TABLE 1

INTRINSIC $BV(RI)_C$ COLORS FOR DWARFS

$(B–V)_0$	$(V–I)_0$	$(V–I)_0$ SAAO	$(R–I)_0$	$(R–I)_0$ SAAO	$(B–V)_0$	$(V–I)_0$	$(V–I)_0$ SAAO	$(R–I)_0$	$(R–I)_0$ SAAO
−0.24	−0.259	−0.237	−0.157	−0.158	+0.04	+0.055	+0.037	+0.040	+0.021
−0.23	−0.248	−0.221	−0.150	−0.146	+0.05	+0.066	+0.048	+0.046	+0.026
−0.22	−0.236	−0.206	−0.143	−0.134	+0.06	+0.077	+0.059	+0.053	+0.032
−0.21	−0.225	−0.193	−0.136	−0.123	+0.07	+0.088	+0.070	+0.059	+0.038
−0.20	−0.214	−0.181	−0.129	−0.114	+0.08	+0.100	+0.081	+0.066	+0.043
−0.19	−0.203	−0.170	−0.121	−0.105	+0.09	+0.111	+0.093	+0.072	+0.049
−0.18	−0.192	−0.159	−0.114	−0.097	+0.10	+0.122	+0.105	+0.078	+0.055
−0.17	−0.180	−0.149	−0.107	−0.089	+0.11	+0.133	+0.117	+0.084	+0.061
−0.16	−0.169	−0.140	−0.100	−0.082	+0.12	+0.144	+0.129	+0.090	+0.068
−0.15	−0.158	−0.131	−0.092	−0.076	+0.13	+0.156	+0.141	+0.095	+0.074
−0.14	−0.147	−0.122	−0.085	−0.070	+0.14	+0.167	+0.153	+0.101	+0.080
−0.13	−0.136	−0.114	−0.078	−0.064	+0.15	+0.178	+0.166	+0.106	+0.086
−0.12	−0.124	−0.106	−0.071	−0.059	+0.16	+0.189	+0.179	+0.112	+0.093
−0.11	−0.113	−0.098	−0.064	−0.053	+0.17	+0.200	+0.191	+0.117	+0.099
−0.10	−0.102	−0.090	−0.056	−0.048	+0.18	+0.212	+0.204	+0.122	+0.106
−0.09	−0.091	−0.082	−0.049	−0.043	+0.19	+0.223	+0.217	+0.127	+0.112
−0.08	−0.080	−0.074	−0.042	−0.039	+0.20	+0.234	+0.230	+0.133	+0.119
−0.07	−0.068	−0.066	−0.035	−0.034	+0.21	···	+0.243	+0.138	+0.125
−0.06	−0.057	−0.057	−0.028	−0.029	+0.22	···	+0.256	+0.143	+0.132
−0.05	−0.046	−0.049	−0.020	−0.024	+0.23	···	+0.269	+0.148	+0.138
−0.04	−0.035	−0.040	−0.013	−0.020	+0.24	···	+0.281	+0.154	+0.144
−0.03	−0.024	−0.031	−0.006	−0.015	+0.25	···	+0.294	+0.159	+0.151
−0.02	−0.012	−0.022	+0.001	−0.010	+0.26	···	+0.307	+0.164	+0.157
−0.01	−0.001	−0.013	+0.008	−0.005	+0.27	···	+0.320	+0.170	+0.164
+0.00	+0.010	−0.004	+0.015	+0.000	+0.28	···	+0.332	+0.175	+0.170
+0.01	+0.021	+0.006	+0.021	+0.005	+0.29	···	+0.345	+0.180	+0.176
+0.02	+0.032	+0.016	+0.027	+0.010	+0.30	···	+0.357	+0.185	+0.182
+0.03	+0.043	+0.026	+0.033	+0.016					

each star, and the use of two separate color-color diagrams provides independent estimates for the intrinsic color of each star, although greater precision is obtained with solutions from the $(R–I)_C$ versus $B–V$ diagram alone, because the angle between the intrinsic relation and typical reddening lines is larger. Infrared JHK_s observations exist for most stars (Cutri et al. 2003) from the Two Micron All Sky Survey (2MASS, Skrutskie et al. 2006), and confirm the adopted reddenings from $BV(RI)_C$ data, although the scatter in 2MASS JHK_s colors tends to be rather significant, larger than in UBV color-color diagrams (Turner 1976a).

Typical companions and progenitors of Cepheids are B-type stars (Turner 1984), which are rare enough that their occurrence in the field of a Cepheid raises the possibility of a physical association. AF-type stars, on the other hand, are a more common constituent of Galactic star fields (McCuskey 1965), so the possibility of their physical association with a nearby Cepheid is reduced, but not necessarily to zero. In many of our program fields some of the stars identified as likely AF-type may be associated with the Cepheid of interest, but that was not explored here since there are no catalogued star clusters in the fields, although the regions around UY Mon, BE Pup, YZ CMa, and VY Sgr appear to contain faint anonymous clusters, and BD Pup and FO Cas are located in bright groups of surrounding stars.

The additional scatter in Figure 2 illustrates some of the problems associated with dereddening stars in $BV(RI)_C$ color-color diagrams. Such scatter for a small proportion of stars is a common characteristic of color-color diagrams, including those in UBV and those used for 2MASS photometry, and is readily explained in most cases by observational error, typically one or more of the magnitudes in the observed colors falling too close to the survey limits. At bright magnitude limits the typical stars encountered in Galactic star fields are A dwarfs and