Recent Minima of 216 Eclipsing Binary Stars

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Abstract This paper continues the publication of times of minima for eclipsing binary stars. Times of minima determined from observations received by the AAVSO Eclipsing Binaries Section from August 2019 through January 2020 are presented.

1. Recent observations

The accompanying list contains times of minima calculated from recent CCD observations made by participants in the AAVSO's eclipsing binary program. These observations were reduced by the observers or the writer using the method of Kwee and van Woerden (1956).

The linear elements in the *General Catalogue of Variable Stars* (GCVS, Kholopov *et al.* 1985) were used to compute the O–C values for most stars. For a few exceptions where the GCVS elements are missing or are in significant error, light elements from another source are used: CD Cam (Baldwin and Samolyk 2007), AC CMi (Samolyk 2008), CW Cas (Samolyk 1992a), DV Cep (Frank and Lichtenknecker 1987), Z Dra (Danielkiewicz-Krośniak and Kurpińska-Winiarska 1996), DF Hya (Samolyk 1992b), DK Hya (Samolyk 1990), EF Ori (Baldwin and Samolyk 2005), GU Ori (Samolyk 1985).

The light elements used for QX And, EK Aqr, MR Del, AQ Psc, and V1128 Tau are from (Kreiner 2004).

The light elements used for V1261 Cas, CW Cep, EM Cep, V2181 Cyg, V2610 Oph, VZ Psc, and V1241 Tau are from (Paschke 2014).

The light elements used for V1071 Per and V1092 Per are from the AAVSO VSX site (Watson *et al.* 2014). O–C values listed in this paper can be directly compared with values published in the *AAVSO Observed Minima Timings of Eclipsing Binaries* monographs. The standard error is included when available. Column F indicates the filter used. A "C" indicates a clear filter.

This list will be web-archived and made available through the AAVSO ftp site at ftp://ftp.aavso.org/public/datasets/gsamj481eb215.txt. This list, along with the eclipsing binary data from earlier AAVSO publications, is also included in the Lichtenknecker database administered by the Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne e. V. (BAV) at http://www.bav-astro.de/LkDB/index.php?lang=en.

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Table 1. Recent times of minima of stars in the AAVSO eclipsing binary program.

Star	JD (min) Hel. 2400000 +	Cycle	O–C (day)	F	Observer	Standard Error (day)	Star	JD (min) Hel. 2400000 +	Cycle	O–C (day)	F	Observer	Standard Error (day)
RT And	58759.4502	28012	–0.0123	V	T. Arranz	0.0001	TU Boo	58666.7366	78944	–0.1645	V	S. Cook	0.0001
RT And	58844.3568	28147	–0.0112	V	T. Arranz	0.0001	TY Boo	58849.9572	76839.5	0.0615	V	G. Samolyk	0.0003
RT And	58849.3881	28155	–0.0114	V	T. Arranz	0.0001	TZ Boo	58673.7079	64075.5	0.0624	V	S. Cook	0.0006
UU And	58760.6869	11512	0.1073	V	G. Samolyk	0.0001	TZ Boo	58835.9543	64621.5	0.0583	V	G. Samolyk	0.0002
UU And	58848.3792	11571	0.1082	V	T. Arranz	0.0001	UW Boo	58871.9163	16390	–0.0067	V	K. Menzies	0.0002
WZ And	58734.7748	25677	0.0846	V	K. Menzies	0.0001	Y Cam	58799.6731	4791	0.4990	V	G. Samolyk	0.0001
WZ And	58865.5600	25865	0.0862	V	G. Samolyk	0.0002	AL Cam	58664.7611	24281	–0.0240	V	G. Samolyk	0.0002
XZ And	58712.8490	25592	0.1989	V	G. Samolyk	0.0001	CD Cam	58750.8303	7836	–0.0162	V	G. Samolyk	0.0002
XZ And	58825.5039	25675	0.1997	V	T. Arranz	0.0002	CD Cam	58854.7586	7972	–0.0169	V	G. Samolyk	0.0004
AB And	58743.5801	68197	–0.0481	V	K. Menzies	0.0001	RT CMa	58813.8154	24880	–0.7790	V	G. Samolyk	0.0001
AB And	58760.3403	68247.5	–0.0485	V	L. Corp	0.0001	SX CMa	58863.7570	18943	0.0305	V	G. Samolyk	0.0002
AB And	58761.3359	68250.5	–0.0486	V	T. Arranz	0.0002	TU CMa	58810.8325	28226	–0.0110	V	G. Samolyk	0.0001
AB And	58761.5018	68251	–0.0486	V	T. Arranz	0.0001	UU CMa	58853.8122	6580	–0.0658	V	G. Samolyk	0.0005
AB And	58782.5781	68314.5	–0.0475	V	G. Samolyk	0.0001	AC CMi	58795.9464	7861	0.0056	V	G. Samolyk	0.0001
AB And	58786.5609	68326.5	–0.0474	V	G. Samolyk	0.0002	AK CMi	58835.8620	27804	–0.0241	V	G. Samolyk	0.0001
AB And	58828.5435	68453	–0.0491	V	G. Samolyk	0.0001	TY Cap	58697.8101	9768	0.1005	V	G. Samolyk	0.0001
AD And	58764.7751	20039	–0.0541	V	G. Samolyk	0.0002	TY Cap	58723.4320	9786	0.1003	V	T. Arranz	0.0001
BD And	58770.4054	51432	0.0143	V	T. Arranz	0.0001	RZ Cas	58824.6540	13072	0.0789	V	G. Samolyk	0.0002
BD And	58783.3665	51460	0.0141	V	T. Arranz	0.0001	TV Cas	58762.4196	7812	–0.0306	V	T. Arranz	0.0001
BD And	58804.6594	51506	0.0135	V	K. Menzies	0.0001	TW Cas	58802.6392	11758	0.0183	V	G. Samolyk	0.0001
BX And	58697.8220	36336	–0.1067	V	G. Samolyk	0.0001	ZZ Cas	58719.6685	20331	0.0261	V	N. Simmons	0.0001
BX And	58750.9020	36423	–0.1067	V	G. Samolyk	0.0001	ZZ Cas	58719.6688	20331	0.0264	V	G. Samolyk	0.0001
BX And	58850.3487	36586	–0.1088	V	T. Arranz	0.0002	AB Cas	58750.7693	11732	0.1432	V	G. Samolyk	0.0001
DS And	58747.7152	22370	0.0042	V	G. Samolyk	0.0001	AB Cas	58757.6042	11737	0.1437	V	G. Samolyk	0.0001
DS And	58782.5792	22404.5	0.0053	V	G. Samolyk	0.0001	AB Cas	58802.7108	11770	0.1435	V	G. Samolyk	0.0002
DS And	58795.7164	22417.5	0.0057	V	G. Samolyk	0.0001	AB Cas	58828.6814	11789	0.1435	TG	G. Conrad	0.0002
QR And	58765.4643	34773	0.1634	V	T. Arranz	0.0003	CW Cas	58696.8679	53517.5	–0.1266	V	G. Samolyk	0.0001
QX And	58746.7036	15155.5	0.0069	V	K. Menzies	0.0002	CW Cas	58747.8862	53677.5	–0.1265	V	G. Samolyk	0.0002
QX And	58747.7352	15158	0.0080	V	G. Samolyk	0.0003	CW Cas	58748.6825	53680	–0.1274	V	K. Menzies	0.0001
QX And	58782.5576	15242.5	0.0019	V	G. Samolyk	0.0002	CW Cas	58763.3495	53726	–0.1281	V	T. Arranz	0.0001
QX And	58795.7496	15274.5	0.0044	V	G. Samolyk	0.0001	CW Cas	58763.5099	53726.5	–0.1272	V	T. Arranz	0.0002
RY Aqr	58757.6379	9119	–0.1468	V	G. Samolyk	0.0001	CW Cas	58763.6687	53727	–0.1278	V	T. Arranz	0.0001
CX Aqr	58725.8249	40059	0.0187	V	G. Samolyk	0.0001	CW Cas	58767.3355	53738.5	–0.1279	V	T. Arranz	0.0001
CZ Aqr	58719.7952	17790	–0.0675	V	G. Samolyk	0.0001	CW Cas	58767.4946	53739	–0.1283	V	T. Arranz	0.0001
EK Aqr	58788.5965	20515.5	0.0241	V	G. Samolyk	0.0003	CW Cas	58767.6544	53739.5	–0.1279	V	T. Arranz	0.0001
XZ Aql	58704.7696	7854	0.1810	V	G. Samolyk	0.0001	CW Cas	58795.7149	53827.5	–0.1274	V	G. Samolyk	0.0002
OO Aql	58697.5763	39630.5	0.0732	V	T. Arranz	0.0001	CW Cas	58850.3987	53999	–0.1288	V	T. Arranz	0.0002
OO Aql	58701.3774	39638	0.0734	V	T. Arranz	0.0001	DZ Cas	58824.5582	38719	–0.2157	V	G. Samolyk	0.0002
OO Aql	58701.6305	39638.5	0.0731	V	T. Arranz	0.0001	DZ Cas	58847.3186	38748	–0.2171	V	T. Arranz	0.0002
OO Aql	58704.4185	39644	0.0738	V	T. Arranz	0.0001	GT Cas	58725.6064	10497	0.2088	V	G. Samolyk	0.0003
OO Aql	58713.5412	39662	0.0743	V	T. Arranz	0.0001	IR Cas	58714.8135	24021	0.0155	V	G. Samolyk	0.0001
OO Aql	58719.3679	39673.5	0.0729	V	L. Corp	0.0001	IS Cas	58724.8525	16263	0.0733	V	G. Samolyk	0.0001
V342 Aql	58700.7644	5716	–0.0981	V	G. Samolyk	0.0002	IS Cas	58846.3914	16329	0.0724	V	T. Arranz	0.0003
V342 Aql	58707.5466	5718	–0.0977	V	T. Arranz	0.0002	KR Cas	58764.6070	8916	–0.1647	V	T. Arranz	0.0001
V342 Aql	58724.4985	5723	–0.1002	V	T. Arranz	0.0002	KR Cas	58769.5094	8917	–0.1665	V	T. Arranz	0.0002
V343 Aql	58696.7021	16401	–0.0487	V	G. Samolyk	0.0001	KR Cas	58823.4549	8928	–0.1680	V	T. Arranz	0.0002
V346 Aql	58718.4911	15185	–0.0151	V	T. Arranz	0.0001	MM Cas	58730.8746	20138	0.1227	V	G. Samolyk	0.0002
RX Ari	58799.6387	19814	0.0594	V	G. Samolyk	0.0001	MM Cas	58758.6810	20162	0.1259	V	S. Cook	0.0008
RX Ari	58865.5347	19878	0.0594	V	G. Samolyk	0.0004	MM Cas	58764.4716	20167	0.1241	V	T. Arranz	0.0001
SS Ari	58747.9008	48572	–0.4153	V	G. Samolyk	0.0001	MM Cas	58765.6284	20168	0.1224	V	G. Samolyk	0.0002
SS Ari	58765.7656	48616	–0.4143	V	G. Samolyk	0.0001	MM Cas	58844.4069	20236	0.1250	V	T. Arranz	0.0003
SS Ari	58813.6692	48734	–0.4179	V	G. Samolyk	0.0001	OR Cas	58802.6211	11714	–0.0336	V	G. Samolyk	0.0001
SS Ari	58848.3818	48819.5	–0.4178	V	T. Arranz	0.0003	OR Cas	58857.4315	11758	–0.0345	V	T. Arranz	0.0002
SS Ari	58849.3949	48822	–0.4196	V	T. Arranz	0.0002	OX Cas	58799.6637	7042	0.0769	V	G. Samolyk	0.0003
SX Aur	58810.9029	15411	0.0214	V	G. Samolyk	0.0002	PV Cas	58702.7366	10554.5	–0.0019	V	G. Samolyk	0.0001
TT Aur	58786.7243	28171	–0.0098	V	G. Samolyk	0.0002	PV Cas	58765.7533	10590.5	–0.0022	V	G. Samolyk	0.0001
AP Aur	58813.6836	28751	1.7709	V	G. Samolyk	0.0002	PV Cas	58782.3526	10600	–0.0323	V	T. Arranz	0.0001
EM Aur	58792.8964	15259	–1.1308	V	G. Samolyk	0.0003	PV Cas	58824.3641	10624	–0.0321	V	T. Arranz	0.0001
EM Aur	58805.6503	15266	–1.1308	TG	G. Conrad	0.0004	PV Cas	58852.3702	10640	–0.0335	V	T. Arranz	0.0002
EM Aur	58878.5264	15306	–1.1340	V	K. Menzies	0.0006	V364 Cas	58720.6914	15804.5	–0.0248	V	G. Samolyk	0.0001
EP Aur	58733.8709	54863	0.0170	V	G. Samolyk	0.0001	V364 Cas	58743.8369	15819.5	–0.0253	V	K. Menzies	0.0001
EP Aur	58810.7024	54993	0.0175	V	G. Samolyk	0.0001	V364 Cas	58761.5826	15831	–0.0249	V	T. Arranz	0.0002
HP Aur	58733.9041	11229.5	0.0758	V	G. Samolyk	0.0002	V375 Cas	58714.6895	16338	0.2816	V	G. Samolyk	0.0002
HP Aur	58765.9157	11252	0.0741	V	G. Samolyk	0.0001	V375 Cas	58760.3659	16369	0.2831	V	T. Arranz	0.0001
HP Aur	58780.8556	11262.5	0.0744	V	K. Menzies	0.0001	V375 Cas	58782.4669	16384	0.2834	V	T. Arranz	0.0001
HP Aur	58845.5939	11308	0.0747	V	G. Samolyk	0.0002	V375 Cas	58785.4151	16386	0.2848	V	T. Arranz	0.0002

Table continued on following pages

Table 1. Recent times of minima of stars in the AAVSO eclipsing binary program, cont.

Star	*JD (min) Hel. 2400000 +*	*Cycle*	*O–C (day)*	*F*	*Observer*	*Standard Error (day)*
V380 Cas	58712.6709	24363	–0.0762	V	G. Samolyk	0.0002
V380 Cas	58788.6803	24419	–0.0741	V	G. Samolyk	0.0001
V1261 Cas	58766.3422	14980	0.0113	V	T. Arranz	0.0002
V1261 Cas	58802.5963	15094	0.0129	V	G. Samolyk	0.0004
U Cep	58704.8302	5681	0.2243	V	G. Samolyk	0.0002
U Cep	58724.7774	5689	0.2271	V	G. Samolyk	0.0001
U Cep	58764.6660	5705	0.2269	V	G. Samolyk	0.0002
SU Cep	58712.8155	35930	0.0090	V	G. Samolyk	0.0002
SU Cep	58724.5309	35943	0.0062	V	T. Arranz	0.0001
WW Cep	58707.7082	21960	0.3572	V	S. Cook	0.0003
WW Cep	58730.7128	21975	0.3578	V	G. Samolyk	0.0001
WZ Cep	58786.5802	73653	–0.2071	V	G. Samolyk	0.0001
WZ Cep	58828.5327	73753.5	–0.2080	V	G. Samolyk	0.0001
XX Cep	58725.8888	5941	0.0293	V	G. Samolyk	0.0001
XX Cep	58765.6227	5958	0.0286	V	G. Samolyk	0.0001
XX Cep	58847.4304	5993	0.0299	V	T. Arranz	0.0004
CW Cep	58726.7053	8557	0.0093	V	S. Cook	0.0006
DK Cep	58697.6837	25466	0.0283	V	G. Samolyk	0.0001
DK Cep	58717.4022	25486	0.0287	V	T. Arranz	0.0001
DL Cep	58723.4653	15196	0.0680	V	T. Arranz	0.0002
DL Cep	58754.4431	15215	0.0667	V	T. Arranz	0.0001
DV Cep	58702.6373	10275	–0.0068	V	G. Samolyk	0.0002
EM Cep	58710.7493	23042	–0.0003	V	S. Cook	0.0004
NN Cep	58744.7047	6917	0.0057	V	S. Cook	0.0007
TT Cet	58813.6373	54054	–0.0854	V	G. Samolyk	0.0001
TW Cet	58824.6092	51921	–0.0363	V	G. Samolyk	0.0002
TW Cet	58855.6592	52019	–0.0378	V	S. Cook	0.0003
TX Cet	58810.6855	21230	0.0127	V	G. Samolyk	0.0001
RW Com	58835.8925	79266	0.0161	V	G. Samolyk	0.0001
RZ Com	58849.9108	70936.5	0.0573	V	G. Samolyk	0.0001
RZ Com	58871.9140	71001.5	0.0576	V	K. Menzies	0.0006
RW CrB	58724.6050	24742	0.0039	V	G. Samolyk	0.0002
V Crt	58849.9491	24860	–0.0006	V	G. Samolyk	0.0002
Y Cyg	58765.6863	16457.5	0.1200	V	G. Samolyk	0.0002
Y Cyg	58810.6302	16472.5	0.1190	V	G. Samolyk	0.0002
SW Cyg	58719.4408	3685	–0.3757	V	T. Arranz	0.0001
WW Cyg	58708.7102	5525	0.1505	V	S. Cook	0.0006
WW Cyg	58728.6178	5531	0.1515	V	G. Samolyk	0.0001
WW Cyg	58758.4778	5540	0.1515	V	T. Arranz	0.0001
WW Cyg	58811.5627	5556	0.1521	V	G. Samolyk	0.0001
ZZ Cyg	58725.4916	21834	–0.0768	V	T. Arranz	0.0001
ZZ Cyg	58811.6118	21971	–0.0770	V	G. Samolyk	0.0001
AE Cyg	58733.4507	14597	–0.0036	V	T. Arranz	0.0001
BR Cyg	58709.5559	12885	0.0014	V	T. Arranz	0.0001
CG Cyg	58739.3791	30602	0.0801	V	T. Arranz	0.0001
CG Cyg	58754.5270	30626	0.0806	V	K. Menzies	0.0001
CG Cyg	58763.3631	30640	0.0808	V	T. Arranz	0.0001
CG Cyg	58764.3102	30641.5	0.0811	V	L. Corp	0.0002
DK Cyg	58720.6873	44022.5	0.1288	V	G. Samolyk	0.0001
DK Cyg	58729.3960	44041	0.1297	V	T. Arranz	0.0001
DK Cyg	58729.6300	44041.5	0.1283	V	T. Arranz	0.0001
DK Cyg	58782.5841	44154	0.1298	V	G. Samolyk	0.0001
KR Cyg	58702.8054	35019	0.0250	V	G. Samolyk	0.0001
KV Cyg	58718.6037	10303	0.0636	V	T. Arranz	0.0002
KV Cyg	58738.4770	10310	0.0640	V	T. Arranz	0.0001
V387 Cyg	58704.6407	47954	0.0199	V	G. Samolyk	0.0001
V387 Cyg	58720.6549	47979	0.0192	V	G. Samolyk	0.0001
V387 Cyg	58749.4825	48024	0.0200	V	T. Arranz	0.0001
V388 Cyg	58731.4933	19531.5	–0.1291	V	T. Arranz	0.0002
V388 Cyg	58734.4942	19535	–0.1348	V	T. Arranz	0.0001
V388 Cyg	58763.7023	19569	–0.1340	V	G. Samolyk	0.0001
V456 Cyg	58725.7769	15501	0.0536	V	G. Samolyk	0.0001
V456 Cyg	58753.4037	15532	0.0534	V	T. Arranz	0.0001
V466 Cyg	58710.4663	21512.5	0.0075	V	T. Arranz	0.0001
V477 Cyg	58696.6738	6181.5	–0.5125	V	G. Samolyk	0.0001
V477 Cyg	58700.6668	6183	–0.0400	V	G. Samolyk	0.0002
V477 Cyg	58719.4408	6191	–0.0419	V	T. Arranz	0.0001
V477 Cyg	58754.6461	6206	–0.0415	V	K. Menzies	0.0001
V488 Cyg	58702.7983	52644	–0.2590	V	G. Samolyk	0.0002
V548 Cyg	58748.5520	7917	0.0265	V	K. Menzies	0.0001
V704 Cyg	58725.6288	36422	0.0387	V	G. Samolyk	0.0002
V704 Cyg	58726.4850	36423.5	0.0389	V	T. Arranz	0.0001
V704 Cyg	58765.5787	36492	0.0393	V	G. Samolyk	0.0002
V836 Cyg	58725.4554	21230	0.0241	V	T. Arranz	0.0001
V891 Cyg	58710.6650	12618	0.0525	V	S. Cook	0.0009
V1034 Cyg	58728.6160	16163	0.0212	V	G. Samolyk	0.0002
V2181 Cyg	58702.8163	13856.5	–0.005	V	G. Samolyk	0.0005
TT Del	58697.8379	4690	–0.1292	V	G. Samolyk	0.0001
TY Del	58726.4674	13237	0.0758	V	T. Arranz	0.0001
TY Del	58764.5846	13269	0.0769	V	G. Samolyk	0.0001
TY Del	58820.5687	13316	0.0780	V	G. Samolyk	0.0001
YY Del	58696.8529	19843	0.0124	V	G. Samolyk	0.0001
YY Del	58752.3695	19913	0.0125	V	T. Arranz	0.0001
YY Del	58756.3350	19918	0.0126	V	T. Arranz	0.0001
BW Del	58747.7951	13599	0.4778	V	S. Cook	0.0007
FZ Del	58730.4746	34992	–0.0297	V	T. Arranz	0.0001
FZ Del	58820.5439	35107	–0.0298	V	G. Samolyk	0.0001
MR Del	58726.4139	11934.5	–0.0089	V	L. Corp	0.0003
Z Dra	58720.6678	6539	–0.0052	V	G. Samolyk	0.0002
BH Dra	58764.6101	10315	–0.0039	V	G. Samolyk	0.0001
SV Equ	58756.7385	21991.5	–0.2000	V	S. Cook	0.0009
SV Equ	58759.8245	21995	–0.1975	V	S. Cook	0.0017
TZ Eri	58840.6529	6303	0.3603	V	G. Samolyk	0.0001
YY Eri	58840.7240	53683.5	0.1688	V	G. Samolyk	0.0002
YY Eri	58848.2796	53707	0.1693	V	L. Corp	0.0007
YY Eri	58856.6387	53733	0.1696	V	G. Samolyk	0.0001
SX Gem	58849.7049	29131	–0.0590	V	G. Samolyk	0.0002
TX Gem	58849.7652	13929	–0.0418	V	N. Simmons	0.0003
TX Gem	58849.7653	13929	–0.0417	V	G. Samolyk	0.0002
WW Gem	58747.8997	26469	0.0233	V	G. Samolyk	0.0001
WW Gem	58799.8883	26511	0.0239	V	G. Samolyk	0.0001
AF Gem	58765.8803	25415	–0.0701	V	G. Samolyk	0.0001
AL Gem	58810.9103	23349	0.1010	V	G. Samolyk	0.0002
SZ Her	58746.5466	20636	–0.0347	V	K. Menzies	0.0001
TT Her	58680.7276	20486	0.0417	V	S. Cook	0.0006
AK Her	58684.4300	39139	0.0200	V	L. Corp	0.0001
CC Her	58697.6523	10974	0.3307	V	G. Samolyk	0.0001
DI Her	58712.7078	1562	–0.0022	V	G. Samolyk	0.0003
HS Her	58712.6643	8276.5	–0.0005	V	G. Samolyk	0.0006
LT Her	58697.6401	16551	–0.1613	V	G. Samolyk	0.0002
DF Hya	58835.8644	48541.5	0.0146	V	G. Samolyk	0.0001
DF Hya	58854.8748	48599	0.0152	V	G. Samolyk	0.0001
DK Hya	58869.8147	30706	–0.0003	V	G. Samolyk	0.0002
SW Lac	58712.6827	41897.5	–0.0689	V	G. Samolyk	0.0001
SW Lac	58740.7484	41985	–0.0663	V	G. Samolyk	0.0001
SW Lac	58760.3120	42046	–0.0667	V	T. Arranz	0.0002
SW Lac	58760.4704	42046.5	–0.0686	V	T. Arranz	0.0002
SW Lac	58760.6337	42047	–0.0657	V	T. Arranz	0.0002
SW Lac	58847.3865	42317.5	–0.0679	V	L. Corp	0.0003
VX Lac	58746.6804	12553	0.0887	V	K. Menzies	0.0001
VX Lac	58747.7553	12554	0.0891	V	G. Samolyk	0.0001
AR Lac	58704.6414	8628	–0.0518	V	G. Samolyk	0.0002
AW Lac	58700.8042	28067	0.2169	V	K. Menzies	0.0001
CM Lac	58728.5994	19756	–0.0038	V	G. Samolyk	0.0001
CM Lac	58749.4597	19769	–0.0045	V	T. Arranz	0.0001
CO Lac	58696.6732	20206.5	–0.0154	V	G. Samolyk	0.0001
CO Lac	58719.8053	20221.5	–0.0165	V	G. Samolyk	0.0001
CO Lac	58740.6522	20235	0.0106	V	G. Samolyk	0.0001
CO Lac	58785.3777	20264	0.0121	V	T. Arranz	0.0002
DG Lac	58829.5547	6490	–0.2380	V	G. Samolyk	0.0002
GX Lac	58719.7942	2985	–0.0432	V	G. Samolyk	0.0002
T LMi	58850.8224	4455	–0.1333	V	K. Menzies	0.0004

Table continued on next page

Table 1. Recent times of minima of stars in the AAVSO eclipsing binary program, cont.

Star	JD (min) Hel. 2400000 +	Cycle	O–C (day)	F	Observer	Standard Error (day)
Z Lep	58763.8929	31538	–0.2018	V	G. Samolyk	0.0001
RR Lep	58792.9179	31041	–0.0446	V	G. Samolyk	0.0001
RY Lyn	58828.7076	11109	–0.0171	V	G. Samolyk	0.0002
EW Lyr	58702.6433	16525	0.2987	V	G. Samolyk	0.0002
FL Lyr	58711.4488	9407	–0.0021	V	T. Arranz	0.0001
FL Lyr	58750.6558	9425	–0.0019	V	G. Samolyk	0.0002
β Lyr	58631.85	745	2.62	B	G. Samolyk	0.02
β Lyr	58631.86	745	2.63	R	G. Samolyk	0.02
β Lyr	58631.87	745	2.63	V	G. Samolyk	0.02
β Lyr	58638.34	745.5	2.64	B	G. Samolyk	0.02
β Lyr	58638.35	745.5	2.65	R	G. Samolyk	0.02
β Lyr	58638.37	745.5	2.67	V	G. Samolyk	0.02
RU Mon	58802.8688	4759	–0.1464	V	G. Samolyk	0.0001
RW Mon	58838.8935	13199	–0.0909	V	G. Samolyk	0.0001
AT Mon	58795.8844	15864	0.0111	V	G. Samolyk	0.0002
BB Mon	58869.7498	43931	–0.0040	V	G. Samolyk	0.0002
RZ Oph	58705.58	63	–0.26	V	G. Samolyk	0.03
RZ Oph	58705.58	63	–0.25	R	G. Samolyk	0.04
RZ Oph	58705.60	63	–0.24	B	G. Samolyk	0.04
RZ Oph	58705.61	63	–0.22	I	G. Samolyk	0.05
V501 Oph	58719.6319	28729	–0.0101	V	G. Samolyk	0.0001
V508 Oph	58670.4300	39409	–0.0260	V	L. Corp	0.0001
V508 Oph	58719.7348	39552	–0.0265	V	S. Cook	0.0003
V839 Oph	58704.6604	44636	0.3324	V	G. Samolyk	0.0002
V2610 Oph	58713.4240	14873	–0.0390	V	L. Corp	0.0003
EF Ori	58813.8160	3991	0.0094	V	G. Samolyk	0.0003
EQ Ori	58788.9419	15664	–0.0379	V	G. Samolyk	0.0002
ER Ori	58799.8263	40560.5	0.1483	V	G. Samolyk	0.0001
ET Ori	58788.8165	33761	–0.0033	V	G. Samolyk	0.0001
FR Ori	58810.8572	35043	0.0463	V	G. Samolyk	0.0001
FZ Ori	58854.7375	37077	–0.0240	V	G. Samolyk	0.0002
GU Ori	58813.8758	33449.5	–0.0713	V	G. Samolyk	0.0001
U Peg	58714.8600	59243.5	–0.1724	V	G. Samolyk	0.0001
U Peg	58755.5228	59352	–0.1734	V	L. Corp	0.0001
U Peg	58820.5472	59525.5	–0.1736	V	G. Samolyk	0.0001
TY Peg	58800.5501	5934	–0.4674	V	G. Samolyk	0.0001
UX Peg	58730.7328	11851	–0.0023	V	G. Samolyk	0.0001
BB Peg	58704.8210	41329	–0.0327	V	G. Samolyk	0.0001
BB Peg	58724.7037	41384	–0.0326	V	G. Samolyk	0.0001
BB Peg	58739.7061	41425.5	–0.0325	TG	G. Conrad	0.0002
BB Peg	58743.6826	41436.5	–0.0326	V	K. Menzies	0.0001
BB Peg	58795.5573	41580	–0.0334	V	G. Samolyk	0.0001
BB Peg	58840.5651	41704.5	–0.0326	V	G. Samolyk	0.0002
BG Peg	58714.8620	6752	–2.4214	V	G. Samolyk	0.0002
DI Peg	58763.7306	19060	0.0144	V	G. Samolyk	0.0001
DI Peg	58845.5899	19175	0.0148	V	G. Samolyk	0.0001
GP Peg	58740.8563	17940	–0.0568	V	G. Samolyk	0.0002
Z Per	58730.7175	4277	–0.3508	V	G. Samolyk	0.0001
Z Per	58828.5151	4309	–0.3550	V	G. Samolyk	0.0002
RT Per	58752.8584	29876	0.1161	V	K. Menzies	0.0001
RV Per	58795.9517	8487	0.0075	V	G. Samolyk	0.0001
ST Per	58702.7796	6142	0.3209	V	G. Samolyk	0.0001
ST Per	58763.6939	6165	0.3239	V	G. Samolyk	0.0001
ST Per	58824.6046	6188	0.3234	V	G. Samolyk	0.0001
ST Per	58869.6261	6205	0.3235	V	G. Samolyk	0.0003
XZ Per	58828.7450	13304	–0.0728	V	G. Samolyk	0.0001
IT Per	58802.8299	19182	–0.0442	V	G. Samolyk	0.0002
IT Per	58816.6392	19191	–0.0385	V	K. Menzies	0.0004
IU Per	58754.7758	15336	0.0029	V	K. Menzies	0.0001
V432 Per	58718.8316	71052	0.0297	V	G. Samolyk	0.0001
V432 Per	58840.7237	71431	0.0669	V	G. Samolyk	0.0002
V1071 Per	58048.7974	–0.5	0.0040	V	V. Petriew	0.0005
V1071 Per	58048.9733	0	0.0000	V	V. Petriew	0.0003
V1092 Per	58046.8419	0	0.0000	V	V. Petriew	0.0003
β Per	58799.7128	4589	0.1399	V	G. Samolyk	0.0002
Y Psc	58811.6336	3499	–0.0261	V	G. Samolyk	0.0001
RV Psc	58788.7141	62108	–0.0669	V	G. Samolyk	0.0002
RV Psc	58869.5968	62254	–0.0669	V	G. Samolyk	0.0002
UV Psc	58755.5457	17826	–0.0220	V	L. Corp	0.0001
UV Psc	58843.3706	17928	–0.0240	V	L. Corp	0.0003
VZ Psc	58764.3228	57154.5	0.0028	V	L. Corp	0.0004
VZ Psc	58782.4854	57224	0.0080	V	T. Arranz	0.0003
VZ Psc	58783.3937	57227.5	0.0019	V	T. Arranz	0.0001
VZ Psc	58783.5270	57228	0.0045	V	T. Arranz	0.0002
AQ Psc	58755.5196	13152	–0.0016	V	L. Corp	0.0002
UZ Pup	58869.7413	17935.5	–0.0107	V	G. Samolyk	0.0002
U Sge	58698.5271	12296	0.0204	V	T. Arranz	0.0001
V505 Sgr	58712.7072	12048	–0.1201	V	G. Samolyk	0.0001
BS Sco	58715.7153	2547	0.0559	V	S. Cook	0.0024
V701 Sco	58730.8119	19893	–0.0126	V	S. Cook	0.0018
U Sct	58747.5874	14952	–0.0254	V	S. Cook	0.0009
RW Tau	58763.8870	4724	–0.2964	V	G. Samolyk	0.0001
RZ Tau	58763.8396	50730	0.0951	V	G. Samolyk	0.0001
TY Tau	58824.7000	34930	0.2774	V	G. Samolyk	0.0001
WY Tau	58764.9144	30837	0.0656	V	G. Samolyk	0.0001
AC Tau	58869.5547	6476	0.1912	V	G. Samolyk	0.0002
CT Tau	58724.8888	19976	–0.0723	V	G. Samolyk	0.0002
CT Tau	58849.5862	20163	–0.0721	V	G. Samolyk	0.0001
EQ Tau	58740.8242	54277.5	–0.0429	V	G. Samolyk	0.0001
EQ Tau	58748.8459	54301	–0.0429	V	K. Menzies	0.0001
EQ Tau	58762.8403	54342	–0.0438	V	K. Menzies	0.0001
V781 Tau	58854.3448	43430	–0.0505	V	L. Corp	0.0006
V1128 Tau	58843.3165	20772	–0.0045	V	L. Corp	0.0002
V1128 Tau	58848.3560	20788.5	–0.0036	V	L. Corp	0.0005
V1241 Tau	58872.7791	38069	–0.0116	V	S. Cook	0.0006
V Tri	58746.8696	58565	–0.0072	V	K. Menzies	0.0001
V Tri	58878.5417	58790	–0.0064	V	K. Menzies	0.0002
X Tri	58740.8598	16714	–0.1005	V	K. Menzies	0.0001
X Tri	58740.8599	16714	–0.1004	V	G. Samolyk	0.0001
X Tri	58849.6707	16826	–0.1016	V	G. Samolyk	0.0001
X Tri	58859.3853	16836	–0.1023	V	T. Arranz	0.0001
RS Tri	58743.8788	10898	–0.0584	V	K. Menzies	0.0002
RV Tri	58746.8651	16869	–0.0428	V	K. Menzies	0.0001
TY UMa	58813.8076	54383	0.4384	V	G. Samolyk	0.0002
VV UMa	58828.7236	18932	–0.0911	V	G. Samolyk	0.0001
XZ UMa	58838.8398	10366	–0.1553	V	G. Samolyk	0.0002
ZZ UMa	58810.7254	9942	–0.0015	V	G. Samolyk	0.0001
ZZ UMa	58849.8125	9959	–0.0018	V	G. Samolyk	0.0001
AF UMa	58799.7761	6087	0.6388	V	G. Samolyk	0.0002
W UMi	58702.7266	14708	–0.2224	V	G. Samolyk	0.0005
W UMi	58719.7420	14718	–0.2186	V	G. Samolyk	0.0002
AW Vul	58713.6525	15411	–0.0352	V	G. Samolyk	0.0001
AW Vul	58735.4274	15438	–0.0345	V	T. Arranz	0.0001
AX Vul	58810.5630	6893	–0.0395	V	G. Samolyk	0.0002
AY Vul	58795.5174	6678	–0.1793	V	G. Samolyk	0.0002
BE Vul	58723.5997	11992	0.1071	V	G. Samolyk	0.0002
BE Vul	58762.4004	12017	0.1067	V	T. Arranz	0.0001
BO Vul	58734.6806	11689	–0.0131	V	K. Menzies	0.0001
BO Vul	58810.5696	11728	–0.0130	V	G. Samolyk	0.0001
BS Vul	58740.6154	32500	–0.0354	V	G. Samolyk	0.0001
BS Vul	58810.5825	32647	–0.0361	V	G. Samolyk	0.0002
BT Vul	58746.5743	20456	0.0071	V	K. Menzies	0.0001
BU Vul	58704.8083	44238	0.0130	V	G. Samolyk	0.0001
CD Vul	58740.6113	18197	–0.0015	V	G. Samolyk	0.0002
ER Vul	58746.3511	26592.5	0.0219	V	L. Corp	0.0004