



think energy

PARCO EOLICO BORGIO MEZZANONE S.r.l.

PROGETTO PER LA REALIZZAZIONE DI UN IMPIANTO PER LA PRODUZIONE DI ENERGIA MEDIANTE LO SFRUTTAMENTO DEL VENTO NEL TERRITORIO COMUNALE DI FOGGIA E MANFREDONIA

PROGETTO DEFINITIVO 2019

PROGETTAZIONE



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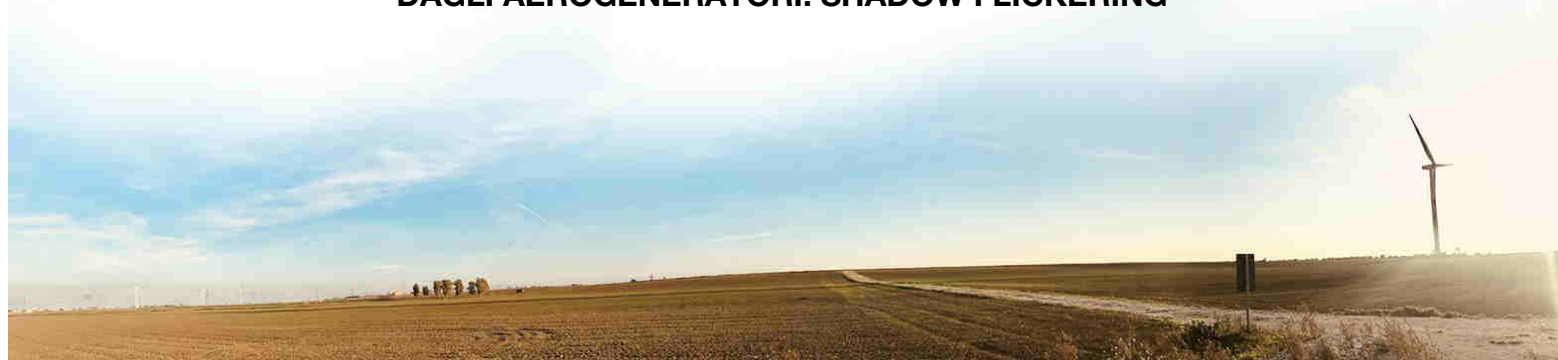


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SIA.ES. STUDI SPECIALISTICI

ES.6 ANALISI DELL'EVOLUZIONE DELL'OMBRA INDOTTA
DAGLI AEROGENERATORI. SHADOW FLICKERING



PREMESSA

La presente relazione tecnica specialistica descrive l'evoluzione giornaliera delle ombre generate dalle pale eoliche facenti parte del progetto di un impianto eolico per la produzione di energia elettrica proposto dalla società **Parco Eolico Borgo Mezzanone s.r.l.** con sede in Roma al Viale Aventino n. 102.

La proposta progettuale è finalizzata alla realizzazione di un impianto eolico per la produzione di energia elettrica da fonte rinnovabile eolica, costituito da 24 aerogeneratori, ciascuno di potenza nominale pari a 5,425 MW per una potenza complessiva di 130,20 MW, da realizzarsi nella Provincia di Foggia, nei territori comunali di Manfredonia e Foggia, in cui insistono gli aerogeneratori, mentre parte delle opere di connessione e la Sottostazione Elettrica ricade nel Comune di Manfredonia.

DESCRIZIONE DELL' INTERVENTO

L'impianto di produzione sarà costituito da 24 aerogeneratori, ognuno della potenza di 5,425 MW ciascuno per una potenza complessiva di 130,2 MW, questi saranno ubicati in località "Borgo Mezzanone" nell'area sud-est dell'abitato di Manfredonia e ad ovest dell'abitato di Foggia e ad una distanza dai centri abitati rispettivamente di circa 21 km e 12 km. Le turbine ricadono in località "Borgo Mezzanone" e sono censiti nel NCT del Comune di Manfredonia ai fogli di mappa nn. 132-131-133-135-136 del Comune di Foggia ai fogli di mappa nn. 167-159-160-167-168-163-162 e del Comune di Biccari al foglio di mappa n. 40.

Di seguito si riporta la tabella riepilogativa, in cui sono indicate per ciascun aerogeneratore le relative coordinate (UTM fuso 33)

Coordinate geografiche UTM WGS84 33 NORD			Comune
Turbina	Est	Nord	
1	559.128,55	4.583.312,07	Foggia
2	559.377,50	4.583.971,09	Manfredonia
3	560.638,37	4.585.849,15	Manfredonia
4	561.197,29	4.586.261,46	Manfredonia
5	561.671,86	4.586.605,73	Foggia
6	560.539,49	4.583.677,47	Foggia
7	560.549,69	4.584.477,65	Manfredonia

8	561.550,56	4.585.568,43	Foggia
9	562.044,93	4.585.740,87	Foggia
10	562.710,72	4.586.571,42	Foggia
11	560.968,77	4.582.652,33	Foggia
12	561.297,62	4.583.301,76	Foggia
13	561.018,85	4.584.219,47	Manfredonia
14	563.602,74	4.587.097,78	Manfredonia
15	562.366,85	4.583.117,42	Manfredonia
16	563.181,82	4.583.718,78	Manfredonia
17	563.974,85	4.584.500,63	Foggia
18	565.649,72	4.586.113,33	Manfredonia
19	563.852,29	4.583.006,74	Manfredonia
20	564.090,18	4.583.814,26	Manfredonia
21	566.274,38	4.586.115,18	Manfredonia
22	564.480,45	4.582.417,08	Foggia
23	565.860,13	4.582.670,59	Manfredonia
24	566.433,98	4.583.339,59	Manfredonia

ANALISI DELL'ESPOSIZIONE SOLARE ANNUALE

La posizione occupata nel cielo dal sole è compiutamente individuata mediante la misura di due coordinate angolari, azimuth ed elevazione (altezza). L'azimut viene misurato, in senso orario, sul piano orizzontale, a partire dal nord geografico fino al punto sull'orizzonte direttamente sotto all'oggetto; l'elevazione, invece, viene misurata sul piano verticale, partendo da tale punto sino ad arrivare in corrispondenza dell'oggetto. A causa del moto della Terra intorno al sole, tali coordinate variano senza soluzione di continuità 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. Ad ogni modo, si può affermare che un certo arco si ripete quasi

esattamente ogni anno. Dicesi giorno l'intervallo di tempo nel quale giunge al suolo luce solare diretta per cui, la sua durata è pari al tempo che intercorre tra alba e tramonto.

La durata del giorno non coincide con la durata della luce naturale dato che sia prima dell'alba che dopo il tramonto sono rilevabili due periodi, chiamati entrambi 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 infatti luce solare diretta per un tempo più lungo riflettendola in parte verso la terra. Per quanto detto, la durata dell'illuminazione solare è pari alla somma della durata del giorno e della durata del crepuscolo mattutino e serale. Se non si verificasse il fenomeno descritto, il passaggio dal giorno alla notte e viceversa avverrebbe in maniera repentina.

VALUTAZIONE PREVENTIVA DELLE OMBRE GENERATE

Le turbine eoliche, come altre strutture spiccatamente sviluppate in altezza, proiettano un'ombra sulle aree adiacenti in presenza della luce solare diretta. In particolare si hanno fenomeni quasi statici legati alla presenza della torre fissa ed effetti dinamici legati alla rotazione del rotore con le sue tre pale.

Il primo fenomeno potrebbe avere come conseguenza l'incremento della probabilità di formazione di ghiaccio sulle strade asfaltate soggette a rilevante traffico (se presenti) in particolare nelle prime ed ultime ore del giorno.

Il secondo fenomeno è legato alla presenza di un osservatore posto in modo da vedere interposto il rotore tra sé e il sole. Si precisa che i fenomeni di ombreggiamento descritti attualmente non sono regolati da una specifica normativa. Ai fini della presente trattazione è stato preso in considerazione un modello tipologico di aerogeneratore avente un'altezza massima (altezza al mozzo + lunghezza della pala) pari a 200 m dato che l'apparecchio effettivamente installato non avrà un'altezza massima superiore a tale valore. È stato stimato l'effetto "flicker" prodotto dall'impianto eolico; trattasi di un fenomeno per cui si genera una intermittenza dell'ombra (una sorta di effetto stroboscopico) 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 spiacevole per un osservatore. Per eseguire tale analisi è stato impiegato il software WindPRO. I risultati ottenuti sono riportati in allegato.

Nel calcolo sono state assunte le seguenti ipotesi ampiamente conservative (caso peggiore – *worst case*):

- Sole splendente tutto il giorno e per tutto l'anno;
- Impianto costantemente in funzione (presenza costante di vento);
- Piano del rotore sempre ortogonale alla congiungente tra l'osservatore e il sole;
- Altezza minima del sole sull'orizzonte pari a 3°;

- Effetto dell'ombra proiettata fino a una distanza di 2000 m dalle torri;
- Totale assenza di ostacoli o schermi vegetazionali presenti negli spazi circostanti i possibili recettori.

Di seguito si allega il report di calcolo eseguito mediante il software WindPRO nonché del relativo grafico finale che riporta in pianta il numero massimo di ore/anno in cui ad altezza dell'occhio umano si verifica l'effetto flicker descritto. Tale numero è rappresentato graficamente sul territorio con aree di diverse sfumature di colore in base al numero di ore/anno di possibile effetto flicker.

CONCLUSIONE

Per quanto concerne l'effetto "flicker", quindi, valutando i risultati ottenuti in relazione al contesto antropico locale, si può ragionevolmente affermare che il fenomeno non ha particolari riflessi negativi sul territorio, dove i primi fabbricati adibiti a civile abitazioni sono in numero limitato e a distanze sempre superiori a diverse centinaia di metri, distanze oltre le quali il fenomeno di ombreggiamento è praticamente modesto e accettabile. Pur nelle ipotesi conservative assunte, la probabilità che un osservatore sia soggetto al fenomeno non è significativa, se si riportano i risultati numerici ai casi reali con le dovute attenuazioni di origine morfologica e meteorologica del territorio.

SHADOW - Risultato principale

Calcolo: SHADOW FLIKERING CASE A

Assunzioni sui calcoli d'ombra

Distanza massima di influenza
 Calcola solo quando oltre il 20% del sole è coperto dalla pala
 Consultare la tabella delle WTG

Altezza minima del sole sull'orizzonte 3 °
 Passo giornaliero del calcolo 1 giorni
 Passo temporale del calcolo 1 minuti
 I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

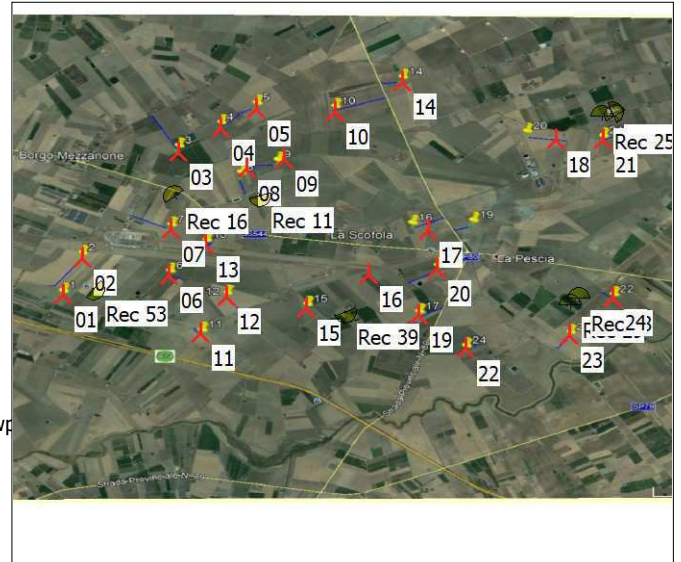
Per evitare di considerare l' ombreggiamento da WTG in realtà non direttamente visibili, prima del calcolo dell' ombra viene eseguito un calcolo ZVI. Quest' ultimo si basa sulle seguenti assunzioni.

Curve altimetriche usate: Height Contours: CONTOURLINE_Manfredonia_0.wp

Ostacoli usati:

Eye height for map: 1,5 m
 Risoluzione del grigliato: 1,0 m
 Ombra topografica inclusa nel calcolo

All coordinates are in
 UTM (north)-WGS84 Zona: 33



Nuova WTG

Scala 1:100.000
 Recettore d'ombra

WTG

Easting	Northing	Z	Dati/Descrizione	Tipo di WTG			Dati di ombra					
				Valida	Prod.	Tipo generatore	Potenza nominale	Diametro rotore	Altezza mozzo	Distanza di calcolo	giri/min	
		[m]					[kW]	[m]	[m]	[m]	[m]	[giri/min]
01	559.129	4.583.312	40,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
02	559.378	4.583.971	40,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
03	560.638	4.585.849	30,5 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
04	561.197	4.586.261	30,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
05	561.672	4.586.606	30,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
06	560.539	4.583.677	40,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
07	560.550	4.584.478	36,7 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
08	561.551	4.585.568	30,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
09	562.045	4.585.741	30,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
10	562.711	4.586.571	30,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
11	560.969	4.582.652	40,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
12	561.298	4.583.302	40,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
13	561.019	4.584.219	36,2 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
14	563.603	4.587.098	24,2 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
15	562.367	4.583.117	34,4 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
16	563.182	4.583.719	30,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
17	563.974	4.584.500	29,9 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
18	565.650	4.586.113	20,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
19	563.852	4.583.007	30,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
20	564.090	4.583.814	30,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
21	566.274	4.586.115	20,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
22	564.480	4.582.417	30,0 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
23	565.860	4.582.671	27,4 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	
24	566.434	4.583.340	22,6 GE 5.425-158 5425 158.0 !O! hub...Sì	GE		5.425-158-5.425	5.425	158,0	149,0	1.817	0,0	

Recettore d'ombra-Immissione dati

n.	Easting	Northing	Z	Ampiezza	Altezza	Elevation a.g.l.	Gradi Sud	Inclinazione della finestra	Modo orientazione	Eye height for ZVI
			[m]	[m]	[m]	[m]	[°]	[°]		[m]
Rec 11	561.739	4.585.091	30,0	1,0	1,0	1,0	-197,6	90,0	Monodirezionale	2,0
Rec 16	560.594	4.585.067	34,0	1,0	1,0	1,0	-42,3	90,0	Monodirezionale	2,0
Rec 25	566.253	4.586.517	19,2	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
Rec 28	565.979	4.583.304	23,7	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
Rec 29	565.873	4.583.186	24,6	1,0	1,0	1,0	0,0	90,0	Monodirezionale	2,0
Rec 39	562.884	4.583.039	32,6	1,0	1,0	1,0	-205,4	90,0	Monodirezionale	2,0

continua alla pagina successiva...

Progetto:

Manfredonia

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SHADOW - Risultato principale

Calcolo: SHADOW FLIKERING CASE A

...continua dalla pagina precedente

n.	Easting	Northing	Z	Ampiezza	Altezza	Elevation a.g.l.	Gradi Sud	Inclinazione della finestra	Modo orientazione	Eye height for ZVI
			[m]	[m]	[m]	[m]	[°]	[°]		[m]
Rec 53	559.547	4.583.431	40,0	1,0	1,0	1,0	-233,5	90,0	Monodirezionale	2,0
Rec 65	566.404	4.586.584	18,6	1,0	1,0	1,0	72,2	90,0	Monodirezionale	2,0
Rec 65-66-25	566.437	4.586.529	18,6	1,0	1,0	1,0	-38,6	90,0	Monodirezionale	2,0

Risultati dei calcoli

Recettore d'ombra

Ombra, caso peggiore

n.	Ore d'ombra per anno [ore/anno]	Giorni con ombra per anno [giorni/anno]	Massima durata dell'ombra per giorno [ore/giorno]
Rec 11	0:00	0	0:00
Rec 16	31:11	75	0:33
Rec 25	134:56	128	1:28
Rec 28	34:21	106	0:33
Rec 29	12:05	40	0:24
Rec 39	138:48	144	1:14
Rec 53	102:42	103	1:18
Rec 65	69:56	115	0:53
Rec 65-66-25	85:38	78	1:20

Ombreggiamento totale sui recettori d'ombra causato da ciascuna WTG

n.	Nome	Caso peggiore [ore/anno]
01	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (49)	102:42
02	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (50)	0:00
03	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (53)	0:00
04	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (56)	0:00
05	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (59)	0:00
06	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (51)	0:00
07	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (52)	0:00
08	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (58)	23:51
09	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (60)	24:38
10	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (62)	0:00
11	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (54)	0:00
12	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (57)	9:32
13	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (55)	0:00
14	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (64)	0:00
15	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (61)	129:52
16	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (63)	0:00
17	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (65)	0:00
18	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (69)	63:21
19	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (66)	0:00
20	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (67)	0:00
21	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (71)	167:53
22	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (68)	16:02
23	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (70)	0:00
24	GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (72)	23:23

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 - Calendario

Calcolo: SHADOW FLIKERING CASE A Recettore d'ombra: Rec 11 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23	05:55 19:55	05:26 20:25	05:28 20:35	05:52 20:15	06:24 19:31	06:54 18:39	06:29 16:53	07:04 16:29
3	07:24 16:40	07:08 17:15	06:31 17:49	06:39 19:24	05:53 19:56	05:26 20:26	05:28 20:35	05:53 20:14	06:25 19:29	06:55 18:38	06:30 16:51	07:05 16:29
4	07:24 16:41	07:07 17:16	06:29 17:51	06:37 19:25	05:52 19:57	05:26 20:26	05:29 20:35	05:54 20:12	06:26 19:27	06:56 18:36	06:32 16:50	07:06 16:28
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Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Totale, caso peggiore												

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A **Recettore d'ombra: Rec 16 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)**
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:
 Il sole splende tutto il dì, dall'alba al tramonto
 Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
 La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre		
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:50 (09) 20:35	05:27 20:16	05:53 (08) 20:16	05:51 19:32	06:23 18:41	06:53 16:54	06:28 16:29	
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Opere potenziali eliofania Totale, caso peggiore	296	297	369	399	449	309	453	460	633	429	375	345	297	287

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A **Recettore d'ombra: Rec 25 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)**
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	
1	07:24 16:38	11:08 (21) 07:10 12:28 (21) 17:12	50	15:38 (18) 06:34 16:28 (18) 17:47	06:42 19:22	05:56 19:54	05:27 20:24
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5	07:24 16:41	11:11 (21) 07:06 12:29 (21) 17:17	51	15:38 (18) 06:27 16:29 (18) 17:52	06:36 19:26	05:51 19:58	05:25 20:27
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18	07:20 16:55	11:27 (21) 06:50 16:15 (18) 17:34	37	15:46 (18) 06:06 16:23 (18) 18:06	06:15 19:40	05:37 20:12	05:23 20:33
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20	07:19 16:58	11:31 (21) 06:47 16:17 (18) 17:36	30	15:49 (18) 06:02 16:19 (18) 18:08	06:12 19:42	05:35 20:13	05:23 20:34
21	07:19 16:59	11:34 (21) 06:45 16:19 (18) 17:37	26	15:52 (18) 06:01 16:18 (18) 18:10	06:10 19:43	05:34 20:14	05:24 20:34
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26	07:15 17:05	15:39 (18) 06:38 16:24 (18) 17:43		15:51 (18) 05:51 18:15	06:03 19:49	05:30 20:19	05:25 20:35
27	07:14 17:06	15:39 (18) 06:37 16:25 (18) 17:45		15:49 (18) 05:50 18:16	06:01 19:50	05:29 20:20	05:25 20:35
28	07:14 17:07	15:38 (18) 06:35 16:25 (18) 17:46		15:49 (18) 05:49 18:17	06:00 19:51	05:29 20:21	05:26 20:35
29	07:13 17:09	15:38 (18) 16:26 (18)		15:47 (18) 05:47 19:18	05:59 19:52	05:28 20:21	05:26 20:35
30	07:12 17:10	15:38 (18) 16:27 (18)		15:46 (18) 05:46 19:19	05:57 19:53	05:28 20:22	05:26 20:35
31	07:11 17:11	15:38 (18) 16:27 (18)		15:44 (18) 05:44 19:20	05:27 20:23	05:27 20:23	
Ore potenziali eliofanìa	296	297	369	399	449	454	
Totale, caso peggiore	2242	972					

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A Recettore d'ombra: Rec 25 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre		
1	05:27 20:35	05:51 20:16	06:22 19:32	06:53 18:41	06:28 16:54	15:09 (18) 16:29	07:03 77	10:59 (21) 15:42 (18)
2	05:27 20:35	05:52 20:14	06:24 19:30	06:54 18:39	06:29 16:52	15:09 (18) 15:59 (18)	07:04 72	10:59 (21) 12:11 (21)
3	05:28 20:35	05:53 20:13	06:25 19:29	06:55 18:37	06:30 16:51	15:08 (18) 15:58 (18)	07:05 74	10:58 (21) 12:12 (21)
4	05:29 20:34	05:54 20:12	06:26 19:27	06:56 18:36	06:31 16:50	15:08 (18) 15:58 (18)	07:06 75	10:58 (21) 12:13 (21)
5	05:29 20:34	05:55 20:11	06:27 19:25	06:57 18:34	06:33 16:49	15:08 (18) 15:59 (18)	07:07 76	10:58 (21) 12:14 (21)
6	05:30 20:34	05:56 20:10	06:28 19:24	06:58 18:32	06:34 16:48	15:08 (18) 15:59 (18)	07:08 77	10:58 (21) 12:15 (21)
7	05:30 20:34	05:57 20:09	06:29 19:22	06:59 18:31	06:35 16:47	15:08 (18) 15:59 (18)	07:09 78	10:58 (21) 12:16 (21)
8	05:31 20:33	05:58 20:07	06:30 19:20	07:00 18:29	06:36 16:45	15:09 (18) 15:59 (18)	07:10 79	10:58 (21) 12:17 (21)
9	05:32 20:33	05:59 20:06	06:31 19:19	07:02 18:28	06:37 16:44	15:09 (18) 15:59 (18)	07:11 80	10:58 (21) 12:18 (21)
10	05:32 20:33	06:00 20:05	06:32 19:17	07:03 18:26	06:39 16:43	15:09 (18) 15:58 (18)	07:12 80	10:58 (21) 12:18 (21)
11	05:33 20:32	06:01 20:03	06:33 19:15	07:04 18:24	06:40 16:42	15:09 (18) 15:58 (18)	07:13 80	10:59 (21) 12:19 (21)
12	05:34 20:32	06:02 20:02	06:34 19:14	07:05 18:23	06:41 16:41	15:10 (18) 15:58 (18)	07:14 81	10:58 (21) 12:19 (21)
13	05:34 20:31	06:03 20:01	06:35 19:12	07:06 18:21	06:42 16:40	15:10 (18) 15:58 (18)	07:14 82	10:58 (21) 12:20 (21)
14	05:35 20:31	06:04 19:59	06:36 19:10	07:07 18:19	06:44 16:39	15:10 (18) 15:57 (18)	07:15 82	10:59 (21) 12:21 (21)
15	05:36 20:30	06:05 19:58	06:37 19:08	07:08 18:18	06:45 16:39	15:12 (18) 15:58 (18)	07:16 82	11:00 (21) 12:22 (21)
16	05:37 20:29	06:06 19:57	06:38 19:07	07:09 18:16	06:46 16:38	15:12 (18) 15:57 (18)	07:17 83	10:59 (21) 12:22 (21)
17	05:38 20:29	06:07 19:55	06:39 19:05	07:10 18:15	06:47 16:37	15:13 (18) 15:56 (18)	07:17 83	11:00 (21) 12:23 (21)
18	05:38 20:28	06:08 19:54	06:40 19:03	07:11 18:13	06:48 16:36	11:19 (21) 15:56 (18)	07:18 83	11:01 (21) 12:24 (21)
19	05:39 20:27	06:09 19:52	06:41 19:01	07:13 18:12	06:49 16:35	11:15 (21) 15:56 (18)	07:19 84	11:00 (21) 12:24 (21)
20	05:40 20:27	06:10 19:51	06:42 19:00	07:14 18:10	06:51 16:35	11:12 (21) 15:55 (18)	07:19 84	11:01 (21) 12:25 (21)
21	05:41 20:26	06:11 19:49	06:43 18:58	07:15 18:09	06:52 16:34	11:09 (21) 15:54 (18)	07:20 84	11:01 (21) 12:25 (21)
22	05:42 20:25	06:12 19:48	06:44 18:56	07:16 18:07	06:53 16:33	11:07 (21) 15:53 (18)	07:20 84	11:02 (21) 12:26 (21)
23	05:43 20:24	06:13 19:46	06:45 18:55	07:17 18:06	06:54 16:33	11:06 (21) 15:53 (18)	07:21 84	11:02 (21) 12:26 (21)
24	05:44 20:23	06:14 19:45	06:46 18:53	07:18 18:04	06:55 16:32	11:04 (21) 15:52 (18)	07:21 84	11:03 (21) 12:27 (21)
25	05:45 20:23	06:15 19:43	06:47 18:51	07:19 17:03	06:56 15:54 (18)	11:03 (21) 15:51 (18)	07:22 84	11:03 (21) 12:27 (21)
26	05:45 20:22	06:16 19:42	06:48 18:49	07:20 17:02	06:58 15:53 (18)	11:02 (21) 15:50 (18)	07:22 83	11:04 (21) 12:27 (21)
27	05:46 20:21	06:17 19:40	06:49 18:48	07:22 17:00	06:59 15:52 (18)	11:01 (21) 15:49 (18)	07:22 83	11:05 (21) 12:28 (21)
28	05:47 20:20	06:18 19:38	06:50 18:46	07:23 16:59	07:00 15:56 (18)	11:01 (21) 15:49 (18)	07:23 83	11:05 (21) 12:28 (21)
29	05:48 20:19	06:19 19:37	06:51 18:44	07:24 16:58	07:01 15:57 (18)	11:00 (21) 15:47 (18)	07:23 82	11:06 (21) 12:28 (21)
30	05:49 20:18	06:20 19:35	06:52 18:43	07:25 16:56	07:02 15:57 (18)	11:00 (21) 15:45 (18)	07:23 82	11:06 (21) 12:28 (21)
31	05:50 20:17	06:21 19:34		06:27 16:55	15:09 (18) 15:58 (18)		07:23 81	11:07 (21) 12:28 (21)
Ore potenziali eliofanìa	460	429	375	345	297		287	
Totale, caso peggiore				480	1896		2506	

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A Recettore d'ombra: Rec 28 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno
1	07:24 16:38	07:10 17:12	16:21 (22) 16:40 (22)	06:34 17:47	06:42 19:22	05:56 19:54
2	07:24 16:39	07:09 17:14	16:22 (22) 16:39 (22)	06:32 17:48	06:41 19:23	05:55 19:55
3	07:24 16:40	07:08 17:15	16:24 (22) 16:38 (22)	06:30 17:49	06:39 19:24	05:53 19:56
4	07:24 16:40	07:07 17:16	16:26 (22) 16:37 (22)	06:29 17:50	06:37 19:25	05:52 19:57
5	07:24 16:41	07:06 17:17	16:29 (22) 16:34 (22)	06:27 17:52	06:36 19:26	05:51 19:58
6	07:24 16:42	07:05 17:19	06:26 17:53	06:34 19:27	06:34 19:27	05:50 19:59
7	07:24 16:43	07:04 17:20	06:24 17:54	06:32 19:28	06:32 19:28	05:48 20:00
8	07:24 16:44	07:02 17:21	06:22 17:55	06:31 19:29	06:31 19:29	05:47 20:01
9	07:23 16:45	07:01 17:23	06:21 17:56	06:29 19:30	06:29 19:30	05:46 20:02
10	07:23 16:46	07:00 17:24	06:19 17:57	06:27 19:31	06:27 19:31	05:45 20:03
11	07:23 16:47	06:59 17:25	06:18 17:58	06:26 19:32	06:26 19:32	05:44 20:04
12	07:23 16:48	06:58 17:26	06:16 18:00	06:24 19:33	06:24 19:33	05:43 20:05
13	07:22 16:50	06:56 17:28	06:14 18:01	06:23 19:35	06:23 19:35	05:42 20:06
14	07:22 16:51	06:55 17:29	06:13 18:02	06:21 19:36	06:21 19:36	05:41 20:08
15	07:22 16:52	06:54 17:30	06:11 18:03	06:19 19:37	06:19 19:37	05:40 20:09
16	07:21 16:53	16:24 (22) 16:28 (22)	06:52 17:31	06:09 18:04	06:18 19:38	05:39 20:10
17	07:21 16:54	16:22 (22) 16:29 (22)	06:51 17:33	06:08 18:05	06:16 19:39	05:38 20:10
18	07:20 16:55	16:21 (22) 16:30 (22)	06:50 17:34	06:06 18:06	06:15 19:40	05:37 20:11
19	07:20 16:56	16:20 (22) 16:31 (22)	06:48 17:35	06:04 18:07	06:13 19:41	05:36 20:12
20	07:19 16:58	16:19 (22) 16:32 (22)	06:47 17:36	06:02 18:09	06:12 19:42	05:35 20:13
21	07:19 16:59	16:19 (22) 16:34 (22)	06:45 17:37	06:01 18:10	06:10 19:43	05:34 20:14
22	07:18 17:00	16:19 (22) 16:35 (22)	06:44 17:39	05:59 18:11	06:09 19:44	05:33 20:15
23	07:17 17:01	16:18 (22) 16:36 (22)	06:43 17:40	05:57 18:12	06:07 19:45	05:32 20:16
24	07:17 17:02	16:18 (22) 16:37 (22)	06:41 17:41	05:56 18:13	06:06 19:46	05:32 20:17
25	07:16 17:04	16:19 (22) 16:39 (22)	06:40 17:42	05:54 18:14	06:04 19:47	05:31 20:18
26	07:15 17:05	16:19 (22) 16:41 (22)	06:38 17:43	05:52 18:15	06:03 19:49	05:30 20:19
27	07:14 17:06	16:19 (22) 16:41 (22)	06:37 17:45	05:51 18:16	06:01 19:50	05:30 20:20
28	07:14 17:07	16:19 (22) 16:41 (22)	06:35 17:46	05:49 18:17	06:00 19:51	05:29 20:21
29	07:13 17:09	16:19 (22) 16:41 (22)	06:34 17:46	06:47 19:18	05:59 19:52	05:28 20:21
30	07:12 17:10	16:20 (22) 16:41 (22)	06:33 17:46	06:46 19:19	05:57 19:53	05:28 20:22
31	07:11 17:11	16:21 (22) 16:40 (22)	06:32 17:46	06:44 19:20	05:56 19:54	05:27 20:23
Ore potenziali eliofanìa	296	297	369	399	449	453
Totale, caso peggiore	260	66	678	17	453	

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A Recettore d'ombra: Rec 28 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	05:27 20:35	05:51 20:16	06:23 19:32	07:38 (24) 08:10 (24)	06:53 18:41	06:28 16:54
2	05:28 20:35	05:52 20:14	06:24 19:30	07:36 (24) 08:08 (24)	06:54 18:39	06:29 16:52
3	05:28 20:35	05:53 20:13	06:25 19:29	07:34 (24) 08:06 (24)	06:55 18:38	06:30 16:51
4	05:29 20:34	05:54 20:12	06:26 19:27	07:31 (24) 08:04 (24)	06:56 18:36	06:31 16:50
5	05:29 20:34	05:55 20:11	06:27 19:25	07:29 (24) 08:02 (24)	06:57 18:34	06:33 16:49
6	05:30 20:34	05:56 20:10	06:28 19:24	07:27 (24) 07:59 (24)	06:58 18:33	06:34 16:48
7	05:30 20:34	05:57 20:09	06:29 19:22	07:25 (24) 07:56 (24)	06:59 18:31	06:35 16:47
8	05:31 20:33	05:58 20:07	06:30 19:20	07:25 (24) 07:52 (24)	07:00 18:29	06:36 16:46
9	05:32 20:33	05:59 20:06	06:31 19:19	07:30 (24) 07:47 (24)	07:02 18:28	06:37 16:44
10	05:32 20:32	06:00 20:05	06:32 19:17	08:20 (24) 08:23 (24)	07:03 18:26	06:39 16:43
11	05:33 20:32	06:01 20:03	06:33 19:15	08:17 (24) 08:23 (24)	07:04 18:24	06:40 16:42
12	05:34 20:32	06:02 20:02	06:34 19:14	08:16 (24) 08:23 (24)	07:05 18:23	06:41 16:41
13	05:35 20:31	06:03 20:01	06:35 19:12	08:14 (24) 08:23 (24)	07:06 18:21	06:42 16:40
14	05:35 20:31	06:04 19:59	06:36 19:10	08:12 (24) 08:23 (24)	07:07 18:20	06:43 16:40
15	05:36 20:30	06:05 19:58	06:37 19:08	08:10 (24) 08:23 (24)	07:08 18:18	06:45 16:39
16	05:37 20:29	06:06 19:57	06:38 19:07	08:09 (24) 08:23 (24)	07:09 18:16	06:46 16:38
17	05:38 20:29	06:07 19:55	06:39 19:05	08:07 (24) 08:23 (24)	07:10 18:15	06:47 16:37
18	05:38 20:28	06:08 19:54	06:40 19:03	08:05 (24) 08:22 (24)	07:11 18:13	06:48 16:36
19	05:39 20:27	06:09 19:52	06:41 19:01	08:03 (24) 08:22 (24)	07:13 18:12	06:49 16:35
20	05:40 20:27	06:10 19:51	06:42 19:00	08:02 (24) 08:22 (24)	07:14 18:10	06:51 16:35
21	05:41 20:26	06:11 19:49	06:43 18:58	08:00 (24) 08:21 (24)	07:15 18:09	06:52 16:34
22	05:42 20:25	06:12 19:48	06:44 18:56	07:58 (24) 08:21 (24)	07:16 18:07	06:53 16:33
23	05:43 20:24	06:13 19:46	06:45 18:55	07:56 (24) 08:20 (24)	07:17 18:06	06:54 16:33
24	05:44 20:23	06:14 19:45	06:46 18:53	07:54 (24) 08:19 (24)	07:18 18:04	06:55 16:32
25	05:45 20:23	06:15 19:43	06:47 18:51	07:52 (24) 08:19 (24)	06:59 17:03	06:56 16:32
26	05:46 20:22	06:16 19:42	06:48 18:49	07:50 (24) 08:18 (24)	06:21 17:02	06:58 16:31
27	05:46 20:21	06:17 19:40	06:49 18:48	07:48 (24) 08:17 (24)	06:22 17:00	06:59 16:31
28	05:47 20:20	06:18 19:38	06:50 18:46	07:46 (24) 08:16 (24)	06:23 16:59	07:00 16:30
29	05:48 20:19	06:20 19:37	06:51 18:44	07:44 (24) 08:15 (24)	06:24 16:58	07:01 16:30
30	05:49 20:18	06:21 19:35	06:52 18:43	07:43 (24) 08:14 (24)	06:25 16:56	07:02 16:29
31	05:50 20:17	06:22 19:34	06:53 18:42	07:41 (24) 08:12 (24)	06:27 16:55	07:03 16:28
Ore potenziali eliofanìa	460	429	375	345	297	287
Totale, caso peggiore		439	269		332	

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A **Recettore d'ombra: Rec 29 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)**
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:
 Il sole splende tutto il dì, dall'alba al tramonto
 Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
 La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:12	16:23 (22) 06:34	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	16:00 (22) 16:29
2	07:24 16:39	07:09 17:14	16:23 (22) 06:32	06:41 19:23	05:55 19:55	05:26 20:25	05:28 20:35	05:52 20:14	06:24 19:30	06:54 18:39	06:29 16:52	15:58 (22) 16:13 (22) 16:29
3	07:24 16:40	07:08 17:15	16:23 (22) 06:30	06:39 19:24	05:53 19:56	05:26 20:25	05:28 20:35	05:53 20:13	06:25 19:29	06:55 18:38	06:30 16:51	15:56 (22) 16:14 (22) 16:28
4	07:24 16:40	07:07 17:16	16:24 (22) 06:29	06:37 19:25	05:52 19:57	05:25 20:26	05:29 20:34	05:54 20:12	06:26 19:27	06:56 18:36	06:31 16:50	15:55 (22) 16:15 (22) 16:28
5	07:24 16:41	07:06 17:18	16:24 (22) 06:27	06:36 19:26	05:51 19:58	05:25 20:27	05:29 20:34	05:55 20:11	06:27 19:25	06:57 18:34	06:33 16:49	15:55 (22) 16:16 (22) 16:28
6	07:24 16:42	07:05 17:19	16:25 (22) 06:26	06:34 19:27	05:50 19:59	05:25 20:27	05:30 20:34	05:56 20:10	06:28 19:24	06:58 18:33	06:34 16:48	15:54 (22) 16:16 (22) 16:28
7	07:24 16:43	07:04 17:20	16:25 (22) 06:24	06:32 19:28	05:48 20:00	05:24 20:28	05:30 20:34	05:57 20:09	06:29 19:22	06:59 18:31	06:35 16:47	15:54 (22) 16:17 (22) 16:28
8	07:24 16:44	07:02 17:21	16:27 (22) 06:22	06:31 19:29	05:47 20:01	05:24 20:29	05:31 20:33	05:58 20:07	06:30 19:20	07:00 18:29	06:36 16:46	15:53 (22) 16:17 (22) 16:28
9	07:23 16:45	07:01 17:23	16:29 (22) 06:21	06:29 19:30	05:46 20:02	05:24 20:29	05:32 20:33	05:59 20:06	06:31 19:19	07:02 18:28	06:37 16:44	15:54 (22) 16:18 (22) 16:28
10	07:23 16:46	07:00 17:24	16:31 (22) 06:19	06:27 19:31	05:45 20:03	05:24 20:30	05:32 20:32	06:00 20:05	06:32 19:17	07:03 18:26	06:39 16:43	15:54 (22) 16:17 (22) 16:28
11	07:23 16:47	06:59 17:25	16:41 (22) 17:57	17:57 19:31	06:18 19:32	06:26 20:04	05:44 20:30	05:33 20:32	06:01 19:15	06:33 18:24	06:40 16:42	15:54 (22) 16:17 (22) 16:28
12	07:23 16:48	06:58 17:26	06:16 18:00	06:24 19:33	05:43 20:05	05:23 20:31	05:34 20:32	06:02 20:02	06:34 19:14	07:05 18:23	06:41 16:41	15:55 (22) 16:18 (22) 16:28
13	07:22 16:50	06:56 17:28	06:14 18:01	06:23 19:35	05:42 20:06	05:23 20:31	05:35 20:31	06:03 20:01	06:35 19:12	07:06 18:21	06:42 16:40	15:55 (22) 16:16 (22) 16:28
14	07:22 16:51	06:55 17:29	06:13 18:02	06:21 19:36	05:41 20:08	05:23 20:32	05:35 20:31	06:04 19:59	06:36 19:10	07:07 18:20	06:43 16:40	15:55 (22) 16:15 (22) 16:28
15	07:22 16:52	06:54 17:30	06:11 18:03	06:19 19:37	05:40 20:09	05:23 20:32	05:36 20:30	06:05 19:58	06:37 19:08	07:08 18:18	06:45 16:39	15:57 (22) 16:15 (22) 16:28
16	07:21 16:53	06:52 17:31	06:09 18:04	06:18 19:38	05:39 20:10	05:23 20:33	05:37 20:29	06:06 19:57	06:38 19:07	07:09 18:16	06:46 16:38	15:57 (22) 16:14 (22) 16:29
17	07:21 16:54	06:51 17:33	06:08 18:05	06:16 19:39	05:38 20:10	05:23 20:33	05:38 20:29	06:07 19:55	06:39 19:05	07:10 18:15	06:47 16:37	15:58 (22) 16:12 (22) 16:29
18	07:20 16:55	06:50 17:34	06:06 18:06	06:15 19:40	05:37 20:11	05:23 20:33	05:39 20:28	06:08 19:54	06:40 19:03	07:11 18:13	06:48 16:36	15:59 (22) 16:11 (22) 16:29
19	07:20 16:56	06:48 17:35	06:04 18:07	06:13 19:41	05:36 20:12	05:23 20:34	05:39 20:27	06:09 19:52	06:41 19:01	07:13 18:12	06:49 16:35	16:02 (22) 16:11 (22) 16:30
20	07:19 16:58	06:47 17:36	06:02 18:09	06:12 19:42	05:35 20:13	05:24 20:34	05:40 20:27	06:10 19:51	06:42 19:00	07:14 18:10	06:51 16:35	16:04 (22) 16:11 (22) 16:30
21	07:19 16:59	06:45 17:37	06:01 18:10	06:10 19:43	05:34 20:14	05:24 20:34	05:41 20:26	06:11 19:49	06:43 18:58	07:15 18:09	06:52 16:34	16:10 (22) 16:31 16:36
22	07:18 17:00	16:29 (22) 06:44	05:59 18:11	06:09 19:44	05:33 20:15	05:24 20:34	05:42 20:25	06:12 19:48	06:44 18:56	07:16 18:07	06:53 16:33	16:31 16:36 16:41
23	07:17 17:01	16:35 (22) 17:39	05:57 18:12	06:07 19:45	05:32 20:16	05:24 20:35	05:43 20:24	06:13 19:46	06:45 18:55	07:17 18:06	06:54 16:33	16:32 16:37 16:42
24	07:17 17:02	16:36 (22) 17:40	05:56 18:13	06:06 19:46	05:32 20:17	05:24 20:35	05:44 20:23	06:14 19:45	06:46 18:53	07:18 18:04	06:55 16:32	16:33 16:38 16:43
25	07:16 17:04	16:25 (22) 17:41	05:54 18:14	06:04 19:47	05:31 20:18	05:25 20:35	05:45 20:23	06:15 19:43	06:47 18:51	07:19 18:03	06:56 16:32	16:34 16:39 16:44
26	07:15 17:05	16:24 (22) 17:42	05:52 18:15	06:03 19:49	05:30 20:19	05:25 20:35	05:46 20:22	06:16 19:42	06:48 18:49	07:20 18:02	06:58 16:31	16:35 16:40 16:45
27	07:14 17:06	16:42 (22) 17:45	05:51 18:16	06:01 19:50	05:30 20:20	05:25 20:35	05:46 20:21	06:17 19:40	06:49 18:48	07:21 18:00	06:59 16:30	16:36 16:41 16:46
28	07:14 17:07	16:23 (22) 17:46	05:49 18:17	06:00 19:51	05:29 20:21	05:26 20:35	05:47 20:20	06:18 19:38	06:50 18:46	07:22 18:00	07:00 16:29	16:37 16:42 16:47
29	07:13 17:09	16:23 (22) 17:47	06:47 19:18	05:59 19:52	05:28 20:21	05:26 20:35	05:48 20:19	06:20 19:37	06:51 18:44	07:01 18:00	07:01 16:28	16:38 16:43 16:48
30	07:12 17:10	16:23 (22) 17:48	06:46 19:19	05:57 19:53	05:28 20:22	05:27 20:35	05:49 20:18	06:21 19:35	06:52 18:43	07:02 18:00	07:02 16:27	16:39 16:44 16:49
31	07:11 17:11	16:23 (22) 17:49	06:44 19:20	05:56 19:54	05:27 20:23	05:26 20:35	05:50 20:17	06:22 19:34	06:27 18:43	07:03 18:00	07:03 16:28	16:40 16:45 16:50
Ore potenziali eliofania	296	297	369	399	449	453	460	429	375	345	297	287
Totale, caso peggiore	163	199	369	399	449	453	460	429	375	345	297	287

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A Recettore d'ombra: Rec 39 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile		Maggio		Giugno			
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22		05:56 19:54	66	17:55 (15) 19:01 (15)	05:27 20:24	54	18:03 (15) 18:57 (15)
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23		05:55 19:55	67	17:55 (15) 19:02 (15)	05:26 20:25	53	18:04 (15) 18:57 (15)
3	07:24 16:40	07:08 17:15	06:31 17:49	06:39 19:24		05:53 19:56	67	17:55 (15) 19:02 (15)	05:26 20:25	53	18:05 (15) 18:58 (15)
4	07:24 16:41	07:07 17:16	06:29 17:51	06:37 19:25		05:52 19:57	67	17:55 (15) 19:02 (15)	05:26 20:26	52	18:05 (15) 18:57 (15)
5	07:24 16:42	07:06 17:18	06:27 17:52	06:36 19:26		05:51 19:58	68	17:55 (15) 19:03 (15)	05:25 20:27	51	18:06 (15) 18:57 (15)
6	07:24 16:43	07:05 17:19	06:26 17:53	06:34 19:27		05:50 19:59	68	17:54 (15) 19:02 (15)	05:25 20:27	51	18:06 (15) 18:57 (15)
7	07:24 16:43	07:04 17:20	06:24 17:54	06:32 19:28		05:48 20:00	68	17:54 (15) 19:02 (15)	05:25 20:28	50	18:07 (15) 18:57 (15)
8	07:24 16:44	07:03 17:21	06:23 17:55	06:31 19:29		05:47 20:01	68	17:54 (15) 19:02 (15)	05:24 20:29	49	18:07 (15) 18:56 (15)
9	07:24 16:45	07:01 17:23	06:21 17:56	06:29 19:30		05:46 20:03	68	17:54 (15) 19:02 (15)	05:24 20:29	48	18:08 (15) 18:56 (15)
10	07:23 16:47	07:00 17:24	06:19 17:58	06:28 19:31		05:45 20:04	68	17:54 (15) 19:02 (15)	05:24 20:30	48	18:08 (15) 18:56 (15)
11	07:23 16:48	06:59 17:25	06:18 17:59	06:26 19:32	5	19:05 (12) 19:10 (12)	05:44 20:05	17:54 (15) 19:02 (15)	05:24 20:30	47	18:09 (15) 18:56 (15)
12	07:23 16:49	06:58 17:26	06:16 18:00	06:24 19:34	11	19:01 (12) 19:12 (12)	05:43 20:06	17:54 (15) 19:02 (15)	05:24 20:31	46	18:10 (15) 18:56 (15)
13	07:23 16:50	06:56 17:28	06:14 18:01	06:23 19:35	28	18:24 (15) 19:12 (12)	05:42 20:07	17:55 (15) 19:02 (15)	05:23 20:31	46	18:10 (15) 18:56 (15)
14	07:22 16:51	06:55 17:29	06:13 18:02	06:21 19:36	40	18:20 (15) 19:14 (12)	05:41 20:08	17:55 (15) 19:02 (15)	05:23 20:32	45	18:11 (15) 18:56 (15)
15	07:22 16:52	06:54 17:30	06:11 18:03	06:20 19:37	50	18:16 (15) 19:15 (12)	05:40 20:09	17:55 (15) 19:02 (15)	05:23 20:32	45	18:11 (15) 18:56 (15)
16	07:21 16:53	06:53 17:31	06:09 18:04	06:18 19:38	57	18:13 (15) 19:16 (12)	05:39 20:10	17:55 (15) 19:01 (15)	05:23 20:33	45	18:11 (15) 18:56 (15)
17	07:21 16:54	06:51 17:33	06:08 18:05	06:16 19:39	63	18:10 (15) 19:17 (12)	05:38 20:11	17:55 (15) 19:01 (15)	05:23 20:33	44	18:12 (15) 18:56 (15)
18	07:21 16:55	06:50 17:34	06:06 18:06	06:15 19:40	66	18:09 (15) 19:17 (12)	05:37 20:12	17:56 (15) 19:01 (15)	05:23 20:33	44	18:12 (15) 18:56 (15)
19	07:20 16:57	06:48 17:35	06:04 18:08	06:13 19:41	71	18:06 (15) 19:17 (12)	05:36 20:13	17:56 (15) 19:00 (15)	05:24 20:34	44	18:12 (15) 18:56 (15)
20	07:19 16:58	06:47 17:36	06:03 18:09	06:12 19:42	72	18:05 (15) 19:17 (12)	05:35 20:14	17:57 (15) 19:01 (15)	05:24 20:34	44	18:12 (15) 18:56 (15)
21	07:19 16:59	06:46 17:38	06:01 18:10	06:10 19:43	73	18:03 (15) 19:16 (12)	05:34 20:14	17:57 (15) 19:01 (15)	05:24 20:34	44	18:12 (15) 18:56 (15)
22	07:18 17:00	06:44 17:39	05:59 18:11	06:09 19:44	74	18:02 (15) 19:16 (12)	05:33 20:15	17:57 (15) 19:00 (15)	05:24 20:35	44	18:13 (15) 18:57 (15)
23	07:18 17:01	06:43 17:40	05:58 18:12	06:07 19:45	73	18:01 (15) 19:14 (12)	05:33 20:16	17:58 (15) 19:00 (15)	05:24 20:35	44	18:13 (15) 18:57 (15)
24	07:17 17:03	06:41 17:41	05:56 18:13	06:06 19:47	73	18:00 (15) 19:13 (12)	05:32 20:17	17:59 (15) 19:00 (15)	05:25 20:35	44	18:13 (15) 18:57 (15)
25	07:16 17:04	06:40 17:42	05:54 18:14	06:04 19:48	72	17:59 (15) 19:11 (12)	05:31 20:18	17:59 (15) 18:59 (15)	05:25 20:35	44	18:14 (15) 18:58 (15)
26	07:15 17:05	06:38 17:44	05:52 18:15	06:03 19:49	72	17:58 (15) 19:10 (12)	05:30 20:19	18:00 (15) 19:00 (15)	05:25 20:35	44	18:14 (15) 18:58 (15)
27	07:14 17:06	06:37 17:45	05:51 18:16	06:02 19:50	67	17:58 (15) 19:06 (12)	05:30 20:20	18:00 (15) 18:59 (15)	05:26 20:35	45	18:13 (15) 18:58 (15)
28	07:14 17:08	06:35 17:46	05:49 18:17	06:00 19:51	64	17:56 (15) 19:00 (15)	05:29 20:21	18:00 (15) 18:58 (15)	05:26 20:35	45	18:14 (15) 18:59 (15)
29	07:13 17:09		06:47 19:18	05:59 19:52	65	17:56 (15) 19:01 (15)	05:28 20:22	18:02 (15) 18:59 (15)	05:26 20:35	46	18:13 (15) 18:59 (15)
30	07:12 17:10		06:46 19:20	05:57 19:53	66	17:56 (15) 19:02 (15)	05:28 20:22	18:02 (15) 18:58 (15)	05:27 20:35	46	18:14 (15) 19:00 (15)
31	07:11 17:11		06:44 19:21				05:27 20:23	18:03 (15) 18:58 (15)			
Ore potenziali eliofanìa	296	297	369	399		449			453		1405
Totale, caso peggiore				1162		1992					

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A Recettore d'ombra: Rec 39 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	05:27 20:35	18:13 (15) 05:51 19:00 (15) 20:16	18:05 (15) 06:23 19:13 (15) 19:32	19:05 (12) 06:53 19:09 (12) 18:41	06:28 16:54	07:03 16:29
2	05:28 20:35	18:14 (15) 05:52 19:01 (15) 20:15	18:05 (15) 06:24 19:13 (15) 19:30	06:54 18:39	06:29 16:53	07:04 16:29
3	05:28 20:35	18:13 (15) 05:53 19:01 (15) 20:13	18:05 (15) 06:25 19:13 (15) 19:29	06:55 18:38	06:30 16:51	07:05 16:29
4	05:29 20:34	18:13 (15) 05:54 19:02 (15) 20:12	18:05 (15) 06:26 19:13 (15) 19:27	06:56 18:36	06:32 16:50	07:06 16:28
5	05:29 20:34	18:13 (15) 05:55 19:02 (15) 20:11	18:03 (15) 06:27 19:12 (15) 19:25	06:57 18:34	06:33 16:49	07:07 16:28
6	05:30 20:34	18:13 (15) 05:56 19:03 (15) 20:10	18:03 (15) 06:28 19:12 (15) 19:24	06:58 18:33	06:34 16:48	07:08 16:28
7	05:31 20:34	18:12 (15) 05:57 19:03 (15) 20:09	18:03 (15) 06:29 19:12 (15) 19:22	07:00 18:31	06:35 16:47	07:09 16:28
8	05:31 20:33	18:12 (15) 05:58 19:04 (15) 20:07	18:03 (15) 06:30 19:11 (15) 19:20	07:01 18:29	06:36 16:46	07:10 16:28
9	05:32 20:33	18:12 (15) 05:59 19:05 (15) 20:06	18:03 (15) 06:31 19:11 (15) 19:19	07:02 18:28	06:38 16:45	07:11 16:28
10	05:33 20:33	18:11 (15) 06:00 19:04 (15) 20:05	18:03 (15) 06:32 19:11 (15) 19:17	07:03 18:26	06:39 16:44	07:12 16:28
11	05:33 20:32	18:11 (15) 06:01 19:05 (15) 20:04	18:03 (15) 06:33 19:10 (15) 19:15	07:04 18:24	06:40 16:43	07:13 16:28
12	05:34 20:32	18:11 (15) 06:02 19:06 (15) 20:02	18:04 (15) 06:34 19:10 (15) 19:14	07:05 18:23	06:41 16:42	07:14 16:28
13	05:35 20:31	18:10 (15) 06:03 19:06 (15) 20:01	18:04 (15) 06:35 19:09 (15) 19:12	07:06 18:21	06:42 16:41	07:14 16:28
14	05:35 20:31	18:10 (15) 06:04 19:07 (15) 20:00	18:04 (15) 06:36 19:09 (15) 19:10	07:07 18:20	06:44 16:40	07:15 16:28
15	05:36 20:30	18:10 (15) 06:05 19:07 (15) 19:58	18:04 (15) 06:37 19:08 (15) 19:09	07:08 18:18	06:45 16:39	07:16 16:29
16	05:37 20:29	18:10 (15) 06:06 19:08 (15) 19:57	18:05 (15) 06:38 19:14 (12) 19:07	07:09 18:17	06:46 16:38	07:17 16:29
17	05:38 20:29	18:09 (15) 06:07 19:08 (15) 19:55	18:05 (15) 06:39 19:17 (12) 19:05	07:10 18:15	06:47 16:37	07:17 16:29
18	05:39 20:28	18:09 (15) 06:08 19:09 (15) 19:54	18:05 (15) 06:40 19:18 (12) 19:03	07:12 18:13	06:48 16:36	07:18 16:29
19	05:39 20:27	18:08 (15) 06:10 19:09 (15) 19:52	18:06 (15) 06:41 19:19 (12) 19:02	07:13 18:12	06:50 16:36	07:19 16:30
20	05:40 20:27	18:08 (15) 06:11 19:10 (15) 19:51	18:07 (15) 06:42 19:20 (12) 19:00	07:14 18:10	06:51 16:35	07:19 16:30
21	05:41 20:26	18:08 (15) 06:12 19:10 (15) 19:49	18:07 (15) 06:43 19:20 (12) 18:58	07:15 18:09	06:52 16:34	07:20 16:31
22	05:42 20:25	18:08 (15) 06:13 19:11 (15) 19:48	18:08 (15) 06:44 19:21 (12) 18:56	07:16 18:08	06:53 16:33	07:20 16:31
23	05:43 20:24	18:08 (15) 06:14 19:11 (15) 19:46	18:09 (15) 06:45 19:21 (12) 18:55	07:17 18:06	06:54 16:33	07:21 16:32
24	05:44 20:24	18:07 (15) 06:15 19:11 (15) 19:45	18:10 (15) 06:46 19:21 (12) 18:53	07:18 18:05	06:55 16:32	07:21 16:32
25	05:45 20:23	18:06 (15) 06:16 19:11 (15) 19:43	18:12 (15) 06:47 19:20 (12) 18:51	06:20 17:03	06:57 16:32	07:22 16:33
26	05:46 20:22	18:06 (15) 06:17 19:12 (15) 19:42	18:13 (15) 06:48 19:19 (12) 18:50	06:21 17:02	06:58 16:31	07:22 16:33
27	05:47 20:21	18:06 (15) 06:18 19:12 (15) 19:40	18:15 (15) 06:49 19:18 (12) 18:48	06:22 17:00	06:59 16:31	07:22 16:34
28	05:48 20:20	18:06 (15) 06:19 19:12 (15) 19:39	18:18 (15) 06:50 19:16 (12) 18:46	06:23 16:59	07:00 16:30	07:23 16:35
29	05:49 20:19	18:05 (15) 06:20 19:12 (15) 19:37	18:21 (15) 06:51 19:15 (12) 18:44	06:24 16:58	07:01 16:30	07:23 16:35
30	05:49 20:18	18:05 (15) 06:21 19:13 (15) 19:35	18:26 (15) 06:52 19:13 (12) 18:43	06:26 16:56	07:02 16:29	07:23 16:36
31	05:50 20:17	18:05 (15) 06:22 19:13 (15) 19:34	19:01 (12) 19:12 (12)	06:27 16:55	07:03 16:37	07:23 16:37
Ore potenziali eliofanìa	460	429	375	345	297	287
Totale, caso peggiore	1796	1969	4			

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A Recettore d'ombra: Rec 53 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno
1	07:24 16:38	07:10 17:13	06:34 17:47	16:16 (01) 06:43 17:47	16:51 (01) 05:56 18:02 (01) 19:54	05:27 20:24
2	07:24 16:39	07:09 17:14	06:32 17:48	16:13 (01) 06:41 17:48	16:51 (01) 05:55 18:01 (01) 19:55	05:27 20:25
3	07:24 16:40	07:08 17:15	06:31 17:50	16:11 (01) 06:39 17:50	16:52 (01) 05:54 18:01 (01) 19:56	05:26 20:26
4	07:24 16:41	07:07 17:17	06:29 17:51	16:08 (01) 06:38 17:51	16:53 (01) 05:52 18:00 (01) 19:57	05:26 20:26
5	07:24 16:42	07:06 17:18	06:28 17:52	16:07 (01) 06:36 17:52	16:53 (01) 05:51 17:58 (01) 19:58	05:25 20:27
6	07:24 16:43	07:05 17:19	06:26 17:53	16:04 (01) 06:34 17:53	16:54 (01) 05:50 17:58 (01) 20:00	05:25 20:28
7	07:24 16:44	07:04 17:20	06:24 17:54	16:02 (01) 06:33 17:54	16:55 (01) 05:49 17:56 (01) 20:01	05:25 20:28
8	07:24 16:45	07:03 17:22	06:23 17:55	16:01 (01) 06:31 17:55	16:56 (01) 05:47 17:56 (01) 20:02	05:24 20:29
9	07:24 16:46	07:02 17:23	06:21 17:57	16:00 (01) 06:29 17:57	16:57 (01) 05:46 17:54 (01) 20:03	05:24 20:30
10	07:24 16:47	07:00 17:24	06:19 17:58	15:58 (01) 06:28 17:58	16:58 (01) 05:45 17:52 (01) 20:04	05:24 20:30
11	07:23 16:48	06:59 17:25	06:18 17:59	15:58 (01) 06:26 17:59	17:00 (01) 05:44 17:51 (01) 20:05	05:24 20:31
12	07:23 16:49	06:58 17:27	06:16 18:00	15:56 (01) 06:24 18:00	17:01 (01) 05:43 17:49 (01) 20:06	05:24 20:31
13	07:23 16:50	06:57 17:28	06:15 18:01	15:55 (01) 06:23 18:01	17:02 (01) 05:42 17:46 (01) 20:07	05:24 20:32
14	07:22 16:51	06:55 17:29	06:13 18:02	15:55 (01) 06:21 18:02	17:05 (01) 05:41 17:45 (01) 20:08	05:24 20:32
15	07:22 16:52	06:54 17:30	06:11 18:03	15:53 (01) 06:20 18:03	17:06 (01) 05:40 17:42 (01) 20:09	05:24 20:33
16	07:22 16:53	06:53 17:32	06:10 18:04	15:52 (01) 06:18 18:04	17:10 (01) 05:39 17:40 (01) 20:10	05:24 20:33
17	07:21 16:54	06:51 17:33	06:08 18:06	15:52 (01) 06:17 18:06	17:12 (01) 05:38 17:36 (01) 20:11	05:24 20:33
18	07:21 16:56	06:50 17:34	06:06 18:07	15:52 (01) 06:15 18:07	17:18 (01) 05:37 17:31 (01) 20:12	05:24 20:34
19	07:20 16:57	06:49 17:35	06:04 18:08	15:51 (01) 06:13 18:08	05:36 20:13	05:24 20:34
20	07:20 16:58	06:47 17:37	06:03 18:09	15:50 (01) 06:12 18:09	05:35 20:14	05:24 20:34
21	07:19 16:59	06:46 17:38	06:01 18:10	15:50 (01) 06:10 18:10	05:34 20:15	05:24 20:34
22	07:18 17:00	06:44 17:39	05:59 18:11	15:50 (01) 06:09 18:11	05:33 20:16	05:24 20:35
23	07:18 17:02	06:43 17:40	05:58 18:12	15:49 (01) 06:07 18:12	05:33 20:16	05:24 20:35
24	07:17 17:03	06:41 17:41	05:56 18:13	15:50 (01) 06:06 18:13	05:32 20:17	05:25 20:35
25	07:16 17:04	06:40 17:43	05:54 18:14	15:50 (01) 06:05 18:14	05:31 20:18	05:25 20:35
26	07:15 17:05	06:38 17:44	05:53 18:15	15:49 (01) 06:03 18:15	05:30 20:19	05:25 20:35
27	07:15 17:06	06:37 17:45	05:51 18:16	15:50 (01) 06:02 18:16	05:30 20:20	05:26 20:35
28	07:14 17:08	06:35 17:46	05:49 18:18	15:50 (01) 06:00 18:18	05:29 20:21	05:26 20:35
29	07:13 17:09		06:48 19:19	16:50 (01) 05:59 18:04 (01) 19:52	05:29 20:22	05:26 20:35
30	07:12 17:10		06:46 19:20	16:50 (01) 05:58 18:03 (01) 19:53	05:28 20:23	05:27 20:35
31	07:11 17:11		06:44 19:21	16:51 (01) 18:03 (01)	05:27 20:23	
Ore potenziali eliofania	296	297	369	399	449	453
Totale, caso peggiore		41	2092		924	

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A Recettore d'ombra: Rec 53 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre		
1	05:27 20:35	05:52 20:16	06:23 19:32	16:59 (01) 17:50 (01) 18:41	06:53 71	16:35 (01) 17:46 (01) 16:54	06:28 16:54	07:03 16:29
2	05:28 20:35	05:53 20:15	06:24 19:31	16:57 (01) 54 17:51 (01) 18:40	06:54 68	16:36 (01) 17:44 (01) 16:53	06:29 16:53	07:04 16:29
3	05:28 20:35	05:54 20:14	06:25 19:29	16:55 (01) 57 17:52 (01) 18:38	06:55 67	16:36 (01) 17:43 (01) 16:52	06:30 16:52	07:05 16:29
4	05:29 20:35	05:55 20:12	06:26 19:27	16:54 (01) 59 17:53 (01) 18:36	06:56 65	16:37 (01) 17:42 (01) 16:50	06:32 16:50	07:06 16:28
5	05:29 20:34	05:56 20:11	06:27 19:26	16:52 (01) 61 17:53 (01) 18:34	06:58 62	16:38 (01) 17:40 (01) 16:49	06:33 16:49	07:07 16:28
6	05:30 20:34	05:57 20:10	06:28 19:24	16:50 (01) 64 17:54 (01) 18:33	06:59 60	16:38 (01) 17:38 (01) 16:48	06:34 16:48	07:08 16:28
7	05:31 20:34	05:58 20:09	06:29 19:22	16:49 (01) 65 17:54 (01) 18:31	07:00 58	16:39 (01) 17:37 (01) 16:47	06:35 16:47	07:09 16:28
8	05:31 20:34	05:59 20:08	06:30 19:21	16:48 (01) 67 17:55 (01) 18:30	07:01 54	16:41 (01) 17:35 (01) 16:46	06:37 16:46	07:10 16:28
9	05:32 20:33	06:00 20:06	06:31 19:19	16:46 (01) 69 17:55 (01) 18:28	07:02 51	16:42 (01) 17:33 (01) 16:45	06:38 16:45	07:11 16:28
10	05:33 20:33	06:01 20:05	06:32 19:17	16:44 (01) 70 17:54 (01) 18:26	07:03 47	16:43 (01) 17:30 (01) 16:44	06:39 16:44	07:12 16:28
11	05:33 20:32	06:02 20:04	06:33 19:16	16:43 (01) 71 17:54 (01) 18:25	07:04 43	16:45 (01) 17:28 (01) 16:43	06:40 16:43	07:13 16:28
12	05:34 20:32	06:03 20:02	06:34 19:14	16:42 (01) 73 17:55 (01) 18:23	07:05 38	16:48 (01) 17:26 (01) 16:42	06:41 16:42	07:14 16:28
13	05:35 20:31	06:04 20:01	06:35 19:12	16:41 (01) 74 17:55 (01) 18:21	07:06 31	16:51 (01) 17:22 (01) 16:41	06:43 16:41	07:15 16:28
14	05:36 20:31	06:05 20:00	06:36 19:10	16:40 (01) 75 17:55 (01) 18:20	07:07 22	16:55 (01) 17:17 (01) 16:40	06:44 16:40	07:15 16:28
15	05:36 20:30	06:06 19:58	06:37 19:09	16:39 (01) 76 17:55 (01) 18:18	07:08 4	17:04 (01) 17:08 (01) 16:39	06:45 16:39	07:16 16:29
16	05:37 20:30	06:07 19:57	06:38 19:07	16:38 (01) 76 17:54 (01) 18:17	07:10 76	16:38 (01) 17:54 (01) 18:17	06:46 16:38	07:17 16:29
17	05:38 20:29	06:08 19:55	06:39 19:05	16:38 (01) 76 17:54 (01) 18:15	07:11 76	16:38 (01) 17:54 (01) 18:15	06:47 16:37	07:17 16:29
18	05:39 20:28	06:09 19:54	06:40 19:04	16:37 (01) 77 17:54 (01) 18:14	07:12 77	16:37 (01) 17:54 (01) 18:14	06:49 16:36	07:18 16:30
19	05:40 20:28	06:10 19:53	06:41 19:02	16:36 (01) 78 17:54 (01) 18:12	07:13 78	16:36 (01) 17:54 (01) 18:12	06:50 16:36	07:19 16:30
20	05:40 20:27	06:11 19:51	06:42 19:00	16:36 (01) 77 17:53 (01) 18:11	07:14 77	16:36 (01) 17:53 (01) 18:11	06:51 16:35	07:19 16:30
21	05:41 20:26	06:12 19:50	06:43 18:58	16:35 (01) 78 17:53 (01) 18:09	07:15 78	16:35 (01) 17:53 (01) 18:09	06:52 16:34	07:20 16:31
22	05:42 20:25	06:13 19:48	06:44 18:57	16:35 (01) 77 17:52 (01) 18:08	07:16 77	16:35 (01) 17:52 (01) 18:08	06:53 16:34	07:20 16:31
23	05:43 20:25	06:14 19:47	06:45 18:55	16:35 (01) 77 17:52 (01) 18:06	07:17 77	16:35 (01) 17:52 (01) 18:06	06:54 16:33	07:21 16:32
24	05:44 20:24	06:15 19:45	06:46 18:53	16:34 (01) 77 17:51 (01) 18:05	07:19 77	16:34 (01) 17:51 (01) 18:05	06:56 16:32	07:21 16:32
25	05:45 20:23	06:16 19:43	17:20 (01) 06:47	16:34 (01) 76 17:50 (01) 17:03	06:20 76	16:34 (01) 17:50 (01) 17:03	06:57 16:32	07:22 16:33
26	05:46 20:22	06:17 19:42	17:35 (01) 06:48	17:15 (01) 76 17:50 (01) 17:02	06:21 76	16:34 (01) 17:50 (01) 17:02	06:58 16:31	07:22 16:34
27	05:47 20:21	06:18 19:40	17:39 (01) 06:49	17:11 (01) 75 17:49 (01) 17:01	06:22 75	16:34 (01) 17:49 (01) 17:01	06:59 16:31	07:23 16:34
28	05:48 20:20	06:19 19:39	17:42 (01) 06:50	17:08 (01) 74 17:48 (01) 16:59	06:23 74	16:34 (01) 17:48 (01) 16:59	07:00 16:30	07:23 16:35
29	05:49 20:19	06:20 19:37	17:44 (01) 06:51	17:05 (01) 73 17:47 (01) 16:58	06:24 73	16:34 (01) 17:47 (01) 16:58	07:01 16:30	07:23 16:36
30	05:50 20:18	06:21 19:36	17:46 (01) 06:52	17:03 (01) 72 17:46 (01) 16:57	06:26 72	16:34 (01) 17:46 (01) 16:57	07:02 16:30	07:23 16:36
31	05:51 20:17	06:22 19:34	17:47 (01) 06:53	17:01 (01) 48 17:49 (01) 16:55	06:27 48	16:34 (01) 17:49 (01) 16:55	07:02 16:30	07:24 16:37
Ore potenziali eliofanìa	460	429	375	345	741	297	287	
Totale, caso peggiore		239	2125	741				

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A Recettore d'ombra: Rec 65 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno		
1	07:24 16:38	12:48 (21) 13:35 (21)	07:10 17:12	15:53 (18) 16:34 (18)	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24
2	07:24 16:39	12:49 (21) 13:35 (21)	07:09 17:14	15:53 (18) 16:35 (18)	06:32 17:48	06:41 19:23	05:55 19:55	05:26 20:25
3	07:24 16:39	12:50 (21) 13:35 (21)	07:08 17:15	15:53 (18) 16:35 (18)	06:30 17:49	06:39 19:24	05:53 19:56	05:26 20:25
4	07:24 16:40	12:51 (21) 13:34 (21)	07:07 17:16	15:54 (18) 16:36 (18)	06:29 17:50	06:37 19:25	05:52 19:57	05:25 20:26
5	07:24 16:41	12:53 (21) 13:34 (21)	07:06 17:17	15:54 (18) 16:36 (18)	06:27 17:52	06:36 19:26	05:51 19:58	05:25 20:27
6	07:24 16:42	12:54 (21) 13:34 (21)	07:05 17:19	15:54 (18) 16:36 (18)	06:26 17:53	06:34 19:27	05:49 19:59	05:25 20:27
7	07:24 16:43	12:56 (21) 13:33 (21)	07:04 17:20	15:54 (18) 16:35 (18)	06:24 17:54	06:32 19:28	05:48 20:00	05:24 20:28
8	07:24 16:44	12:58 (21) 13:33 (21)	07:02 17:21	15:54 (18) 16:35 (18)	06:22 17:55	06:31 19:29	05:47 20:01	05:24 20:29
9	07:24 16:45	12:59 (21) 13:31 (21)	07:01 17:22	15:55 (18) 16:35 (18)	06:21 17:56	06:29 19:30	05:46 20:02	05:24 20:29
10	07:23 16:46	13:02 (21) 13:30 (21)	07:00 17:24	15:56 (18) 16:35 (18)	06:19 17:57	06:27 19:31	05:45 20:03	05:24 20:30
11	07:23 16:47	13:05 (21) 13:28 (21)	06:59 17:25	15:57 (18) 16:35 (18)	06:18 17:58	06:26 19:32	05:44 20:04	05:23 20:30
12	07:23 16:48	13:09 (21) 13:26 (21)	06:58 17:26	15:57 (18) 16:33 (18)	06:16 18:00	06:24 19:33	05:43 20:06	05:23 20:31
13	07:23 16:49	13:15 (21) 13:20 (21)	06:56 17:27	15:58 (18) 16:33 (18)	06:14 18:01	06:22 19:35	05:41 20:07	05:23 20:31
14	07:22 16:51		06:55 17:29	15:59 (18) 16:32 (18)	06:13 18:02	06:21 19:36	05:40 20:08	05:23 20:32
15	07:22 16:52		06:54 17:30	16:00 (18) 16:30 (18)	06:11 18:03	06:19 19:37	05:39 20:09	05:23 20:32
16	07:21 16:53	16:05 (18) 16:15 (18)	06:52 17:31	16:02 (18) 16:29 (18)	06:09 18:04	06:18 19:38	05:38 20:10	05:23 20:33
17	07:21 16:54	16:02 (18) 16:18 (18)	06:51 17:32	16:04 (18) 16:28 (18)	06:08 18:05	06:16 19:39	05:37 20:11	05:23 20:33
18	07:20 16:55	16:01 (18) 16:20 (18)	06:50 17:34	16:06 (18) 16:25 (18)	06:06 18:06	06:15 19:40	05:37 20:12	05:23 20:33
19	07:20 16:56	15:59 (18) 16:22 (18)	06:48 17:35	16:10 (18) 16:22 (18)	06:04 18:07	06:13 19:41	05:36 20:12	05:23 20:34
20	07:19 16:58	15:58 (18) 16:23 (18)	06:47 17:36		06:02 18:08	06:12 19:42	05:35 20:13	05:23 20:34
21	07:19 16:59	15:58 (18) 16:25 (18)	06:45 17:37		06:01 18:10	06:10 19:43	05:34 20:14	05:24 20:34
22	07:18 17:00	15:57 (18) 16:26 (18)	06:44 17:39		05:59 18:11	06:09 19:44	05:33 20:15	05:24 20:34
23	07:17 17:01	15:56 (18) 16:27 (18)	06:43 17:40		05:57 18:12	06:07 19:45	05:32 20:16	05:24 20:35
24	07:17 17:02	15:55 (18) 16:28 (18)	06:41 17:41		05:56 18:13	06:06 19:46	05:32 20:17	05:24 20:35
25	07:16 17:04	15:56 (18) 16:30 (18)	06:40 17:42		05:54 18:14	06:04 19:47	05:31 20:18	05:25 20:35
26	07:15 17:05	15:55 (18) 16:31 (18)	06:38 17:43		05:52 18:15	06:03 19:49	05:30 20:19	05:25 20:35
27	07:14 17:06	15:54 (18) 16:32 (18)	06:37 17:45		05:51 18:16	06:01 19:50	05:29 20:20	05:25 20:35
28	07:14 17:07	15:54 (18) 16:32 (18)	06:35 17:46		05:49 18:17	06:00 19:51	05:29 20:21	05:26 20:35
29	07:13 17:09	15:54 (18) 16:33 (18)			06:47 19:18	05:59 19:52	05:28 20:21	05:26 20:35
30	07:12 17:10	15:53 (18) 16:33 (18)			06:46 19:19	05:57 19:53	05:28 20:22	05:26 20:35
31	07:11 17:11	15:53 (18) 16:34 (18)			06:44 19:20		05:27 20:23	
Ore potenziali eliofanìa	296		297		369	399	449	454
Totale, caso peggiore	918		666					

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento)
 Tramonto (hh:mm) Minuti d'ombra Fine ombreggiamento (hh:mm) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A Recettore d'ombra: Rec 65 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	05:27 20:35	05:51 20:16	06:22 19:32	06:53 18:41	06:28 16:54	15:25 (18) 07:03 16:05 (18) 16:29
2	05:27 20:35	05:52 20:14	06:23 19:30	06:54 18:39	06:29 16:52	40 15:25 (18) 07:04 16:05 (18) 16:29
3	05:28 20:35	05:53 20:13	06:25 19:29	06:55 18:37	06:30 16:51	40 15:24 (18) 07:05 16:05 (18) 16:28
4	05:29 20:34	05:54 20:12	06:26 19:27	06:56 18:36	06:31 16:50	41 15:24 (18) 07:06 16:05 (18) 16:28
5	05:29 20:34	05:55 20:11	06:27 19:25	06:57 18:34	06:33 16:49	42 15:24 (18) 07:07 16:06 (18) 16:28
6	05:30 20:34	05:56 20:10	06:28 19:24	06:58 18:32	06:34 16:48	42 15:24 (18) 07:08 16:06 (18) 16:28
7	05:30 20:34	05:57 20:09	06:29 19:22	06:59 18:31	06:35 16:47	42 15:23 (18) 07:09 16:05 (18) 16:28
8	05:31 20:33	05:58 20:07	06:30 19:20	07:00 18:29	06:36 16:45	42 15:24 (18) 07:10 16:06 (18) 16:28
9	05:32 20:33	05:59 20:06	06:31 19:19	07:02 18:28	06:37 16:44	42 15:24 (18) 07:11 16:06 (18) 16:28
10	05:32 20:33	06:00 20:05	06:32 19:17	07:03 18:26	06:39 16:43	41 15:24 (18) 07:12 16:05 (18) 16:28
11	05:33 20:32	06:01 20:03	06:33 19:15	07:04 18:24	06:40 16:42	41 15:24 (18) 07:13 16:05 (18) 16:28
12	05:34 20:32	06:02 20:02	06:34 19:14	07:05 18:23	06:41 16:41	40 15:25 (18) 07:14 16:05 (18) 16:28
13	05:34 20:31	06:03 20:01	06:35 19:12	07:06 18:21	06:42 16:40	39 15:26 (18) 07:14 16:05 (18) 16:28
14	05:35 20:31	06:04 19:59	06:36 19:10	07:07 18:19	06:43 16:39	38 15:26 (18) 07:15 16:04 (18) 16:28
15	05:36 20:30	06:05 19:58	06:37 19:08	07:08 18:18	06:45 16:39	38 15:27 (18) 07:16 16:05 (18) 16:28
16	05:37 20:29	06:06 19:57	06:38 19:07	07:09 18:16	06:46 16:38	36 15:28 (18) 07:17 16:04 (18) 16:29
17	05:38 20:29	06:07 19:55	06:39 19:05	07:10 18:15	06:47 16:37	35 15:28 (18) 07:17 16:03 (18) 16:29
18	05:38 20:28	06:08 19:54	06:40 19:03	07:11 18:13	06:48 16:36	33 15:29 (18) 07:18 16:02 (18) 16:29
19	05:39 20:27	06:09 19:52	06:41 19:01	07:13 18:12	06:49 16:35	31 15:31 (18) 07:19 16:02 (18) 16:30
20	05:40 20:27	06:10 19:51	06:42 19:00	07:14 18:10	06:51 16:35	29 15:32 (18) 07:19 16:01 (18) 16:30
21	05:41 20:26	06:11 19:49	06:43 18:58	07:15 18:09	06:52 16:34	27 15:33 (18) 07:20 16:00 (18) 16:30
22	05:42 20:25	06:12 19:48	06:44 18:56	07:16 18:07	06:53 16:33	25 15:34 (18) 07:20 15:59 (18) 16:31
23	05:43 20:24	06:13 19:46	06:45 18:55	07:17 18:06	06:54 16:33	23 15:36 (18) 07:21 15:59 (18) 16:31
24	05:44 20:23	06:14 19:45	06:46 18:53	07:18 18:04	06:55 16:32	20 15:38 (18) 07:21 15:58 (18) 16:32
25	05:45 20:23	06:15 19:43	06:47 18:51	07:20 17:03	06:56 16:31	16 15:40 (18) 07:22 15:56 (18) 16:33
26	05:45 20:22	06:16 19:42	06:48 18:49	07:21 17:02	06:58 16:31	12 15:42 (18) 07:22 15:54 (18) 16:33
27	05:46 20:21	06:17 19:40	06:49 18:48	07:22 17:00	06:59 16:30	12 15:54 (18) 07:22 16:34 51
28	05:47 20:20	06:18 19:38	06:50 18:46	07:23 16:59	07:00 16:30	12 15:58 (18) 07:23 16:01 (18) 16:34
29	05:48 20:19	06:19 19:37	06:51 18:44	07:24 16:58	07:01 16:30	12 15:28 (18) 07:23 16:03 (18) 16:35
30	05:49 20:18	06:20 19:35	06:52 18:43	07:25 16:56	07:02 16:29	16 12:51 (21) 07:23 13:07 (21) 16:36
31	05:50 20:17	06:21 19:34	06:53 16:55	07:26 16:04 (18)	07:03 16:04 (18)	16 13:07 (21) 07:23 16:37 49
Ore potenziali eliofanìa	460	429	375	345	297	287
Totale, caso peggiore				263	912	1437

Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

SHADOW - Calendario

Calcolo: SHADOW FLIKERING CASE A **Recettore d'ombra:** Rec 65-66-25 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)
Assunzioni sui calcoli d'ombra

- I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:
- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre	
1	07:24 16:38	12:54 (21) 14:13 (21)	07:10 17:12	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:22 19:32	06:53 18:41	06:28 16:54	07:03 16:29
2	07:24 16:39	12:55 (21) 14:13 (21)	07:09 17:14	06:32 17:48	06:41 19:23	05:55 19:55	05:26 20:25	05:27 20:35	05:52 20:14	06:23 19:30	06:54 18:39	06:29 16:52	07:04 16:29
3	07:24 16:39	12:56 (21) 14:13 (21)	07:08 17:15	06:30 17:49	06:39 19:24	05:53 19:56	05:26 20:25	05:28 20:35	05:53 20:13	06:25 19:29	06:55 18:37	06:30 16:51	07:05 16:28
4	07:24 16:40	12:56 (21) 14:13 (21)	07:07 17:16	06:29 17:50	06:37 19:25	05:52 19:57	05:25 20:26	05:29 20:34	05:54 20:12	06:26 19:27	06:56 18:36	06:31 16:50	07:06 16:28
5	07:24 16:41	12:57 (21) 14:14 (21)	07:06 17:17	06:27 17:52	06:36 19:26	05:51 19:58	05:25 20:27	05:29 20:34	05:55 20:11	06:27 19:25	06:57 18:34	06:33 16:49	07:07 16:28
6	07:24 16:42	12:58 (21) 14:14 (21)	07:05 17:19	06:26 17:53	06:34 19:27	05:49 19:59	05:25 20:27	05:30 20:34	05:56 20:10	06:28 19:24	06:58 18:32	06:34 16:48	07:08 16:28
7	07:24 16:43	12:59 (21) 14:14 (21)	07:04 17:20	06:24 17:54	06:32 19:28	05:48 20:00	05:24 20:28	05:30 20:34	05:57 20:09	06:29 19:22	06:59 18:31	06:35 16:47	07:09 16:28
8	07:24 16:44	13:00 (21) 14:15 (21)	07:02 17:21	06:22 17:55	06:31 19:29	05:47 20:01	05:24 20:29	05:31 20:33	05:58 20:07	06:30 19:20	07:00 18:29	06:36 16:45	07:10 16:28
9	07:24 16:45	13:00 (21) 14:14 (21)	07:01 17:22	06:21 17:56	06:29 19:30	05:46 20:02	05:24 20:29	05:32 20:33	05:59 20:06	06:31 19:19	07:02 18:28	06:37 16:44	07:11 16:28
10	07:23 16:46	13:01 (21) 14:14 (21)	07:00 17:24	06:19 17:57	06:27 19:31	05:45 20:03	05:24 20:30	05:32 20:33	06:00 20:05	06:32 19:17	07:03 18:26	06:39 16:43	07:12 16:28
11	07:23 16:47	13:03 (21) 14:14 (21)	06:59 17:25	06:18 17:58	06:26 19:32	05:44 20:04	05:23 20:30	05:33 20:32	06:01 20:03	06:33 19:15	07:04 18:24	06:40 16:42	07:13 16:28
12	07:23 16:48	13:04 (21) 14:15 (21)	06:58 17:26	06:16 18:00	06:24 19:33	05:43 20:06	05:23 20:31	05:34 20:32	06:02 20:02	06:34 19:14	07:05 18:23	06:41 16:41	07:13 16:28
13	07:23 16:49	13:05 (21) 14:14 (21)	06:56 17:27	06:14 18:01	06:22 19:35	05:41 20:07	05:23 20:31	05:34 20:31	06:03 20:01	06:35 19:12	07:06 18:21	06:42 16:40	07:14 16:28
14	07:22 16:51	13:06 (21) 14:14 (21)	06:55 17:29	06:13 18:02	06:21 19:36	05:40 20:08	05:23 20:32	05:35 20:31	06:04 19:59	06:36 19:10	07:07 18:19	06:43 16:39	07:15 16:28
15	07:22 16:52	13:07 (21) 14:14 (21)	06:54 17:30	06:11 18:03	06:19 19:37	05:39 20:09	05:23 20:32	05:36 20:30	06:05 19:58	06:37 19:08	07:08 18:18	06:45 16:39	07:16 16:28
16	07:21 16:53	13:08 (21) 14:14 (21)	06:52 17:31	06:09 18:04	06:18 19:38	05:38 20:10	05:23 20:33	05:37 20:29	06:06 19:57	06:38 19:07	07:09 18:16	06:46 16:38	07:17 16:28
17	07:21 16:54	13:09 (21) 14:13 (21)	06:51 17:32	06:08 18:05	06:16 19:39	05:37 20:11	05:23 20:33	05:38 20:29	06:07 19:55	06:39 19:05	07:10 18:15	06:47 16:37	07:17 16:28
18	07:20 16:55	13:11 (21) 14:13 (21)	06:50 17:34	06:06 18:06	06:15 19:40	05:37 20:12	05:23 20:33	05:38 20:28	06:08 19:54	06:40 19:03	07:11 18:13	06:48 16:36	07:18 16:29
19	07:20 16:56	13:12 (21) 14:12 (21)	06:48 17:35	06:04 18:07	06:13 19:41	05:36 20:12	05:23 20:34	05:39 20:27	06:09 19:52	06:41 19:01	07:13 18:12	06:49 16:35	07:19 16:28
20	07:19 16:58	13:13 (21) 14:11 (21)	06:47 17:36	06:02 18:08	06:12 19:42	05:35 20:13	05:23 20:34	05:40 20:27	06:10 19:51	06:42 19:00	07:14 18:10	06:51 16:35	07:19 16:28
21	07:19 16:59	13:16 (21) 14:11 (21)	06:45 17:37	06:01 18:10	06:10 19:43	05:34 20:14	05:24 20:34	05:41 20:26	06:11 19:49	06:43 18:58	07:15 18:09	06:52 16:34	07:20 16:28
22	07:18 17:00	13:17 (21) 14:10 (21)	06:44 17:39	05:59 18:11	06:09 19:44	05:33 20:15	05:24 20:34	05:42 20:25	06:12 19:48	06:44 18:56	07:16 18:07	06:53 16:33	07:20 16:28
23	07:17 17:01	13:19 (21) 14:09 (21)	06:43 17:40	05:57 18:12	06:07 19:45	05:32 20:16	05:24 20:35	05:43 20:24	06:13 19:46	06:45 18:55	07:17 18:06	06:54 16:33	07:21 16:28
24	07:17 17:02	13:21 (21) 14:07 (21)	06:41 17:41	05:56 18:13	06:06 19:46	05:32 20:17	05:24 20:35	05:44 20:23	06:14 19:45	06:46 18:53	07:18 18:04	06:55 16:32	07:21 16:28
25	07:16 17:04	13:24 (21) 14:07 (21)	06:40 17:42	05:54 18:14	06:04 19:47	05:31 20:18	05:25 20:35	05:45 20:23	06:15 19:43	06:47 18:51	07:19 17:03	06:56 16:31	07:22 16:28
26	07:15 17:05	13:27 (21) 14:05 (21)	06:38 17:43	05:52 18:15	06:03 19:49	05:30 20:19	05:25 20:35	05:45 20:22	06:16 19:42	06:48 18:49	07:20 17:02	06:58 16:31	07:22 16:28
27	07:14 17:06	13:30 (21) 14:02 (21)	06:37 17:45	05:51 18:16	06:01 19:50	05:29 20:20	05:25 20:35	05:46 20:21	06:17 19:40	06:49 18:48	07:21 17:00	06:59 16:30	07:22 16:28
28	07:14 17:07	13:34 (21) 13:59 (21)	06:35 17:46	05:49 18:17	06:00 19:51	05:29 20:21	05:26 20:35	05:47 20:20	06:18 19:38	06:50 18:46	07:22 16:59	07:00 16:30	07:23 16:28
29	07:13 17:09	13:39 (21) 13:54 (21)		06:47 19:18	05:59 19:52	05:28 20:21	05:26 20:35	05:48 20:19	06:19 19:37	06:51 18:44	06:24 16:58	07:01 16:30	07:23 16:28
30	07:12 17:10			06:46 19:19	05:57 19:53	05:28 20:22	05:26 20:35	05:49 20:18	06:20 19:35	06:52 18:43	06:25 16:56	07:02 16:29	07:23 16:28
31	07:11 17:11			06:44 19:20	05:51 20:23	05:27 20:23	05:25 20:17	05:50 20:11	06:21 19:34	06:27 16:55	06:27 16:55	07:23 16:37	07:23 14:12 (21)
Ore potenziali eliofanìa	296	297	369	399	449	454	460	429	375	345	297	287	
Totale, caso peggiore	1774										944	2420	

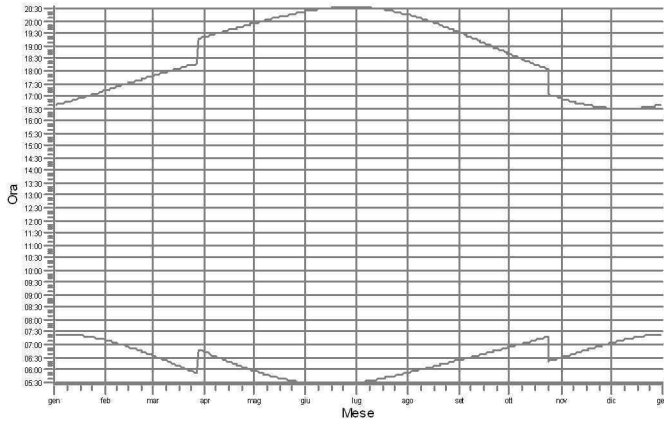
Legenda della tabella:

Giorno del mese Alba (hh:mm) Tramonto (hh:mm) Minuti d'ombra Inizio ombreggiamento (hh:mm) Fine ombreggiamento (hh:mm) (WTG che provoca l'inizio dell'ombreggiamento) (WTG che provoca l'ultimo ombreggiamento)

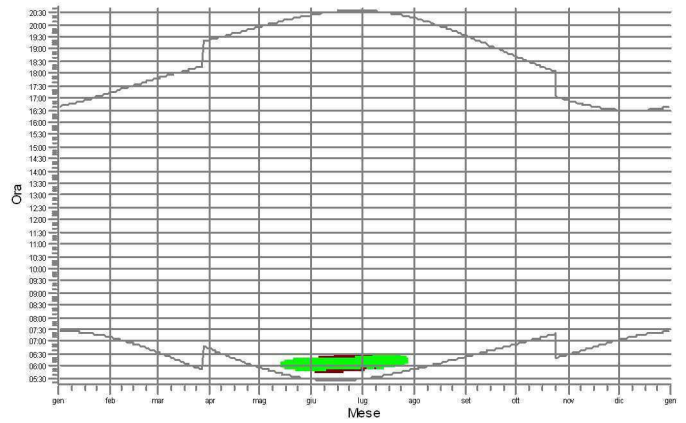
SHADOW - Calendario, grafico

Calcolo: SHADOW FLIKERING CASE A

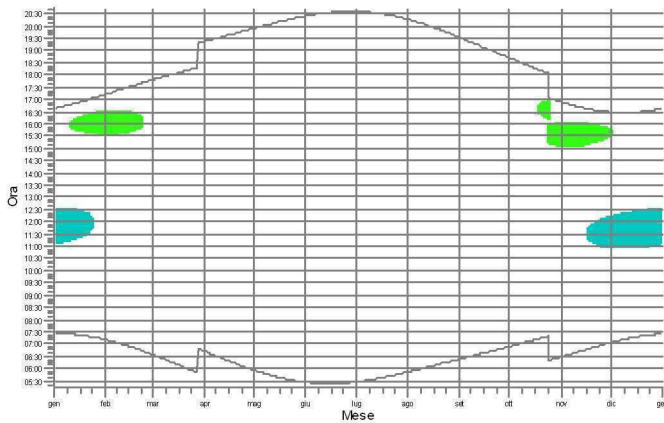
Rec 11: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)



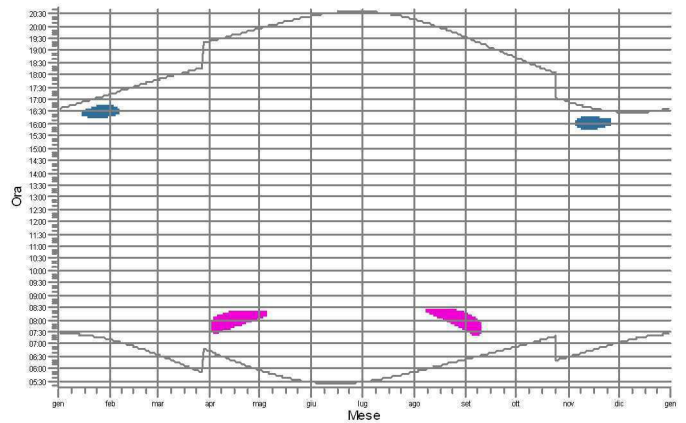
Rec 16: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)



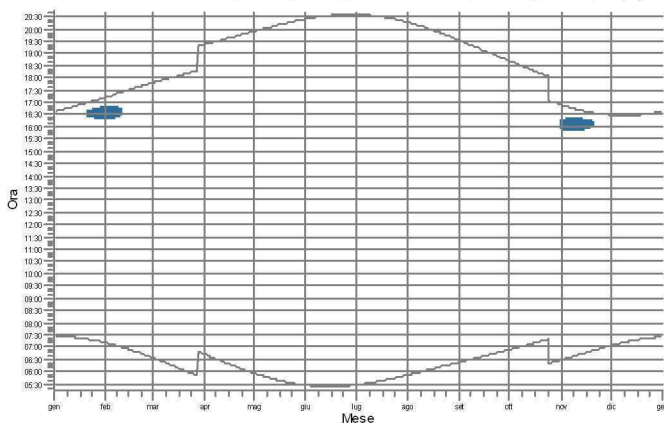
Rec 25: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)



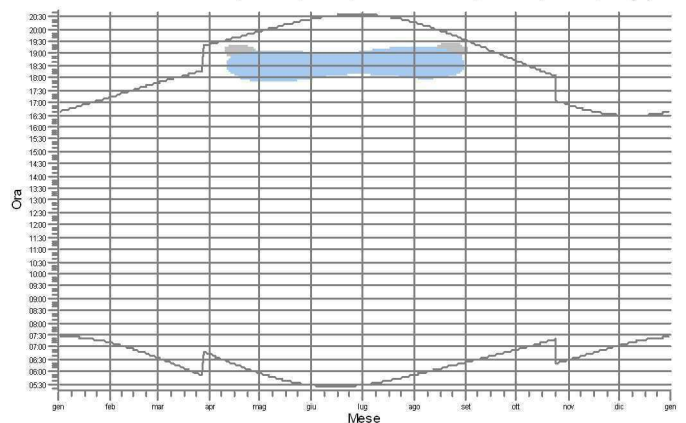
Rec 28: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)



Rec 29: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)



Rec 39: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)



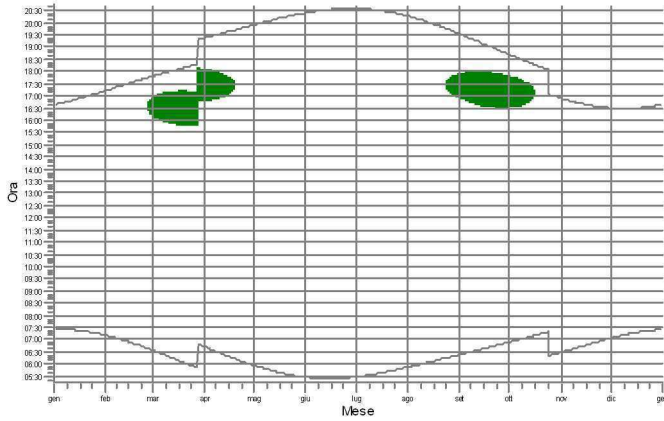
WTG

<p>08: GE 5.425-158 5425 158.0 IOI hub: 149,0 m (TOT: 228,0 m) (58)</p> <p>09: GE 5.425-158 5425 158.0 IOI hub: 149,0 m (TOT: 228,0 m) (60)</p> <p>12: GE 5.425-158 5425 158.0 IOI hub: 149,0 m (TOT: 228,0 m) (57)</p>	<p>15: GE 5.425-158 5425 158.0 IOI hub: 149,0 m (TOT: 228,0 m) (61)</p> <p>18: GE 5.425-158 5425 158.0 IOI hub: 149,0 m (TOT: 228,0 m) (69)</p> <p>21: GE 5.425-158 5425 158.0 IOI hub: 149,0 m (TOT: 228,0 m) (71)</p>	<p>22: GE 5.425-158 5425 158.0 IOI hub: 149,0 m (TOT: 228,0 m) (68)</p> <p>24: GE 5.425-158 5425 158.0 IOI hub: 149,0 m (TOT: 228,0 m) (72)</p>
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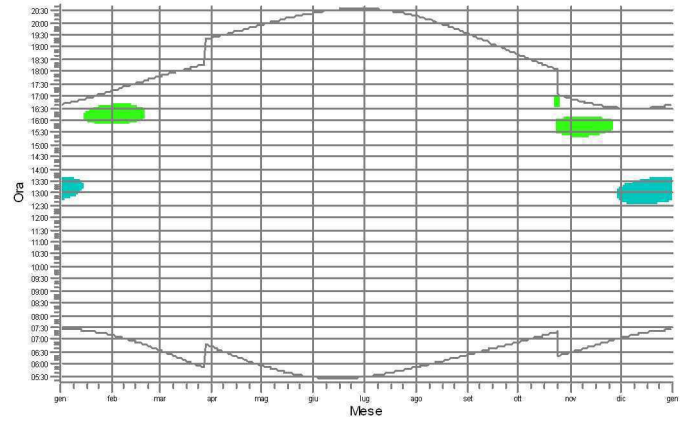
SHADOW - Calendario, grafico

Calcolo: SHADOW FLIKERING CASE A

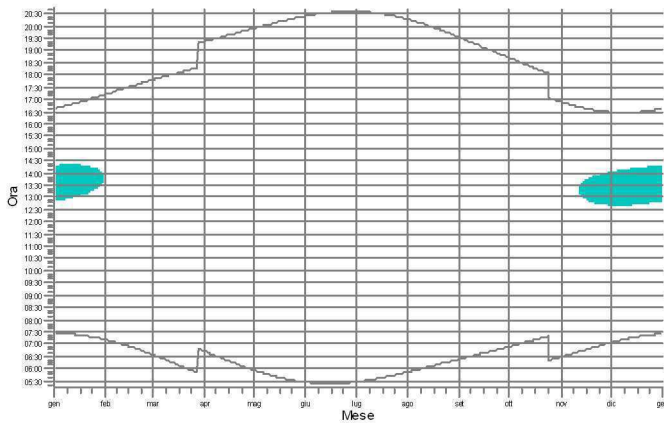
Rec 53: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)



Rec 65: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)



Rec 65-66-25: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)



WTG

01: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (49) 18: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (69) 21: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (71)

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 01 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (49)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno
1	07:24 16:38	07:10 17:13	06:34 16:16-16:50/34 17:47	06:43 16:51-18:02/71 19:22	05:56 19:54	05:27 20:24
2	07:24 16:39	07:09 17:14	06:32 16:13-16:52/39 17:48	06:41 16:51-18:01/70 19:23	05:55 19:55	05:27 20:25
3	07:24 16:40	07:08 17:15	06:31 16:11-16:55/44 17:50	06:39 16:52-18:01/69 19:24	05:54 19:56	05:26 20:26
4	07:24 16:41	07:07 17:17	06:29 16:08-16:57/49 17:51	06:38 16:53-18:00/67 19:25	05:52 19:57	05:26 20:26
5	07:24 16:42	07:06 17:18	06:28 16:07-16:59/52 17:52	06:36 16:53-17:58/65 19:26	05:51 19:58	05:25 20:27
6	07:24 16:43	07:05 17:19	06:26 16:04-17:00/56 17:53	06:34 16:54-17:58/64 19:27	05:50 20:00	05:25 20:28
7	07:24 16:44	07:04 17:20	06:24 16:02-17:01/59 17:54	06:33 16:55-17:56/61 19:28	05:49 20:01	05:25 20:28
8	07:24 16:45	07:03 17:22	06:23 16:01-17:03/62 17:55	06:31 16:56-17:56/60 19:29	05:47 20:02	05:24 20:29
9	07:24 16:46	07:02 17:23	06:21 16:00-17:03/63 17:57	06:29 16:57-17:54/57 19:31	05:46 20:03	05:24 20:30
10	07:24 16:47	07:00 17:24	06:19 15:58-17:04/66 17:58	06:28 16:58-17:52/54 19:32	05:45 20:04	05:24 20:30
11	07:23 16:48	06:59 17:25	06:18 15:58-17:05/67 17:59	06:26 17:00-17:51/51 19:33	05:44 20:05	05:24 20:31
12	07:23 16:49	06:58 17:27	06:16 15:56-17:06/70 18:00	06:24 17:01-17:49/48 19:34	05:43 20:06	05:24 20:31
13	07:23 16:50	06:57 17:28	06:15 15:55-17:06/71 18:01	06:23 17:02-17:46/44 19:35	05:42 20:07	05:24 20:32
14	07:22 16:51	06:55 17:29	06:13 15:55-17:07/72 18:02	06:21 17:05-17:45/40 19:36	05:41 20:08	05:24 20:32
15	07:22 16:52	06:54 17:30	06:11 15:53-17:07/74 18:03	06:20 17:06-17:42/36 19:37	05:40 20:09	05:24 20:33
16	07:22 16:53	06:53 17:32	06:10 15:52-17:07/75 18:04	06:18 17:10-17:40/30 19:38	05:39 20:10	05:24 20:33
17	07:21 16:54	06:51 17:33	06:08 15:52-17:08/76 18:06	06:17 17:12-17:36/24 19:39	05:38 20:11	05:24 20:33
18	07:21 16:56	06:50 17:34	06:06 15:52-17:08/76 18:07	06:15 17:18-17:31/13 19:40	05:37 20:12	05:24 20:34
19	07:20 16:57	06:49 17:35	06:04 15:51-17:07/76 18:08	06:13 19:41	05:36 20:13	05:24 20:34
20	07:20 16:58	06:47 17:37	06:03 15:50-17:07/77 18:09	06:12 19:42	05:35 20:14	05:24 20:34
21	07:19 16:59	06:46 17:38	06:01 15:50-17:08/78 18:10	06:10 19:43	05:34 20:15	05:24 20:34
22	07:18 17:00	06:44 17:39	05:59 15:50-17:07/77 18:11	06:09 19:45	05:33 20:16	05:24 20:35
23	07:18 17:02	06:43 17:40	05:58 15:49-17:07/78 18:12	06:07 19:46	05:33 20:17	05:24 20:35
24	07:17 17:03	06:41 17:41	05:56 15:50-17:07/77 18:13	06:06 19:47	05:32 20:17	05:25 20:35
25	07:16 17:04	06:40 17:43	05:54 15:50-17:07/77 18:14	06:05 19:48	05:31 20:18	05:25 20:35
26	07:15 17:05	06:38 17:44	05:53 15:49-17:06/77 18:15	06:03 19:49	05:31 20:19	05:25 20:35
27	07:15 17:06	06:37 16:26-16:41/15 17:45	05:51 15:50-17:06/76 18:16	06:02 19:50	05:30 20:20	05:26 20:35
28	07:14 17:08	06:35 16:20-16:46/26 17:46	05:49 15:50-17:05/75 18:18	06:00 19:51	05:29 20:21	05:26 20:35
29	07:13 17:09		06:48 16:50-18:04/74 19:19	05:59 19:52	05:29 20:22	05:26 20:35
30	07:12 17:10		06:46 16:50-18:03/73 19:20	05:58 19:53	05:28 20:23	05:27 20:35
31	07:11 17:11		06:44 16:51-18:03/72 19:21		05:28 20:23	
Ore potenziali eliofanìa	296	297	369	399	449	453
Somma minuti d'ombra	0	41	2092	924	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm)Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 01 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (49)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	05:27 20:35	05:52 20:16	06:23 16:59-17:50/51 19:32	06:53 16:35-17:46/71 18:41	06:28 16:54	07:03 16:29
2	05:28 20:35	05:53 20:15	06:24 16:57-17:51/54 19:31	06:54 16:36-17:44/68 18:40	06:29 16:53	07:04 16:29
3	05:28 20:35	05:54 20:14	06:25 16:55-17:52/57 19:29	06:55 16:36-17:43/67 18:38	06:30 16:52	07:05 16:29
4	05:29 20:35	05:55 20:12	06:26 16:54-17:53/59 19:27	06:57 16:37-17:42/65 18:36	06:32 16:50	07:06 16:29
5	05:30 20:34	05:56 20:11	06:27 16:52-17:53/61 19:26	06:58 16:38-17:40/62 18:35	06:33 16:49	07:07 16:28
6	05:30 20:34	05:57 20:10	06:28 16:50-17:54/64 19:24	06:59 16:38-17:38/60 18:33	06:34 16:48	07:08 16:28
7	05:31 20:34	05:58 20:09	06:29 16:49-17:54/65 19:22	07:00 16:39-17:37/58 18:31	06:35 16:47	07:09 16:28
8	05:31 20:34	05:59 20:08	06:30 16:48-17:55/67 19:21	07:01 16:41-17:35/54 18:30	06:37 16:46	07:10 16:28
9	05:32 20:33	06:00 20:06	06:31 16:46-17:55/69 19:19	07:02 16:42-17:33/51 18:28	06:38 16:45	07:11 16:28
10	05:33 20:33	06:01 20:05	06:32 16:44-17:54/70 19:17	07:03 16:43-17:30/47 18:26	06:39 16:44	07:12 16:28
11	05:33 20:32	06:02 20:04	06:33 16:43-17:54/71 19:16	07:04 16:45-17:28/43 18:25	06:40 16:43	07:13 16:28
12	05:34 20:32	06:03 20:02	06:34 16:42-17:55/73 19:14	07:05 16:48-17:26/38 18:23	06:41 16:42	07:14 16:28
13	05:35 20:31	06:04 20:01	06:35 16:41-17:55/74 19:12	07:06 16:51-17:22/31 18:21	06:43 16:41	07:15 16:28
14	05:36 20:31	06:05 20:00	06:36 16:40-17:55/75 19:10	07:07 16:55-17:17/22 18:20	06:44 16:40	07:15 16:29
15	05:36 20:30	06:06 19:58	06:37 16:39-17:55/76 19:09	07:08 17:04-17:08/4 18:18	06:45 16:39	07:16 16:29
16	05:37 20:30	06:07 19:57	06:38 16:38-17:54/76 19:07	07:10 18:17	06:46 16:38	07:17 16:29
17	05:38 20:29	06:08 19:55	06:39 16:38-17:54/76 19:05	07:11 18:15	06:47 16:37	07:17 16:29
18	05:39 20:28	06:09 19:54	06:40 16:37-17:54/77 19:04	07:12 18:14	06:49 16:36	07:18 16:30
19	05:40 20:28	06:10 19:53	06:41 16:36-17:54/78 19:02	07:13 18:12	06:50 16:36	07:19 16:30
20	05:41 20:27	06:11 19:51	06:42 16:36-17:53/77 19:00	07:14 18:11	06:51 16:35	07:19 16:30
21	05:41 20:26	06:12 19:50	06:43 16:35-17:53/78 18:58	07:15 18:09	06:52 16:34	07:20 16:31
22	05:42 20:25	06:13 19:48	06:44 16:35-17:52/77 18:57	07:16 18:08	06:53 16:34	07:20 16:31
23	05:43 20:25	06:14 19:47	06:45 16:35-17:52/77 18:55	07:17 18:06	06:54 16:33	07:21 16:32
24	05:44 20:24	06:15 19:45	06:46 16:34-17:51/77 18:53	07:19 18:05	06:56 16:32	07:21 16:32
25	05:45 20:23	06:16 19:43	06:47 16:34-17:50/76 18:51	07:20 17:03	06:57 16:32	07:22 16:33
26	05:46 20:22	06:17 19:42	06:48 16:34-17:50/76 18:50	07:21 17:02	06:58 16:31	07:22 16:34
27	05:47 20:21	06:18 19:40	06:49 16:34-17:49/75 18:48	07:22 17:01	06:59 16:31	07:23 16:34
28	05:48 20:20	06:19 19:39	06:50 16:34-17:48/74 18:46	07:23 16:59	07:00 16:30	07:23 16:35
29	05:49 20:19	06:20 19:37	06:51 16:34-17:47/73 18:45	07:24 16:58	07:01 16:30	07:23 16:36
30	05:50 20:18	06:21 19:36	06:52 16:34-17:46/72 18:43	07:25 16:57	07:02 16:30	07:23 16:36
31	05:51 20:17	06:22 19:34	17:01-17:49/48	06:27 16:55		07:24 16:37
Ore potenziali eliofanìa	460	429	375	345	297	287
Somma minuti d'ombra	0	239	2125	741	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 02 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (50)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:43 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:52 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23	05:55 19:55	05:27 20:25	05:28 20:35	05:53 20:15	06:24 19:31	06:54 18:40	06:29 16:53	07:04 16:29
3	07:24 16:40	07:08 17:15	06:31 17:50	06:39 19:24	05:54 19:56	05:26 20:26	05:28 20:35	05:54 20:14	06:25 19:29	06:55 18:38	06:30 16:52	07:05 16:29
4	07:24 16:41	07:07 17:17	06:29 17:51	06:38 19:25	05:52 19:57	05:26 20:26	05:29 20:35	05:55 20:12	06:26 19:27	06:57 18:36	06:32 16:50	07:06 16:28
5	07:24 16:42	07:06 17:18	06:28 17:52	06:36 19:26	05:51 19:58	05:25 20:27	05:29 20:34	05:56 20:11	06:27 19:26	06:58 18:34	06:33 16:49	07:07 16:28
6	07:24 16:43	07:05 17:19	06:26 17:53	06:34 19:27	05:50 20:00	05:25 20:28	05:30 20:34	05:57 20:10	06:28 19:24	06:59 18:33	06:34 16:48	07:08 16:28
7	07:24 16:44	07:04 17:20	06:24 17:54	06:33 19:28	05:49 20:01	05:25 20:28	05:31 20:34	05:58 20:09	06:29 19:22	07:00 18:31	06:35 16:47	07:09 16:28
8	07:24 16:45	07:03 17:22	06:23 17:55	06:31 19:29	05:47 20:02	05:24 20:29	05:31 20:34	05:59 20:08	06:30 19:21	07:01 18:30	06:37 16:46	07:10 16:28
9	07:24 16:46	07:02 17:23	06:21 17:57	06:29 19:31	05:46 20:03	05:24 20:30	05:32 20:33	06:00 20:06	06:31 19:19	07:02 18:28	06:38 16:45	07:11 16:28
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12	07:23 16:49	06:58 17:27	06:16 18:00	06:24 19:34	05:43 20:06	05:24 20:31	05:34 20:32	06:03 20:02	06:34 19:14	07:05 18:23	06:41 16:42	07:14 16:28
13	07:23 16:50	06:57 17:28	06:15 18:01	06:23 19:35	05:42 20:07	05:24 20:32	05:35 20:31	06:04 20:01	06:35 19:12	07:06 18:21	06:43 16:41	07:15 16:28
14	07:22 16:51	06:55 17:29	06:13 18:02	06:21 19:36	05:41 20:08	05:24 20:32	05:36 20:31	06:05 20:00	06:36 19:10	07:07 18:20	06:44 16:40	07:15 16:28
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16	07:22 16:53	06:53 17:32	06:10 18:04	06:18 19:38	05:39 20:10	05:24 20:33	05:37 20:30	06:07 19:57	06:38 19:07	07:10 18:17	06:46 16:38	07:17 16:29
17	07:21 16:54	06:51 17:33	06:08 18:06	06:17 19:39	05:38 20:11	05:24 20:33	05:38 20:29	06:08 19:55	06:39 19:05	07:11 18:15	06:47 16:37	07:18 16:29
18	07:21 16:56	06:50 17:34	06:06 18:07	06:15 19:40	05:37 20:12	05:24 20:34	05:39 20:28	06:09 19:54	06:40 19:04	07:12 18:14	06:49 16:36	07:18 16:30
19	07:20 16:57	06:49 17:35	06:04 18:08	06:13 19:41	05:36 20:13	05:24 20:34	05:40 20:28	06:10 19:53	06:41 19:02	07:13 18:12	06:50 16:36	07:19 16:30
20	07:20 16:58	06:47 17:37	06:03 18:09	06:12 19:42	05:35 20:14	05:24 20:34	05:40 20:27	06:11 19:51	06:42 19:00	07:14 18:11	06:51 16:35	07:19 16:30
21	07:19 16:59	06:46 17:38	06:01 18:10	06:10 19:43	05:34 20:15	05:24 20:34	05:41 20:26	06:12 19:50	06:43 18:58	07:15 18:09	06:52 16:34	07:20 16:31
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23	07:18 17:02	06:43 17:40	05:58 18:12	06:07 19:46	05:33 20:17	05:24 20:35	05:43 20:25	06:14 19:47	06:45 18:55	07:17 18:06	06:54 16:33	07:21 16:32
24	07:17 17:03	06:41 17:41	05:56 18:13	06:06 19:47	05:32 20:17	05:25 20:35	05:44 20:24	06:15 19:45	06:46 18:53	07:19 18:05	06:56 16:32	07:21 16:32
25	07:16 17:04	06:40 17:43	05:54 18:14	06:05 19:48	05:31 20:18	05:25 20:35	05:45 20:23	06:16 19:43	06:47 18:51	07:20 17:03	06:57 16:32	07:22 16:33
26	07:15 17:05	06:38 17:44	05:53 18:15	06:03 19:49	05:30 20:19	05:25 20:35	05:46 20:22	06:17 19:42	06:48 18:50	07:21 17:02	06:58 16:31	07:22 16:34
27	07:15 17:06	06:37 17:45	05:51 18:16	06:02 19:50	05:30 20:20	05:26 20:35	05:47 20:21	06:18 19:40	06:49 18:48	07:22 17:01	06:59 16:31	07:23 16:34
28	07:14 17:08	06:35 17:46	05:49 18:18	06:00 19:51	05:29 20:21	05:26 20:35	05:48 20:20	06:19 19:39	06:50 18:46	07:23 16:59	07:00 16:30	07:23 16:35
29	07:13 17:09	06:48 17:47	06:48 19:19	05:59 19:52	05:29 20:22	05:26 20:35	05:49 20:19	06:20 19:37	06:51 18:45	07:24 16:58	07:01 16:30	07:23 16:36
30	07:12 17:10	06:46 19:20	06:46 19:53	05:58 19:53	05:28 20:23	05:27 20:35	05:50 20:18	06:21 19:36	06:52 18:43	07:25 16:57	07:02 16:30	07:23 16:36
31	07:11 17:11	06:44 19:21	06:44 19:53	05:57 19:53	05:27 20:23	05:27 20:35	05:51 20:17	06:22 19:34	06:53 18:43	07:26 16:55	07:03 16:30	07:24 16:37
Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 03 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (53)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23	05:55 19:55	05:26 20:25	05:28 20:35	05:52 20:15	06:24 19:31	06:54 18:39	06:29 16:53	07:04 16:29
3	07:24 16:40	07:08 17:15	06:31 17:50	06:39 19:24	05:54 19:56	05:26 20:26	05:28 20:35	05:53 20:14	06:25 19:29	06:55 18:38	06:30 16:51	07:05 16:29
4	07:24 16:41	07:07 17:16	06:29 17:51	06:37 19:25	05:52 19:57	05:26 20:26	05:29 20:35	05:54 20:12	06:26 19:27	06:56 18:36	06:32 16:50	07:06 16:28
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12	07:23 16:49	06:58 17:27	06:16 18:00	06:24 19:34	05:43 20:06	05:24 20:31	05:34 20:32	06:02 20:02	06:34 19:14	07:05 18:23	06:41 16:42	07:14 16:28
13	07:23 16:50	06:57 17:28	06:14 18:01	06:23 19:35	05:42 20:07	05:23 20:32	05:35 20:31	06:03 20:01	06:35 19:12	07:06 18:21	06:43 16:41	07:15 16:28
14	07:22 16:51	06:55 17:29	06:13 18:02	06:21 19:36	05:41 20:08	05:23 20:32	05:35 20:31	06:04 20:00	06:36 19:10	07:07 18:20	06:44 16:40	07:15 16:28
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16	07:22 16:53	06:53 17:32	06:09 18:04	06:18 19:38	05:39 20:10	05:23 20:33	05:37 20:30	06:07 19:57	06:38 19:07	07:09 18:17	06:46 16:38	07:17 16:29
17	07:21 16:54	06:51 17:33	06:08 18:05	06:16 19:39	05:38 20:11	05:23 20:33	05:38 20:29	06:08 19:55	06:39 19:05	07:11 18:15	06:47 16:37	07:17 16:29
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31	07:11 17:11		06:44 19:21		05:27 20:23		05:50 20:17	06:22 19:34		06:27 16:55		07:24 16:37
Ore potenziali eliofanìa	296	297	369	399	449	454	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 04 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (56)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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Ore potenziali eliofanìa	296	297	369	399	449	454	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm)Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 05 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (59)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
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Ore potenziali eliofanìa	296	297	369	399	449	454	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 06 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (51)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
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	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:52 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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23	07:18 17:01	06:43 17:40	05:58 18:12	06:07 19:46	05:33 20:16	05:24 20:35	05:43 20:25	06:14 19:46	06:45 18:55	07:17 18:06	06:54 16:33	07:21 16:32
24	07:17 17:03	06:41 17:41	05:56 18:13	06:06 19:47	05:32 20:17	05:25 20:35	05:44 20:24	06:15 19:45	06:46 18:53	07:19 18:05	06:56 16:32	07:21 16:32
25	07:16 17:04	06:40 17:42	05:54 18:14	06:05 19:48	05:31 20:18	05:25 20:35	05:45 20:23	06:16 19:43	06:47 18:51	07:20 17:03	06:57 16:32	07:22 16:33
26	07:15 17:05	06:38 17:44	05:53 18:15	06:03 19:49	05:30 20:19	05:25 20:35	05:46 20:22	06:17 19:42	06:48 18:50	07:21 17:02	06:58 16:31	07:22 16:33
27	07:15 17:06	06:37 17:45	05:51 18:16	06:02 19:50	05:30 20:20	05:26 20:35	05:47 20:21	06:18 19:40	06:49 18:48	07:22 17:01	06:59 16:31	07:23 16:34
28	07:14 17:08	06:35 17:46	05:49 18:17	06:00 19:51	05:29 20:21	05:26 20:35	05:48 20:20	06:19 19:39	06:50 18:46	07:23 16:59	07:00 16:30	07:23 16:35
29	07:13 17:09		06:48 19:19	05:59 19:52	05:29 20:22	05:26 20:35	05:49 20:19	06:20 19:37	06:51 18:45	06:24 16:58	07:01 16:30	07:23 16:36
30	07:12 17:10		06:46 19:20	05:58 19:53	05:28 20:22	05:27 20:35	05:50 20:18	06:21 19:35	06:52 18:43	06:26 16:57	07:02 16:30	07:23 16:36
31	07:11 17:11		06:44 19:21		05:27 20:23		05:51 20:17	06:22 19:34		06:27 16:55		07:24 16:37
Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 07 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (52)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:52 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23	05:55 19:55	05:26 20:25	05:28 20:35	05:52 20:15	06:24 19:31	06:54 18:39	06:29 16:53	07:04 16:29
3	07:24 16:40	07:08 17:15	06:31 17:50	06:39 19:24	05:54 19:56	05:26 20:26	05:28 20:35	05:53 20:14	06:25 19:29	06:55 18:38	06:30 16:51	07:05 16:29
4	07:24 16:41	07:07 17:16	06:29 17:51	06:37 19:25	05:52 19:57	05:26 20:26	05:29 20:35	05:54 20:12	06:26 19:27	06:56 18:36	06:32 16:50	07:06 16:28
5	07:24 16:42	07:06 17:18	06:27 17:52	06:36 19:26	05:51 19:58	05:25 20:27	05:29 20:34	05:55 20:11	06:27 19:26	06:58 18:34	06:33 16:49	07:07 16:28
6	07:24 16:43	07:05 17:19	06:26 17:53	06:34 19:27	05:50 20:00	05:25 20:28	05:30 20:34	05:56 20:10	06:28 19:24	06:59 18:33	06:34 16:48	07:08 16:28
7	07:24 16:44	07:04 17:20	06:24 17:54	06:33 19:28	05:49 20:01	05:25 20:28	05:31 20:34	05:57 20:09	06:29 19:22	07:00 18:31	06:35 16:47	07:09 16:28
8	07:24 16:45	07:03 17:22	06:23 17:55	06:31 19:29	05:47 20:02	05:24 20:29	05:31 20:34	05:58 20:08	06:30 19:21	07:01 18:29	06:36 16:46	07:10 16:28
9	07:24 16:46	07:02 17:23	06:21 17:56	06:29 19:30	05:46 20:03	05:24 20:30	05:32 20:33	05:59 20:06	06:31 19:19	07:02 18:28	06:38 16:45	07:11 16:28
10	07:24 16:47	07:00 17:24	06:19 17:58	06:28 19:32	05:45 20:04	05:24 20:30	05:33 20:33	06:00 20:05	06:32 19:17	07:03 18:26	06:39 16:44	07:12 16:28
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12	07:23 16:49	06:58 17:27	06:16 18:00	06:24 19:34	05:43 20:06	05:24 20:31	05:34 20:32	06:02 20:02	06:34 19:14	07:05 18:23	06:41 16:42	07:14 16:28
13	07:23 16:50	06:57 17:28	06:14 18:01	06:23 19:35	05:42 20:07	05:24 20:32	05:35 20:31	06:04 20:01	06:35 19:12	07:06 18:21	06:43 16:41	07:15 16:28
14	07:22 16:51	06:55 17:29	06:13 18:02	06:21 19:36	05:41 20:08	05:23 20:32	05:36 20:31	06:05 20:00	06:36 19:10	07:07 18:20	06:44 16:40	07:15 16:28
15	07:22 16:52	06:54 17:30	06:11 18:03	06:20 19:37	05:40 20:09	05:23 20:33	05:36 20:30	06:06 19:58	06:37 19:09	07:08 18:18	06:45 16:39	07:16 16:29
16	07:22 16:53	06:53 17:32	06:09 18:04	06:18 19:38	05:39 20:10	05:23 20:33	05:37 20:30	06:07 19:57	06:38 19:07	07:09 18:17	06:46 16:38	07:17 16:29
17	07:21 16:54	06:51 17:33	06:08 18:05	06:16 19:39	05:38 20:11	05:23 20:33	05:38 20:29	06:08 19:55	06:39 19:05	07:11 18:15	06:47 16:37	07:17 16:29
18	07:21 16:55	06:50 17:34	06:06 18:07	06:15 19:40	05:37 20:12	05:24 20:34	05:39 20:28	06:09 19:54	06:40 19:03	07:12 18:14	06:49 16:36	07:18 16:30
19	07:20 16:57	06:49 17:35	06:04 18:08	06:13 19:41	05:36 20:13	05:24 20:34	05:40 20:28	06:10 19:53	06:41 19:02	07:13 18:12	06:50 16:36	07:19 16:30
20	07:20 16:58	06:47 17:36	06:03 18:09	06:12 19:42	05:35 20:14	05:24 20:34	05:40 20:27	06:11 19:51	06:42 19:00	07:14 18:11	06:51 16:35	07:19 16:30
21	07:19 16:59	06:46 17:38	06:01 18:10	06:10 19:43	05:34 20:15	05:24 20:34	05:41 20:26	06:12 19:50	06:43 18:58	07:15 18:09	06:52 16:34	07:20 16:31
22	07:18 17:00	06:44 17:39	05:59 18:11	06:09 19:44	05:33 20:16	05:24 20:35	05:42 20:25	06:13 19:48	06:44 18:57	07:16 18:08	06:53 16:34	07:20 16:31
23	07:18 17:01	06:43 17:40	05:58 18:12	06:07 19:46	05:33 20:16	05:24 20:35	05:43 20:25	06:14 19:47	06:45 18:55	07:17 18:06	06:54 16:33	07:21 16:32
24	07:17 17:03	06:41 17:41	05:56 18:13	06:06 19:47	05:32 20:17	05:25 20:35	05:44 20:24	06:15 19:45	06:46 18:53	07:19 18:05	06:56 16:32	07:21 16:32
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28	07:14 17:08	06:35 17:46	05:49 18:17	06:00 19:51	05:29 20:21	05:26 20:35	05:48 20:20	06:19 19:39	06:50 18:46	07:23 16:59	07:00 16:30	07:23 16:35
29	07:13 17:09		06:48 19:19	05:59 19:52	05:29 20:22	05:26 20:35	05:49 20:19	06:20 19:37	06:51 18:45	06:24 16:58	07:01 16:30	07:23 16:36
30	07:12 17:10		06:46 19:20	05:58 19:53	05:28 20:23	05:27 20:35	05:50 20:18	06:21 19:35	06:52 18:43	06:26 16:57	07:02 16:30	07:23 16:36
31	07:11 17:11		06:44 19:21		05:27 20:23		05:51 20:17	06:22 19:34		06:27 16:55		07:24 16:37
Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 08 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (58)

Assunzioni sui calcoli d'ombra

- I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:
- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:51-06:14/23 20:35	05:27 20:16	05:53-06:24/31 19:32	06:23 18:41	06:53 16:54	06:28 16:29
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23	05:55 19:55	05:26 20:25	05:50-06:15/25 20:35	05:28 20:15	05:54-06:25/31 19:31	06:24 18:39	06:54 16:53	06:29 16:29
3	07:24 16:40	07:08 17:15	06:31 17:50	06:39 19:24	05:53 19:56	05:26 20:26	05:50-06:16/26 20:35	05:28 20:14	05:54-06:24/30 19:29	06:25 18:38	06:55 16:51	06:30 16:29
4	07:24 16:41	07:07 17:16	06:29 17:51	06:37 19:25	05:52 19:57	05:26 20:26	05:49-06:16/27 20:35	05:29 20:12	05:55-06:25/30 19:27	06:26 18:36	06:56 16:50	06:32 16:28
5	07:24 16:42	07:06 17:18	06:27 17:52	06:36 19:26	05:51 19:58	05:25 20:27	05:49-06:17/28 20:34	05:29 20:11	05:55-06:24/29 19:26	06:27 18:34	06:57 16:49	06:33 16:28
6	07:24 16:43	07:05 17:19	06:26 17:53	06:34 19:27	05:50 19:59	05:25 20:28	05:49-06:18/29 20:34	05:30 20:10	05:55-06:24/29 19:24	06:28 18:33	06:59 16:48	06:34 16:28
7	07:24 16:43	07:04 17:20	06:24 17:54	06:32 19:28	05:49 20:01	05:25 20:28	05:49-06:19/30 20:34	05:31 20:09	05:55-06:23/28 19:22	06:29 18:31	07:00 16:47	06:35 16:28
8	07:24 16:44	07:03 17:21	06:23 17:55	06:31 19:29	05:47 20:02	05:24 20:29	05:49-06:18/29 20:34	05:31 20:08	05:56-06:24/28 19:21	06:30 18:29	07:01 16:46	06:36 16:28
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10	07:24 16:47	07:00 17:24	06:19 17:58	06:28 19:32	05:45 20:04	05:24 20:30	05:49-06:20/31 20:33	05:33 20:05	05:57-06:23/26 19:17	06:32 18:26	07:03 16:44	06:39 16:28
11	07:23 16:48	06:59 17:25	06:18 17:59	06:26 19:33	05:44 20:05	05:24 20:31	05:49-06:20/31 20:32	05:33 20:04	05:58-06:22/24 19:15	06:33 18:25	07:04 16:43	06:40 16:28
12	07:23 16:49	06:58 17:26	06:16 18:00	06:24 19:34	05:43 20:06	05:24 20:31	05:49-06:21/32 20:32	06:00-06:22/22 20:02	06:34 19:14	07:05 18:23	06:41 16:42	07:14 16:28
13	07:23 16:50	06:57 17:28	06:14 18:01	06:23 19:35	05:42 20:07	05:23 20:32	05:49-06:21/32 20:31	06:00-06:21/21 20:01	06:35 19:12	07:06 18:21	06:42 16:41	07:15 16:28
14	07:22 16:51	06:55 17:29	06:13 18:02	06:21 19:36	05:41 20:08	05:23 20:32	05:49-06:21/32 20:31	06:01-06:20/19 20:00	06:36 19:10	07:07 18:20	06:44 16:40	07:15 16:28
15	07:22 16:52	06:54 17:30	06:11 18:03	06:20 19:37	05:40 20:09	05:23 20:32	05:49-06:22/33 20:30	06:03-06:19/16 20:06	06:37 19:09	07:08 18:18	06:45 16:39	07:16 16:29
16	07:22 16:53	06:53 17:31	06:09 18:04	06:18 19:38	05:39 20:10	05:23 20:33	05:49-06:22/33 20:30	06:05-06:18/13 20:06	06:38 19:07	07:09 18:17	06:46 16:38	07:17 16:29
17	07:21 16:54	06:51 17:33	06:08 18:05	06:16 19:39	05:38 20:11	05:23 20:33	05:49-06:22/33 20:29	06:07-06:16/9 20:09	06:39 19:05	07:11 18:15	06:47 16:37	07:17 16:29
18	07:21 16:55	06:50 17:34	06:06 18:07	06:15 19:40	05:37 20:12	05:23 20:34	05:49-06:22/33 20:28	06:09 19:54	06:40 19:03	07:12 18:14	06:49 16:36	07:18 16:29
19	07:20 16:57	06:49 17:35	06:04 18:08	06:13 19:41	05:36 20:13	05:24 20:34	05:49-06:22/33 20:28	06:10 19:52	06:41 19:02	07:13 18:12	06:50 16:36	07:19 16:30
20	07:20 16:58	06:47 17:36	06:03 18:09	06:12 19:42	05:35 20:14	05:24 20:34	05:50-06:22/32 20:27	06:11 19:51	06:42 19:00	07:14 18:10	06:51 16:35	07:19 16:30
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23	07:18 17:01	06:43 17:40	05:58 18:12	06:07 19:46	05:33 20:16	05:24 20:35	05:51-06:23/32 20:25	06:14 19:46	06:45 18:55	07:17 18:06	06:54 16:33	07:21 16:32
24	07:17 17:03	06:41 17:41	05:56 18:13	06:06 19:47	05:32 20:17	05:25 20:35	05:50-06:23/33 20:24	06:15 19:45	06:46 18:53	07:19 18:05	06:56 16:32	07:21 16:32
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29	07:13 17:09		06:47 19:19	05:59 19:52	05:54-06:11/17 20:22	05:26 20:35	05:52-06:24/32 20:19	06:20 19:37	06:51 18:45	06:24 16:58	07:01 16:30	07:23 16:35
30	07:12 17:10		06:46 19:20	05:57 19:53	05:52-06:12/20 20:22	05:27 20:35	05:53-06:25/32 20:18	06:21 19:35	06:52 18:43	06:26 16:56	07:02 16:29	07:23 16:36
31	07:11 17:11		06:44 19:21		05:52-06:13/21 20:23			06:22 19:34		06:27 16:55		07:24 16:37
Ore potenziali eliofanìa	296	297	369	399	449	454	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	90	928	413	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 09 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (60)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:50-06:14/24 20:35	05:27 20:35	05:59-06:19/20 20:16	06:23 19:32	06:53 18:41	06:28 16:54
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23	05:55 19:55	05:26 20:25	05:51-06:15/24 20:35	05:28 20:35	05:59-06:20/21 20:15	06:24 19:31	06:54 18:39	06:29 16:53
3	07:24 16:40	07:08 17:15	06:31 17:49	06:39 19:24	05:53 19:56	05:26 20:26	05:52-06:15/23 20:35	05:28 20:35	05:59-06:20/21 20:14	06:25 19:29	06:55 18:38	06:30 16:51
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5	07:24 16:42	07:06 17:18	06:27 17:52	06:36 19:26	05:51 19:58	05:25 20:27	05:52-06:15/23 20:34	05:29 20:34	05:58-06:21/23 20:11	06:27 19:26	06:57 18:34	06:33 16:49
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Ore potenziali eliofanìa	296	297	369	399	449	454	604	565	429	375	345	297
Somma minuti d'ombra	0	0	0	0	309	604	565	429	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 10 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (62)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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31	07:11 17:11		06:44 19:21		05:27 20:23		05:50 20:17	06:22 19:34		06:27 16:55		07:24 16:37
Ore potenziali eliofanìa	296	297	369	399	449	454	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 11 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (54)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:52 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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23	07:18 17:01	06:43 17:40	05:58 18:12	06:07 19:46	05:33 20:16	05:24 20:35	05:43 20:24	06:14 19:46	06:45 18:55	07:17 18:06	06:54 16:33	07:21 16:32
24	07:17 17:03	06:41 17:41	05:56 18:13	06:06 19:47	05:32 20:17	05:25 20:35	05:44 20:24	06:15 19:45	06:46 18:53	07:19 18:05	06:56 16:32	07:21 16:32
25	07:16 17:04	06:40 17:42	05:54 18:14	06:04 19:48	05:31 20:18	05:25 20:35	05:45 20:23	06:16 19:43	06:47 18:51	07:20 17:03	06:57 16:32	07:22 16:33
26	07:15 17:05	06:38 17:44	05:53 18:15	06:03 19:49	05:30 20:19	05:25 20:35	05:46 20:22	06:17 19:42	06:48 18:50	07:21 17:02	06:58 16:31	07:22 16:34
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28	07:14 17:08	06:35 17:46	05:49 18:17	06:00 19:51	05:29 20:21	05:26 20:35	05:48 20:20	06:19 19:39	06:50 18:46	07:23 16:59	07:00 16:30	07:23 16:35
29	07:13 17:09		06:48 19:19	05:59 19:52	05:29 20:22	05:26 20:35	05:49 20:19	06:20 19:37	06:51 18:45	06:24 16:58	07:01 16:30	07:23 16:36
30	07:12 17:10		06:46 19:20	05:58 19:53	05:28 20:22	05:27 20:35	05:50 20:18	06:21 19:35	06:52 18:43	06:26 16:57	07:02 16:30	07:23 16:36
31	07:11 17:11		06:44 19:21		05:27 20:23		05:51 20:17	06:22 19:34		06:27 16:55		07:24 16:37
Ore potenziali eliofania	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 12 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (57)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:52 20:16	06:23 19:32	19:05-19:09/4 18:41	06:28 16:54	07:03 16:29
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23	05:55 19:55	05:26 20:25	05:28 20:35	05:52 20:15	06:24 19:31	06:54 18:39	06:29 16:53	07:04 16:29
3	07:24 16:40	07:08 17:15	06:31 17:50	06:39 19:24	05:54 19:56	05:26 20:26	05:28 20:35	05:53 20:14	06:25 19:29	06:55 18:38	06:30 16:51	07:05 16:29
4	07:24 16:41	07:07 17:16	06:29 17:51	06:37 19:25	05:52 19:57	05:26 20:26	05:29 20:35	05:54 20:12	06:26 19:27	06:56 18:36	06:32 16:50	07:06 16:28
5	07:24 16:42	07:06 17:18	06:27 17:52	06:36 19:26	05:51 19:58	05:25 20:27	05:29 20:34	05:55 20:11	06:27 19:26	06:57 18:34	06:33 16:49	07:07 16:28
6	07:24 16:43	07:05 17:19	06:26 17:53	06:34 19:27	05:50 19:59	05:25 20:28	05:30 20:34	05:56 20:10	06:28 19:24	06:59 18:33	06:34 16:48	07:08 16:28
7	07:24 16:44	07:04 17:20	06:24 17:54	06:32 19:28	05:49 20:01	05:25 20:28	05:31 20:34	05:57 20:09	06:29 19:22	07:00 18:31	06:35 16:47	07:09 16:28
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Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	285	0	0	0	283	4	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 13 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (55)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23	05:55 19:55	05:26 20:25	05:28 20:35	05:52 20:15	06:24 19:31	06:54 18:39	06:29 16:53	07:04 16:29
3	07:24 16:40	07:08 17:15	06:31 17:50	06:39 19:24	05:54 19:56	05:26 20:26	05:28 20:35	05:53 20:14	06:25 19:29	06:55 18:38	06:30 16:51	07:05 16:29
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14	07:22 16:51	06:55 17:29	06:13 18:02	06:21 19:36	05:41 20:08	05:23 20:32	05:36 20:31	06:04 20:00	06:36 19:10	07:07 18:20	06:44 16:40	07:15 16:28
15	07:22 16:52	06:54 17:30	06:11 18:03	06:20 19:37	05:40 20:09	05:23 20:32	05:36 20:30	06:06 19:58	06:37 19:09	07:08 18:18	06:45 16:39	07:16 16:29
16	07:22 16:53	06:53 17:32	06:09 18:04	06:18 19:38	05:39 20:10	05:23 20:33	05:37 20:30	06:07 19:57	06:38 19:07	07:09 18:17	06:46 16:38	07:17 16:29
17	07:21 16:54	06:51 17:33	06:08 18:05	06:16 19:39	05:38 20:11	05:23 20:33	05:38 20:29	06:08 19:55	06:39 19:05	07:11 18:15	06:47 16:37	07:17 16:29
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20	07:20 16:58	06:47 17:36	06:03 18:09	06:12 19:42	05:35 20:14	05:24 20:34	05:40 20:27	06:11 19:51	06:42 19:00	07:14 18:11	06:51 16:35	07:19 16:30
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31	07:11 17:11		06:44 19:21		05:27 20:23		05:51 20:17	06:22 19:34		06:27 16:55		07:24 16:37
Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 14 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (64)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:12	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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Ore potenziali eliofanìa	296	297	369	399	449	454	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 15 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (61)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 17:55-19:01/66 19:54	05:27 18:03-18:57/54 20:24	05:27 18:13-19:00/47 20:35	05:51 18:05-19:13/68 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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Ore potenziali eliofanía	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	896	1992	1405	1796	1703	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 16 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (63)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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15	07:22 16:52	06:54 17:30	06:11 18:03	06:19 19:37	05:40 20:09	05:23 20:32	05:36 20:30	06:05 19:58	06:37 19:09	07:08 18:18	06:45 16:39	07:16 16:29
16	07:21 16:53	06:53 17:31	06:09 18:04	06:18 19:38	05:39 20:10	05:23 20:33	05:37 20:30	06:06 19:57	06:38 19:07	07:09 18:17	06:46 16:38	07:17 16:29
17	07:21 16:54	06:51 17:33	06:08 18:05	06:16 19:39	05:38 20:11	05:23 20:33	05:38 20:29	06:07 19:55	06:39 19:05	07:10 18:15	06:47 16:37	07:17 16:29
18	07:21 16:55	06:50 17:34	06:06 18:06	06:15 19:40	05:37 20:12	05:23 20:33	05:39 20:28	06:08 19:54	06:40 19:03	07:12 18:13	06:48 16:36	07:18 16:29
19	07:20 16:57	06:48 17:35	06:04 18:08	06:13 19:41	05:36 20:13	05:24 20:34	05:39 20:27	06:09 19:52	06:41 19:02	07:13 18:12	06:50 16:35	07:19 16:30
20	07:19 16:58	06:47 17:36	06:03 18:09	06:12 19:42	05:35 20:14	05:24 20:34	05:40 20:27	06:10 19:51	06:42 19:00	07:14 18:10	06:51 16:35	07:19 16:30
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31	07:11 17:11		06:44 19:21		05:27 20:23		05:50 20:17	06:22 19:34		06:27 16:55		07:23 16:37
Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm)Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 17 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (65)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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3	07:24 16:40	07:08 17:15	06:31 17:49	06:39 19:24	05:53 19:56	05:26 20:25	05:28 20:35	05:53 20:13	06:25 19:29	06:55 18:38	06:30 16:51	07:05 16:28
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6	07:24 16:42	07:05 17:19	06:26 17:53	06:34 19:27	05:50 19:59	05:25 20:27	05:30 20:34	05:56 20:10	06:28 19:24	06:58 18:33	06:34 16:48	07:08 16:28
7	07:24 16:43	07:04 17:20	06:24 17:54	06:32 19:28	05:48 20:00	05:24 20:28	05:30 20:34	05:57 20:09	06:29 19:22	06:59 18:31	06:35 16:47	07:09 16:28
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9	07:24 16:45	07:01 17:23	06:21 17:56	06:29 19:30	05:46 20:02	05:24 20:29	05:32 20:33	05:59 20:06	06:31 19:19	07:02 18:28	06:38 16:45	07:11 16:28
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29	07:13 17:09		06:47 19:18	05:59 19:52	05:28 20:22	05:26 20:35	05:48 20:19	06:20 19:37	06:51 18:44	07:23 16:58	07:01 16:30	07:23 16:35
30	07:12 17:10		06:46 19:19	05:57 19:53	05:28 20:22	05:27 20:35	05:49 20:18	06:21 19:35	06:52 18:43	07:24 16:56	07:02 16:29	07:23 16:36
31	07:11 17:11		06:44 19:21		05:27 20:23		05:50 20:17	06:22 19:34		06:27 16:55		07:23 16:37
Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 18 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (69)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:12	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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3	07:24 16:40	07:08 17:15	06:30 17:49	06:39 19:24	05:53 19:56	05:26 20:25	05:28 20:35	05:53 20:13	06:25 19:29	06:55 18:38	06:30 16:51	07:05 16:28
4	07:24 16:40	07:07 17:16	06:29 17:50	06:37 19:25	05:52 19:57	05:25 20:26	05:29 20:34	05:54 20:12	06:26 19:27	06:56 18:36	06:31 16:50	07:06 16:28
5	07:24 16:41	07:06 17:17	06:27 17:52	06:36 19:26	05:51 19:58	05:25 20:27	05:29 20:34	05:55 20:11	06:27 19:25	06:57 18:34	06:33 16:49	07:07 16:28
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13	07:23 16:50	06:56 17:28	06:14 18:01	06:23 19:35	05:42 20:07	05:23 20:31	05:34 20:31	06:03 20:01	06:35 19:12	07:06 18:21	06:42 16:40	07:14 16:28
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22	07:18 17:00	06:44 17:39	05:59 18:11	06:09 19:44	05:33 20:15	05:24 20:34	05:42 20:25	06:12 19:48	06:44 18:56	07:16 18:07	06:53 16:33	07:20 16:31
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Ore potenziali eliofanía	296	297	369	399	449	454	460	429	375	345	297	287
Somma minuti d'ombra	818	1074	0	0	0	0	0	0	0	518	1385	6

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra



SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 19 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (66)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23	05:55 19:55	05:26 20:25	05:28 20:35	05:52 20:15	06:24 19:30	06:54 18:39	06:29 16:53	07:04 16:29
3	07:24 16:40	07:08 17:15	06:30 17:49	06:39 19:24	05:53 19:56	05:26 20:25	05:28 20:35	05:53 20:13	06:25 19:29	06:55 18:38	06:30 16:51	07:05 16:29
4	07:24 16:41	07:07 17:16	06:29 17:51	06:37 19:25	05:52 19:57	05:26 20:26	05:29 20:34	05:54 20:12	06:26 19:27	06:56 18:36	06:31 16:50	07:06 16:28
5	07:24 16:42	07:06 17:18	06:27 17:52	06:36 19:26	05:51 19:58	05:25 20:27	05:29 20:34	05:55 20:11	06:27 19:25	06:57 18:34	06:33 16:49	07:07 16:28
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31	07:11 17:11		06:44 19:21		05:27 20:23		05:50 20:17	06:22 19:34		06:27 16:55		07:23 16:37
Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 20 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (67)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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3	07:24 16:40	07:08 17:15	06:30 17:49	06:39 19:24	05:53 19:56	05:26 20:25	05:28 20:35	05:53 20:13	06:25 19:29	06:55 18:38	06:30 16:51	07:05 16:28
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5	07:24 16:41	07:06 17:18	06:27 17:52	06:36 19:26	05:51 19:58	05:25 20:27	05:29 20:34	05:55 20:11	06:27 19:25	06:57 18:34	06:33 16:49	07:07 16:28
6	07:24 16:42	07:05 17:19	06:26 17:53	06:34 19:27	05:50 19:59	05:25 20:27	05:30 20:34	05:56 20:10	06:28 19:24	06:58 18:33	06:34 16:48	07:08 16:28
7	07:24 16:43	07:04 17:20	06:24 17:54	06:32 19:28	05:48 20:00	05:24 20:28	05:30 20:34	05:57 20:09	06:29 19:22	06:59 18:31	06:35 16:47	07:09 16:28
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15	07:22 16:52	06:54 17:30	06:11 18:03	06:19 19:37	05:40 20:09	05:23 20:32	05:36 20:30	06:05 19:58	06:37 19:08	07:08 18:18	06:45 16:39	07:16 16:28
16	07:21 16:53	06:53 17:31	06:09 18:04	06:18 19:38	05:39 20:10	05:23 20:33	05:37 20:29	06:06 19:57	06:38 19:07	07:09 18:16	06:46 16:38	07:17 16:29
17	07:21 16:54	06:51 17:33	06:08 18:05	06:16 19:39	05:38 20:11	05:23 20:33	05:38 20:29	06:07 19:55	06:39 19:05	07:10 18:15	06:47 16:37	07:17 16:29
18	07:20 16:55	06:50 17:34	06:06 18:06	06:15 19:40	05:37 20:12	05:23 20:33	05:39 20:28	06:08 19:54	06:40 19:03	07:12 18:13	06:48 16:36	07:18 16:29
19	07:20 16:56	06:48 17:35	06:04 18:07	06:13 19:41	05:36 20:13	05:23 20:34	05:39 20:27	06:09 19:52	06:41 19:02	07:13 18:12	06:50 16:35	07:19 16:30
20	07:19 16:58	06:47 17:36	06:03 18:09	06:12 19:42	05:35 20:13	05:24 20:34	05:40 20:27	06:10 19:51	06:42 19:00	07:14 18:10	06:51 16:35	07:19 16:30
21	07:19 16:59	06:46 17:38	06:01 18:10	06:10 19:43	05:34 20:14	05:24 20:34	05:41 20:26	06:11 19:49	06:43 18:58	07:15 18:09	06:52 16:34	07:20 16:31
22	07:18 17:00	06:44 17:39	05:59 18:11	06:09 19:44	05:33 20:15	05:24 20:34	05:42 20:25	06:12 19:48	06:44 18:56	07:16 18:07	06:53 16:33	07:20 16:31
23	07:17 17:01	06:43 17:40	05:58 18:12	06:07 19:45	05:32 20:16	05:24 20:35	05:43 20:24	06:13 19:46	06:45 18:55	07:17 18:06	06:54 16:33	07:21 16:32
24	07:17 17:03	06:41 17:41	05:56 18:13	06:06 19:46	05:32 20:17	05:24 20:35	05:44 20:23	06:15 19:45	06:46 18:53	07:18 18:05	06:55 16:32	07:21 16:32
25	07:16 17:04	06:40 17:42	05:54 18:14	06:04 19:48	05:31 20:18	05:25 20:35	05:45 20:23	06:16 19:43	06:47 18:51	07:19 17:03	06:57 16:32	07:22 16:33
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28	07:14 17:07	06:35 17:46	05:49 18:17	06:00 19:51	05:29 20:21	05:26 20:35	05:48 20:20	06:19 19:39	06:50 18:46	07:22 16:59	07:00 16:30	07:23 16:35
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30	07:12 17:10		06:46 19:19	05:57 19:53	05:28 20:22	05:27 20:35	05:49 20:18	06:21 19:35	06:52 18:43	07:24 16:56	07:02 16:29	07:23 16:36
31	07:11 17:11		06:44 19:21		05:27 20:23		05:50 20:17	06:22 19:34		06:27 16:55		07:23 16:37
Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 21 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (71)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 12:48-14:13/85	07:10 06:34	06:42	05:56	05:27	05:27	05:51	06:22	06:53	06:28		07:03 12:45-13:56/71
	16:38 11:08-12:28/80	17:12 17:47	19:22	19:54	20:24	20:35	20:16	19:32	18:41	16:54		16:29 10:59-12:10/71
2	07:24 12:49-14:13/84	07:09 06:32	06:41	05:55	05:26	05:27	05:52	06:24	06:54	06:29		07:04 12:45-13:57/72
	16:39 11:08-12:28/80	17:14 17:48	19:23	19:55	20:25	20:35	20:14	19:30	18:39	16:52		16:29 10:59-12:11/72
3	07:24 12:50-14:13/83	07:08 06:30	06:39	05:53	05:26	05:28	05:53	06:25	06:55	06:30		07:05 12:44-13:58/74
	16:39 11:09-12:29/80	17:15 17:49	19:24	19:56	20:25	20:35	20:13	19:29	18:38	16:51		16:28 10:58-12:12/74
4	07:24 12:51-14:13/82	07:07 06:29	06:37	05:52	05:25	05:29	05:54	06:26	06:56	06:31		07:06 12:42-13:59/77
	16:40 11:10-12:29/79	17:16 17:50	19:25	19:57	20:26	20:34	20:12	19:27	18:36	16:50		16:28 10:58-12:13/75
5	07:24 12:53-14:14/81	07:06 06:27	06:36	05:51	05:25	05:29	05:55	06:27	06:57	06:33		07:07 12:41-13:59/78
	16:41 11:11-12:29/78	17:17 17:52	19:26	19:58	20:27	20:34	20:11	19:25	18:34	16:49		16:28 10:58-12:14/76
6	07:24 12:54-14:14/80	07:05 06:26	06:34	05:49	05:25	05:30	05:56	06:28	06:58	06:34		07:08 12:40-14:00/80
	16:42 11:12-12:29/77	17:19 17:53	19:27	19:59	20:27	20:34	20:10	19:24	18:32	16:48		16:28 10:58-12:15/77
7	07:24 12:56-14:14/78	07:04 06:24	06:32	05:48	05:24	05:30	05:57	06:29	06:59	06:35		07:09 12:40-14:01/81
	16:43 11:13-12:29/76	17:20 17:54	19:28	20:00	20:28	20:34	20:09	19:22	18:31	16:47		16:28 10:58-12:16/78
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	16:44 11:14-12:29/75	17:21 17:55	19:29	20:01	20:29	20:33	20:07	19:20	18:29	16:45		16:28 10:58-12:17/79
9	07:24 12:59-14:14/75	07:01 06:21	06:29	05:46	05:24	05:32	05:59	06:31	07:02	06:37		07:11 12:39-14:02/83
	16:45 11:14-12:28/74	17:22 17:56	19:30	20:02	20:29	20:33	20:06	19:19	18:28	16:44		16:28 10:58-12:18/80
10	07:23 13:01-14:14/73	07:00 06:19	06:27	05:45	05:24	05:32	06:00	06:32	07:03	06:39		07:12 12:39-14:03/84
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11	07:23 13:03-14:14/71	06:59 06:18	06:26	05:44	05:23	05:33	06:01	06:33	07:04	06:40		07:13 12:39-14:04/85
	16:47 11:17-12:28/71	17:25 17:58	19:32	20:04	20:30	20:32	20:03	19:15	18:24	16:42		16:28 10:59-12:19/80
12	07:23 13:04-14:15/71	06:58 06:16	06:24	05:43	05:23	05:34	06:02	06:34	07:05	06:41		07:13 12:39-14:03/85
	16:48 11:18-12:28/70	17:26 18:00	19:33	20:06	20:31	20:32	20:02	19:14	18:23	16:41		16:28 10:58-12:19/81
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	16:49 11:19-12:27/68	17:28 18:01	19:35	20:07	20:31	20:31	20:01	19:12	18:21	16:40		16:28 10:58-12:20/82
14	07:22 13:06-14:14/68	06:55 06:13	06:21	05:40	05:23	05:35	06:04	06:36	07:07	06:43	13:05-13:31/26	07:15 12:38-14:05/87
	16:51 11:21-12:27/66	17:29 18:02	19:36	20:08	20:32	20:31	19:59	19:10	18:19	16:39		16:28 10:59-12:21/82
15	07:22 13:07-14:14/67	06:54 06:11	06:19	05:39	05:23	05:36	06:05	06:37	07:08	06:45	13:03-13:35/32	07:16 12:38-14:06/88
	16:52 11:22-12:25/63	17:30 18:03	19:37	20:09	20:32	20:30	19:58	19:08	18:18	16:39		16:28 11:00-12:22/82
16	07:21 13:08-14:14/66	06:52 06:09	06:18	05:38	05:23	05:37	06:06	06:38	07:09	06:46	13:00-13:38/38	07:17 12:38-14:06/88
	16:53 11:24-12:25/61	17:31 18:04	19:38	20:10	20:33	20:29	19:57	19:07	18:16	16:38		16:29 10:59-12:22/83
17	07:21 13:09-14:13/64	06:51 06:08	06:16	05:37	05:23	05:38	06:07	06:39	07:10	06:47	12:57-13:40/43	07:17 12:38-14:07/89
	16:54 11:25-12:24/59	17:32 18:05	19:39	20:11	20:33	20:29	19:55	19:05	18:15	16:37		16:29 11:00-12:23/83
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	16:56 11:29-12:21/52	17:35 18:07	19:41	20:12	20:34	20:27	19:52	19:01	18:12	16:35	11:15-11:47/32	16:30 11:00-12:24/84
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	16:58 11:31-12:19/48	17:36 18:08	19:42	20:13	20:34	20:27	19:51	19:00	18:10	16:35	11:12-11:50/38	16:30 11:01-12:25/84
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27	07:14 13:30-14:02/32	06:37 05:51	06:01	05:29	05:25	05:46	06:17	06:49	07:22	06:59	12:46-13:53/67	07:22 12:44-14:12/88
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28	07:14 13:34-13:59/25	06:35 05:49	06:00	05:29	05:26	05:47	06:18	06:50	07:23	07:00	12:46-13:54/68	07:23 12:44-14:12/88
	17:07 17:46	18:17	19:51	20:21	20:35	20:20	19:38	18:46	16:59	16:30	11:01-12:07/66	16:34 11:05-12:28/83
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31	07:11 17:11	17:50	19:20	19:53	20:22	20:35	20:18	19:35	18:43			

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 22 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (68)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:13	16:21-16:46/25 17:47	06:34 19:22	06:42 19:54	05:56 20:24	05:27 20:35	05:27 20:16	06:23 19:32	06:53 18:41	06:28 16:00-16:10/10 16:54	07:03 16:29
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Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	277	202	0	0	0	0	0	0	0	0	483	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 23 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (70)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

- Il sole splende tutto il dì, dall'alba al tramonto
- Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole
- La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:12	06:34 17:47	06:42 19:22	05:56 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 19:32	06:53 18:41	06:28 16:54	07:03 16:29
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21	07:19 16:59	06:45 17:37	06:01 18:10	06:10 19:43	05:34 20:14	05:24 20:34	05:41 20:26	06:11 19:49	06:43 18:58	07:15 18:09	06:52 16:34	07:20 16:31
22	07:18 17:00	06:44 17:39	05:59 18:11	06:09 19:44	05:33 20:15	05:24 20:34	05:42 20:25	06:12 19:48	06:44 18:56	07:16 18:07	06:53 16:33	07:20 16:31
23	07:17 17:01	06:43 17:40	05:57 18:12	06:07 19:45	05:32 20:16	05:24 20:35	05:43 20:24	06:13 19:46	06:45 18:55	07:17 18:06	06:54 16:33	07:21 16:32
24	07:17 17:02	06:41 17:41	05:56 18:13	06:06 19:46	05:32 20:17	05:24 20:35	05:44 20:23	06:14 19:45	06:46 18:53	07:18 18:04	06:55 16:32	07:21 16:32
25	07:16 17:04	06:40 17:42	05:54 18:14	06:04 19:47	05:31 20:18	05:25 20:35	05:45 20:22	06:15 19:43	06:47 18:51	06:19 17:03	06:56 16:32	07:22 16:33
26	07:15 17:05	06:38 17:43	05:52 18:15	06:03 19:49	05:30 20:19	05:25 20:35	05:46 20:22	06:16 19:42	06:48 18:49	06:21 17:02	06:58 16:31	07:22 16:33
27	07:14 17:06	06:37 17:45	05:51 18:16	06:01 19:50	05:30 20:20	05:25 20:35	05:47 20:21	06:17 19:40	06:49 18:48	06:22 17:00	06:59 16:31	07:22 16:34
28	07:14 17:07	06:35 17:46	05:49 18:17	06:00 19:51	05:29 20:21	05:26 20:35	05:47 20:20	06:19 19:38	06:50 18:46	06:23 16:59	07:00 16:30	07:23 16:35
29	07:13 17:09		06:47 19:18	05:59 19:52	05:28 20:21	05:26 20:35	05:48 20:19	06:20 19:37	06:51 18:44	06:24 16:58	07:01 16:30	07:23 16:35
30	07:12 17:10		06:46 19:19	05:57 19:53	05:28 20:22	05:27 20:35	05:49 20:18	06:21 19:35	06:52 18:43	06:25 16:56	07:02 16:29	07:23 16:36
31	07:11 17:11		06:44 19:20		05:27 20:23		05:50 20:17	06:22 19:34		06:27 16:55		07:23 16:37
Ore potenziali eliofanìa	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	0	0	0	0	0	0	0	0	0

Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

SHADOW - Calendario per WTG

Calcolo: SHADOW FLIKERING CASE AWTG: 24 - GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (72)

Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:

Il sole splende tutto il dì, dall'alba al tramonto

Il piano del rotore è sempre perpendicolare alla linea tra WTG e sole

La turbina è costantemente operativa

	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:24 16:38	07:10 17:12	06:33 17:47	06:42 19:22	05:56 08:07-08:14/7 19:54	05:27 20:24	05:27 20:35	05:51 20:16	06:23 07:38-08:10/32 19:32	06:53 18:41	06:28 16:54	07:03 16:29
2	07:24 16:39	07:09 17:14	06:32 17:48	06:41 19:23	05:55 08:09-08:14/5 19:55	05:26 20:25	05:28 20:35	05:52 20:14	06:24 07:36-08:08/32 19:30	06:54 18:39	06:29 16:52	07:04 16:29
3	07:24 16:40	07:08 17:15	06:30 17:49	06:39 07:36-07:52/16 19:24	05:53 08:11-08:14/3 19:56	05:26 20:25	05:28 20:35	05:53 20:13	06:25 07:34-08:06/32 19:29	06:55 18:38	06:30 16:51	07:05 16:28
4	07:24 16:40	07:07 17:16	06:29 17:50	06:37 07:31-07:58/27 19:25	05:52 08:12-08:14/2 19:57	05:25 20:26	05:29 20:34	05:54 20:12	06:26 07:31-08:04/33 19:27	06:56 18:36	06:31 16:50	07:06 16:28
5	07:24 16:41	07:06 17:17	06:27 17:52	06:36 07:30-08:01/31 19:26	05:51 19:58	05:25 20:27	05:29 20:34	05:55 20:11	06:27 07:29-08:02/33 19:25	06:57 18:34	06:33 16:49	07:07 16:28
6	07:24 16:42	07:05 17:19	06:26 17:53	06:34 07:31-08:03/32 19:27	05:50 19:59	05:25 20:27	05:30 20:34	05:56 20:10	06:28 07:27-07:59/32 19:24	06:58 18:32	06:34 16:48	07:08 16:28
7	07:24 16:43	07:04 17:20	06:24 17:54	06:32 07:33-08:06/33 19:28	05:48 20:00	05:24 20:28	05:30 20:34	05:57 20:09	06:29 07:25-07:56/31 19:22	06:59 18:31	06:35 16:47	07:09 16:28
8	07:24 16:44	07:02 17:21	06:22 17:55	06:31 07:34-08:07/33 19:29	05:47 20:01	05:24 20:29	05:31 20:33	05:58 20:07	06:30 07:25-07:52/27 19:20	07:00 18:29	06:36 16:45	07:10 16:28
9	07:23 16:45	07:01 17:23	06:21 17:56	06:29 07:37-08:09/32 19:30	05:46 20:02	05:24 20:29	05:32 20:33	05:59 08:20-08:23/3 20:06	06:31 07:30-07:47/17 19:19	07:02 18:28	06:37 16:44	07:11 16:28
10	07:23 16:46	07:00 17:24	06:19 17:57	06:27 07:38-08:10/32 19:31	05:45 20:03	05:24 20:30	05:32 20:32	06:00 08:19-08:23/4 20:05	06:32 19:17	07:03 18:26	06:39 16:43	07:12 16:28
11	07:23 16:47	06:59 17:25	06:17 17:58	06:26 07:39-08:11/32 19:32	05:44 20:04	05:24 20:30	05:33 20:32	06:01 08:17-08:23/6 20:03	06:33 19:15	07:04 18:24	06:40 16:42	07:13 16:28
12	07:23 16:48	06:58 17:26	06:16 18:00	06:24 07:41-08:12/31 19:33	05:43 20:05	05:23 20:31	05:34 20:32	06:02 08:16-08:23/7 20:02	06:34 19:13	07:05 18:23	06:41 16:41	07:13 16:28
13	07:22 16:50	06:56 17:28	06:14 18:01	06:23 07:42-08:13/31 19:34	05:42 20:06	05:23 20:31	05:35 20:31	06:03 08:14-08:23/9 20:01	06:35 19:12	07:06 18:21	06:42 16:40	07:14 16:28
14	07:22 16:51	06:55 17:29	06:13 18:02	06:21 07:44-08:14/30 19:36	05:40 20:07	05:23 20:32	05:35 20:31	06:04 08:12-08:23/11 19:59	06:36 19:10	07:07 18:20	06:43 16:39	07:15 16:28
15	07:22 16:52	06:54 17:30	06:11 18:03	06:19 07:45-08:14/29 19:37	05:39 20:08	05:23 20:32	05:36 20:30	06:05 08:10-08:23/13 19:58	06:37 19:08	07:08 18:18	06:45 16:39	07:16 16:28
16	07:21 16:53	06:52 17:31	06:09 18:04	06:18 07:47-08:15/28 19:38	05:38 20:09	05:23 20:33	05:37 20:29	06:06 08:09-08:23/14 19:57	06:38 19:07	07:09 18:16	06:46 16:38	07:16 16:29
17	07:21 16:54	06:51 17:33	06:08 18:05	06:16 07:48-08:15/27 19:39	05:38 20:10	05:23 20:33	05:38 20:29	06:07 08:07-08:23/16 19:55	06:39 19:05	07:10 18:15	06:47 16:37	07:17 16:29
18	07:20 16:55	06:50 17:34	06:06 18:06	06:15 07:49-08:15/26 19:40	05:37 20:11	05:23 20:33	05:38 20:28	06:08 08:05-08:22/17 19:54	06:40 19:03	07:11 18:13	06:48 16:36	07:18 16:29
19	07:20 16:56	06:48 17:35	06:04 18:07	06:13 07:50-08:16/26 19:41	05:36 20:12	05:23 20:34	05:39 20:27	06:09 08:03-08:22/19 19:52	06:41 19:01	07:13 18:12	06:49 16:35	07:18 16:30
20	07:19 16:58	06:47 17:36	06:02 18:08	06:12 07:52-08:16/24 19:42	05:35 20:13	05:24 20:34	05:40 20:27	06:10 08:02-08:22/20 19:51	06:42 19:00	07:14 18:10	06:51 16:35	07:19 16:30
21	07:19 16:59	06:45 17:37	06:01 18:10	06:10 07:53-08:16/23 19:43	05:34 20:14	05:24 20:34	05:41 20:26	06:11 08:00-08:21/21 19:49	06:43 18:58	07:15 18:09	06:52 16:34	07:20 16:30
22	07:18 17:00	06:44 17:39	05:59 18:11	06:09 07:55-08:16/21 19:44	05:33 20:15	05:24 20:34	05:42 20:25	06:12 07:58-08:21/23 19:48	06:44 18:56	07:16 18:07	06:53 16:33	07:20 16:31
23	07:17 17:01	06:43 17:40	05:57 18:12	06:07 07:56-08:16/20 19:45	05:32 20:16	05:24 20:35	05:43 20:24	06:13 07:56-08:20/24 19:46	06:45 18:55	07:17 18:06	06:54 16:33	07:21 16:31
24	07:17 17:02	06:41 17:41	05:56 18:13	06:06 07:58-08:16/18 19:46	05:32 20:17	05:24 20:35	05:44 20:23	06:14 07:54-08:19/25 19:45	06:46 18:53	07:18 18:04	06:55 16:32	07:21 16:32
25	07:16 17:04	06:40 17:42	05:54 18:14	06:04 07:59-08:16/17 19:47	05:31 20:18	05:25 20:35	05:45 20:22	06:15 07:52-08:19/27 19:43	06:47 18:51	07:19 17:03	06:56 16:31	07:22 16:33
26	07:15 17:05	06:38 17:43	05:52 18:15	06:03 08:01-08:16/15 19:48	05:30 20:19	05:25 20:35	05:46 20:22	06:16 07:50-08:18/28 19:42	06:48 18:49	07:20 17:02	06:58 16:31	07:22 16:33
27	07:14 17:06	06:37 17:45	05:51 18:16	06:01 08:02-08:16/14 19:50	05:30 20:20	05:25 20:35	05:46 20:21	06:17 07:48-08:17/29 19:40	06:49 18:48	07:21 17:00	06:59 16:30	07:22 16:34
28	07:14 17:07	06:35 17:46	05:49 18:17	06:00 08:03-08:15/12 19:51	05:29 20:21	05:26 20:35	05:47 20:20	06:18 07:46-08:16/30 19:38	06:50 18:46	07:22 16:59	07:00 16:30	07:23 16:35
29	07:13 17:09	06:47 17:52	05:59 19:18	08:05-08:15/10 19:52	05:28 20:21	05:26 20:35	05:48 20:19	06:19 07:44-08:15/31 19:37	06:51 18:44	07:23 16:58	07:01 16:30	07:23 16:35
30	07:12 17:10	06:46 17:59	05:57 19:19	08:07-08:15/8 19:53	05:28 20:22	05:27 20:35	05:49 20:18	06:20 07:43-08:14/31 19:35	06:52 18:43	07:24 16:56	07:02 16:29	07:23 16:36
31	07:11 17:11	06:44 19:20	06:44 19:20	06:44 19:20	05:27 20:23	05:27 20:17	05:50 19:34	06:22 07:41-08:12/31 19:34	06:53 18:43	07:25 16:55	07:03 16:28	07:23 16:37
Ore potenziali eliofanía	296	297	369	399	449	453	460	429	375	345	297	287
Somma minuti d'ombra	0	0	0	678	17	0	0	439	269	0	0	0

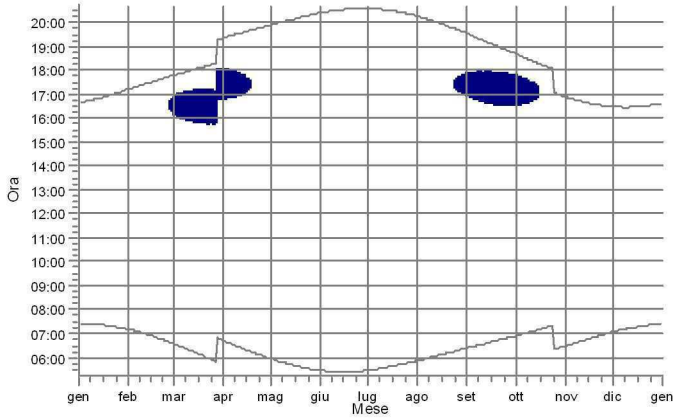
Legenda della tabella:

Giorno del mese Alba (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra
 Tramonto (hh:mm) Inizio ombreggiamento (hh:mm)-Fine ombreggiamento (hh:mm)/Minuti d'ombra

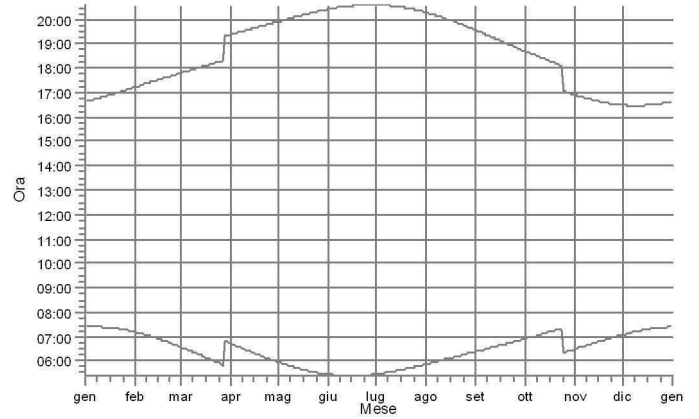
SHADOW - Calendario per WTG, grafico

Calcolo: SHADOW FLIKERING CASE A

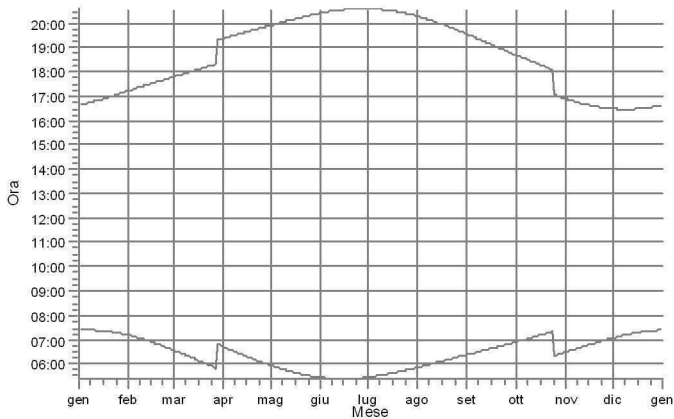
01: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (49)



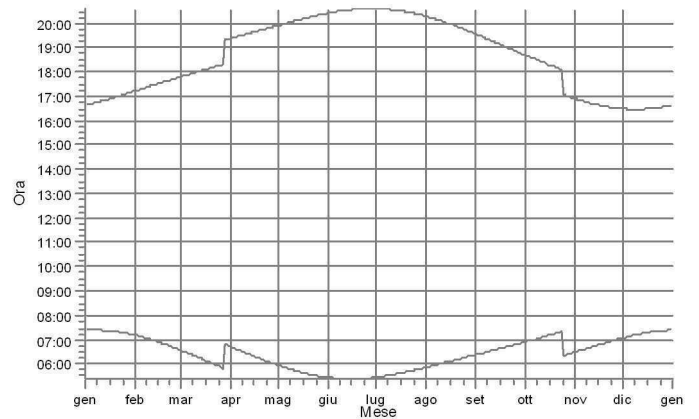
02: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (50)



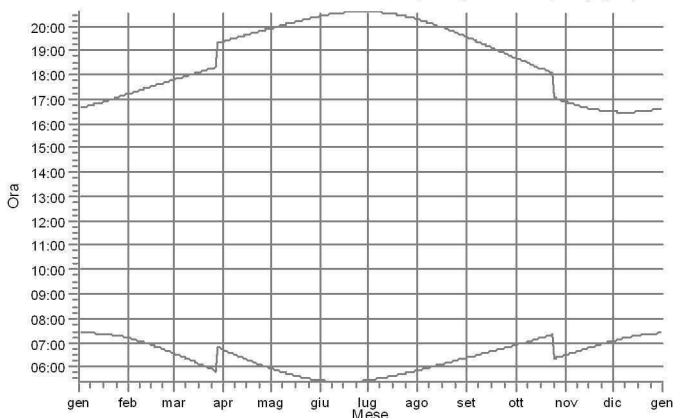
03: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (53)



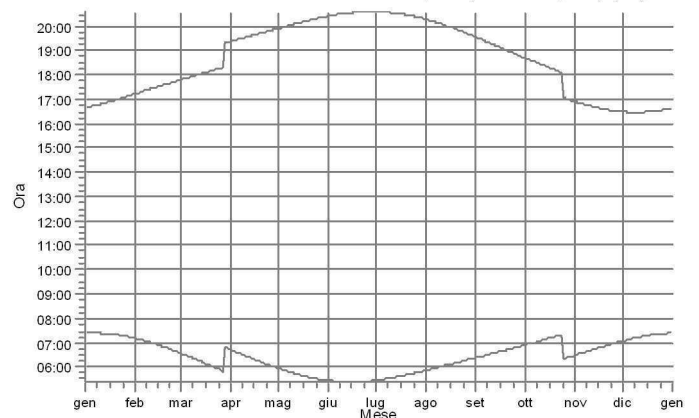
04: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (56)



05: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (59)



06: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (51)



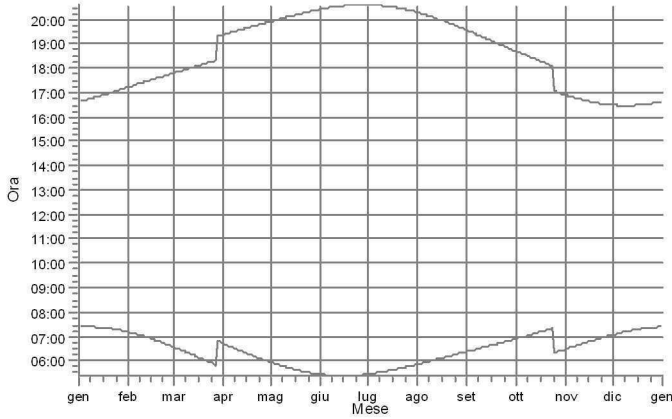
Recettori d'ombra

Rec 53: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)

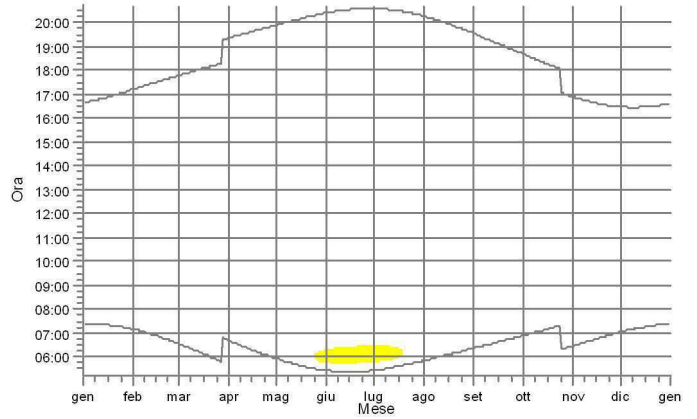
SHADOW - Calendario per WTG, grafico

Calcolo: SHADOW FLIKERING CASE A

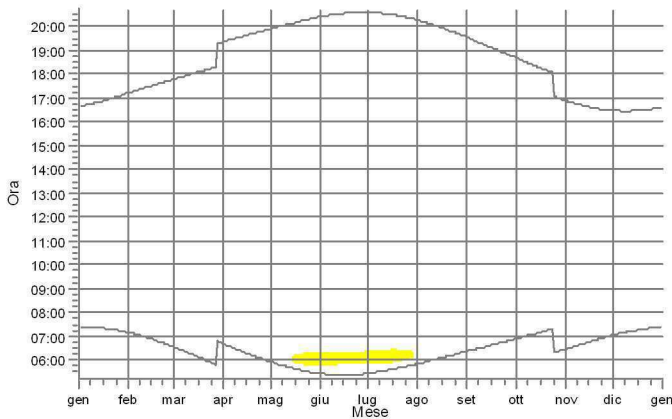
07: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (52)



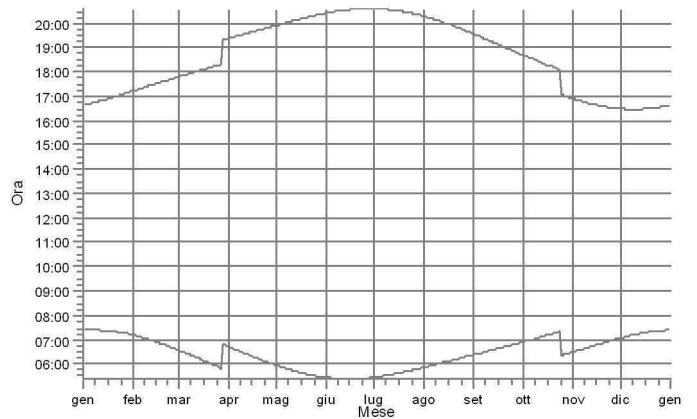
08: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (58)



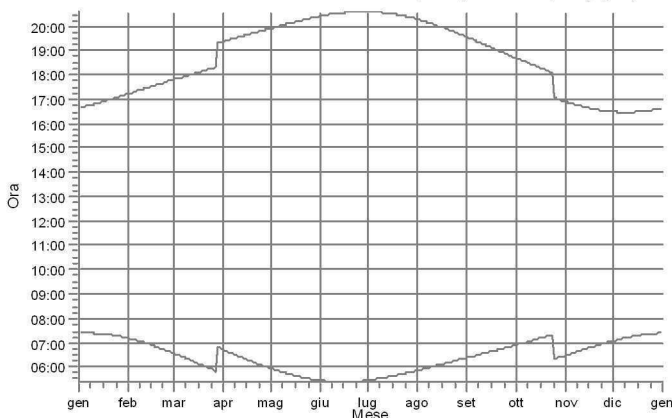
09: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (60)



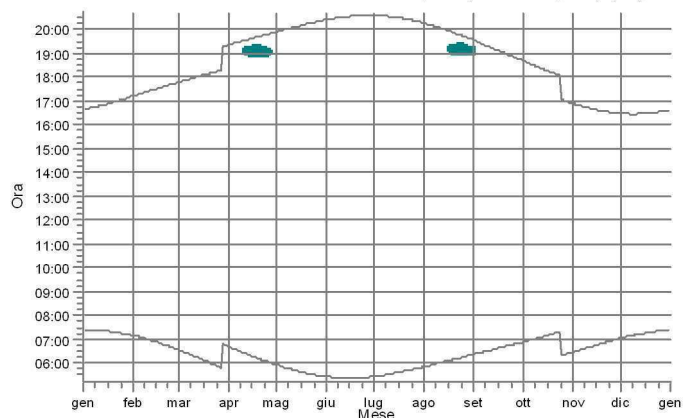
10: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (62)



11: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (54)



12: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (57)



Recettori d'ombra

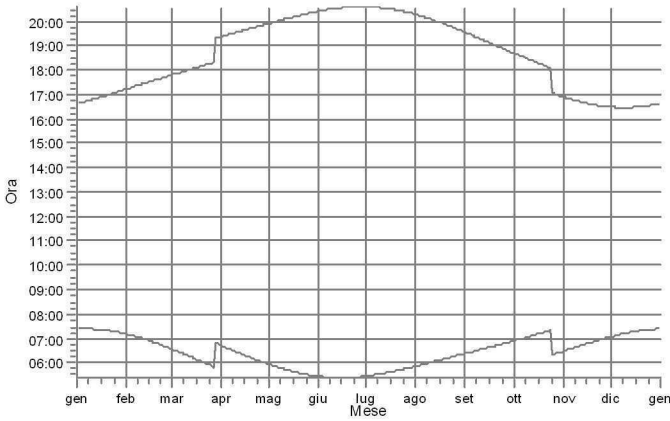
Rec 16: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)

Rec 39: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)

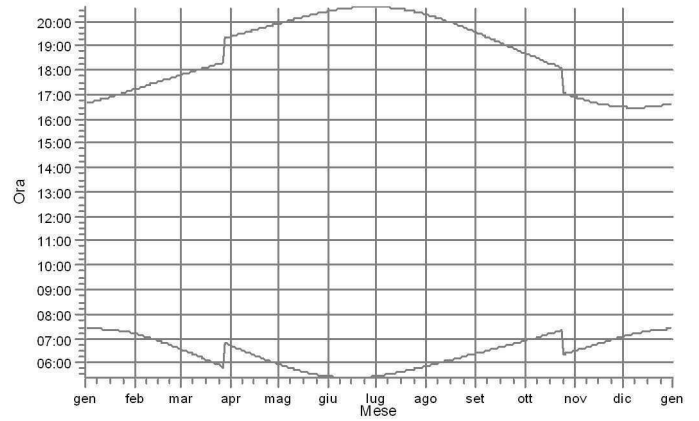
SHADOW - Calendario per WTG, grafico

Calcolo: SHADOW FLIKERING CASE A

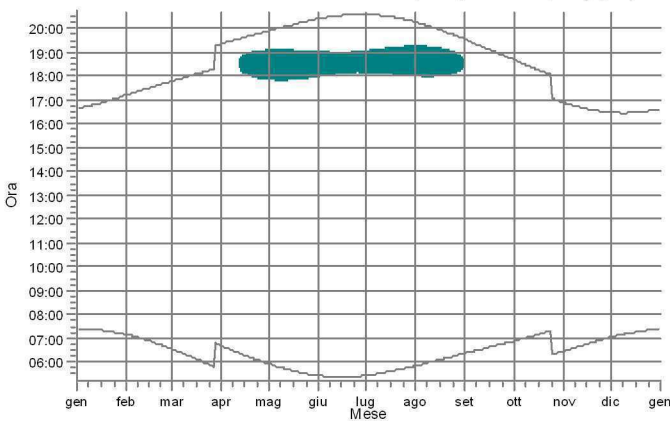
13: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (55)



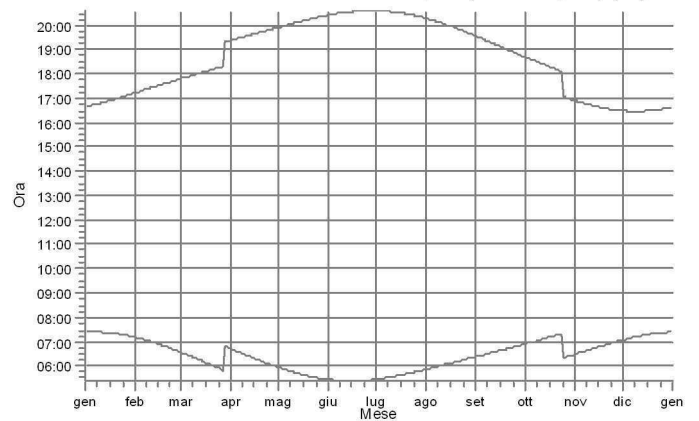
14: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (64)



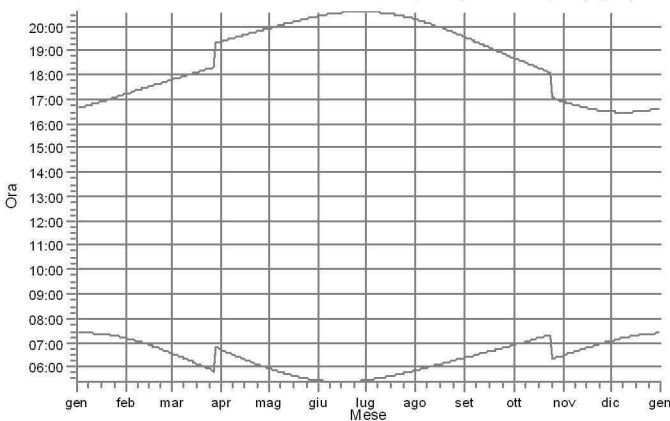
15: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (61)



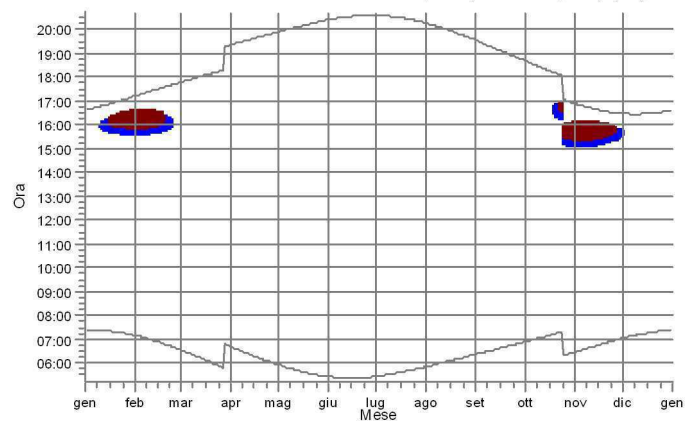
16: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (63)



17: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (65)



18: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (69)



Recettori d'ombra

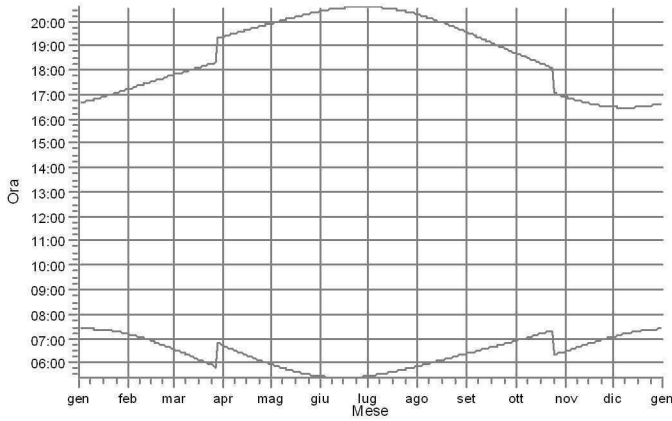
- Rec 25: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)
- Rec 39: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)

- Rec 65: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)

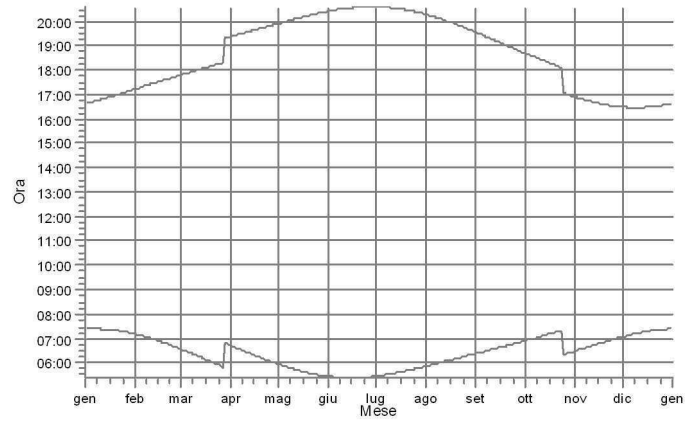
SHADOW - Calendario per WTG, grafico

Calcolo: SHADOW FLIKERING CASE A

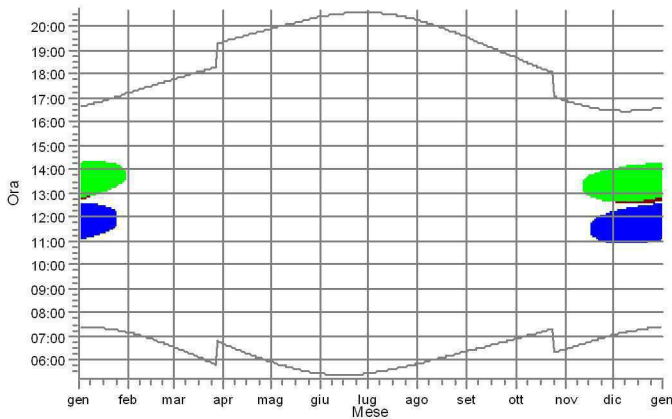
19: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (66)



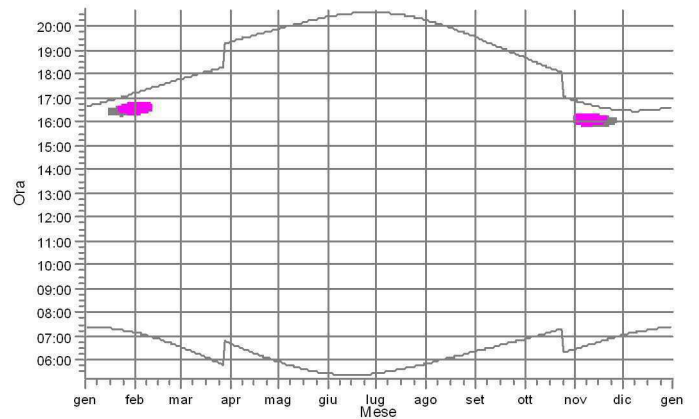
20: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (67)



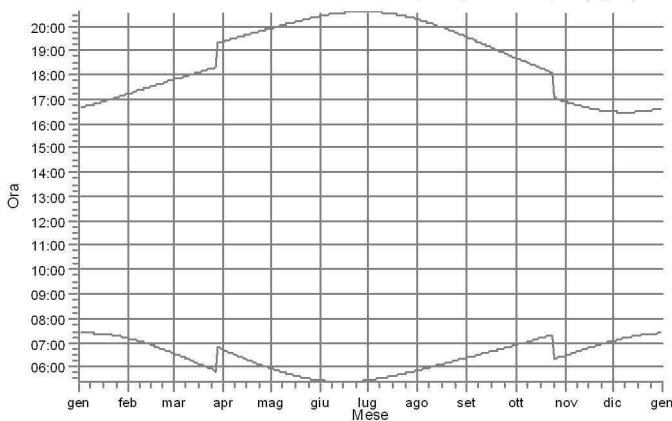
21: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (71)



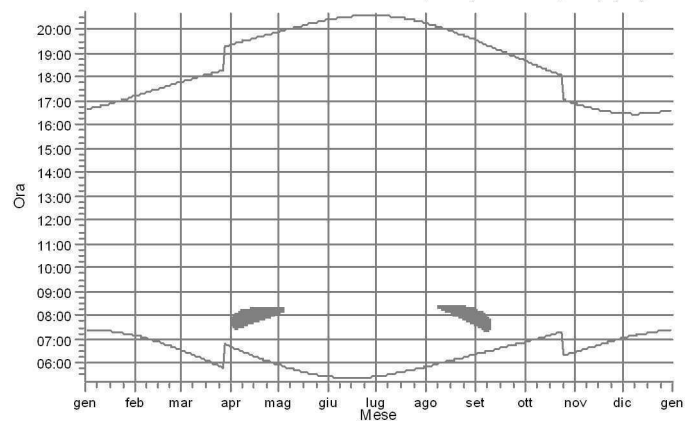
22: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (68)



23: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (70)



24: GE 5.425-158 5425 158.0 !O! hub: 149,0 m (TOT: 228,0 m) (72)



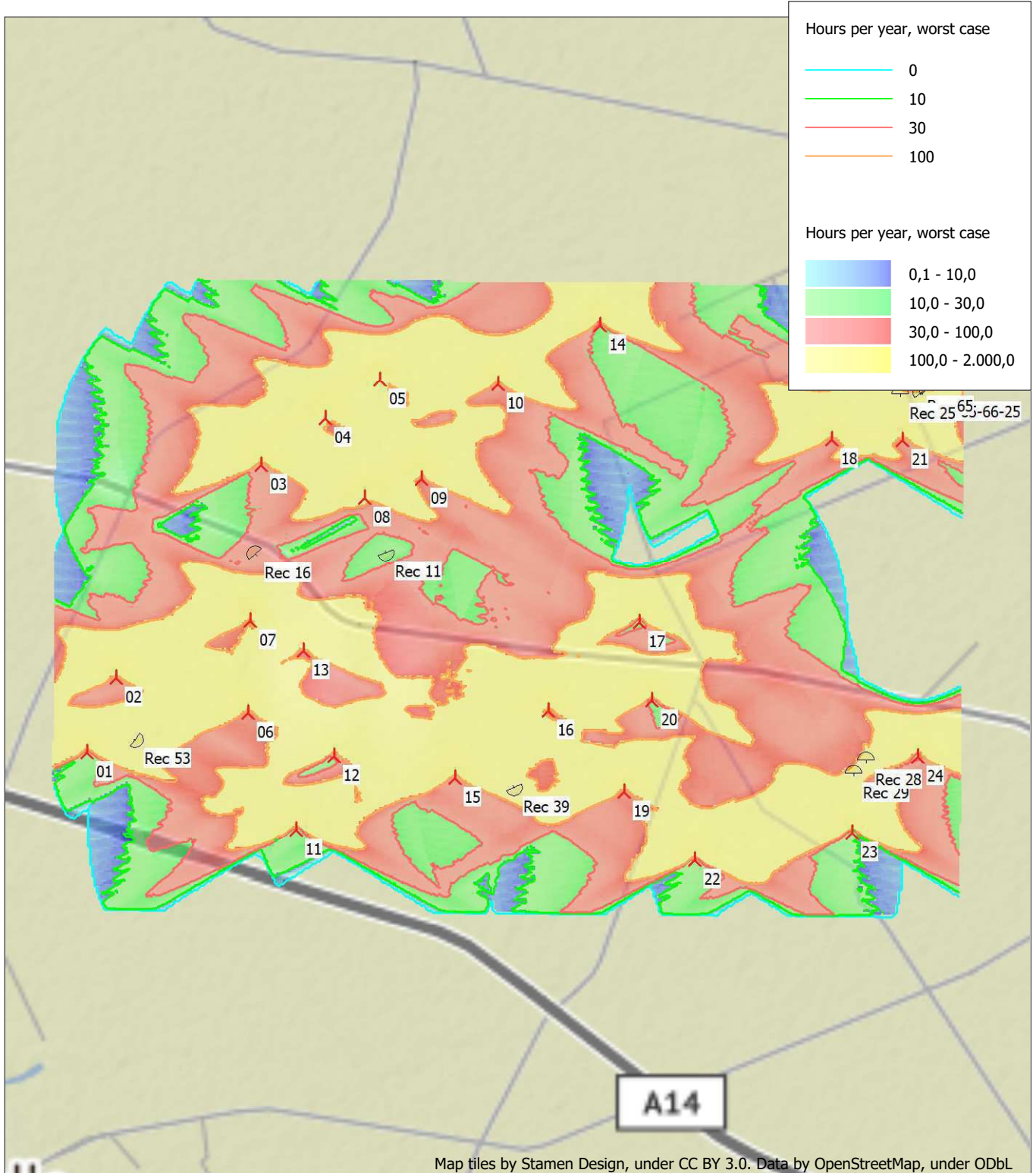
Recettori d'ombra

- Rec 25: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)
- Rec 28: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)
- Rec 29: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)

- Rec 65: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)
- Rec 65-66-25: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)

SHADOW - Mappa

Calcolo: SHADOW FLIKERING CASE A



0 500 1000 1500 2000 m

Mappa: Stamen Terrain, Scala di stampa 1:50.000, Centro mappa UTM (north)-WGS84 Zone: 33 Est: 562.820 Nord: 4.584.700

📍 Nuova WTG

📍 Recettore d'ombra

Flicker map level: Height Contours: CONTOURLINE_Manfredonia_0.wpo (1)

