

COMMITTENTE:

**SOCIETÀ PARCO EOLICO PRIMUS S.R.L.**

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## REGIONE CALABRIA

*Provincia di Vibo Valentia*

Comuni di Pizzoni, San Nicola da Crissa,  
Simbario, Vallelonga, Vazzano

*Provincia di Catanzaro*

Comune di Torre di Ruggiero

## Impianto Eolico "Primus"

OGGETTO ELABORATO:

### RELAZIONE SHADOW-FLICKERING

Consulenti specialisti

Partner tecnico e Studio del Vento



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## 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 Primus s.r.l.** con sede in San Sostene (CZ).

La proposta progettuale è finalizzata alla realizzazione di un impianto eolico per la produzione di energia elettrica da fonte rinnovabile eolica, costituito da 23 aerogeneratori, ciascuno di potenza nominale pari a 2,625 MW per una potenza complessiva di 60,375 MW, da realizzarsi nella Provincia di Cosenza e Vibo Valenzia, nei territori comunali di Pizzoni, San Nicola da Crissa, Vazzano, Vallelonga, Simbario di (VV) e Torre di Ruggiero (CZ), in cui insistono gli aerogeneratori, mentre parte delle opere di connessione e la Sottostazione Elettrica ricade nel Comune di Serra San Bruno.

## DESCRIZIONE DELL' INTERVENTO

L'impianto di produzione sarà costituito da 23 aerogeneratori, ognuno della potenza di 2,625 MW ciascuno per una potenza complessiva di 60,375 MW, questi saranno ubicati in fuori dalle aree abitative dei comuni sopra menzionati in aree rurali, boschive e qualche volta agricole. La presenza umana in questa aree sono scarse e sono quindi idonee all'installazione id questi aerogeneratori.

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	
S1	612725	4275092	Pizzoni
S10	612557	4275344	Pizzoni
S4	611266	4275690	Pizzoni
05	615372	4281244	San Nicola da Crissa

06	616504	4280663	San Nicola da Crissa
10	614027	4279774	San Nicola da Crissa
11	614213	4280433	San Nicola da Crissa
12	616297	4281056	San Nicola da Crissa
T4	615311	4277737	Simbario
01	616977	4281325	Torre di Ruggero
02	617332	4280264	Torre di Ruggero
03	617107	4280781	Torre di Ruggero
T1	616181	4278622	Torre di Ruggero
T2	615773	4278245	Torre di Ruggero
04	616994	4280449	Vallelonga
09	614116	4279145	Vallelonga
S6	611512	4277573	Vallelonga
T3	614723	4278074	Vallelonga
S3	610633	4276141	Vazzano
S5	611234	4276329	Vazzano
S7	612267	4276509	Vazzano
S8	612215	4275860	Vazzano
S9	612765	4276168	Vazzano

Le coordinate dei due recettori più vicini alle macchine che sono stati considerati nel calcolo come recettori sensibili, sono riportati nella tabella sottostante:

Nome del Recettore	Coordinate geografiche UTM WGS84 33 NORD		Comune
Rec 02	613753 E	4278779 N	Vazzano
Rec 30	611591 E	4276802 N	Vallelonga

## **ANALISI DELL'ESPOSIZIONE SOLARE ANNUALE**

La posizione occupata nel cielo dal sole è compiutamente individuata mediante la misura di due coordinate angolari, azimut 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 230 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 Figura 1.

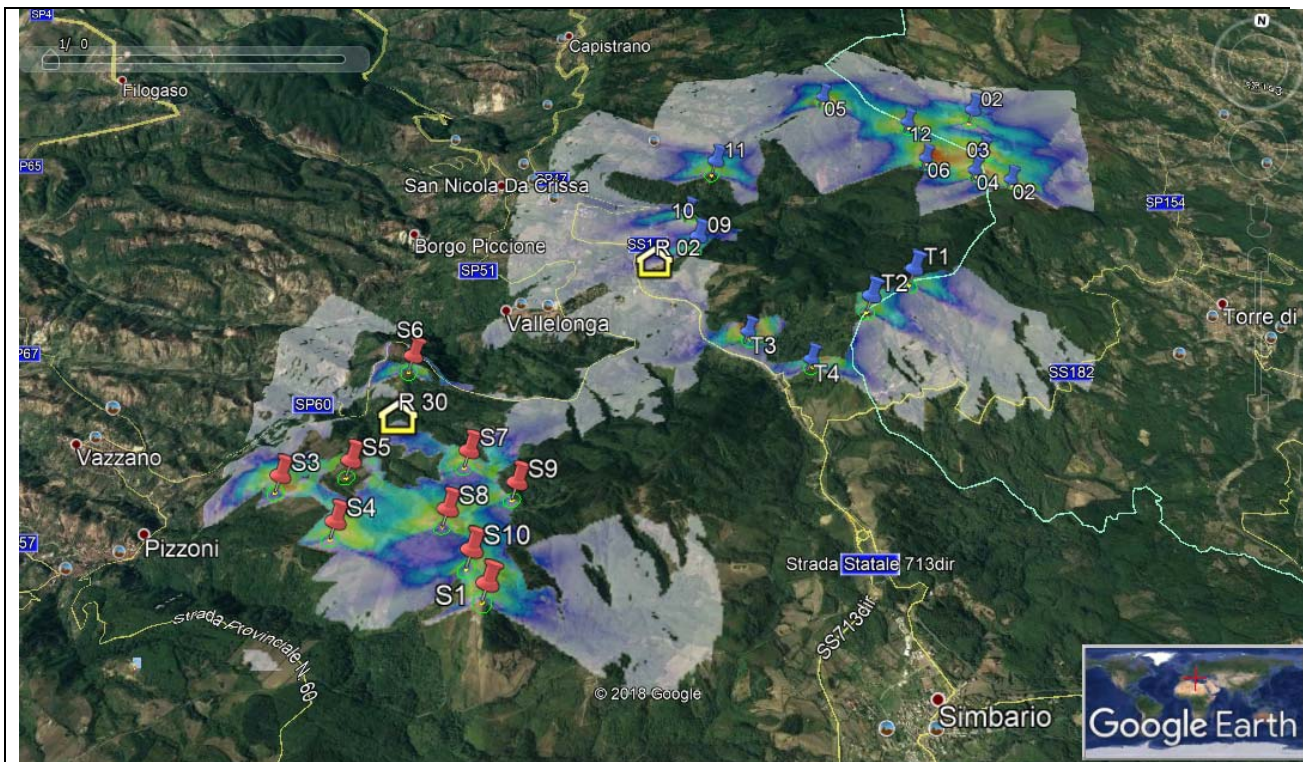


FIGURA 1: Mappa 3D. Sono riportate le turbine ed i recettori.

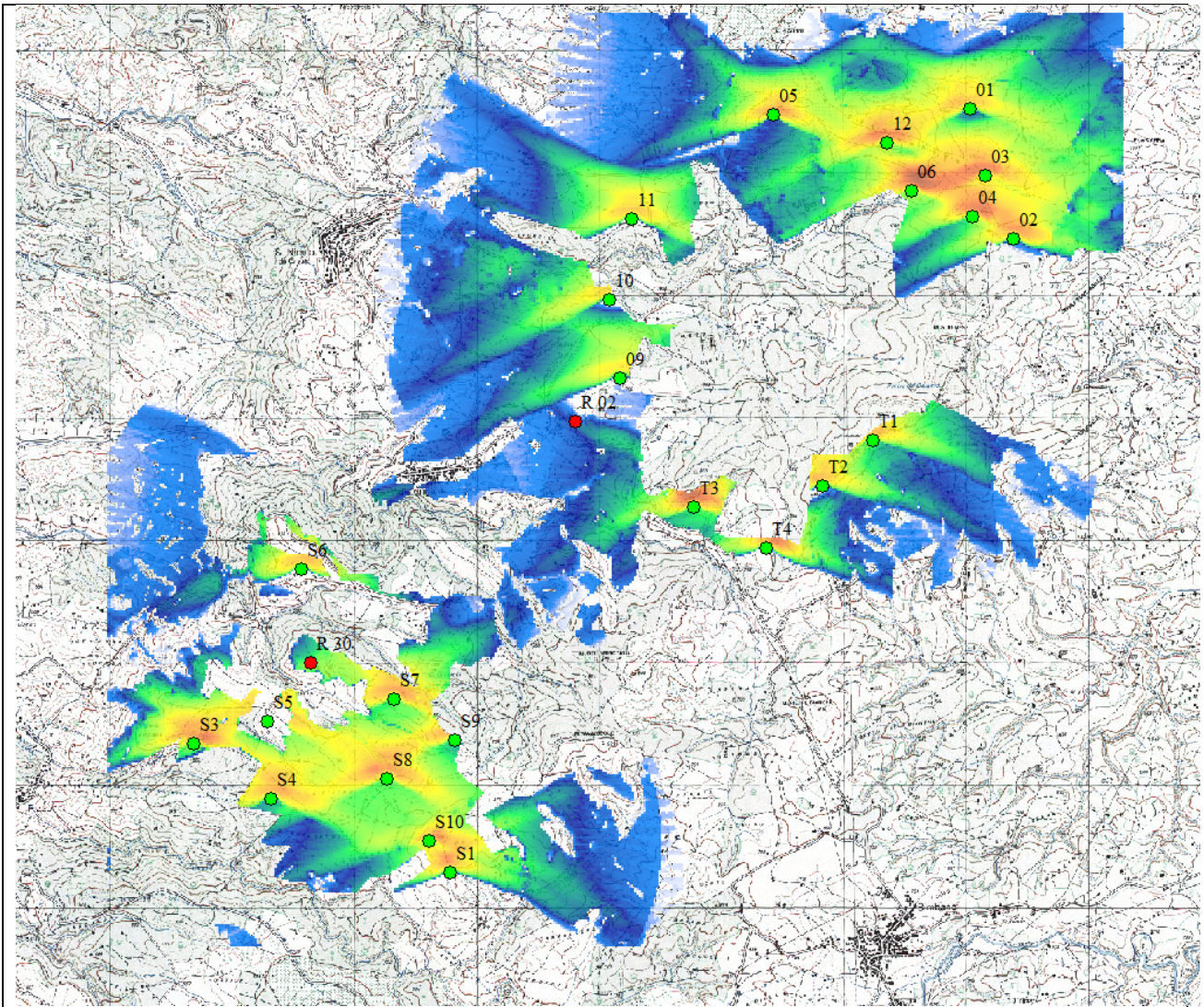
Nel calcolo sono state assunte le seguenti ipotesi ampiamente conservative (caso peggiore – *worst case*):

- 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;

La vegetazione è stata considerata perché Primus è in aree con forte presenza di alberi e sarebbe totalmente sovrastimato non considerare gli alberi presenti che di fatto costituiscono una barriera sia all'impatto visivo che in questo caso all'ombreggiamento causato dalle macchine.

Di seguito si allega il report di calcolo eseguito mediante il software WindPRO nonché il relativo grafico finale (Figura 2) 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.



Hours per year, worst case



**Figura 2:** Rappresentazione grafica della simulazione di WINDRPO, i colori danno il numero di ore di ombreggiamento per anno, nel caso peggiore.

## 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.

Progetto:  
**201505.29\_Primus**

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### SHADOW - Risultato principale

Calcolo: SFP

#### Recettore d'ombra-Immissione dati

n.	X(Est)	Y(Nord)	Z	Ampiezza	Altezza	Elevation a.g.l.	Gradi Sud	Inclinazione della finestra	Modo orientazione	Eye height for ZVI
			[m]	[m]	[m]	[m]	[°]	[°]		[m]
Rec 30	611.591	4.276.802	650,0	1,0	1,0	1,0	0,0	90,0	"Modalità serra"	2,0
Rec02	613.753	4.278.779	731,4	1,0	1,0	1,0	-134,1	90,0	"Modalità serra"	2,0

#### Risultati dei calcoli

Recettore d'ombra

n.	Ombra, caso peggiore	Giorni con ombra per anno	Massima durata dell'ombra per giorno
	[ore/anno]	[giorni/anno]	[ore/giorno]
Rec 30	134:08	158	1:22
Rec02	34:30	76	0:35



## SHADOW - Risultato principale

Calcolo: SFP

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: 2014.04.28\_PRIMUS\_Contour lines

Oggetti Aree usati nel calcolo:

Area object (Heights a.g.l. for e.g. Forest (ORA tool) or ZVI obstructions): REC  
Area object (Heights a.g.l. for e.g. Forest (ORA tool) or ZVI obstructions): REC  
Area object (Heights a.g.l. for e.g. Forest (ORA tool) or ZVI obstructions): REC  
Area object (Heights a.g.l. for e.g. Forest (ORA tool) or ZVI obstructions): REC  
Area object (Heights a.g.l. for e.g. Forest (ORA tool) or ZVI obstructions): REC  
Area object (Heights a.g.l. for e.g. Forest (ORA tool) or ZVI obstructions): REC  
Area object (Heights a.g.l. for e.g. Forest (ORA tool) or ZVI obstructions): REC

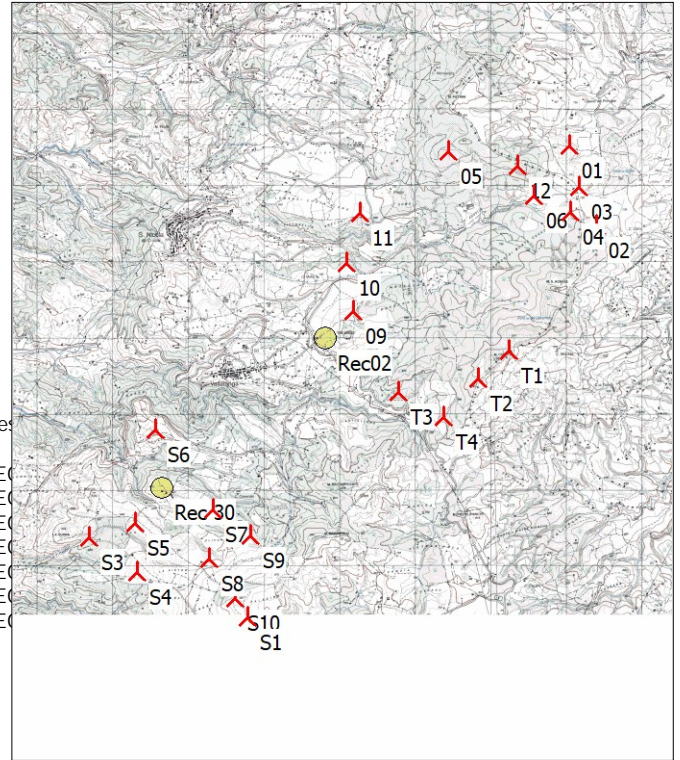
Ostacoli usati:

Eye height for map: 1,5 m

Risoluzione del grigliato: 1,0 m

Ombra topografica inclusa nel calcolo

All coordinates are in  
UTM WGS84 Zona: 33



Scala 1:100.000  
Nuova WTG Recettore d'ombra

## WTG

	X(Est)	Y(Nord)	Z	Dati/Descrizione	Tipo di WTG		Tipo generatore	Potenza nominale	Diametro rotore	Altezza mozzo	Dati di ombra	
					Valida	Prod.					Distanza di calcolo	giri/min
			[m]					[kW]	[m]	[m]	[m]	[giri/min]
01	616.977	4.281.325	779,3	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
02	617.332	4.280.264	833,5	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
03	617.107	4.280.781	790,0	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
04	616.994	4.280.449	805,0	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
05	615.372	4.281.244	877,7	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
06	616.504	4.280.663	758,3	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
09	614.116	4.279.145	771,8	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
10	614.027	4.279.774	691,9	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
11	614.213	4.280.433	690,0	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
12	616.297	4.281.056	836,2	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
S1	612.725	4.275.092	820,0	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
S10	612.557	4.275.344	864,5	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
S3	610.633	4.276.141	630,0	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
S4	611.266	4.275.690	671,5	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
S5	611.234	4.276.329	650,4	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
S6	611.512	4.277.573	630,0	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
S7	612.267	4.276.509	670,0	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
S8	612.215	4.275.860	703,6	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
S9	612.765	4.276.168	721,5	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
T1	616.181	4.278.622	920,0	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
T2	615.773	4.278.245	922,7	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
T3	614.723	4.278.074	762,9	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4
T4	615.311	4.277.737	809,4	V150-2.625 hub: 155,0 m	Si		VESTAS V150-2.625-2.625	2.625	150,0	155,0	1.902	10,4

## SHADOW - Risultato principale

Calcolo: SFP

### Recettore d'ombra-Immissione dati

n.	X(Est)	Y(Nord)	Z	Ampiezza	Altezza	Elevation a.g.l.	Gradi Sud	Inclinazione della finestra	Modo orientazione	Eye height for ZVI
			[m]	[m]	[m]	[m]	[°]	[°]		[m]
Rec 30	611.591	4.276.802	650,0	1,0	1,0	1,0	0,0	90,0	"Modalità serra"	2,0
Rec02	613.753	4.278.779	731,4	1,0	1,0	1,0	-134,1	90,0	"Modalità serra"	2,0

### Risultati dei calcoli

Recettore d'ombra

Ombra, caso peggiore

n.	Ore d'ombra per anno	Giorni con ombra per anno	Massima durata dell'ombra per giorno
	[ore/anno]	[giorni/anno]	[ore/giorno]
Rec 30	134:08	158	1:22
Rec02	34:30	76	0:35

Ombreggiamento totale sui recettori d'ombra causato da ciascuna WTG

n.	Nome	Caso peggiore [ore/anno]
01	V150-2.625 hub: 155,0 m	0:00
02	V150-2.625 hub: 155,0 m	0:00
03	V150-2.625 hub: 155,0 m	0:00
04	V150-2.625 hub: 155,0 m	0:00
05	V150-2.625 hub: 155,0 m	0:00
06	V150-2.625 hub: 155,0 m	0:00
09	V150-2.625 hub: 155,0 m	0:00
10	V150-2.625 hub: 155,0 m	0:00
11	V150-2.625 hub: 155,0 m	0:00
12	V150-2.625 hub: 155,0 m	0:00
S1	V150-2.625 hub: 155,0 m	0:00
S10	V150-2.625 hub: 155,0 m	0:00
S3	V150-2.625 hub: 155,0 m	36:03
S4	V150-2.625 hub: 155,0 m	0:00
S5	V150-2.625 hub: 155,0 m	50:46
S6	V150-2.625 hub: 155,0 m	0:00
S7	V150-2.625 hub: 155,0 m	37:44
S8	V150-2.625 hub: 155,0 m	0:00
S9	V150-2.625 hub: 155,0 m	14:33
T1	V150-2.625 hub: 155,0 m	0:00
T2	V150-2.625 hub: 155,0 m	0:00
T3	V150-2.625 hub: 155,0 m	32:34
T4	V150-2.625 hub: 155,0 m	11:00

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

## SHADOW - Calendario

Calcolo: SFPRecettore d'ombra: Rec 30 - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (26)

### Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13		14:17 (S5)	07:02		07:42 (S9)	06:29		07:28 (S7)	06:42	05:59	05:33
	16:44	81	16:20 (S3)	17:16	24	08:06 (S9)	17:47	42	08:10 (S7)	19:18	19:47	20:13
2	07:13		14:17 (S5)	07:01		07:42 (S9)	06:28		07:29 (S7)	06:40	05:58	05:33
	16:45	82	16:21 (S3)	17:17	24	08:06 (S9)	17:48	41	08:10 (S7)	19:19	19:47	20:14
3	07:14		14:18 (S5)	07:00		07:41 (S9)	06:26		07:30 (S7)	06:39	05:57	05:32
	16:46	82	16:21 (S3)	17:19	26	08:07 (S9)	17:49	39	08:09 (S7)	19:20	19:48	20:15
4	07:14		14:19 (S5)	06:59		07:41 (S9)	06:25		07:31 (S7)	06:37	05:56	05:32
	16:47	82	16:22 (S3)	17:20	26	08:07 (S9)	17:51	36	08:07 (S7)	19:21	19:49	20:15
5	07:14		14:20 (S5)	06:58		07:41 (S9)	06:23		07:32 (S7)	06:36	05:55	05:32
	16:48	81	16:23 (S3)	17:21	26	08:07 (S9)	17:52	34	08:06 (S7)	19:22	19:50	20:16
6	07:14		14:20 (S5)	06:57		07:41 (S9)	06:22		07:33 (S7)	06:34	05:53	05:31
	16:48	82	16:24 (S3)	17:22	26	08:07 (S9)	17:53	31	08:04 (S7)	19:23	19:51	20:17
7	07:14		14:21 (S5)	06:56		07:41 (S9)	06:20		07:35 (S7)	06:33	05:52	05:31
	16:49	81	16:24 (S3)	17:23	26	08:07 (S9)	17:54	27	08:02 (S7)	19:24	19:52	20:17
8	07:14		14:21 (S5)	06:55		07:41 (S9)	06:19		07:36 (S7)	06:31	05:51	05:31
	16:50	80	16:24 (S3)	17:24	26	08:07 (S9)	17:55	23	07:59 (S7)	19:25	19:53	20:18
9	07:14		14:22 (S5)	06:54		07:40 (S7)	06:17		07:40 (S7)	06:30	05:50	05:31
	16:51	81	16:25 (S3)	17:25	27	08:07 (S9)	17:56	16	07:56 (S7)	19:26	19:54	20:18
10	07:13		14:24 (S5)	06:53		07:38 (S7)	06:16		07:45 (S7)	06:28	05:49	05:31
	16:52	79	16:26 (S3)	17:27	28	08:06 (S9)	17:57	4	07:49 (S7)	19:26	19:55	20:19
11	07:13		14:25 (S5)	06:52		07:37 (S7)	06:14			06:27	05:48	05:30
	16:53	78	16:26 (S3)	17:28	30	08:07 (S7)	17:58			19:27	19:56	20:19
12	07:13		14:26 (S5)	06:51		07:35 (S7)	06:13			06:25	05:47	05:30
	16:54	77	16:27 (S3)	17:29	34	08:09 (S7)	17:59			19:28	19:57	20:20
13	07:13		14:27 (S5)	06:50		07:34 (S7)	06:11			06:24	05:46	05:30
	16:55	76	16:27 (S3)	17:30	36	08:10 (S7)	18:00			19:29	19:58	20:20
14	07:13		14:28 (S5)	06:49		07:32 (S7)	06:10			06:22	05:45	05:30
	16:56	75	16:28 (S3)	17:31	38	08:10 (S7)	18:01			19:30	19:59	20:21
15	07:12		14:30 (S5)	06:48		07:32 (S7)	06:08			06:21	05:44	05:30
	16:57	72	16:28 (S3)	17:32	39	08:11 (S7)	18:02			19:31	20:00	20:21
16	07:12		14:31 (S5)	06:46		07:31 (S7)	06:07			06:19	05:44	05:30
	16:58	70	16:28 (S3)	17:33	41	08:12 (S7)	18:03			19:32	20:00	20:22
17	07:12		14:33 (S5)	06:45		07:31 (S7)	06:05			06:18	05:43	05:30
	16:59	69	16:29 (S3)	17:34	42	08:13 (S7)	18:04			19:33	20:01	20:22
18	07:11		14:34 (S5)	06:44		07:29 (S7)	06:04			06:16	05:42	05:30
	17:01	66	16:29 (S3)	17:36	44	08:13 (S7)	18:05			19:34	20:02	20:22
19	07:11		14:36 (S5)	06:43		07:29 (S7)	06:02			06:15	05:41	05:31
	17:02	63	16:29 (S3)	17:37	45	08:14 (S7)	18:05			19:35	20:03	20:23
20	07:10		14:38 (S5)	06:41		07:29 (S7)	06:01			06:14	05:40	05:31
	17:03	58	16:29 (S3)	17:38	45	08:14 (S7)	18:06			19:36	20:04	20:23
21	07:10		14:41 (S5)	06:40		07:29 (S7)	05:59			06:12	05:39	05:31
	17:04	53	16:29 (S3)	17:39	45	08:14 (S7)	18:07			19:37	20:05	20:23
22	07:09		14:43 (S5)	06:39		07:28 (S7)	05:57			06:11	05:39	05:31
	17:05	49	16:29 (S3)	17:40	46	08:14 (S7)	18:08			19:38	20:06	20:23
23	07:09		14:47 (S5)	06:37		07:28 (S7)	05:56			06:10	05:38	05:31
	17:06	40	16:28 (S3)	17:41	46	08:14 (S7)	18:09			19:39	20:07	20:24
24	07:08		16:02 (S3)	06:36		07:27 (S7)	05:54			06:08	05:37	05:32
	17:07	27	16:29 (S3)	17:42	46	08:13 (S7)	18:10			19:40	20:07	20:24
25	07:07		16:03 (S3)	06:35		07:28 (S7)	05:53			06:07	05:37	05:32
	17:08	25	16:28 (S3)	17:43	45	08:13 (S7)	18:11			19:41	20:08	20:24
26	07:07		07:47 (S9)	06:33		07:28 (S7)	05:51			06:06	05:36	05:32
	17:09	33	16:27 (S3)	17:44	45	08:13 (S7)	18:12			19:42	20:09	20:24
27	07:06		07:45 (S9)	06:32		07:28 (S7)	05:50			06:04	05:36	05:32
	17:11	35	16:26 (S3)	17:45	44	08:12 (S7)	18:13			19:43	20:10	20:24
28	07:05		07:45 (S9)	06:31		07:29 (S7)	05:48			06:03	05:35	05:33
	17:12	36	16:26 (S3)	17:46	43	08:12 (S7)	18:14			19:44	20:10	20:24
29	07:04		07:44 (S9)				06:46			06:02	05:34	05:33
	17:13	34	16:24 (S3)				19:15			19:45	20:11	20:24
30	07:04		07:44 (S9)				06:45			06:01	05:34	05:34
	17:14	31	16:22 (S3)				19:16			19:46	20:12	20:24
31	07:03		07:43 (S9)				06:43				05:33	
	17:15	22	08:05 (S9)				19:17				20:13	
Ore potenziali eliofanìa	304			301			370			396	442	445
Totale, caso peggiore		1900			1013			293				

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: SFPRecettore d'ombra: Rec 30 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (26)  
Assunzioni sui calcoli d'ombra

- I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:
- Il sole splende tutto il di, 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	05:34 20:24	05:56 20:07	06:24 19:27	06:50 18:40		06:21 16:56	28	07:08 (S7) 07:36 (S9)	06:53 16:35	78	14:07 (S5) 16:08 (S3)
2	05:35 20:24	05:57 20:06	06:25 19:25	06:51 18:38		06:22 16:55	27	07:10 (S7) 07:37 (S9)	06:54 16:34	79	14:07 (S5) 16:09 (S3)
3	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:37		06:23 16:54	26	07:11 (S9) 07:37 (S9)	06:55 16:34	80	14:07 (S5) 16:09 (S3)
4	05:35 20:24	05:59 20:04	06:26 19:22	06:53 18:35	13	08:18 (S7) 08:31 (S7)	26	07:11 (S9) 07:37 (S9)	06:56 16:34	81	14:06 (S5) 16:09 (S3)
5	05:36 20:23	06:00 20:03	06:27 19:21	06:54 18:34	20	08:14 (S7) 08:34 (S7)	26	07:11 (S9) 07:37 (S9)	06:57 16:34	81	14:06 (S5) 16:09 (S3)
6	05:37 20:23	06:00 20:02	06:28 19:19	06:55 18:32	26	08:11 (S7) 08:37 (S7)	27	07:11 (S9) 07:38 (S9)	06:58 16:34	81	14:07 (S5) 16:10 (S3)
7	05:37 20:23	06:01 20:01	06:29 19:18	06:56 18:30	30	08:09 (S7) 08:42 (S7)	27	07:11 (S9) 07:38 (S9)	06:59 16:34	81	14:07 (S5) 16:10 (S3)
8	05:38 20:23	06:02 19:59	06:30 19:16	06:57 18:29	33	08:07 (S7) 08:40 (S7)	25	07:12 (S9) 07:37 (S9)	07:00 16:34	82	14:06 (S5) 16:09 (S3)
9	05:38 20:22	06:03 19:58	06:31 19:15	06:58 18:27	35	08:06 (S7) 08:41 (S7)	24	07:13 (S9) 07:37 (S9)	07:01 16:34	82	14:06 (S5) 16:09 (S3)
10	05:39 20:22	06:04 19:57	06:32 19:13	06:59 18:26	37	08:05 (S7) 08:42 (S7)	23	07:13 (S9) 07:36 (S9)	07:02 16:34	82	14:06 (S5) 16:10 (S3)
11	05:40 20:22	06:05 19:56	06:32 19:12	07:00 18:24	40	08:03 (S7) 08:43 (S7)	22	07:14 (S9) 07:36 (S9)	07:02 16:34	81	14:07 (S5) 16:10 (S3)
12	05:40 20:21	06:06 19:55	06:33 19:10	07:01 18:23	42	08:02 (S7) 08:44 (S7)	31	07:16 (S9) 15:54 (S3)	07:03 16:34	81	14:07 (S5) 16:10 (S3)
13	05:41 20:21	06:07 19:53	06:34 19:08	07:02 18:22	42	08:02 (S7) 08:44 (S7)	34	07:16 (S9) 15:56 (S3)	07:04 16:34	81	14:07 (S5) 16:10 (S3)
14	05:42 20:20	06:08 19:52	06:35 19:07	07:03 18:20	43	08:01 (S7) 08:44 (S7)	36	07:17 (S9) 15:58 (S3)	07:05 16:35	81	14:07 (S5) 16:10 (S3)
15	05:42 20:20	06:08 19:51	06:36 19:05	07:04 18:19	45	08:00 (S7) 08:45 (S7)	35	07:18 (S9) 15:59 (S3)	07:05 16:35	82	14:08 (S5) 16:11 (S3)
16	05:43 20:19	06:09 19:50	06:37 19:04	07:05 18:17	45	08:00 (S7) 08:45 (S7)	33	07:20 (S9) 16:00 (S3)	07:06 16:35	81	14:08 (S5) 16:10 (S3)
17	05:44 20:19	06:10 19:48	06:38 19:02	07:06 18:16	46	07:59 (S7) 08:45 (S7)	25	15:36 (S3) 16:01 (S3)	07:07 16:35	81	14:08 (S5) 16:11 (S3)
18	05:45 20:18	06:11 19:47	06:39 19:00	07:07 18:14	46	07:59 (S7) 08:45 (S7)	27	15:36 (S3) 16:03 (S3)	07:07 16:36	81	14:09 (S5) 16:12 (S3)
19	05:45 20:18	06:12 19:46	06:39 18:59	07:08 18:13	46	07:59 (S7) 08:45 (S7)	40	14:22 (S5) 16:03 (S3)	07:08 16:36	80	14:09 (S5) 16:11 (S3)
20	05:46 20:17	06:13 19:44	06:40 18:57	07:09 18:12	45	07:59 (S7) 08:44 (S7)	49	14:18 (S5) 16:04 (S3)	07:09 16:37	80	14:10 (S5) 16:12 (S3)
21	05:47 20:16	06:14 19:43	06:41 18:56	07:10 18:10	45	07:59 (S7) 08:44 (S7)	53	14:16 (S5) 16:04 (S3)	07:09 16:37	80	14:10 (S5) 16:12 (S3)
22	05:48 20:15	06:15 19:42	06:42 18:54	07:11 18:09	45	08:00 (S7) 08:45 (S7)	58	14:14 (S5) 16:05 (S3)	07:10 16:38	80	14:11 (S5) 16:13 (S3)
23	05:48 20:15	06:16 19:40	06:43 18:52	07:12 18:08	44	08:00 (S7) 08:44 (S7)	63	14:12 (S5) 16:05 (S3)	07:10 16:38	80	14:11 (S5) 16:13 (S3)
24	05:49 20:14	06:17 19:39	06:44 18:51	07:13 18:06	43	08:00 (S7) 08:43 (S7)	66	14:11 (S5) 16:06 (S3)	07:11 16:39	80	14:12 (S5) 16:14 (S3)
25	05:50 20:13	06:17 19:37	06:45 18:49	07:14 17:05	43	07:00 (S7) 07:43 (S7)	69	14:11 (S5) 16:07 (S3)	07:11 16:39	80	14:12 (S5) 16:14 (S3)
26	05:51 20:12	06:18 19:36	06:46 18:48	07:15 17:04	41	07:01 (S7) 07:42 (S7)	70	14:10 (S5) 16:07 (S3)	07:11 16:40	81	14:12 (S5) 16:15 (S3)
27	05:52 20:12	06:19 19:34	06:47 18:46	07:16 17:02	39	07:02 (S7) 07:41 (S7)	72	14:09 (S5) 16:07 (S3)	07:12 16:40	82	14:13 (S5) 16:16 (S3)
28	05:53 20:11	06:20 19:33	06:48 18:44	07:17 17:01	38	07:02 (S7) 07:40 (S7)	75	14:08 (S5) 16:08 (S3)	07:12 16:41	81	14:14 (S5) 16:16 (S3)
29	05:53 20:10	06:21 19:31	06:48 18:43	07:18 17:00	36	07:03 (S7) 07:39 (S7)	76	14:08 (S5) 16:08 (S3)	07:12 16:42	81	14:14 (S5) 16:17 (S3)
30	05:54 20:09	06:22 19:30	06:49 18:41	07:19 16:59	33	07:04 (S7) 07:37 (S7)	77	14:07 (S5) 16:08 (S3)	07:13 16:42	80	14:15 (S5) 16:17 (S3)
31	05:55 20:08	06:23 19:29	06:50 16:58	07:20 07:36	29	07:07 (S7) 07:36 (S9)		07:13 16:43	14:15 (S5) 16:18 (S3)	81	14:15 (S5) 16:18 (S3)
Ore potenziali eliofanìa	452	423	374	348		303		295			
Totale, caso peggiore					1070		1270			2502	

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: SFPRecettore d'ombra: Rec02 - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)  
 Assunzioni sui calcoli d'ombra

- I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:
- Il sole splende tutto il di, 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	07:13 16:44	07:53 (T4)   07:02 08:19 (T3)   17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:24 19:27	06:50 18:40	06:21 16:56	06:53 16:35	07:35 (T4) 08:06 (T3)
2	07:13 16:45	07:53 (T4)   07:01 08:19 (T3)   17:17	06:28 17:48	06:40 19:19	05:58 19:47	05:33 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34	07:36 (T4) 08:06 (T3)
3	07:13 16:46	07:53 (T4)   07:00 08:20 (T3)   17:18	06:26 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:37	06:23 16:54	06:55 16:34	07:37 (T4) 08:06 (T3)
4	07:14 16:47	07:53 (T4)   06:59 08:20 (T3)   17:20	06:25 17:50	06:37 19:21	05:56 19:49	05:32 20:15	05:35 20:24	05:59 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34	07:38 (T4) 08:07 (T3)
5	07:14 16:47	07:53 (T4)   06:58 08:21 (T3)   17:21	06:23 17:51	06:36 19:22	05:54 19:50	05:31 20:16	05:36 20:23	05:59 20:03	06:27 19:21	06:54 18:33	06:25 16:52	06:57 16:34	07:38 (T3) 08:07 (T3)
6	07:14 16:48	07:53 (T4)   06:57 08:21 (T3)   17:22	06:22 17:52	06:34 19:23	05:53 19:51	05:31 20:17	05:36 20:23	06:00 20:02	06:28 19:19	06:55 18:32	06:26 16:51	06:58 16:34	07:39 (T4) 08:08 (T3)
7	07:14 16:49	07:53 (T4)   06:56 08:22 (T3)   17:23	06:20 17:53	06:33 19:24	05:52 19:52	05:31 20:17	05:37 20:23	06:01 20:01	06:29 19:18	06:56 18:30	06:28 16:50	06:59 16:34	07:39 (T4) 08:07 (T3)
8	07:14 16:50	07:53 (T4)   06:55 08:22 (T3)   17:24	06:19 17:54	06:31 19:25	05:51 19:53	05:31 20:18	05:38 20:23	06:02 19:59	06:30 19:16	06:57 18:29	06:29 16:49	07:00 16:34	07:40 (T4) 08:07 (T3)
9	07:13 16:51	07:53 (T4)   06:54 08:22 (T3)   17:25	06:17 17:55	06:29 19:25	05:50 19:54	05:31 20:18	05:38 20:22	06:03 19:58	06:31 19:15	06:58 18:27	06:30 16:48	07:01 16:34	07:41 (T4) 08:08 (T3)
10	07:13 16:52	07:53 (T4)   06:53 08:23 (T3)   17:26	06:16 17:57	06:28 19:26	05:49 19:55	05:30 20:19	05:39 20:22	06:04 19:57	06:31 19:13	06:59 18:26	06:31 16:47	07:01 16:34	07:42 (T4) 08:08 (T3)
11	07:13 16:53	07:53 (T4)   06:52 08:24 (T3)   17:28	06:14 17:58	06:27 19:27	05:48 19:56	05:30 20:19	05:39 20:22	06:05 19:56	06:32 19:11	07:00 18:24	06:32 16:46	07:02 16:34	07:43 (T4) 08:09 (T3)
12	07:13 16:54	07:52 (T4)   06:51 08:23 (T3)   17:29	06:13 17:59	06:25 19:28	05:47 19:57	05:30 20:20	05:40 20:21	06:06 19:55	06:33 19:10	07:01 18:23	06:33 16:45	07:03 16:34	07:44 (T4) 08:09 (T3)
13	07:13 16:55	07:52 (T4)   06:50 08:24 (T3)   17:30	06:11 17:59	06:24 19:29	05:46 19:58	05:30 20:20	05:41 20:21	06:07 19:53	06:34 19:08	07:02 18:21	06:34 16:44	07:04 16:34	07:44 (T4) 08:09 (T3)
14	07:12 16:56	07:52 (T4)   06:49 08:25 (T3)   17:31	06:10 18:00	06:22 19:30	05:45 19:59	05:30 20:21	05:41 20:20	06:07 19:52	06:35 19:07	07:03 18:20	06:35 16:44	07:05 16:34	07:45 (T4) 08:09 (T3)
15	07:12 16:57	07:51 (T4)   06:47 08:24 (T3)   17:32	06:08 18:01	06:21 19:31	05:44 20:00	05:30 20:21	05:42 20:20	06:08 19:51	06:36 19:05	07:03 18:18	06:36 16:43	07:05 16:35	07:46 (T4) 08:10 (T3)
16	07:12 16:58	07:51 (T4)   06:46 08:25 (T3)   17:33	06:07 18:02	06:19 19:32	05:43 20:00	05:30 20:22	05:43 20:19	06:09 19:50	06:37 19:03	07:04 18:17	06:37 16:42	07:06 16:35	07:46 (T4) 08:10 (T3)
17	07:11 16:59	07:51 (T4)   06:45 08:26 (T3)   17:34	06:05 18:03	06:18 19:33	05:43 20:01	05:30 20:22	05:44 20:19	06:10 19:48	06:38 19:02	07:05 18:16	06:39 16:41	07:07 16:35	07:47 (T4) 08:10 (T3)
18	07:11 17:00	07:50 (T4)   06:44 08:25 (T3)   17:35	06:04 18:04	06:16 19:34	05:42 20:02	05:30 20:22	05:44 20:18	06:11 19:47	06:38 19:00	07:06 18:14	06:40 16:41	07:07 16:36	07:48 (T4) 08:11 (T3)
19	07:11 17:01	07:51 (T4)   06:43 08:26 (T3)   17:37	06:02 18:05	06:15 19:35	05:41 20:03	05:30 20:23	05:45 20:17	06:12 19:46	06:39 18:59	07:07 18:13	06:41 16:40	07:08 16:36	07:48 (T4) 08:11 (T3)
20	07:10 17:03	07:51 (T4)   06:41 08:25 (T3)   17:38	06:00 18:06	06:14 19:36	05:40 20:04	05:30 20:23	05:46 20:17	06:13 19:44	06:40 18:57	07:08 18:11	06:42 16:39	07:09 16:36	07:49 (T4) 08:12 (T3)
21	07:10 17:04	07:52 (T4)   06:40 08:25 (T3)   17:39	05:59 18:07	06:12 19:37	05:39 20:05	05:31 20:23	05:47 20:16	06:14 19:43	06:41 18:56	07:09 18:10	06:43 16:39	07:09 16:37	07:49 (T4) 08:12 (T3)
22	07:09 17:05	07:53 (T4)   06:39 08:25 (T3)   17:40	05:57 18:08	06:11 19:38	05:39 20:06	05:31 20:23	05:47 20:15	06:15 19:41	06:42 18:54	07:11 18:09	06:44 16:38	07:10 16:37	07:50 (T4) 08:13 (T3)
23	07:09 17:06	07:54 (T4)   06:37 08:24 (T3)   17:41	05:56 18:09	06:09 19:39	05:38 20:06	05:31 20:23	05:48 20:15	06:15 19:40	06:43 18:52	07:12 18:07	06:45 16:38	07:10 16:38	07:51 (T4) 08:13 (T3)
24	07:08 17:07	07:57 (T4)   06:36 08:24 (T3)   17:42	05:54 18:10	06:08 19:40	05:37 20:07	05:31 20:24	05:49 20:14	06:16 19:39	06:44 18:51	07:13 18:06	06:46 16:37	07:11 16:38	07:51 (T4) 08:14 (T3)
25	07:07 17:08	08:02 (T3)   06:35 08:23 (T3)   17:43	05:53 18:11	06:07 19:41	05:37 20:08	05:32 20:24	05:50 20:13	06:17 19:37	06:45 18:49	07:14 17:05	06:47 16:37	07:11 16:39	07:51 (T4) 08:14 (T3)
26	07:07 17:09	08:04 (T3)   06:33 08:22 (T3)   17:44	05:51 18:12	06:05 19:42	05:36 20:09	05:32 20:24	05:51 20:12	06:18 19:36	06:46 18:48	07:15 17:04	06:48 16:36	07:11 16:40	07:51 (T4) 08:14 (T3)
27	07:06 17:10	08:05 (T3)   06:32 08:20 (T3)   17:45	05:49 18:13	06:04 19:43	05:35 20:10	05:32 20:24	05:52 20:11	06:19 19:34	06:47 18:46	07:16 17:02	06:49 16:36	07:12 16:40	07:52 (T4) 08:15 (T3)
28	07:05 17:12	08:09 (T3)   06:30 08:18 (T3)   17:46	05:48 18:14	06:03 19:44	05:35 20:10	05:33 20:24	05:52 20:11	06:20 19:33	06:47 18:44	07:17 17:01	06:50 16:35	07:12 16:41	07:52 (T4) 08:16 (T3)
29	07:04 17:13		06:46 19:15	06:02 19:45	05:34 20:11	05:33 20:24	05:53 20:10	06:21 19:31	06:48 18:43	07:18 17:00	06:18 16:35	07:12 16:42	07:52 (T4) 08:16 (T3)
30	07:04 17:14		06:45 19:16	06:00 19:45	05:34 20:12	05:33 20:24	05:54 20:09	06:22 19:30	06:49 18:41	07:19 16:59	06:19 16:35	07:13 16:42	07:52 (T4) 08:17 (T3)
31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:23 19:28		06:20 16:57		07:13 16:43	07:52 (T4) 08:17 (T3)
Ore potenziali eliofania	304		301	370	396	442	445	423	374		303	489	784
Totale, caso peggiore	797												

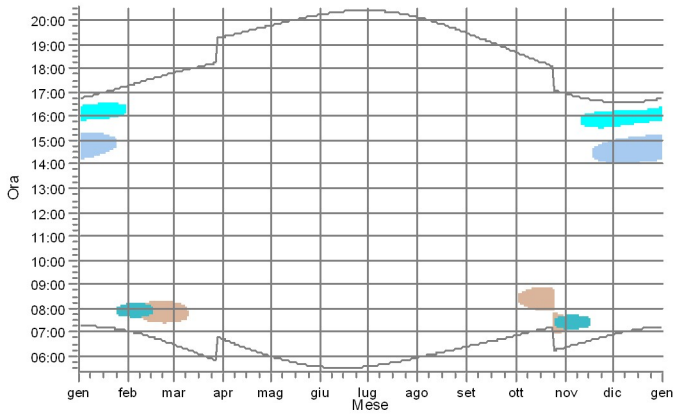
Legenda della tabella:

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)

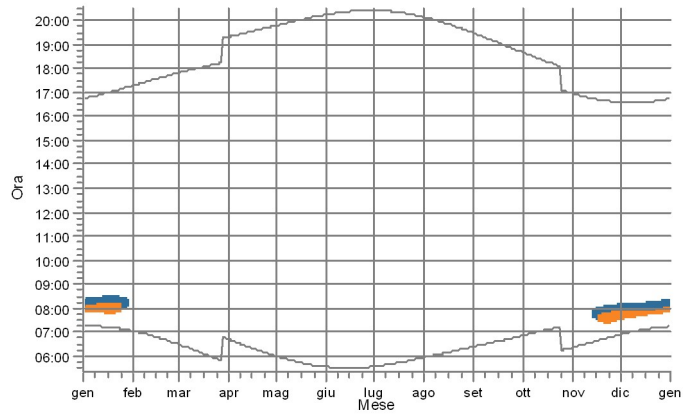
## SHADOW - Calendario, grafico

Calcolo: SFP

Rec 30: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (26)



Rec02: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)



WTG



S3: V150-2.625 hub: 155,0 m



S5: V150-2.625 hub: 155,0 m



S7: V150-2.625 hub: 155,0 m



S9: V150-2.625 hub: 155,0 m



T3: V150-2.625 hub: 155,0 m



T4: V150-2.625 hub: 155,0 m

## SHADOW - Calendario per WTG

Calcolo: SFPWTG: 01 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:39	06:21 16:56	06:53 16:34
2	07:13 16:45	07:01 17:17	06:27 17:48	06:40 19:19	05:58 19:47	05:32 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
3	07:13 16:45	07:00 17:18	06:26 17:49	06:38 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:57 20:05	06:25 19:24	06:52 18:36	06:23 16:54	06:55 16:34
4	07:13 16:46	06:59 17:19	06:25 17:50	06:37 19:21	05:55 19:49	05:32 20:15	05:35 20:23	05:58 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34
5	07:14 16:47	06:58 17:21	06:23 17:51	06:35 19:22	05:54 19:50	05:31 20:16	05:36 20:23	05:59 20:03	06:27 19:21	06:54 18:33	06:25 16:52	06:57 16:34
6	07:14 16:48	06:57 17:22	06:22 17:52	06:34 19:22	05:53 19:51	05:31 20:17	05:36 20:23	06:00 20:02	06:28 19:19	06:55 18:32	06:26 16:51	06:58 16:34
7	07:14 16:49	06:56 17:23	06:20 17:53	06:32 19:23	05:52 19:52	05:31 20:17	05:37 20:23	06:01 20:00	06:29 19:18	06:56 18:30	06:27 16:50	06:59 16:34
8	07:13 16:50	06:55 17:24	06:19 17:54	06:31 19:24	05:51 19:53	05:31 20:18	05:37 20:23	06:02 19:59	06:30 19:16	06:57 18:29	06:29 16:49	07:00 16:34
9	07:13 16:51	06:54 17:25	06:17 17:55	06:29 19:25	05:50 19:54	05:30 20:18	05:38 20:22	06:03 19:58	06:30 19:14	06:58 18:27	06:30 16:48	07:01 16:34
10	07:13 16:52	06:53 17:26	06:16 17:56	06:28 19:26	05:49 19:55	05:30 20:19	05:39 20:22	06:04 19:57	06:31 19:13	06:59 18:26	06:31 16:47	07:01 16:34
11	07:13 16:53	06:52 17:27	06:14 17:57	06:26 19:27	05:48 19:56	05:30 20:19	05:39 20:21	06:05 19:56	06:32 19:11	06:59 18:24	06:32 16:46	07:02 16:34
12	07:13 16:54	06:51 17:29	06:13 17:58	06:25 19:28	05:47 19:57	05:30 20:20	05:40 20:21	06:05 19:55	06:33 19:10	07:00 18:23	06:33 16:45	07:03 16:34
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14	07:12 16:56	06:49 17:31	06:10 18:00	06:22 19:30	05:45 19:59	05:30 20:21	05:41 20:20	06:07 19:52	06:35 19:07	07:02 18:20	06:35 16:43	07:05 16:34
15	07:12 16:57	06:47 17:32	06:08 18:01	06:20 19:31	05:44 19:59	05:30 20:21	05:42 20:20	06:08 19:51	06:36 19:05	07:03 18:18	06:36 16:43	07:05 16:34
16	07:12 16:58	06:46 17:33	06:06 18:02	06:19 19:32	05:43 20:00	05:30 20:21	05:43 20:19	06:09 19:49	06:37 19:03	07:04 18:17	06:37 16:42	07:06 16:35
17	07:11 16:59	06:45 17:34	06:05 18:03	06:18 19:33	05:42 20:01	05:30 20:22	05:43 20:19	06:10 19:48	06:37 19:02	07:05 18:15	06:38 16:41	07:07 16:35
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19	07:11 17:01	06:42 17:36	06:02 18:05	06:15 19:35	05:41 20:03	05:30 20:22	05:45 20:17	06:12 19:45	06:39 18:59	07:07 18:13	06:41 16:40	07:08 16:36
20	07:10 17:02	06:41 17:37	06:00 18:06	06:13 19:36	05:40 20:04	05:30 20:23	05:46 20:17	06:13 19:44	06:40 18:57	07:08 18:11	06:42 16:39	07:08 16:36
21	07:10 17:03	06:40 17:39	05:59 18:07	06:12 19:37	05:39 20:05	05:30 20:23	05:46 20:16	06:14 19:43	06:41 18:55	07:09 18:10	06:43 16:39	07:09 16:37
22	07:09 17:05	06:39 17:40	05:57 18:08	06:11 19:38	05:38 20:06	05:31 20:23	05:47 20:15	06:14 19:41	06:42 18:54	07:10 18:09	06:44 16:38	07:10 16:37
23	07:08 17:06	06:37 17:41	05:56 18:09	06:09 19:39	05:38 20:06	05:31 20:23	05:48 20:15	06:15 19:40	06:43 18:52	07:11 18:07	06:45 16:37	07:10 16:38
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28	07:05 17:11	06:30 17:46	05:48 18:14	06:03 19:43	05:35 20:10	05:32 20:24	05:52 20:11	06:20 19:33	06:47 18:44	06:17 17:01	06:50 16:35	07:12 16:41
29	07:04 17:13		06:46 19:15	06:01 19:44	05:34 20:11	05:33 20:24	05:53 20:10	06:21 19:31	06:48 18:43	06:18 17:00	06:51 16:35	07:12 16:41
30	07:04 17:14		06:45 19:16	06:00 19:45	05:34 20:12	05:33 20:24	05:54 20:09	06:22 19:30	06:49 18:41	06:19 16:58	06:52 16:35	07:13 16:42
31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:22 20:08		06:20 16:57		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	424	374	348	303	295
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: SFPWTG: 02 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:39	06:21 16:56	06:53 16:34
2	07:13 16:45	07:01 17:17	06:27 17:48	06:40 19:19	05:58 19:47	05:32 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
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5	07:14 16:47	06:58 17:21	06:23 17:51	06:35 19:21	05:54 19:50	05:31 20:16	05:36 20:23	05:59 20:03	06:27 19:21	06:54 18:33	06:25 16:52	06:57 16:34
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7	07:13 16:49	06:56 17:23	06:20 17:53	06:32 19:23	05:52 19:52	05:31 20:17	05:37 20:23	06:01 20:00	06:29 19:18	06:56 18:30	06:27 16:50	06:59 16:34
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13	07:13 16:55	06:50 17:30	06:11 17:59	06:23 19:29	05:46 19:58	05:30 20:20	05:41 20:21	06:06 19:53	06:34 19:08	07:01 18:21	06:34 16:44	07:04 16:34
14	07:12 16:56	06:49 17:31	06:10 18:00	06:22 19:30	05:45 19:58	05:30 20:21	05:41 20:20	06:07 19:52	06:35 19:07	07:02 18:20	06:35 16:43	07:04 16:34
15	07:12 16:57	06:47 17:32	06:08 18:01	06:20 19:31	05:44 19:59	05:30 20:21	05:42 20:20	06:08 19:51	06:36 19:05	07:03 18:18	06:36 16:43	07:05 16:35
16	07:12 16:58	06:46 17:33	06:06 18:02	06:19 19:32	05:43 20:00	05:30 20:21	05:43 20:19	06:09 19:49	06:37 19:03	07:04 18:17	06:37 16:42	07:06 16:35
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18	07:11 17:00	06:44 17:35	06:03 18:04	06:16 19:34	05:41 20:02	05:30 20:22	05:44 20:18	06:11 19:47	06:38 19:00	07:06 18:14	06:40 16:40	07:07 16:35
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20	07:10 17:02	06:41 17:37	06:00 18:06	06:13 19:36	05:40 20:04	05:30 20:23	05:46 20:17	06:13 19:44	06:40 18:57	07:08 18:11	06:42 16:39	07:08 16:36
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23	07:08 17:06	06:37 17:41	05:56 18:09	06:09 19:39	05:38 20:06	05:31 20:23	05:48 20:15	06:15 19:40	06:43 18:52	07:11 18:07	06:45 16:37	07:10 16:38
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26	07:06 17:09	06:33 17:44	05:51 18:12	06:05 19:42	05:36 20:09	05:32 20:24	05:51 20:12	06:18 19:36	06:45 18:47	06:15 17:03	06:48 16:36	07:11 16:39
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28	07:05 17:11	06:30 17:46	05:48 18:14	06:03 19:43	05:35 20:10	05:32 20:24	05:52 20:10	06:20 19:33	06:47 18:44	06:17 17:01	06:50 16:35	07:12 16:41
29	07:04 17:13		06:46 19:15	06:01 19:44	05:34 20:11	05:33 20:24	05:53 20:10	06:21 19:31	06:48 18:43	06:18 17:00	06:51 16:35	07:12 16:41
30	07:04 17:14		06:45 19:16	06:00 19:45	05:34 20:12	05:33 20:24	05:54 20:09	06:22 19:30	06:49 18:41	06:19 16:58	06:52 16:35	07:13 16:42
31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:22 19:28		06:20 16:57		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	424	374	348	303	295
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: SFPWTG: 03 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:39	06:21 16:56	06:53 16:34
2	07:13 16:45	07:01 17:17	06:27 17:48	06:40 19:19	05:58 19:47	05:32 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
3	07:13 16:46	07:00 17:18	06:26 17:49	06:38 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:57 20:05	06:25 19:24	06:52 18:36	06:23 16:54	06:55 16:34
4	07:13 16:46	06:59 17:19	06:25 17:50	06:37 19:21	05:55 19:49	05:32 20:15	05:35 20:23	05:58 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34
5	07:14 16:47	06:58 17:21	06:23 17:51	06:35 19:22	05:54 19:50	05:31 20:16	05:36 20:23	05:59 20:03	06:27 19:21	06:54 18:33	06:25 16:52	06:57 16:34
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Ore potenziali eliofanía	304	301	370	396	442	445	452	424	374	348	303	295
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: SFPWTG: 04 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:34
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18	07:11 17:00	06:44 17:35	06:03 18:04	06:16 19:34	05:41 20:02	05:30 20:22	05:44 20:18	06:11 19:47	06:38 19:00	07:06 18:14	06:40 16:40	07:07 16:35
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22	07:09 17:05	06:39 17:40	05:57 18:08	06:11 19:38	05:38 20:06	05:31 20:23	05:47 20:15	06:14 19:41	06:42 18:54	07:10 18:09	06:44 16:38	07:09 16:37
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Ore potenziali eliofanía	304	301	370	396	442	445	452	424	374	348	303	295
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: SFPWTG: 05 - V150-2.625 hub: 155,0 m  
Assunzioni sui calcoli d'ombra

I tempi calcolati sono relativi al "caso peggiore", sulla base delle seguenti assunzioni:  
Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:34
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25	07:07 17:08	06:35 17:43	05:53 18:11	06:07 19:41	05:36 20:08	05:31 20:24	05:50 20:13	06:17 19:37	06:45 18:49	06:14 17:05	06:47 16:37	07:11 16:39
26	07:07 17:09	06:33 17:44	05:51 18:12	06:05 19:42	05:36 20:09	05:32 20:24	05:51 20:12	06:18 19:36	06:46 18:47	06:15 17:03	06:48 16:36	07:11 16:39
27	07:06 17:10	06:32 17:45	05:49 18:13	06:04 19:43	05:35 20:10	05:32 20:24	05:51 20:11	06:19 19:34	06:46 18:46	06:16 17:02	06:49 16:36	07:12 16:40
28	07:05 17:11	06:30 17:46	05:48 18:14	06:03 19:44	05:35 20:10	05:33 20:24	05:52 20:11	06:20 19:33	06:47 18:44	06:17 17:01	06:50 16:35	07:12 16:41
29	07:04 17:13		06:46 19:15	06:02 19:45	05:34 20:11	05:33 20:24	05:53 20:10	06:21 19:31	06:48 18:43	06:18 17:00	06:51 16:35	07:12 16:41
30	07:04 17:14		06:45 19:16	06:00 19:45	05:34 20:12	05:33 20:24	05:54 20:09	06:22 19:30	06:49 18:41	06:19 16:59	06:52 16:35	07:13 16:42
31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:23 19:28		06:20 16:57		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	424	374	348	303	295
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: SFPWTG: 06 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:34
2	07:13 16:45	07:01 17:17	06:27 17:48	06:40 19:19	05:58 19:47	05:32 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
3	07:13 16:46	07:00 17:18	06:26 17:49	06:38 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:57 20:05	06:25 19:24	06:52 18:36	06:23 16:54	06:55 16:34
4	07:13 16:46	06:59 17:19	06:25 17:50	06:37 19:21	05:55 19:49	05:32 20:15	05:35 20:23	05:58 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34
5	07:14 16:47	06:58 17:21	06:23 17:51	06:35 19:22	05:54 19:50	05:31 20:16	05:36 20:23	05:59 20:03	06:27 19:21	06:54 18:33	06:25 16:52	06:57 16:34
6	07:14 16:48	06:57 17:22	06:22 17:52	06:34 19:22	05:53 19:51	05:31 20:17	05:36 20:23	06:00 20:02	06:28 19:19	06:55 18:32	06:26 16:51	06:58 16:34
7	07:14 16:49	06:56 17:23	06:20 17:53	06:32 19:23	05:52 19:52	05:31 20:17	05:37 20:23	06:01 20:00	06:29 19:18	06:56 18:30	06:27 16:50	06:59 16:34
8	07:13 16:50	06:55 17:24	06:19 17:54	06:31 19:24	05:51 19:53	05:31 20:18	05:37 20:23	06:02 19:59	06:30 19:16	06:57 18:29	06:29 16:49	07:00 16:34
9	07:13 16:51	06:54 17:25	06:17 17:55	06:29 19:25	05:50 19:54	05:30 20:18	05:38 20:22	06:03 19:58	06:30 19:14	06:58 18:27	06:30 16:48	07:01 16:34
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31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:22 19:28		06:20 16:57		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	424	374	348	303	295
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: SFPWTG: 09 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:35
2	07:13 16:45	07:01 17:17	06:28 17:48	06:40 19:19	05:58 19:47	05:32 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
3	07:13 16:46	07:00 17:18	06:26 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:37	06:23 16:54	06:55 16:34
4	07:14 16:47	06:59 17:20	06:25 17:50	06:37 19:21	05:56 19:49	05:32 20:15	05:35 20:24	05:58 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34
5	07:14 16:47	06:58 17:21	06:23 17:51	06:36 19:22	05:54 19:50	05:31 20:16	05:36 20:23	05:59 20:03	06:27 19:21	06:54 18:33	06:25 16:52	06:57 16:34
6	07:14 16:48	06:57 17:22	06:22 17:52	06:34 19:23	05:53 19:51	05:31 20:17	05:36 20:23	06:00 20:02	06:28 19:19	06:55 18:32	06:26 16:51	06:58 16:34
7	07:14 16:49	06:56 17:23	06:20 17:53	06:32 19:24	05:52 19:52	05:31 20:17	05:37 20:23	06:01 20:01	06:29 19:18	06:56 18:30	06:28 16:50	06:59 16:34
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14	07:12 16:56	06:49 17:31	06:10 18:00	06:22 19:30	05:45 19:59	05:30 20:21	05:41 20:20	06:07 19:52	06:35 19:07	07:02 18:20	06:35 16:44	07:05 16:34
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16	07:12 16:58	06:46 17:33	06:07 18:02	06:19 19:32	05:43 20:00	05:30 20:22	05:43 20:19	06:09 19:50	06:37 19:03	07:04 18:17	06:37 16:42	07:06 16:35
17	07:11 16:59	06:45 17:34	06:05 18:03	06:18 19:33	05:42 20:01	05:30 20:22	05:44 20:19	06:10 19:48	06:38 19:02	07:05 18:16	06:39 16:41	07:07 16:35
18	07:11 17:00	06:44 17:35	06:04 18:04	06:16 19:34	05:42 20:02	05:30 20:22	05:44 20:18	06:11 19:47	06:38 19:00	07:06 18:14	06:40 16:41	07:07 16:36
19	07:11 17:01	06:43 17:37	06:02 18:05	06:15 19:35	05:41 20:03	05:30 20:23	05:45 20:17	06:12 19:46	06:39 18:59	07:07 18:13	06:41 16:40	07:08 16:36
20	07:10 17:03	06:41 17:38	06:00 18:06	06:14 19:36	05:40 20:04	05:30 20:23	05:46 20:17	06:13 19:44	06:40 18:57	07:08 18:11	06:42 16:39	07:09 16:36
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22	07:09 17:05	06:39 17:40	05:57 18:08	06:11 19:38	05:39 20:06	05:31 20:23	05:47 20:15	06:15 19:41	06:42 18:54	07:10 18:09	06:44 16:38	07:10 16:37
23	07:09 17:06	06:37 17:41	05:56 18:09	06:09 19:39	05:38 20:06	05:31 20:23	05:48 20:15	06:15 19:40	06:43 18:52	07:12 18:07	06:45 16:38	07:10 16:38
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26	07:07 17:09	06:33 17:44	05:51 18:12	06:05 19:42	05:36 20:09	05:32 20:24	05:51 20:12	06:18 19:36	06:46 18:48	06:15 17:04	06:48 16:36	07:11 16:40
27	07:06 17:10	06:32 17:45	05:49 18:13	06:04 19:43	05:35 20:10	05:32 20:24	05:52 20:11	06:19 19:34	06:47 18:46	06:16 17:02	06:49 16:36	07:12 16:40
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29	07:04 17:13		06:46 19:15	06:02 19:45	05:34 20:11	05:33 20:24	05:53 20:10	06:21 19:31	06:48 18:43	06:18 17:00	06:51 16:35	07:12 16:42
30	07:04 17:14		06:45 19:16	06:00 19:45	05:34 20:12	05:33 20:24	05:54 20:09	06:22 19:30	06:49 18:41	06:19 16:59	06:52 16:35	07:13 16:42
31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:23 19:28		06:20 16:57		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	423	374	348	303	295
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: SFPWTG: 10 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:35
2	07:13 16:45	07:01 17:17	06:28 17:48	06:40 19:19	05:58 19:47	05:32 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
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12	07:13 16:54	06:51 17:29	06:13 17:58	06:25 19:28	05:47 19:57	05:30 20:20	05:40 20:21	06:06 19:55	06:33 19:10	07:01 18:23	06:33 16:45	07:03 16:34
13	07:13 16:55	06:50 17:30	06:11 17:59	06:24 19:29	05:46 19:58	05:30 20:20	05:41 20:21	06:07 19:53	06:34 19:08	07:02 18:21	06:34 16:44	07:04 16:34
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15	07:12 16:57	06:47 17:32	06:08 18:01	06:21 19:31	05:44 20:00	05:30 20:21	05:42 20:20	06:08 19:51	06:36 19:05	07:03 18:18	06:36 16:43	07:05 16:35
16	07:12 16:58	06:46 17:33	06:07 18:02	06:19 19:32	05:43 20:00	05:30 20:22	05:43 20:19	06:09 19:50	06:37 19:03	07:04 18:17	06:37 16:42	07:06 16:35
17	07:11 16:59	06:45 17:34	06:05 18:03	06:18 19:33	05:42 20:01	05:30 20:22	05:44 20:19	06:10 19:48	06:38 19:02	07:05 18:16	06:39 16:41	07:07 16:35
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19	07:11 17:01	06:43 17:37	06:02 18:05	06:15 19:35	05:41 20:03	05:30 20:23	05:45 20:17	06:12 19:46	06:39 18:59	07:07 18:13	06:41 16:40	07:08 16:36
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31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:23 19:28		06:20 16:57		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	424	374	348	303	295
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: SFPWTG: 11 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:35
2	07:13 16:45	07:01 17:17	06:28 17:48	06:40 19:19	05:58 19:47	05:32 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
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4	07:14 16:46	06:59 17:20	06:25 17:50	06:37 19:21	05:56 19:49	05:32 20:15	05:35 20:24	05:58 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34
5	07:14 16:47	06:58 17:21	06:23 17:51	06:36 19:22	05:54 19:50	05:31 20:16	05:36 20:23	05:59 20:03	06:27 19:21	06:54 18:33	06:25 16:52	06:57 16:34
6	07:14 16:48	06:57 17:22	06:22 17:52	06:34 19:23	05:53 19:51	05:31 20:17	05:36 20:23	06:00 20:02	06:28 19:19	06:55 18:32	06:26 16:51	06:58 16:34
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9	07:14 16:51	06:54 17:25	06:17 17:55	06:29 19:25	05:50 19:54	05:30 20:18	05:38 20:22	06:03 19:58	06:31 19:15	06:58 18:27	06:30 16:48	07:01 16:34
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31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:23 20:08		06:20 16:57		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	424	374	348	303	295
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: SFPWTG: 12 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:34
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31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:22 19:28		06:20 16:57		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	424	374	348	303	295
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: SFPWTG: S1 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:24 19:27	06:50 18:40	06:21 16:56	06:53 16:35
2	07:13 16:45	07:01 17:17	06:28 17:48	06:40 19:19	05:58 19:47	05:33 20:14	05:35 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
3	07:13 16:46	07:00 17:19	06:26 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:37	06:23 16:54	06:55 16:34
4	07:14 16:47	06:59 17:20	06:25 17:50	06:37 19:21	05:56 19:49	05:32 20:15	05:35 20:23	05:59 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34
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Ore potenziali eliofanía	304	301	370	396	442	445	452	423	374	348	303	295
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: SFPWTG: S10 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:24 19:27	06:50 18:40	06:21 16:56	06:53 16:35
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16	07:12 16:58	06:46 17:33	06:07 18:03	06:19 19:32	05:44 20:00	05:30 20:22	05:43 20:19	06:09 19:50	06:37 19:04	07:05 18:17	06:37 16:42	07:06 16:35
17	07:11 16:59	06:45 17:34	06:05 18:03	06:18 19:33	05:43 20:01	05:30 20:22	05:44 20:19	06:10 19:48	06:38 19:02	07:05 18:16	06:39 16:41	07:07 16:35
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19	07:11 17:02	06:43 17:37	06:02 18:05	06:15 19:35	05:41 20:03	05:31 20:23	05:45 20:17	06:12 19:46	06:39 18:59	07:07 18:13	06:41 16:40	07:08 16:36
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22	07:09 17:05	06:39 17:40	05:57 18:08	06:11 19:38	05:39 20:06	05:31 20:23	05:48 20:15	06:15 19:41	06:42 18:54	07:11 18:09	06:44 16:38	07:10 16:38
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Ore potenziali eliofanía	304	301	370	396	442	445	452	423	374	348	303	295
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: SFPWTG: S3 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	15:53-16:20/27 17:16	07:02 17:47	06:29 19:18	06:42 19:47	05:59 20:13	05:33 20:24	05:56 20:07	06:24 19:27	06:50 18:40	06:21 16:57	06:53 16:35
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21	07:10 17:04	16:00-16:29/29 17:39	06:40 18:07	05:59 19:37	06:12 20:05	05:40 20:23	05:31 20:16	06:14 19:43	06:41 18:56	07:10 18:10	06:43 16:39	07:10 16:37
22	07:09 17:05	16:00-16:29/29 17:40	06:39 18:08	05:57 19:38	06:11 20:06	05:39 20:23	05:31 20:16	06:15 19:42	06:42 18:54	07:11 18:09	06:44 16:38	07:10 16:38
23	07:09 17:06	16:00-16:28/28 17:41	06:37 18:09	05:56 19:39	06:10 20:07	05:38 20:24	05:31 20:15	06:16 19:40	06:43 18:52	07:12 18:08	06:45 16:38	07:10 16:38
24	07:08 17:07	16:02-16:29/27 17:42	06:36 18:10	05:54 19:40	06:08 20:07	05:37 20:24	05:32 20:14	06:17 19:39	06:44 18:51	07:13 18:06	06:46 16:37	07:11 16:39
25	07:07 17:08	16:03-16:28/25 17:43	06:35 18:11	05:53 19:41	06:07 20:08	05:37 20:24	05:32 20:13	06:17 19:37	06:45 18:49	07:14 17:05	06:47 16:37	07:11 16:39
26	07:07 17:09	16:04-16:27/23 17:44	06:33 18:12	05:51 19:42	06:06 20:09	05:36 20:24	05:32 20:12	06:18 19:36	06:46 18:48	07:15 17:04	06:48 16:36	07:11 16:40
27	07:06 17:11	16:05-16:26/21 17:45	06:32 18:13	05:50 19:43	06:04 20:10	05:36 20:24	05:33 20:12	06:19 19:34	06:47 18:46	07:16 17:02	06:49 16:36	07:12 16:40
28	07:05 17:12	16:07-16:26/19 17:46	06:31 18:14	05:48 19:44	06:03 20:11	05:35 20:24	05:33 20:11	06:20 19:33	06:48 18:45	06:17 17:01	06:50 16:36	07:12 16:41
29	07:05 17:13	16:09-16:24/15 17:47	06:30 19:15	05:47 19:45	06:02 20:11	05:35 20:24	05:33 20:10	06:21 19:32	06:49 18:43	06:18 17:00	06:51 16:35	07:12 16:42
30	07:04 17:14	16:11-16:22/11 17:48	06:29 19:16	05:45 19:46	06:01 20:12	05:34 20:24	05:34 20:09	06:22 19:30	06:49 18:41	06:19 16:59	06:52 16:35	07:13 16:43
31	07:03 17:15		06:28 19:17	05:44 19:46	06:00 20:13	05:34 20:24	05:55 20:08	06:23 19:29	06:20 16:58			07:13 16:43
	304		301	370	396	442	445	423	374	348	303	295
Ore potenziali eliofanìa												
Somma minuti d'ombra	833	0	0	0	0	0	0	0	0	0	509	821

### 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: SFPWTG: S4 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:47	05:33 20:13	05:34 20:24	05:56 20:07	06:24 19:27	06:50 18:40	06:21 16:57	06:53 16:35
2	07:13 16:45	07:01 17:17	06:28 17:48	06:40 19:19	05:58 19:47	05:33 20:14	05:35 20:24	05:57 20:06	06:25 19:25	06:51 18:38	06:22 16:55	06:54 16:35
3	07:14 16:46	07:00 17:19	06:26 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:37	06:23 16:54	06:55 16:34
4	07:14 16:47	06:59 17:20	06:25 17:51	06:37 19:21	05:56 19:49	05:32 20:15	05:36 20:24	05:59 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34
5	07:14 16:48	06:58 17:21	06:23 17:52	06:36 19:22	05:55 19:50	05:32 20:16	05:36 20:23	06:00 20:03	06:27 19:21	06:54 18:34	06:25 16:52	06:57 16:34
6	07:14 16:49	06:57 17:22	06:22 17:53	06:34 19:23	05:54 19:51	05:31 20:17	05:37 20:23	06:00 20:02	06:28 19:19	06:55 18:32	06:27 16:51	06:58 16:34
7	07:14 16:49	06:56 17:23	06:20 17:54	06:33 19:24	05:52 19:52	05:31 20:17	05:37 20:23	06:01 20:01	06:29 19:18	06:56 18:31	06:28 16:50	06:59 16:34
8	07:14 16:50	06:55 17:24	06:19 17:55	06:31 19:25	05:51 19:53	05:31 20:18	05:38 20:23	06:02 19:59	06:30 19:16	06:57 18:29	06:29 16:49	07:00 16:34
9	07:14 16:51	06:54 17:26	06:17 17:56	06:30 19:26	05:50 19:54	05:31 20:18	05:38 20:22	06:03 19:58	06:31 19:15	06:58 18:27	06:30 16:48	07:01 16:34
10	07:13 16:52	06:53 17:27	06:16 17:57	06:28 19:26	05:49 19:55	05:31 20:19	05:39 20:22	06:04 19:57	06:32 19:13	06:59 18:26	06:31 16:47	07:02 16:34
11	07:13 16:53	06:52 17:28	06:14 17:58	06:27 19:27	05:48 19:56	05:30 20:19	05:40 20:22	06:05 19:56	06:32 19:12	07:00 18:24	06:32 16:46	07:02 16:34
12	07:13 16:54	06:51 17:29	06:13 17:59	06:25 19:28	05:47 19:57	05:30 20:20	05:40 20:21	06:06 19:55	06:33 19:10	07:01 18:23	06:33 16:45	07:03 16:34
13	07:13 16:55	06:50 17:30	06:11 18:00	06:24 19:29	05:46 19:58	05:30 20:20	05:41 20:21	06:07 19:53	06:34 19:08	07:02 18:22	06:34 16:45	07:04 16:34
14	07:13 16:56	06:49 17:31	06:10 18:01	06:22 19:30	05:45 19:59	05:30 20:21	05:42 20:20	06:08 19:52	06:35 19:07	07:03 18:20	06:35 16:44	07:05 16:35
15	07:12 16:57	06:48 17:32	06:08 18:02	06:21 19:31	05:44 20:00	05:30 20:21	05:42 20:20	06:08 19:51	06:36 19:05	07:04 18:19	06:36 16:43	07:05 16:35
16	07:12 16:58	06:46 17:33	06:07 18:03	06:19 19:32	05:44 20:00	05:30 20:22	05:43 20:19	06:09 19:50	06:37 19:04	07:05 18:17	06:38 16:42	07:06 16:35
17	07:12 16:59	06:45 17:35	06:05 18:04	06:18 19:33	05:43 20:01	05:30 20:22	05:44 20:19	06:10 19:48	06:38 19:02	07:06 18:16	06:39 16:41	07:07 16:35
18	07:11 17:01	06:44 17:36	06:04 18:05	06:16 19:34	05:42 20:02	05:30 20:22	05:45 20:18	06:11 19:47	06:39 19:00	07:07 18:14	06:40 16:41	07:07 16:36
19	07:11 17:02	06:43 17:37	06:02 18:05	06:15 19:35	05:41 20:03	05:31 20:23	05:45 20:18	06:12 19:46	06:40 18:59	07:08 18:13	06:41 16:40	07:08 16:36
20	07:10 17:03	06:41 17:38	06:01 18:06	06:14 19:36	05:40 20:04	05:31 20:23	05:46 20:17	06:13 19:44	06:40 18:57	07:09 18:12	06:42 16:39	07:09 16:37
21	07:10 17:04	06:40 17:39	05:59 18:07	06:12 19:37	05:40 20:05	05:31 20:23	05:47 20:16	06:14 19:43	06:41 18:56	07:10 18:10	06:43 16:39	07:09 16:37
22	07:09 17:05	06:39 17:40	05:57 18:08	06:11 19:38	05:39 20:06	05:31 20:23	05:48 20:15	06:15 19:42	06:42 18:54	07:11 18:09	06:44 16:38	07:10 16:38
23	07:09 17:06	06:37 17:41	05:56 18:09	06:10 19:39	05:38 20:06	05:31 20:23	05:48 20:15	06:16 19:40	06:43 18:52	07:12 18:08	06:45 16:38	07:10 16:38
24	07:08 17:07	06:36 17:42	05:54 18:10	06:08 19:40	05:37 20:07	05:32 20:24	05:49 20:14	06:17 19:39	06:44 18:51	07:13 18:06	06:46 16:37	07:11 16:39
25	07:07 17:08	06:35 17:43	05:53 18:11	06:07 19:41	05:37 20:08	05:32 20:24	05:50 20:13	06:17 19:37	06:45 18:49	06:14 17:05	06:47 16:37	07:11 16:39
26	07:07 17:09	06:33 17:44	05:51 18:12	06:06 19:42	05:36 20:09	05:32 20:24	05:51 20:12	06:18 19:36	06:46 18:48	06:15 17:04	06:48 16:36	07:11 16:40
27	07:06 17:11	06:32 17:45	05:50 18:13	06:04 19:43	05:36 20:10	05:32 20:24	05:52 20:12	06:19 19:34	06:47 18:46	06:16 17:02	06:49 16:36	07:12 16:40
28	07:05 17:12	06:31 17:46	05:48 18:14	06:03 19:44	05:35 20:10	05:33 20:24	05:53 20:11	06:20 19:33	06:48 18:44	06:17 17:01	06:50 16:36	07:12 16:41
29	07:04 17:13		06:47 19:15	06:02 19:45	05:34 20:11	05:33 20:24	05:53 20:10	06:21 19:31	06:48 18:43	06:18 17:00	06:51 16:35	07:12 16:42
30	07:04 17:14		06:45 19:16	06:01 19:46	05:34 20:12	05:34 20:24	05:54 20:09	06:22 19:30	06:49 18:41	06:19 16:59	06:52 16:35	07:13 16:43
31	07:03 17:15		06:43 19:17		05:34 20:13		05:55 20:08	06:23 19:29		06:20 16:58		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	423	374	348	303	295
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: SFPWTG: S5 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 14:17-15:11/54 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:47	05:33 20:13	05:34 20:24	05:56 20:07	06:24 19:27	06:50 18:40	06:21 16:56	06:53 14:07-14:54/47 16:35
2	07:13 14:17-15:11/54 16:45	07:01 17:17	06:28 17:48	06:40 19:19	05:58 19:47	05:33 20:14	05:35 20:24	05:57 20:06	06:25 19:26	06:51 18:38	06:22 16:55	06:54 14:07-14:55/48 16:35
3	07:14 14:18-15:12/54 16:46	07:00 17:19	06:26 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:37	06:23 16:54	06:55 14:07-14:56/49 16:34
4	07:14 14:19-15:12/53 16:47	06:59 17:20	06:25 17:51	06:37 19:21	05:56 19:49	05:32 20:15	05:36 20:24	05:59 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 14:06-14:57/51 16:34
5	07:14 14:20-15:12/52 16:48	06:58 17:21	06:23 17:52	06:36 19:22	05:55 19:50	05:32 20:16	05:36 20:23	06:00 20:03	06:27 19:21	06:54 18:34	06:25 16:52	06:57 14:06-14:57/51 16:34
6	07:14 14:20-15:12/52 16:49	06:57 17:22	06:22 17:53	06:34 19:23	05:54 19:51	05:31 20:17	05:37 20:23	06:00 20:02	06:28 19:19	06:55 18:32	06:27 16:51	06:58 14:07-14:58/51 16:34
7	07:14 14:21-15:12/51 16:49	06:56 17:23	06:20 17:54	06:33 19:24	05:52 19:52	05:31 20:17	05:37 20:23	06:01 20:01	06:29 19:18	06:56 18:31	06:28 16:50	06:59 14:07-14:59/52 16:34
8	07:14 14:21-15:11/50 16:50	06:55 17:24	06:19 17:55	06:31 19:25	05:51 19:53	05:31 20:18	05:38 20:23	06:02 19:59	06:30 19:16	06:57 18:29	06:29 16:49	07:00 14:06-14:59/53 16:34
9	07:14 14:22-15:12/50 16:51	06:54 17:26	06:17 17:56	06:30 19:26	05:50 19:54	05:31 20:18	05:38 20:22	06:03 19:58	06:31 19:15	06:58 18:27	06:30 16:48	07:01 14:06-15:00/54 16:34
10	07:13 14:24-15:12/48 16:52	06:53 17:27	06:16 17:57	06:28 19:27	05:49 19:55	05:31 20:19	05:39 20:22	06:04 19:57	06:32 19:13	06:59 18:26	06:31 16:47	07:02 14:06-15:00/54 16:34
11	07:13 14:25-15:12/47 16:53	06:52 17:28	06:14 17:58	06:27 19:27	05:48 19:56	05:30 20:19	05:40 20:22	06:05 19:56	06:32 19:12	07:00 18:24	06:32 16:46	07:02 14:07-15:01/54 16:34
12	07:13 14:26-15:12/46 16:54	06:51 17:29	06:13 17:59	06:25 19:28	05:47 19:57	05:30 20:20	05:40 20:21	06:06 19:55	06:33 19:10	07:01 18:23	06:33 16:45	07:03 14:07-15:02/55 16:34
13	07:13 14:27-15:11/44 16:55	06:50 17:30	06:11 18:00	06:24 19:29	05:46 19:58	05:30 20:20	05:41 20:21	06:07 19:53	06:34 19:08	07:02 18:22	06:34 16:45	07:04 14:07-15:02/55 16:34
14	07:13 14:28-15:11/43 16:56	06:49 17:31	06:10 18:01	06:22 19:30	05:45 19:59	05:30 20:21	05:42 20:20	06:08 19:52	06:35 19:07	07:03 18:20	06:35 16:44	07:05 14:07-15:03/56 16:35
15	07:12 14:30-15:11/41 16:57	06:48 17:32	06:08 18:02	06:21 19:31	05:44 20:00	05:30 20:21	05:42 20:20	06:08 19:51	06:36 19:05	07:04 18:19	06:36 16:43	07:05 14:08-15:04/56 16:35
16	07:12 14:31-15:10/39 16:58	06:46 17:33	06:07 18:03	06:19 19:32	05:44 20:00	05:30 20:22	05:43 20:19	06:09 19:50	06:37 19:04	07:05 18:17	06:38 16:42	07:06 14:08-15:04/56 16:35
17	07:12 14:33-15:10/37 16:59	06:45 17:34	06:05 18:04	06:18 19:33	05:43 20:01	05:30 20:22	05:44 20:19	06:10 19:48	06:38 19:02	07:06 18:16	06:39 16:41	07:07 14:08-15:04/56 16:35
18	07:11 14:34-15:08/34 17:01	06:44 17:36	06:04 18:05	06:16 19:34	05:42 20:02	05:30 20:22	05:45 20:18	06:11 19:47	06:39 19:00	07:07 18:14	06:40 16:41	07:07 14:09-15:05/56 16:36
19	07:11 14:36-15:08/32 17:02	06:43 17:37	06:02 18:06	06:15 19:35	05:41 20:03	05:31 20:23	05:45 20:18	06:12 19:46	06:40 18:59	07:08 18:13	06:41 16:40	07:08 14:09-15:05/56 16:36
20	07:10 14:38-15:06/28 17:03	06:41 17:38	06:01 18:06	06:14 19:36	05:40 20:04	05:31 20:23	05:46 20:17	06:13 19:44	06:40 18:57	07:09 18:12	06:42 16:39	07:09 14:10-15:06/56 16:37
21	07:10 14:41-15:05/24 17:04	06:40 17:39	05:59 18:07	06:12 19:37	05:40 20:05	05:31 20:23	05:47 20:16	06:14 19:43	06:41 18:56	07:10 18:10	06:43 16:39	07:09 14:10-15:06/56 16:37
22	07:09 14:43-15:03/20 17:05	06:39 17:40	05:57 18:08	06:11 19:38	05:39 20:06	05:31 20:23	05:48 20:15	06:15 19:42	06:42 18:54	07:11 18:09	06:44 16:38	07:10 14:11-15:07/56 16:38
23	07:09 14:47-14:59/12 17:06	06:37 17:41	05:56 18:09	06:10 19:39	05:38 20:07	05:31 20:24	05:48 20:15	06:16 19:40	06:43 18:52	07:12 18:08	06:45 16:38	07:10 14:11-15:07/56 16:38
24	07:08 17:07	06:36 17:42	05:54 18:10	06:08 19:40	05:37 20:07	05:32 20:24	05:49 20:14	06:17 19:39	06:44 18:51	07:13 18:06	06:46 16:37	07:11 14:12-15:08/56 16:39
25	07:07 17:08	06:35 17:43	05:53 18:11	06:07 19:41	05:37 20:08	05:32 20:24	05:50 20:13	06:17 19:37	06:45 18:49	06:14 17:05	06:47 16:37	07:11 14:12-15:08/56 16:39
26	07:07 17:09	06:33 17:44	05:51 18:12	06:06 19:42	05:36 20:09	05:32 20:24	05:51 20:12	06:18 19:36	06:46 18:48	06:15 17:04	06:48 16:36	07:11 14:12-15:08/56 16:40
27	07:06 17:11	06:32 17:45	05:50 18:13	06:04 19:43	05:36 20:10	05:32 20:24	05:52 20:12	06:19 19:34	06:47 18:46	06:16 17:02	06:49 16:36	07:12 14:13-15:10/57 16:40
28	07:05 17:12	06:31 17:46	05:48 18:14	06:03 19:44	05:35 20:10	05:33 20:24	05:53 20:11	06:20 19:33	06:48 18:44	06:17 17:01	06:50 16:36	07:12 14:14-15:10/56 16:41
29	07:04 17:13	06:47 19:15	06:47 19:45	06:02 19:45	05:34 20:11	05:33 20:24	05:53 20:10	06:21 19:31	06:48 18:43	06:18 17:00	06:51 16:35	07:12 14:14-15:10/56 16:42
30	07:04 17:14	06:45 19:16	06:45 19:46	06:01 19:46	05:34 20:12	05:34 20:24	05:54 20:09	06:22 19:30	06:49 18:41	06:19 16:59	06:52 16:35	07:13 14:15-15:10/55 16:43
31	07:03 17:15	06:43 19:17	06:43 19:47	05:34 20:13	05:34 20:13	05:55 20:08	06:23 19:29	06:23 18:41	06:20 16:58	06:20 16:58	06:20 16:58	07:13 14:15-15:10/55 16:43
304	17:15	304	301	370	442	445	452	423	374	348	303	295
Ore potenziali eliofanìa												
Somma minuti d'ombra	965	0	0	0	0	0	0	0	0	0	400	1681

### 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: SFPWTG: S6 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

- Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:47	05:33 20:13	05:34 20:24	05:56 20:07	06:24 19:27	06:50 18:40	06:21 16:56	06:53 16:35
2	07:13 16:45	07:01 17:17	06:28 17:48	06:40 19:19	05:58 19:47	05:33 20:14	05:34 20:24	05:57 20:06	06:25 19:25	06:51 18:38	06:22 16:55	06:54 16:34
3	07:14 16:46	07:00 17:19	06:26 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:37	06:23 16:54	06:55 16:34
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31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:23 19:29		06:20 16:58		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	423	374	348	303	295
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: SFPWTG: S7 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

- Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 07:28-08:10/42 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:24 19:27	06:50 18:40	06:21 07:08-07:35/27 16:56	06:53 16:35	
2	07:13 16:45	07:01 17:17	06:28 07:29-08:10/41 17:48	06:40 19:19	05:58 19:47	05:33 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 07:10-07:32/22 16:55	06:54 16:34	
3	07:14 16:46	07:00 17:19	06:26 07:30-08:09/39 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:37	06:23 07:13-07:29/16 16:54	06:55 16:34	
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5	07:14 16:48	06:58 17:21	06:23 07:32-08:06/34 17:52	06:36 19:22	05:55 19:50	05:32 20:16	05:36 20:23	06:00 20:03	06:27 19:21	06:54 18:34	08:14-08:34/20 06:25	06:57 16:34	
6	07:14 16:48	06:57 17:22	06:22 07:33-08:04/31 17:53	06:34 19:23	05:53 19:51	05:31 20:17	05:37 20:23	06:00 20:02	06:28 19:19	06:55 18:32	08:11-08:37/26 06:27	06:58 16:34	
7	07:14 16:49	06:56 17:23	07:47-07:56/9 17:54	06:20 07:35-08:02/27 19:24	06:33 19:52	05:52 20:17	05:31 20:23	06:01 20:01	06:29 19:18	06:56 18:30	08:09-08:39/30 06:28	06:59 16:34	
8	07:14 16:50	06:55 17:24	07:43-08:00/17 17:55	06:19 07:36-07:59/23 19:25	06:31 19:53	05:51 20:18	05:31 20:23	06:02 19:59	06:30 19:16	06:57 18:29	08:07-08:40/33 06:29	06:59 16:34	
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Ore potenziali eliofanía	304	301	304	304	304	304	304	304	304	304	304	304	
Somma minuti d'ombra	0	830	293	396	442	0	452	0	423	0	1070	71	

### 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: SFPWTG: S8 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

- Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:24 19:27	06:50 18:40	06:21 16:56	06:53 16:35
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19	07:11 17:02	06:43 17:37	06:02 18:05	06:15 19:35	05:41 20:03	05:31 20:23	05:45 20:17	06:12 19:46	06:39 18:59	07:08 18:13	06:41 16:40	07:08 16:36
20	07:10 17:03	06:41 17:38	06:01 18:06	06:14 19:36	05:40 20:04	05:31 20:23	05:46 20:17	06:13 19:44	06:40 18:57	07:09 18:12	06:42 16:39	07:09 16:37
21	07:10 17:04	06:40 17:39	05:59 18:07	06:12 19:37	05:39 20:05	05:31 20:23	05:47 20:16	06:14 19:43	06:41 18:56	07:10 18:10	06:43 16:39	07:09 16:37
22	07:09 17:05	06:39 17:40	05:57 18:08	06:11 19:38	05:39 20:06	05:31 20:23	05:48 20:15	06:15 19:42	06:42 18:54	07:11 18:09	06:44 16:38	07:10 16:38
23	07:09 17:06	06:37 17:41	05:56 18:09	06:10 19:39	05:38 20:06	05:31 20:23	05:48 20:15	06:16 19:40	06:43 18:52	07:12 18:08	06:45 16:38	07:10 16:38
24	07:08 17:07	06:36 17:42	05:54 18:10	06:08 19:40	05:37 20:07	05:32 20:24	05:49 20:14	06:17 19:39	06:44 18:51	07:13 18:06	06:46 16:37	07:11 16:39
25	07:07 17:08	06:35 17:43	05:53 18:11	06:07 19:41	05:37 20:08	05:32 20:24	05:50 20:13	06:17 19:37	06:45 18:49	06:14 17:05	06:47 16:37	07:11 16:39
26	07:07 17:09	06:33 17:44	05:51 18:12	06:06 19:42	05:36 20:09	05:32 20:24	05:51 20:12	06:18 19:36	06:46 18:48	06:15 17:04	06:48 16:36	07:11 16:40
27	07:06 17:11	06:32 17:45	05:50 18:13	06:04 19:43	05:36 20:10	05:32 20:24	05:52 20:11	06:19 19:34	06:47 18:46	06:16 17:02	06:49 16:36	07:12 16:40
28	07:05 17:12	06:30 17:46	05:48 18:14	06:03 19:44	05:35 20:10	05:33 20:24	05:53 20:11	06:20 19:33	06:48 18:44	06:17 17:01	06:50 16:36	07:12 16:41
29	07:04 17:13		06:46 19:15	06:02 19:45	05:34 20:11	05:33 20:24	05:53 20:10	06:21 19:31	06:48 18:43	06:18 17:00	06:51 16:35	07:12 16:42
30	07:04 17:14		06:45 19:16	06:01 19:46	05:34 20:12	05:34 20:24	05:54 20:09	06:22 19:30	06:49 18:41	06:19 16:59	06:52 16:35	07:13 16:42
31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:23 19:28		06:20 16:58		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	423	374	348	303	295
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: SFPWTG: S9 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 07:42-08:06/24 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:24 19:27	06:50 18:40	06:21 07:12-07:36/24 16:56	06:53 16:35
2	07:13 16:45	07:01 07:42-08:06/24 17:17	06:28 17:48	06:40 19:19	05:58 19:47	05:33 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 07:12-07:37/25 16:55	06:54 16:34
3	07:13 16:46	07:00 07:41-08:07/26 17:19	06:26 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:37	06:23 07:11-07:37/26 16:54	06:55 16:34
4	07:14 16:47	06:59 07:41-08:07/26 17:20	06:25 17:50	06:37 19:21	05:56 19:49	05:32 20:15	05:35 20:23	05:59 20:04	06:26 19:22	06:53 18:35	06:24 07:11-07:37/26 16:53	06:56 16:34
5	07:14 16:48	06:58 07:41-08:07/26 17:21	06:23 17:51	06:36 19:22	05:55 19:50	05:31 20:16	05:38 20:23	05:59 20:03	06:27 19:21	06:54 18:33	06:25 07:11-07:37/26 16:52	06:57 16:34
6	07:14 16:48	06:57 07:41-08:07/26 17:22	06:22 17:53	06:34 19:23	05:53 19:51	05:31 20:17	05:37 20:23	06:00 20:02	06:28 19:19	06:55 18:32	06:26 07:11-07:38/27 16:51	06:58 16:34
7	07:14 16:49	06:56 07:41-08:07/26 17:23	06:20 17:54	06:33 19:24	05:52 19:52	05:31 20:17	05:37 20:23	06:01 20:01	06:29 19:18	06:56 18:30	06:28 07:11-07:38/27 16:50	06:59 16:34
8	07:14 16:50	06:55 07:41-08:07/26 17:24	06:19 17:55	06:31 19:25	05:51 19:53	05:31 20:18	05:38 20:23	06:02 19:59	06:30 19:16	06:57 18:29	06:29 07:12-07:37/25 16:49	07:00 16:34
9	07:13 16:51	06:54 07:42-08:07/25 17:25	06:17 17:56	06:30 19:25	05:50 19:54	05:31 20:18	05:38 20:22	06:03 19:58	06:31 19:15	06:58 18:27	06:30 07:13-07:37/24 16:48	07:01 16:34
10	07:13 16:52	06:53 07:43-08:06/23 17:27	06:16 17:57	06:28 19:26	05:49 19:55	05:31 20:19	05:39 20:22	06:04 19:57	06:32 19:13	06:59 18:26	06:31 07:13-07:36/23 16:47	07:01 16:34
11	07:13 16:53	06:52 07:44-08:06/22 17:28	06:14 17:58	06:27 19:27	05:48 19:56	05:30 20:19	05:40 20:22	06:05 19:56	06:32 19:11	07:00 18:24	06:32 07:14-07:36/22 16:46	07:02 16:34
12	07:13 16:54	06:51 07:45-08:05/20 17:29	06:13 17:59	06:25 19:28	05:47 19:57	05:30 20:20	05:40 20:21	06:06 19:55	06:33 19:10	07:01 18:23	06:33 07:16-07:36/20 16:45	07:03 16:34
13	07:13 16:55	06:50 07:46-08:03/17 17:30	06:11 18:00	06:24 19:29	05:46 19:58	05:30 20:20	05:41 20:21	06:07 19:53	06:34 19:08	07:02 18:21	06:34 07:16-07:35/19 16:45	07:04 16:34
14	07:12 16:56	06:49 07:47-08:01/14 17:31	06:10 18:01	06:22 19:30	05:45 19:59	05:30 20:21	05:42 20:20	06:08 19:52	06:35 19:07	07:03 18:20	06:35 07:17-07:34/17 16:44	07:05 16:35
15	07:12 16:57	06:47 07:51-07:58/7 17:32	06:08 18:02	06:21 19:31	05:44 20:00	05:30 20:21	05:42 20:20	06:08 19:51	06:36 19:05	07:04 18:19	06:36 07:18-07:32/14 16:43	07:05 16:35
16	07:12 16:58	06:46 17:33	06:07 18:03	06:19 19:32	05:43 20:00	05:30 20:22	05:43 20:19	06:09 19:50	06:37 19:04	07:04 18:17	06:37 07:20-07:30/10 16:42	07:06 16:35
17	07:11 16:59	06:45 17:34	06:05 18:03	06:18 19:33	05:43 20:01	05:30 20:22	05:44 20:19	06:10 19:48	06:38 19:02	07:05 18:16	06:39 18:16	07:07 16:35
18	07:11 17:00	06:44 17:36	06:04 18:04	06:16 19:34	05:42 20:02	05:30 20:22	05:44 20:18	06:11 19:47	06:39 19:00	07:06 18:14	06:40 18:14	07:07 16:36
19	07:11 17:02	06:43 17:37	06:02 18:05	06:15 19:35	05:41 20:03	05:30 20:23	05:45 20:17	06:12 19:46	06:39 18:59	07:07 18:13	06:41 18:13	07:08 16:36
20	07:10 17:03	06:41 17:38	06:00 18:06	06:14 19:36	05:40 20:04	05:31 20:23	05:46 20:17	06:13 19:44	06:40 18:57	07:08 18:12	06:42 18:12	07:09 16:37
21	07:10 17:04	06:40 17:39	05:59 18:07	06:12 19:37	05:39 20:05	05:31 20:23	05:47 20:16	06:14 19:43	06:41 18:56	07:10 18:10	06:43 18:10	07:09 16:37
22	07:09 17:05	06:39 17:40	05:57 18:08	06:11 19:38	05:39 20:06	05:31 20:23	05:48 20:15	06:15 19:41	06:42 18:54	07:11 18:09	06:44 18:11	07:10 16:38
23	07:09 17:06	06:37 17:41	05:56 18:09	06:10 19:39	05:38 20:06	05:31 20:23	05:48 20:15	06:16 19:40	06:43 18:52	07:12 18:08	06:45 18:12	07:10 16:38
24	07:08 17:07	06:36 17:42	05:54 18:10	06:08 19:40	05:37 20:07	05:31 20:24	05:49 20:14	06:16 19:39	06:44 18:51	07:13 18:06	06:46 18:11	07:11 16:39
25	07:07 17:08	06:35 17:43	05:53 18:11	06:07 19:41	05:37 20:08	05:32 20:24	05:50 20:13	06:17 19:37	06:45 18:49	07:14 17:05	06:47 18:11	07:11 16:39
26	07:07 17:09	07:47-07:57/10 17:44	06:33 17:44	05:51 18:12	06:06 19:42	05:36 20:09	05:51 20:24	06:18 19:36	06:46 18:48	07:15 17:04	06:48 17:04	07:11 16:40
27	07:06 17:11	07:45-07:59/14 17:45	06:32 17:45	05:50 18:13	06:04 19:43	05:35 20:10	05:52 20:24	06:19 20:11	06:47 18:46	07:16 17:02	06:49 17:02	07:12 16:40
28	07:05 17:12	07:45-08:02/17 17:46	06:30 17:46	05:48 18:14	06:03 19:44	05:35 20:10	05:53 20:24	06:20 20:11	06:47 18:44	07:17-07:31/14 17:01	06:50 17:01	07:12 16:41
29	07:04 17:13	07:44-08:03/19 17:47	06:29 17:47	05:47 18:15	06:02 19:45	05:34 20:11	05:53 20:24	06:21 20:10	06:48 18:43	07:15-07:33/18 17:00	06:51 17:00	07:12 16:42
30	07:04 17:14	07:44-08:04/20 17:48	06:28 17:48	05:46 18:16	06:00 19:45	05:34 20:12	05:54 20:24	06:22 20:09	06:49 18:41	07:13-07:34/21 16:59	06:52 16:59	07:13 16:42
31	07:03 17:15	07:43-08:05/22 17:49	06:27 17:49	05:45 18:17	05:59 19:46	05:33 20:13	05:55 20:28	06:23 19:28	06:50 18:28	07:13-07:36/23 16:58	06:53 16:58	07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	423	374	348	303	295
Somma minuti d'ombra	102	332	0	0	0	0	0	0	0	84	355	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: SFPWTG: T1 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:34
2	07:13 16:45	07:01 17:17	06:27 17:48	06:40 19:19	05:58 19:47	05:32 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
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16	07:12 16:58	06:46 17:33	06:07 18:02	06:19 19:32	05:43 20:00	05:30 20:21	05:43 20:19	06:09 19:49	06:37 19:03	07:04 18:17	06:37 16:42	07:06 16:35
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18	07:11 17:00	06:44 17:35	06:03 18:04	06:16 19:34	05:42 20:02	05:30 20:22	05:44 20:18	06:11 19:47	06:38 19:00	07:06 18:14	06:40 16:41	07:07 16:36
19	07:11 17:01	06:42 17:36	06:02 18:05	06:15 19:35	05:41 20:03	05:30 20:22	05:45 20:17	06:12 19:45	06:39 18:59	07:07 18:13	06:41 16:40	07:08 16:36
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21	07:10 17:04	06:40 17:39	05:59 18:07	06:12 19:37	05:39 20:05	05:31 20:23	05:47 20:16	06:14 19:43	06:41 18:55	07:09 18:10	06:43 16:39	07:09 16:37
22	07:09 17:05	06:39 17:40	05:57 18:08	06:11 19:38	05:38 20:06	05:31 20:23	05:47 20:15	06:14 19:41	06:42 18:54	07:10 18:09	06:44 16:38	07:09 16:37
23	07:08 17:06	06:37 17:41	05:56 18:09	06:09 19:39	05:38 20:06	05:31 20:23	05:48 20:15	06:15 19:40	06:43 18:52	07:11 18:07	06:45 16:38	07:10 16:38
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26	07:06 17:09	06:33 17:44	05:51 18:12	06:05 19:42	05:36 20:09	05:32 20:24	05:51 20:12	06:18 19:36	06:46 18:47	06:15 17:03	06:48 16:36	07:11 16:40
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29	07:04 17:13		06:46 19:15	06:02 19:44	05:34 20:11	05:33 20:24	05:53 20:10	06:21 19:31	06:48 18:43	06:18 17:00	06:51 16:35	07:12 16:41
30	07:04 17:14		06:45 19:16	06:00 19:45	05:34 20:12	05:33 20:24	05:54 20:09	06:22 19:30	06:49 18:41	06:19 16:59	06:52 16:35	07:13 16:42
31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:23 19:28		06:20 16:57		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	423	374	348	303	295
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: SFPWTG: T2 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:34
2	07:13 16:45	07:01 17:17	06:27 17:48	06:40 19:19	05:58 19:47	05:32 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
3	07:13 16:46	07:00 17:18	06:26 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:36	06:23 16:54	06:55 16:34
4	07:13 16:46	06:59 17:20	06:25 17:50	06:37 19:21	05:56 19:49	05:32 20:15	05:35 20:23	05:58 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34
5	07:14 16:47	06:58 17:21	06:23 17:51	06:35 19:22	05:54 19:50	05:31 20:16	05:36 20:23	05:59 20:03	06:27 19:21	06:54 18:33	06:25 16:52	06:57 16:34
6	07:14 16:48	06:57 17:22	06:22 17:52	06:34 19:23	05:53 19:51	05:31 20:17	05:36 20:23	06:00 20:02	06:28 19:19	06:55 18:32	06:26 16:51	06:58 16:34
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8	07:13 16:50	06:55 17:24	06:19 17:54	06:31 19:24	05:51 19:53	05:31 20:18	05:37 20:22	06:02 19:59	06:30 19:16	06:57 18:29	06:29 16:49	07:00 16:34
9	07:13 16:51	06:54 17:25	06:17 17:55	06:29 19:25	05:50 19:54	05:30 20:18	05:38 20:22	06:03 19:58	06:30 19:14	06:58 18:27	06:30 16:48	07:01 16:34
10	07:13 16:52	06:53 17:26	06:16 17:56	06:28 19:26	05:49 19:55	05:30 20:19	05:39 20:22	06:04 19:57	06:31 19:13	06:59 18:26	06:31 16:47	07:01 16:34
11	07:13 16:53	06:52 17:28	06:14 17:57	06:26 19:27	05:48 19:56	05:30 20:19	05:39 20:21	06:05 19:56	06:32 19:11	06:59 18:24	06:32 16:46	07:02 16:34
12	07:13 16:54	06:51 17:29	06:13 17:58	06:25 19:28	05:47 19:57	05:30 20:20	05:40 20:21	06:06 19:55	06:33 19:10	07:00 18:23	06:33 16:45	07:03 16:34
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14	07:12 16:56	06:49 17:31	06:10 18:00	06:22 19:30	05:45 19:59	05:30 20:21	05:41 20:20	06:07 19:52	06:35 19:07	07:02 18:20	06:35 16:44	07:04 16:34
15	07:12 16:57	06:47 17:32	06:08 18:01	06:21 19:31	05:44 19:59	05:30 20:21	05:42 20:20	06:08 19:51	06:36 19:05	07:03 18:18	06:36 16:43	07:05 16:35
16	07:12 16:58	06:46 17:33	06:07 18:02	06:19 19:32	05:43 20:00	05:30 20:21	05:43 20:19	06:09 19:49	06:37 19:03	07:04 18:17	06:37 16:42	07:06 16:35
17	07:11 16:59	06:45 17:34	06:05 18:03	06:18 19:33	05:42 20:01	05:30 20:22	05:44 20:19	06:10 19:48	06:38 19:02	07:05 18:16	06:38 16:41	07:07 16:35
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19	07:11 17:01	06:42 17:36	06:02 18:05	06:15 19:35	05:41 19:55	05:30 20:22	05:45 20:17	06:12 19:46	06:39 18:59	07:07 18:13	06:41 16:40	07:08 16:36
20	07:10 17:02	06:41 17:38	06:00 18:06	06:13 19:36	05:40 20:04	05:30 20:23	05:46 20:17	06:13 19:44	06:40 18:57	07:08 18:11	06:42 16:39	07:08 16:36
21	07:10 17:04	06:40 17:39	05:59 18:07	06:12 19:37	05:39 20:05	05:31 20:23	05:47 20:16	06:14 19:43	06:41 18:55	07:09 18:10	06:43 16:39	07:09 16:37
22	07:09 17:05	06:39 17:40	05:57 18:08	06:11 19:38	05:39 20:06	05:31 20:23	05:47 20:15	06:15 19:41	06:42 18:54	07:10 18:09	06:44 16:38	07:09 16:37
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28	07:05 17:11	06:30 17:46	05:48 18:14	06:03 19:43	05:35 20:10	05:33 20:24	05:52 20:11	06:20 19:33	06:47 18:44	06:17 17:01	06:50 16:35	07:12 16:41
29	07:04 17:13		06:46 19:15	06:02 19:44	05:34 20:11	05:33 20:24	05:53 20:10	06:21 19:31	06:48 18:43	06:18 17:00	06:51 16:35	07:12 16:42
30	07:04 17:14		06:45 19:16	06:00 19:45	05:34 20:12	05:33 20:24	05:54 20:09	06:22 19:30	06:49 18:41	06:19 16:59	06:52 16:35	07:13 16:42
31	07:03 17:15		06:43 19:17		05:33 20:13		05:55 20:08	06:23 19:28		06:20 16:57		07:13 16:43
Ore potenziali eliofanía	304	301	370	396	442	445	452	423	374	348	303	295
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: SFPWTG: T3 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

- Il sole splende tutto il di, 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	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:35
2	07:13 16:45	07:01 17:17	06:28 17:48	06:40 19:19	05:58 19:47	05:32 20:14	05:34 20:24	05:57 20:06	06:24 19:25	06:51 18:38	06:22 16:55	06:54 16:34
3	07:13 16:46	07:00 17:18	06:26 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:36	06:23 16:54	06:55 16:34
4	07:14 16:47	07:53-08:20/27	06:59 17:20	06:25 17:50	06:37 19:21	05:56 19:49	05:32 20:23	05:58 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34
5	07:14 16:47	07:53-08:21/28	06:58 17:21	06:23 17:51	06:36 19:22	05:54 19:50	05:31 20:16	05:59 20:03	06:27 19:21	06:54 18:33	06:25 16:52	06:57 16:34
6	07:14 16:48	07:53-08:21/28	06:57 17:22	06:22 17:52	06:34 19:23	05:53 19:51	05:31 20:17	06:00 20:02	06:28 19:19	06:55 18:32	06:26 16:51	06:58 16:34
7	07:14 16:49	07:53-08:22/29	06:56 17:23	06:20 17:53	06:32 19:24	05:52 19:52	05:31 20:17	06:01 20:00	06:29 19:18	06:56 18:30	06:28 16:50	06:59 16:34
8	07:14 16:50	07:53-08:22/29	06:55 17:24	06:19 17:54	06:31 19:24	05:51 19:53	05:31 20:18	06:02 19:59	06:30 19:16	06:57 18:29	06:29 16:49	07:00 16:34
9	07:13 16:51	07:53-08:22/29	06:54 17:25	06:17 17:55	06:29 19:25	05:50 19:54	05:31 20:18	06:03 20:22	06:31 19:15	06:58 18:27	06:30 16:48	07:01 16:34
10	07:13 16:52	07:53-08:23/30	06:53 17:26	06:16 17:56	06:28 19:26	05:49 19:55	05:30 20:19	06:04 20:22	06:31 19:13	06:59 18:26	06:31 16:47	07:01 16:34
11	07:13 16:53	07:53-08:24/31	06:52 17:28	06:14 17:57	06:26 19:27	05:48 19:56	05:30 20:19	06:05 20:22	06:32 19:11	07:00 18:24	06:32 16:46	07:02 16:34
12	07:13 16:54	07:53-08:23/30	06:51 17:29	06:13 17:58	06:25 19:28	05:47 19:57	05:30 20:20	06:06 20:21	06:33 19:55	07:01 18:23	06:33 16:45	07:03 16:34
13	07:13 16:55	07:54-08:24/30	06:50 17:30	06:11 17:59	06:24 19:29	05:46 19:58	05:30 20:20	06:07 20:21	06:34 19:53	07:01 18:21	06:34 16:44	07:04 16:34
14	07:12 16:56	07:54-08:25/31	06:49 17:31	06:10 18:00	06:22 19:30	05:45 19:59	05:30 20:21	06:07 19:52	06:35 19:07	07:02 18:20	06:35 16:44	07:05 16:34
15	07:12 16:57	07:54-08:24/30	06:47 17:32	06:08 18:01	06:21 19:31	05:44 19:59	05:30 20:21	06:08 19:51	06:36 19:05	07:03 18:13	06:36 16:43	07:05 16:35
16	07:12 16:58	07:55-08:25/30	06:46 17:33	06:07 18:02	06:19 19:32	05:43 20:00	05:30 20:22	06:09 19:50	06:37 19:03	07:04 18:17	06:37 16:42	07:06 16:35
17	07:11 16:59	07:56-08:26/30	06:45 17:34	06:05 18:03	06:18 19:33	05:42 20:01	05:30 20:22	06:10 19:48	06:38 19:02	07:05 18:16	06:38 16:41	07:07 16:35
18	07:11 17:00	07:56-08:25/29	06:44 17:35	06:03 18:04	06:16 19:34	05:42 20:02	05:30 20:22	06:11 19:47	06:38 19:00	07:06 18:14	06:40 16:41	07:07 16:36
19	07:11 17:01	07:57-08:26/29	06:42 17:37	06:02 18:05	06:15 19:35	05:41 20:03	05:30 20:22	06:12 19:46	06:39 18:59	07:07 18:13	06:41 16:40	07:08 16:36
20	07:10 17:03	07:57-08:25/28	06:41 17:38	06:00 18:06	06:13 19:36	05:40 20:04	05:30 20:23	06:13 20:17	06:40 19:44	07:08 18:11	06:42 16:39	07:08 16:36
21	07:10 17:04	07:58-08:25/27	06:40 17:39	05:59 18:07	06:12 19:37	05:39 20:05	05:31 20:23	06:14 19:43	06:41 18:55	07:09 18:10	06:43 16:39	07:09 16:37
22	07:09 17:05	07:59-08:25/26	06:39 17:40	05:57 18:08	06:11 19:38	05:39 20:06	05:31 20:23	06:15 19:41	06:42 18:54	07:10 18:09	06:44 16:38	07:10 16:37
23	07:08 17:06	08:00-08:24/24	06:37 17:41	05:56 18:09	06:09 19:39	05:38 20:06	05:31 20:23	06:15 19:40	06:43 18:52	07:11 18:07	06:45 16:38	07:10 16:38
24	07:08 17:07	08:02-08:24/22	06:36 17:42	05:54 18:10	06:08 19:40	05:37 20:07	05:31 20:24	06:16 20:14	06:44 19:39	07:13 18:06	06:46 16:37	07:11 16:38
25	07:07 17:08	08:02-08:23/21	06:35 17:43	05:53 18:11	06:07 19:41	05:37 20:08	05:32 20:24	06:17 19:37	06:45 18:49	07:14 17:05	06:47 16:37	07:11 16:39
26	07:07 17:09	08:04-08:22/18	06:33 17:44	05:51 18:12	06:05 19:42	05:36 20:09	05:32 20:24	06:18 19:36	06:46 18:47	07:15 17:04	06:48 16:36	07:11 16:40
27	07:06 17:10	08:05-08:20/15	06:32 17:45	05:49 18:13	06:04 19:43	05:35 20:10	05:32 20:24	06:19 20:11	06:46 19:34	07:16 18:46	06:49 16:36	07:12 16:40
28	07:05 17:12	08:09-08:18/9	06:30 17:46	05:48 18:14	06:03 19:44	05:35 20:10	05:33 20:24	06:20 20:11	06:47 19:33	06:17 18:44	06:50 16:35	07:12 16:41
29	07:04 17:13			06:46 19:15	06:02 19:44	05:34 20:11	05:33 20:24	06:21 20:10	06:48 19:31	06:18 18:43	06:51 16:35	07:12 16:42
30	07:04 17:14			06:45 19:16	06:00 19:45	05:34 20:12	05:33 20:24	06:22 20:09	06:49 19:30	06:19 18:41	06:52 16:35	07:13 16:42
31	07:03 17:15			06:43 19:17		05:33 20:13		05:55 20:08	06:23 19:28	06:20 16:57		07:13 16:43
	304	301	370	396	442	445	452	423	374	348	303	295
Ore potenziali eliofanìa												
Somma minuti d'ombra	739	0	0	0	0	0	0	0	0	0	431	784

### 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: SFPWTG: T4 - V150-2.625 hub: 155,0 m

Assunzioni sui calcoli d'ombra

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

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

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

La turbina è costantemente operativa

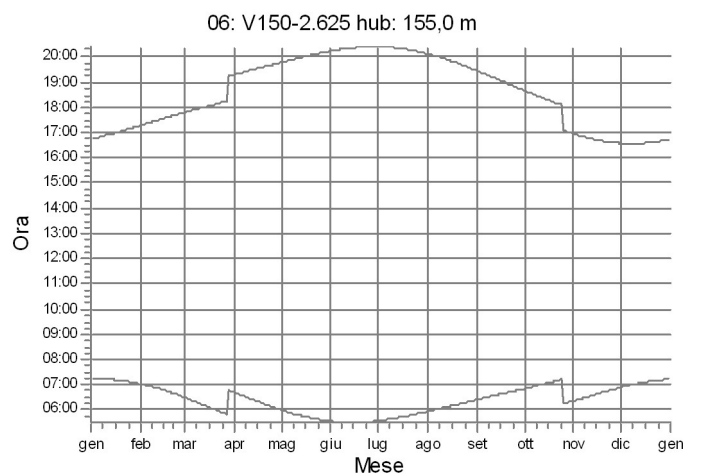
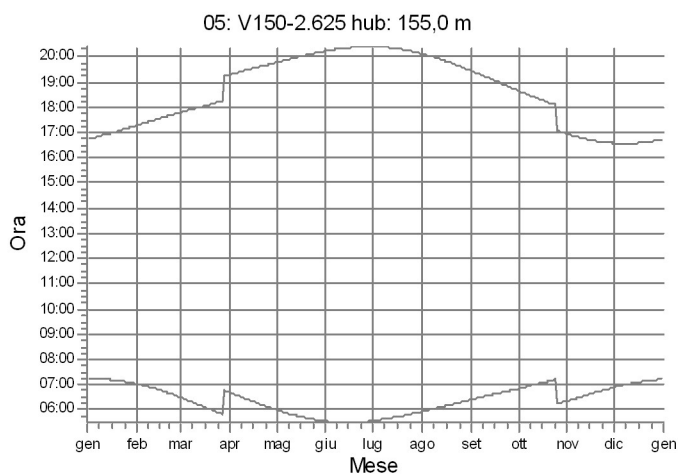
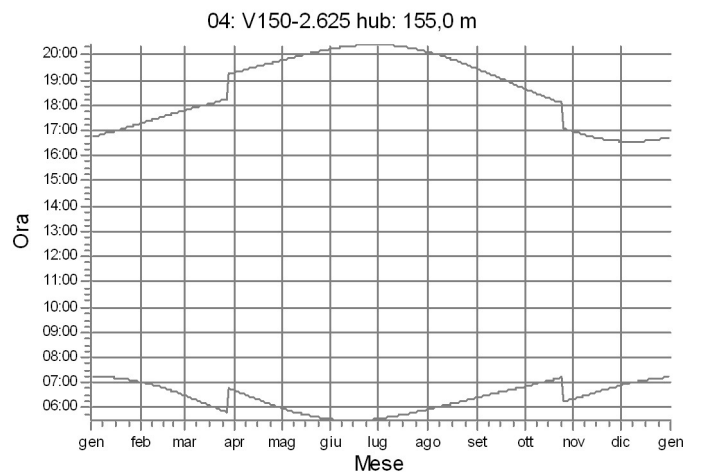
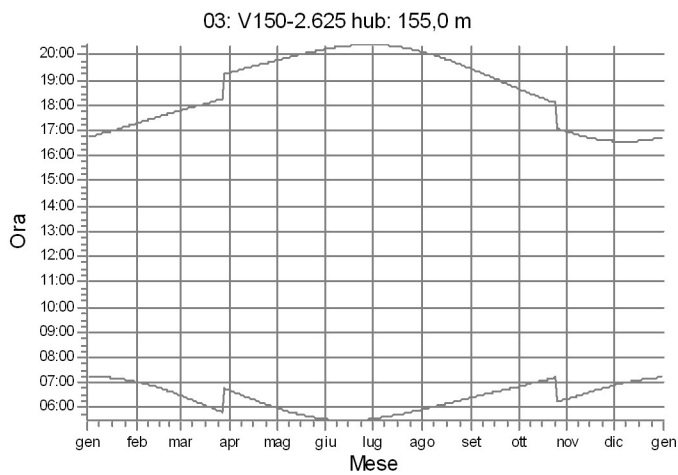
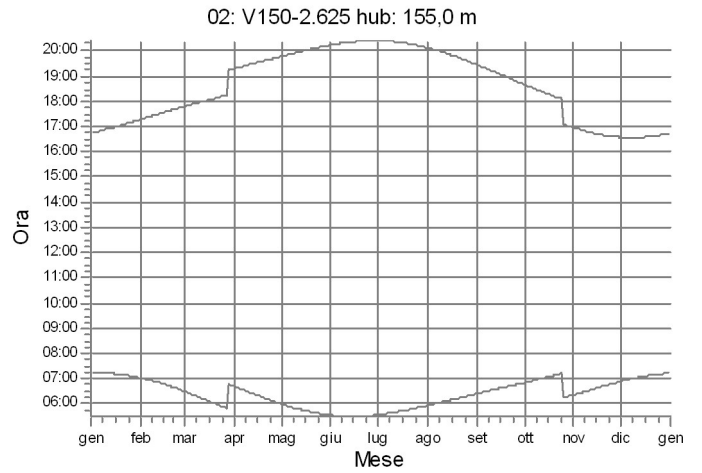
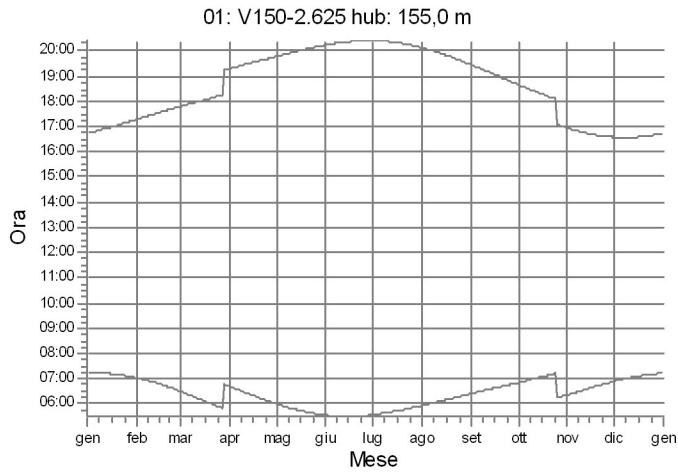
	Gennaio	Febbraio	Marzo	Aprile	Maggio	Giugno	Luglio	Agosto	Settembre	Ottobre	Novembre	Dicembre
1	07:13 16:44	07:02 17:16	06:29 17:47	06:42 19:18	05:59 19:46	05:33 20:13	05:34 20:24	05:56 20:07	06:23 19:27	06:50 18:40	06:21 16:56	06:53 16:35
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3	07:13 16:46	07:00 17:18	06:26 17:49	06:39 19:20	05:57 19:48	05:32 20:15	05:35 20:24	05:58 20:05	06:25 19:24	06:52 18:36	06:23 16:54	06:55 16:34
4	07:13 16:47	07:01 17:20	06:25 17:50	06:37 19:21	05:56 19:49	05:32 20:15	05:35 20:23	05:58 20:04	06:26 19:22	06:53 18:35	06:24 16:53	06:56 16:34
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6	07:14 16:48	07:53-08:03/10	06:57 17:22	06:22 17:52	06:34 19:23	05:53 19:51	05:31 20:17	05:36 20:02	06:00 19:19	06:28 18:32	06:55 16:51	06:58 16:34
7	07:14 16:49	07:54-08:04/10	06:56 17:23	06:20 17:53	06:32 19:23	05:52 19:52	05:31 20:17	05:37 20:00	06:01 19:18	06:29 18:30	06:56 16:50	06:59 16:34
8	07:13 16:50	07:53-08:04/11	06:55 17:24	06:19 17:54	06:31 19:24	05:51 19:53	05:31 20:18	06:02 20:22	06:30 19:59	06:57 18:29	06:29 16:49	07:00 16:34
9	07:13 16:51	07:53-08:05/12	06:54 17:25	06:17 17:55	06:29 19:25	05:50 19:54	05:31 20:18	06:03 20:22	06:31 19:58	06:58 18:27	06:30 16:48	07:01 16:34
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11	07:13 16:53	07:53-08:06/13	06:52 17:28	06:14 17:57	06:26 19:27	05:48 19:56	05:30 20:19	06:05 20:21	06:32 19:11	07:00 18:24	06:32 16:46	07:02 16:34
12	07:13 16:54	07:52-08:06/14	06:51 17:29	06:13 17:58	06:25 19:28	05:47 19:57	05:30 20:20	06:06 20:21	06:33 19:55	07:00 18:23	06:33 16:45	07:03 16:34
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14	07:12 16:56	07:52-08:07/15	06:49 17:31	06:10 18:00	06:22 19:30	05:45 19:59	05:30 20:21	06:07 19:52	06:35 19:07	07:02 18:20	06:35 16:44	07:05 16:34
15	07:12 16:57	07:51-08:07/16	06:47 17:32	06:08 18:01	06:21 19:31	05:44 19:59	05:30 20:21	06:08 19:51	06:36 19:05	07:03 18:18	06:36 16:43	07:05 16:35
16	07:12 16:58	07:51-08:08/17	06:46 17:33	06:07 18:02	06:19 19:32	05:43 20:00	05:30 20:21	06:09 19:49	06:37 19:03	07:04 18:17	06:37 16:42	07:06 16:35
17	07:11 16:59	07:51-08:08/17	06:45 17:34	06:05 18:03	06:18 19:33	05:42 20:01	05:30 20:22	06:10 19:48	06:38 19:02	07:05 18:16	06:38 16:41	07:07 16:35
18	07:11 17:00	07:50-08:08/18	06:44 17:35	06:03 18:04	06:16 19:34	05:42 20:02	05:30 20:22	06:11 19:47	06:38 19:00	07:06 18:14	06:40 16:41	07:07 16:36
19	07:11 17:01	07:51-08:08/17	06:42 17:36	06:02 18:05	06:15 19:35	05:41 20:03	05:30 20:22	06:12 19:46	06:39 18:59	07:07 18:13	06:41 16:40	07:08 16:36
20	07:10 17:03	07:51-08:08/17	06:41 17:38	06:00 18:06	06:13 19:36	05:40 20:04	05:30 20:23	06:13 20:17	06:40 19:44	07:08 18:11	06:42 16:39	07:08 16:36
21	07:10 17:04	07:52-08:07/15	06:40 17:39	05:59 18:07	06:12 19:37	05:39 20:05	05:31 20:23	06:14 19:43	06:41 18:55	07:09 18:10	06:43 16:39	07:09 16:37
22	07:09 17:05	07:53-08:07/14	06:39 17:40	05:57 18:08	06:11 19:38	05:39 20:06	05:31 20:23	06:15 19:41	06:42 18:54	07:10 18:09	06:44 16:38	07:10 16:37
23	07:08 17:06	07:54-08:06/12	06:37 17:41	05:56 18:09	06:09 19:39	05:38 20:06	05:31 20:23	06:15 19:40	06:43 18:52	07:11 18:07	06:45 16:38	07:10 16:38
24	07:08 17:07	07:57-08:05/8	06:36 17:42	05:54 18:10	06:08 19:40	05:37 20:07	05:31 20:24	06:16 20:14	06:44 19:39	07:12 18:06	06:46 16:37	07:10 16:38
25	07:07 17:08		06:35 17:43	05:53 18:11	06:07 19:41	05:37 20:08	05:32 20:24	06:17 19:37	06:45 18:49	06:14 17:05	06:47 16:37	07:11 16:39
26	07:07 17:09		06:33 17:44	05:51 18:12	06:05 19:42	05:36 20:09	05:32 20:24	06:18 19:36	06:46 18:47	06:15 17:04	06:48 16:36	07:11 16:40
27	07:06 17:10		06:32 17:45	05:49 18:13	06:04 19:43	05:35 20:10	05:32 20:24	06:19 19:34	06:46 18:46	06:16 17:02	06:49 16:36	07:12 16:40
28	07:05 17:12		06:30 17:46	05:48 18:14	06:03 19:43	05:35 20:10	05:33 20:24	06:20 20:11	06:47 19:33	06:17 17:01	06:50 16:35	07:12 16:41
29	07:04 17:13		06:45 19:15	06:02 19:44	06:02 19:44	05:34 20:11	05:33 20:24	06:21 20:10	06:48 18:43	06:18 17:00	06:51 16:35	07:12 16:42
30	07:04 17:14		06:45 19:16	06:00 19:45	06:00 19:45	05:34 20:12	05:33 20:24	06:22 20:09	06:49 19:30	06:19 18:41	06:52 16:35	07:13 16:42
31	07:03 17:15		06:43 19:17	05:33 19:45	05:33 20:12	05:33 20:13	05:55 20:08	06:23 19:28	06:20 18:57	06:20 16:57	06:20 16:57	07:13 16:43
304			301	370	396	442	445	452	423	374	348	295
Ore potenziali eliofanìa			301	370	396	442	445	452	423	374	348	295
Somma minuti d'ombra	301	0	0	0	0	0	0	0	0	0	195	164

### 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

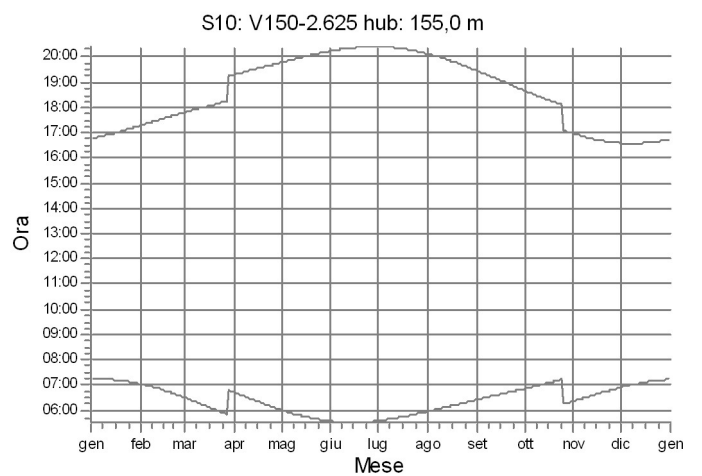
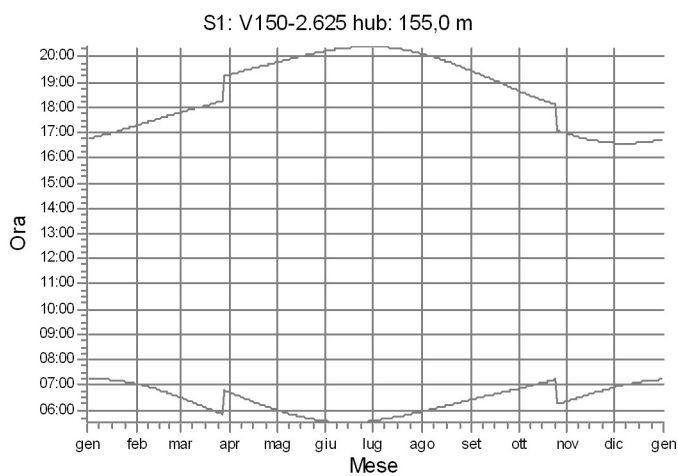
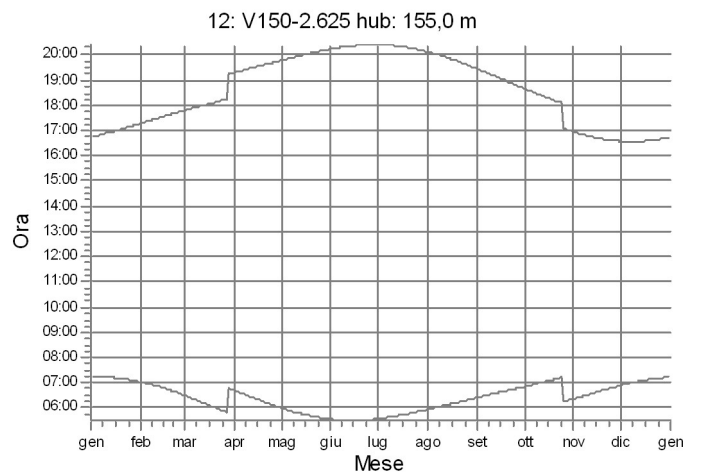
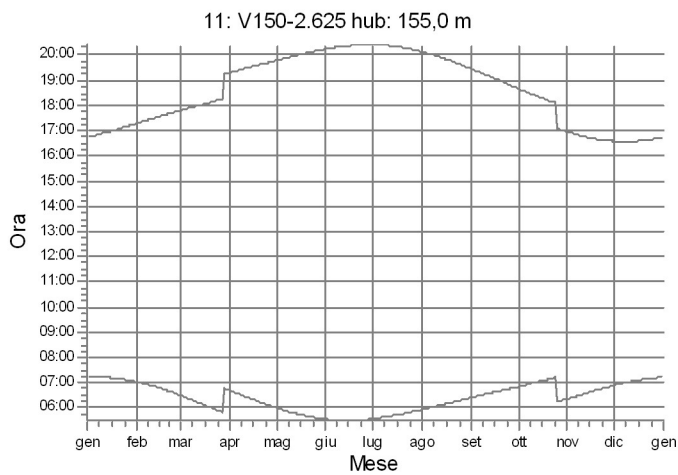
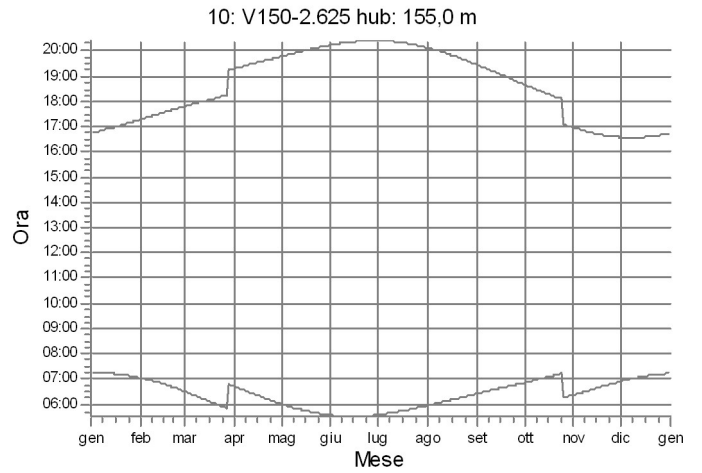
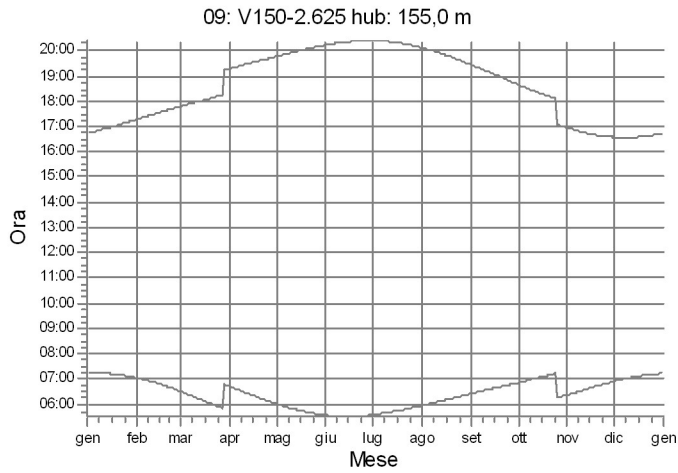
Calcolo: SFP



Recettori d'ombra

## SHADOW - Calendario per WTG, grafico

Calcolo: SFP

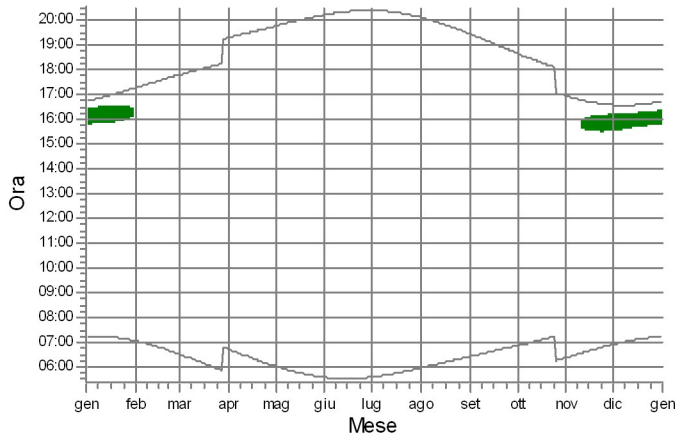


Recettori d'ombra

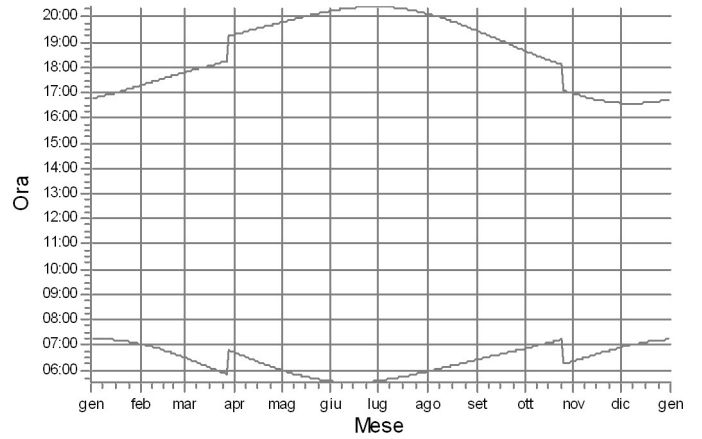
## SHADOW - Calendario per WTG, grafico

Calcolo: SFP

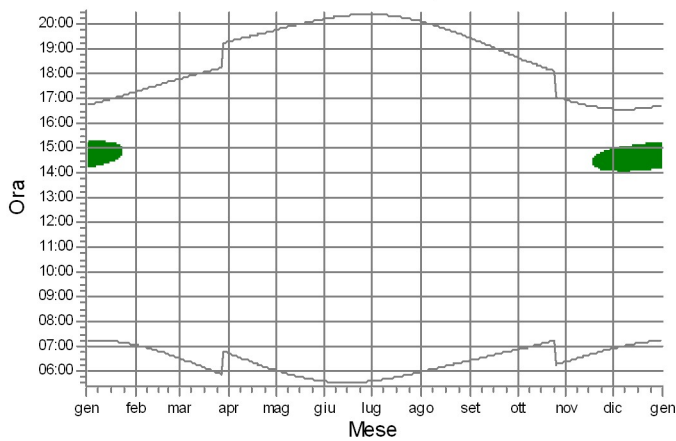
S3: V150-2.625 hub: 155,0 m



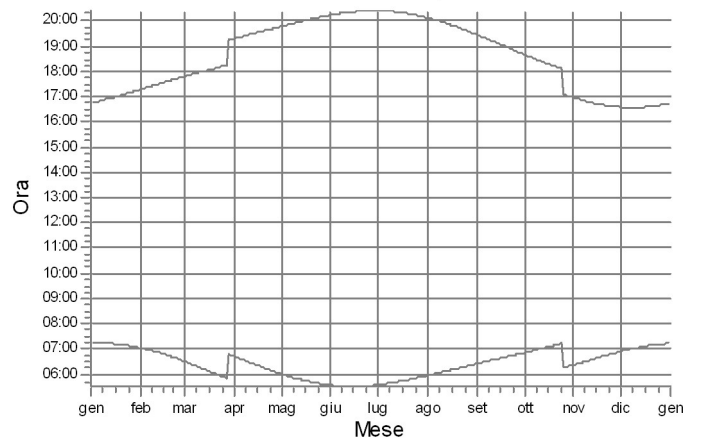
S4: V150-2.625 hub: 155,0 m



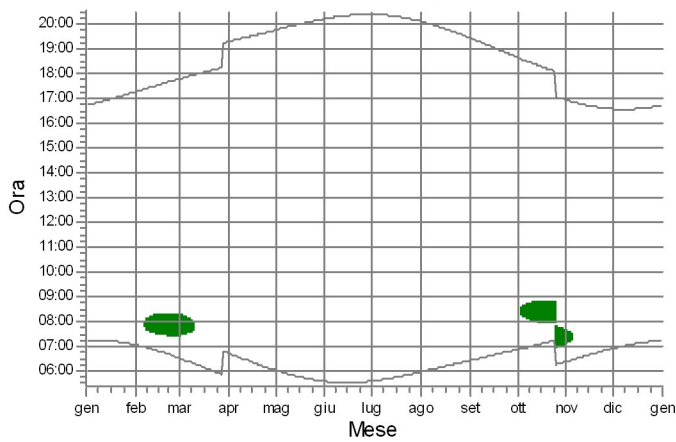
S5: V150-2.625 hub: 155,0 m



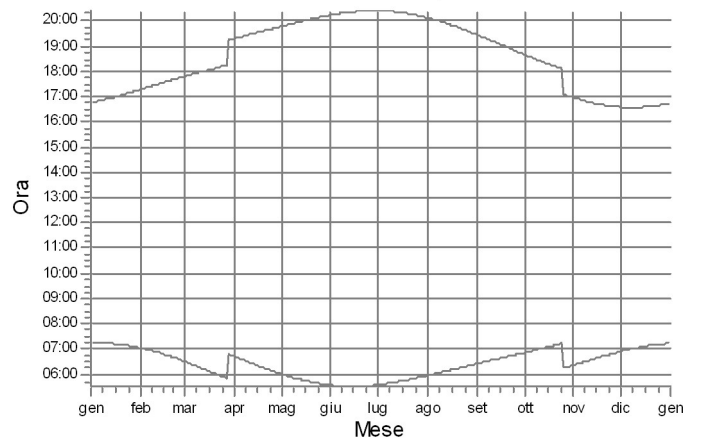
S6: V150-2.625 hub: 155,0 m



S7: V150-2.625 hub: 155,0 m



S8: V150-2.625 hub: 155,0 m



Recettori d'ombra



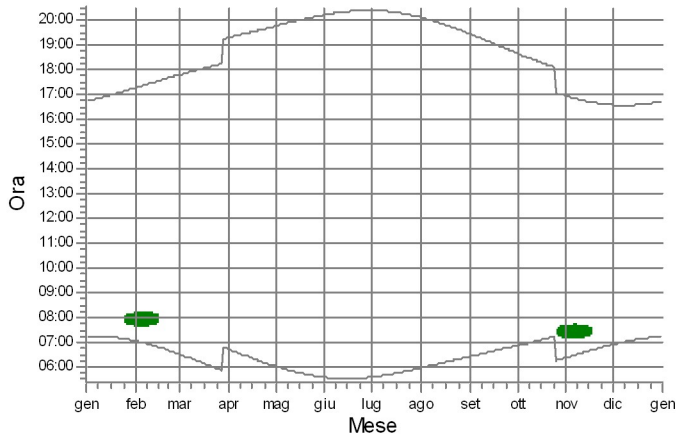
Rec 30: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (26)



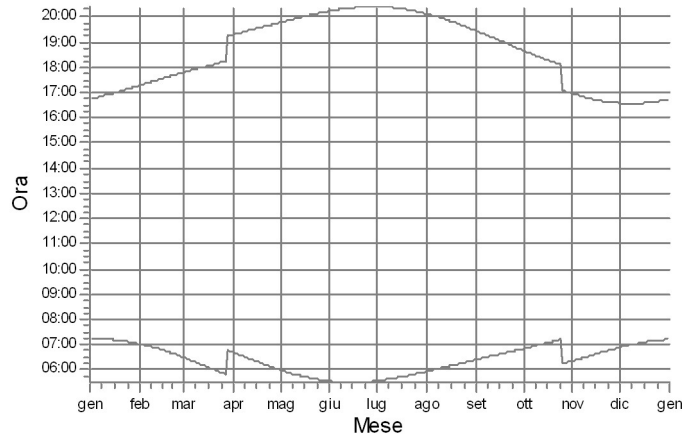
## SHADOW - Calendario per WTG, grafico

Calcolo: SFP

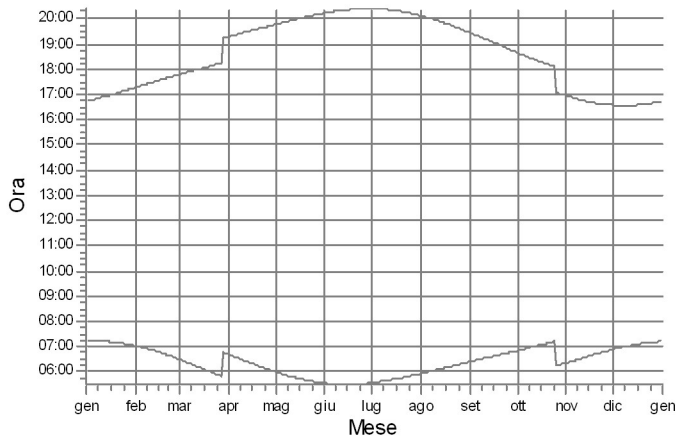
S9: V150-2.625 hub: 155,0 m



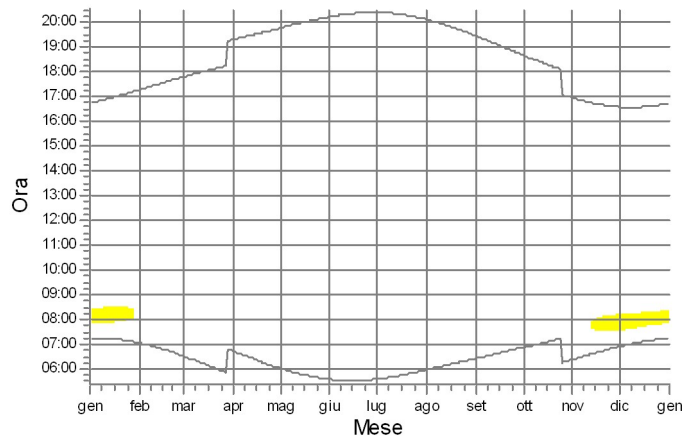
T1: V150-2.625 hub: 155,0 m



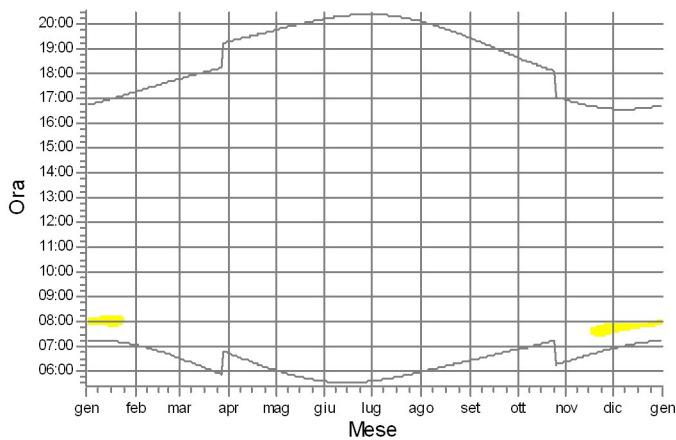
T2: V150-2.625 hub: 155,0 m



T3: V150-2.625 hub: 155,0 m



T4: V150-2.625 hub: 155,0 m

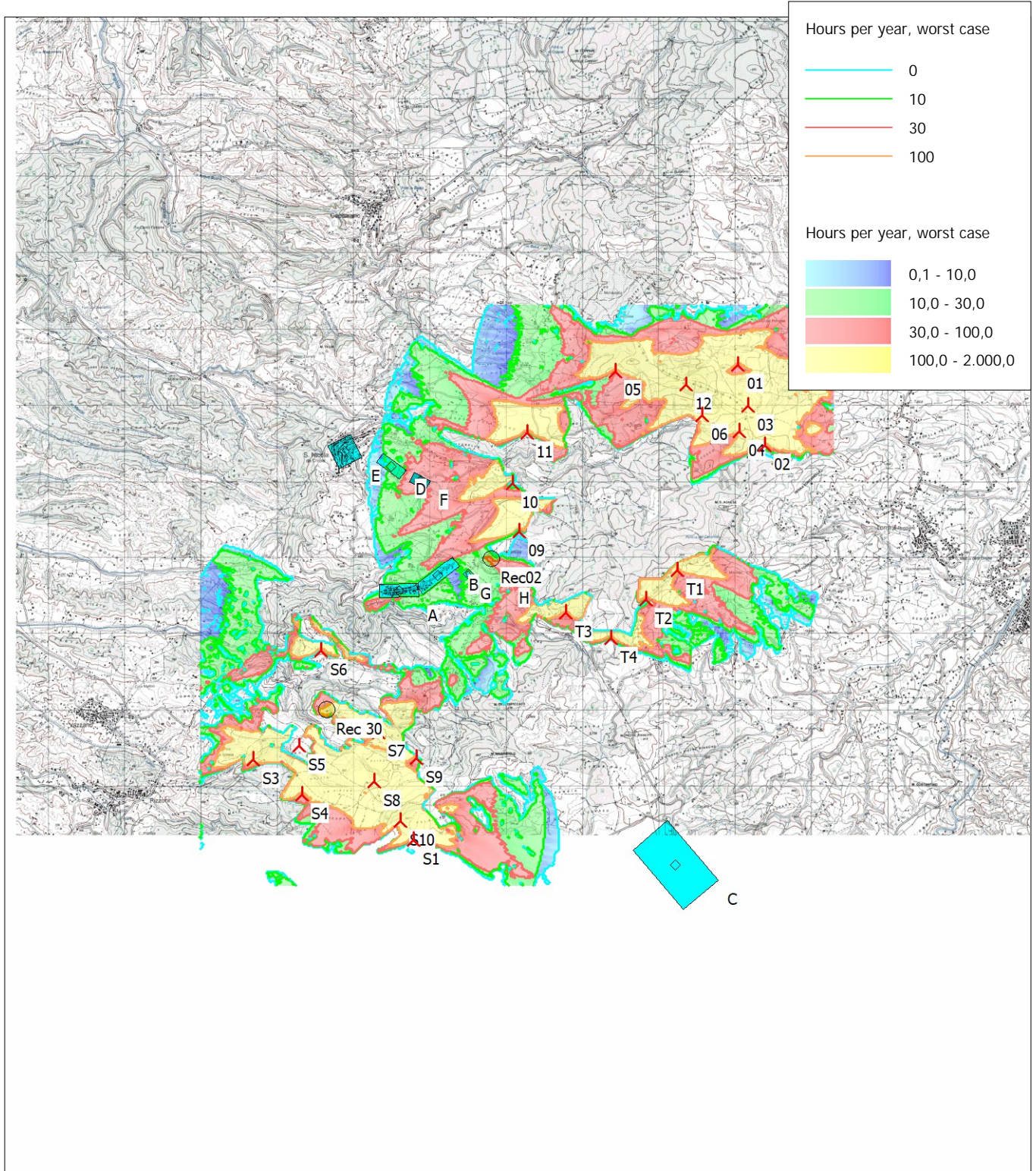


### Recettori d'ombra

- Rec 30: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (26)
- Rec02: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)

## SHADOW - Mappa

Calcolo: SFP



Mappa: torre ruggiero 2 , Scala di stampa 1:75.000, Centro mappa UTM WGS84 Zone: 33 Est: 614.080 Nord: 4.278.300  
Nuova WTG Ostacolo Recettore d'ombra  
Flicker map level: Height Contours: 2014.04.28\_PRIMUS\_Contour lines CTR+IGM+DTM\_UTM ED50 T33.wpo (19)