29							
6	07:18 15:58-16:11/13 16:43	07:00 06:22 17:19 17:51	06:32 06:32 19:24 19:54	05:50 05:26 20:21 20:28	05:56 20:05 19:20 18:31	06:26 06:55 16:48 16:29	06:29 07:02 15:44-15:57/13 16:29							
7	07:18 15:58-16:10/12 16:44	06:59 06:21 17:20 17:52	06:31 06:31 19:25 19:55	05:49 05:25 20:22 20:28	05:32 05:28 20:04 19:19	06:27 06:56 18:29 16:47	06:30 07:03 15:44-15:58/14 16:29							
8	07:18 15:59-16:10/11 16:45	06:58 06:19 17:21 17:53	06:29 06:29 19:26 19:56	05:47 05:23 20:23 20:27	05:32 20:02 19:17 18:28	06:28 06:57 16:45 16:29	06:31 07:04 15:43-15:58/15 16:29							
9	07:18 16:01-16:10/9 16:46	06:57 06:18 17:22 17:54	06:28 06:28 19:27 19:57	05:46 05:25 20:23 20:27	05:33 05:29 20:01 19:15	06:29 06:58 18:26 16:44	06:33 07:05 15:43-15:59/16 16:29							
10	07:18 16:03-16:09/6 16:47	06:56 06:16 17:23 17:55	06:26 06:26 19:28 19:58	05:45 05:25 20:24 20:26	05:34 06:00 19:14 18:24	06:30 06:59 16:43 16:29	07:06 07:06 15:44-16:00/16 16:29							
11	07:17 16:48 07:17	06:54 06:15 17:25 17:57	06:25 06:25 19:29 19:59	05:44 05:24 20:24 20:26	05:34 06:01 19:59 19:12	06:31 07:00 18:23 16:42	06:35 07:07 15:44-16:01/17 16:29							
12	07:17 16:49 07:17	06:53 06:13 17:26 17:58	06:23 06:23 19:30 20:00	05:43 05:25 20:25 20:26	05:35 06:02 19:57 19:10	06:32 07:01 18:21 16:42	06:36 07:08 15:44-16:02/18 16:29							
13	07:17 16:50 07:17	06:52 06:11 17:27 17:59	06:21 06:21 19:31 20:01	05:42 05:25 20:25 20:25	05:36 06:03 19:56 19:09	06:33 07:03 18:20 16:41	06:37 07:08 15:45-16:02/17 16:29							
14	07:17 16:51 07:16	06:51 06:10 17:28 18:00	06:20 06:20 19:32 20:02	05:41 05:25 20:26 20:26	05:36 06:04 19:55 19:07	06:34 07:04 18:18 16:40	06:38 07:09 15:44-16:02/18 16:29							
15	07:16 16:53 07:16	06:50 06:08 17:29 18:01	06:18 06:18 19:33 20:03	05:40 05:25 20:26 20:24	05:37 06:05 19:53 19:05	06:35 07:05 18:17 16:39	06:40 07:10 15:45-16:03/18 16:30							
16	07:16 16:54 07:15	06:48 06:07 17:31 18:02	06:17 06:17 19:34 20:04	05:39 05:25 20:26 20:24	05:38 06:06 19:52 19:04	06:36 07:06 18:15 16:38	06:41 07:11 15:46-16:04/18 16:30							
17	07:15 16:55 07:15	06:47 06:05 17:32 18:03	06:15 06:15 19:35 20:05	05:38 05:25 20:27 20:23	05:39 06:07 19:51 19:02	06:37 07:07 18:14 16:37	06:42 07:11 15:46-16:04/18 16:30							
18	07:15 16:56 07:14	06:46 06:03 17:33 18:04	06:14 06:14 19:36 20:06	05:37 05:25 20:27 20:22	05:40 06:08 19:49 19:00	06:38 07:08 18:12 16:37	06:43 07:12 15:46-16:05/19 16:30							
19	07:14 16:57 07:14	06:44 06:02 17:34 18:05	06:12 06:12 19:37 20:07	05:36 05:25 20:27 20:22	05:40 06:09 19:48 18:59	06:39 07:09 18:11 16:36	06:44 07:12 15:47-16:06/19 16:31							
20	07:14 16:58 07:13	06:43 06:00 17:35 18:06	06:11 06:11 19:38 20:08	05:36 05:25 20:28 20:21	05:41 06:10 19:46 18:57	06:40 07:10 18:09 16:35	06:45 07:13 15:47-16:05/18 16:31							
21	07:13 16:59 07:13	06:42 05:58 17:36 18:07	06:09 06:09 19:39 20:09	05:35 05:25 20:28 20:20	05:42 06:11 19:45 18:55	06:41 07:11 18:08 16:34	06:47 07:14 15:48-16:06/18 16:32							
22	07:13 17:01 07:12	06:40 05:57 17:38 18:08	06:08 06:08 19:40 20:10	05:34 05:25 20:28 20:19	05:43 06:12 19:44 18:54	06:42 07:12 18:06 16:34	06:48 07:14 15:48-16:06/18 16:32							
23	07:12 17:02 07:11	06:39 05:55 17:39 18:09	06:07 06:07 19:41 20:11	05:33 05:26 20:28 20:19	05:44 06:13 19:42 18:52	06:42 07:13 18:05 16:33	06:49 07:15 15:48-16:06/18 16:33							
24	07:11 17:03 07:11	06:37 05:54 17:40 18:10	06:05 06:05 19:42 20:11	05:33 05:26 20:28 20:18	05:45 06:14 19:41 18:50	06:43 07:14 18:04 16:33	06:50 07:15 15:49-16:08/19 16:33							
25	07:11 17:04 07:10	06:36 05:52 17:41 18:11	06:04 06:04 19:43 20:12	05:32 05:26 20:29 20:17	05:45 06:15 19:39 18:49	06:44 07:15 18:09 16:32	06:51 07:16 15:49-16:08/19 16:34							
26	07:10 17:05 07:09	06:35 05:50 17:42 18:12	06:02 06:02 19:44 20:13	05:31 05:26 20:29 20:16	05:46 06:16 19:38 18:47	06:45 07:16 17:01 16:32	06:52 07:16 15:50-16:09/19 16:34							
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28	07:08 17:08 07:08	06:32 05:47 17:44 18:14	06:00 06:00 19:46 20:15	05:30 05:27 20:29 20:14	05:48 06:18 19:35 18:44	06:47 07:18 16:58 16:31	06:54 07:17 15:51-16:09/18 16:36							
29	07:08 17:09 07:07	06:45 05:58 19:15 19:47	05:29 05:29 20:16 20:29	05:28 05:49 20:13 19:33	06:19 06:48 18:42 16:57	06:20 06:55 16:30 16:36	07:17 15:51-16:09/18 16:36							
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31	07:06 17:11 Potential sun hours	06:42 05:57 19:17 19:48	05:28 05:28 20:17 20:29	05:28 05:51 20:11 19:30	06:20 06:49 18:41 16:55	06:22 06:57 16:38 16:38	07:17 15:53-16:10/17 16:38							
	Sum of minutes with flicker	300	298	370	398	446	450	457	426	375	346	300	290	491

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

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

SHADOW - Calendar per WTG

Calculation: Real CaseWTG: PLT30 - SENVION MM100 60Hz 2000 100.0 IO! hub: 100,0 m (TOT: 150,0 m) (46)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40 7,40

Operational time

N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
869 432 261 329 461 361 264 550 1.934 978 538 855 7.832

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:18 16:39	07:05 17:13	06:30 17:46	06:41 19:18	05:56 19:49	05:28 20:18	05:28 20:29	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:29 17:47	06:39 19:19	05:55 19:50	05:27 20:19	05:29 20:29	05:53 20:09	06:22 19:27	06:51 18:37	06:25 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 17:48	06:37 19:21	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:26 17:49	06:36 19:22	05:52 19:52	05:27 20:20	05:30 20:28	05:55 20:07	06:24 19:24	06:53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 17:50	06:34 19:23	05:51 19:53	05:26 20:21	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 17:51	06:32 19:24	05:50 19:54	05:26 20:21	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 17:52	06:31 19:25	05:49 19:55	05:26 20:22	05:32 20:27	05:57 20:04	06:27 19:19	06:56 18:29	06:30 16:47	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 17:53	06:29 19:26	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:28	06:31 16:45	07:04 16:29
9	07:18 16:46	06:57 17:22	06:18 17:54	06:28 19:27	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:44	07:05 16:29
10	07:18 16:47	06:56 17:23	06:16 17:55	06:26 19:28	05:45 19:58	05:25 20:24	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:15 17:57	06:25 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:42	07:07 16:29
12	07:17 16:49	06:53 17:26	06:13 17:58	06:23 19:30	05:43 20:00	05:25 20:25	05:35 20:26	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	07:08 16:29
13	07:17 16:50	06:52 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	07:08 16:29
14	07:16 16:52	06:51 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:26	05:36 20:25	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:50 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:40 16:39	07:10 16:30
16	07:16 16:54	06:48 17:31	06:07 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:10 16:30
17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	07:12 16:31
19	07:14 16:57	06:44 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:22	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	07:12 16:31
20	07:14 16:58	06:43 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:28	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	07:13 16:31
21	07:13 16:59	06:42 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:34	07:14 16:32
22	07:13 17:01	06:40 17:38	05:57 18:08	06:08 19:40	05:34 20:10	05:25 20:28	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:06	06:48 16:34	07:14 16:32
23	07:12 17:02	06:39 17:39	05:55 18:09	06:07 19:41	05:33 20:11	05:26 20:28	05:44 20:19	06:13 19:42	06:42 18:52	07:13 18:05	06:49 16:33	07:15 16:33
24	07:11 17:03	06:37 17:40	05:54 18:10	06:05 19:42	05:33 20:11	05:26 20:28	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	07:15 16:33
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:45 20:17	06:15 19:39	06:44 18:49	06:51 17:02	06:51 16:32	07:16 16:34
26	07:10 17:05	06:35 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:26 20:29	05:46 20:16	06:16 19:38	06:45 18:47	06:52 17:01	06:52 16:32	07:16 16:34
27	07:09 17:06	06:33 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:29	05:47 20:15	06:17 19:36	06:46 18:45	06:53 17:00	06:53 16:31	07:16 16:35
28	07:08 17:08	06:32 17:44	05:47 18:14	06:00 19:46	05:30 20:15	05:27 20:29	05:48 20:14	06:18 19:35	06:47 18:44	06:54 16:58	06:54 16:31	07:17 16:36
29	07:08 17:09		06:45 19:15	05:58 19:47	05:29 20:16	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:29	05:50 20:12	06:20 19:31	06:49 18:41	06:21 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 19:17		05:28 20:17		05:51 20:11	06:20 19:30		06:22 16:55		07:17 16:38
Potential sun hours	300	298	370	398	446	450	457	426	375	346	300	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

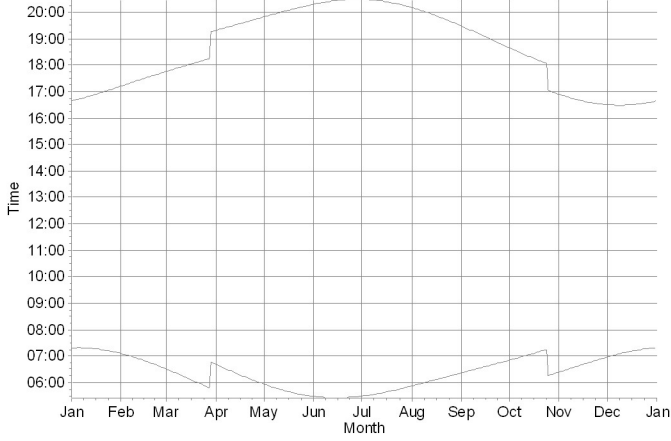
Table layout: For each day in each month the following matrix apply

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

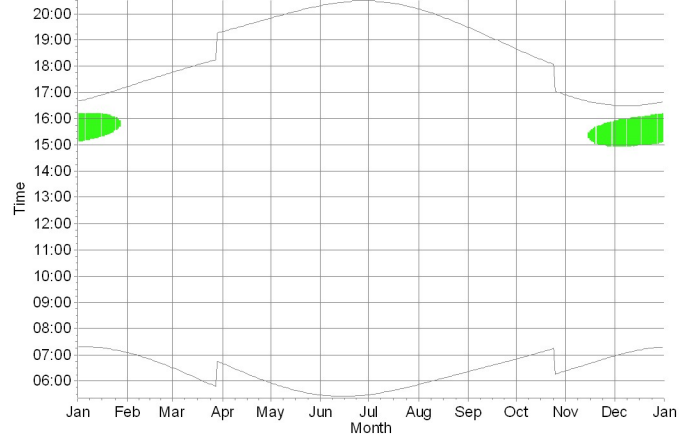
SHADOW - Calendar per WTG, graphical

Calculation: Real Case

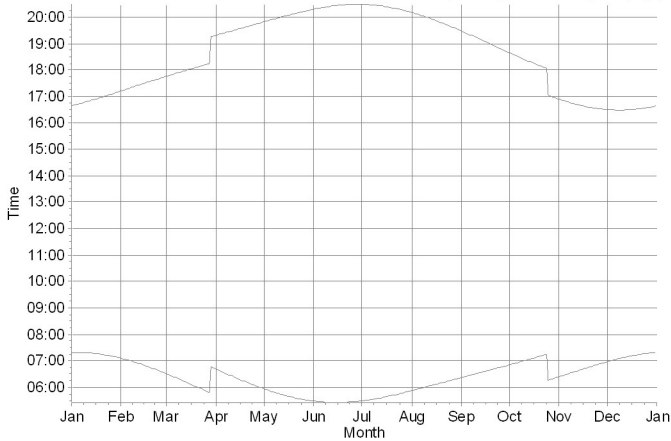
CT1: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (1)



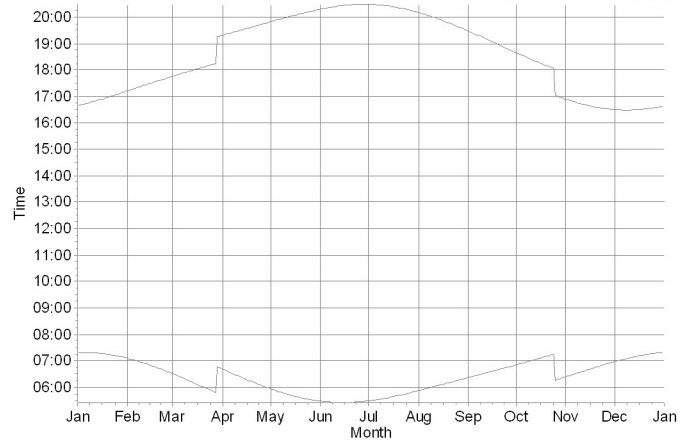
CT10: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (10)



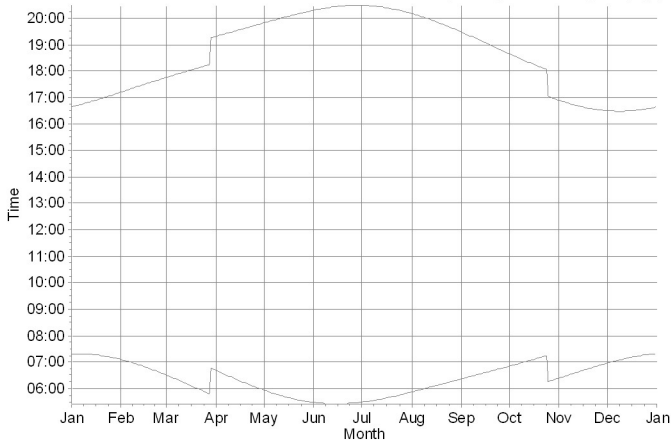
CT2: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (2)



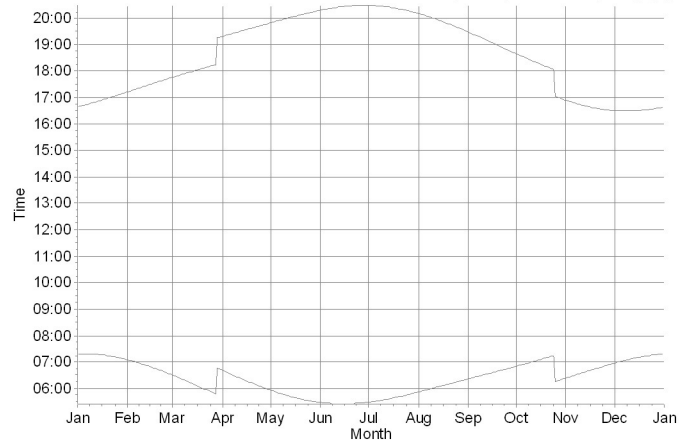
CT3: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (3)



CT4: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (4)



CT5: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (5)



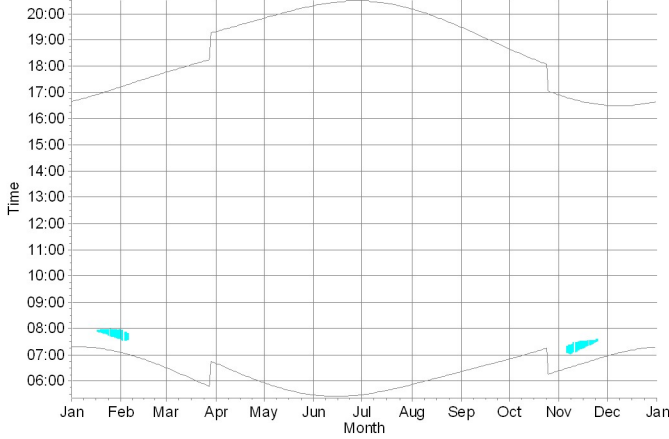
Shadow receptors

Rx 47: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (18)

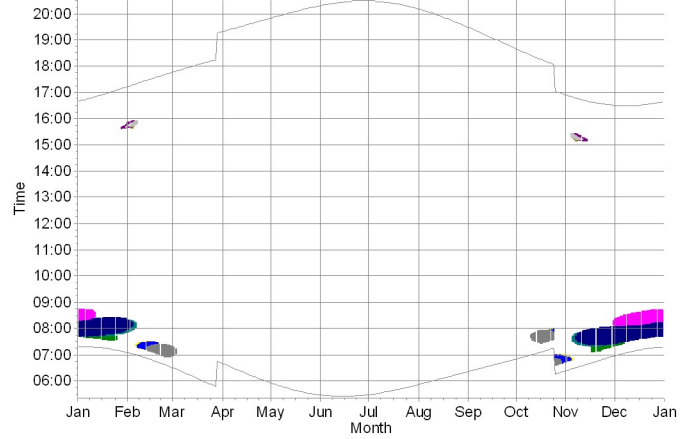
SHADOW - Calendar per WTG, graphical

Calculation: Real Case

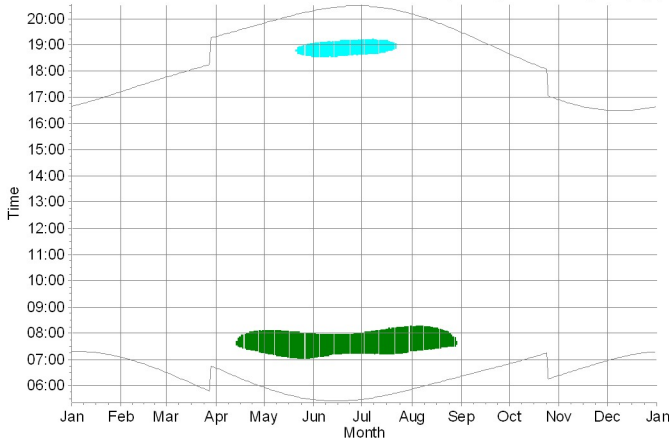
CT6: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (6)



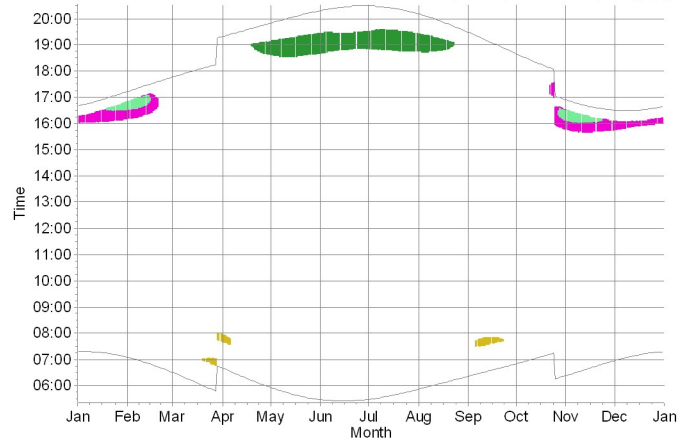
CT7: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (7)



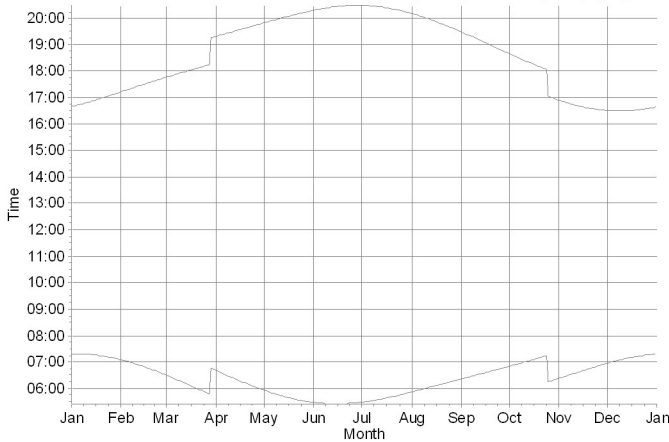
CT8: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (8)



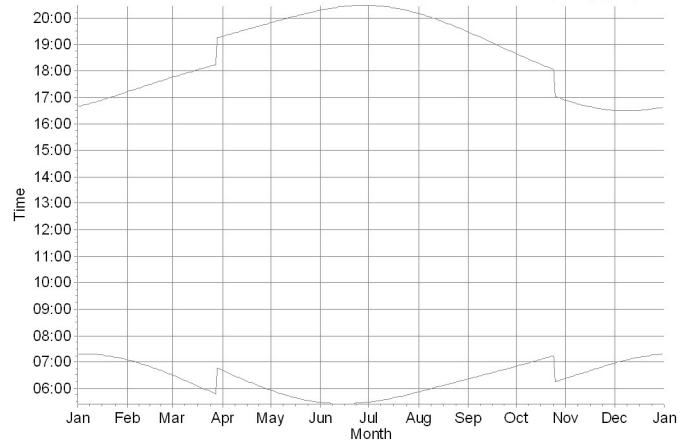
CT9: VESTAS V150-6.0 6000 150.0 !O! hub: 125,0 m (TOT: 200,0 m) (9)



CV01: VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (14)



CV02: VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (15)

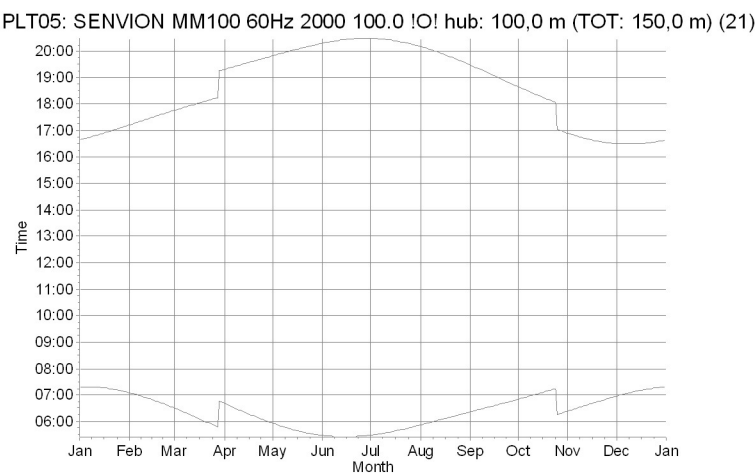
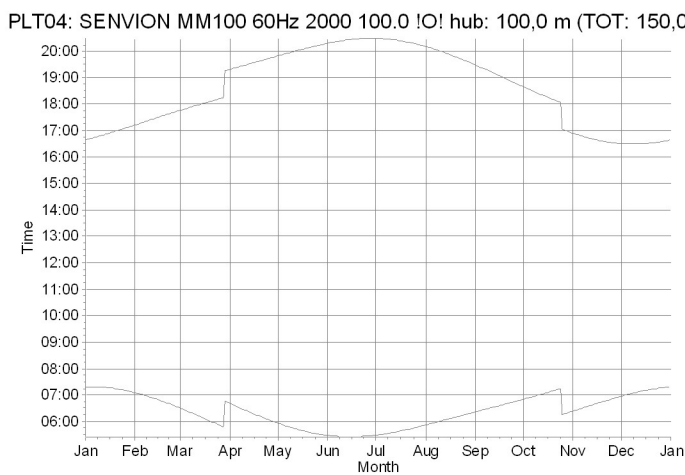
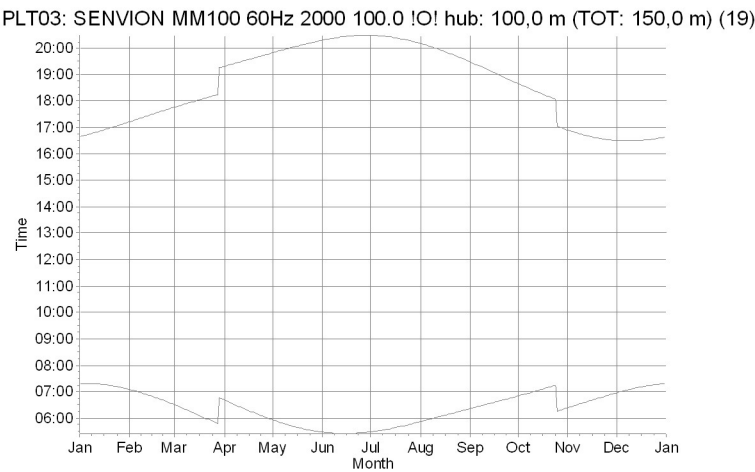
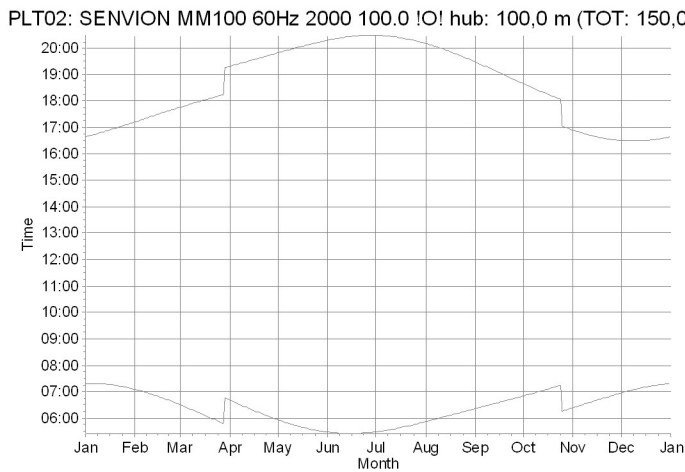
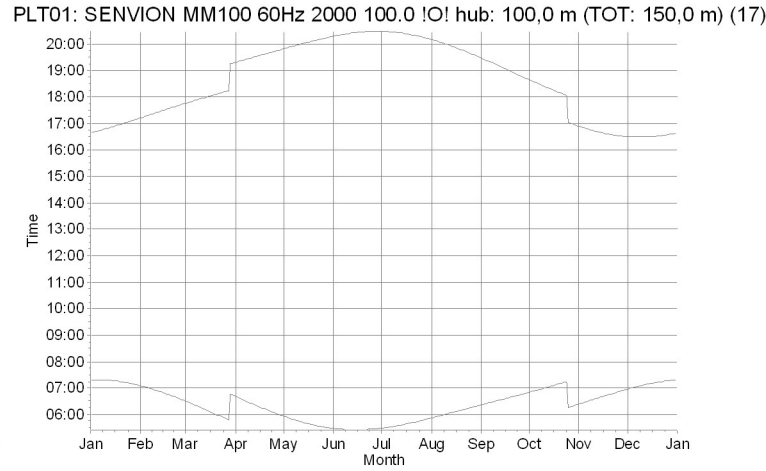
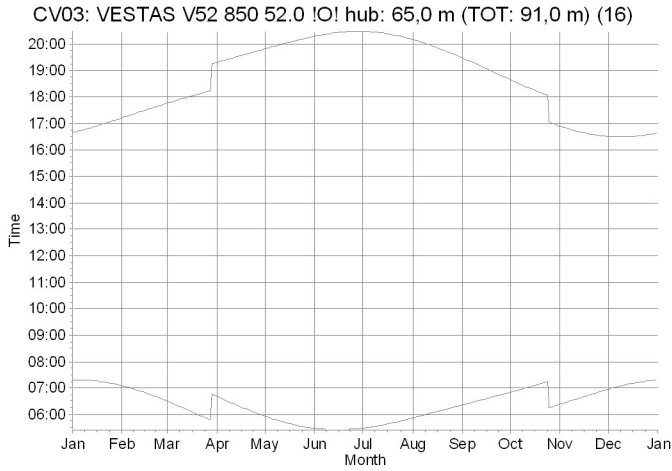


Shadow receptors

- | | | |
|--|---|---|
| Rx 09: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (1) | Rx 26: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (6) | Rx 39: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (13) |
| Rx 14: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (2) | Rx 27: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (7) | Rx 65: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (24) |
| Rx 15: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (3) | Rx 31: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (10) | Rx 71: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (26) |
| Rx 18: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (4) | Rx 32: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (11) | Rx 73: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (27) |
| Rx 22: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (5) | Rx 33: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (12) | Rx 79: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (30) |

SHADOW - Calendar per WTG, graphical

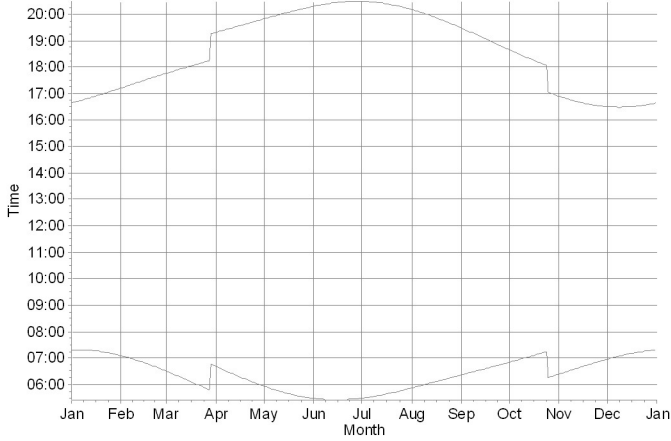
Calculation: Real Case



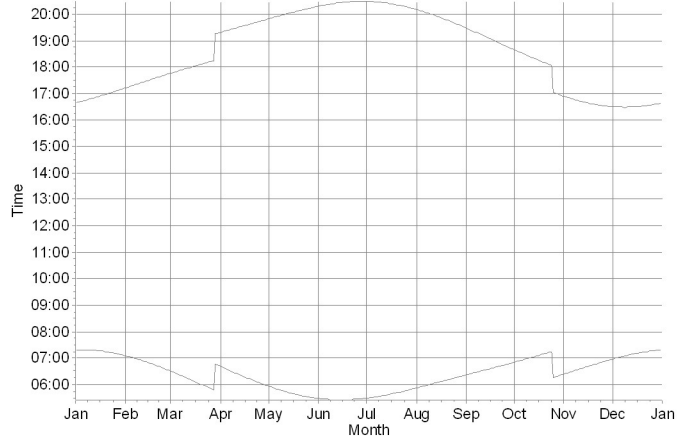
SHADOW - Calendar per WTG, graphical

Calculation: Real Case

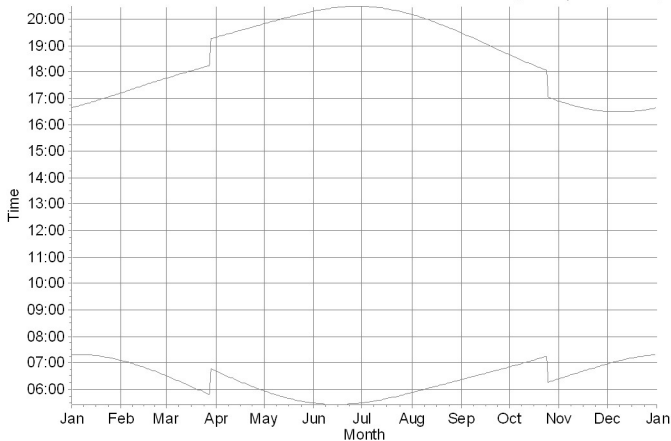
PLT06: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



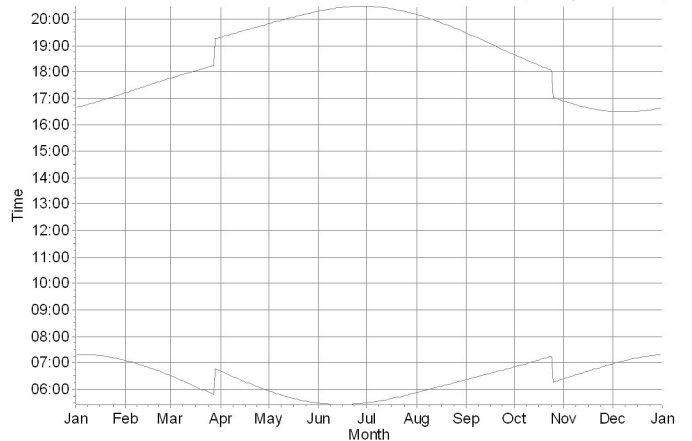
PLT07: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (23)



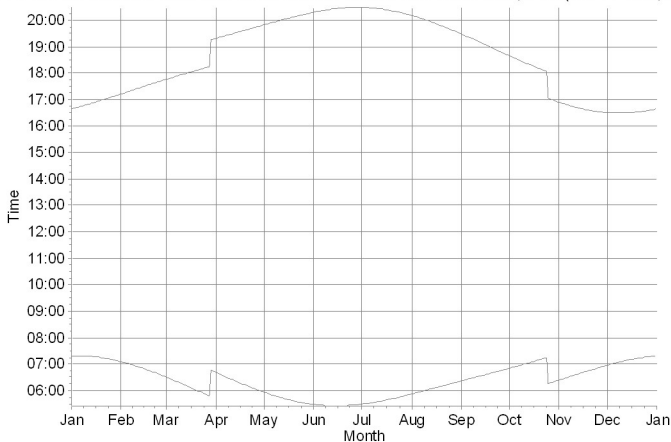
PLT08: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



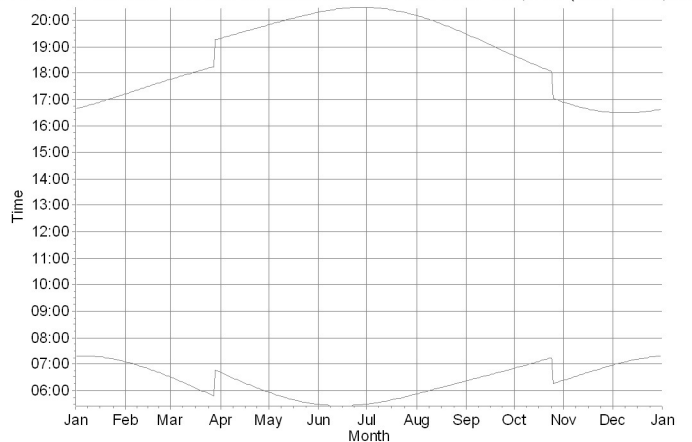
PLT09: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (25)



PLT10: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



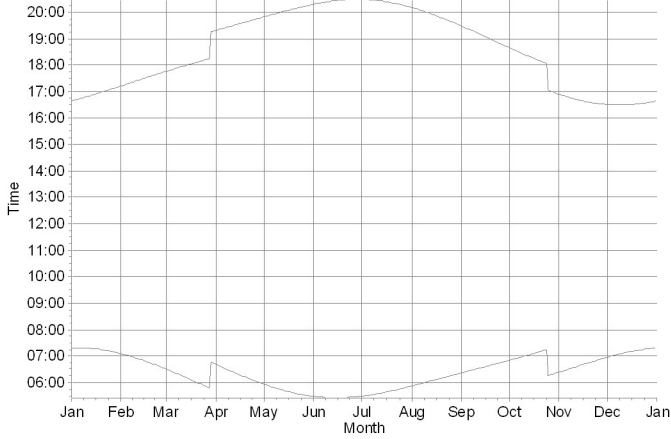
PLT11: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (27)



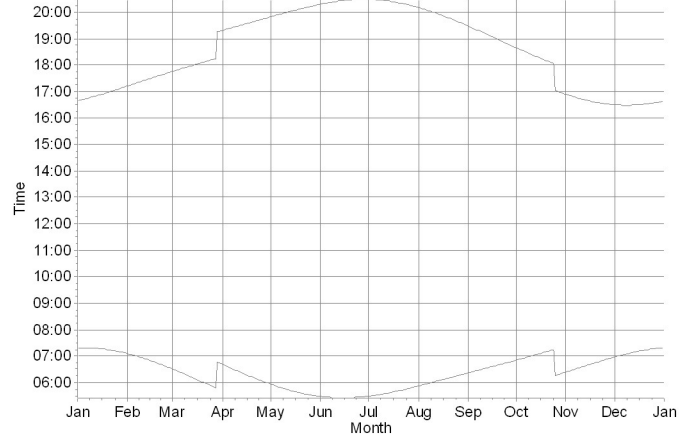
SHADOW - Calendar per WTG, graphical

Calculation: Real Case

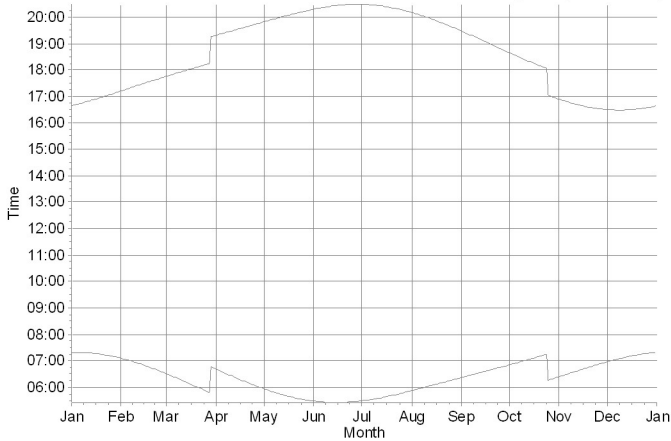
PLT12: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



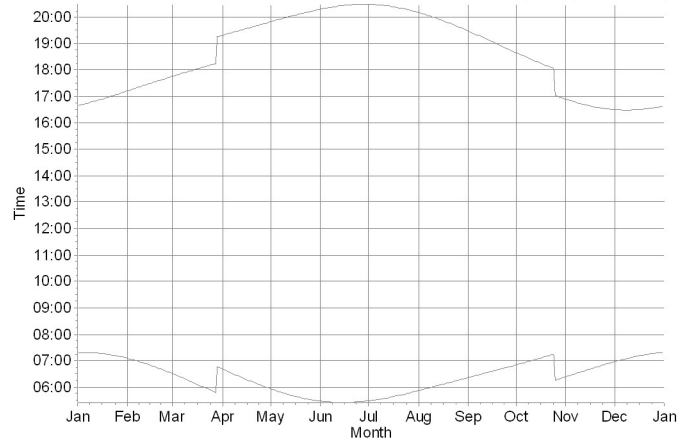
PLT13: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (29)



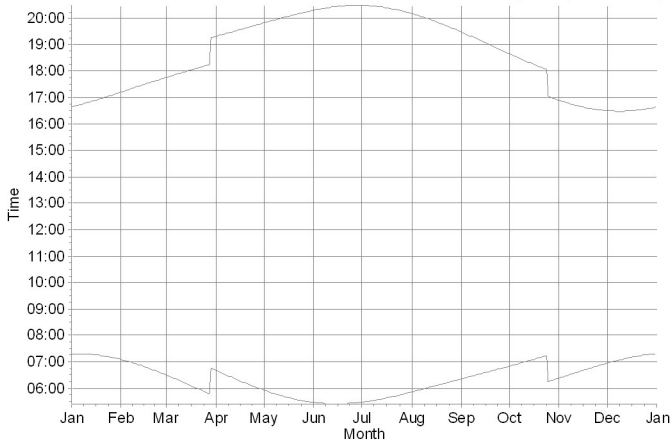
PLT14: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



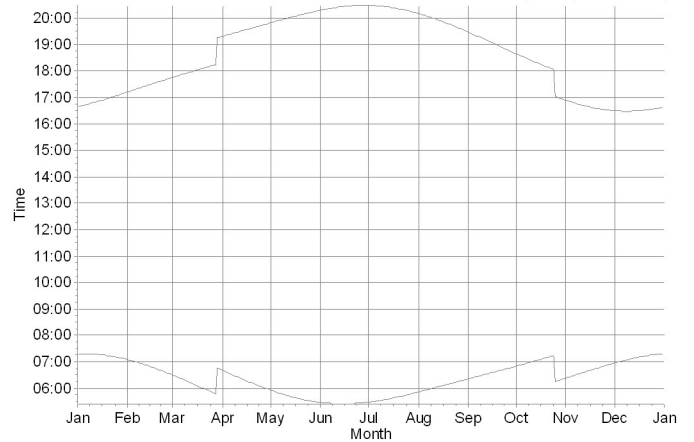
PLT15: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (31)



PLT16: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



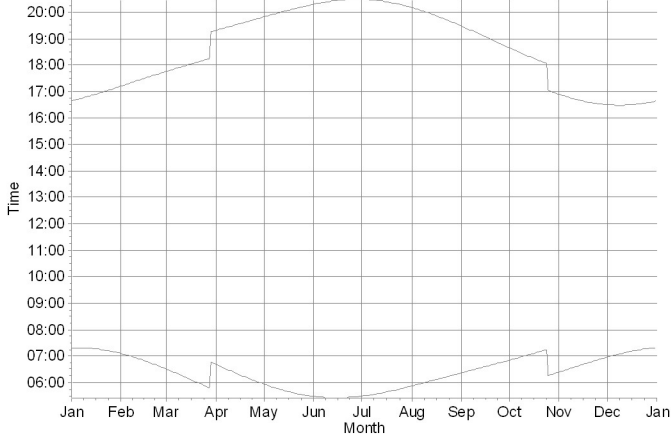
PLT17: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (33)



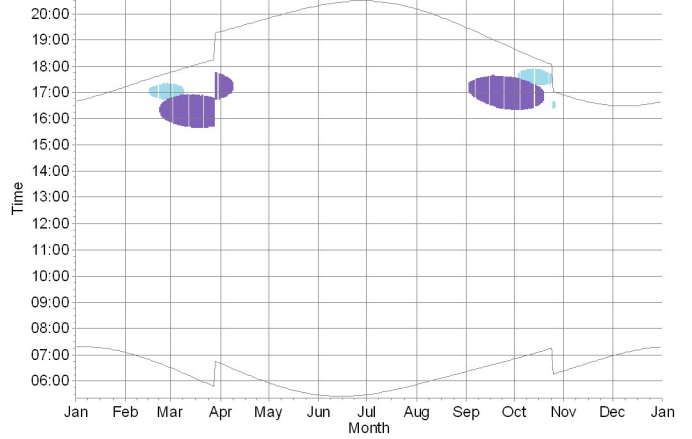
SHADOW - Calendar per WTG, graphical

Calculation: Real Case

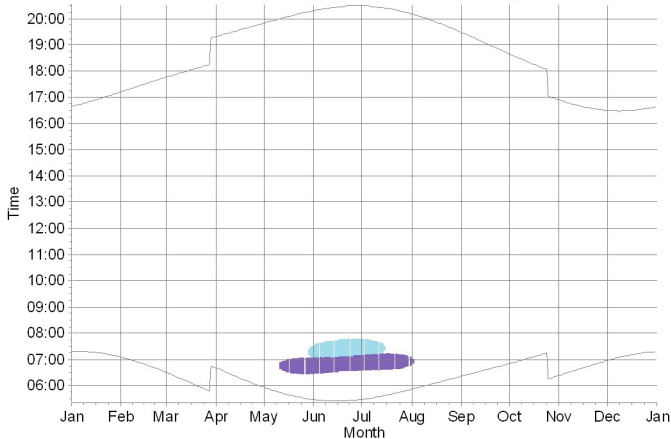
PLT18: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



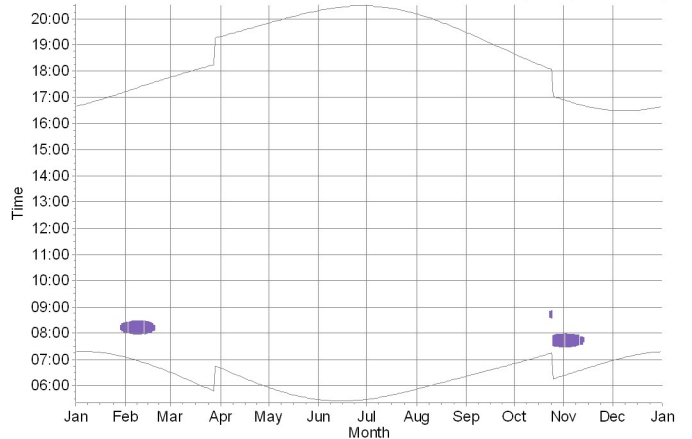
PLT19: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (35)



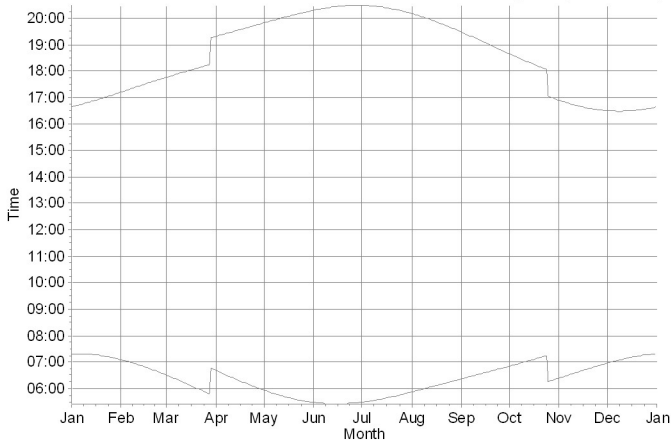
PLT20: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



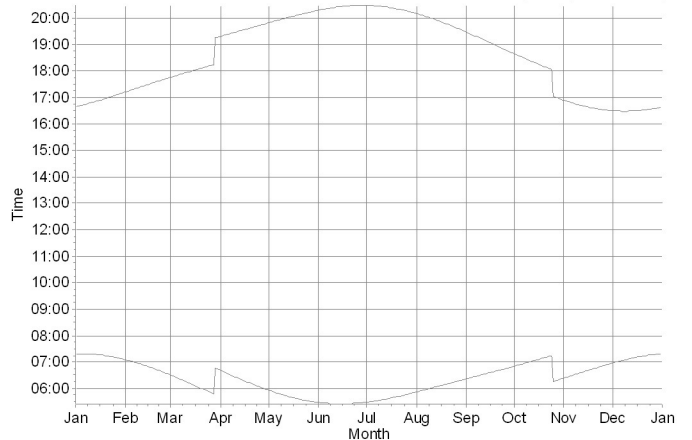
PLT21: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (37)



PLT22: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



PLT23: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (39)



Shadow receptors

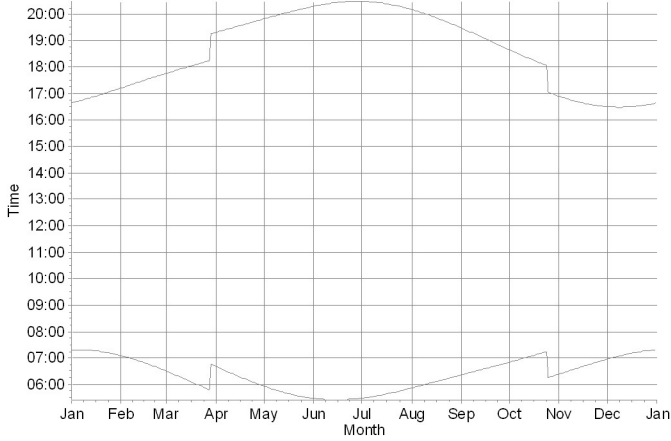
Rx 94: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (33)

Rx 95: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (34)

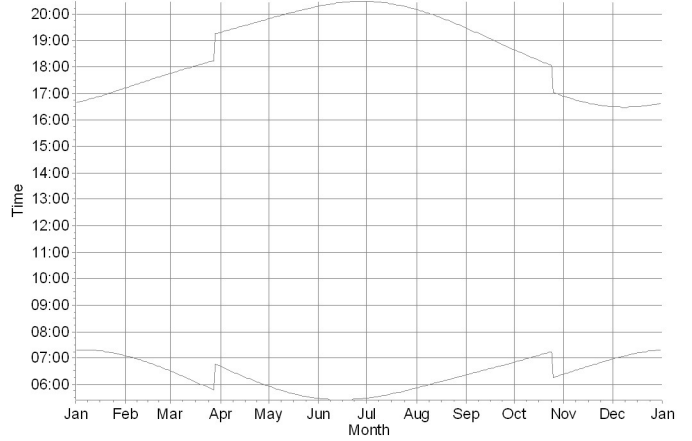
SHADOW - Calendar per WTG, graphical

Calculation: Real Case

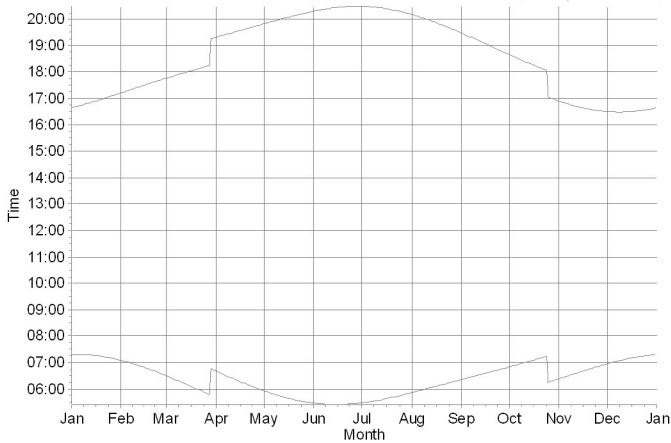
PLT24: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



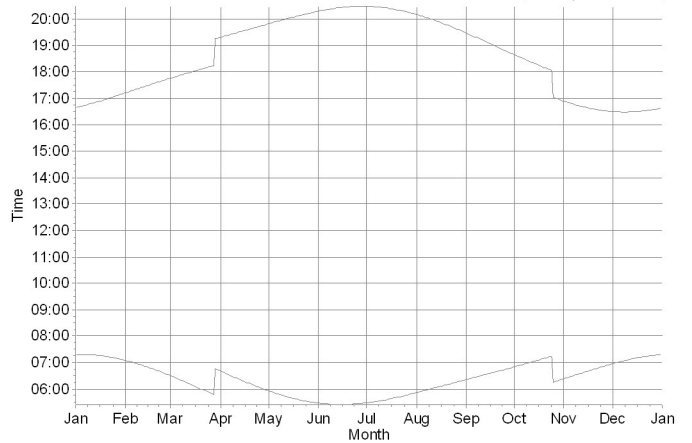
PLT25: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (41)



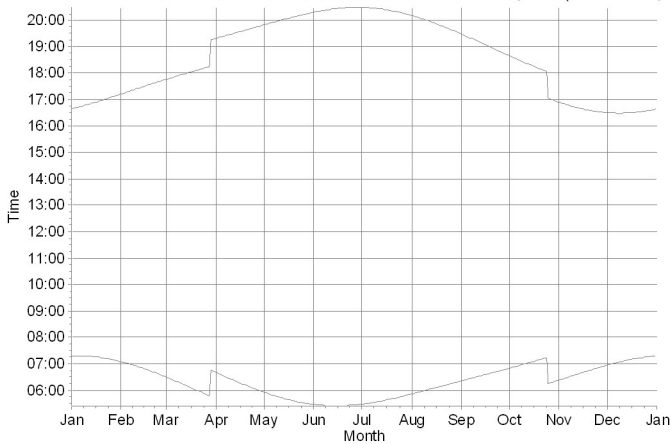
PLT26: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



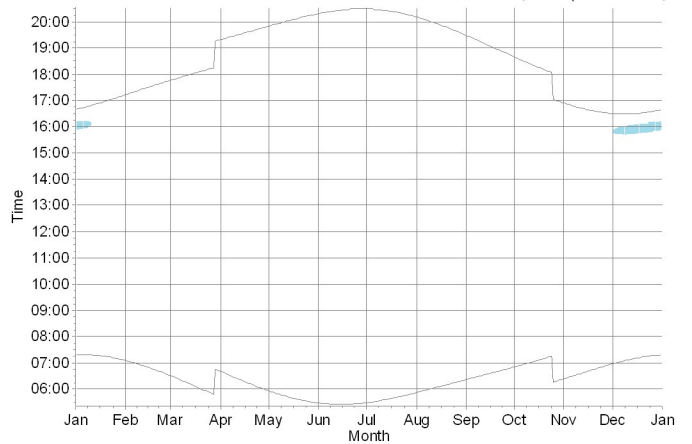
PLT27: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (43)



PLT28: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0



PLT29: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (45)



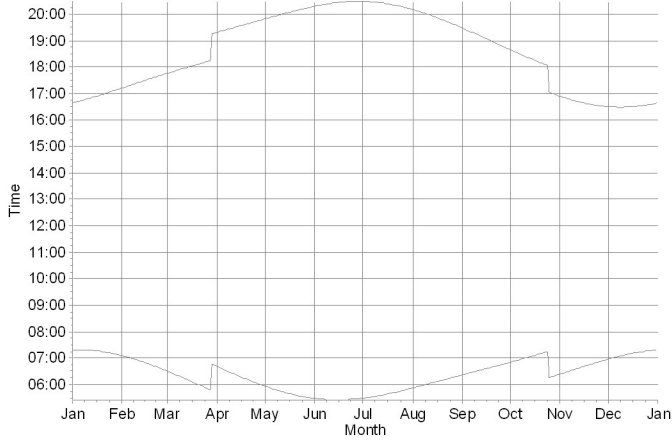
Shadow receptors

Rx 94: Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (33)

SHADOW - Calendar per WTG, graphical

Calculation: Real Case

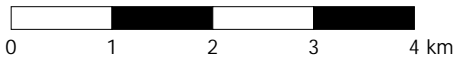
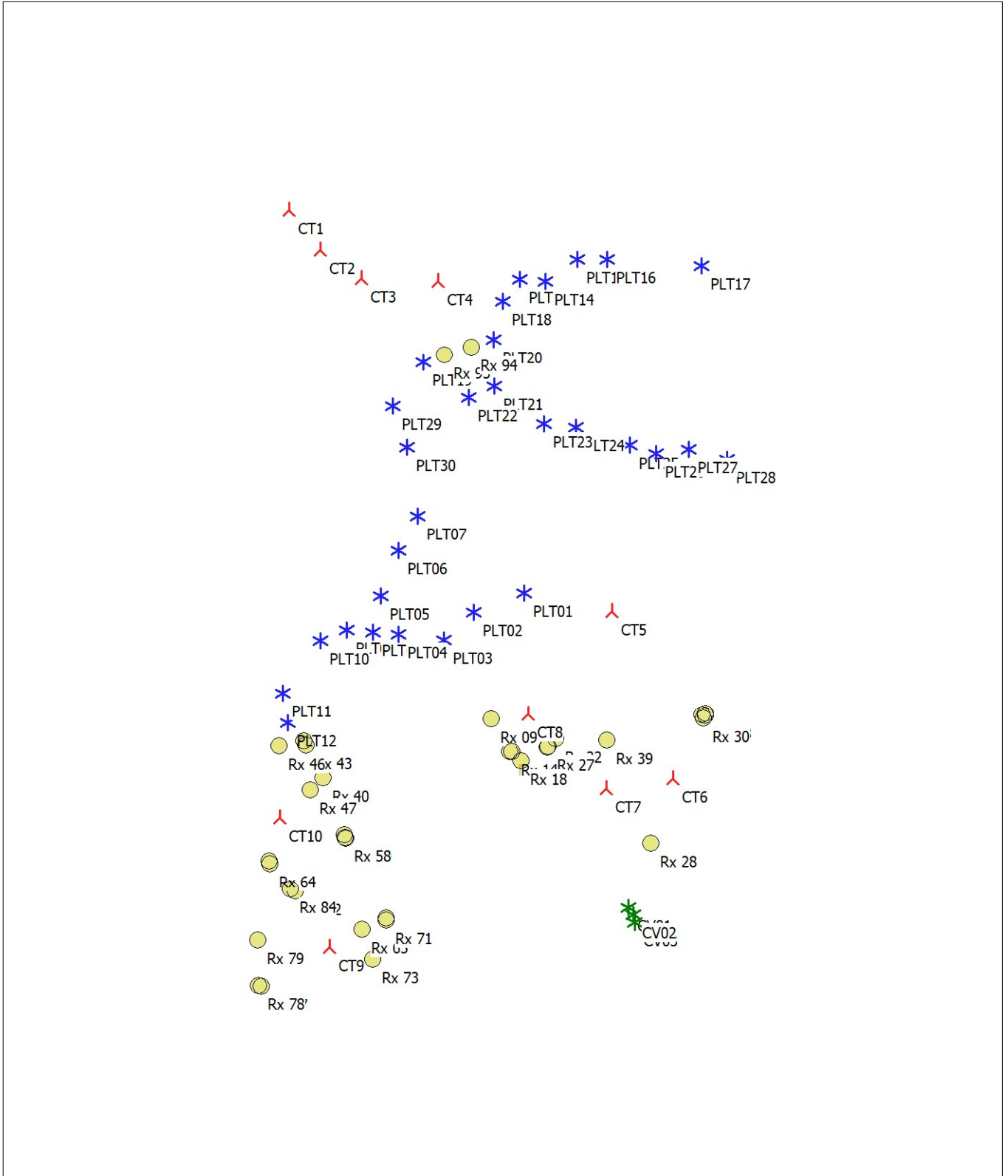
PLT30: SENVION MM100 60Hz 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (46)



Shadow receptors

SHADOW - Map

Calculation: Real Case



Map: Blank map , Print scale 1:75.000, Map center Geo WGS84 East: 16°24'00,64" E North: 40°14'07,50" N
New WTG Existing WTG Shadow receptor
Flicker map level: Elevation Grid Data Object: WF Colobraro_Tursi2_EMDGrid_0.wpg (3)