

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



## PROGETTO DEFINITIVO PARCO EOLICO COLOBRARO TURSI

Titolo elaborato:

### STUDIO SUGLI EFFETTI DELLO SHADOW FLICKERING

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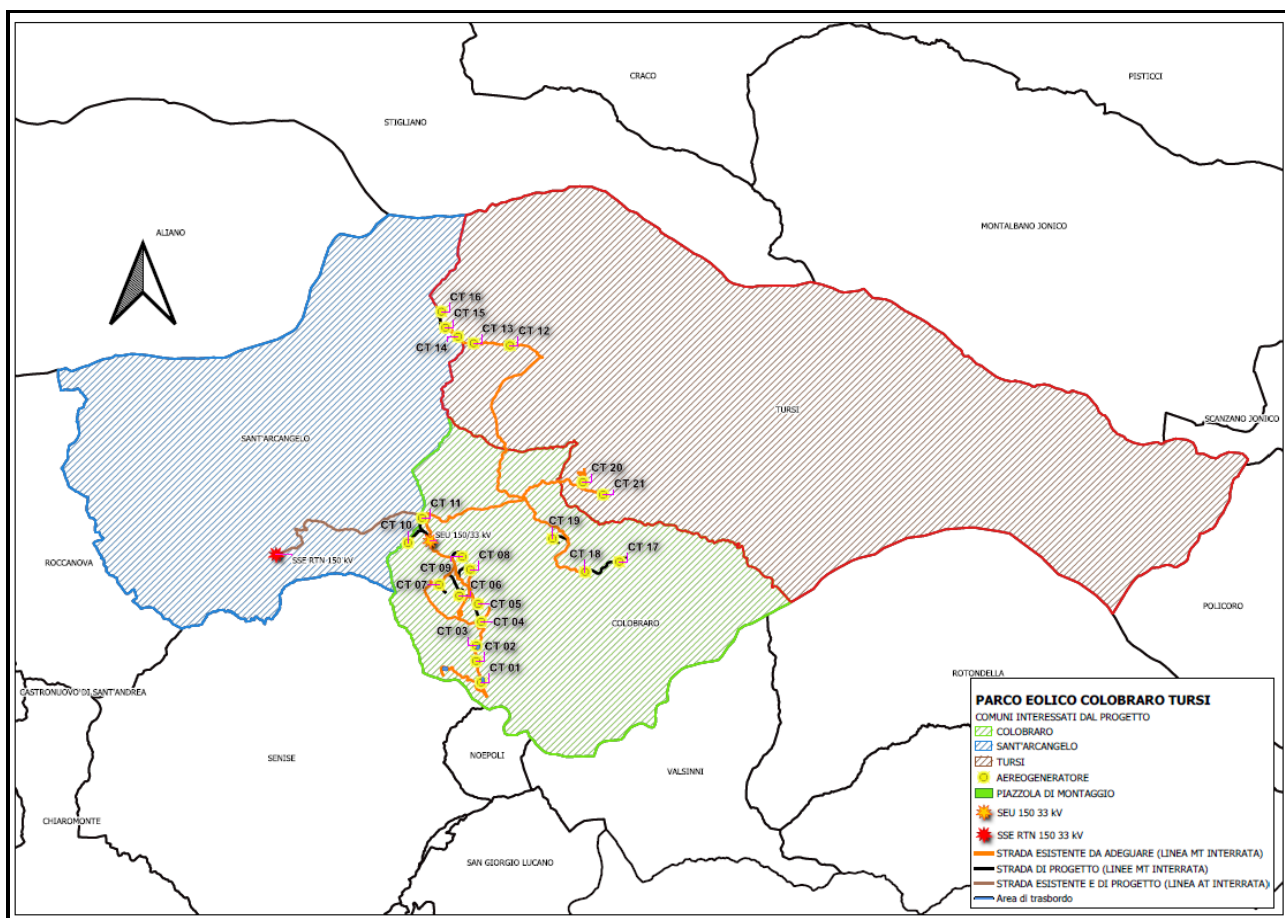
## 1. PREMESSA

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

## 2. DESCRIZIONE DEL PROGETTO

L'impianto eolico presenta una potenza nominale totale pari a 96 MWp ed è costituito da n. 21 aerogeneratori di potenza nominale pari a 4.57 MWp. Gli aerogeneratori, che la società Wpd intende installare, presentano un'altezza della torre pari a 165 m e rotore pari a 170 m e verranno collegati tra loro mediante un cavidotto interrato in media tensione che convoglia l'elettricità verso una sottostazione di trasformazione MT/AT al fine di collegarsi alla Rete di Distribuzione Nazionale (RTN) Terna attraverso una linea interrata in alta tensione.

L'impianto interessa prevalentemente i Comuni di Colobraro, ove ricadono 14 aerogeneratori, Tursi, ove ricadono 7 aerogeneratori, e il Comune di Sant'Arcangelo, dove verrà realizzata la Sottostazione RTN Terna 150 kV (**Figura 2.1**).



**Figura 2.1:** Inquadratura territoriale - Limiti amministrativi comuni interessati

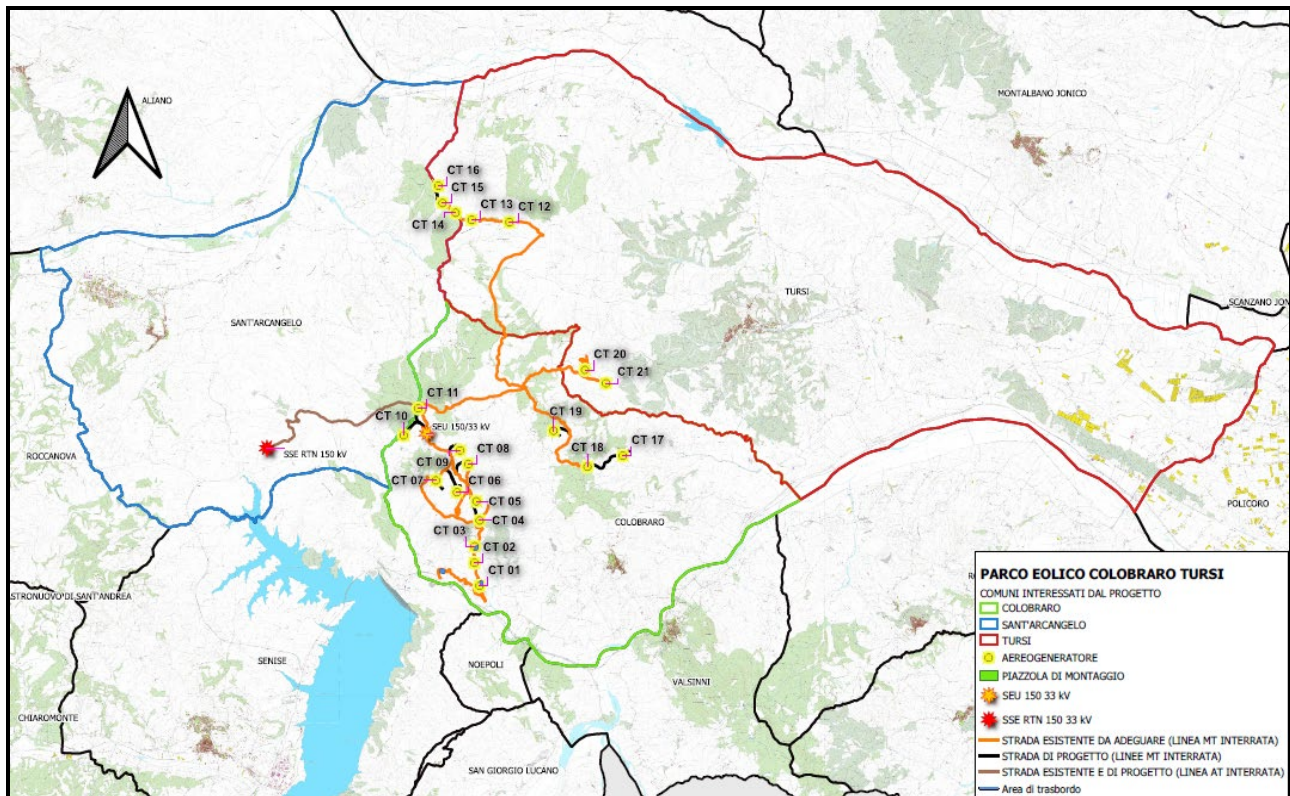


Figura 2.2: Layout d'impianto su CRT

Il Parco eolico si può intendere suddiviso in tre parti (Figura 2.3), quella ricadente ad ovest del centro abitato di Colobraro (*Zona 1 – rettangolo Rosso*), costituita da 11 WTG, 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, Santanaria e Cozzo della Croce, quella ricadente a nord ovest del centro abitato di Tursi (*Zona 2 – rettangolo azzurro*), costituito da 5 WTG, che si sviluppa su un altopiano a circa 500 m s.l.m., in corrispondenza della C.da Il Monticello e quella che si estende al confine tra il Comune di Colobraro e Tursi (*Zona 3 – rettangolo verde*), costituito da 5 WTG, che si sviluppa su un altopiano a circa 500 m s.l.m, in corrispondenza della C.da Cozzo della Lite (Colobraro) e C.da Cozzo di Penne (Tursi) (Figura 2.4-2.5-2.6).

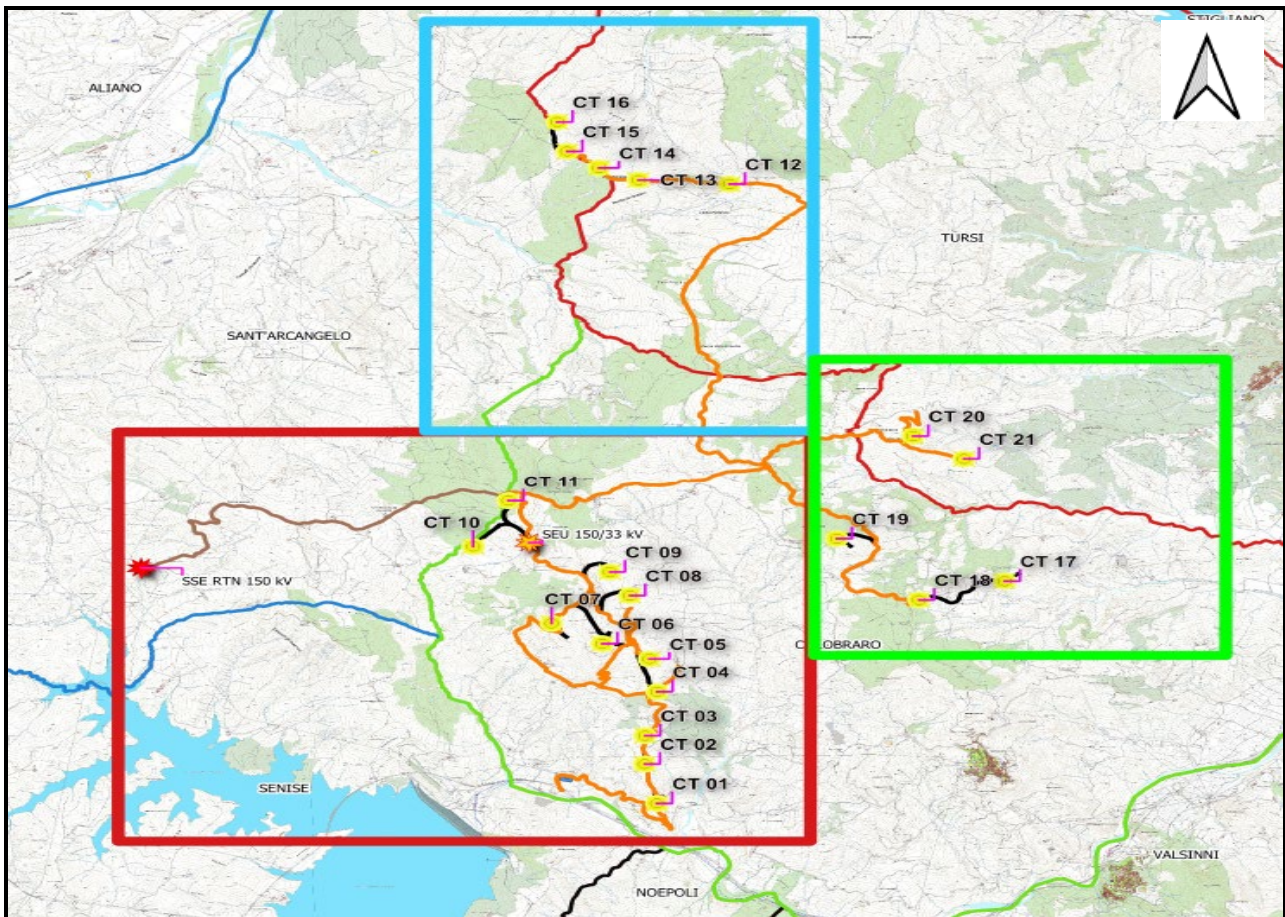


Figura 2.3: Layout d’impianto suddiviso in zone su CTR: Zona 1 (rettangolo rosso), Zona 2 (rettangolo azzurro), Zona 3 (rettangolo verde)

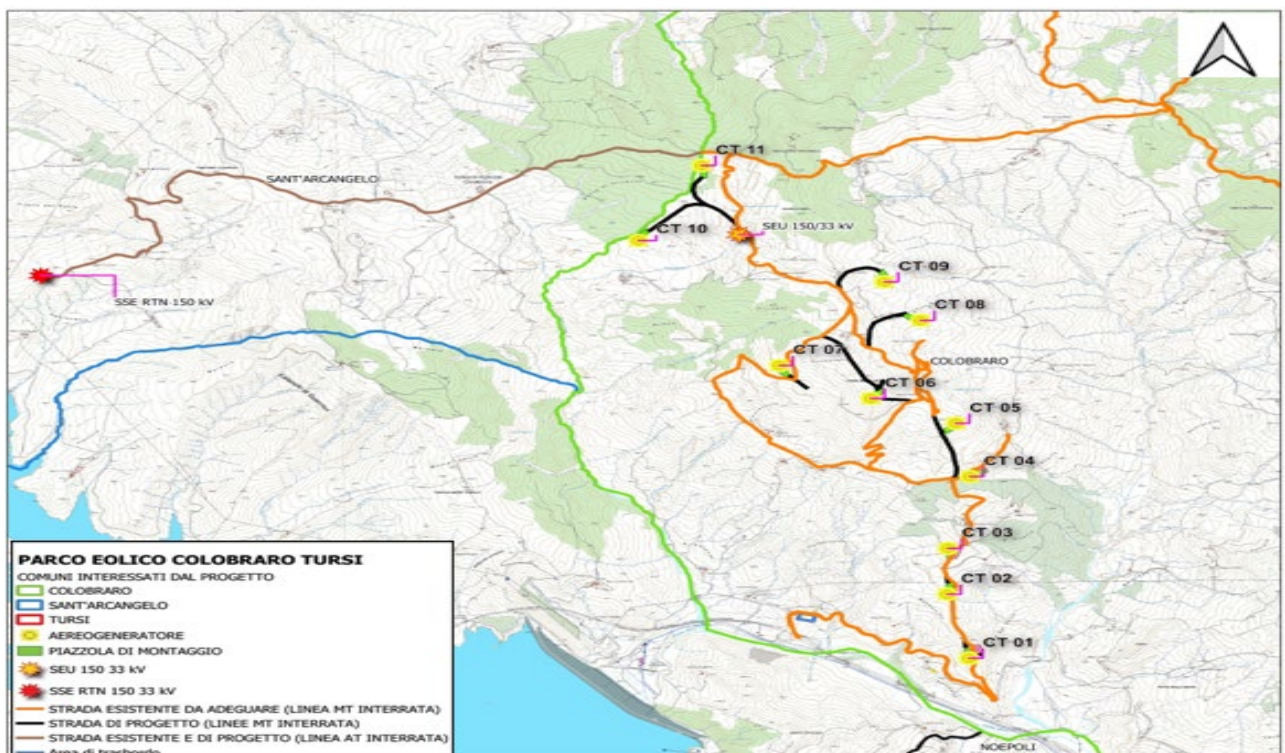


Figura 2.4: Layout d’impianto - zona 1 su CTR

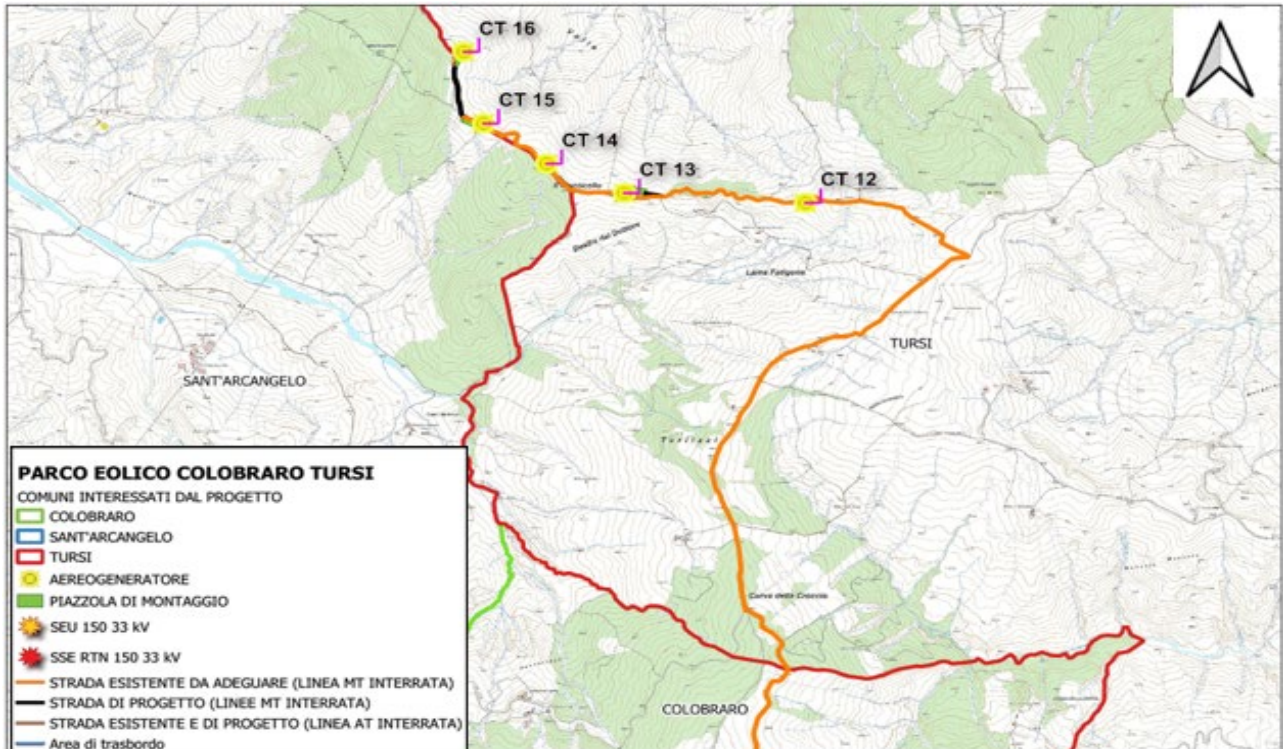


Figura 2.5: Layout d'impianto - zona 2 su CTR

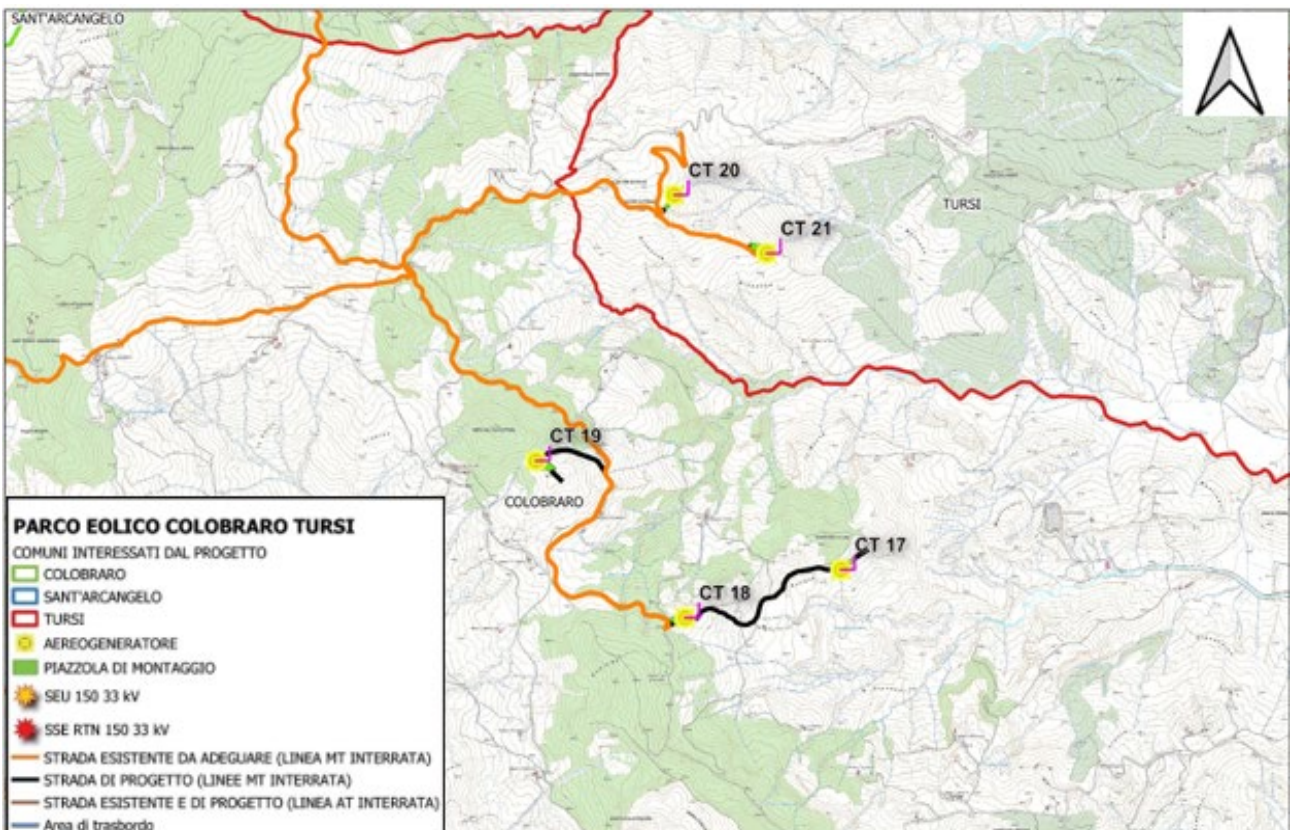


Figura 2.6: Layout d'impianto - zona 3 su CTR

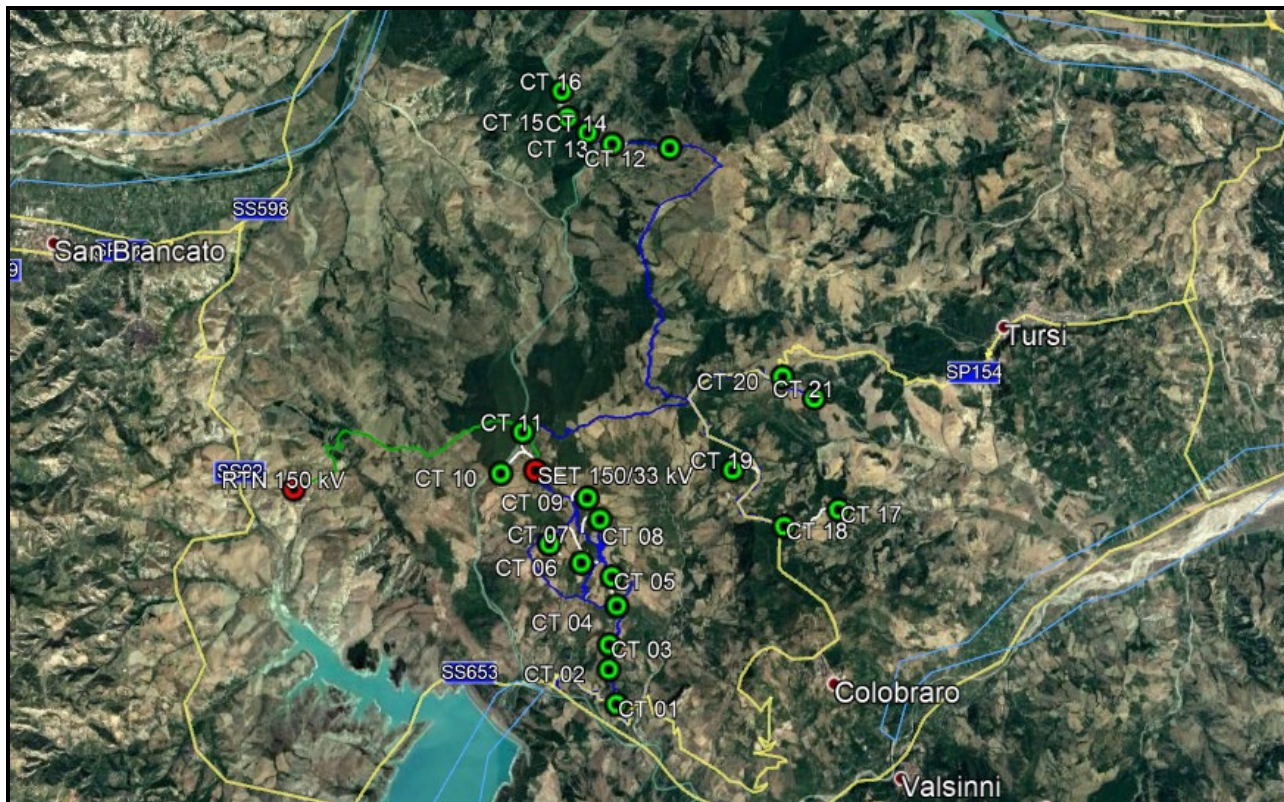
Il collegamento tra il parco eolico e la futura Stazione RTN suddetta avverrà attraverso una linea Alta Tensione 150 kV interrata, prevalentemente su strade esistenti o da realizzare per lo scopo, che parte

dalla sottostazione di trasformazione utente 150/33 kV, posizionata in territorio di Colobrarò (MT), verso cui convogliano tutte le linee di Media tensione del parco, e arriva nel punto di connessione nel Comune di Sant’Arcangelo (PZ).

Le turbine eoliche verranno collegate attraverso un sistema di linee elettriche interrate di Media Tensione da 33 kV allocate prevalentemente in corrispondenza del sistema di viabilità interna che servirà per la costruzione e la gestione futura dell’impianto. Tale sistema di viabilità verrà realizzato prevalentemente adeguando il sistema viario esistente e realizzando nuovi tratti di raccordo per consentire il transito dei mezzi eccezionali.

La soluzione di connessione (soluzione tecnica minima generale STMG - codice pratica del preventivo di connessione C.P. 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, da inserire in doppio entra – esce alle linee RTN a 150 kV “Aliano – Senise” e “Pisticci – Rotonda” nel Comune di Sant’Arcangelo.

L’area di progetto è servita dalla SS 598 (Val D’Agri) nella parte che si sviluppa nel comune di Tursi e dalla SS 653 (Sinnica) nella parte che si sviluppa nel Comune di Colobrarò da cui si prevede l’accesso al parco eolico.



**Figura 2.7:** Layout d’impianto su immagine satellitare

### 3. CARATTERISTICHE PRINCIPALI DEL PARCO EOLICO

L'impianto eolico sarà costituito essenzialmente da 21 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:

WTG	Comune	D rotore	H tot	Hhub	Coordinate UTM-WGS84 T33	
		[m]	[m]	[m]	E	N
CT 01	Colobrarò	170	250	165	617474.96	4448965.62
CT 02	Colobrarò	170	250	165	617333.30	4449607.63
CT 03	Colobrarò	170	250	165	617337.65	4450068.78
CT 04	Colobrarò	170	250	165	617480.00	4450787.00
CT 05	Colobrarò	170	250	165	617388.26	4451321.41
CT 06	Colobrarò	170	250	165	616837.69	4451571.83
CT 07	Colobrarò	170	250	165	616244.92	4451903.15
CT 08	Colobrarò	170	250	165	617160.33	4452354.86
CT 09	Colobrarò	170	250	165	616926.07	4452740.12
CT 10	Colobrarò	170	250	165	615330.74	4453155.37



WTG	Comune	D rotore	H tot	Hhub	Coordinate UTM-WGS84 T33	
		[m]	[m]	[m]	E	N
CT 11	Colobraro	170	250	165	615741.43	4453907.10
CT 12	Tursi	170	250	165	618324.56	4459089.20
CT 13	Tursi	170	250	165	617258.21	4459154.87
CT 14	Tursi	170	250	165	616800.58	4459352.86
CT 15	Tursi	170	250	165	616428.63	4459623.40
CT 16	Tursi	170	250	165	616312.95	4460104.01
CT 17	Colobraro	170	250	165	621534.25	4452590.42
CT 18	Colobraro	170	250	165	620532.78	4452283.00
CT 19	Colobraro	170	250	165	619574.08	4453284.35
CT 20	Tursi	170	250	165	620463.97	4454979.03
CT 21	Tursi	170	250	165	621057.70	4454606.86

**Tabella 3.1:** 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 "Piano Particella di esproprio".

#### **4. 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 in acciaio (suddivisa in più parti), dalla navicella, dal Drive Train, dall'Hub e tre pale che costituiscono il rotore.

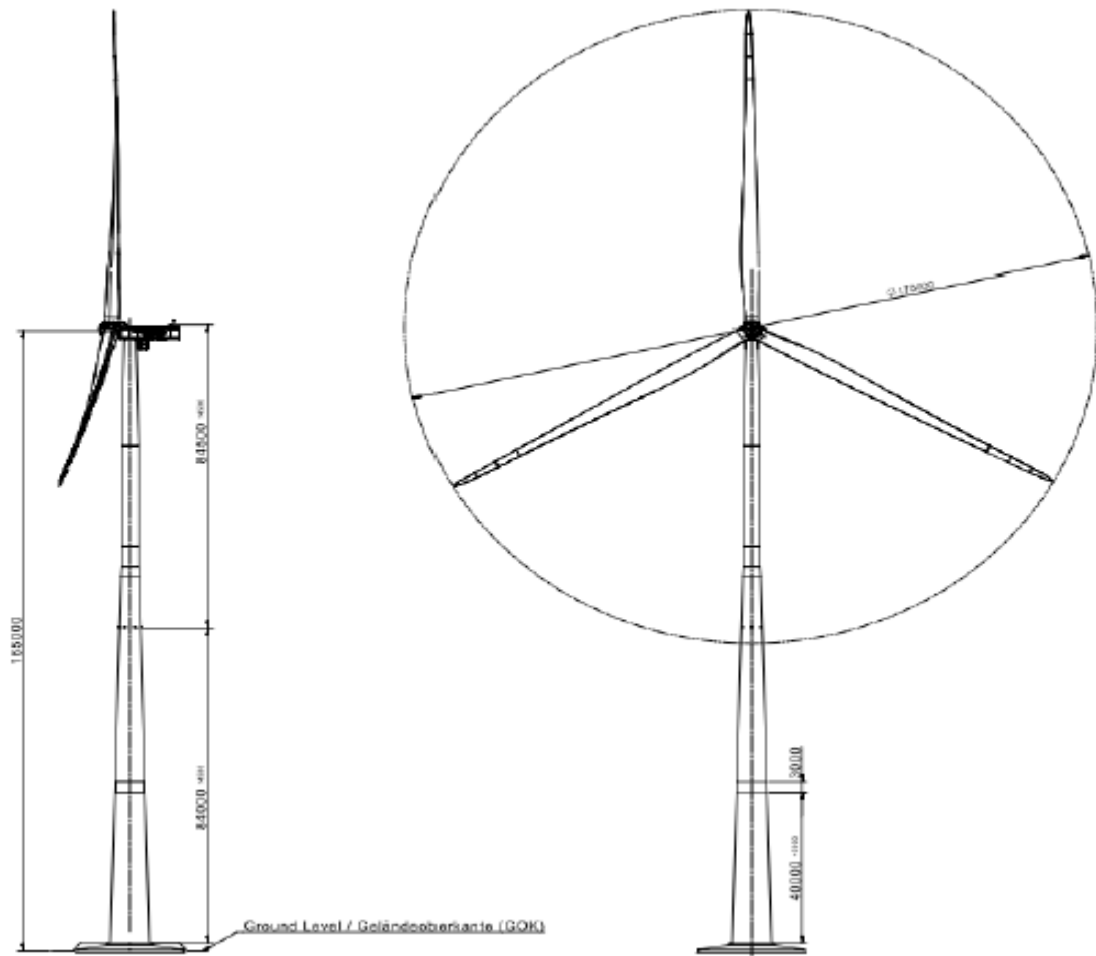
Per il presente progetto una delle possibili macchine che si prevede di utilizzare è il modello Siemens Gamesa SG 170, di potenza nominale pari a 4.57 MW, altezza torre all'hub pari a 165 m e diametro del rotore 170 m (**Figura 4.1**).

Ai componenti sopra elencati si aggiunge un sistema che esegue il controllo della potenza ruotando le pale intorno al loro asse principale ed il controllo dell'orientamento della navicella, detto controllo dell'imbardata, che permette l'allineamento della macchina rispetto alla direzione del vento.

Il rotore è a passo variabile in resina epossidica rinforzata con fibra di vetro di diametro pari a 170 metri, posto sopravvento al sostegno, con mozzo rigido in acciaio. Altre caratteristiche salienti sono riassunte nella **Tabella 4.1**.

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.

SG 6.0-170 165m

**Figura 4.1:** Profilo aerogeneratore SG170 – 4.57 MW

## Technical Specifications

<b>Rotor</b>		<b>Generator</b>	
Type .....	3-bladed, horizontal axis	Type .....	Asynchronous, DFIG
Position .....	Upwind	<b>Grid Terminals (LV)</b>	
Diameter .....	170 m	Baseline nominal power ..	6.0 MW / 6.2 MW
Swept area .....	22,698 m <sup>2</sup>	Voltage .....	690 V
Power regulation .....	Pitch & torque regulation with variable speed	Frequency .....	50 Hz or 60 Hz
Rotor tilt .....	6 degrees	<b>Yaw System</b>	
<b>Blade</b>		Type .....	Active
Type .....	Self-supporting	Yaw bearing .....	Externally geared
Blade length .....	83.5 m	Yaw drive .....	Electric gear motors
Max chord .....	4.5 m	Yaw brake .....	Active friction brake
Aerodynamic profile .....	Siemens Gamesa proprietary airfoils	<b>Controller</b>	
Material .....	G (Glassfiber) – CRP (Carbon Reinforced Plastic)	Type .....	Siemens Integrated Control System (SICS)
Surface gloss .....	Semi-gloss, < 30 / ISO2813	SCADA system .....	SGRE SCADA
Surface color .....	Light grey, RAL 7035 or White, RAL 9018	<b>Tower</b>	
<b>Aerodynamic Brake</b>		Type .....	Tubular steel / Hybrid
Type .....	Full span pitching	Hub height .....	100 m to 165 m and site- specific
Activation .....	Active, hydraulic	<b>Corrosion protection</b> .....	
<b>Load-Supporting Parts</b>		.....	Painted
Hub .....	Nodular cast iron	Surface gloss .....	Semi-gloss, <30 / ISO-2813
Main shaft .....	Nodular cast iron	Color .....	Light grey, RAL 7035 or White, RAL 9018
Nacelle bed frame .....	Nodular cast iron	<b>Operational Data</b>	
<b>Mechanical Brake</b>		Cut-in wind speed .....	3 m/s
Type .....	Hydraulic disc brake	Rated wind speed .....	11.0 m/s (steady wind without turbulence, as defined by IEC61400-1)
Position .....	Gearbox rear end	Cut-out wind speed .....	25 m/s
<b>Nacelle Cover</b>		Restart wind speed .....	22 m/s
Type .....	Totally enclosed	<b>Weight</b>	
Surface gloss .....	Semi-gloss, <30 / ISO2813	Modular approach .....	Different modules depending on restriction
Color .....	Light Grey, RAL 7035 or White, RAL 9018		

Tabella 4.1: Specifiche tecniche aerogeneratore

## 5. FENOMENO DI SHADOW FLIKERING

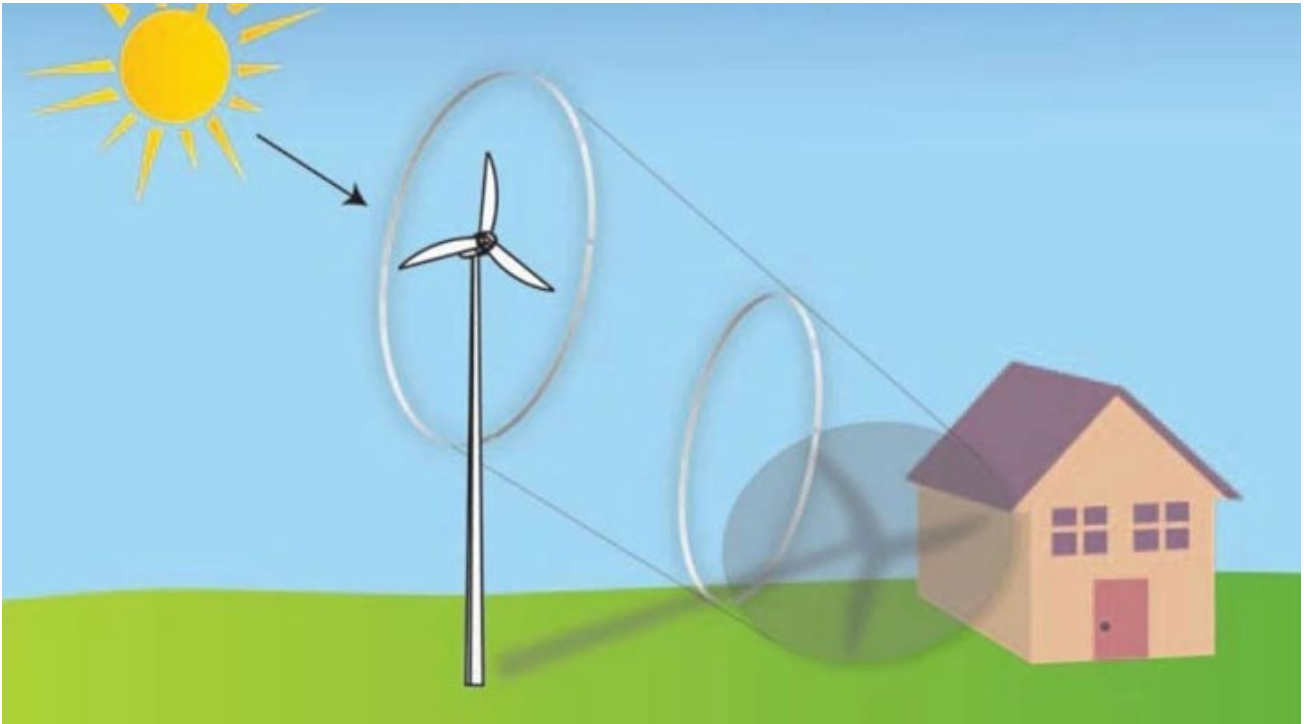
La presenza delle turbine eoliche provoca la proiezione dell'ombra sulle aree ad esse adiacenti in presenza di luce solare diretta.

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 seguente



**Figura 5.1:** 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.

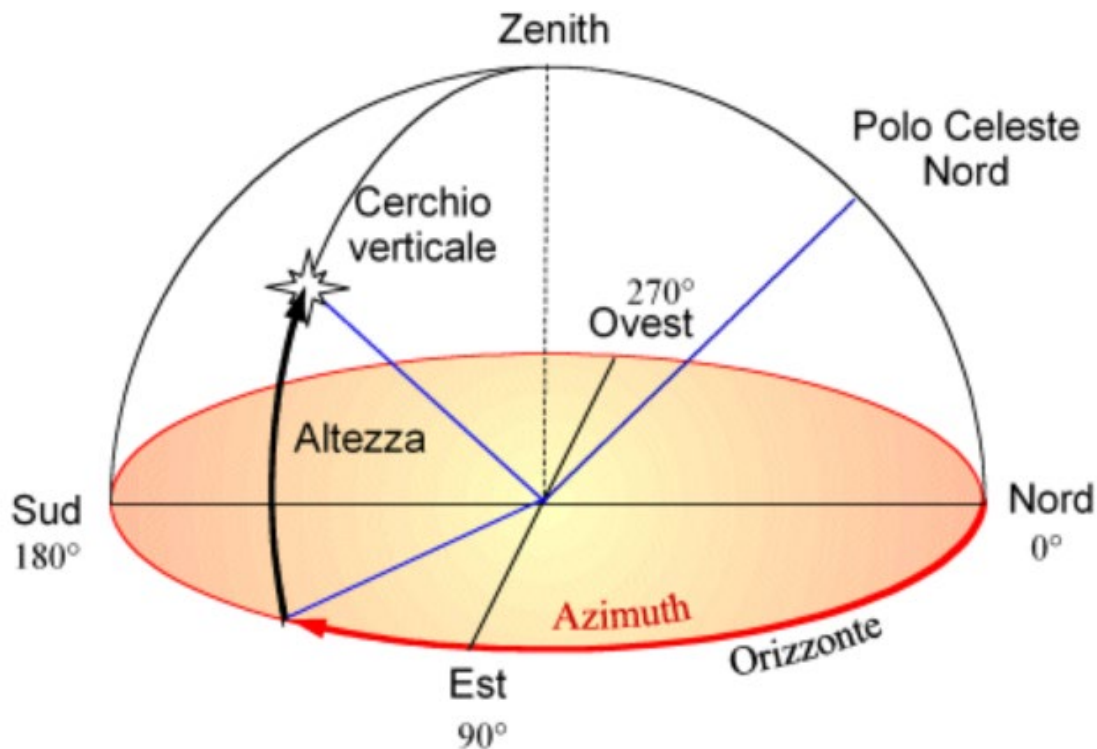
In linea di massima, si può concludere che l'area soggetta al fenomeno in questione non si estende oltre i 500 ÷ 1000 m dall'aerogeneratore e le zone a maggiore impatto ricadono entro i 300 m di distanza dalle turbine.

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

L'azimut per convenzione è 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 5.2:** 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.

## **6. 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 esiste una normativa nazionale specifica che regolamenti il fenomeno.

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 ricevitore al di sotto delle 30 ore annue, parametro considerato di qualità a livello internazionale.

## 7. 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 21 aerogeneratori di nuova realizzazione e relativi al progetto del parco eolico Colobrarò – Tursi e 45 aerogeneratori esistenti.

I 21 aerogeneratori hanno un'altezza al mozzo di 165 m, diametro del rotore di 170 m, potenza nominale di 4,57 MW e 8,8 giri al minuto (RPM).

Nel file **allegato 1** alla relazione in questione sono esplicitati anche i modelli delle 45 turbine eoliche esistenti e le relative coordinate, in quanto contribuiscono agli effetti provocati per il fenomeno shadow flickering così come quelle di nuova realizzazione, essendo prossime alle stesse.

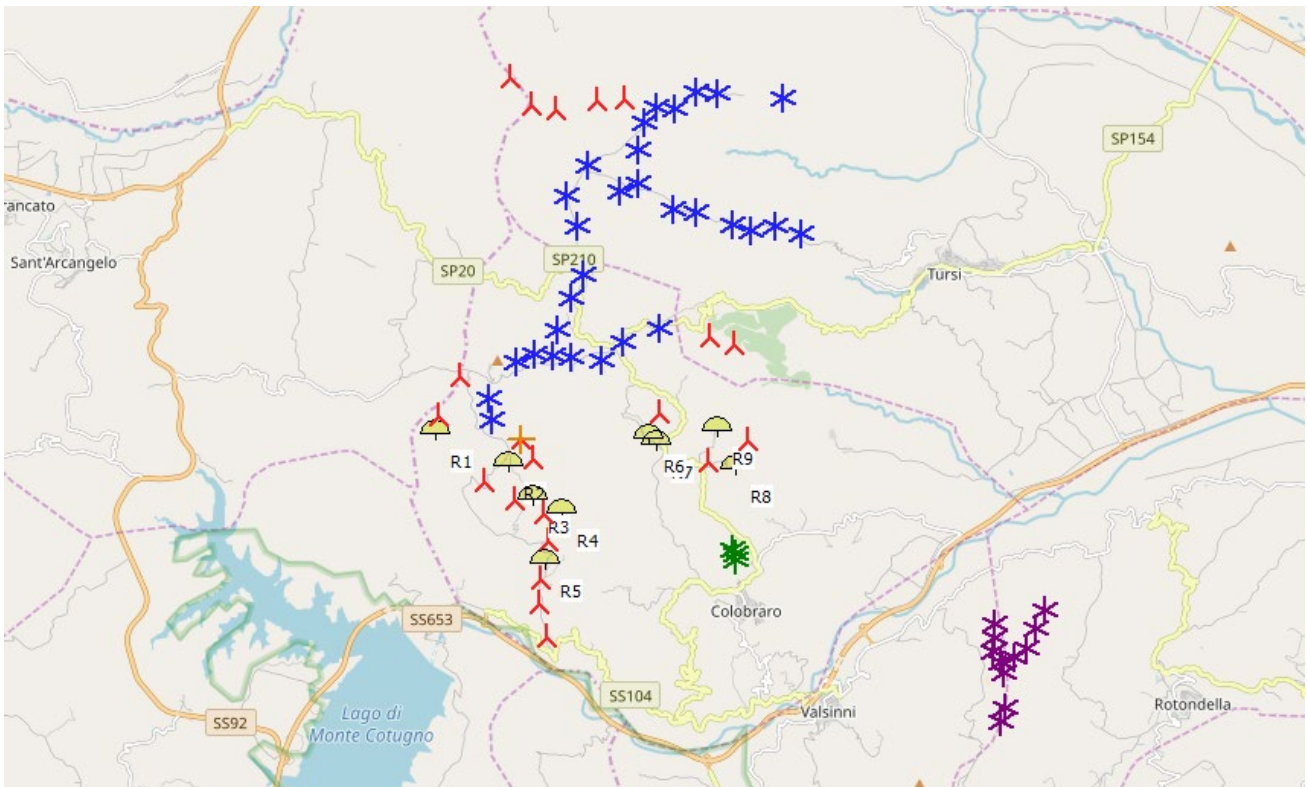
La verifica è stata effettuata in corrispondenza di 9 ricettori (R1, ....., R9) sui quali l'effetto trattato potrebbe avere una certa rilevanza:

Ricettore	Tipologia	Latitudine	Longitudine
R1	abitazione	40.217654°	16.354793°
R2	abitazione	40.212229°	16.371400°
R3	abitazione	40.206500°	16.376828°
R4	abitazione	40.203940°	16.383265°
R5	abitazione	40.195354°	16.379648°
R6	abitazione	40.216822°	16.403077°
R7	abitazione	40.215726°	16.404663°
R8	abitazione	40.211713°	16.422385°
R9	abitazione	40.218273°	16.418285°

**Tabella 7.1:** coordinate ricettori oggetto di verifica

La distribuzione dei suddetti ricettori rispetto agli aerogeneratori è riportata nella figura seguente:

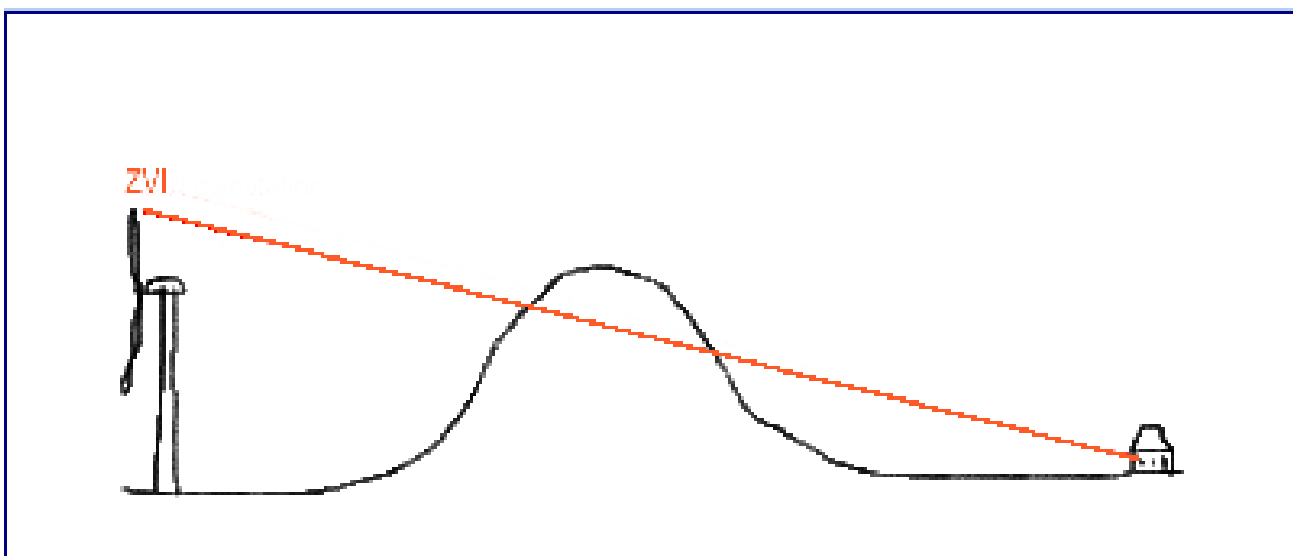




**Figura 7.1:** Localizzazione dei ricettori rispetto agli aerogeneratori

Il software impiegato per effettuare la verifica di sicurezza all'effetto shadow flickering è il WindPRO versione 3.4.

Il software esegue la valutazione di zone di influenza degli aerogeneratori (ZVI), considerando l'orografia del terreno e altezza dell'osservatore pari a 1.5 m, prima di effettuare il calcolo flicker in modo da escludere il contributo di quegli aerogeneratori che non sono visibili dal ricettore da ogni direzione.



**Figura 7.2:** Impatto della ZVI, l'orografica del territorio può rendere non visibile l'aerogeneratore al ricettore

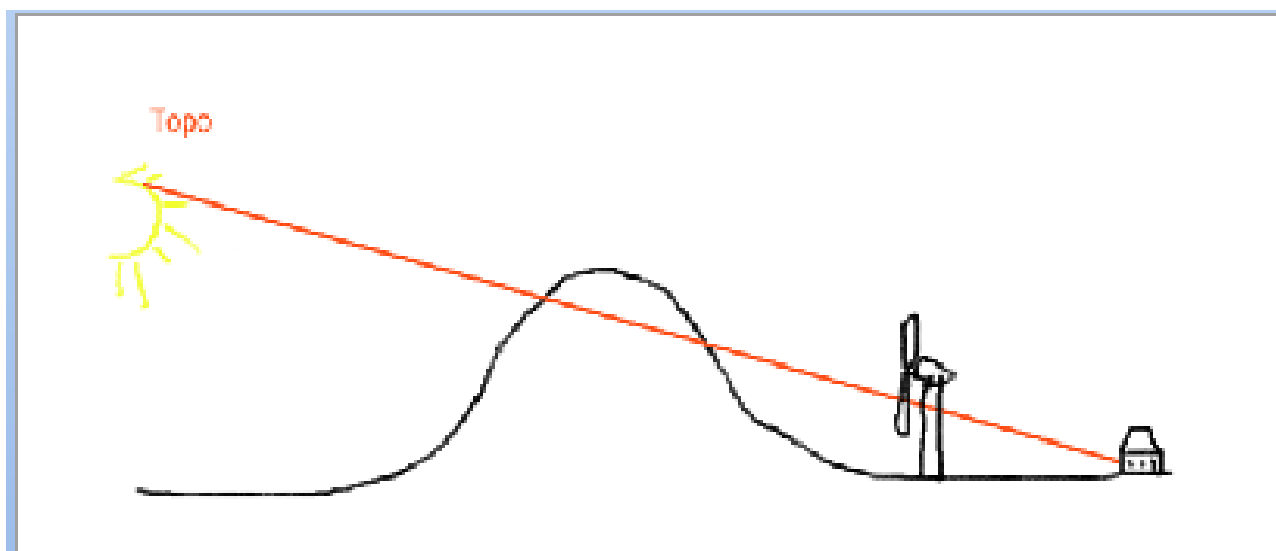


Figura 7.3: impatto dell'orografia del territorio sull'ombreggiamento

Nella stima effettuata si assumono le seguenti ipotesi restrittive:

- L'impianto eolico sempre in funzione durante le ore di sole;
- Il vento caratterizzato da direzione prevalente SW durante le ore di sole;
- Altezza minima del sole sull'orizzonte pari a  $3^\circ$ ;
- 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.

Allo scopo di pervenire a valori più realistici di impatto si è impiegato il valore di eliofania locale, che tiene in conto del numero medio di ore di cielo libero da nubi durante il giorno.

Per l'area in esame, con riferimento all'anno 2021 ed alla zona di Palinuro, i valori delle probabilità medie di eliofania e le ore di funzionamento degli aerogeneratori in presenza del sole sono riportati in tabella per ognuno dei mesi:

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	4,14	4,76	5,47	6,61	8,23	9,68	10,62	10,12	8,36	6,25	5,04	4,06
ORE FUNZIONAMENTO WTG IN PRESENZA DEL SOLE	128.34	133.28	169.57	198.3	255.13	290.4	329.22	313.72	250.8	193.75	151.2	125.86
SOMMA ORE FUNZIONAMENTO WTG	2539.57											

Tabella 7.2: probabilità medie di eliofania e ore di funzionamento aerogeneratori

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.

## 8. CONCLUSIONI

Nella seguente tabella si riportano i valori attesi delle ore d'ombra intermittente per anno relativamente ai ricettori considerati:

RICETTORE	[h/anno]
R1	1:47
R2	14:36
R3	25:53
R4	10:01
R5	26:04
R6	0:05
R7	0:20
R8	0:00
R9	11:27

**Tabella 8.1:** ore d'ombra intermittente all'anno ricadenti sui ricettori

Dai risultati ottenuti si evince che per ogni ricettore 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.

In taluni casi (R1, R6, R7, R8), tale numero è dell'ordine dell'ora, nonostante le ipotesi restrittive assunte in fase di calcolo.

I valori più alti, comunque inferiori a 30 ore/anno, riguardano R3 e R5, vista la loro relativa vicinanza agli aerogeneratori CT 17 e CT 18.

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

L'effetto in questione, inoltre, risulta essere di scarsa rilevanza nonostante le ipotesi restrittive e, in taluni casi, non sempre vicine al caso reale, considerate alla base del calcolo.

Nello scenario reale ci si aspetta che il fenomeno, quindi, risulti ulteriormente meno rilevante.

9. ALLEGATO 1: SHADOW – MAIN RESULT – ELABORAZIONE MEDIANTE IL SOFTWARE WINDPRO 3.4

## SHADOW - Main Result

### 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

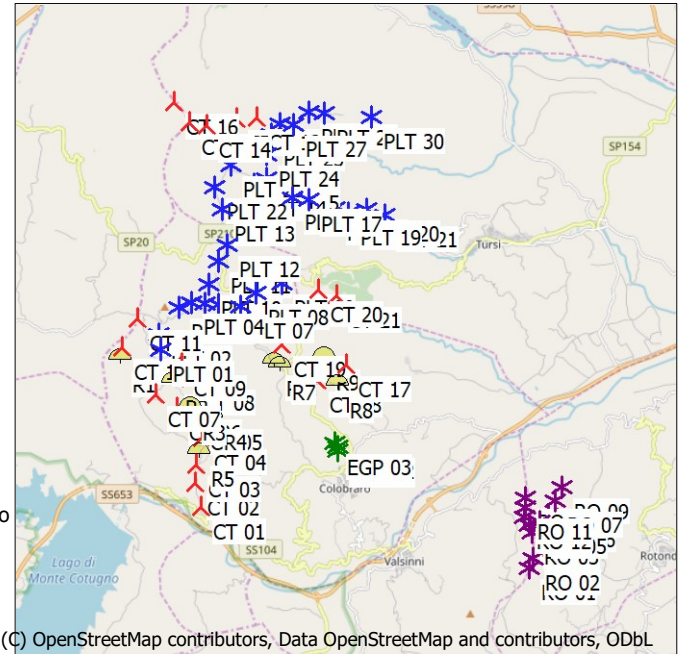
Minimum sun height over horizon for influence 3 °  
Day step for calculation 1 days  
Time step for calculation 1 minutes

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:  
Height contours used: Height Contours: CONTOURLINE\_ONLINEDATA\_4.wpo  
Obstacles used in calculation  
Eye height for map: 1,5 m  
Grid resolution: 1,0 m  
Topographic shadow included in calculation

All coordinates are in  
Geo [deg]-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
			[m]									
CT 01	16,379888° E	40,182851° N	288,5	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 02	16,378350° E	40,188653° N	331,3	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 03	16,378481° E	40,192804° N	390,0	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 04	16,380291° E	40,199260° N	481,8	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 05	16,379308° E	40,204083° N	594,3	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 06	16,372881° E	40,206411° N	702,7	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 07	16,365975° E	40,209484° N	651,2	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 08	16,376818° E	40,213419° N	643,7	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 09	16,374139° E	40,216928° N	688,0	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 10	16,355471° E	40,220890° N	618,6	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 11	16,360427° E	40,227604° N	730,0	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 12	16,397329° E	40,275371° N	531,3	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 13	16,391359° E	40,275083° N	510,0	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 14	16,382036° E	40,273519° N	478,9	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 15	16,376591° E	40,274169° N	479,5	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 16	16,371571° E	40,278940° N	450,0	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 17	16,425299° E	40,216544° N	493,6	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 18	16,416205° E	40,212841° N	579,0	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 19	16,405395° E	40,221459° N	641,2	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 20	16,416679° E	40,234512° N	527,2	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
CT 21	16,422199° E	40,233056° N	450,0	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.0-170-6.200	6.200	170,0	165,0	2.037	8,8
EGP 01	16,422643° E	40,196204° N	770,0	VESTAS V52 850 52.0 ...	No	VESTAS	V52-850	850	52,0	65,0	969	26,0
EGP 02	16,422423° E	40,197181° N	771,4	VESTAS V52 850 52.0 ...	No	VESTAS	V52-850	850	52,0	65,0	969	26,0
EGP 03	16,421677° E	40,198008° N	780,0	VESTAS V52 850 52.0 ...	No	VESTAS	V52-850	850	52,0	65,0	969	26,0
PLT 01	16,367466° E	40,220373° N	790,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 02	16,367007° E	40,224005° N	810,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 03	16,372942° E	40,230284° N	786,2	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 04	16,377062° E	40,231594° N	763,7	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 05	16,381285° E	40,231198° N	750,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 06	16,385319° E	40,231112° N	718,5	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 07	16,392357° E	40,230425° N	695,6	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 08	16,397164° E	40,233776° N	646,2	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 09	16,405232° E	40,236095° N	577,3	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 10	16,382401° E	40,235666° N	699,3	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 11	16,385319° E	40,241250° N	653,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 12	16,388237° E	40,245288° N	629,9	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 13	16,386710° E	40,253719° N	560,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9

To be continued on next page...

## SHADOW - Main Result

...continued from previous page

	Longitude	Latitude	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.					Calculation distance [m]	RPM
			[m]									
PLT 14	16,396409° E	40,259647° N	592,8	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 15	16,400528° E	40,260935° N	620,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 16	16,408339° E	40,256554° N	580,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 17	16,413403° E	40,255952° N	570,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 18	16,421900° E	40,253891° N	550,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 19	16,426020° E	40,252860° N	530,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 20	16,431256° E	40,253461° N	490,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 21	16,437264° E	40,252172° N	493,1	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 22	16,384427° E	40,258768° N	564,2	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 23	16,389276° E	40,264005° N	550,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 24	16,400383° E	40,266748° N	606,7	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 25	16,401816° E	40,271413° N	624,7	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 26	16,404477° E	40,274076° N	656,7	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 27	16,408597° E	40,273819° N	590,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 28	16,413661° E	40,276568° N	540,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 29	16,418295° E	40,276396° N	553,0	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
PLT 30	16,433230° E	40,275537° N	557,1	REpower MM 100 200...	No	REpower	MM 100-2.000	2.000	100,0	100,0	1.625	13,9
RO 01	16,482136° E	40,168473° N	450,0	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 02	16,483338° E	40,170749° N	850,0	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 03	16,482780° E	40,176720° N	420,0	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 04	16,482179° E	40,178567° N	390,0	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 05	16,485441° E	40,179470° N	370,0	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 06	16,488016° E	40,180973° N	363,8	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 07	16,490119° E	40,184408° N	330,0	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 08	16,492136° E	40,187501° N	294,2	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 09	16,492136° E	40,187501° N	714,2	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 10	16,480935° E	40,185267° N	323,9	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 11	16,480763° E	40,182861° N	349,3	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3
RO 12	16,480548° E	40,180542° N	375,2	NORDEX S77 1500 77....	Yes	NORDEX	S77-1.500	1.500	77,0	85,0	1.503	17,3

### Shadow receptor-Input

No.	Longitude	Latitude	Z	Width	Height	Elevation	Degrees from	Slope of	Direction mode	Eye height
			[m]	[m]	[m]	a.g.l.	south cw	window		(ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]	[°]		[m]
R1	16,354793° E	40,217654° N	591,9	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
R2	16,371400° E	40,212229° N	710,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
R3	16,376828° E	40,206500° N	620,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
R4	16,383265° E	40,203940° N	487,6	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
R5	16,379648° E	40,195354° N	440,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
R6	16,403077° E	40,216822° N	574,3	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
R7	16,404663° E	40,215726° N	578,1	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
R8	16,422385° E	40,211713° N	475,6	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
R9	16,418285° E	40,218273° N	450,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0

### Calculation Results

Shadow receptor

#### Shadow, expected values

No.	Shadow hours per year [h/year]
R1	1:47
R2	14:36
R3	25:53
R4	10:01
R5	26:04
R6	0:05
R7	0:20
R8	0:00
R9	11:27

## SHADOW - Main Result

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

No.	Name	Worst case [h/year]	Expected [h/year]
CT 01	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (1)	0:00	0:00
CT 02	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (2)	0:00	0:00
CT 03	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (3)	199:22	26:04
CT 04	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (4)	24:29	3:03
CT 05	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (5)	330:44	21:30
CT 06	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (6)	147:11	10:54
CT 07	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (7)	152:26	15:37
CT 08	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (8)	1:39	0:02
CT 09	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (9)	4:19	0:15
CT 10	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (10)	0:00	0:00
CT 11	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (11)	0:00	0:00
CT 12	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (12)	0:00	0:00
CT 13	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (13)	0:00	0:00
CT 14	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (14)	0:00	0:00
CT 15	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (15)	0:00	0:00
CT 16	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (16)	0:00	0:00
CT 17	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (17)	56:27	0:52
CT 18	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (18)	109:14	10:05
CT 19	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (19)	0:00	0:00
CT 20	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (20)	0:00	0:00
CT 21	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (21)	0:00	0:00
EGP 01	VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (32)	0:00	0:00
EGP 02	VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (33)	0:00	0:00
EGP 03	VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (34)	0:00	0:00
PLT 01	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (1)	0:00	0:00
PLT 02	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (2)	0:00	0:00
PLT 03	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (3)	0:00	0:00
PLT 04	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (4)	0:00	0:00
PLT 05	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (5)	0:00	0:00
PLT 06	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (6)	0:00	0:00
PLT 07	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (7)	0:00	0:00
PLT 08	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (8)	0:00	0:00
PLT 09	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (9)	0:00	0:00
PLT 10	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (10)	0:00	0:00
PLT 11	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (11)	0:00	0:00
PLT 12	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (12)	0:00	0:00
PLT 13	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (13)	0:00	0:00
PLT 14	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (14)	0:00	0:00
PLT 15	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (15)	0:00	0:00
PLT 16	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (16)	0:00	0:00
PLT 17	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (17)	0:00	0:00
PLT 18	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (18)	0:00	0:00
PLT 19	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (19)	0:00	0:00
PLT 20	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (20)	0:00	0:00
PLT 21	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (21)	0:00	0:00
PLT 22	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (22)	0:00	0:00
PLT 23	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (23)	0:00	0:00
PLT 24	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (24)	0:00	0:00
PLT 25	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (25)	0:00	0:00
PLT 26	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (26)	0:00	0:00
PLT 27	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (27)	0:00	0:00
PLT 28	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (28)	0:00	0:00
PLT 29	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (29)	0:00	0:00
PLT 30	REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (30)	0:00	0:00
RO 01	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (37)	0:00	0:00
RO 02	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (38)	0:00	0:00
RO 03	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (39)	0:00	0:00
RO 04	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (40)	0:00	0:00
RO 05	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (41)	0:00	0:00
RO 06	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (42)	0:00	0:00
RO 07	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (43)	0:00	0:00
RO 08	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (44)	0:00	0:00
RO 09	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (45)	0:00	0:00
RO 10	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (46)	0:00	0:00
RO 11	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (47)	0:00	0:00
RO 12	NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (48)	0:00	0:00

Project:

**WF Colobraro Tursi\_rev0**

Description:

WF Colobraro Tursi

Licensed user:

**Ge.co.Dor srl**

Via P.Amedeo n.32

IT-75021 Colobraro (MT)

Gaetano / info@gecodor.it

Calculated:

19/08/2021 20:01/3.4.424

## SHADOW - Main Result

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

Shadow receptor: R1 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June			
1	07:18	08:00 (CT 06)	07:05	06:30	07:10 (CT 08)	06:41	07:30 (CT 09)	05:56	05:28
	16:39	46 08:46 (CT 07)	17:13	17:46	2 07:12 (CT 08)	19:19	14 07:44 (CT 09)	19:49	20:18
2	07:18	08:01 (CT 06)	07:04	06:29	07:08 (CT 08)	06:39	07:28 (CT 09)	05:55	05:28
	16:40	45 08:46 (CT 07)	17:14	17:47	4 07:12 (CT 08)	19:20	15 07:43 (CT 09)	19:50	20:19
3	07:18	08:01 (CT 06)	07:03	06:27	07:07 (CT 08)	06:37	07:29 (CT 09)	05:54	05:27
	16:41	45 08:46 (CT 07)	17:15	17:48	6 07:13 (CT 08)	19:21	13 07:42 (CT 09)	19:51	20:19
4	07:18	08:02 (CT 06)	07:02	06:26	07:06 (CT 08)	06:36	07:30 (CT 09)	05:52	05:27
	16:42	45 08:47 (CT 07)	17:16	17:49	6 07:12 (CT 08)	19:22	10 07:40 (CT 09)	19:52	20:20
5	07:18	08:02 (CT 06)	07:01	06:24	07:07 (CT 08)	06:34	07:31 (CT 09)	05:51	05:27
	16:43	45 08:47 (CT 07)	17:18	17:50	5 07:12 (CT 08)	19:23	7 07:38 (CT 09)	19:53	20:21
6	07:18	08:03 (CT 06)	07:00	06:23	07:06 (CT 08)	06:33	07:33 (CT 09)	05:50	05:26
	16:44	44 08:47 (CT 07)	17:19	17:51	5 07:11 (CT 08)	19:24	2 07:35 (CT 09)	19:54	20:21
7	07:18	08:02 (CT 06)	06:59	06:21	07:05 (CT 08)	06:31		05:49	05:26
	16:45	44 08:46 (CT 07)	17:20	17:52	6 07:11 (CT 08)	19:25		19:55	20:22
8	07:18	08:03 (CT 06)	06:58	06:19	07:03 (CT 08)	06:29		05:48	05:26
	16:46	43 08:46 (CT 07)	17:21	17:53	6 07:09 (CT 08)	19:26		19:56	20:23
9	07:18	08:04 (CT 06)	06:57	06:18	07:02 (CT 08)	06:28		05:46	05:25
	16:47	43 08:47 (CT 07)	17:22	17:55	5 07:07 (CT 08)	19:27		19:57	20:23
10	07:18	08:05 (CT 06)	06:56	06:16	07:01 (CT 08)	06:26		05:45	05:25
	16:48	42 08:47 (CT 07)	17:24	17:56	3 07:04 (CT 08)	19:28		19:58	20:24
11	07:17	08:06 (CT 06)	06:55	06:15		06:25		05:44	05:25
	16:49	41 08:47 (CT 07)	17:25	17:57		19:29		19:59	20:24
12	07:17	08:06 (CT 06)	06:53	06:13		06:23		05:43	05:25
	16:50	40 08:46 (CT 07)	17:26	17:58		19:30		20:00	20:25
13	07:17	08:07 (CT 06)	06:52	06:12		06:22		05:42	05:25
	16:51	37 08:46 (CT 07)	17:27	17:59		19:31		20:01	20:25
14	07:17	08:08 (CT 06)	06:51	06:10		06:20		05:41	05:25
	16:52	35 08:45 (CT 07)	17:28	18:00		19:32		20:02	20:26
15	07:16	08:09 (CT 06)	06:50	06:08		06:19		05:40	05:25
	16:53	31 08:44 (CT 07)	17:30	18:01		19:33		20:03	20:26
16	07:16	08:10 (CT 06)	06:48	06:07		06:17		05:39	05:25
	16:54	26 08:43 (CT 07)	17:31	18:02		19:34		20:04	20:26
17	07:15	08:11 (CT 06)	06:47	06:05		06:16		05:38	05:25
	16:55	18 08:40 (CT 07)	17:32	18:03		19:35		20:05	20:27
18	07:15	08:14 (CT 06)	06:46	06:03		06:14		05:38	05:25
	16:56	7 08:21 (CT 06)	17:33	18:04		19:36		20:06	20:27
19	07:14		06:44	06:02		06:13		05:37	05:25
	16:57		17:34	18:05		19:37		20:07	20:27
20	07:14		06:43	06:00		06:11		05:36	05:25
	16:58		17:35	18:06		19:38		20:08	20:28
21	07:13		06:42	05:59		06:10		05:35	05:25
	17:00		17:37	18:07		19:39		20:09	20:28
22	07:13		06:40	05:57		06:08		05:34	05:26
	17:01		17:38	18:08		19:40		20:10	20:28
23	07:12		06:39	05:55		06:07		05:33	05:26
	17:02		17:39	18:09		19:41		20:11	20:28
24	07:11		06:37	05:54		06:05		05:33	05:26
	17:03		17:40	18:10	1 06:43 (CT 09)	19:42		20:11	20:28
25	07:11		06:36	05:52	06:40 (CT 09)	06:04		05:32	05:26
	17:04		17:41	18:11	4 06:44 (CT 09)	19:43		20:12	20:29
26	07:10		06:35	05:50	06:39 (CT 09)	06:03		05:31	05:27
	17:05		17:42	18:12	6 06:45 (CT 09)	19:44		20:13	20:29
27	07:09		06:33	05:49	06:37 (CT 09)	06:01		05:31	05:27
	17:07		17:44	18:13	8 06:45 (CT 09)	19:45		20:14	20:29
28	07:09		06:32	05:47	06:35 (CT 09)	06:00		05:30	05:27
	17:08		17:45	18:14	10 06:45 (CT 09)	19:46		20:15	20:29
29	07:08			06:46	07:34 (CT 09)	05:59		05:30	05:28
	17:09			19:15	12 07:46 (CT 09)	19:47		20:16	20:29
30	07:07			06:44	07:33 (CT 09)	05:57		05:29	05:28
	17:10			19:17	12 07:45 (CT 09)	19:48		20:16	20:29
31	07:06			06:42	07:32 (CT 09)			05:29	
	17:12			19:18	13 07:45 (CT 09)			20:17	
Potential sun hours	300	298	370	398	446	450			
Total, worst case	677	1	114	61					
Sun reduction	0,43	0,45	0,46	0,50					
Oper. time red.	0,29	0,29	0,29	0,29					
Wind dir. red.	0,31	0,16	0,27	0,35					
Total reduction	0,04	0,02	0,04	0,05					
Total, real	26	0	4	3					

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

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

Shadow receptor: R1 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	July	August	September	October	November	December	
1	05:29	05:52	06:22	06:50	06:23	06:57	07:48 (CT 06)
	20:29	20:10	19:28	18:39	16:54	16:30	41 08:29 (CT 07)
2	05:29	05:53	06:23	06:51	06:25	06:58	07:48 (CT 06)
	20:29	20:09	19:27	18:37	16:52	16:30	42 08:30 (CT 07)
3	05:30	05:54	06:24	06:52	06:26	06:59	07:48 (CT 06)
	20:28	20:08	19:25	18:36	16:51	16:30	43 08:31 (CT 07)
4	05:30	05:55	06:24	06:53	07:39 (CT 08)	06:27	07:00 07:48 (CT 06)
	20:28	20:07	19:24	18:34	5 07:44 (CT 08)	16:50	16:29 43 08:31 (CT 07)
5	05:31	05:56	06:25	06:54	07:40 (CT 08)	06:28	07:01 07:48 (CT 06)
	20:28	20:06	19:22	18:33	5 07:45 (CT 08)	16:49	16:29 44 08:32 (CT 07)
6	05:31	05:57	06:26	07:29 (CT 09)	06:55	07:40 (CT 08)	06:29 07:02 07:49 (CT 06)
	20:28	20:05	19:20	2 07:31 (CT 09)	18:31	6 07:46 (CT 08)	16:48 16:29 44 08:33 (CT 07)
7	05:32	05:58	06:27	07:27 (CT 09)	06:56	07:41 (CT 08)	06:30 07:03 07:49 (CT 06)
	20:27	20:04	19:19	7 07:34 (CT 09)	18:29	6 07:47 (CT 08)	16:47 16:29 45 08:34 (CT 07)
8	05:33	05:59	06:28	07:25 (CT 09)	06:57	07:41 (CT 08)	06:32 07:04 07:49 (CT 06)
	20:27	20:02	19:17	10 07:35 (CT 09)	18:28	6 07:47 (CT 08)	16:46 16:29 45 08:34 (CT 07)
9	05:33	06:00	06:29	07:22 (CT 09)	06:58	07:41 (CT 08)	06:33 07:05 07:49 (CT 06)
	20:27	20:01	19:15	13 07:35 (CT 09)	18:26	6 07:47 (CT 08)	16:45 16:29 45 08:34 (CT 07)
10	05:34	06:00	06:30	07:21 (CT 09)	07:00	07:41 (CT 08)	06:34 07:06 07:50 (CT 06)
	20:26	20:00	19:14	15 07:36 (CT 09)	18:25	6 07:47 (CT 08)	16:44 16:29 45 08:35 (CT 07)
11	05:35	06:01	06:31	07:22 (CT 09)	07:01	07:42 (CT 08)	06:35 07:07 07:50 (CT 06)
	20:26	19:59	19:12	14 07:36 (CT 09)	18:23	5 07:47 (CT 08)	16:43 16:29 46 08:36 (CT 07)
12	05:35	06:02	06:32	07:23 (CT 09)	07:02	07:43 (CT 08)	06:36 07:08 07:51 (CT 06)
	20:26	19:57	19:11	13 07:36 (CT 09)	18:21	3 07:46 (CT 08)	16:42 16:29 46 08:37 (CT 07)
13	05:36	06:03	06:33	07:24 (CT 09)	07:03	07:43 (CT 08)	06:37 07:08 07:52 (CT 06)
	20:25	19:56	19:09	12 07:36 (CT 09)	18:20	2 07:45 (CT 08)	16:41 16:29 45 08:37 (CT 07)
14	05:37	06:04	06:34	07:24 (CT 09)	07:04	06:38	07:09 07:51 (CT 06)
	20:25	19:55	19:07	12 07:36 (CT 09)	18:18	16:40	16:30 46 08:37 (CT 07)
15	05:37	06:05	06:35	07:25 (CT 09)	07:05	06:40	07:10 07:52 (CT 06)
	20:24	19:54	19:06	11 07:36 (CT 09)	18:17	16:39	16:30 46 08:38 (CT 07)
16	05:38	06:06	06:36	07:26 (CT 09)	07:06	06:41	07:11 07:53 (CT 06)
	20:24	19:52	19:04	9 07:35 (CT 09)	18:15	16:38	16:30 46 08:39 (CT 07)
17	05:39	06:07	06:37	07:27 (CT 09)	07:07	06:42	07:11 07:53 (CT 06)
	20:23	19:51	19:02	7 07:34 (CT 09)	18:14	16:38	16:30 46 08:39 (CT 07)
18	05:40	06:08	06:38	07:28 (CT 09)	07:08	06:43	07:12 07:54 (CT 06)
	20:22	19:49	19:01	5 07:33 (CT 09)	18:12	16:37	16:31 46 08:40 (CT 07)
19	05:41	06:09	06:39	07:29 (CT 09)	07:09	06:44	07:12 07:54 (CT 06)
	20:22	19:48	18:59	2 07:31 (CT 09)	18:11	16:36	16:31 46 08:40 (CT 07)
20	05:41	06:10	06:40	07:10	06:45	07:13	07:55 (CT 06)
	20:21	19:47	18:57	18:09	16:35	16:32	46 08:41 (CT 07)
21	05:42	06:11	06:41	07:11	06:47	07:14	07:56 (CT 06)
	20:20	19:45	18:56	18:08	16:35	16:32	45 08:41 (CT 07)
22	05:43	06:12	06:42	07:12	06:48	07:14	07:56 (CT 06)
	20:19	19:44	18:54	18:07	16:34	16:32	45 08:41 (CT 07)
23	05:44	06:13	06:43	07:13	06:49	07:15	07:56 (CT 06)
	20:19	19:42	18:52	18:05	16:33	16:33	46 08:42 (CT 07)
24	05:45	06:14	06:44	07:14	06:50	07:15	07:57 (CT 06)
	20:18	19:41	18:51	18:04	16:33	7 07:58 (CT 06)	16:34 46 08:43 (CT 07)
25	05:46	06:15	06:45	06:16	06:51	07:16	07:57 (CT 06)
	20:17	19:39	18:49	17:02	16:32	17 08:18 (CT 07)	16:34 46 08:43 (CT 07)
26	05:46	06:16	06:46	06:17	06:52	07:16	07:58 (CT 06)
	20:16	19:38	18:47	17:01	16:32	26 08:21 (CT 07)	16:35 46 08:44 (CT 07)
27	05:47	06:17	06:46	06:18	06:53	07:16	07:58 (CT 06)
	20:15	19:36	18:46	17:00	16:31	30 08:23 (CT 07)	16:35 46 08:44 (CT 07)
28	05:48	06:18	06:47	06:19	06:54	07:17	07:58 (CT 06)
	20:14	19:35	18:44	16:59	16:31	34 08:24 (CT 07)	16:36 46 08:44 (CT 07)
29	05:49	06:19	06:48	06:20	06:55	07:17	07:58 (CT 06)
	20:13	19:33	18:42	16:57	16:31	36 08:25 (CT 07)	16:37 46 08:44 (CT 07)
30	05:50	06:20	06:49	06:21	06:56	07:17	07:59 (CT 06)
	20:12	19:32	18:41	16:56	16:30	40 08:28 (CT 07)	16:37 45 08:44 (CT 07)
31	05:51	06:21		06:22		07:17	08:00 (CT 06)
	20:11	19:30		16:55		16:38	46 08:46 (CT 07)
Potential sun hours	456	426	375	346	300	290	
Total, worst case			132		50	190	1399
Sun reduction			0,67		0,56	0,50	0,43
Oper. time red.			0,29		0,29		0,29
Wind dir. red.			0,35		0,16	0,31	0,31
Total reduction			0,07		0,03	0,04	0,04
Total, real			9		1	8	55

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

**Shadow receptor: R2 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June		
1	07:18	15:26 (CT 07)	07:05	15:28 (CT 07)	06:30	06:41	05:56	05:28
	16:39	48 16:14 (CT 07)	17:13	72 16:40 (CT 07)	17:46	19:18	19:49	20:18
2	07:18	15:26 (CT 07)	07:04	15:28 (CT 07)	06:29	06:39	05:55	05:28
	16:40	49 16:15 (CT 07)	17:14	72 16:40 (CT 07)	17:47	19:20	19:50	20:18
3	07:18	15:27 (CT 07)	07:03	15:28 (CT 07)	06:27	06:37	05:53	05:27
	16:41	49 16:16 (CT 07)	17:15	72 16:40 (CT 07)	17:48	19:21	19:51	20:19
4	07:18	15:27 (CT 07)	07:02	15:29 (CT 07)	06:26	06:36	05:52	05:27
	16:42	50 16:17 (CT 07)	17:16	71 16:40 (CT 07)	17:49	19:22	19:52	20:20
5	07:18	15:27 (CT 07)	07:01	15:29 (CT 07)	06:24	06:34	05:51	05:26
	16:43	51 16:18 (CT 07)	17:18	71 16:40 (CT 07)	17:50	19:23	19:53	20:21
6	07:18	15:27 (CT 07)	07:00	15:30 (CT 07)	06:23	06:33	05:50	05:26
	16:44	52 16:19 (CT 07)	17:19	70 16:40 (CT 07)	17:51	19:24	19:54	20:21
7	07:18	15:26 (CT 07)	06:59	15:29 (CT 07)	06:21	06:31	05:49	05:26
	16:45	53 16:19 (CT 07)	17:20	70 16:39 (CT 07)	17:52	19:25	19:55	20:22
8	07:18	15:26 (CT 07)	06:58	15:30 (CT 07)	06:19	06:29	05:48	05:26
	16:45	54 16:20 (CT 07)	17:21	69 16:39 (CT 07)	17:53	19:26	19:56	20:22
9	07:18	15:26 (CT 07)	06:57	15:30 (CT 07)	06:18	06:28	05:46	05:25
	16:46	55 16:21 (CT 07)	17:22	69 16:39 (CT 07)	17:54	19:27	19:57	20:23
10	07:17	15:27 (CT 07)	06:56	15:31 (CT 07)	06:16	06:26	05:45	05:25
	16:47	55 16:22 (CT 07)	17:24	68 16:39 (CT 07)	17:56	19:28	19:58	20:24
11	07:17	15:26 (CT 07)	06:54	15:32 (CT 07)	06:15	06:25	05:44	05:25
	16:49	57 16:23 (CT 07)	17:25	67 16:39 (CT 07)	17:57	19:29	19:59	20:24
12	07:17	15:26 (CT 07)	06:53	15:32 (CT 07)	06:13	06:23	05:43	05:25
	16:50	58 16:24 (CT 07)	17:26	65 16:37 (CT 07)	17:58	19:30	20:00	20:25
13	07:17	15:27 (CT 07)	06:52	15:33 (CT 07)	06:11	06:22	05:42	05:25
	16:51	59 16:26 (CT 07)	17:27	64 16:37 (CT 07)	17:59	19:31	20:01	20:25
14	07:16	15:26 (CT 07)	06:51	15:34 (CT 07)	06:10	06:20	05:41	05:25
	16:52	60 16:26 (CT 07)	17:28	63 16:37 (CT 07)	18:00	19:32	20:02	20:25
15	07:16	15:26 (CT 07)	06:50	15:35 (CT 07)	06:08	06:19	05:40	05:25
	16:53	62 16:28 (CT 07)	17:30	61 16:36 (CT 07)	18:01	19:33	20:03	20:26
16	07:16	15:27 (CT 07)	06:48	15:36 (CT 07)	06:07	06:17	05:39	05:25
	16:54	62 16:29 (CT 07)	17:31	58 16:34 (CT 07)	18:02	19:34	20:04	20:26
17	07:15	15:26 (CT 07)	06:47	15:37 (CT 07)	06:05	06:15	05:38	05:25
	16:55	64 16:30 (CT 07)	17:32	57 16:34 (CT 07)	18:03	19:35	20:05	20:27
18	07:15	15:27 (CT 07)	06:46	15:39 (CT 07)	06:03	06:14	05:37	05:25
	16:56	65 16:32 (CT 07)	17:33	54 16:33 (CT 07)	18:04	19:36	20:06	20:27
19	07:14	15:26 (CT 07)	06:44	15:40 (CT 07)	06:02	06:13	05:37	05:25
	16:57	67 16:33 (CT 07)	17:34	51 16:31 (CT 07)	18:05	19:37	20:07	20:27
20	07:14	15:26 (CT 07)	06:43	15:41 (CT 07)	06:00	06:11	05:36	05:25
	16:58	67 16:33 (CT 07)	17:35	49 16:30 (CT 07)	18:06	19:38	20:08	20:28
21	07:13	15:26 (CT 07)	06:42	15:44 (CT 07)	05:59	06:10	05:35	05:25
	17:00	69 16:35 (CT 07)	17:37	45 16:29 (CT 07)	18:07	19:39	20:09	20:28
22	07:13	15:26 (CT 07)	06:40	15:45 (CT 07)	05:57	06:08	05:34	05:26
	17:01	70 16:36 (CT 07)	17:38	41 16:26 (CT 07)	18:08	19:40	20:10	20:28
23	07:12	15:26 (CT 07)	06:39	15:48 (CT 07)	05:55	06:07	05:33	05:26
	17:02	70 16:36 (CT 07)	17:39	36 16:24 (CT 07)	18:09	19:41	20:10	20:28
24	07:11	15:27 (CT 07)	06:37	15:50 (CT 07)	05:54	06:05	05:33	05:26
	17:03	71 16:38 (CT 07)	17:40	31 16:21 (CT 07)	18:10	19:42	20:11	20:28
25	07:11	15:26 (CT 07)	06:36	15:53 (CT 07)	05:52	06:04	05:32	05:26
	17:04	72 16:38 (CT 07)	17:41	25 16:18 (CT 07)	18:11	19:43	20:12	20:28
26	07:10	15:26 (CT 07)	06:35	15:58 (CT 07)	05:50	06:03	05:31	05:27
	17:05	72 16:38 (CT 07)	17:42	15 16:13 (CT 07)	18:12	19:44	20:13	20:29
27	07:09	15:26 (CT 07)	06:33		05:49	06:01	05:31	05:27
	17:07	72 16:38 (CT 07)	17:43		18:13	19:45	20:14	20:29
28	07:08	15:26 (CT 07)	06:32		05:47	06:00	05:30	05:27
	17:08	73 16:39 (CT 07)	17:45		18:14	19:46	20:15	20:29
29	07:08	15:27 (CT 07)			06:45	05:59	05:30	05:28
	17:09	73 16:40 (CT 07)			19:15	19:47	20:15	20:29
30	07:07	15:27 (CT 07)			06:44	05:57	05:29	05:28
	17:10	73 16:40 (CT 07)			19:16	19:48	20:16	20:29
31	07:06	15:28 (CT 07)			06:42		05:29	
	17:11	72 16:40 (CT 07)			19:17		20:17	
Potential sun hours	300	298	370	398	446	450		
Total, worst case	1924		1486					
Sun reduction	0,43		0,45					
Oper. time red.	0,29		0,29					
Wind dir. red.	0,84		0,84					
Total reduction	0,10		0,11					
Total, real	200		161					

**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

Shadow receptor: R2 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N	NE	E	SE	S	SW	W	NW	Sum
0	0	0	0	0	2.539	0	0	2.539

	July	August	September	October	November	December
1	05:29	05:52	06:22	06:50	06:23	15:01 (CT 07) 06:57 15:09 (CT 07)
	20:29	20:10	19:28	18:39	16:53	68 16:09 (CT 07) 16:30 57 16:06 (CT 07)
2	05:29	05:53	06:23	06:51	06:25	15:00 (CT 07) 06:58 15:10 (CT 07)
	20:28	20:09	19:27	18:37	16:52	69 16:09 (CT 07) 16:30 56 16:06 (CT 07)
3	05:30	05:54	06:23	06:52	06:26	15:00 (CT 07) 06:59 15:10 (CT 07)
	20:28	20:08	19:25	18:36	16:51	69 16:09 (CT 07) 16:30 55 16:05 (CT 07)
4	05:30	05:55	06:24	06:53	06:27	14:59 (CT 07) 07:00 15:11 (CT 07)
	20:28	20:07	19:24	18:34	16:50	70 16:09 (CT 07) 16:29 54 16:05 (CT 07)
5	05:31	05:56	06:25	06:54	06:28	14:59 (CT 07) 07:01 15:12 (CT 07)
	20:28	20:06	19:22	18:32	16:49	71 16:10 (CT 07) 16:29 53 16:05 (CT 07)
6	05:31	05:57	06:26	06:55	06:29	14:59 (CT 07) 07:02 15:13 (CT 07)
	20:28	20:05	19:20	18:31	16:48	71 16:10 (CT 07) 16:29 52 16:05 (CT 07)
7	05:32	05:58	06:27	06:56	06:30	14:58 (CT 07) 07:03 15:13 (CT 07)
	20:27	20:04	19:19	18:29	16:47	72 16:10 (CT 07) 16:29 51 16:04 (CT 07)
8	05:33	05:59	06:28	06:57	06:31	14:58 (CT 07) 07:04 15:14 (CT 07)
	20:27	20:02	19:17	18:28	16:46	72 16:10 (CT 07) 16:29 50 16:04 (CT 07)
9	05:33	05:59	06:29	06:58	06:33	14:58 (CT 07) 07:05 15:15 (CT 07)
	20:27	20:01	19:15	18:26	16:45	72 16:10 (CT 07) 16:29 49 16:04 (CT 07)
10	05:34	06:00	06:30	06:59	06:34	14:59 (CT 07) 07:06 15:15 (CT 07)
	20:26	20:00	19:14	18:24	16:44	72 16:11 (CT 07) 16:29 49 16:04 (CT 07)
11	05:34	06:01	06:31	07:00	06:35	14:58 (CT 07) 07:07 15:16 (CT 07)
	20:26	19:59	19:12	18:23	16:43	73 16:11 (CT 07) 16:29 48 16:04 (CT 07)
12	05:35	06:02	06:32	07:02	06:36	14:58 (CT 07) 07:07 15:17 (CT 07)
	20:26	19:57	19:10	18:21	16:42	73 16:11 (CT 07) 16:29 47 16:04 (CT 07)
13	05:36	06:03	06:33	07:03	06:37	14:58 (CT 07) 07:08 15:17 (CT 07)
	20:25	19:56	19:09	18:20	16:41	73 16:11 (CT 07) 16:29 47 16:04 (CT 07)
14	05:37	06:04	06:34	07:04	06:38	14:59 (CT 07) 07:09 15:18 (CT 07)
	20:25	19:55	19:07	18:18	16:40	73 16:12 (CT 07) 16:30 46 16:04 (CT 07)
15	05:37	06:05	06:35	07:05	06:40	14:59 (CT 07) 07:10 15:19 (CT 07)
	20:24	19:53	19:06	18:17	16:39	72 16:11 (CT 07) 16:30 46 16:05 (CT 07)
16	05:38	06:06	06:36	07:06	16:28 (CT 07) 06:41	14:59 (CT 07) 07:10 15:20 (CT 07)
	20:23	19:52	19:04	18:15	19 16:47 (CT 07) 16:38	72 16:11 (CT 07) 16:30 45 16:05 (CT 07)
17	05:39	06:07	06:37	07:07	16:24 (CT 07) 06:42	14:59 (CT 07) 07:11 15:20 (CT 07)
	20:23	19:51	19:02	18:14	27 16:51 (CT 07) 16:37	72 16:11 (CT 07) 16:30 45 16:05 (CT 07)
18	05:40	06:08	06:38	07:08	16:20 (CT 07) 06:43	15:01 (CT 07) 07:12 15:21 (CT 07)
	20:22	19:49	19:01	18:12	34 16:54 (CT 07) 16:37	71 16:12 (CT 07) 16:31 45 16:06 (CT 07)
19	05:40	06:09	06:39	07:09	16:17 (CT 07) 06:44	15:01 (CT 07) 07:12 15:21 (CT 07)
	20:22	19:48	18:59	18:11	39 16:56 (CT 07) 16:36	70 16:11 (CT 07) 16:31 44 16:05 (CT 07)
20	05:41	06:10	06:40	07:10	16:15 (CT 07) 06:45	15:01 (CT 07) 07:13 15:22 (CT 07)
	20:21	19:46	18:57	18:09	42 16:57 (CT 07) 16:35	70 16:11 (CT 07) 16:31 44 16:06 (CT 07)
21	05:42	06:11	06:41	07:11	16:14 (CT 07) 06:46	15:01 (CT 07) 07:14 15:22 (CT 07)
	20:20	19:45	18:56	18:08	46 17:00 (CT 07) 16:35	69 16:10 (CT 07) 16:32 44 16:06 (CT 07)
22	05:43	06:12	06:42	07:12	16:12 (CT 07) 06:48	15:02 (CT 07) 07:14 15:23 (CT 07)
	20:19	19:44	18:54	18:07	49 17:01 (CT 07) 16:34	67 16:09 (CT 07) 16:32 44 16:07 (CT 07)
23	05:44	06:13	06:43	07:13	16:10 (CT 07) 06:49	15:03 (CT 07) 07:15 15:23 (CT 07)
	20:19	19:42	18:52	18:05	52 17:02 (CT 07) 16:33	67 16:10 (CT 07) 16:33 44 16:07 (CT 07)
24	05:45	06:14	06:44	07:14	16:08 (CT 07) 06:50	15:04 (CT 07) 07:15 15:24 (CT 07)
	20:18	19:41	18:51	18:04	55 17:03 (CT 07) 16:33	65 16:09 (CT 07) 16:33 44 16:08 (CT 07)
25	05:46	06:15	06:44	06:15	15:07 (CT 07) 06:51	15:04 (CT 07) 07:15 15:24 (CT 07)
	20:17	19:39	18:49	17:02	57 16:04 (CT 07) 16:32	64 16:08 (CT 07) 16:34 44 16:08 (CT 07)
26	05:46	06:16	06:45	06:17	15:05 (CT 07) 06:52	15:05 (CT 07) 07:16 15:24 (CT 07)
	20:16	19:38	18:47	17:01	59 16:04 (CT 07) 16:32	62 16:07 (CT 07) 16:35 45 16:09 (CT 07)
27	05:47	06:17	06:46	06:18	15:05 (CT 07) 06:53	15:05 (CT 07) 07:16 15:25 (CT 07)
	20:15	19:36	18:46	17:00	61 16:06 (CT 07) 16:31	62 16:07 (CT 07) 16:35 45 16:10 (CT 07)
28	05:48	06:18	06:47	06:19	15:04 (CT 07) 06:54	15:06 (CT 07) 07:17 15:25 (CT 07)
	20:14	19:35	18:44	16:58	62 16:06 (CT 07) 16:31	60 16:06 (CT 07) 16:36 45 16:10 (CT 07)
29	05:49	06:19	06:48	06:20	15:03 (CT 07) 06:55	15:07 (CT 07) 07:17 15:25 (CT 07)
	20:13	19:33	18:42	16:57	64 16:07 (CT 07) 16:31	59 16:06 (CT 07) 16:37 46 16:11 (CT 07)
30	05:50	06:20	06:49	06:21	15:02 (CT 07) 06:56	15:07 (CT 07) 07:17 15:25 (CT 07)
	20:12	19:31	18:41	16:56	65 16:07 (CT 07) 16:30	58 16:05 (CT 07) 16:37 47 16:12 (CT 07)
31	05:51	06:21	06:50	06:22	15:01 (CT 07) 06:57	15:08 (CT 07) 07:17 15:26 (CT 07)
	20:11	19:30	18:40	16:55	67 16:08 (CT 07) 16:30	57 16:06 (CT 07) 16:38 47 16:13 (CT 07)
Potential sun hours	456	426	375	346	300	290
Total, worst case				798	2058	1748
Sun reduction				0,56	0,50	0,43
Oper. time red.				0,29	0,29	0,29
Wind dir. red.				0,84	0,84	0,84
Total reduction				0,14	0,12	0,11
Total, real				108	252	155

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

**Shadow receptor: R3 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June
1   07:18	08:35 (CT 05)   07:05	08:43 (CT 05)   06:30	09:07 (CT 05)   06:41	05:56	16:10 (CT 06)   05:28	16:12 (CT 06)
16:39	107   10:22 (CT 05)   17:13	110   10:33 (CT 05)   17:46	46   09:53 (CT 05)   19:18	19:49	77   17:27 (CT 06)   20:18	50   17:02 (CT 06)
2   07:18	08:36 (CT 05)   07:04	08:43 (CT 05)   06:29	09:09 (CT 05)   06:39	05:55	16:09 (CT 06)   05:28	16:12 (CT 06)
16:40	107   10:23 (CT 05)   17:14	110   10:33 (CT 05)   17:47	39   09:48 (CT 05)   19:19	19:50	79   17:28 (CT 06)   20:18	50   17:02 (CT 06)
3   07:18	08:36 (CT 05)   07:03	08:44 (CT 05)   06:27	09:13 (CT 05)   06:37	05:53	16:09 (CT 06)   05:27	16:12 (CT 06)
16:41	108   10:24 (CT 05)   17:15	109   10:33 (CT 05)   17:48	31   09:44 (CT 05)   19:21	19:51	80   17:29 (CT 06)   20:19	49   17:01 (CT 06)
4   07:18	08:36 (CT 05)   07:02	08:44 (CT 05)   06:26	09:18 (CT 05)   06:36	05:52	16:08 (CT 06)   05:27	16:13 (CT 06)
16:42	108   10:24 (CT 05)   17:16	109   10:33 (CT 05)   17:49	18   09:36 (CT 05)   19:22	19:52	81   17:29 (CT 06)   20:20	47   17:00 (CT 06)
5   07:18	08:37 (CT 05)   07:01	08:45 (CT 05)   06:24	06:34	05:51	16:08 (CT 06)   05:26	16:13 (CT 06)
16:43	108   10:25 (CT 05)   17:18	107   10:32 (CT 05)   17:50	19:23	19:53	82   17:30 (CT 06)   20:21	47   17:00 (CT 06)
6   07:18	08:37 (CT 05)   07:00	08:44 (CT 05)   06:22	06:33	05:50	16:07 (CT 06)   05:26	16:14 (CT 06)
16:44	108   10:25 (CT 05)   17:19	107   10:31 (CT 05)   17:51	19:24	19:54	84   17:31 (CT 06)   20:21	46   17:00 (CT 06)
7   07:18	08:36 (CT 05)   06:59	08:45 (CT 05)   06:21	06:31	05:49	16:07 (CT 06)   05:26	16:14 (CT 06)
16:45	109   10:25 (CT 05)   17:20	105   10:30 (CT 05)   17:52	19:25	19:55	84   17:31 (CT 06)   20:22	45   16:59 (CT 06)
8   07:18	08:37 (CT 05)   06:58	08:45 (CT 05)   06:19	06:29	05:48	16:07 (CT 06)   05:26	16:14 (CT 06)
16:45	109   10:26 (CT 05)   17:21	105   10:30 (CT 05)   17:53	19:26	19:56	84   17:31 (CT 06)   20:22	44   16:58 (CT 06)
9   07:18	08:37 (CT 05)   06:57	08:46 (CT 05)   06:18	06:28	05:46	16:07 (CT 06)   05:25	16:15 (CT 06)
16:46	110   10:27 (CT 05)   17:22	104   10:30 (CT 05)   17:54	19:27	19:57	82   17:29 (CT 06)   20:23	43   16:58 (CT 06)
10   07:17	08:38 (CT 05)   06:56	08:46 (CT 05)   06:16	06:26	05:45	16:07 (CT 06)   05:25	16:15 (CT 06)
16:47	109   10:27 (CT 05)   17:24	103   10:29 (CT 05)   17:56	19:28	19:58	81   17:28 (CT 06)   20:24	43   16:58 (CT 06)
11   07:17	08:37 (CT 05)   06:54	08:47 (CT 05)   06:15	06:25	05:44	16:07 (CT 06)   05:25	16:16 (CT 06)
16:49	110   10:27 (CT 05)   17:25	101   10:28 (CT 05)   17:57	19:29	19:59	79   17:26 (CT 06)   20:24	42   16:58 (CT 06)
12   07:17	08:38 (CT 05)   06:53	08:47 (CT 05)   06:13	06:23	05:43	16:07 (CT 06)   05:25	16:16 (CT 06)
16:50	110   10:28 (CT 05)   17:26	100   10:27 (CT 05)   17:58	19:30	20:00	78   17:25 (CT 06)   20:25	42   16:58 (CT 06)
13   07:17	08:39 (CT 05)   06:52	08:48 (CT 05)   06:11	06:22	05:42	16:07 (CT 06)   05:25	16:16 (CT 06)
16:51	110   10:29 (CT 05)   17:27	98   10:26 (CT 05)   17:59	19:31	20:01	76   17:23 (CT 06)   20:25	42   16:58 (CT 06)
14   07:16	08:38 (CT 05)   06:51	08:49 (CT 05)   06:10	06:20	05:41	16:07 (CT 06)   05:25	16:17 (CT 06)
16:52	111   10:29 (CT 05)   17:28	96   10:25 (CT 05)   18:00	19:32	20:02	75   17:22 (CT 06)   20:25	40   16:57 (CT 06)
15   07:16	08:39 (CT 05)   06:50	08:50 (CT 05)   06:08	06:18	05:40	16:07 (CT 06)   05:25	16:17 (CT 06)
16:53	111   10:30 (CT 05)   17:30	94   10:24 (CT 05)   18:01	19:33	20:03	73   17:20 (CT 06)   20:26	40   16:57 (CT 06)
16   07:16	08:38 (CT 05)   06:48	08:50 (CT 05)   06:07	06:17	05:39	16:07 (CT 06)   05:25	16:17 (CT 06)
16:54	112   10:30 (CT 05)   17:31	92   10:22 (CT 05)   18:02	19:34	20:04	72   17:19 (CT 06)   20:26	40   16:57 (CT 06)
17   07:15	08:39 (CT 05)   06:47	08:51 (CT 05)   06:05	06:15	05:38	16:07 (CT 06)   05:25	16:17 (CT 06)
16:55	112   10:31 (CT 05)   17:32	90   10:21 (CT 05)   18:03	19:35	23   16:38 (CT 06)   05:38	70   17:01 (CT 06)   20:27	40   16:57 (CT 06)
18   07:15	08:39 (CT 05)   06:46	08:52 (CT 05)   06:03	06:14	05:37	16:08 (CT 06)   05:25	16:18 (CT 06)
16:56	111   10:30 (CT 05)   17:33	88   10:20 (CT 05)   18:04	19:36	33   17:05 (CT 06)   20:06	69   17:17 (CT 06)   20:27	39   16:57 (CT 06)
19   07:14	08:40 (CT 05)   06:44	08:52 (CT 05)   06:02	06:13	05:37	16:08 (CT 06)   05:25	16:18 (CT 06)
16:57	111   10:31 (CT 05)   17:34	86   10:18 (CT 05)   18:05	19:37	40   17:09 (CT 06)   20:07	67   17:15 (CT 06)   20:27	39   16:57 (CT 06)
20   07:14	08:40 (CT 05)   06:43	08:53 (CT 05)   06:00	06:11	05:36	16:08 (CT 06)   05:25	16:18 (CT 06)
16:58	111   10:31 (CT 05)   17:35	83   10:16 (CT 05)   18:06	19:38	46   17:12 (CT 06)   20:08	66   17:14 (CT 06)   20:28	39   16:57 (CT 06)
21   07:13	08:40 (CT 05)   06:42	08:55 (CT 05)   05:59	06:10	05:35	16:08 (CT 06)   05:25	16:18 (CT 06)
17:00	112   10:32 (CT 05)   17:37	80   10:15 (CT 05)   18:07	19:39	51   17:14 (CT 06)   20:09	64   17:12 (CT 06)   20:28	39   16:57 (CT 06)
22   07:13	08:40 (CT 05)   06:40	08:55 (CT 05)   05:57	06:08	05:34	16:09 (CT 06)   05:26	16:19 (CT 06)
17:01	112   10:32 (CT 05)   17:38	77   10:12 (CT 05)   18:08	19:40	55   17:16 (CT 06)   20:10	63   17:12 (CT 06)   20:28	39   16:58 (CT 06)
23   07:12	08:40 (CT 05)   06:39	08:57 (CT 05)   05:55	06:07	05:33	16:09 (CT 06)   05:26	16:19 (CT 06)
17:02	112   10:32 (CT 05)   17:39	73   10:10 (CT 05)   18:09	19:41	59   17:18 (CT 06)   20:10	62   17:11 (CT 06)   20:28	39   16:58 (CT 06)
24   07:11	08:41 (CT 05)   06:37	08:57 (CT 05)   05:54	06:05	05:33	16:09 (CT 06)   05:26	16:19 (CT 06)
17:03	112   10:33 (CT 05)   17:40	71   10:08 (CT 05)   18:10	19:42	63   17:20 (CT 06)   20:11	60   17:09 (CT 06)   20:28	39   16:58 (CT 06)
25   07:11	08:41 (CT 05)   06:36	08:59 (CT 05)   05:52	06:04	05:32	16:10 (CT 06)   05:26	16:19 (CT 06)
17:04	112   10:33 (CT 05)   17:41	67   10:06 (CT 05)   18:11	19:43	65   17:21 (CT 06)   20:12	59   17:09 (CT 06)   20:28	40   16:59 (CT 06)
26   07:10	08:41 (CT 05)   06:35	09:00 (CT 05)   05:50	06:03	05:31	16:10 (CT 06)   05:27	16:19 (CT 06)
17:05	112   10:33 (CT 05)   17:42	62   10:02 (CT 05)   18:12	19:44	68   17:22 (CT 06)   20:13	57   17:07 (CT 06)   20:29	40   16:59 (CT 06)
27   07:09	08:41 (CT 05)   06:33	09:02 (CT 05)   05:49	06:01	05:31	16:09 (CT 06)   05:27	16:19 (CT 06)
17:07	112   10:33 (CT 05)   17:43	58   10:00 (CT 05)   18:13	19:45	71   17:24 (CT 06)   20:14	57   17:06 (CT 06)   20:29	40   16:59 (CT 06)
28   07:08	08:41 (CT 05)   06:32	09:04 (CT 05)   05:47	06:00	05:30	16:10 (CT 06)   05:27	16:20 (CT 06)
17:08	112   10:33 (CT 05)   17:45	52   09:56 (CT 05)   18:14	19:46	72   17:25 (CT 06)   20:15	56   17:06 (CT 06)   20:29	40   17:00 (CT 06)
29   07:08	08:41 (CT 05)   06:31	06:45	05:59	05:30	16:11 (CT 06)   05:28	16:20 (CT 06)
17:09	112   10:33 (CT 05)   17:46	19:15	19:47	74   17:25 (CT 06)   20:15	54   17:04 (CT 06)   20:29	40   17:00 (CT 06)
30   07:07	08:43 (CT 05)   06:30	06:44	05:57	05:29	16:10 (CT 06)   05:28	16:19 (CT 06)
17:10	111   10:34 (CT 05)   17:47	19:16	19:48	76   17:26 (CT 06)   20:16	53   17:04 (CT 06)   20:29	42   17:01 (CT 06)
31   07:06	08:43 (CT 05)   06:29	06:42	05:57	05:28	16:12 (CT 06)   05:28	16:19 (CT 06)
17:11	110   10:33 (CT 05)   17:48	19:17	20:17	52   17:04 (CT 06)   20:29	42   17:01 (CT 06)	
Potential sun hours	300	298	370	398	446	450
Total, worst case	3421	2537	134	796	2176	1265
Sun reduction	0,43	0,45	0,46	0,50	0,57	0,65
Oper. time red.	0,29	0,29	0,29	0,29	0,29	0,29
Wind dir. red.	0,48	0,48	0,48	0,42	0,42	0,42
Total reduction	0,06	0,06	0,06	0,06	0,07	0,08
Total, real	204	158	9	49	154	101

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

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

### SHADOW - Calendar

Shadow receptor: R3 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)

#### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,14	4,76	5,47	6,61	8,23	9,68	10,62	10,12	8,36	6,25	5,04	4,06

#### Operational time

N	NE	E	SE	S	SW	W	NW	Sum
0	0	0	0	0	2.539	0	0	2.539

	July	August	September	October	November	December
1	05:29 20:29	16:20 (CT 06) 17:02 (CT 06)	05:52 20:10	16:17 (CT 06) 17:36 (CT 06)	06:22 19:28	06:50 18:39
2	05:29 20:28	16:19 (CT 06) 17:02 (CT 06)	05:53 20:09	16:17 (CT 06) 17:37 (CT 06)	06:22 19:27	06:51 18:37
3	05:30 20:28	16:20 (CT 06) 17:03 (CT 06)	05:54 20:08	16:17 (CT 06) 17:38 (CT 06)	06:23 19:25	06:52 18:36
4	05:30 20:28	16:19 (CT 06) 17:03 (CT 06)	05:55 20:07	16:17 (CT 06) 17:39 (CT 06)	06:24 19:24	06:53 18:34
5	05:31 20:28	16:20 (CT 06) 17:05 (CT 06)	05:56 20:06	16:17 (CT 06) 17:41 (CT 06)	06:25 19:22	06:54 18:32
6	05:31 20:28	16:20 (CT 06) 17:06 (CT 06)	05:57 20:05	16:17 (CT 06) 17:41 (CT 06)	06:26 19:20	06:55 18:31
7	05:32 20:27	16:20 (CT 06) 17:06 (CT 06)	05:58 20:04	16:17 (CT 06) 17:40 (CT 06)	06:27 19:19	06:56 18:29
8	05:33 20:27	16:20 (CT 06) 17:07 (CT 06)	05:59 20:02	16:17 (CT 06) 17:39 (CT 06)	06:28 19:17	06:57 18:28
9	05:33 20:27	16:19 (CT 06) 17:08 (CT 06)	05:59 20:01	16:18 (CT 06) 17:39 (CT 06)	06:29 19:15	06:58 18:26
10	05:34 20:26	16:20 (CT 06) 17:09 (CT 06)	06:00 20:00	16:18 (CT 06) 17:38 (CT 06)	06:30 19:14	06:59 18:24
11	05:34 20:26	16:20 (CT 06) 17:10 (CT 06)	06:01 19:59	16:18 (CT 06) 17:37 (CT 06)	06:31 19:12	07:00 18:23
12	05:35 20:26	16:19 (CT 06) 17:10 (CT 06)	06:02 19:57	16:19 (CT 06) 17:36 (CT 06)	06:32 19:10	07:01 18:21
13	05:36 20:25	16:19 (CT 06) 17:12 (CT 06)	06:03 19:56	16:19 (CT 06) 17:35 (CT 06)	06:33 19:09	07:03 18:20
14	05:37 20:25	16:20 (CT 06) 17:13 (CT 06)	06:04 19:55	16:20 (CT 06) 17:34 (CT 06)	06:34 19:07	07:04 18:18
15	05:37 20:24	16:20 (CT 06) 17:14 (CT 06)	06:05 19:53	16:20 (CT 06) 17:31 (CT 06)	06:35 19:05	07:05 18:17
16	05:38 20:23	16:19 (CT 06) 17:15 (CT 06)	06:06 19:52	16:20 (CT 06) 17:30 (CT 06)	06:36 19:04	07:06 18:15
17	05:39 20:23	16:19 (CT 06) 17:16 (CT 06)	06:07 19:51	16:21 (CT 06) 17:28 (CT 06)	06:37 19:02	07:07 18:14
18	05:40 20:22	16:19 (CT 06) 17:18 (CT 06)	06:08 19:49	16:22 (CT 06) 17:27 (CT 06)	06:38 19:00	07:08 18:12
19	05:40 20:22	16:19 (CT 06) 17:19 (CT 06)	06:09 19:48	16:24 (CT 06) 17:25 (CT 06)	06:39 18:59	07:09 18:11
20	05:41 20:21	16:18 (CT 06) 17:19 (CT 06)	06:10 19:46	16:25 (CT 06) 17:23 (CT 06)	06:40 18:57	07:10 18:09
21	05:42 20:20	16:18 (CT 06) 17:21 (CT 06)	06:11 19:45	16:26 (CT 06) 17:21 (CT 06)	06:41 18:55	07:11 18:08
22	05:43 20:19	16:18 (CT 06) 17:22 (CT 06)	06:12 19:44	16:28 (CT 06) 17:18 (CT 06)	06:42 18:54	07:12 18:07
23	05:44 20:19	16:18 (CT 06) 17:24 (CT 06)	06:13 19:42	16:31 (CT 06) 17:16 (CT 06)	06:43 18:52	07:13 18:05
24	05:45 20:18	16:18 (CT 06) 17:25 (CT 06)	06:14 19:41	16:33 (CT 06) 17:12 (CT 06)	06:43 18:50	07:14 18:04
25	05:46 20:17	16:18 (CT 06) 17:26 (CT 06)	06:15 19:39	16:37 (CT 06) 17:08 (CT 06)	06:44 18:49	06:15 17:02
26	05:46 20:16	16:17 (CT 06) 17:27 (CT 06)	06:16 19:38	16:42 (CT 06) 17:03 (CT 06)	06:45 18:47	06:17 17:01
27	05:47 20:15	16:17 (CT 06) 17:28 (CT 06)	06:17 19:36		06:46 18:46	06:18 17:00
28	05:48 20:14	16:17 (CT 06) 17:30 (CT 06)	06:18 19:35		06:47 18:44	06:19 16:58
29	05:49 20:13	16:17 (CT 06) 17:31 (CT 06)	06:19 19:33		06:48 18:42	06:20 16:57
30	05:50 20:12	16:17 (CT 06) 17:33 (CT 06)	06:20 19:31		06:49 18:41	06:21 16:56
31	05:51 20:11	16:17 (CT 06) 17:34 (CT 06)	06:21 19:30		06:22 16:55	06:22 16:55
Potential sun hours	456	426		375	346	300
Total, worst case	1777		1755		1644	3297
Sun reduction	0,72		0,74		0,56	0,50
Oper. time red.	0,29		0,29		0,29	0,29
Wind dir. red.	0,42		0,42		0,48	0,48
Total reduction	0,09		0,09		0,08	0,07
Total, real	159		160		128	231

#### 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

**Shadow receptor:** R4 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June			
1	07:17	13:36 (CT 04)	07:05	06:30	06:41	05:56	16:36 (CT 05)	05:28	16:09 (CT 05)
	16:39	39 14:15 (CT 04)	17:13	17:46	19:18	19:49	17:02 (CT 05)	20:18	53 17:02 (CT 05)
2	07:18	13:37 (CT 04)	07:04	06:29	06:39	05:55	16:31 (CT 05)	05:28	16:10 (CT 05)
	16:40	38 14:15 (CT 04)	17:14	17:47	19:19	19:50	16:59 (CT 05)	20:18	52 17:02 (CT 05)
3	07:18	13:38 (CT 04)	07:03	06:27	06:37	05:53	16:28 (CT 05)	05:27	16:09 (CT 05)
	16:41	37 14:15 (CT 04)	17:15	17:48	19:20	19:51	17:02 (CT 05)	20:19	52 17:01 (CT 05)
4	07:18	13:40 (CT 04)	07:02	06:26	06:36	05:52	16:24 (CT 05)	05:27	16:10 (CT 05)
	16:42	34 14:14 (CT 04)	17:16	17:49	19:22	19:52	17:05 (CT 05)	20:20	50 17:00 (CT 05)
5	07:18	13:41 (CT 04)	07:01	06:24	06:34	05:51	16:22 (CT 05)	05:26	16:10 (CT 05)
	16:43	33 14:14 (CT 04)	17:17	17:50	19:23	19:53	17:07 (CT 05)	20:20	50 17:00 (CT 05)
6	07:18	13:42 (CT 04)	07:00	06:22	06:33	05:50	16:20 (CT 05)	05:26	16:11 (CT 05)
	16:44	30 14:12 (CT 04)	17:19	17:51	19:24	19:54	17:09 (CT 05)	20:21	49 17:00 (CT 05)
7	07:18	13:44 (CT 04)	06:59	06:21	06:31	05:49	16:18 (CT 05)	05:26	16:10 (CT 05)
	16:45	28 14:12 (CT 04)	17:20	17:52	19:25	19:55	17:11 (CT 05)	20:22	49 16:59 (CT 05)
8	07:18	13:46 (CT 04)	06:58	06:19	06:29	05:47	16:17 (CT 05)	05:26	16:10 (CT 05)
	16:45	25 14:11 (CT 04)	17:21	17:53	19:26	19:56	17:13 (CT 05)	20:22	48 16:58 (CT 05)
9	07:18	13:49 (CT 04)	06:57	06:18	06:28	05:46	16:16 (CT 05)	05:25	16:11 (CT 05)
	16:46	20 14:09 (CT 04)	17:22	17:54	19:27	19:57	17:15 (CT 05)	20:23	47 16:58 (CT 05)
10	07:17	13:53 (CT 04)	06:56	06:16	06:26	05:45	16:15 (CT 05)	05:25	16:11 (CT 05)
	16:47	14 14:07 (CT 04)	17:24	17:56	19:28	19:58	17:16 (CT 05)	20:23	47 16:58 (CT 05)
11	07:17	13:58 (CT 04)	06:54	06:15	06:25	05:44	16:14 (CT 05)	05:25	16:11 (CT 05)
	16:48	4 14:02 (CT 04)	17:25	17:57	19:29	19:59	17:17 (CT 05)	20:24	47 16:58 (CT 05)
12	07:17	14:02 (CT 04)	06:53	06:13	06:23	05:43	16:13 (CT 05)	05:25	16:12 (CT 05)
	16:50	17:26	17:58	19:30	20:00	66 17:19 (CT 05)	20:25	46 16:58 (CT 05)	
13	07:17	06:52	06:11	06:22	05:42	68 17:20 (CT 05)	20:25	46 16:58 (CT 05)	
	16:51	17:27	17:59	19:31	20:01	68 17:20 (CT 05)	20:25	46 16:58 (CT 05)	
14	07:16	06:51	06:10	06:20	05:41	70 17:21 (CT 05)	20:25	45 16:57 (CT 05)	
	16:52	17:28	18:00	19:32	20:02	70 17:21 (CT 05)	20:25	45 16:57 (CT 05)	
15	07:16	06:49	06:08	06:18	05:40	69 17:20 (CT 05)	20:26	44 16:57 (CT 05)	
	16:53	17:30	18:01	19:33	20:03	69 17:20 (CT 05)	20:26	44 16:57 (CT 05)	
16	07:16	06:48	06:07	06:17	05:39	69 17:19 (CT 05)	20:26	44 16:57 (CT 05)	
	16:54	17:31	18:02	19:34	20:04	69 17:19 (CT 05)	20:26	44 16:57 (CT 05)	
17	07:15	06:47	06:05	06:15	05:38	68 17:17 (CT 05)	20:27	44 16:57 (CT 05)	
	16:55	17:32	18:03	19:35	20:05	68 17:17 (CT 05)	20:27	44 16:57 (CT 05)	
18	07:15	06:46	06:03	06:14	05:37	67 17:16 (CT 05)	20:27	44 16:57 (CT 05)	
	16:56	17:33	18:04	19:36	20:06	67 17:17 (CT 05)	20:27	44 16:57 (CT 05)	
19	07:14	06:44	06:02	06:12	05:37	66 17:15 (CT 05)	20:27	44 16:57 (CT 05)	
	16:57	17:34	18:05	19:37	20:07	66 17:15 (CT 05)	20:27	44 16:57 (CT 05)	
20	07:14	06:43	06:00	06:11	05:36	65 17:14 (CT 05)	20:28	44 16:57 (CT 05)	
	16:58	17:35	18:06	19:38	20:08	65 17:14 (CT 05)	20:28	44 16:57 (CT 05)	
21	07:13	06:42	05:58	06:10	05:35	63 17:12 (CT 05)	20:28	44 16:57 (CT 05)	
	17:00	17:37	18:07	19:39	20:09	63 17:12 (CT 05)	20:28	44 16:57 (CT 05)	
22	07:13	06:40	05:57	06:08	05:34	63 17:11 (CT 05)	20:28	44 16:58 (CT 05)	
	17:01	17:38	18:08	19:40	20:10	63 17:12 (CT 05)	20:28	44 16:58 (CT 05)	
23	07:12	06:39	05:55	06:07	05:33	62 17:11 (CT 05)	20:28	44 16:58 (CT 05)	
	17:02	17:39	18:09	19:41	20:10	62 17:11 (CT 05)	20:28	44 16:58 (CT 05)	
24	07:11	06:37	05:54	06:05	05:33	61 17:09 (CT 05)	20:28	44 16:58 (CT 05)	
	17:03	17:40	18:10	19:42	20:11	61 17:09 (CT 05)	20:28	44 16:58 (CT 05)	
25	07:11	06:36	05:52	06:04	05:32	60 17:09 (CT 05)	20:28	44 16:58 (CT 05)	
	17:04	17:41	18:11	19:43	20:12	60 17:09 (CT 05)	20:28	44 16:58 (CT 05)	
26	07:10	06:34	05:50	06:03	05:31	59 17:07 (CT 05)	20:29	44 16:59 (CT 05)	
	17:05	17:42	18:12	19:44	20:13	59 17:07 (CT 05)	20:29	44 16:59 (CT 05)	
27	07:09	06:33	05:49	06:01	05:31	58 17:06 (CT 05)	20:29	44 16:59 (CT 05)	
	17:07	17:43	18:13	19:45	20:14	58 17:06 (CT 05)	20:29	44 16:59 (CT 05)	
28	07:08	06:32	05:47	06:00	05:30	57 17:06 (CT 05)	20:29	45 17:00 (CT 05)	
	17:08	17:45	18:14	19:46	20:15	57 17:06 (CT 05)	20:29	45 17:00 (CT 05)	
29	07:08	06:45	05:59	06:05	05:30	56 17:04 (CT 05)	20:29	45 17:00 (CT 05)	
	17:09	19:15	19:47	20:15	56 17:04 (CT 05)	20:29	45 17:00 (CT 05)		
30	07:07	06:44	05:57	06:04	05:29	55 17:04 (CT 05)	20:29	46 17:01 (CT 05)	
	17:10	19:16	19:48	20:16	55 17:04 (CT 05)	20:29	46 17:01 (CT 05)		
31	07:06	06:42	06:02	06:09	05:28	55 17:04 (CT 05)	20:29	46 17:01 (CT 05)	
	17:11	19:17	19:49	20:17	55 17:04 (CT 05)	20:29	46 17:01 (CT 05)		
Potential sun hours	300	298	370	398	446	449			
Total, worst case	302				1763			1389	
Sun reduction	0,43				0,57			0,65	
Oper. time red.	0,29				0,29			0,29	
Wind dir. red.	1,00				0,35			0,35	
Total reduction	0,13				0,06			0,07	
Total, real	41				112			100	

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

Shadow receptor: R4 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

### Operational time

N	NE	E	SE	S	SW	W	NW	Sum
0	0	0	0	0	2.539	0	0	2.539

	July	August	September	October	November	December
1	05:29	16:16 (CT 05)	05:52	16:24 (CT 05)	06:22	06:50
	20:28	46 17:02 (CT 05)	20:10	17:29 (CT 05)	19:28	18:39
2	05:29	16:15 (CT 05)	05:53	16:25 (CT 05)	06:22	06:51
	20:28	47 17:02 (CT 05)	20:09	17:28 (CT 05)	19:27	18:37
3	05:30	16:16 (CT 05)	05:54	16:25 (CT 05)	06:23	06:52
	20:28	47 17:03 (CT 05)	20:08	17:25 (CT 05)	19:25	18:36
4	05:30	16:16 (CT 05)	05:55	16:26 (CT 05)	06:24	06:53
	20:28	47 17:03 (CT 05)	20:07	17:24 (CT 05)	19:23	18:34
5	05:31	16:16 (CT 05)	05:56	16:27 (CT 05)	06:25	06:54
	20:28	49 17:05 (CT 05)	20:06	17:22 (CT 05)	19:22	18:32
6	05:31	16:17 (CT 05)	05:57	16:29 (CT 05)	06:26	06:55
	20:28	49 17:06 (CT 05)	20:05	17:20 (CT 05)	19:20	18:31
7	05:32	16:16 (CT 05)	05:58	16:30 (CT 05)	06:27	06:56
	20:27	50 17:06 (CT 05)	20:04	17:18 (CT 05)	19:19	18:29
8	05:33	16:17 (CT 05)	05:58	16:32 (CT 05)	06:28	06:57
	20:27	50 17:07 (CT 05)	20:02	17:16 (CT 05)	19:17	18:28
9	05:33	16:16 (CT 05)	05:59	16:35 (CT 05)	06:29	06:58
	20:27	52 17:08 (CT 05)	20:01	17:13 (CT 05)	19:15	18:26
10	05:34	16:17 (CT 05)	06:00	16:37 (CT 05)	06:30	06:59
	20:26	52 17:09 (CT 05)	20:00	17:10 (CT 05)	19:14	18:24
11	05:34	16:17 (CT 05)	06:01	16:41 (CT 05)	06:31	07:00
	20:26	53 17:10 (CT 05)	19:59	17:06 (CT 05)	19:12	18:23
12	05:35	16:17 (CT 05)	06:02	16:48 (CT 05)	06:32	07:01
	20:25	53 17:10 (CT 05)	19:57	16:59 (CT 05)	19:10	18:21
13	05:36	16:17 (CT 05)	06:03	06:33	07:02	06:37
	20:25	55 17:12 (CT 05)	19:56	19:09	18:20	16:41
14	05:37	16:18 (CT 05)	06:04	06:34	07:04	06:38
	20:24	55 17:13 (CT 05)	19:55	19:07	18:18	16:40
15	05:37	16:17 (CT 05)	06:05	06:35	07:05	06:40
	20:24	56 17:13 (CT 05)	19:53	19:05	18:17	16:39
16	05:38	16:17 (CT 05)	06:06	06:36	07:06	06:41
	20:23	58 17:15 (CT 05)	19:52	19:04	18:15	16:38
17	05:39	16:18 (CT 05)	06:07	06:37	07:07	06:42
	20:23	58 17:16 (CT 05)	19:51	19:02	18:14	16:37
18	05:40	16:18 (CT 05)	06:08	06:38	07:08	06:43
	20:22	60 17:18 (CT 05)	19:49	19:00	18:12	16:37
19	05:40	16:19 (CT 05)	06:09	06:39	07:09	06:44
	20:21	60 17:19 (CT 05)	19:48	18:59	18:11	16:36
20	05:41	16:18 (CT 05)	06:10	06:40	07:10	06:45
	20:21	61 17:19 (CT 05)	19:46	18:57	18:09	16:35
21	05:42	16:18 (CT 05)	06:11	06:41	07:11	06:46
	20:20	63 17:21 (CT 05)	19:45	18:55	18:08	16:35
22	05:43	16:19 (CT 05)	06:12	06:42	07:12	06:48
	20:19	63 17:22 (CT 05)	19:44	18:54	18:07	16:34
23	05:44	16:19 (CT 05)	06:13	06:42	07:13	06:49
	20:19	65 17:24 (CT 05)	19:42	18:52	18:05	16:33
24	05:45	16:20 (CT 05)	06:14	06:43	07:14	06:50
	20:18	65 17:25 (CT 05)	19:41	18:50	18:04	16:33
25	05:46	16:19 (CT 05)	06:15	06:44	06:15	06:51
	20:17	67 17:26 (CT 05)	19:39	18:49	17:02	16:32
26	05:46	16:20 (CT 05)	06:16	06:45	06:17	06:52
	20:16	67 17:27 (CT 05)	19:38	18:47	17:01	16:32
27	05:47	16:20 (CT 05)	06:17	06:46	06:18	06:53
	20:15	68 17:28 (CT 05)	19:36	18:45	17:00	16:31
28	05:48	16:21 (CT 05)	06:18	06:47	06:19	06:54
	20:14	69 17:30 (CT 05)	19:35	18:44	16:58	16:31
29	05:49	16:22 (CT 05)	06:19	06:48	06:20	06:55
	20:13	69 17:31 (CT 05)	19:33	18:42	16:57	16:31
30	05:50	16:22 (CT 05)	06:20	06:49	06:21	06:56
	20:12	69 17:31 (CT 05)	19:31	18:41	16:56	16:30
31	05:51	16:23 (CT 05)	06:21		06:22	07:17
	20:11	67 17:30 (CT 05)	19:30		16:55	16:38
Potential sun hours	456	426		375	346	300
Total, worst case	1790		551			
Sun reduction	0,72		0,74			
Oper. time red.	0,29		0,29			
Wind dir. red.	0,35		0,35			
Total reduction	0,08		0,08			
Total, real	144		45			159

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

**Shadow receptor: R5 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June
1	07:17 16:39 132	12:13 (CT 03) 07:05 17:13 97	12:44 (CT 03) 06:30 17:46	06:41 19:18 17:46	05:56 19:49 19:49	05:28 20:18 20:18
2	07:18 16:40 132	12:13 (CT 03) 07:04 17:14 93	12:47 (CT 03) 06:29 17:47	06:39 19:19 19:19	05:55 19:50 19:50	05:28 20:18 20:18
3	07:18 16:41 131	12:14 (CT 03) 07:03 17:15 90	12:49 (CT 03) 06:27 17:48	06:37 19:20 19:20	05:53 19:51 19:51	05:27 20:19 20:19
4	07:18 16:42 130	12:15 (CT 03) 07:02 17:16 87	12:51 (CT 03) 06:26 17:49	06:26 19:22 19:22	05:52 19:52 19:52	05:27 20:20 20:20
5	07:18 16:43 131	12:15 (CT 03) 07:01 17:18 83	12:54 (CT 03) 06:24 17:50	06:34 19:23 19:23	05:51 19:53 19:53	05:27 20:20 20:20
6	07:18 16:44 130	12:15 (CT 03) 07:00 17:19 78	12:56 (CT 03) 06:22 17:51	06:33 19:24 19:24	05:50 19:54 19:54	05:26 20:21 20:21
7	07:18 16:45 130	12:16 (CT 03) 06:59 17:20 74	12:59 (CT 03) 06:21 17:52	06:31 19:25 19:25	05:49 19:55 19:55	05:26 20:22 20:22
8	07:18 16:46 129	12:17 (CT 03) 06:58 17:21 69	13:02 (CT 03) 06:19 17:53	06:19 19:26 19:26	05:48 19:56 19:56	05:26 20:22 20:22
9	07:18 16:46 128	12:18 (CT 03) 06:57 17:22 63	13:06 (CT 03) 06:18 17:54	06:28 19:27 19:27	05:46 19:57 19:57	05:25 20:23 20:23
10	07:17 16:48 128	12:19 (CT 03) 06:56 17:24 55	13:11 (CT 03) 06:16 17:56	06:26 19:28 19:28	05:45 19:58 19:58	05:25 20:23 20:23
11	07:17 16:49 127	12:19 (CT 03) 06:54 17:25 47	13:16 (CT 03) 06:15 17:57	06:25 19:29 19:29	05:44 19:59 19:59	05:25 20:24 20:24
12	07:17 16:50 127	12:20 (CT 03) 06:53 17:26 37	13:21 (CT 03) 06:13 17:58	06:23 19:30 19:30	05:43 20:00 20:00	05:25 20:24 20:24
13	07:17 16:51 126	12:21 (CT 03) 06:52 17:27 22	13:30 (CT 03) 06:11 17:59	06:22 19:31 19:31	05:42 20:01 20:01	05:25 20:25 20:25
14	07:16 16:52 126	12:21 (CT 03) 06:51 17:28	13:35 (CT 03) 06:10 18:00	06:20 19:32 19:32	05:41 20:02 20:02	05:25 20:25 20:25
15	07:16 16:53 125	12:22 (CT 03) 06:49 17:30	18:01 19:33 19:33	06:18 20:03 20:03	05:40 20:03 20:03	05:25 20:26 20:26
16	07:16 16:54 124	12:23 (CT 03) 06:48 17:31	18:07 19:34 19:34	06:17 20:04 20:04	05:39 20:04 20:04	05:25 20:26 20:26
17	07:15 16:55 123	12:24 (CT 03) 06:47 17:32	18:08 19:35 19:35	06:15 20:05 20:05	05:38 20:05 20:05	05:25 20:27 20:27
18	07:15 16:56 121	12:25 (CT 03) 06:46 17:33	18:09 19:36 19:36	06:14 20:06 20:06	05:37 20:06 20:06	05:25 20:27 20:27
19	07:14 16:57 121	12:26 (CT 03) 06:44 17:34	18:05 19:37 19:37	06:13 20:07 20:07	05:37 20:07 20:07	05:25 20:27 20:27
20	07:14 16:58 119	12:27 (CT 03) 06:43 17:35	18:05 19:38 19:38	06:11 20:08 20:08	05:36 20:08 20:08	05:25 20:27 20:27
21	07:13 17:00 119	12:28 (CT 03) 06:42 17:37	18:06 19:39 19:39	06:10 20:09 20:09	05:35 20:09 20:09	05:25 20:28 20:28
22	07:13 17:01 117	12:29 (CT 03) 06:40 17:38	18:07 19:40 19:40	06:08 20:10 20:10	05:34 20:10 20:10	05:26 20:28 20:28
23	07:12 17:02 116	12:30 (CT 03) 06:39 17:39	18:08 19:41 19:41	06:07 20:11 20:11	05:33 20:11 20:11	05:26 20:28 20:28
24	07:11 17:03 114	12:32 (CT 03) 06:37 17:40	18:09 19:42 19:42	06:05 20:12 20:12	05:33 20:12 20:12	05:26 20:28 20:28
25	07:11 17:04 112	12:33 (CT 03) 06:36 17:41	18:10 19:43 19:43	06:04 20:13 20:13	05:32 20:13 20:13	05:26 20:28 20:28
26	07:10 17:05 111	12:34 (CT 03) 06:34 17:42	18:11 19:44 19:44	06:03 20:14 20:14	05:31 20:14 20:14	05:27 20:29 20:29
27	07:09 17:07 109	12:35 (CT 03) 06:33 17:43	18:12 19:45 19:45	06:03 20:15 20:15	05:31 20:15 20:15	05:27 20:29 20:29
28	07:08 17:08 106	12:37 (CT 03) 06:32 17:45	18:13 19:46 19:46	06:00 20:16 20:16	05:30 20:16 20:16	05:27 20:29 20:29
29	07:08 17:09 105	12:38 (CT 03) 06:31 17:46	18:14 19:47 19:47	06:00 20:17 20:17	05:30 20:17 20:17	05:28 20:30 20:30
30	07:07 17:10 102	12:41 (CT 03) 06:30 17:47	18:15 19:48 19:48	05:57 20:18 20:18	05:29 20:18 20:18	05:28 20:30 20:30
31	07:06 17:11 99	12:43 (CT 03) 06:29 17:48	18:16 19:49 19:49	05:57 20:19 20:19	05:29 20:19 20:19	05:28 20:30 20:30
Potential sun hours	300	298	370	398	446	449
Total, worst case	3750	895				
Sun reduction	0,43	0,45				
Oper. time red.	0,29	0,29				
Wind dir. red.	1,00	1,00				
Total reduction	0,12	0,13				
Total, real	464	116				

**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

Shadow receptor: R5 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

### Operational time

N	NE	E	SE	S	SW	W	NW	Sum
0	0	0	0	0	2.539	0	0	2.539

	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	12:40 (CT 03) 13:37 (CT 03)
2	05:29 20:28	05:53 20:09	06:23 19:27	06:51 18:37	06:24 16:52	12:35 (CT 03) 13:39 (CT 03)
3	05:30 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	12:32 (CT 03) 13:41 (CT 03)
4	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	06:27 16:50	12:28 (CT 03) 13:43 (CT 03)
5	05:31 20:28	05:56 20:06	06:25 19:22	06:54 18:32	06:28 16:49	12:25 (CT 03) 13:44 (CT 03)
6	05:31 20:28	05:57 20:05	06:26 19:20	06:55 18:31	06:29 16:48	12:23 (CT 03) 13:47 (CT 03)
7	05:32 20:27	05:58 20:04	06:27 19:19	06:56 18:29	06:30 16:47	12:21 (CT 03) 13:48 (CT 03)
8	05:33 20:27	05:59 20:02	06:28 19:17	06:57 18:28	06:31 16:46	12:18 (CT 03) 13:49 (CT 03)
9	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	06:33 16:45	12:16 (CT 03) 13:50 (CT 03)
10	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	06:34 16:44	12:15 (CT 03) 13:52 (CT 03)
11	05:35 20:26	06:01 19:59	06:31 19:12	07:00 18:23	06:35 16:43	12:13 (CT 03) 13:53 (CT 03)
12	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:42	12:12 (CT 03) 13:54 (CT 03)
13	05:36 20:25	06:03 19:56	06:33 19:09	07:03 18:20	06:37 16:41	12:10 (CT 03) 13:55 (CT 03)
14	05:37 20:24	06:04 19:55	06:34 19:07	07:04 18:18	06:38 16:40	12:10 (CT 03) 13:56 (CT 03)
15	05:37 20:24	06:05 19:53	06:35 19:05	07:05 18:17	06:39 16:39	12:08 (CT 03) 13:57 (CT 03)
16	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	12:07 (CT 03) 13:58 (CT 03)
17	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	06:42 16:37	12:06 (CT 03) 13:58 (CT 03)
18	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	06:43 16:37	12:06 (CT 03) 14:00 (CT 03)
19	05:41 20:21	06:09 19:48	06:39 18:59	07:09 18:11	06:44 16:36	12:05 (CT 03) 14:01 (CT 03)
20	05:41 20:21	06:10 19:46	06:40 18:57	07:10 18:09	06:45 16:35	12:04 (CT 03) 14:01 (CT 03)
21	05:42 20:20	06:11 19:45	06:41 18:55	07:11 18:08	06:46 16:35	12:03 (CT 03) 14:02 (CT 03)
22	05:43 20:19	06:12 19:44	06:42 18:54	07:12 18:07	06:47 16:34	12:03 (CT 03) 14:02 (CT 03)
23	05:44 20:19	06:13 19:42	06:43 18:52	07:13 18:05	06:49 16:33	12:02 (CT 03) 14:03 (CT 03)
24	05:45 20:18	06:14 19:41	06:43 18:50	07:14 18:04	06:50 16:33	12:03 (CT 03) 14:04 (CT 03)
25	05:46 20:17	06:15 19:39	06:44 18:49	07:15 17:02	06:51 16:32	12:02 (CT 03) 14:05 (CT 03)
26	05:46 20:16	06:16 19:38	06:45 18:47	07:17 17:01	06:52 16:32	12:02 (CT 03) 14:06 (CT 03)
27	05:47 20:15	06:17 19:36	06:46 18:45	07:18 17:00	06:53 16:31	12:01 (CT 03) 14:06 (CT 03)
28	05:48 20:14	06:18 19:35	06:47 18:44	07:19 16:58	06:54 16:31	12:01 (CT 03) 14:07 (CT 03)
29	05:49 20:13	06:19 19:33	06:48 18:42	07:20 16:57	06:55 16:31	12:01 (CT 03) 14:07 (CT 03)
30	05:50 20:12	06:20 19:31	06:49 18:41	07:21 16:56	06:56 16:30	12:01 (CT 03) 14:08 (CT 03)
31	05:51 20:11	06:21 19:30		07:22 16:55	06:57 16:30	12:01 (CT 03) 14:08 (CT 03)
Potential sun hours	456	426	375	346	300	291
Total, worst case				115	3120	4082
Sun reduction				0,56	0,50	0,43
Oper. time red.				0,29	0,29	0,29
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,16	0,15	0,13
Total, real				19	455	511

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

Shadow receptor: R6 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (6)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]

Table with 12 columns (Jan-Dec) and 1 row of values: 4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

Table with 10 columns (N-NE-E-SE-S-SW-W-NW-Sum) and 2 rows of values: 0 0 0 0 0 2.539 0 0 2.539

Main shadow calculation table with columns for months (January-December) and rows for each day (1-31) showing sun rise/set times and reduction values.

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

Matrix with columns: Day in month, Sun rise/set, Minutes with flicker, First/Last time with flicker, and (WTG causing flicker first/last time)



## SHADOW - Calendar

Shadow receptor: R8 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	05:28	05:52	06:21	06:50	06:23	06:57
	16:39	17:12	17:45	19:18	19:49	20:18	20:28	20:10	19:28	18:39	16:53	16:30
2	07:18	07:04	06:28	06:39	05:54	05:27	05:29	05:53	06:22	06:51	06:24	06:58
	16:40	17:14	17:47	19:19	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	05:53	05:27	05:29	05:54	06:23	06:52	06:25	06:59
	16:41	17:15	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	06:25	06:36	05:52	05:27	05:30	05:55	06:24	06:53	06:27	07:00
	16:42	17:16	17:49	19:21	19:52	20:20	20:28	20:07	19:23	18:34	16:50	16:29
5	07:18	07:01	06:24	06:34	05:51	05:26	05:31	05:55	06:25	06:54	06:28	07:01
	16:42	17:17	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	07:02
	16:43	17:19	17:51	19:23	19:54	20:21	20:27	20:05	19:20	18:31	16:48	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	07:03
	16:44	17:20	17:52	19:24	19:55	20:22	20:27	20:03	19:18	18:29	16:46	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	07:04
	16:45	17:21	17:53	19:25	19:56	20:22	20:27	20:02	19:17	18:27	16:45	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	07:05
	16:46	17:22	17:54	19:26	19:57	20:23	20:27	20:01	19:15	18:26	16:44	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	07:06
	16:47	17:23	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	06:14	06:24	05:44	05:25	05:34	06:01	06:31	07:00	06:35	07:06
	16:48	17:25	17:56	19:29	19:59	20:24	20:26	19:58	19:12	18:23	16:42	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	07:07
	16:49	17:26	17:58	19:30	20:00	20:24	20:25	19:57	19:10	18:21	16:41	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	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	06:10	06:20	05:41	05:25	05:36	06:04	06:34	07:03	06:38	07:09
	16:51	17:28	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	06:08	06:18	05:40	05:25	05:37	06:05	06:35	07:04	06:39	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	06:06	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	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	06:38	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	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	05:36	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	17:38	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	06:07	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	05:49	06:01	05:31	05:27	05:47	06:17	06:46	06:18	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	06:31	05:47	06:00	05:30	05:27	05:48	06:18	06:47	06:19	06:54	07:16
	17:08	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		06:45	05:58	05:29	05:28	05:49	06:18	06:48	06:20	06:55	07:17
	17:09		19:15	19:47	20:15	20:28	20:13	19:33	18:42	16:57	16:30	16:36
30	07:07		06:44	05:57	05:29	05:28	05:50	06:19	06:49	06:21	06:56	07:17
	17:10		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		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												
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

Shadow receptor: R9 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June		
1	07:17 16:39	12:30 (CT 18) 13:31 (CT 18)	07:05 17:12	13:07 (CT 18) 17:45	06:30 17:45	07:35 (CT 17) 19:18	08:21 (CT 17) 19:49	05:56 20:18
2	07:18 16:40	12:31 (CT 18) 13:33 (CT 18)	07:04 17:14	13:22 (CT 18) 17:47	06:28 17:47	07:31 (CT 17) 19:19	08:22 (CT 17) 19:50	05:54 20:18
3	07:18 16:41	12:32 (CT 18) 13:33 (CT 18)	07:03 17:15	17:48 17:48	06:27 17:48	07:30 (CT 17) 19:20	08:24 (CT 17) 19:51	05:53 20:19
4	07:18 16:42	12:32 (CT 18) 13:34 (CT 18)	07:02 17:16	06:25 17:49	06:25 17:49	07:27 (CT 17) 19:21	08:27 (CT 17) 19:52	05:52 20:20
5	07:18 16:42	12:32 (CT 18) 13:33 (CT 18)	07:01 17:17	06:24 17:50	06:24 17:50	07:26 (CT 17) 19:22	08:34 (CT 17) 19:53	05:51 20:20
6	07:18 16:43	12:33 (CT 18) 13:34 (CT 18)	07:00 17:19	06:22 17:51	06:22 17:51	07:24 (CT 17) 19:23	08:37 (CT 17) 19:54	05:50 20:21
7	07:18 16:44	12:33 (CT 18) 13:34 (CT 18)	06:59 17:20	06:21 17:52	06:21 17:52	07:22 (CT 17) 19:24	05:48 19:55	05:26 20:22
8	07:18 16:45	12:34 (CT 18) 13:35 (CT 18)	06:58 17:21	06:19 17:53	06:19 17:53	07:22 (CT 17) 19:25	05:47 19:56	05:25 20:22
9	07:17 16:46	12:35 (CT 18) 13:35 (CT 18)	06:57 17:22	06:18 17:54	06:18 17:54	07:20 (CT 17) 19:27	05:46 19:57	05:25 20:23
10	07:17 16:47	12:35 (CT 18) 13:36 (CT 18)	06:55 17:23	06:16 17:55	06:16 17:55	07:20 (CT 17) 19:28	05:45 19:58	05:25 20:23
11	07:17 16:48	12:35 (CT 18) 13:35 (CT 18)	06:54 17:25	06:14 17:56	06:14 17:56	07:18 (CT 17) 19:29	05:44 19:59	05:25 20:24
12	07:17 16:49	12:36 (CT 18) 13:36 (CT 18)	06:53 17:26	06:13 17:57	06:13 17:57	07:17 (CT 17) 19:30	05:43 20:00	05:25 20:24
13	07:17 16:50	12:37 (CT 18) 13:36 (CT 18)	06:52 17:27	06:11 17:59	06:11 17:59	07:17 (CT 17) 19:31	05:42 20:01	05:25 20:25
14	07:16 16:51	12:37 (CT 18) 13:36 (CT 18)	06:51 17:28	06:10 18:00	06:10 18:00	07:16 (CT 17) 19:32	05:41 20:02	05:25 20:25
15	07:16 16:53	12:38 (CT 18) 13:36 (CT 18)	06:49 17:29	06:08 18:01	06:08 18:01	07:16 (CT 17) 19:33	05:40 20:03	05:25 20:26
16	07:16 16:54	12:39 (CT 18) 13:36 (CT 18)	06:48 17:31	06:06 18:02	06:06 18:02	07:15 (CT 17) 19:34	05:39 20:04	05:25 20:26
17	07:15 16:55	12:40 (CT 18) 13:37 (CT 18)	06:47 17:32	06:05 18:03	06:05 18:03	07:15 (CT 17) 19:35	05:38 20:05	05:25 20:26
18	07:15 16:56	12:40 (CT 18) 13:36 (CT 18)	06:45 17:33	06:03 18:04	06:03 18:04	07:15 (CT 17) 19:36	05:37 20:06	05:25 20:27
19	07:14 16:57	12:42 (CT 18) 13:37 (CT 18)	06:44 17:34	06:02 18:05	06:02 18:05	07:14 (CT 17) 19:37	05:36 20:07	05:25 20:27
20	07:14 16:58	12:42 (CT 18) 13:36 (CT 18)	06:43 17:35	06:00 18:06	06:00 18:06	07:14 (CT 17) 19:38	05:36 20:08	05:25 20:27
21	07:13 16:59	12:44 (CT 18) 13:37 (CT 18)	06:41 17:36	05:58 18:07	05:58 18:07	07:14 (CT 17) 19:39	05:35 20:09	05:25 20:28
22	07:13 17:00	12:45 (CT 18) 13:36 (CT 18)	06:40 17:38	05:57 18:08	05:57 18:08	07:14 (CT 17) 19:40	05:34 20:09	05:25 20:28
23	07:12 17:02	12:45 (CT 18) 13:35 (CT 18)	06:39 17:39	05:55 18:09	05:55 18:09	07:14 (CT 17) 19:41	05:33 20:10	05:26 20:28
24	07:11 17:03	12:46 (CT 18) 13:34 (CT 18)	06:37 17:40	05:53 18:10	05:53 18:10	07:14 (CT 17) 19:42	05:32 20:11	05:26 20:28
25	07:11 17:04	12:49 (CT 18) 13:35 (CT 18)	06:36 17:41	05:52 18:11	05:52 18:11	07:14 (CT 17) 19:43	05:32 20:12	05:26 20:28
26	07:10 17:05	12:50 (CT 18) 13:34 (CT 18)	06:34 17:42	05:50 18:12	05:50 18:12	07:14 (CT 17) 19:44	05:31 20:13	05:26 20:28
27	07:09 17:06	12:52 (CT 18) 13:33 (CT 18)	06:33 17:43	07:44 (CT 17) 05:49	05:49 18:13	07:16 (CT 17) 19:45	05:31 20:14	05:27 20:28
28	07:08 17:08	12:53 (CT 18) 13:31 (CT 18)	06:31 17:44	07:54 (CT 17) 05:47	05:47 18:14	07:16 (CT 17) 19:46	05:30 20:15	05:27 20:28
29	07:07 17:09	12:55 (CT 18) 13:30 (CT 18)	06:30 17:45	07:59 (CT 17) 05:45	05:45 19:15	08:02 (CT 17) 05:58	05:29 20:15	05:28 20:28
30	07:07 17:10	12:58 (CT 18) 13:28 (CT 18)	06:29 17:46	06:44 19:16	06:44 19:16	08:18 (CT 17) 19:48	05:29 20:16	05:28 20:28
31	07:06 17:11	13:02 (CT 18) 13:26 (CT 18)	06:28 17:47	06:42 19:17	06:42 19:17	08:19 (CT 17) 08:57 (CT 17)	05:28 20:17	05:28 20:17
Potential sun hours	300	298	370	398	446	450		
Total, worst case	1646	46	1543	110				
Sun reduction	0,43	0,45	0,46	0,50				
Oper. time red.	0,29	0,29	0,29	0,29				
Wind dir. red.	0,99	0,39	0,10	0,10				
Total reduction	0,13	0,05	0,01	0,02				
Total, real	219	3	22	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

Shadow receptor: R9 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

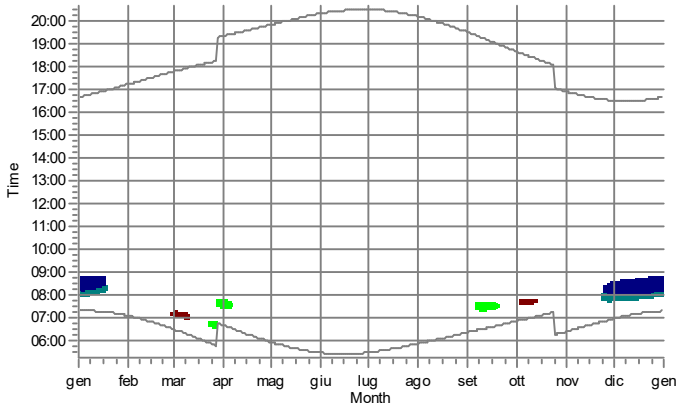
	July	August	September	October	November	December
1	05:28	05:52	06:21	06:50	07:57 (CT 17) 06:23	06:57 12:17 (CT 18)
	20:28	20:10	19:28	18:39	56 08:53 (CT 17) 16:53	16:30 60 13:17 (CT 18)
2	05:29	05:53	06:22	06:51	07:57 (CT 17) 06:24	06:58 12:17 (CT 18)
	20:28	20:09	19:27	18:37	55 08:52 (CT 17) 16:52	16:30 61 13:18 (CT 18)
3	05:29	05:54	06:23	06:52	07:57 (CT 17) 06:25	06:59 12:18 (CT 18)
	20:28	20:08	19:25	18:35	54 08:51 (CT 17) 16:51	16:29 60 13:18 (CT 18)
4	05:30	05:55	06:24	06:53	07:57 (CT 17) 06:27	07:00 12:18 (CT 18)
	20:28	20:07	19:23	18:34	53 08:50 (CT 17) 16:50	16:29 61 13:19 (CT 18)
5	05:31	05:55	06:25	06:54	07:58 (CT 17) 06:28	07:01 12:18 (CT 18)
	20:28	20:06	19:22	18:32	51 08:49 (CT 17) 16:49	16:29 61 13:19 (CT 18)
6	05:31	05:56	06:26	06:55	07:58 (CT 17) 06:29	07:02 12:19 (CT 18)
	20:28	20:05	19:20	18:31	50 08:48 (CT 17) 16:48	16:29 61 13:20 (CT 18)
7	05:32	05:57	06:27	06:56	07:59 (CT 17) 06:30	07:03 12:19 (CT 18)
	20:27	20:03	19:19	18:29	48 08:47 (CT 17) 16:46	16:29 61 13:20 (CT 18)
8	05:32	05:58	06:28	08:22 (CT 17) 06:57	08:00 (CT 17) 06:31	07:04 12:19 (CT 18)
	20:27	20:02	19:17	17 08:39 (CT 17) 18:27	45 08:45 (CT 17) 16:45	16:29 62 13:21 (CT 18)
9	05:33	05:59	06:29	08:18 (CT 17) 06:58	08:01 (CT 17) 06:32	07:05 12:20 (CT 18)
	20:27	20:01	19:15	24 08:42 (CT 17) 18:26	42 08:43 (CT 17) 16:44	16:29 61 13:21 (CT 18)
10	05:34	06:00	06:30	08:15 (CT 17) 06:59	08:02 (CT 17) 06:34	12:37 (CT 18) 07:06 12:20 (CT 18)
	20:26	20:00	19:14	30 08:45 (CT 17) 18:24	40 08:42 (CT 17) 16:43	17 12:54 (CT 18) 16:29 62 13:22 (CT 18)
11	05:34	06:01	06:31	08:13 (CT 17) 07:00	08:04 (CT 17) 06:35	12:33 (CT 18) 07:06 12:21 (CT 18)
	20:26	19:58	19:12	34 08:47 (CT 17) 18:23	35 08:39 (CT 17) 16:42	24 12:57 (CT 18) 16:29 61 13:22 (CT 18)
12	05:35	06:02	06:32	08:11 (CT 17) 07:01	08:06 (CT 17) 06:36	12:30 (CT 18) 07:07 12:22 (CT 18)
	20:25	19:57	19:10	37 08:48 (CT 17) 18:21	31 08:37 (CT 17) 16:41	30 13:00 (CT 18) 16:29 61 13:23 (CT 18)
13	05:36	06:03	06:33	08:09 (CT 17) 07:02	08:08 (CT 17) 06:37	12:27 (CT 18) 07:08 12:21 (CT 18)
	20:25	19:56	19:09	41 08:50 (CT 17) 18:20	26 08:34 (CT 17) 16:41	35 13:02 (CT 18) 16:29 62 13:23 (CT 18)
14	05:36	06:04	06:34	08:08 (CT 17) 07:03	08:12 (CT 17) 06:38	12:26 (CT 18) 07:09 12:22 (CT 18)
	20:24	19:55	19:07	43 08:51 (CT 17) 18:18	17 08:29 (CT 17) 16:40	38 13:04 (CT 18) 16:29 61 13:23 (CT 18)
15	05:37	06:05	06:35	08:06 (CT 17) 07:04	08:06 (CT 17) 06:39	12:24 (CT 18) 07:10 12:23 (CT 18)
	20:24	19:53	19:05	46 08:52 (CT 17) 18:17	16:39 42 13:06 (CT 18) 16:30 61 13:24 (CT 18)	
16	05:38	06:06	06:36	08:05 (CT 17) 07:06	08:05 (CT 17) 06:41	12:23 (CT 18) 07:10 12:22 (CT 18)
	20:23	19:52	19:04	48 08:53 (CT 17) 18:15	16:38 44 13:07 (CT 18) 16:30 62 13:24 (CT 18)	
17	05:39	06:07	06:37	08:04 (CT 17) 07:07	08:04 (CT 17) 06:42	12:22 (CT 18) 07:11 12:23 (CT 18)
	20:23	19:51	19:02	50 08:54 (CT 17) 18:14	16:37 46 13:08 (CT 18) 16:30 62 13:25 (CT 18)	
18	05:39	06:08	06:38	08:02 (CT 17) 07:08	08:02 (CT 17) 06:43	12:20 (CT 18) 07:12 12:24 (CT 18)
	20:22	19:49	19:00	51 08:53 (CT 17) 18:12	16:36 48 13:08 (CT 18) 16:30 61 13:25 (CT 18)	
19	05:40	06:09	06:39	08:01 (CT 17) 07:09	08:01 (CT 17) 06:44	12:20 (CT 18) 07:12 12:24 (CT 18)
	20:21	19:48	18:59	53 08:54 (CT 17) 18:11	16:36 50 13:10 (CT 18) 16:31 61 13:25 (CT 18)	
20	05:41	06:10	06:39	08:00 (CT 17) 07:10	08:00 (CT 17) 06:45	12:20 (CT 18) 07:13 12:25 (CT 18)
	20:21	19:46	18:57	54 08:54 (CT 17) 18:09	16:35 51 13:11 (CT 18) 16:31 61 13:26 (CT 18)	
21	05:42	06:11	06:40	07:59 (CT 17) 07:11	07:59 (CT 17) 06:46	12:19 (CT 18) 07:13 12:25 (CT 18)
	20:20	19:45	18:55	56 08:55 (CT 17) 18:08	16:34 53 13:12 (CT 18) 16:32 61 13:26 (CT 18)	
22	05:43	06:12	06:41	07:59 (CT 17) 07:12	07:59 (CT 17) 06:47	12:18 (CT 18) 07:14 12:26 (CT 18)
	20:19	19:43	18:54	56 08:55 (CT 17) 18:06	16:34 54 13:12 (CT 18) 16:32 61 13:27 (CT 18)	
23	05:44	06:13	06:42	07:58 (CT 17) 07:13	07:58 (CT 17) 06:49	12:18 (CT 18) 07:14 12:26 (CT 18)
	20:18	19:42	18:52	57 08:55 (CT 17) 18:05	16:33 55 13:13 (CT 18) 16:33 61 13:27 (CT 18)	
24	05:44	06:14	06:43	07:58 (CT 17) 07:14	07:58 (CT 17) 06:50	12:18 (CT 18) 07:15 12:27 (CT 18)
	20:18	19:40	18:50	57 08:55 (CT 17) 18:04	16:33 56 13:14 (CT 18) 16:33 61 13:28 (CT 18)	
25	05:45	06:15	06:44	07:57 (CT 17) 06:15	07:57 (CT 17) 06:51	12:18 (CT 18) 07:15 12:27 (CT 18)
	20:17	19:39	18:49	58 08:55 (CT 17) 17:02	16:32 57 13:15 (CT 18) 16:34 61 13:28 (CT 18)	
26	05:46	06:16	06:45	07:57 (CT 17) 06:16	07:57 (CT 17) 06:52	12:18 (CT 18) 07:16 12:27 (CT 18)
	20:16	19:37	18:47	58 08:55 (CT 17) 17:01	16:32 57 13:15 (CT 18) 16:34 62 13:29 (CT 18)	
27	05:47	06:17	06:46	07:57 (CT 17) 06:18	07:57 (CT 17) 06:53	12:17 (CT 18) 07:16 12:28 (CT 18)
	20:15	19:36	18:45	58 08:55 (CT 17) 17:00	16:31 59 13:16 (CT 18) 16:35 62 13:30 (CT 18)	
28	05:48	06:18	06:47	07:57 (CT 17) 06:19	07:57 (CT 17) 06:54	12:17 (CT 18) 07:16 12:29 (CT 18)
	20:14	19:34	18:44	57 08:54 (CT 17) 16:58	16:31 59 13:16 (CT 18) 16:36 61 13:30 (CT 18)	
29	05:49	06:18	06:48	07:56 (CT 17) 06:20	07:56 (CT 17) 06:55	12:17 (CT 18) 07:17 12:29 (CT 18)
	20:13	19:33	18:42	58 08:54 (CT 17) 16:57	16:30 59 13:16 (CT 18) 16:36 61 13:30 (CT 18)	
30	05:50	06:19	06:49	07:56 (CT 17) 06:21	07:56 (CT 17) 06:56	12:17 (CT 18) 07:17 12:29 (CT 18)
	20:12	19:31	18:40	57 08:53 (CT 17) 16:56	16:30 60 13:17 (CT 18) 16:37 62 13:31 (CT 18)	
31	05:51	06:20		06:22		07:17 12:29 (CT 18)
	20:11	19:30		16:54		16:38 62 13:31 (CT 18)
Potential sun hours	456	426	375	346	300	290
Total, worst case			1100		603	1898
Sun reduction			0,67		0,56	0,43
Oper. time red.			0,29		0,29	0,29
Wind dir. red.			0,10		0,10	0,99
Total reduction			0,02		0,02	0,13
Total, real			22		155	255

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

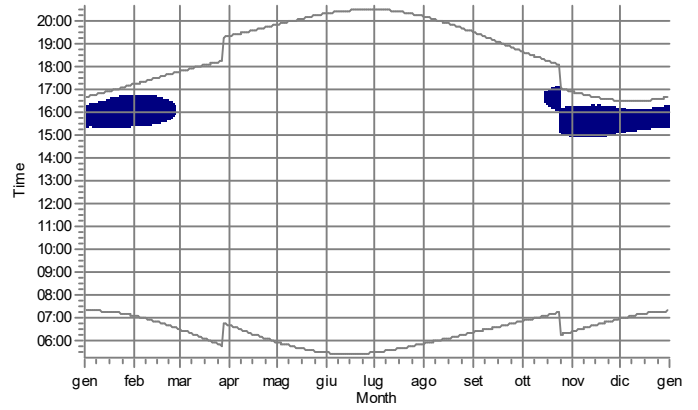
Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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## SHADOW - Calendar, graphical

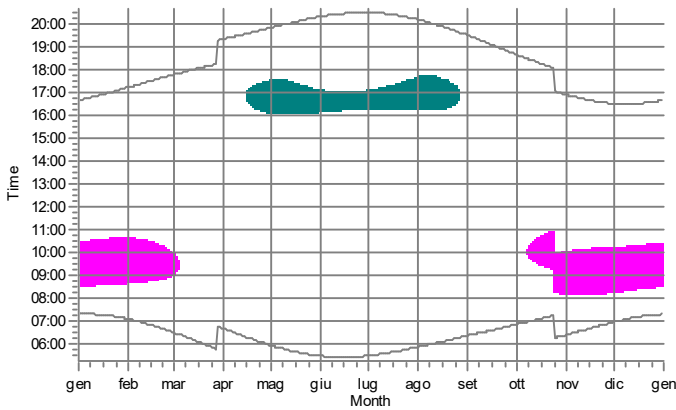
R1: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)



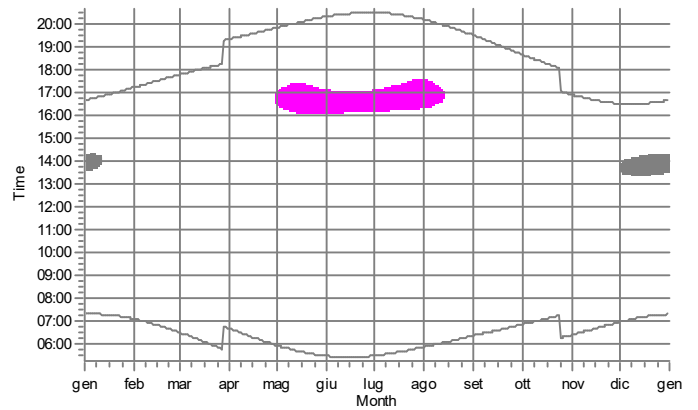
R2: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)



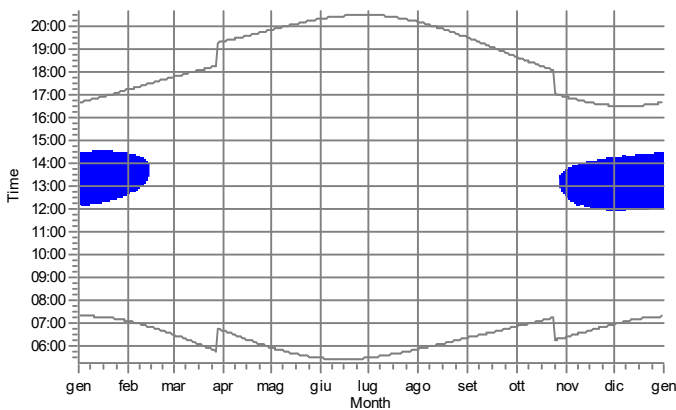
R3: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)



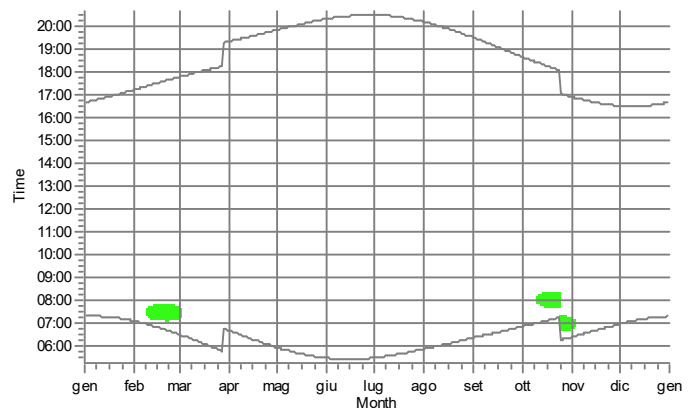
R4: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)



R5: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)



R6: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)



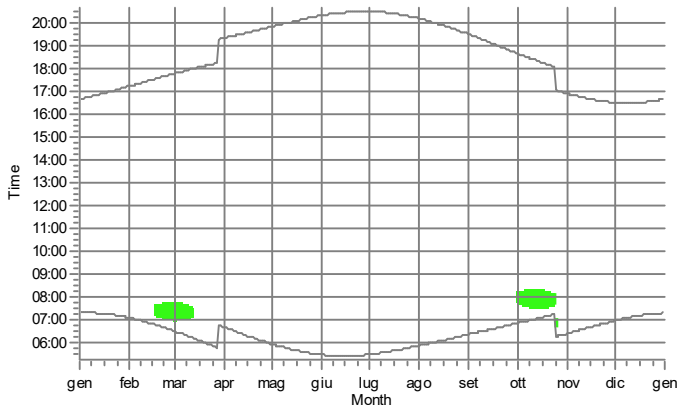
WTGs:

- CT 03: Siemens Gamesa SG 6.0-170 6200 170.0 I0I hub: 165,0 m (TOT: 250,0 m) (3)
- CT 05: Siemens Gamesa SG 6.0-170 6200 170.0 I0I hub: 165,0 m (TOT: 250,0 m) (5)
- CT 07: Siemens Gamesa SG 6.0-170 6200 170.0 I0I hub: 165,0 m (TOT: 250,0 m) (7)
- CT 09: Siemens Gamesa SG 6.0-170 6200 170.0 I0I hub: 165,0 m (TOT: 250,0 m) (9)
- CT 04: Siemens Gamesa SG 6.0-170 6200 170.0 I0I hub: 165,0 m (TOT: 250,0 m) (4)
- CT 06: Siemens Gamesa SG 6.0-170 6200 170.0 I0I hub: 165,0 m (TOT: 250,0 m) (6)
- CT 08: Siemens Gamesa SG 6.0-170 6200 170.0 I0I hub: 165,0 m (TOT: 250,0 m) (8)
- CT 18: Siemens Gamesa SG 6.0-170 6200 170.0 I0I hub: 165,0 m (TOT: 250,0 m) (18)

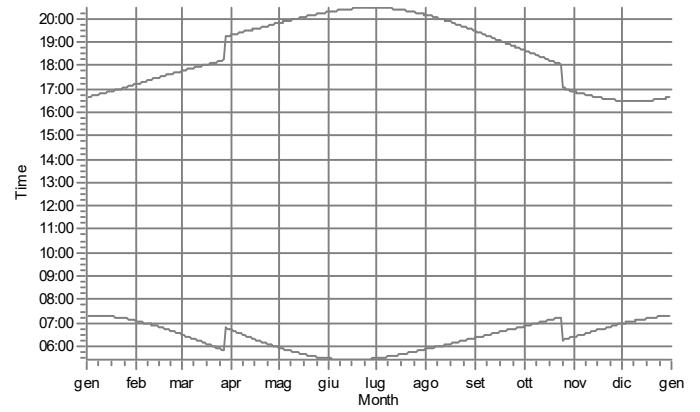


## SHADOW - Calendar, graphical

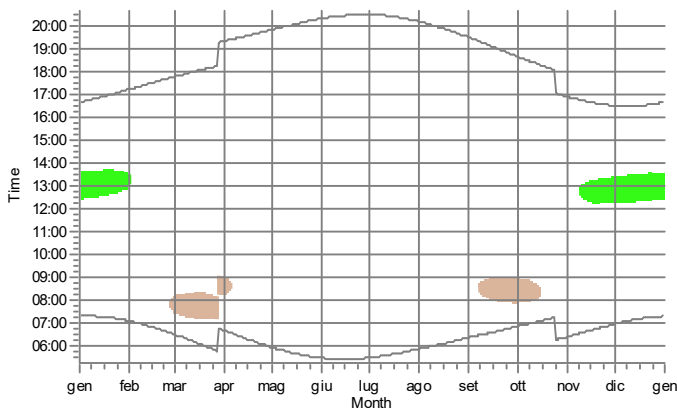
R7: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)



R8: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)



R9: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)



WTGs  
CT 17: Siemens Gamesa SG 6.0-170 6200 170.0 I0I hub: 165,0 m (TOT: 250,0 m) (17) CT 18: Siemens Gamesa SG 6.0-170 6200 170.0 I0I hub: 165,0 m (TOT: 250,0 m) (18)

## SHADOW - Calendar per WTG

WTG: CT 01 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (1)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	06:23 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	05:27 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 20:03	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 17:54	06:28 19:27	05:46 19:57	05:26 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 16:48	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	05:35 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 20:24	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	06:19 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	06:13 19:37	05:37 20:07	05:25 20:27	05:41 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 16:32
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 18:55	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 20:18	06:13 19:42	06:43 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 16:34
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	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	06:55 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 20:28	05:50 20:12	06:20 19:31	06:49 18:41	06:56 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
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

WTG: CT 02 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (2)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	06:23 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 19:23	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	05:27 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 16:46	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 17:54	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 16:48	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	05:35 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 20:24	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	07:03 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 20:24	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	06:19 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	06:13 19:37	05:37 20:07	05:25 20:27	05:41 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 16:32
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 18:55	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 19:44	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	06:43 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 16:34
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	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	06:03 19:44	05:31 20:13	05:27 20:28	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	07:16 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
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

WTG: CT 03 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (3)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.] Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

Table with 11 columns: N, NE, E, SE, S, SW, W, NW, Sum. Values: 0, 0, 0, 0, 0, 2.539, 0, 0, 2.539

Main shadow calculation table with columns for months (January to December) and time slots (hh:mm). Includes summary rows for Potential sun hours and Sum of minutes with flicker.

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

Matrix with 2 rows and 3 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

**WTG: CT 04 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (4)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 13:36-14:15/39 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 13:37-14:15/38 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 13:35-13:49/14
3	07:18 13:38-14:15/37 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 13:33-13:53/20
4	07:18 13:40-14:14/34 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 13:31-13:55/24
5	07:18 13:41-14:14/33 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 13:29-13:57/28
6	07:18 13:42-14:12/30 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 13:28-13:58/30
7	07:18 13:44-14:12/28 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 13:27-14:00/33
8	07:18 13:46-14:11/25 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 13:27-14:01/34
9	07:18 13:49-14:09/20 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 13:26-14:03/37
10	07:17 13:53-14:07/14 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 13:26-14:04/38
11	07:17 13:58-14:02/4 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 13:26-14:05/39
12	07:17 16:50 16:51	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 13:26-14:06/40
13	07:17 16:51 16:52	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 13:25-14:06/41
14	07:16 16:52 16:53	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 13:25-14:08/43
15	07:16 16:53 16:54	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 13:26-14:09/43
16	07:16 16:54 16:55	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	07:11 16:30 13:26-14:10/44
17	07:15 16:55 16:56	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 13:26-14:10/44
18	07:15 16:56 16:57	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 13:26-14:11/45
19	07:14 16:57 16:58	06:44 17:34	06:02 18:05	06:13 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 13:26-14:11/45
20	07:14 16:58 16:59	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 13:27-14:12/45
21	07:13 17:00 17:01	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 13:27-14:12/45
22	07:13 17:01 17:02	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 13:28-14:13/45
23	07:12 17:02 17:03	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	07:14 16:33 13:28-14:13/45
24	07:11 17:03 17:04	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 13:29-14:14/45
25	07:11 17:04 17:05	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 13:29-14:14/45
26	07:10 17:05 17:06	06:34 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	07:17 17:01	06:52 16:32	07:16 16:35 13:30-14:14/44
27	07:09 17:07 17:08	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	07:18 17:00	06:53 16:31	07:16 16:35 13:31-14:15/44
28	07:08 17:08 17:09	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	07:19 16:58	06:54 16:31	07:16 16:36 13:32-14:15/43
29	07:08 17:09 17:10		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	07:20 16:57	06:55 16:31	07:17 16:37 13:32-14:15/43
30	07:07 17:10 17:11		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	07:21 16:56	06:56 16:30	07:17 16:37 13:33-14:14/41
31	07:06 17:11 17:12		06:42 19:17		05:29 20:17		05:51 20:11	06:21 19:30		07:22 16:55		07:17 16:38 13:34-14:14/40
Potential sun hours	300	298	370	398	446	449	456	426	375	346	300	1167
Sum of minutes with flicker	302	0	0	0	0	0	0	0	0	0	0	1167

#### Table 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

WTG: CT 05 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (5)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June
1	07:18 08:35-10:22/107 16:39	07:05 08:43-10:33/110 17:13	06:30 09:07-09:53/46 17:46	06:41 19:18	05:56 16:36-16:53/17 19:49	05:28 16:09-17:02/53 20:18
2	07:18 08:36-10:23/107 16:40	07:04 08:43-10:33/110 17:14	06:29 09:09-09:48/39 17:47	06:39 19:19	05:55 16:31-16:59/28 19:50	05:28 16:10-17:02/52 20:18
3	07:18 08:36-10:24/108 16:41	07:03 08:44-10:33/109 17:15	06:27 09:13-09:44/31 17:48	06:37 19:21	05:53 16:28-17:02/34 19:51	05:27 16:09-17:01/52 20:19
4	07:18 08:36-10:24/108 16:42	07:02 08:44-10:33/109 17:16	06:26 09:18-09:36/18 17:49	06:36 19:22	05:52 16:24-17:05/41 19:52	05:27 16:10-17:00/50 20:20
5	07:18 08:37-10:25/108 16:43	07:01 08:45-10:32/107 17:18	06:24 17:50	06:34 19:23	05:51 16:22-17:07/45 19:53	05:26 16:10-17:00/50 20:20
6	07:18 08:37-10:25/108 16:44	07:00 08:44-10:31/107 17:19	06:22 17:51	06:33 19:24	05:50 16:20-17:09/49 19:54	05:26 16:11-17:00/49 20:21
7	07:18 08:36-10:25/109 16:45	06:59 08:45-10:30/105 17:20	06:21 17:52	06:31 19:25	05:49 16:18-17:11/53 19:55	05:26 16:10-16:59/49 20:22
8	07:18 08:37-10:26/109 16:45	06:58 08:45-10:30/105 17:21	06:19 17:53	06:29 19:26	05:48 16:17-17:13/56 19:56	05:26 16:10-16:58/48 20:22
9	07:18 08:37-10:27/110 16:46	06:57 08:46-10:30/104 17:22	06:18 17:54	06:28 19:27	05:46 16:16-17:15/59 19:57	05:25 16:11-16:58/47 20:23
10	07:17 08:38-10:27/109 16:47	06:56 08:46-10:29/103 17:24	06:16 17:56	06:26 19:28	05:45 16:15-17:16/61 19:58	05:25 16:11-16:58/47 20:23
11	07:17 08:37-10:27/110 16:49	06:54 08:47-10:28/101 17:25	06:15 17:57	06:25 19:29	05:44 16:14-17:17/63 19:59	05:25 16:11-16:58/47 20:24
12	07:17 08:38-10:28/110 16:50	06:53 08:47-10:27/100 17:26	06:13 17:58	06:23 19:30	05:43 16:13-17:19/66 20:00	05:25 16:12-16:58/46 20:25
13	07:17 08:39-10:29/110 16:51	06:52 08:48-10:26/98 17:27	06:11 17:59	06:22 19:31	05:42 16:12-17:20/68 20:01	05:25 16:12-16:58/46 20:25
14	07:16 08:38-10:29/111 16:52	06:51 08:49-10:25/96 17:28	06:10 18:00	06:20 19:32	05:41 16:11-17:21/70 20:02	05:25 16:12-16:57/45 20:25
15	07:16 08:39-10:30/111 16:53	06:50 08:50-10:24/94 17:30	06:08 18:01	06:18 19:33	05:40 16:11-17:20/69 20:03	05:25 16:13-16:57/44 20:26
16	07:16 08:38-10:30/112 16:54	06:48 08:50-10:22/92 17:31	06:07 18:02	06:17 19:34	05:39 16:10-17:19/69 20:04	05:25 16:13-16:57/44 20:26
17	07:15 08:39-10:31/112 16:55	06:47 08:51-10:21/90 17:32	06:05 18:03	06:15 19:35	05:38 16:09-17:17/68 20:05	05:25 16:13-16:57/44 20:27
18	07:15 08:39-10:30/111 16:56	06:46 08:52-10:20/88 17:33	06:03 18:04	06:14 19:36	05:37 16:10-17:17/67 20:06	05:25 16:13-16:57/44 20:27
19	07:14 08:40-10:31/111 16:57	06:44 08:52-10:18/86 17:34	06:02 18:05	06:13 19:37	05:37 16:09-17:15/66 20:07	05:25 16:13-16:57/44 20:27
20	07:14 08:40-10:31/111 16:58	06:43 08:53-10:16/83 17:35	06:00 18:06	06:11 19:38	05:36 16:09-17:14/65 20:08	05:25 16:13-16:57/44 20:28
21	07:13 08:40-10:32/112 17:00	06:42 08:55-10:15/80 17:37	05:59 18:07	06:10 19:39	05:35 16:09-17:12/63 20:09	05:25 16:13-16:57/44 20:28
22	07:13 08:40-10:32/112 17:01	06:40 08:55-10:12/77 17:38	05:57 18:08	06:08 19:40	05:34 16:09-17:12/63 20:10	05:26 16:14-16:58/44 20:28
23	07:12 08:40-10:32/112 17:02	06:39 08:57-10:10/73 17:39	05:55 18:09	06:07 19:41	05:33 16:09-17:11/62 20:10	05:26 16:14-16:58/44 20:28
24	07:11 08:41-10:33/112 17:03	06:37 08:57-10:08/71 17:40	05:54 18:10	06:05 19:42	05:33 16:08-17:09/61 20:11	05:26 16:14-16:58/44 20:28
25	07:11 08:41-10:33/112 17:04	06:36 08:59-10:06/67 17:41	05:52 18:11	06:04 19:43	05:32 16:09-17:09/60 20:12	05:26 16:14-16:58/44 20:28
26	07:10 08:41-10:33/112 17:05	06:34 09:00-10:02/62 17:42	05:50 18:12	06:03 19:44	05:31 16:08-17:07/59 20:13	05:27 16:15-16:59/44 20:29
27	07:09 08:41-10:33/112 17:07	06:33 09:02-10:00/58 17:43	05:49 18:13	06:01 19:45	05:31 16:08-17:06/58 20:14	05:27 16:15-16:59/44 20:29
28	07:08 08:41-10:33/112 17:08	06:32 09:04-09:56/52 17:45	05:47 18:14	06:00 19:46	05:30 16:09-17:06/57 20:15	05:27 16:15-17:00/45 20:29
29	07:08 08:41-10:33/112 17:09		06:45 19:15	05:59 19:47	05:30 16:08-17:04/56 20:15	05:28 16:15-17:00/45 20:29
30	07:07 08:43-10:34/111 17:10		06:44 19:16	05:57 19:48	05:29 16:09-17:04/55 20:16	05:28 16:15-17:01/46 20:29
31	07:06 08:43-10:33/110 17:11		06:42 19:17		05:29 16:09-17:04/55 20:17	
Potential sun hours	300	298	370	398	446	449
Sum of minutes with flicker	3421	2537	134	0	1763	1389

Table 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

**WTG:** CT 05 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (5)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	July	August	September	October	November	December
1	05:29 16:16-17:02/46 20:28	05:52 16:24-17:29/65 20:10	06:22 19:28	06:50 18:39	06:23 08:16-09:59/103 16:53	06:57 08:19-10:09/110 16:30
2	05:29 16:15-17:02/47 20:28	05:53 16:25-17:28/63 20:09	06:22 19:27	06:51 18:37	06:24 08:16-09:59/103 16:52	06:58 08:21-10:10/109 16:30
3	05:30 16:16-17:03/47 20:28	05:54 16:25-17:25/60 20:08	06:23 19:25	06:52 18:36	06:26 08:15-10:00/105 16:51	06:59 08:21-10:11/110 16:30
4	05:30 16:16-17:03/47 20:28	05:55 16:26-17:24/58 20:07	06:24 19:24	06:53 18:34	06:27 08:14-10:00/106 16:50	07:00 08:22-10:11/109 16:29
5	05:31 16:16-17:05/49 20:28	05:56 16:27-17:22/55 20:06	06:25 19:22	06:54 18:32	06:28 08:14-10:01/107 16:49	07:01 08:23-10:11/108 16:29
6	05:31 16:17-17:06/49 20:28	05:57 16:29-17:20/51 20:05	06:26 19:20	06:55 18:31	06:29 08:14-10:02/108 16:48	07:02 08:22-10:10/108 16:29
7	05:32 16:16-17:06/50 20:27	05:58 16:30-17:18/48 20:04	06:27 19:19	06:56 18:29	06:30 08:14-10:02/108 16:47	07:03 08:23-10:11/108 16:29
8	05:33 16:17-17:07/50 20:27	05:58 16:32-17:16/44 20:02	06:28 19:17	06:57 18:28	06:31 08:14-10:03/109 16:46	07:04 08:23-10:11/108 16:29
9	05:33 16:16-17:08/52 20:27	05:59 16:35-17:13/38 20:01	06:29 19:15	06:58 18:26	06:33 08:13-10:03/110 16:45	07:05 08:24-10:12/108 16:29
10	05:34 16:17-17:09/52 20:26	06:00 16:37-17:10/33 20:00	06:30 19:14	06:59 18:24	06:34 08:14-10:04/110 16:44	07:06 08:25-10:12/107 16:29
11	05:34 16:17-17:10/53 20:26	06:01 16:41-17:06/25 19:59	06:31 19:12	07:00 18:23	06:35 08:14-10:04/110 16:43	07:07 08:25-10:13/108 16:29
12	05:35 16:17-17:10/53 20:25	06:02 16:48-16:59/11 19:57	06:32 19:10	07:01 18:21	06:36 08:14-10:05/111 16:42	07:07 08:26-10:13/107 16:29
13	05:36 16:17-17:12/55 20:25	06:03 19:56 19:56	06:33 19:09	07:03 18:20	06:37 08:13-10:05/112 16:41	07:08 08:26-10:13/107 16:29
14	05:37 16:18-17:13/55 20:25	06:04 19:55 19:55	06:34 19:07	07:04 18:18	06:38 08:14-10:06/112 16:40	07:09 08:27-10:13/106 16:30
15	05:37 16:17-17:13/56 20:24	06:05 19:53 19:53	06:35 19:05	07:05 18:17	06:40 08:14-10:06/112 16:39	07:10 08:28-10:14/106 16:30
16	05:38 16:17-17:15/58 20:23	06:06 19:52 19:52	06:36 19:04	07:06 18:15	06:41 08:14-10:06/112 16:38	07:10 08:28-10:15/107 16:30
17	05:39 16:18-17:16/58 20:23	06:07 19:51 19:51	06:37 19:02	07:07 18:14	06:42 08:14-10:06/112 16:37	07:11 08:28-10:14/106 16:30
18	05:40 16:18-17:18/60 20:22	06:08 19:49 19:49	06:38 19:00	07:08 18:12	06:43 08:15-10:07/112 16:37	07:12 08:29-10:15/106 16:31
19	05:40 16:19-17:19/60 20:22	06:09 19:48 19:48	06:39 18:59	07:09 18:11	06:44 08:15-10:07/112 16:36	07:12 08:29-10:15/106 16:31
20	05:41 16:18-17:19/61 20:21	06:10 19:46 19:46	06:40 18:57	07:10 18:09	06:45 08:15-10:07/112 16:35	07:13 08:30-10:16/106 16:31
21	05:42 16:18-17:21/63 20:20	06:11 19:45 19:45	06:41 18:55	07:11 18:08	06:46 08:15-10:07/112 16:35	07:13 08:30-10:16/106 16:32
22	05:43 16:19-17:22/63 20:19	06:12 19:44 19:44	06:42 18:54	07:12 18:07	06:48 08:16-10:07/111 16:34	07:14 08:31-10:17/106 16:32
23	05:44 16:19-17:24/65 20:19	06:13 19:42 19:42	06:43 18:52	07:13 18:05	06:49 08:17-10:08/111 16:33	07:15 08:31-10:17/106 16:33
24	05:45 16:20-17:25/65 20:18	06:14 19:41 19:41	06:43 18:50	07:14 18:04	06:50 08:17-10:09/112 16:33	07:15 08:32-10:18/106 16:33
25	05:46 16:19-17:26/67 20:17	06:15 19:39 19:39	06:44 18:49	07:15 17:02	06:51 08:17-10:09/112 16:32	07:15 08:32-10:18/106 16:34
26	05:46 16:20-17:27/67 20:16	06:16 19:38 19:38	06:45 18:47	07:16 17:01	06:52 08:18-10:09/111 16:32	07:16 08:32-10:18/106 16:35
27	05:47 16:20-17:28/68 20:15	06:17 19:36 19:36	06:46 18:45	07:17 17:00	06:53 08:18-10:09/111 16:31	07:16 08:33-10:20/107 16:35
28	05:48 16:21-17:30/69 20:14	06:18 19:35 19:35	06:47 18:44	07:18 16:58	06:54 08:18-10:09/111 16:31	07:16 08:34-10:20/106 16:36
29	05:49 16:22-17:31/69 20:13	06:19 19:33 19:33	06:48 18:42	07:19 16:57	06:55 08:19-10:09/110 16:31	07:17 08:34-10:20/106 16:37
30	05:50 16:22-17:31/69 20:12	06:20 19:31 19:31	06:49 18:41	07:20 16:56	06:56 08:19-10:09/110 16:30	07:17 08:34-10:20/106 16:37
31	05:51 16:23-17:30/67 20:11	06:21 19:30 19:30		06:22 16:55	06:22 08:16-09:57/101 16:30	07:17 08:34-10:21/107 16:38
	Potential sun hours   456	426	375	346	300	290
	Sum of minutes with flicker   1790	551	0	1644	3297	3318

Table 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

**WTG:** CT 06 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (6)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	
1	07:18 08:00-08:21/21   16:39	07:05   17:13	06:30   17:46	06:41   19:18	05:56 16:10-17:27/77   19:49	05:28 16:12-17:02/50   20:18	
2	07:18 08:01-08:22/21   16:40	07:04   17:14	06:29   17:47	06:39   19:20	05:55 16:09-17:28/79   19:50	05:28 16:12-17:02/50   20:18	
3	07:18 08:01-08:22/21   16:41	07:03   17:15	06:27   17:48	06:37   19:21	05:53 16:09-17:29/80   19:51	05:27 16:12-17:01/49   20:19	
4	07:18 08:02-08:23/21   16:42	07:02   17:16	06:26   17:49	06:36   19:22	05:52 16:08-17:29/81   19:52	05:27 16:13-17:00/47   20:20	
5	07:18 08:02-08:23/21   16:43	07:01   17:18	06:24   17:50	06:34   19:23	05:51 16:08-17:30/82   19:53	05:26 16:13-17:00/47   20:21	
6	07:18 08:03-08:24/21   16:44	07:00   17:19	06:23   17:51	06:33   19:24	05:50 16:07-17:31/84   19:54	05:26 16:14-17:00/46   20:21	
7	07:18 08:02-08:23/21   16:45	06:59   17:20	06:21   17:52	06:31   19:25	05:49 16:07-17:31/84   19:55	05:26 16:14-16:59/45   20:22	
8	07:18 08:03-08:24/21   16:46	06:58   17:21	06:19   17:53	06:29   19:26	05:48 16:07-17:31/84   19:56	05:26 16:14-16:58/44   20:22	
9	07:18 08:04-08:24/20   16:46	06:57   17:22	06:18   17:54	06:28   19:27	05:46 16:07-17:29/82   19:57	05:25 16:15-16:58/43   20:23	
10	07:17 08:05-08:24/19   16:47	06:56   17:24	06:16   17:56	06:26   19:28	05:45 16:07-17:28/81   19:58	05:25 16:15-16:58/43   20:24	
11	07:17 08:06-08:25/19   16:49	06:54   17:25	06:15   17:57	06:25   19:29	05:44 16:07-17:26/79   19:59	05:25 16:16-16:58/42   20:24	
12	07:17 08:06-08:24/18   16:50	06:53   17:26	06:13   17:58	06:23   19:30	05:43 16:07-17:25/78   20:00	05:25 16:16-16:58/42   20:25	
13	07:17 08:07-08:24/17   16:51	06:52   17:27	06:11   17:59	06:22   19:31	05:42 16:07-17:23/76   20:01	05:25 16:16-16:58/42   20:25	
14	07:16 08:08-08:25/17   16:52	06:51   17:28	06:10   18:00	06:20   19:32	05:41 16:07-17:22/75   20:02	05:25 16:17-16:57/40   20:25	
15	07:16 08:09-08:24/15   16:53	06:50   17:30	06:08   18:01	06:19   19:33	05:40 16:07-17:20/73   20:03	05:25 16:17-16:57/40   20:26	
16	07:16 08:10-08:24/14   16:54	06:48   17:31	06:07   18:02	06:17   19:34	05:39 16:07-17:19/72   20:04	05:25 16:17-16:57/40   20:26	
17	07:15 08:11-08:22/11   16:55	06:47   17:32	06:05   18:03	06:15 16:38-17:01/23   19:35	05:38 16:07-17:17/70   20:05	05:25 16:17-16:57/40   20:27	
18	07:15 08:14-08:21/7   16:56	06:46   17:33	06:03   18:04	06:14 16:32-17:05/33   19:36	05:37 16:08-17:17/69   20:06	05:25 16:18-16:57/39   20:27	
19	07:14   16:57	06:44   17:34	06:02   18:05	06:13 16:29-17:09/40   19:37	05:37 16:08-17:15/67   20:07	05:25 16:18-16:57/39   20:27	
20	07:14   16:58	06:43   17:35	06:00   18:06	06:11 16:26-17:12/46   19:38	05:36 16:08-17:14/66   20:08	05:25 16:18-16:57/39   20:28	
21	07:13   17:00	06:42   17:37	05:59   18:07	06:10 16:23-17:14/51   19:39	05:35 16:08-17:12/64   20:09	05:25 16:18-16:57/39   20:28	
22	07:13   17:01	06:40   17:38	05:57   18:08	06:08 16:21-17:16/55   19:40	05:34 16:09-17:12/63   20:10	05:26 16:19-16:58/39   20:28	
23	07:12   17:02	06:39   17:39	05:55   18:09	06:07 16:19-17:18/59   19:41	05:33 16:09-17:11/62   20:10	05:26 16:19-16:58/39   20:28	
24	07:11   17:03	06:37   17:40	05:54   18:10	06:05 16:17-17:20/63   19:42	05:33 16:09-17:09/60   20:11	05:26 16:19-16:58/39   20:28	
25	07:11   17:04	06:36   17:41	05:52   18:11	06:04 16:16-17:21/65   19:43	05:32 16:10-17:09/59   20:12	05:26 16:19-16:59/40   20:28	
26	07:10   17:05	06:35   17:42	05:50   18:12	06:03 16:14-17:22/68   19:44	05:31 16:10-17:07/57   20:13	05:27 16:19-16:59/40   20:29	
27	07:09   17:07	06:33   17:43	05:49   18:13	06:01 16:13-17:24/71   19:45	05:31 16:09-17:06/57   20:14	05:27 16:19-16:59/40   20:29	
28	07:08   17:08	06:32   17:45	05:47   18:14	06:00 16:13-17:25/72   19:46	05:30 16:10-17:06/56   20:15	05:27 16:20-17:00/40   20:29	
29	07:08   17:09	06:35   17:45	05:50   19:15	05:59 16:11-17:25/74   19:47	05:30 16:10-17:04/54   20:15	05:28 16:20-17:00/40   20:29	
30	07:07   17:10	06:44   19:16	05:57   19:48	16:10-17:26/76	05:29 16:11-17:04/53   20:16	05:28 16:19-17:01/42   20:29	
31	07:06   17:11	06:42   19:17			05:29 16:12-17:04/52   20:17		
Potential sun hours	300	298	370	398	446	449	1265
Sum of minutes with flicker	325	0	0	796	2176		1265

Table 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

**WTG:** CT 06 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (6)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	July	August	September	October	November	December
1	05:29 16:20-17:02/42 20:10	05:52 16:17-17:36/79 20:10	06:22 16:17-17:36/79 20:10	06:50 16:17-17:36/79 20:10	06:23 16:17-17:36/79 20:10	06:57 07:48-08:07/19 16:30
2	05:29 16:19-17:02/43 20:28	05:53 16:17-17:37/80 20:09	06:23 16:17-17:37/80 19:27	06:51 16:17-17:37/80 18:37	06:25 16:17-17:37/80 16:52	06:58 07:48-08:07/19 16:30
3	05:30 16:20-17:03/43 20:28	05:54 16:17-17:38/81 20:08	06:23 16:17-17:38/81 19:25	06:52 16:17-17:38/81 18:36	06:26 16:17-17:38/81 16:51	06:59 07:48-08:08/20 16:30
4	05:30 16:19-17:03/44 20:28	05:55 16:17-17:39/82 20:07	06:24 16:17-17:39/82 19:24	06:53 16:17-17:39/82 18:34	06:27 16:17-17:39/82 16:50	07:00 07:48-08:09/21 16:29
5	05:31 16:20-17:05/45 20:28	05:56 16:17-17:41/84 20:06	06:25 16:17-17:41/84 19:22	06:54 16:17-17:41/84 18:32	06:28 16:17-17:41/84 16:49	07:01 07:48-08:09/21 16:29
6	05:31 16:20-17:06/46 20:28	05:57 16:17-17:41/84 20:05	06:26 16:17-17:41/84 19:20	06:55 16:17-17:41/84 18:31	06:29 16:17-17:41/84 16:48	07:02 07:49-08:10/21 16:29
7	05:32 16:20-17:06/46 20:27	05:58 16:17-17:40/83 20:04	06:27 16:17-17:40/83 19:19	06:56 16:17-17:40/83 18:29	06:30 16:17-17:40/83 16:47	07:03 07:49-08:10/21 16:29
8	05:33 16:20-17:07/47 20:27	05:59 16:17-17:39/82 20:02	06:28 16:17-17:39/82 19:17	06:57 16:17-17:39/82 18:28	06:31 16:17-17:39/82 16:46	07:04 07:49-08:10/21 16:29
9	05:33 16:19-17:08/49 20:27	05:59 16:18-17:39/81 20:01	06:29 16:18-17:39/81 19:15	06:58 16:18-17:39/81 18:26	06:33 16:18-17:39/81 16:45	07:05 07:49-08:10/21 16:29
10	05:34 16:20-17:09/49 20:26	06:00 16:18-17:38/80 20:00	06:30 16:18-17:38/80 19:14	06:59 16:18-17:38/80 18:24	06:34 16:18-17:38/80 16:44	07:06 07:50-08:11/21 16:29
11	05:35 16:20-17:10/50 20:26	06:01 16:18-17:37/79 19:59	06:31 16:18-17:37/79 19:12	07:00 16:18-17:37/79 18:23	06:35 16:18-17:37/79 16:43	07:07 07:50-08:11/21 16:29
12	05:35 16:19-17:10/51 20:26	06:02 16:19-17:36/77 19:57	06:32 16:19-17:36/77 19:10	07:02 16:19-17:36/77 18:21	06:36 16:19-17:36/77 16:42	07:07 07:51-08:12/21 16:29
13	05:36 16:19-17:12/53 20:25	06:03 16:19-17:35/76 19:56	06:33 16:19-17:35/76 19:09	07:03 16:19-17:35/76 18:20	06:37 16:19-17:35/76 16:41	07:08 07:52-08:13/21 16:29
14	05:37 16:20-17:13/53 20:25	06:04 16:20-17:34/74 19:55	06:34 16:20-17:34/74 19:07	07:04 16:20-17:34/74 18:18	06:38 16:20-17:34/74 16:40	07:09 07:51-08:12/21 16:30
15	05:37 16:20-17:14/54 20:24	06:05 16:20-17:31/71 19:53	06:35 16:20-17:31/71 19:05	07:05 16:20-17:31/71 18:17	06:40 16:20-17:31/71 16:39	07:10 07:52-08:13/21 16:30
16	05:38 16:19-17:15/56 20:23	06:06 16:20-17:30/70 19:52	06:36 16:20-17:30/70 19:04	07:06 16:20-17:30/70 18:15	06:41 16:20-17:30/70 16:38	07:10 07:53-08:14/21 16:30
17	05:39 16:19-17:16/57 20:23	06:07 16:21-17:28/67 19:51	06:37 16:21-17:28/67 19:02	07:07 16:21-17:28/67 18:14	06:42 16:21-17:28/67 16:37	07:11 07:53-08:14/21 16:30
18	05:40 16:19-17:18/59 20:22	06:08 16:22-17:27/65 19:49	06:38 16:22-17:27/65 19:00	07:08 16:22-17:27/65 18:12	06:43 16:22-17:27/65 16:37	07:12 07:54-08:14/20 16:31
19	05:41 16:19-17:19/60 20:22	06:09 16:24-17:25/61 19:48	06:39 16:24-17:25/61 18:59	07:09 16:24-17:25/61 18:11	06:44 16:24-17:25/61 16:36	07:12 07:54-08:14/20 16:31
20	05:41 16:18-17:19/61 20:21	06:10 16:25-17:23/58 19:46	06:40 16:25-17:23/58 18:57	07:10 16:25-17:23/58 18:09	06:45 16:25-17:23/58 16:35	07:13 07:55-08:15/20 16:31
21	05:42 16:18-17:21/63 20:20	06:11 16:26-17:21/55 19:45	06:41 16:26-17:21/55 18:55	07:11 16:26-17:21/55 18:08	06:46 16:26-17:21/55 16:35	07:14 07:56-08:16/20 16:32
22	05:43 16:18-17:22/64 20:19	06:12 16:28-17:18/50 19:44	06:42 16:28-17:18/50 18:54	07:12 16:28-17:18/50 18:07	06:48 16:28-17:18/50 16:34	07:14 07:56-08:16/20 16:32
23	05:44 16:18-17:24/66 20:19	06:13 16:31-17:16/45 19:42	06:43 16:31-17:16/45 18:52	07:13 16:31-17:16/45 18:05	06:49 16:31-17:16/45 16:33	07:15 07:56-08:16/20 16:33
24	05:45 16:18-17:25/67 20:18	06:14 16:33-17:12/39 19:41	06:44 16:33-17:12/39 18:50	07:14 16:33-17:12/39 18:04	06:50 16:33-17:12/39 16:33	07:15 07:57-08:17/20 16:33
25	05:46 16:18-17:26/68 20:17	06:15 16:37-17:08/31 19:39	06:44 16:37-17:08/31 18:49	07:14 16:37-17:08/31 17:02	06:51 16:37-17:08/31 16:32	07:15 07:57-08:17/20 16:34
26	05:46 16:17-17:27/70 20:16	06:16 16:42-17:03/21 19:38	06:45 16:42-17:03/21 18:47	07:14 16:42-17:03/21 17:01	06:52 16:42-17:03/21 16:32	07:16 07:58-08:19/21 16:35
27	05:47 16:17-17:28/71 20:15	06:17 16:44-17:02/19 19:36	06:46 16:44-17:02/19 18:46	07:14 16:44-17:02/19 17:00	06:53 16:44-17:02/19 16:31	07:16 07:58-08:19/21 16:35
28	05:48 16:17-17:30/73 20:14	06:18 16:46-17:00/17 19:35	06:47 16:46-17:00/17 18:44	07:14 16:46-17:00/17 16:58	06:54 16:46-17:00/17 16:31	07:17 07:58-08:19/21 16:36
29	05:49 16:17-17:31/74 20:13	06:19 16:48-17:00/15 19:33	06:48 16:48-17:00/15 18:42	07:14 16:48-17:00/15 16:57	06:55 16:48-17:00/15 16:31	07:17 07:58-08:19/21 16:37
30	05:50 16:17-17:33/76 20:12	06:20 16:50-17:00/13 19:31	06:49 16:50-17:00/13 18:41	07:14 16:50-17:00/13 16:56	06:56 16:50-17:00/13 16:30	07:17 07:59-08:20/21 16:37
31	05:51 16:17-17:34/77 20:11	06:21 16:51-17:00/11 19:30	06:50 16:51-17:00/11 18:40	07:14 16:51-17:00/11 16:55	06:57 16:51-17:00/11 16:30	07:17 08:00-08:21/21 16:38
Potential sun hours	456	426	375	346	300	290
Sum of minutes with flicker	1777	1755	0	0	99	638

Table 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\_rev0

Description:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl
Via P.Amedeo n.32
IT-75021 Colobraro (MT)

Gaetano / info@gecodor.it
Calculated:
19/08/2021 20:01/3.4.424

SHADOW - Calendar per WTG

WTG: CT 07 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (7)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

N NE E SE S SW W NW Sum
0 0 0 0 0 2.539 0 0 2.539

Table with columns for months (January to December) and rows for each day of the month, showing sun rise/set times and shadow flicker minutes.

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

Project:

WF Colobraro Tursi\_rev0

Description:

WF Colobraro Tursi

Licensed user:

Ge.co.Dor srl

Via P.Amedeo n.32

IT-75021 Colobraro (MT)

Gaetano / info@gecodor.it

Calculated:

19/08/2021 20:01/3.4.424

### SHADOW - Calendar per WTG

WTG: CT 08 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (8)

#### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	07:10-07:12/2 19:18	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
2	07:18 16:40	07:04 17:14	06:29 17:47	07:08-07:12/4 19:19	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	06:25 16:52
3	07:18 16:41	07:03 17:15	06:27 17:48	07:07-07:13/6 19:21	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
4	07:18 16:42	07:02 17:16	06:26 17:49	07:06-07:12/6 19:22	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	07:39-07:44/5 16:50
5	07:18 16:43	07:01 17:18	06:24 17:50	07:07-07:12/5 19:23	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	07:40-07:45/5 16:49
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8	07:18 16:45	06:58 17:21	06:19 17:53	07:03-07:09/6 19:26	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	07:41-07:47/6 16:46
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31	07:06 17:11	06:29 17:46	06:42 18:17	05:56 19:49	05:56 19:49	05:28 20:17	05:27 20:30	05:51 20:11	06:21 19:30	06:22 16:55	06:22 16:55	06:57 16:38
Potential sun hours	300	298	370	398	446	450	456	426	375	346	300	290
Sum of minutes with flicker	0	1	48	0	0	0	0	0	0	50	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

**WTG:** CT 09 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (9)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	07:30-07:44/14 19:49	05:56 20:18	05:28 20:29	05:29 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	07:28-07:43/15 19:50	05:55 20:18	05:28 20:28	05:29 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	07:29-07:42/13 19:51	05:53 20:19	05:27 20:28	05:30 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	07:30-07:40/10 19:52	05:52 20:20	05:27 20:28	05:30 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	07:31-07:38/7 19:53	05:51 20:21	05:26 20:28	05:31 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	07:33-07:35/2 19:24	05:50 19:54	05:26 20:21	05:31 20:28	06:26 20:05	07:29-07:31/2 19:20	06:55 18:31	07:02 16:29
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17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:35	06:15 19:35	05:38 20:05	05:25 20:27	05:39 20:23	06:07 19:51	07:27-07:34/7 19:02	07:07 18:14	07:11 16:30
18	07:15 16:56	06:46 17:33	06:03 18:04	06:14 19:36	06:14 19:36	05:37 20:06	05:25 20:27	05:40 20:22	06:08 19:49	07:28-07:33/5 19:00	07:08 18:12	07:12 16:31
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Potential sun hours	300	298	370	398	61	446	450	456	426	375	346	290
Sum of minutes with flicker	0	0	66	61	0	0	0	0	0	132	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

WTG: CT 10 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (10)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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	06:47 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 20:11	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 16:34
25	07:11 17:04	06:36 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:29	05:46 20:17	06:15 19:39	06:45 18:49	06:16 17:02	06:51 16:32	07:16 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	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 16:59	06:54 16:31	07:17 16:36
29	07:08 17:09		06:46 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 19:17	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 19:18		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
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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

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

## SHADOW - Calendar per WTG

WTG: CT 11 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (11)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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 20:29	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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11	07:17 16:49	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 16:43	07:07 16:29
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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	07:18 16:58	06:54 16:31	07:17 16:36
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31	07:06 17:11		06:42 19:18		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	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

WTG: CT 12 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (12)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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
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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

**WTG:** CT 13 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (13)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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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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
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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

**WTG:** CT 14 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (14)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	06:41 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 19:20	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 20:28	05:54 20:08	06:23 19:25	06:52 18:36	06:26 16:51	06:59 16:29
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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

WTG: CT 15 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (15)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	06:21 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

**WTG:** CT 16 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (16)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	06:59 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	07:00 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	06:23 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 20:28	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	06:59 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	06:21 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	06:39 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	05:39 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	06:37 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	07:15 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	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 20:29	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	07:09 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	07:18 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	05:28 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
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	07:20 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 20:11	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

**WTG:** CT 17 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (17)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:05 17:12	06:30 07:35-08:02/27 17:45	06:40 08:21-08:55/34 19:18	05:56 19:49	05:28 20:18	05:28 20:28	05:52 20:10	06:21 19:28	06:50 07:57-08:53/56 18:39	06:23 16:53	06:57 16:30
2	07:18 16:40	07:04 17:14	06:28 07:31-08:04/33 17:47	06:39 08:22-08:52/30 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:53 20:09	06:22 19:27	06:51 07:57-08:52/55 18:37	06:24 16:52	06:58 16:30
3	07:18 16:41	07:03 17:15	06:27 07:30-08:07/37 17:48	06:37 08:24-08:49/25 19:20	05:53 19:51	05:27 20:19	05:29 20:28	05:54 20:08	06:23 19:25	06:52 07:57-08:51/54 18:35	06:25 16:51	06:59 16:29
4	07:18 16:42	07:02 17:16	06:25 07:27-08:08/41 17:49	06:36 08:27-08:45/18 19:21	05:52 19:52	05:27 20:20	05:30 20:28	05:54 20:07	06:24 19:23	06:53 07:57-08:50/53 18:34	06:27 16:50	07:00 16:29
5	07:18 16:42	07:01 17:17	06:24 07:26-08:10/44 17:50	06:34 08:34-08:37/3 19:22	05:51 19:53	05:26 20:20	05:31 20:28	05:55 20:06	06:25 19:22	06:54 07:58-08:49/51 18:32	06:28 16:49	07:01 16:29
6	07:18 16:43	07:00 17:19	06:22 07:24-08:10/46 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 07:58-08:48/50 18:31	06:29 16:48	07:02 16:29
7	07:18 16:44	06:59 17:20	06:21 07:22-08:11/49 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 07:59-08:47/48 18:29	06:30 16:46	07:03 16:29
8	07:18 16:45	06:58 17:21	06:19 07:22-08:12/50 17:53	06:29 19:25	05:47 19:56	05:25 20:22	05:32 20:27	05:58 20:02	06:28 08:22-08:39/17 19:17	06:57 08:00-08:45/45 18:27	06:31 16:45	07:04 16:29
9	07:17 16:46	06:57 17:22	06:18 07:20-08:12/52 17:54	06:28 19:26	05:46 19:57	05:25 20:23	05:33 20:27	05:59 20:01	06:29 08:18-08:42/24 19:15	06:58 08:01-08:43/42 18:26	06:32 16:44	07:05 16:29
10	07:17 16:47	06:55 17:23	06:16 07:20-08:13/53 17:55	06:26 19:27	05:45 19:58	05:25 20:23	05:34 20:26	06:00 20:00	06:30 08:15-08:45/30 19:14	06:59 08:02-08:42/40 18:24	06:34 16:43	07:06 16:29
11	07:17 16:48	06:54 17:25	06:14 07:18-08:13/55 17:56	06:24 19:29	05:44 19:59	05:25 20:24	05:34 20:26	06:01 19:58	06:31 08:13-08:47/34 19:12	07:00 08:04-08:39/35 18:23	06:35 16:42	07:06 16:29
12	07:17 16:49	06:53 17:26	06:13 07:17-08:13/56 17:57	06:23 19:30	05:43 20:00	05:25 20:24	05:35 20:25	06:02 19:57	06:32 08:11-08:48/37 19:10	07:01 08:06-08:37/31 18:21	06:36 16:41	07:07 16:29
13	07:17 16:50	06:52 17:27	06:11 07:17-08:14/57 17:59	06:21 19:31	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 08:09-08:50/41 19:09	07:02 08:08-08:34/26 18:20	06:37 16:41	07:08 16:29
14	07:16 16:51	06:51 17:28	06:10 07:16-08:13/57 18:00	06:20 19:32	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:55	06:34 08:08-08:51/43 19:07	07:03 08:12-08:29/17 18:18	06:38 16:40	07:09 16:29
15	07:16 16:53	06:49 17:29	06:08 07:16-08:14/58 18:01	06:18 19:33	05:40 20:03	05:25 20:26	05:37 20:24	06:05 19:53	06:35 08:06-08:52/46 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 07:15-08:13/58 18:02	06:17 19:34	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:36 08:05-08:53/48 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 07:15-08:12/57 18:03	06:15 19:35	05:38 20:05	05:26 20:26	05:39 20:23	06:07 19:50	06:37 08:04-08:54/50 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 07:15-08:13/58 18:04	06:14 19:36	05:37 20:06	05:25 20:27	05:39 20:22	06:08 19:49	06:38 08:02-08:53/51 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 07:14-08:12/58 18:05	06:12 19:37	05:36 20:07	05:25 20:27	05:40 20:21	06:09 19:48	06:38 08:01-08:54/53 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 07:14-08:11/57 18:06	06:11 19:38	05:36 20:08	05:25 20:27	05:41 20:21	06:10 19:46	06:39 08:00-08:54/54 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 07:14-08:11/57 18:07	06:09 19:39	05:35 20:08	05:25 20:28	05:42 20:20	06:11 19:45	06:40 07:59-08:55/56 18:55	07:11 18:08	06:46 16:34	07:13 16:32
22	07:12 17:00	06:40 17:38	05:57 07:14-08:09/55 18:08	06:08 19:40	05:34 20:09	05:25 20:28	05:43 20:19	06:12 19:43	06:41 07:59-08:55/56 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 07:14-08:08/54 18:09	06:07 19:41	05:33 20:10	05:26 20:28	05:44 19:42	06:13 18:52	06:42 07:58-08:55/57 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 07:14-08:08/54 18:10	06:05 19:42	05:32 20:11	05:26 20:28	05:44 20:18	06:14 19:40	06:43 07:58-08:55/57 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 07:14-08:06/52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:17	06:15 19:39	06:44 07:57-08:55/58 18:49	07:15 18:03	06:51 16:32	07:15 16:34
26	07:10 17:05	06:34 17:42	05:50 07:14-08:05/51 18:12	06:02 19:44	05:31 20:13	05:26 20:28	05:46 20:16	06:16 19:37	06:45 07:57-08:55/58 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 07:16-08:04/48 18:13	06:01 19:45	05:30 20:14	05:27 20:28	05:47 20:15	06:17 19:36	06:46 07:57-08:55/58 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 07:16-08:02/46 18:14	06:00 19:46	05:30 20:14	05:28 20:28	05:48 20:14	06:18 19:34	06:47 07:57-08:54/57 18:44	07:18 16:58	06:54 16:31	07:16 16:36
29	07:07 17:09		06:45 08:17-09:01/44 19:15	05:58 19:47	05:29 20:15	05:28 20:28	05:49 20:13	06:18 19:33	06:48 07:56-08:54/58 18:42	07:19 16:57	06:55 16:30	07:17 16:36
30	07:07 17:10		06:44 08:18-08:59/41 19:16	05:57 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 07:56-08:53/57 18:40	07:20 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11		06:42 08:19-08:57/38 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	426	375	346	300	290
	Sum of minutes with flicker	0	31	1543	110	0	0	0	1100	603	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

**WTG:** CT 18 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (18)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June
1	07:17 12:30-13:31/61 16:39	07:05 13:07-13:22/15 17:12	06:30 07:03-07:41/38 17:46	06:40 19:18	05:56 19:49	05:28 20:18
2	07:18 12:31-13:33/62 16:40	07:04 17:14	06:28 07:02-07:40/38 17:47	06:39 19:19	05:55 19:50	05:27 20:18
3	07:18 12:32-13:33/61 16:41	07:03 17:15	06:27 07:03-07:40/37 17:48	06:37 19:20	05:53 19:51	05:27 20:19
4	07:18 12:32-13:34/62 16:42	07:02 17:16	06:25 07:03-07:39/36 17:49	06:36 19:21	05:52 19:52	05:27 20:20
5	07:18 12:32-13:33/61 16:42	07:01 17:17	06:24 07:03-07:39/36 17:50	06:34 19:22	05:51 19:53	05:26 20:20
6	07:18 12:33-13:34/61 16:43	07:00 17:19	06:22 07:03-07:37/34 17:51	06:32 19:23	05:50 19:54	05:26 20:21
7	07:18 12:33-13:34/61 16:44	06:59 17:20	06:21 07:04-07:36/32 17:52	06:31 19:24	05:48 19:55	05:26 20:22
8	07:18 12:34-13:35/61 16:45	06:58 17:21	06:19 07:05-07:35/30 17:53	06:29 19:25	05:47 19:56	05:25 20:22
9	07:17 12:35-13:35/60 16:46	06:57 07:24-07:35/11 17:22	06:18 07:06-07:33/27 17:54	06:28 19:27	05:46 19:57	05:25 20:23
10	07:17 12:35-13:36/61 16:47	06:55 07:21-07:38/17 17:23	06:16 07:07-07:32/25 17:55	06:26 19:28	05:45 19:58	05:25 20:23
11	07:17 12:35-13:35/60 16:48	06:54 07:20-07:40/20 17:25	06:15 07:09-07:29/20 17:56	06:24 19:29	05:44 19:59	05:25 20:24
12	07:17 12:36-13:36/60 16:49	06:53 07:17-07:41/24 17:26	06:13 07:11-07:25/14 17:58	06:23 19:30	05:43 20:00	05:25 20:24
13	07:17 12:37-13:36/59 16:50	06:52 07:16-07:42/26 17:27	06:11 17:59	06:21 19:31	05:42 20:01	05:25 20:25
14	07:16 12:37-13:36/59 16:51	06:51 07:16-07:43/27 17:28	06:10 18:00	06:20 19:32	05:41 20:02	05:25 20:25
15	07:16 12:38-13:36/58 16:53	06:49 07:15-07:45/30 17:29	06:08 18:01	06:18 19:33	05:40 20:03	05:25 20:26
16	07:16 12:39-13:36/57 16:54	06:48 07:14-07:44/30 17:31	06:06 18:02	06:17 19:34	05:39 20:04	05:25 20:26
17	07:15 12:40-13:37/57 16:55	06:47 07:14-07:45/31 17:32	06:05 18:03	06:15 19:35	05:38 20:05	05:25 20:26
18	07:15 12:40-13:36/56 16:56	06:45 07:14-07:46/32 17:33	06:03 18:04	06:14 19:36	05:37 20:06	05:25 20:27
19	07:14 12:42-13:37/55 16:57	06:44 07:11-07:45/34 17:34	06:02 18:05	06:12 19:37	05:36 20:07	05:25 20:27
20	07:14 12:42-13:36/54 16:58	06:43 07:10-07:46/36 17:35	06:00 18:06	06:11 19:38	05:36 20:08	05:25 20:27
21	07:13 12:44-13:37/53 16:59	06:41 07:08-07:45/37 17:36	05:58 18:07	06:09 19:39	05:35 20:09	05:25 20:28
22	07:12 12:45-13:36/51 17:01	06:40 07:07-07:45/38 17:38	05:57 18:08	06:08 19:40	05:34 20:09	05:25 20:28
23	07:12 12:45-13:35/50 17:02	06:39 07:06-07:45/39 17:39	05:55 18:09	06:07 19:41	05:33 20:10	05:26 20:28
24	07:11 12:46-13:34/48 17:03	06:37 07:05-07:44/39 17:40	05:53 18:10	06:05 19:42	05:33 20:11	05:26 20:28
25	07:11 12:49-13:35/46 17:04	06:36 07:05-07:43/38 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28
26	07:10 12:50-13:34/44 17:05	06:34 07:03-07:42/39 17:42	05:50 18:12	06:02 19:44	05:31 20:13	05:27 20:28
27	07:09 12:52-13:33/41 17:06	06:33 07:03-07:41/38 17:43	05:49 18:13	06:01 19:45	05:31 20:14	05:27 20:28
28	07:08 12:53-13:31/38 17:08	06:31 07:03-07:40/37 17:44	05:47 18:14	06:00 19:46	05:30 20:14	05:27 20:28
29	07:07 12:55-13:30/35 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:28
30	07:07 12:58-13:28/30 17:10		06:44 19:16	05:57 19:48	05:29 20:16	05:28 20:28
31	07:06 13:02-13:26/24 17:11		06:42 19:17		05:28 20:17	
Potential sun hours	300	298	370	398	446	450
Sum of minutes with flicker	1646	638	367	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

**WTG:** CT 18 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (18)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	July	August	September	October	November	December
1	05:29 20:28	05:52 20:10	06:21 19:28	06:50 18:39	07:52-08:03/11 16:53	06:57 16:30
2	05:29 20:28	05:53 20:09	06:22 19:27	06:51 18:37	07:49-08:07/18 16:52	06:58 16:30
3	05:29 20:28	05:54 20:08	06:23 19:25	06:52 18:35	07:46-08:09/23 16:51	06:59 16:29
4	05:30 20:28	05:55 20:07	06:24 19:23	06:53 18:34	07:44-08:10/26 16:50	07:00 16:29
5	05:31 20:28	05:55 20:06	06:25 19:22	06:54 18:32	07:42-08:11/29 16:49	07:01 16:29
6	05:31 20:28	05:56 20:05	06:26 19:20	06:55 18:31	07:41-08:12/31 16:48	07:02 16:29
7	05:32 20:27	05:57 20:03	06:27 19:19	06:56 18:29	07:39-08:13/34 16:46	07:03 16:29
8	05:32 20:27	05:58 20:02	06:28 19:17	06:57 18:27	07:38-08:13/35 16:45	07:04 16:29
9	05:33 20:27	05:59 20:01	06:29 19:15	06:58 18:26	07:38-08:13/35 16:44	07:05 16:29
10	05:34 20:26	06:00 20:00	06:30 19:14	06:59 18:24	07:37-08:13/36 16:43	07:06 16:29
11	05:34 20:26	06:01 19:58	06:31 19:12	07:00 18:23	07:36-08:13/37 16:42	07:06 16:29
12	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	07:36-08:13/37 16:42	07:07 16:29
13	05:36 20:25	06:03 19:56	06:33 19:09	07:02 18:20	07:35-08:13/38 16:41	07:08 16:29
14	05:36 20:24	06:04 19:55	06:34 19:07	07:03 18:18	07:36-08:14/38 16:40	07:09 16:29
15	05:37 20:24	06:05 19:53	06:35 19:05	07:04 18:17	07:36-08:14/38 16:39	07:10 16:30
16	05:38 20:23	06:06 19:52	06:36 19:04	07:06 18:15	07:36-08:15/39 16:38	07:10 16:30
17	05:39 20:23	06:07 19:51	06:37 19:02	07:07 18:14	07:36-08:15/39 16:37	07:11 16:30
18	05:40 20:22	06:08 19:49	06:38 19:00	07:08 18:12	07:37-08:16/39 16:37	07:12 16:31
19	05:40 20:21	06:09 19:48	06:39 18:59	07:09 18:11	07:37-08:16/39 16:36	07:12 16:31
20	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	07:38-08:16/38 16:35	07:13 16:31
21	05:42 20:20	06:11 19:45	06:40 18:55	07:11 18:08	07:38-08:16/38 16:34	07:13 16:32
22	05:43 20:19	06:12 19:43	06:41 18:54	07:12 18:06	07:41-08:16/35 16:34	07:14 16:32
23	05:44 20:18	06:13 19:42	06:42 18:52	07:13 18:05	07:42-08:16/34 16:33	07:14 16:33
24	05:45 20:18	06:14 19:40	06:43 18:50	07:14 18:04	07:43-08:15/32 16:33	07:15 16:33
25	05:45 20:17	06:15 19:39	06:44 18:49	06:15 17:02	06:43-07:15/32 16:32	07:15 16:34
26	05:46 20:16	06:16 19:37	06:45 18:47	06:16 17:01	06:44-07:14/30 16:32	07:16 16:34
27	05:47 20:15	06:17 19:36	06:46 18:45	06:18 17:00	06:44-07:13/29 16:31	07:16 16:35
28	05:48 20:14	06:18 19:34	06:47 18:44	06:19 16:58	06:46-07:13/27 16:31	07:16 16:36
29	05:49 20:13	06:19 19:33	06:48 18:42	06:20 16:57	06:46-07:12/26 16:30	07:17 16:37
30	05:50 20:12	06:19 19:31	06:49 18:40	06:21 16:56	06:47-07:10/23 16:30	07:17 16:37
31	05:51 20:11	06:20 19:30		06:22 16:55	06:49-07:08/19 16:30	07:17 16:38
Potential sun hours	456	426	375	346	300	290
Sum of minutes with flicker	0	0	0	985	1020	1898

Table 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

**WTG:** CT 19 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (19)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	05:55 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 20:28	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 16:46	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	06:32 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	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	06:52 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	06:31 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	06:54 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 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:55 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	06:19 19:31	06:49 18:40	06:56 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	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

**WTG:** CT 20 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (20)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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
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	06:51 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	05:49 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	06:53 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 20:15	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	07:07 17:09		06:45 19:15	05:58 19:47	05:29 20:15	05:28 20:29	05:49 20:13	06:18 19:33	06:48 18:42	06:55 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	06:56 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

**WTG:** CT 21 - Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m) (21)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
 N NE E SE S SW W NW Sum  
 0 0 0 0 0 2.539 0 0 2.539

	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
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
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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 20:24	05:35 20:25	06:02 19:57	06:32 19:10	07:01 18:21	06:36 16:41	07:07 16:29
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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 20:24	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	06:06 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
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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

**WTG:** EGP 01 - VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (32)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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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
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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 20:27	05:41 20:21	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:13 16:31
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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

**WTG:** EGP 02 - VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (33)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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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 20:24	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
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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
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	06:19 19:33	06:48 18:42	06:55 16:57	06:55 16:30	07:17 16:37
30	07:07 17:10	06:30 17:46	05:45 18:16	05:58 19:48	05:29 20:16	05:28 20:28	05:50 20:12	06:19 19:31	06:49 18:40	06:56 16:56	06:56 16:30	07:17 16:37
31	07:06 17:11	06:29 17:47	05:44 18:17	05:57 19:49	05:28 20:17	05:28 20:28	05:51 20:11	06:20 19:30	06:50 18:39	06:57 16:55	06:57 16:31	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

**WTG:** EGP 03 - VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (34)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
6	07:18 16:44	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 16:45	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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10	07:17 16:48	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 16:49	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 16:50	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	06:21 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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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
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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
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	06:55 16:57	06:55 16:30	07:17 16:37
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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

**WTG:** PLT 01 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (1)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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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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
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

WTG: PLT 02 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (2)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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	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

WTG: PLT 03 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (3)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	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

WTG: PLT 04 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (4)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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) 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

WTG: PLT 05 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (5)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

WTG: PLT 06 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (6)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

**WTG:** PLT 07 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (7)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
 N NE E SE S SW W NW Sum  
 0 0 0 0 0 2.539 0 0 2.539

	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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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	06:50 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
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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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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/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

**WTG:** PLT 08 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (8)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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
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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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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	06:12 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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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	06:54 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	05:28 20:29	05:49 20:13	06:19 19:33	06:48 18:42	06:55 16:57	06:55 16:30	07:17 16:37
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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

**WTG:** PLT 09 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (9)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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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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

**WTG:** PLT 10 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (10)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
 N NE E SE S SW W NW Sum  
 0 0 0 0 0 2.539 0 0 2.539

	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
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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
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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

**WTG:** PLT 11 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (11)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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

**WTG:** PLT 12 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (12)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
 N NE E SE S SW W NW Sum  
 0 0 0 0 0 2.539 0 0 2.539

	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	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	06:02 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 16:34
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	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 20:15	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		05:28 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

WTG: PLT 13 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (13)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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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	07:08 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 16:55		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

**WTG:** PLT 14 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (14)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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

WTG: PLT 15 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (15)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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

**WTG:** PLT 16 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (16)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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
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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
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
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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	06:12 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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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	06:18 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	05:28 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

**WTG:** PLT 17 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (17)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	05:53 20:09	06:22 19:27	06:51 18:37	06:24 16:52	06:58 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

**WTG:** PLT 18 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (18)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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 16:29
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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

**WTG:** PLT 19 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (19)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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

**WTG:** PLT 20 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (20)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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	06:16 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 20:29	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 20:29	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		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

**WTG:** PLT 21 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (21)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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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
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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

**WTG:** PLT 22 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (22)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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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 20:24	06:06 19:52	06:36 19:04	07:06 18:15	06:41 16:38	07:11 16:30
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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
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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	06:20 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

**WTG:** PLT 23 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (23)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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	07:17 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 16:37	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	07:12 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
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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 17:02	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
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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	06:55 16:57	06:55 16:30	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

**WTG:** PLT 24 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (24)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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	06:24 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	06:26 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 16:48	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 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
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11	07:17 16:48	06:54 17:25	06:15 17:57	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
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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 20:24	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 20:10	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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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	06:52 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	05:30 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	06:55 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	06:56 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

**WTG:** PLT 25 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (25)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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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 16:41	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 20:24	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
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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	06:55 16:57	06:55 16:30	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

**WTG:** PLT 26 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (26)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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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

**WTG:** PLT 27 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (27)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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

**WTG:** PLT 28 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (28)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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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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	06:34 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	06:52 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	05:30 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	06:31 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	06:54 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	05:27 20:29	05:49 20:13	06:18 19:33	06:48 18:42	06:55 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	06:56 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

**WTG:** PLT 29 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (29)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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
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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
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
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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	06:56 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

**WTG:** PLT 30 - REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (30)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	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 17:14	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
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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
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 16:31
22	07:13 17:00	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
23	07:13 17:01	06:37 17:39	05:53 18:09	06:05 19:41	05:32 20:10	05:26 20:28	05:44 20:19	06:14 19:42	06:43 18:52	07:14 18:05	06:50 16:33	07:15 16:32
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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

WTG: RO 01 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (37)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	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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12	07:16 16:49	06:53 17:26	06:13 17:57	06:23 19:29	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	07:16 16:50	06:52 17:27	06:11 17:58	06:21 19:30	05:42 20:01	05:25 20:24	05:36 20:24	06:03 19:56	06:33 19:08	07:02 18:19	06:37 16:40	07:08 16:29
14	07:16 16:51	06:50 17:28	06:09 17:59	06:20 19:31	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:54	06:34 19:07	07:03 18:18	06:38 16:40	07:08 16:29
15	07:15 16:52	06:49 17:29	06:08 18:00	06:18 19:32	05:40 20:03	05:25 20:25	05:37 20:23	06:05 19:53	06:34 19:05	07:04 18:16	06:39 16:39	07:09 16:29
16	07:15 16:54	06:48 17:30	06:06 18:02	06:17 19:33	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:35 19:03	07:05 18:15	06:40 16:38	07:10 16:30
17	07:15 16:55	06:46 17:32	06:05 18:03	06:15 19:34	05:38 20:04	05:25 20:26	05:39 20:22	06:07 19:50	06:36 19:02	07:06 18:13	06:41 16:37	07:11 16:30
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19	07:14 16:57	06:44 17:34	06:01 18:05	06:12 19:36	05:36 20:06	05:25 20:27	05:40 20:21	06:09 19:47	06:38 18:58	07:08 18:10	06:44 16:36	07:12 16:31
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23	07:11 17:02	06:38 17:38	05:55 18:09	06:06 19:40	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
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31	07:05 17:11		06:42 19:17		05:28 20:16		05:51 20:11	06:20 19:29		06:22 16:54		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

WTG: RO 02 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (38)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

#### Operational time

N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	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 17:46	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:52 20:09	06:22 19:26	06:51 18:37	06:24 16:52	06:58 16:29
3	07:17 16:41	07:03 17:15	06:27 17:47	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	07:17 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:27 20:19	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:26 16:50	07:00 16:29
5	07:17 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:27	05:55 20:05	06:25 19:21	06:54 18:32	06:27 16:48	07:01 16:29
6	07:17 16:43	07:00 17:18	06:22 17:51	06:32 19:23	05:49 19:54	05:26 20:21	05:31 20:27	05:56 20:04	06:26 19:20	06:55 18:30	06:29 16:47	07:02 16:29
7	07:17 16:44	06:58 17:20	06:20 17:52	06:31 19:24	05:48 19:55	05:26 20:21	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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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 19:59	06:30 19:13	06:59 18:24	06:33 16:43	07:05 16:29
11	07:17 16:48	06:54 17:24	06:14 17:56	06:24 19:28	05:44 19:59	05:25 20:23	05:34 20:25	06:01 19:58	06:31 19:12	07:00 18:23	06:34 16:42	07:06 16:29
12	07:16 16:49	06:53 17:26	06:13 17:57	06:23 19:29	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
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15	07:15 16:52	06:49 17:29	06:08 18:00	06:18 19:32	05:40 20:03	05:25 20:25	05:37 20:23	06:05 19:53	06:34 19:05	07:04 18:16	06:39 16:39	07:09 16:29
16	07:15 16:54	06:48 17:30	06:06 18:02	06:17 19:33	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:35 19:03	07:05 18:15	06:40 16:38	07:10 16:30
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19	07:14 16:57	06:44 17:34	06:01 18:05	06:12 19:36	05:36 20:06	05:25 20:27	05:40 20:21	06:09 19:47	06:38 18:58	07:08 18:10	06:44 16:36	07:12 16:31
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22	07:12 17:00	06:40 17:37	05:56 18:08	06:08 19:39	05:34 20:09	05:25 20:27	05:43 20:19	06:12 19:43	06:41 18:53	07:12 18:06	06:47 16:34	07:13 16:32
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27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:13	05:27 20:28	05:47 20:15	06:16 19:36	06:46 18:45	06:17 16:59	06:53 16:31	07:16 16:35
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30	07:06 17:10		06:43 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	07:05 17:11		06:42 19:17		05:28 20:16		05:51 20:11	06:20 19:29		06:22 16:54		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

**WTG: RO 03 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (39)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	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	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

**WTG: RO 04 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (40)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	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 17:46	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:52 20:09	06:22 19:26	06:51 18:37	06:24 16:52	06:58 16:29
3	07:17 16:41	07:03 17:15	06:27 17:47	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	07:17 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:26 20:19	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:26 16:50	07:00 16:29
5	07:17 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:27	05:55 20:05	06:25 19:21	06:54 18:32	06:27 16:48	07:01 16:29
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31	07:05 17:11		06:42 19:17		05:28 20:16		05:51 20:11	06:20 19:29		06:22 16:54		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

**WTG: RO 05 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (41)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:38	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	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/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

**WTG: RO 06 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (42)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:38	06:23 16:53	06:57 16:30
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23	07:12 17:01	06:38 17:38	05:55 18:09	06:06 19:40	05:33 20:10	05:25 20:28	05:43 20:18	06:13 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
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25	07:10 17:04	06:35 17:41	05:52 18:11	06:04 19:43	05:32 20:12	05:26 20:28	05:45 20:16	06:14 19:39	06:44 18:48	06:15 17:02	06:50 16:32	07:15 16:34
26	07:09 17:05	06:34 17:42	05:50 18:12	06:02 19:44	05:31 20:12	05:26 20:28	05:46 20:16	06:15 19:37	06:45 18:47	06:16 17:01	06:51 16:32	07:15 16:34
27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:13	05:27 20:28	05:47 20:15	06:16 19:36	06:46 18:45	06:17 16:59	06:53 16:31	07:16 16:35
28	07:08 17:07	06:31 17:44	05:47 18:14	05:59 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:17 19:34	06:47 18:43	06:18 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 20:28	05:49 20:13	06:18 19:33	06:48 18:42	06:19 16:57	06:55 16:30	07:16 16:36
30	07:06 17:10		06:43 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	07:05 17:11		06:42 19:17		05:28 20:16		05:51 20:11	06:20 19:29		06:22 16:54		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

**WTG: RO 07 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (43)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	05:28 20:28	05:51 20:10	06:21 19:28	06:50 18:38	06:23 16:53	06:57 16:30
2	07:17 16:40	07:04 17:13	06:28 17:46	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:52 20:09	06:22 19:26	06:51 18:37	06:24 16:52	06:58 16:29
3	07:17 16:41	07:03 17:15	06:27 17:47	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	07:17 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:26 20:19	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:26 16:50	07:00 16:29
5	07:17 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:27	05:55 20:05	06:25 19:21	06:54 18:32	06:27 16:48	07:01 16:29
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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 19:59	06:30 19:13	06:59 18:24	06:33 16:43	07:05 16:29
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31	07:05 17:11		06:42 19:17		05:28 20:16		05:51 20:11	06:20 19:29		06:22 16:54		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/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

**WTG: RO 08 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (44)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	05:28 20:28	05:51 20:10	06:21 19:28	06:50 18:38	06:23 16:53	06:57 16:30
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4	07:17 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:26 20:19	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:26 16:50	07:00 16:29
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19	07:14 16:57	06:44 17:34	06:01 18:05	06:12 19:36	05:36 20:06	05:25 20:27	05:40 20:21	06:09 19:47	06:38 18:58	07:08 18:10	06:44 16:36	07:12 16:31
20	07:13 16:58	06:42 17:35	06:00 18:06	06:11 19:37	05:35 20:07	05:25 20:27	05:41 20:20	06:10 19:46	06:39 18:57	07:09 18:09	06:45 16:35	07:12 16:31
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31	07:05 17:11		06:42 19:17		05:28 20:16		05:51 20:11	06:20 19:29		06:22 16:54		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

**WTG: RO 09 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (45)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	05:28 20:28	05:51 20:10	06:21 19:28	06:50 18:38	06:23 16:53	06:57 16:30
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12	07:16 16:50	06:53 17:27	06:13 17:58	06:23 19:30	05:43 20:01	05:25 20:24	05:35 20:25	06:02 19:56	06:32 19:08	07:01 18:19	06:36 16:40	07:07 16:29
13	07:16 16:51	06:53 17:28	06:13 17:59	06:23 19:31	05:43 20:02	05:25 20:25	05:35 20:24	06:02 19:54	06:32 19:07	07:01 18:18	06:36 16:39	07:07 16:29
14	07:16 16:52	06:50 17:29	06:09 18:00	06:20 19:32	05:41 20:03	05:24 20:25	05:36 20:23	06:04 19:53	06:33 19:05	07:03 18:16	06:38 16:39	07:08 16:29
15	07:15 16:53	06:49 17:30	06:08 18:01	06:18 19:33	05:40 20:04	05:24 20:26	05:37 20:23	06:05 19:52	06:34 19:03	07:04 18:15	06:39 16:38	07:09 16:30
16	07:15 16:54	06:46 17:31	06:05 18:03	06:15 19:34	05:38 20:04	05:25 20:26	05:38 20:22	06:07 19:50	06:36 19:02	07:06 18:13	06:41 16:37	07:11 16:30
17	07:15 16:55	06:46 17:31	06:05 18:03	06:15 19:34	05:38 20:04	05:25 20:26	05:38 20:22	06:07 19:50	06:36 19:02	07:06 18:13	06:41 16:37	07:11 16:30
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19	07:14 16:57	06:44 17:34	06:01 18:05	06:12 19:36	05:36 20:06	05:25 20:27	05:40 20:21	06:09 19:47	06:38 18:58	07:08 18:10	06:44 16:36	07:12 16:31
20	07:13 16:58	06:42 17:35	06:00 18:06	06:11 19:37	05:35 20:07	05:25 20:27	05:41 20:20	06:10 19:46	06:39 18:57	07:09 18:09	06:45 16:35	07:12 16:31
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23	07:12 17:01	06:38 17:38	05:55 18:09	06:06 19:40	05:33 20:10	05:25 20:28	05:43 20:18	06:12 19:42	06:42 18:52	07:13 18:05	06:48 16:33	07:14 16:33
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31	07:05 17:11		06:42 19:17		05:28 20:16		05:51 20:11	06:20 19:29		06:22 16:54		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

**WTG: RO 10 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (46)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	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 17:13	06:28 17:46	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:52 20:09	06:22 19:26	06:51 18:37	06:24 16:52	06:58 16:29
3	07:17 16:41	07:03 17:15	06:27 17:47	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	07:17 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:26 20:19	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:26 16:50	07:00 16:29
5	07:17 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:27	05:55 20:05	06:25 19:21	06:54 18:32	06:27 16:48	07:01 16:29
6	07:17 16:43	07:00 17:18	06:22 17:51	06:32 19:23	05:49 19:54	05:26 20:21	05:31 20:27	05:56 20:04	06:26 19:20	06:55 18:30	06:29 16:47	07:02 16:29
7	07:17 16:44	06:58 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:21	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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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 19:59	06:30 19:13	06:59 18:24	06:33 16:43	07:05 16:29
11	07:17 16:48	06:54 17:24	06:14 17:56	06:24 19:28	05:44 19:59	05:25 20:24	05:34 20:25	06:01 19:58	06:31 19:12	07:00 18:23	06:34 16:42	07:06 16:29
12	07:17 16:49	06:53 17:26	06:13 17:57	06:23 19:29	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
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16	07:15 16:53	06:48 17:30	06:06 18:02	06:17 19:33	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:35 19:03	07:05 18:15	06:40 16:38	07:10 16:30
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31	07:05 17:11		06:42 19:17		05:28 20:16		05:51 20:11	06:20 19:29		06:22 16:54		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/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

**WTG: RO 11 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (47)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	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 17:46	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:52 20:09	06:22 19:26	06:51 18:37	06:24 16:52	06:58 16:29
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4	07:17 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:26 20:19	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:26 16:50	07:00 16:29
5	07:17 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:27	05:55 20:05	06:25 19:21	06:54 18:32	06:27 16:48	07:01 16:29
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15	07:15 16:52	06:49 17:29	06:08 18:00	06:18 19:32	05:40 20:03	05:25 20:25	05:37 20:24	06:05 19:53	06:34 19:05	07:04 18:16	06:39 16:39	07:09 16:29
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17	07:15 16:55	06:47 17:32	06:05 18:03	06:15 19:34	05:38 20:04	05:25 20:26	05:39 20:22	06:07 19:50	06:36 19:02	07:06 18:13	06:41 16:37	07:11 16:30
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31	07:05 17:11		06:42 19:17		05:28 20:16		05:51 20:11	06:20 19:29		06:22 16:54		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

**WTG: RO 12 - NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (48)**

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [PALINURO C.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
4,14 4,76 5,47 6,61 8,23 9,68 10,62 10,12 8,36 6,25 5,04 4,06

Operational time  
N NE E SE S SW W NW Sum  
0 0 0 0 0 2.539 0 0 2.539

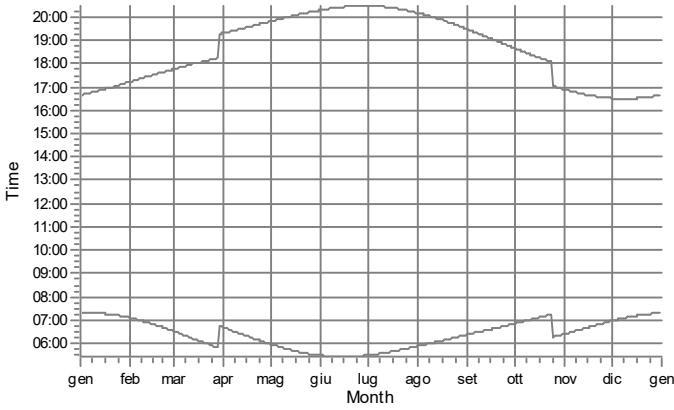
	January	February	March	April	May	June	July	August	September	October	November	December
1	07:17 16:39	07:04 17:12	06:30 17:45	06:40 19:18	05:56 19:49	05:28 20:17	05:28 20:28	05:52 20:10	06:21 19:28	06:50 18:39	06:23 16:53	06:57 16:30
2	07:17 16:40	07:04 17:14	06:28 17:46	06:39 19:19	05:54 19:50	05:27 20:18	05:29 20:28	05:52 20:09	06:22 19:26	06:51 18:37	06:24 16:52	06:58 16:29
3	07:17 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	07:17 16:41	07:02 17:16	06:25 17:49	06:35 19:21	05:52 19:52	05:26 20:19	05:30 20:28	05:54 20:07	06:24 19:23	06:53 18:34	06:26 16:50	07:00 16:29
5	07:17 16:42	07:01 17:17	06:24 17:50	06:34 19:22	05:51 19:53	05:26 20:20	05:30 20:27	05:55 20:05	06:25 19:21	06:54 18:32	06:27 16:48	07:01 16:29
6	07:17 16:43	07:00 17:18	06:22 17:51	06:32 19:23	05:49 19:54	05:26 20:21	05:31 20:27	05:56 20:04	06:26 19:20	06:55 18:30	06:29 16:47	07:02 16:29
7	07:17 16:44	06:58 17:20	06:21 17:52	06:31 19:24	05:48 19:55	05:26 20:21	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	07:17 16:45	06:57 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	06:56 17:22	06:17 17:54	06:27 19:26	05:46 19:57	05:25 20:22	05:33 20:26	05:59 20:01	06:29 19:15	06:58 18:26	06:32 16:44	07:04 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 19:59	06:30 19:13	06:59 18:24	06:33 16:43	07:05 16:29
11	07:17 16:48	06:54 17:24	06:14 17:56	06:24 19:28	05:44 19:59	05:25 20:24	05:34 20:25	06:01 19:58	06:31 19:12	07:00 18:23	06:34 16:42	07:06 16:29
12	07:17 16:49	06:53 17:26	06:13 17:57	06:23 19:29	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	07:16 16:50	06:52 17:27	06:11 17:58	06:21 19:30	05:42 20:01	05:25 20:25	05:36 20:25	06:03 19:56	06:33 19:08	07:02 18:19	06:37 16:40	07:08 16:29
14	07:16 16:51	06:50 17:28	06:09 17:59	06:20 19:31	05:41 20:02	05:25 20:25	05:36 20:24	06:04 19:54	06:34 19:07	07:03 18:18	06:38 16:40	07:08 16:29
15	07:15 16:52	06:49 17:29	06:08 18:00	06:18 19:32	05:40 20:03	05:25 20:25	05:37 20:23	06:05 19:53	06:34 19:05	07:04 18:16	06:39 16:39	07:09 16:29
16	07:15 16:54	06:48 17:30	06:06 18:02	06:17 19:33	05:39 20:04	05:25 20:26	05:38 20:23	06:06 19:52	06:35 19:03	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 19:34	05:38 20:04	05:25 20:26	05:39 20:22	06:07 19:50	06:36 19:02	07:06 18:13	06:41 16:37	07:11 16:30
18	07:14 16:56	06:45 17:33	06:03 18:04	06:14 19:35	05:37 20:05	05:25 20:26	05:39 20:22	06:08 19:49	06:37 19:00	07:07 18:12	06:43 16:36	07:11 16:30
19	07:14 16:57	06:44 17:34	06:01 18:05	06:12 19:36	05:36 20:06	05:25 20:27	05:40 20:21	06:09 19:47	06:38 18:58	07:08 18:10	06:44 16:36	07:12 16:31
20	07:13 16:58	06:43 17:35	06:00 18:06	06:11 19:37	05:35 20:07	05:25 20:27	05:41 20:20	06:10 19:46	06:39 18:57	07:10 18:09	06:45 16:35	07:12 16:31
21	07:13 16:59	06:41 17:36	05:58 18:07	06:09 19:38	05:35 20:08	05:25 20:27	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	05:56 18:08	06:08 19:39	05:34 20:09	05:25 20:27	05:43 20:19	06:12 19:43	06:41 18:53	07:12 18:06	06:47 16:34	07:14 16:32
23	07:12 17:02	06:38 17:38	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	06:48 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 20:17	06:13 19:40	06:43 18:50	07:14 18:03	06:49 16:33	07:14 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 20:16	06:14 19:39	06:44 18:48	06:15 17:02	06:50 16:32	07:15 16:34
26	07:09 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	06:51 16:32	07:15 16:34
27	07:09 17:06	06:33 17:43	05:48 18:13	06:01 19:45	05:30 20:13	05:27 20:28	05:47 20:15	06:16 19:36	06:46 18:45	06:17 16:59	06:53 16:31	07:16 16:35
28	07:08 17:07	06:31 17:44	05:47 18:14	05:59 19:46	05:30 20:14	05:27 20:28	05:48 20:14	06:17 19:34	06:47 18:43	06:18 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 20:28	05:49 20:13	06:18 19:33	06:48 18:42	06:19 16:57	06:55 16:30	07:16 16:36
30	07:06 17:10		06:43 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	07:05 17:11		06:42 19:17		05:28 20:16		05:51 20:11	06:20 19:29		06:22 16:54		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

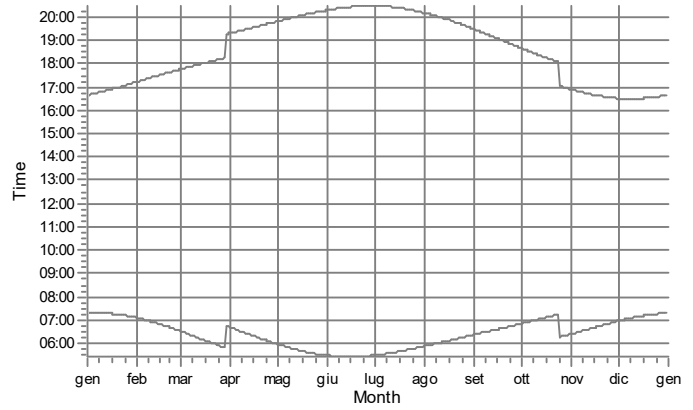
Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
	Sun set (hh:mm)	First time (hh:mm) with flicker-	Last time (hh:mm) with flicker/
		Minutes with flicker	Minutes with flicker

## SHADOW - Calendar per WTG, graphical

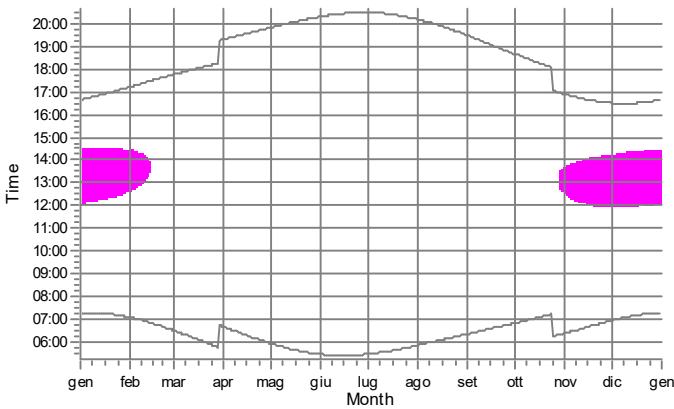
CT 01: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 2



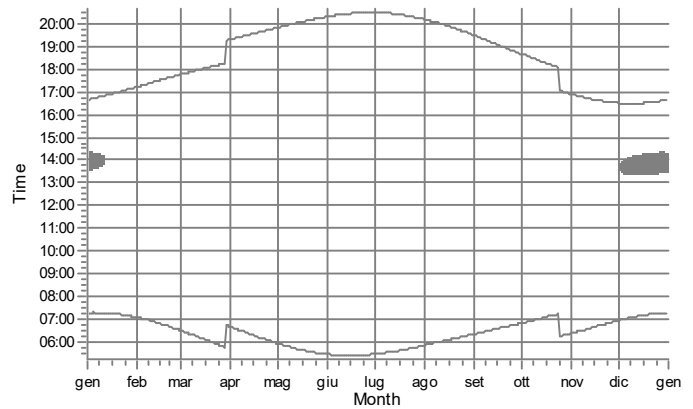
CT 02: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m)



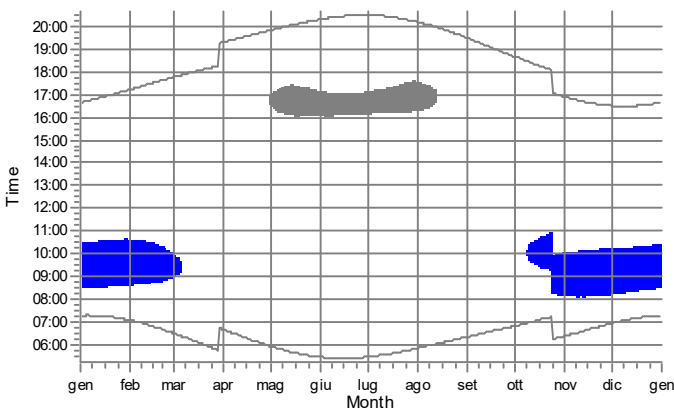
CT 03: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 2



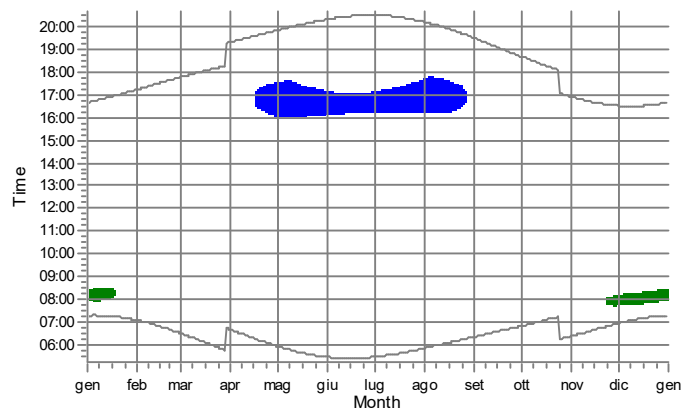
CT 04: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m)



CT 05: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 2



CT 06: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m)



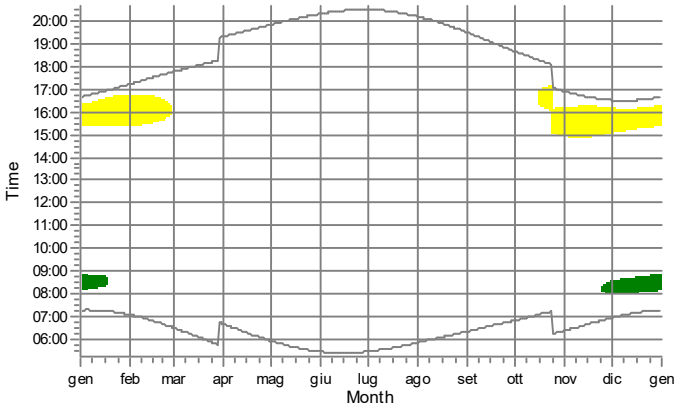
### Shadow receptors

- R1: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)
- R3: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)

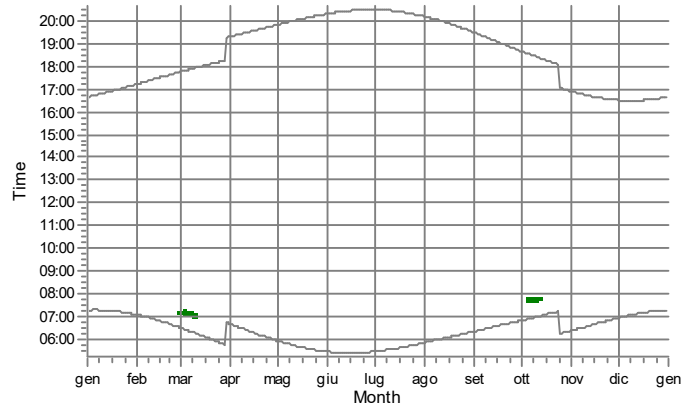
- R4: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)
- R5: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)

## SHADOW - Calendar for WTG, graphical

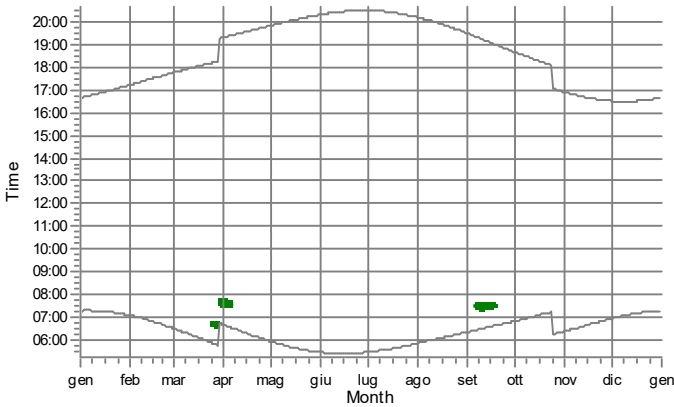
CT 07: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 2



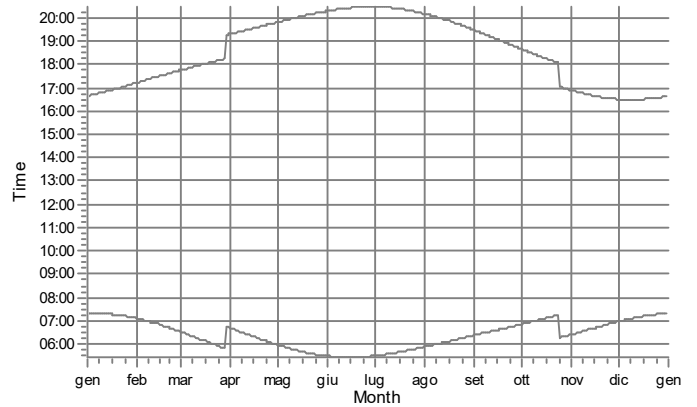
CT 08: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m)



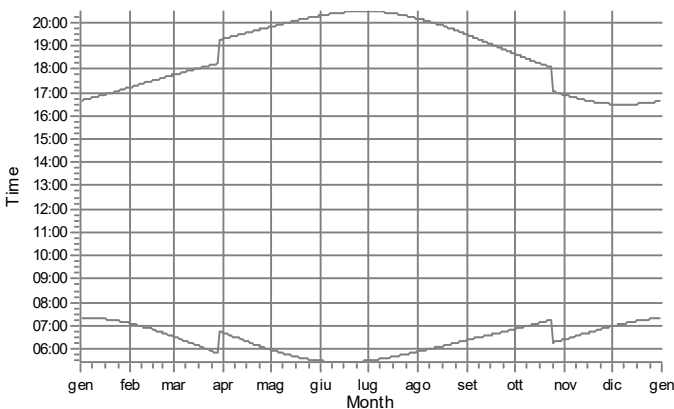
CT 09: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 2



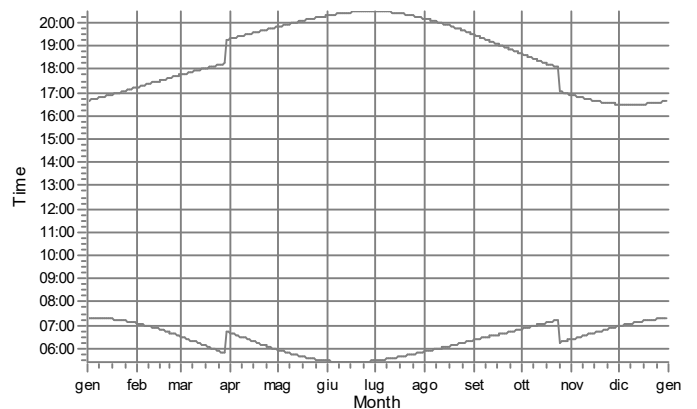
CT 10: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m)



CT 11: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 2



CT 12: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m)



### Shadow receptors

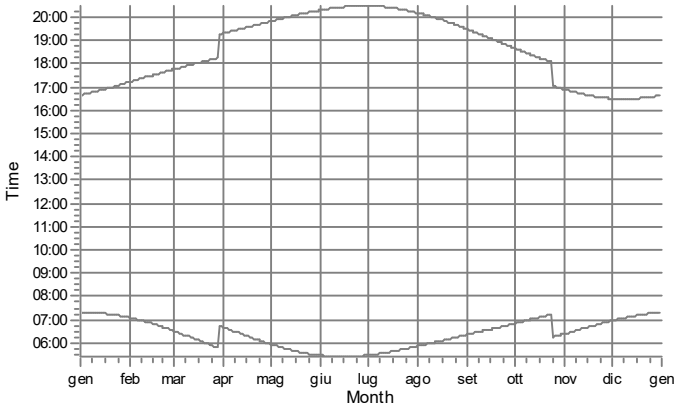
R1: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)

R2: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)

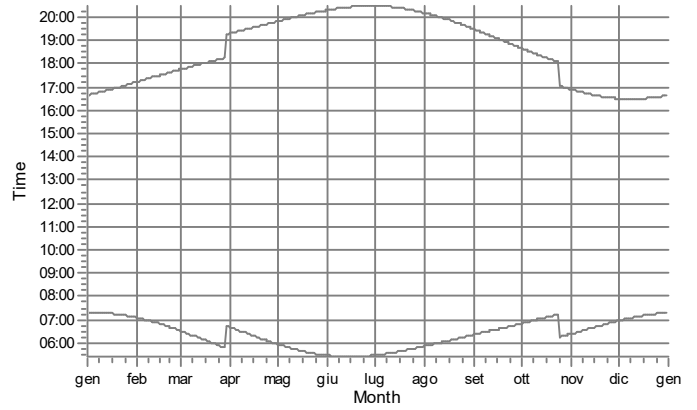


## SHADOW - Calendar per WTG, graphical

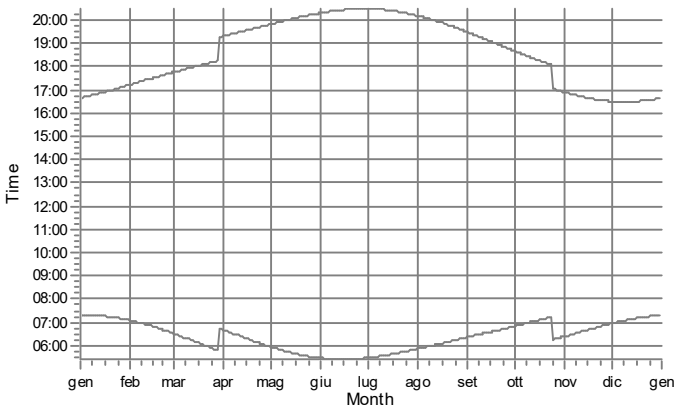
CT 13: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 2



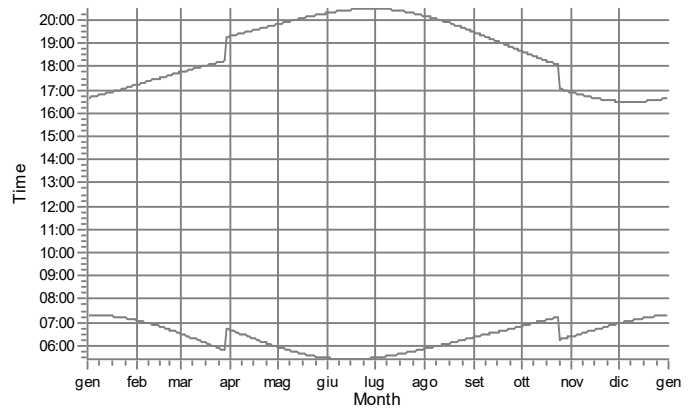
CT 14: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m)



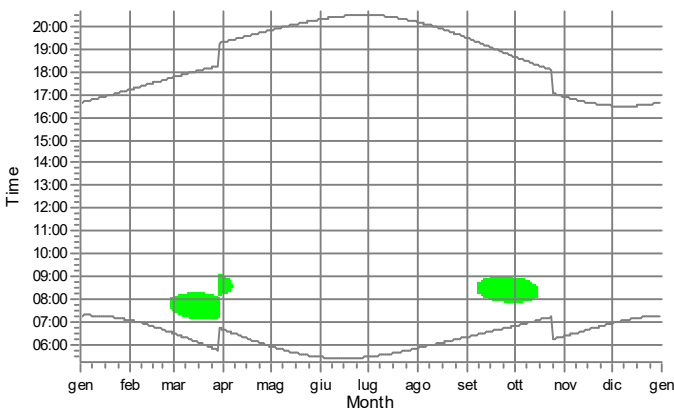
CT 15: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 2



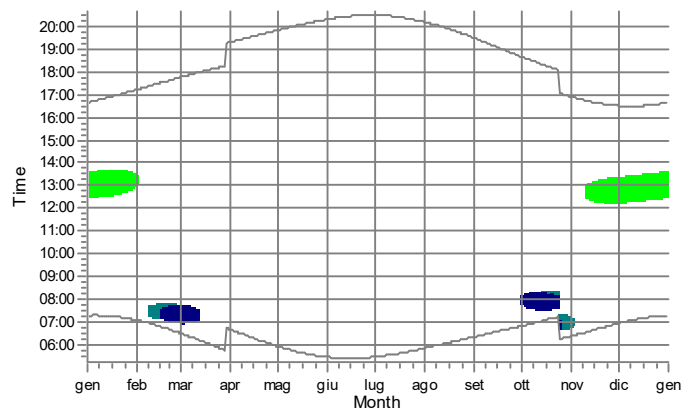
CT 16: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m)



CT 17: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 2



CT 18: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m)



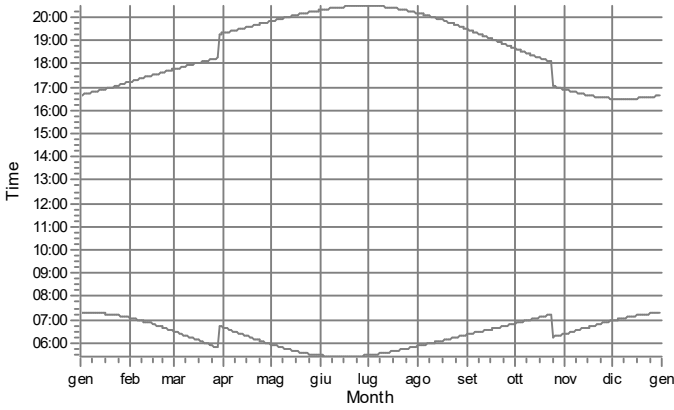
### Shadow receptors

- R6: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)
- R7: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)

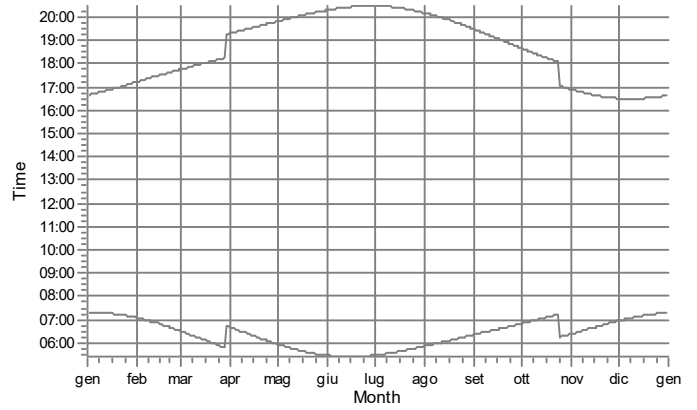
- R9: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)

## SHADOW - Calendar per WTG, graphical

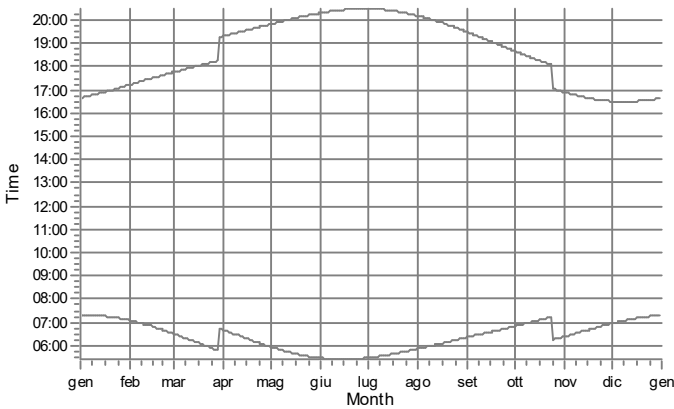
CT 19: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 210,0 m)



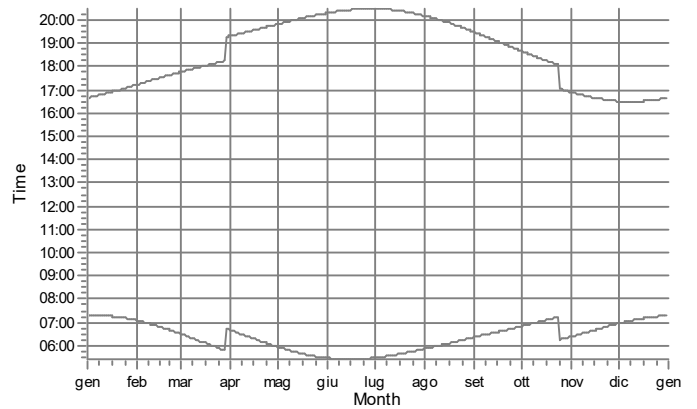
CT 20: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 250,0 m)



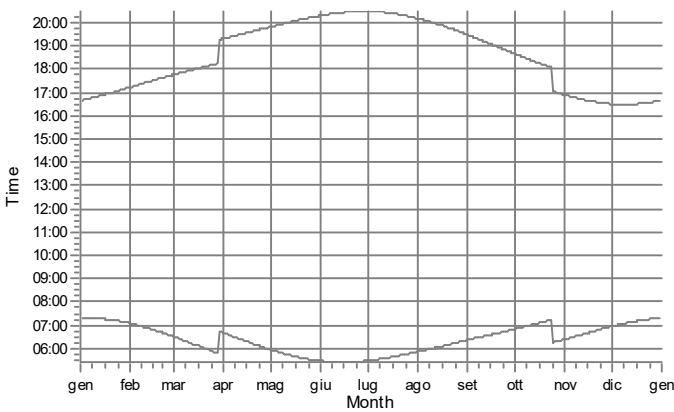
CT 21: Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 165,0 m (TOT: 210,0 m)



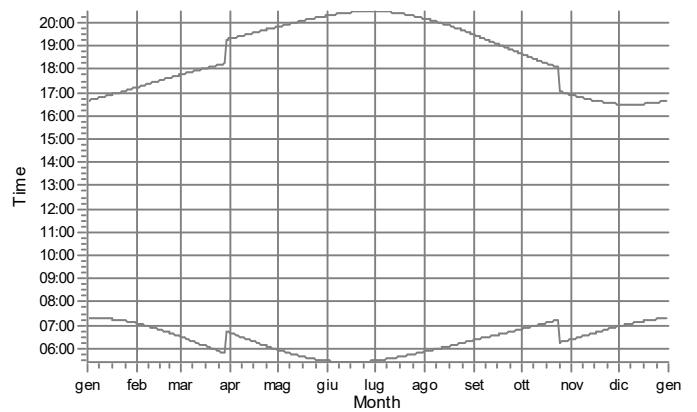
EGP 01: VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (32)



EGP 02: VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (33)



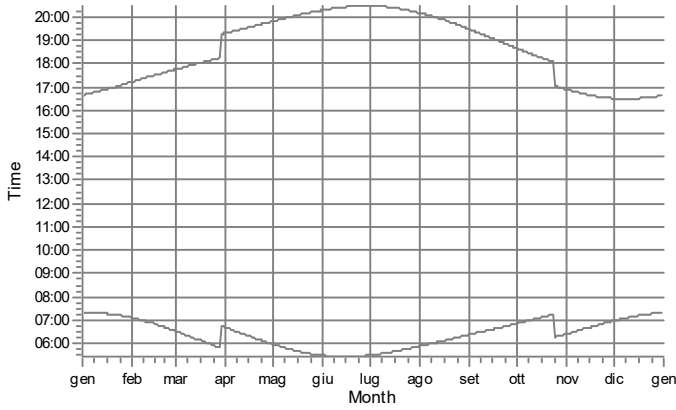
EGP 03: VESTAS V52 850 52.0 !O! hub: 65,0 m (TOT: 91,0 m) (34)



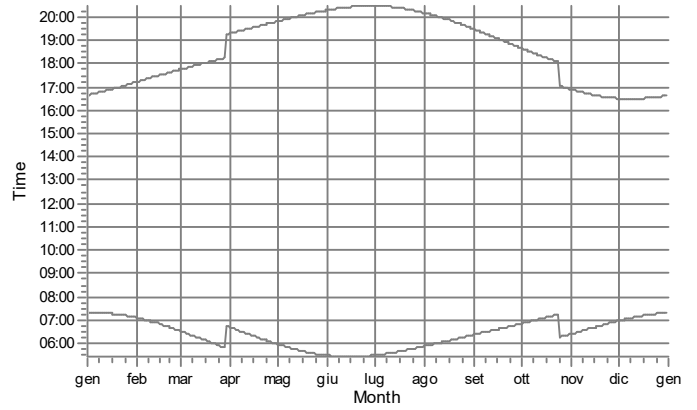
Shadow receptors

## SHADOW - Calendar per WTG, graphical

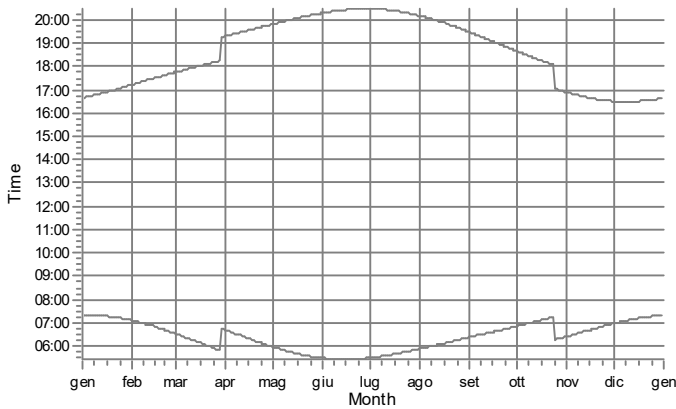
PLT 01: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (1)



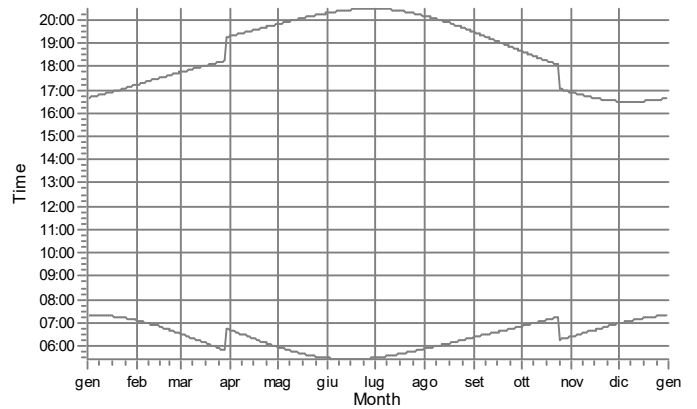
PLT 02: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (2)



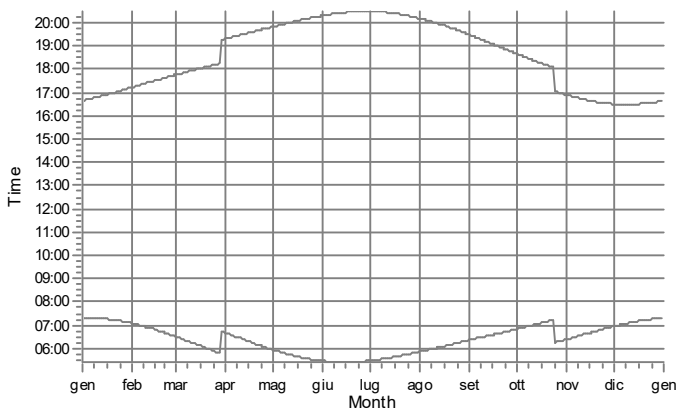
PLT 03: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (3)



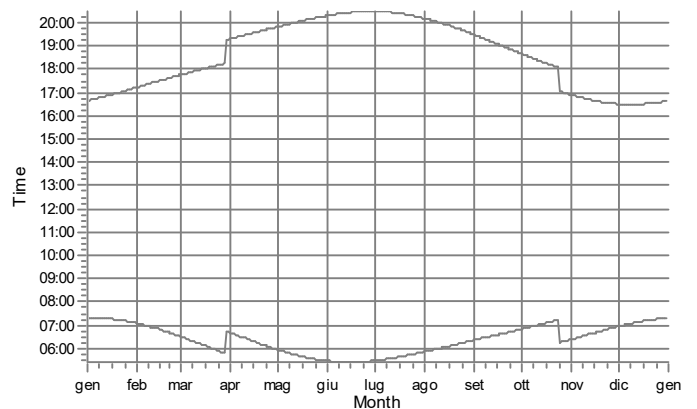
PLT 04: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (4)



PLT 05: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (5)



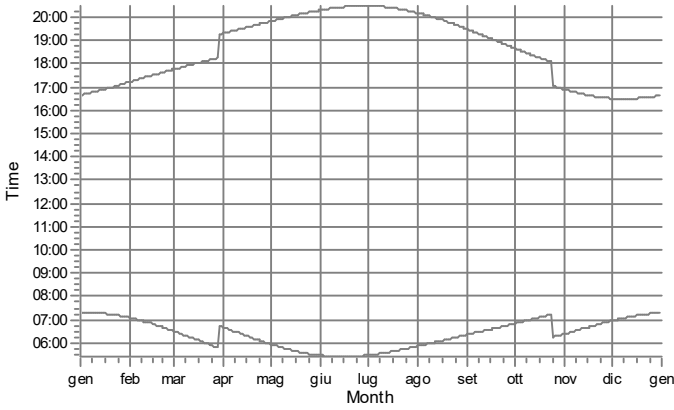
PLT 06: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (6)



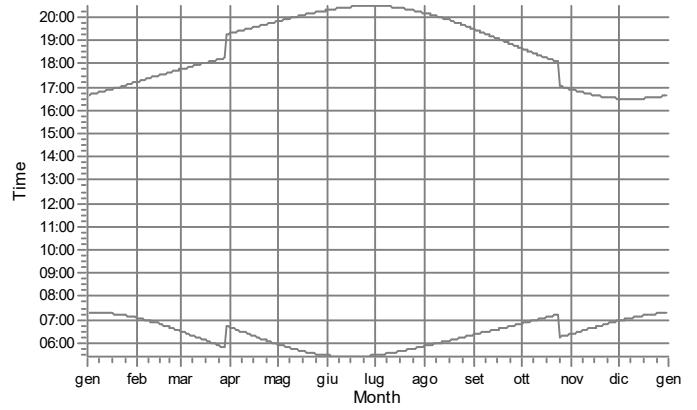
Shadow receptors

## SHADOW - Calendar per WTG, graphical

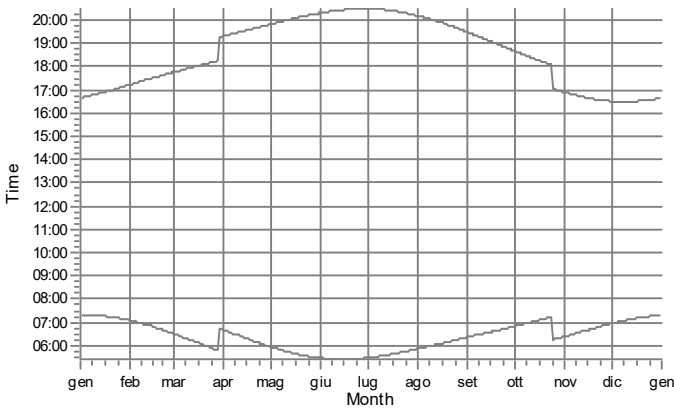
PLT 07: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (7)



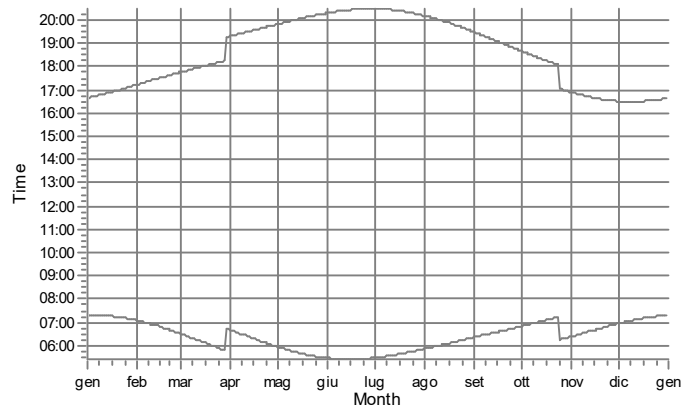
PLT 08: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (8)



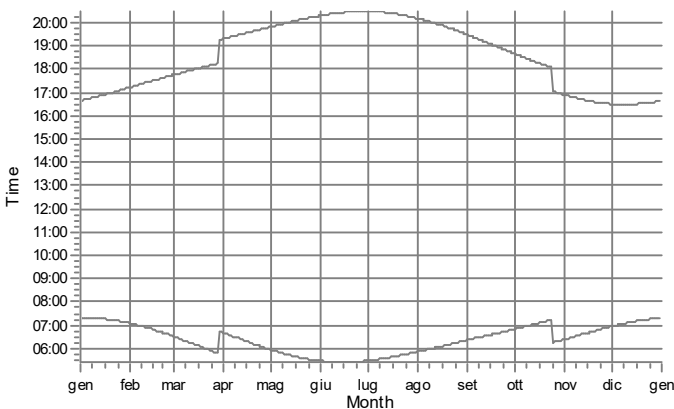
PLT 09: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (9)



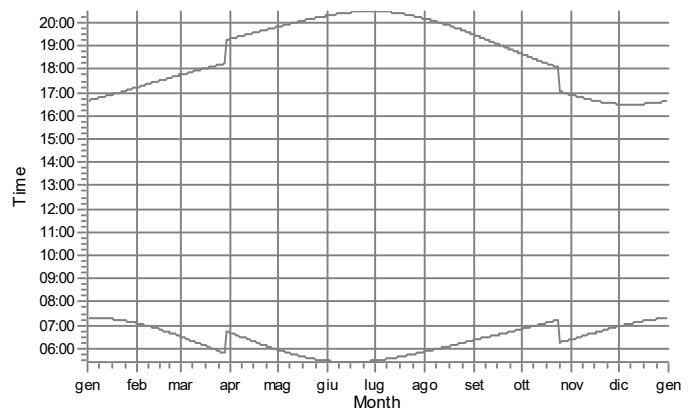
PLT 10: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (10)



PLT 11: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (11)



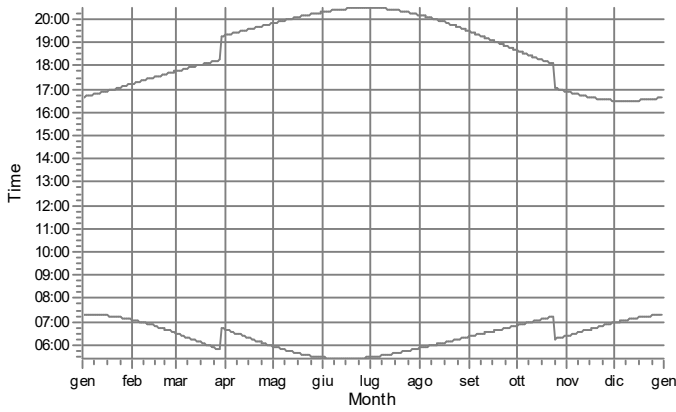
PLT 12: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (12)



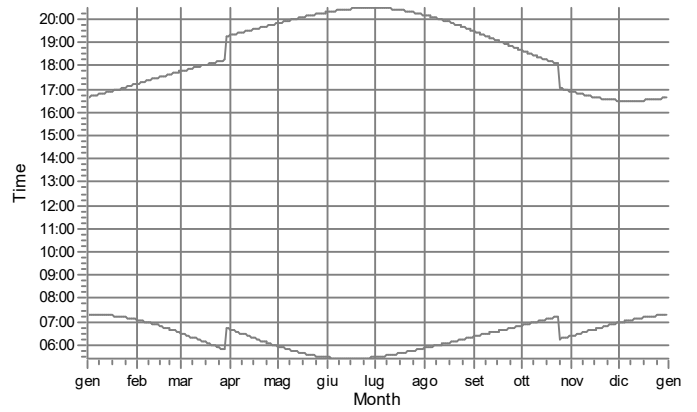
Shadow receptors

## SHADOW - Calendar per WTG, graphical

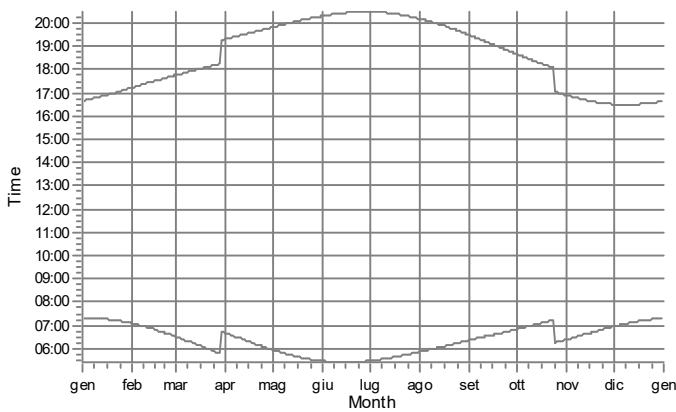
PLT 13: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (13)



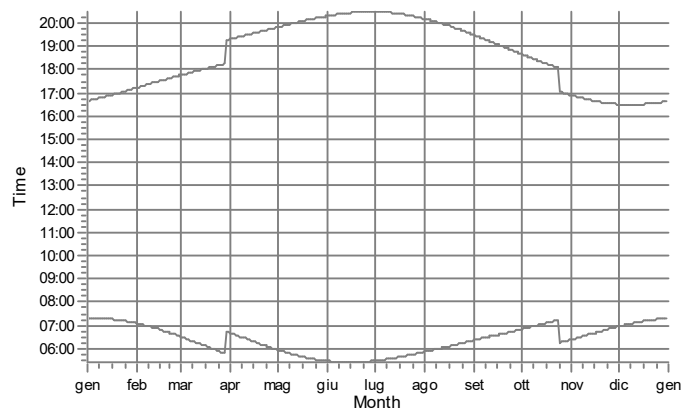
PLT 14: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (14)



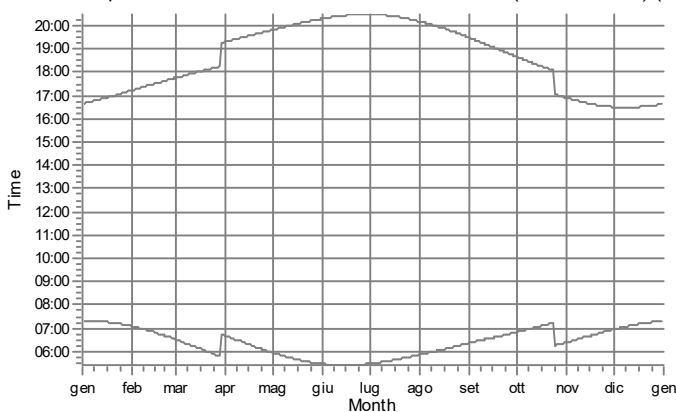
PLT 15: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (15)



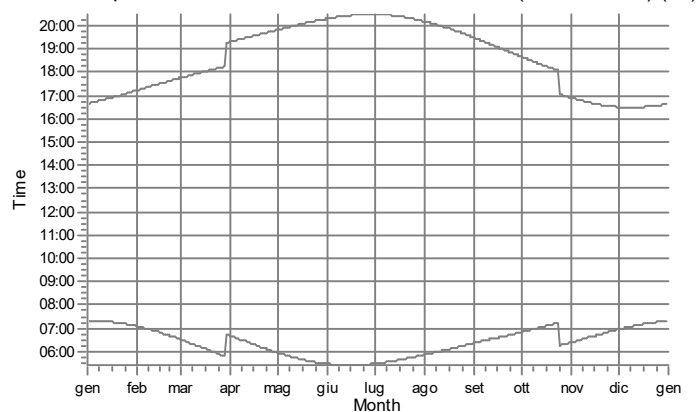
PLT 16: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (16)



PLT 17: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (17)



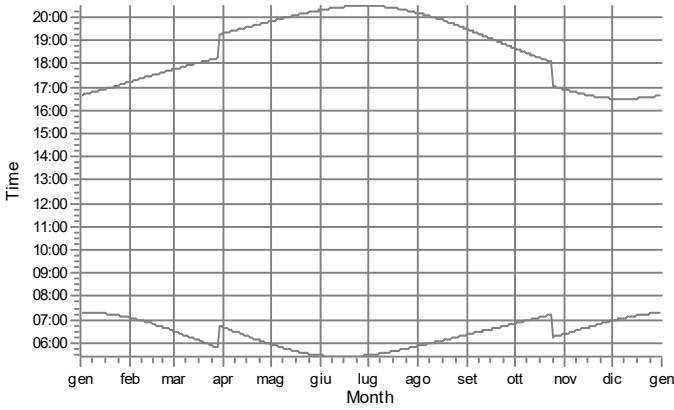
PLT 18: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (18)



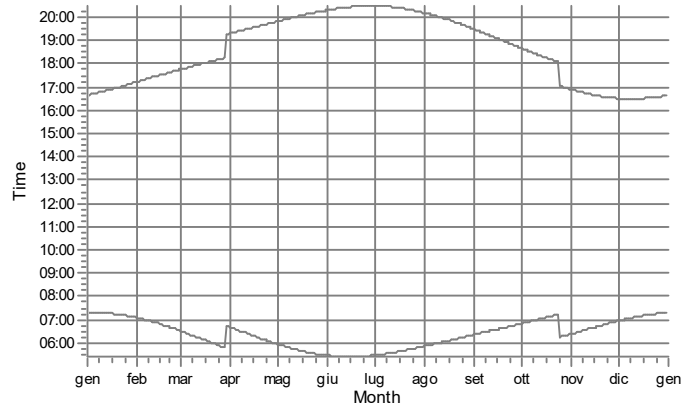
Shadow receptors

## SHADOW - Calendar per WTG, graphical

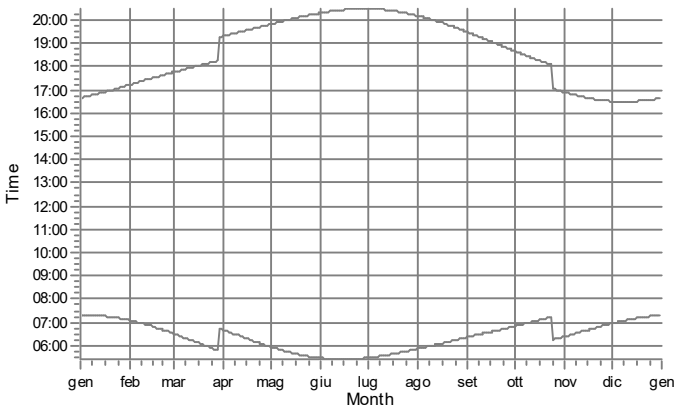
PLT 19: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (19)



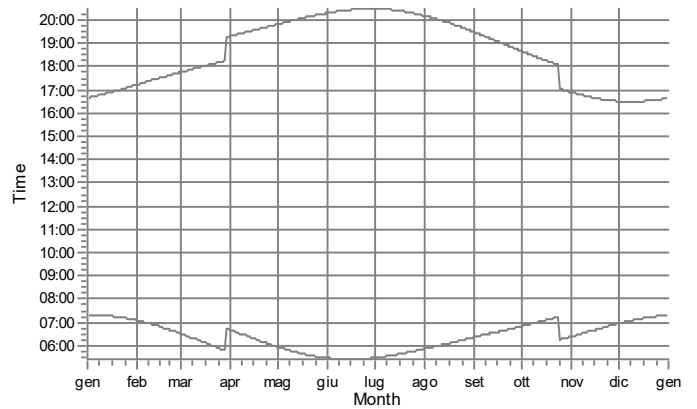
PLT 20: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (20)



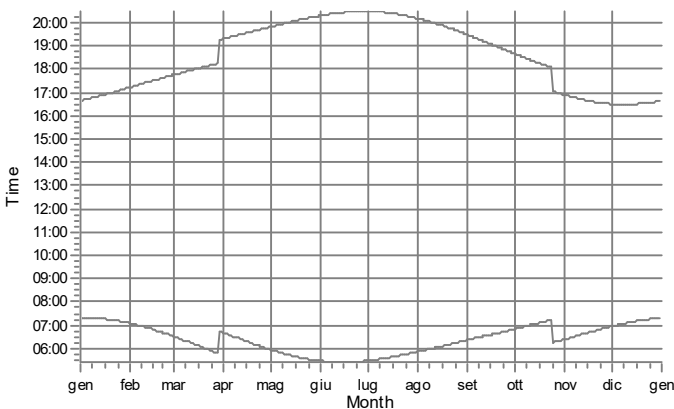
PLT 21: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (21)



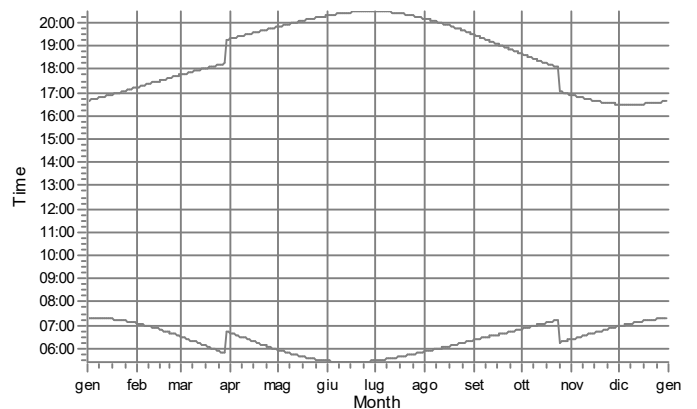
PLT 22: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (22)



PLT 23: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (23)



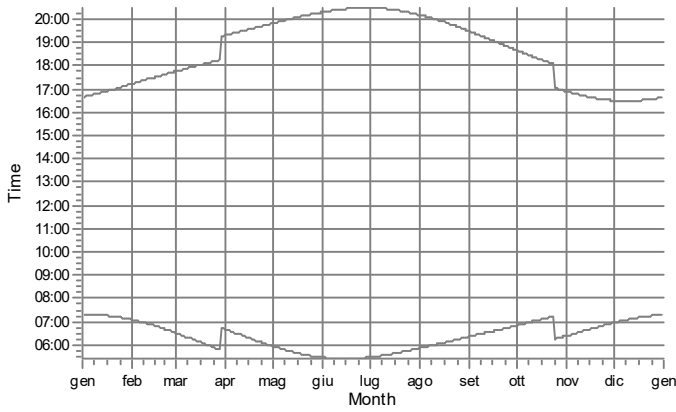
PLT 24: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (24)



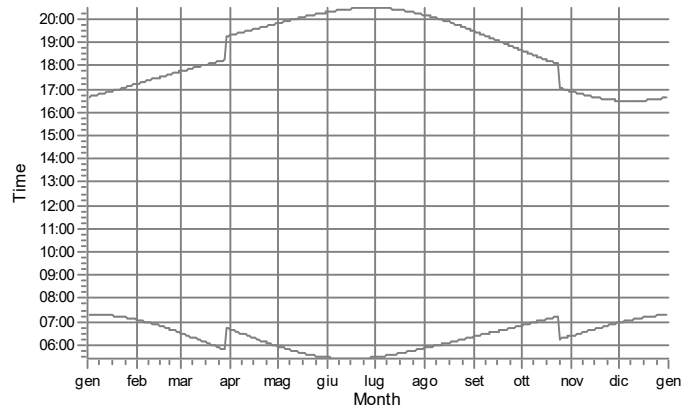
Shadow receptors

## SHADOW - Calendar per WTG, graphical

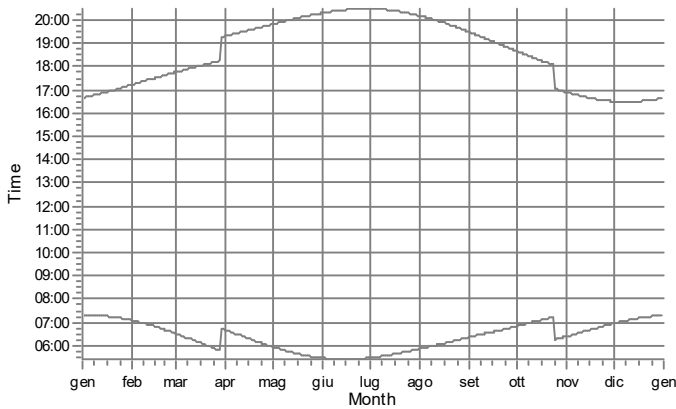
PLT 25: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (25)



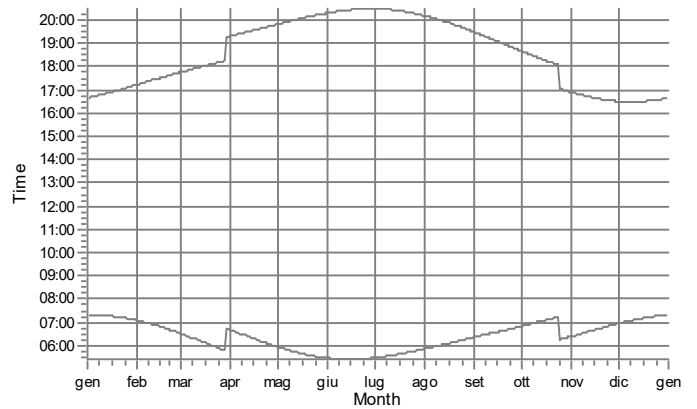
PLT 26: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (26)



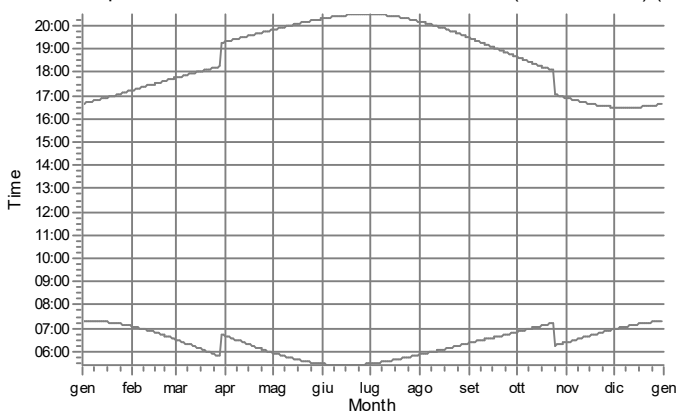
PLT 27: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (27)



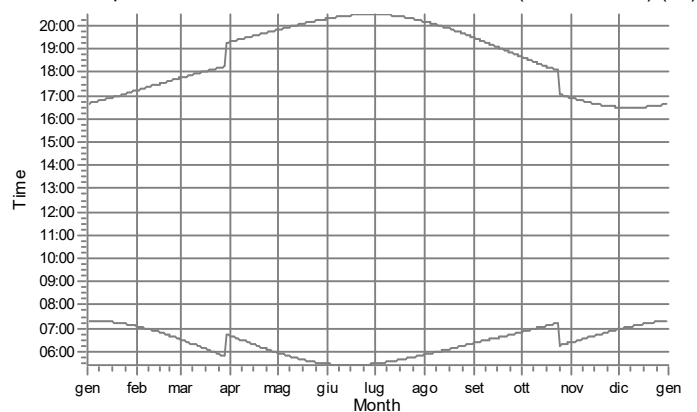
PLT 28: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (28)



PLT 29: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (29)



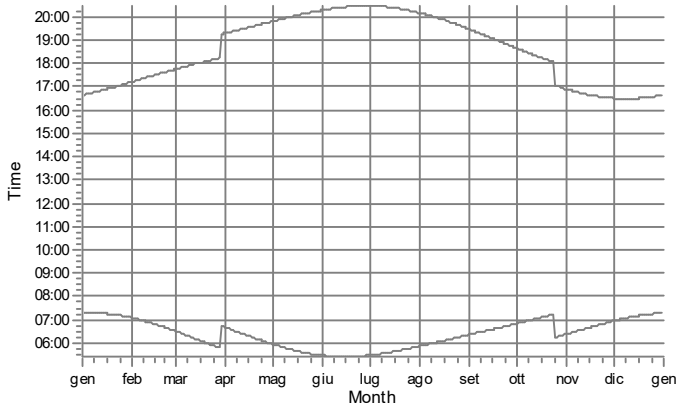
PLT 30: REpower MM 100 2000 100.0 !O! hub: 100,0 m (TOT: 150,0 m) (30)



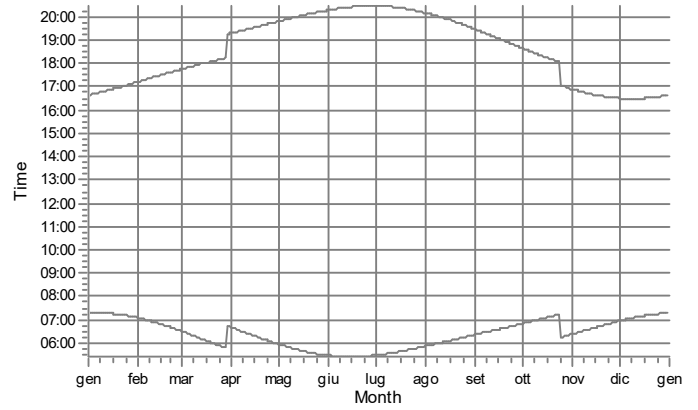
Shadow receptors

## SHADOW - Calendar per WTG, graphical

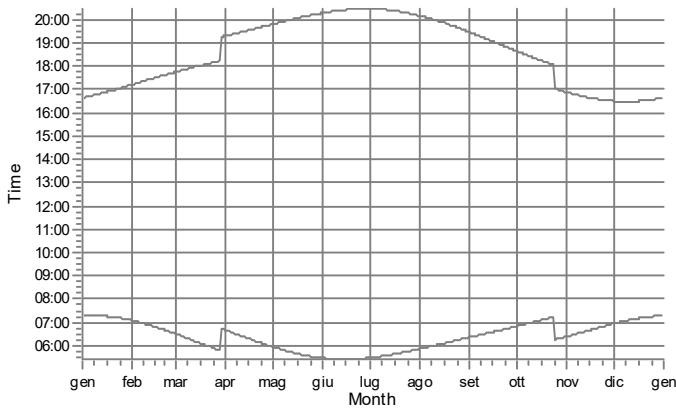
RO 01: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (37)



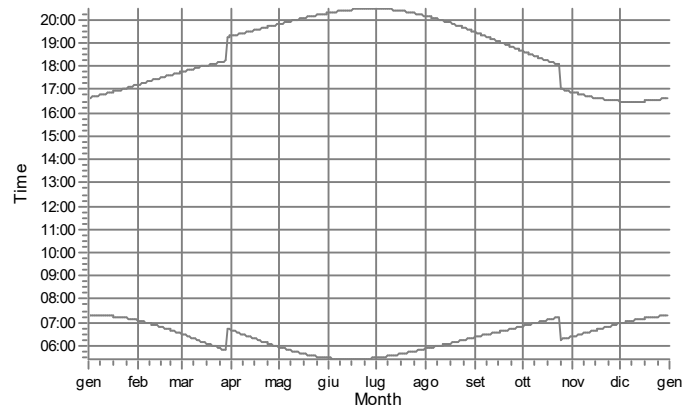
RO 02: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (38)



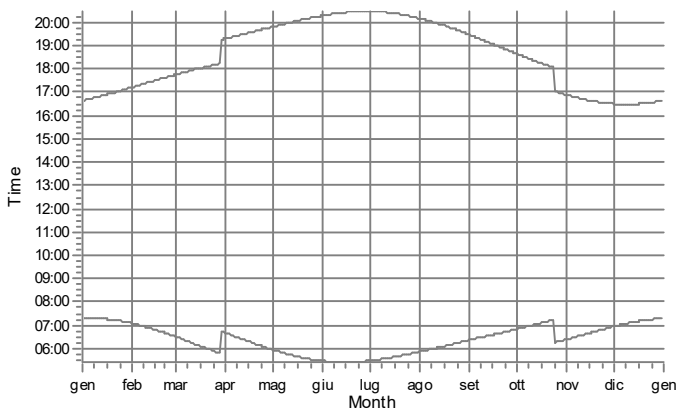
RO 03: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (39)



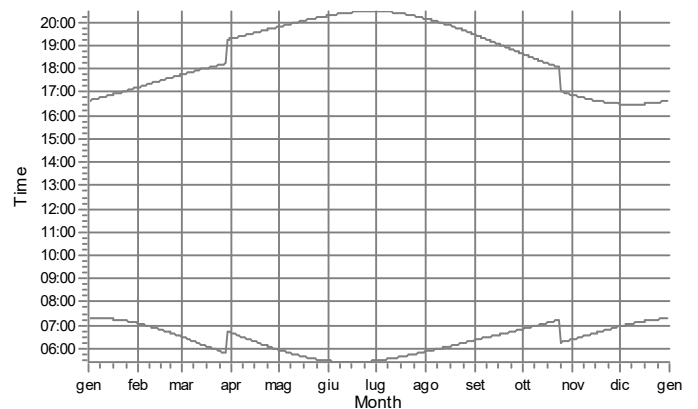
RO 04: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (40)



RO 05: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (41)



RO 06: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (42)

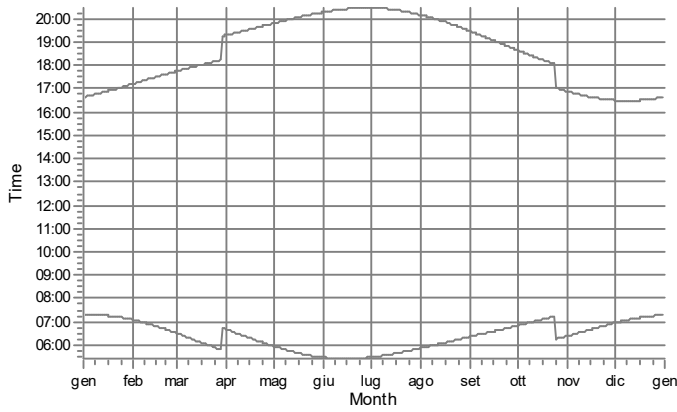


Shadow receptors

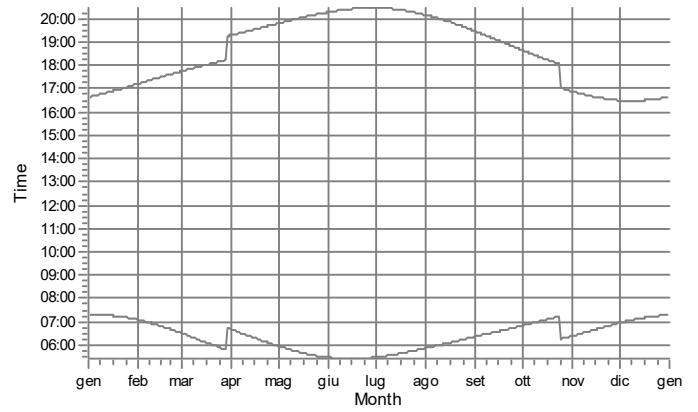


## SHADOW - Calendar per WTG, graphical

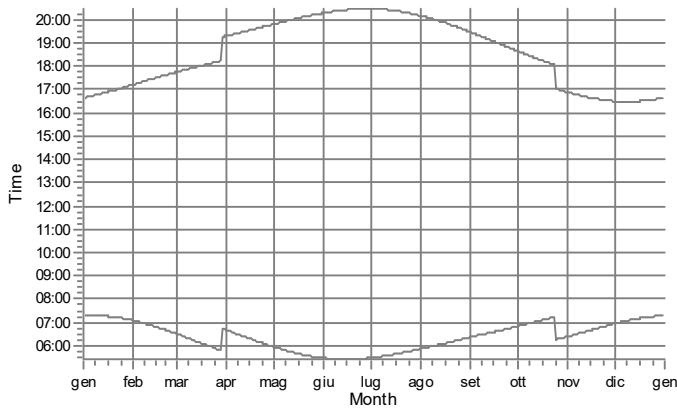
RO 07: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (43)



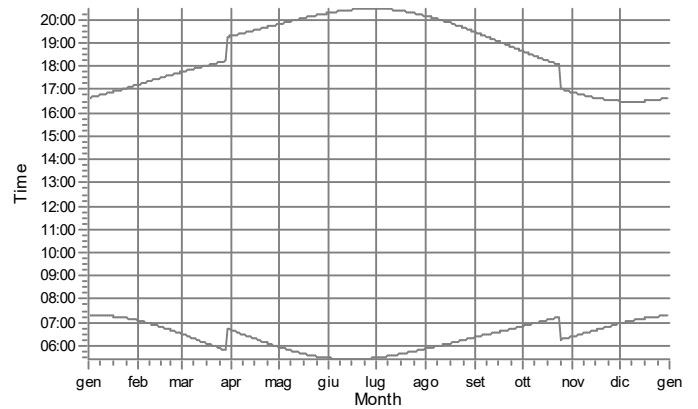
RO 08: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (44)



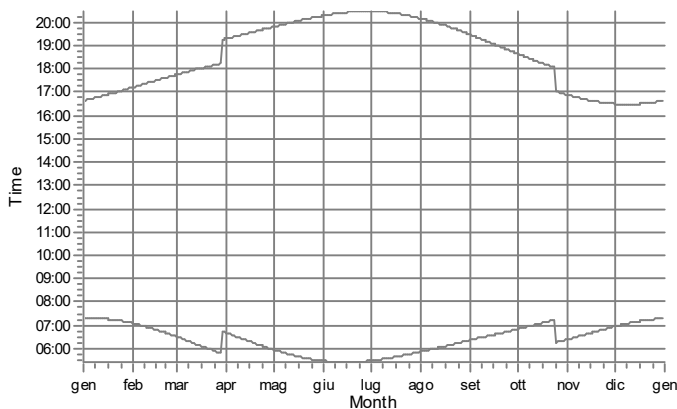
RO 09: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (45)



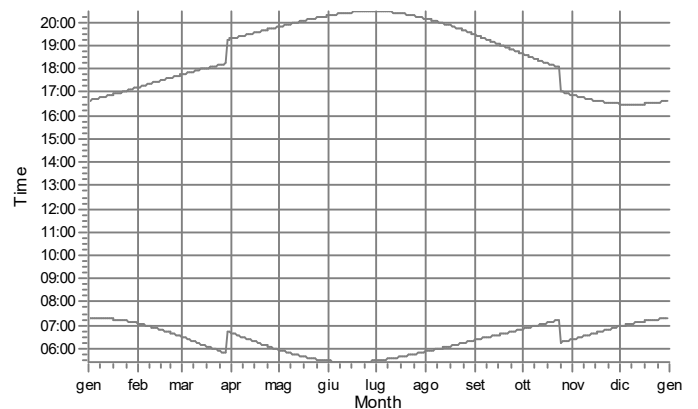
RO 10: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (46)



RO 11: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (47)

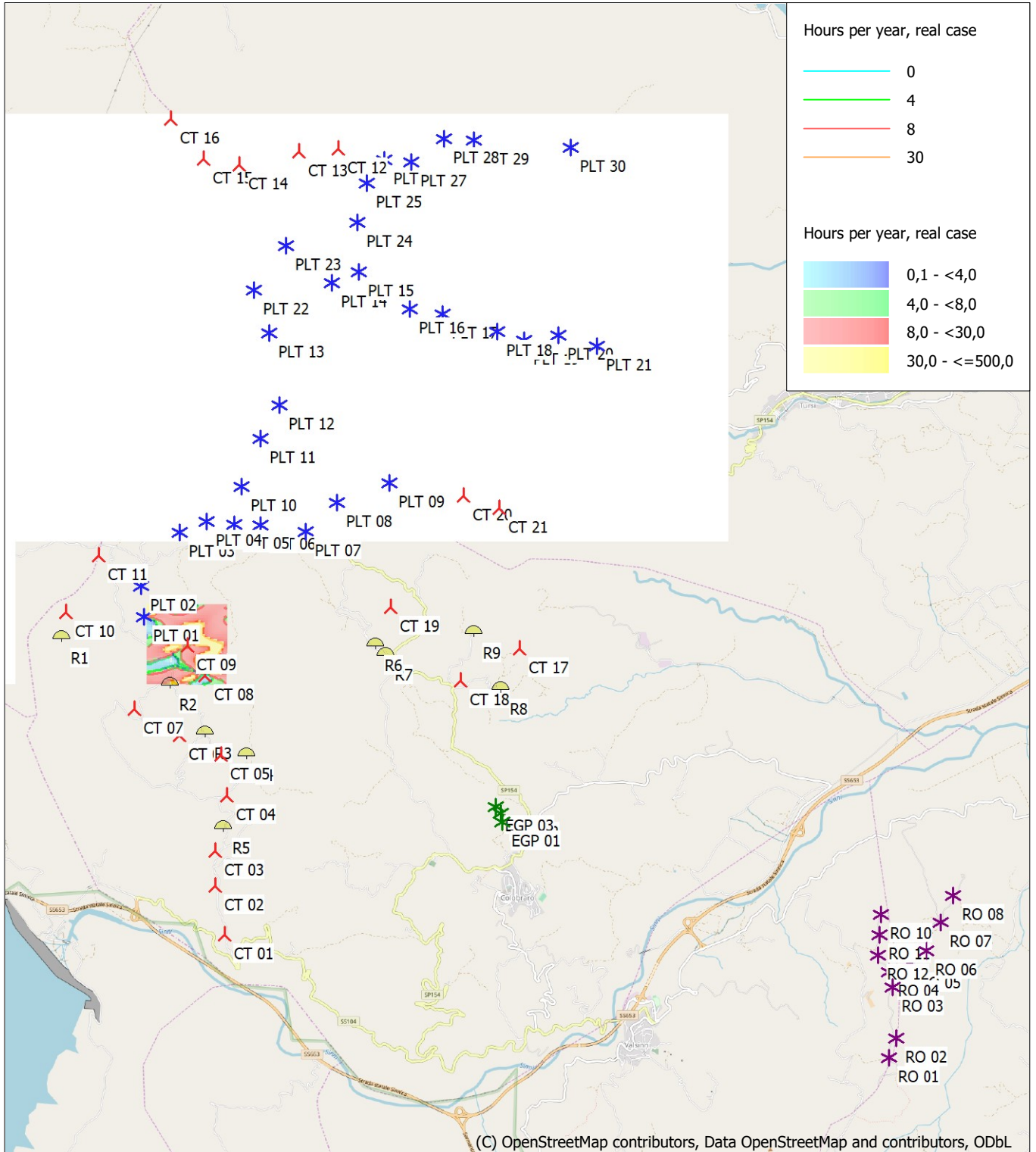


RO 12: NORDEX S77 1500 77.0 !-! hub: 85,0 m (TOT: 123,5 m) (48)



Shadow receptors

## SHADOW - Map



Map: EMD OpenStreetMap , Print scale 1:75.000, Map center Geo WGS84 East: 16,423462° E North: 40,223707° N  
 New WTG Existing WTG Shadow receptor  
 Flicker map level: Height Contours: CONTOURLINE\_ONLINEDATA\_4.wpo (8)