

TOTAL AND DIFFUSE INSOLATION
DATA FOR CATAÑO

REPORT NO. 1

JULY 1 TO OCTOBER 31

1978

PREPARED BY:

CENTER FOR ENERGY AND ENVIRONMENTAL RESEARCH

USERDA - UPR
CENTER FOR ENERGY
AND ENVIRONMENT RESEARCH
CONTRACT NO. E (40-1) 1833
READING ROOM

CEEA-2-27

This report includes the insolation data collected at the Cataño Station during the period July 1 to October 31, 1978. The following Eppley instruments were used to gather this information:

Total Insolation

Integrator, Model 411-6140 Serial 411-5780
(Fig. 1, Upper Shelf, Left)

Used with Precision Spectral Pyranometer,
Model PSP, Serial 17123F3 (Fig. 2)

Sensitivity = 31.50 BTU - Ft² - Hour/Millivolt

Counter Output:

1 Count = 0.1 BTU/Ft²

10 mv Input = 315.0 Counts/Hour

Recorder Output:

10 mv = 400 BTU/Ft² - Hour⁻¹

10 mv Input = 7.88 mv Output

Printer, Digitec Model 6140 Serial 99372174
(Fig. 1, Upper Shelf, Right)

Diffuse Insolation

Integrator, Model 411-6140 Serial 411-5781
(Fig. 1, Lower Shelf, Right)

Used with Precision Spectral Pyranometer,
Model PSP Serial 17124F3 with Shadow Band (Fig. 3)

Sensitivity = 31.63 BTU - Ft² Hour/Millivolt

Counter Output:

1 Count = 0.1 BTU/Ft²

10 mv Input = 316.3 Counts/Hour

Recorder Output:

10 mv = 400 BTU/Ft² - Hour⁻¹

10 mv Input = 7.91 mv Output

Printer, Digitec Model 6140 Serial 99372159
(Fig. 1, Lower Shelf, Left)

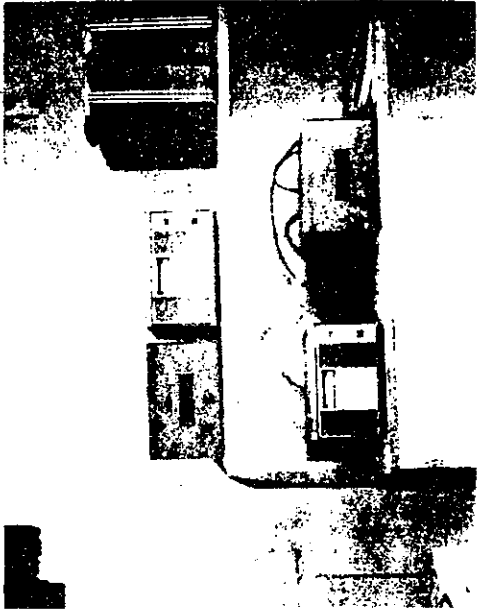


Fig. 1: Recording Instrumentation

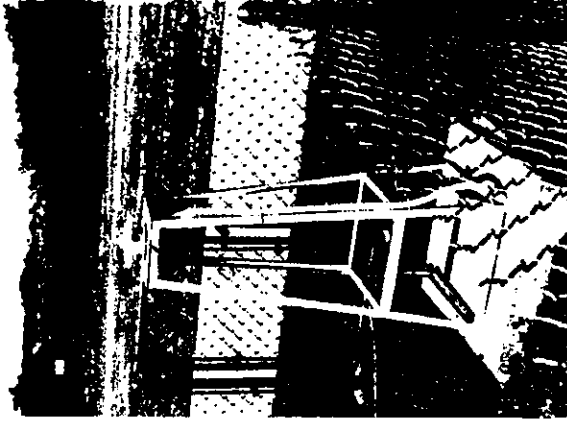


Fig. 2: Precision Spectral Pyranometer
for Measuring Total Insolation

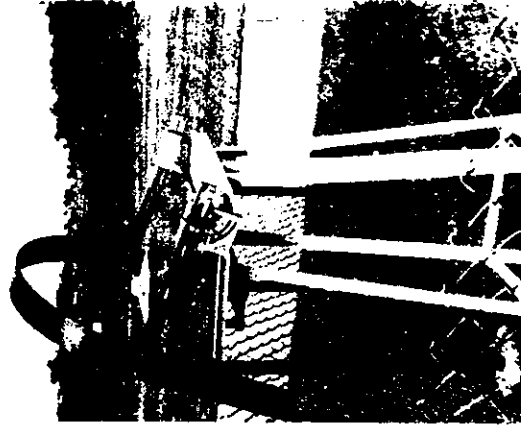


Fig. 3: Precision Spectral Pyranometer
with Shadow Band for
Measuring Diffuse Insolation

MONTH: JUL 1978

MONTHLY WEATHER DATA

LOCATION: BACARUL, CATANO

TOTAL INSOLATION IN cm/FT**2

HOURLY

DAY	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7	TOTAL
1	27.90	92.20	152.80	216.00	266.80	300.90	307.90	251.60	244.20	222.00	187.90	98.30	29.20	2614.7
2	33.70	116.50	176.30	188.80	286.20	308.30	302.60	339.00	290.40	234.60	158.20	110.90	29.20	2614.7
3	40.70	100.40	156.50	186.80	293.80	333.30	244.80	213.90	99.40	138.00	164.70	81.80	31.90	2614.7
4	37.70	96.40	158.60	203.50	273.20	318.20	321.80	309.10	273.60	219.20	150.60	76.40	31.90	2614.7
5	42.00	105.20	184.00	217.50	245.20	316.50	166.10	166.40	118.90	144.80	138.40	49.70	14.20	2614.7
6	30.50	80.20	124.80	148.40	205.60	151.60	258.60	268.00	251.90	122.00	45.50	28.90	10.40	1709.5
7	12.90	02.30	133.60	128.20	217.00	106.10	197.30	212.80	225.50	142.50	33.70	16.10	9.60	1596.4
8	25.20	47.40	79.40	146.20	217.00	106.10	197.30	212.80	225.50	142.50	33.70	16.10	9.60	1596.4
9	20.10	76.30	156.40	213.60	267.80	294.00	291.60	371.20	268.10	157.90	52.40	14.80	4.80	2117.0
10	18.30	83.70	146.10	227.10	277.00	301.00	310.60	293.40	282.00	230.70	157.40	84.80	20.30	2440.4
11	9.20	83.00	161.80	231.40	283.70	271.90	282.90	274.20	261.50	146.30	151.40	74.80	10.30	2242.2
12	31.50	76.80	124.40	131.30	273.20	294.90	286.10	253.60	261.30	*****	*****	*****	*****	*****
13	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
14	18.00	45.30	169.80	226.10	272.00	302.10	314.70	300.10	267.20	216.70	123.10	65.30	12.20	2365.6
15	24.50	65.60	129.70	172.30	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
16	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
17	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
18	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
19	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
20	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
21	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
22	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
23	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
24	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	12.90	67.80	134.20	156.00	270.20	295.00	311.80	303.30	268.20	222.30	145.60	77.10	19.80	2284.2
26	34.30	69.60	124.20	113.30	246.90	307.90	312.90	301.90	278.50	215.70	146.00	84.00	17.10	2254.3
27	9.90	50.40	150.50	216.20	277.40	300.30	313.60	296.80	267.60	212.80	153.90	85.20	21.00	2355.6
28	13.50	56.80	116.30	180.10	236.00	292.20	300.80	301.00	259.20	205.30	137.50	68.90	15.10	2182.7
29	25.60	60.00	137.40	202.70	257.40	290.70	304.00	287.10	253.30	209.00	131.10	56.90	16.40	2231.6
30	13.70	63.70	119.70	213.80	264.40	303.00	305.70	238.70	260.10	205.80	135.90	72.60	29.00	2226.1
31	15.40	65.10	131.80	177.30	235.40	183.60	286.10	293.90	275.00	217.50	160.70	75.20	16.40	2133.4
MEAN	18.81	67.71	138.37	187.20	257.14	270.55	297.86	290.80	264.89	195.65	125.38	67.44	16.33	2198.1
STD D	8.12	18.38	25.02	38.52	24.96	53.74	32.94	22.88	15.66	36.75	45.74	28.72	7.27	110.5
MIN	9.20	45.30	79.10	113.30	205.60	151.60	197.30	238.70	225.50	122.00	30.70	14.80	4.00	1437.1
MAX	34.30	116.50	176.30	231.40	286.20	308.30	342.60	330.00	290.40	234.60	160.70	110.90	29.20	2660.4

FREQUENCY CHARTS FOR TOTAL / EXTRA TERRESTRIAL IRRADIATION

MONTH: JUL 1978

LOCATION: SACARDI, CATANDU

BASED ON HOURLY VALUES

RANGE	0	20	40	60	80	100	120	NO. OF VALUES	% OF TOTAL
0-.1								1	0.59
.1-.2	XX							5	1.94
.2-.3	XXXX							11	4.26
.3-.4	XXXXXXXXXX							22	8.53
.4-.5	XXXXXXXXXXXXXXXXXX							32	12.40
.5-.6	XXXXXXXXXXXXXXXXXXXX							37	14.34
.6-.7	XXXXXXXXXXXXXXXXXXXXXXXX							58	22.48
.7-.8	XXXXXXXXXXXXXXXXXXXXXXXXXXXX							87	33.72
.8-.9	XX							5	1.94
.9-1.								9	0.00

CUMULATIVE

RANGE	0	80	160	240	320	400	480	NO. OF VALUES	% OF TOTAL
0-.1								1	0.39
.1-.2								6	2.33
.2-.3	XX							17	6.59
.3-.4	XXXX							39	15.12
.4-.5	XXXXXXXXXX							71	27.52
.5-.6	XXXXXXXXXXXXXXXXXX							108	41.86
.6-.7	XXXXXXXXXXXXXXXXXXXX							166	64.34
.7-.8	XXXXXXXXXXXXXXXXXXXXXXXX							253	98.06
.8-.9	XXXXXXXXXXXXXXXXXXXXXXXXXX							258	100.00
.9-1.	XXXXXXXXXXXXXXXXXXXXXXXXXX							258	100.00

BASED ON DAILY VALUES

RANGE	0	5	10	15	20	30	NO. OF VALUES	% OF TOTAL
0-.1							0	0.00
.1-.2							0	0.00
.2-.3							0	0.00
.3-.4							0	0.00
.4-.5	X						1	7.14
.5-.6	X						2	14.29
.6-.7	XXXXXX						11	78.57
.7-.8	XX						14	100.00
.8-.9							14	100.00
.9-1.							14	100.00

MONTHLY WEATHER DATA

MONTH: JUL 1978

LOCATION: BACARDI, CATANO

DIFFUSE INSOLATION IN BTU/FT**2

hour

DAY	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7	TOTAL
1	24.48	50.76	55.20	60.48	63.84	76.44	116.52	158.12	113.40	116.88	106.80	59.04	37.20	1019.2
2	27.60	41.16	41.28	58.08	67.92	52.44	67.44	*****	50.04	46.92	77.16	57.72	27.84	*****
3	29.88	67.80	102.72	97.80	*****	72.48	179.28	161.40	92.04	92.76	90.24	65.64	60.36	*****
4	*****	77.64	90.00	99.00	132.00	113.04	108.72	119.28	110.88	111.00	81.72	80.40	33.36	*****
5	30.84	78.36	69.12	87.48	81.96	125.04	125.64	*****	*****	*****	*****	*****	*****	*****
6	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	14.88	*****
7	12.60	49.68	60.84	91.32	116.16	112.32	102.24	71.40	*****	55.56	50.16	31.65	12.24	*****
8	48.24	52.32	85.92	140.76	144.48	150.48	155.88	173.16	*****	139.68	35.88	18.60	*****	*****
9	15.12	45.60	85.92	77.52	87.60	79.32	103.30	95.64	*****	68.92	67.96	17.40	*****	*****
10	15.24	53.40	46.68	75.00	58.20	68.04	56.76	62.16	*****	63.24	56.76	57.24	21.00	*****
11	*****	44.40	42.60	46.44	48.12	141.24	100.92	98.68	*****	64.68	70.32	46.20	*****	*****
12	32.76	46.92	60.40	88.92	97.08	92.40	118.44	103.04	96.24	*****	*****	*****	*****	*****
13	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	77.28	57.84	*****	*****
14	16.32	41.28	86.88	65.52	*****	46.44	54.00	50.40	56.16	62.52	73.44	57.96	11.88	*****
15	19.56	51.60	75.24	86.64	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
16	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
17	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
18	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
19	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
20	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
21	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
22	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
23	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
24	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	45.48	16.44	*****
25	10.80	56.28	85.92	72.60	94.44	88.20	63.64	65.16	63.36	67.56	60.12	47.52	19.32	799.9
26	33.24	39.84	58.40	84.48	90.60	78.84	65.52	64.32	78.60	66.84	54.60	51.00	15.36	781.7
27	7.92	38.04	84.60	84.36	96.36	91.92	63.40	70.68	65.04	60.84	72.24	45.36	20.52	821.3
28	10.68	53.16	85.08	113.16	143.40	162.84	93.90	116.76	91.08	84.24	76.08	46.92	16.56	1093.9
29	22.32	47.04	81.12	95.40	102.12	100.20	112.92	109.20	106.56	109.92	78.12	50.64	17.40	1033.0
30	11.52	49.20	79.08	102.36	96.12	102.12	91.80	109.32	78.84	75.72	73.56	45.72	33.48	948.8
31	8.04	45.48	72.60	122.16	130.68	135.24	111.72	92.28	71.28	48.36	59.16	34.32	17.28	948.6
MEAN	16.13	47.48	75.26	91.88	102.20	104.08	93.06	95.73	83.52	78.80	72.59	47.57	22.14	930.8
STD D	9.36	6.27	12.18	20.57	24.63	29.86	19.80	27.17	18.61	23.83	16.36	6.94	8.36	68.0
MIN	7.92	38.04	55.20	60.48	63.84	76.44	65.52	64.32	63.36	48.36	54.60	34.32	15.36	647.8
MAX	33.24	56.28	85.92	122.16	143.40	162.84	116.52	139.12	113.40	116.88	106.80	59.04	37.20	1291.8

MONTHLY DIFFUSE INSOLATION IN BTU/FT**2 VS. HOUR

MONTH: JUL 1978	3.00	6.00	9.00	12.00	15.00	18.00	21.00	24.00
350.00								
341.03								
332.05								
323.08								
314.10								
305.13								
296.15								
287.18								
278.21								
269.23								
260.26								
251.28								
242.31								
233.33								
224.30								
215.30								
206.41								
197.44								
188.46								
179.49								
170.51								
161.54								
152.56								
143.59								
134.62								
125.64								
116.67								
107.69								
98.72								
89.74								
80.77								
71.79								
62.82								
53.85								
44.87								
35.90								
26.92								
17.95								
8.97								
0.00								

0.00 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00
 I=====I=====I=====I=====I=====I=====I=====I=====I=====I
 (+) MAXIMUM VALUE (M) MEAN VALUE (-) MINIMUM VALUE

MONTHLY WEATHER DATA

MONTH: JUL 1978

LOCATION: SACARDI, CATANO

DIFFUSE / TOTAL INSULATION

MOJH
(COQUE)

DAY	6-7 (A)	7-8 (B)	8-9 (C)	9-10 (D)	10-11 (E)	11-12 (F)	12-1 (N)	1-2 (G)	2-3 (H)	3-4 (I)	4-5 (J)	5-6 (K)	6-7 (L)	DAILY VALUE
1	0.877	0.551	0.361	0.280	0.239	0.254	0.378	0.549	0.464	0.526	0.568	0.601	0.953	0.568
2	0.819	0.353	0.234	0.308	0.237	0.170	0.147	0.549	0.172	0.200	0.488	0.520	0.953	0.488
3	0.734	0.675	0.656	0.524	0.483	0.355	0.732	0.755	0.926	0.672	0.548	0.802	0.953	0.548
4	0.734	0.805	0.567	0.486	0.483	0.355	0.359	0.386	0.405	0.506	0.543	0.802	0.953	0.543
5	0.734	0.745	0.376	0.402	0.334	0.395	0.675	0.386	0.405	0.506	0.543	0.802	0.953	0.543
6	0.977	0.797	0.455	0.712	0.585	0.741	0.354	0.205	0.455	0.455	1.102	1.096	1.177	1.102
7	1.914	1.104	0.549	0.963	0.663	0.809	0.790	0.335	0.980	0.980	1.169	1.155	1.177	1.169
8	0.752	0.596	0.549	0.363	0.327	0.270	0.357	0.318	0.563	0.563	1.163	1.176	1.177	1.163
9	0.833	0.638	0.320	0.330	0.210	0.226	0.178	0.212	0.274	0.274	0.361	0.675	1.034	0.361
10	0.833	0.535	0.263	0.201	0.170	0.519	0.569	0.361	0.442	0.442	0.464	0.618	1.034	0.464
11	1.040	0.611	0.550	0.677	0.355	0.313	0.414	0.408	0.368	0.442	0.464	0.618	1.034	0.464
12	0.877	0.911	0.512	0.290	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
13	0.798	0.603	0.580	0.503	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
14	0.877	0.911	0.512	0.290	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
15	0.798	0.603	0.580	0.503	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
16	0.877	0.911	0.512	0.290	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
17	0.877	0.911	0.512	0.290	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
18	0.877	0.911	0.512	0.290	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
19	0.877	0.911	0.512	0.290	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
20	0.877	0.911	0.512	0.290	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
21	0.877	0.911	0.512	0.290	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
22	0.877	0.911	0.512	0.290	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
23	0.877	0.911	0.512	0.290	0.290	0.154	0.172	0.168	0.210	0.289	0.628	0.886	1.188	0.628
24	0.837	0.830	0.640	0.465	0.350	0.299	0.220	0.215	0.236	0.304	0.413	0.635	1.015	0.413
25	0.969	0.572	0.471	0.746	0.364	0.256	0.209	0.213	0.282	0.310	0.374	0.607	0.898	0.374
26	0.800	0.755	0.562	0.390	0.347	0.306	0.266	0.238	0.243	0.286	0.469	0.532	0.977	0.469
27	0.791	0.936	0.732	0.628	0.600	0.557	0.312	0.388	0.351	0.410	0.553	0.681	1.097	0.553
28	0.872	0.784	0.590	0.471	0.397	0.305	0.371	0.380	0.421	0.520	0.596	0.890	1.061	0.596
29	0.841	0.772	0.661	0.479	0.364	0.337	0.300	0.458	0.303	0.368	0.541	0.630	1.154	0.541
30	0.522	0.699	0.551	0.689	0.555	0.737	0.390	0.314	0.259	0.222	0.368	0.456	1.054	0.368
31	0.805	0.764	0.601	0.553	0.426	0.405	0.296	0.315	0.299	0.347	0.474	0.630	1.031	0.474
MEAN	0.805	0.764	0.601	0.553	0.426	0.405	0.296	0.315	0.299	0.347	0.474	0.630	1.031	0.474
STD D	0.138	0.112	0.085	0.134	0.108	0.175	0.070	0.097	0.106	0.099	0.092	0.136	0.086	0.063
MIN	0.522	0.572	0.471	0.390	0.347	0.256	0.209	0.213	0.236	0.222	0.368	0.456	0.898	0.347
MAX	0.969	0.936	0.732	0.746	0.600	0.737	0.390	0.458	0.421	0.526	0.596	0.890	1.154	0.596

FREQUENCY CHARTS FOR DIFFUSE / TOTAL INSOLATION

MONTH: JUL 1978

LOCATION: HACARDI, CATANO

BASED ON HOURLY VALUES

RANGE	REGULAR										NO. OF VALUES	% OF TOTAL
	0	20	40	60	80	100	120	140	160	180		
0-.1											0	0.00
.1-.2		XXXX									9	3.93
.2-.3		XXXXXXXXXXXXXXXXXX									50	13.10
.3-.4		XXXXXXXXXXXXXXXXXX									45	19.65
.4-.5		XXXXXXXXXXXX									23	10.04
.5-.6		XXXXXXXXXXXXXXXXXX									53	14.41
.6-.7		XXXXXXXXXXXXXXXXXX									26	11.35
.7-.8		XXXXXXXXXXXX									18	7.86
.8-.9		XXXXXXXXXX									15	6.55
.9-1.		XXXXX									10	4.37

THERE ARE 20 VALUES ABOVE 1.0 (8.73%)

CUMULATIVE

RANGE	REGULAR										NO. OF VALUES	% OF TOTAL
	0	20	40	60	80	100	120	140	160	180		
0-.1											0	0.00
.1-.2		X									9	3.93
.2-.3		XXXX									39	17.03
.3-.4		XXXXXXXXXX									84	36.68
.4-.5		XXXXXXXXXXXXXXXXXX									107	46.72
.5-.6		XXXXXXXXXXXXXXXXXX									140	61.14
.6-.7		XXXXXXXXXXXXXXXXXX									166	72.49
.7-.8		XXXXXXXXXXXXXXXXXX									184	80.35
.8-.9		XXXXXXXXXXXXXXXXXX									199	86.90
.9-1.		XXXXXXXXXXXXXXXXXX									209	91.27

BASED ON DAILY VALUES

RANGE	REGULAR										NO. OF VALUES	% OF TOTAL
	0	5	10	15	20	25	30	35	40	45		
0-.1											0	0.00
.1-.2											0	0.00
.2-.3											0	0.00
.3-.4		XXX									3	42.86
.4-.5		XXX									6	85.71
.5-.6		X									7	100.00
.6-.7											7	100.00
.7-.8											7	100.00
.8-.9											7	100.00
.9-1.											7	100.00

MONTHLY WEATHER DATA

MONTH: AUG 1978

LOCATION: SACARDI, CATANO

TOTAL INSOLATION IN BTU/FT**2

DAY	HOUR												TOTAL	
	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6		6-7
1	18.10	58.10	88.40	116.80	161.10	246.50	207.80	104.50	99.80	68.00	63.30	47.20	21.40	1301.0
2	19.70	69.80	120.60	210.80	267.30	302.00	310.40	301.70	270.10	219.40	104.40	33.10	20.40	2249.7
3	8.00	23.40	64.50	127.70	228.50	277.40	208.20	161.00	155.50	98.50	61.20	46.20	30.10	1490.2
4	11.10	57.40	113.10	143.30	141.50	194.10	213.30	231.20	242.30	181.80	147.70	42.60	12.50	1731.9
5	14.40	70.10	149.90	188.10	272.80	288.00	305.20	259.40	273.90	224.30	138.00	60.40	15.00	2259.5
6	26.70	72.20	155.30	226.60	266.40	319.50	322.80	307.50	294.10	216.40	155.60	90.50	15.10	2468.7
7	18.80	86.50	103.40	205.40	251.80	73.40	104.20	52.00	24.00	48.10	72.10	51.10	11.00	1101.8
8	29.40	80.30	162.50	152.50	285.30	309.70	322.40	323.70	259.90	180.30	76.50	71.60	14.20	2268.3
9	19.60	74.70	159.90	192.30	273.30	308.80	187.20	72.50	*****	*****	*****	*****	*****	*****
10	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
11	14.00	65.80	126.00	208.00	257.30	301.00	316.20	306.10	272.40	216.80	149.10	77.20	12.60	*****
12	23.60	66.90	97.10	214.00	270.80	304.70	319.80	314.40	279.10	222.50	155.80	79.20	15.90	2332.8
13	14.60	73.30	136.60	219.70	268.60	310.90	300.90	321.50	274.90	222.40	156.50	86.50	14.30	2369.5
14	9.70	44.50	58.40	102.40	224.50	173.00	143.60	125.50	88.30	55.50	32.60	93.10	13.20	2406.2
15	13.90	81.60	87.20	181.70	250.40	290.40	307.80	299.90	251.40	202.90	121.60	26.20	9.60	1090.3
16	12.70	43.70	37.80	64.90	32.90	10.80	9.10	20.00	29.70	32.30	24.70	8.50	2.80	2124.6
17	17.70	25.30	48.50	93.40	106.50	126.60	127.10	126.50	*****	39.10	41.50	34.80	10.50	329.9
18	17.60	72.90	124.70	133.00	181.10	229.00	243.80	157.30	74.30	47.60	43.80	24.80	6.40	*****
19	12.70	89.40	142.50	156.30	225.80	261.40	125.20	184.80	192.50	200.50	126.40	45.80	6.90	1356.3
20	20.60	69.20	135.70	129.50	275.60	299.50	307.70	307.70	279.10	213.30	115.10	45.20	11.10	1770.2
21	10.60	71.10	110.40	127.10	149.30	175.40	290.70	302.40	264.60	*****	*****	*****	*****	2209.3
22	14.00	68.80	138.30	203.50	147.40	75.00	214.80	114.30	91.60	166.30	121.50	45.30	7.40	*****
23	*****	66.60	130.40	154.70	262.60	281.70	269.10	231.80	255.50	194.30	106.60	36.90	9.00	1408.2
24	22.20	60.50	130.70	204.00	267.50	300.70	310.30	293.10	255.30	195.90	132.20	57.60	6.10	*****
25	14.40	70.50	130.10	217.10	275.50	306.70	318.50	302.90	265.00	203.00	69.40	75.40	7.20	2236.1
26	21.50	53.80	126.00	221.40	275.30	304.10	311.20	296.30	259.00	202.00	117.60	22.60	3.00	2255.7
27	15.20	68.60	151.00	92.90	158.10	146.50	171.30	163.60	173.20	184.10	112.00	44.60	4.20	2213.8
28	13.20	67.20	140.40	177.00	211.50	297.80	306.00	286.50	247.70	191.20	122.00	50.80	5.50	1485.3
29	12.80	66.90	140.20	205.10	264.00	296.50	305.40	289.10	251.50	195.10	126.70	52.50	5.90	2116.8
30	13.30	68.90	140.90	217.70	268.20	303.00	315.40	158.90	41.30	49.60	35.10	18.80	3.10	2211.7
31	15.30	74.70	150.00	219.10	272.80	295.60	319.60	300.20	262.30	181.10	109.70	31.10	3.90	1642.2
32	16.44	66.35	121.51	174.56	230.85	250.66	255.42	230.12	200.32	162.27	103.68	49.17	10.42	2235.4
33	5.14	13.86	32.02	47.07	60.21	85.81	85.07	92.89	91.25	67.51	41.50	22.73	6.60	1871.7
34	8.00	23.40	37.80	64.90	32.90	10.80	9.10	20.00	24.00	32.30	24.70	8.50	2.80	213.3
35	29.40	89.40	162.50	226.60	285.30	319.5	322.80	323.70	294.10	224.30	156.50	93.10	30.10	299.2
36	29.40	89.40	162.50	226.60	285.30	319.5	322.80	323.70	294.10	224.30	156.50	93.10	30.10	2557.3

MEAN
STD D
MIN
MAX

FREQUENCY CHARTS FOR TOTAL / EXTRA RESISTIAL INSULATION

MONTH: AUG 1978

LOCATION: DALARDI, CATANO

BASED ON HOURLY VALUES

RANGE	20	40	60	80	100	120	NO. OF VALUES	% OF TOTAL
0-.1							8	2.09
.1-.2	XXXXXX						25	6.54
.2-.3	XXXXXXXXXX						29	7.59
.3-.4	XXXXXXXXXX						47	12.30
.4-.5	XXXXXXXXXX	XXXXXX					55	14.40
.5-.6	XXXXXXXXXX	XXXXXXXXXX					56	14.66
.6-.7	XXXXXXXXXX	XXXXXXXXXX	XXXXXX				61	15.97
.7-.8	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX				98	25.65
.8-.9	X						3	0.79
.9-1.							0	0.00

CUMULATIVE

RANGE	NO. OF VALUES	% OF TOTAL	400	480	NO. OF VALUES	% OF TOTAL
0-.1	8	2.09			8	2.09
.1-.2	33	8.64			33	8.64
.2-.3	62	16.23			62	16.23
.3-.4	109	28.53			109	28.53
.4-.5	164	42.93			164	42.93
.5-.6	220	57.59			220	57.59
.6-.7	281	73.56			281	73.56
.7-.8	379	99.21			379	99.21
.8-.9	382	100.00			382	100.00
.9-1.	382	100.00			382	100.00

BASED ON DAILY VALUES

RANGE	5	10	15	NO. OF VALUES	% OF TOTAL	20	30	NO. OF VALUES	% OF TOTAL
0-.1	X			1	3.85			1	3.85
.1-.2				0	0.00			1	3.85
.2-.3				0	0.00			1	3.85
.3-.4	XXX			3	11.54			4	15.35
.4-.5	XXX			4	15.36			8	30.77
.5-.6	XXX			3	11.54			11	42.31
.6-.7	XXXXXXXXXX			12	46.15			23	68.46
.7-.8	XXX			3	11.54			26	100.00
.8-.9				0	0.00			26	100.00
.9-1.				0	0.00			26	100.00

MONTHLY DIFFUSE INSULATION IN BTU/FT**2 VS. HOUR

MONTH: AUG 1978 LOCATION: HACARUJ, CATANO

0.00	3.00	6.00	9.00	12.00	15.00	18.00	21.00	24.00
350.00								
341.03								
332.05								
323.08								
314.10								
305.13								
296.15								
287.18								
278.21								
269.23								
260.26								
251.28								
242.31								
233.33								
224.36								
215.38								
206.41								
197.44								
188.46								
179.49								
170.51								
161.54								
152.56								
143.59								
134.62								
125.64								
116.67								
107.69								
98.72								
89.74								
80.77								
71.79								
62.82								
53.85								
44.87								
35.90								
26.92								
17.95								
8.97								
0.00								

0.00 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00

(+) MAXIMUM VALUE (M) MEAN VALUE (-) MINIMUM VALUE

FREQUENCY CHARTS FOR DIFFUSE / TOTAL INSOLATION

MONTH: AUG 1978

LOCATION: MACADI, CATANG

BASED ON HOURLY VALUES

RANGE	0	20	40	60	80	100	120	NO. OF VALUES	% OF TOTAL
0-0.1								2	0.20
0.1-0.2	XXXXXXXXXXXXXXXXXXXX							53	14.10
0.2-0.3	XXXXXXXXXXXXXXXXXXXX							50	14.36
0.3-0.4	XXXXXXXXXXXXXXXXXXXX							49	13.03
0.4-0.5	XXXXXXXXXXXXXXXXXXXX							32	8.51
0.5-0.6	XXXXXXXXXXXXXXXXXXXX							31	8.24
0.6-0.7	XXXXXXXXXXXX							23	6.12
0.7-0.8	XXXXXXXXXXXX							20	5.32
0.8-0.9	XXXXXXXXXXXX							34	9.04
0.9-1.0	XXXXXXXXXXXX							36	9.57

THERE ARE 04 VALUES ABOVE 1.0 (11.70%)

-----CUMULATIVE-----

RANGE	0	40	80	120	160	200	240	280	320	400	480	NO. OF VALUES	% OF TOTAL
0-0.1												0	0.00
0.1-0.2	XXXXXX											53	14.10
0.2-0.3	XXXXXXXXXXXX											107	28.46
0.3-0.4	XXXXXXXXXXXX											156	41.49
0.4-0.5	XXXXXXXXXXXX											188	50.00
0.5-0.6	XXXXXXXXXXXX											219	58.24
0.6-0.7	XXXXXXXXXXXX											242	64.36
0.7-0.8	XXXXXXXXXXXX											262	69.69
0.8-0.9	XXXXXXXXXXXX											296	78.72
0.9-1.0	XXXXXXXXXXXX											332	88.30

BASED ON DAILY VALUES

RANGE	0	5	10	15	20	25	30	NO. OF VALUES	% OF TOTAL
0-0.1								0	0.00
0.1-0.2	XXX							3	14.29
0.2-0.3	XXXXXXXXXX							11	52.38
0.3-0.4	XXXXX							16	76.19
0.4-0.5								16	76.19
0.5-0.6								16	76.19
0.6-0.7	X							17	80.95
0.7-0.8	XX							19	90.48
0.8-0.9	X							20	95.24
0.9-1.0	X							21	100.00

MONTHLY WEATHER DATA

MON H: SEP 1978

LOCATION: PACANJI, CATANDU

TOTAL INSOLATION IN BTU/FT*2

DAY	HOUR												TOTAL	
	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6		6-7
1	5.20	67.90	143.60	156.00	283.60	312.10	306.40	263.90	269.10	203.90	109.50	61.50	2.70	2210.4
2	13.50	71.80	98.50	114.60	195.40	77.90	31.40	69.40	150.70	64.00	*****	*****	*****	*****
3	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
4	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
6	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
7	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
8	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
9	13.20	72.90	146.40	214.30	293.00	300.90	308.70	229.30	246.20	188.40	113.50	37.50	1.10	2175.2
10	14.20	73.80	148.70	215.90	297.20	307.80	293.30	247.90	156.50	96.70	26.70	14.70	1.60	2134.2
11	14.60	71.00	90.70	193.20	62.00	219.20	508.50	110.10	78.90	37.20	26.40	20.80	2.20	1234.0
12	10.70	28.90	122.00	168.40	240.00	269.60	38.50	34.70	104.10	101.00	59.70	26.50	2.20	1206.3
13	26.20	69.40	152.30	210.50	261.20	297.00	302.90	285.60	244.20	195.50	126.70	29.70	1.10	2202.3
14	13.00	54.80	117.60	204.70	181.60	254.10	241.90	220.30	107.70	95.70	34.00	21.60	2.00	1549.0
15	15.70	78.10	134.20	209.10	177.70	300.20	304.30	294.20	248.00	188.70	100.60	34.00	2.30	2093.1
16	6.90	40.60	58.60	185.00	274.00	200.00	244.10	119.30	252.70	66.50	93.40	47.60	3.70	1592.6
17	14.10	69.90	157.60	207.00	196.30	61.60	165.30	245.80	237.60	188.80	115.30	29.70	1.30	1690.3
18	14.80	74.60	149.30	212.90	254.60	144.90	69.80	102.00	118.20	103.10	99.10	33.10	2.10	1439.1
19	6.50	47.40	152.90	127.30	230.30	272.00	116.60	244.50	81.00	131.80	101.50	20.60	1.20	1533.4
20	21.10	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
21	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
22	13.00	59.10	119.10	185.10	281.70	283.10	224.60	47.00	204.90	86.60	54.00	8.60	1.20	1548.0
23	10.70	63.10	140.50	203.70	244.80	97.00	57.90	30.10	15.30	11.50	9.70	7.60	1.00	892.9
24	3.10	27.40	53.40	177.40	265.60	263.70	44.50	124.90	102.00	55.10	34.20	16.10	0.60	1168.8
25	7.70	58.40	136.00	193.70	223.90	192.80	122.80	228.00	64.50	15.30	18.60	8.40	0.10	1276.2
26	9.90	61.10	95.00	190.40	49.20	64.70	186.80	229.30	131.00	78.40	70.40	12.80	*****	*****
27	3.70	20.50	75.00	192.50	251.30	256.90	267.20	238.60	205.40	81.60	41.00	19.00	*****	*****
28	8.90	69.10	135.70	170.00	221.20	269.50	295.50	275.70	197.60	44.70	25.30	12.70	*****	*****
29	14.00	60.90	129.90	206.20	239.10	288.50	304.80	185.80	88.30	76.20	57.20	22.70	*****	*****
30	13.00	71.70	127.70	193.00	262.10	283.20	253.60	54.50	213.70	153.50	75.60	9.50	0.50	1711.4
MEAN	11.92	60.54	126.51	191.60	233.51	238.72	201.26	160.16	166.05	116.70	75.70	23.97	1.59	1626.9
STD D	5.29	15.80	31.39	23.74	55.01	75.37	105.07	107.00	84.57	65.74	39.57	14.57	0.89	211.7
MIN	3.10	27.40	53.40	127.30	62.00	61.60	38.50	30.10	15.30	11.50	9.70	7.60	0.10	447.6
MAX	26.20	78.10	157.60	215.90	283.60	312.10	308.70	294.20	269.10	200.90	126.70	61.50	3.70	2346.3

MONTHLY TOTAL SOLAR INSOLATION IN BT/FT*HR VS. HOUR

MONTH: SEP 1978 LOCATION: MACAMUI, CAIAGO

0.00	3.00	6.00	9.00	12.00	15.00	18.00	21.00	24.00
350.00	341.03	332.05	323.08	314.10	305.13	296.15	287.18	278.21
269.23	260.26	251.28	242.31	233.33	224.36	215.38	206.41	197.44
188.46	179.49	170.51	161.54	152.56	143.59	134.62	125.64	116.67
98.72	89.74	80.77	71.79	62.82	53.85	44.87	35.90	26.92
17.95	8.97	0.00						

0.00 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00

(S) MEAN VALUE PLUS OR MINUS STD (M) MEAN VALUE

MONTHLY WEATHER DATA

MONTH: SEP 1978

LOCATION: BACAJOLI, LAJAN

TOTAL / EXTRATERRESTRIAL INSOLATION

DAY	HOUR (CODE)													
	6-7 (A)	7-8 (B)	8-9 (C)	9-10 (D)	10-11 (E)	11-12 (F)	12-1 (G)	1-2 (G)	2-3 (H)	3-4 (I)	4-5 (J)	5-6 (K)	5-7 (L)	DAILY VALUE
1	0.173	0.527	0.643	0.514	0.779	0.777	0.743	0.716	0.708	0.719	0.528	0.553	0.153	0.082
2	0.450	0.557	0.441	0.378	0.536	0.194	0.076	0.175	0.425	0.221	0.221	0.221	0.221	0.221
3	0.444	0.564	0.655	0.706	0.723	0.753	0.754	0.739	0.708	0.670	0.515	0.537	0.131	0.083
4	0.479	0.572	0.665	0.711	0.735	0.753	0.753	0.738	0.715	0.559	0.496	0.152	0.162	0.672
5	0.490	0.550	0.406	0.636	0.171	0.549	0.755	0.282	0.228	0.133	0.137	0.216	0.240	0.390
6	0.363	0.224	0.546	0.555	0.661	0.676	0.094	0.089	0.302	0.364	0.311	0.283	0.200	0.382
7	0.891	0.530	0.681	0.694	0.720	0.746	0.744	0.735	0.710	0.707	0.505	0.322	0.141	0.694
8	0.443	0.425	0.526	0.675	0.501	0.639	0.545	0.568	0.514	0.340	0.180	0.239	0.279	0.493
9	0.538	0.606	0.601	0.690	0.490	0.755	0.750	0.761	0.726	0.689	0.568	0.582	0.351	0.668
10	0.237	0.317	0.263	0.611	0.757	0.504	0.503	0.504	0.702	0.204	0.502	0.545	0.420	0.504
11	0.487	0.544	0.707	0.084	0.543	0.155	0.449	0.658	0.700	0.070	0.624	0.347	0.240	0.542
12	0.513	0.581	0.670	0.704	0.705	0.366	0.173	0.423	0.349	0.582	0.541	0.394	0.430	0.465
13	0.226	0.370	0.667	0.421	0.638	0.688	0.289	0.638	0.240	0.491	0.558	0.250	0.273	0.495
14	0.739	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330
15	0.461	0.463	0.536	0.615	0.783	0.719	0.701	0.734	0.413	0.279	0.307	0.600	0.573	0.573
16	0.381	0.495	0.634	0.677	0.681	0.227	0.561	0.124	0.614	0.527	0.192	0.111	0.389	0.504
17	0.111	0.216	0.241	0.590	0.740	0.672	0.145	0.074	0.046	0.044	0.055	0.100	0.370	0.292
18	0.278	0.463	0.615	0.646	0.625	0.508	0.112	0.350	0.509	0.210	0.196	0.216	0.341	0.385
19	0.360	0.463	0.430	0.635	0.138	0.165	0.004	0.009	0.195	0.210	0.109	0.115	0.250	0.420
20	0.136	0.162	0.340	0.043	0.704	0.658	0.674	0.609	0.398	0.502	0.411	0.179	0.272	0.420
21	0.329	0.549	0.617	0.569	0.620	0.692	0.747	0.737	0.605	0.316	0.241	0.272	0.272	0.420
22	0.523	0.485	0.591	0.691	0.672	0.742	0.772	0.498	0.271	0.299	0.343	0.180	0.272	0.420
23	0.490	0.573	0.582	0.648	0.738	0.733	0.644	0.107	0.659	0.604	0.457	0.146	0.272	0.420
24	0.412	0.472	0.568	0.634	0.646	0.602	0.490	0.466	0.409	0.420	0.394	0.268	0.297	0.520
25	0.180	0.123	0.141	0.078	0.153	0.189	0.257	0.256	0.245	0.230	0.206	0.141	0.164	0.120
26	0.111	0.216	0.241	0.421	0.171	0.155	0.094	0.079	0.046	0.044	0.055	0.100	0.370	0.292
27	0.891	0.606	0.707	0.711	0.783	0.777	0.755	0.761	0.758	0.719	0.665	0.553	0.602	0.694

MEAN
STD D
MIN
MAX

FREQUENCY CHARTS FOR TOTAL / RATIO/PRESTI / I STATUS

MONTH: SEP 1978

LOCATIONS: PALAMU, GATA

BASED ON DAILY VALUES

RANGE	%	20	40	60	80	100	120	NO. OF VALUES	% OF TOTAL
0-.1		XXXXXXXXXXXX						26	8.52
.1-.2		XXXXXXXXXXXX						52	20.55
.2-.3		XXXXXXXXXXXX						92	36.16
.3-.4		XXXXXXXXXXXX						128	41.97
.4-.5		XXXXXXXXXXXX						170	51.69
.5-.6		XXXXXXXXXXXX						199	65.25
.6-.7		XXXXXXXXXXXX						257	84.26
.7-.8		XXXXXXXXXXXX						304	99.67
.8-.9		XXXXXXXXXXXX						305	100.00
.9-1.								305	100.00

Cumulative

RANGE	%	80	160	240	320	400	480	NO. OF VALUES	% OF TOTAL
0-.1		XXX						26	8.52
.1-.2		XXXXXXXXXX						52	20.55
.2-.3		XXXXXXXXXXXX						92	36.16
.3-.4		XXXXXXXXXXXX						128	41.97
.4-.5		XXXXXXXXXXXX						170	51.69
.5-.6		XXXXXXXXXXXX						199	65.25
.6-.7		XXXXXXXXXXXX						257	84.26
.7-.8		XXXXXXXXXXXX						304	99.67
.8-.9		XXXXXXXXXXXX						305	100.00
.9-1.		XXXXXXXXXXXX						305	100.00

BASED ON DAILY VALUES

RANGE	%	5	10	15	NO. OF VALUES	% OF TOTAL	20	30	NO. OF VALUES	% OF TOTAL
0-.1					0	0.00			1	0.33
.1-.2		X			0	0.00			2	0.66
.2-.3		XXX			1	5.88			1	5.88
.3-.4		XXXX			3	17.65			4	23.53
.4-.5		XXXXX			4	23.53			8	47.08
.5-.6		XXXXX			4	23.53			12	70.59
.6-.7		XXXXX			5	29.41			17	102.14
.7-.8					0	0.00			17	102.14
.8-.9					0	0.00			17	102.14
.9-1.					0	0.00			17	102.14

MONTHLY SUMMARY DATA

MONTH: SEP 1976

STATION: SACRAMENTO, CALIF.

DIFFUSE INSOLATION IN HOURS

DAY	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7	TOTAL
1	3.78	21.47	32.33	56.49	45.51	45.75	62.34	55.99	41.85	46.55	35.92	26.47	3.29	461.60
2	6.59	19.47	40.02	65.15	57.34	61.24	35.18	13.61	125.34	65.15	*****	*****	*****	*****
3	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
4	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
6	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
7	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
8	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
9	9.18	15.57	25.50	20.84	35.14	35.00	38.92	41.85	40.85	43.67	34.74	13.78	1.71	*****
10	5.49	16.35	22.08	27.45	27.33	30.70	32.45	30.53	37.05	37.11	16.47	1.34	1.34	372.5
11	5.75	16.71	43.31	67.22	40.68	84.79	51.61	67.47	74.42	54.53	25.74	28.37	2.82	364.2
12	5.45	16.90	34.16	74.66	84.42	63.81	37.94	34.65	74.31	62.01	45.39	27.21	*****	547.3
13	*****	22.20	39.77	54.66	64.76	53.37	55.49	55.27	50.27	52.34	47.46	10.35	*****	*****
14	7.68	34.40	54.66	75.27	95.16	103.54	115.41	76.38	71.13	79.74	36.60	23.52	*****	*****
15	4.91	45.38	42.94	78.06	86.16	60.22	56.00	67.40	47.21	42.00	33.31	18.40	2.62	500.1
16	4.76	36.48	43.43	84.42	82.72	63.61	50.39	*****	50.14	51.61	52.22	52.33	*****	*****
17	5.73	15.98	47.46	60.86	56.44	61.12	82.47	52.34	43.31	30.74	23.79	12.32	*****	*****
18	6.95	22.20	35.26	55.14	66.12	60.40	68.74	75.77	75.77	67.71	45.65	25.60	*****	*****
19	4.76	31.84	72.71	74.54	119.32	113.46	141.14	68.57	63.61	62.40	77.20	25.91	*****	*****
20	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
21	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
22	9.27	32.70	44.53	62.22	72.59	58.68	85.52	132.25	86.21	80.41	56.65	42.75	*****	*****
23	6.59	24.52	36.55	49.29	63.20	61.24	62.95	53.50	119.93	64.70	*****	12.13	*****	*****
24	2.52	22.28	47.09	62.40	56.20	66.12	44.90	130.74	49.67	62.11	10.01	7.93	*****	*****
25	5.73	32.45	50.51	93.45	69.17	127.61	131.52	117.12	36.25	17.33	39.16	16.74	*****	*****
26	6.59	32.45	73.08	66.07	54.41	67.95	123.95	116.12	76.61	74.15	62.22	*****	*****	*****
27	2.01	14.18	50.68	58.45	91.26	113.34	112.30	73.03	122.65	69.42	*****	*****	*****	*****
28	9.52	36.97	31.72	63.52	67.95	50.97	*****	*****	*****	*****	*****	*****	*****	*****
29	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
30	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

MEAN	6.40	23.30	32.79	51.22	46.74	51.95	40.20	47.40	43.53	46.27	41.77	27.13	2.39	476.0
STD D	1.85	12.53	10.23	23.26	22.95	21.33	12.51	14.41	14.16	6.24	15.01	3.61	0.16	51.2
MIN	3.70	16.35	22.08	26.84	27.33	30.30	32.45	34.53	37.45	38.55	25.74	16.47	1.34	313.3
MAX	8.91	45.35	43.31	78.06	86.86	84.79	62.34	67.47	74.42	61.13	57.10	26.47	3.29	698.6

MONTHLY LEADERSHIP

DATE: SEP 1978

UNIT: 1000000000

DISPENSE / TOTAL I SOCIETY

UNIT

DAY	6-7 (A)	7-8 (B)	8-9 (C)	9-10 (D)	10-11 (E)	11-12 (F)	12-1 (G)	1-2 (H)	2-3 (I)	3-4 (J)	4-5 (K)	5-6 (L)	6-7 (M)	7-8 (N)	8-9 (O)	9-10 (P)	10-11 (Q)	11-12 (R)	12-1 (S)	
1	0.727	0.310	0.225	0.362	0.126	0.107	0.225	0.127	0.156	0.224	0.555	0.430	1.224	1.009						
2	0.480	0.270	0.406	0.508	0.293	0.786	1.057	0.914	0.818	1.010	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888
3	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888
4	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888
5	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888
6	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888
7	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888
8	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888
9	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888
10	0.307	0.222	0.149	0.125	0.134	0.129	0.126	0.145	0.190	0.224	0.403	0.361	1.224	0.150						
11	0.393	0.235	0.478	0.348	0.182	0.101	0.105	0.122	0.151	0.384	0.999	0.943	1.224	0.175						
12	0.513	0.587	0.280	0.443	0.352	0.311	0.966	0.999	0.905	0.917	0.928	0.980	1.224	0.443						
13	0.888	0.320	0.261	0.260	0.233	0.180	0.186	0.194	0.200	0.250	0.375	0.550	0.888	0.888						
14	0.544	0.020	0.465	0.368	0.524	0.408	0.477	0.437	0.753	0.854	1.076	1.090	0.888	0.888						
15	0.567	0.581	0.320	0.373	0.489	0.200	0.184	0.195	0.190	0.227	0.312	0.542	0.888	0.888						
16	0.690	0.094	0.741	0.456	0.302	0.319	0.286	0.226	0.198	0.776	0.559	0.679	0.888	0.888						
17	0.467	0.229	0.301	0.294	0.298	0.092	0.199	0.213	0.162	0.105	0.206	0.415	0.888	0.888						
18	0.470	0.290	0.256	0.259	0.260	0.414	0.857	0.516	0.675	0.657	0.451	0.781	0.888	0.888						
19	0.732	0.672	0.476	0.586	0.518	0.417	0.867	0.562	0.780	0.474	0.783	1.161	0.888	0.888						
20	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888						
21	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888						
22	0.713	0.553	0.374	0.336	0.258	0.207	0.301	0.472	0.537	1.084	1.069	0.856	0.888	0.888						
23	0.516	0.389	0.274	0.242	0.258	0.631	1.207	1.192	0.505	0.971	0.888	1.177	0.888	0.888						
24	0.748	0.600	0.802	0.352	0.212	0.251	1.121	1.147	0.971	1.125	1.294	1.243	0.888	0.888						
25	0.745	0.556	0.371	0.482	0.309	0.642	1.071	1.034	0.971	1.127	1.145	1.107	0.888	0.888						
26	0.805	0.531	0.769	0.507	1.105	1.050	0.664	0.506	0.602	0.495	0.000	0.888	0.888	0.888						
27	0.756	0.867	0.782	0.459	0.363	0.441	0.421	0.308	0.598	0.451	0.888	0.888	0.888	0.888						
28	1.009	0.535	0.234	0.572	0.307	0.211	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888						
29	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888						
30	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888	0.888						
MEAN	0.527	0.316	0.266	0.267	0.334	0.193	0.157	0.247	0.306	0.427	0.503	0.431	1.204	0.250						
STD D	0.143	0.153	0.157	0.129	0.296	0.114	0.041	0.211	0.300	0.351	0.203	0.321	0.220	0.112						
MIN	0.307	0.222	0.149	0.125	0.102	0.101	0.105	0.120	0.151	0.224	0.312	0.300	1.157	0.173						
MAX	0.727	0.501	0.478	0.373	0.785	2.387	0.203	0.513	0.943	1.030	0.975	1.120	1.224	0.443						

FREQUENCY CHARTS FOR DIFFUSE / TOTAL INSULATION

MONTH: SEP 1978

LOCATION: BACARDI, CATANU

BASED ON HOURLY VALUES
REGULAR

RANGE	0	20	40	60	80	100	120	NO. OF VALUES	% OF TOTAL
0-.1	XXXXXX							13	5.12
.1-.2	XXXXXXXXXXXXXX							29	11.42
.2-.3	XXXXXXXXXXXXXX							35	13.76
.3-.4	XXXXXXXXXXXXXX							32	12.50
.4-.5	XXXXXXXXXXXXXX							27	10.53
.5-.6	XXXXXXXXXXXXXX							23	9.06
.6-.7	XXXXXXXXXX							14	5.51
.7-.8	XXXXXXXXXX							16	6.33
.8-.9	XXXXXX							12	4.72
.9-1.	XXXXXX							14	5.51

THERE ARE 39 VALUES ABOVE 1.0 (15.35%)

CUMULATIVE

RANGE	0	20	40	60	80	100	120	NO. OF VALUES	% OF TOTAL
0-.1	X							13	5.12
.1-.2	XXXXX							42	16.54
.2-.3	XXXXXXXXXX							77	30.51
.3-.4	XXXXXXXXXXXXXX							109	42.91
.4-.5	XXXXXXXXXXXXXX							136	53.54
.5-.6	XXXXXXXXXXXXXX							159	62.00
.6-.7	XXXXXXXXXXXXXX							173	68.11
.7-.8	XXXXXXXXXXXXXX							189	74.41
.8-.9	XXXXXXXXXXXXXX							201	79.13
.9-1.	XXXXXXXXXXXXXX							215	84.65

BASED ON DAILY VALUES

RANGE	REGULAR					CUMULATIVE					
	0	5	10	15	NO. OF VALUES	0	10	20	30	NO. OF VALUES	% OF TOTAL
0-.1					0					0	0.00
.1-.2	XX				2	XX				2	40.00
.2-.3	XX				2	XXXX				4	80.00
.3-.4					0	XXXX				4	80.00
.4-.5	X				1	XXXXX				5	100.00
.5-.6					0	XXXXX				5	100.00
.6-.7					0	XXXXX				5	100.00
.7-.8					0	XXXXX				5	100.00
.8-.9					0	XXXXX				5	100.00
.9-1.					0	XXXXX				5	100.00

MAR 27 1979

MONTHLY WEATHER DATA

MONTH: OCT 1978

LOCATION: BACARDI, CATANO

TOTAL INSOLATION IN BTU/FT**2

HOUR

DAY	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7	TOTAL
1	12.60	71.20	133.10	206.20	185.50	206.90	133.50	195.60	238.00	166.00	109.90	19.00	8.70	1686.2
2	13.00	65.40	142.30	174.70	267.50	292.10	310.70	275.60	232.90	174.30	106.20	29.60	12.30	2096.6
3	12.90	64.10	133.30	203.20	257.20	289.10	295.30	278.10	235.20	157.80	*****	13.80	7.60	*****
4	18.20	65.80	134.10	201.90	260.10	292.00	301.00	274.40	235.60	120.20	29.60	8.00	2.70	1944.4
5	19.00	66.80	133.90	206.40	191.60	251.20	40.90	80.00	197.80	175.60	31.90	14.50	4.40	1414.0
6	13.60	76.80	157.60	212.10	262.70	176.50	166.70	241.30	238.30	165.50	89.40	15.90	8.70	1825.1
7	14.40	37.70	133.80	173.20	248.80	287.00	291.10	274.60	238.80	170.20	97.50	14.90	0.40	1982.9
8	16.60	72.10	135.90	207.70	264.60	271.40	233.40	291.10	221.00	175.10	113.10	22.50	6.40	2030.9
9	5.30	20.70	77.90	220.00	260.80	257.70	92.10	163.80	238.80	151.50	27.00	13.60	7.90	1537.1
10	7.80	7.30	15.90	63.10	195.50	184.90	106.70	107.70	59.10	96.50	74.30	41.20	7.90	967.9
11	16.60	61.80	112.80	186.70	245.50	262.70	287.90	287.10	135.90	137.90	53.70	14.80	4.40	1807.0
12	23.00	51.70	95.50	91.00	210.80	*****	302.70	235.80	207.10	131.20	87.90	24.60	8.30	*****
13	5.90	18.50	92.30	115.20	143.90	154.40	228.80	255.90	218.40	142.30	97.70	47.17	0.50	1520.1
14	5.90	38.70	127.50	220.20	235.40	137.40	118.40	89.60	127.10	77.10	43.90	13.80	12.00	1247.0
15	12.90	68.50	146.30	177.90	255.50	260.40	295.60	265.40	233.90	80.00	24.90	11.90	2.50	1836.6
16	11.50	51.90	81.00	84.30	229.90	205.20	*****	*****	*****	*****	*****	*****	*****	*****
17	*****	*****	*****	263.20	236.10	218.80	*****	*****	*****	*****	*****	*****	*****	*****
18	*****	*****	*****	*****	253.40	288.10	280.30	261.80	223.40	155.00	72.90	12.70	2.80	*****
19	11.50	63.20	140.10	197.10	227.10	237.80	266.40	255.30	231.80	151.10	64.00	7.90	4.00	1857.3
20	19.80	68.70	131.80	196.90	247.10	251.90	250.00	237.50	206.60	149.10	55.40	8.90	1.30	1828.0
21	9.00	57.00	121.70	166.40	173.00	165.80	236.10	235.10	216.50	125.40	35.90	26.50	*****	*****
22	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
23	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
24	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	7.00	21.70	68.40	58.50	54.60	72.30	75.10	77.30	69.80	66.30	34.30	10.00	2.90	*****
26	0.90	1.90	9.30	26.20	63.00	60.60	68.60	55.50	57.70	18.20	3.80	7.10	1.50	630.0
27	3.30	15.50	34.40	85.90	68.80	55.30	94.30	52.80	39.50	27.10	27.80	2.30	2.20	370.2
28	3.10	22.60	75.40	106.70	68.10	65.60	220.10	181.80	92.90	58.10	37.50	18.90	0.50	519.1
29	4.20	51.40	130.70	197.30	258.10	270.40	227.60	252.90	184.10	142.00	40.80	7.20	0.00	958.8
30	7.70	61.70	121.50	118.40	158.40	267.30	271.40	235.60	153.10	23.60	37.00	3.90	0.20	1459.8
31	4.40	32.70	128.00	48.70	21.10	115.70	95.90	86.90	113.80	111.40	37.50	13.60	0.90	810.6
MEAN	10.13	45.94	108.32	154.59	189.80	201.43	190.19	192.62	171.29	117.14	56.72	15.97	4.26	1458.4
STD D	5.83	24.41	43.12	63.70	82.70	83.20	90.96	86.27	70.99	52.65	32.23	11.02	3.84	212.2
MIN	0.90	1.90	9.30	26.20	21.10	55.30	40.90	52.80	39.50	18.20	3.80	2.30	0.00	272.2
MAX	19.80	76.80	157.60	220.20	267.50	292.10	310.70	291.10	238.80	175.60	113.10	47.17	12.30	2222.8

MONTHLY TOTAL SOLAR INSOLATION IN BTU/FT**2 VS. HOUR

MONTHS	0.00	3.00	6.00	9.00	12.00	15.00	18.00	21.00	24.00
OCT 1978	350.00	341.03	332.05	323.08	314.10	305.13	296.15	287.18	278.21
	269.23	260.26	251.28	242.31	233.33	224.36	215.38	206.41	197.44
	188.46	179.49	170.51	161.54	152.56	143.59	134.62	125.64	116.67
	107.69	98.72	89.74	80.77	71.79	62.82	53.85	44.87	35.90
	26.92	17.95	8.97	0.00					

(+) MAXIMUM VALUE (M) MEAN VALUE (-) MINIMUM VALUE
 LOCATION: BACARDI, CATANO
 0.00 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00
 ATL STD TIME

MONTHLY TOTAL SOLAR INSOLATION IN BTU/FT*2 VS. HOUR

MONTH: OCT 1978	0.00	3.00	6.00	9.00	12.00	15.00	18.00	21.00	24.00
350.00									
341.03									
332.05									
323.08									
314.10									
305.13									
296.15									
287.18									
278.21									
269.23									
260.26									
251.20									
242.31									
233.33									
224.36									
215.38									
206.41									
197.44									
188.46									
179.49									
170.51									
161.54									
152.56									
143.59									
134.62									
125.64									
116.67									
107.69									
98.72									
89.74									
80.77									
71.79									
62.82									
53.85									
44.87									
35.90									
26.92									
17.95									
8.97									
0.00									

LOCATION: BACARDI, CATANO

0.00 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00
 (S) MEAN VALUE PLUS OR MINUS STD O (M) MEAN VALUE

MONTHLY WEATHER DATA

MONTH: OCT 1978

LOCATION: BACARDI, CATANO

TOTAL / EXTRATERRESTIAL INSOLATION

DAY	HOUR (CODE)												DAILY VALUE	
	6-7 (A)	7-8 (B)	8-9 (C)	9-10 (D)	10-11 (E)	11-12 (F)	12-1 (N)	1-2 (G)	2-3 (H)	3-4 (I)	4-5 (J)	5-6 (K)		6-7 (L)
1	0.479	0.570	0.608	0.694	0.523	0.534	0.340	0.527	0.737	0.658	0.670	0.298	14.364	0.567
2	0.500	0.526	0.652	0.589	0.756	0.756	0.793	0.745	0.724	0.694	0.653	0.476	27.000	0.707
3	0.501	0.517	0.612	0.686	0.728	0.750	0.756	0.754	0.734	0.632	*****	0.227	23.157	*****
4	0.715	0.532	0.617	0.683	0.730	0.759	0.772	0.747	0.738	0.484	0.185	0.148	12.113	0.661
5	0.755	0.543	0.618	0.700	0.505	0.654	0.105	0.218	0.622	0.711	0.202	0.251	31.682	0.482
6	0.547	0.626	0.729	0.721	0.748	0.461	0.430	0.661	0.752	0.674	0.570	0.282	*****	0.625
7	0.586	0.309	0.620	0.590	0.710	0.751	0.753	0.754	0.757	0.697	0.627	0.271	12.644	0.681
8	0.685	0.593	0.632	0.709	0.757	0.712	0.605	0.802	0.703	0.721	0.734	0.420	*****	0.701
9	0.222	0.171	0.363	0.753	0.748	0.678	0.239	0.453	0.763	0.627	0.177	0.260	*****	0.533
10	0.331	0.061	0.074	0.217	0.562	0.488	0.278	0.299	0.190	0.481	0.491	0.809	*****	0.337
11	0.714	0.515	0.529	0.643	0.708	0.695	0.753	0.799	0.438	0.577	0.350	0.298	*****	0.631
12	1.005	0.433	0.449	0.314	0.627	*****	0.794	0.658	0.670	0.552	0.591	0.509	*****	*****
13	0.222	0.156	0.436	0.399	0.417	0.410	0.602	0.717	0.709	0.602	0.663	1.001	*****	0.535
14	0.266	0.328	0.604	0.764	0.684	0.366	0.312	0.252	0.414	0.328	0.300	0.300	*****	0.441
15	0.592	0.583	0.695	0.619	0.744	0.696	0.782	0.749	0.766	0.346	0.172	0.266	*****	0.652
16	0.537	0.444	0.386	0.294	0.672	0.764	*****	*****	*****	*****	*****	*****	*****	*****
17	*****	*****	*****	0.921	0.692	0.588	*****	*****	*****	*****	*****	*****	*****	*****
18	*****	*****	*****	*****	0.745	0.777	0.748	0.746	0.740	0.673	0.516	0.306	*****	*****
19	0.569	0.551	0.676	0.694	0.669	0.643	0.713	0.730	0.771	0.660	0.457	0.195	*****	0.671
20	0.999	0.602	0.638	0.696	0.730	0.683	0.671	0.681	0.690	0.633	0.399	0.225	*****	0.660
21	0.464	0.503	0.592	0.590	0.513	0.451	0.636	0.677	0.726	0.553	0.261	0.687	*****	*****
22	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
23	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
24	0.395	0.197	0.338	0.210	0.164	0.199	0.329	0.225	0.237	0.297	0.255	0.270	*****	*****
25	0.052	0.017	0.046	0.095	0.190	0.167	0.188	0.162	0.249	0.308	0.337	0.202	*****	0.233
26	0.196	0.143	0.172	0.311	0.208	0.153	0.259	0.155	0.197	0.082	0.029	0.067	*****	0.130
27	0.189	0.210	0.378	0.388	0.206	0.182	0.620	0.536	0.320	0.266	0.212	0.414	*****	0.194
28	0.263	0.481	0.659	0.720	0.760	0.753	0.629	0.748	0.637	0.652	0.288	0.575	*****	0.360
29	0.495	0.582	0.615	0.433	0.483	0.747	0.752	0.699	0.532	0.652	0.315	0.224	*****	0.665
30	0.291	0.311	0.651	0.179	0.065	0.324	0.267	0.259	0.397	0.109	0.288	0.124	*****	0.553
31	0.291	0.311	0.651	0.179	0.065	0.324	0.267	0.259	0.397	0.516	0.294	0.441	*****	0.300
MEAN	0.450	0.396	0.519	0.539	0.549	0.533	0.509	0.548	0.564	0.497	0.377	0.350	*****	*****
STD D	0.230	0.199	0.198	0.211	0.231	0.214	0.235	0.235	0.219	0.208	0.195	0.226	*****	*****
MIN	0.052	0.017	0.046	0.095	0.065	0.153	0.105	0.155	0.136	0.082	0.029	0.067	*****	0.130
MAX	0.999	0.626	0.729	0.764	0.760	0.759	0.793	0.802	0.771	0.721	0.734	1.001	*****	*****

FREQUENCY CHARTS FOR TOTAL / EXTRATERRESTIAL INSOLATION

MONTH: OCT 1978

LOCATION: SACARDI, CATANO

BASED ON HOURLY VALUES

RANGE	0	20	40	60	80	100	120	NO. OF VALUES	% OF TOTAL
0-.1	XXXXX							10	3.04
.1-.2	XXXXXXXXXXXXXXX							29	8.81
.2-.3	XXXXXXXXXXXXXXX							45	13.68
.3-.4	XXXXXXXXXXXXXXX							30	9.12
.4-.5	XXXXXXXXXXXXXXX							28	8.51
.5-.6	XXXXXXXXXXXXXXX							40	12.16
.6-.7	XXXXXXXXXXXXXXX							66	20.06
.7-.8	XXXXXXXXXXXXXXX							67	20.36
.8-.9	X							2	0.61
.9-1.	X							2	0.61

THERE ARE 10 VALUES ABOVE 1.0 (3.04%)

RANGE	0	80	160	240	320	400	480	NO. OF VALUES	% OF TOTAL
0-.1	X							10	3.04
.1-.2	XXXX							39	11.85
.2-.3	XXXXXXXXXXXXX							84	25.53
.3-.4	XXXXXXXXXXXXX							114	34.65
.4-.5	XXXXXXXXXXXXX							142	43.16
.5-.6	XXXXXXXXXXXXX							182	55.32
.6-.7	XXXXXXXXXXXXX							248	75.38
.7-.8	XXXXXXXXXXXXX							315	95.74
.8-.9	XXXXXXXXXXXXX							317	96.35
.9-1.	XXXXXXXXXXXXX							319	96.96

BASED ON DAILY VALUES

RANGE	0	5	10	15	NO. OF VALUES	% OF TOTAL	0	10	20	30	NO. OF VALUES	% OF TOTAL
0-.1					0	0.00					0	0.00
.1-.2	XX				2	9.09	XX				2	9.09
.2-.3	X				1	4.55	XXX				3	13.64
.3-.4	XXX				3	13.64	XXXXXXXX				6	27.27
.4-.5	XX				2	9.09	XXXXXXXXXX				8	36.36
.5-.6	XXXX				4	18.18	XXXXXXXXXXXX				12	54.55
.6-.7	XXXXXXX				6	36.36	XXXXXXXXXXXXXXX				20	90.91
.7-.8	XX				2	9.09	XXXXXXXXXXXXXXXXXXXX				22	100.00
.8-.9					0	0.00	XXXXXXXXXXXXXXXXXXXX				22	100.00
.9-1.					0	0.00	XXXXXXXXXXXXXXXXXXXX				22	100.00

MONTHLY DIFFUSE INSOLATION IN BTU/FT**2 VS. HOUR

MONTH: OCT 1978	3.00	6.00	9.00	12.00	15.00	18.00	21.00	24.00
350.00								
341.03								
332.05								
323.08								
314.10								
305.13								
296.15								
287.18								
278.21								
269.23								
260.26								
251.28								
242.31								
233.33								
224.36								
215.38								
206.41								
197.44								
188.46								
179.49								
170.51								
161.54								
152.56								
143.59								
134.62								
125.64								
116.67								
107.69								
98.72								
89.74								
80.77								
71.79								
62.82								
53.85								
44.87								
35.90								
26.92								
17.95								
8.97								
0.00								

LOCATION: BACARDI, CATANO
 (+) MAXIMUM VALUE (M) MEAN VALUE (-) MINIMUM VALUE
 ATL STD TIME
 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00

MONTHLY WEATHER DATA

MONTH: OCT 1978

LOCATION: BACARDI, CATANO

DIFFUSE / TOTAL INSOLATION

DAY	HOUR (CODE)												DAILY VALUE	
	6-7 (A)	7-8 (B)	8-9 (C)	9-10 (D)	10-11 (E)	11-12 (F)	12-1 (N)	1-2 (G)	2-3 (H)	3-4 (I)	4-5 (J)	5-6 (K)		6-7 (L)
1	0.915	0.398	0.206	0.184	0.119	0.109	0.150	0.155	0.138	0.227	0.322	0.690	2.187	0.476
2	0.851	0.304	0.173	0.171	0.349	0.281	0.886	0.326	0.169	0.380	1.132	1.690	2.313	0.476
3	1.696	0.704	0.437	0.308	0.181	0.381	0.582	0.329	0.223	0.241	0.984	1.733	4.203	0.476
4	2.026	1.841	0.862	0.430	0.198	0.191	0.040	0.353	0.360	0.201	0.285	0.855	1.207	0.476
5	1.135	0.768	0.519	0.598	0.524	0.770	1.044	0.506	0.247	0.395	0.918	2.959	6.379	0.476
6	1.703	0.758	0.586	0.908	0.327	0.422	0.376	0.353	0.585	0.335	0.620	1.148	1.329	0.476
7	3.280	0.758	0.648	0.828	0.952	0.806	0.747	0.219	0.374	0.599	0.851	0.493	1.791	0.476
8	1.500	0.398	0.645	0.342	0.492	1.129	1.102	1.115	0.949	1.055	1.339	1.103	1.927	0.476
9	0.878	0.398	0.533	0.440	0.224	0.242	0.222	0.301	0.364	0.770	1.938	5.570	5.570	0.476
10	0.893	0.480	0.500	0.680	0.178	0.259	0.183	0.140	0.209	0.155	0.343	2.191	2.191	0.476
11	0.934	0.471	0.375	0.238	0.197	0.239	0.131	0.161	0.385	0.248	0.365	2.419	2.419	0.476
12	2.116	0.613	0.374	0.343	0.287	0.542	0.340	0.387	0.259	0.368	0.613	1.114	1.015	0.476
13	1.141	0.551	0.361	0.335	0.556	0.470	0.405	0.329	0.332	0.460	1.078	2.088	2.088	0.476
14	2.866	1.739	1.144	1.108	1.103	1.156	1.101	1.163	1.197	1.223	1.204	2.749	1.831	0.476
15	0.524	1.043	1.586	1.158	1.137	1.137	1.200	1.142	0.852	1.180	1.056	2.244	1.337	0.476
16	2.825	1.043	1.077	1.158	1.125	1.125	1.089	1.180	1.171	1.267	1.108	1.796	1.126	0.476
17	0.914	1.728	1.077	0.971	1.118	2.310	0.766	0.852	1.130	1.178	1.139	1.604	4.956	0.476
18	4.242	0.742	0.262	0.182	0.335	0.162	0.210	0.204	0.358	0.391	0.949	1.604	1.976	0.476
19	0.935	0.505	0.482	0.701	0.319	0.146	0.142	0.239	0.289	0.680	0.680	2.881	3.540	0.476
20	2.843	0.794	0.375	0.967	1.163	0.907	0.885	1.090	0.684	0.680	0.680	2.881	4.327	0.476
21	1.664	0.919	0.470	0.315	0.278	0.401	0.757	0.487	0.243	0.335	0.338	1.935	0.838	0.405
22	0.706	0.813	0.354	0.132	0.076	0.132	0.369	0.093	0.018	0.083	0.198	0.939	0.198	0.072
23	0.851	0.304	0.173	0.171	0.198	0.281	0.340	0.387	0.223	0.241	0.613	1.114	0.613	0.333
24	2.116	1.841	0.862	0.430	0.198	0.191	0.040	0.353	0.360	0.201	0.285	0.855	1.207	0.476
25	1.135	0.768	0.519	0.598	0.524	0.770	1.044	0.506	0.247	0.395	0.918	2.959	6.379	0.476
26	1.703	0.758	0.586	0.908	0.327	0.422	0.376	0.353	0.585	0.335	0.620	1.148	1.329	0.476
27	3.280	0.758	0.648	0.828	0.952	0.806	0.747	0.219	0.374	0.599	0.851	0.493	1.791	0.476
28	1.500	0.398	0.645	0.342	0.492	1.129	1.102	1.115	0.949	1.055	1.339	1.103	1.927	0.476
29	0.878	0.398	0.533	0.440	0.224	0.242	0.222	0.301	0.364	0.770	1.938	5.570	5.570	0.476
30	0.893	0.480	0.500	0.680	0.178	0.259	0.183	0.140	0.209	0.155	0.343	2.191	2.191	0.476
31	0.934	0.471	0.375	0.238	0.197	0.239	0.131	0.161	0.385	0.248	0.365	2.419	2.419	0.476
MEAN	1.664	0.919	0.470	0.315	0.278	0.401	0.757	0.487	0.243	0.335	0.338	1.935	0.838	0.405
STD D	0.706	0.813	0.354	0.132	0.076	0.132	0.369	0.093	0.018	0.083	0.198	0.939	0.198	0.072
MIN	0.851	0.304	0.173	0.171	0.198	0.281	0.340	0.387	0.223	0.241	0.613	1.114	0.613	0.333
MAX	2.116	1.841	0.862	0.430	0.198	0.191	0.040	0.353	0.360	0.201	0.285	0.855	1.207	0.476

FREQUENCY CHARTS FOR DIFFUSE / TOTAL INSOLATION

MONTH: OCT 1978

LOCATION: BACARDI, CATANO

BASED ON HOURLY VALUES

RANGE	0	20	40	60	80	100	120	NO. OF VALUES	% OF TOTAL
0-.1	X							2	0.70
.1-.2	XXXXXXXXXXXXXXXXXX							30	10.45
.2-.3	XXXXXXXXXXXXXXXXXX							35	12.20
.3-.4	XXXXXXXXXXXXXXXXXX							44	15.33
.4-.5	XXXXXXXXXX							14	4.86
.5-.6	XXXXXXXXXXXX							18	6.27
.6-.7	XXXXX							9	3.14
.7-.8	XXXXX							11	3.83
.8-.9	XXXXX							11	3.83
.9-1.	XXXXXXXXXX							15	5.23

THERE ARE 98 VALUES ABOVE 1.9 (34.15%)

RANGE	0	80	160	240	320	400	480	NO. OF VALUES	% OF TOTAL
0-.1								2	0.70
.1-.2	XXXX							32	11.15
.2-.3	XXXXXXXXXX							67	23.34
.3-.4	XXXXXXXXXXXXXXXXXX							111	38.60
.4-.5	XXXXXXXXXXXXXXXXXX							125	43.55
.5-.6	XXXXXXXXXXXXXXXXXX							143	49.83
.6-.7	XXXXXXXXXXXXXXXXXX							152	52.96
.7-.8	XXXXXXXXXXXXXXXXXX							163	56.79
.8-.9	XXXXXXXXXXXXXXXXXX							174	60.63
.9-1.	XXXXXXXXXXXXXXXXXX							189	65.85

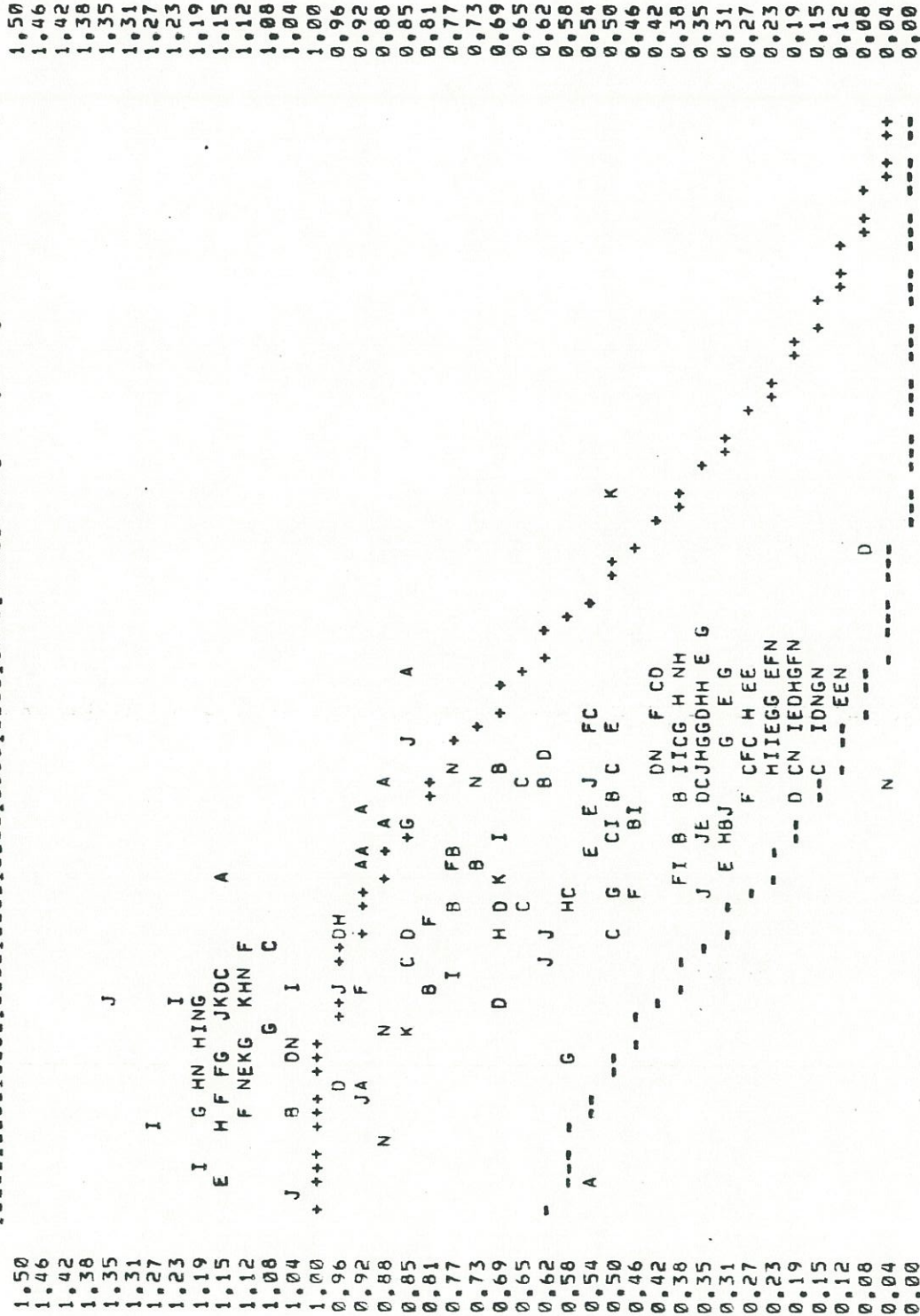
BASED ON DAILY VALUES

RANGE	0	5	10	15	20	30	NO. OF VALUES	% OF TOTAL
0-.1							0	0.00
.1-.2							0	0.00
.2-.3							0	0.00
.3-.4	X						1	33.33
.4-.5	XX						2	66.67
.5-.6							0	0.00
.6-.7							0	0.00
.7-.8							0	0.00
.8-.9							0	0.00
.9-1.							0	0.00

TOTAL / EXTRATERRESTIAL INSOLATION (HORIZONTAL AXIS)
VS. DIFFUSE / TOTAL INSOLATION (VERTICAL AXIS)

MONTH: OCT 1978 LOCATION: RACARDI, CATANO

0.00 0.19 0.38 0.56 0.75 0.94 1.13 1.31 1.50
I=====I=====I=====I=====I=====I=====I=====I=====I=====I



I=====I=====I=====I=====I=====I=====I=====I=====I=====I
0.00 0.19 0.38 0.56 0.75 0.94 1.13 1.31 1.50
FOR LETTER CODES SEE TOTAL / EXTRATERRESTIAL INSOLATION TABLE OR DIFFUSE / TOTAL INSOLATION TABLE
(+) MAXIMUM VALUE CURVE POINTS (-) MINIMUM VALUE CURVE POINTS

KT: TOTAL / EXTRATERRESTIAL *** 59 VALUES ABOVE 1.5 *** 51 VALUES WITHOUT DATA
KD: DIFFUSE / TOTAL *** 161 VALUES ABOVE 1.5 *** 115 VALUES WITHOUT DATA