

**November 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	0	5	52	224	372	484	470	438	479	404	230	98	11	0	0	0	0	0	0	3269
2	0	0	0	0	0	0	4	64	226	387	504	575	587	530	272	125	60	4	0	0	0	0	0	0	3337
3	0	0	0	0	0	0	1	23	27	51 ?	101	213	298	154	165	82	15 ?	5	0	0	0	0	0	0	1134 ?
4	0	0	0	0	0	0	1	4	?	33 ?	53 ?	?	92 ?	193	363	52	48	10	0	0	0	0	0	0	848 ?
5	0	0	0	0	0	0	2	39	106	333	494	566	601	542	427	270	98	8	0	0	0	0	0	0	3485
6	0	0	0	0	0	0	3	60	231	397	514	583	589	530	417	263	95	8	0	0	0	0	0	0	3690
7	0	0	0	0	0	0	4	43	215	379	497	564	569	514	404	253	89	7	0	0	0	0	0	0	3538
8	0	0	0	0	0	0	1	24	173	250	317	544	576	522	443	232	81	8	0	0	0	0	0	0	3171
9	0	0	0	0	0	0	2	92	?	404	494	563	574	515	399	247	80	2	0	0	0	0	0	0	3372
10	0	0	0	0	0	0	0	49	206	361	481	541	542	415	297	177	54	9	0	0	0	0	0	0	3133
11	0	0	0	0	0	0	0	20	61	74	128	175	197	120	34 ?	67	32	3	0	0	0	0	0	0	911
12	0	0	0	0	0	0	0	5	41 ?	66	111	160	100	100	60 ?	24 ?	10	3	0	0	0	0	0	0	679 ?
13	0	0	0	0	0	0	0	22	100	196	382	462	565	508	397	241	75	2	0	0	0	0	0	0	2951
14	0	0	0	0	0	0	0	51	217	373	497	546	567	500	379	241	66	1	0	0	0	0	0	0	3437
15	0	0	0	0	0	0	0	13 ?	?	387 ?	455	525	476	483	283	199	57	1	0	0	0	0	0	0	2879 ?
16	0	0	0	0	0	0	0	9	52	83	107	153	123	293	263	161	37	1	0	0	0	0	0	0	1282
17	0	0	0	0	0	0	0	47	168	154	184	323	421	341	206	99	31	3	0	0	0	0	0	0	1977
18	0	0	0	0	0	0	0	6	19	49	56	49	48	49	50	29 ?	4	1	0	0	0	0	0	0	361
19	0	0	0	0	0	0	0	11	46	122	156	199	319	136	74	54	49	1	0	0	0	0	0	0	1167
20	0	0	0	0	0	0	0	11	33	36 ?	62	104	160	105	52	31 ?	4	2	0	0	0	0	0	0	601
21	0	0	0	0	0	0	0	10	40	108	124	190	196	221	146	53	18	3	0	0	0	0	0	0	1110
22	0	0	0	0	0	0	0	9	66	129	195	249	149	49 ?	58	?	3	0	0	0	0	0	0	0	908 ?
23	0	0	0	0	0	0	0	7	49	61	71	119	92	48	38	26 ?	4	1	0	0	0	0	0	0	517
24	0	0	0	0	0	0	0	7	34	81	115	163	215	93	50 ?	40	5	8	0	0	0	0	0	0	810
25	0	0	0	0	0	0	0	9	63	157	212	210	169	85	99	57	17	4	0	0	0	0	0	0	1082
26	0	0	0	0	0	0	0	13	?	382 ?	522 ?	480	367	463	341	206	68	0	0	0	0	0	0	0	2842 ?
27	0	0	0	0	0	0	0	26	125	221	421	432	336	252	268	117	30	2	0	0	0	0	0	0	2230
28	0	0	0	0	0	0	0	4	33	164	173	238	208	165	121	85	28	2	0	0	0	0	0	0	1221
29	0	0	0	0	0	0	0	43	157	163	258	355	168	233	134	103	26	1	0	0	0	0	0	0	1642
30	0	0	0	0	0	0	0	5	36	59	112	162	97	70 ?	44	26 ?	4	1	0	0	0	0	0	0	616 ?
Avg	0	0	0	0	0	0	1	26	106	201	276	342	328	290	223	131	43	4	0	0	0	0	0	0	1940
S D	0	0	0	0	0	0	1	23	77	137	179	182	195	188	148	88	32	3	0	0	0	0	0	0	1170
S/A	0	0	0	0	0	0	1.9	0.87	0.73	0.68	0.65	0.53	0.6	0.65	0.67	0.68	0.75	0.87	0	0	0	0	0	0	0.6
Min	0	0	0	0	0	0	0	4	19	33	53	49	48	48	34	24	3	0	0	0	0	0	0	0	361
Max	0	0	0	0	0	0	5	92	231	404	522	583	601	542	443	270	98	11	0	0	0	0	0	0	3690
n	0	0	0	0	0	0	13	314	307	322	346	347	355	347	347	312	347	68	0	0	0	0	0	0	3425

Daylight Data Recovery: 0.0% missing; 6.0% exceed the 15% QC threshold -- 3644 total daylight measurements.

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

**November 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	0	0	83	390	566	684	440	385	566	610	439	371	116	0	0	0	0	0	0	4649
2	0	0	0	0	0	0	0	280	659	760	833	884	901	874	361	34	87	0	0	0	0	0	0	0	5673
3	0	0	0	0	0	0	0	0	0	0	0	6	32	1	2	0	0	0	0	0	0	0	0	0	43
4	0	0	0	0	0	0	0	0	0	0	0	0	1	43	446	1	74	1	0	0	0	0	0	0	565
5	0	0	0	0	0	0	0	64	9	536	837	897	983	969	925	831	602	204	0	0	0	0	0	0	6859
6	0	0	0	0	0	0	0	346	799	886	933	983	980	958	911	815	584	190	0	0	0	0	0	0	8385
7	0	0	0	0	0	0	0	190	720	863	917	947	948	929	892	797	562	213	0	0	0	0	0	0	7977
8	0	0	0	0	0	0	0	0	464	246	299	843	950	938	602	188	327	179	0	0	0	0	0	0	5036
9	0	0	0	0	0	0	0	285	?	874	934	957	955	925	858	756	471	68	0	0	0	0	0	0	7083
10	0	0	0	0	0	0	0	428 ?	678	778	816	830	802	382	162	58	34 ?	0 ?	0	0	0	0	0	0	4966
11	0	0	0	0	0	0	0	?	?	?	?	0 ?	?	?	?	?	?	?	0	0	0	0	0	0	?
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	?	?	?	?	0	0	0	0	0	0	0 ?
13	0	0	0	0	0	0	0	0	0	41	359	693	974	954	911	809	543	195	0	0	0	0	0	0	5480
14	0	0	0	0	0	0	0	251	791	905	980	904	980	959	828	787	411	12	0	0	0	0	0	0	7808
15	0	0	0	0	0	0	0	240	637 ?	611 ?	774	813	603	510	236	298	80	?	0	0	0	0	0	0	4801 ?
16	0	0	0	0	0	0	0	0 ?	0 ?	?	?	?	?	96	313	171 ?	?	7 ?	0	0	0	0	0	0	587 ?
17	0	0	0	0	0	0	0	183	402	?	?	26 ?	165	228 ?	?	?	?	?	0	0	0	0	0	0	1005 ?
18	0	0	0	0	0	0	0	?	?	?	?	?	?	0 ?	0	0 ?	0	0	0	0	0	0	0	0	0 ?
19	0	0	0	0	0	0	0	0	0	5	0	29	65	1	0	0	30	0	0	0	0	0	0	0	130
20	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
21	0	0	0	0	0	0	0	0	0	0	2	13	2	1	0	0	0	0	0	0	0	0	0	0	18
22	0	0	0	0	0	0	0	0	0	0	4	37	1	0	0	0	0	0	0	0	0	0	0	0	42
23	0	0	0	0	0	0	0	0	0	0	0	0	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	3	10	0	0	0	22	149	0	0	0	0	0	0	184
25	0	0	0	0	0	0	0	0	0	5	2	7	8	0	0	26	0	0	0	0	0	0	0	0	48
26	0	0	0	0	0	0	0	43	641 ?	867 ?	891 ?	513	79	752	632	540	366	103	0	0	0	0	0	0	5426 ?
27	0	0	0	0	0	0	0	43	220	280	722	540	148	59	234	76	0	0	0	0	0	0	0	0	2321
28	0	0	0	0	0	0	0	0	0	84	8	55	12	4	7	3	2	0	0	0	0	0	0	0	177
29	0	0	0	0	0	0	0	118	360	65	75	312	0	87	2	38	0	0	0	0	0	0	0	0	1058
30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Avg	0	0	0	0	0	0	0	91	251	322	387	383	370	353	331	247	176	55	0	0	0	0	0	0	2770 ?
S D	0	0	0	0	0	0	0	129	310	373	415	406	433	414	366	330	228	81	0	0	0	0	0	0	3072
S/A	0	0	0	0	0	0	2.65	1.41	1.24	1.16	1.07	1.06	1.17	1.11	1.11	1.34	1.3	1.47	0	0	0	0	0	0	1.11
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	428	799	905	980	983	983	969	925	831	602	213	0	0	0	0	0	0	8385
n	0	0	0	0	0	0	13	290	302	302	308	321	324	330	322	312	306	55	0	0	0	0	0	0	3184

Daylight Data Recovery: 0.0% missing; 12.5% exceed the 15% QC threshold -- 3644 total daylight measurements.

Instrument: Eppley NIP    Serial Number: 17664E6    Calibration Factor: 8.480 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.

**November 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	0	7 ?	42	123	138	131	219	214	167	133	93	48	8	0	0	0	0	0	0	1322
2	0	0	0	0	0	0	5 ?	28	55	80	80	74	72	71	106	117	43	4	0	0	0	0	0	0	735
3	0	0	0	0	0	0	0	24	28	28	109	222	289	162	174	87	13	3	0	0	0	0	0	0	1140
4	0	0	0	0	0	0	1 ?	4	18 ?	27 ?	40 ?	?	87	174	158	49	46	11	0	0	0	0	0	0	614 ?
5	0	0	0	0	0	0	2	33	106	111	72	69	61	54	47	38	22	5	0	0	0	0	0	0	619
6	0	0	0	0	0	0	?	19	36	54	58	51	54	50	46	38	23	5	0	0	0	0	0	0	433
7	0	0	0	0	0	0	?	21	39	49	55	56	56	52	43	36	21	5	0	0	0	0	0	0	432
8	0	0	0	0	0	0	0	24	64	140	143	87	64	60	180	169	42	5	0	0	0	0	0	0	979
9	0	0	0	0	0	0	?	21	?	44	44	49	54	53	49	40	19	1	0	0	0	0	0	0	374 ?
10	0	0	0	0	0	0	0	19	46	62	80	86	96	194	208	146	52	9	0	0	0	0	0	0	998
11	0	0	0	0	0	0	0	22	64	79	127	179	203	107	35	72	34	3	0	0	0	0	0	0	925
12	0	0	0	0	0	0	0	5	35	71	118	170	107	106	64 ?	22 ?	10	3	0	0	0	0	0	0	712
13	0	0	0	0	0	0	0	24	100	173	201	92	56	50	42	33	17	2	0	0	0	0	0	0	791
14	0	0	0	0	0	0	0	15	36	48	48	74	60	45	55	44	16	1	0	0	0	0	0	0	441
15	0	0	0	0	0	0	0	26	59 ?	110 ?	88	101	146	227	170	116	44	0	0	0	0	0	0	0	1087 ?
16	0	0	0	0	0	0	0	9	54	88	114	162	132	243	156	121	37	1	0	0	0	0	0	0	1116
17	0	0	0	0	0	0	0	29	98	160	193	308	303	276	209	104	32	3	0	0	0	0	0	0	1714
18	0	0	0	0	0	0	0	6	20	52	60	51	50	51	53	27 ?	5	1	0	0	0	0	0	0	374
19	0	0	0	0	0	0	0	11	47	123	161	190	278	136	80	50	45	1	0	0	0	0	0	0	1122
20	0	0	0	0	0	0	0	11	36	35	67	112	166	111	55	28	5	1	0	0	0	0	0	0	627
21	0	0	0	0	0	0	0	10	42	115	128	190	204	236	154	56	17	2	0	0	0	0	0	0	1155
22	0	0	0	0	0	0	0	10	70	137	203	227	145	45	58	15 ?	3	0	0	0	0	0	0	0	913
23	0	0	0	0	0	0	0	7	53	66	76	128	98	51	37	23	4	1	0	0	0	0	0	0	544
24	0	0	0	0	0	0	0	7	36	85	122	170	220	98	46	37	5	7	0	0	0	0	0	0	832
25	0	0	0	0	0	0	0	9	66	158	220	214	170	90	103	47	17	3	0	0	0	0	0	0	1097
26	0	0	0	0	0	0	0	10	44 ?	53 ?	65 ?	226	313	123	107	80	37	1	0	0	0	0	0	0	1059 ?
27	0	0	0	0	0	0	0	24	84	124	114	162	252	222	189	93	31	2	0	0	0	0	0	0	1296
28	0	0	0	0	0	0	0	4	32	138	177	212	209	172	122	88	28	2	0	0	0	0	0	0	1183
29	0	0	0	0	0	0	0	33 ?	91	149	228	202	177	191	141	97	27	1	0	0	0	0	0	0	1336
30	0	0	0	0	0	0	0	5	38	62	119	172	104	51	46	20 ?	3	1	0	0	0	0	0	0	621
Avg	0	0	0	0	0	0	1	17	56	92	115	147	148	122	102	66	25	3	0	0	0	0	0	0	886
S D	0	0	0	0	0	0	2	10	27	44	55	69	84	72	59	41	15	3	0	0	0	0	0	0	338
S/A	0	0	0	0	0	0	2.91	0.6	0.48	0.48	0.48	0.47	0.57	0.59	0.57	0.62	0.62	0.92	0	0	0	0	0	0	0.38
Min	0	0	0	0	0	0	0	4	18	27	40	49	50	45	35	15	3	0	0	0	0	0	0	0	374
Max	0	0	0	0	0	0	7	42	123	173	228	308	313	276	209	169	52	11	0	0	0	0	0	0	1714
n	0	0	0	0	0	0	7	312	325	342	353	348	360	360	357	343	355	68	0	0	0	0	0	0	3530

Daylight Data Recovery: 0.0% missing; 3.1% exceed the 15% QC threshold -- 3644 total daylight measurements.

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