

July 2004

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	34	106	280	386	470	671	739	790	652	563	299	415	206	121	18	0	0	0	0	5750
2	0	0	0	0	0	20	112	230	294	606	491	894	430	567	267	100	159	226	76	14	0	0	0	0	4486
3	0	0	0	0	0	26	77	262	226	363	385	600	721	909	604	463	144	?	2 ?	1	0	0	0	0	4782 ?
4	0	0	0	0	0	22	91	347	419	631	832	603	417	752	673	322	292	306	148	18	0	0	0	0	5874
5	0	0	0	0	0	26	158	330	403	656	486	781	916	799	653	532	511	330	140	13	0	0	0	0	6734
6	0	0	0	0	0	31	135 ?	240	324	555	805	802	730	946	804	703	546	328	143	13	0	0	0	0	7105
7	0	0	0	0	0	23	106	57	189	484	430	726	714	608	679	685	427	321	140	11	0	0	0	0	5600
8	0	0	0	0	0	16	52	78	189	619	748	967	934	952	835	708	531	334	140	14	0	0	0	0	7117
9	0	0	0	0	0	27	99 ?	315 ?	462	685	800	838	800	752	726	681	483	313	114	16	0	0	0	0	7113
10	0	0	0	0	0	23	121	274	475	529	609	706	722	493	751	386	106	67	33	10	0	0	0	0	5306
11	0	0	0	0	0	20	63	165	187	304	401	779	600	727	697	661	187	60	86	5	0	0	0	0	4941
12	0	0	0	0	0	11	66	218	345	329	604	457	621	489	302	639	242	212	102	16	0	0	0	0	4652
13	0	0	0	0	0	12	66	75	115	372	481	623	942	796	821	702	439	280	121	16	0	0	0	0	5862
14	0	0	0	0	0	35	150	352	465	353	236	197	429	330	437	560	428	334	108	19	0	0	0	0	4432
15	0	0	0	0	0	14	111	216	368	640	726	681	861	903	785	685	442	283	114	15	0	0	0	0	6844
16	0	0	0	0	0	21	130	340 ?	523	705	849	932	965	941	833	701	483	226	116	13	0	0	0	0	7777
17	0	0	0	0	0	34	136	206	139	236	582	281	233	129	306	338	226	113	68	21	0	0	0	0	3048
18	0	0	0	0	0	10	57	110	208	441	714	919	812	445	584	485	449	307	76	25	0	0	0	0	5644
19	0	0	0	0	0	12	83	108	291	560	723	661	888	852	816	472	433	280	102	16	0	0	0	0	6296
20	0	0	0	0	0	16	103	251	475 ?	601	699	794	655	704	772	629	335	295	110	11	0	0	0	0	6449
21	0	0	0	0	0	21	90 ?	355 ?	460	665	789	912	957	926	671	681	444	291	89	20	0	0	0	0	7370
22	0	0	0	0	0	12	128	259	261	202	201 ?	344	274	109	90	51 ?	88	119	47	10	0	0	0	0	2198 ?
23	0	0	0	0	0	9	32	75	101	172	172	307	437	485	691	577	296	55	83	16	0	0	0	0	3506
24	0	0	0	0	0	6	36	71	229	220	569	757	929	902	569	612	471	202	84	4	0	0	0	0	5663
25	0	0	0	0	0	14	88	237	330	618	772	721	693	487	396	598	337	274	54	12	0	0	0	0	5631
26	0	0	0	0	0	8	53	158	323	455	278	736	517	656	423	286	294	170	48	7	0	0	0	0	4410
27	0	0	0	0	0	6	30	99	193	288	109	176	257	219	211	243	195	215	96	9	0	0	0	0	2347
28	0	0	0	0	0	7	55	167	300	576	701	738	802	936	814	677	512	301	83	10	0	0	0	0	6680
29	0	0	0	0	0	15	109	264	340	540	500	765	798	861	685	597	455	225	59	0	0	0	0	0	6214
30	0	0	0	0	0	13	53	88	139	180	312	468	436	255	339	293	185	94	71	17	0	0	0	0	2944
31	0	0	0	0	0	16	83	210	255	246	457	646	644	719	374	214	143 ?	?	33	7	0	0	0	0	4046 ?
Avg	0	0	0	0	0	18	90	208	304	461	553	663	675	655	586	503	345	233	91	13	0	0	0	0	5381
S D	0	0	0	0	0	8	35	96	120	170	214	216	221	254	212	195	142	90	36	6	0	0	0	0	1501
S/A	0	0	0	0	0	0.47	0.39	0.46	0.39	0.37	0.39	0.33	0.33	0.39	0.36	0.39	0.41	0.39	0.4	0.45	0	0	0	0	0.28
Min	0	0	0	0	0	6	30	57	101	172	109	176	233	109	90	51	88	55	2	0	0	0	0	0	2198
Max	0	0	0	0	0	35	158	355	523	705	849	967	965	952	835	708	546	334	148	25	0	0	0	0	7777
n	0	0	0	0	0	268	359	348	368	369	369	372	372	370	368	363	364	348	361	244	0	0	0	0	5244

Daylight Data Recovery: 0.0% missing; 1.9% exceed the 15% QC threshold -- 5348 total daylight measurements.

Instrument: Eppley PSP Serial Number: 25821F3 Calibration Factor: 9.020 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.

July 2004

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	39	96	281	213	133	285	309	324	176	131	41	208	55	86	0	0	0	0	0	2377
2	0	0	0	0	0	0	12	48	38	324	147	506	108	220	74	0	3	87	61	0	0	0	0	0	1629
3	0	0	0	0	0	0	2	230	9	30	33	162	349	576	262	182	6	0	0	0	0	0	0	0	1842
4	0	0	0	0	0	18	28	424	330	477	598	313	49	276	360	74	161	376	360	0	0	0	0	0	3844
5	0	0	0	0	0	74	349	523	237	487	130	497	650	592	442	462	594	564	289	0	0	0	0	0	5891
6	0	0	0	0	0	152	369 ?	170	25	334	630	492	401	705	710	775	663	624	325	0	0	0	0	0	6375
7	0	0	0	0	0	50	62	0	1	276	84	348	371	349	540	673	500	593	385	0	0	0	0	0	4234
8	0	0	0	0	0	0	3	0	7	452	591	839	777	837	807	785	740	686	419	0	0	0	0	0	6944
9	0	0	0	0	0	104	322 ?	332 ?	357	588	537	531	461	409	545	678	596	528	258	0	0	0	0	0	6245
10	0	0	0	0	0	40	268	450	534	278	334	404	368	231	494	83	1	1	1	0	0	0	0	0	3487
11	0	0	0	0	0	0	1	2	1	4	8	299	158	348	410	601	66	0	0	0	0	0	0	0	1898
12	0	0	0	0	0	1	25	188	193	85	324	149	225	212	59	550	53	79	151	0	0	0	0	0	2293
13	0	0	0	0	0	0	0	0	1	101	161	237	598	530	618	655	353	330	225	0	0	0	0	0	3809
14	0	0	0	0	0	122	345	632	392	101	11	2	136	76	169	360	399	524	121	0	0	0	0	0	3391
15	0	0	0	0	0	0	109	167	273	566	498	423	579	689	557	588	402	353	236	0	0	0	0	0	5439
16	0	0	0	0	0	40	281	590 ?	671	741	755	749	808	805	724	639	565	296	236	0	0	0	0	0	7900
17	0	0	0	0	0	21	46	48	1	2	115	7	1	0	34	40	5	0	0	0	0	0	0	0	322
18	0	0	0	0	0	0	1	1	2	147	441	692	512	179	297	232	427	435	84	0	0	0	0	0	3448
19	0	0	0	0	0	0	7	3	42	308	401	336	541	545	543	285	288	311	125	0	0	0	0	0	3737
20	0	0	0	0	0	1	68	304	359 ?	434	442	445	329	408	537	491	301	477	251	0	0	0	0	0	4847
21	0	0	0	0	0	52	236 ?	591 ?	616	725	738	814	812	745	475	642	521	472	149	0	0	0	0	0	7587
22	0	0	0	0	0	1	141	139	35	1	1	6	2	0	0	0	1	5	0	0	0	0	0	0	331
23	0	0	0	0	0	0	0	0	1	1	2	4	5	38	333	356	120	0	7	0	0	0	0	0	867
24	0	0	0	0	0	0	0	3	14	2	190	430	768	813	352	604	569	278	126	0	0	0	0	0	4149
25	0	0	0	0	0	1	51	151	126	438	520	240	234	176	116	379	164	362	35	0	0	0	0	0	2993
26	0	0	0	0	0	0	0	9	76	139	7	248	139	197	43	16	42	44	24	0	0	0	0	0	983
27	0	0	0	0	0	0	0	0	3	5	0	1	2	1	1	2	103	39	0	0	0	0	0	0	157
28	0	0	0	0	0	0	0	48	123	396	505	479	532	767	721	569	631	511	157	0	0	0	0	0	5440
29	0	0	0	0	0	11	227	370	161	295	156	402	368	502	343	489	477	247	26	0	0	0	0	0	4073
30	0	0	0	0	0	0	7	1	6	1	10	38	10	1	12	8	18	2	28	0	0	0	0	0	143
31	0	0	0	0	0	10	85	182	35	4	132	217	152	307	78	7	2	0	0	0	0	0	0	0	1211
Avg	0	0	0	0	0	24	101	190	157	254	283	343	347	378	348	363	286	269	136	0	0	0	0	0	3480
S D	0	0	0	0	0	40	127	207	196	230	245	238	261	274	249	275	249	231	129	0	0	0	0	0	2260
S/A	0	0	0	0	0	1.68	1.25	1.09	1.24	0.9	0.87	0.7	0.75	0.72	0.72	0.76	0.87	0.86	0.95	4.67	0	0	0	0	0.65
Min	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	143
Max	0	0	0	0	0	152	369	632	671	741	755	839	812	837	807	785	740	686	419	0	0	0	0	0	7900
n	0	0	0	0	0	268	357	350	368	372	372	372	372	372	372	372	372	372	372	244	0	0	0	0	5307

Daylight Data Recovery: 0.0% missing; 0.8% exceed the 15% QC threshold -- 5348 total daylight measurements.

Instrument: Eppley NIP Serial Number: 17664E6 Calibration Factor: 8.480 $\mu\text{V}/\text{W}/\text{m}^2$ 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.

July 2004

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	36	93	170	276	374	426	444	480	492	459	281	300	193	109	19	0	0	0	0	4151
2	0	0	0	0	0	21	116	225	281	366	372	428	340	379	208	107	167	209	67	14	0	0	0	0	3301
3	0	0	0	0	0	27	82	182	237	359	375	460	403	389	387	332	145	38 ?	2 ?	0	0	0	0	0	3418 ?
4	0	0	0	0	0	22	91	174	251	290	317	327	387	498	365	279	202	168	78	19	0	0	0	0	3470
5	0	0	0	0	0	24	80	128	274	311	389	320	300	253	280	205	180	122	84	14	0	0	0	0	2965
6	0	0	0	0	0	23	77 ?	194	323	300	264	337	348	302	206	144	171	91	77	13	0	0	0	0	2869
7	0	0	0	0	0	21	98	58	202	281	362	401	363	285	228	202	154	89	63	11	0	0	0	0	2817
8	0	0	0	0	0	18	54	82	196	290	248	196	198	188	158	144	117	78	58	14	0	0	0	0	2040
9	0	0	0	0	0	25	59 ?	210 ?	256	254	347	355	352	382	271	204	151	118	65	17	0	0	0	0	3067
10	0	0	0	0	0	24	86	144	189	343	334	346	377	287	342	339	98	71	35	10	0	0	0	0	3026
11	0	0	0	0	0	23	66	175	199	320	423	497	460	412	359	244	154	64	91	5	0	0	0	0	3494
12	0	0	0	0	0	11	63	167	249	275	341	321	377	298	227	229	197	197	68	16	0	0	0	0	3037
13	0	0	0	0	0	13	70	80	121	307	357	412	384	312	315	243	253	167	80	17	0	0	0	0	3133
14	0	0	0	0	0	34	84	118	249	288	239	209	311	272	297	305	200	148	84	21	0	0	0	0	2858
15	0	0	0	0	0	15	92	153	222	247	314	296	320	282	325	273	227	154	70	16	0	0	0	0	3006
16	0	0	0	0	0	23	75	125 ?	155	184	226	256	214	215	237	249	182	127	75	14	0	0	0	0	2358
17	0	0	0	0	0	39	138	203	149	251	484	289	250	137	284	322	234	120	72	21	0	0	0	0	2992
18	0	0	0	0	0	11	61	117	221	345	355	301	342	299	336	323	229	152	64	26	0	0	0	0	3182
19	0	0	0	0	0	12	87	115	267	360	406	372	397	380	381	282	294	177	82	17	0	0	0	0	3628
20	0	0	0	0	0	17	90	176	246 ?	318	346	410	372	354	351	297	193	130	66	12	0	0	0	0	3376
21	0	0	0	0	0	21	66 ?	122 ?	142	165	183	183	212	263	284	240	168	125	61	20	0	0	0	0	2256
22	0	0	0	0	0	14	109	226	258	187	172	361	294	108	91	46 ?	95	124	49	10	0	0	0	0	2144
23	0	0	0	0	0	10	33	79	107	183	184	325	463	479	418	326	237	58	89	17	0	0	0	0	3007
24	0	0	0	0	0	7	38	73	234	235	416	357	218	172	281	198	160	100	64	5	0	0	0	0	2558
25	0	0	0	0	0	15	80	194	266	314	343	510	494	342	296	328	262	147	49	13	0	0	0	0	3652
26	0	0	0	0	0	9	57	161	291	367	289	517	408	497	409	291	287	159	45	7	0	0	0	0	3793
27	0	0	0	0	0	6	32	105	205	281	118	190	273	235	228	260	206	193	91	10	0	0	0	0	2433
28	0	0	0	0	0	7	57	160	239	298	290	304	315	250	232	272	176	125	61	11	0	0	0	0	2797
29	0	0	0	0	0	18	76	147	252	345	375	402	464	414	415	262	212	138	58	0	0	0	0	0	3580
30	0	0	0	0	0	14	52	92	143	193	323	451	458	276	350	310	190	102	70	18	0	0	0	0	3042
31	0	0	0	0	0	18	71	155	249	260	361	456	507	446	324	223	135 ?	?	34	7	0	0	0	0	3248
Avg	0	0	0	0	0	19	75	145	224	287	322	356	357	319	301	250	193	129	66	13	0	0	0	0	3055
S D	0	0	0	0	0	8	23	46	53	60	84	92	87	104	82	70	53	44	20	6	0	0	0	0	492
S/A	0	0	0	0	0	0.45	0.31	0.32	0.24	0.21	0.26	0.24	0.33	0.27	0.28	0.27	0.34	0.31	0.45	0	0	0	0	0	0.16
Min	0	0	0	0	0	6	32	58	107	165	118	183	198	108	91	46	95	38	2	0	0	0	0	0	2040
Max	0	0	0	0	0	39	138	226	323	374	484	517	507	498	459	339	300	209	109	26	0	0	0	0	4151
n	0	0	0	0	0	254	356	350	368	372	372	372	372	372	371	368	368	350	362	243	0	0	0	0	5251

Daylight Data Recovery: 0.0% missing; 1.8% exceed the 15% QC threshold -- 5348 total daylight measurements.

Instrument: Eppley PSP Serial Number: 17860F3 Calibration Factor: 7.010 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.