

November 2002

Global Solar Radiation on a Horizontal Surface  
 Hourly Integrated and Daily Totals  
 Instrument: Eppley PSP  
 Watt-Hours per Square Meter

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily	
1	0	0	0	0	0	0	17	132	315	412	528	457	297	219	136	98	33	2	0	0	0	0	0	0	2646	
2	0	0	0	0	0	0	15	96	232	285	180	133	148	60 ?	85	93	19	1	0	0	0	0	0	0	1345	
3	0	0	0	0	0	0	2	22	78	83 ?	59	64 ?	68	49 ?	40 ?	27 ?	9	1	0	0	0	0	0	0	503 ?	
4	0	0	0	0	0	0	11	46	59	118	131	144	124	133	107	41	11	0	0	0	0	0	0	0	925	
5	0	0	0	0	0	0	1	5 ?	34 ?	94 ?	?	127 ?	142	111	52	32	12	0	0	0	0	0	0	0	609 ?	
6	0	0	0	0	0	0	18	125	299	412	476	531	310	339	452	209	53	0	0	0	0	0	0	0	3225	
7	0	0	0	0	0	0	17	131	290	460	580	633	618	532	394	213	50	0	0	0	0	0	0	0	3917	
8	0	0	0	0	0	0	23	140	277	339	448	554	596	518	394	211	52	0	0	0	0	0	0	0	3552	
9	0	0	0	0	0	0	19	125	208	211	468	422	433	154	159	129	40	0	0	0	0	0	0	0	2367	
10	0	0	0	0	0	0	12	88	141	317	485	538	445	383	281	?	25	0	0	0	0	0	0	0	2716 ?	
11	0	0	0	0	0	0	7	66	142	299	105	129	166	109	63	27	6	0	0	0	0	0	0	0	1120	
12	0	0	0	0	0	0	15	112	291	453	564	619	603	518	374	198	44	0	0	0	0	0	0	0	3791	
13	0	0	0	0	0	0	15	108	286	443	560	613	598	513	374	194	45	0	0	0	0	0	0	0	3749	
14	0	0	0	0	0	0	19	119	285	451	564	615	602	521	375	197	35	0	0	0	0	0	0	0	3783	
15	0	0	0	0	0	0	2	21	38 ?	64	127	176	103	58	38 ?	21 ?	5	0	0	0	0	0	0	0	653 ?	
16	0	0	0	0	0	0	12	91	282	363	526	541	505	396	235	123	35	0	0	0	0	0	0	0	3110	
17	0	0	0	0	0	0	12	92	262	411	526	579	565	486	352	184	42	0	0	0	0	0	0	0	3511	
18	0	0	0	0	0	0	11	103	277	428	448	397	481	489	265	115	26	0	0	0	0	0	0	0	3041	
19	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	0	*
20	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	0	*
21	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	0	*
22	0	0	0	0	0	0	7	89	258	417	531	589	575	494	352	182	42	0	0	0	0	0	0	0	3537	
23	0	0	0	0	0	0	7	87	251	406	519	580	568	489	351	182	42	0	0	0	0	0	0	0	3483	
24	0	0	0	0	0	0	6	85	247	400	511	569	556	482	332	166	46	0	0	0	0	0	0	0	3398	
25	0	0	0	0	0	0	2	42	141	?	218	181	457	418	220	81	31	0	0	0	0	0	0	0	1790	
26	0	0	0	0	0	0	0	7	37 ?	71 ?	83 ?	60 ?	55	60	49	33	11	0	0	0	0	0	0	0	467 ?	
27	0	0	0	0	0	0	5	58	228	329	470	568	508	407	305	146	47	0	0	0	0	0	0	0	3070	
28	0	0	0	0	0	0	1	79	229	381	492	552	546	469	332	170	37	0	0	0	0	0	0	0	3288	
29	0	0	0	0	0	0	5	70	233	397	503	536	486	389	229	117	16	0	0	0	0	0	0	0	2980	
30	0	0	0	0	0	0	3	58	186	295	461	550	554	480	342	176	38	0	0	0	0	0	0	0	3144	
Avg	0	0	0	0	0	0	10	81	208	321	406	424	411	344	248	129	31	0	0	0	0	0	0	0	2582 *	
S D	0	0	0	0	0	0	7	39	90	131	177	205	196	180	133	67	15	0	0	0	0	0	0	0	1175	
S/A	0	0	0	0	0	0	0.68	0.48	0.44	0.41	0.44	0.48	0.48	0.52	0.54	0.52	0.49	3.38	0	0	0	0	0	0	0.45	
Min	0	0	0	0	0	0	0	5	34	64	59	60	55	49	38	21	5	0	0	0	0	0	0	0	467	
Max	0	0	0	0	0	0	23	140	315	460	580	633	618	532	452	213	53	2	0	0	0	0	0	0	3917	
n	0	0	0	0	0	0	151	311	299	297	306	310	316	311	312	301	297	4	0	0	0	0	0	0	3216	

Daylight Data Recovery: 9.9% missing; 4.1% exceed the 15% QC threshold -- 3739 total daylight measurements.

Instrument: Eppley PSP Serial Number: 18036F3 Calibration Factor: 7.430 μV/W/m² Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

November 2002

Direct Normal Solar Radiation  
 Hourly Integrated and Daily Totals  
 Instrument: Eppley NIP  
 Watt-Hours per Square Meter

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily	
1	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*	
2	0	0	0	0	0	0	*	*	*	*	*	?	?	?	*	*	*	*	0	0	0	0	0	0	*	
3	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*	
4	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*	
5	0	0	0	0	0	0	?	?	?	304 ?	?	?	?	*	*	*	*	0	0	0	0	0	0	0	?	
6	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*	
7	0	0	0	0	0	0	*	?	*	*	493 *	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
8	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*	
9	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*	
10	0	0	0	0	0	0	*	*	*	*	*	*	*	*	?	?	488 ?	0	0	0	0	0	0	0	*	
11	0	0	0	0	0	0	*	*	*	*	?	*	?	58 ?	?	?	?	0	0	0	0	0	0	0	?	
12	0	0	0	0	0	0	*	*	521 *?	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
13	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*	
14	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*	
15	0	0	0	0	0	0	*	80 *	*	*	*	*	*	*	?	?	*	0	0	0	0	0	0	0	*	
16	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
17	0	0	0	0	0	0	*	*	?	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
18	0	0	0	0	0	0	?	?	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
19	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
20	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
21	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
22	0	0	0	0	0	0	*	*	*	?	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
23	0	0	0	0	0	0	?	?	?	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
24	0	0	0	0	0	0	?	?	?	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
25	0	0	0	0	0	0	?	?	?	?	129 ?	?	?	?	*	*	*	0	0	0	0	0	0	0	?	
26	0	0	0	0	0	0	*	323 *?	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
27	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
28	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
29	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
30	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*	
Avg	0	0	0	0	0	0	N/A	202	521	304	311	N/A	N/A	58	N/A	N/A	488	0	0	0	0	0	0	0	N/A	*?
SD	0	0	0	0	0	0	0	172	0	0	257	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S/A	0	0	0	0	0	0	0	0.85	0	0	0.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	N/A	80	521	304	129	N/A	N/A	58	N/A	N/A	488	0	0	0	0	0	0	0	N/A	
Max	0	0	0	0	0	0	N/A	323	521	304	493	N/A	N/A	58	N/A	N/A	488	0	0	0	0	0	0	0	N/A	
n	0	0	0	0	0	0	0	5	2	2	6	0	0	3	0	0	9	0	0	0	0	0	0	0	0	0

Daylight Data Recovery: 86.0% missing; 13.0% exceed the 15% QC threshold -- 3739 total daylight measurements.

Instrument: Eppley NIP Serial Number: 25796E6 Calibration Factor: 8.670 μV/W/m² Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

**November 2002**

**Diffuse Solar Radiation (Shadow Band) on a Horizontal Surface**  
**Hourly Integrated and Daily Totals**  
**Instrument: Eppley PSP**  
**Watt-Hours per Square Meter**

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily	
1	0	0	0	0	0	0	17	141	380 ?	321 ?	436 ?	435	297	216	133	97	32	2	0	0	0	0	0	0	2508 ?	
2	0	0	0	0	0	0	14	87	201 ?	265	177	130	141	71	82	91	17	0	0	0	0	0	0	0	1277	
3	0	0	0	0	0	0	2	20	70	67	58	55	62	45	37	24	9	1	0	0	0	0	0	0	452	
4	0	0	0	0	0	0	13	46	59	118	130	143	123	132	107	42	12	2	0	0	0	0	0	0	926	
5	0	0	0	0	0	0	2	10	28 ?	73	161	134	141	113	54	32	13	0	0	0	0	0	0	0	761	
6	0	0	0	0	0	0	17	132	326 ?	409 ?	423 ?	395 ?	319	309	?	143 ?	56	0	0	0	0	0	0	0	2531 ?	
7	0	0	0	0	0	0	16	99	224 ?	?	?	?	?	?	?	176 ?	58	0	0	0	0	0	0	0	572 ?	
8	0	0	0	0	0	0	23	123 ?	263 ?	362	473	400 ?	?	?	?	177 ?	59	0	0	0	0	0	0	0	1881 ?	
9	0	0	0	0	0	0	22	89 ?	192 ?	212	451 ?	392	352 ?	152	158	131	41	0	0	0	0	0	0	0	2191 ?	
10	0	0	0	0	0	0	13	89	140	314	462 ?	428 ?	433 ?	403	234 ?	98 ?	27	0	0	0	0	0	0	0	2640 ?	
11	0	0	0	0	0	0	7	64	137	242 ?	104	128	158	102	62	26	6	0	0	0	0	0	0	0	1036	
12	0	0	0	0	0	0	16	123	?	?	?	?	?	?	?	162 ?	48	0	0	0	0	0	0	0	349 ?	
13	0	0	0	0	0	0	16	108	229 ?	?	?	?	?	?	?	166 ?	50	0	0	0	0	0	0	0	568 ?	
14	0	0	0	0	0	0	23	133	220 ?	?	?	?	?	?	?	157 ?	37	0	0	0	0	0	0	0	570 ?	
15	0	0	0	0	0	0	2	20	31 ?	59	123	159	100	56	28	19	4	0	0	0	0	0	0	0	603	
16	0	0	0	0	0	0	12	96	?	319 ?	410 ?	509 ?	428 ?	350 ?	196 ?	123	35	0	0	0	0	0	0	0	2478 ?	
17	0	0	0	0	0	0	12	90	229 ?	?	?	?	?	?	?	166 ?	45	0	0	0	0	0	0	0	543 ?	
18	0	0	0	0	0	0	12	111	?	?	462 ?	418	482 ?	463 ?	268	115	26	0	0	0	0	0	0	0	2358 ?	
19	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*
20	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*
21	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	*
22	0	0	0	0	0	0	7	95	203 ?	?	?	?	?	?	?	149 ?	46	0	0	0	0	0	0	0	499 ?	
23	0	0	0	0	0	0	7	92	199 ?	?	?	?	?	?	?	149 ?	46	0	0	0	0	0	0	0	493 ?	
24	0	0	0	0	0	0	6	91	197 ?	?	?	?	?	?	?	247 ?	158 ?	48	0	0	0	0	0	0	747 ?	
25	0	0	0	0	0	0	2	40	136	145	210	175	411 ?	308 ?	202	79	31	0	0	0	0	0	0	0	1740 ?	
26	0	0	0	0	0	0	0	7	25	61	63 ?	55	53	58	47	32	11	0	0	0	0	0	0	0	413	
27	0	0	0	0	0	0	5	56	221	315	368 ?	?	437 ?	343 ?	306 ?	148	47	0	0	0	0	0	0	0	2246 ?	
28	0	0	0	0	0	0	1	67	201 ?	?	?	?	?	?	?	150 ?	39	0	0	0	0	0	0	0	458 ?	
29	0	0	0	0	0	0	5	72	206 ?	?	?	?	502 ?	382 ?	224	115	15	0	0	0	0	0	0	0	1522 ?	
30	0	0	0	0	0	0	3	57	180	295 ?	440 ?	?	?	?	?	148 ?	42	0	0	0	0	0	0	0	1166 ?	
Avg	0	0	0	0	0	0	10	80	179	224	291	264	278	219	149	114	33	0	0	0	0	0	0	0	1242 ?	
S D	0	0	0	0	0	0	7	38	89	119	164	162	162	144	92	53	17	0	0	0	0	0	0	0	817	
S/A	0	0	0	0	0	0	0.7	0.48	0.5	0.53	0.56	0.61	0.58	0.66	0.62	0.46	0.51	3.19	0	0	0	0	0	0	0.66	
Min	0	0	0	0	0	0	0	7	25	59	58	55	53	45	28	19	4	0	0	0	0	0	0	0	349	
Max	0	0	0	0	0	0	23	141	380	409	473	509	502	463	306	177	59	2	0	0	0	0	0	0	2640	
n	0	0	0	0	0	0	148	312	177	162	149	139	153	154	168	248	298	4	0	0	0	0	0	0	2117	

Daylight Data Recovery: 9.9% missing; 33.5% exceed the 15% QC threshold -- 3739 total daylight measurements.

Instrument: Eppley PSP    Serial Number: 18039F3    Calibration Factor: 7.470 μV/W/m<sup>2</sup>    Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (\*) are not used in monthly statistics.