PHOTOMETRIC CALIBRATION OF THE IUE

XI. Secondary Standards of Absolute Ultraviolet Flux

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ABSTRACT

Now that the IUE flux scale has been generally accepted and verified to the quoted errors of ±10%, the publication of spectral energy distributions of some stars based on IUE data is desirable for the calibration of future UV experiments and for any recalibrations of the three functional IUE cameras. Despite the fact that the original IUE absolute flux calibration was traceable to the adopted flux for ηUMa, new calibrations should not attempt to retrace or improve the original transfer. Instead, the fluxes resulting from five stars that were well observed in the original calibration epoch of the IUE observatory should be the basis for calibrations of instruments that work well in the V = 6 to 11 range. The primary reasons for this recommendation are: 1) IUE has collected the largest body of UV spectrophotometry to date, which should be internally consistent. All other future UV instruments should be on this IUE scale until a better fundamental reference exists. 2) Better fundamental reference flux standards are needed, but none are expected soon in this demanding field of work. No new data covering the entire wavelength range of IUE from 1150 to 3250 Å has become available since the original IUE calibration was done. 3) The known errors in the original transfer of the chosen fluxes for ηUMa into the IUE sensitivity calibration were in the 2 to 4% range, so that the errors in the absolute fluxes for the five standards proposed here are not likely to greatly exceed the 10% uncertainty quoted for ηUMa. 4) The IUE fluxes for these five standard stars will form the basis for

determining the UV fluxes of all of the stars that will provide calibrations of the instruments on the Hubble Space Telescope. 5) The five proposed standards were observed often enough to check on stellar variability and to provide a large enough body of data to reduce the effect of IUE reproducibility to less than 1%. 6) The internal consistency among the relative flux levels was verified using TD-1 data, to the typical accuracy of 3%.

I. INTRODUCTION

The original absolute sensitivity calibration of the low dispersion mode of the IUE SWP and LWR cameras was based on ηUMa and several measurements of UV fluxes by earlier experiments (Bohlin et al. 1980). The relation of the IUE flux scale to these other instruments is shown graphically in Bohlin et al. (1980) and in tabular form in Bohlin and Holm (1984). IUE absolute fluxes are based on the May 1980 calibration of Bohlin and Holm (1980), which also appears in Holm et al. (1982). The preliminary calibration of Bohlin et al. (1980) was superseded by the May 1980 calibration, which is the only sensitivity calibration for SWP and LWR that has ever been used in routine IUE production data processing.

The derivation of fluxes from the IUE data is complicated by the observed sensitivity losses of up to 2.5% per year (Sonneborn 1984). However, mean fluxes of stars that were well observed in both SWP and LWR throughout the initial epoch from April 1978 to April 1979 are unaffected by sensitivity changes to an accuracy of better than 1%. Observations of the five stars that satisfy these criteria are summarized in Table 1. Any errors in the processing of these early spectra are nearly irrelevant, because the same spectra for all stars, except BD+33°2642, were used to derive the sensitivity curve in the first place. In other words, the IUE fluxes for these four stars presented in Table 2 are equal on average by definition to the TD-1 fluxes as corrected to the IUE scale in Table 4 of Bohlin and Holm (1984). The study of the UV fluxes of the program stars over the lifetime of the IUE has revealed no evidence for stellar variability, with an upper limit in the 1 to 2% range.

II. DATA REDUCTION

a) Correction of Systematic Errors

The IUE spectra were all extracted by the processing system that was in routine use between July of 1978 and May of 1979. Certain errors were present in those early extractions, as reviewed by Turnrose, Thompson, and Gass (1984). The following corrections were made to the extracted spectra before production of the average fluxes in Table 2.

1. All wavelength assignments were corrected to the mean small aperture dispersion constants of Turnrose, Bohlin, and Harvel (1979) with the displacements for the large aperture given by Turnrose *et al.* (1979). The correction procedure is specified by Harvel, Turnrose, and Bohlin (1979).

2. The correction algorithm that was adopted by the three IUE agencies was applied to remedy the original error in the intensity transfer function (ITF) for the SWP camera (Holm *et al.* 1982). Any data that might have been processed using an even earlier, preliminary ITF was reprocessed to this uniform, known basis.

3. All spectra were corrected to the mean camera head temperatures of 8C for SWP and 12C for LWR by using the changes in camera sensitivity with temperature of -0.5% C^{-1} for SWP and -1.1% C^{-1} for LWR (Schiffer 1982). Mean temperatures for all of the spectra discussed here are within 0.5C of the overall means, so that the total effect of the temperature correction on the fluxes in Table 2 is less than 0.5%.

4. The exposure times were corrected for the high voltage rise of 0.12 s (Schiffer 1980) after truncating the specified exposure time to an integral multiple of 0.4096 s. The large aperture exposure times in Table 3 reflect the use of these constants. Corrections to the small aperture exposure times are irrelevant, since the small aperture data is normalized to the large aperture. The primary effect of the 0.12 s correction is an increase in the HD 93521 fluxes of 4% with respect to the faintest stars. Bohlin and Holm did not make a high voltage rise time correction in deriving the May 1980 calibration, since the effect was not appreciated at the time. If 0.12 s had been subtracted from the exposure times originally, the inverse sensitivity of May 1980 and all fluxes based on the IUE scale would be about 1% lower.

b) Procedures

Following the correction of individual spectra for the above effects, the mean spectrum for each star was created according to the steps outlined below.

1. After the SWP ITF correction, the net spectrum was computed from the gross by subtracting a background that had a 31 point median filter applied and was smoothed twice by averaging over 15 points. The LWR net was created by the production processing system.

2. The effective exposure times for small aperture spectra were computed by normalizing to the mean of the large aperture spectra in the interval 1600 to 1725 Å for SWP and 1950 to 2150 Å for LWR.

3. The sum of the calibrated net spectra ΣA were accumulated in 5 Å bins, while the sum of the exposure times Σt, or effective exposure times for the small aperture, were accumulated for the same bins.

4. If any point was flagged as a reseaux or other contaminant, no contribution was made to either ΣA or Σt. The effect of this procedure is that the net flux at positions of large aperture reseaux are defined entirely by small aperture data, and visa versa. The reduced number of spectra used to define the standard flux in Table 2 is reflected in the reduced number of points under NO. in the table.

5. The root-mean-square scatter of all spectra within each bin is listed in percent under SIGMA in Table 2.

6. The absolute flux is $F = \Sigma A/\Sigma t$. The units of this FLUX in Table 2 are erg cm^{-2} s^{-1} $Å^{-1}$. The wavelengths (LAMBDA) are in Å.

c) Quality Control

The following were considered in an effort to have the highest quality set of uniform data for the IUE standards.

1. Spectra with saturated data were generally avoided, since exposure times were calculated to keep the response below the level where errors could occur due to truncations in the ITF.

2. All spectra with pronounced microphonics noise were excluded.

3. All images with telemetry dropouts were excluded.

d) Uncorrected Errors

Certain known errors that have not been corrected are still associated with the spectra of the UV flux standards.

1. The ratio of small aperture to large aperture spectra is a function of wavelength, so that the normalization of the small aperture spectra discussed above will cause problems. The magnitude of the ratio relative to the normalization interval is within 5% of unity below 3100 Å and reaches 20% at 3200 Å (Holm and Bohlin, in preparation). The non-gray response of the small aperture will cause little error in the fluxes presented here, since the problem is compensated on average by the calibration, which is in error by the same amount as the IUE response that was derived by assuming grayness. The fluxes for any single star will be in error to the extent that the fractional contribution of small aperture spectra to the total signal differs from the average fraction. From Table 1, the number of small aperture spectra are significantly less than the number of large aperture spectra only for BD+33°2642. Even in this case, the errors in Table 2 should be less than 1% for both cameras below 3100 Å.

2. The mean epoch of the original IUE calibration represented by the fluxes of Table 2 is 1978.8. By assuming that the fluxes of Table 2 reflect the IUE sensitivity as of 1978.8, any error is less than 1% due to differential sensitivity change over the April 1978 to April 1979 calibration period.

3. IUE exposure times for point source spectra are uncertain by 30 ms due to questions about when the on-board computer turns the high voltage on and off. For the brightest star in the UV, HD 93521, exposure times were as short as 2.75 s in the large aperture. A 30 ms error would make any individual spectrum of HD 93521 uncertain by 1%. However, the fluxes of

Table 2 are based on the large aperture level set by 15 SWP and 13 LWR spectra, which are expected to reduce the 1% by the square root of the number of independent observations. Further evidence to substantiate the full validity of HD 93521 as a standard are the values for the mean scatter in the 5 Å bins (see Table 1), which are typical of the values for the other stars.

4. The well known non-linearity problems of IUE (eg. Oliversen 1983) may be the dominant source of error in the relative fluxes of the five standards. Since all spectra were exposed to similar levels at one wavelength and since all stars are hot and unreddened, linearity errors are minimized. However, residual non-linearity due to remaining differences in the actual exposures and in the slope of the flux distributions as a function of wavelength may be the dominant uncertainty among the relative flux levels of the standards. One measure of the internal accuracy of the standards is to compare the TD-1 fluxes of Jamar et al. (1976) with those in Table 2. This comparison was done in the process of the original calibration, which showed a typical scatter of 3% about the mean. However, BD+28°4211 has both the largest scatter of up to 7% about the mean calibration curve and also the most deviant flux distribution. This largest systematic deviation from the mean comparison with TD-1 as a function of wavelength is indicative of a linearity error for this case of the most extreme shape of the IUE response.

III. FUTURE UV CALIBRATIONS

Despite the several possible errors at the 1% level outlined here and despite the potential improvements to the original transfer of the chosen fluxes for ηUMa to IUE as detailed in Bohlin and Holm (1984), my recommendation is to base all future UV calibrations on the fluxes of the 5 fundamental standards of Table 2. The overall error in the transfer of the absolute flux scale to IUE is still less than the nominal 10% uncertainty in the ηUMa fluxes quoted by Bohlin et al. (1980).

Specifically, the five IUE standards should be the basis for calibration of the LWP camera, for any recalibrations of the SWP and LWR cameras, and for the UV calibration of the Space Telescope (ST) instruments. The present IUE program to provide a larger grid of standards for ST ties these new secondary standards to the primary set by observing at least two of the five during each observing run.

New observations by instruments precisely calibrated with respect to the National Bureau of Standards absolute scale are needed. Preference for new observations should be given to the five standards of Table 2. If these stars are too faint, ηUMa is the best bright star, because Bohlin et al. (1980) based the IUE calibration on the choice of flux for this star and because OAO-2 observation showed no UV variability (Holm, private communication). Even though exposure times are uncertain when ηUMa is rapidly trailed through the IUE slit, the shape of the IUE flux distribution can be directly compared with new fundamental observations. An absolute normalization of a UV flux distribution can always be done with respect to ground based data at 3200 Å, if necessary.

An independent technique for studying the IUE calibration error is to compare unreddened sources with physical predictions of their flux distribution, as normalized at V = 5480 Å. Especially useful for this purpose are stars with few features, such as hot white dwarfs or main sequence stars near spectral type B3. If enough different physical theories all predict the same error for the IUE absolute fluxes, this correction could be justified and would have the virtue of not only eliminating the 10% uncertainty in the chosen flux for ηUMa, but also of removing the 2 to 4% transfer uncertainty.

Drs. A. V. Holm and J. Koornneef provided valuable constructive criticisms that have been incorporated into this paper.

TABLE 1

OBSERVATIONS OF PROGRAM STARS BETWEEN APRIL 1978 AND APRIL 1979

Star	R.A.(1950)	Dec(1950)	S.T.	V	B–V	Ref.	No. of SWP Spectra P[a]	No. of SWP Spectra S[a]	σ(SWP)[b] (%)	No. of LWR Spectra P[a]	No. of LWR Spectra S[a]	σ(LWR)[b] (%)
HD60753	7^h 32^m $08^s.1$	−50° 28' 29"	B3IV	6.69	−0.09	1	6	5	4.1	5	4	6.8
BD+75°325	8 04 43.2	+75 06 48	O5p	9.54	−0.37	2,4	7	6	4.3	7	6	6.7
HD 93521	10 45 33.6	+37 50 04	O9Vp	7.04	−0.28	3	15	13	5.0	13	13	7.5
BD+33°2642	15 50 01.9	+33 05 28	B2IV	10.83	−0.16	4	8	4	5.3	7	4	7.8
BD+28°4211	21 48 57.4	+28 37 34	Op	10.54	−0.34	2,4	12	12	5.4	7	6	7.0

[a] P – Point source in large aperture. S – Source in small aperture.

[b] Mean standard deviation, one sigma, of all 5 Å bins of Table 2 in percent.

References: 1. Jamar *et al*. (1976) 2. Goy (1973) 3. Guetter (1974) 4. Jaschek *et al*. (1972).

TABLE 2

HD60753

SWP

LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.
1155	9.41E-11	6.0	11	1360	9.77E-11	3.2	11	1565	6.63E-11	2.3	11	1770	5.90E-11	5.0	11
1160	1.01E-10	6.5	11	1365	9.33E-11	3.6	11	1570	6.82E-11	5.8	11	1775	5.74E-11	4.3	11
1165	9.95E-11	7.2	11	1370	9.45E-11	3.1	11	1575	6.83E-11	6.2	7	1780	5.84E-11	2.7	5
1170	9.33E-11	6.3	11	1375	9.24E-11	2.8	11	1580	6.64E-11	3.3	6	1785	5.81E-11	1.5	5
1175	7.45E-11	9.2	11	1380	9.10E-11	3.8	11	1585	7.00E-11	3.5	6	1790	5.75E-11	2.9	5
1180	8.93E-11	7.5	8	1385	9.21E-11	1.8	11	1590	6.95E-11	3.1	6	1795	6.09E-11	2.1	5
1185	9.61E-11	3.3	5	1390	8.65E-11	3.0	11	1595	6.77E-11	4.5	6	1800	6.08E-11	2.8	8
1190	8.66E-11	4.9	5	1395	7.97E-11	3.5	11	1600	6.63E-11	3.4	11	1805	5.96E-11	2.6	11
1195	7.30E-11	4.3	5	1400	8.47E-11	3.1	11	1605	6.40E-11	4.3	11	1810	5.76E-11	2.2	11
1200	5.85E-11	5.6	5	1405	8.39E-11	1.9	11	1610	6.23E-11	2.2	11	1815	5.75E-11	2.4	11
1205	2.76E-11	8.5	11	1410	8.40E-11	2.6	11	1615	6.38E-11	3.7	11	1820	5.74E-11	3.6	11
1210	9.46E-12	12.3	11	1415	8.24E-11	3.9	11	1620	6.38E-11	3.9	11	1825	5.70E-11	2.5	11
1215	4.67E-12	26.1	11	1420	8.41E-11	2.8	11	1625	6.25E-11	3.9	11	1830	5.59E-11	2.4	11
1220	1.70E-11	21.0	11	1425	8.69E-11	3.1	11	1630	6.30E-11	2.9	11	1835	5.48E-11	3.1	11
1225	4.70E-11	10.9	11	1430	8.83E-11	3.0	11	1635	6.22E-11	4.0	11	1840	5.29E-11	3.7	11
1230	7.17E-11	8.3	11	1435	8.56E-11	3.0	11	1640	6.37E-11	3.1	11	1845	5.13E-11	4.6	11
1235	9.10E-11	6.9	11	1440	8.85E-11	4.8	11	1645	6.50E-11	3.6	11	1850	4.93E-11	4.9	11
1240	1.06E-10	4.1	11	1445	9.01E-11	2.7	10	1650	6.19E-11	4.0	6	1855	4.60E-11	4.0	11
1245	1.07E-10	3.4	11	1450	8.98E-11	1.9	6	1655	6.21E-11	2.9	5	1860	4.76E-11	3.7	11
1250	1.04E-10	3.3	11	1455	8.83E-11	2.1	6	1660	6.02E-11	5.2	5	1865	4.86E-11	5.0	11
1255	1.08E-10	3.6	11	1460	8.72E-11	2.8	6	1665	6.12E-11	2.7	7	1870	5.17E-11	3.2	11
1260	9.51E-11	3.8	11	1465	8.63E-11	2.9	10	1670	6.22E-11	2.3	11	1875	5.17E-11	2.8	11
1265	9.70E-11	1.7	11	1470	8.53E-11	3.6	11	1675	5.91E-11	3.5	11	1880	4.96E-11	4.4	11
1270	1.11E-10	2.8	11	1475	8.45E-11	2.6	11	1680	6.27E-11	4.7	11	1885	4.64E-11	3.7	11
1275	1.08E-10	3.1	11	1480	8.75E-11	2.8	11	1685	6.36E-11	4.8	11	1890	4.50E-11	4.0	11
1280	1.12E-10	4.1	11	1485	8.41E-11	3.2	11	1690	6.45E-11	4.8	11	1895	4.46E-11	3.7	11
1285	1.11E-10	3.7	11	1490	8.80E-11	3.0	11	1695	6.34E-11	3.3	11	1900	4.55E-11	3.0	11
1290	1.02E-10	3.2	11	1495	8.54E-11	1.8	11	1700	6.24E-11	4.5	11	1905	4.48E-11	2.0	11
1295	8.63E-11	4.9	11	1500	8.18E-11	2.5	11	1705	6.04E-11	5.2	11	1910	4.46E-11	3.3	11
1300	7.29E-11	1.9	11	1505	8.01E-11	2.6	11	1710	5.77E-11	4.0	11	1915	4.30E-11	4.4	7
1305	7.40E-11	3.1	11	1510	7.68E-11	4.0	11	1715	5.65E-11	3.5	11	1920	4.17E-11	2.0	5
1310	9.00E-11	3.1	11	1515	7.44E-11	5.3	11	1720	5.51E-11	2.5	11	1925	4.10E-11	2.4	5
1315	1.12E-10	4.9	11	1520	7.69E-11	6.2	11	1725	5.45E-11	3.8	11	1930	4.07E-11	1.9	5
1320	1.12E-10	2.1	10	1525	7.55E-11	5.7	11	1730	6.08E-11	4.3	11	1935	4.30E-11	3.0	7
1325	1.04E-10	2.5	10	1530	7.16E-11	6.9	11	1735	6.10E-11	3.5	11	1940	4.38E-11	4.4	11
1330	9.60E-11	4.1	11	1535	7.03E-11	2.4	11	1740	6.05E-11	3.4	11	1945	4.53E-11	3.7	11
1335	8.04E-11	3.4	11	1540	6.90E-11	3.3	11	1745	6.04E-11	3.6	11	1950	4.43E-11	5.0	11
1340	1.00E-10	3.6	11	1545	7.00E-11	4.5	11	1750	5.86E-11	3.3	11	1955	4.35E-11	4.7	11
1345	1.02E-10	6.3	11	1550	6.68E-11	2.9	11	1755	6.04E-11	5.0	11	1960	4.37E-11	4.4	11
1350	1.00E-10	4.7	11	1555	7.10E-11	6.6	11	1760	5.93E-11	4.4	11	1965	4.42E-11	5.5	11
1355	1.01E-10	3.2	11	1560	6.80E-11	3.4	11	1765	5.89E-11	4.4	11	1970	4.55E-11	5.3	11

LWR

LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.
1900	4.41E-11	16.8	9	2225	3.42E-11	9.4	9	2550	3.09E-11	5.2	9	2875	2.41E-11	5.4	9
1905	4.64E-11	11.3	9	2230	3.39E-11	6.7	9	2555	2.98E-11	5.7	9	2880	2.50E-11	5.0	8
1910	4.82E-11	11.5	9	2235	3.21E-11	5.7	9	2560	2.90E-11	5.3	9	2885	2.39E-11	4.0	5
1915	4.30E-11	13.1	9	2240	3.15E-11	5.7	9	2565	3.07E-11	3.2	7	2890	2.41E-11	3.4	5
1920	4.34E-11	12.8	9	2245	3.24E-11	5.9	9	2570	3.20E-11	3.7	4	2895	2.49E-11	4.3	5
1925	4.67E-11	11.5	9	2250	3.29E-11	8.0	9	2575	3.13E-11	4.4	4	2900	2.34E-11	5.5	5
1930	5.06E-11	15.0	9	2255	3.50E-11	6.2	9	2580	3.14E-11	2.9	4	2905	2.30E-11	5.2	5
1935	4.84E-11	7.2	9	2260	3.58E-11	5.5	9	2585	3.15E-11	4.2	4	2910	2.34E-11	4.3	5
1940	4.74E-11	5.1	9	2265	3.45E-11	4.8	9	2590	2.97E-11	7.5	4	2915	2.34E-11	4.1	5
1945	4.63E-11	9.2	9	2270	3.42E-11	5.9	9	2595	2.85E-11	6.5	4	2920	2.37E-11	7.0	7
1950	4.59E-11	9.1	9	2275	3.55E-11	6.1	9	2600	2.99E-11	0.9	4	2925	2.35E-11	7.3	9
1955	4.30E-11	8.7	6	2280	3.65E-11	3.3	9	2605	2.99E-11	5.6	7	2930	2.42E-11	6.3	9
1960	4.14E-11	5.3	6	2285	3.44E-11	5.2	9	2610	3.03E-11	4.3	9	2935	2.46E-11	7.5	9
1965	3.92E-11	6.3	6	2290	3.41E-11	4.2	9	2615	2.99E-11	5.0	9	2940	2.40E-11	5.8	9
1970	4.26E-11	4.6	6	2295	3.33E-11	5.0	9	2620	2.97E-11	6.5	9	2945	2.32E-11	5.4	9
1975	4.81E-11	5.4	6	2300	3.33E-11	6.6	9	2625	2.95E-11	4.1	9	2950	2.26E-11	8.2	9
1980	4.72E-11	6.0	9	2305	3.53E-11	6.1	9	2630	2.85E-11	4.0	9	2955	2.34E-11	5.0	9
1985	4.57E-11	8.2	9	2310	3.50E-11	8.1	9	2635	2.97E-11	5.9	9	2960	2.52E-11	2.4	9
1990	4.48E-11	3.6	9	2315	3.34E-11	3.4	9	2640	2.95E-11	7.6	9	2965	2.29E-11	5.5	9
1995	4.41E-11	7.9	9	2320	3.40E-11	6.3	9	2645	2.93E-11	8.7	9	2970	2.26E-11	6.5	9
2000	4.26E-11	6.9	9	2325	3.56E-11	4.1	9	2650	2.95E-11	6.9	9	2975	2.31E-11	6.7	9
2005	4.41E-11	6.3	9	2330	3.38E-11	5.7	9	2655	3.04E-11	8.9	9	2980	2.31E-11	6.4	9
2010	4.49E-11	3.6	9	2335	3.36E-11	6.8	9	2660	2.99E-11	8.1	9	2985	2.28E-11	5.7	9
2015	4.33E-11	4.4	9	2340	3.26E-11	3.8	9	2665	2.93E-11	9.6	9	2990	2.34E-11	5.1	9
2020	4.48E-11	5.2	9	2345	3.31E-11	5.0	9	2670	2.89E-11	10.5	9	2995	2.28E-11	4.6	9
2025	4.57E-11	5.7	9	2350	3.40E-11	8.3	9	2675	2.85E-11	5.5	9	3000	2.22E-11	5.0	9
2030	4.43E-11	3.8	9	2355	3.25E-11	6.1	9	2680	2.88E-11	4.2	6	3005	2.18E-11	4.9	9
2035	4.26E-11	3.8	9	2360	3.43E-11	4.6	9	2685	2.89E-11	4.6	6	3010	2.27E-11	5.2	9
2040	4.16E-11	5.2	9	2365	3.33E-11	4.5	9	2690	2.94E-11	4.8	6	3015	2.18E-11	5.0	9
2045	4.33E-11	5.5	9	2370	3.35E-11	5.0	9	2695	2.71E-11	5.8	6	3020	2.15E-11	5.9	9
2050	4.18E-11	7.1	8	2375	3.33E-11	4.8	9	2700	2.62E-11	8.0	6	3025	2.08E-11	7.7	9
2055	3.98E-11	6.1	7	2380	3.20E-11	6.7	9	2705	2.80E-11	4.9	6	3030	2.10E-11	4.8	9
2060	4.15E-11	4.7	7	2385	3.10E-11	4.9	9	2710	2.76E-11	7.9	9	3035	2.09E-11	5.9	9
2065	4.20E-11	6.2	7	2390	3.26E-11	7.9	9	2715	2.72E-11	7.5	9	3040	2.10E-11	7.5	9
2070	4.03E-11	6.4	7	2395	3.25E-11	5.9	9	2720	2.68E-11	6.4	9	3045	2.10E-11	7.1	9
2075	4.19E-11	3.6	7	2400	3.27E-11	4.5	9	2725	2.65E-11	4.9	9	3050	2.10E-11	8.0	9
2080	4.31E-11	4.6	9	2405	3.18E-11	5.4	9	2730	2.69E-11	4.5	9	3055	2.10E-11	6.8	9
2085	4.08E-11	5.3	9	2410	3.06E-11	12.1	9	2735	2.70E-11	4.4	9	3060	2.05E-11	4.2	9
2090	4.17E-11	6.0	9	2415	3.09E-11	9.2	9	2740	2.62E-11	6.2	9	3065	2.02E-11	4.9	9
2095	3.90E-11	7.8	9	2420	3.14E-11	5.5	9	2745	2.53E-11	6.7	9	3070	2.04E-11	6.6	9
2100	3.71E-11	7.3	9	2425	3.17E-11	6.1	9	2750	2.54E-11	6.5	9	3075	1.96E-11	6.5	9
2105	3.78E-11	11.5	9	2430	3.26E-11	6.4	9	2755	2.60E-11	7.9	9	3080	2.12E-11	6.8	9
2110	4.05E-11	3.8	9	2435	3.16E-11	6.4	9	2760	2.48E-11	5.3	9	3085	2.13E-11	9.4	9
2115	3.86E-11	5.1	9	2440	3.14E-11	7.7	9	2765	2.54E-11	7.1	9	3090	2.04E-11	10.4	9
2120	3.62E-11	5.3	9	2445	3.34E-11	5.8	9	2770	2.54E-11	8.6	9	3095	2.02E-11	7.9	9
2125	3.89E-11	7.3	9	2450	3.28E-11	3.3	9	2775	2.58E-11	6.2	9	3100	2.15E-11	8.3	9
2130	3.74E-11	7.3	9	2455	3.27E-11	5.8	9	2780	2.65E-11	5.8	8	3105	2.15E-11	8.2	9
2135	3.66E-11	6.6	9	2460	3.24E-11	4.3	9	2785	2.57E-11	5.2	8	3110	1.98E-11	7.8	9
2140	3.63E-11	6.2	9	2465	3.23E-11	4.5	9	2790	2.69E-11	4.1	8	3115	1.94E-11	12.1	9
2145	3.78E-11	6.5	9	2470	3.08E-11	5.1	9	2795	2.45E-11	6.9	8	3120	1.83E-11	9.3	9
2150	3.68E-11	5.4	7	2475	2.96E-11	7.4	9	2800	2.32E-11	6.8	8	3125	1.86E-11	9.7	9
2155	3.86E-11	4.8	5	2480	3.06E-11	7.3	9	2805	2.47E-11	6.3	8	3130	1.93E-11	11.0	9
2160	3.58E-11	4.2	5	2485	3.10E-11	10.6	9	2810	2.40E-11	5.3	9	3135	1.92E-11	8.8	9
2165	3.37E-11	4.0	5	2490	2.98E-11	7.1	9	2815	2.62E-11	7.0	9	3140	2.00E-11	13.3	9
2170	3.65E-11	7.6	5	2495	2.92E-11	10.5	9	2820	2.64E-11	3.6	9	3145	1.93E-11	11.2	9
2175	3.73E-11	8.9	5	2500	3.27E-11	7.3	9	2825	2.51E-11	5.3	9	3150	1.97E-11	18.0	9
2180	3.53E-11	9.2	5	2505	3.19E-11	3.7	9	2830	2.38E-11	7.8	9	3155	2.00E-11	18.2	9
2185	3.78E-11	4.3	5	2510	3.04E-11	4.0	9	2835	2.40E-11	3.0	9	3160	1.78E-11	18.4	9
2190	4.30E-11	8.2	6	2515	2.97E-11	4.3	9	2840	2.38E-11	2.2	9	3165	1.66E-11	19.4	9
2195	4.11E-11	20.0	9	2520	2.95E-11	6.4	9	2845	2.46E-11	5.9	9	3170	1.75E-11	19.3	9
2200	3.66E-11	7.8	9	2525	2.90E-11	6.9	9	2850	2.50E-11	3.4	9	3175	1.81E-11	19.4	9
2205	3.31E-11	6.0	9	2530	3.01E-11	5.3	9	2855	2.41E-11	4.5	9	3180	1.80E-11	17.7	9
2210	3.39E-11	9.3	9	2535	3.01E-11	4.8	9	2860	2.52E-11	4.3	9	3185	2.01E-11	20.7	9
2215	3.41E-11	4.7	9	2540	2.94E-11	4.7	9	2865	2.50E-11	2.7	9	3190	2.14E-11	23.6	9
2220	3.33E-11	7.2	9	2545	2.98E-11	5.4	9	2870	2.43E-11	3.5	9	3195	1.82E-11	15.7	9

TABLE 2 - *Continued*

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SWP

LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.
1155	1.02E-10	9.2	13	1360	5.47E-11	3.9	13	1565	3.71E-11	3.1	13	1770	2.80E-11	5.0	13
1160	1.04E-10	7.6	13	1365	5.52E-11	3.2	13	1570	3.65E-11	3.6	13	1775	2.80E-11	3.6	13
1165	9.92E-11	7.0	13	1370	5.50E-11	3.8	13	1575	3.77E-11	3.0	12	1780	2.74E-11	4.2	6
1170	9.31E-11	5.0	13	1375	5.31E-11	3.6	13	1580	3.69E-11	3.7	7	1785	2.69E-11	2.8	6
1175	8.91E-11	7.1	13	1380	5.64E-11	3.5	13	1585	3.63E-11	3.6	7	1790	2.63E-11	3.4	6
1180	9.24E-11	5.7	10	1385	5.38E-11	6.4	13	1590	3.60E-11	3.0	7	1795	2.69E-11	4.0	6
1185	9.01E-11	4.3	6	1390	5.30E-11	3.1	13	1595	3.48E-11	4.6	7	1800	2.63E-11	3.4	11
1190	8.65E-11	3.0	6	1395	5.21E-11	4.3	13	1600	3.48E-11	5.2	13	1805	2.59E-11	3.6	13
1195	7.67E-11	2.9	6	1400	5.25E-11	4.5	13	1605	3.34E-11	4.0	13	1810	2.60E-11	3.5	13
1200	7.52E-11	4.1	6	1405	4.96E-11	4.0	13	1610	3.14E-11	4.0	13	1815	2.63E-11	3.0	13
1205	8.25E-11	6.3	13	1410	5.02E-11	2.9	13	1615	3.13E-11	3.1	13	1820	2.68E-11	5.3	13
1210	6.97E-11	7.0	13	1415	5.13E-11	3.7	13	1620	3.06E-11	3.7	13	1825	2.60E-11	2.5	13
1215	5.05E-11	11.3	13	1420	4.97E-11	4.1	13	1625	3.05E-11	3.5	13	1830	2.59E-11	3.4	13
1220	7.02E-11	11.1	13	1425	5.06E-11	3.5	13	1630	3.02E-11	3.9	13	1835	2.53E-11	3.5	13
1225	7.99E-11	6.3	13	1430	4.96E-11	2.7	13	1635	2.88E-11	4.4	13	1840	2.46E-11	3.9	13
1230	7.76E-11	5.6	13	1435	4.98E-11	4.3	13	1640	2.66E-11	4.4	13	1845	2.47E-11	4.6	13
1235	7.04E-11	5.1	13	1440	4.77E-11	5.1	13	1645	2.93E-11	4.0	13	1850	2.40E-11	5.7	13
1240	6.28E-11	6.1	13	1445	4.66E-11	3.6	13	1650	3.05E-11	3.2	9	1855	2.35E-11	6.1	13
1245	6.96E-11	5.8	13	1450	4.57E-11	4.3	7	1655	2.98E-11	3.1	6	1860	2.42E-11	6.1	13
1250	6.99E-11	3.8	13	1455	4.56E-11	2.4	7	1660	2.92E-11	2.4	6	1865	2.43E-11	4.7	13
1255	7.06E-11	3.7	13	1460	4.70E-11	2.3	7	1665	3.00E-11	2.3	8	1870	2.45E-11	3.9	13
1260	7.19E-11	2.6	13	1465	4.78E-11	3.1	10	1670	2.97E-11	2.8	13	1875	2.39E-11	3.3	13
1265	7.40E-11	4.5	13	1470	4.71E-11	5.0	13	1675	2.96E-11	2.6	13	1880	2.34E-11	3.7	13
1270	7.31E-11	2.9	13	1475	4.67E-11	4.4	13	1680	3.03E-11	2.7	13	1885	2.23E-11	6.2	13
1275	7.59E-11	3.1	13	1480	4.79E-11	4.0	13	1685	3.05E-11	5.9	13	1890	2.28E-11	4.0	13
1280	7.48E-11	3.6	13	1485	4.70E-11	5.5	13	1690	3.00E-11	5.8	13	1895	2.29E-11	3.0	13
1285	7.30E-11	3.6	13	1490	4.76E-11	3.1	13	1695	3.02E-11	1.8	13	1900	2.24E-11	5.3	13
1290	7.62E-11	3.9	13	1495	4.73E-11	3.9	13	1700	2.92E-11	2.4	13	1905	2.17E-11	6.7	13
1295	7.69E-11	3.3	13	1500	4.50E-11	4.8	13	1705	2.97E-11	4.3	13	1910	2.15E-11	6.4	13
1300	7.16E-11	3.8	13	1505	4.49E-11	2.8	13	1710	2.91E-11	3.8	13	1915	2.14E-11	6.5	9
1305	6.85E-11	3.9	13	1510	4.55E-11	5.0	13	1715	2.73E-11	3.6	13	1920	2.01E-11	3.9	6
1310	6.68E-11	3.8	13	1515	4.47E-11	3.7	13	1720	2.59E-11	3.8	13	1925	2.05E-11	4.3	6
1315	6.54E-11	4.1	13	1520	4.55E-11	3.1	13	1725	2.75E-11	4.0	13	1930	2.07E-11	6.5	6
1320	6.57E-11	4.3	13	1525	4.46E-11	4.3	13	1730	2.85E-11	3.9	13	1935	2.07E-11	7.4	9
1325	6.82E-11	2.6	13	1530	4.22E-11	4.7	13	1735	2.89E-11	5.5	13	1940	2.09E-11	4.1	13
1330	6.50E-11	3.8	13	1535	4.21E-11	4.9	13	1740	2.85E-11	5.0	13	1945	2.09E-11	3.8	13
1335	6.23E-11	3.3	13	1540	4.26E-11	4.2	13	1745	2.89E-11	3.7	13	1950	2.10E-11	5.8	13
1340	6.32E-11	3.6	13	1545	4.05E-11	4.6	13	1750	2.80E-11	3.7	13	1955	2.10E-11	6.3	13
1345	6.18E-11	5.9	13	1550	3.84E-11	4.0	13	1755	2.81E-11	4.3	13	1960	2.08E-11	6.1	13
1350	5.81E-11	4.1	13	1555	4.05E-11	4.9	13	1760	2.82E-11	3.6	13	1965	2.06E-11	6.4	13
1355	5.85E-11	2.5	13	1560	4.00E-11	4.0	13	1765	2.81E-11	5.1	13	1970	2.06E-11	6.6	13

LWR

LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.
1900	2.25E-11	10.5	13	2225	1.37E-11	9.7	13	2550	9.66E-12	4.9	13	2875	6.08E-12	3.8	13
1905	2.13E-11	10.9	13	2230	1.40E-11	5.9	13	2555	9.50E-12	4.7	13	2880	6.21E-12	3.4	10
1910	2.12E-11	6.7	13	2235	1.38E-11	5.6	13	2560	9.01E-12	4.8	13	2885	5.94E-12	4.6	7
1915	1.99E-11	7.8	13	2240	1.33E-11	8.2	13	2565	9.63E-12	4.4	10	2890	5.82E-12	2.6	7
1920	2.13E-11	5.5	13	2245	1.26E-11	4.6	13	2570	1.00E-11	4.1	6	2895	6.08E-12	3.9	7
1925	2.22E-11	9.0	13	2250	1.21E-11	10.4	13	2575	9.65E-12	6.8	6	2900	5.69E-12	3.6	7
1930	2.33E-11	10.6	13	2255	1.22E-11	7.7	13	2580	9.72E-12	7.0	6	2905	5.70E-12	4.6	7
1935	2.15E-11	8.5	13	2260	1.36E-11	6.9	13	2585	9.33E-12	4.0	6	2910	5.88E-12	3.3	7
1940	2.05E-11	7.1	13	2265	1.39E-11	5.6	13	2590	9.27E-12	5.2	6	2915	5.88E-12	2.1	7
1945	2.02E-11	5.7	13	2270	1.37E-11	4.6	13	2595	8.98E-12	6.9	6	2920	6.08E-12	5.3	11
1950	2.03E-11	4.5	10	2275	1.40E-11	6.9	13	2600	9.33E-12	5.4	6	2925	5.89E-12	5.0	13
1955	2.11E-11	4.2	8	2280	1.42E-11	9.3	13	2605	8.96E-12	8.9	9	2930	5.93E-12	4.5	13
1960	2.08E-11	3.7	8	2285	1.33E-11	6.3	13	2610	8.72E-12	5.5	13	2935	5.97E-12	5.7	13
1965	1.98E-11	4.5	8	2290	1.35E-11	5.8	13	2615	8.95E-12	4.2	13	2940	6.02E-12	4.7	13
1970	1.93E-11	3.9	8	2295	1.30E-11	7.0	13	2620	8.82E-12	7.1	13	2945	5.77E-12	6.3	13
1975	2.01E-11	6.9	8	2300	1.25E-11	7.2	13	2625	8.77E-12	7.8	13	2950	5.56E-12	7.4	13
1980	1.96E-11	7.6	11	2305	1.16E-11	9.7	13	2630	8.68E-12	6.8	13	2955	5.71E-12	6.2	13
1985	1.96E-11	6.3	13	2310	1.20E-11	10.2	13	2635	8.65E-12	5.5	13	2960	5.94E-12	5.5	13
1990	2.00E-11	6.4	13	2315	1.21E-11	5.9	13	2640	8.17E-12	7.0	13	2965	5.70E-12	6.6	13
1995	1.97E-11	6.4	13	2320	1.23E-11	4.8	13	2645	8.28E-12	8.3	13	2970	5.53E-12	7.6	13
2000	1.88E-11	5.5	13	2325	1.30E-11	7.3	13	2650	8.40E-12	6.5	13	2975	5.67E-12	3.7	13
2005	1.90E-11	6.8	13	2330	1.30E-11	7.4	13	2655	8.72E-12	7.9	13	2980	5.61E-12	4.9	13
2010	1.91E-11	6.1	13	2335	1.27E-11	6.5	13	2660	8.38E-12	6.0	13	2985	5.41E-12	5.5	13
2015	1.90E-11	7.0	13	2340	1.26E-11	4.5	13	2665	8.33E-12	5.3	13	2990	5.43E-12	4.8	13
2020	1.88E-11	3.6	13	2345	1.25E-11	5.0	13	2670	8.09E-12	7.3	13	2995	5.11E-12	5.4	13
2025	1.88E-11	4.7	13	2350	1.25E-11	5.7	13	2675	8.09E-12	4.9	12	3000	5.10E-12	5.7	13
2030	1.84E-11	4.1	13	2355	1.24E-11	5.8	13	2680	8.19E-12	6.2	8	3005	5.57E-12	5.5	13
2035	1.84E-11	4.8	13	2360	1.28E-11	5.0	13	2685	7.98E-12	1.8	7	3010	5.66E-12	6.3	13
2040	1.85E-11	5.0	13	2365	1.21E-11	4.8	13	2690	7.94E-12	3.3	7	3015	5.31E-12	8.0	13
2045	1.85E-11	4.4	13	2370	1.19E-11	5.0	13	2695	7.66E-12	3.7	7	3020	5.29E-12	6.1	13
2050	1.82E-11	5.5	12	2375	1.15E-11	6.4	13	2700	7.50E-12	3.0	7	3025	5.07E-12	4.9	13
2055	1.74E-11	4.5	10	2380	1.04E-11	5.7	13	2705	7.77E-12	4.7	8	3030	4.92E-12	9.0	13
2060	1.74E-11	5.3	10	2385	9.35E-12	3.7	13	2710	7.45E-12	6.0	11	3035	4.85E-12	12.2	13
2065	1.75E-11	4.9	10	2390	9.88E-12	9.2	13	2715	7.35E-12	7.2	13	3040	5.01E-12	8.4	13
2070	1.73E-11	3.9	10	2395	1.07E-11	6.8	13	2720	7.28E-12	6.7	13	3045	4.71E-12	8.1	13
2075	1.70E-11	2.6	10	2400	1.09E-11	4.0	13	2725	6.81E-12	4.3	13	3050	4.74E-12	8.1	13
2080	1.79E-11	3.3	13	2405	1.10E-11	3.9	13	2730	6.20E-12	5.0	13	3055	4.69E-12	7.5	13
2085	1.71E-11	4.2	13	2410	1.06E-11	6.8	13	2735	6.06E-12	6.2	13	3060	4.83E-12	9.6	13
2090	1.71E-11	3.3	13	2415	1.07E-11	10.5	13	2740	6.59E-12	7.4	13	3065	4.72E-12	10.1	13
2095	1.63E-11	5.9	13	2420	1.06E-11	5.3	13	2745	6.98E-12	7.1	13	3070	4.62E-12	6.5	13
2100	1.62E-11	5.3	13	2425	1.06E-11	5.7	13	2750	7.23E-12	5.4	13	3075	4.49E-12	9.7	13
2105	1.67E-11	7.9	13	2430	1.12E-11	5.6	13	2755	7.10E-12	5.6	13	3080	4.93E-12	8.9	13
2110	1.73E-11	7.1	13	2435	1.14E-11	6.1	13	2760	6.90E-12	5.1	13	3085	4.73E-12	8.6	13
2115	1.58E-11	4.1	13	2440	1.08E-11	6.5	13	2765	7.21E-12	7.6	13	3090	4.54E-12	8.8	13
2120	1.54E-11	4.0	13	2445	1.09E-11	6.5	13	2770	7.32E-12	9.1	13	3095	4.65E-12	9.6	13
2125	1.59E-11	4.5	13	2450	1.11E-11	3.6	13	2775	7.11E-12	7.4	13	3100	4.80E-12	7.6	13
2130	1.52E-11	10.2	13	2455	1.10E-11	4.6	13	2780	7.10E-12	7.7	12	3105	4.81E-12	11.0	13
2135	1.53E-11	6.1	13	2460	1.09E-11	3.9	13	2785	6.97E-12	5.3	10	3110	4.45E-12	4.7	13
2140	1.49E-11	5.7	13	2465	1.09E-11	3.5	13	2790	7.13E-12	6.5	10	3115	4.32E-12	9.2	13
2145	1.54E-11	5.7	13	2470	1.03E-11	6.6	13	2795	7.06E-12	4.8	10	3120	4.31E-12	12.3	13
2150	1.52E-11	5.2	13	2475	9.87E-12	8.4	13	2800	6.62E-12	5.9	10	3125	4.38E-12	13.4	13
2155	1.52E-11	3.8	7	2480	1.03E-11	4.8	13	2805	6.64E-12	5.9	12	3130	4.59E-12	12.9	13
2160	1.51E-11	2.5	7	2485	1.02E-11	8.7	13	2810	6.54E-12	4.4	13	3135	4.33E-12	12.6	13
2165	1.41E-11	4.2	7	2490	9.88E-12	6.4	13	2815	6.85E-12	7.2	13	3140	4.58E-12	17.6	13
2170	1.47E-11	3.2	7	2495	9.48E-12	5.8	13	2820	6.72E-12	7.2	13	3145	4.22E-12	18.3	13
2175	1.54E-11	2.6	7	2500	1.02E-11	4.8	13	2825	6.37E-12	6.1	13	3150	4.17E-12	19.5	13
2180	1.47E-11	5.6	7	2505	9.41E-12	4.5	13	2830	6.35E-12	7.2	13	3155	4.03E-12	12.3	13
2185	1.41E-11	7.4	7	2510	8.13E-12	4.3	13	2835	6.44E-12	5.7	13	3160	3.94E-12	15.4	13
2190	1.47E-11	7.5	11	2515	8.24E-12	6.0	13	2840	6.42E-12	5.2	13	3165	3.95E-12	19.3	13
2195	1.52E-11	10.6	13	2520	8.88E-12	7.1	13	2845	6.39E-12	5.6	13	3170	4.05E-12	27.9	13
2200	1.53E-11	7.4	13	2525	9.20E-12	7.1	13	2850	6.49E-12	3.4	13	3175	3.95E-12	20.8	13
2205	1.42E-11	6.2	13	2530	9.84E-12	3.7	13	2855	6.48E-12	3.9	13	3180	4.03E-12	19.1	13
2210	1.37E-11	4.5	13	2535	9.56E-12	2.9	13	2860	6.55E-12	4.8	13	3185	4.70E-12	13.5	13
2215	1.26E-11	5.6	13	2540	9.49E-12	4.1	13	2865	6.21E-12	4.4	13	3190	4.97E-12	19.6	13
2220	1.29E-11	7.9	13	2545	9.38E-12	3.1	13	2870	6.06E-12	4.1	13	3195	3.50E-12	25.3	13

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	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.
SWP	1155	3.33E-10	10.5	28	1360	2.74E-10	4.1	28	1565	1.32E-10	9.3	28	1770	1.41E-10	4.5	28
	1160	3.49E-10	11.2	28	1365	2.76E-10	4.1	28	1570	1.38E-10	6.5	28	1775	1.43E-10	4.2	28
	1165	3.41E-10	8.2	28	1370	2.75E-10	4.0	28	1575	1.52E-10	3.3	23	1780	1.40E-10	5.1	13
	1170	2.78E-10	7.0	28	1375	2.68E-10	4.6	28	1580	1.51E-10	2.7	15	1785	1.37E-10	3.7	13
	1175	2.16E-10	7.4	28	1380	2.64E-10	3.2	28	1585	1.59E-10	3.7	15	1790	1.33E-10	3.4	13
	1180	2.67E-10	6.9	19	1385	2.53E-10	3.5	28	1590	1.59E-10	4.4	15	1795	1.31E-10	4.4	13
	1185	2.72E-10	6.0	13	1390	1.87E-10	9.6	28	1595	1.50E-10	3.1	15	1800	1.35E-10	4.1	26
	1190	2.74E-10	6.9	13	1395	1.78E-10	6.9	28	1600	1.42E-10	3.8	28	1805	1.32E-10	4.6	28
	1195	2.55E-10	4.7	13	1400	1.71E-10	8.1	28	1605	1.23E-10	4.3	28	1810	1.28E-10	4.2	28
	1200	2.28E-10	5.5	13	1405	1.97E-10	7.8	28	1610	1.09E-10	5.8	28	1815	1.34E-10	4.0	28
	1205	2.06E-10	5.6	28	1410	2.29E-10	3.7	28	1615	1.07E-10	7.5	28	1820	1.37E-10	4.0	28
	1210	1.86E-10	8.9	28	1415	2.28E-10	4.9	28	1620	1.11E-10	5.3	28	1825	1.31E-10	4.1	28
	1215	1.14E-10	9.4	28	1420	2.21E-10	4.1	28	1625	1.12E-10	4.1	28	1830	1.30E-10	3.9	28
	1220	2.16E-10	17.7	28	1425	2.13E-10	6.0	28	1630	1.07E-10	4.6	28	1835	1.36E-10	3.6	28
	1225	3.14E-10	6.2	28	1430	2.05E-10	4.2	28	1635	1.17E-10	5.3	28	1840	1.28E-10	3.4	28
	1230	3.26E-10	5.9	28	1435	2.23E-10	5.0	28	1640	1.24E-10	3.5	28	1845	1.24E-10	3.3	28
	1235	2.92E-10	4.8	28	1440	2.25E-10	6.2	28	1645	1.34E-10	4.2	28	1850	1.19E-10	4.4	28
	1240	3.07E-10	10.4	28	1445	2.20E-10	4.6	26	1650	1.35E-10	2.6	19	1855	1.13E-10	4.8	28
	1245	3.71E-10	2.6	28	1450	2.12E-10	4.5	15	1655	1.25E-10	3.7	13	1860	1.15E-10	4.0	28
	1250	3.16E-10	3.8	28	1455	2.02E-10	3.7	15	1660	1.15E-10	3.4	13	1865	1.20E-10	4.0	28
	1255	3.02E-10	3.1	28	1460	2.04E-10	3.9	15	1665	1.24E-10	4.6	20	1870	1.22E-10	4.0	28
	1260	3.12E-10	3.4	28	1465	2.11E-10	4.5	26	1670	1.24E-10	5.0	28	1875	1.18E-10	3.5	28
	1265	3.42E-10	2.9	28	1470	2.16E-10	5.8	28	1675	1.25E-10	5.1	28	1880	1.22E-10	4.1	28
	1270	3.47E-10	2.2	28	1475	2.21E-10	4.9	28	1680	1.46E-10	4.1	28	1885	1.12E-10	4.9	28
	1275	3.45E-10	2.2	27	1480	2.25E-10	4.5	28	1685	1.46E-10	5.1	28	1890	1.10E-10	5.4	28
	1280	3.41E-10	3.5	27	1485	2.23E-10	4.8	28	1690	1.37E-10	5.1	28	1895	1.12E-10	4.6	28
	1285	3.29E-10	3.1	28	1490	2.29E-10	4.5	28	1695	1.31E-10	3.9	28	1900	1.15E-10	4.4	28
	1290	3.19E-10	3.1	28	1495	2.18E-10	4.5	28	1700	1.28E-10	3.7	28	1905	1.15E-10	4.1	28
	1295	2.83E-10	3.6	28	1500	1.97E-10	4.8	28	1705	1.30E-10	3.7	28	1910	1.14E-10	4.8	28
	1300	2.55E-10	4.3	28	1505	2.01E-10	4.2	28	1710	1.25E-10	3.2	28	1915	1.08E-10	5.8	20
	1305	2.85E-10	5.2	28	1510	2.17E-10	4.9	28	1715	1.19E-10	2.9	28	1920	1.05E-10	5.5	13
	1310	3.23E-10	2.9	28	1515	2.12E-10	5.9	28	1720	1.10E-10	4.4	28	1925	1.03E-10	5.2	13
	1315	3.16E-10	3.1	27	1520	2.12E-10	6.9	28	1725	1.15E-10	4.2	28	1930	1.05E-10	5.1	13
	1320	3.10E-10	3.9	26	1525	1.81E-10	6.6	28	1730	1.31E-10	4.2	28	1935	1.13E-10	4.6	15
	1325	3.06E-10	3.0	26	1530	1.56E-10	6.1	28	1735	1.40E-10	3.0	28	1940	1.12E-10	4.0	28
	1330	2.99E-10	2.8	28	1535	1.43E-10	4.6	28	1740	1.38E-10	3.5	28	1945	1.13E-10	3.1	28
	1335	2.63E-10	3.9	28	1540	1.43E-10	5.2	28	1745	1.38E-10	3.6	28	1950	1.12E-10	3.5	28
	1340	2.79E-10	4.3	28	1545	8.80E-11	12.8	28	1750	1.30E-10	4.2	28	1955	1.07E-10	4.5	28
	1345	2.79E-10	4.5	28	1550	9.49E-11	18.0	28	1755	1.35E-10	5.0	28	1960	1.07E-10	5.1	28
	1350	2.86E-10	3.0	28	1555	1.83E-10	6.1	28	1760	1.44E-10	4.1	28	1965	1.09E-10	6.4	28
	1355	2.87E-10	2.7	28	1560	1.52E-10	7.6	28	1765	1.41E-10	4.5	28	1970	1.15E-10	6.5	28
LWR	1900	1.13E-10	20.7	26	2225	8.97E-11	6.0	26	2550	6.71E-11	5.7	26	2875	4.59E-11	4.7	26
	1905	1.14E-10	14.1	26	2230	8.81E-11	6.2	26	2555	6.41E-11	6.1	26	2880	4.57E-11	5.4	21
	1910	1.16E-10	13.9	26	2235	8.58E-11	5.8	26	2560	6.16E-11	7.1	26	2885	4.41E-11	4.4	13
	1915	1.04E-10	16.1	26	2240	8.18E-11	7.4	26	2565	6.64E-11	4.4	18	2890	4.41E-11	4.1	13
	1920	1.03E-10	12.6	26	2245	8.31E-11	6.0	26	2570	6.65E-11	5.3	13	2895	4.65E-11	5.3	13
	1925	1.07E-10	8.3	26	2250	8.32E-11	8.9	26	2575	6.68E-11	7.6	13	2900	4.24E-11	4.4	13
	1930	1.17E-10	12.1	26	2255	8.69E-11	7.7	26	2580	6.56E-11	6.2	13	2905	4.20E-11	6.3	13
	1935	1.14E-10	7.7	26	2260	9.01E-11	6.7	26	2585	6.20E-11	5.0	13	2910	4.31E-11	4.5	13
	1940	1.09E-10	6.3	26	2265	8.80E-11	6.9	26	2590	6.12E-11	7.6	13	2915	4.32E-11	5.6	13
	1945	1.11E-10	5.8	26	2270	8.32E-11	5.6	26	2595	5.87E-11	6.0	13	2920	4.39E-11	7.2	17
	1950	1.15E-10	6.9	24	2275	8.70E-11	6.6	26	2600	6.03E-11	5.5	13	2925	4.44E-11	6.7	26
	1955	1.11E-10	7.1	19	2280	8.80E-11	6.5	26	2605	6.13E-11	7.1	23	2930	4.42E-11	8.3	26
	1960	1.02E-10	7.5	19	2285	8.21E-11	4.2	26	2610	6.22E-11	5.3	26	2935	4.47E-11	6.2	26
	1965	1.01E-10	9.7	19	2290	7.98E-11	4.5	26	2615	6.27E-11	4.9	26	2940	4.34E-11	5.0	26
	1970	1.09E-10	6.3	19	2295	7.26E-11	7.0	26	2620	6.21E-11	6.3	26	2945	4.21E-11	6.7	26
	1975	1.16E-10	9.4	20	2300	7.36E-11	7.3	26	2625	6.08E-11	6.2	26	2950	4.13E-11	8.8	26
	1980	1.13E-10	7.9	26	2305	7.95E-11	7.2	26	2630	6.06E-11	5.8	26	2955	4.23E-11	8.1	26
	1985	1.10E-10	6.9	26	2310	8.26E-11	6.0	26	2635	6.17E-11	7.2	26	2960	4.45E-11	5.1	26
	1990	1.06E-10	6.3	26	2315	8.06E-11	7.4	26	2640	5.90E-11	7.8	26	2965	4.15E-11	4.9	26
	1995	1.04E-10	6.0	26	2320	8.24E-11	7.0	26	2645	5.87E-11	7.7	26	2970	4.13E-11	6.0	26
	2000	1.07E-10	6.2	26	2325	8.58E-11	4.4	26	2650	5.94E-11	6.9	26	2975	4.21E-11	5.4	26
	2005	1.12E-10	5.6	26	2330	8.27E-11	5.9	26	2655	6.11E-11	10.6	26	2980	4.02E-11	6.4	26
	2010	1.11E-10	3.8	26	2335	8.38E-11	6.9	26	2660	5.95E-11	7.7	26	2985	3.98E-11	8.1	26
	2015	1.12E-10	7.5	26	2340	8.01E-11	4.3	26	2665	5.95E-11	8.4	26	2990	3.92E-11	6.3	26
	2020	1.14E-10	5.3	26	2345	7.83E-11	3.6	26	2670	5.86E-11	9.8	26	2995	3.86E-11	7.2	26
	2025	1.16E-10	5.6	26	2350	8.00E-11	6.2	26	2675	5.70E-11	6.3	26	3000	3.86E-11	7.1	26
	2030	1.12E-10	5.3	26	2355	8.09E-11	5.4	26	2680	5.59E-11	7.6	19	3005	3.88E-11	8.2	26
	2035	1.08E-10	7.0	26	2360	8.32E-11	5.7	26	2685	5.53E-11	4.9	15	3010	3.95E-11	6.2	26
	2040	1.09E-10	6.2	26	2365	7.98E-11	6.0	26	2690	5.42E-11	6.4	15	3015	3.75E-11	8.2	26
	2045	1.11E-10	6.9	26	2370	7.82E-11	5.6	26	2695	5.22E-11	4.8	15	3020	3.72E-11	7.7	26
	2050	1.09E-10	4.7	21	2375	7.50E-11	5.5	26	2700	5.07E-11	4.9	15	3025	3.60E-11	9.7	26
	2055	1.05E-10	3.4	19	2380	7.22E-11	6.0	26	2705	5.36E-11	4.5	20	3030	3.61E-11	11.7	26
	2060	1.04E-10	4.8	19	2385	7.12E-11	6.2	26	2710	5.49E-11	7.4	26	3035	3.69E-11	9.2	26
	2065	1.03E-10	4.9	19	2390	7.42E-11	8.2	26	2715	5.45E-11	9.6	26	3040	3.64E-11	7.0	26
	2070	1.00E-10	5.7	19	2395	7.49E-11	6.4	26	2720	5.41E-11	9.1	26	3045	3.45E-11	6.9	26
	2075	1.07E-10	4.2	19	2400	7.49E-11	4.3	26	2725	5.27E-11	6.0	26	3050	3.57E-11	7.0	26
	2080	1.10E-10	6.3	25	2405	7.52E-11	5.2	26	2730	5.10E-11	6.0	26	3055	3.57E-11	8.6	26
	2085	1.04E-10	4.8	26	2410	7.40E-11	8.1	26	2735	5.07E-11	7.6	26	3060	3.56E-11	8.2	26
	2090	1.05E-10	5.0	26	2415	7.39E-11	9.1	26	2740	5.13E-11	8.1	26	3065	3.53E-11	9.0	26
	2095	9.99E-11	4.1	26	2420	7.32E-11	6.8	26	2745	5.16E-11	5.5	26	3070	3.53E-11	7.9	26
	2100	9.70E-11	4.9	26	2425	7.19E-11	5.4	26	2750	5.20E-11	6.3	26	3075	3.37E-11	9.2	26
	2105	9.91E-11	8.8	26	2430	7.42E-11	6.8	26	2755	5.17E-11	7.2	26	3080	3.55E-11	8.9	26
	2110	1.05E-10	5.6	26	2435	7.41E-11	7.8	26	2760	4.92E-11	6.1	26	3085	3.56E-11	9.8	26
	2115	1.02E-10	7.4	26	2440	7.34E-11	6.6	26	2765	4.95E-11	6.8	26	3090	3.47E-11	7.6	26
	2120	9.94E-11	6.2	26	2445	7.36E-11	5.1	26	2770	5.08E-11	9.9	26	3095	3.42E-11	9.2	26
	2125	1.03E-10	5.7	26	2450	7.47E-11	5.6	26	2775	5.06E-11	4.4	26	3100	3.46E-11	9.3	26
	2130	9.93E-11	8.6	26	2455	7.49E-11	5.8	26	2780	5.13E-11	4.7	23	3105	3.52E-11	8.6	26
	2135	1.00E-10	5.8	26	2460	7.45E-11	5.5	26	2785	4.96E-11	4.6	20	3110	3.23E-11	8.3	26
	2140	9.76E-11	6.3	26	2465	7.34E-11	5.0	26	2790	4.89E-11	6.5	20	3115	3.20E-11	8.7	26
	2145	9.96E-11	7.3	26	2470	7.12E-11	6.1	26	2795	4.56E-11	5.4	20	3120	3.11E-11	8.5	26
	2150	9.80E-11	6.5	21	2475	7.00E-11	5.8	26	2800	4.31E-11	7.6	20	3125	3.24E-11	16.9	26
	2155	1.02E-10	6.0	13	2480	6.94E-11	6.6	26	2805	4.47E-11	8.1	21	3130	3.25E-11	13.2	26
	2160	9.68E-11	5.1	13	2485	7.11E-11	8.3	26	2810	4.53E-11	7.3	26	3135	3.11E-11	11.9	26
	2165	9.10E-11	3.3	13	2490	6.80E-11	9.1	26	2815	4.94E-11	7.1	26	3140	3.35E-11	16.3	26
	2170	9.52E-11	5.6	13	2495	6.72E-11	7.2	26	2820	4.96E-11	4.5	26	3145	3.14E-11	14.7	26
	2175	9.53E-11	8.0	13	2500	7.14E-11	6.5	26	2825	4.71E-11	5.2	26	3150	3.16E-11	15.3	26
	2180	9.18E-11	6.1	13	2505	6.87E-11	5.1	26	2830	4.56E-11	8.0	26	3155	3.25E-11	16.8	26
	2185	9.74E-11	5.5	13	2510	6.63E-11	4.8	26	2835	4.65E-11	7.2	26	3160	2.97E-11	21.3	26
	2190	1.00E-10	10.2	19	2515	6.45E-11	7.4	26	2840	4.72E-11	6.7	26	3165	2.85E-11	24.7	26
	2195	9.51E-11	15.5	26	2520	6.34E-11	7.5	26	2845	4.66E-11	5.7	26	3170	2.81E-11	22.8	26
	2200	9.29E-11	8.1	26	2525	6.55E-11	8.1	26	2850	4.58E-11	6.9	26	3175	2.88E-11	23.1	26
	2205	9.01E-11	7.7	26	2530	6.80E-11	6.3	26	2855	4.60E-11	5.1	26	3180	3.00E-11	22.8	26
	2210	9.34E-11	6.0	26	2535	6.72E-11	6.3	26	2860	4.90E-11	5.5	26	3185	3.20E-11	26.2	26
	2215	8.99E-11	4.7	26	2540	6.46E-11	5.2	26	2865	4.71E-11	4.7	26	3190	3.52E-11	27.3	26
	2220	8.83E-11	7.2	26	2545	6.43E-11	4.2	26	2870	4.55E-11	4.7	26	3195	2.74E-11	19.7	26

TABLE 2 - *Continued*

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SWP

LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.
1155	4.06E-12	15.5	12	1360	3.66E-12	4.3	12	1565	2.66E-12	4.3	12	1770	2.23E-12	5.9	12
1160	4.33E-12	15.4	12	1365	3.66E-12	4.7	12	1570	2.69E-12	3.8	12	1775	2.18E-12	5.1	12
1165	4.15E-12	12.0	12	1370	3.58E-12	3.4	12	1575	2.73E-12	5.1	9	1780	2.15E-12	2.9	4
1170	3.79E-12	7.8	12	1375	3.47E-12	3.6	12	1580	2.58E-12	4.4	8	1785	2.15E-12	4.1	4
1175	3.11E-12	10.8	12	1380	3.50E-12	4.5	12	1585	2.68E-12	3.0	8	1790	2.19E-12	5.3	4
1180	3.78E-12	6.7	4	1385	3.55E-12	3.9	12	1590	2.68E-12	2.5	8	1795	2.32E-12	4.9	4
1185	3.86E-12	9.4	4	1390	3.16E-12	4.0	12	1595	2.51E-12	4.0	8	1800	2.22E-12	4.2	11
1190	3.71E-12	3.8	4	1395	2.92E-12	5.4	12	1600	2.49E-12	5.3	12	1805	2.18E-12	4.0	12
1195	3.14E-12	3.8	4	1400	3.07E-12	4.0	12	1605	2.39E-12	5.3	12	1810	2.13E-12	2.7	12
1200	2.75E-12	5.3	4	1405	3.17E-12	3.7	12	1610	2.32E-12	4.8	12	1815	2.16E-12	4.1	12
1205	2.47E-12	8.7	12	1410	3.35E-12	3.9	12	1615	2.46E-12	6.3	12	1820	2.20E-12	3.3	12
1210	2.19E-12	19.2	12	1415	3.28E-12	4.8	12	1620	2.39E-12	4.2	12	1825	2.15E-12	4.5	12
1215	1.90E-12	40.0	12	1420	3.28E-12	2.7	12	1625	2.38E-12	3.8	12	1830	2.12E-12	4.6	12
1220	2.74E-12	28.1	12	1425	3.37E-12	3.4	12	1630	2.43E-12	2.1	12	1835	2.05E-12	3.6	12
1225	3.67E-12	10.6	12	1430	3.38E-12	3.2	12	1635	2.41E-12	4.9	12	1840	1.97E-12	5.7	12
1230	3.96E-12	8.3	12	1435	3.39E-12	2.8	12	1640	2.35E-12	2.8	12	1845	1.90E-12	4.9	12
1235	4.20E-12	8.3	12	1440	3.41E-12	3.6	12	1645	2.38E-12	4.2	12	1850	1.85E-12	6.5	12
1240	4.23E-12	5.8	12	1445	3.37E-12	3.9	11	1650	2.31E-12	3.0	8	1855	1.82E-12	4.1	12
1245	4.09E-12	5.9	12	1450	3.38E-12	2.6	8	1655	2.40E-12	2.7	4	1860	1.88E-12	4.4	12
1250	3.92E-12	5.0	12	1455	3.33E-12	3.4	8	1660	2.39E-12	4.8	4	1865	1.88E-12	4.6	12
1255	3.81E-12	4.7	12	1460	3.30E-12	2.0	8	1665	2.27E-12	4.6	5	1870	1.96E-12	5.2	12
1260	3.64E-12	5.4	12	1465	3.29E-12	5.3	12	1670	2.20E-12	2.8	12	1875	1.95E-12	3.8	12
1265	3.98E-12	4.2	12	1470	3.32E-12	8.0	12	1675	2.22E-12	2.9	12	1880	1.82E-12	4.2	12
1270	4.25E-12	2.8	12	1475	3.17E-12	2.7	12	1680	2.36E-12	2.7	12	1885	1.64E-12	6.2	12
1275	4.13E-12	4.1	12	1480	3.33E-12	5.0	12	1685	2.32E-12	4.7	12	1890	1.56E-12	5.6	12
1280	4.21E-12	2.5	12	1485	3.33E-12	6.2	12	1690	2.30E-12	5.9	12	1895	1.62E-12	4.7	12
1285	4.16E-12	2.9	12	1490	3.31E-12	4.4	12	1695	2.36E-12	2.6	12	1900	1.66E-12	4.9	12
1290	3.92E-12	5.9	12	1495	3.23E-12	3.4	12	1700	2.34E-12	3.5	12	1905	1.65E-12	5.5	12
1295	3.64E-12	5.9	12	1500	3.03E-12	2.2	12	1705	2.29E-12	3.2	12	1910	1.68E-12	6.7	12
1300	3.22E-12	5.7	12	1505	2.93E-12	2.2	12	1710	2.23E-12	2.8	12	1915	1.55E-12	6.0	9
1305	3.53E-12	9.0	12	1510	2.94E-12	3.5	12	1715	2.10E-12	3.5	12	1920	1.45E-12	3.2	4
1310	4.08E-12	4.9	12	1515	2.95E-12	4.0	12	1720	2.08E-12	3.0	12	1925	1.47E-12	4.6	4
1315	4.15E-12	7.4	12	1520	2.99E-12	6.1	12	1725	2.14E-12	5.6	12	1930	1.53E-12	5.1	4
1320	3.91E-12	3.0	11	1525	2.86E-12	3.5	12	1730	2.26E-12	4.2	12	1935	1.62E-12	4.9	7
1325	3.72E-12	3.7	11	1530	2.75E-12	4.5	12	1735	2.29E-12	2.9	12	1940	1.66E-12	5.4	12
1330	3.64E-12	5.5	12	1535	2.70E-12	3.7	12	1740	2.22E-12	2.7	12	1945	1.68E-12	4.7	12
1335	3.29E-12	5.7	12	1540	2.71E-12	5.7	12	1745	2.24E-12	2.4	12	1950	1.63E-12	6.4	12
1340	3.60E-12	5.2	12	1545	2.57E-12	4.0	12	1750	2.21E-12	3.7	12	1955	1.60E-12	5.9	12
1345	3.61E-12	6.6	12	1550	2.45E-12	4.4	12	1755	2.25E-12	5.4	12	1960	1.59E-12	4.9	12
1350	3.74E-12	4.0	12	1555	2.78E-12	6.9	12	1760	2.26E-12	3.4	12	1965	1.65E-12	7.6	12
1355	3.74E-12	2.4	12	1560	2.72E-12	4.1	12	1765	2.28E-12	4.1	12	1970	1.73E-12	7.5	12

LWR

LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.
1900	1.51E-12	23.5	11	2225	1.32E-12	7.1	11	2550	1.11E-12	8.2	11	2875	8.45E-13	3.4	11
1905	1.53E-12	16.3	11	2230	1.34E-12	5.9	11	2555	1.05E-12	7.4	11	2880	8.60E-13	3.5	9
1910	1.54E-12	19.3	11	2235	1.27E-12	5.8	11	2560	1.04E-12	6.9	11	2885	8.32E-13	3.6	7
1915	1.40E-12	25.4	11	2240	1.27E-12	9.2	11	2565	1.10E-12	5.1	10	2890	8.15E-13	2.5	7
1920	1.40E-12	29.6	11	2245	1.29E-12	4.2	11	2570	1.15E-12	4.6	4	2895	8.32E-13	4.4	7
1925	1.57E-12	20.2	11	2250	1.34E-12	9.2	11	2575	1.11E-12	2.3	4	2900	7.86E-13	4.1	7
1930	1.72E-12	22.3	11	2255	1.37E-12	7.0	11	2580	1.09E-12	4.7	4	2905	7.68E-13	3.9	7
1935	1.73E-12	16.0	11	2260	1.40E-12	3.7	11	2585	1.07E-12	3.8	4	2910	7.91E-13	3.2	7
1940	1.64E-12	9.0	11	2265	1.36E-12	8.2	11	2590	1.06E-12	4.3	4	2915	8.14E-13	4.5	7
1945	1.71E-12	7.6	11	2270	1.37E-12	7.1	11	2595	1.02E-12	3.6	4	2920	8.06E-13	5.1	11
1950	1.81E-12	6.5	8	2275	1.45E-12	6.2	11	2600	1.04E-12	2.6	4	2925	7.82E-13	5.3	11
1955	1.71E-12	10.3	7	2280	1.46E-12	8.6	11	2605	1.02E-12	6.7	9	2930	8.19E-13	6.3	11
1960	1.66E-12	11.7	7	2285	1.35E-12	11.4	11	2610	1.06E-12	4.2	11	2935	8.19E-13	4.4	11
1965	1.59E-12	10.8	7	2290	1.34E-12	3.9	11	2615	1.08E-12	5.5	11	2940	8.03E-13	4.9	11
1970	1.69E-12	9.6	7	2295	1.36E-12	5.5	11	2620	1.06E-12	7.2	11	2945	7.84E-13	5.5	11
1975	1.88E-12	9.5	7	2300	1.34E-12	9.4	11	2625	1.02E-12	5.1	11	2950	7.65E-13	5.7	11
1980	1.76E-12	8.8	10	2305	1.39E-12	6.1	11	2630	1.03E-12	5.5	11	2955	8.25E-13	6.2	11
1985	1.71E-12	9.6	11	2310	1.42E-12	20.5	11	2635	1.03E-12	4.7	11	2960	8.67E-13	5.3	11
1990	1.68E-12	7.3	11	2315	1.37E-12	16.4	11	2640	9.96E-13	7.2	11	2965	7.99E-13	2.8	11
1995	1.57E-12	11.7	11	2320	1.32E-12	6.3	11	2645	9.73E-13	9.6	11	2970	7.77E-13	3.0	11
2000	1.53E-12	9.6	11	2325	1.38E-12	7.0	11	2650	1.01E-12	7.2	11	2975	7.98E-13	4.6	11
2005	1.64E-12	8.4	11	2330	1.36E-12	8.2	11	2655	1.06E-12	8.9	11	2980	7.81E-13	5.1	11
2010	1.66E-12	8.3	11	2335	1.32E-12	5.8	11	2660	1.03E-12	6.7	11	2985	7.65E-13	4.7	11
2015	1.62E-12	9.7	11	2340	1.24E-12	6.5	11	2665	1.00E-12	7.1	11	2990	7.51E-13	6.4	11
2020	1.68E-12	5.2	11	2345	1.20E-12	7.1	11	2670	9.81E-13	10.7	11	2995	7.59E-13	5.7	11
2025	1.67E-12	6.9	11	2350	1.29E-12	5.9	11	2675	9.91E-13	7.9	11	3000	7.51E-13	6.4	11
2030	1.67E-12	6.9	11	2355	1.30E-12	3.0	11	2680	9.94E-13	5.3	7	3005	7.55E-13	3.6	11
2035	1.58E-12	12.0	11	2360	1.38E-12	4.4	11	2685	9.62E-13	3.9	7	3010	7.63E-13	5.8	11
2040	1.58E-12	9.6	11	2365	1.25E-12	3.6	11	2690	9.69E-13	3.9	7	3015	7.33E-13	8.0	11
2045	1.63E-12	6.6	11	2370	1.25E-12	5.9	11	2695	9.24E-13	4.3	7	3020	7.25E-13	4.8	11
2050	1.64E-12	4.2	11	2375	1.19E-12	5.3	11	2700	9.13E-13	3.4	7	3025	7.06E-13	6.2	11
2055	1.68E-12	6.2	6	2380	1.13E-12	6.1	11	2705	9.63E-13	4.0	7	3030	6.99E-13	7.0	11
2060	1.63E-12	6.2	6	2385	1.12E-12	6.9	11	2710	9.20E-13	3.9	9	3035	7.00E-13	7.1	11
2065	1.55E-12	5.9	6	2390	1.18E-12	7.8	11	2715	9.20E-13	7.5	11	3040	7.36E-13	9.6	11
2070	1.54E-12	6.3	6	2395	1.19E-12	10.1	11	2720	9.12E-13	7.6	11	3045	6.90E-13	7.2	11
2075	1.60E-12	3.9	6	2400	1.23E-12	9.1	11	2725	9.08E-13	7.8	11	3050	6.96E-13	6.7	11
2080	1.70E-12	5.9	11	2405	1.22E-12	8.3	11	2730	9.31E-13	5.6	11	3055	7.12E-13	8.6	11
2085	1.55E-12	5.4	11	2410	1.16E-12	11.3	11	2735	9.30E-13	5.5	11	3060	6.89E-13	8.4	11
2090	1.57E-12	6.8	11	2415	1.19E-12	9.8	11	2740	9.31E-13	4.3	11	3065	6.86E-13	8.0	11
2095	1.55E-12	6.8	11	2420	1.20E-12	5.1	11	2745	9.05E-13	5.5	11	3070	6.75E-13	7.6	11
2100	1.47E-12	6.3	11	2425	1.19E-12	7.1	11	2750	9.08E-13	6.1	11	3075	6.61E-13	10.3	11
2105	1.48E-12	10.5	11	2430	1.19E-12	6.1	11	2755	8.94E-13	6.5	11	3080	7.12E-13	7.5	11
2110	1.61E-12	5.9	11	2435	1.19E-12	7.0	11	2760	8.76E-13	5.4	11	3085	7.00E-13	5.3	11
2115	1.53E-12	3.8	11	2440	1.15E-12	7.5	11	2765	8.77E-13	6.5	11	3090	6.90E-13	5.1	11
2120	1.45E-12	5.5	11	2445	1.23E-12	7.2	11	2770	8.92E-13	10.6	11	3095	6.98E-13	7.6	11
2125	1.56E-12	6.2	11	2450	1.26E-12	4.5	11	2775	8.93E-13	7.5	11	3100	7.13E-13	5.0	11
2130	1.52E-12	11.9	11	2455	1.26E-12	4.4	11	2780	9.29E-13	3.9	11	3105	6.88E-13	7.5	11
2135	1.51E-12	7.3	11	2460	1.23E-12	5.2	11	2785	8.93E-13	4.7	10	3110	6.48E-13	5.3	11
2140	1.43E-12	5.3	11	2465	1.21E-12	5.7	11	2790	9.04E-13	4.5	10	3115	6.72E-13	7.5	11
2145	1.45E-12	7.4	11	2470	1.15E-12	7.2	11	2795	8.21E-13	6.4	10	3120	6.67E-13	6.9	11
2150	1.46E-12	3.5	11	2475	1.11E-12	8.8	11	2800	7.46E-13	7.6	10	3125	7.04E-13	13.3	11
2155	1.54E-12	5.7	7	2480	1.15E-12	5.9	11	2805	8.01E-13	5.2	11	3130	7.25E-13	11.4	11
2160	1.51E-12	8.1	7	2485	1.13E-12	8.7	11	2810	8.45E-13	3.9	11	3135	6.76E-13	11.2	11
2165	1.40E-12	5.4	7	2490	1.11E-12	7.9	11	2815	8.93E-13	6.8	11	3140	6.72E-13	14.2	11
2170	1.42E-12	6.2	7	2495	1.06E-12	5.3	11	2820	9.02E-13	5.8	11	3145	6.33E-13	18.3	11
2175	1.42E-12	6.9	7	2500	1.20E-12	3.4	11	2825	8.31E-13	6.3	11	3150	6.50E-13	16.1	11
2180	1.45E-12	4.3	7	2505	1.17E-12	3.5	11	2830	8.06E-13	7.7	11	3155	6.07E-13	16.7	11
2185	1.55E-12	6.9	7	2510	1.10E-12	4.3	11	2835	8.29E-13	5.8	11	3160	6.52E-13	8.1	11
2190	1.65E-12	11.7	9	2515	1.06E-12	6.2	11	2840	8.45E-13	5.7	11	3165	7.05E-13	21.3	11
2195	1.58E-12	17.1	11	2520	1.06E-12	5.9	11	2845	8.51E-13	5.3	11	3170	7.45E-13	36.6	11
2200	1.49E-12	8.4	11	2525	1.06E-12	6.4	11	2850	8.41E-13	5.4	11	3175	6.92E-13	36.0	11
2205	1.41E-12	7.1	11	2530	1.09E-12	7.1	11	2855	8.42E-13	6.9	11	3180	6.08E-13	32.1	11
2210	1.45E-12	9.0	11	2535	1.09E-12	4.6	11	2860	8.66E-13	6.6	11	3185	7.05E-13	24.0	11
2215	1.38E-12	6.9	11	2540	1.08E-12	5.5	11	2865	8.56E-13	4.0	11	3190	7.78E-13	20.3	11
2220	1.27E-12	7.9	11	2545	1.09E-12	6.9	11	2870	8.59E-13	6.9	11	3195	6.41E-13	24.3	11

TABLE 2 - *Continued*

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SWP

LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.
1155	7.08E-11	12.2	24	1360	3.79E-11	5.1	24	1565	2.32E-11	4.9	24	1770	1.46E-11	5.0	24
1160	6.97E-11	13.9	24	1365	3.73E-11	5.4	24	1570	2.28E-11	4.6	24	1775	1.43E-11	3.9	23
1165	6.74E-11	12.2	24	1370	3.52E-11	5.1	24	1575	2.30E-11	5.9	16	1780	1.41E-11	4.2	12
1170	6.70E-11	9.6	24	1375	3.50E-11	4.8	24	1580	2.21E-11	6.1	12	1785	1.41E-11	3.9	12
1175	6.78E-11	8.1	24	1380	3.62E-11	5.0	24	1585	2.17E-11	6.1	12	1790	1.39E-11	3.3	12
1180	6.77E-11	7.3	19	1385	3.61E-11	4.5	24	1590	2.10E-11	5.3	12	1795	1.39E-11	3.5	13
1185	6.55E-11	8.3	13	1390	3.48E-11	4.9	24	1595	2.04E-11	4.7	13	1800	1.37E-11	3.6	19
1190	6.32E-11	7.6	12	1395	3.43E-11	4.4	24	1600	2.05E-11	5.4	24	1805	1.36E-11	4.8	24
1195	5.97E-11	6.3	12	1400	3.45E-11	5.2	24	1605	1.97E-11	6.2	24	1810	1.34E-11	4.7	24
1200	5.92E-11	6.3	12	1405	3.32E-11	4.8	24	1610	1.93E-11	5.4	24	1815	1.33E-11	4.6	24
1205	5.69E-11	5.7	23	1410	3.32E-11	4.9	24	1615	1.87E-11	4.7	24	1820	1.34E-11	4.2	24
1210	4.23E-11	17.3	24	1415	3.21E-11	4.3	24	1620	1.79E-11	5.1	24	1825	1.29E-11	4.5	24
1215	2.84E-11	15.2	24	1420	3.21E-11	4.3	24	1625	1.80E-11	4.4	24	1830	1.29E-11	4.4	24
1220	4.20E-11	21.4	24	1425	3.25E-11	5.4	24	1630	1.80E-11	5.1	24	1835	1.27E-11	4.8	24
1225	5.35E-11	8.7	24	1430	3.24E-11	3.4	24	1635	1.68E-11	5.3	24	1840	1.25E-11	4.1	24
1230	5.57E-11	6.7	24	1435	3.21E-11	4.7	24	1640	1.55E-11	6.0	24	1845	1.25E-11	4.4	24
1235	5.29E-11	4.9	24	1440	3.09E-11	6.3	24	1645	1.63E-11	7.1	23	1850	1.21E-11	5.1	24
1240	4.89E-11	5.3	24	1445	3.03E-11	5.4	21	1650	1.68E-11	5.1	15	1855	1.19E-11	4.6	24
1245	5.25E-11	6.7	24	1450	3.01E-11	4.6	12	1655	1.72E-11	3.6	12	1860	1.20E-11	4.7	24
1250	5.37E-11	4.1	24	1455	3.01E-11	3.5	12	1660	1.70E-11	4.2	12	1865	1.20E-11	4.4	24
1255	5.26E-11	4.2	24	1460	2.89E-11	4.2	12	1665	1.67E-11	4.4	19	1870	1.19E-11	5.1	24
1260	5.17E-11	5.5	24	1465	2.93E-11	4.7	22	1670	1.69E-11	4.2	24	1875	1.16E-11	5.5	24
1265	5.23E-11	4.1	24	1470	2.96E-11	5.2	24	1675	1.65E-11	5.3	24	1880	1.15E-11	5.0	24
1270	5.16E-11	4.0	24	1475	2.89E-11	4.4	24	1680	1.63E-11	5.0	24	1885	1.11E-11	5.5	24
1275	5.06E-11	5.7	24	1480	2.96E-11	4.4	24	1685	1.61E-11	5.6	24	1890	1.10E-11	5.4	24
1280	5.08E-11	4.8	24	1485	2.90E-11	4.7	24	1690	1.64E-11	5.1	24	1895	1.10E-11	4.5	24
1285	4.94E-11	3.9	24	1490	2.93E-11	4.8	24	1695	1.64E-11	4.2	24	1900	1.07E-11	5.3	24
1290	4.80E-11	4.8	24	1495	2.92E-11	3.5	24	1700	1.61E-11	4.5	24	1905	1.04E-11	5.5	24
1295	4.74E-11	5.6	24	1500	2.80E-11	4.2	24	1705	1.57E-11	4.2	24	1910	1.04E-11	6.0	23
1300	4.62E-11	3.3	24	1505	2.69E-11	4.7	24	1710	1.57E-11	4.1	24	1915	1.04E-11	6.6	17
1305	4.57E-11	4.2	24	1510	2.68E-11	5.0	24	1715	1.53E-11	4.9	24	1920	1.01E-11	4.6	12
1310	4.56E-11	5.5	24	1515	2.68E-11	6.4	24	1720	1.52E-11	5.4	24	1925	9.92E-12	5.9	13
1315	4.57E-11	5.5	23	1520	2.68E-11	6.2	24	1725	1.54E-11	4.3	24	1930	1.00E-11	5.9	13
1320	4.52E-11	4.7	21	1525	2.65E-11	4.9	24	1730	1.56E-11	3.6	24	1935	9.90E-12	4.7	16
1325	4.38E-11	4.9	21	1530	2.63E-11	6.4	24	1735	1.55E-11	4.7	24	1940	9.84E-12	5.5	24
1330	4.22E-11	5.0	24	1535	2.62E-11	6.6	24	1740	1.51E-11	3.4	24	1945	1.01E-11	4.9	24
1335	3.97E-11	3.9	24	1540	2.54E-11	6.3	24	1745	1.51E-11	3.6	24	1950	1.03E-11	5.2	24
1340	3.95E-11	5.1	24	1545	2.38E-11	6.4	24	1750	1.51E-11	3.3	24	1955	1.02E-11	6.2	24
1345	3.97E-11	6.0	24	1550	2.25E-11	5.1	24	1755	1.49E-11	4.5	24	1960	1.01E-11	5.9	23
1350	3.91E-11	4.3	24	1555	2.45E-11	6.4	24	1760	1.49E-11	4.8	24	1965	9.94E-12	6.1	23
1355	3.88E-11	3.8	24	1560	2.40E-11	4.9	24	1765	1.49E-11	4.1	24	1970	9.82E-12	7.8	23

LWR

LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.	LAMBDA	FLUX	SIGMA	NO.
1900	1.05E-11	16.2	13	2225	5.87E-12	8.0	13	2550	4.00E-12	4.7	13	2875	2.54E-12	4.6	13
1905	9.99E-12	7.0	13	2230	5.74E-12	7.5	13	2555	3.79E-12	4.8	13	2880	2.58E-12	6.0	10
1910	1.01E-11	7.6	13	2235	5.65E-12	6.0	13	2560	3.74E-12	4.2	13	2885	2.51E-12	8.0	7
1915	9.55E-12	9.3	13	2240	5.60E-12	6.9	13	2565	3.83E-12	4.6	12	2890	2.40E-12	6.0	7
1920	9.63E-12	8.8	13	2245	5.40E-12	5.9	13	2570	3.87E-12	3.2	7	2895	2.49E-12	6.2	7
1925	9.81E-12	7.9	13	2250	5.36E-12	9.3	13	2575	4.04E-12	1.7	6	2900	2.41E-12	5.7	7
1930	1.02E-11	9.7	13	2255	5.57E-12	7.4	13	2580	4.05E-12	3.1	6	2905	2.39E-12	4.7	7
1935	9.49E-12	6.9	13	2260	5.83E-12	5.6	13	2585	3.90E-12	2.6	6	2910	2.43E-12	3.7	7
1940	9.30E-12	5.9	13	2265	5.65E-12	6.7	13	2590	3.76E-12	8.6	6	2915	2.44E-12	6.7	7
1945	9.57E-12	7.4	13	2270	5.55E-12	10.6	13	2595	3.76E-12	7.2	6	2920	2.47E-12	8.1	12
1950	9.40E-12	6.2	11	2275	5.80E-12	10.1	13	2600	3.82E-12	3.0	7	2925	2.42E-12	6.3	13
1955	9.24E-12	10.0	8	2280	5.71E-12	8.0	13	2605	3.79E-12	4.6	10	2930	2.52E-12	7.2	13
1960	8.98E-12	7.7	8	2285	5.73E-12	5.0	13	2610	3.65E-12	5.9	13	2935	2.50E-12	7.3	13
1965	8.71E-12	3.1	8	2290	5.53E-12	4.8	13	2615	3.64E-12	6.3	13	2940	2.50E-12	5.6	13
1970	9.01E-12	7.7	8	2295	5.44E-12	5.6	13	2620	3.63E-12	5.7	13	2945	2.43E-12	4.7	13
1975	9.20E-12	6.6	8	2300	5.43E-12	6.9	13	2625	3.57E-12	3.5	13	2950	2.36E-12	7.2	13
1980	8.83E-12	7.8	12	2305	5.31E-12	8.5	13	2630	3.55E-12	4.4	13	2955	2.46E-12	6.9	13
1985	8.94E-12	6.2	13	2310	5.25E-12	9.2	13	2635	3.64E-12	3.5	13	2960	2.51E-12	9.0	13
1990	9.08E-12	4.5	13	2315	5.10E-12	7.1	13	2640	3.54E-12	4.2	13	2965	2.32E-12	7.7	13
1995	8.97E-12	5.7	13	2320	5.19E-12	6.6	13	2645	3.47E-12	6.8	13	2970	2.27E-12	5.5	13
2000	8.51E-12	4.2	13	2325	5.32E-12	6.8	13	2650	3.49E-12	6.0	13	2975	2.35E-12	5.0	13
2005	8.52E-12	4.4	13	2330	5.38E-12	6.5	13	2655	3.62E-12	7.4	13	2980	2.30E-12	5.3	13
2010	8.44E-12	5.1	13	2335	5.35E-12	4.6	13	2660	3.56E-12	5.8	13	2985	2.32E-12	5.9	13
2015	8.29E-12	5.0	13	2340	5.16E-12	5.5	13	2665	3.39E-12	5.5	13	2990	2.26E-12	5.1	13
2020	8.49E-12	4.8	13	2345	5.20E-12	5.5	13	2670	3.37E-12	7.7	13	2995	2.24E-12	6.4	13
2025	8.46E-12	7.9	13	2350	5.16E-12	6.3	13	2675	3.32E-12	6.6	12	3000	2.27E-12	8.4	13
2030	8.31E-12	5.4	13	2355	5.15E-12	4.7	13	2680	3.37E-12	5.8	8	3005	2.22E-12	8.5	13
2035	8.18E-12	4.0	13	2360	5.33E-12	6.0	13	2685	3.28E-12	3.9	8	3010	2.21E-12	6.6	13
2040	8.09E-12	6.3	13	2365	5.16E-12	5.4	13	2690	3.37E-12	2.7	8	3015	2.15E-12	8.4	13
2045	8.12E-12	5.7	12	2370	5.05E-12	9.3	13	2695	3.23E-12	4.7	8	3020	2.14E-12	7.3	13
2050	8.16E-12	4.3	11	2375	4.87E-12	7.3	13	2700	3.17E-12	4.0	8	3025	2.11E-12	7.1	13
2055	8.00E-12	6.1	9	2380	4.70E-12	4.2	13	2705	3.26E-12	4.5	8	3030	2.11E-12	7.4	13
2060	7.94E-12	2.4	9	2385	4.62E-12	5.6	13	2710	3.13E-12	4.0	12	3035	2.04E-12	6.8	13
2065	7.84E-12	3.4	9	2390	4.65E-12	6.7	13	2715	3.11E-12	6.0	13	3040	2.03E-12	5.3	13
2070	7.79E-12	3.6	9	2395	4.70E-12	5.8	13	2720	3.09E-12	4.7	13	3045	2.02E-12	7.6	13
2075	7.92E-12	4.7	9	2400	4.77E-12	5.8	13	2725	3.02E-12	2.3	13	3050	2.07E-12	7.9	13
2080	8.07E-12	6.9	12	2405	4.78E-12	4.7	13	2730	2.88E-12	5.0	13	3055	2.04E-12	8.7	13
2085	7.64E-12	6.5	13	2410	4.64E-12	6.6	13	2735	2.74E-12	6.0	13	3060	2.08E-12	7.1	13
2090	7.64E-12	5.2	13	2415	4.62E-12	8.2	13	2740	2.84E-12	8.3	13	3065	2.09E-12	6.4	13
2095	7.53E-12	5.3	13	2420	4.65E-12	5.0	13	2745	2.95E-12	5.3	13	3070	2.02E-12	4.9	13
2100	7.11E-12	4.8	13	2425	4.54E-12	4.1	13	2750	2.98E-12	4.7	13	3075	1.92E-12	7.1	13
2105	7.34E-12	7.9	13	2430	4.60E-12	5.1	13	2755	2.92E-12	5.4	13	3080	2.01E-12	8.4	13
2110	7.37E-12	6.6	13	2435	4.58E-12	4.3	13	2760	2.83E-12	5.7	13	3085	2.02E-12	6.8	13
2115	7.14E-12	6.0	13	2440	4.43E-12	6.4	13	2765	2.87E-12	6.1	13	3090	1.92E-12	9.7	13
2120	7.08E-12	5.1	13	2445	4.53E-12	5.3	13	2770	2.91E-12	7.9	13	3095	1.94E-12	11.6	13
2125	7.25E-12	5.0	13	2450	4.64E-12	4.8	13	2775	2.85E-12	5.3	11	3100	1.97E-12	11.8	13
2130	6.98E-12	9.4	13	2455	4.59E-12	5.6	13	2780	2.85E-12	3.5	11	3105	1.91E-12	12.9	13
2135	6.91E-12	5.3	13	2460	4.56E-12	6.2	13	2785	2.78E-12	4.2	11	3110	1.79E-12	15.0	13
2140	6.86E-12	4.6	13	2465	4.40E-12	6.1	13	2790	2.95E-12	6.9	11	3115	1.79E-12	13.8	13
2145	6.76E-12	5.4	13	2470	4.22E-12	6.7	13	2795	2.84E-12	5.9	11	3120	1.73E-12	15.1	13
2150	6.68E-12	8.5	12	2475	4.13E-12	7.0	13	2800	2.75E-12	4.6	11	3125	1.79E-12	18.2	13
2155	6.87E-12	6.1	7	2480	4.22E-12	3.7	13	2805	2.76E-12	6.0	11	3130	2.00E-12	16.6	13
2160	6.70E-12	6.3	7	2485	4.20E-12	7.4	13	2810	2.67E-12	4.5	12	3135	2.00E-12	14.8	13
2165	6.52E-12	3.9	7	2490	4.04E-12	8.1	13	2815	2.81E-12	7.5	13	3140	1.92E-12	16.8	13
2170	6.52E-12	4.7	7	2495	3.90E-12	7.3	13	2820	2.80E-12	6.7	13	3145	1.84E-12	23.6	13
2175	6.45E-12	4.0	7	2500	4.24E-12	4.7	13	2825	2.67E-12	4.8	13	3150	1.86E-12	21.0	13
2180	6.16E-12	5.0	7	2505	4.10E-12	4.7	13	2830	2.61E-12	6.7	13	3155	1.85E-12	20.9	13
2185	6.28E-12	6.3	7	2510	3.72E-12	5.0	13	2835	2.67E-12	5.3	13	3160	1.78E-12	20.5	13
2190	6.68E-12	6.7	9	2515	3.67E-12	5.3	13	2840	2.71E-12	3.1	13	3165	1.80E-12	24.5	13
2195	6.26E-12	13.6	13	2520	3.83E-12	6.2	13	2845	2.69E-12	3.9	13	3170	1.70E-12	30.7	13
2200	6.21E-12	7.5	13	2525	3.90E-12	7.3	13	2850	2.67E-12	4.0	13	3175	1.71E-12	21.0	13
2205	6.02E-12	7.9	13	2530	4.01E-12	5.6	13	2855	2.64E-12	3.4	13	3180	1.68E-12	17.3	13
2210	5.99E-12	6.5	13	2535	3.99E-12	5.3	13	2860	2.68E-12	3.4	13	3185	1.84E-12	16.6	13
2215	6.01E-12	7.8	13	2540	3.95E-12	5.5	13	2865	2.58E-12	4.0	13	3190	1.99E-12	19.8	13
2220	6.09E-12	7.1	13	2545	3.96E-12	4.2	13	2870	2.52E-12	5.7	13	3195	1.62E-12	30.8	13

TABLE 3

JOURNAL OF IUE DATA

Star	SWP			LWR		
Name	Image	Exp.[a]	Proc. Date[b]	Image	Exp.[a]	Proc. Date[b]
HD60753	3226	9.71	25 Nov 78	2829	6.84	20 Nov 78
	3354[c]	9.71,15.85	3 Dec 78	2941	6.84,11.76	28 Nov 78
	3697	9.71,15.85	27 Dec 78	3269	6.84,11.76	27 Dec 78
	3901	9.71,15.85	15 Jan 79	3471	6.84,10.53	15 Jan 79
	4315	9.71,15.85	26 Feb 79	3811	6.84,10.53	26 Feb 79
	4633	9.71,15.85	25 Mar 79			
BD+75°325	2996	13.81,21.6	16 Nov 78	2568	26.5,43	29 Oct 78
	3184	13.81,21.6	19 Nov 78	2619	23.6,38	15 Nov 78
	3188	13.81,21.6	20 Nov 78	2748	23.6,38	19 Nov 78
	3456	13.81,21.6	3 Dec 78	2789	23.6,38	20 Nov 78
	4237	13.81	18 Feb 79	2793	-- ,38	20 Nov 78
	4877	13.81,23.7	20 Apr 79	3035	23.6,38	3 Dec 78
	4939	13.81,21.6	22 Apr 79	3036	26.5	3 Dec 78
				3747	23.6	18 Feb 79
HD93521	1927	2.75,11.76	8 Jul 78	1589	2.75,2.75	5 Jul 78
	1955	2.75,11.76	11 Jul 78	1790	2.75,5.61	8 Jul 78
	1956	2.75,11.76	25 Jul 78	1805	2.75,11.76	10 Jul 78
	2899	2.75,4.80	29 Oct 78	1806	2.75,11.76	11 Jul 78
	2901	2.75,5.61	29 Oct 78	2567	2.75,4.80	29 Oct 78

TABLE 3 continued

Star Name	SWP Image	SWP Exp.[a]	SWP Proc. Date[b]	LWR Image	LWR Exp.[a]	LWR Proc. Date[b]
	3277	2.75,4.80	27 Nov 78	2569	2.75,5.61	29 Oct 78
	3355	2.75,4.80	28 Nov 78	2887	2.75,4.80	27 Nov 78
	3356	2.75,4.80	28 Nov 78	2942	2.75,4.80	28 Nov 78
	3698	2.75	27 Dec 78	2943	2.75,4.80	28 Nov 78
	3978	2.75,4.80	14 Feb 79	3270	2.75,9.71	27 Dec 78
	4317	2.75,4.80	26 Feb 79	3546	2.75,4.80	14 Feb 79
	4350	2.75,4.80	26 Feb 79	3813	2.75,4.80	26 Feb 79
	4738	2.75,4.80	9 May 79	3840	2.75,4.80	26 Feb 79
	4984	2.75,4.80	25 Apr 79			
	5172	2.75	20 May 79			
BD+33°2642	2353	240,240	3 Sep 78	2137	190,190	4 Sep 78
	2797	240,384	17 Oct 78	2490	190,300	17 Oct 78
	3502	240,384	10 Dec 78	3080	190,304	10 Dec 78
	3605	240	18 Dec 78	3171	190	18 Dec 78
	3889	240	14 Jan 79	3459	190	14 Jan 79
	4003	240,400	4 Feb 79	3561	190,317	4 Feb 79
	4238	240	18 Feb 79	3748	190	18 Feb 79
	4263	240	19 Feb 79			

TABLE 3 continued

Star Name	SWP Image	Exp.[a]	Proc. Date[b]	LWR Image	Exp.[a]	Proc. Date[b]
BD+28°4211	1831	25.7,25.7	1 Jul 78	1912	59.7,120	2 Aug 78
	2059	25.7,25.7	25 Jul 78	2225	59.7,96	4 Sep 78
	2139	25.7,52	2 Aug 78	2286	59.7	15 Sep 78
	2422	25.7,42	5 Sep 78	2540	59.7,96	27 Oct 78
	2505	25.7,42	13 Sep 78	2730	59.7,96	27 Nov 78
	2863	25.7,42	27 Oct 78	3128	59.7,96	10 Jan 79
	3167	25.7,42	27 Nov 78	3428	59.7,100	11 Jan 79
	3453	25.7,41	3 Dec 78			
	3555	25.7,41	13 Dec 78			
	3850	25.7,42	14 Jan 79			
	4875	25.7,42	19 Apr 79			
	5030	25.7,42	7 May 79			

[a]Exposure time in seconds for the large aperture point source spectrum followed by the small aperture exposure time for those images that have useful exposures in the small aperture.

[b]Date that the spectrum was extracted from the image by the production processing system in use at NASA.

[c]Line 1 of the VICAR label incorrectly designates this image as SWP3355.

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