Publications of the Astronomical Society of the Pacific
106: 566–589, 1994 June

Southern Spectrophotometric Standards. II.

MARIO HAMUY, N. B. SUNTZEFF, S. R. HEATHCOTE, A. R. WALKER, P. GIGOUX, AND M. M. PHILLIPS
National Optical Astronomy Observatories,[1] Cerro Tololo Inter-American Observatory, Casilla 603, La Serena, Chile
Electronic mail: mhamuy@noao.edu, nsuntzeff@noao.edu, sheathcote@noao.edu, awalker@noao.edu, pgigoux@noao.edu, mphillips@noao.edu

Received 1993 October 13; accepted 1994 March 3

ABSTRACT. We have obtained new observations of both secondary and tertiary spectrophotometric standards with the RC spectrographs and CCD cameras on the 1.5-m and 4-m telescopes at CTIO in the wavelength range 6000–10,500 Å. We use the secondary spectrophotometric standards in order to calculate new fluxes for the tertiary standards of Stone and Baldwin (1983), as well as for three stars of the Northern Hemisphere from Stone (1977). We find that the synthetic magnitudes calculated from our spectra through the I_{KC} band agree extremely well with the observed photometry, to better than 1% on average. For the monochromatic fluxes, we find an internal precision better than 0.01 mag blueward of 9000 Å, and increasingly larger for longer wavelengths. We present also a fine grid of averaged monochromatic fluxes (at continous steps of 16 Å) for the ten secondary standards selected for our program, to be used in the flux calibration of high-dispersion spectra. Finally, we provide combined fluxes for all secondary and tertiary standards in the range 3300–10,500 Å resulting from the calibration presented here with the one published in Paper I (Hamuy et al. 1992).

1. INTRODUCTION

In 1987 a group of the scientific staff of CTIO initiated a project to recalibrate the tertiary southern spectrophotometric standards in the wide wavelength range permitted by the CCDs and to measure new fainter standards. In a previous paper (Hamuy et al. 1992; hereafter Paper I) we presented our results for the wavelength range 3300–7550 Å. As an extension of that work, this paper reports in Secs. 2 and 3 newly calibrated fluxes in the wavelength range 6000–10,500 Å gathered in the course of the last four years for the Baldwin and Stone tertiary standards, reduced with respect to the recent calibration of Vega published by Hayes (1985). The Hayes (1985) calibration of Vega differs from the Hayes and Latham (1975) system adopted by other recent workers in this field (i.e., Massey and Gronwall 1990) and care must be taken not to intermix standards from these different sources. We include also a fine grid of fluxes (at continous steps of 16 Å) for the ten secondary standards selected for our program, useful for the calibrations of high-dispersion spectrophotometry.

When observing standard stars it proves much more convenient for observers to make use of a single calibration spanning the whole wavelength range 3300–10,500 Å, instead of using the two (blue and red) calibrations separately. This leads us in Sec. 4 to perform a comparison of the two data sets in order to search for eventual discrepancies. We find that most of the differences are small, and consequently we work out merged versions of both data sets in order to provide easy-to-use tables for all secondary and tertiary standards.

Astronomers interested in the use of the fluxes of the secondary and tertiary standards presented here, may request copies of our data files by contacting us at the offices of CTIO. We will provide our data in the form of electronic ASCII tables, or spectra in FITS format.

[1]Cerro Tololo Inter-American Observatory, National Optical Astronomy Observatories, operated by the Association of Universities for Research in Astronomy, Inc., (AURA) under cooperative agreement with the National Science Foundation.

2. OBSERVATIONS

We included in our program the stars observed by Stone and Baldwin (1983), except for LTT 2511 which displays photometric variability as pointed out by Landolt (1992). We also included in our list three nearly equatorial standards from the Northern Hemisphere tertiary calibrations, for comparison of our spectrophotometry with other work. Finding charts for all these stars may be found in Stone (1977), Baldwin and Stone (1984), and Massey et al. (1988).

We obtained our observations with the Cassegrain spectrographs on the CTIO 1.5-m and 4-m telescopes starting in 1989 February. We used the 1.5-m telescope during nine photometric nights, with a low-dispersion grating (158 lines mm^{-1}) blazed at 8000 Å and a GEC CCD. We observed in first order with a total wavelength coverage of 4600 Å (6000–10,600 Å) and resolution of 16 Å (FWHM). We used the 4-m telescope on one photometric night, with the same type of grating (158 lines mm^{-1}) and CCD employed in the observations on the 1.5-m telescope. With a resulting wavelength coverage of 3300 Å and a resolution of 11 Å in first order, we observed in the wavelength range 6600–9900 Å. On this telescope, it was necessary to observe the secondary standards with a 2.5 mag neutral density filter to avoid saturation of the CCD. We determined the transmission function of this filter from observations of two SAO stars on the same night of observation of our program made with and without the neutral density filter. The two measurements of the transmission curve were the same to 1%. We estimate that the transmission curve was accurate to better than 0.5%. In both telescope we included a RG 610 filter in order to block second-order light.

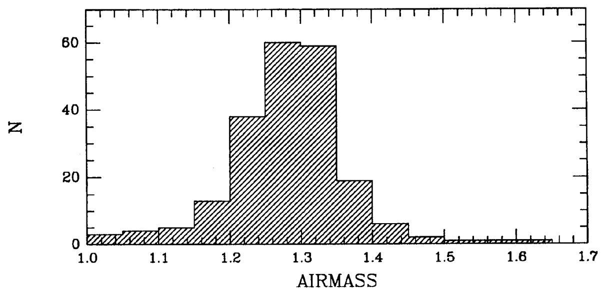

FIG. 1—Histogram with the airmass of all of our observations of the tertiary standards.

The observation *modus operandi* was identical to the procedure described in Paper I. Specifically, we planned our observations such that both the secondary and tertiary standards were observed at the same airmass in order to minimize the corrections due to atmospheric extinction. Figure 1 shows a histogram with the mean airmass of all of our observations of the program objects. From that figure it can be seen that most (83%) of our observations were obtained in the range of 1.2–1.4 airmasses, which matches very closely the airmass of 1.3 at which the secondary standards were observed.

The integration times of our program objects ranged between 2 and 30 min, while the secondary standards required exposures times in the range of 1–5 s. This led us to employ the same technique described in Paper I in order to determine the shutter time. Table 1 presents our results with the rms and the number of measurements obtained for every observing run. The reader can refer to Paper I for the details about the observation procedure.

3. REDUCTIONS AND RESULTS

We have chosen the *secondary* standards published by Taylor (1984) and modified in Paper I as the defining spectrophotometric system. The monochromatic fluxes published by Taylor for the secondary standards are tied to the fundamental calibration of Vega given by Hayes and Latham (1975) (HL75 system hereafter). The new calibration of the primary star provided by Hayes (1985) led us in Paper I to

TABLE 1
Shutter Timing Errors

Date	Telesc	Time (sec)	rms	n
1989 Feb 12/13	4-m	0.01	...	1
1989 Aug 17/18	1.5-m	0.025	± 0.004	3
1989 Sep 15/16	1.5-m	0.033	± 0.006	5
1990 Jan 10/11	1.5-m	0.030	± 0.010	5
1990 Dec 10/11	1.5-m	0.024	± 0.003	2
1991 Mar 18/19	1.5-m	0.023	...	1
1991 Apr 2/3	1.5-m	0.023	± 0.008	2
1991 Dec 2/3	1.5-m	0.031	± 0.001	3
1992 Jul 31/1	1.5-m	0.031	± 0.001	3
1993 Jan 30/31	1.5-m	0.028	± 0.005	4

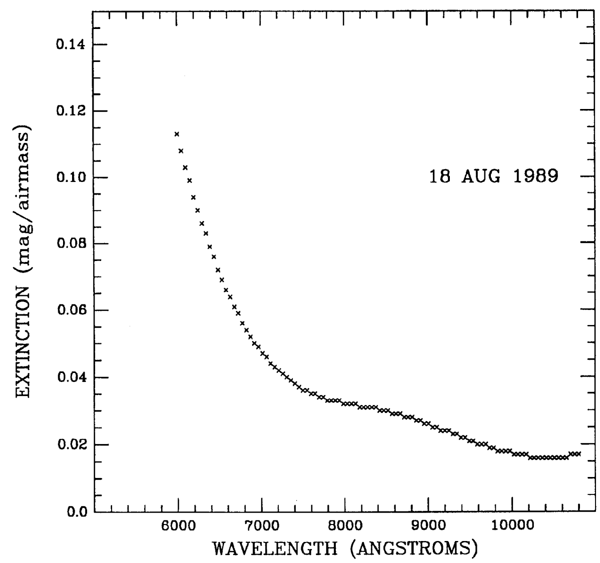

FIG. 2—Atmospheric extinction curve obtained at CTIO on 1989 August 18 (UT).

modify Taylor's fluxes accordingly. Overall, the differences between the two energy distributions do not exceed 0.020 mag, except at 9834 Å where the difference amounts to 0.047 mag (see Table 3 and Fig. 1 of Paper I). As explained in Paper I, we decided to delete the flux point at 8712 Å since it is poorly defined. Unfortunately, with the lack of this flux point, there is a resulting gap of 1500 Å (in the range 8376–9834 Å) with no flux points, which is highly undesirable. Even with a low-order polynomial the interpolation over such a wide wavelength range may lead to errors as high as 0.05 mag around 9000 Å. These interpolation errors can be somewhat minimized by averaging spectra obtained on separate nights.

TABLE 2
Summary of the Spectrophotometric Observations

Star	I_{SYN}(rms)	m	n
LTT 377	10.635(07)	10	5
LTT 1020	10.789(10)	12	6
EG 21	11.552(11)	8	4
LTT 1788	12.498(09)	19	9
LTT 2415	11.638(11)	14	7
Hiltner 600	10.189(07)	14	7
L745-46A	12.720(11)	7	4
LTT 3218	11.656(06)	8	4
LTT 3864	11.508(09)	12	6
LTT 4364	11.212(12)	8	4
Feige 56	11.146(14)	13	6
LTT 4816	13.759(07)	8	4
CD -32°9927	10.122(07)	14	7
LTT 6248	11.115(06)	10	5
EG 274	11.275(06)	10	5
LTT 7379	9.515(09)	10	5
LTT 7987	12.386(14)	6	3
LTT 9239	11.295(08)	10	5
Feige 110	12.159(01)	4	2
LTT 9491	14.041(14)	8	4

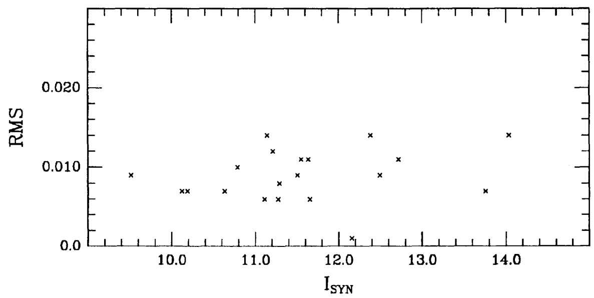

FIG. 3—rms of the mean I synthetic magnitude calculated from the multiple spectra obtained for the tertiary standards, plotted as a function of the I synthetic magnitude.

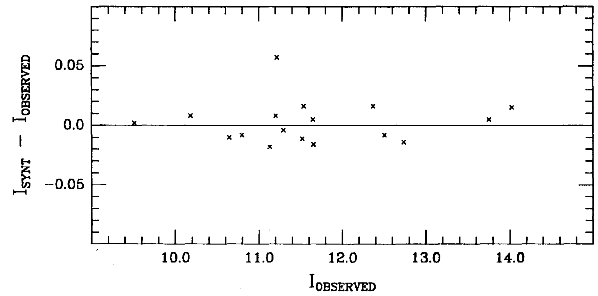

FIG. 4—Comparison of the mean synthetic magnitudes obtained through the I band given by Bessell (1990) and our CCD photometry for the tertiary standards, in the sense of synthetic *minus* observed, plotted as a function of the observed I magnitudes.

We performed all of the image reductions with IRAF (Image Reduction Analysis Facility) running on SUN workstations in the same manner described in Paper I. Although we observed most of the program objects along with the secondary standards at the same airmass, we were always able to solve for nightly atmospheric extinction. Figure 2 shows an example of the atmospheric extinction curve obtained on 1989 August 18.

Over the ten nights of observation we obtained a total of 205 spectra of the tertiary standards. In order to check the overall internal precision of our spectra, we calculated synthetic I magnitudes with the response function given by Bessell (1990), using Eq. (3) and the ZP given in Table 6 of Paper I. Table 2 gives the average synthetic magnitudes obtained for each star along with the rms (in parentheses, in units of mmag), the number of observations obtained for each star (m), as well as the number of different nights on which that star was observed (n). In Fig. 3 we plot the rms in Table 2 as a function of the I synthetic magnitude of the star. From this plot it can be seen that the dispersion of the synthetic magnitudes is typically 0.01 mag, and in all cases is less or equal than 0.02 mag, regardless of the brightness of the star. We conclude that the internal precision over the broad bandpasses is of the order of 1% in the mean. We also searched for night-to-night differences by comparing the individual synthetic magnitudes of our program objects with the average magnitudes given in Table 2. We summarize our results on Table 3. In all cases the night-to-night differences are smaller than 0.01 mag and may be ignored.

In Fig. 4 we compare the synthetic magnitudes and the CCD I_{KC} photometry (given in Table 7 of Paper I) for the proposed tertiary standards plotted as a magnitude difference as a function of the observed magnitude of the star. Except for EG 274, we find excellent agreement with no significant dependence on magnitude or color. The average difference is

$$I_{SYN}-I_{OBS}=+0.003\pm0.018(\text{s.d.}).$$

The small dispersions confirm the high internal accuracy of our photometry and spectrophotometry. We also performed the comparison of the synthetic magnitudes with photometry by Landolt (1992). Figure 5 shows the differences in the sense of synthetic-Landolt versus magnitude. Evidently, there is a small systematic difference between magnitudes synthesized from the spectrophotometry and Landolt's data by the amount

$$I_{SYN}-I_{LANDOLT}=+0.008\pm0.011(\text{s.d.}).$$

This difference also has been reported by Landolt (1992) when comparing his photometry with ours. Note that the synthetic magnitude for EG 274 agrees very well with Landolt's value. It is very likely that our I photometry (a single observation) for this specific star is wrong.

Next we compare our new values of the monochromatic fluxes with other published values. To do these comparisons we interpolated our monochromatic magnitudes to the same

TABLE 3
Night-to-Night Comparison over Broadband

Night	$I_{SYN}-I_{AVE}$ (rms)
1989 Feb 12/13	-0.010 ± 0.005
1989 Aug 17/18	+0.001 ± 0.008
1989 Sep 15/16	-0.008 ± 0.004
1990 Jan 10/11	-0.000 ± 0.005
1990 Dec 10/11	+0.009 ± 0.009
1991 Mar 18/19	+0.006 ± 0.006
1991 Apr 2/3	-0.002 ± 0.011
1991 Dec 2/3	+0.004 ± 0.005
1992 Jul 31/1	-0.006 ± 0.008
1993 Jan 30/31	+0.005 ± 0.008
1993 Jan 31/1	+0.003 ± 0.008

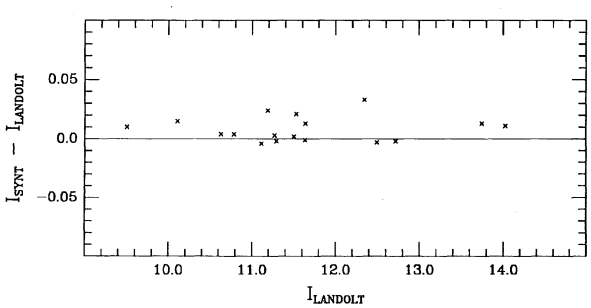

FIG. 5—Comparison of the mean synthetic magnitudes obtained through the I band given by Bessell (1990) and Landolt's (1992) photometry for the tertiary standards, in the sense of synthetic *minus* Landolt, plotted as a function of Landolt's magnitudes.

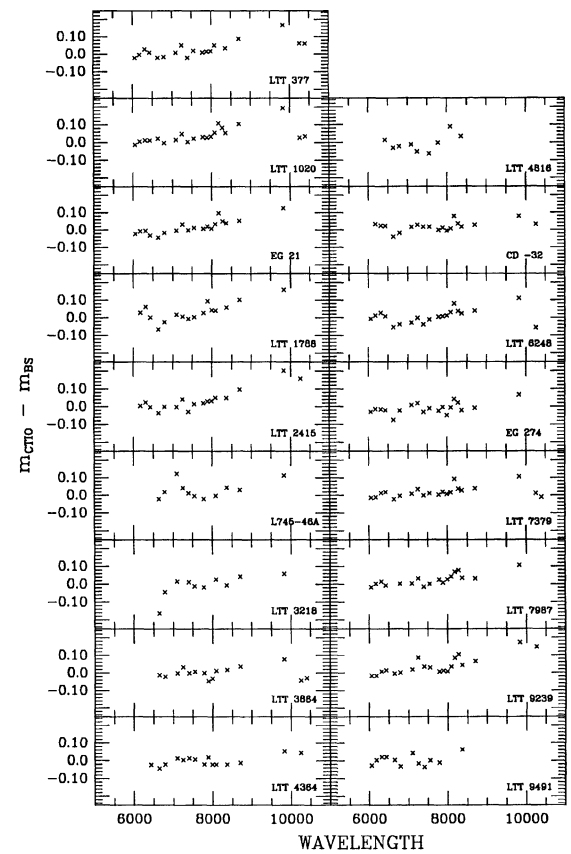

FIG. 6—Comparison between the new CTIO monochromatic fluxes and Baldwin and Stone's (1984) measurements, in the sense of CTIO *minus* Baldwin and Stone, plotted as a function of wavelength for the 17 stars in common. The differences are all expressed in magnitudes.

wavelengths and bandwidths used by the other observers. Since the zero points of the monochromatic magnitude scale changes from paper to paper, we shifted the published monochromatic magnitudes onto the same zero-point scale that we use here. In Fig. 6 we show the comparison between our spectrophotometry and Stone and Baldwin (1983) and Baldwin and Stone (1984) data. Significant differences (up to 0.2 mag) which vary as a function of wavelength can be seen in this figure for various stars. Figure 7 shows the mean differ-

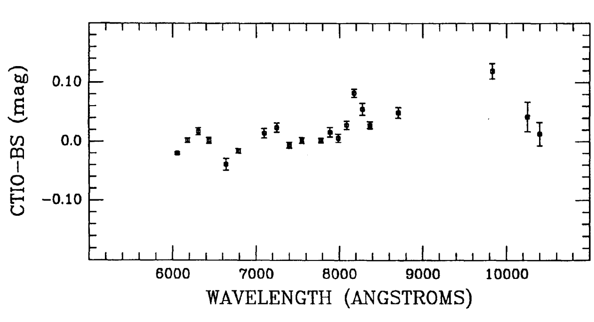

FIG. 7—Mean differences between the new CTIO monochromatic fluxes and Baldwin and Stone's (1984) measurements (expressed in magnitudes), plotted as a function of wavelength, obtained from the 17 stars in common.

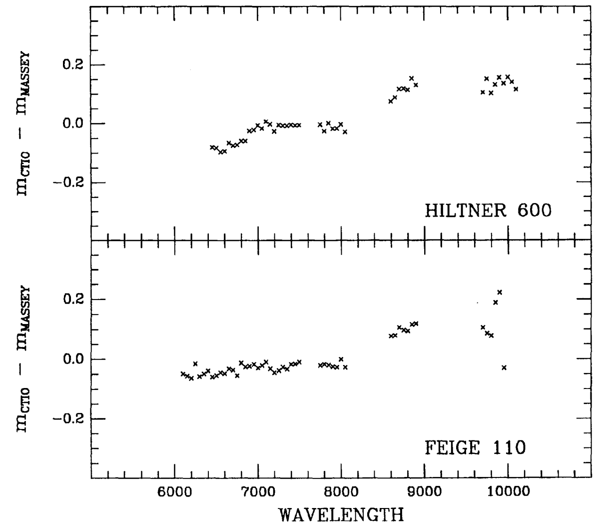

FIG. 8—Comparison between the new CTIO monochromatic fluxes and the measurements of Massey et al. (1988) and Massey and Gronwall (1990), in the sense of CTIO *minus* Massey, plotted as a function of wavelength for the two stars in common. All differences are expressed in magnitudes.

ences in fluxes between both data sets from the 17 stars in common, together with their corresponding errors. Most of these differences may be attributed to the fact that the fluxes provided by Stone and Baldwin (1983) and Baldwin and Stone (1984) are on the HL75 system, whereas our data are on the Hayes (1985) spectrophotometric system. Indeed, evident similitudes appear between Fig. 7 and Fig. 1 of Paper I. However, the 0.12 mag difference at 9832 Å is beyond the differences in the adopted spectrophotometric systems, and reflects an inherent discrepancy between the two calibrations of $\sim$0.07 ($\pm$0.02) mag.

For two of the stars of the Northern Hemisphere included in our program we carried out a comparison with the data given by Massey et al. (1988) and Massey and Gronwall (1990), which were all obtained in the HL75 system. In Fig. 8 we show the comparison which shows fair agreement blueward of 8000 Å, and discrepancies increasingly larger ($\sim$0.1 mag) over the longest wavelengths. Again, these differences cannot be entirely explained in terms of the different spectrophotometric systems employed.

Our results are first tabulated at Baldwin and Stone's (1984) and Stone's (1977) bandpasses to allow a direct comparison of our data with theirs. In Table 4 we present the fluxes for the tertiary standards of the Southern Hemisphere expressed in monochromatic magnitudes according to Eq. (2) of Paper I, using Baldwin and Stone's (1984) bandpasses. Analogously, Table 5 shows our results for the three stars of the Northern Hemisphere at Stone's (1977) bandpasses. In both tables are also given (in parentheses, in units of mmag) the errors ($\sigma/\sqrt{n}$) in the mean monochromatic magnitudes. Table 6 gives monochromatic magnitudes for the tertiary standards calculated through 50 Å bandpasses at continuous steps of 50 Å, to allow better use of our spectrophotometric measurements. The fluxes in each band are actual integrations of the real spectrum including absorption lines and tel-

TABLE 4
Magnitudes of Tertiary Standards at Baldwin and Stone (1984) Flux Points

λ [Å]	Δλ	LTT 377	LTT 1020	EG 21	LTT 1788	LTT 2415	L745-46A	LTT 3218	LTT 3864	LTT 4364
6056	80	11.112(04)	11.371(05)	11.512(02)	...	...	...	...	...	...
6180	80	11.120(03)	11.360(02)	11.546(03)	13.023(04)	12.108(01)	...	...	...	...
6310	80	11.122(03)	11.356(02)	11.608(02)	13.026(02)	12.118(02)	...	...	...	...
6436	80	11.093(03)	11.317(02)	11.654(01)	12.986(02)	12.082(01)	...	...	...	11.502
6640	80	11.063(03)	11.286(04)	11.771(03)	12.968(03)	12.079(04)	13.073(05)	11.981(02)	11.983(02)	11.512(03)
6790	80	11.048(03)	11.262(04)	11.699(05)	12.950(03)	12.063(04)	13.053(03)	11.940(02)	11.963(02)	11.514(03)
7100	80	11.051(03)	11.248(04)	11.770(04)	12.942(03)	12.062(03)	13.076(05)	11.980(02)	11.954(02)	11.549(03)
7250	80	11.095(07)	11.284(08)	11.857(08)	12.981(05)	12.106(06)	13.127(07)	...	11.998(05)	11.619(07)
7400	80	11.053(03)	11.228(04)	11.843(06)	12.928(03)	12.055(03)	13.096(03)	12.006(01)	11.943(01)	11.578(04)
7550	80	11.053(03)	11.226(03)	11.876(05)	12.928(02)	12.058(03)	13.110(05)	12.023(02)	11.941(02)	11.591(04)
7780	80	11.034(01)	11.195(02)	11.911(07)	12.901(01)	12.034(02)	13.104(06)	12.026(01)	11.914(03)	11.593(05)
7890	80	11.029(01)	11.192(02)	11.933(04)	12.898(01)	12.034(02)	...	...	11.908(02)	11.603(05)
7990	80	11.030(02)	11.187(02)	11.952(04)	12.898(02)	12.036(04)	...	...	11.904(02)	11.613(04)
8090	80	11.035(02)	11.190(03)	11.979(04)	12.896(02)	12.035(02)	13.132(04)	12.072(04)	11.906(03)	11.624(04)
8180	80	...	11.244(08)	12.062(09)	...	...	...	...	...	...
8280	80	...	11.216(05)	12.055(06)	...	...	...	...	...	...
8370	80	11.048(02)	11.188(03)	12.043(11)	12.904(03)	12.053(03)	13.168(05)	12.109(02)	11.912(03)	11.654(05)
8708	80	11.062(03)	11.188(04)	12.117(04)	12.906(02)	12.060(04)	13.195(04)	12.146(02)	11.911(04)	11.683(10)
9832	80	11.131(06)	11.249(07)	12.310(24)	12.974(10)	12.136(08)	13.348(10)	12.294(10)	11.953(07)	11.869(12)
10256	80	11.045(15)	11.111(33)	...	...	12.091(13)	...	...	11.841(05)	11.919(31)
10400	80	11.083	11.169(84)	...	...	...	...	...	11.917	...

Notes: All values are in monochromatic magnitudes $m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$
Errors are in units of mmag

λ [Å]	Δλ	LTT 4816	CD -32	LTT 6248	EG 274	LTT 7379	LTT 7987	LTT 9239	LTT 9491
6056	80	...	...	11.666(01)	11.184(01)	10.070(03)	12.356(01)	11.909(04)	14.168(03)
6180	80	...	10.446(07)	11.666(05)	11.230(03)	10.073(04)	12.397(04)	11.899(03)	14.189(02)
6310	80	...	10.469(04)	11.671(06)	11.289(04)	10.067(03)	12.458(03)	11.892(03)	14.225(03)
6436	80	13.999	10.457(03)	11.632(05)	11.314(03)	10.031(02)	12.496(03)	11.848(02)	14.215(10)
6640	80	14.093(04)	10.445(02)	11.600(03)	11.399(02)	9.992(03)	...	11.810(02)	14.248(04)
6790	80	13.991(02)	10.437(02)	11.577(02)	11.381(02)	9.970(03)	12.536(07)	11.785(03)	14.263(06)
7100	80	14.034(02)	10.471(02)	11.567(03)	11.473(03)	9.963(04)	12.609(09)	11.764(03)	14.318(05)
7250	80	14.113(06)	10.533(05)	11.603(08)	11.564(08)	10.008(10)	12.677(15)	11.801(09)	14.390(09)
7400	80	...	10.502(02)	11.556(04)	11.553(03)	9.954(04)	12.670(07)	11.740(02)	14.360(05)
7550	80	14.112(03)	10.511(02)	11.553(03)	11.594(02)	9.945(03)	12.715(06)	11.735(02)	14.397(03)
7780	80	14.132(04)	10.513(02)	11.529(02)	11.630(03)	9.919(02)	12.750(05)	11.701(02)	14.405(07)
7890	80	...	10.516(02)	11.521(02)	11.661(02)	9.914(03)	12.774(07)	11.696(02)	...
7990	80	...	10.520(02)	11.516(03)	11.685(02)	9.911(03)	12.792(06)	11.693(02)	...
8090	80	14.184(04)	10.531(03)	11.515(02)	11.708(02)	9.910(03)	12.817(09)	11.690(02)	...
8180	80	...	10.604(06)	11.565(08)	11.787(07)	9.976(11)	12.884(18)	11.750(09)	...
8280	80	...	10.580(03)	11.542(05)	11.786(05)	9.940(07)	12.882(10)	11.718(06)	...
8370	80	14.228(05)	10.562(02)	11.518(02)	11.774(03)	9.912(02)	12.878(04)	11.689(03)	14.517(11)
8708	80	...	10.574(03)	11.505(03)	11.846(04)	9.914(03)	12.936(08)	11.681(04)	...
9832	80	...	10.634(05)	11.565(09)	12.112(08)	9.962(04)	13.141(26)	11.729(07)	...
10256	80	...	10.646(34)	11.438(20)	...	9.907(22)	...	11.714	...
10400	80	...	...	...	...	9.895	...	...	...

Notes: All values are in monochromatic magnitudes $m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$
Errors are in units of mmag

luric features. We warn observers that bandpasses containing telluric features are particularly inaccurate and of higher internal errors since their strengths are variable in time. Bandpasses partly or totally containing the telluric bands are indicated with an asterisk. The values given in parentheses (in units of mmag) are the errors $(\sigma/\sqrt{n})$ in the mean. Figure 9 shows for each wavelength the typical error of the monochromatic magnitudes given in Table 6, obtained by averaging the errors of all the program stars. Overall, the uncertainties remain below 0.01 mag blueward of 9000 Å (except at the position of the telluric lines), and increase towards the longest wavelengths due to strong telluric features and to the decrease in the sensitivity of our instrumental system.

The secondary standards that we selected to flux calibrate the tertiary standards are excellent flux standards for echelle data. In Table 7 we present monochromatic magnitudes for the ten secondary standards at steps of 16 Å [calculated with Eq. (2) of Paper I] which correspond to the resolution of our 1.5-m telescope spectra. These magnitudes are the average of all the observations gathered for these stars. We include in parentheses (in units of mmag) the error $(\sigma/\sqrt{n})$ in each magnitude. Wavelengths with an asterisk are those which

TABLE 5
Magnitudes of Tertiary Standards at Stone (1977) Flux Points

λ [Å]	Δλ	Hilt 600	Feige 56	Feige 110
6436	98	...	...	12.158(01)
6790	98	10.490(01)	11.316(03)	12.235(03)
7100	98	10.530(01)	11.393(04)	12.343(04)
7550	98	10.608(02)	11.523(04)	12.508(01)
7780	98	10.575(01)	11.514(04)	12.512(03)
8090	98	10.602(03)	11.576(04)	12.599(01)
8370	98	10.637(02)	11.635(04)	12.668(04)

Notes:
All values are in monochromatic magnitudes
$m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$.
Errors are in units of mmag.

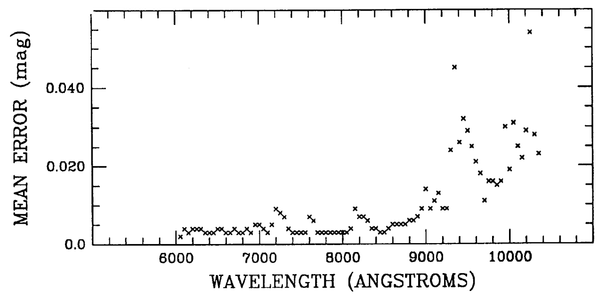

FIG. 9—Mean errors of the mean monochromatic magnitudes obtained from the 20 tertiary standards observed at CTIO, plotted as a function of wavelength.

include telluric features. We also warn the reader not to trust fluxes very close to strong absorptions where the low resolution of our observations causes the features to artificially broaden.

4. COMBINING THE BLUE AND RED CALIBRATIONS

Both the blue fluxes reported in Paper I and the red fluxes presented here are two sets of independent observations. In order to compare the two data sets, we have computed for each star the blue/red flux ratio in the wavelength region in common (6500–7500 Å) to both calibrations. Naturally, the computed blue/red spectra reveal some kinks and wiggles that may be attributed to our nightly sensitivity curves which resulted from the interpolation of spline fits to a few sparse points. Except for one star (Feige 110) these kinks and wiggles do not exceed 0.5% and may be ignored. An inspection of the individual observations of Feige 110 revealed that the discrepancies arose from two spectra obtained in the blue on the night of 1987 September 9 (UT). This led us to discard those spectra, after which we found a much better match with our red spectra, and also with Massey's et al. (1988) calibration (see Fig. 10). Table 8 summarizes the flux ratios (expressed in magnitudes) averaged over the overlap wavelength region (excluding the telluric bands at 6850–6900 and 7150–7300 Å) for all secondary and tertiary standards. Overall, the flux offsets prove smaller than 0.024 mag, and vanishingly small (~0.001 mag) when considering all stars together.

In Paper I we expressed our concern about potential contamination of second-order ultraviolet light in the red end of our blue spectra. Since the secondary standards display a narrow range of spectral types (between B3 and A1), the level of contamination is expected to be roughly the same for all these stars. If second-order leak was indeed an important effect the secondaries would act to make the sensitivity curve artificially higher, and the net effect on the program stars (tertiary standards) would depend on their spectral types. Specifically, tertiary standards bluer than the secondaries would display a differential excess of flux in their red end, increasing toward the longest wavelengths along with the overall change in sensitivity of our instrumental system. For tertiary stars redder than the secondaries the net effect of second-order leak would be a deficit of light increasing toward their red end. Even though this selective effect was not noticeable over the relatively small wavelength overlap region, the blue/red flux ratio averaged over the overlap region should correlate with the spectral type of the tertiaries. Since neither of these effects are observed in our data, we believe that second-order contamination is negligible.

Having ruled out major discrepancies between the two calibrations, the data can be combined with the aim to provide for each star a single easy-to-use table of fluxes. With the aim to avoid introducing discontinuities in the final tables due to the small offsets observed between both data sets, it becomes necessary to grey shift one set of fluxes with respect to the other. Since the red data exclude all possible sources of second-order contamination due to the use of a blocking filter, we have chosen to grey shift the blue fluxes in order to match the observations in the red. The scaling factors necessary to perform this operation were determined from the overlap region 6500–7500 Å (Table 8), and applied to all of the monochromatic blue magnitudes shortward of 7500 Å. The red fluxes were left untouched redward of 6500 Å, and in the overlap region we took a straight average of both calibrations. Our final results are given in Table 9 and 10 for the tertiary and the secondary standards, respectively. Figures 11 and 12 show the combined spectra of all of these stars.

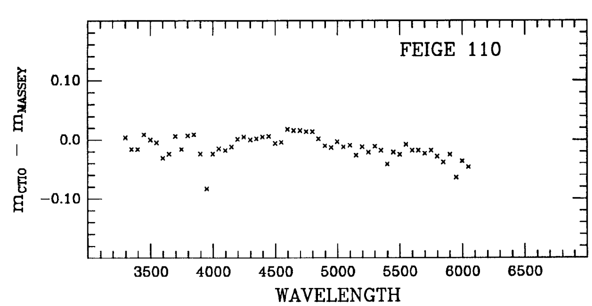

FIG. 10—Comparison between the revised CTIO monochromatic fluxes for Feige 110 and the measurements of Massey et al. (1988), in the sense of CTIO minus Massey, plotted as a function of wavelength. All differences are expressed in magnitudes.

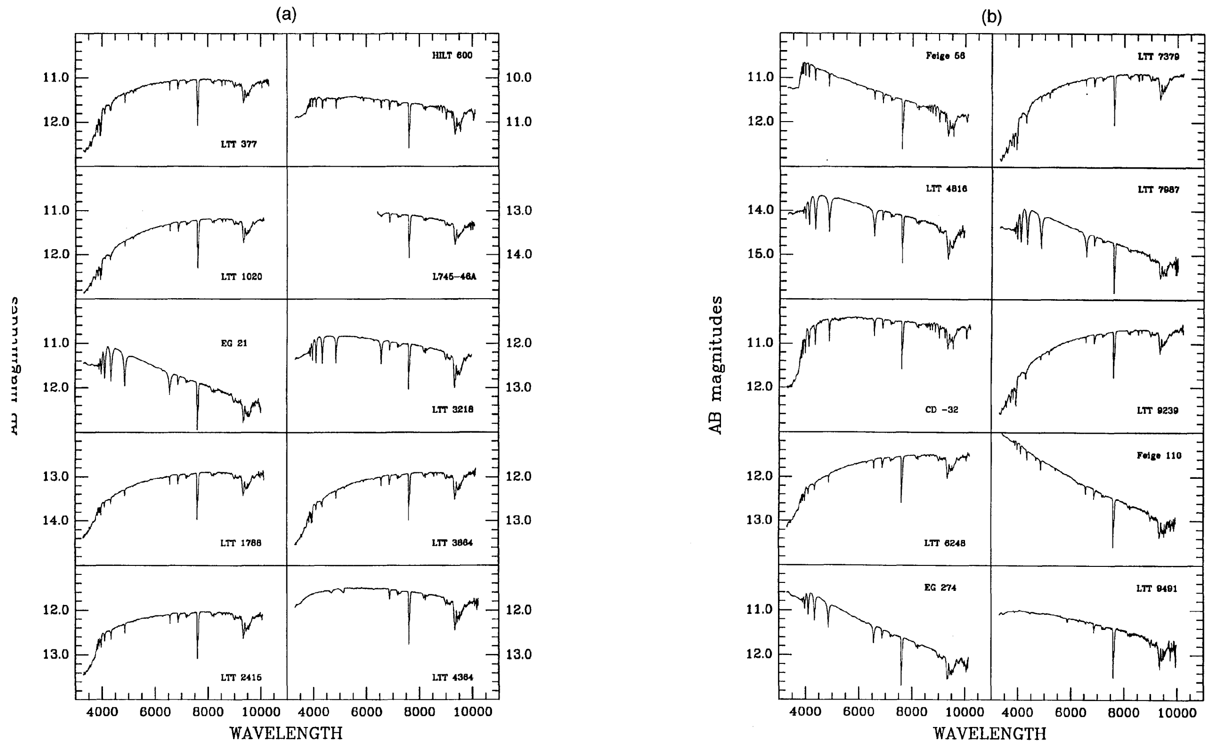

FIG. 11—(a) and (b) Spectra of the tertiary standards [fluxes are plotted as monochromatic magnitudes $m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$] resulting from the combination of the blue and red calibrations.

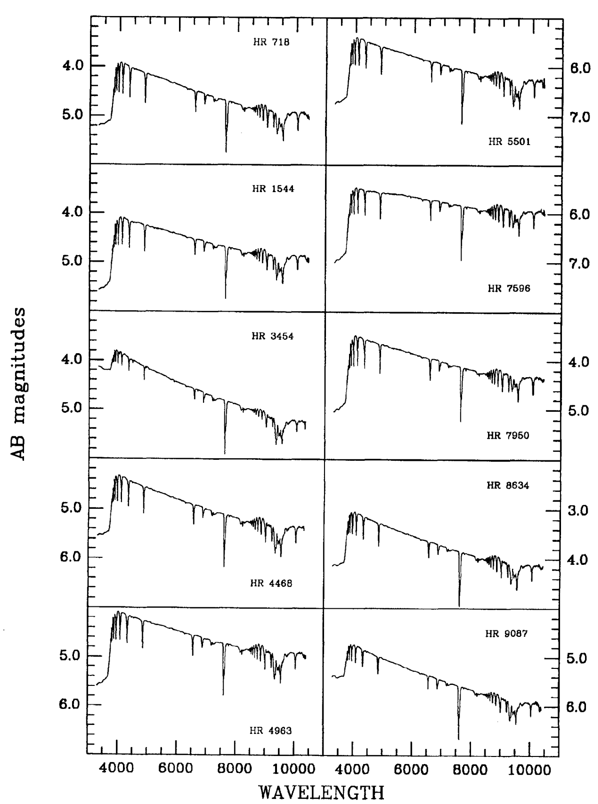

FIG. 12—Spectra of the secondary standards [fluxes are plotted as monochromatic magnitudes $m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$] resulting from the combination of the blue and red calibrations.

TABLE 8
Comparison between Blue and Red Calibrations

Star	$2.5\log_{10}$[blue flux/red flux]
LTT 377	+0.002
LTT 1020	-0.010
EG 21	+0.010
LTT 1788	-0.012
LTT 2415	-0.012
Hiltner 600	-0.004
L745-46A	...
LTT 3218	-0.001
LTT 3864	-0.007
LTT 4364	+0.020
Feige 56	-0.005
LTT 4816	+0.005
CD -32	-0.005
LTT 6248	+0.002
EG 274	+0.020
LTT 7379	-0.002
LTT 7987	+0.018
LTT 9239	-0.005
Feige 110	-0.022
LTT 9491	+0.012
HR 718	-0.024
HR 1544	-0.011
HR 3454	+0.011
HR 4468	+0.005
HR 4963	+0.002
HR 5501	+0.013
HR 7596	-0.010
HR 7950	-0.011
HR 8634	-0.005
HR 9087	-0.000

TABLE 6
Monochromatic Magnitudes of Tertiary Standards through 50 Å Bandpasses at 50 Å Steps

λ [Å]	LTT 377	LTT 1020	EG 21	LTT 1788	LTT 2415	Hilt 600	L745-46A	LTT 3218	LTT 3864	LTT 4364
6050	...	11.371(03)	11.512(01)	...	...	...	...	...	...	...
6100	11.113(03)	11.365(04)	11.520(03)	13.028(04)	12.108(01)	...	...	...	...	...
6150	11.128(03)	11.366(02)	11.538(03)	13.024(03)	12.107(02)	...	...	...	...	...
6200	11.113(03)	11.357(03)	11.551(02)	13.023(04)	12.109(01)	...	...	...	...	...
6250	11.124(04)	11.358(03)	11.577(01)	13.025(02)	12.115(04)	...	...	...	...	...
6300	11.128(04)	11.363(03)	11.613(04)	13.032(03)	12.124(01)	...	...	...	...	...
6350	11.106(02)	11.336(02)	11.607(01)	13.007(01)	12.099(02)	...	...	...	...	...
6400	11.095(03)	11.324(02)	11.626(02)	12.992(03)	12.087(02)	...	...	...	...	...
6450	11.094(02)	11.321(03)	11.672(03)	12.994(02)	12.096(04)	10.489(01)	13.072(06)	11.942(01)	12.013(03)	11.509(03)
6500	11.091(03)	11.314(04)	11.770(04)	12.993(03)	12.098(04)	10.496(02)	13.089(04)	11.996(02)	12.009(02)	11.514(03)
6550	11.163(03)	11.361(04)	12.025(04)	13.053(04)	12.166(04)	10.573(02)	13.114(04)	12.247(03)	12.071(01)	11.513(03)
6600	11.082(03)	11.302(03)	11.898(02)	12.984(03)	12.108(04)	10.506(01)	13.091(06)	12.076(02)	12.006(03)	11.512(03)
6650	11.062(03)	11.283(04)	11.746(03)	12.966(02)	12.076(04)	10.494(01)	13.070(05)	11.966(02)	11.980(03)	11.512(03)
6700	11.055(04)	11.273(04)	11.703(04)	12.960(03)	12.069(04)	10.495(01)	13.056(04)	11.944(02)	11.972(03)	11.512(03)
6750	11.051(03)	11.266(04)	11.697(04)	12.952(03)	12.065(04)	10.487(01)	13.054(03)	11.941(01)	11.965(03)	11.513(03)
6800	11.047(03)	11.261(04)	11.699(05)	12.950(03)	12.060(03)	10.490(01)	13.052(03)	11.940(02)	11.962(02)	11.515(03)
6850*	11.096(03)	11.308(05)	11.760(05)	12.996(03)	12.109(03)	10.550(02)	13.100(06)	11.995(02)	12.011(01)	11.571(02)
6900*	11.146(02)	11.357(04)	11.821(03)	13.047(03)	12.161(03)	10.604(02)	13.156(05)	12.050(02)	12.059(03)	11.627(04)
6950	11.061(05)	11.269(05)	11.747(04)	12.959(04)	12.078(04)	10.528(02)	13.075(05)	11.978(02)	11.973(03)	11.550(04)
7000	11.059(05)	11.257(05)	11.753(04)	12.950(03)	12.070(04)	10.523(02)	13.071(04)	11.978(03)	11.965(03)	11.546(03)
7050	11.053(04)	11.253(04)	11.761(04)	12.945(03)	12.066(04)	10.533(02)	13.074(04)	11.977(02)	11.959(03)	11.548(03)
7100	11.051(03)	11.247(04)	11.770(04)	12.942(03)	12.062(03)	10.526(01)	13.076(05)	11.979(02)	11.953(02)	11.548(04)
7150*	11.067(04)	11.259(05)	11.798(06)	12.954(04)	12.076(04)	10.547(02)	13.092(06)	12.002(03)	11.969(02)	11.572(03)
7200*	11.114(09)	11.305(09)	11.860(09)	12.996(06)	12.124(08)	10.603(06)	13.137(08)	12.073(05)	12.016(06)	11.630(08)
7250*	11.098(08)	11.289(08)	11.864(09)	12.986(06)	12.112(06)	10.604(05)	13.132(08)	12.064(03)	12.004(05)	11.625(08)
7300*	11.085(06)	11.272(07)	11.854(07)	12.971(05)	12.094(05)	10.592(04)	13.121(06)	12.046(02)	11.989(04)	11.614(06)
7350	11.055(03)	11.240(04)	11.838(03)	12.939(03)	12.064(03)	10.562(01)	13.101(04)	12.014(02)	11.953(01)	11.585(05)
7400	11.055(03)	11.228(04)	11.842(06)	12.927(03)	12.056(03)	10.555(01)	13.094(03)	12.005(01)	11.943(02)	11.577(04)
7450	11.042(02)	11.220(02)	11.850(07)	12.921(02)	12.047(02)	10.553(01)	13.094(04)	12.003(01)	11.935(02)	11.574(04)
7500	11.043(02)	11.217(03)	11.858(06)	12.917(02)	12.044(02)	10.554(01)	13.093(04)	12.004(02)	11.930(02)	11.576(04)
7550	11.042(02)	11.215(03)	11.861(03)	12.918(02)	12.043(02)	10.561(01)	13.101(05)	12.011(02)	11.930(03)	11.583(04)
7600*	11.493(06)	11.681(08)	12.345(09)	13.375(04)	12.496(05)	11.031(05)	13.537(11)	12.473(07)	12.390(04)	12.058(06)
7650*	11.380(06)	11.559(08)	12.232(05)	13.255(03)	12.378(05)	10.911(02)	13.418(10)	12.356(04)	12.264(05)	11.933(06)
7700*	11.057(01)	11.222(03)	11.911(04)	12.926(02)	12.056(03)	10.598(01)	13.117(06)	12.038(02)	11.941(03)	11.607(04)
7750	11.036(01)	11.198(03)	11.908(08)	12.903(02)	12.036(02)	10.576(01)	13.104(07)	12.024(01)	11.916(03)	11.591(05)
7800	11.031(01)	11.192(02)	11.915(07)	12.900(01)	12.035(02)	10.574(01)	13.104(06)	12.027(02)	11.912(03)	11.593(05)
7850	11.026(01)	11.192(02)	11.925(08)	12.898(01)	12.028(02)	10.570(01)	13.108(05)	12.035(02)	11.905(02)	11.597(04)
7900	11.031(02)	11.191(02)	11.936(06)	12.898(02)	12.037(02)	10.582(02)	13.112(04)	12.046(03)	11.910(02)	11.605(05)
7950	11.036(01)	11.188(02)	11.936(03)	12.897(01)	12.037(03)	10.583(02)	13.118(05)	12.048(01)	11.907(01)	11.609(04)
8000	11.030(02)	11.187(02)	11.957(07)	12.897(02)	12.036(04)	10.586(02)	13.121(04)	12.059(03)	11.903(02)	11.613(04)
8050	11.032(02)	11.186(02)	11.968(06)	12.897(03)	12.037(03)	10.591(02)	13.122(04)	12.062(03)	11.904(03)	11.614(03)
8100	11.036(02)	11.191(03)	11.985(04)	12.896(02)	12.035(02)	10.600(02)	13.134(04)	12.074(04)	11.907(03)	11.627(05)
8150*	11.087(08)	11.244(08)	12.057(08)	12.954(06)	12.102(08)	10.671(07)	13.190(10)	12.160(04)	11.968(08)	11.700(08)
8200*	11.096(07)	11.238(07)	12.058(09)	12.946(06)	12.095(07)	10.668(06)	13.184(06)	12.149(05)	11.958(06)	11.690(07)
8250*	11.079(06)	11.229(07)	12.059(08)	12.942(05)	12.089(06)	10.667(05)	13.185(06)	12.146(06)	11.952(05)	11.689(05)
8300*	11.074(06)	11.218(05)	12.063(08)	12.932(04)	12.083(04)	10.660(04)	13.188(07)	12.145(04)	11.941(05)	11.684(06)
8350*	11.056(03)	11.193(03)	12.051(12)	12.908(03)	12.057(03)	10.643(02)	13.172(06)	12.115(03)	11.920(04)	11.658(05)
8400	11.039(02)	11.183(02)	12.038(11)	12.899(03)	12.045(03)	10.631(02)	13.164(04)	12.101(04)	11.905(04)	11.651(07)
8450	11.042(01)	11.176(02)	12.043(02)	12.893(02)	12.043(03)	10.635(03)	13.166(02)	12.107(04)	11.903(03)	11.653(05)
8500	11.061(01)	11.190(03)	12.070(03)	12.903(02)	12.054(04)	10.638(02)	13.168(03)	12.112(03)	11.914(03)	11.655(06)
8550	11.093(02)	11.207(03)	12.084(09)	12.910(02)	12.063(02)	10.642(03)	13.180(04)	12.124(03)	11.931(04)	11.663(06)
8600	11.049(02)	11.179(02)	12.092(05)	12.902(03)	12.054(04)	10.654(03)	13.186(02)	12.131(04)	11.905(04)	11.663(09)
8650	11.085(02)	11.199(02)	12.105(08)	12.906(03)	12.057(02)	10.657(03)	13.188(05)	12.134(03)	11.923(05)	11.674(09)
8700	11.053(03)	11.184(04)	12.110(04)	12.904(02)	12.057(05)	10.626(02)	13.189(03)	12.147(04)	11.905(03)	11.681(11)
8750	11.065(03)	11.184(04)	12.130(04)	12.911(03)	12.066(04)	10.688(03)	13.207(05)	12.153(03)	11.913(05)	11.687(10)
8800	11.058(03)	11.193(02)	12.152(11)	12.913(03)	12.055(04)	10.623(03)	13.207(03)	12.154(04)	11.907(05)	11.694(09)
8850	11.072(03)	11.191(03)	12.145(06)	12.922(03)	12.072(04)	10.702(03)	13.218(08)	12.173(03)	11.916(05)	11.708(12)
8900	11.066(04)	11.192(04)	12.153(11)	12.920(03)	12.070(05)	10.650(03)	13.215(03)	12.180(05)	11.915(06)	11.711(12)
8950	11.101(07)	11.231(07)	12.229(08)	12.960(05)	12.105(06)	10.681(05)	13.261(09)	12.249(04)	11.957(08)	11.773(07)
9000	11.184(13)	11.301(13)	12.314(22)	13.026(10)	12.190(10)	10.849(09)	13.324(13)	12.349(07)	12.037(11)	11.851(08)
9050	11.126(09)	11.247(08)	12.260(11)	12.972(07)	12.136(06)	10.746(06)	13.284(10)	12.269(04)	11.975(07)	11.799(06)
9100	11.164(12)	11.284(13)	12.305(15)	13.010(09)	12.160(08)	10.747(09)	13.318(14)	12.326(07)	12.008(10)	11.842(07)
9150	11.155(14)	11.294(16)	12.322(14)	13.014(10)	12.170(10)	10.766(11)	13.329(13)	12.349(07)	12.015(11)	11.859(09)
9200	11.140(09)	11.251(09)	12.300(14)	12.983(07)	12.132(07)	10.772(07)	13.298(10)	12.308(06)	11.981(08)	11.823(08)
9250	11.157(09)	11.255(09)	12.310(17)	12.989(07)	12.158(06)	10.813(07)	13.301(08)	12.313(05)	11.993(09)	11.814(06)
9300*	11.278(25)	11.414(24)	12.449(30)	13.146(18)	12.305(19)	10.928(18)	13.453(22)	12.533(10)	12.165(20)	12.041(17)
9350*	11.525(46)	11.679(47)	12.715(45)	13.387(31)	12.575(37)	11.215(34)	13.705(38)	12.871(22)	12.432(35)	12.350(49)
9400*	11.342(28)	11.470(28)	12.492(28)	13.180(18)	12.359(22)	10.981(20)	13.494(21)	12.592(18)	12.208(22)	12.093(23)
9450*	11.409(31)	11.541(34)	12.568(41)	13.258(22)	12.436(27)	11.068(24)	13.586(27)	12.675(11)	12.283(28)	12.185(31)
9500*	11.364(29)	11.494(29)	12.612(33)	13.221(19)	12.391(21)	11.054(22)	13.566(34)	12.662(14)	12.235(25)	12.143(31)
9550*	11.366(26)	11.472(26)	12.610(26)	13.196(17)	12.388(19)	11.122(20)	13.528(22)	12.657(10)	12.226(22)	12.113(23)
9600*	11.289(23)	11.415(23)	12.558(20)	13.135(14)	12.311(18)	10.960(16)	13.490(23)	12.552(14)	12.147(17)	12.057(18)
9650*	11.238(16)	11.353(17)	12.471(19)	13.073(11)	12.241(13)	10.876(13)	13.436(17)	12.436(09)	12.076(14)	11.979(17)
9700	11.162(07)	11.270(08)	12.370(18)	12.987(07)	12.158(10)	10.785(09)	13.361(18)	12.340(09)	11.982(07)	11.894(15)
9750	11.183(11)	11.301(13)	12.369(10)	13.022(12)	12.178(13)	10.811(08)	13.381(15)	12.368(18)	11.990(04)	11.915(11)
9800	11.152(08)	11.270(09)	12.339(14)	12.998(10)	12.152(08)	10.772(08)	13.358(12)	12.331(14)	11.973(08)	11.895(14)
9850	11.124(05)	11.238(07)	12.338(37)	12.958(10)	12.129(09)	10.741(09)	13.342(12)	12.273(11)	11.942(07)	11.857(12)
9900	11.105(06)	11.219(08)	12.314(21)	12.955(06)	12.111(14)	10.735(11)	13.323(18)	12.290(08)	11.929(06)	11.825(11)
9950	11.105(09)	11.201(09)	12.344(36)	12.944(14)	12.107(15)	10.745(07)	13.372(61)	12.295(17)	11.923(10)	11.836(14)
10000	11.109(10)	11.224(22)	12.476(39)	12.983(31)	12.112(19)	10.766(05)	13.399(06)	...	11.917(12)	11.837(08)
10050	11.160(07)	11.240(39)	...	12.929(70)	12.122(22)	10.830(03)	13.288(15)	...	11.931(16)	11.787(19)
10100	11.116(18)	11.208(44)	...	12.946	...	10.745	...	...	11.920(26)	11.850(15)
10150	11.096(18)	...	...	...	...	...	...	...	...	11.843(18)
10200	11.067(12)	...	...	...	...	...	...	...	...	11.869
10250	11.058(11)	...	...	...	...	...	...	...	...	...
10300	11.104(28)	...	...	...	...	...	...	...	...	...

Notes : All values are in monochromatic magnitudes $m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$
Bands with * include telluric features
Errors are in units of mmag

TABLE 6
(Continued)

λ [Å]	Feige 56	LTT 4816	CD -32	LTT 6248	EG 274	LTT 7379	LTT 7987	LTT 9239	Feige 110	LTT 9491
6050	...	...	...	...	11.182(02)	...	...	...	...	...
6100	...	...	10.417(11)	11.658(01)	11.202(04)	10.076(05)	12.374(06)	11.911(05)	12.041(05)	14.180(04)
6150	...	...	10.450(05)	11.668(06)	11.219(03)	10.083(04)	12.388(03)	11.906(04)	12.064(01)	14.183(04)
6200	...	...	10.442(06)	11.664(05)	11.238(03)	10.064(03)	12.404(05)	11.895(03)	12.087(04)	14.197(06)
6250	...	...	10.465(03)	11.668(07)	11.260(03)	10.073(03)	12.428(04)	11.896(05)	12.115(01)	14.214(09)
6300	...	...	10.474(04)	11.678(06)	11.292(04)	10.074(03)	12.461(03)	11.897(04)	12.142(08)	14.226(05)
6350	...	...	10.458(05)	11.650(07)	11.288(03)	10.046(03)	12.456(02)	11.870(02)	12.141(01)	14.219(05)
6400	...	...	10.461(05)	11.639(05)	11.300(03)	10.037(03)	12.470(04)	11.857(03)	12.151(01)	14.215(10)
6450	11.263(05)	14.002(02)	10.448(02)	11.632(03)	11.324(03)	10.033(03)	12.516(06)	11.849(02)	12.160(01)	14.218(07)
6500	11.274(05)	14.105(05)	10.465(03)	11.630(03)	11.389(03)	10.026(04)	12.614(10)	11.843(03)	12.175(02)	14.225(07)
6550	11.368(04)	14.394(04)	10.629(03)	11.703(03)	11.605(04)	10.072(04)	12.887(13)	11.886(03)	12.275(01)	14.254(07)
6600	11.298(04)	14.235(03)	10.484(02)	11.614(03)	11.484(03)	10.006(03)	12.745(04)	11.819(03)	12.212(02)	14.241(06)
6650	11.293(04)	14.066(04)	10.441(02)	11.598(03)	11.384(02)	9.990(03)	12.586(06)	11.808(02)	12.208(02)	14.250(04)
6700	11.298(04)	14.009(04)	10.433(03)	11.588(03)	11.368(02)	9.981(03)	12.540(06)	11.796(04)	12.214(06)	14.257(04)
6750	11.308(04)	13.993(02)	10.436(03)	11.581(03)	11.372(02)	9.976(03)	12.535(07)	11.791(03)	12.225(04)	14.252(05)
6800	11.317(03)	13.990(02)	10.436(02)	11.576(02)	11.383(02)	9.968(03)	12.537(07)	11.783(03)	12.237(04)	14.264(06)
6850*	11.382(04)	14.039(03)	10.490(01)	11.622(03)	11.447(02)	10.020(05)	12.595(09)	11.827(04)	12.304(04)	14.319(05)
6900*	11.447(03)	14.098(03)	10.547(01)	11.672(02)	11.511(02)	10.067(03)	12.663(07)	11.874(03)	12.377(01)	14.373(07)
6950	11.373(03)	14.025(03)	10.466(03)	11.584(05)	11.442(04)	9.979(06)	12.579(10)	11.787(05)	12.303(08)	14.300(07)
7000	11.373(04)	14.027(04)	10.469(03)	11.575(04)	11.450(04)	9.975(06)	12.586(10)	11.777(05)	12.311(07)	14.305(08)
7050	11.384(05)	14.030(02)	10.468(02)	11.569(03)	11.462(03)	9.967(04)	12.599(08)	11.771(04)	12.329(05)	14.314(06)
7100	11.392(04)	14.034(02)	10.470(02)	11.567(03)	11.472(03)	9.961(04)	12.609(09)	11.764(03)	12.340(03)	14.322(04)
7150*	11.418(04)	14.061(03)	10.489(03)	11.578(04)	11.504(04)	9.981(06)	12.632(13)	11.778(06)	12.368(07)	14.334(07)
7200*	11.480(07)	14.122(07)	10.546(07)	11.619(10)	11.565(10)	10.030(13)	12.682(19)	11.820(11)	12.425(15)	14.392(07)
7250*	11.484(07)	14.119(08)	10.536(06)	11.609(09)	11.571(09)	10.013(11)	12.682(16)	11.806(10)	12.432(10)	14.400(11)
7300*	11.477(06)	14.113(06)	10.532(05)	11.594(07)	11.565(08)	9.997(09)	12.687(15)	11.787(08)	12.424(11)	14.387(08)
7350	11.452(04)	14.081(04)	10.497(02)	11.565(04)	11.548(05)	9.959(05)	12.669(10)	11.751(04)	12.417(04)	14.360(03)
7400	11.452(04)	14.077(03)	10.505(02)	11.555(04)	11.554(03)	9.957(04)	12.669(06)	11.740(02)	12.423(01)	14.361(05)
7450	11.457(04)	14.084(03)	10.497(02)	11.547(03)	11.558(02)	9.939(03)	12.682(05)	11.733(02)	12.434(01)	14.359(05)
7500	11.468(04)	14.091(03)	10.500(02)	11.544(03)	11.571(03)	9.938(03)	12.696(04)	11.728(02)	12.450(03)	14.366(04)
7550	11.476(04)	14.101(03)	10.498(02)	11.543(02)	11.585(01)	9.935(03)	12.704(05)	11.724(02)	12.466(03)	14.390(03)
7600*	11.962(05)	14.575(08)	10.965(05)	11.992(04)	12.056(05)	10.401(07)	13.190(15)	12.179(05)	12.941(04)	14.847(13)
7650*	11.842(06)	14.451(08)	10.843(06)	11.880(04)	11.954(05)	10.281(03)	13.083(03)	12.062(03)	12.835(06)	14.747(15)
7700*	11.521(05)	14.136(04)	10.526(02)	11.556(02)	11.631(03)	9.945(01)	12.749(03)	11.727(02)	12.519(04)	14.423(08)
7750	11.509(04)	14.131(04)	10.513(02)	11.533(02)	11.623(04)	9.922(02)	12.747(04)	11.704(01)	12.509(03)	14.399(08)
7800	11.517(05)	14.130(04)	10.510(02)	11.526(02)	11.634(03)	9.916(02)	12.752(07)	11.699(02)	12.513(04)	14.414(06)
7850	11.523(04)	14.142(04)	10.509(03)	11.521(02)	11.648(02)	9.913(01)	12.764(05)	11.696(02)	12.530(02)	14.424(06)
7900	11.539(03)	14.147(04)	10.519(02)	11.521(03)	11.665(03)	9.915(03)	12.776(07)	11.696(02)	12.545(04)	14.434(07)
7950	11.543(04)	14.156(05)	10.522(02)	11.518(02)	11.673(02)	9.918(03)	12.786(04)	11.694(01)	12.553(03)	14.431(06)
8000	11.553(04)	14.162(04)	10.520(02)	11.514(03)	11.689(02)	9.911(03)	12.792(06)	11.693(02)	12.569(03)	14.441(06)
8050	11.561(04)	14.172(04)	10.523(03)	11.513(02)	11.694(02)	9.908(02)	12.806(05)	11.690(02)	12.583(03)	14.452(07)
8100	11.575(04)	14.184(03)	10.533(03)	11.517(03)	11.711(03)	9.912(03)	12.821(10)	11.689(03)	12.598(04)	14.459(10)
8150*	11.651(07)	14.262(06)	10.595(07)	11.567(09)	11.782(08)	9.968(12)	12.883(22)	11.747(09)	12.659(12)	14.520(11)
8200*	11.651(06)	14.252(05)	10.604(05)	11.558(07)	11.786(06)	9.975(09)	12.880(15)	11.744(08)	12.659(01)	14.517(12)
8250*	11.656(05)	14.253(07)	10.591(04)	11.553(07)	11.792(06)	9.952(09)	12.886(11)	11.730(08)	12.686(06)	14.524(08)
8300*	11.659(05)	14.244(06)	10.586(04)	11.544(06)	11.793(05)	9.944(07)	12.887(11)	11.720(06)	12.680(08)	14.535(15)
8350*	11.637(04)	14.228(04)	10.568(02)	11.523(02)	11.779(04)	9.920(03)	12.880(07)	11.695(04)	12.663(06)	14.519(08)
8400	11.633(03)	14.229(08)	10.557(02)	11.514(01)	11.772(03)	9.903(02)	12.875(03)	11.682(02)	12.672(08)	14.518(14)
8450	11.645(05)	14.229(09)	10.564(02)	11.507(02)	11.787(02)	9.903(01)	12.892(04)	11.680(03)	12.684(03)	14.511(10)
8500	11.648(04)	14.236(03)	10.571(03)	11.508(02)	11.798(03)	9.921(02)	12.903(04)	11.696(03)	12.691(03)	14.529(10)
8550	11.654(05)	14.259(04)	10.580(03)	11.515(03)	11.811(03)	9.957(02)	12.909(06)	11.718(03)	12.704(07)	14.531(13)
8600	11.669(04)	14.267(04)	10.574(02)	11.506(02)	11.820(05)	9.900(02)	12.918(07)	11.678(03)	12.717(08)	14.560(16)
8650	11.673(05)	14.276(05)	10.593(03)	11.515(02)	11.831(05)	9.942(02)	12.918(10)	11.709(04)	12.729(08)	14.554(10)
8700	11.623(06)	14.283(08)	10.549(03)	11.500(03)	11.843(05)	9.911(03)	12.930(08)	11.680(04)	12.746(02)	14.555(13)
8750	11.715(05)	14.291(10)	10.617(03)	11.511(04)	11.856(04)	9.910(04)	12.957(07)	11.680(05)	12.757(08)	14.585(09)
8800	11.611(06)	14.298(09)	10.535(03)	11.502(04)	11.875(06)	9.914(04)	12.960(05)	11.687(05)	12.764(05)	14.609(18)
8850	11.732(06)	14.317(21)	10.634(04)	11.519(04)	11.888(05)	9.914(03)	12.992(05)	11.683(05)	12.796(05)	14.640(15)
8900	11.659(07)	14.339(13)	10.562(04)	11.515(05)	11.900(03)	9.910(04)	12.992(09)	11.691(05)	12.799(09)	14.640(18)
8950	11.692(07)	14.385(23)	10.580(06)	11.548(06)	11.962(05)	9.956(08)	13.027(11)	11.726(08)	12.847(09)	14.681(25)
9000	11.878(09)	14.472(30)	10.762(10)	11.624(11)	12.038(14)	10.035(15)	13.103(18)	11.801(13)	12.930(20)	14.730(28)
9050	11.754(06)	14.420(11)	10.639(05)	11.556(06)	11.992(08)	9.971(08)	13.078(12)	11.741(09)	12.885(15)	14.687(18)
9100	11.764(09)	14.481(08)	10.649(09)	11.590(11)	12.038(10)	10.014(13)	13.103(19)	11.777(13)	12.917(06)	14.739(12)
9150	11.786(11)	14.489(13)	10.643(10)	11.595(12)	12.061(12)	10.013(14)	13.119(19)	11.783(15)	12.931(19)	14.752(17)
9200	11.807(08)	14.467(16)	10.685(06)	11.576(07)	12.035(07)	9.979(08)	13.112(13)	11.751(11)	12.929(14)	14.741(14)
9250	11.862(09)	14.466(13)	10.731(05)	11.580(03)	12.038(07)	9.983(06)	13.128(20)	11.740(10)	12.951(06)	14.740(15)
9300*	11.960(18)	14.697(33)	10.796(19)	11.727(24)	12.218(25)	10.152(32)	13.234(35)	11.896(27)	13.082(27)	14.900(40)
9350*	12.255(40)	15.018(63)	11.050(37)	11.970(49)	12.504(60)	10.428(63)	13.479(72)	12.167(49)	13.301(54)	15.166(35)
9400*	12.028(24)	14.731(23)	10.855(22)	11.771(29)	12.274(27)	10.214(36)	13.325(44)	11.970(30)	13.140(39)	14.960(23)
9450*	12.115(26)	14.783(20)	10.933(28)	11.845(36)	12.394(37)	10.293(44)	13.404(50)	12.033(36)	13.218(36)	15.033(42)
9500*	12.091(22)	14.829(27)	10.912(24)	11.807(29)	12.379(27)	10.240(38)	13.369(46)	11.984(35)	13.233(43)	14.980(24)
9550*	12.184(21)	14.747(17)	11.005(21)	11.804(27)	12.347(30)	10.209(32)	13.420(27)	11.957(29)	13.196(60)	14.949(32)
9600*	12.003(17)	14.684(17)	10.838(19)	11.728(23)	12.299(19)	10.150(30)	13.308(38)	11.900(26)	13.117(28)	14.878(26)
9650*	11.929(14)	14.572(24)	10.762(12)	11.667(16)	12.208(16)	10.087(19)	13.240(32)	11.835(20)	13.079(41)	14.810(23)
9700	11.844(10)	14.517(15)	10.662(06)	11.580(09)	12.109(09)	9.991(06)	13.161(24)	11.758(07)	13.046(18)	14.760(14)
9750	11.872(14)	14.507(47)	10.682(07)	11.605(09)	12.158(18)	10.012(09)	13.172(22)	11.789(14)	13.076(38)	14.888(27)
9800	11.852(11)	14.500(42)	10.653(04)	11.589(09)	12.141(14)	9.983(05)	13.202(29)	11.750(09)	13.028(19)	14.858(81)
9850	11.839(09)	14.487(22)	10.623(07)	11.556(09)	12.091(11)	9.953(06)	13.132(23)	11.722(06)	13.048(12)	14.823(83)
9900	11.836(15)	14.431(06)	10.618(09)	11.534(07)	12.093(15)	9.935(05)	13.212(29)	11.701(07)	13.082(58)	14.737(67)
9950	11.820(18)	14.527	10.625(14)	11.538(10)	12.152(23)	9.932(05)	13.216(18)	11.695(16)	12.970(32)	14.876(234)
10000	11.830(12)	...	10.631(12)	11.535(10)	12.160(29)	9.938(07)	13.175(24)	11.690(10)	...	...
10050	11.889(22)	...	10.783(16)	11.554(10)	12.270(31)	9.942(08)	...	11.706(28)	...	...
10100	11.845	...	10.641(22)	11.495(14)	12.191(58)	9.920(08)	...	11.637(13)	...	...
10150	...	...	10.604(35)	11.500(14)	12.160(52)	9.926(10)	...	11.647(05)	...	...
10200	...	...	10.632(27)	...	...	9.917(22)	...	11.654	...	...

Notes : All values are in monochromatic magnitudes $m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$
Bands with * include telluric features
Errors are in units of mmag

TABLE 7
Monochromatic Magnitudes of the Secondary Standards through 16 Å Bandpasses at 16 Å Steps

λ [Å]	HR 718	HR 1544	HR 3454	HR 4468	HR 4963	HR 5501	HR 7596	HR 7950	HR 8634	HR 9087
6020	...	4.441(01)	...	...	...	...	...	...	...	...
6036	4.399(03)	4.442(03)	...	...	...	...	5.665(03)	3.859(04)	3.534(04)	5.246(02)
6052	4.399(03)	4.446(01)	...	...	...	5.787(01)	5.663(02)	3.862(03)	3.537(03)	5.251(05)
6068	4.400(04)	4.446(01)	...	...	4.486(10)	5.788(03)	5.659(05)	3.862(02)	3.538(02)	5.248(04)
6084	4.404(04)	4.447(02)	...	...	4.486(04)	5.791(01)	5.662(03)	3.866(02)	3.540(02)	5.256(03)
6100	4.403(03)	4.447(01)	...	...	4.492(08)	5.796(03)	5.665(03)	3.868(02)	3.544(02)	5.258(03)
6116	4.405(04)	4.454(01)	...	...	4.493(05)	5.803(01)	5.669(03)	3.872(02)	3.547(02)	5.261(03)
6132	4.411(04)	4.459(03)	...	...	4.499(06)	5.808(02)	5.674(02)	3.878(01)	3.551(02)	5.264(03)
6148	4.420(03)	4.471(01)	...	...	4.510(08)	5.820(03)	5.687(03)	3.890(02)	3.561(02)	5.274(02)
6164	4.425(03)	4.473(01)	...	...	4.508(04)	5.823(02)	5.688(01)	3.891(01)	3.563(03)	5.278(02)
6180	4.423(04)	4.469(01)	...	...	4.504(04)	5.824(01)	5.691(03)	3.888(02)	3.563(03)	5.279(02)
6196	4.426(03)	4.471(02)	...	...	4.508(04)	5.830(02)	5.693(02)	3.892(02)	3.567(02)	5.284(02)
6212	4.433(03)	4.473(03)	...	...	4.513(06)	5.835(02)	5.694(03)	3.895(02)	3.572(02)	5.291(02)
6228	4.442(03)	4.482(01)	...	...	4.522(03)	5.845(01)	5.700(03)	3.905(02)	3.580(02)	5.298(02)
6244	4.450(03)	4.489(01)	...	...	4.529(05)	5.848(01)	5.709(02)	3.914(03)	3.589(02)	5.305(02)
6260	4.450(02)	4.495(01)	...	...	4.533(05)	5.854(02)	5.709(03)	3.916(02)	3.591(03)	5.310(03)
6276	4.477(03)	4.511(02)	...	...	4.556(09)	5.879(02)	5.742(03)	3.937(03)	3.614(02)	5.336(03)
6292	4.478(03)	4.514(03)	...	...	4.556(05)	5.878(01)	5.739(03)	3.937(03)	3.615(02)	5.335(02)
6308	4.469(03)	4.508(03)	...	...	4.550(07)	5.873(01)	5.725(03)	3.933(03)	3.610(03)	5.329(02)
6324	4.466(04)	4.500(01)	...	...	4.542(04)	5.868(01)	5.720(03)	3.926(03)	3.605(02)	5.324(02)
6340	4.471(02)	4.502(04)	...	...	4.548(03)	5.871(01)	5.722(03)	3.931(03)	3.610(02)	5.331(02)
6356	4.469(03)	4.506(04)	...	...	4.546(04)	5.866(01)	5.722(03)	3.931(03)	3.611(03)	5.330(02)
6372	4.471(03)	4.507(03)	...	...	4.548(05)	5.872(01)	5.722(03)	3.932(03)	3.613(02)	5.334(02)
6388	4.468(04)	4.499(02)	...	...	4.541(04)	5.866(01)	5.715(02)	3.927(03)	3.607(03)	5.329(02)
6404	4.468(04)	4.509(05)	...	...	4.532(05)	5.860(06)	5.714(03)	3.928(03)	3.609(02)	5.331(02)
6420	4.468(02)	4.508(02)	4.543(02)	4.880(02)	4.532(02)	5.858(03)	5.714(03)	3.930(03)	3.606(02)	5.332(01)
6436	4.470(02)	4.511(02)	4.548(02)	4.888(02)	4.536(02)	5.861(03)	5.716(03)	3.933(03)	3.611(02)	5.335(01)
6452	4.479(02)	4.519(02)	4.552(02)	4.897(02)	4.546(02)	5.867(03)	5.725(02)	3.940(03)	3.617(02)	5.342(02)
6468	4.483(03)	4.522(02)	4.562(02)	4.901(02)	4.549(02)	5.870(03)	5.725(03)	3.940(03)	3.621(02)	5.345(02)
6484	4.489(02)	4.525(02)	4.566(02)	4.906(02)	4.554(02)	5.876(03)	5.725(02)	3.944(03)	3.626(02)	5.348(02)
6500	4.491(02)	4.529(01)	4.566(02)	4.908(02)	4.555(02)	5.878(03)	5.724(03)	3.948(04)	3.627(02)	5.350(02)
6516	4.508(03)	4.540(01)	4.574(02)	4.922(02)	4.569(02)	5.892(03)	5.736(02)	3.960(03)	3.638(02)	5.359(02)
6532	4.541(03)	4.571(01)	4.583(02)	4.950(03)	4.600(02)	5.920(01)	5.765(02)	3.993(03)	3.657(02)	5.373(02)
6548	4.690(03)	4.687(02)	4.651(03)	5.092(03)	4.749(03)	6.075(04)	5.905(05)	4.138(06)	3.768(02)	5.458(03)
6564	4.876(03)	4.821(03)	4.770(03)	5.268(03)	4.931(04)	6.245(05)	6.081(03)	4.342(04)	3.935(02)	5.600(02)
6580	4.645(04)	4.664(02)	4.637(02)	5.028(03)	4.681(03)	5.994(04)	5.835(04)	4.094(04)	3.731(04)	5.432(03)
6596	4.536(03)	4.568(02)	4.593(02)	4.944(03)	4.591(02)	5.911(03)	5.748(03)	3.988(03)	3.655(02)	5.374(02)
6612	4.512(03)	4.543(02)	4.591(02)	4.928(03)	4.571(02)	5.892(02)	5.732(04)	3.964(03)	3.644(02)	5.369(03)
6628	4.507(03)	4.537(02)	4.593(02)	4.925(03)	4.563(01)	5.888(03)	5.727(03)	3.958(03)	3.643(02)	5.367(03)
6644	4.505(03)	4.535(01)	4.594(02)	4.923(02)	4.563(02)	5.886(02)	5.723(03)	3.958(03)	3.645(02)	5.371(02)
6660	4.506(03)	4.535(01)	4.600(02)	4.925(03)	4.562(02)	5.884(01)	5.724(02)	3.955(03)	3.647(02)	5.372(03)
6676	4.507(03)	4.538(01)	4.622(02)	4.928(02)	4.563(02)	5.888(03)	5.723(03)	3.957(03)	3.649(02)	5.377(03)
6692	4.509(03)	4.536(01)	4.606(02)	4.928(03)	4.563(02)	5.885(01)	5.720(02)	3.954(03)	3.648(02)	5.375(03)
6708	4.514(02)	4.538(02)	4.605(01)	4.929(03)	4.564(02)	5.891(03)	5.720(02)	3.956(03)	3.648(03)	5.377(03)
6724	4.513(03)	4.541(02)	4.608(02)	4.933(03)	4.567(02)	5.891(02)	5.722(02)	3.959(03)	3.652(02)	5.380(03)
6740	4.516(03)	4.542(02)	4.613(01)	4.934(03)	4.568(02)	5.895(03)	5.724(03)	3.962(02)	3.656(03)	5.382(03)
6756	4.518(03)	4.545(01)	4.616(02)	4.939(02)	4.573(02)	5.896(02)	5.725(03)	3.965(03)	3.658(02)	5.390(03)
6772	4.523(03)	4.546(01)	4.621(02)	4.942(02)	4.574(02)	5.900(02)	5.727(03)	3.968(03)	3.663(02)	5.392(03)
6788	4.524(02)	4.550(02)	4.625(01)	4.946(02)	4.576(02)	5.901(01)	5.727(03)	3.970(03)	3.666(02)	5.394(03)
6804	4.527(03)	4.553(02)	4.628(01)	4.948(02)	4.578(02)	5.903(02)	5.729(02)	3.973(02)	3.669(02)	5.397(03)
6820	4.532(03)	4.554(02)	4.631(02)	4.951(02)	4.580(02)	5.905(02)	5.732(02)	3.975(02)	3.673(02)	5.402(02)
6836	4.535(03)	4.559(01)	4.636(01)	4.956(02)	4.583(01)	5.909(02)	5.734(02)	3.979(02)	3.676(02)	5.405(03)
6852*	4.556(04)	4.580(02)	4.656(02)	4.975(03)	4.603(02)	5.929(03)	5.754(02)	3.993(03)	3.695(02)	5.425(04)
6868*	4.699(03)	4.724(03)	4.808(03)	5.125(03)	4.758(03)	6.080(02)	5.901(04)	4.143(05)	3.847(02)	5.572(03)
6884*	4.697(02)	4.717(02)	4.795(02)	5.112(03)	4.740(03)	6.063(03)	5.890(03)	4.137(03)	3.840(03)	5.566(03)
6900*	4.657(03)	4.676(02)	4.761(02)	5.077(03)	4.707(02)	6.027(02)	5.852(03)	4.099(03)	3.802(02)	5.531(03)
6916*	4.606(04)	4.628(02)	4.711(01)	5.027(03)	4.656(02)	5.980(02)	5.798(02)	4.045(02)	3.750(03)	5.478(03)
6932*	4.586(05)	4.607(02)	4.693(01)	5.011(03)	4.636(02)	5.962(03)	5.770(03)	4.018(03)	3.725(03)	5.455(04)
6948*	4.580(05)	4.602(02)	4.687(01)	5.006(03)	4.631(03)	5.956(04)	5.763(03)	4.011(03)	3.719(03)	5.448(05)
6964*	4.573(04)	4.594(02)	4.679(01)	4.996(03)	4.620(02)	5.944(02)	5.756(03)	4.008(03)	3.711(02)	5.443(04)
6980	4.573(04)	4.594(02)	4.682(01)	4.996(03)	4.622(02)	5.948(03)	5.757(03)	4.007(03)	3.713(02)	5.443(04)
6996	4.584(05)	4.605(02)	4.691(01)	5.008(03)	4.632(02)	5.958(03)	5.765(03)	4.017(03)	3.723(02)	5.452(04)
7012	4.588(04)	4.607(02)	4.694(01)	5.010(03)	4.634(02)	5.960(03)	5.764(02)	4.020(03)	3.724(02)	5.455(04)
7028	4.587(04)	4.606(02)	4.697(01)	5.011(03)	4.636(02)	5.960(03)	5.766(03)	4.021(03)	3.728(02)	5.459(03)
7044	4.589(04)	4.606(02)	4.701(01)	5.013(03)	4.636(02)	5.961(03)	5.768(03)	4.023(03)	3.731(02)	5.461(03)
7060	4.592(03)	4.609(02)	4.713(01)	5.015(02)	4.638(02)	5.965(02)	5.771(02)	4.026(03)	3.736(02)	5.466(03)
7076	4.590(03)	4.609(02)	4.711(01)	5.013(02)	4.638(02)	5.965(02)	5.771(03)	4.029(03)	3.738(03)	5.467(03)
7092	4.594(03)	4.612(01)	4.709(01)	5.018(02)	4.642(02)	5.969(02)	5.772(02)	4.031(03)	3.739(02)	5.470(03)
7108	4.598(03)	4.618(02)	4.711(01)	5.022(02)	4.646(02)	5.971(03)	5.777(02)	4.039(03)	3.743(03)	5.473(03)

TABLE 7
(Continued)

7124	4.602(03)	4.621(02)	4.718(01)	5.024(02)	4.650(02)	5.975(02)	5.779(03)	4.042(03)	3.746(02)	5.479(02)
7140	4.605(03)	4.623(02)	4.721(02)	5.031(02)	4.654(02)	5.980(02)	5.780(03)	4.043(04)	3.753(02)	5.483(03)
7156*	4.619(04)	4.639(02)	4.737(02)	5.047(03)	4.671(02)	5.995(02)	5.791(03)	4.054(03)	3.762(02)	5.496(04)
7172*	4.664(09)	4.684(04)	4.787(04)	5.099(05)	4.725(06)	6.048(07)	5.820(06)	4.081(07)	3.801(07)	5.531(08)
7188*	4.700(11)	4.721(05)	4.822(06)	5.139(07)	4.763(08)	6.085(08)	5.846(09)	4.110(09)	3.832(10)	5.565(10)
7204*	4.682(08)	4.698(04)	4.802(04)	5.115(06)	4.738(07)	6.060(06)	5.833(06)	4.097(07)	3.818(07)	5.549(08)
7220*	4.650(06)	4.666(03)	4.769(03)	5.077(04)	4.701(03)	6.024(04)	5.813(03)	4.075(05)	3.789(03)	5.524(05)
7236*	4.682(08)	4.697(04)	4.810(04)	5.115(05)	4.739(06)	6.062(06)	5.835(06)	4.098(07)	3.820(07)	5.554(07)
7252*	4.685(08)	4.699(04)	4.808(04)	5.116(05)	4.739(06)	6.062(06)	5.835(06)	4.100(07)	3.822(06)	5.554(07)
7268*	4.684(07)	4.695(04)	4.807(04)	5.113(05)	4.738(06)	6.060(06)	5.834(05)	4.098(07)	3.821(06)	5.554(07)
7284*	4.679(07)	4.692(03)	4.809(03)	5.108(04)	4.734(05)	6.057(05)	5.832(05)	4.098(06)	3.818(05)	5.552(06)
7300*	4.677(07)	4.690(03)	4.803(03)	5.105(04)	4.730(05)	6.054(05)	5.829(04)	4.096(06)	3.816(04)	5.548(06)
7316*	4.668(05)	4.681(03)	4.793(02)	5.097(03)	4.722(04)	6.045(04)	5.824(04)	4.091(05)	3.810(03)	5.543(04)
7332*	4.656(03)	4.664(02)	4.780(02)	5.078(03)	4.702(03)	6.027(03)	5.814(03)	4.082(03)	3.800(02)	5.534(03)
7348	4.652(03)	4.660(02)	4.778(02)	5.077(03)	4.699(03)	6.026(02)	5.813(03)	4.083(04)	3.798(02)	5.532(02)
7364	4.656(03)	4.663(02)	4.781(02)	5.079(03)	4.700(02)	6.028(02)	5.817(03)	4.084(04)	3.801(02)	5.534(03)
7380	4.653(03)	4.659(02)	4.781(02)	5.075(03)	4.698(02)	6.026(02)	5.814(03)	4.085(04)	3.799(02)	5.535(02)
7396	4.654(03)	4.660(02)	4.781(01)	5.075(03)	4.697(02)	6.023(02)	5.815(02)	4.085(03)	3.801(02)	5.535(02)
7412	4.656(03)	4.660(02)	4.783(02)	5.075(03)	4.699(02)	6.026(02)	5.816(03)	4.088(03)	3.801(03)	5.537(02)
7428	4.656(02)	4.661(02)	4.785(02)	5.076(03)	4.698(02)	6.026(02)	5.821(02)	4.090(03)	3.806(02)	5.539(02)
7444	4.659(02)	4.662(02)	4.787(01)	5.078(03)	4.702(02)	6.028(02)	5.824(03)	4.094(03)	3.808(03)	5.542(01)
7460	4.663(02)	4.664(01)	4.792(01)	5.082(03)	4.703(02)	6.030(02)	5.825(03)	4.098(04)	3.813(02)	5.546(02)
7476	4.666(02)	4.667(02)	4.794(02)	5.084(03)	4.704(02)	6.034(02)	5.827(03)	4.099(03)	3.816(02)	5.550(01)
7492	4.665(03)	4.667(02)	4.796(02)	5.086(03)	4.706(02)	6.036(02)	5.823(03)	4.103(03)	3.816(02)	5.552(02)
7508	4.666(02)	4.668(02)	4.798(02)	5.089(03)	4.707(02)	6.035(02)	5.826(03)	4.104(04)	3.818(03)	5.555(01)
7524	4.670(02)	4.671(02)	4.804(01)	5.093(03)	4.710(02)	6.038(02)	5.826(03)	4.108(03)	3.824(03)	5.559(01)
7540	4.674(02)	4.673(01)	4.809(01)	5.095(03)	4.711(02)	6.041(02)	5.828(04)	4.108(03)	3.826(03)	5.563(02)
7556	4.675(03)	4.677(02)	4.812(02)	5.097(03)	4.714(02)	6.043(02)	5.830(03)	4.112(04)	3.829(03)	5.565(02)
7572	4.684(03)	4.686(02)	4.820(02)	5.105(03)	4.720(02)	6.051(02)	5.836(04)	4.116(04)	3.835(03)	5.571(02)
7588*	4.854(10)	4.873(05)	5.009(05)	5.293(06)	4.910(06)	6.240(07)	5.993(08)	4.273(09)	4.006(05)	5.736(08)
7604*	5.579(09)	5.585(11)	5.756(09)	6.028(12)	5.645(11)	6.995(15)	6.766(20)	5.045(19)	4.776(14)	6.493(14)
7620*	5.326(04)	5.317(04)	5.426(04)	5.706(11)	5.337(08)	6.654(08)	6.472(05)	4.755(07)	4.493(06)	6.214(03)
7636*	5.276(04)	5.269(03)	5.402(04)	5.679(08)	5.321(08)	6.627(07)	6.437(06)	4.724(06)	4.452(04)	6.173(04)
7652*	5.019(04)	5.013(03)	5.140(04)	5.418(06)	5.047(06)	6.364(05)	6.175(05)	4.459(05)	4.182(06)	5.910(04)
7668*	4.821(04)	4.818(02)	4.951(03)	5.232(04)	4.854(03)	6.176(03)	5.979(04)	4.255(04)	3.978(04)	5.712(02)
7684*	4.738(02)	4.734(01)	4.875(02)	5.156(03)	4.773(02)	6.101(03)	5.889(02)	4.172(02)	3.890(04)	5.630(02)
7700	4.709(02)	4.706(01)	4.848(02)	5.130(03)	4.745(02)	6.074(02)	5.868(03)	4.145(03)	3.864(02)	5.603(02)
7716	4.704(03)	4.699(02)	4.841(02)	5.124(03)	4.736(02)	6.067(02)	5.857(03)	4.137(03)	3.858(03)	5.595(01)
7732	4.702(03)	4.697(02)	4.842(02)	5.120(02)	4.734(02)	6.067(03)	5.852(03)	4.138(03)	3.856(03)	5.597(01)
7748	4.704(03)	4.699(01)	4.845(02)	5.123(02)	4.735(02)	6.069(02)	5.856(03)	4.139(03)	3.860(03)	5.599(02)
7764	4.720(02)	4.714(01)	4.851(02)	5.141(02)	4.755(02)	6.086(02)	5.872(03)	4.159(03)	3.876(03)	5.610(01)
7780	4.732(03)	4.730(02)	4.858(02)	5.150(02)	4.764(03)	6.090(03)	5.880(03)	4.174(03)	3.888(04)	5.621(02)
7796	4.712(03)	4.708(02)	4.854(02)	5.133(02)	4.743(02)	6.072(02)	5.855(03)	4.144(03)	3.869(03)	5.608(02)
7812	4.715(03)	4.707(02)	4.859(01)	5.135(03)	4.741(02)	6.074(02)	5.854(02)	4.146(03)	3.869(02)	5.610(02)
7828	4.716(02)	4.709(02)	4.860(01)	5.139(03)	4.745(02)	6.076(02)	5.855(03)	4.149(03)	3.874(03)	5.614(02)
7844	4.720(03)	4.711(02)	4.861(02)	5.141(03)	4.745(02)	6.079(02)	5.859(03)	4.152(02)	3.875(03)	5.618(02)
7860	4.723(02)	4.715(02)	4.867(01)	5.147(03)	4.753(02)	6.083(03)	5.860(03)	4.156(03)	3.878(03)	5.619(02)
7876	4.732(03)	4.723(02)	4.875(02)	5.155(03)	4.761(02)	6.091(02)	5.867(03)	4.163(03)	3.888(03)	5.626(02)
7892	4.741(03)	4.732(01)	4.884(02)	5.164(03)	4.771(02)	6.099(03)	5.872(03)	4.168(03)	3.895(02)	5.633(02)
7908	4.741(02)	4.729(02)	4.883(02)	5.162(03)	4.767(02)	6.096(02)	5.870(03)	4.166(02)	3.894(02)	5.634(02)
7924	4.740(02)	4.729(02)	4.883(02)	5.161(02)	4.768(02)	6.096(02)	5.869(03)	4.166(03)	3.892(02)	5.634(02)
7940	4.740(03)	4.729(02)	4.882(02)	5.160(02)	4.767(02)	6.095(03)	5.871(03)	4.168(03)	3.893(02)	5.637(01)
7956	4.748(03)	4.735(02)	4.891(01)	5.171(02)	4.774(02)	6.102(03)	5.872(03)	4.172(02)	3.901(02)	5.642(02)
7972	4.746(02)	4.734(02)	4.893(02)	5.169(03)	4.774(02)	6.102(02)	5.872(03)	4.170(03)	3.902(02)	5.642(02)
7988	4.749(03)	4.735(02)	4.894(01)	5.169(03)	4.774(02)	6.103(02)	5.871(03)	4.173(03)	3.900(02)	5.644(02)
8004	4.754(03)	4.740(02)	4.900(01)	5.177(03)	4.780(02)	6.110(02)	5.876(02)	4.177(03)	3.908(02)	5.650(02)
8020	4.758(03)	4.743(02)	4.904(02)	5.179(03)	4.780(02)	6.112(02)	5.876(03)	4.179(03)	3.908(02)	5.652(02)
8036	4.760(03)	4.744(02)	4.906(02)	5.182(03)	4.781(01)	6.111(03)	5.879(03)	4.182(04)	3.912(02)	5.656(02)
8052	4.758(03)	4.744(02)	4.905(01)	5.180(03)	4.781(02)	6.109(02)	5.879(04)	4.182(03)	3.912(03)	5.656(02)
8068	4.763(03	4.745(02)	4.910(02)	5.182(03)	4.783(02)	6.111(02)	5.882(03)	4.187(03)	3.915(03)	5.658(02)
8084	4.766(03)	4.748(02)	4.915(01)	5.187(03)	4.785(02)	6.120(02)	5.887(03)	4.190(04)	3.920(03)	5.663(02)
8100	4.773(03)	4.754(02)	4.920(02)	5.194(03)	4.795(02)	6.127(03)	5.890(03)	4.194(04)	3.924(02)	5.667(03)
8116	4.782(03)	4.766(02)	4.932(02)	5.203(02)	4.809(01)	6.138(03)	5.895(03)	4.201(04)	3.931(02)	5.675(04)
8132*	4.808(06)	4.793(04)	4.961(03)	5.235(04)	4.836(03)	6.169(04)	5.911(05)	4.220(04)	3.957(03)	5.699(05)
8148*	4.841(08)	4.826(05)	4.995(04)	5.274(06)	4.873(05)	6.202(07)	5.933(07)	4.238(07)	3.986(07)	5.726(08)
8164*	4.870(09)	4.854(06)	5.023(05)	5.303(07)	4.902(07)	6.230(08)	5.953(08)	4.259(08)	4.010(09)	5.752(10)
8180*	4.866(09)	4.849(05)	5.016(05)	5.296(06)	4.895(06)	6.224(07)	5.956(06)	4.262(07)	4.004(06)	5.747(08)
8196*	4.850(06)	4.834(04)	4.998(03)	5.269(04)	4.876(04)	6.200(04)	5.950(04)	4.256(05)	3.992(04)	5.733(06)
8212*	4.833(05)	4.818(03)	4.980(03)	5.258(05)	4.859(02)	6.184(03)	5.940(04)	4.242(03)	3.978(03)	5.717(05)
8228*	4.891(10)	4.878(06)	5.050(06)	5.332(07)	4.929(08)	6.255(09)	5.980(09)	4.284(09)	4.036(09)	5.770(10)
8244*	4.845(05)	4.830(04)	4.992(03)	5.268(05)	4.863(02)	6.189(04)	5.939(04)	4.250(04)	3.990(03)	5.733(06)
8260*	4.829(05)	4.813(03)	4.986(02)	5.255(04)	4.855(02)	6.181(03)	5.924(03)	4.240(03)	3.976(03)	5.722(05)
8276*	4.848(06)	4.828(03)	5.007(03)	5.274(04)	4.873(04)	6.202(05)	5.937(05)	4.249(05)	3.995(04)	5.740(06)

TABLE 7
(Continued)

8292*	4.850(06)	4.830(03)	5.006(03)	5.280(05)	4.872(04)	6.202(05)	5.941(05)	4.255(05)	4.001(04)	5.745(06)
8308*	4.841(05)	4.820(03)	5.000(02)	5.264(04)	4.862(03)	6.191(04)	5.935(03)	4.249(04)	3.990(03)	5.736(05)
8324*	4.841(05)	4.826(03)	5.001(03)	5.268(04)	4.861(02)	6.191(03)	5.936(04)	4.249(05)	3.991(03)	5.736(05)
8340*	4.830(04)	4.815(02)	4.990(02)	5.255(04)	4.849(02)	6.176(03)	5.927(03)	4.248(03)	3.982(03)	5.730(04)
8356	4.827(04)	4.804(02)	4.987(02)	5.251(04)	4.842(02)	6.171(02)	5.924(03)	4.235(04)	3.980(03)	5.727(04)
8372	4.826(03)	4.802(02)	4.989(01)	5.248(04)	4.839(01)	6.171(02)	5.926(03)	4.238(04)	3.978(03)	5.726(03)
8388	4.826(03)	4.801(02)	4.989(02)	5.247(03)	4.839(02)	6.168(03)	5.925(03)	4.240(03)	3.982(04)	5.728(03)
8404	4.827(02)	4.800(02)	4.989(02)	5.249(03)	4.838(03)	6.170(02)	5.925(03)	4.240(04)	3.981(03)	5.732(02)
8420	4.830(03)	4.804(02)	4.988(02)	5.250(03)	4.836(03)	6.173(04)	5.929(04)	4.245(04)	3.982(04)	5.730(02)
8436	4.838(03)	4.812(02)	4.996(02)	5.263(03)	4.856(03)	6.185(03)	5.945(03)	4.261(04)	3.998(03)	5.743(02)
8452	4.846(03)	4.819(02)	4.998(03)	5.265(04)	4.850(03)	6.183(03)	5.939(04)	4.260(04)	4.003(04)	5.745(03)
8468	4.842(03)	4.815(02)	5.002(02)	5.262(03)	4.853(03)	6.179(03)	5.938(03)	4.260(04)	4.003(04)	5.744(04)
8484	4.831(04)	4.797(02)	4.999(02)	5.247(04)	4.830(04)	6.164(03)	5.911(03)	4.232(03)	3.984(04)	5.735(03)
8500	4.859(04)	4.830(02)	5.015(02)	5.284(03)	4.882(03)	6.205(03)	5.968(02)	4.287(03)	4.019(04)	5.758(02)
8516	4.836(04)	4.802(02)	5.003(02)	5.247(04)	4.825(03)	6.163(03)	5.908(04)	4.236(04)	3.984(05)	5.739(04)
8532	4.843(04)	4.805(02)	5.013(02)	5.266(04)	4.852(03)	6.189(02)	5.932(03)	4.252(03)	3.991(03)	5.747(02)
8548	4.888(03)	4.862(02)	5.037(02)	5.308(03)	4.906(04)	6.228(02)	5.993(02)	4.325(03)	4.054(04)	5.786(03)
8564	4.823(04)	4.787(02)	5.004(02)	5.229(04)	4.805(04)	6.144(03)	5.887(05)	4.215(05)	3.967(06)	5.733(04)
8580	4.828(04)	4.781(02)	5.013(02)	5.242(04)	4.819(04)	6.161(03)	5.899(03)	4.218(03)	3.967(04)	5.734(03)
8596	4.910(03)	4.874(02)	5.061(02)	5.338(03)	4.931(04)	6.256(02)	6.015(03)	4.335(03)	4.076(03)	5.808(03)
8612	4.860(05)	4.827(02)	5.028(03)	5.261(04)	4.834(05)	6.172(04)	5.921(07)	4.256(05)	4.013(06)	5.765(05)
8628	4.792(04)	4.746(02)	4.992(02)	5.191(04)	4.762(05)	6.108(04)	5.847(03)	4.176(04)	3.928(05)	5.710(03)
8644	4.819(04)	4.767(02)	5.012(02)	5.231(04)	4.804(05)	6.153(04)	5.884(02)	4.212(03)	3.957(04)	5.732(02)
8660	4.942(04)	4.896(02)	5.085(02)	5.374(03)	4.968(05)	6.297(03)	6.048(03)	4.376(04)	4.099(04)	5.833(03)
8676	4.923(06)	4.886(02)	5.065(03)	5.323(04)	4.899(05)	6.227(04)	5.990(07)	4.328(06)	4.073(06)	5.813(05)
8692	4.803(04)	4.764(02)	5.006(02)	5.200(04)	4.771(04)	6.107(03)	5.851(06)	4.192(05)	3.943(06)	5.718(04)
8708	4.771(05)	4.727(02)	4.994(02)	5.172(04)	4.741(05)	6.084(03)	5.819(04)	4.156(04)	3.910(05)	5.695(04)
8724	4.800(05)	4.753(02)	5.011(02)	5.213(04)	4.780(04)	6.127(04)	5.856(04)	4.189(04)	3.940(05)	5.722(05)
8740	4.927(04)	4.872(03)	5.090(02)	5.356(04)	4.931(04)	6.272(04)	6.001(04)	4.330(05)	4.073(05)	5.823(03)
8756	5.001(05)	4.950(02)	5.128(03)	5.401(04)	4.978(06)	6.307(04)	6.055(07)	4.408(06)	4.152(06)	5.885(04)
8772	4.851(06)	4.806(02)	5.046(02)	5.242(04)	4.804(05)	6.147(04)	5.877(06)	4.231(06)	3.990(07)	5.764(05)
8788	4.768(05)	4.725(03)	5.008(03)	5.172(04)	4.739(05)	6.079(03)	5.807(05)	4.155(05)	3.919(06)	5.710(04)
8804	4.752(05)	4.713(02)	5.002(03)	5.161(04)	4.730(05)	6.071(04)	5.794(05)	4.144(05)	3.908(05)	5.704(04)
8820	4.762(05)	4.721(02)	5.009(03)	5.175(04)	4.742(05)	6.086(04)	5.809(05)	4.154(05)	3.918(05)	5.709(04)
8836	4.815(04)	4.763(03)	5.031(03)	5.229(05)	4.794(05)	6.141(05)	5.859(04)	4.201(05)	3.961(05)	5.741(03)
8852	4.964(04)	4.893(03)	5.126(03)	5.390(05)	4.961(05)	6.304(05)	6.022(04)	4.358(05)	4.102(05)	5.859(02)
8868	5.057(05)	4.992(03)	5.177(03)	5.454(03)	5.022(06)	6.355(04)	6.093(06)	4.452(05)	4.200(06)	5.934(04)
8884	4.887(07)	4.841(02)	5.074(03)	5.276(05)	4.839(06)	6.175(05)	5.901(08)	4.266(07)	4.024(07)	5.795(05)
8900	4.797(06)	4.752(02)	5.035(02)	5.199(04)	4.765(06)	6.103(04)	5.830(05)	4.184(07)	3.949(06)	5.737(04)
8916	4.772(05)	4.737(02)	5.032(03)	5.185(04)	4.752(05)	6.089(04)	5.813(05)	4.168(06)	3.934(06)	5.730(03)
8932	4.774(06)	4.738(03)	5.041(03)	5.194(04)	4.758(04)	6.094(02)	5.818(05)	4.167(06)	3.943(05)	5.737(05)
8948	4.794(07)	4.759(04)	5.068(04)	5.221(05)	4.785(04)	6.121(03)	5.825(06)	4.173(06)	3.962(06)	5.755(06)
8964	4.844(10)	4.807(05)	5.113(05)	5.278(06)	4.843(05)	6.179(06)	5.864(10)	4.208(10)	4.003(09)	5.794(09)
8980	4.906(13)	4.863(06)	5.158(06)	5.337(08)	4.907(07)	6.243(09)	5.914(09)	4.261(11)	4.050(11)	5.836(11)
8996	5.034(13)	4.975(07)	5.236(06)	5.471(09)	5.033(09)	6.380(10)	6.033(13)	4.381(13)	4.157(13)	5.928(12)
9012	5.196(10)	5.117(06)	5.331(05)	5.624(06)	5.208(08)	6.536(09)	6.220(10)	4.567(10)	4.325(12)	6.069(09)
9028	5.089(09)	5.027(04)	5.235(05)	5.474(06)	5.034(06)	6.364(05)	6.073(10)	4.442(10)	4.210(09)	5.969(09)
9044	4.895(08)	4.844(03)	5.113(04)	5.295(05)	4.864(04)	6.195(04)	5.906(07)	4.265(07)	4.035(06)	5.818(06)
9060	4.869(09)	4.837(04)	5.123(04)	5.288(05)	4.863(04)	6.189(04)	5.883(08)	4.247(09)	4.019(08)	5.807(08)
9076	4.894(12)	4.868(06)	5.162(05)	5.328(07)	4.898(07)	6.225(07)	5.899(10)	4.262(12)	4.048(12)	5.835(10)
9092	4.891(12)	4.868(06)	5.157(06)	5.322(07)	4.898(06)	6.223(08)	5.902(11)	4.265(13)	4.049(12)	5.832(11)
9108	4.875(11)	4.844(06)	5.148(05)	5.303(06)	4.875(07)	6.206(06)	5.888(09)	4.245(10)	4.038(10)	5.827(10)
9124	4.875(12)	4.840(06)	5.154(06)	5.308(06)	4.880(06)	6.214(06)	5.891(10)	4.237(10)	4.036(11)	5.834(10)
9140	4.892(13)	4.850(07)	5.170(07)	5.321(07)	4.889(07)	6.224(07)	5.894(11)	4.243(11)	4.054(13)	5.848(11)
9156	4.898(13)	4.854(07)	5.181(06)	5.330(07)	4.900(07)	6.231(07)	5.901(12)	4.250(11)	4.061(13)	5.856(13)
9172	4.903(12)	4.857(06)	5.175(06)	5.332(07)	4.901(07)	6.231(06)	5.900(11)	4.257(11)	4.062(11)	5.850(11)
9188	4.907(09)	4.856(05)	5.156(05)	5.327(06)	4.896(06)	6.231(04)	5.910(09)	4.264(09)	4.056(09)	5.848(09)
9204	4.946(07)	4.889(04)	5.166(04)	5.370(06)	4.936(06)	6.270(05)	5.958(06)	4.319(07)	4.083(07)	5.863(07)
9220	5.123(06)	5.048(05)	5.278(04)	5.559(05)	5.126(06)	6.459(06)	6.153(07)	4.507(07)	4.247(08)	6.007(07)
9236	5.188(10)	5.115(04)	5.322(04)	5.576(04)	5.147(05)	6.478(04)	6.171(10)	4.556(09)	4.310(08)	6.064(09)
9252	5.012(11)	4.963(03)	5.204(04)	5.412(06)	4.973(05)	6.304(04)	5.998(08)	4.373(09)	4.147(06)	5.913(08)
9268	4.944(10)	4.898(04)	5.179(04)	5.356(06)	4.923(05)	6.253(04)	5.937(09)	4.304(09)	4.090(09)	5.871(08)
9284	4.955(16)	4.914(07)	5.235(06)	5.396(10)	4.956(09)	6.286(09)	5.933(13)	4.292(14)	4.100(15)	5.902(13)
9300*	5.027(22)	4.994(10)	5.331(10)	5.491(13)	5.052(15)	6.380(15)	5.987(19)	4.345(19)	4.173(24)	5.968(22)
9316*	5.174(31)	5.149(15)	5.493(17)	5.659(19)	5.219(22)	6.552(24)	6.114(27)	4.464(29)	4.305(34)	6.107(28)
9332*	5.301(40)	5.278(20)	5.624(24)	5.800(28)	5.367(32)	6.695(33)	6.201(36)	4.551(37)	4.422(46)	6.213(39)
9348*	5.351(42)	5.330(21)	5.668(26)	5.844(29)	5.412(32)	6.735(32)	6.253(39)	4.599(39)	4.476(49)	6.261(40)
9364*	5.302(39)	5.274(20)	5.611(23)	5.785(26)	5.361(31)	6.686(32)	6.208(36)	4.551(36)	4.424(45)	6.214(37)
9380*	5.249(34)	5.215(17)	5.549(20)	5.724(23)	5.290(28)	6.616(27)	6.173(32)	4.517(33)	4.377(40)	6.162(31)
9396*	5.063(23)	5.026(11)	5.342(11)	5.510(15)	5.086(16)	6.405(15)	6.031(21)	4.379(20)	4.208(24)	5.998(21)
9412*	5.080(25)	5.055(12)	5.370(13)	5.543(16)	5.120(17)	6.434(16)	6.041(21)	4.406(22)	4.228(26)	6.024(22)
9428*	5.183(28)	5.153(14)	5.488(16)	5.652(18)	5.219(21)	6.551(21)	6.125(26)	4.483(25)	4.327(31)	6.120(26)
9444*	5.220(29)	5.187(15)	5.526(19)	5.689(21)	5.251(24)	6.578(22)	6.155(28)	4.508(27)	4.360(34)	6.148(28)

TABLE 7
(Continued)

9460*	5.196(29)	5.164(15)	5.512(18)	5.666(21)	5.238(23)	6.560(23)	6.125(30)	4.482(28)	4.334(34)	6.120(27)
9476*	5.168(29)	5.136(14)	5.478(17)	5.636(19)	5.207(21)	6.530(21)	6.108(27)	4.459(26)	4.314(33)	6.097(26)
9492*	5.195(26)	5.152(14)	5.496(15)	5.660(17)	5.232(20)	6.563(23)	6.133(26)	4.487(25)	4.334(31)	6.115(25)
9508*	5.181(23)	5.133(11)	5.459(13)	5.632(16)	5.192(16)	6.523(16)	6.121(24)	4.476(22)	4.307(26)	6.096(23)
9524*	5.284(25)	5.225(12)	5.541(15)	5.755(17)	5.313(20)	6.648(21)	6.217(24)	4.576(25)	4.400(30)	6.167(23)
9540*	5.416(20)	5.336(12)	5.606(13)	5.882(13)	5.449(17)	6.775(18)	6.376(23)	4.731(22)	4.531(27)	6.276(20)
9556*	5.435(26)	5.366(11)	5.618(13)	5.858(16)	5.424(18)	6.741(18)	6.339(26)	4.721(21)	4.541(29)	6.285(24)
9572*	5.211(22)	5.162(09)	5.456(12)	5.639(14)	5.207(15)	6.538(14)	6.138(20)	4.518(20)	4.332(22)	6.106(20)
9588*	5.154(23)	5.114(11)	5.452(13)	5.616(15)	5.186(16)	6.508(18)	6.096(20)	4.462(19)	4.295(26)	6.086(22)
9604*	5.093(20)	5.061(09)	5.393(10)	5.550(13)	5.115(13)	6.439(14)	6.055(19)	4.424(18)	4.249(23)	6.034(20)
9620*	5.076(17)	5.038(08)	5.383(09)	5.533(11)	5.099(12)	6.425(12)	6.048(15)	4.411(16)	4.233(19)	6.023(16)
9636*	5.053(18)	5.018(09)	5.368(08)	5.508(10)	5.069(10)	6.401(11)	6.031(14)	4.392(14)	4.223(18)	6.008(14)
9652*	5.032(16)	4.996(07)	5.337(07)	5.483(10)	5.041(09)	6.373(10)	6.022(12)	4.378(12)	4.195(14)	5.992(15)
9668*	4.998(11)	4.962(06)	5.312(07)	5.448(07)	5.012(07)	6.345(06)	6.000(10)	4.364(11)	4.173(13)	5.965(11)
9684	4.947(07)	4.903(05)	5.257(04)	5.385(06)	4.940(04)	6.282(03)	5.965(06)	4.328(06)	4.127(06)	5.926(07)
9700	4.938(07)	4.889(05)	5.249(05)	5.366(04)	4.932(03)	6.273(03)	5.954(08)	4.313(08)	4.116(05)	5.916(08)
9716	4.940(07)	4.895(05)	5.257(05)	5.374(04)	4.937(05)	6.276(04)	5.951(07)	4.319(07)	4.126(06)	5.931(09)
9732	4.966(10)	4.919(06)	5.281(04)	5.414(07)	4.966(04)	6.304(05)	5.975(08)	4.336(09)	4.147(07)	5.954(08)
9748	4.983(10)	4.936(07)	5.298(04)	5.429(07)	4.979(04)	6.320(06)	5.989(08)	4.355(08)	4.162(10)	5.971(11)
9764	4.980(07)	4.931(06)	5.287(04)	5.410(06)	4.968(04)	6.316(04)	5.984(08)	4.342(08)	4.153(08)	5.964(08)
9780	4.962(07)	4.912(05)	5.266(05)	5.392(04)	4.951(04)	6.300(05)	5.966(06)	4.340(06)	4.138(05)	5.941(06)
9796	4.962(08)	4.914(04)	5.273(05)	5.397(05)	4.956(03)	6.304(03)	5.975(07)	4.342(07)	4.147(06)	5.952(08)
9812	4.939(07)	4.886(04)	5.245(04)	5.366(05)	4.928(03)	6.273(05)	5.965(06)	4.322(07)	4.127(02)	5.932(07)
9828	4.947(07)	4.885(04)	5.245(04)	5.369(05)	4.928(06)	6.270(04)	5.960(06)	4.329(05)	4.122(05)	5.918(07)
9844	4.926(06)	4.877(04)	5.231(04)	5.353(04)	4.919(06)	6.254(06)	5.948(07)	4.321(05)	4.124(04)	5.916(05)
9860	4.921(06)	4.865(04)	5.221(04)	5.349(04)	4.902(06)	6.240(08)	5.949(07)	4.321(06)	4.110(06)	5.902(06)
9876	4.926(06)	4.854(04)	5.222(03)	5.348(04)	4.900(07)	6.242(07)	5.944(06)	4.320(06)	4.114(06)	5.915(09)
9892	4.919(07)	4.864(07)	5.216(05)	5.350(06)	4.903(06)	6.245(04)	5.950(11)	4.325(06)	4.112(06)	5.909(04)
9908	4.924(05)	4.853(04)	5.219(04)	5.342(04)	4.895(06)	6.256(08)	5.943(07)	4.319(07)	4.112(04)	5.909(08)
9924	4.923(05)	4.856(04)	5.214(07)	5.343(04)	4.899(06)	6.251(06)	5.947(12)	4.313(06)	4.097(05)	5.902(09)
9940	4.916(06)	4.862(04)	5.223(05)	5.340(05)	4.904(05)	6.245(06)	5.948(07)	4.321(09)	4.106(08)	5.913(08)
9956	4.926(07)	4.852(05)	5.228(04)	5.345(04)	4.907(06)	6.254(06)	5.947(08)	4.321(08)	4.113(07)	5.926(07)
9972	4.924(06)	4.865(05)	5.216(07)	5.348(06)	4.902(04)	6.247(08)	5.952(10)	4.327(08)	4.114(04)	5.913(11)
9988	4.942(07)	4.877(05)	5.229(06)	5.351(05)	4.914(06)	6.267(09)	5.962(08)	4.335(10)	4.12 (08)	5.934(07)
10004	4.965(06)	4.890(06)	5.232(02)	5.373(06)	4.927(06)	6.272(08)	5.987(10)	4.356(08)	4.130(07)	5.943(08)
10020	5.018(08)	4.934(08)	5.266(07)	5.424(05)	4.975(07)	6.329(09)	6.003(11)	4.386(09)	4.155(08)	5.959(10)
10036	5.127(09)	5.033(08)	5.333(07)	5.564(08)	5.103(08)	6.463(07)	6.145(08)	4.528(09)	4.278(06)	6.051(12)
10052	5.273(11)	5.127(07)	5.420(10)	5.660(05)	5.221(10)	6.578(16)	6.250(09)	4.659(10)	4.408(10)	6.167(11)
10068	5.106(12)	5.006(08)	5.311(06)	5.487(07)	5.045(10)	6.391(11)	6.079(12)	4.482(08)	4.245(06)	6.039(13)
10084	5.010(08)	4.908(06)	5.259(08)	5.400(05)	4.969(08)	6.301(10)	5.998(12)	4.394(08)	4.162(05)	5.946(09)
10100	4.978(10)	4.891(07)	5.254(09)	5.380(06)	4.933(07)	6.282(13)	5.980(11)	4.357(09)	4.140(07)	5.931(12)
10116	4.956(07)	4.888(08)	5.231(08)	5.364(05)	4.932(10)	6.268(10)	5.979(11)	4.339(11)	4.131(07)	5.935(12)
10132	4.940(09)	4.874(08)	5.229(08)	5.349(07)	4.923(08)	6.247(09)	5.963(14)	4.335(08)	4.118(08)	5.932(16)
10148	4.921(13)	4.860(08)	5.246(08)	5.350(07)	4.908(07)	6.244(11)	5.967(12)	4.337(09)	4.126(08)	5.911(17)
10164	4.929(12)	4.866(11)	5.248(13)	5.351(09)	4.915(08)	6.267(09)	5.950(13)	4.310(15)	4.119(07)	5.926(16)
10180	4.943(09)	4.864(11)	5.241(11)	5.358(08)	4.910(11)	6.269(13)	5.964(10)	4.321(11)	4.130(08)	5.921(11)
10196	4.931(13)	4.877(11)	5.238(12)	5.354(06)	4.894(06)	6.272(09)	5.952(14)	4.324(12)	4.125(07)	5.944(09)
10212	4.924(17)	4.860(07)	5.244(14)	5.369(07)	4.914(11)	6.270(13)	5.948(13)	4.333(14)	4.121(07)	5.894(12)
10228	4.924(16)	4.875(09)	5.230(09)	5.372(11)	4.924(12)	6.279(11)	5.934(13)	4.342(14)	4.114(13)	5.896(15)
10244	4.947(1[illegible]	4.877(08)	5.226(14)	5.359(08)	4.916(14)	6.248(10)	5.974(21)	4.349(15)	4.118(14)	5.922(16)
10260	4.919(11)	4.874(09)	5.259(10)	5.365(08)	4.905(13)	6.258(19)	5.953(23)	4.325(09)	4.129(10)	5.928(17)
10276	4.958(21)	4.861(14)	5.260(20)	5.355(13)	4.904(09)	6.265(20)	5.914(20)	4.340(20)	4.125(08)	5.929(23)
10292	4.940(26)	4.871(08)	5.256(18)	5.369(11)	4.931(14)	6.257(24)	5.905(07)	4.348(15)	4.100(11)	5.932(30)
10308	4.947(22)	4.877(13)	5.295(22)	5.388(11)	4.944(18)	6.281(39)	5.946(43)	4.352(21)	4.110(13)	6.021(21)
10324	4.947(32)	4.929(12)	5.305(37)	...	4.949(02)	6.327(16)	5.956(13)	4.373(26)	4.143(16)	5.896
10340	4.972(23)	4.956(22)	5.328	...	4.966(33)	6.361(44)	5.973(28)	4.379(20)	4.170(16)	6.116
10356	4.982(43)	4.946(20)	...	...	4.953(16)	6.306(34)	5.982(19)	4.387(26)	4.173(15)	6.013
10372	5.034(21)	4.969(15)	...	...	5.052(31)	6.273(11)	6.002(73)	4.404(22)	4.173(19)	6.025
10388	4.963(29)	4.931(20)	...	...	4.949(04)	6.338(18)	5.950(56)	4.393(40)	4.173(22)	5.976
10404	5.024(11)	4.927(22)	...	...	4.977(36)	...	5.959(35)	4.409(18)	4.158(11)	6.018
10420	5.053(08)	4.974(18)	...	...	...	...	5.996(26)	...	4.167(27)	...
10436	...	4.947(24)	...	...	...	...	...	...	...	...

Notes : All values are in monochromatic magnitudes $m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$
Bands with * contain telluric features
Errors are in units of mmag

TABLE 9
Monochromatic Magnitudes of Tertiary Standards through 50 Å Bandpasses at 50 Å Steps (Blue and Red Calibrations)

λ [Å]	LTT 377	LTT 1020	EG 21	LTT 1788	LTT 2415	Hilt 600	LTT 3218	LTT 3864	LTT 4364
3300	12.665	12.888	11.460	14.364	13.448	10.901	12.358	13.519	11.929
3350	12.660	12.846	11.435	14.302	13.407	10.871	12.325	13.509	11.880
3400	12.606	12.789	11.443	14.269	13.376	10.872	12.325	13.454	11.871
3450	12.597	12.787	11.471	14.258	13.349	10.876	12.322	13.421	11.857
3500	12.553	12.719	11.484	14.226	13.298	10.868	12.306	13.383	11.840
3550	12.479	12.659	11.488	14.156	13.242	10.844	12.289	13.316	11.808
3600	12.478	12.641	11.475	14.105	13.211	10.828	12.269	13.288	11.769
3650	12.365	12.539	11.474	14.042	13.132	10.800	12.249	13.192	11.743
3700	12.305	12.510	11.491	14.022	13.084	10.797	12.236	13.145	11.716
3750	12.255	12.512	11.502	13.973	12.995	10.713	12.228	13.085	11.699
3800	12.096	12.378	11.504	13.846	12.851	10.619	12.197	12.939	11.676
3850	12.051	12.358	11.491	13.793	12.748	10.535	12.159	12.874	11.656
3900	12.019	12.343	11.500	13.772	12.719	10.522	12.145	12.862	11.645
3950	12.156	12.438	11.482	13.791	12.723	10.520	12.160	12.945	11.635
4000	11.782	12.155	11.407	13.639	12.585	10.486	12.032	12.686	11.626
4050	11.695	12.086	11.241	13.591	12.526	10.454	11.952	12.625	11.617
4100	11.735	12.073	11.626	13.617	12.610	10.552	12.232	12.673	11.609
4150	11.624	12.019	11.266	13.544	12.500	10.462	11.923	12.573	11.605
4200	11.615	12.016	11.096	13.536	12.473	10.437	11.859	12.565	11.596
4250	11.614	12.023	11.121	13.522	12.469	10.449	11.866	12.552	11.589
4300	11.683	12.067	11.346	13.523	12.481	10.477	11.983	12.585	11.586
4350	11.642	11.988	11.699	13.541	12.545	10.566	12.217	12.588	11.587
4400	11.545	11.925	11.288	13.461	12.430	10.486	11.898	12.488	11.574
4450	11.500	11.872	11.153	13.434	12.412	10.489	11.854	12.466	11.565
4500	11.453	11.833	11.123	13.402	12.392	10.455	11.841	12.431	11.566
4550	11.447	11.815	11.132	13.389	12.381	10.450	11.838	12.415	11.564
4600	11.415	11.783	11.146	13.369	12.361	10.455	11.837	12.388	11.568
4650	11.404	11.762	11.163	13.352	12.355	10.457	11.838	12.367	11.590
4700	11.390	11.746	11.189	13.335	12.344	10.459	11.843	12.355	11.605
4750	11.375	11.726	11.241	13.319	12.333	10.458	11.856	12.340	11.560
4800	11.355	11.705	11.375	13.307	12.321	10.459	11.903	12.325	11.537
4850	11.443	11.731	11.765	13.348	12.391	10.549	12.201	12.379	11.528
4900	11.367	11.678	11.571	13.280	12.316	10.476	11.970	12.309	11.522
4950	11.329	11.653	11.345	13.255	12.277	10.447	11.856	12.277	11.519
5000	11.338	11.644	11.298	13.248	12.269	10.456	11.841	12.268	11.528
5050	11.312	11.629	11.294	13.237	12.265	10.451	11.841	12.253	11.552
5100	11.289	11.608	11.292	13.223	12.256	10.445	11.841	12.237	11.581
5150	11.305	11.607	11.296	13.210	12.250	10.443	11.838	12.235	11.585
5200	11.302	11.601	11.305	13.200	12.242	10.432	11.838	12.233	11.505
5250	11.274	11.560	11.319	13.182	12.232	10.429	11.838	12.204	11.501
5300	11.246	11.540	11.331	13.163	12.216	10.424	11.839	12.187	11.501
5350	11.238	11.526	11.347	13.153	12.207	10.422	11.839	12.174	11.499
5400	11.230	11.517	11.361	13.143	12.200	10.419	11.839	12.164	11.500
5450	11.209	11.502	11.372	13.129	12.191	10.423	11.842	12.147	11.506
5500	11.196	11.483	11.382	13.116	12.179	10.419	11.843	12.137	11.509
5550	11.184	11.469	11.395	13.112	12.176	10.417	11.844	12.122	11.512
5600	11.187	11.465	11.408	13.100	12.172	10.417	11.846	12.123	11.507
5650	11.171	11.449	11.424	13.095	12.169	10.429	11.854	12.109	11.501
5700	11.170	11.446	11.440	13.095	12.167	10.436	11.868	12.109	11.501
5750	11.155	11.431	11.457	13.086	12.168	10.440	11.874	12.103	11.507
5800	11.146	11.414	11.464	13.069	12.153	10.441	11.869	12.087	11.500
5850	11.134	11.399	11.472	13.054	12.139	10.435	11.862	12.070	11.496
5900	11.145	11.402	11.491	13.056	12.144	10.474	11.873	12.083	11.506
5950	11.127	11.388	11.512	13.044	12.136	10.446	11.878	12.065	11.504
6000	11.131	11.381	11.525	13.037	12.125	10.449	11.878	12.058	11.505
6050	11.120	11.373	11.536	13.034	12.122	10.450	11.884	12.048	11.506
6100	11.117	11.364	11.543	13.028	12.122	10.451	11.886	12.042	11.508
6150	11.119	11.356	11.548	13.028	12.117	10.459	11.890	12.046	11.509
6200	11.100	11.346	11.560	13.018	12.114	10.469	11.898	12.036	11.508
6250	11.108	11.349	11.582	13.019	12.114	10.474	11.911	12.039	11.515
6300	11.112	11.353	11.609	13.024	12.124	10.502	11.926	12.046	11.528
6350	11.093	11.327	11.610	13.006	12.105	10.482	11.918	12.020	11.514
6400	11.091	11.323	11.633	13.000	12.101	10.483	11.924	12.015	11.512
6450	11.089	11.318	11.673	12.994	12.094	10.483	11.938	12.007	11.510
6500	11.090	11.312	11.771	12.992	12.095	10.493	11.993	12.008	11.513
6550	11.163	11.359	12.026	13.056	12.166	10.571	12.249	12.070	11.516
6600	11.084	11.301	11.899	12.985	12.107	10.507	12.077	12.005	11.513
6650	11.063	11.282	11.746	12.962	12.072	10.491	11.965	11.977	11.512
6700	11.056	11.273	11.704	12.957	12.065	10.493	11.943	11.971	11.511
6750	11.054	11.267	11.700	12.951	12.066	10.486	11.939	11.965	11.514
6800	11.052	11.263	11.706	12.952	12.062	10.494	11.941	11.962	11.519
6850*	11.098	11.308	11.763	12.997	12.112	10.550	11.996	12.010	11.572
6900*	11.151	11.359	11.826	13.046	12.164	10.604	12.051	12.062	11.631

TABLE 9
(Continued)

λ [Å]	LTT 377	LTT 1020	EG 21	LTT 1788	LTT 2415	Hilt 600	LTT 3218	LTT 3864	LTT 4364
6950	11.063	11.268	11.749	12.959	12.079	10.530	11.977	11.974	11.554
7000	11.059	11.258	11.753	12.949	12.069	10.523	11.975	11.965	11.549
7050	11.053	11.252	11.763	12.944	12.067	10.531	11.975	11.957	11.548
7100	11.050	11.247	11.772	12.939	12.061	10.524	11.975	11.951	11.547
7150*	11.065	11.259	11.799	12.953	12.078	10.546	12.000	11.967	11.569
7200*	11.110	11.304	11.857	12.998	12.131	10.607	12.068	12.021	11.630
7250*	11.094	11.288	11.860	12.993	12.122	10.607	12.063	12.008	11.625
7300*	11.082	11.272	11.852	12.979	12.104	10.596	12.046	11.991	11.613
7350	11.053	11.239	11.836	12.945	12.071	10.565	12.016	11.956	11.582
7400	11.052	11.228	11.838	12.931	12.061	10.559	12.011	11.949	11.577
7450	11.040	11.220	11.843	12.930	12.055	10.558	12.010	11.943	11.577
7500	11.042	11.220	11.855	12.924	12.053	10.561	12.013	11.937	11.580
7550	11.042	11.215	11.861	12.918	12.043	10.561	12.011	11.930	11.583
7600*	11.493	11.681	12.345	13.375	12.496	11.031	12.473	12.390	12.058
7650*	11.380	11.559	12.232	13.255	12.378	10.911	12.356	12.264	11.933
7700*	11.057	11.222	11.911	12.926	12.056	10.598	12.038	11.941	11.607
7750	11.036	11.198	11.908	12.903	12.036	10.576	12.024	11.916	11.591
7800	11.031	11.192	11.915	12.900	12.035	10.574	12.027	11.912	11.593
7850	11.026	11.192	11.925	12.898	12.028	10.570	12.035	11.905	11.597
7900	11.031	11.191	11.936	12.898	12.037	10.582	12.046	11.910	11.605
7950	11.036	11.188	11.936	12.897	12.037	10.583	12.048	11.907	11.609
8000	11.030	11.187	11.957	12.897	12.036	10.586	12.059	11.903	11.613
8050	11.032	11.186	11.968	12.897	12.037	10.591	12.062	11.904	11.614
8100	11.036	11.191	11.985	12.896	12.035	10.600	12.074	11.907	11.627
8150*	11.087	11.244	12.057	12.954	12.102	10.671	12.160	11.968	11.700
8200*	11.096	11.238	12.058	12.946	12.095	10.668	12.149	11.958	11.690
8250*	11.079	11.229	12.059	12.942	12.089	10.667	12.146	11.952	11.689
8300*	11.074	11.218	12.063	12.932	12.083	10.660	12.145	11.941	11.684
8350*	11.056	11.193	12.051	12.908	12.057	10.643	12.115	11.920	11.658
8400	11.039	11.183	12.038	12.899	12.045	10.631	12.101	11.905	11.651
8450	11.042	11.176	12.043	12.893	12.043	10.635	12.107	11.903	11.653
8500	11.061	11.190	12.070	12.903	12.054	10.638	12.112	11.914	11.655
8550	11.093	11.207	12.084	12.910	12.063	10.642	12.124	11.931	11.663
8600	11.049	11.179	12.092	12.902	12.054	10.654	12.131	11.905	11.663
8650	11.085	11.199	12.105	12.906	12.057	10.657	12.134	11.923	11.674
8700	11.053	11.184	12.110	12.904	12.057	10.626	12.147	11.905	11.681
8750	11.065	11.184	12.130	12.911	12.066	10.688	12.153	11.913	11.687
8800	11.058	11.193	12.152	12.913	12.055	10.623	12.154	11.907	11.694
8850	11.072	11.191	12.145	12.922	12.072	10.702	12.173	11.916	11.708
8900	11.066	11.192	12.153	12.920	12.070	10.650	12.180	11.915	11.711
8950	11.101	11.231	12.229	12.960	12.105	10.681	12.249	11.957	11.773
9000	11.184	11.301	12.314	13.026	12.190	10.849	12.349	12.037	11.851
9050	11.126	11.247	12.260	12.972	12.136	10.746	12.269	11.975	11.799
9100	11.164	11.284	12.305	13.010	12.160	10.747	12.326	12.008	11.842
9150	11.155	11.294	12.322	13.014	12.170	10.766	12.349	12.015	11.859
9200	11.140	11.251	12.300	12.983	12.132	10.772	12.308	11.981	11.823
9250	11.157	11.255	12.310	12.989	12.158	10.813	12.313	11.993	11.814
9300*	11.278	11.414	12.449	13.146	12.305	10.928	12.533	12.165	12.041
9350*	11.525	11.679	12.715	13.387	12.575	11.215	12.871	12.432	12.350
9400*	11.342	11.470	12.492	13.180	12.359	10.981	12.592	12.208	12.093
9450*	11.409	11.541	12.568	13.258	12.436	11.068	12.675	12.283	12.185
9500*	11.364	11.494	12.612	13.221	12.391	11.054	12.662	12.235	12.143
9550*	11.366	11.472	12.610	13.196	12.388	11.122	12.657	12.226	12.113
9600*	11.289	11.415	12.558	13.135	12.311	10.960	12.552	12.147	12.057
9650*	11.238	11.353	12.471	13.073	12.241	10.876	12.436	12.076	11.979
9700	11.162	11.270	12.370	12.987	12.158	10.785	12.340	11.982	11.894
9750	11.183	11.301	12.369	13.022	12.178	10.811	12.368	11.990	11.915
9800	11.152	11.270	12.339	12.998	12.152	10.772	12.331	11.973	11.895
9850	11.124	11.238	12.338	12.958	12.129	10.741	12.273	11.942	11.857
9900	11.105	11.219	12.314	12.955	12.111	10.735	12.290	11.929	11.825
9950	11.105	11.201	12.344	12.944	12.107	10.745	12.295	11.923	11.836
10000	11.109	11.224	12.476	12.983	12.112	10.766	...	11.917	11.837
10050	11.160	11.240	...	12.929	12.122	10.830	...	11.931	11.787
10100	11.116	11.208	...	12.946	...	10.745	...	11.920	11.850
10150	11.096	...	...	...	...	...	...	...	11.843
10200	11.067	...	...	...	...	...	...	...	11.869
10250	11.058	...	...	...	...	...	...	...	...
10300	11.104	...	...	...	...	...	...	...	...

Notes : All values are in monochromatic magnitudes $m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$
Bands with * contain telluric features

TABLE 9
(Continued)

λ [Å]	Feige 56	LTT 4816	CD -32	LTT 6248	EG 274	LTT 7379	LTT 7987	LTT 9239	Feige 110	LTT 9491
3300	11.232	14.083	12.024	13.134	10.605	11.850	12.373	13.576	10.982	14.097
3350	11.224	14.054	11.992	13.063	10.598	11.851	12.346	13.566	10.972	14.059
3400	11.232	14.057	11.967	13.037	10.619	11.753	12.367	13.481	11.002	14.054
3450	11.248	14.073	11.962	13.019	10.668	11.746	12.389	13.471	11.057	14.076
3500	11.254	14.070	11.931	12.982	10.680	11.679	12.401	13.406	11.078	14.059
3550	11.246	14.055	11.849	12.928	10.691	11.599	12.397	13.350	11.093	14.047
3600	11.237	14.039	11.827	12.868	10.697	11.620	12.389	13.323	11.107	14.033
3650	11.232	14.024	11.732	12.806	10.709	11.466	12.388	13.198	11.134	14.019
3700	11.204	14.026	11.676	12.768	10.730	11.416	12.415	13.199	11.164	14.019
3750	11.031	14.015	11.502	12.684	10.749	11.439	12.422	13.199	11.182	14.017
3800	10.853	14.012	11.260	12.565	10.765	11.299	12.419	13.084	11.195	14.015
3850	10.764	14.001	11.095	12.479	10.769	11.343	12.402	13.072	11.197	14.006
3900	10.752	13.995	11.057	12.464	10.781	11.278	12.397	13.078	11.224	14.019
3950	10.774	14.026	11.033	12.471	10.827	11.442	12.407	13.172	11.255	14.011
4000	10.700	13.929	10.799	12.305	10.756	10.980	12.268	12.785	11.254	14.015
4050	10.679	13.850	10.718	12.258	10.672	10.881	12.120	12.730	11.243	13.993
4100	10.837	14.164	10.940	12.317	10.968	10.851	12.532	12.695	11.370	13.998
4150	10.713	13.830	10.705	12.209	10.711	10.780	12.129	12.650	11.296	14.005
4200	10.716	13.695	10.643	12.183	10.626	10.788	11.964	12.649	11.329	14.005
4250	10.741	13.718	10.610	12.174	10.655	10.819	11.993	12.656	11.353	14.009
4300	10.781	13.922	10.661	12.192	10.817	10.907	12.236	12.717	11.388	14.013
4350	10.902	14.228	10.797	12.216	11.074	10.765	12.570	12.593	11.500	14.025
4400	10.791	13.819	10.570	12.119	10.773	10.702	12.141	12.534	11.423	14.030
4450	10.805	13.703	10.548	12.094	10.711	10.612	12.004	12.466	11.444	14.049
4500	10.815	13.674	10.509	12.068	10.714	10.547	11.980	12.420	11.462	14.039
4550	10.828	13.658	10.527	12.059	10.729	10.536	11.987	12.403	11.484	14.034
4600	10.837	13.666	10.489	12.035	10.748	10.496	12.002	12.371	11.506	14.038
4650	10.849	13.680	10.481	12.017	10.771	10.472	12.022	12.348	11.534	14.048
4700	10.861	13.702	10.475	12.005	10.801	10.457	12.047	12.325	11.574	14.050
4750	10.880	13.753	10.470	11.996	10.833	10.432	12.103	12.300	11.572	14.058
4800	10.896	13.874	10.475	11.984	10.925	10.409	12.246	12.279	11.592	14.061
4850	11.035	14.251	10.714	12.040	11.225	10.454	12.656	12.305	11.710	14.064
4900	10.928	14.010	10.541	11.950	11.052	10.408	12.414	12.251	11.638	14.063
4950	10.918	13.805	10.458	11.916	10.914	10.375	12.192	12.225	11.635	14.061
5000	10.944	13.746	10.471	11.904	10.898	10.381	12.144	12.219	11.655	14.064
5050	10.964	13.727	10.443	11.889	10.906	10.354	12.137	12.195	11.676	14.067
5100	10.972	13.723	10.455	11.870	10.918	10.330	12.135	12.176	11.689	14.069
5150	10.984	13.724	10.467	11.858	10.926	10.357	12.140	12.192	11.702	14.068
5200	11.006	13.721	10.477	11.850	10.941	10.351	12.151	12.171	11.716	14.073
5250	11.010	13.729	10.463	11.837	10.957	10.293	12.169	12.128	11.737	14.080
5300	11.016	13.736	10.448	11.826	10.979	10.257	12.182	12.103	11.757	14.091
5350	11.022	13.740	10.442	11.811	10.994	10.248	12.195	12.091	11.770	14.090
5400	11.031	13.756	10.446	11.803	11.009	10.238	12.207	12.076	11.807	14.095
5450	11.041	13.755	10.433	11.790	11.025	10.217	12.219	12.056	11.807	14.104
5500	11.051	13.758	10.427	11.777	11.037	10.197	12.234	12.037	11.823	14.109
5550	11.057	13.780	10.416	11.761	11.046	10.181	12.245	12.019	11.840	14.116
5600	11.066	13.782	10.419	11.752	11.071	10.184	12.257	12.017	11.860	14.118
5650	11.089	13.790	10.421	11.747	11.090	10.155	12.275	11.995	11.880	14.134
5700	11.104	13.808	10.429	11.743	11.108	10.150	12.294	11.985	11.905	14.147
5750	11.112	13.827	10.419	11.739	11.132	10.131	12.308	11.976	11.920	14.155
5800	11.123	13.825	10.417	11.721	11.141	10.120	12.315	11.957	11.930	14.160
5850	11.125	13.823	10.406	11.704	11.145	10.106	12.319	11.943	11.940	14.191
5900	11.157	13.837	10.424	11.711	11.161	10.125	12.338	11.945	11.963	14.197
5950	11.159	13.844	10.411	11.697	11.183	10.100	12.352	11.930	11.974	14.174
6000	11.164	13.853	10.421	11.687	11.199	10.096	12.365	11.924	11.992	14.176
6050	11.176	13.864	10.419	11.682	11.211	10.082	12.378	11.909	12.012	14.182
6100	11.185	13.876	10.424	11.673	11.238	10.076	12.389	11.901	12.041	14.184
6150	11.196	13.880	10.445	11.667	11.242	10.077	12.397	11.894	12.064	14.192
6200	11.206	13.892	10.429	11.663	11.250	10.055	12.405	11.880	12.087	14.198
6250	11.222	13.904	10.444	11.659	11.270	10.061	12.423	11.876	12.115	14.205
6300	11.249	13.927	10.454	11.669	11.287	10.061	12.450	11.882	12.142	14.223
6350	11.249	13.931	10.442	11.644	11.284	10.038	12.452	11.857	12.141	14.207
6400	11.252	13.956	10.436	11.635	11.294	10.032	12.468	11.853	12.151	14.220
6450	11.261	13.992	10.440	11.625	11.323	10.032	12.511	11.845	12.160	14.220
6500	11.272	14.101	10.458	11.627	11.384	10.026	12.610	11.842	12.175	14.225
6550	11.370	14.394	10.627	11.699	11.592	10.071	12.878	11.886	12.275	14.258
6600	11.300	14.231	10.489	11.613	11.483	10.010	12.741	11.820	12.212	14.242
6650	11.292	14.059	10.438	11.596	11.385	9.992	12.587	11.808	12.208	14.249
6700	11.298	14.008	10.430	11.587	11.370	9.985	12.544	11.798	12.214	14.257
6750	11.308	13.995	10.435	11.582	11.377	9.980	12.538	11.793	12.225	14.250
6800	11.322	13.994	10.438	11.579	11.388	9.974	12.542	11.788	12.237	14.266
6850*	11.383	14.038	10.492	11.624	11.451	10.020	12.596	11.829	12.304	14.317

TABLE 9
(Continued)

λ [Å]	Feige 56	LTT 4816	CD -32	LTT 6248	EG 274	LTT 7379	LTT 7987	LTT 9239	Feige 110	LTT 9491
6900*	11.450	14.099	10.553	11.680	11.517	10.070	12.665	11.879	12.377	14.377
6950	11.377	14.022	10.470	11.589	11.448	9.982	12.585	11.790	12.303	14.305
7000	11.375	14.022	10.470	11.577	11.452	9.977	12.590	11.777	12.311	14.305
7050	11.381	14.023	10.464	11.570	11.460	9.966	12.598	11.770	12.329	14.313
7100	11.392	14.030	10.465	11.565	11.473	9.960	12.608	11.764	12.340	14.316
7150*	11.419	14.057	10.488	11.574	11.497	9.976	12.631	11.774	12.368	14.328
7200*	11.486	14.121	10.549	11.623	11.558	10.025	12.684	11.814	12.425	14.390
7250*	11.490	14.120	10.540	11.610	11.561	10.007	12.689	11.799	12.432	14.396
7300*	11.482	14.118	10.535	11.595	11.552	9.992	12.687	11.781	12.424	14.384
7350	11.453	14.091	10.499	11.565	11.549	9.955	12.669	11.750	12.417	14.365
7400	11.454	14.081	10.508	11.556	11.554	9.953	12.671	11.738	12.423	14.364
7450	11.458	14.089	10.502	11.551	11.563	9.936	12.680	11.732	12.434	14.366
7500	11.469	14.100	10.504	11.548	11.575	9.936	12.693	11.730	12.450	14.375
7550	11.476	14.101	10.498	11.543	11.585	9.935	12.704	11.724	12.466	14.390
7600*	11.962	14.575	10.965	11.992	12.056	10.401	13.190	12.179	12.941	14.847
7650*	11.842	14.451	10.843	11.880	11.954	10.281	13.083	12.062	12.835	14.747
7700*	11.521	14.136	10.526	11.556	11.631	9.945	12.749	11.727	12.519	14.423
7750	11.509	14.131	10.513	11.533	11.623	9.922	12.747	11.704	12.509	14.399
7800	11.517	14.130	10.510	11.526	11.634	9.916	12.752	11.699	12.513	14.414
7850	11.523	14.142	10.509	11.521	11.648	9.913	12.764	11.696	12.530	14.424
7900	11.539	14.147	10.519	11.521	11.665	9.915	12.776	11.696	12.545	14.434
7950	11.543	14.156	10.522	11.518	11.673	9.918	12.786	11.694	12.553	14.431
8000	11.553	14.162	10.520	11.514	11.689	9.911	12.792	11.693	12.569	14.441
8050	11.561	14.172	10.523	11.513	11.694	9.908	12.806	11.690	12.583	14.452
8100	11.575	14.184	10.533	11.517	11.711	9.912	12.821	11.689	12.598	14.459
8150*	11.651	14.262	10.595	11.567	11.782	9.968	12.883	11.747	12.659	14.520
8200*	11.651	14.252	10.604	11.558	11.786	9.975	12.880	11.744	12.659	14.517
8250*	11.656	14.253	10.591	11.553	11.792	9.952	12.886	11.730	12.686	14.524
8300*	11.659	14.244	10.586	11.544	11.793	9.944	12.887	11.720	12.680	14.535
8350*	11.637	14.228	10.568	11.523	11.779	9.920	12.880	11.695	12.663	14.519
8400	11.633	14.229	10.557	11.514	11.772	9.903	12.875	11.682	12.672	14.518
8450	11.645	14.229	10.564	11.507	11.787	9.903	12.892	11.680	12.684	14.511
8500	11.648	14.236	10.571	11.508	11.798	9.921	12.903	11.696	12.691	14.529
8550	11.654	14.259	10.580	11.515	11.811	9.957	12.909	11.718	12.704	14.531
8600	11.669	14.267	10.574	11.506	11.820	9.900	12.918	11.678	12.717	14.560
8650	11.673	14.276	10.593	11.515	11.831	9.942	12.918	11.709	12.729	14.554
8700	11.623	14.283	10.549	11.500	11.843	9.911	12.930	11.680	12.746	14.555
8750	11.715	14.291	10.617	11.511	11.856	9.910	12.957	11.680	12.757	14.585
8800	11.611	14.298	10.535	11.502	11.875	9.914	12.960	11.687	12.764	14.609
8850	11.732	14.317	10.634	11.519	11.888	9.914	12.992	11.683	12.796	14.640
8900	11.659	14.339	10.562	11.515	11.900	9.910	12.992	11.691	12.799	14.640
8950	11.692	14.385	10.580	11.548	11.962	9.956	13.027	11.726	12.847	14.681
9000	11.878	14.472	10.762	11.624	12.038	10.035	13.103	11.801	12.930	14.730
9050	11.754	14.420	10.639	11.556	11.992	9.971	13.078	11.741	12.885	14.687
9100	11.764	14.481	10.649	11.590	12.038	10.014	13.103	11.777	12.917	14.739
9150	11.786	14.489	10.643	11.595	12.061	10.013	13.119	11.783	12.931	14.752
9200	11.807	14.467	10.685	11.576	12.035	9.979	13.112	11.751	12.929	14.741
9250	11.862	14.466	10.731	11.580	12.038	9.983	13.128	11.740	12.951	14.740
9300*	11.960	14.697	10.796	11.727	12.218	10.152	13.234	11.896	13.082	14.900
9350*	12.255	15.018	11.050	11.970	12.504	10.428	13.479	12.167	13.301	15.166
9400*	12.028	14.731	10.855	11.771	12.274	10.214	13.325	11.970	13.140	14.960
9450*	12.115	14.783	10.933	11.845	12.394	10.293	13.404	12.033	13.218	15.033
9500*	12.091	14.829	10.912	11.807	12.379	10.240	13.369	11.984	13.233	14.980
9550*	12.184	14.747	11.005	11.804	12.347	10.209	13.420	11.957	13.196	14.949
9600*	12.003	14.684	10.838	11.728	12.299	10.150	13.308	11.900	13.117	14.878
9650*	11.929	14.572	10.762	11.667	12.208	10.087	13.240	11.835	13.079	14.810
9700	11.844	14.517	10.662	11.580	12.109	9.991	13.161	11.758	13.046	14.760
9750	11.872	14.507	10.682	11.605	12.158	10.012	13.172	11.789	13.076	14.888
9800	11.852	14.500	10.653	11.589	12.141	9.983	13.202	11.750	13.028	14.858
9850	11.839	14.487	10.623	11.556	12.091	9.953	13.132	11.722	13.048	14.823
9900	11.836	14.431	10.618	11.534	12.093	9.935	13.212	11.701	13.082	14.737
9950	11.820	14.527	10.625	11.538	12.152	9.932	13.216	11.695	12.970	14.876
10000	11.830	...	10.631	11.535	12.160	9.938	13.175	11.690	...	...
10050	11.889	...	10.783	11.554	12.270	9.942	...	11.706	...	...
10100	11.845	...	10.641	11.495	12.191	9.920	...	11.637	...	...
10150	...	...	10.604	11.500	12.160	9.926	...	11.647	...	...
10200	...	...	10.632	...	...	9.917	...	11.654	...	...

Notes : All values are in monochromatic magnitudes $m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$
Bands with * contain telluric features

TABLE 10
Monochromatic Magnitudes of the Secondary Standards through 16 Å Bandpasses at 16 Å Steps (Blue and Red Calibrations)

λ [Å]	HR 718	HR 1544	HR 3454	HR 4468	HR 4963	HR 5501	HR 7596	HR 7950	HR 8634	HR 9087
3300	5.199	5.566	4.127	5.542	5.594	6.732	6.994	5.033	4.134	5.381
3316	5.196	5.557	4.126	5.535	5.586	6.733	6.995	5.030	4.129	5.376
3332	5.194	5.562	4.129	5.537	5.589	6.720	6.980	5.031	4.120	5.377
3348	5.181	5.549	4.133	5.522	5.575	6.712	6.967	5.015	4.112	5.367
3364	5.178	5.551	4.144	5.524	5.564	6.705	6.952	5.007	4.102	5.361
3380	5.176	5.543	4.142	5.516	5.558	6.698	6.948	4.994	4.109	5.364
3396	5.178	5.532	4.152	5.516	5.548	6.695	6.938	4.985	4.104	5.371
3412	5.170	5.525	4.156	5.514	5.543	6.691	6.934	4.982	4.114	5.378
3428	5.176	5.526	4.166	5.523	5.550	6.704	6.933	4.980	4.122	5.394
3444	5.173	5.529	4.174	5.525	5.555	6.708	6.941	4.989	4.129	5.402
3460	5.178	5.532	4.179	5.524	5.547	6.706	6.938	4.990	4.129	5.407
3476	5.179	5.524	4.186	5.524	5.546	6.700	6.930	4.987	4.127	5.411
3492	5.175	5.526	4.191	5.524	5.543	6.697	6.919	4.979	4.122	5.412
3508	5.164	5.513	4.194	5.516	5.528	6.687	6.905	4.963	4.111	5.400
3524	5.155	5.490	4.199	5.506	5.508	6.672	6.886	4.949	4.105	5.395
3540	5.142	5.481	4.196	5.497	5.492	6.663	6.882	4.932	4.099	5.390
3556	5.142	5.483	4.196	5.494	5.493	6.658	6.870	4.931	4.094	5.388
3572	5.136	5.479	4.196	5.493	5.487	6.655	6.865	4.925	4.083	5.384
3588	5.126	5.469	4.206	5.485	5.480	6.648	6.853	4.917	4.081	5.381
3604	5.116	5.456	4.194	5.479	5.469	6.643	6.847	4.907	4.079	5.378
3620	5.115	5.442	4.196	5.470	5.458	6.632	6.834	4.895	4.073	5.377
3636	5.105	5.426	4.193	5.463	5.444	6.625	6.823	4.884	4.069	5.376
3652	5.100	5.414	4.195	5.458	5.432	6.613	6.810	4.876	4.067	5.376
3668	5.096	5.406	4.194	5.455	5.428	6.609	6.805	4.867	4.070	5.378
3684	5.098	5.382	4.202	5.449	5.408	6.604	6.786	4.850	4.061	5.383
3700	5.072	5.322	4.205	5.412	5.353	6.564	6.724	4.789	4.023	5.376
3716	5.012	5.220	4.184	5.335	5.245	6.481	6.616	4.683	3.938	5.340
3732	4.918	5.106	4.144	5.226	5.124	6.366	6.480	4.563	3.818	5.276
3748	4.814	4.986	4.095	5.106	4.989	6.243	6.342	4.435	3.697	5.203
3764	4.691	4.859	4.056	4.994	4.867	6.122	6.208	4.305	3.591	5.132
3780	4.528	4.703	3.989	4.840	4.683	5.969	6.041	4.129	3.457	5.035
3796	4.531	4.696	4.020	4.840	4.676	5.941	6.024	4.115	3.463	5.044
3812	4.298	4.488	3.926	4.632	4.457	5.746	5.819	3.890	3.275	4.901
3828	4.416	4.645	4.006	4.786	4.612	5.888	5.969	4.073	3.409	4.993
3844	4.295	4.418	3.892	4.604	4.407	5.711	5.782	3.841	3.275	4.904
3860	4.052	4.263	3.820	4.438	4.227	5.529	5.613	3.648	3.112	4.770
3876	4.238	4.484	3.940	4.646	4.458	5.763	5.815	3.906	3.281	4.896
3892	4.410	4.525	3.963	4.714	4.519	5.802	5.866	3.958	3.374	4.981
3908	4.034	4.223	3.820	4.413	4.205	5.503	5.585	3.628	3.105	4.775
3924	3.947	4.181	3.811	4.358	4.154	5.439	5.531	3.583	3.053	4.730
3940	3.994	4.234	3.818	4.399	4.195	5.487	5.571	3.623	3.087	4.747
3956	4.219	4.452	3.939	4.628	4.431	5.726	5.792	3.870	3.276	4.890
3972	4.432	4.562	4.022	4.755	4.555	5.842	5.898	3.989	3.412	5.017
3988	4.070	4.224	3.859	4.436	4.214	5.522	5.594	3.632	3.141	4.806
4004	3.944	4.121	3.853	4.346	4.105	5.414	5.492	3.505	3.074	4.756
4020	3.927	4.101	3.880	4.337	4.086	5.397	5.473	3.477	3.060	4.745
4036	3.922	4.094	3.843	4.334	4.078	5.394	5.462	3.475	3.042	4.734
4052	3.928	4.106	3.833	4.342	4.090	5.405	5.472	3.487	3.042	4.731
4068	3.974	4.155	3.850	4.382	4.135	5.452	5.518	3.538	3.073	4.750
4084	4.157	4.355	3.940	4.560	4.327	5.653	5.712	3.749	3.214	4.861
4100	4.487	4.587	4.081	4.811	4.597	5.901	5.935	4.032	3.465	5.057
4116	4.168	4.303	3.931	4.537	4.311	5.611	5.664	3.715	3.222	4.884
4132	3.986	4.139	3.897	4.402	4.157	5.461	5.525	3.550	3.105	4.790
4148	3.947	4.100	3.889	4.369	4.116	5.429	5.489	3.508	3.081	4.770
4164	3.952	4.110	3.877	4.371	4.117	5.428	5.488	3.510	3.082	4.768
4180	3.958	4.116	3.879	4.372	4.122	5.430	5.493	3.515	3.087	4.773
4196	3.963	4.115	3.885	4.371	4.113	5.427	5.487	3.505	3.087	4.773
4212	3.969	4.121	3.889	4.379	4.114	5.428	5.487	3.505	3.090	4.775

TABLE 10
(Continued)

4228	3.977	4.134	3.900	4.382	4.119	5.433	5.492	3.513	3.095	4.782
4244	3.984	4.140	3.909	4.393	4.125	5.440	5.496	3.519	3.101	4.790
4260	3.985	4.142	3.924	4.403	4.136	5.452	5.506	3.529	3.113	4.800
4276	3.997	4.154	3.927	4.411	4.143	5.462	5.511	3.538	3.118	4.806
4292	4.016	4.183	3.936	4.424	4.166	5.477	5.529	3.565	3.128	4.816
4308	4.071	4.238	3.955	4.467	4.216	5.524	5.575	3.619	3.161	4.840
4324	4.263	4.431	4.049	4.644	4.407	5.714	5.762	3.821	3.303	4.954
4340	4.569	4.653	4.185	4.890	4.657	5.965	5.969	4.091	3.542	5.140
4356	4.226	4.369	4.028	4.599	4.361	5.662	5.688	3.764	3.278	4.949
4372	4.067	4.215	3.986	4.471	4.208	5.515	5.555	3.603	3.171	4.862
4388	4.046	4.195	4.000	4.456	4.185	5.499	5.541	3.582	3.164	4.858
4404	4.035	4.184	3.979	4.447	4.177	5.492	5.536	3.574	3.155	4.851
4420	4.036	4.177	3.982	4.446	4.172	5.490	5.539	3.566	3.157	4.853
4436	4.035	4.178	3.995	4.449	4.170	5.492	5.533	3.563	3.158	4.854
4452	4.040	4.190	4.010	4.456	4.178	5.498	5.531	3.570	3.161	4.868
4468	4.051	4.198	4.058	4.477	4.187	5.509	5.540	3.584	3.181	4.885
4484	4.063	4.202	4.022	4.482	4.198	5.518	5.545	3.592	3.189	4.884
4500	4.050	4.189	4.009	4.473	4.187	5.509	5.533	3.581	3.178	4.872
4516	4.056	4.194	4.014	4.477	4.192	5.513	5.533	3.584	3.185	4.882
4532	4.056	4.198	4.016	4.478	4.198	5.517	5.536	3.593	3.184	4.883
4548	4.067	4.206	4.024	4.487	4.208	5.527	5.544	3.607	3.193	4.894
4564	4.064	4.201	4.031	4.488	4.205	5.526	5.544	3.603	3.195	4.897
4580	4.071	4.203	4.030	4.492	4.210	5.528	5.546	3.604	3.200	4.901
4596	4.072	4.199	4.040	4.490	4.204	5.527	5.540	3.597	3.204	4.904
4612	4.072	4.196	4.047	4.494	4.203	5.530	5.540	3.599	3.207	4.906
4628	4.081	4.201	4.055	4.503	4.211	5.538	5.547	3.608	3.216	4.916
4644	4.077	4.197	4.058	4.501	4.208	5.536	5.542	3.602	3.214	4.917
4660	4.084	4.202	4.059	4.506	4.215	5.543	5.547	3.610	3.219	4.919
4676	4.089	4.206	4.067	4.509	4.214	5.546	5.547	3.611	3.226	4.924
4692	4.091	4.206	4.074	4.513	4.215	5.547	5.550	3.614	3.227	4.928
4708	4.097	4.213	4.081	4.518	4.227	5.552	5.552	3.616	3.234	4.935
4724	4.100	4.213	4.081	4.524	4.225	5.556	5.556	3.623	3.239	4.942
4740	4.107	4.219	4.085	4.530	4.236	5.561	5.561	3.630	3.245	4.949
4756	4.114	4.225	4.091	4.532	4.237	5.568	5.564	3.633	3.251	4.951
4772	4.119	4.235	4.103	4.540	4.249	5.575	5.570	3.641	3.256	4.959
4788	4.124	4.231	4.108	4.544	4.248	5.576	5.571	3.644	3.260	4.964
4804	4.131	4.239	4.112	4.550	4.258	5.582	5.579	3.655	3.263	4.967
4820	4.154	4.259	4.111	4.567	4.278	5.605	5.595	3.675	3.279	4.977
4836	4.231	4.335	4.137	4.628	4.348	5.673	5.662	3.754	3.327	5.014
4852	4.525	4.595	4.278	4.897	4.627	5.953	5.939	4.053	3.557	5.188
4868	4.584	4.661	4.315	4.946	4.679	5.988	5.953	4.095	3.600	5.233
4884	4.256	4.372	4.155	4.649	4.378	5.687	5.667	3.776	3.342	5.032
4900	4.170	4.278	4.136	4.579	4.292	5.608	5.593	3.682	3.287	4.993
4916	4.157	4.263	4.157	4.573	4.274	5.598	5.584	3.672	3.284	4.997
4932	4.153	4.260	4.153	4.569	4.267	5.593	5.569	3.663	3.282	4.994
4948	4.149	4.255	4.141	4.568	4.262	5.592	5.565	3.659	3.282	4.990
4964	4.152	4.258	4.147	4.570	4.265	5.592	5.566	3.661	3.286	4.993
4980	4.157	4.265	4.154	4.573	4.266	5.593	5.566	3.662	3.289	4.998
4996	4.165	4.272	4.168	4.585	4.275	5.603	5.573	3.672	3.294	5.006
5012	4.175	4.287	4.186	4.593	4.287	5.610	5.581	3.683	3.306	5.019
5028	4.179	4.289	4.185	4.600	4.290	5.613	5.581	3.683	3.313	5.022
5044	4.184	4.292	4.194	4.600	4.290	5.613	5.581	3.684	3.316	5.029
5060	4.185	4.291	4.194	4.603	4.295	5.615	5.579	3.684	3.320	5.030
5076	4.183	4.294	4.197	4.601	4.292	5.616	5.575	3.681	3.314	5.027
5092	4.185	4.291	4.199	4.602	4.294	5.616	5.575	3.681	3.321	5.029
5108	4.185	4.291	4.206	4.604	4.294	5.617	5.575	3.681	3.321	5.033
5124	4.187	4.295	4.211	4.606	4.299	5.618	5.576	3.688	3.323	5.035
5140	4.190	4.299	4.214	4.614	4.302	5.623	5.580	3.693	3.326	5.041
5156	4.196	4.307	4.218	4.623	4.313	5.628	5.587	3.703	3.334	5.049
5172	4.210	4.321	4.220	4.633	4.327	5.641	5.599	3.715	3.340	5.051
5188	4.206	4.317	4.224	4.634	4.327	5.640	5.595	3.716	3.342	5.052
5204	4.204	4.312	4.230	4.633	4.320	5.640	5.589	3.712	3.344	5.057
5220	4.208	4.314	4.231	4.638	4.323	5.640	5.592	3.715	3.349	5.064
5236	4.214	4.320	4.235	4.644	4.332	5.649	5.595	3.726	3.356	5.068
5252	4.215	4.318	4.241	4.646	4.331	5.650	5.595	3.719	3.357	5.071
5268	4.220	4.329	4.247	4.655	4.342	5.657	5.600	3.739	3.363	5.075
5284	4.222	4.327	4.250	4.655	4.339	5.659	5.597	3.729	3.364	5.077
5300	4.221	4.318	4.254	4.656	4.336	5.660	5.593	3.729	3.366	5.082

TABLE 10
(Continued)

5316	4.231	4.330	4.259	4.667	4.351	5.669	5.603	3.743	3.376	5.093
5332	4.231	4.334	4.262	4.665	4.351	5.670	5.602	3.742	3.377	5.088
5348	4.229	4.326	4.268	4.663	4.344	5.666	5.596	3.734	3.374	5.089
5364	4.231	4.325	4.269	4.665	4.348	5.669	5.598	3.738	3.378	5.092
5380	4.234	4.329	4.275	4.668	4.347	5.670	5.596	3.739	3.383	5.094
5396	4.239	4.331	4.278	4.673	4.351	5.674	5.601	3.744	3.388	5.101
5412	4.244	4.337	4.284	4.676	4.358	5.675	5.604	3.747	3.395	5.104
5428	4.246	4.342	4.290	4.681	4.359	5.681	5.603	3.749	3.396	5.107
5444	4.247	4.336	4.294	4.682	4.357	5.682	5.604	3.747	3.398	5.108
5460	4.251	4.337	4.297	4.685	4.360	5.685	5.605	3.750	3.398	5.114
5476	4.255	4.341	4.302	4.689	4.363	5.688	5.604	3.754	3.407	5.117
5492	4.258	4.343	4.306	4.691	4.366	5.688	5.606	3.752	3.410	5.122
5508	4.262	4.346	4.308	4.696	4.367	5.693	5.605	3.758	3.410	5.125
5524	4.264	4.352	4.314	4.695	4.368	5.691	5.607	3.759	3.414	5.124
5540	4.269	4.354	4.319	4.700	4.371	5.696	5.607	3.762	3.421	5.131
5556	4.272	4.353	4.324	4.702	4.370	5.694	5.604	3.759	3.423	5.135
5572	4.275	4.357	4.326	4.705	4.374	5.699	5.604	3.765	3.422	5.139
5588	4.280	4.361	4.330	4.708	4.378	5.702	5.608	3.769	3.431	5.144
5604	4.283	4.365	4.338	4.712	4.380	5.707	5.608	3.771	3.429	5.147
5620	4.288	4.367	4.344	4.714	4.384	5.711	5.611	3.774	3.437	5.151
5636	4.295	4.371	4.351	4.720	4.387	5.716	5.613	3.778	3.440	5.158
5652	4.300	4.375	4.359	4.728	4.394	5.719	5.614	3.784	3.446	5.164
5668	4.304	4.384	4.365	4.734	4.400	5.724	5.617	3.791	3.448	5.172
5684	4.310	4.386	4.372	4.737	4.404	5.730	5.623	3.793	3.457	5.174
5700	4.315	4.389	4.376	4.743	4.409	5.735	5.626	3.798	3.459	5.183
5716	4.318	4.394	4.378	4.745	4.410	5.738	5.626	3.802	3.466	5.189
5732	4.326	4.396	4.387	4.753	4.416	5.744	5.631	3.807	3.470	5.193
5748	4.329	4.400	4.389	4.758	4.419	5.748	5.634	3.811	3.474	5.200
5764	4.327	4.403	4.394	4.760	4.422	5.753	5.637	3.815	3.477	5.202
5780	4.334	4.402	4.394	4.763	4.422	5.754	5.647	3.815	3.479	5.201
5796	4.329	4.402	4.394	4.762	4.423	5.753	5.641	3.816	3.479	5.200
5812	4.328	4.399	4.395	4.762	4.420	5.749	5.631	3.813	3.475	5.196
5828	4.329	4.397	4.395	4.760	4.418	5.747	5.630	3.812	3.473	5.200
5844	4.328	4.396	4.396	4.762	4.418	5.747	5.629	3.811	3.474	5.198
5860	4.331	4.403	4.405	4.766	4.420	5.752	5.632	3.814	3.479	5.204
5876	4.343	4.411	4.443	4.778	4.431	5.761	5.643	3.824	3.489	5.218
5892	4.356	4.427	4.433	4.787	4.449	5.775	5.672	3.841	3.497	5.223
5908	4.354	4.426	4.425	4.784	4.442	5.772	5.651	3.835	3.494	5.222
5924	4.352	4.421	4.434	4.786	4.443	5.772	5.645	3.834	3.496	5.224
5940	4.358	4.429	4.440	4.790	4.447	5.777	5.646	3.836	3.503	5.230
5956	4.366	4.433	4.444	4.798	4.452	5.781	5.653	3.844	3.509	5.239
5972	4.365	4.432	4.442	4.800	4.454	5.783	5.653	3.844	3.512	5.242
5988	4.370	4.435	4.443	4.800	4.454	5.785	5.657	3.847	3.518	5.245
6004	4.370	4.438	4.450	4.803	4.455	5.785	5.657	3.851	3.517	5.247
6020	4.374	4.440	4.455	4.803	4.459	5.790	5.657	3.854	3.521	5.253
6036	4.381	4.443	4.457	4.808	4.463	5.793	5.662	3.856	3.527	5.260
6052	4.383	4.442	4.462	4.812	4.464	5.795	5.663	3.859	3.530	5.260
6068	4.387	4.444	4.464	4.815	4.468	5.798	5.665	3.861	3.533	5.258
6084	4.396	4.447	4.469	4.818	4.473	5.804	5.663	3.860	3.537	5.265
6100	4.402	4.449	4.475	4.820	4.473	5.803	5.665	3.867	3.540	5.265
6116	4.401	4.453	4.478	4.823	4.475	5.807	5.669	3.870	3.544	5.265
6132	4.407	4.455	4.475	4.826	4.481	5.809	5.669	3.876	3.549	5.268
6148	4.414	4.465	4.489	4.835	4.490	5.818	5.679	3.886	3.556	5.279
6164	4.417	4.469	4.489	4.839	4.492	5.824	5.683	3.887	3.559	5.283
6180	4.415	4.459	4.492	4.835	4.489	5.818	5.683	3.883	3.559	5.278
6196	4.418	4.462	4.495	4.838	4.488	5.824	5.682	3.882	3.560	5.285
6212	4.422	4.466	4.500	4.842	4.492	5.824	5.683	3.885	3.563	5.290
6228	4.429	4.475	4.503	4.849	4.498	5.827	5.686	3.892	3.570	5.295
6244	4.436	4.483	4.508	4.856	4.507	5.833	5.693	3.903	3.576	5.296
6260	4.439	4.482	4.516	4.858	4.508	5.837	5.694	3.904	3.581	5.299
6276	4.466	4.504	4.541	4.877	4.528	5.861	5.722	3.920	3.598	5.318
6292	4.464	4.507	4.543	4.882	4.533	5.863	5.725	3.928	3.606	5.324
6308	4.458	4.502	4.537	4.879	4.526	5.855	5.710	3.919	3.600	5.317
6324	4.454	4.497	4.534	4.874	4.522	5.851	5.703	3.916	3.595	5.313
6340	4.461	4.501	4.540	4.877	4.525	5.854	5.706	3.918	3.599	5.316
6356	4.459	4.501	4.541	4.880	4.525	5.853	5.706	3.920	3.602	5.318
6372	4.462	4.501	4.544	4.880	4.528	5.853	5.708	3.923	3.604	5.323
6388	4.463	4.498	4.543	4.878	4.524	5.855	5.702	3.918	3.602	5.320

TABLE 10
(Continued)

6404	4.461	4.501	4.547	4.879	4.525	5.853	5.702	3.918	3.602	5.321
6420	4.467	4.506	4.547	4.882	4.528	5.855	5.704	3.924	3.606	5.325
6436	4.466	4.506	4.547	4.886	4.533	5.857	5.706	3.927	3.608	5.328
6452	4.478	4.514	4.549	4.891	4.539	5.861	5.714	3.934	3.613	5.333
6468	4.485	4.522	4.556	4.896	4.542	5.867	5.714	3.937	3.616	5.337
6484	4.492	4.527	4.567	4.903	4.549	5.872	5.720	3.941	3.620	5.344
6500	4.494	4.529	4.566	4.905	4.553	5.877	5.721	3.946	3.624	5.347
6516	4.507	4.539	4.574	4.918	4.565	5.888	5.731	3.957	3.634	5.354
6532	4.541	4.568	4.583	4.945	4.595	5.917	5.759	3.989	3.653	5.368
6548	4.685	4.680	4.646	5.080	4.735	6.057	5.896	4.132	3.759	5.450
6564	4.872	4.824	4.770	5.265	4.928	6.240	6.075	4.336	3.928	5.596
6580	4.654	4.671	4.641	5.040	4.696	6.011	5.843	4.101	3.745	5.436
6596	4.539	4.569	4.595	4.945	4.595	5.915	5.750	3.989	3.658	5.375
6612	4.513	4.543	4.591	4.928	4.571	5.894	5.731	3.964	3.644	5.368
6628	4.509	4.537	4.591	4.924	4.563	5.889	5.725	3.957	3.644	5.366
6644	4.506	4.535	4.593	4.922	4.562	5.887	5.722	3.956	3.645	5.369
6660	4.507	4.535	4.598	4.924	4.562	5.886	5.722	3.954	3.646	5.372
6676	4.510	4.538	4.620	4.927	4.563	5.887	5.721	3.956	3.650	5.376
6692	4.511	4.537	4.606	4.927	4.563	5.887	5.719	3.954	3.648	5.374
6708	4.514	4.538	4.605	4.928	4.565	5.892	5.719	3.956	3.649	5.376
6724	4.513	4.540	4.608	4.931	4.568	5.892	5.722	3.959	3.653	5.380
6740	4.517	4.541	4.613	4.935	4.569	5.895	5.723	3.962	3.657	5.383
6756	4.519	4.545	4.616	4.940	4.575	5.898	5.725	3.966	3.660	5.391
6772	4.524	4.546	4.622	4.942	4.576	5.904	5.728	3.968	3.665	5.394
6788	4.526	4.551	4.628	4.947	4.580	5.905	5.730	3.973	3.669	5.398
6804	4.529	4.554	4.631	4.951	4.581	5.909	5.732	3.975	3.673	5.402
6820	4.533	4.555	4.634	4.954	4.585	5.912	5.735	3.980	3.677	5.407
6836	4.534	4.559	4.637	4.957	4.588	5.914	5.737	3.981	3.680	5.410
6852*	4.557	4.577	4.653	4.976	4.605	5.931	5.755	3.995	3.697	5.427
6868*	4.697	4.720	4.801	5.116	4.750	6.077	5.893	4.137	3.835	5.566
6884*	4.698	4.719	4.799	5.116	4.747	6.075	5.900	4.145	3.850	5.573
6900*	4.658	4.677	4.764	5.078	4.712	6.035	5.858	4.105	3.809	5.535
6916*	4.605	4.629	4.714	5.029	4.662	5.987	5.804	4.052	3.756	5.485
6932*	4.587	4.608	4.697	5.009	4.641	5.967	5.778	4.025	3.730	5.461
6948*	4.583	4.603	4.690	5.005	4.635	5.961	5.771	4.019	3.723	5.454
6964*	4.573	4.594	4.682	4.996	4.625	5.950	5.762	4.013	3.714	5.448
6980	4.572	4.593	4.682	4.997	4.625	5.951	5.761	4.012	3.716	5.448
6996	4.583	4.605	4.692	5.006	4.633	5.960	5.768	4.022	3.725	5.456
7012	4.588	4.608	4.696	5.009	4.635	5.962	5.769	4.023	3.726	5.459
7028	4.587	4.606	4.699	5.009	4.636	5.962	5.769	4.024	3.729	5.463
7044	4.586	4.605	4.700	5.010	4.636	5.962	5.770	4.024	3.732	5.463
7060	4.589	4.608	4.713	5.012	4.637	5.965	5.772	4.027	3.736	5.468
7076	4.588	4.607	4.710	5.012	4.639	5.964	5.772	4.029	3.738	5.469
7092	4.592	4.611	4.707	5.015	4.640	5.967	5.772	4.030	3.738	5.470
7108	4.595	4.615	4.709	5.018	4.644	5.969	5.775	4.037	3.741	5.475
7124	4.599	4.619	4.717	5.021	4.648	5.972	5.777	4.039	3.745	5.478
7140	4.603	4.622	4.720	5.028	4.651	5.977	5.780	4.040	3.750	5.483
7156*	4.618	4.635	4.736	5.042	4.666	5.992	5.790	4.052	3.760	5.495
7172*	4.672	4.687	4.789	5.091	4.716	6.040	5.824	4.089	3.796	5.530
7188*	4.712	4.730	4.828	5.132	4.757	6.081	5.858	4.125	3.829	5.565
7204*	4.688	4.707	4.808	5.112	4.736	6.059	5.846	4.111	3.819	5.552
7220*	4.654	4.668	4.771	5.070	4.700	6.022	5.816	4.079	3.787	5.522
7236*	4.686	4.701	4.812	5.108	4.733	6.056	5.840	4.106	3.815	5.552
7252*	4.693	4.707	4.814	5.112	4.736	6.059	5.841	4.109	3.821	5.554
7268*	4.691	4.700	4.810	5.108	4.734	6.056	5.839	4.108	3.819	5.552
7284*	4.686	4.699	4.814	5.106	4.730	6.054	5.837	4.107	3.818	5.551
7300*	4.682	4.696	4.807	5.102	4.725	6.051	5.834	4.105	3.812	5.548
7316*	4.674	4.685	4.796	5.093	4.718	6.042	5.827	4.096	3.809	5.542
7332*	4.658	4.666	4.782	5.075	4.699	6.025	5.815	4.084	3.798	5.532
7348	4.657	4.664	4.779	5.075	4.696	6.024	5.813	4.084	3.799	5.533
7364	4.661	4.666	4.782	5.076	4.699	6.025	5.816	4.085	3.800	5.533
7380	4.657	4.662	4.781	5.075	4.697	6.026	5.814	4.086	3.801	5.536
7396	4.656	4.663	4.782	5.076	4.696	6.024	5.814	4.086	3.802	5.535
7412	4.658	4.663	4.784	5.077	4.698	6.026	5.816	4.089	3.804	5.539
7428	4.660	4.664	4.786	5.078	4.700	6.027	5.819	4.091	3.807	5.542
7444	4.662	4.666	4.790	5.081	4.703	6.030	5.823	4.095	3.810	5.544
7460	4.667	4.668	4.791	5.083	4.705	6.032	5.824	4.098	3.814	5.546
7476	4.670	4.671	4.796	5.088	4.707	6.036	5.826	4.100	3.818	5.552

TABLE 10
(Continued)

7492	4.670	4.669	4.796	5.087	4.706	6.035	5.823	4.102	3.817	5.553
7508	4.666	4.668	4.798	5.089	4.707	6.035	5.826	4.104	3.818	5.555
7524	4.670	4.671	4.804	5.093	4.710	6.038	5.826	4.108	3.824	5.559
7540	4.674	4.673	4.809	5.095	4.711	6.041	5.828	4.108	3.826	5.563
7556	4.675	4.677	4.812	5.097	4.714	6.043	5.830	4.112	3.829	5.565
7572	4.684	4.686	4.820	5.105	4.720	6.051	5.836	4.116	3.835	5.571
7588*	4.854	4.873	5.009	5.293	4.910	6.240	5.993	4.273	4.006	5.736
7604*	5.579	5.585	5.756	6.028	5.645	6.995	6.766	5.045	4.776	6.493
7620*	5.326	5.317	5.426	5.706	5.337	6.654	6.472	4.755	4.493	6.214
7636*	5.276	5.269	5.402	5.679	5.321	6.627	6.437	4.724	4.452	6.173
7652*	5.019	5.013	5.140	5.418	5.047	6.364	6.175	4.459	4.182	5.910
7668*	4.821	4.818	4.951	5.232	4.854	6.176	5.979	4.255	3.978	5.712
7684*	4.738	4.734	4.875	5.156	4.773	6.101	5.889	4.172	3.890	5.630
7700	4.709	4.706	4.848	5.130	4.745	6.074	5.868	4.145	3.864	5.603
7716	4.704	4.699	4.841	5.124	4.736	6.067	5.857	4.137	3.858	5.595
7732	4.702	4.697	4.842	5.120	4.734	6.067	5.852	4.138	3.856	5.597
7748	4.704	4.699	4.845	5.123	4.735	6.069	5.856	4.139	3.860	5.599
7764	4.720	4.714	4.851	5.141	4.755	6.086	5.872	4.159	3.876	5.610
7780	4.732	4.730	4.858	5.150	4.764	6.090	5.880	4.174	3.888	5.621
7796	4.712	4.708	4.854	5.133	4.743	6.072	5.855	4.144	3.869	5.608
7812	4.715	4.707	4.859	5.135	4.741	6.074	5.854	4.146	3.869	5.610
7828	4.716	4.709	4.860	5.139	4.745	6.076	5.855	4.149	3.874	5.614
7844	4.720	4.711	4.861	5.141	4.745	6.079	5.859	4.152	3.875	5.618
7860	4.723	4.715	4.867	5.147	4.753	6.083	5.860	4.156	3.878	5.619
7876	4.732	4.723	4.875	5.155	4.761	6.091	5.867	4.163	3.888	5.626
7892	4.741	4.732	4.884	5.164	4.771	6.099	5.872	4.168	3.895	5.633
7908	4.741	4.729	4.883	5.162	4.767	6.096	5.870	4.166	3.894	5.634
7924	4.740	4.729	4.883	5.161	4.768	6.096	5.869	4.166	3.892	5.634
7940	4.740	4.729	4.882	5.160	4.767	6.095	5.871	4.168	3.893	5.637
7956	4.748	4.735	4.891	5.171	4.774	6.102	5.872	4.172	3.901	5.642
7972	4.746	4.734	4.893	5.169	4.774	6.102	5.872	4.170	3.902	5.642
7988	4.749	4.735	4.894	5.169	4.774	6.103	5.871	4.173	3.900	5.644
8004	4.754	4.740	4.900	5.177	4.780	6.110	5.876	4.177	3.908	5.650
8020	4.758	4.743	4.904	5.179	4.780	6.112	5.876	4.179	3.908	5.652
8036	4.760	4.744	4.906	5.182	4.781	6.111	5.879	4.182	3.912	5.656
8052	4.758	4.744	4.905	5.180	4.781	6.109	5.879	4.182	3.912	5.656
8068	4.763	4.745	4.910	5.182	4.783	6.111	5.882	4.187	3.915	5.658
8084	4.766	4.748	4.915	5.187	4.785	6.120	5.887	4.190	3.920	5.663
8100	4.773	4.754	4.920	5.194	4.795	6.127	5.890	4.194	3.924	5.667
8116	4.782	4.766	4.932	5.203	4.809	6.138	5.895	4.201	3.931	5.675
8132*	4.808	4.793	4.961	5.235	4.836	6.169	5.911	4.220	3.957	5.699
8148*	4.841	4.826	4.995	5.274	4.873	6.202	5.933	4.238	3.986	5.726
8164*	4.870	4.854	5.023	5.303	4.902	6.230	5.953	4.259	4.010	5.752
8180*	4.866	4.849	5.016	5.296	4.895	6.224	5.956	4.262	4.004	5.747
8196*	4.850	4.834	4.998	5.269	4.876	6.200	5.950	4.256	3.992	5.733
8212*	4.833	4.818	4.980	5.258	4.859	6.184	5.940	4.242	3.978	5.717
8228*	4.891	4.878	5.050	5.332	4.929	6.255	5.980	4.284	4.036	5.770
8244*	4.845	4.830	4.992	5.268	4.863	6.189	5.939	4.250	3.990	5.733
8260*	4.829	4.813	4.986	5.255	4.855	6.181	5.924	4.240	3.976	5.722
8276*	4.848	4.828	5.007	5.274	4.873	6.202	5.937	4.249	3.995	5.740
8292*	4.850	4.830	5.006	5.280	4.872	6.202	5.941	4.255	4.001	5.745
8308*	4.841	4.820	5.000	5.264	4.862	6.191	5.935	4.249	3.990	5.736
8324*	4.841	4.826	5.001	5.268	4.861	6.191	5.936	4.249	3.991	5.736
8340*	4.830	4.815	4.990	5.255	4.849	6.176	5.927	4.248	3.982	5.730
8356	4.827	4.804	4.987	5.251	4.842	6.171	5.924	4.235	3.980	5.727
8372	4.826	4.802	4.989	5.248	4.839	6.171	5.926	4.238	3.978	5.726
8388	4.826	4.801	4.989	5.247	4.839	6.168	5.925	4.240	3.982	5.728
8404	4.827	4.800	4.989	5.249	4.838	6.170	5.925	4.240	3.981	5.732
8420	4.830	4.804	4.988	5.250	4.836	6.173	5.929	4.245	3.982	5.730
8436	4.838	4.812	4.996	5.263	4.856	6.185	5.945	4.261	3.998	5.743
8452	4.846	4.819	4.998	5.265	4.850	6.183	5.939	4.260	4.003	5.745
8468	4.842	4.815	5.002	5.262	4.853	6.179	5.938	4.260	4.003	5.744
8484	4.831	4.797	4.999	5.247	4.830	6.164	5.911	4.232	3.984	5.735
8500	4.859	4.830	5.015	5.284	4.882	6.205	5.968	4.287	4.019	5.758
8516	4.836	4.802	5.003	5.247	4.825	6.163	5.908	4.236	3.984	5.739
8532	4.843	4.805	5.013	5.266	4.852	6.189	5.932	4.252	3.991	5.747
8548	4.888	4.862	5.037	5.308	4.906	6.228	5.993	4.325	4.054	5.786
8564	4.823	4.787	5.004	5.229	4.805	6.144	5.887	4.215	3.967	5.733

TABLE 10
(Continued)

8580	4.828	4.781	5.013	5.242	4.819	6.161	5.899	4.218	3.967	5.734
8596	4.910	4.874	5.061	5.338	4.931	6.256	6.015	4.335	4.076	5.808
8612	4.860	4.827	5.028	5.261	4.834	6.172	5.921	4.256	4.013	5.765
8628	4.792	4.746	4.992	5.191	4.762	6.108	5.847	4.176	3.928	5.710
8644	4.819	4.767	5.012	5.231	4.804	6.153	5.884	4.212	3.957	5.732
8660	4.942	4.896	5.085	5.374	4.968	6.297	6.048	4.376	4.099	5.833
8676	4.923	4.886	5.065	5.323	4.899	6.227	5.990	4.328	4.073	5.813
8692	4.803	4.764	5.006	5.200	4.771	6.107	5.851	4.192	3.943	5.718
8708	4.771	4.727	4.994	5.172	4.741	6.084	5.819	4.156	3.910	5.695
8724	4.800	4.753	5.011	5.213	4.780	6.127	5.856	4.189	3.940	5.722
8740	4.927	4.872	5.090	5.356	4.931	6.272	6.001	4.330	4.073	5.823
8756	5.001	4.950	5.128	5.401	4.978	6.307	6.055	4.408	4.152	5.885
8772	4.851	4.806	5.046	5.242	4.804	6.147	5.877	4.231	3.990	5.764
8788	4.768	4.725	5.008	5.172	4.739	6.079	5.807	4.155	3.919	5.710
8804	4.752	4.713	5.002	5.161	4.730	6.071	5.794	4.144	3.908	5.704
8820	4.762	4.721	5.009	5.175	4.742	6.086	5.809	4.154	3.918	5.709
8836	4.815	4.763	5.031	5.229	4.794	6.141	5.859	4.201	3.961	5.741
8852	4.964	4.893	5.126	5.390	4.961	6.304	6.022	4.358	4.102	5.859
8868	5.057	4.992	5.177	5.454	5.022	6.355	6.093	4.452	4.200	5.934
8884	4.887	4.841	5.074	5.276	4.839	6.175	5.901	4.266	4.024	5.795
8900	4.797	4.752	5.035	5.199	4.765	6.103	5.830	4.184	3.949	5.737
8916	4.772	4.737	5.032	5.185	4.752	6.089	5.813	4.168	3.934	5.730
8932	4.774	4.738	5.041	5.194	4.758	6.094	5.818	4.167	3.943	5.737
8948	4.794	4.759	5.068	5.221	4.785	6.121	5.825	4.173	3.962	5.755
8964	4.844	4.807	5.113	5.278	4.843	6.179	5.864	4.208	4.003	5.794
8980	4.906	4.863	5.158	5.337	4.907	6.243	5.914	4.261	4.050	5.836
8996	5.034	4.975	5.236	5.471	5.033	6.380	6.033	4.381	4.157	5.928
9012	5.196	5.117	5.331	5.624	5.208	6.536	6.220	4.567	4.325	6.069
9028	5.089	5.027	5.235	5.474	5.034	6.364	6.073	4.442	4.210	5.969
9044	4.895	4.844	5.113	5.295	4.864	6.195	5.906	4.265	4.035	5.818
9060	4.869	4.837	5.123	5.288	4.863	6.189	5.883	4.247	4.019	5.807
9076	4.894	4.868	5.162	5.328	4.898	6.225	5.899	4.262	4.048	5.835
9092	4.891	4.868	5.157	5.322	4.898	6.223	5.902	4.265	4.049	5.832
9108	4.875	4.844	5.148	5.303	4.875	6.206	5.888	4.245	4.038	5.827
9124	4.875	4.840	5.154	5.308	4.880	6.214	5.891	4.237	4.036	5.834
9140	4.892	4.850	5.170	5.321	4.889	6.224	5.894	4.243	4.054	5.848
9156	4.898	4.854	5.181	5.330	4.900	6.231	5.901	4.250	4.061	5.856
9172	4.903	4.857	5.175	5.332	4.901	6.231	5.900	4.257	4.062	5.850
9188	4.907	4.856	5.156	5.327	4.896	6.231	5.910	4.264	4.056	5.848
9204	4.946	4.889	5.166	5.370	4.936	6.270	5.958	4.319	4.083	5.863
9220	5.123	5.048	5.278	5.559	5.126	6.459	6.153	4.507	4.247	6.007
9236	5.188	5.115	5.322	5.576	5.147	6.478	6.171	4.556	4.310	6.064
9252	5.012	4.963	5.204	5.412	4.973	6.304	5.998	4.373	4.147	5.913
9268	4.944	4.898	5.179	5.356	4.923	6.253	5.937	4.304	4.090	5.871
9284	4.955	4.914	5.235	5.396	4.956	6.286	5.933	4.292	4.100	5.902
9300*	5.027	4.994	5.331	5.491	5.052	6.380	5.987	4.345	4.173	5.968
9316*	5.174	5.149	5.493	5.659	5.219	6.552	6.114	4.464	4.305	6.107
9332*	5.301	5.278	5.624	5.800	5.367	6.695	6.201	4.551	4.422	6.213
9348*	5.351	5.330	5.668	5.844	5.412	6.735	6.253	4.599	4.476	6.261
9364*	5.302	5.274	5.611	5.785	5.361	6.686	6.208	4.551	4.424	6.214
9380*	5.249	5.215	5.549	5.724	5.290	6.616	6.173	4.517	4.377	6.162
9396*	5.063	5.026	5.342	5.510	5.086	6.405	6.031	4.379	4.208	5.998
9412*	5.080	5.055	5.370	5.543	5.120	6.434	6.041	4.406	4.228	6.024
9428*	5.183	5.153	5.488	5.652	5.219	6.551	6.125	4.483	4.327	6.120
9444*	5.220	5.187	5.526	5.689	5.251	6.578	6.155	4.508	4.360	6.148
9460*	5.196	5.164	5.512	5.666	5.238	6.560	6.125	4.482	4.334	6.120
9476*	5.168	5.136	5.478	5.636	5.207	6.530	6.108	4.459	4.314	6.097
9492*	5.195	5.152	5.496	5.660	5.232	6.563	6.133	4.487	4.334	6.115
9508*	5.181	5.133	5.459	5.632	5.192	6.523	6.121	4.476	4.307	6.096
9524*	5.284	5.225	5.541	5.755	5.313	6.648	6.217	4.576	4.400	6.167
9540*	5.416	5.336	5.606	5.882	5.449	6.775	6.376	4.731	4.531	6.276
9556*	5.435	5.366	5.618	5.858	5.424	6.741	6.339	4.721	4.541	6.285
9572*	5.211	5.162	5.456	5.639	5.207	6.538	6.138	4.518	4.332	6.106
9588*	5.154	5.114	5.452	5.616	5.186	6.508	6.096	4.462	4.295	6.086
9604*	5.093	5.061	5.393	5.550	5.115	6.439	6.055	4.424	4.249	6.034
9620*	5.076	5.038	5.383	5.533	5.099	6.425	6.048	4.411	4.233	6.023
9636*	5.053	5.018	5.368	5.508	5.069	6.401	6.031	4.392	4.223	6.008
9652*	5.032	4.996	5.337	5.483	5.041	6.373	6.022	4.378	4.195	5.992

TABLE 10
(Continued)

9668*	4.998	4.962	5.312	5.448	5.012	6.345	6.000	4.364	4.173	5.965
9684	4.947	4.903	5.257	5.385	4.940	6.282	5.965	4.328	4.127	5.926
9700	4.938	4.889	5.249	5.366	4.932	6.273	5.954	4.313	4.116	5.916
9716	4.940	4.895	5.257	5.374	4.937	6.276	5.951	4.319	4.126	5.931
9732	4.966	4.919	5.281	5.414	4.966	6.304	5.975	4.336	4.147	5.954
9748	4.983	4.936	5.298	5.429	4.979	6.320	5.989	4.355	4.162	5.971
9764	4.980	4.931	5.287	5.410	4.968	6.316	5.984	4.342	4.153	5.964
9780	4.962	4.912	5.266	5.392	4.951	6.300	5.966	4.340	4.138	5.941
9796	4.962	4.914	5.273	5.397	4.956	6.304	5.975	4.342	4.147	5.952
9812	4.939	4.886	5.245	5.366	4.928	6.273	5.965	4.322	4.127	5.932
9828	4.947	4.885	5.245	5.369	4.928	6.270	5.960	4.329	4.122	5.918
9844	4.926	4.877	5.231	5.353	4.919	6.254	5.948	4.321	4.124	5.916
9860	4.921	4.865	5.221	5.349	4.902	6.240	5.949	4.321	4.110	5.902
9876	4.926	4.854	5.222	5.348	4.900	6.242	5.944	4.320	4.114	5.915
9892	4.919	4.864	5.216	5.350	4.903	6.245	5.950	4.325	4.112	5.909
9908	4.924	4.853	5.219	5.342	4.895	6.256	5.943	4.319	4.112	5.909
9924	4.923	4.856	5.214	5.343	4.899	6.251	5.947	4.313	4.097	5.902
9940	4.916	4.862	5.223	5.340	4.904	6.245	5.948	4.321	4.106	5.913
9956	4.926	4.852	5.228	5.345	4.907	6.254	5.947	4.321	4.113	5.926
9972	4.924	4.865	5.216	5.348	4.902	6.247	5.952	4.327	4.114	5.913
9988	4.942	4.877	5.229	5.351	4.914	6.267	5.962	4.335	4.124	5.934
10004	4.965	4.890	5.232	5.373	4.927	6.272	5.987	4.356	4.130	5.943
10020	5.018	4.934	5.266	5.424	4.975	6.329	6.003	4.386	4.155	5.959
10036	5.127	5.033	5.333	5.564	5.103	6.463	6.145	4.528	4.278	6.051
10052	5.273	5.127	5.420	5.660	5.221	6.578	6.250	4.659	4.408	6.167
10068	5.106	5.006	5.311	5.487	5.045	6.391	6.079	4.482	4.245	6.039
10084	5.010	4.908	5.259	5.400	4.969	6.301	5.998	4.394	4.162	5.946
10100	4.978	4.891	5.254	5.380	4.933	6.282	5.980	4.357	4.140	5.931
10116	4.956	4.888	5.231	5.364	4.932	6.268	5.979	4.339	4.131	5.935
10132	4.940	4.874	5.229	5.349	4.923	6.247	5.963	4.335	4.118	5.932
10148	4.921	4.860	5.246	5.350	4.908	6.244	5.967	4.337	4.126	5.911
10164	4.929	4.866	5.248	5.351	4.915	6.267	5.950	4.310	4.119	5.926
10180	4.943	4.864	5.241	5.358	4.910	6.269	5.964	4.321	4.130	5.921
10196	4.931	4.877	5.238	5.354	4.894	6.272	5.952	4.324	4.125	5.944
10212	4.924	4.860	5.244	5.369	4.914	6.270	5.948	4.333	4.121	5.894
10228	4.924	4.875	5.230	5.372	4.924	6.279	5.934	4.342	4.114	5.896
10244	4.947	4.877	5.226	5.359	4.916	6.248	5.974	4.349	4.118	5.922
10260	4.919	4.874	5.259	5.365	4.905	6.258	5.953	4.325	4.129	5.928
10276	4.958	4.861	5.260	5.355	4.904	6.265	5.914	4.340	4.125	5.929
10292	4.940	4.871	5.256	5.369	4.931	6.257	5.905	4.348	4.100	5.932
10308	4.947	4.877	5.295	5.388	4.944	6.281	5.946	4.352	4.110	6.021
10324	4.947	4.929	5.305	...	4.949	6.327	5.956	4.373	4.143	5.896
10340	4.972	4.956	5.328	...	4.966	6.361	5.973	4.379	4.170	6.116
10356	4.982	4.946	...	...	4.953	6.306	5.982	4.387	4.173	6.013
10372	5.034	4.969	...	...	5.052	6.273	6.002	4.404	4.173	6.025
10388	4.963	4.931	...	...	4.949	6.338	5.950	4.393	4.173	5.976
10404	5.024	4.927	...	...	4.977	...	5.959	4.409	4.158	6.018
10420	5.053	4.974	...	...	...	...	5.996	...	4.167	...
10436	...	4.947	...	...	...	...	...	...	...	...

Notes : All values are in monochromatic magnitudes $m_\nu = -2.5 \log_{10}(f_\nu) - 48.590$
Bands with * contain telluric features

We are very grateful to Jack Baldwin for many helpful discussions in the course of this program.

REFERENCES

Baldwin, J. A., and Stone, R. P. S. 1984, MNRAS, 206, 241

Bessell, M. S. 1990, PASP, 102, 1181

Hamuy, M., Walker, A. R., Suntzeff, N. B., Gigoux, P., Heathcote, S. R., and Phillips, M. M. 1992, PASP, 104, 533

Hayes, D. S., and Latham, D. W. 1975, ApJ, 197, 593

Hayes, D. S. 1985, in Calibration of Fundamental Stellar Quantities, ed. D. S. Hayes, L. E. Pasinetti, and A. G. Davis Philip (Dordrecht, D. Reidel), p. 225

Landolt, A. U. 1992, AJ, 104, 372

Massey, P., Strobel, K., Barnes, J. V., and Anderson, E. 1988, ApJ, 328, 315

Massey, P., and Gronwall, C. 1990, ApJ, 358, 344

Stone, R. P. S. 1977, ApJ, 218, 767

Stone, R. P. S., and Baldwin, J. A. 1983, MNRAS, 204, 347

Taylor, B. J. 1984, ApJS, 54, 259