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SPECTRAL IRRADIANCE DATA
Obtained during WG-15 Sea Trials in the Gulf of California
May 5 to May 16, 1968

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SIO Ref. 68-29

August 1968

Working Group 15 is supported by the Scientific Committee on Oceanic Research, the United Nations Educational, Scientific and Cultural Organization, and by the International Association of Physical Sciences of the Ocean. For these sea trials, the National Science Foundation provided for ship time on the R/V ELLEN B. SCRIPPS as well as support for the authors and their instrumentation. Special equipment and assistance in data handling was provided by the Office of Naval Research.

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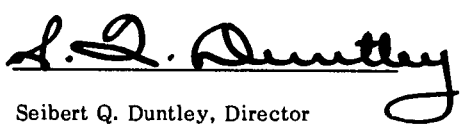

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Visibility Laboratory

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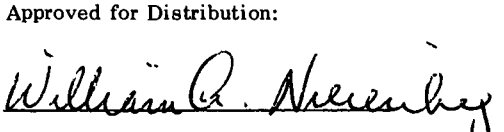

William A. Nierenberg, Director
Scripps Institution of Oceanography

SPECTRAL IRRADIANCE DATA

OBTAINED DURING WG-15 SEA TRIALS IN THE GULF OF CALIFORNIA
MAY 5 TO MAY 16, 1968

The Irradiance Tables give the spectral irradiance data taken with the Scripps Spectroradiometer. All spectral irradiance values are given in units of [μ watts/Cm^2 • nm]. At each depth it takes approximately twenty minutes to scan through the spectrum. Each spectral irradiance value is a ten-second integration. This is done to smooth out any high frequency changes in the irradiance. For stations 3 thru 7 inclusive, the spectral scanning began at 547 or 537 nm. The arrangement of the tables conforms to this fact. Scanning progressed in approximately 5 nm* steps toward the red to 736 nm. The scan was continued from the violet at 362nm toward the green, finishing at 557nm with a few duplicate readings. Beginning with station 8, the scan was started at 498nm and the number of duplicate spectral readings was increased.

The spectral overlap provides a quick field check of the usefulness of the irradiance data. The irradiance value duplicated at the end of a scan may not be the same as at the beginning of the scan because of environmental changes; for example, changes in incident energy or in the properties of the water above the spectroradiometer. Or the values may be different because of experimental difficulties; for example, ship shadowing, tilting of the instrument or instrument malfunction. If any of the latter were suspected the experimental situation was corrected and the spectral scan repeated. So far as we know non-reproducibility in the data reported herein is due to environmental changes only and not to experimental difficulties.

The output, (due to an irradiance input) from the Scripps Spectroradiometer is in volts. This output has been calibrated in air using an Eppley standard of spectral irradiance. The calibration factors are given in Table II. The two values and the discontinuity of the calibration factor at 596nm is due to a minus blue filter (Wratten 24) which is always inserted in front of the entrance slit of the instrument at this wavelength to eliminate overlapping orders. Raw data, obtained in volts, has been multiplied by these calibration factors to obtain the spectral irradiance presented in the irradiance tables. In addition there is a neutral density screen (spectrally flat to within 2%) which can be placed by remote control in front of the entrance slit of the Scripps Spectroradiometer at high irradiance levels. If this screen was in place the data has been multiplied by 13.89.

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* For purposes of calculating total irradiance use $\Delta\lambda = 4.8625$ nm.

The values in the irradiance tables give the absolute spectral irradiance as if the spectroradiometer collector had been in air. To correct for the immersion effect the data given must be multiplied by the air-water correction factors given in Table I. This correction has not been made to the irradiance data.

The table of data for Station No. 8, in addition to the usual spectral irradiance values, gives the spectral irradiance at 498 nm at 15 meters as a function of time from 0616 to 1147. The above surface data taken at Station No. 8 was taken in the usual way and of course does not require an immersion-effect correction. However, a second neutral density screen was required to obtain the above surface data. In Table 8 the values of H have already been multiplied by the appropriate factor to remove the effect of this neutral density screen.

Note that upwelling data is denoted by a + sign, for example, H(10.0 m, +) as in Station No. 6.

With respect to time, we have confirmed that La Paz was on Mountain Standard Time whereas San Diego and Tijuana were on Pacific Daylight Saving Time. These two times register the same on a clock so that clocks on the ship, in La Paz, and in San Diego all registered 12:00 noon at the same position of the sun. On May 11, 1968 the sun was at the meridian at 1221 on the ship's clock.

Table I. Correction Factors (F) for the Collector Immersion Effect

λ (nm)	F	λ (nm)	F
362	1.004	561	1.277
367	1.015	566	1.275
371	1.028	571	1.272
376	1.043	576	1.270
381	1.060	581	1.268
386	1.086	586	1.266
391	1.119	591	1.264
396	1.174	596	1.262
401	1.223	601	1.260
406	1.278	605	1.258
411	1.310	610	1.256
416	1.324	615	1.254
420	1.333	620	1.252
425	1.340	624	1.251
430	1.342	629	1.249
435	1.343	634	1.248
440	1.343	639	1.246
445	1.341	644	1.244
450	1.339	649	1.243
455	1.337	654	1.241
459	1.334	658	1.240
464	1.332	663	1.239
469	1.329	668	1.237
474	1.326	673	1.236
479	1.323	678	1.234
484	1.320	683	1.233
488	1.317	687	1.232
493	1.314	692	1.231
498	1.312	697	1.230
503	1.309	702	1.228
508	1.306	707	1.228
513	1.303	712	1.227
518	1.300	716	1.225
523	1.297	721	1.224
527	1.294	726	1.223
532	1.292	731	1.223
537	1.289	736	1.222
542	1.287	741	1.221
547	1.284		
552	1.282		
557	1.279		

Table II. Calibration Factors

λ (nm)	$\frac{\mu \text{ Watt}}{\text{Cm}^2 \cdot \text{nm}}$ / Volts	λ (nm)	$\frac{\mu \text{ Watt}}{\text{Cm}^2 \cdot \text{nm}}$ / Volts
362	31.38	557	1.086
367	17.63	561	1.119
371	11.29	566	1.126
376	7.97	571	1.162
381	6.04	576	1.207
386	4.50	581	1.278
391	3.41	586	1.339
396	2.64	591	1.421
401	2.15	596	1.528 / 2.29
406	1.824	601	2.11
411	1.591	605	2.06
416	1.433	610	2.10
420	1.267	615	2.19
425	1.153	620	2.29
430	1.038	624	2.39
435	0.978	629	2.54
440	0.924	634	2.69
445	0.878	639	2.85
450	0.850	644	3.07
455	0.815	649	3.25
459	0.789	654	3.50
464	0.778	658	3.73
469	0.762	663	4.02
474	0.756	668	4.36
479	0.752	673	4.69
484	0.753	678	5.11
488	0.752	683	5.59
493	0.750	687	6.12
498	0.761	692	6.81
503	0.767	697	7.36
508	0.773	702	8.13
513	0.790	707	9.07
518	0.806	712	10.26
523	0.827	716	11.65
527	0.836	721	13.17
532	0.865	726	15.22
537	0.900	731	17.24
542	0.921	736	20.02
547	0.971		
552	1.010		

6 MAY 1968 • STATION NO. 3 • LATITUDE 24°34.0' N • LONGITUDE 110°10.8' W

ALL VALUES OF **H** IN μ WATTS / Cm^2 nm

λ (nm)	H(3.0m, -)		H(7.0m, -)		H(11.0m, -)		H(15.0m, -)		H(7.0m, -)	
362		40.94		22.19		7.214		2.049		18.00
367		44.74		27.82		10.40		2.523		17.63
371		48.88		30.48		10.65		3.037		19.09
376		48.90		28.94		11.20		3.403		19.90
381		49.64		31.38		11.85		3.884		20.59
386		42.06		29.37		11.89		3.803		19.34
391		51.34		31.93		13.75		5.008		21.56
396		49.49		30.835		14.55		5.053		22.26
401		77.65		50.65		22.22		8.997		34.49
406		77.20		50.62		21.76		8.701		32.91
411		80.49		52.40		22.10		8.705		33.69
416		80.21		54.84		24.66		9.230		35.59
420		75.32		52.96		23.65		9.148		34.72
425		77.35		53.09		23.72		9.383		33.77
430		74.01		49.51		22.03		8.66		31.77
435		85.18		58.17		26.44		10.78		37.71
440		90.86		62.75		28.34		12.04		40.24
445		99.26		67.13		30.86		13.61		44.26
450		105.5		73.71		33.88		15.22		48.68
455		103.8		74.18		34.83		15.87		48.92
459		106.4		75.58		34.33		17.04		50.55
464		103.4		76.78		35.34		17.53		50.76
469		105.7		77.84		35.47		18.61		51.86
474		112.4		82.21		36.27		19.93		54.46
479		109.7		85.22		38.06		19.06		55.62
484		106.2		79.27		34.48		20.75		52.55
488		106.5		79.51		35.05		21.54		53.41
493		101.7		79.47		35.42		21.80		55.12
498		103.7		77.84		34.01		21.10		52.95
503		101.7		78.08		33.85		21.04		54.02
508		102.4		72.99		30.94		19.31		51.91
513		94.66		67.43		28.85		16.57		48.81
518		96.37		69.11		28.71		16.60		47.66
523		98.73		70.16		30.35		19.46		49.61
527		96.84		69.92		30.23		20.67		51.33
532		98.77		69.42		29.74		21.27		51.54
537		93.33		68.75		27.39		20.27		47.97
542		95.89		67.52		27.54		19.67		48.09
547	82.57	93.42	71.05	65.92	42.20	26.11	19.58	19.03	54.93	46.22
552	85.85	92.20	68.57	65.23	39.86	23.69	18.84	18.25	51.24	45.27
557	79.78	88.14	69.01	61.15	39.22	23.98	17.63		50.43	44.01
	TIME: 1215–1250		TIME: 1255–1330		TIME: 1335–1415		TIME: 1417–1445		TIME: 1445–1515	

6 MAY 1968 • STATION NO. 3 • LATITUDE 24°34.0' N • LONGITUDE 110°10.8' W

ALL VALUES OF **H** IN μWATTS / Cm^2 nm

λ (nm)	H (3.0 m, –)	H (7.0 m, –)	H (11.0 m, –)	H (15.0 m, –)	H (7.0 m, –)
561	77.25	65.62	38.08	17.73	49.27
566	79.14	63.23	35.34	16.29	46.95
571	70.95	59.31	32.53	14.60	44.58
576	79.01	53.54	29.18	12.30	40.71
581	69.23	46.84	23.60	9.289	36.10
586	59.08	37.06	17.50	6.148	29.11
591	53.14	30.87	12.51	3.818	22.29
596	40.865	21.595	7.040	1.667	15.195
601	37.88	15.94	4.127	0.7320	10.64
605	30.26	13.29	4.198	0.4674	8.959
610	31.39	12.20	3.706	0.4242	8.549
615	30.38	11.41	3.245	0.3835	8.118
620	31.18	11.25	3.037	0.3461	7.639
624	25.76	10.87	2.650	0.3146	7.087
629	26.15	10.07	2.396	0.2763	6.657
634	25.65	9.909	2.301	0.2553	6.399
639	25.74	9.301	2.135	0.2219	6.012
644	26.35	8.113	1.791	0.1846	5.397
649	27.14	7.550	1.625	0.1582	4.865
654	23.32	5.544	1.062	0.0937	3.653
658	21.13	4.961	0.8227	0.0655	3.082
663	20.21	4.510	0.7203	0.0589	2.811
668	17.40	4.258	0.6292	0.0626	2.645
673	17.30	3.953	0.6071	0.0668	2.436
678	15.88	3.672	0.5323	0.0597	2.249
683	14.06	3.145	0.4001	0.0492	1.721
687	11.79	2.318	0.2720	0.0304	1.419
692	9.384	1.780	0.1905	0.0280	1.034
697	8.100	1.414	0.1136	0.0013	0.7507
702	5.838	0.8098	0.0504		0.3423
707	4.160	0.4429	0.0233		0.2228
712	2.163	0.1551	0.0078		0.0698
716	0.7769	0.0367			0.0202
721	0.3062	0.0173			0.0113
726	0.0868				
731	0.0228				
736	0.0140				
	TIME: 1215 – 1250	TIME: 1255 – 1330	TIME: 1335 – 1415	TIME: 1417 – 1445	TIME: 1445 – 1515

8 MAY 1968 • STATION NO. 5 • LATITUDE 24°33.3' N • LONGITUDE 110°15.7' W

ALL VALUES OF **H** IN μWATTS / Cm^2 nm

λ (nm)	H (3.0 m, −)		H (7.0 m, −)		H (11.0 m, −)			H (15.0 m, −)		H (19.0 m, −)	
362		46.68		29.62		9.555	9.345		3.113		0.5178
367		54.22		31.33			11.97		4.490		1.0666
371		54.54		33.81		15.34	13.80		5.041		1.1550
376		56.53		33.08			14.31		5.434		1.3310
381		54.53		35.40		16.22	15.81		5.737		1.4266
386		47.52		31.43		15.47	14.74		6.053		1.4324
391		53.55		35.12		16.88	16.94		6.554		1.7439
396		53.32		34.25		16.78	16.94		6.652		1.7028
401		82.53		57.11		27.31	28.62		10.727		2.987
406		80.28		55.08		26.25	27.95		10.038		2.964
411		71.60		55.57		27.49	29.08		10.683		2.997
416		85.91		58.92		29.46	29.65		11.071		3.077
420		84.62		57.30			29.45		10.816		3.069
425		80.28		55.33		28.31	28.61		10.735		3.147
430		74.06		51.01		26.21	26.84		10.179		3.075
435		86.79		61.27		31.81	31.84		12.131		3.820
440		92.30		64.56		36.22	34.11		13.837		4.469
445		101.11		70.05		40.68	37.50		16.154		5.050
450		109.49		77.75		45.36	41.84		18.488		6.097
455		108.11		78.42		46.21	41.95		19.003		6.564
459		111.67		80.91		49.09	44.56		20.15		6.962
464		110.89		82.81		50.43	45.05		20.72		7.529
469		110.95		84.31		51.46			23.15		7.867
474		110.05		88.72		53.82	48.45		25.07		8.872
479		111.42		91.08		55.96	49.52		26.15		9.529
484		104.97		85.32		52.46	46.29		24.43		9.065
488		105.88		87.62		54.45	47.30		25.48		9.241
493		110.05		88.08		55.85	48.30		25.96		9.577
498		103.85		85.13		53.64	47.58		24.69		9.170
503		103.11		86.19		52.75	47.99		25.09		10.196
508		104.02		82.70		51.03	44.71		24.16		9.855
513		96.23		74.92		45.30	41.54		21.43		9.323
518		94.91		73.91		46.17	41.41		21.46		9.473
523		98.29		75.73		48.49	42.62		22.49		10.228
527		100.42		77.29		47.90	43.63		22.74		10.488
532		100.95		75.90		48.41	42.93		22.50		10.365
537	88.01	95.21	75.66	72.44	53.63	46.27	41.20	24.27	21.28	9.936	9.913
542	87.35	95.56	75.53	71.83	53.76	45.18	39.81	23.65	20.83	9.880	9.583
547	88.22	96.57	73.24	69.01	50.74	43.72	39.19	22.17	19.58	8.842	9.245
552	89.35	95.73	71.14	67.42	49.24	42.51	37.30	21.52	18.18		8.758
557	82.11	92.58	69.99	62.66	47.73	40.05	36.47	20.24	17.66	9.016	8.224
	TIME: 1055–1130		TIME: 1143–1207		TIME: 1215–1330			TIME: 1335–1409		TIME: 1415–1453	

8 MAY 1968 • STATION NO. 5 • LATITUDE 24°33.3' N • LONGITUDE 110°15.7' W

ALL VALUES OF **H** IN μWATTS / Cm^2nm

λ (nm)	H(3.0m, -)	H(7.0m, -)	H(11.0m, -)		H(15.0m, -)	H(19.0m, -)
561	80.14	67.25	45.99	38.52	19.30	8.738
566	78.86	63.72	42.99	35.72	17.47	7.925
571	76.50	60.51	40.27	32.58	15.08	6.756
576	71.34	54.53	35.32	29.05	12.71	5.323
581	68.81	49.26	29.84	23.82	11.12	3.706
586	62.35	38.46	22.08	17.84	7.783	2.211
591	57.30	30.70	16.44	12.51	4.384	1.173
596	49.07	21.19	9.643	7.179	2.132	0.4565
601	43.76	15.04	5.482	4.290	1.0362	0.1907
605	41.09	12.36	4.264	3.275	0.7004	0.1112
610	40.57	11.87	3.704	3.016	0.6443	0.1023
615	39.33	11.43	3.438	2.797	0.5834	0.0865
620	39.09	11.12	3.261	2.588	0.5274	0.0763
624	36.54	9.946	3.109	2.324	0.4651	0.0676
629	35.34	9.769	2.799	2.154	0.4079	0.0569
634	35.24	9.614	2.663	2.023	0.3822	0.0487
639	33.21	8.944	2.145	1.870	0.3229	0.0436
644	29.97	8.406	1.815	1.638	0.2809	0.0347
649	29.09	7.616	1.631	1.439	0.2382	0.0254
654	23.99	5.618	1.098	0.9489	0.1547	0.01190
658	24.06	4.875	0.8415	0.7456	0.1071	0.00933
663	23.78	4.374	0.7156	0.6267	0.0961	0.00965
668	22.195	4.282	0.6414	0.5925	0.0972	0.01570
673	19.46	3.963	0.5722	0.5464	0.1032	0.01876
678	22.01	3.674	0.5049	0.4890	0.0986	0.01789
683	13.34	3.114	0.3885	0.3740	0.0755	
687	14.80	2.466	0.2539	0.2760	0.0367	
692	15.23	1.820	0.1682	0.1655	0.0224	
697	13.40	1.075	0.1192	0.0821		
702	9.723	0.799	0.0553	0.0504		
707	7.963	0.3664	0.0272	0.0249		
712	4.761	0.1313	0.0133	0.0113		
716	2.365	0.0140				
721	1.115					
726	0.3866					
	TIME: 1055–1130	TIME: 1143–1207	TIME: 1215–1330		TIME: 1335–1409	TIME: 1415–1453

9 MAY 1968 • STATION NO. 6 • LATITUDE 26°02.5' N • LONGITUDE 110°18.0' W

ALL VALUES OF **H** IN μWATTS/ Cm^2 nm

λ (nm)	H (3.0 m, -)		H (5.0 m, -)		H (10.0 m, -)		H (15.0 m, -)		H (20.0 m, -)	
362		3.794		37.09		20.43		6.690		1.318
367		56 .35		47.65		22.39		9.384		2.193
371		51.835		46.29		25.16		10.72		2.791
376		48.05		46.38		27.17		12.40		3.466
381		51.60		46.98		29.57		13.37		3.868
386		46.50		40.57		26.64		13.02		4.248
391		52.95		47.32		30.31		15.95		5.171
396		51.30		46.31		30.73		16.12		5.623
401		83.89		76.15		50.86		28.07		10.67
406		77.88		72.54		49.66		26.88		10.08
411		79.51		78.25		53.26		29.06		10.95
416		84.53		80.39		54.88		31.36		11.90
420		74.86		76.91		53.64		30.96		12.28
425		81.12		74.98		53.25		30.96		12.64
430		78.01		69.74		49.73		29.59		11.99
435		85.30		84.90		58.40		35.35		14.43
440		91.66		88.85		63.23		38.11		15.82
445		100.81		96.84		70.31		42.22		17.74
450		109.14		103.93		75.44		46.29		19.59
455		97.63		103.23		76.64		46.76		19.87
459		100.33		103.37		78.36		49.33		21.25
464		102.79		106.83		78.89		49.71		21.77
469		97.85		105.78		79.50		51.32		22.90
474		99.13		108.89		83.19		53.60		24.60
479		104.34		108.00		83.95		55.37		26.24
484		95.79		103.57		79.22		51.79		25.45
488		94.59		100.74		79.48		53.42		26.76
493		97.89		104.11		80.68		53.78		26.84
498		96.72		102.40		76.30		50.39		25.93
503		97.84		101.74		74.99		49.50		25.47
508		86.71		98.44		69.59		45.52		22.49
513		93.32		91.39		63.80		39.92		20.40
518		91.04		88.11		61.06		38.53		20.10
523		94.54		90.29		63.49		40.08		20.60
527		86.94		90.81		65.03		40.56		20.63
532		94.04		89.39		63.31		38.95		20.87
537	84.519	85.31	88.37	87.63	62.39	60.97	40.87	36.63	22.64	19.69
542	85.357	87.21	87.65	85.97	60.56	58.99	40.26	35.79	22.32	19.323
547	64.20	87.57	87.03	84.83	60.02	54.83	37.02	33.54	19.93	17.72
552	50.01	87.83	88.02	84.66	58.08	51.64	35.66	32.22	18.17	17.02
557	49.34	86.34	83.43	79.71	55.36	51.41	34.08	30.00	17.45	16.34
	TIME: 0952–1020		TIME: 1042–1112		TIME: 1115–1143		TIME: 1153–1220		TIME: 1226–1252	

9 MAY 1968 • STATION NO. 6 • LATITUDE 26°02.5' N • LONGITUDE 110°18.0' W

ALL VALUES OF **H** IN μ WATTS / Cm^2 nm

λ (nm)	H (3.0 m, -)	H (5.0 m, -)	H (10.0 m, -)	H (15.0 m, -)	H (20.0 m, -)
561	51.15	81.99	53.16	32.19	16.60
566	50.00	77.76	49.89	29.87	15.31
571	45.52	75.62	46.48	26.79	13.14
576	49.09	70.73	41.58	22.90	10.96
581	39.71	65.20	34.30	17.41	7.619
586	34.71	54.40	25.96	11.86	4.551
591	37.58	46.48	19.42	7.58	2.596
596	29.07	34.56	11.79	3.702	0.9447
601	23.42	27.55	7.474	1.890	0.3946
605	22.58	24.12	5.819	1.261	0.2305
610	32.32	22.84	5.586	1.024	0.2029
615	25.76	22.30	5.168	1.056	0.1811
620	19.15	22.30	4.878	0.9588	0.1532
624	16.37	20.78	4.503	0.8640	0.1396
629	17.29	20.00	4.135	0.7633	0.1194
634	17.79	19.32	3.989	0.7072	0.1076
639	16.03	17.93	3.620	0.6316	0.0909
644	17.27	16.89	3.125	0.5023	0.0737
649	16.79	16.74	2.798	0.4232	0.0562
654	14.49	13.42	2.058	0.2555	0.0326
658	15.28	12.15	1.574	0.1869	0.0235
663	18.43	11.03	1.423	0.1540	0.0314
668	20.29	11.21	1.325	0.1448	0.0536
673	17.00	9.933	1.229	0.1332	0.0727
678	18.10	9.310	1.094	0.1160	0.0767
683	15.36	7.988	0.8600	0.0794	0.0593
687	15.68	6.359	0.5826	0.0257	0.0257
692	13.61	5.271	0.4059	0.0238	0.0157
697	11.455	4.077	0.2605	0.0110	0.0081
702	10.06	2.837	0.0610	0.0033	0.0041
707	7.700	1.759			
712	4.153	0.7828			
716	1.774	0.1223			
721	0.7401	0.0500			
726	0.1872	0.0122			
731	0.0224				
736	0.0120				
	TIME: 0952–1020	**TIME: 1042–1112**	**TIME: 1115–1143**	**TIME: 1153–1220**	**TIME: 1226–1252**

9 MAY 1968 • STATION NO. 6 • LATITUDE 26°02.5' N • LONGITUDE 110°18.0' W

ALL VALUES OF **H** IN μWATTS/ Cm^2 nm

λ (nm)	H (10.0 m, −)		H (10.0 m, +)		H (5.0 m, +)	
362		13.44		0.1946		0.5021
367		20.08		0.4178		0.7211
371		21.93		0.5114		0.8185
376		22.61		0.5802		0.8863
381		24.93		0.6457		0.9555
386		24.99		0.6462		0.9248
391		27.22		0.7863		1.0905
396		27.19		0.8271		1.1154
401		44.81		1.302		1.661
406		44.16		1.311		1.755
411		47.72		1.379		1.812
416		49.66		1.465		1.904
420		48.80		1.457		1.883
425		48.00		1.439		1.836
430		44.16		1.352		1.714
435		53.35		1.581		1.990
440		57.13		1.727		2.153
445		64.31		1.893		2.349
450		68.44		2.027		2.503
455		67.42		2.045		2.515
459		69.85		2.116		2.582
464		70.28		2.157		2.618
469		71.34		2.217		2.675
474		75.80		2.327		2.814
479		77.56		2.397		2.908
484				2.260		2.742
488		74.68		2.315		2.795
493		74.35		2.314		2.789
498		71.20		2.172		2.600
503		70.40		2.072		2.476
508		65.66		1.779		2.187
513		59.62		1.488		1.825
518		57.11		1.443		1.763
523		59.57		1.470		1.822
527		61.44		1.449		1.766
532		59.94		1.406		1.679
537	55.00	55.84	1.229	1.262	1.625	1.553
542	53.87	55.64	1.169	1.212	1.542	1.497
547	53.00	52.90	1.043	1.063	1.412	1.350
552	51.81	50.85	.959	0.942	1.261	1.223
557	49.24	49.13	0.8927	0.918	1.217	1.176
	TIME: 1256–1319		TIME: 1330–1355		TIME: 1402–1430	

9 MAY 1968 • STATION NO. 6 • LATITUDE 26°02.5' N • LONGITUDE 110°18.0' W

ALL VALUES OF **H** IN μWATTS/ Cm^2 nm

λ (nm)	H (10.0 m, −)	H (10.0 m, +)	H (5.0 m, +)
561	47.74	0.8361	1.142
566	44.49	0.6761	1.014
571	41.03	0.5451	0.8666
576	37.53	0.4834	0.6387
581	29.97	0.3076	0.5072
586	23.21	0.1943	0.3489
591	16.85	0.1145	0.2261
596	10.65	0.0640	0.1190
601	6.656	0.0344	0.0713
605	5.296	0.0297	0.0602
610	4.883	0.0263	0.0554
615	4.669	0.0232	0.0515
620	4.324	0.0195	0.0476
624	4.044	0.0167	0.0413
629	3.795	0.0140	0.0376
634	3.586	0.0126	0.0350
639	3.286	0.0006	0.0339
644	2.916		0.0279
649	2.553		0.0244
654	1.825		0.0154
658	1.492		0.0149
663	1.321		0.0181
668	1.237		0.0249
673	1.135		0.0314
678	1.002		0.0312
683	0.822		0.0207
687	0.541		0.0153
692	0.3650		0.0095
697	0.2377		0.0059
702	0.1024		
707	0.0372		
712	0.0072		
	TIME: 1256–1319	**TIME: 1330–1355**	**TIME: 1402–1430**

10 MAY 1968 • STATION NO. 7 • LATITUDE 25°51.3' N • LONGITUDE 111°02.6' W

ALL VALUES OF **H** IN μ WATTS / Cm^2 nm

λ (nm)	H (15.0 m, −)		H (15.0 m, −)		H (15.0 m, −)		H (15.0 m, −)		
362		1.2960		1.3085		1.189		2.030	
367		2.163		2.3483		1.911		3.064	
371		2.409		2.5662		2.374		3.133	
376		2.896		3.0812		3.041		3.674	
381		3.251		3.477		3.385		4.113	
386		3.489		3.724		3.348		4.099	
391		4.179		4.434		4.362		5.361	
396		4.384		4.679		4.457		5.355	
401		7.858		8.492		7.747		9.746	9.517
406		7.480		8.122		7.590		9.209	9.270
411		7.942		8.855		8.084		9.978	10.26
416		8.788		8.328		8.921		10.58	10.83
420		9.049		9.524		8.991		10.81	11.12
425		9.367		9.880		9.332		11.18	11.23
430		8.992		9.569		9.075		10.79	11.15
435		11.084		11.60		11.35		13.25	13.31
440		12.685		13.36		12.66		14.96	15.42
445		14.608		15.53		14.91		17.50	18.01
450		16.82		18.04		17.39		20.35	20.65
455		17.74		19.21		18.46		21.16	21.46
459		18.92		20 26		19.57		22.68	22.85
464		20.17		21.50		21.10		23.78	24.33
469		21.32		23.08		22.64		25.00	26.06
474		23.23		24.90		24.49		27.55	28.17
479		24.88		26.74		26.00		29.44	29.90
484		23.87		25.59		25.01		28.37	28.76
488		24.84		26.78		26.00		29.97	30.27
493		25.49		27.49		26.84		30.54	30.83
498		24.76		26.36		26.55		29.92	30.63
503		25.24		26.90		26.96		30.26	30.73
508		24.07		25.60		25.73		29.15	29.44
513		21.63		23.42		23.54		26.39	26.87
518		21.90		23.60		24.01		26.98	27.11
523		23.56		25.45		25.54		29.06	29.00
527		24.04		25.64		25.71		29.60	29.13
532		23.31		25.91		26.08		29.63	28.67
537		22.17	23.03	24.07	23.92	24.27		27.77	27.19
542		21.59	22.39	23.62	23.92	23.44		27.93	26.66
547	19.72	21.14	21.44	22.28	22.08	22.55	25.43	25.97	25.26
552	19.12	20.00	20.56	21.18	21 53	22.04	24.96	25.16	24.86
557	18.11	19.02	20.62	20.45	20.57	20.83	23.65	24.29	23.72
	TIME: 1003–1027		**TIME: 1032–1056**		**TIME: 1103–1130**		**TIME: 1200–1221**		

10 MAY 1968 • STATION NO. 7 • LATITUDE 25°51.3' N • LONGITUDE 111°02.6' W

ALL VALUES OF H IN μWATTS / Cm^2 nm

λ (nm)	H (15.0 m, -)	H (15.0 m, -)	H (15.0 m, -)	H (15.0 m, -)	
561	17.58	19.78	20.05	22.90	22.68
566		17.91	18.18	21.21	21.05
571	14.39	16.37	16.18	18.97	18.97
576	12.02	13.67	13.32	16.18	16.26
581	8.957	10.42	10.39	12.46	12.35
586	5.903	6.966	6.539	8.775	8.076
591	3.528	4.310	4.298	5.194	5.126
596	1.545	1.871	1.974	2.471	2.490
601	9.686	0.8767	0.9130	1.170	
605	6.301	0.5782	0.6314	0.8024	
610	5.703	0.5244	0.5702	0.7319	
615	5.123	0.4741	0.5090	0.6690	
620	4.609	0.4285	0.4553	0.6091	
624	4.110	0.3781	0.4156	0.5370	
629	3.630	0.3315	0.3660	0.4790	
634	3.408	0.3110	0.3357	0.4473	
639	3.108	0.2727	0.2967	0.3907	
644	2.490	0.2164	0.2459	0.3199	
649	2.140	0.1843	0.2077	0.2750	
654	1.225	0.1082	0.1211	0.1691	
658	0.9274	0.0802	0.0854	0.1153	
663	0.7873	0.0647	0.0704	0.0997	
668	0.7812	0.0641	0.0759	0.1003	
673	0.7557	0.0638	0.0769	0.0971	
678	0.7169	0.0583	0.0690	0.0935	
683	0.5358	0.0419	0.0520	0.0710	
687	0.2635	0.0196	0.0294	0.0392	
692	0.1419	0.0102	0.0184	0.0184	
697	0.1022	0.0059	0.0088	0.0110	
702	0.0678				
	TIME: 1003–1027	TIME: 1032–1056	TIME: 1103–1130	TIME: 1200–1221	

10 MAY 1968 • STATION NO. 7 • LATITUDE 25°51.3' N • LONGITUDE 111°02.6' W

ALL VALUES OF **H** IN μWATTS/Cm^2 nm

λ (nm)	H(6.0m, −)		H(11.0m, −)		H(16.0m, −)		H(21.0m, −)	
362		27.16		7.026		2.357		0.2542
367		35.79		9.095		2.585		0.5166
371		41.51		10.35		3.137		0.6492
376		43.96		11.76		3.630		0.8345
381		43.97		12.88		4.253		1.0334
386		36.26		12.76		4.319		1.1435
391		42.89		14.50		5.405		1.486
396		39.86		14.68		5.837		1.638
401		65.16		25.02		9.699		2.867
406		63.13		24.64		9.587		2.958
411		66.71		25.17		10.73		3.278
416		70.01		27.88		11.33		3.811
420		66.99		27.40		11.53		4.057
425		64.71		27.18		12.01		4.077
430		60.06		25.74		11.75		4.137
435		71.58		31.63		14.25		5.111
440		76.48		34.04		16.28		5.997
445		85.44		38.15		18.48		7.041
450		90.68		42.68		21.36		7.864
455		90.91		43.87		22.51		8.280
459		94.39		45.91		24.13		9.078
464		93.40		47.47		25.34		9.544
469		95.42		48.29		26.32		10.31
474		103.72		51.99		28.67		11.32
479		100.88		54.62		30.21		12.50
484		91.66		50.74		28.80		12.12
488		96.93		51.51		30.09		12.85
493		95.61		52.85		30.64		13.03
498		93.46		50.56		29.30		12.75
503		94.27		50.75		29.43		13.12
508		90.60		48.43		27.44		11.90
513		86.47		43.51		24.56		10.75
518		84.70		43.74		24.91		10.90
523		88.95		47.06		26.45		11.55
527		84.86		46.66		26.28		12.00
532		86.11		46.72		26.50		12.01
537	80.06	81.70	45.79	44.14		24.59		11.23
542	83.41	81.38	45.77	43.38		24.27		11.08
547	79.74	77.67	43.61	41.29	24.54	22.45	10.55	10.24
552	79.66	79.82	41.58	40.92	23.87	21.58	10.01	9.719
557	77.21	75.82	40.61	39.11	22.53	20.50	9.407	9.244
	TIME: 1246–1310		**TIME: 1317–1338**		**TIME: 1345–1410**		**TIME: 1413–1431**	

10 MAY 1968 • STATION NO. 7 • LATITUDE 25°51.3' N • LONGITUDE 111°02.6' W

ALL VALUES OF **H** IN μWATTS/ Cm^2 nm

λ (nm)	H(6.0 m, −)	H(11.0 m, −)	H(16.0 m, −)	H(21.0 m, −)
561	72.52	39.06	21.14	9.113
566	74.17	36.81	19.86	8.192
571	69.13	34.20	17.72	7.084
576	63.69	30.79	14.89	5.638
581	61.39	25.69	11.32	3.895
586	54.76	19.40	7.644	2.211
591	45.53	13.46	4.571	1.183
596	34.15	7.856	2.127	0.4134
601	27.84	4.909	1.011	0.1498
605	24.22	3.667	0.6695	0.0857
610	23.90	3.330	0.5821	0.0771
615	22.67	3.054	0.5291	0.0670
620	21.91	2.852	0.4898	0.0598
624	21.13	2.766	0.4343	0.0519
629	20.28	2.515	0.3856	0.0452
634	19.53	2.324	0.3521	0.0420
639	18.66	2.071	0.3089	0.0333
644	16.93	1.893	0.2514	0.0261
649	16.84	1.634	0.2051	0.0198
654	13.03	1.101	0.1225	0.0116
658	13.19	0.8534	0.0843	
663	11.91	0.7192	0.0716	
668	11.11	0.6653	0.0715	
673	10.40	0.6214	0.0680	
678	10.58	0.5524	0.0598	
683	9.160	0.4640	0.0397	
687	7.454	0.3152	0.0226	
692	6.032	0.1941	0.0143	
697	4.864	0.1207		
702	3.389	0.0496		
707	2.167	0.0181		
712	1.028	0.0041		
716	0.2575			
721	0.0355			
726	0.0061			
	TIME: 1246–1310	TIME: 1317–1338	TIME: 1345–1410	TIME: 1413–1431

11 MAY 1968 • STATION NO. 8 • LATITUDE 25°57.0' N • LONGITUDE 111°08.6' W

ALL VALUES OF H IN μ WATTS / Cm^2 nm

λ (nm)	H (15.0 m, −)	H (15.0 m, −)	H (15.0 m, −)	H (15.0 m, −)
362	0.0126	0.0753	0.2479	0.5052
367	0.0335	0.228	0.4372	0.7087
371	0.0542	0.2845	0.5374	0.8321
376	0.0869	0.3531	0.6336	1.0074
381	0.1105	0.4065	0.7447	1.1826
386	0.1220	0.4185	0.7902	1.2384
391	0.1579	0.5381	0.9875	1.5966
396	0.1708	0.5819	1.0763	1.7086
401	0.3219	1.0447	1.9350	2.979
406	0.3225	1.0399	1.8928	3.020
411	0.3565	1.1320	2.057	3.242
416	0.3746	1.2331	2.212	3.570
420	0.3962	1.2578	2.279	3.596
425	0.4106	1.2825	2.381	3.724
430	0.4001	1.2480	2.330	3.549
435	0.4963	1.5932	2.892	4.435
440	0.5804	1.8675	3.335	5.157
445	0.6993	2.189	3.897	6.050
450	0.8560	2.507	4.660	6.975
455	0.9085	2.611	4.978	7.433
459	0.9673	2.884	5.390	7.993
464	1.036	3.019	5.785	8.439
469	1.121	3.194	6.229	8.867
474	1.215	3.403	6.517	9.609
479	1.296	3.642	6.653	10.347
484	1.271	3.590	6.472	10.009
488	1.345	3.734	6.738	10.368
493	1.390	3.856	6.911	10.657
498	1.397	2.916 3.787	5.022 6.723	7.547 10.285
503	1.421	2.902 3.802	4.939 6.754	7.588 10.295
508	1.356	2.688 3.508	4.473 6.279	6.999 9.528
513	1.259	2.488 3.180	4.059 5.643	6.516 8.701
518	1.268	2.512 3.194	4.094 5.613	6.571 8.691
523	1.351	2.665 3.432	4.334 5.855	7.000 9.294
527	1.339	2.664 3.565	4.504 6.066	7.166 9.481
532	1.326	2.619 3.561	4.490 6.033	7.021 9.295
537	1.222	2.430 3.259	4.162 5.833	6.684 8.682
542	1.176	2.395 3.079	4.180 5.607	6.565
547	0.4881	2.122	3.962	6.142
552	0.4719	2.018	3.861	5.915
557	0.4428	1.904	3.573	5.636
	TIME: 0602–0620	TIME: 0630–0651	TIME: 0700–0724	TIME: 0730–0754

11 MAY 1968 • STATION NO. 8 • LATITUDE 25°57.0' N • LONGITUDE 111°08.6' W

ALL VALUES OF **H** IN μ WATTS / Cm^2 nm

λ (nm)	H (15.0 m, −)	H (15.0 m, −)	H (15.0 m, −)	H (15.0 m, −)
561	0.4196	1.809	3.312	5.578
566	0.3760	1.615	2.837	5.144
571	0.3132	1.379	2.353	4.412
576	0.2548	1.150	1.919	3.577
581	0.2047	0.8960	1.408	2.611
586	0.1265	0.5965	0.9230	1.603
591	0.0668	0.2941	0.5030	0.8697
596	0.02974	0.1239	0.2114	0.3746
601	0.01055	0.05106	0.09200	0.1587
605	0.00618	0.03049	0.05995	0.09867
610	0.00567	0.02919	0.05607	0.08820
615	0.00525	0.02562	0.04884	0.07665
620		0.02198	0.04282	0.06824
624		0.01745	0.03681	0.05951
629		0.01372	0.03175	0.05283
634		0.01211	0.02986	0.04950
639		0.00855	0.02565	0.04133
644		0.00737	0.02149	0.03224
649		0.00553	0.01755	0.02438
654		0.00315	0.01085	0.01085
658			0.00858	0.00783
	TIME: 0602–0620	**TIME: 0630–0651**	**TIME: 0700–0724**	**TIME: 0730–0754**

11 MAY 1968 • STATION NO. 8 • LATITUDE 25°57.0' N • LONGITUDE 111°08.6' W

ALL VALUES OF **H** IN μWATTS/Cm^2 nm

λ (nm)	H (15.0 m, −)		H (15.0 m, −)		H (Surface)	
362		0.3614		0.8473		85.28
367		0.5961		1.2447		89.41
371		0.8073		1.5027		85.73
376		1.0250		1.8554		82.83
381		1.1156		2.043		87.34
386		1.1983		2.148		80.22
391		1.5156		2.655		92.01
396		1.6607		2.718		89.10
401		3.000		4.727		156.62
406		2.947		4.679		155.55
411		3.128		5.339		166.11
416		3.416		5.366		171.47
420		3.477		5.503		167.19
425		3.452		5.665		163.97
430		3.392		5.515		149.43
435		4.269		6.957		176.07
440		4.831		7.887		183.72
445				9.100		195.66
450		6.731		10.694		208.37
455		6.725		11.300		204.69
459		7.441		11.931		205.92
464		8.678		12.381		200.25
469		9.464		13.134		201.48
474		10.635		14.007		204.69
479		11.184		14.883		206.38
484		10.430		14.517		193.21
488		11.325		15.993		193.67
493		11.897		17.665		197.35
498	10.105	12.955	13.190	17.755		191.53
503	10.375	13.049	13.574	17.767		192.91
508	9.773	12.217	12.931	16.507		192.45
513	9.204	11.217	11.869	15.090		184.64
518	9.360	11.040	12.326	15.233		179.13
523	10.231	11.427	13.258	16.161		187.70
527	10.215	11.568	13.559	16.645		188.16
532	10.032	11.064	13.786	16.387		188.16
537	9.788	9.952	13.122	14.835		182.96
542	9.652	9.089	12.387			185.71
547	9.100		11.548		181.27	186.63
552	8.828		11.156		182.34	186.48
557	7.509		10.666		177.90	182.65
	TIME: 0800–0826		**TIME: 0830–0855**		**TIME: 1209–1235**	

11 MAY 1968 • STATION NO. 8 • LATITUDE 25°57.0' N • LONGITUDE 111°08.6' W

ALL VALUES OF **H** IN μWATTS / Cm^2 nm

λ (nm)	H (15.0 m, −)	H (15.0 m, −)	H (Surface)
561	8.155	10.336	177.14
566	7.523	9.334	173.77
571	6.761	8.352	174.69
576	5.623	6.830	175.15
581	4.221	5.320	176.22
586	2.585	3.429	170.71
591	1.511	1.963	167.64
596	0.6505	0.9017	166.27
601	0.2747	0.4418	166.42
605	0.1712	0.2985	168.10
610	0.1646	0.2659	165.50
615	0.1513	0.2297	164.89
620	0.1383	0.19992	165.19
624	0.1221	0.17973	161.21
629	0.1064	0.15646	160.60
634	0.09845	0.14445	163.05
639	0.08664	0.12569	164.58
644	0.07368	0.10315	164.43
649	0.06078	0.08678	163.20
654	0.03465	0.04760	156.01
658	0.02574	0.03171	162.59
663	0.02291	0.02894	164.74
668	0.02354	0.02965	164.12
673	0.03236	0.03095	162.29
678	0.03270	0.028 62	161.21
683	0.02571	0.02068	147.74
687	0.01408	0.01102	142.38
692	0.01089	0.00817	150.34
697	0.00588	0.00294	149.43
702			148.35
707			150.34
712			147.13
716			125.85
721			126.46
	TIME: 0800–0826	TIME: 0830–0855	TIME: 1209–1235

11 MAY 1968 • STATION NO. 8 • LATITUDE 25°57.0' N • LONGITUDE 111°08.6' W

ALL VALUES OF **H** IN μ WATTS / Cm^2 nm

TIME	H (15.0 m, −)	TIME	H (15.0 m, −)
0616	1.397	0755	10.038
0623	1.633	0756	10.399
0624	1.621	0757	10.185
0625	1.688	0758	9.469
0626	1.838	0759	9.406
0627	2.540	0800	10.105
0628	2.730	0825	12.955
0629	2.833	0830	13.190
0630	2.916	0854	17.755
0649	3.787	0855	18.533
0653	4.015	0900	18.876
0654	4.415	0912.5	19.872
0655	4.864	0920	20.93
0656	4.774	0926	22.03
0657	4.698	0930	21.03
0658	4.714	0946	20.19
0659	4.888	1000	24.42
0700	5.022	1010	25.47
0724	6.723	1020	23.47
0725	7.333	1030	26.00
0726	7.366	1040	27.38
0727	7.593	1050	27.69
0728	7.444	1100	29.60
0729	7.544	1115	31.29
0730	7.547	1130	32.45
0750.5	10.285	1147	32.34
0754	10.203		

12 MAY 1968 • STATION NO. 9 • LATITUDE 25°56.3' N • LONGITUDE 110°58.2' W

ALL VALUES OF **H** IN μWATTS / Cm^2 nm

λ (nm)	H (10.0 m, −)		H (10.0 m, −)
362		8.978	1.478
367		11.856	1.855
371		13.774	2.146
376		14.613	2.158
381		16.041	2.393
386		15.532	2.187
391		17.748	2.577
396		18.261	2.578
401		30.40	4 280
406		29.26	3.449
411		31.49	2.138
416		32.48	2.257
420		31.85	
425		31.15	
430		29.07	
435		35.00	
440		39.18	
445		41.55	
450		43.93	
455		43.67	
459		45.17	
464		46.18	
469		47.01	
474		48.95	
479		51.29	
484		47.98	
488		50.25	
493		49.41	
498	51.60	46.34	10.672
503	51.14	46.11	10.393
508	48.58	43.24	9.401
513	43.80	39.11	8.602
518	42.25	38.06	8.448
523	44.48	37.75	8.613
527	43.78	38.41	8.483
532	44.24	39.72	8.319
537	42.45	37.17	7.848
	TIME: 1515 – 1542		TIME: 1747 – 1803

ALL VALUES OF **H** IN μWATTS / Cm^2 nm

λ (nm)	H (10.0 m, −)		H (10.0 m, −)
542	42.20	37.37	7.686
547	39.44	35.15	6.490
552	38.38	33.37	5.504
557	35.93	31.50	6.0917
561	34.88	30.73	5.733
566	32.34	28.39	5.156
571	29.99	25.97	4.546
576	26.44	22.38	3.932
581	21.80	18.29	3.195
586	15.86	13.73	2.162
591	11.39	9.43	1.390
596	6.115		0.7227
601	3.77		0.378
605	2.804		0.273
610	2.612		0.255
615	2.429		0.234
620	2.196		0.215
624	2.084		0.214
629	1.882		0.203
634	1.792		0.187
639	1.616		0.154
644	1.378		0.1203
649	1.219		0.1024
654	0 859		0.0627
658	0.642		0.0492
663	0.551		0.0410
668	0.549		0.0375
673	0.497		0.0347
678	0.417		0.0250
683	0.318		0.01621
687	0.218		0.01163
692	0.1328		
697	0.0537		
702	0.0228		
	TIME: 1515 – 1542		TIME: 1747 – 1803

12 MAY 1968 • STATION NO. 9 • LATITUDE 25°56.3' N • LONGITUDE 110°58.2' W

ALL VALUES OF **H** IN μWATTS / Cm^2 nm

λ (nm)	H (10.0 m, −)		H (5.0 m, −)		H (10.0 m, −)		H (20.0 m, −)		H (15.0 m, −)	
362	7.710		36.54		14.42		0.6621		2.2594	
367	10.537		42.47		22.89		0.9820		2.909	
371	12.627		47.01		23.08		1.2645		3.641	
376	13.416		46.2		23.61		1.4872		3.901	
381	14.392		47.79		25.89		1.6906		4.444	
386	14.332		44.98		23.33		1.793		4.347	
391	16.104		46.81		28.26		2.221		5.197	
396	16.208		49.31		27.42		2.319		5.708	
401	28.16		69.78		46.23		4.044		9.522	
406	26.89		68.15		43.82		3.914		8.770	
411	28.54		70.66		47.02		4.145		8.855	
416	30.15		75.36		49.72		4.570		9.568	
420	30.31		73.30		47.50		4.783		9.609	
425	29.79		69.07		46.64		5.020		9.897	
430	28.26		65.79		42.15		4.830		9.487	
435	34.10		79.64		50.25		5.950		11.57	
440	36.35		82.78		53.39		6.891		12.94	
445	39.44		79.80		58.78		8.368		15.21	
450	44.44		96.35		65.40		10.05		17.72	
455	45.26		98.00		65.51		10.81		18.50	
459	46.69		97.66		68.67		11.70		19.54	
464	46.68		98.26		69.06		12.71		20.36	
469	47.65		100.51		66.90		13.70		21.55	
474	50.65		98.52		70.51		14.97		22.99	
479	52.20		94.47		71.54		16.17		24.52	
484	48.57		99.20		67.13		15.66		23.37	
488	49.49		93.02		67.56		16.01		24.00	
493	50.47		96.15		67.98		15.95		24.28	
498	39.48	48.15	97.73	95.50	69.46	65.19	20.23	16.09	31.35	23.99
503	39.21	48.55	102.21	90.81	67.35	66.45	20.41	16.45	31.71	24.77
508	38.22	47.07	92.69	79.79	64.77	60.74	19.12	15.43	30.25	23.60
513	33.28	41.52	91.79	79.18	59.81	57.21	16.47	14.12	27.49	21.88
518	34.72	40.00	84.80	78.68	56.11	54.06	16.93	14.46	27.55	21.84
523	36.31	41.78	92.92	77.12	59.35	56.08	17.69	15.20	29.02	23.36
527	35.96	41.99	91.48	82.52	60.82	57.38	17.62	15.27	28.95	23.22
532	36.94	42.33	92.46	85.39	59.07	56.22	17.54	14.82	29.05	23.03
537	34.87	41.01	89.61	76.59	55.66	52.62	15.88	13.81	27.33	21.56
542	34.78	40.18	84.48	82.63	55.73	51.75	15.57	13.14	26.85	21.01
	TIME: 0858 – 0925		TIME: 1143 – 1205		TIME: 1208 – 1232		TIME: 1238 – 1302		TIME: 1308 – 1333	

12 MAY 1968 • STATION NO. 9 • LATITUDE 25°56.3' N • LONGITUDE 110°58.2' W

ALL VALUES OF **H** IN μ WATTS / Cm^2 nm

λ (nm)	H(10.0m, -)	H(5.0m, -)	H(10.0m, -)	H(20.0m, -)	H(15.0m, -)
547	34.14	89.55	50.57	14.36	25.65
552	33.17	85.11	49.92	13.87	25.10
557	31.10	76.64	47.11	13.61	24.41
561	30.26	83.81	46.25	13.35	23.72
566	28.18	81.23	43.54	12.42	21.99
571	26.93	71.93	40.48	11.02	20.09
576	23.76	73.07	35.65	9.25	17.35
581	19.62	68.45	29.72	6.52	13.35
586	14.30	59.97	23.91	4.07	9.262
591	10.46	42.60	16.56	2.317	6.137
596	5.845	34.26	10.175	0.9107	2.901
601	3.45	24.34	6.333	0.3479	1.433
605	2.46	22.38	4.982	0.2031	0.9682
610	2.305	21.79	4.561	0.1875	0.8736
615	2.239	21.57	4.460	0.1647	0.7994
620	2.030	21.57	4.032	0.1459	0.7259
624	1.912	21.18	3.663	0.1291	0.6596
629	1.747	17.29	3.518	0.1107	0.5842
634	1.684	19.24	3.347	0.1014	0.5407
639	1.470	17.44	2.904	0.0864	0.4674
644	1.352	15.20	2.658	0.0728	0.4034
649	1.167	14.37	2.367	0.0601	0.3484
654	0.813	12.39	1.598	0.0326	0.2128
658	0.629	9.971	1.312	0.0228	0.1563
663	0.538	10.450	1.169	0.0221	0.1339
668	0.497	10.63	1.084	0.0283	0.1347
673	0.481	9.917	1.092	0.0342	0.1374
678	0.403	10.346	0.8713	0.0347	0.1303
683	0.312	8.113	0.7261	0.0246	0.0984
687	0.217	5.984	0.4951	0.0129	0.0643
692	0.142	5.120	0.3453	0.0095	0.0274
697	0.078	4.623	0.2230		0.0163
702	0.030	2.954	0.1122		
707	0.012	1.836	0.0454		
		0.7767	0.0035		
		0.2179			
	TIME: 0858–0925	TIME: 1143–1205	TIME: 1208–1232	TIME: 1238–1302	TIME: 1308–1333

13 MAY 1968 • STATION NO. 10 • LATITUDE 24°33.5' N • LONGITUDE 110°19.6' W

ALL VALUES OF H IN μ WATTS / Cm^2 nm

λ (nm)	H (25.0 m, –)		H (20.0 m, –)		H (15.0 m, –)		H (10.0 m, –)	
362		0.0753		0.6841		1.5690		5.2562
367		0.2733		0.7581		2.7538		7.383
371		0.3443		0.9213		2.7931		8.8017
376		0.4399		1.1126		3.1003		8.730
381		0.5738		1.3270		3.3993		9.483
386		0.5850		1.3608		3.1243		9.234
391		0.7700		1.7071		3.772		10.532
396		0.8633		1.9380		3.962		10.238
401		1.564		3.4471		6.392		17.446
406		1.5272		3.3633		5.976		16.914
411		1.676		3.870		6.187		17.905
416		1.8742		4.1119		6.7282		18.197
420		1.998		4.394		6.446		18.047
425		2.130		4.4446		6.273		18.161
430		2.153		4.276		5.903		16.710
435		2.599		5.337		7.121		19.828
440		2.995		6.051		7.975		21.207
445		3.604		7.047		9.328		23.473
450		4.116		7.907		10.314		25.473
455		4.382		8.221		10.609		25.703
459		4.802		8.647		11.007		26.257
464		5.041		8.976		11.314		26.490
469		5.342		9.415		11.734		26.576
474		5.890		10.222		12.428		
479		6.280		10.647		13.367		28.718
484		6.095		10.323		12.582		26.379
488		6.458		10.717		13.011		27.478
493		6.689		11.057		13.318		27.865
498	6.970	6.413	10.361	10.600	16.405	12.720	24.278	26.200
503	6.824	6.368	10.336	10.510	16.197	12.763	24.628	26.477
508	5.861	5.704	9.468	9.576	15.446	12.101	23.846	25.302
513	5.162	4.888	8.246	8.569	13.692	10.809	22.218	22.972
518	4.993	4.820	8.056	8.389	13.322	10.552	21.405	21.845
523	5.164	5.169	8.534		14.223	11.330	22.099	23.674
527	5.323	5.211	8.517		14.292	11.181	22.026	24.065
532	5.104	5.127	8.366		14.282	10.968	22.451	23.083
537	4.688	4.695	7.788		12.970	10.375	20.975	21.711
542	4.621	4.835	7.664		13.270	10.610	21.680	22.336
547	4.164		6.864		12.308		20.380	
552	4.060		6.685		12.319		20.333	
557	3.824		6.204		11.617		19.201	
	TIME: 1115–1133		TIME: 1144–1203		TIME: 1210–1233		TIME: 1240–1304	

13 MAY 1968 • STATION NO. 10 • LATITUDE 24°33.5' N • LONGITUDE 110°19.6' W

ALL VALUES OF **H** IN μWATTS / Cm^2 nm

λ (nm)	H (25.0 m, −)	H (20.0 m, −)	H (15.0 m, −)	H (10.0 m, −)
561	3.669	6.031	11.262	18.695
566	3.348	5.569	10.538	17.773
571	2.890	4.534	9.645	17.107
576	2.128	4.232	8.324	15.022
581	1.360	3.1742	6.463	13.292
586	0.6749	1.511	3.746	10.361
591	0.429	0.7062	2.377	5.990
596	0.0905	0.5145	1.247	4.411
601	0.047	0.1301	0.587	2.499
605	0.0204	0.0974	0.4579	2.046
610	0.0174	0.0897	0.4362	2.086
615	0.0145	0.0797	0.3918	1.845
620	0.0101	0.0614	0.3316	1.712
624	0.0069	0.0593	0.3346	1.688
629	0.0058	0.0528	0.2863	1.557
634	0.0059	0.0457	0.2738	1.471
639	0.0043	0.0322	0.2243	1.348
644		0.0279	0.1805	1.131
649		0.0228	0.1749	0.981
654		0.0109	0.1138	0.8379
658		0.0063	0.0780	0.663
663		0.0056	0.0595	0.5580
668			0.0549	0.5075
673			0.0549	0.4390
678			0.0485	0.3935
683			0.0341	0.3572
687			0.0159	0.2534
692			0.0095	0.1546
697			0.0007	0.1236
702				0.0561
707				0.0227
712				0.0062
716				
721				
	TIME: 1115–1133	TIME: 1144–1203	TIME: 1210–1233	TIME: 1240–1304

13 MAY 1968 • STATION NO. 10 • LATITUDE 24°33.5' N • LONGITUDE 110°19.6' W

ALL VALUES OF **H** IN μWATTS / Cm^2 nm

λ (nm)	H (5.0 m, −)		H (15.0 m, −)		H (15.0 m, −)	
362		14.767		0.7437		0.3107
367		16.243		0.7845		0.7211
371		18.702		0.9834		0.7248
376		19.264		1.1812		0.8918
381		18.604		1.2738		0.9567
386		16.295		1.2700		0.9374
391		18.098		1.5488		1.1744
396		18.599		1.626		1.2717
401		29.690		2.679		2.129
406		27.879		2.611		2.0686
411		28.167		2.754		2.194
416		28.917		2.838		2.3197
420		28.675		2.842		2.371
425		29.489		2.855		2.3955
430		26.487		2.606		2.283
435		29.697		3.156		2.698
440		31.531		3.598		3.051
445		36.602		4.213		3.552
450		39.097		4.722		4.026
455		37.619		4.738		4.177
459		39.956		4.976		4.441
464		37.165		5.192		4.605
469		38.459		5.455		4.811
474		39.022		5.905		5.134
479		41.390		6.592		4.859
484		37.548		6.440		5.229
488		38.102		6.804		5.599
493		39.476		7.161		5.744
498	36.469	37.081	8.169	7.167	5.851	5.496
503	35.423	36.613	8.097	7.217	5.879	5.472
508	37.091	36.022	7.666	6.659	5.468	4.825
513	34.246	34.779	7.013	5.991	4.857	4.389
518	31.468	33.894	6.897	6.213	4.718	4.346
523	33.882	34.658	7.374	6.675	5.049	4.516
527	34.720	35.259	7.539	6.809	4.978	4.495
532	33.881	33.222	7.322	6.824	4.868	4.343
537	30.431	32.906	6.998	6.349	4.675	4.074
542	32.387	32.011	7.063	6.468	4.706	3.887
547	31.815		6.628		4.338	3.499
552	32.895		6.655		4.199	3.485
557	31.477		6.425		3.911	3.124
	TIME: 1305–1330		**TIME: 1522–1545**		**TIME: 1614–1639**	

13 MAY 1968 • STATION NO. 10 • LATITUDE 24° 33.5' N • LONGITUDE 110°19.6' W

ALL VALUES OF **H** IN μ WATTS / Cm^2 nm

λ (nm)	H (5.0 m, -)	H (15.0 m, -)	H (15.0 m, -)	
561	31.171	6.235	3.781	3.082
566	29.247	5.692	3.359	2.958
571	27.935	5.279	3.159	2.440
576	26.989	4.425	2.412	2.001
581	25.399	3.369	1.953	1.510
586	20.271	1.772	0.975	0.8733
591	16.376	0.9417	0 524	
596	14.735	0.429	0.2411	
601	10.590	0.2135	0.1074	
605	9.537	0.1549	0 0711	
610	10.962	0.1344	0 0655	
615	9.740	0.1194	0.0554	
620	8.596	0.1147	0.0481	
624	8.610	0.0918	0.0464	
629	7.949	0.0884	0.0371	
634	8.975	0.0815	0 0334	
639	8.287	0.0624	0.0259	
644	7.152	0.0550	0.0218	
649	7.136	0.0494	0.0182	
654	6.089	0.0287	0 0081	
658	5.338	0.0142	0 0060	
663	4.864	0.0121	0.0060	
668	4.496	0.0140		
673	4.157	0.0183		
678	3.766	0.0235		
683	3.318	0.0184		
687	2.805			
692	2.384			
697	1.698			
702	1.500			
707	1.169			
712	0.5202			
716	0.0970			
721	0.0176			
	TIME: 1305–1330	**TIME: 1522–1545**	**TIME: 1614–1639**	

16 MAY 1968 • STATION NO. 13 • LATITUDE 23°07.1' N • LONGITUDE 109°17.0' W

ALL VALUES OF **H** IN μWATTS / Cm^2 nm

λ (nm)	H (15.0 m, −)		H (10.0 m, −)		H (15.0 m, −)	
362		7.7195		10.70		2.714
367		7.969		14.02		5.049
371		9.167		15.60		4.715
376		9.588		15.93		5.205
381		10.78		17.31		5.813
386		10.31		15.53		5.477
391		12.28		18.43		6.141
396		12.42		17.84		5.795
401		20.40		29.10		10.30
406		19.99		28.96		9.551
411		20.88		28.97		11.03
416		21.87		29.92		11.52
420		22.00		29.14		11.97
425		21.52		28.46		11.67
430		19.35		26.89		10.90
435		23.18		31.19		12.29
440		24.46		33.70		12.43
445		27.31		35.49		12.96
450		28.73		36.87		15.36
455		29.43		38.28		16.44
459		29.94		39.33		17.15
464		29.43		38.34		17.73
469		30.65		35.28		17.84
474		31.30		38.45		18.39
479		32.63		40.26		18.83
484		30.33		36.74		17.61
488		30.36		35.75		17.79
493		30.62		37.21		18.10
498	28.01	28.45	35.35	36.59	17.79	16.67
503	28.05	27.70	34.75	35.58	17.57	15.81
508	24.68	25.33	32.18	32.69	15.80	14.46
513	21.66	20.88	30.15	29.91	13.57	12.21
518	18.55	20.23	28.56	26.82	13.14	12.03
523	21.58	21.31	30.29	29.67	13.76	12.02
527	21.63	22.04	30.54	29.94	13.57	12.10
532	21.18	21.70	30.25	28.05	13.01	11.91
537	20.29	20.21	27.05	25.94	11.79	10.29
542	20.21	20.06	28.28	27.50	11.49	10.01
547	17.99		25.90		11.26	9.090
552	17.86		26.67		10.48	9.245
557	17.11		24.51		10.09	8.779
	TIME: 1249–1301		TIME: 1304–1327		TIME: 1522–1547	

16 MAY 1968 • STATION NO. 13 • LATITUDE 23°07.1' N • LONGITUDE 109°17.0' W

ALL VALUES OF **H** IN μWATTS / Cm^2 nm

λ (nm)	H (15.0 m, −)	H (10.0 m, −)	H (15.0 m, −)	
561	16.34	23.59	9.699	8.191
566	14.92	21.63	8.805	7.554
571	13.83	21.22	7.489	6.585
576	11.90	18.98	6.304	5.549
581	8.450	15.82	4.557	3.959
586	6.603	12.83	2.821	2.405
591	4.060	8.527	1.847	1.293
596	1.567	4.827	0.5198	
601	0.9474	3.601	0.3013	
605	0.5953	2.587	0.1914	
610	0.5691	2.415	0.1905	
615	0.5563	2.321	0.1848	
620	0.4404	2.088	0.1543	
624	0.4551	2.110	0.1295	
629	0.3726	1.816	0.11791	
634	0.3707	1.716	0.1089	
639	0.2933	1.653	0.0889	
644	0.2456	1.323	0.0611	
649	0.2395	1.372	0.0556	
654	0.1572	1.036	0.0322	
658	0.0877	0.8020	0.0153	
663	0.0732	0.580	0.0125	
668	0.0693	0.5450	0.0135	
673	0.0633	0.5262	0.0145	
678	0.0562	0.5146	0.0138	
683	0.0330	0.4220	0.0084	
687	0.0159	0.2521	0.0049	
692	0.0095	0.2057		
697	0.0066	0.1362		
702	0.0016	0.0577		
707		0.0154		
712		0.0010		
	TIME: 1249–1301	TIME: 1304–1327	TIME: 1522–1547	