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# THE PERKINS CATALOG OF REVISED MK TYPES FOR THE COOLER STARS

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## ABSTRACT

The catalog contains 1054 stars of types G, K, and M, plus a few stars of type S. Since the Revised MK types have been estimated on spectrograms taken at four observatories, extensive comparisons have been made to ensure consistency between the types for stars in the northern and southern hemispheres.

*Subject headings:* stars: catalogs — stars: late-type — stars: spectral classification

The catalog lists the spectral types of the G, K, M, and S stars that have been classified at the Perkins Observatory on the Revised MK system. Although the accuracy of the temperature types, luminosity classes, and abundance indices necessarily varies with the number and quality of the spectrograms available, and with the character of each spectrum, there are two reasons for making them available in one comprehensive list. First, the types have all been estimated consistently, with many cross-checks to eliminate systematic differences that might arise from the need to use several different spectrographs in the northern and southern hemispheres. Second, the resolution of about 2 Å of the slit spectrograms allows classification to be done somewhat more accurately than is possible for even the best surveys carried out with objective-prism spectrographs.

The Revised MK system has been described most recently by one of us (Keenan 1987), and a selection of the best determined types, that can serve as standards, has been published by Keenan and Yorka (1988). In the present catalog these standard stars are identified by a dagger (†) in front of their names in the first column. For stars of normal solar composition the scheme of classification is exactly that of the original MK system (Morgan, Keenan, and Kellman 1943). It is only for the spectra that show "peculiarities" due to differences in chemical composition that abundance indices of the revised system have been added. These indices run usually from 1 to 5, with decimal fractions (normally 0.5) indicating the marginal spectra in which the peculiarity is just detectable.

The types were determined visually from photographic spectrograms taken at scales of 68–78 Å $mm^{-1}$ with the instruments listed in Table 1. The behavior of the criteria actually used in the classification is illustrated in the *Atlas of Spectra of the Cooler Stars* of Keenan and McNeil (1976). Fine illustrations of the original MK spectral types of both hot and cool stars will be found also in *An Atlas of Representative Stellar Spectra* of Yamashita, Nariai, and Norimoto (1977), which, however, does not include the strong-line or the metal-deficient stars of types G and K.

TABLE 1

TELESCOPES AND SPECTROGRAMS

| Observatory | Telescope (m) | Spectrograph | Scale (Å $mm^{-1}$) |
|---|---|---|---|
| Perkins..... | 0.8 | Meinel | 85 |
| Lowell ..... | 1.8 | Boller & Chivens | 77 |
| Cerro Tololo .... | 1.5 | Hiltner | 78 |
| Las Campanas... | 0.6 | Garrison | 68 |

The accuracy of the classification is necessarily much less than the precision with which the indices can be reproduced when different spectrograms of the same star are classified. This is due in large part to the fact that most of the observable criteria that we can use are sensitive to more than one of the variables that we are trying to separate, and the classifier must carry out a sort of mental component analysis. Thus, for example, the luminosity classes of normal stars near the giant branch, for temperature types between G5 and K5, are good to about 0.4 mag. If, however, a star has appreciable excess of the heavy *s*-process elements, several of our most sensitive luminosity criteria become unreliable. The barium stars are an extreme case, and for them the luminosity classes are followed by a colon to indicate that they are uncertain estimates.

In spite of these inherent limitations, it has been possible, over the many years since the Yerkes Atlas (Morgan, Keenan, and Kellman 1943) came out, gradually to improve the quality of classification spectrograms. At the same time the increase in the number of stars for which good spectrograms were available made it easier to notice slight differences in the line strengths. Thus the "boxes" into which we classify the spectra could often be made smaller. One result has been that occasionally a standard star that fell near the edge of an

TABLE 2

TYPE G, K, AND M STARS

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| † 30 Psc | 9089 | 224935 | 0 02.0 | - 6°01' | 4.41 | M3 III |
| † 85 Peg | 9088 | 224930 | 0 02.2 | +27 05 | 5.75 | G5 Vb Fe-2 |
| † 33 Psc | 3 | 28 | 0 05.3 | - 5 42 | 4.61 | Ko III-IV |
| G&4 B | - | 38B | 0 05.6 | +45 49 | 8.97 | MO.5 V |
| - | - | 218 | 0 06.8 | -70 35 | 8.03 | MO.5III Ba2.5 |
| - | - | 688 | 0 11.3 | - 3 19 | 6.8 | KO- III |
| † - | - | 936 | 0 14.0 | +60 00 | 6.88 | G7.5 IIab |
| † χ Peg | 45 | 1013 | 0 14.6 | +20 12 | 4.80 | M2+ III |
| † AD Cet | 46 | 1014 | 0 14.5 | - 7 47 | 5.06 to 5.16 | M3+ III |
| † G&15A | - | 1326 | 0 18.3 | +44 01 | 8.08 | M2V |
| † - | - | 1364 | 0 17.8 | +20 14 | 7.3 | M3.5 IIIa |
| - | 72 | 1461 | 0 18.7 | - 8 03 | 6.46 | G3V Fe-0.5 |
| † ι Cet | 74 | 1522 | 0 19.4 | - 8 50 | 3.55 | K1 IIIb |
| 41 Psc | 80 | 1635 | 0 20.6 | + 8 11 | 5.37 | K3- III Ca1 CNO.5 |
| † 9 Cet | 88 | 1835 | 0 22.8 | -12 13 | 6.38 | G2.5 V |
| - | - | 1879 | 0 23.9 | -15 57 | 6.45 | M2 III |
| 10 Cet | 101 | 2273 | 0 26.6 | - 0 03 | 6.18 | G6 IIIb Fe-1 |
| DL Cas | - | -- | 0 30.0 | +60 13 | 8.6-9.2 | G1 Ib-II $H_\delta$-1* |
| BD +59°70 | - | -- | 0 31.4 | +60 05 | 8.71 | K5 III* |
| BD +58°73 | - | -- | 0 31.6 | +60 05 | 8.57 | K2.5 II-III* |
| † - | - | 2901 | 0 32.7 | +54 07 | 6.93 | K2 III Fe-0.5* |
| † | 152 | 3346 | 0 36.8 | +44 29 | 5.13 | K6 III |
| † | 157 | 3421 | 0 37.4 | +35 24 | 5.49 | G2 Ib-II |
| † ε And | 163 | 3546 | 0 38.6 | +29 19 | 4.37 | G6 III Fe-3 CH1 |
| † δ And | 165 | 3627 | 0 39.3 | +30 52 | 3.28 | K3 III |
| † 54 Psc | 166 | 3651 | 0 39.4 | +21 15 | 5.88 | KO V |
| α Cas | 168 | 3712 | 0 40.5 | +56 32 | 2.23 | Ko- IIIa |
| G&28 | - | 3765 | 0 40.8 | +40 10 | 7.35 | K2 V |
| β Cet | 188 | 4128 | 0 43.6 | -17 59 | 2.04 | G9 III CH-1 CNO.5 Ca1 |
| † | - | 4404 | 0 47.2 | +60 17 | 7.6: | G9 II-III Fe2 |
| † 57 Psc | 211 | 4408 | 0 46.6 | +15°29' | 5.38 | M4 IIIa |
| RX Cep | - | 4499 | 0 50.0 | +81 52 | 7.5-7.8 | G6 IIa $H_\delta$1 |
| η Cas A | 219A | 4614A | 0 49.1 | +57 49 | 3.44 | F9V |
| η Cas B | 219B | 4614B | 0 49.1 | +57 49 | 7.50 | MO- V |
| †δ Psc | 224 | 4656 | 0 48.7 | + 7 35 | 4.44 | K4.5 IIIb |
| - | 237 | 4817 | 0 51.3 | +61 49 | 6.07 | K2 Ib-II CN-1 CH-0.5 |
| $\upsilon^2$ Cas | 265 | 5395 | 0 56.7 | +59 10 | 4.62 | G8 IIIb Fe-0.5 |
| η And | 271 | 5516 | 0 57.2 | +23.25 | 4.39 | G8- IIIb* |
| WW Psc | 284 | 5820 | 0 59.8 | + 6 28 | 6.0 var. | M2.5 III |
| †ε Psc | 294 | 6186 | 1 02.9 | + 7 53 | 4.28 | G9 III Fe-2 |
| - | - | 6474 | 1 06.5 | +63 47 | 7.4-7.8 | G4 Ia |
| † | 316 | 6497 | 1 07.0 | +56 56 | 6.42 | K2 IIIb Fe-0.5* |
| †η Cet | 334 | 6805 | 1 08.6 | -10 11 | 3.44 | K2- III CNO.5 |
| μ Cas | 321 | 6582 | 1 08.3 | +54 55 | 5.16 | G5 Vb |
| † | - | 6833 | 1 09.9 | +54 45 | 6.74 | G9.5 III Fe-2* |
| †β And | 337 | 6860 | 1 09.7 | +35 37 | 2.05 | MO+ IIIa |
| †$\psi^3$ Psc | 339 | 6903 | 1 09.8 | +19 40 | 5.55 | GO IIIa* |
| † | 341 | 6953 | 1 10.3 | +25 28 | 5.80 | K7 III |
| †χ Psc | 351 | 7087 | 1 11.5 | +21 02 | 4.65 | G8.5 III |
| †τ Psc | 352 | 7106 | 1 11.7 | +30 06 | 4.51 | KO.5 IIIb |
| 39 Cet | 373 | 7672 | 1 16.6 | - 2 30 | 5.46 var | G6 IIIe Fe-0.5* |
| V 466 Cas | - | 236697 | 1 19.8 | +58 19 | 8.60 | MO.5 Ib* |
| ξ And | 390 | 8207 | 1 22.3 | +45 31 | 4.86 | KO- IIIb |
| ψ Cas | 399 | 8491 | 1 25.9 | +68 08 | 4.72 | KO III CN 0.5 |
| †θ Cet | 402 | 8512 | 1 24.0 | - 8 11 | 3.60 | KO IIIb |
| † | - | 8701 | 1 27.6 | +66 04 | 6.98 | K2+ IIab |
| † 46 Cet | 412 | 8705 | 1 25.6 | -14 36 | 4.89 | K2.5 IIIb |
| † γ Phe | 429 | 9053 | 1 28.4 | -43 19 | 3.40 | MO- IIIa |
| † μ Psc | 434 | 9138 | 1 30.2 | + 6 09 | 4.83 | K3 III |
| †η Psc | 437 | 9270 | 1 31.5 | +15 21 | 3.62 | G7 IIIa |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| BO +59° 274 | - | - | 1 33.5 | +60°39' | 8.50 | M0.5 Ib* |
| BD +60° 265 | - | - | 1 33.5 | +61 33 | 8.7: | M1.5 Ib* |
| †δ Phe | 440 | 9362 | 1 31.2 | -49 04 | 3.95 | G9 III |
| χ Cas | 442 | 9408 | 1 33.9 | +59 14 | 4.70 | G9 IIIb |
| - | 452 | 9712 | 1 35.9 | +41 05 | 6.38 | G9.5 III-IV |
| 40 Cas | 456 | 9774 | 1 38.5 | +73 03 | 5.28 | G7 III |
| † | - | 9852 | 1 34.5 | +61 56 | 8.0: | K0.5 IIIa CN1 |
| 50 Cet | 459 | 9856 | 1 36.0 | -15 24 | 5.5 | K1.5 III CNO.5 |
| † 51 And | 464 | 9927 | 1 38.0 | +48 37 | 3.57 | K3- III |
| † | 483 | 10307 | 1 41.8 | +42 37 | 4.95 | G1.5 V |
| †υ Psc | 489 | 10380 | 1 41.4 | + 5 29 | 4.44 | K3 IIIb |
| †Gℓ 69 | - | 10436 | 1 43.8 | +63 50 | 8.40 | K5 Vbe |
| † | - | 10465 | 1 43.2 | +48 31 | 7.00: | M2 Ib |
| † 107 Psc | 493 | 10476 | 1 42.5 | +20 16 | 5.24 | K1 V |
| † | 506 | 10647 | 1 42.5 | -53 44 | 5.52 | F9 V |
| 109 Psc | 508 | 10697 | 1 44.9 | +20 05 | 6.27 | G3 Va |
| †τ Cet | 509 | 10700 | 1 44.1 | -15 56 | 3.50 | G8 V |
| †ο Psc | 510 | 10761 | 1 45.4 | + 9 09 | 4.26 | G8 III |
| - | - | 11092 | 1 51.2 | +64 52 | 6.56 | K4+ Ib-IIa |
| ξ Psc | 549 | 11559 | 1 53.6 | + 3 11 | 4.60 | G9 IIIb Fe-0.5 |
| †ζ Cet | 539 | 11353 | 1 51.4 | -10 20 | 3.72 | Ko III |
| ψ Phe | 555 | 11695 | 1 53.6 | -46 18 | 4.41 | M4 III |
| χ Eri | 566 | 11937 | 1 56.0 | -51 37 | 3.70 | G8 III-IV CN-0.5 $H_\delta$ 0.5 |
| †η² Hyi | 570 | 11977 | 1 54.9 | -67 39 | 4.69 | G8.5 III |
| - | 574 | 12055 | 1 57.2 | -47 23 | 4.83 | G7 III |
| Gℓ 83.1 | - | - | 2 00.4 | +13 04 | 12.27 | M5- V |
| 57 Cet | 583 | 12255 | 1 59.8 | -20 49 | 5.41 | M1: IIIa |
| υ Cet | 585 | 12274 | 2 00.0 | -21 05 | 4.00 | M0 IIIb |
| †χ Phe | 602 | 12524 | 2 01.7 | -44 43 | 5.14 | K5 III |
| †γ And A | 603 | 12533 | 2 03.9 | +42 20 | 2.10 | K3- IIb |
| 61 Cet | 610 | 12641 | 2 03.8 | - 0°20' | 5.93 | G4 IIIb CH-0.5 +G0? |
| - | 611 | 12642 | 2 03.7 | - 4 06 | 5.62 | M1- III Ca1 |
| †α Ari | 617 | 12929 | 2 07.2 | +23 27 | 2.00 | K2- IIIab Ca-1 |
| KK Per | - | 13136 | 2 10.3 | +56 33 | 7.7-8 (7.73) | M2 Iab-Ib |
| - | 637 | 13445 | 2 10.4 | -50 49 | 6.12 | K1 V |
| † 60 And | 643 | 13520 | 2 13.2 | +44 14 | 4.84 | K3.5 III |
| - | 645 | 13530 | 2 13.6 | +51 04 | 5.29 | G8 III CN1 CH0.5 Fe-1 |
| † 65 $\xi^1$ Cet | 649 | 13611 | 2 13.0 | + 8 51 | 4.36 | G7 II-III Fe-1 |
| - | - | 13686 | 2 15.9 | +63 14 | 6.98 | K2.5 Ib-II |
| † | - | 13738 | 2 15.5 | +52 31 | 7.3: | K3.5 III |
| †δ Tri | 660 | 13974 | 2 17.0 | +34 13 | 4.86 | G0.5 V |
| 67 Cet | 666 | 14129 | 2 17.0 | - 6 25 | 5.50 | G8.5 III |
| $\pi^1$ Hyi | 667 | 14141 | 2 14.2 | -67 51 | 5.55 | M1- III |
| † PR Per | - | 14404 | 2 21.6 | +57 52 | 8.6: | M1- Iab-Ib |
| SU Per | - | 14469 | 2 22.1 | +56 36 | 7.6: | M3-M4 Iab |
| RS Per | - | 14488 | 2 22.4 | +57 06 | 8.0-9.4 | M3+ Iab var.? |
| - | - | 14595 | 2 22.1 | +22 52 | 6.6: | G3 III: +F6: |
| κ For | 695 | 14802 | 2 22.6 | -23 49 | 5.19 | G0 Va |
| †65 And | 699 | 14872 | 2 25.6 | +50 17 | 4.71 | K4.5 III |
| - | - | 16068 | 2 36.9 | +55 55 | 7.38 | K3.5 II-III Ca1* |
| † | - | 16139 | 2 36.3 | +27 28 | 8.1: | G8.5 IIIa Fe-0.5 |
| † Gℓ105 | 753 | 16160 | 2 36.1 | + 6 53 | 5.82 | K3- V |
| ι Eri | 794 | 16815 | 2 40.7 | -39 51 | 4.11 | K0.5 IIIb Fe-0.5 |
| † 14 Per | 800 | 16901 | 2 44.1 | +44 18 | 5.43 | G0 Ib Ca1 |
| † 39 Ari | 824 | 17361 | 2 47.9 | +29 15 | 4.51 | K1.5 III |
| †η PerA | 834 | 17506 | 2 50.7 | +55 54 | 3.76 | K3-Ib-IIa |
| †β For | 841 | 17652 | 2 49.1 | -32 24 | 4.46 | G8.5 III Fe-0.5 |
| † 17 Per | 843 | 17709 | 2 51.5 | +35 04 | 4.53 | K5.5 III |
| † 45 RZ Ari | 867 | 18191 | 2 55.8 | +18 20 | 5.9:var | M6- III: |
| †η Eri | 874 | 18322 | 2 56.4 | - 8 54 | 3.89 | K1 IIIb |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) h m | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| - | - | 18391 | 2 59.8 | +57°40' | 6.89 | G5 Ia-Iab |
| † | 885 | 18474 | 2 59.8 | +47 13 | 5.47 | G5: III: CN-4 CH-1 Ca1 $H_\delta$-1 |
| - | - | 18636 | 2 58.6 | -37 58 | 7.6: | G8III: CN-1 CH-4 |
| $\rho^1$ Eri | 907 | 18784 | 3 01.2 | - 7 40 | 5.74 | G9 III $H_\delta$-0.5 |
| α Cet | 911 | 18884 | 3 02.3 | + 4 06 | 2.53 | M1.5 IIIa var? |
| † | 918 | 18970 | 3 05.5 | +56 43 | 4.76 | G9.5 III |
| †ρ Per | 921 | 19058 | 3 05.2 | +38 50 | 3.2-4.1 | M4 II |
| V Hor | - | 19285 | 3 03.5 | -58 56 | 8.7-9.8pg | M5- III |
| GL 123 | - | 19305 | 3 06.4 | + 1 56 | 9.10 | M0 V |
| †ι Per | 937 | 19373 | 3 09.1 | +49 37 | 4.05 | G0 V |
| † κ Per | 941 | 19476 | 3 09.5 | +44 52 | 3.80 | K0 III |
| †δ Ari | 951 | 19787 | 3 11.6 | +19 44 | 4.35 | K0 III |
| - | 953 | 19826 | 3 10.6 | -23 44 | 6.37 | K0 IIIb |
| - | 966 | 20063 | 3 14.9 | +42 30 | 6.06 | K1+ III-IV CN1 |
| - | 965 | 20084 | 3 32.3 | +84 55 | 5.61 | G5 IIa CH1 Fe-1* |
| - | 969 | 20123 | 3 16.2 | +50 56 | 5.03 | G6 Ib-IIa |
| - | - | 20394 | 3 16.8 | + 2 22 | 8.6 | G9- IIIa: Ba2.5 |
| † | 991 | 20468 | 3 18.7 | +34 13 | 4.82 | K2 IIb FeO.5 |
| † 59 Ari | 995 | 20618 | 3 19.9 | +27 04 | 5.90 | G6 IV |
| † | - | 20619 | 3 19.1 | - 2 51 | 7.05 | G1.5 V |
| †κ Cet | 996 | 20630 | 3 19.4 | + 3 22 | 4.84 | G5 V |
| - | 999 | 20649 | 3 20.3 | +29 03 | 4.47 | K3 IIIa BaO.5 |
| 16 $\tau^4$ Eri | 1003 | 20720 | 3 19.5 | -21 45 | 3.70 | M3+ IIIa Ca-1 |
| †$\zeta^1$ Ret | 1006 | 20766 | 3 17.8 | -62 35 | 5.53 | G2.5 V $H_\delta$1 |
| † 97 Cet | 1007 | 20791 | 3 21.1 | + 3 41 | 5.68 | G8.5 $III^\delta$ |
| † | 1008 | 20794 | 3 19.9 | -43 04 | 4.27 | G8 V |
| - | 1009 | 20797 | 3 24.7 | +64 35 | 5.22 | M0 II |
| †$\zeta^2$ Ret | 1010 | 20807 | 3 18.2 | -62 30 | 5.24 | G1 V |
| - | 1016 | 20894 | 3 21.4 | -23 38 | 5.50 | G6.5 IIb Cn-1 $H_\delta$-1 |
| - | 1023 | 21018 | 3 23.6 | + 4 53 | 6.38 | G1 III: CH-1: |
| † ο Tau | 1030 | 21120 | 3 24.8 | + 9°02' | 3.60 | G6 IIIa Fe-1 |
| σ Per | 1052 | 21552 | 3 30.6 | +48 00 | 4.36 | K3 III |
| 5 Tau | 1066 | 21754 | 3 30.8 | +12 57 | 4.11 | K0- II-III Fe-0.5 |
| † ε Eri | 1084 | 22049 | 3 32.9 | - 9 28 | 3.72 | K2 V |
| - | 1085 | 22072 | 3 34.1 | +17 50 | 6.17 | K1 IV Fe-1 |
| † 10 Tau | 1101 | 22484 | 3 36.9 | +00 24 | 4.29 | F9 IV-V |
| - | 1112 | 22764 | 3 42.7 | +59 58 | 5.73 | K3.5 III+G* |
| † | - | 23082 | 3 47.6 | +45 03 | 7.81 | K2.5 II CNO.5 |
| †δ Eri | 1136 | 23249 | 3 43.2 | - 9 46 | 3.53 | K0+ IV |
| † | 1155 | 23475 | 3 49.5 | +65 32 | 4.47 | M2+ IIab |
| † | 1168 | 23697 | 3 44.6 | -54 16 | 6.30 | K2 IIIb |
| †β Ret | 1175 | 23817 | 3 44.2 | -64 48 | 3.85 | K2 III |
| †γ Eri | 1231 | 25025 | 3 58.0 | -13 31 | 2.95 | M0.5 IIIb Ca-1 |
| - | - | 25150 | 4 04.6 | +56 27 | 8.29 | K0.5 III CNO.5 |
| GL 158 | - | 25329 | 4 04.5 | +35 22 | 8.51 | K1 Vb Fe-2 |
| † 37 Tau | 1256 | 25604 | 4 04.7 | +22 05 | 4.37 | K0 III |
| † - | 1270 | 25877 | 4 09.5 | +59 54 | 6.28 | G8 IIa |
| - | 1286 | 26311 | 4 11.0 | +33 35 | 5.72 | K1 II-III |
| † | 1299 | 26575 | 4 10.8 | -35 16 | 6.44 | G9.5 III CH-2 |
| †μ Per | 1303 | 26630 | 4 14.9 | +48 24 | 4.12 | G0 Ib |
| 47 Tau | 1311 | 26722 | 4 13.9 | + 9 16 | 4.83 | G3 III Fe-0.5 |
| †$o^2$ Eri | 1325 | 26965 | 4 15.3 | - 7 40 | 4.43 | K0.5 V |
| † | 1327 | 27022 | 4 20.7 | +65 09 | 5.28 | G5 IIb |
| †α Ret | 1336 | 27256 | 4 14.4 | -62 28 | 3.34 | G8 II-III |
| | - | 27277 | 4 20.9 | +50 16 | 8.09 | G6 III* |
| | - | 27292 | 4 20.9 | +50 15 | 7.13 | K2.5 III |
| † 54 Per | 1343 | 27348 | 4 20.4 | +34 34 | 4.92 | G8 III FeO.5 |
| †γ Tau | 1346 | 27371 | 4 19.8 | +15 37 | 3.65 | G9.5 IIIab CNO.5 |
| DG Eri | - | 27598 | 4 20.7 | -16 50 | 6.9-7.1 | M4- III |
| †δ Tau | 1373 | 27697 | 4 22.9 | +17 32 | 3.76 | G9.5 III CNO.5 |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| † VB 64 | - | 28099 | 4 26.7 | +16°45' | 8.12 | G2+ V* |
| π Tau | 1396 | 28100 | 4 26.6 | +14 43 | 4.69 | G7 IIIa Fe-1 |
| 75 Tau | 1407 | 28292 | 4 28.4 | +16 22 | 4.96 | K1 III |
| †ε Tau | 1409 | 28305 | 4 28.6 | +19 11 | 3.54 | G9.5 III CN0.5 |
| †θ¹ Tau | 1411 | 28307 | 4 28.6 | +15 57 | 3.85 | G9 III Fe-0.5 |
| † | - | 28487 | 4 29.7 | + 5 10 | 7.25: | M3.5 III |
| 50 υ¹ Eri | 1453 | 29085 | 4 33.5 | -29 46 | 4.50 | K0+ III Fe-0.5 |
| †Gℓ 172 | - | 232979 | 4 37.6 | +52.55 | 8.61 | M0.5 V |
| - | - | 29122 | 4 36.6 | +36 57 | 6.62 | K2 IIIb CN1 |
| †α Tau | 1457 | 29139 | 4 35.9 | +16 30 | 0.86 | K5+ III |
| BD+26°730 | - | 283750 | 4 36.8 | +27 08 | 8.42 | K2.5 Ve* |
| † 52 υ² Eri | 1464 | 29291 | 4 35.6 | -30 34 | 3.81 | G8.5 IIIa |
| 53 Eri | 1481 | 29503 | 4 38.2 | -14 18 | 3.87 | K1.5 IIIb |
| - | 1487 | 29613 | 4 39.3 | -14 21 | 5.45 | K1 IVa |
| † R Dor | 1492 | 29712 | 4 36.8 | -62 05 | 5.0-6.0 | M8e III:* |
| †58 Eri | 1532 | 30495 | 4 47.6 | -16 56 | 5.51 | G2.5 IV-V |
| - | 1533 | 30504 | 4 49.9 | +37 30 | 4.88 | K3.5 III |
| † - | - | 30793 | 4 52.5 | +39 17 | 7.91 | K1.5 IIIb CN1 |
| † 2 Aur | 1551 | 30834 | 4 52.6 | +36 42 | 4.77 | K2.5 III Ba 0.5 |
| † | - | 31274 | 4 52.0 | -46 51 | 7.13 | G9 III CH-3.5 |
| † ι Aur | 1577 | 31398 | 4 57.0 | +33 09 | 2.68 | K3 II |
| †o² Ori | 1580 | 31421 | 4 56.4 | +13 31 | 4.07 | K2- III Fe-1 |
| † 10 π⁶ Ori | 1601 | 31767 | 4 58.6 | + 1 43 | 4.46 | K2- II |
| β Cam | 1603 | 31910 | 5 03.4 | +60 27 | 4.04 | G1 Ib-IIa |
| † R59 | - | 268757 | 4 54.3 | -69 12 | 10.2 | G8 0 LMC |
| Gℓ 182.1 | - | 31966 | 5 00.6 | +14 23 | 6.65: | G2 IV-V Fe-0.5 |
| - | - | 32712 | 5 01.6 | -58 31 | 8.53 | K1 III: Ba3- |
| - | - | 33299 | 5 10.6 | +30 48 | 6.68 | K0-Ib |
| - | 1685 | 33555 | 5 11.0 | - 2 15 | 6.24 | K1- IVa |
| † Gℓ 191 | - | 33793 | 5 11.2 | -44 56 | 8.81 | M1p VI* |
| - | 1697 | 33833 | 5 12.8 | - 6°03' | 5.91 | G7 III |
| †ρ Ori | 1698 | 33856 | 5 13.3 | + 2 52 | 4.45 | K1 III CN0.5 |
| α Aur | 1708 | 34029 | 5 16.7 | +46 00 | 0.70: | G4:iii:Comp.* |
| † 16 Aur | 1726 | 34334 | 5 18.2 | +33 22 | 4.54 | K2.5 III Fe-1 |
| † λ Aur | 1729 | 34411 | 5 19.1 | +40 06 | 4.71 | G1.5 IV-V Fe-1 |
| - | - | 34450 | 5 25.0 | +73 42 | 7.0 | M0.5 III |
| †θ Dor | 1744 | 34649 | 5 13.8 | -67 11 | 4.82 | K2.5 IIIa |
| † 29 Ori | 1784 | 35369 | 5 24.0 | - 7 48 | 4.14 | G8 III Fe-0.5 |
| 27 Ori | 1787 | 35410 | 5 24.5 | - 0 53 | 5.06 | G9 III-IV Fe-0.5 |
| - | - | 35601 | 5 27.1 | +29 56 | 7.35 | M1.5 Iab-Ib |
| - | - | 271182 | 5 21.0 | -65 51 | 9.71 | F8 0 * |
| †φ Aur | 1805 | 35620 | 5 27.6 | +34 28 | 5.07 | K3.5 III CN2 |
| Gℓ 204 | - | 36003 | 5 28.4 | - 3 31 | 7.65 | K5 V |
| - | 1824 | 36040 | 5 30.8 | +41 28 | 6.00 | K0.5 IIIb CN1 |
| β Lep | 1829 | 36079 | 5 28.2 | -20 45 | 2.84 | G5 II |
| † | 1830 | 36134 | 5 29.4 | - 3 27 | 5.80 | K1-III |
| † 119 Tau | 1845 | 36389 | 5 32.2 | + 5 52 | 4.73: | M2 Iab-Ib |
| †Gℓ 205 | - | 36395 | 5 31.4 | - 3 38 | 7.97 | M1.5 V |
| - | - | 36552 | 5 30.3 | -43 42 | 8.0: | G7III: CN-1 CH-2.5 |
| - | - | 36598 | 5 26.6 | -70 04 | 8.05 | K0.5 III: Ba3 |
| † 40 φ² Ori | 1907 | 37160 | 5 36.9 | + 9 17 | 4.09 | K0IIIb Fe-2 |
| - | 1909 | 37192 | 5 35.3 | -33 05 | 5.74 | K2 IIIa |
| † LMC G367 | - | 269723 | 5 32.8 | -67 42 | 9.91 | G4 0 |
| 51 Ori | 1963 | 37984 | 5 42.5 | + 1 29 | 4.91 | K1 III |
| - | 1970 | 38099 | 5 43.2 | - 1 37 | 6.30 | K4+ III |
| BD-16° 1217 | - | - | 5 43.1 | -16 46 | 10+: | K0.5 IIIa CN2 |
| † LMC | - | 269953 | 5 40.4 | -69 41 | 9.94 | G0 0 |
| † τ Aur | 1995 | 38656 | 5 49.2 | +39 11 | 4.51 | G8 III Fe-1 |
| 132 Tau | 2002 | 38751 | 5 49.0 | +24 34 | 4.86 | G9 IIIb |
| † ν Aur | 2011 | 38944 | 5 51.0 | +37 18 | 4.73 | M0 III |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) h m | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| † | 2018 | 39045 | 5 51.4 | +32°08' | 6.25 | M3 var: III* |
| † | 2028 | 39225 | 5 52.7 | +33 55 | 5.98 | M1.5 II-III* |
| †δ Lep | 2035 | 39364 | 5 51.3 | -20 52 | 3.28 | KO III Fe-1.5 CHO.5 |
| † 56 Ori | 2037 | 39400 | 5 52.4 | + 1 51 | 4.75 | K1.5 IIb |
| † $\chi^1$ Ori | 2047 | 39587 | 5 54.4 | +20 16 | 4.39 | GO-V CaO.5 |
| - | - | 39628 | 5 57.1 | +55 57 | 6.97 | K2 IIIb |
| α Ori | 2061 | 39801 | 5 55.2 | + 7 24 | 0.1-1.2 | M1-M2 Ia-Iab |
| π Aur | 2091 | 40239 | 5 59.9 | +45 57 | 4.25 | M3 II |
| † δ Aur | 2077 | 40035 | 5 59.5 | +54 17 | 3.71 | KO-III |
| † | 2102 | 40409 | 5 54.1 | -63 05 | 4.65 | K2 III |
| † | 2113 | 40657 | 6 00.0 | - 3 05 | 4.52 | K1.5 III Fe-1.5 |
| - | 2121 | 40827 | 6 05.1 | +59 24 | 6.34: | K1 III CN1- |
| δ Lep | 2156 | 41698 | 6 05.8 | -24 12 | 6.5-7.2 | M6+ IIIa |
| TV Gem | - | 42475 | 6 11.9 | +21 52 | 7.0-7.8 | MO-M1 Iab |
| †6 BU Gem | 2197 | 42543 | 6 12.3 | +22 55 | 6.1-7.5 | M1-M2 Ia-Iab |
| η Gem | 2216 | 42995 | 6 14.9 | +22 30 | 3.28: | M2.5 III |
| †κ Aur | 2219 | 43039 | 6 15.4 | +29 30 | 4.33 | G9 IIIb |
| † γ Mon | 2227 | 43232 | 6 14.9 | - 6 16 | 3.97 | K1 III BaO.5 |
| † $\eta^2$ Dor | 2245 | 43455 | 6 11.2 | -65 35 | 5.00 | M2.5 III |
| † κ Col | 2256 | 43785 | 6 16.6 | -35 08 | 4.37 | KO.5 IIIa |
| - | 2267 | 43993 | 6 18.8 | - 9 23 | 5.35 | K1.5 III |
| † - | - | 44362 | 6 18.8 | -50 22 | 7.03 | G2 Ib |
| †μ Gem | 2286 | 44478 | 6 23.0 | +22 31 | 2.97 | M3 IIIab |
| 46 $\psi^1$ Aur | 2289 | 44537 | 6 24.9 | +49 17 | 4.95 var. | K5-MO Iab-Ib |
| - | 2290 | 44594 | 6 20.1 | -48 44 | 6.60 | G2 Va |
| - | - | 44896 | 6 22.9 | -33 37 | 7.2 | K4.5 IIIa: Ba4 |
| GL 233 | - | 45088 | 6 26.2 | +18 46 | 6.76 | K2 V H,Kem1 |
| † | 2318 | 45184 | 6 24.7 | -28 47 | 6.38 | G2 Va |
| 6 Lyn | 2331 | 45410 | 6 30.8 | +58 10 | 5.86 | KO III-IV |
| † | 2392 | 46407 | 6 32.8 | -11 10 | 6.27 | G9.5 III: Ba3 |
| 50 $\psi^2$ Aur | 2427 | 47174 | 6 39.3 | +42°30' | 4.79 | K2- III |
| †$\nu^2$ CMa | 2429 | 47205 | 6 36.7 | -19 15 | 3.95 | K1.5 III-IV Fe 1 |
| † $\nu^3$ CMa | 2443 | 47442 | 6 37.9 | -18 14 | 4.43 | KO.5 III |
| - | 2450 | 47667 | 6 39.3 | -14 09 | 4.81 | K2 IIIa CN1 Ca1 |
| †ε Gem | 2473 | 48329 | 6 43.9 | +25 08 | 2.99 | G8Ib |
| 30 Gem | 2478 | 48433 | 6 44.0 | +13 14 | 4.49 | KO.5 III CNO.5 |
| 57 $\psi^6$ Aur | 2487 | 48781 | 6 47.6 | +48 48 | 5.21 | KO III |
| - | - | 49068 | 6 45.7 | -20 51 | 7.06 | K1.5 II-III* |
| - | - | 49091 | 6 45.9 | -20 47 | 6.93 | K3 IIIa* |
| - | - | 49105 | 6 46.0 | -20 36 | 7.77 | KO II-III* |
| BD-20°1568 | - | 49212 | 6 46.6 | -20 49 | 7.76 | KO II-III* |
| † 18 Mon | 2506 | 49293 | 6 47.9 | + 2 24 | 4.46 | KO+ IIIa |
| † | 2508 | 49331 | 6 47.6 | - 9 00 | 5.06 | M1+ Ib-IIa |
| - | 2513 | 49396 | 6 45.4 | -52 12 | 6.3 | G5 Iab |
| - | - | 49500 | 6 49.7 | +25 30 | 6.92 | K2- 000 Fe-2 CH-1 $H_\delta$1 |
| - | - | 50264 | 6 51.2 | -29 35 | 8.7 | G2III: Ba2 CHO.5 |
| † $o^1$ Cma | 2580 | 50877 | 6 54.1 | -24 12 | 3.87: | K2 Iab* |
| 41 Gem | 2615 | 52005 | 7 00.3 | +16 05 | 5.68 | K3 Ib |
| † | - | 52220 | 6 59.0 | -32 43 | 6.9: | G1 Ib |
| σ CMa | 2646 | 52877 | 7 01.7 | -27 56 | 3.46 | K7 Ib |
| - | - | 52938 | 7 02.8 | - 8 27 | 7.8: | K3.5 II-III BaO.5* |
| † | 2667 | 53705 | 7 04.0 | -43 36 | 5.54 | G1.5 V |
| - | 2685 | 54153 | 7 06.0 | -38 23 | 6.11 | GO IIa CH1 |
| † GL 268 | - | -- | 7 10.0 | +38 32 | 11.48 | M4.5e V |
| 63 Aur | 2696 | 54716 | 7 11.7 | +39 19 | 4.91 | K3.5 III |
| †τ Gem | 2697 | 54719 | 7 11.2 | +30 15 | 4.40 | K2 III |
| AC Car | - | 54795 | 7 06.8 | -58 23 | 8.11-9.4: | M6 to M6+ III: |
| - | 2703 | 54895 | 7 13.4 | +51 26 | 5.47 | M3 III |
| - | - | 55690 | 7 13.3 | -14 36 | 8.3: | M5 III |
| BD-9° 1935 | - | -- | 7 14.6 | -10 10 | 9.46 | G7 IIIa* |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| - | - | 56438 | 7 14.6 | -47°08' | 8.5: | KO.5 III-IIIb CH-3.5 |
| † 145 CMa | 2764 | 56577 | 7 16.6 | -23 19 | 4.82 | K3 Ib-II* |
| - | 2786 | 57146 | 7 18.8 | -26 35 | 5.27 | G2 Ib* |
| † | 2802 | 57615 | 7 21.1 | -25 53 | 5.87 | M3 III |
| 66 Aur | 2805 | 57669 | 7 24.1 | +40 40 | 5.17 | K1 IIIa Fe 1 |
| - | - | 58134 | 7 23.0 | -29 45 | 7.7: | G5 Ib H&K shallow. |
| †ι Gem | 2821 | 59207 | 7 25.7 | +27 48 | 3.79 | G9 IIIb |
| †ε CMi | 2828 | 58367 | 7 25.6 | + 9 16 | 5.00 | G6 II |
| - | 2834 | 58535 | 7 24.7 | -31 49 | 5.34 | KO.5 II-III* |
| †γ CMi | 2854 | 58972 | 7 28.2 | + 8 56 | 4.31 | K3 III Fe-1 |
| † 6 CMi | 2864 | 59294 | 7 29.8 | +12 01 | 4.53 | K1 III |
| YY Gem | - | 60179C | 7 34.6 | +31 51 | 9.07 | MO.5 Ve, Fe-2* |
| - | - | 60197 | 7 32.1 | -29 38 | 7.73 | K3.5 III: Ba 3.5 |
| † υ Gem | 2905 | 60522 | 7 35.9 | +26 54 | 4.06 | MO III-IIIb |
| - | - | 60898 | 7 36.2 | -14 18 | 7.83 | KO II-III* |
| - | - | 60899 | 7 36.2 | -14 36 | 7.93 | G8.5 III* |
| 74 Gem | 2938 | 61388 | 7 39.5 | +17 40 | 5.05 | K5 III |
| - | 2967 | 61913 | 7 42.0 | +14 13 | 5.81 | M3 II-III |
| †α Mon | 2970 | 61985 | 7 41.2 | - 9 33 | 3.93 | G9 III Fe-1 |
| † R Pup | 2974 | 62058 | 7 40.9 | -31 40 | 7.5: | G2 0-Ia* |
| † CPD-31° 1790 | - | -- | 7 41.0 | -31 41 | 8.3: | M3 Iab-Ib* |
| 76 Gem | 2983 | 62285 | 7 44.1 | +25 47 | 5.30 | K4.5 III |
| † κ Gem | 2985 | 62345 | 7 44.4 | +24 24 | 3.56 | G8 III |
| †β Gem | 2990 | 62509 | 7 45.3 | +28 01 | 1.14 | KO IIIb |
| † 81 Gem | 3003 | 62721 | 7 46.1 | +18 31 | 4.87 | K4 III |
| - | 3026 | 63302 | 7 47.6 | -15 59 | 6.34 | K1 Ia-Iab |
| COD-32°4417 | - | -- | 7 47.9 | -33 17 | 9.1: | M3 III |
| - | 3043 | 63660 | 7 49.0 | -24 55 | 5.33 | G1.5 IIIb Fe-1* |
| †ξ Pup | 3045 | 63700 | 7 49.3 | -24 52 | 3.43 | G6 Iab-Ib |
| - | - | 64616 | 7 53.8 | -26 16 | 6.92 | KO III |
| - | - | 64858 | 7 55.0 | -26°28' | 9.2: | G4 Iab-Ib |
| 1 Cnc | 3095 | 64960 | 7 57.0 | +15 47 | 5.78 | K3 III |
| - | - | 65412 | 7 57.9 | -20 25 | 7.8: | M2.5 Iab |
| - | 3120 | 65662 | 7 56.3 | -60 32 | 5.77 | K3.5 II-III* |
| † 12 Pup | 3123 | 65699 | 7 59.1 | -23 19 | 5.10 | KO Ib-II |
| V 341 Car | 3126 | 67750 | 7 56.8 | -59 08 | 6.03 | M1 II* |
| - | 3145 | 66141 | 8 02.3 | + 2 20 | 4.38 | K2 IIIb Fe-0.5 |
| χ Gem | 3149 | 66216 | 8 03.5 | +27 48 | 4.94 | K1 III |
| † | 3153 | 66342 | 7 59.6 | -60 36 | 5.16 | M1.5 II* |
| † | - | 66478 | 8 01.8 | -44 36 | 6.55 | K2 IIIa Fe1 |
| CoD-29° 5430 | - | -- | 8 03.5 | -29 59 | 8.9: | K3+ Iab-Ib |
| μ Cnc | 3176 | 67228 | 8 07.8 | +21 35 | 5.30 | G1 IVb |
| † 55 Cam | 3182 | 67447 | 8 12.8 | +68 28 | 5.32 | G7 II |
| †ζ Mon | 3188 | 67594 | 8 08.6 | - 2 59 | 4.34 | G2 Ib |
| † 19 Pup | 3211 | 68290 | 8 11.3 | -12 56 | 4.71 | G9 III |
| † | 3212 | 68312 | 8 11.5 | - 7 46 | 5.34 | G7 III |
| NS Pup | 3225 | 68553 | 8 11.3 | -39 37 | 4.45 | K4.5 Ib |
| - | - | 68879 | 8 14.2 | - 5 54 | 8.23 | G9 III K-2 CH-0.5* |
| † β Cnc | 3249 | 69267 | 8 16.5 | + 9 12 | 3.52 | K4 III Ba0.5 |
| - | 3259 | 69830 | 8 18.4 | -12 38 | 6.00 | G7.5 V |
| † 31 Lyn | 3275 | 70272 | 8 22.8 | +43 12 | 4.25 | K4.5 III |
| - | 3282 | 70555 | 8 21.4 | -33 03 | 4.83 | K2.5 II-III |
| - | 3296 | 70946 | 8 23.3 | -38 17 | 6.32 | M3- III |
| † | 3306 | 71115 | 8 25.9 | + 7 34 | 5.12 | G8 II-III Fe-1 |
| - | 3315 | 71176 | 8 25.1 | -24 03 | 5.28 | K4.5 III CN1 |
| † 27 Cnc | 3319 | 71250 | 8 26.7 | +12 39 | 5.50 | M3 III Ca-1 |
| †Θ Cha | 3340 | 71701 | 8 20.6 | -77 29 | 4.35 | K2 III CNO.5 |
| - | 3360 | 72184 | 8 32.9 | +38 01 | 5.90 | K1.5 IIIb CNO.5 |
| - | - | 72268 | 8 30.5 | -36 43 | 6.70 | M3+ Iab-Ib |
| - | - | 72696 | 8 31.7 | -55 49 | 8.0: | K1+ III Fe0.5 |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) h m | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| † $\pi^2$ UMa | 3403 | 73108 | 8 40.2 | +64°20' | 4.60 | K1+ IIIb |
| c Vel | 3407 | 73155 | 8 34.7 | -49 57 | 5.00 | K1.5 Ib-II |
| - | - | 73273 | 8 35.4 | -51 49 | 7.6: | K1 III: CN0.5 |
| σ Hya | 3418 | 73471 | 8 38.8 | + 3 21 | 4.43 | K1 III |
| - | - | 73598 | 8 39.8 | +19 33 | 6.59 | G8 III |
| † 39 Cnc | 3427 | 73665 | 8 40.1 | +20 00 | 6.39 | G8 III* |
| † | 3428 | 73710 | 8 40.3 | +19 41 | 6.44 | G9 III* |
| - | - | 73884 | 8 38.7 | -47 47 | 7.85 | K2.5 Iab-Ib Cn1 |
| - | - | 73974 | 8 41.8 | +19 53 | 6.90 | G8 III* |
| † 9 Hya | 3441 | 74137 | 8 41.7 | -15 57 | 4.86 | G9.5 III |
| (31 Mon) | 3459 | 74395 | 8 43.7 | - 7 14 | 4.62 | G1 Ib |
| † δ Cnc | 3461 | 74442 | 8 44.7 | +18 09 | 3.94 | K0 IIIb |
| † ι Cnc | 3475 | 74739 | 8 46.7 | +28 46 | 4.03 | G8 II-III |
| d Vel | 3477 | 74772 | 8 44.4 | -42 39 | 4.05 | G6 II-III |
| - | - | 74868 | 8 44.8 | -44 33 | 6.56 | F9 III-IV |
| † 12 Hya | 3484 | 74918 | 8 46.4 | -13 33 | 4.32 | G8 III Fe-1 |
| - | - | 75022 | 8 46.6 | -29 45 | 7.6 | K2+ IIb |
| - | - | 75156 | 8 48.7 | +12 33 | 6.61 | M3 II-III |
| γ Pyx | 3518 | 75691 | 8 50.5 | -27 42 | 4.01 | K2.5 III |
| † 6 UMa | 3531 | 75958 | 8 56.6 | +64 36 | 5.58 | G6 III |
| † | 3538 | 76151 | 8 54.3 | - 5 27 | 5.99 | G2 V |
| † ζ Hya | 3547 | 76294 | 8 55.4 | + 5 57 | 3.11 | G9 IIIa |
| BD+6° 2063 | - | -- | 8 54.6 | + 6 09 | 9.0: | M2 IIIb: |
| †ρ UMa | 3576 | 76827 | 9 02.6 | +67 38 | 4.76 | M3 IIIb Ca1 |
| † | 3577 | 76830 | 8 59.2 | +18 08 | 6.38 | M4+III |
| - | 3585 | 77087 | 8 59.3 | -28 48 | 6.25 | G9 IIIa |
| - | - | 77247 | 9 03.6 | +53 06 | 7.1: | G7 III: Ba0.5 |
| - | 3612 | 77912 | 9 06.5 | +38 27 | 4.56 | G7 Ib-II |
| ξ Cnc | 3627 | 78515 | 9 09.4 | +22 03 | 5.14 | G9 IIIa Fe-0.5 CH-1 |
| † κ Pyx | 3628 | 78541 | 9 08.0 | -25 51 | 4.58 | K4 III |
| †λ Vel | 3634 | 78647 | 9 08.0 | -43°26 | 2.21 | K4.5 Ib |
| 17 UMa | 3662 | 79354 | 9 15.8 | +56 44 | 5.27 | K4 III |
| - | 3692 | 80108 | 9 16.4 | -44 15 | 5.08-5.14 | K3 Ib-II |
| - | 3696 | 80230 | 9 16.2 | -57 32 | 4.34 | M0.5 III Ba0.3 |
| † | - | 80431 | 9 18.7 | -34 06 | 7.46: | M4 III |
| †α Lyn | 3705 | 80493 | 9 21.0 | +34 24 | 3.13 | K7 IIIab |
| - | - | 80721 | 9 20.2 | -36 57 | 7.8: | K2.5 III: |
| † Θ Pyx | 3718 | 80874 | 9 21.5 | -25 58 | 4.72 | M0.5 III |
| †κ Leo | 3731 | 81146 | 9 24.7 | +26 11 | 4.46 | K2 III |
| λ Pyx | 3733 | 81169 | 9 23.2 | -28 50 | 4.69 | G8.5 III Fe-1.5 |
| - | 3741 | 81567 | 9 26.4 | - 1 28 | 6.01 | K2+ III |
| † α Hya | 3748 | 81797 | 9 27.6 | - 8 40 | 1.98 | K3 II-III |
| † G Hya | 3749 | 81799 | 9 27.3 | -22 20 | 4.69 | K2.5 III |
| † | 3751 | 81817 | 9 37.1 | +81 20 | 4.28 | K3 IIIa |
| - | - | 81893 | 9 26.1 | -59 46 | 7.4 | K1.5 IIIa |
| † 24 UMa | 3771 | 82210 | 9 34.5 | +69 50 | 4.56 | G5 III-IV |
| † 6 Leo | 3779 | 82381 | 9 32.0 | + 9 43 | 5.08 | K2.5 IIIb Fe-0.5 |
| †λ Leo | 3773 | 82308 | 9 31.7 | +22 58 | 4.31 | K4.5 IIIb |
| † ξ Leo | 3782 | 82395 | 9 31.9 | +11 18 | 4.96 | G9.5 III |
| † 10 LMi | 3800 | 82635 | 9 34.2 | +36 23 | 4.55 | G7.5 III Fe-0.5 |
| † N Vel | 3803 | 82668 | 9 31.2 | -57 02 | 3.13 | K5 III |
| † | 3809 | 82741 | 9 35.1 | +39 37 | 4.80 | G9.5 III Fe-1 |
| † 11 LMi | 3815 | 82885 | 9 35.7 | +35 49 | 5.41 | G8 IV-V |
| † RR Ant | - | 83199 | 9 35.6 | -39 54 | 9.1v | M5+ to M5.5 II |
| - | 3842 | 83548 | 9 38.0 | -43 11 | 5.49 | G8 IIIa Ba1 |
| - | - | 83564 | 9 41.3 | +55 52 | 6.50 | K1 IIIb Fe0.5 |
| † ι Hya | 3845 | 83618 | 9 39.8 | - 1 08 | 3.89 | K2.5 III |
| Gℓ 364 | 3862 | 84117 | 9 42.2 | -23 55 | 4.93 | F9 V |
| ε Leo | 3873 | 84441 | 9 45.8 | +23 46 | 2.97 | G1 II |
| - | - | 84678 | 9 41.8 | -75 41 | 9.00 | K2.5 Ba3 CH1 $C_2$1- Ca-1 |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| † | 3881 | 84737 | 9 48.6 | +46°01' | 5.10 | G0.5 Va |
| † υ¹ Hya | 3903 | 85444 | 9 51.5 | -14 51 | 4.10 | G6.5 IIIa |
| μ¹ Leo | 3905 | 85503 | 9 52.8 | +26 01 | 3.88 | K2 III CN1 Ca1 |
| † | 3919 | 85859 | 9 54.2 | -25 56 | 4.88 | K2.5 III |
| - | 3912 | 85622 | 9 51.7 | -46 33 | 4.57 | G5 Ib-II |
| - | 3922 | 85945 | 9 57.2 | +57 25 | 5.93 | G6 III Fe-0.5 |
| † RR Car | - | 86655 | 9 58.1 | -58 52 | 7.6-8.5 | M6.5S= S6.5/1- |
| †π Leo | 3950 | 86663 | 10 00.2 | + 8 02 | 4.70 | M2- IIIab |
| † 20 LMi | 3951 | 86728 | 10 01.0 | +31 55 | 5.36 | G3 Va $H_\delta$1 |
| BD+14° 2203 | - | -- | 10 07.4 | +13 56 | 9.0: | K3.5 IIIb Fe1 CH0.5 |
| - | 3977 | 87808 | 10 07.2 | -17 08 | 5.60: | K5 IIIb |
| 31 Leo | 3980 | 87837 | 10 07.9 | +10 00 | 4.37 | K3.5 IIIb Fe-1: |
| - | - | 88009 | 10 09.2 | +18 32 | 7.1: | G8+ IIIa CN1 |
| † Gℓ 380 | - | 88230 | 10 11.6 | +49 27 | 6.60 | K6e V Fe-1 |
| λ Hya | 3994 | 88284 | 10 10.6 | -12 22 | 3.61 | K0 III CN0.5 |
| † | 4006 | 88639 | 10 13.8 | +27 08 | 6.04 | G3 III Fe-1* |
| † 35 Leo | 4030 | 89010 | 10 16.5 | +23 30 | 5.97 | G1.5 IV-V |
| † Q Car | 4050 | 89388 | 10 17.1 | -61 20 | 3.38 | K2.5 II |
| γ Leo C | - | -- | 10 19.6 | +19 52 | 9.43 | M4 Ve* |
| γ Leo A | 4057 | 89484 | 10 20.0 | +19 51 | 1.99: | K1- IIIb Fe-0.5 |
| γ Leo B | 4058 | 89485 | 10 20.0 | +19 51 | 3.2: | G7 III Fe-1.5 |
| †μ UMa | 4069 | 89758 | 10 22.3 | +41 30 | 3.03 | M0 III |
| † EV Car | - | 89845 | 10 20.4 | -60 28 | 7.7-7.9 | M4.5 Ia |
| - | - | 89848 | 10 22.4 | -29 32 | 7.7: | F8 II: CH2 |
| - | 4092 | 90362 | 10 25.7 | - 7 03 | 5.57 | K6: IIIb Fe-0.5 * |
| † CK Car | - | 90382 | 10 24.4 | -60 11 | 7.2-7.6 | M3.5 Iab |
| † μ Hya | 4094 | 90432 | 10 26.1 | -16 51 | 3.82 | K4+ III |
| Gℓ 392 | 4098 | 90508 | 10 28.1 | +48 47 | 6.45 | F9- V |
| † β LMi | 4100 | 90537 | 10 27.9 | +36 42 | 4.20 | G9 IIIab |
| - | - | 90586 | 10 26.4 | -53 53 | 7.02 | M2- Iab |
| † | - | 91093 | 10 29.2 | -57 59 | 8.31 | M3 Iab |
| - | 4126 | 91190 | 10 35.1 | +75°43' | 4.84 | G8 III |
| † 46 Leo | 4127 | 91232 | 10 32.2 | +14 08 | 5.46 | M1 IIIb |
| † 48 Leo | 4146 | 91612 | 10 34.8 | + 6 57 | 5.07 | G8.5 III Fe-1 |
| - | - | 91629 | 10 33.5 | -59 25 | 7.9 | G0 Iab |
| - | 4154 | 91805 | 10 35.2 | -43 40 | 6.08 | G7 IIIb: CH-3 |
| † | - | 91810 | 10 37.3 | +56 26 | 6.55 | K1 IIIb CN1.5 Ca1 |
| CPD-57° 3502 | - | -- | 10 35.7 | -58 15 | 7.3-7.4 | M1.5 Iab-Ib |
| † 37 LMi | 4166 | 92125 | 10 38.7 | +31 59 | 4.67 | G2.5 IIa |
| φ Hya | 4171 | 92214 | 10 38.6 | -16 52 | 4.91 | G8 III Fe-0.5 |
| - | - | 92501 | 10 40.0 | -49 16 | 7.0: | K5 II-III |
| † | 4181 | 92523 | 10 43.1 | +69 05 | 5.00 | K3 III |
| † | 4184 | 92620 | 10 42.2 | +31 49 | 6.02 | M3.5 III |
| RT Car | - | -- | 10 44.8 | -59 17 | 8.36 | M2+ Iab |
| B0 Car | - | 93420 | 10 45.8 | -59 29 | 7.2-8.5 | M4 Ib |
| ν Hya | 4232 | 93813 | 10 49.6 | -16 12 | 3.11 | K1.5 IIIb $H_\delta$-0.5 |
| †46 LMi | 4247 | 94264 | 10 53.3 | +34 13 | 3.81 | K0+ III-IV |
| † | 4255 | 94481 | 10 54.3 | -13 46 | 5.65 | G4 III |
| - | - | 94599 | 10 54.1 | -61 06 | 8.15 | M5 Iab |
| † BZ Car | - | 94613 | 10 54.1 | -62 03 | 7.71 | M3+ Ib |
| † 56 VY Leo | 4267 | 94705 | 10 56.0 | + 6 11 | 6.0var. | M5.5 III |
| † 47 UMa | 4277 | 95128 | 10 59.5 | +40 26 | 5.05 | G1- V Fe-0.5 |
| †α Crt | 4287 | 95272 | 10 59.8 | -18 18 | 4.06 | K0+ III |
| 58 Leo | 4291 | 95345 | 11 00.6 | + 3 37 | 4.89 | K0.5 III Fe-0.5 |
| † 61 Leo | 4299 | 95578 | 11 01.8 | - 2 29 | 4.74 | M0 III |
| † α UMa | 4301 | 95689 | 11 03.7 | +61 54 | 1.79 | K0- IIIa |
| †Gℓ 411 | - | 95735 | 11 03.5 | +36 02 | 7.51 | M2+ V |
| - | 4305 | 95808 | 11 03.2 | -11 18 | 5.6 | G7-III |
| - | 4328 | 96700 | 11 07.9 | -30 11 | 6.54 | G1 V Fe-0.5 |
| - | - | 96746 | 11 08.2 | -32 05 | 9.1: | G2 Iab-Ib |
| - | - | 96765 | 11 08.6 | -15 34 | 8.8: | G3: III: CH2 Fe -1.5 Hδ -1* |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| †ψ UMa | 4335 | 96833 | 11 09.7 | +44 29 | 3.01 | K1 III |
| † x Car | 4337 | 96918 | 11 08.6 | -58 59 | 3.91 | G4 O-Ia |
| - | - | 97671 | 11 13.5 | -60°06' | 8.39 | M3 Ia-Iab |
| † 72 Leo | 4362 | 97778 | 11 15.2 | +23 05 | 4.62 | M3 IIb |
| † 75 Leo | 4371 | 98118 | 11 17.3 | + 2 01 | 5.17 | M0 III |
| † ξ UMa B | 4374 | 98230 | 11 18.2 | +31 32 | 4.87: | G2 V |
| † ξ UMa A | 4375 | 98230 | 11 18.2 | +31 32 | 4.41: | F8.5 V |
| † ν UMa | 4377 | 98262 | 11 18.5 | +33 05 | 3.49 | K3- III |
| - | 4379 | 98282 | 11 17.3 | -67 49 | 6.05 | M2+ S IIIa: |
| δ Crt | 4382 | 98430 | 11 19.3 | -14 47 | 3.56 | G9 IIIb CH+0.2 |
| † | - | 98817 | 11 19.4 | -60 42 | 8.30 | M1 Iab-Ib |
| † 56 UMa | 4392 | 98839 | 11 22.8 | +43 29 | 4.98 | G8 II-III |
| 79 Leo | 4400 | 99055 | 11 24.0 | + 1 24 | 5.38 | G8 III Fe-0.5 |
| - | - | 99154 | 11 24.1 | -57 04 | 8.6: | G2: II: Fe-0.5: |
| † τ Leo | 4418 | 99648 | 11 27.9 | + 2 51 | 4.96 | G7.5 IIIa |
| † λ Dra | 4434 | 100029 | 11 31.4 | +69 20 | 3.83 | M0 III Ca-1 |
| † 87 Leo | 4432 | 99998 | 11 30.3 | - 3 00 | 4.76 | K3.5 III Fe-1 |
| † $o^1$ Cen | 4441 | 100261 | 11 31.8 | -59 26 | 5.10 | G3 O-Ia |
| ξ Hya | 4450 | 100407 | 11 33.0 | -31 51 | 3.54 | G7 III |
| † υ Leo | 4471 | 100920 | 11 37.0 | - 0 49 | 4.30 | G8+ IIIb |
| | - | 100930 | 11 36.6 | -61 20 | 8.1 | M2.5 Iab-Ib |
| - | - | 101007 | 11 37.0 | -61 10 | 7.9: | M3- Ib + B* |
| † | 4474 | 101013 | 11 37.9 | +50 37 | 6.14 | G9 III: Ba2.5 |
| † | 4491 | 101370 | 11 39.8 | -16 37 | 6.5 | M3.5 III Ca1 |
| † 61 UMa | 4496 | 101501 | 11 41.0 | +34 12 | 5.33 | G8 V |
| † V 810 Cen | 4511 | 101947 | 11 43.5 | -62 29 | 5.05 | G0 O-Ia Fe1 |
| ζ Crt | 4514 | 102070 | 11 44.8 | -18 21 | 4.72 | G8 IIIa |
| - | - | 102155 | 11 44.9 | -73 09 | 6.93: | K0.5 IIb |
| † ν Vir | 4517 | 102212 | 11 45.8 | + 6 31 | 4.05 | M1 III |
| † χ UMa | 4518 | 102224 | 11 46.0 | +47 47 | 3.70 | K0.5 IIIb |
| † | 4521 | 102328 | 11 46.9 | +55°38' | 5.27 | K2.5 IIIb CN1 |
| Gℓ 442A | 4523 | 102365 | 11 46.5 | -40 30 | 4.91 | G3 V |
| † | 4532 | 102620 | 11 48.8 | -26 45 | 5.11 | M4+ III |
| † | 4544 | 102928 | 11 51.0 | - 5 20 | 5.63 | K0+ III |
| 1 Com | - | 104452 | 12 01.7 | +22 06 | 6.6: | G0 II: Fe-1 |
| † o Vir | 4608 | 104979 | 12 05.2 | + 8 44 | 4.14 | G8 IIIa CN-1 Ba1 CH1 |
| - | 4609 | 104985 | 12 05.3 | +76 74 | 5.80 | G8.5 IIIb |
| ε CrV | 4630 | 105707 | 12 10.1 | -22 37 | 2.99 | K2:5 IIIa |
| † 5 Com | 4643 | 106057 | 12 12.2 | +20 33 | 5.57 | G8 III CN-0.5 CH0.5 |
| - | 4665 | 106677 | 12 15.7 | +72 34 | 6.29 | K0 IIIb* |
| † 2 CVm | 4666 | 106690 | 12 16.1 | +40 40 | 5.66 | M0.5 III |
| 7 Com | 4667 | 106714 | 12 16.3 | +23 57 | 4.94 | G8 III Fe-0.5 |
| - | 4668 | 106760 | 12 16.5 | +33 03 | 4.99 | K0.5 IIIb |
| - | - | 107003 | 12 18.4 | -20 49 | 7.7 | M2 III |
| - | 4693 | 107325 | 12 20.3 | +26 37 | 5.56 | K3 III Ca 0.5 |
| † 16 Vir | 4695 | 107328 | 12 20.4 | + 3 19 | 4.96 | K0.5 IIIb Fe-0.5 |
| † 11 Com | 4697 | 107383 | 12 20.7 | +17 48 | 4.74 | G8+ III |
| - | - | 107541 | 12 21.8 | -34 40 | 9.3 | K1: Ba2+ CN1 CH2 Ca-2 Fe-1=C3,1- |
| † 5 CVn | 4716 | 107950 | 12 24.0 | +51 34 | 4.77 | G6 III |
| - | - | 108164 | 12 25.7 | -28 24 | 8.4: | K2.5 IIIb CN0.5 |
| † 6 CVn | 4728 | 108225 | 12 25.8 | +39 01 | 5.01 | G9 III |
| γ Com | 4737 | 108381 | 12 26.9 | +28 16 | 4.35 | K1 III Fe0.5 |
| † | 4742 | 108477 | 12 27.8 | -16 38 | 6.35 | G3 III |
| - | 4755 | 108759 | 12 30.0 | -41 44 | 6.0 | M3- IIIa |
| †BK Vir | - | 108849 | 12 30.4 | + 4 25 | 7.9-8.7 | M7- III: |
| † γ Crv | 4763 | 108903 | 12 31.2 | -57 07 | 1.66 | M3.5 III |
| † | - | 109011 | 12 31.2 | +55 07 | 8.11 | K2 V |
| † β CVn | 4785 | 109358 | 12 33.8 | +41 21 | 4.27 | G0 V |
| † β Crv | 4786 | 109379 | 12 34.4 | -23 24 | 2.66 | G5 IIb |
| - | - | 109534 | 12 35.6 | -29 52 | 9.3 | K1.5 III CN1 |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) h m | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| † 6 Dra | 4795 | 109551 | 12 34.7 | +70°01' | 4.94 | K2.5 III CN-2 $H_{\delta}$1 Fe-1 |
| † | 4807 | 109896 | 12 38.4 | + 1 51 | 5.71 | M3+ IIIb CaO.5 |
| † χ Vir | 4813 | 110014 | 12 39.2 | - 8 00 | 4.64 | K2 III CN1.5 |
| 26 Com | 4815 | 110024 | 12 39.1 | +21 04 | 5.46 | G8.5 III |
| † SV Crv | - | 111499 | 12 49.8 | -15 05 | 7.0 | M4.5 II |
| † | - | 111680 | 12 51.2 | -30 28 | 9.1: | K1-III Fe1 |
| † 31 Com | 4883 | 111812 | 12 51.7 | +27 32 | 4.94 | GO IIIp* |
| † CPD-59°4547 | - | -- | 12 53.7 | -60 21 | 7.6-7.7 | M2- Iab |
| 35 Com | 4894 | 112033 | 12 53.3 | +21 14 | 4.93 | G7 III + F: |
| † | - | 112127 | 12 54.0 | +26 46 | 6.92 | K2.5 III: CN3 Ba-0.5 $C_2$0.5 |
| † ψ Vir | 4902 | 112142 | 12 54.4 | - 9 33 | 4.80 | M3- III Ca-1 |
| TU CVn | 4909 | 112264 | 12 55.0 | +47 12 | 6.1var. | M5- III |
| † δ Vir | 4910 | 112300 | 12 55.6 | + 3 23 | 3.38 | M3+ III |
| † 36 Com | 4920 | 112769 | 12 58.9 | +17 25 | 4.78 | M1- IIIb |
| † 37 Com | 4924 | 112989 | 13 00.3 | +30 47 | 4.89 | G9 III CH-2 |
| † ε Vir | 4932 | 113226 | 13 02.2 | +10 58 | 2.83 | G8 IIIab |
| - | - | 113801 | 13 06.4 | -20 04 | 8.7: | C1, O.5=G9 III CN4 $C_2$0.5 |
| - | - | 113842 | 13 07.4 | -60 16 | 7.3: | M1+ Ib-II |
| 41 Com | 4954 | 113996 | 13 07.2 | +27 38 | 4.84 | K5- III |
| 49 Vir | 4955 | 114038 | 13 07.9 | -10 44 | 5.19 | KO III Ca1 |
| † β Com | 4983 | 114710 | 13 11.9 | +27 53 | 4.26 | F9.5 V |
| † | 4991 | 114873 | 13 14.0 | -43 09 | 6.15 | K4 III |
| 55 Vir | 4995 | 114946 | 13 14.2 | -19 56 | 5.63: | G7 IV-V |
| - | - | 114960 | 13 14.0 | + 1 27 | 6.59 | K4 III CNO.5 |
| SW Vir | - | 114961 | 13 14.1 | - 2 48 | 7.4-8.5 | M7 III: |
| - | - | 114988 | 13 13.7 | +32 32 | 6.67 | G1 II Fe-1 |
| - | 4997 | 115004 | 13 13.7 | +40 09 | 4.92 | G8.5 IIIa CNO.5 |
| † | - | 115043 | 13 13.7 | +56 40 | 6.85 | G1 Va |
| † 57 Vir | 5001 | 115202 | 13 16.0 | -19 57 | 5.21 | K1+ III-IV |
| - | - | 115506 | 13 18.1 | -34 32 | 8.9: | G7.5 IV |
| † σ Vir | 5015 | 115521 | 13 17.6 | + 5°28' | 4.79 | M1 III |
| 61 Vir | 5019 | 115617 | 13 18.4 | -18 19 | 4.74 | G6.5 V |
| † γ Hya | 5020 | 115659 | 13 18.9 | -23 11 | 3.00 | G8 IIIa |
| † | 5058 | 116713 | 13 26.1 | -39 45 | 5.09 | KO.5 III: Ba3 |
| - | - | 116931 | 13 27.6 | -39 22 | 9.6: | G7 IIIa CH1 |
| † 69 Vir | 5068 | 116976 | 13 27.5 | -15 58 | 4.75 | KO- IIIb CN1 CH-0.5 |
| † 70 Vir | 5072 | 117176 | 13 28.4 | +13 47 | 4.97 | G4 V |
| † | 5091 | 117566 | 13 27.0 | +78 39 | 5.77 | G2.5 IIIb CH1 |
| † 74 Vir | 5095 | 117675 | 13 32.0 | - 6 15 | 4.68 | M2.5 III |
| 75 Vir | 5099 | 117789 | 13 32.8 | -15 22 | 5.55 | K1.5 IIIb |
| † | - | 117877 | 13 33.2 | + 5 51 | 6.8 | G8 IIIa Fe-1.5 |
| EQ Vir | - | 118100 | 13 34.6 | - 8 20 | 9.36 | K5 Ve H,Kem 2 |
| † 82 Vir | 5150 | 119149 | 13 41.6 | - 8 42 | 5.00 | M1.5 III |
| † 83 UMa | 5154 | 119228 | 13 40.8 | +54 41 | 4.66 | M2 IIIab Ba0.5 |
| - | 5161 | 119458 | 13 42.7 | +34 59 | 5.98 | G6 IIIb Fe-0.5 |
| † 83 Vir | 5165 | 119605 | 13 44.5 | -16 11 | 5.59 | GO Ib-IIa |
| † | 5171A | 119796 | 13 47.2 | -62 35 | 6.80 | KO O-Ia |
| † Gℓ 526 | - | 119850 | 13 45.5 | +14 57 | 8.48 | M2 V |
| † 87 Vir | 5181 | 120052 | 13 47.4 | -17 52 | 5.44 | M2 III |
| - | 5188 | 120213 | 13 55.7 | -82 40 | 5.95 | K2.5 IIIa: CH-3 Ba0.5 |
| † 2 Cen | 5192 | 120323 | 13 49.4 | -34 27 | 4.19 | M4.5 III |
| 89 Vir | 5196 | 120452 | 13 49.9 | -18 08 | 4.97 | KO.5 III |
| † Gℓ 529 | - | 120467 | 13 49.9 | -22 06 | 8.15 | K6 Va |
| † υ Boo | 5200 | 120477 | 13 49.5 | +15 48 | 4.06 | K5.5 III |
| - | 5209 | 120690 | 13 51.3 | -24 23 | 6.45 | G5 Va |
| - | 5219 | 120933 | 13 51.8 | +34 27 | 4.74 | M3- III |
| † 10 Dra | 5226 | 121130 | 13 51.4 | +64 43 | 4.60 | M3.5 III |
| † η Boo | 5235 | 121370 | 13 54.7 | +18 24 | 2.68 | GO IV |
| † | - | 121447 | 13 55.9 | -18 18 | 7.81 | K4 III: Ba4.5 CaO.5* |
| † | 5241 | 121474 | 13 57.6 | -63 41 | 4.71 | K1.5 III |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) h m | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| † 9 Boo | 5247 | 121710 | 13 56.6 | +27°30' | 5.01 | K3 IIIb |
| † Θ Aps | 5261 | 122250 | 14 05.3 | -76 48 | 5.8-6.7 | M6.5 III: |
| - | 5270 | 122563 | 14 02.5 | + 9 41 | 6.18 | G8: II: Fe-5 |
| † π Hya | 5287 | 123123 | 14 06.4 | -26 41 | 3.27 | K2- III Fe-0.5 |
| Θ Cen | 5288 | 123139 | 14 06.7 | -36 23 | 2.06 | KO- IIIb |
| - | 5297 | 123569 | 14 09.9 | -53 27 | 4.75 | G9- III |
| † | 5299 | 123657 | 14 07.9 | +43 51 | 5.25 | M4.5 III* |
| † 13 Boo | 5300 | 123782 | 14 08.3 | +49 28 | 5.24 | M1.5 III |
| - | - | 123821 | 14 08.5 | +51 36 | 8.6: | C1,0.5≈G7.5 III: CN3 $C_2$0.5 |
| † | 5301 | 123934 | 14 10.8 | -16 18 | 4.91 | M2 IIIa |
| κ Vir | 5315 | 124294 | 14 12.9 | -10 17 | 4.18 | K2.5 III Fe-0.5 |
| † EV Vir | - | 124304 | 14 13.1 | -13 52 | 6.7to7.1 | M4 to M4.5 II-III |
| 4 UMi | 5321 | 124547 | 14 08.8 | +77 33 | 4.82 | K3- IIIb Fe-0.5 |
| - | - | 124752 | 14 12.7 | +67 35 | 8.54 | KO.5 V |
| δ Oct | 5339 | 124882 | 14 26.9 | -83 40 | 4.32 | K2 III |
| † α Boo | 5340 | 124897 | 14 15.7 | +19 11 | -0.04 | K1.5 III Fe-0.5* |
| V418 Cen | - | 125332 | 14 21.3 | -64 15 | 8.0 var. | K4 II |
| † | 5361 | 125351 | 14 18.0 | +35 30 | 4.80 | KO III |
| υ Vir | 5366 | 126454 | 14 19.5 | - 2 16 | 5.13 | G9 III CN-0.5 |
| 51 Hya | 5381 | 125932 | 14 23.1 | -27 46 | 4.77 | K4 III |
| † RX Boo | - | 126327 | 14 24.2 | +25 42 | 7.0-9.1 | M7.5-M8* |
| † φ Vir | 5409 | 126868 | 14 28.2 | - 2 14 | 4.80 | G2 IV |
| 24 Boo | 5420 | 127243 | 14 28.6 | +49 51 | 5.59 | G4 III-IV Fe-1 |
| † ρ Boo | 5429 | 127665 | 14 31.8 | +30 23 | 3.57 | K3- III |
| † 5 UMi | 5430 | 127700 | 14 27.5 | +75 41 | 4.26 | K4- III |
| - | - | 127760 | 14 31.0 | +58 36 | 8.29 | K2 IIIb CNO.5: |
| - | - | 128598 | 14 38.2 | -14 57 | 8.79 | K1.5 III Fe-1 |
| † α Aps | 5470 | 129078 | 14 47.8 | -79 02 | 3.83 | K3 III CNO.5 |
| † 31 Boo | 5480 | 129312 | 14 41.6 | + 8 09 | 4.86 | G7 IIIa |
| † $c^1$Cen | 5485 | 129456 | 14 43.7 | -35 10 | 4.05 | K3 IIIb |
| † 34 Boo | 5490 | 129712 | 14 43.4 | +26°31' | 4.82 | M3- III |
| † ο Boo | 5502 | 129972 | 14 45.2 | +16 58 | 4.60 | G8.5 III |
| † ε Boo A | 5506 | 129989 | 14 45.0 | +27 05 | 2.37 | KO- II-III |
| - | - | 130255 | 14 47.0 | + 1 24 | 8.4 | G9 III CN-3 CH1 Ba0.5 or G9 V Ba2 |
| - | 5518 | 130325 | 14 47.9 | -12 50 | 6.35 | K1 III CNO.5 |
| 58 Hya | 5526 | 130694 | 14 50.3 | -27 58 | 4.41 | K2.5 IIIb Fe-1: |
| - | - | 130705 | 14 49.5 | +10 03 | 6.7: | K3 IIIb: Fe2 |
| R Aps | 5540 | 131109 | 14 57.9 | -76 39 | 5.5-6.1 | K4 III: |
| Gℓ 567 | 5553 | 131511 | 14 53.4 | +19 09 | 6.04 | KO.5 V |
| † β UMi | 5563 | 131873 | 14 50.7 | +74 09 | 2.07 | K4- III |
| Gℓ 570A | 5568 | 131977 | 14 57.5 | -21 25 | 5.74 | K4 V |
| † Gℓ 570B | - | 131976 | 14 57.3 | -21 21 | 8.10 | M1.5 V |
| † 18 Lib | 5582 | 132345 | 14 58.9 | -11 09 | 5.91 | K3- III CN2 |
| † | 5584 | 132525 | 14 59.4 | + 4 34 | 5.92 | M2.5 III |
| RR UMi | 5589 | 132813 | 14 57.6 | +65 56 | 4.58: | M4.5 III |
| † | 5594 | 132933 | 15 01.8 | -00 09 | 5.70 | MO.5 IIb |
| - | - | 132935 | 15 02.1 | - 8 21 | 6.85: | K2 III |
| ω Boo | 5600 | 133124 | 15 02.1 | +25 00 | 4.80 | K4 III |
| † 110 Vir | 5601 | 133165 | 15 02.9 | + 2 05 | 4.40 | KO+ IIIb Fe-0.5 |
| β Boo | 5602 | 133208 | 15 02.0 | +40 23 | 3.49 | G8 IIIa Fe-0.5 |
| † σ Lib | 5603 | 133216 | 15 04.1 | -25 17 | 3.29 | M2.5 III* |
| - | - | 133507 | 15 07.2 | -57 27 | 7.20 | K1.5 III CNO.5 |
| † ψ Boo | 5616 | 133582 | 15 04.4 | +26 57 | 4.52 | K2 III |
| Gℓ 579.2 A | - | 134439 | 15 10.3 | -16 21 | 9.08 | K1 VI: Fe-1* |
| † ν Lib | 5622 | 133774 | 15 06.6 | -16 15 | 5.20: | K5- III |
| - | 5631 | 134047 | 15 07.7 | + 5 30 | 6.16 | G7 IIIa: Fe-0.5: |
| † | 5635 | 134190 | 15 06.3 | +54 33 | 5.24 | G8 III Fe-1 |
| † ξ Lup | 5649 | 134505 | 15 12.3 | -52 06 | 3.41 | G8 III |
| † δ Boo | 5681 | 135722 | 15 15.5 | +33 19 | 3.49 | G8 III Fe-1 |
| 2 Lup | 5686 | 135758 | 15 17.8 | -30 09 | 4.33 | KO- IIIa CH-1 |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| - | - | 135902 | 15 20.2 | -57°24' | 6.9 | M3.5 IIIa |
| - | 5692 | 136138 | 15 18.4 | +20 34 | 5.70 | G8 IIIa |
| † $\phi^1$ Lup | 5705 | 136422 | 15 21.8 | -36 16 | 3.56 | K4 III |
| 32 $\zeta^1$ Lib | 5743 | 137744 | 15 28.3 | -16 43 | 5.64: | K4.5 III |
| † ι Dra | 5744 | 137759 | 15 24.9 | +58 58 | 3.29 | K2 III |
| † | 5757 | 138289 | 15 39.3 | -77 55 | 6.2 | K2.5 IIIb CN1.5 Ba-0.5 |
| † $\nu^1$ Boo | 5763 | 138481 | 15 30.9 | +40 50 | 5.03 | K4.5 IIIb Ba0.5 |
| † 37 Lib | 5777 | 138716 | 15 34.2 | -10 04 | 4.61 | K1 III-IV |
| γ Lib | 5787 | 138905 | 15 35.5 | -14 47 | 3.90 | G8.5 III |
| † υ Lib | 5794 | 139063 | 15 37.0 | -28 08 | 3.58 | K3.5 III |
| † μ CrB | 5800 | 139153 | 15 35.2 | +39 01 | 5.11 | M1.5 IIIb |
| 16 Ser | 5802 | 139195 | 15 36.5 | +10 01 | 5.26 | K0 III: CN1 Ba0.7 Sr2 |
| 17 $\tau^4$ Ser | - | 139216 | 15 36.5 | +15 06 | 6.2-6.9 | M5 var. IIIa |
| † φ Boo | 5823 | 139641 | 15 37.8 | +40 21 | 5.24 | G7 III-IV Fe-2 |
| † 42 Lib | 5824 | 139663 | 15 40.3 | -23 50 | 4.95 | K3- III CN2 |
| θ UMi | 5826 | 139669 | 15 31.4 | +77 21 | 4.96 | K5- III CN0.5 |
| † | 5831 | 139862 | 15 40.2 | +12 04 | 6.25 | G7.5 IIIa Fe-0.5 |
| † κ Lib | 5838 | 139997 | 15 42.0 | -19 40 | 4.73 | M0- IIIb |
| † ψ Ser | 5853 | 140538 | 15 44.0 | + 2 31 | 5.87 | G2.5 V |
| † α Ser | 5854 | 140573 | 15 44.3 | + 6 25 | 2.64 | K2 IIIb CN1 |
| - | 5862 | 140861 | 15 47.4 | -40 12 | 6.42: | G5 III CH1 |
| † λ Ser | 5868 | 141004 | 15 46.4 | + 7 21 | 4.43 | G0- V |
| † κ Ser | 5879 | 141477 | 15 48.7 | +18 08 | 4.10 | M0.5 IIIab |
| † δ CrB | 5889 | 141714 | 15 49.6 | +26 04 | 4.62 | G5 III-IV Fe-1 |
| † κ TrA | 5891 | 141767 | 15 55.5 | -68 36 | 5.09 | G5 Ib-II |
| † ρ Ser | 5899 | 141992 | 15 51.2 | +20 59 | 4.78 | K4.5 III |
| † κ CrB | 5901 | 142091 | 15 51.2 | +35 39 | 4.80 | K1 IVa |
| † ST Her | - | 142143 | 15 50.8 | +48 29 | 6.8-8.5 | M6S to M7S III: |
| θ Lib | 5908 | 142198 | 15 53.8 | -16 44 | 4.14 | G9 IIIb |
| † 39 Ser | 5911 | 142267 | 15 53.2 | +13 12 | 6.10 | G1 V Fe-1 |
| χ Her | 5914 | 142373 | 15 52.7 | +42°27' | 4.62 | F8 V Fe-2 $H_\delta$-1 |
| - | 5924 | 142574 | 15 54.6 | +20 18 | 5.44 | K8 IIIb |
| 2 Her | 5932 | 142780 | 15 54.6 | +43 09 | 5.35 | M3- III |
| - | - | 142804 | 15 57.1 | -16 02 | 6.56 | M1.5 III |
| † ε CrB | 5947 | 143107 | 15 57.6 | +26 53 | 4.14 | K2 IIIab |
| † | 5955 | 143346 | 16 05.9 | -72 24 | 5.70 | K1.5 III CN1 |
| 5 Her | 5966 | 143666 | 16 01.2 | +17 49 | 5.12 | G8 IIIb |
| † ρ CrB | 5968 | 143761 | 16 01.0 | +35 18 | 5.41 | G0+ Va Fe-1 |
| † | 5995 | 144542 | 16 03.2 | +59 25 | 6.19 | M1 III |
| - | 5996 | 144585 | 16 07.1 | -14 04 | 6.31 | G2 V |
| † $\omega^2$ Sco | 5997 | 144608 | 16 07.4 | -20 52 | 4.32 | G4 II-III |
| GL 613 | - | 144628 | 16 09.7 | -56 27 | 7.12 | K2 V |
| - | - | 144873 | 16 06.7 | +34 06 | 8.6 | G2.5 Vb |
| † | 6014 | 145148 | 16 09.2 | + 6 23 | 5.95 | K1.5 IV |
| † τ CrB | 6018 | 145328 | 16 09.0 | +36 30 | 4.76 | K1- III-IV |
| † δ TrA | 6030 | 145544 | 16 15.4 | -63 41 | 3.85 | G2 Ib-IIa |
| 14 Her | - | 145675 | 16 10.2 | +43 49 | 6.66 | K0 V |
| † δ Oph | 6056 | 146051 | 16 14.3 | - 3 41 | 2.75 | M0.5 III |
| - | - | 146116 | 16 14.6 | -00 24 | 7.8 | G7 III CH-2 $H_\delta$-0.5 |
| † $\gamma^1$ Nor | 6058 | 146143 | 16 17.0 | -50 04 | 4.99 | F9 Ia |
| † 18 Sco | 6060 | 146233 | 16 15.6 | - 8 22 | 5.50 | G2 Va |
| † ε Oph | 6075 | 146791 | 16 18.3 | - 4 42 | 3.23 | G9.5 IIIb Fe-0.5 |
| † | 6087 | 147266 | 16 20.1 | +21 09 | 6.04 | G8 III |
| † GL 617A | - | 147379 | 16 16.7 | +67 14 | 8.62 | M1-e V |
| ξ CrB | 6103 | 147677 | 16 22.1 | +30 54 | 4.85 | G9 III Fe-0.5 |
| ψ Oph | 6104 | 147700 | 16 24.1 | -20 02 | 4.49 | K0- II-III |
| † $\nu^2$ CrB | 6108 | 147767 | 16 22.5 | +33 42 | 5.39 | K5 III |
| - | 6122 | 148247 | 16 28.2 | -37 11 | 5.8 | K1+ III CN0.5 |
| - | 6125 | 148291 | 16 30.8 | -61 38 | 5.20: | K1 IIb |
| † | 6128 | 148349 | 16 27.7 | - 7 36 | 5.24 | M3- III* |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) h m | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| † η Dra | 6132 | 148387 | 16 24.0 | +61°30' | 2.73 | G8- IIIab |
| † α Sco | 6134 | 148478 | 16 29.4 | -26 26 | 1.1: | M1.5 Iab-Ib |
| † | 6135 | 148488 | 16 34.3 | -70 59 | 5.50 | K0.5 IIb CN1 |
| † 30 g Her | 6146 | 148783 | 16 28.6 | +41 53 | 5.0var. | M6- III |
| φ Oph | 6147 | 148786 | 16 31.1 | -16 37 | 4.28 | G8+ IIIa |
| † β Her | 6148 | 148856 | 16 30.2 | +21 29 | 2.78 | G7 IIIa Fe-0.5 |
| † | 6152 | 148897 | 16 30.6 | +20 29 | 5.25 | G8.5 III CN-2 CH-1 Fe-1 |
| 29 Her | 6159 | 149161 | 16 32.6 | +11 29 | 4.84 | K4.5 III |
| † | 6196 | 150416 | 16 41.6 | -17 45 | 4.96 | G7.5 II-III CN1 Ba0.5 |
| † ζ Her | 6212 | 150680 | 16 41.3 | +31 36 | 2.80 | G0 IV |
| η Her | 6220 | 150997 | 16 42.9 | +38 56 | 3.50 | G7 III Fe-1 |
| † | - | 151061 | 16 45.2 | - 3 05 | 7.25: | M5 to M5.5 IIIb: |
| † 18 Dra | 6223 | 151101 | 16 40.9 | +64 36 | 4.83 | K0III CN-0.5 CH-2 Ca1 |
| † Gℓ 638 | - | 151288 | 16 45.1 | +33 30 | 8.10 | K7.5 Ve |
| † | 6242 | 151732 | 16 47.3 | +42 14 | 5.98 | M4.5 III |
| 51 Her | 6270 | 152326 | 16 51.8 | +24 39 | 5.04 | K0.5 IIIa Ca0.5 |
| † κ Oph | 6299 | 153210 | 16 57.7 | + 9 23 | 3.20 | K2 III |
| † ε UMi | 6322 | 153751 | 16 46.0 | +82 02 | 4.28 | G5 III |
| (32 Oph) | 6337 | 154143 | 17 03.1 | +14 05 | 4.98 | M3- III |
| † | 6349 | 154417 | 17 05.3 | +00 42 | 6.00 | F8.5 IV-V |
| † | - | 154430 | 17 10.9 | -59 17 | 8.74 | K3- IIIa Ba3- |
| † | 6364 | 154733 | 17 06.3 | +22 05 | 5.58 | K3 III |
| † | 6382 | 155276 | 17 12.3 | -38 49 | 6.30 | K0.5 III CN0.5 |
| † | 6392 | 155603 | 17 14.5 | -39 46 | 6.56 | K0 O-Ia |
| † $\alpha^1$ Her | 6406 | 156014 | 17 14.6 | +14 23 | 3.1-3.9 | M5 Ib-II |
| - | 6408 | 156091 | 17 19.2 | -59 42 | 5.91: | K2 IIIa Ca1 CN1 Ba0.5 |
| † ζ Aps | 6417 | 156277 | 17 22.0 | -67 46 | 4.78 | K2- III |
| π Her | 6418 | 156283 | 17 15.0 | +36 48 | 3.16 | K3 II |
| - | 6428 | 156462 | 17 18.3 | -16 18 | 6.45 | M2- III Ca1 |
| VW Dra | 6448 | 156947 | 17 16.5 | +60 41 | 6.3-7.0 | K1.5 IIIb |
| - | - | 157072 | 17 21.8 | -20°34' | 7.12 | K5 III |
| - | 6479 | 157681 | 17 21.8 | +53 25 | 5.75 | K4 III |
| - | 6491 | 157910 | 17 24.4 | +36 57 | 6.28 | G5: III: |
| † σ Oph | 6498 | 157999 | 17 26.5 | + 4 09 | 4.34 | K2 II |
| - | 6516 | 158614 | 17 30.4 | - 1 04 | 5.31 | G9- IV-V $H_\delta$1 |
| † λ Her | 6526 | 158899 | 17 30.7 | +26 06 | 4.40 | K3.5 III |
| † β Dra | 6536 | 159181 | 17 30.4 | +52 19 | 2.80 | G2 Ib-IIa |
| - | - | 159378 | 17 35.9 | -33 26 | 8.5: | G3 Ia-Iab CN-1 |
| 27 Dra | 6566 | 159966 | 17 32.0 | +68 08 | 5.06 | G9 IIIb |
| † 26 Dra | 6573 | 160269 | 17 35.0 | +61 52 | 5.24 | G0 IV-V |
| - | 6576 | 160342 | 17 42.1 | -50 31 | 6.2: | M3+ II-III |
| Gℓ 688 | - | 160346 | 17 39.3 | + 3 33 | 6.52 | K3- V |
| † BM Sco | - | 160371 | 17 42.0 | -32 13 | 5.8 to 6.2: | K2 Ib $H_\delta$1 |
| - | - | 160823 | 17 41.9 | + 4 22 | 6.91: | G0: IIIa Fe1 |
| † Gℓ 689 | - | 160964 | 17 36.1 | +71 53 | 8.62 | K4 V |
| † β Oph | 6603 | 161096 | 17 43.5 | + 4 34 | 2.77 | K2 III CN0.5 |
| † 84 Her | 6608 | 161239 | 17 43.4 | +24 19 | 5.71 | G2 IIIb |
| - | 6617 | 161664 | 17 47.8 | -22 29 | 6.2: | G6 Ib $H_\delta$1 |
| † μ Her | 6623 | 161797 | 17 46.5 | +27 44 | 3.41 | G5 IV |
| 87 Her | 6644 | 162211 | 17 48.8 | +25 37 | 5.12 | K0 IIIb |
| † 90 Her | 6677 | 163217 | 17 53.3 | +40 01 | 5.15 | K1+ IIIb CN-1 |
| † ξ Dra | 6688 | 163588 | 17 53.5 | +56 52 | 3.74 | K2 III |
| † | 6693 | 163755 | 17 59.1 | -30 16 | 4.99 | M1 Ib |
| † Θ Her | 6695 | 163770 | 17 56.2 | +37 15 | 3.84 | K1 IIa CN2 |
| ν Oph | 6698 | 163917 | 17 59.0 | - 9 47 | 3.34 | G9 IIIa |
| † ξ Her | 6703 | 163993 | 17 57.8 | +29 15 | 3.70 | G8.5 III |
| † γ Dra | 6705 | 164058 | 17 56.6 | +51 29 | 2.23 | K5 III |
| † 93 Her | 6713 | 164349 | 18 00.0 | +16 45 | 4.66 | K0.5 IIb |
| † χ Oct | 6721 | 164461 | 17 54.8 | -87 36 | 5.28 | K3 III |
| † $\gamma^2$ Sgr | 6746 | 165135 | 18 05.8 | -30 26 | 2.98 | K0+ III |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| 70 OphA | 6752 | 165341 | 18 05.5 | +2°30' | 4.22 | KO- V |
| † | 6756 | 165438 | 18 06.2 | -4 46 | 5.76 | K1 IV |
| - | 6757 | 165462 | 18 06.1 | -00 27 | 6.34 | G9 III CH-3 |
| - | - | 165553 | 18 07.3 | -21 14 | 7.58 | GO Ib-II |
| † 98 Her | 6765 | 165625 | 18 06.0 | +22 14 | 5.1 | M3- S III |
| † | 6766 | 165634 | 18 08.1 | -28 27 | 4.56 | G7: IIIb CN-1 CH-3.5 HK+1 |
| - | 6769 | 165687 | 18 07.8 | -17 09 | 5.52 | K1 III |
| † 71 Oph | 6770 | 165760 | 18 07.3 | + 8 44 | 4.64 | G8 III |
| AX Sgr | - | 165782 | 18 08.4 | -18 34 | 7.4var. | KO Ia |
| † | 6791 | 166208 | 18 07.5 | +43 28 | 4.99 | G8 III CN-1 CH-3 |
| † | 6793 | 166229 | 18 08.8 | +36 24 | 5.48 | K2 III |
| † 104 Her | 6815 | 167006 | 18 11.9 | +31 24 | 4.97 | M3 III |
| - | 6842 | 167818 | 18 18.1 | -27 03 | 4.65 | K3 II |
| - | 6853 | 168322 | 18 17.1 | +40 56 | 6.12 | G8.5 IIIb CHO.5 Fe-1 |
| † δ Sgr | 6859 | 168454 | 18 21.0 | -29 49 | 2.70 | K2.5 IIIa CNO.5 |
| 105 Her | 6860 | 168532 | 18 19.2 | +24 26 | 5.27 | K3 III: BaO.5 |
| - | 6861 | 168574 | 18 21.5 | -24 55 | 6.25 | M5- IIIa: |
| 106 Her | 6868 | 168720 | 18 20.3 | +21 58 | 4.96 | M1 III |
| † η Ser | 6869 | 168723 | 18 21.3 | - 2 53 | 3.26 | KO III-IV |
| † κ Lyr | 6872 | 168775 | 18 19.8 | +36 04 | 4.32 | K2- IIIab CNO.5 |
| - | - | 168815 | 18 22.2 | -15 06 | 7.3: | K5+ II |
| ζ Sct | 6884 | 169156 | 18 23.7 | - 8 56 | 4.68 | G9- IIIb Fe-0.5 |
| † 109 Her | 6895 | 169414 | 18 23.7 | +21 46 | 3.84 | K2 IIIab |
| λ Sgr | 6913 | 169916 | 18 28.0 | -25 26 | 2.84 | K1 IIIb |
| - | - | 170174 | 18 27.9 | + 6 35 | 8.33: | G9 III Fe 0.5:* |
| BD +6° 3796 | - | -- | 18 28.5 | +6 45 | 8.96 | G6 IIIb Fe-1* |
| BD +6° 3798 | - | -- | 18 28.5 | +6 43 | 8.79 | G6.5 III Fe-0.5 CHO.5* |
| † 42 Dra | 6945 | 170693 | 18 26.0 | +65 34 | 4.82 | K1.5 III Fe-1 |
| - | - | 170820 | 18 32.2 | -19 08 | 7.37 | G9 II CN1 $H_\delta$1* |
| - | 6959 | 170975 | 18 32.7 | -14 52 | 5.9 | K3- Ib-II CN1 |
| † BD+ 36° 3157 | - | 170970 | 18 30.6 | +36 15 | 7.62: | M3+=S3+/1- III: |
| † α Sct | 6973 | 171443 | 18 35.2 | - 8°15' | 3.83 | K3 III |
| BY Dra | - | 234677 | 18 34.8 | +51 43 | 8.4-8.5 | K4 Ve + K7.5 Ve |
| - | - | 171911 | 18 34.7 | +51 48 | 6.67 | M4 III-IIIb |
| †XY Lyr | 7009 | 172380 | 18 38.1 | +39 40 | 5.8-6.8 | M4.5-M5+ II |
| † ε Sct | 7032 | 173009 | 18 43.5 | - 8 17 | 4.89 | G8 IIb |
| † β Sct | 7063 | 173764 | 18 47.2 | - 4 45 | 4.22 | G4 IIa |
| † | 7064 | 173780 | 18 46.5 | +26 39 | 4.81 | K2 III |
| 35 $\nu^2$ Sgr | 7120 | 175190 | 18 55.1 | -22 41 | 4.99 | K3- II-III: Ba1 CN1 |
| - | 7123 | 175225 | 18 51.6 | +52 59 | 5.51 | G9 IVa |
| † ο Dra A | 7125 | 175306 | 18 51.2 | +59 23 | 4.64 | G9 III Fe-0.5 |
| V913 Aql | - | 175309 | 18 54.5 | +10 38 | 7.9var. | M5- to M5.5 |
| - | 7137 | 175535 | 18 53.2 | +50 42 | 4.92 | G7 IIIa Fe-1 |
| † $\delta^2$ Lyr | 7139 | 175588 | 18 54.5 | +36 54 | 4.30 | M4 II |
| η Sct | 7149 | 175751 | 18 57.1 | - 5 51 | 4.83 | K1- III |
| - | 7162 | 176051 | 18 57.0 | +32 54 | 5.23 | F9 V |
| - | 7164 | 176123 | 18 59.4 | -18 34 | 6.34: | G3 II |
| † ε Aql | 7176 | 176411 | 18 59.6 | +15 04 | 4.02 | K1-III CNO.5 |
| υ Dra | 7180 | 176524 | 18 54.4 | +71 18 | 4.82 | KO III CNO.5 |
| - | 7187 | 176598 | 18 56.4 | -65 15 | 5.62 | G8 III |
| - | - | 176617 | 19 02.7 | -36 40 | 8.58: | M3 III |
| † λ Lyr | 7192 | 176670 | 19 00.0 | +32 08 | 4.93 | K2.5 III: BaO.5 |
| † 12 Aql | 7193 | 176678 | 19 01.7 | - 5 44 | 4.02 | K1 III |
| † ο Sgr | 7217 | 177241 | 19 04.7 | -21 44 | 3.77 | G9 IIIb |
| † 49 Dra | 7218 | 177249 | 19 00.7 | +55 40 | 5.48 | G6 IIb Fe-0.5 |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| † τ Sgr | 7234 | 177716 | 19 06.9 | -27° 40' | 3.32 | K1.5 IIIb |
| † | 7252 | 178208 | 19 05.2 | +49 55 | 6.4: | K3 III |
| - | 7260 | 178428 | 19 08.0 | +16 51 | 6.09 | G4.5 V |
| † | - | 178717 | 19 09.3 | +10 13 | 7.5: | K3.5 III: Ba 4+ |
| V 842 Aql | - | 179820 | 19 13.9 | + 2 36 | 9.2var. | M6+ III: |
| - | - | 179821 | 19 13.8 | +00 07 | 8.4: | G4 O-Ia |
| † | - | 179870 | 19 13.9 | + 9°01 | 7.35 | KO II |
| 43 Sgr | 7304 | 180540 | 19 17.6 | -18 57 | 5.0 | G8 II-III |
| † Gℓ 752A | - | 180617 | 19 16.9 | + 5 09 | 9.12 | M3- V |
| † δ Dra | 7310 | 189711 | 19 12.6 | +67 40 | 3.07 | G9 III |
| † θ Lyr | 7314 | 180809 | 19 16.4 | +38 08 | 4.35 | KO II |
| † 24 Aql | 7321 | 181053 | 19 18.8 | +00 20 | 6.40 | KO- IIIa: BaO.5 CH1 |
| † κ Cyg | 7328 | 181276 | 19 17.1 | +53 22 | 3.77 | G9 III |
| † | - | 181475 | 19 20.8 | - 4 31 | 7.4 | K7 IIa |
| - | - | 181596 | 19 18.5 | +50 13 | 7.62 | K5 III |
| † τ Dra | 7352 | 181984 | 19 15.6 | +73 21 | 4.45 | K2+ IIIb CN1 |
| - | - | 182296 | 19 23.6 | + 8 40 | 7.07 | G2 Ib-II CN1 |
| Gℓ 758 | 7368 | 182488 | 19 23.6 | +33 13 | 6.36 | KO V |
| † 31 Aql | 7373 | 182572 | 19 25.0 | +11 57 | 5.19 | G7 IV $H_{\delta}1$ |
| † | 7382 | 182694 | 19 24.0 | +43 24 | 5.84 | G7 IIIa |
| 6 α Vul | 7405 | 183439 | 19 28.7 | +24 40 | 4.45 | MO.5 IIIb |
| V 450 Aql | - | 184313 | 19 33.7 | + 5 02 | 6.3-6.9 | M5 to M5.5 III |
| μ Aql | 7429 | 184406 | 19 34.1 | + 7 23 | 4.44 | K3- IIIb Fe 0.5 |
| † | - | 184467 | 19 31.2 | +58 35 | 6.59 | K2 V |
| † 37 Aql | 7430 | 184492 | 19 35.1 | -10 34 | 5.12 | G8.5 IIIa |
| † | 7456 | 185018 | 19 36.9 | +11 16 | 5.98 | GO Ib-II |
| †σ Dra | 7462 | 185144 | 19 32.4 | +69 39 | 4.69 | KO V |
| † | 7468 | 185351 | 19 36.6 | +44 41 | 5.17 | G8.5 IIIb Fe-0.5 |
| - | 7475 | 185622A | 19 39.4 | +16 35 | 6.40 | K4 Ib |
| † | - | 185663 | 19 39.5 | +19 10 | 7.7 | K2 IIIa |
| † α Sge | 7479 | 185758 | 19 40.1 | +18 01 | 4.36 | G1 II |
| † β Sge | 7488 | 185958 | 19 41.0 | +17 29 | 4.37 | G8 IIIa CNO.5 |
| † 16 Cyg prec. | 7503 | 186408 | 19 41.8 | +50 32 | 5.96 | G1.5 Vb |
| † 16 Cyg fol. | 7504 | 186427 | 19 41.8 | +50 31 | 6.20 | G3 V |
| 56 Sgr | 7515 | 186648 | 19 46.4 | -19 46 | 4.86 | KO+ III |
| 15 Cyg | 7517 | 186675 | 19 44.3 | +37 21 | 4.90 | G8 III |
| † V 973 Cyg | 7523 | 186776 | 19 44.8 | +40 42 | 6.4var. | M3.5 III* |
| † γ Aql | 7525 | 186791 | 19 46.2 | +10°37 | 2.72 | K3 II |
| BD+ 24° 3902 | - | -- | 19 50.2 | +24 55 | 9.3: | M1 Ia: |
| † 20 Cyg | 7576 | 188056 | 19 50.6 | +52 59 | 5.03 | K3 III CN2 |
| Gℓ 770 | 7578 | 188088 | 19 54.3 | -23 56 | 6.20 | K3 Va CN1 |
| ε Dra | 7582 | 188119 | 19 48.2 | +70 16 | 3.82 | G7 IIIb Fe-1 |
| - | - | 350801 | 19 53.2 | +18 21 | 8.90 | G4 Ib* |
| † ξ Aql | 7595 | 188310 | 19 54.2 | + 8 28 | 4.70 | G9.5 IIIb |
| † ω Sgr | 7597 | 188376 | 19 55.8 | -26 18 | 4.70 | G5 IV |
| † β Aql | 7602 | 188512 | 19 55.3 | + 6 24 | 3.71 | G8 IV |
| † G 208-44 | - | -- | 19 53.8 | +44 25 | 15.4: | M5.5 Ve |
| † 59 Sgr | 7604 | 188603 | 19 57.0 | -27 10 | 4.52 | K2.5 IIb |
| † | 7606 | 188650 | 19 54.8 | +37 00 | 5.76 | G1 Ib-II CH2 Fe-1 |
| † η Cyg | 7615 | 188947 | 19 59.0 | +35 05 | 3.89 | KO III |
| 60 Sgr | 7618 | 189005 | 19 59.0 | -26 12 | 4.83 | G6 III |
| - | 7633 | 189276 | 19 55.9 | +58 51 | 4.96 | K4.5 IIIa |
| † γ Sge | 7635 | 189319 | 19 58.8 | +19 29 | 3.48 | MO- III |
| - | - | 189337 | 19 59.2 | +11 18 | 6.5- | G7 Ib-II |
| 62 Sgr | 7650 | 189763 | 20 02.7 | -27 43 | 4.46 | M4.5 III |
| - | - | 190113 | 20 02.0 | +35 38 | 7.95 | G5 Ib |
| † BD+29° 3865 | - | -- | 20 02.5 | +30 04 | 9.09 | G7 Ia |
| † 64 Dra | 7676 | 190544 | 20 01.5 | +64 49 | 5.23 | M1 III |
| - | - | 190788 | 20 05.8 | +25 36 | 8.2: | M3- Ib-II |
| † ρ Dra | 7685 | 190940 | 20 02.8 | +67 52 | 4.51 | K2+ III CN1 Ca1 |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| 27 Cyg | 7689 | 191026 | 20 06.4 | +35°58' | 5.36 | G8.5 IVa |
| † | - | 191046 | 20 06.5 | +36 14 | 7.03 | K0 III Fe-1.5 |
| - | - | 191511 | 20 09.1 | +33 40 | 8.16 | G5 III Fe-1.5* |
| 19 Vul | 7718 | 192004 | 20 11.8 | +26 49 | 5.51 | K2 IIIa CaO.5 |
| 22 Vul | 7741 | 192713 | 20 15.5 | +23 30 | 5.17 | G3 Ib-II Wk H&K comp.? |
| † 23 Vul | 7744 | 192806 | 20 15.8 | +27 48 | 4.52 | K3- III Fe-1 |
| 6 $\alpha^2$ CapA | 7754 | 192947 | 20 18.0 | -12 32 | 3.57 | G9 III |
| - | 7759 | 193092 | 20 16.9 | +40°22' | 5.23 | K3 IIIa Fe-1 |
| BD+37°3865 | - | -- | 20 16.9 | +37 31 | 8.60 | G9.5 IIIb* |
| - | 7762 | 193217 | 20 17.5 | +42 43 | 6.28 | K4+ II-III |
| † | 7788 | 193896 | 20 23.0 | - 9 39 | 6.30 | G5 IIIa |
| † | 7800 | 194193 | 20 22.8 | +41 01 | 5.93 | K7 III |
| - | - | 194241 | 20 23.1 | +40 47 | 7.36 | K1- III-IIIb BaO.3:* |
| † AC Dra | 7804 | 194258 | 20 20.1 | +68 53 | 6.0var. | M4.5 to M5 III |
| † 39 Cyg | 7806 | 194317 | 20 23.9 | +32 11 | 4.43 | K2.5 III Fe-0.5 |
| † RW Cyg | - | -- | 20 28.8 | +39 59 | 7.8-8.8 | M3 to M4 Ia-Iab |
| - | - | 195338 | 20 28.7 | +47 37 | 7.48 | G8 II FeO.5 |
| - | 7845 | 195564 | 20 32.4 | - 9 52 | 5.65 | G2.5 IV |
| † | - | 196197 | 20 34.7 | +32 31 | 6.84 | K1+ IIIa |
| 70 Aql | 7873 | 196321 | 20 36.7 | - 2 33 | 4.89 | K4+ III Bal |
| † 71 Agl | 7884 | 196574 | 20 38.3 | - 1 06 | 4.31 | G7.5 IIIa |
| † EU Del | 7886 | 196610 | 20 37.9 | +18 16 | 6.3var. | M6 III |
| † κ Del | 7896 | 196755 | 20 39.1 | +10 05 | 5.05 | G2 IV |
| † Gℓ 796 | 7898 | 196761 | 20 40.2 | -23 46 | 6.37 | G7.5 IV-V |
| † Gℓ 795 | - | 196795 | 20 39.5 | + 4 58 | 8.26 | K5 V |
| † | - | 196819 | 20 38.3 | +42 05 | 7.50 | K2.5 IIb |
| † 49 Cyg | 7921 | 197177 | 20 41.0 | +32 18 | 5.51 | G8 IIb |
| AU Mic | - | 197481 | 20 45.2 | -31 20 | 8.59-8.96 | M1 Ve Bal |
| 30 Vul | 7939 | 197752 | 20 44.9 | +25 16 | 4.91 | K1 III* |
| † 52 Cyg | 7942 | 197912 | 20 45.7 | +30 43 | 4.20 | K0 IIIa |
| † ε Cyg | 7949 | 197989 | 20 46.2 | +33 58 | 2.46 | K0 III |
| † 3 Aqr | 7951 | 198026 | 20 47.7 | - 5 02 | 4.42 | M3 III |
| † η Cep | 7957 | 198149 | 20 45.3 | +61 50 | 3.41 | K0 IV |
| † ω Cap | 7980 | 198542 | 20 51.8 | -26 55 | 4.11 | M0 III BaO.5 |
| † 31 Vul | 7995 | 198809 | 20 52.1 | +27 05 | 4.57 | G7 III Fe-1 |
| † 33 Vul | 8032 | 199697 | 20 58.3 | +22 20 | 5.31 | K3.5 III |
| - | 8035 | 199870 | 20 58.3 | +44 28 | 5.53 | K0 III: Fe-0.5 |
| † AZ Cyg | - | -- | 20 58.0 | +46°28' | 8.1-9.4 | M2 to M4 Iab |
| † - | - | 199939 | 20 59.0 | +44 27 | 8.0: | G9 III: Ba4 |
| † | 8062 | 200527 | 21 02.4 | +44 48 | 6.19 | M4.5 III=S4/1 III |
| † ξ Cyg | 8079 | 200905 | 21 04.9 | +43 56 | 3.71 | K4.5 Ib-II |
| † 24 Cap | 8080 | 200914 | 21 07.1 | -25 00 | 4.50 | M1- III |
| - | - | 201065 | 21 05.6 | +46 58 | 7.56 | K4 Ib-II |
| † 61 CygA | 8085 | 201091 | 21 06.9 | +38 44 | 5.23 | K5 V |
| † 61 CygB | 8086 | 201092 | 21 06.9 | +38 44 | 6.02 | K7 V |
| † 63 Cyg | 8089 | 201251 | 21 06.6 | +47 39 | 4.54 | K4 Ib-IIa |
| † ζ Cyg | 8115 | 202109 | 21 12.9 | +30 14 | 3.19 | G8+ III-IIIa BaO.5 |
| - | 8121 | 202259 | 21 14.6 | +00 06 | 6.38 | M1-III* |
| - | 8126 | 202314 | 21 14.2 | +29 54 | 6.18 | G6 Ib-IIa Cal BaO.5 |
| - | - | 202380 | 21 12.8 | +60 07 | 7.0: | M2 Ib |
| Gℓ 825 | - | 202560 | 21 17.3 | -38 53 | 6.68 | M1 V |
| † | - | 203137 | 21 18.8 | +50 04 | 6.96 | K4+ III BaO.5 |
| † ι Cap | 8167 | 203387 | 21 22.2 | -16 50 | 4.28 | G7 III Fe-1.5 |
| 1 Peg | 8173 | 203504 | 21 22.1 | +19 49 | 4.08 | K1 III |
| ζ Cap | 8204 | 204075 | 21 26.7 | -22 25 | 3.74 | G4 Ib: Ba2 |
| 36 Cap | 8213 | 204381 | 21 28.7 | -21 48 | 4.50 | G7 IIIb Fe-1 |
| † | 8223 | 204585 | 21 29.0 | +22 11 | 5.93 | M4.5 IIIa |
| † | 8224 | 204599 | 21 27.4 | +59 45 | 6.2 | M3+ IIIa |
| † | - | 204613 | 21 27.6 | +57 18 | 8.24 | G1 IIIa: CH1.5 |
| † 2 Peg | 8225 | 204724 | 21 30.0 | +23 38 | 4.54 | M1+ III |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| 71 Cyg | 8228 | 204771 | 21 29.4 | +46°32' | 5.23 | KO-III |
| † β Agr | 8232 | 204867 | 21 31.6 | - 5 35 | 2.88 | GO Ib |
| - | - | 205011 | 21 31.8 | +23 51 | 6.5: | G9+ IIIa Bal+ |
| † ο Cyg | 8252 | 205435 | 21 34.0 | +45 36 | 4.02 | G8 III Fe-0.5 |
| 72 Cyg | 8255 | 205512 | 21 34.8 | +38 32 | 4.89 | KO.5 III Fe0.5 |
| - | - | 205905 | 21 39.2 | -27 18 | 6.74 | G1.5 IV-V |
| † 42 Cap. | 8283 | 206301 | 21 41.5 | -14 03 | 5.13 | G2 IV |
| † 75 Cyg | 8284 | 206330 | 21 40.2 | +43 10 | 5.10 | M1 IIIab |
| - | 8306 | 206749 | 21 43.1 | +41 09 | 5.49 | M2 IIIb Ca1 |
| † ε Peg | 8308 | 206778 | 21 44.2 | + 9 53 | 2.40 | K2 Ib-II |
| † 46 Cap | 8311 | 206834 | 21 45.0 | - 9 05 | 5.08 | G7.5 II-III CNO.5 |
| † 9 Peg | 8313 | 206859 | 21 44.5 | +17 21 | 4.32 | G5 Ib |
| † μ Cep | 8316 | 206936 | 21 43.5 | +58 47 | 4.0var. | M2- Ia |
| † 11 Cep | 8317 | 206952 | 21 41.9 | +71 19 | 4.54 | KO.5 III |
| EP Aqr | - | 207076 | 21 46.6 | - 2 12 | 6.4-6.8 | M7- III: |
| 12 Peg | 8321 | 207089 | 21 46.1 | +22 57 | 5.29 | KO Ib $H_\delta$0.5 |
| † - | - | 207119 | 21 45.2 | +52 16 | 6.42 | K3 II BaO.5 |
| † | 8324 | 207130 | 21 43.1 | +72 19 | 5.16 | KO- III CN1 |
| - | - | 207328 | 21 46.3 | +58 13 | 7.36: | M3 IIIa BaO.5* |
| - | - | 207585 | 21 50.5 | -24 12 | 9.80 | G2 II: Ba1.5 CH1 Fe-1 |
| - | - | 207991 | 21 52.1 | +48 28 | 6.87 | K4- III |
| Gε 846 | - | 209290 | 22 02.2 | + 1 23 | 9.17 | M0.5 V |
| † α Aqr | 8414 | 209750 | 22 05.8 | -00 19 | 2.93 | G2 Ib |
| † ζ Cep | 8465 | 210745 | 22 10.8 | +58 12 | 3.36 | K1.5 Ib |
| † 24 Cep | 8468 | 210807 | 22 09.8 | +72 21 | 4.78 | G7 II-III |
| - | 8475 | 210889 | 22 12.8 | +34 36 | 5.33 | K2- IIIb |
| BD+ 54° 2704 | - | -- | 22 12.6 | +55 37 | 9.1: | G9 III |
| † | 8485 | 211073 | 22 13.9 | +39 43 | 4.49 | K2.5 III |
| † 1 Lac | 8498 | 211388 | 22 16.0 | +37 45 | 4.13 | K3- II-III |
| † Θ Aqr | 8499 | 211391 | 22 16.8 | - 7 47 | 4.16 | G9 III |
| † α Tuc | 8502 | 211416 | 22 18.5 | -60°15' | 2.86 | K3 III |
| DZ Aqr | - | 211062 | 22 21.7 | - 7 36 | 8.6var. | M7- var. |
| † 50 Aqr | 8534 | 212430 | 22 24.4 | -13 32 | 5.76 | G7.5 III |
| † RW Cep | - | 212466 | 22 23.1 | +55 58 | 6.8-7.5 | K2 0-Ia |
| † β Lac | 8538 | 212496 | 22 23.6 | +52 14 | 4.42 | G9 IIIb Ca1 |
| 35 Peg | 8551 | 212943 | 22 27.9 | + 4 42 | 4.79 | K1- III-IV |
| † ST Cep | - | 239978 | 22 30.2 | +57 00 | 8.0-8.9 | M2 Ia-Iab |
| † | - | 213893 | 22 34.6 | +00 37 | 6.71 | M0 IIIb |
| κ Aqr | 8610 | 214376 | 22 37.8 | - 4 14 | 5.02 | K1.5 IIIb CNO.5 |
| - | - | 214471 | 22 36.7 | +65 16 | 7.70 | K2- IIIb |
| † | 8621 | 214665 | 22 38.6 | +56 48 | 5.21 | M4+ III |
| † | 8626 | 214714 | 22 39.6 | +37 35 | 6.14 | G3 Ib-II: CN-1 CH2 Fe-1 |
| † | 8631 | 214850 | 22 40.8 | +14 33 | 5.72 | G4 V |
| † 11 Lac | 8632 | 214868 | 22 40.5 | +44 17 | 4.48 | K2.5 III |
| † β Gru | 8636 | 214952 | 22 42.7 | -46 53 | 2.11 | M4.5 III |
| † λ Peg | 8667 | 215665 | 22 46.5 | +23 34 | 3.96 | G8 IIIa CNO.5 |
| τ Aqr | 8679 | 216032 | 22 49.6 | -13 35 | 4.01 | M0 III |
| † μ Peg | 8684 | 216131 | 22 50.0 | +24 36 | 3.48 | G8+ III |
| - | - | 216219 | 22 50.9 | +18 00 | 7.46 | G1 II-III: Fe-1 CH0.5 |
| † ι Cep | 8694 | 216228 | 22 49.7 | +66 12 | 3.52 | KO- III |
| λ Aqr | 8698 | 216386 | 22 52.6 | - 7 35 | 3.76 | M2.5 III Fe-0.5 |
| 77 Aqr | 8711 | 216640 | 22 54.8 | -16 16 | 5.56 | K2.5 III |
| TW PsA | 8721 | 216803 | 22 56.4 | -31 34 | 6.49 | K4 Ve |
| - | 8726 | 216946 | 22 56.4 | +49 44 | 5.0: | K5 Ib |
| † 51 Peg | 8729 | 217014 | 22 57.5 | +20 46 | 5.44 | G2 IV |
| † | - | 217143 | 22 58.6 | + 7 38 | 8.3 | G9.5 III Ba2+ |
| - | 8752 | 217476 | 23 00.1 | +56 57 | 5.1: | G4var. 0* |
| - | 8761 | 217673 | 23 01.5 | +57 06 | 6.20 | K1.5 II |
| † β Peg | 8775 | 217906 | 23 03.8 | +28 05 | 2.4: | M2.5 II-III* |
| † 3 And | 8780 | 218031 | 23 04.2 | +50 03 | 4.64 | KO IIIb |

TABLE 2—*Continued*

| Name | BS | HD | α(2000) | δ(2000) | V | Type |
|---|---|---|---|---|---|---|
| | | | h m | | | |
| † 86 Aqr | 8789 | 218240 | 23 06.7 | -23°45' | 4.47 | G6 IIIb |
| † 55 Peg | 8795 | 218329 | 23 07.0 | + 9 24 | 4.51 | M1 IIIab |
| 56 Peg | 8796 | 218356 | 23 07.1 | +25 28 | 4.77 | KO.5 II: Bal CN-2 HKeml CH-0.5* |
| 5 Psc | 8807 | 218527 | 23 08.7 | + 2 08 | 5.39 | G6 IIIb |
| † 88 Aqr | 8812 | 218594 | 23 09.4 | -21 10 | 3.67 | K1.5 III |
| - | - | 218738 | 23 09.8 | +47 57 | 7.9 | K2-Ve* |
| SS And | - | 218942 | 23 11.5 | +52 53 | 8.9-9.9 | M7- II: |
| † Gℓ 892 | 8832 | 219134 | 23 13.3 | +57 10 | 5.56 | K3 V |
| φ Aqr | 8834 | 219215 | 23 14.3 | - 6 03 | 4.22 | M1.5 III |
| ψ Aqr | 8841 | 219449 | 23 15.9 | - 9 05 | 4.22 | K1- III Fe-0.5 |
| 61 Peg | 8842 | 219477 | 23 15.8 | +28 15 | 6.5: | G2 II-III |
| † γ Psc | 8852 | 219615 | 23 17.2 | + 3 17 | 3.68 | G9 III: Fe-2* |
| † 8 And | 8860 | 219734 | 23 17.7 | +49 01 | 4.86 | M2.5 III BaO.5 |
| o Cep | 8872 | 219916 | 23 18.6 | +68 07 | 4.75 | G8.5 III-IIIb Fe-0.5 |
| - | - | 219978 | 23 19.4 | +62 44 | 6.71 | K4.5 Ib |
| 98 Aqr | 8892 | 220321 | 23 23.0 | -20 06 | 3.95 | K1 III |
| 99 Aqr | 8906 | 220704 | 23 26.0 | -20 38 | 4.40 | K4.5 III |
| θ Psc | 8916 | 220954 | 23 28.0 | + 6 23 | 4.27 | KO.5 III |
| 70 Peg | 8923 | 221115 | 23 29.2 | +12 46 | 4.53 | G8 IIIa |
| † | 8924 | 221148 | 23 29.5 | - 4 32 | 6.25 | K3- IIIb Fe2* |
| BD+ 48°4065 | - | -- | 23 30.8 | +49 15 | 8.95 | K1 III-IV Fe-1* |
| - | - | 221203 | 23 29.7 | +49 07 | 7.74 | G8 III Fe-1.5* |
| † | 8925 | 221246 | 23 30.1 | +49 08 | 6.17 | K3 III* |
| † | 8952 | 221861 | 23 35.0 | +71 38 | 5.71 | G9 Ib |
| † | 8958 | 222093 | 23 37.7 | -13 04 | 5.65 | G9 III |
| † γ Cep | 8974 | 222404 | 23 39.3 | +77 37 | 3.22 | K1 III-IV CN1 |
| † | 8989 | 222670 | 23 42.3 | +64 31 | 6.53 | M2 III |
| PZ Cas | - | -- | 23 44.0 | +61 47 | 8.6-9.5: | M3var. Ia |
| ψ And | 9003 | 223047 | 23 46.0 | +46 25 | 4.94 | G3 Ib-II |
| τ Cas | 9008 | 223165 | 23 47.1 | +58 39 | 4.87 | K1- IIIa |
| - | 9010 | 223173 | 23 47.0 | +57°27' | 5.51 | K3- IIb |
| Gℓ 908 | - | -- | 23 49.1 | + 2 24 | 8.98 | M1 V Fe-1 |
| † | 9021 | 223428 | 23 49.5 | -15 52 | 6.24 | K2 IIIb Fe-0.5 |
| - | - | 223541 | 23 50.5 | -13 06 | 7.1 | KO+ III-IV Fe -1 |
| - | 9029 | 223559 | 23 50.6 | -14 24 | 5.72 | K4.5 IIIb |
| † 22 Psc | 9033 | 223719 | 23 52.0 | + 2 55 | 5.55 | K4 III Bal |
| - | 9038 | 223778 | 23 52.4 | +75 32 | 6.41 | K3 V |
| TZ Cas | - | -- | 23 53.0 | +61 00 | 9.0-10.5 | M3 Iab |
| ρ Cas | 9045 | 224014 | 23 54.4 | +57 30 | 4.4-5.1 | G2 0 var.* |
| XZ Psc | 9047 | 224062 | 23 54.8 | +00 06 | 5.5-6.0 | M5 III |
| II Peg | - | 224085 | 23 55.0 | +28 39 | 7.4-7.6 | K2+ IVe Fe-1* |
| - | - | 224364 | 23 57.3 | +61 02 | 7.0 | M2.5 III: Cal |
| † ψ Peg | 9064 | 224427 | 23 57.8 | +25 08 | 4.66 | M3 III |
| † | - | 224618 | 23 59.5 | -16 56 | 8.72 | KO V |
| † Sun | | | | | -26.8 | G2 V |

NOTES TO TABLE 2

DL Cas = BD + 59°65.—Cepheid variable ($P = 8^d0$) generally accepted as a member of the cluster NGC 129.

BD + 59°70.—The star is Kraft AB (Kraft 1958) in the field of the galactic cluster NGC 129. It is a foreground star.

BD + 59°73.—The star is Kraft AA in field of NGC 129. It is a foreground star.

n Cas B = HD 4614B.—All the normally strong lines in the blue region are shallow, but the lines in the red region appear normal.

n And = HD 5516.—This is a two-lined spectroscopic binary, but the spectrum looks normal at low dispersion. The secondary is only slightly fainter than the primary.

BS 316.—$V_r = -94.5$.

HD 6833.—A high-velocity star with $V_r = -248$ km s$^{-1}$.

$\Psi^3$ Psc = BS 339 = HD 6903.—$V \sin i = 91$. Active chromosphere (Stickland and Williams 1983).

39 Cet = AY Cet = BS 373.—Variable by about 0.2 mag (Olsen 1974). H, K emission.

V466 Cas = BD + 57°258 = HD 236697.—The star is a well-established member of NGC 457.

BD + 59°274.—Probable member of NGC 581.

BD + 60°265.—Possible member of association Cas OB8.

HD 15068.—Possible member of cluster Tr 2.

NOTES TO TABLE 2—*Continued*

BS 965 = HD 20084.—This CH star is more luminous than most of those observed by Bond, and most closely resembles BS 8626 (see Pl. 9 of Keenan and McNeil 1976. It appears to be a halo star near the top of the Population II giant branch.

BS 1112 = HD 22764.—The weakness of the metal lines, plus slight strengthening of H$\delta$ and slight filling in of H and K, suggest that the spectrum may be composite.

HD 27277.—The star is Hoag No. 4 in NGC 1545. HD 27292 is No. 3.

HD 28099.—The star is Van Bueren No. 64 in Hyades. H and K are slightly shallow.

BD +26°730 = HD 283750.—Gl 172A, a BY Dra variable. Fairly strong H, K emission.

R Dor = BS 1492.—The star is an SRb variable.

Kapteyn's star = HD 33793.—See Yerkes Atlas, Pl. 19. The peculiarity lies in the enhancement of the Ca I and Cr I lines relative to the strength of the TiO bands. From the strength of the latter the type is assigned, placing the star more than 1 mag below the main sequence.

$\alpha$ Aur = Capella = HD 34029.—The type corresponds to the phase when the primary dominates the spectrum. The influence of the secondary (of slightly earlier type) is not entirely absent, but Capella is included in the catalog because of its importance as an early G giant binary with one of the best-known orbits.

HD 271182 = CPD −65°457.—LMC.

BS 2018 = HD 39045.—$V_r = +105$ km s$^{-1}$

BS 2028 = HD 39225.—$V_r = +101$ km s$^{-1}$ BS 2018 and 2028, about 2° apart, not only have similar radial velocities but both have small proper motions.

HD 49068.—Probably a member of cluster NGC 2287.

HD 49091.—Although in the field of NCC 2287, the star is probably not a member of the cluster.

HD 49105.—Probably a member of NGC 2287.

BD −20°1568 = HD 49212.—Probably a member of NGC 2287.

$d^1$ CMA = BS 2580 = HD 50877.—Possible member of cluster Cr 121.

HD 52938.—In cluster M50 = NGC 2323.

BD −9°1935.—Hoag No. 3 in cluster NCC 2353. Probably a member.

145 CMa = BS 2764 = HD 56577.—Possible member of $d^1$ CMA group.

BS 2786 = HD 57146.—VV Cep system with companion of type B8 III or A0 III (Parsons 1982).

BS 2834 = HD 58535.—No. 22 in Cr 140. The star is a possible but doubtful member of this doubtful small cluster. Our luminosity class gives $d = 240p$ in contrast to $d = 360$ of Williams 1967. Hagen assigned it luminosity class II, which would make it a more likely member.

YY Gem = HD 60179C = $\alpha$ Gem C.—BY Dra eclipsing binary. The metallic lines in the blue are all shallow, though CaI λ4226 is wide.

HD 60898, HD 60899.—These giants are in the field of NGC 2422 but have not been considered as members because of their proper motions. The luminosity of HD 60898 ($M_v = -1.25$) places it at nearly the cluster. HD 60899 has a lower luminosity ($M_v = 0.30$) and is thus about 1 mag too faint to be a cluster member.

R Pup = BS 2974 = HD 62058.—Possible member of NGC 2439.

CPD −31°1790.—In NGC 2439.

BS 3043 = HD 63660.—The apparent weakness of the metal lines may be due to the presence of components from the companion in this spectroscopic binary.

BS 3120 = HD 65662.—Close to open cluster NGC 2516. If a member, $M_v = -2.32$.

V341 Car = BS 3126 = HD 65750.—Probable member of NGC 2516.

BS 3153 = HD 66342.—Cox's star No. 110 in NGC 2516. Member of cluster.

HD 68879.—No. 8 in NGC 2548. The weakness of the K line and the 3883 Å CN band suggest a companion of type F, but this is not certain. Wallerstein and Conti 1964 found a metal deficiency of [Fe/H] = −0.51.

39 Cnc = B53427 = HD 73665.—Probable member of Praesepe.

BS 3428 = HD 73710.—Probable member of Praesepe.

HD 73974..—Probable member of Praesepe.

BS 4006 = HD 88639.—Member of 61 Cyg group?

$\gamma$ Leo C = BD +20°2465 = G1388 = ADS 7724C.—Flare star.

BS 4092 = HD 90362.—The atomic lines suggest a type of K4.5, but TiO gives M0. Probably has high velocity, since $\mu$ is large.

HD 96765.—The strong G band and weak atomic lines were noticed first by Bidelman.

HD 101007.—VV Cep type binary.

BS 4605 = HD 106677.—A double-lined RS CVn binary.

31 Com = HD 111812.—On classification spectrograms the chief peculiarity noticeable is the weakness of H and K and some other metallic lines (Morgan, Abt, and Tapscott 1978). On plates of higher dispersion the lines can be seen to be broader than in most G0 stars. The star 31 Com lies in the Hertzsprung gap, where it is difficult to find a star with a spectrum that can be termed "normal."

CPD −59°4547.—This is star D in NGC 4755.

HD 121447.—This is a barium-carbon star with the Ca λ4737 band slightly weaker than in the two similar stars, HD 24035 and HD 107541, described by MacConnell, Frye, and Upgren 1972.

BS 5299.—There is some indication that the spectral type may vary between M4+ and M5.

$\alpha$ Boo = HD 124897.—Spectroscopically the star appears about 1 mag too faint compared with the value of $M_v = -0.2$ corresponding to the large trigonometric parallax. With a space velocity of 115 km s$^{-1}$ Arcturus seems to belong to the old disk population.

RX Boo = HD 126327.—Usually g M8, but sometimes as early as M7.5.

HD 130255.—This peculiar spectrum has a ratio λ4376/λ4383 suggesting a giant that is a marginal barium star with CN unusually weak. The ratio CN/CH would be consistent with classification as a dwarf barium star.

$\sigma$ Lib = BS 5603.—Possibly slightly variable in type.

Gl 579.2A = HD 134439.—Has $V_r = +294$ and appears to be definitely a halo star.

BS 6128 = HD 148349.—The star has a high space velocity.

BM Sco = HD 160371.—In open cluster M6 = NGC 6405.

HD 170174.—Hiltner No. 116. In NGC 6633.

BD +6°3796.—Hiltner No. 134 in NGC 6633. The star is a member.

BD +6°3798.—Hiltner No. 140. In NGC 6633.

HD 1700820.—This is star No. 150 in M25 (IC 4725).

BY Dra = HDE 234677.—Prototype of the BY Dra variables. The spectrum is definitely composite. Strong emission in H and K.

NOTES TO TABLE 2—*Continued*

V973 Cyg = BS 7523 = HD 186776.—Probably has a high space velocity. $V_r = -102$ km s$^{-1}$. The spectral type may be variable.

HDE 350801 = BD +17°4132.—The star is No. 8 in the open cluster Harvard 20, and is probably a member according to Turner 1980.

HD 191511.—The star is in the field of the possible open cluster Roslund 5. Lee and Perry 1971 doubt the reality of the cluster. From their distance (330 pc) $M_v$ of HD 191511 would be +0.37, while if it had the normal luminosity of a G7 III star, $M_v = +0.6$, which is reasonably consistent with membership. The weak-line character seems too marked for a cluster member, however.

BD +37°3865.—Hoag No. 2 in IC 4996. Foreground star in cluster field.

EU Del = BS 7886 = HD 196610.—Type slightly variable: M6− to M6+. The space motion exceeds 140 km s$^{-1}$.

HD 194241.—Foreground star in field of NGC 6910.

30 Vul = BS 7939 = HD 197752.—This spectroscopic binary has a rather large proper motion, but the spectrum is that of a normal Population I star.

BS 8121 = HD 202259.—The radial velocity of −123.5 measured by R. Griffin places the star in the high-velocity population.

HD 207328.—In Tr 37 = IC 1391.

BS 8752 = HD 217476.—This supergiant was given a type of G0 Ia in Johnson and Morgan 1953. Perkins spectrograms in 1950 and 1957 give types ranging from G0 to G1, but by 1970 the type appeared to be considerably later and the luminosity greater. The type given in the catalog is based on a series of matched spectrograms extending from 1970 to 1987. On these small-scale plates only the Balmer lines and blend surrounding Sr II λ4078 showed appreciable variations, and the detailed changes in the line depths and shapes described by Harmer, Lawson, and Stickland 1978 did not affect the type appreciably.

β Peg = BS 8775 = HD 217906.—The spectral type is probably slightly variable.

56 Peg = BS 8796 = HD 218356.—The type given assumes that the observed lines arise in the atmosphere of the bright giant primary of this system, in which a white dwarf secondary has been reported (Schindler *et al.* 1981). The continuing presence of strong H and K emission, plus the weakness of CN and other features, suggests the possibility that the hypothesized accretion disk affects the spectrum even in the photographic region. In that case the estimation of luminosity class is not valid.

HD 218738 = AD 5165578.—A BY Dra variable?

γ Psc = BS 8652 = HD 219615.—Although the radial velocity is not large, the proper motion indicates a space velocity exceeding 100 km s$^{-1}$.

BD +48°4065.—The star is Hoag No. 3 in the field of NGC 7686, but must be considered a doubtful member of a doubtful cluster.

BS 8924 = HD 221148.—The star has a space velocity in excess of 100 km s$^{-1}$.

HD 221203.—Hoag No. 2. Foreground star in field of NGC 7686.

HD 221246 = BS 8925.—The star is Hoag No. 1 in the field of NGC 7686, but must be considered a probable field star.

ρ Cas = HD 224014.—During its minimum of 1946–1947, when about 1.5 mag fainter than normal, the spectrum changed markedly from its 1940 type of F8, developing TiO bands (Beardsley 1961). Detailed changes in the spectrum through 1960 have been described by Sargent 1961. Although the star has generally remained bright since then, the spectrum seems never to have returned to a type as early as F8. Estimates between 1971 and 1978 range between G0 and G5 (Morgan *et al.* 1981).

II Peg 224085.—This transition star between the RS CVn and the BY Dra variables is assigned luminosity class IV because the spectrum suggests a position above the main sequence.

original spectral box now belongs in an adjacent smaller box. For example, one of the original Ib supergiant standards, ε Peg, is slightly less luminous than most of the other stars in that "luminosity box," and can now be more consistently classified as K1.5 Ib–IIa.

In the catalog (Table 2) the temperature types are generally given to a quarter of a subclass (e.g., K0, K0+, K0.5, K1−, K1), but when not all the decimal divisions of a class are counted as a subclass (as in type G), the plus and minus signs are not needed. The full subclasses that we use are the following: G0, G5, G8, K0, K1, K2, K3, K4, K5, M0, M1, M2, M3, M4, M5, M6, M7, M8. The irregularities are the price that we pay for keeping the general scheme of the original Henry Draper classification.

The columns of the catalog are arranged as follows:

*Column (1).*—The name or constellation letter of the star (preceded by a dagger for standard-type stars). For fainter stars the variable star designation, and for dwarfs the number in Gliese's catalog (Gliese 1969), is given when available, preceded by G1. The symbol G refers to Giclas's lists of faint proper-motion stars (Giclas, Burnham, and Thomas 1955–1980).

*Column (2).*—The number in *The Bright Star Catalogue* (Hoffleit and Jaschek 1982) ( = the HR number).

*Column (3).*—The number in the *Henry Draper Catalogue.*

*Column (4).*—The right ascension for the year 2000.

*Column (5).*—The declination for the year 2000.

*Column (6).*—The *V*-magnitude, taken whenever possible from the catalog of Nicolet (1978).

*Column (7).*—The spectral type. An asterisk indicates a note at the end of the catalog.

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