

COMMISSION 27 OF THE I. A. U.  
 INFORMATION BULLETIN ON VARIABLE STARS

NUMBER 795

Konkoly Observatory  
 Budapest  
 1973 May 21

MINIMA OF ECLIPSING VARIABLES (XI)

This report revives the series of minima of eclipsing variables the last of which was published in IBVS No. 247. Given here are 676 observed heliocentric minima of 48 eclipsing variable stars. All are visual timings reduced by the tracing-paper method, except where noted. Linear elements in the 1969 General Catalogue of Variable Stars were used to compute the O - C values unless otherwise specified. This is a change from previous reports of this series which used the 1958 edition as the prime reference. The number of estimates used for each minimum is given under n.

J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>RT Andromedae</u>				
39699.767	10203	+0.009	5	T. Cragg
39772.706	10319	-0.008	20	M. Baldwin
39801.637	10365	-0.008	14	R. Swanberg
39801.640	10365	-0.005	14	M. Baldwin
39813.596	10384	0.000	17	J. Bortle
39813.603	10384	+0.008	17	A. Dobrowski
39821.766	10397	-0.005	17	M. Baldwin
39823.648	10400	-0.010	20	M. Baldwin
39826.799	10405	-0.004	12	M. Baldwin
39828.691	10408	+0.002	9	T. Cragg
39830.584	10411	+0.007	15	Carl Anderson
39833.716	10416	-0.005	12	H. Peterson
39833.717	10416	-0.004	13	H. Swanberg
39847.558	10438	+0.001	14	H. Blake
39862.639	10462	-0.013	7	M. Baldwin
39891.582	10508	-0.001	16	J. Bortle
39908.555	10535	-0.009	13	J. Bortle
40008.557	10694	-0.007	17	A. Dobkowski
40025.562:	10721	+0.017:	15	A. Dobkowski
40030.581	10729	+0.004	15	A. Dobkowski.
40094.724	10831	-0.003	15	M. Baldwin
40096.612	10834	-0.002	16	J. Bortle
40096.619	10834	+0.005	9	L. Hazel
40099.753	10839	-0.006	9	M. Baldwin
40108.556	10853	-0.008	17	J. Bortle
40113.594	10861	-0.001	18	J. Bortle
40113.597	10861	+0.002	13	K. Simons
40116.733	10866	-0.007	14	H. Peterson
40116.736	10866	-0.004	13	M. Baldwin
40118.625	10869	-0.002	19	J. Bortle
40128.686	10885	-0.003	10	M. Baldwin

J.D. hel. ( 240000+ )	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>RT Andromedae</u>				
40135.610	10896	+0.002	13	J. Bortle
40145.668	10912	-0.002	13	H. Peterson
40184.661	10974	-0.003	12	M. Baldwin
40196.614	10993	0.000	16	J. Bortle
40208.559	11012	-0.005	19	J. Bortle
40211.704	11017	-0.004	8	M. Baldwin
40245.666	11071	-0.005	9	M. Baldwin
40411.698	11335	-0.010	16	Carl Anderson
40436.865	11375	0.000	15	M. Baldwin
40443.777	11386	-0.007	11	M. Baldwin
40455.727	11405	-0.007	14	Carl Anderson
40457.625	11408	+0.005	12	D. Ortwein
40470.816	11429	-0.012	10	M. Baldwin
40486.563	11454	+0.011	14	D. Ortwein
40491.584	11462	+0.001	13	D. Ortwein
40503.538	11481	+0.005	11	D. Ortwein
40513.591	11497	-0.004	12	J. Bortle
40513.612	11497	+0.017	15	D. Ortwein
40528.683	11521	-0.006	14	M. Baldwin
40547.554	11551	-0.003	14	J. Bortle
40547.557	11551	0.000	15	D. Ortwein
40557.609	11567	-0.012	10	M. Baldwin
40557.618	11567	-0.003	11	R. Swanberg
40562.643	11575	-0.009	8	M. Baldwin
<u>TW Andromedae</u>				
40475.747	4954	+0.013	22	M. Baldwin
40512.860	4963	+0.022	21	M. Baldwin
<u>WZ Andromedae</u>				
39799.591	6791	+0.009	7	D. Livingston
39826.700	6830	-0.014	17	M. Baldwin
39826.705	6830	-0.009	13	F. Chapman
39854.546	6870	+0.006	15	L. Hazel
40116.798	7247	-0.006	12	M. Baldwin
40128.621	7264	-0.009	14	L. Hazel
40151.579	7297	-0.009	19	J. Bortle
40151.583:	7297	-0.005:	11	D. Livingston
40178.718	7336	0.000	11	M. Baldwin
40208.625	7379	-0.006	20	J. Bortle
40215.571:	7389	-0.017:	6	K. Simmons
40436.805	7707	-0.004	14	M. Baldwin
40443.750	7717	-0.015	20	M. Baldwin
40583.576	7918	-0.018	12	L. Hazel
<u>XZ Andromedae</u>				
39801.676	476	-0.001	18	M. Baldwin
39805.747	479	-0.001	14	W. Lowder
39820.677	490	-0.002	14	S. Cook
39820.679	490	0.000	13	H. Blake
49820.679	490	0.000	15	L. Hazel

J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>XZ Andromedae</u>				
39839.678	504	-0.003	28	R. Swanberg
39854.610	515	-0.001	23	F. Chapman
39854.610	515	-0.001	11	W. Lowder
39892.614	543	-0.002	11	W. Lowder
39892.616	543	0.000	17	M. Baldwin
39896.687	546	-0.001	21	M. Baldwin
39915.685	560	-0.004	18	R. Swanberg
39915.689	560	-0.001	18	M. Baldwin
40120.635	711	-0.006	15	L. Hazel
40124.711	714	-0.002	14	H. Peterson
40128.782	717	-0.003	20	M. Baldwin
40128.790	717	+0.005	12	L. Hazel
40147.789	731	+0.002	10	T. Cragg
40196.647	767	-0.003	19	J. Bortle
40268.584	820	-0.003	24	J. Bortle
40436.887	944	-0.004	16	M. Baldwin
40447.746	952	-0.004	19	M. Baldwin
40451.815	955	-0.006	15	L. Hazel
40466.748	966	-0.004	26	M. Baldwin
40470.820	969	-0.004	20	M. Baldwin
40512.898	1000	-0.002	12	M. Baldwin
40538.685	1019	-0.004	10	L. Hazel
40557.684	1033	-0.006	10	M. Baldwin
40557.689	1033	-0.002	16	R. Swanberg
40587.542	1055	-0.009	10	L. Hazel
<u>AB Andromedae</u>				
39772.673	11037	+0.011	10	M. Baldwin
39786.617	11079	+0.016	9	W. Lowder
39787.612	11082	+0.015	9	W. Lowder
39790.599	11091	+0.015	10	H. Blake
39793.585	11100	+0.014	17	F. Chapman
39793.589	11100	+0.018	21	D. Livingston
39793.602:	11100	+0.031:	14	H. Blake
39793.745	11100.5	+0.008	15	F. Chapman
39794.574:	11103	+0.008:	9	H. Blake
39794.575	11103	+0.009	22	F. Chapman
39797.729	11112.5	+0.009	16	M. Baldwin
39799.559	11118	+0.014	11	J. Bortle
39800.551	11121	+0.011	14	J. Bortle
39800.717	11121.5	+0.010	17	M. Baldwin
39801.717	11124.5	+0.015	10	M. Baldwin
39820.637	11181.5	+0.017	14	J. Bortle
39821.627	11184.5	+0.011	6	M. Baldwin
39822.613:	11187.5	+0.001:	14	A. Dobkowski
39822.626	11187.5	+0.014	15	J. Bortle
39823.601	11190.5	-0.006	16	C. Ricker
39823.619	11190.5	+0.012	10	M. Baldwin
39826.603	11199.5	+0.009	5	M. Baldwin
39829.590	11208.5	+0.009	15	F. Chapman

J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>AB Andromedae</u>				
39829.592	11208.5	+0.011	11	J. Bortle
39842.537	11247.5	+0.012	11	J. Bortle
39844.533	11253.5	+0.017	9	J. Bortle
39845.527	11256.5	+0.015	10	J. Bortle
39845.534	11256.5	+0.022	19	D. Livingston
39848.516	11265.5	+0.017	15	D. Livingston
39851.659	11275	+0.007	13	J. Bortle
39851.659	11275	+0.007	14	M. Baldwin
39854.660	11284	+0.021	10	H. Peterson
39855.660	11287	+0.025	19	H. Peterson
39859.630	11299	+0.012	8	M. Baldwin
39861.618	11305	+0.009	13	J. Bortle
39862.616	11308	+0.012	15	H. Peterson
39867.586	11323	+0.003	24	A. Dobkowski
39867.588	11323	+0.005	16	F. Chapman
39876.541	11350	-0.003	16	A. Dobkowski
39877.550	11353	+0.011	13	J. Bortle
39882.530	11368	+0.012	11	J. Bortle
39885.684	11377.5	+0.013	6	T. Cragg
39890.645	11392.5	-0.004	17	A. Dobkowski
40056.772	11893	+0.011	14	M. Baldwin
40058.765	11899	+0.013	14	M. Baldwin
40059.761	11902	+0.014	11	M. Baldwin
40063.742	11914	+0.011	11	M. Baldwin
40064.737	11917	+0.011	12	M. Baldwin
40069.719	11932	+0.015	8	M. Baldwin
40070.714	11935	+0.014	8	M. Baldwin
40080.673	11965	+0.017	13	J. Bortle
40081.670	11968	+0.018	13	J. Bortle
40084.653	11977	+0.014	12	J. Bortle
40087.642	11986	+0.016	15	J. Bortle
40094.779	12007.5	+0.017	8	M. Baldwin
40095.606	12010	+0.014	16	J. Bortle
40096.601	12013	+0.014	15	J. Bortle
40103.573	12034	+0.016	13	J. Bortle
40116.681	12073.5	+0.014	7	M. Baldwin
40117.688	12076.5	+0.026	16	H. Peterson
40128.637	12109.5	+0.022	17	J. Bortle
40128.796	12110	+0.015	9	M. Baldwin
40134.606	12127.5	+0.017	17	J. Bortle
40135.600	12130.5	+0.015	17	J. Bortle
40137.592	12136.5	+0.016	14	J. Bortle
40146.716	12164	+0.013	11	H. Peterson
40156.676	12194	+0.016	13	M. Baldwin
40157.675	12197	+0.019	15	J. Bortle
40160.658	12206	+0.016	19	J. Bortle
40161.653	12209	+0.015	19	J. Bortle
40180.569	12266	+0.013	15	J. Bortle
40181.561	12269	+0.009	14	J. Bortle
40187.707	12287.5	+0.016	18	H. Peterson

J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>AB Andromedae</u>				
40196.666	12314.5	+0.013	16	J. Bortle
40197.664	12317.5	+0.015	16	J. Bortle
40200.652	12326.5	+0.016	16	J. Bortle
40208.614	12350.5	+0.013	19	J. Bortle
40215.588:	12371.5	+0.017:	5	K. Simmons
40219.563	12383.5	+0.010	10	K. Simmons
40220.563	12386.5	+0.014	13	J. Bortle
40256.559	12495	0.000	15	A. Dobkowski
40436.789	13038	+0.013	11	M. Baldwin
40437.780	13041	+0.008	10	T. Cragg
40443.763	13059	+0.017	13	M. Baldwin
40447.745	13071	+0.016	11	M. Baldwin
40449.734	13077	+0.014	11	M. Baldwin
40451.732	13083	+0.021	11	M. Baldwin
40457.701	13101	+0.016	9	M. Baldwin
40470.810	13140.5	+0.015	10	M. Baldwin
40471.806	13143.5	+0.015	6	M. Baldwin
40478.599	13164	+0.005	15	D. Ortwein
40483.590	13179	+0.017	9	J. Bortle
40513.619	13269.5	+0.010	17	F. Chapman
40513.624	13269.5	+0.015	10	M. Baldwin
40528.723	13315	+0.013	10	M. Baldwin
40556.604	13399	+0.015	12	M. Baldwin
<u>RY Aquarii</u>				
40446.811	3343	-0.062	13	R. Monske
40454.688	3347	-0.051	14	L. Hazel
40456.674	3348	-0.032	20	R. Monske
<u>CX Aquarii</u>				
39732.760	5898	+0.004	12	T. Cragg
40094.710	6549	+0.008	8	M. Baldwin
40099.715	6558	+0.009	9	M. Baldwin
40113.615	6583	+0.009	17	K. Simmons
40129.731	6612	+0.002	12	M. Baldwin
40178.661	6700	+0.004	11	M. Baldwin
40437.753	7166	+0.007	13	T. Cragg
40446.649	7182	+0.007	12	R. Monske
40447.760	7184	+0.007	15	M. Baldwin
40456.656	7200	+0.007	16	R. Monske
40457.756	7202	+0.005	11	M. Baldwin
<u>OO Aquilae</u>				
39659.743	11315	-0.002	15	Curtis Anderson
39661.775	11319	+0.003	13	Curtis Anderson
39678.739	11352.5	-0.010	10	Curtis Anderson
39685.846:	11366.5	+0.001:	9	Curtis Anderson
39694.709	11384	-0.004	10	M. Baldwin

<u>J.D. hel.</u> <u>(2400000+)</u>	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>00 Aquilae</u>				
39696.738	11386	-0.002	11	Curtis Anderson
39699.779	11394	-0.003	6	T. Cragg
39699.786	11394	+0.004	11	Curtis Anderson
39701.805	11398	-0.004	10	M. Baldwin
39715.750	11425.5	+0.004	11	S. Cook
39729.676	11453	-0.007	8	Curtis Anderson
39730.685	11455	-0.011	10	Curtis Anderson
39734.746	11463	-0.005	9	Curtis Anderson
39737.783	11469	-0.008	14	M. Baldwin
39743.625	11480.5	+0.006	11	Curtis Anderson
39757.808	11508.5	-0.001	11	M. Baldwin
39764.659	11522	+0.007	10	Curtis Anderson
39765.658	11524	-0.006	10	Curtis Anderson
39800.623	11593	-0.010	11	M. Baldwin
39801.637	11595	-0.010	15	M. Baldwin
40046.677	12078.5	-0.005	9	Curtis Anderson
40047.688	12080.5	-0.008	13	Curtis Anderson
40048.701	12082.5	-0.008	11	Curtis Anderson
40052.751	12090.5	-0.012	7	Curtis Anderson
40053.771	12092.5	-0.006	11	T. Cragg
40054.782	12094.5	-0.008	6	T. Cragg
40056.811	12098.5	-0.006	13	M. Baldwin
40058.834	12102.5	-0.011	14	M. Baldwin
40066.681	12118	-0.019	14	Curtis Anderson
40066.686	12118	-0.014	12	R. Monske
40067.702	12120	-0.012	13	R. Monske
40069.728	12124	-0.013	10	M. Baldwin
40070.740	12126	-0.015	15	M. Baldwin
40081.648	12147.5	-0.003	24	J. Bortle
40096.588	12177	-0.013	18	J. Bortle
40113.575	12210.5	-0.004	10	K. Simmons
40115.596	12214.5	-0.010	16	J. Bortle
40126.748	12236.5	-0.007	8	T. Cragg
40128.775	12240.5	-0.008	14	M. Baldwin
40134.605	12252	-0.006	19	J. Bortle
40151.580	12285.5	-0.008	15	J. Bortle
40156.644	12295.5.	-0.012	14	M. Baldwin
40417.648	12810.5	-0.007	15	J. Bortle
40418.660	12812.5	-0.009	5	W. Hampton
40418.660	12812.5	-0.009	14	J. Bortle
40439.667	12854	-0.033	11	R. Monske
40442.722	12860	-0.019	12	M. Baldwin
40443.736	12862	-0.019	13	M. Baldwin
40447.780	12870	-0.029	14	M. Baldwin
40453.625	12881.5	-0.012	14	Carl Anderson
40454.639	12883.5	-0.012	13	J. Bortle
40455.655	12885.5	-0.010	10	R. Monske
40455.661	12885.5	-0.004	9	W. Hampton

J.D. hel. (2400000+)	E	O - C	n	Observer
<u>V342 Aquilae</u>				
39674.630 1)	1192	+0.006	16	M. Baldwin
39701.751	1200	-0.001	26	M. Baldwin
40525.758: 2)	1443	+0.003:	5	T. Cragg
<u>V343 Aquilae</u>				
40084.710	6311	+0.004	18	L. Hazel
<u>V346 Aquilae</u>				
39706.757	7572	-0.012	8	T. Cragg
40070.760	7901	-0.003	16	M. Baldwin
40454.667	8248	-0.004	16	J. Bortle
40455.775	8249	-0.003	15	R. Monske
40465.721	8258	-0.014	15	T. Cragg
40465.728	8258	-0.007	16	M. Baldwin
40475.686	8267	-0.007	11	M. Baldwin
<u>WW Aurigae</u>				
39828.744	2726	+0.003	10	S. Cook
39852.724	2735.5	-0.005	6	T. Cragg
39852.7308	2735.5	+0.0014	20pe	L. Kalish
39857.7790	2737.5	-0.0004	28pe	L. Kalish
39876.723	2745	+0.006	11	S. Cook
39890.618	2750.5	+0.014	16	M. Baldwin
39905.753	2756.5	-0.002	9	S. Cook
39910.766:	2758.5	-0.039:	5	T. Cragg
39919.658	2762	+0.015	11	S. Cook
40184.781:	2867	+0.011:	18	R. Nolthenius
40186.037:	2867.5	+0.005:	16	R. Nolthenius
40203.707	2874.5	0.000	15	R. Nolthenius
40208.751:	2876.5	-0.006:	20	M. Baldwin
40208.765:	2876.5	+0.008:	15	R. Nolthenius
40213.816:	2878.5	+0.009:	15	R. Nolthenius
40227.657	2884	-0.038	14	T. Cragg
40251.688:	2893.5	+0.006:	14	R. Nolthenius
40280.719	2905	-0.001	15	M. Baldwin
40289.559	2908.5	+0.001	19	J. Bortle
40318.591	2920	-0.005	12	J. Bortle
40554.683	3013.5	-0.002	15	M. Baldwin
40583.716	3025	-0.006	17	M. Daw
40583.717	3025	-0.005	15	J. Green
40583.722	3025	0.000	14	R. Sweetsir
40583.724	3025	+0.002	12	D. Ortwein
<u>AR Aurigae</u>				
39859.657	3172.5	+0.012	12	M. Baldwin
39890.680	3180	+0.026	17	M. Baldwin
39892.738	3180.5	+0.016	14	M. Baldwin
40539.821	3337	+0.024	20	M. Baldwin

J.D. hel. (2400000+)	E	O - C	n	Observer
<u>Y Camelopardalis</u>				
39940.594	1221	+0.011	14	J. Bortle
<u>SV Cameloperdalis</u>				
39635.802	9878	+0.014	12	Curtis Anderson
39647.654	9898	+0.005	29	D. Livingston
39692.732	9974	+0.010	12	Curtis Anderson
39772.785	10109	-0.002	10	M. Baldwin
39794.731	10146	0.000	11	F. Sanner
39797.701	10151	+0.005	14	M. Baldwin
39800.657	10156	-0.005	17	M. Baldwin
39800.667	10156	+0.005	13	F. Sanner
39803.627	10161	0.000	13	F. Sanner
39803.629	10161	+0.002	9	W. Hampton
39803.634	10161	+0.007	17	J. Bortle
39820.829	10190	+0.003	12	F. Sanner
39822.611	10193	+0.005	19	J. Bortle
39826.756	10200	-0.001	13	M. Baldwin
39835.652	10215	-0.001	11	S. Cook
39844.546	10230	-0.003	27	A. Dobkowski
39844.552	10230	+0.003	14	J. Bortle
39848.712	10237	+0.012	13	S. Cook
39851.665	10242	-0.001	14	M. Baldwin
39854.619	10247	-0.012	11	F. Sanner
39854.634	10247	+0.003	10	S. Cook
39857.597	10252	+0.001	13	F. Sanner
39861.751	10259	+0.003	12	F. Sanner
39861.754	10259	+0.006	8	M. Baldwin
39880.732	10291	+0.005	10	S. Cook
39892.593	10311	+0.005	17	J. Bortle
39895.544	10316	-0.009	18	A. Dobkowski
39896.749	10318	+0.009	11	M. Baldwin
39908.608	10338	+0.007	19	J. Bortle
39911.567	10343	+0.001	14	A. Dobkowski
39912.756	10345	+0.004	13	M. Baldwin
39915.717	10350	-0.001	18	M. Baldwin
39918.688	10355	+0.005	15	S. Cook
39918.689	10355	+0.006	15	M. Baldwin
39921.649	10360	0.000	17	A. Dobkowski
39927.581	10370	+0.002	15	J. Bortle
39934.701	10382	+0.005	14	S. Cook
39937.664	10387	+0.003	11	M. Baldwin
39940.624	10392	-0.003	13	F. Sanner
39940.629	10392	+0.002	18	J. Bortle
39943.586	10397	-0.006	13	F. Sanner
39946.569	10402	+0.011	15	J. Bortle
39962.564	10429	-0.006	17	A. Dobkowski
39969.690	10441	+0.003	9	S. Cook
39972.649	10446	-0.004	19	F. Chapman
39994.600	10483	+0.004	10	W. Hampton



J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>SV Camelopardalis</u>				
40013.584	10515	+0.009	13	J. Bortle
40080.590	10628	-0.001	14	J. Bortle
40096.605	10655	+0.001	17	J. Bortle
40112.619	10682	+0.001	19	J. Bortle
40115.586	10687	+0.003	19	J. Bortle
40116.772	10689	+0.003	16	M. Baldwin
40118.551	10692	+0.003	17	J. Bortle
40125.671	10704	+0.006	11	M. Baldwin
40128.629	10709	-0.002	12	M. Baldwin
40128.633:	10709	+0.002:	19	J. Bortle
40134.566	10719	+0.005	19	J. Bortle
40147.613	10741	+0.004	19	J. Bortle
40160.662	10763	+0.006	19	J. Bortle
40186.758	10807	+0.007	16	M. Baldwin
40208.700	10844	+0.005	18	M. Baldwin
40211.664	10849	+0.004	13	M. Baldwin
40220.555	10864	-0.001	16	J. Bortle
40227.680:	10876	+0.007:	9	T. Cragg
40278.678	10962	+0.001	9	M. Baldwin
40306.542	11009	-0.010	13	A. Dobkowski
40319.598	11031	-0.002	17	J. Bortle
40323.753	11038	+0.002	12	M. Baldwin
40332.653	11053	+0.006	18	R. Sweetsir
40332.654	11053	+0.007	21	J. Bortle
40338.582	11063	+0.004	15	J. Bortle
40339.772	11065	+0.008	14	R. Sweetsir
40348.663	11080	+0.003	18	J. Bortle
40380.691	11134	+0.005	20	J. Bortle
40447.704	11247	+0.001	10	M. Baldwin
40466.680	11279	-0.002	13	M. Baldwin
40470.837	11286	+0.004	10	M. Baldwin
40510.568	11353	0.000	13	J. Bortle
40561.572	11439	-0.001	11	J. Bortle
<u>AL Camelopardalis</u>				
40296.590	10453	-0.002	23	J. Bortle
40369.652	10508	+0.002	18	J. Bortle
40373.635	10511	0.000	18	J. Bortle
40454.660	10572	-0.003	16	J. Bortle
<u>R Canis Majoris</u>				
39822.846	3792	+0.007	14	F. Sanner
39863.738	3828	+0.005	18	F. Sanner
39870.531	3834	-0.018	21	A. Dobkowski
39872.817	3836	-0.003	6	S. Cook
39896.670	3857	-0.005	21	M. Baldwin
39904.632	3864	+0.005	19	J. Bortle
39905.772	3865	+0.010	9	S. Cook

J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
39912.577	3871	-0.001	18	R. Thompson
39912.592	3871	+0.014	15	J. Bortle
39912.5843 3)	3871	+0.0060	59pe	A. Stokes
39929.637	3886	+0.019	14	R. Sweetsir
39954.596	3908	-0.012	15	A. Dobkowski
40288.578	4202	+0.004	12	J. Bortle
40313.571	4224	+0.007	14	R. Sweetsir
40582.783	4461	+0.001	7	R. Sweetsir
<u>RZ Cassiopeiae</u>				
39694.646	2134	0.000	12	M. Baldwin
39701.810	2140	-0.008	15	M. Baldwin
39737.675	2170	0.000	12	M. Baldwin
39768.752	2196	+0.001	19	F. Sanner
39774.723	2201	-0.004	16	F. Sanner
39793.849	2217	-0.003	17	F. Sanner
39810.587	2231	+0.002	19	J. Bortle
39817.750	2237	-0.006	15	S. Cook
39822.545	2241	+0.008	16	F. Sanner
39830.892:	2248	-0.012:	8	T. Cragg
39835.673	2252	-0.012	10	T. Cragg
39835.686	2252	+0.001	14	S. Cook
39847.640	2262	+0.002	21	R. Swanberg
39856.005	2269	0.000	15	F. Sanner
39859.591	2272	+0.001	8	M. Baldwin
39860.776	2273	-0.009	13	F. Sanner
39860.784	2273	-0.001	11	S. Cook
39872.740	2283	+0.002	12	S. Cook
39878.712	2288	-0.003	13	S. Cook
39884.685	2293	-0.005	14	S. Cook
39884.689	2293	-0.001	9	T. Cragg
39884.692	2293	+0.002	16	M. Baldwin
39890.665	2298	-0.002	20	D. Lucas
39890.669	2298	+0.002	24	M. Baldwin
39896.647	2303	+0.004	18	M. Baldwin
39902.605	2308	-0.014	13	A. Dobkowski
39908.585	2313	-0.011	19	R. Thompson
39908.598	2313	+0.002	19	J. Bortle
39915.766	2319	-0.001	18	M. Baldwin
39945.642	2344	-0.006	17	F. Sanner
39945.646	2344	-0.002	28	R. Thompson
39957.582	2354	-0.019	14	A. Dobkowski
39963.577	2359	0.000	19	T. Balonek
40037.682	2421	0.000	19	T. Balonek
40056.807	2437	+0.001	20	M. Baldwin
40080.707	2457	-0.004	20	T. Balonek
40098.639	2472	-0.001	19	J. Bortle
40098.641	2472	+0.001	18	T. Balonek

J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>RZ Cassiopeiae</u>				
40098.649	2472	+0.009	13	L. Hazel
40116.575	2487	+0.007	10	A. Heasley
40117.764:	2488	0.000:	7	R. Nolthenius
40129.715	2498	-0.001	16	R. Swanberg
40129.720	2498	+0.004	20	M. Baldwin
40147.647	2513	+0.002	13	L. Hazel
40147.649	2513	+0.004	14	M. Baldwin
40178.720	2539	-0.001	18	R. Nolthenius
40178.722	2539	+0.001	18	M. Baldwin
40184.699	2544	+0.001	16	R. Swanberg
40196.6523	2554	+0.0024	21pe	H. Landis
40196.654	2554	+0.004	19	J. Bortle
40202.6291	2559	+0.0029	17pe	H. Landis
40208.6055	2564	+0.0031	23pe	H. Landis
40208.609	2564	+0.007	19	J. Bortle
40220.550	2574	-0.005	11	K. Simmons
40220.557	2574	+0.002	19	J. Bortle
40227.732	2580	+0.005	17	T. Cragg
40233.712	2585	+0.009	20	R. Sweetsir
40245.658	2595	+0.003	16	M. Baldwin
40270.760	2616	+0.005	21	M. Baldwin
40282.710	2626	+0.002	14	T. Cragg
40294.664	2636	+0.003	16	M. Baldwin
40318.568	2656	+0.003	9	J. Bortle
40429.707:	2749	-0.016:	25	R. Swanberg
40429.722	2749	-0.001	19	T. Balonek
40436.897	2755	+0.003	18	M. Baldwin
40442.874	2760	+0.003	15	M. Baldwin
40447.650	2764	-0.002	18	R. Balonek
40453.624	2769	-0.004	21	T. Balonek
40453.629	2769	+0.001	15	L. Hazel
40453.633	2769	+0.005	22	Carl Anderson
40454.820	2770	-0.003	18	T. Balonek
40454.822	2770	-0.001	13	R. Sweetsir
40466.776	2780	0.000	19	M. Baldwin
40502.635	2810	+0.002	17	D. Ortwein
40533.713	2836	+0.003	17	J. Green
40533.713	2836	+0.003	18	R. Sweetsir
40539.687	2841	+0.001	13	M. Baldwin
40557.6139	2856	-0.0007	11pe	H. Landis
40557.614	2856	0.000	15	R. Swanberg
40557.615	2856	+0.001	12	M. Baldwin
<u>TV Cassiopeiae</u>				
39831.682	10876	-0.013	12	S. Cook
39851.626	10887	-0.007	12	S. Cook
39860.675	10892	-0.022	13	S. Cook
39869.747	10897	-0.013	12	S. Cook
40161.580	11058	-0.010	22	J. Bortle

J.D. hel. (2400000+)	E	O - C	n	Observer
<u>TV Cassiopeiae</u>				
40219.591	11090	-0.002	11	K. Simmons
40219.599	11090	+0.006	13	R. Sweetsir
40228.657	11095	+0.001	16	T. Cragg
40248.586	11106	-0.009	18	J. Bortle
40585.732:	11292	-0.009:	18	T. Cragg
<u>ZZ Cassiopeiae</u>				
40418.658	5614	+0.002	17	J. Bortle
<u>AB Cassiopeiae</u>				
39734.678	4476	+0.009	18	L. Hazel
39801.654	4525	+0.008	22	M. Baldwin
39917.836	4610	+0.006	9	M. Baldwin
40125.604	4762	+0.008	12	L. Hazel
40129.705	4765	+0.009	18	M. Baldwin
40151.577	4781	+0.011	23	J. Bortle
40211.718	4825	+0.009	23	M. Baldwin
40233.588	4841	+0.010	19	J. Bortle
40274.592	4871	+0.007	20	J. Bortle
40278.693	4874	+0.008	13	M. Baldwin
40289.628	4882	+0.008	14	J. Bortle
40293.732	4885	+0.010	13	M. Baldwin
40323.800	4907	+0.008	16	M. Baldwin
40412.651	4972	+0.012	14	J. Bortle
40442.719	4994	+0.008	13	M. Baldwin
40446.814	4997	+0.003	17	R. Monske
40453.646	5002	+0.001	14	L. Hazel
40457.757	5005	+0.011	11	M. Baldwin
40468.691	5013	+0.009	13	M. Baldwin
40554.804	5076	+0.009	19	M. Baldwin
40561.640	5081	+0.011	16	J. Bortle
40572.573	5089	+0.009	14	J. Bortle
40587.607	5100	+0.007	12	L. Hazel
<u>IV Cassiopeiae</u>				
40097.716	8672	+0.027	14	L. Hazel
<u>U Cephei</u>				
39834.688	619	-0.006	15	S. Cook
39839.674	621	-0.007	13	S. Cook
39844.666	623	0.000	15	S. Cook
39849.650	625	-0.002	20	S. Cook
39854.629:	627	-0.009:	13	S. Cook
39859.622	629	-0.003	17	M. Baldwin
40178.733	757	-0.001	19	M. Baldwin
40380.672	838	+0.001	25	J. Bortle
40512.809	891	+0.008	20	M. Baldwin
40557.681	909	+0.005	24	M. Baldwin
40562.663	911	+0.001	22	M. Baldwin

J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>XX Cephei</u>				
39821.582	785	+0.005	9	M. Baldwin
40237.617	963	-0.003	22	J. Bortle
40473.660	1064	-0.028	12	L. Hazel
<u>ZZ Cephei</u>				
40528.668	5883	+0.008	22	M. Baldwin
<u>EG Cephei</u>				
40028.659	24052	-0.004	12	L. Hazel
40095.664	24175	+0.012	16	J. Bortle
40107.646	24197	+0.013	19	J. Bortle
40113.636	24208	+0.012	19	J. Bortle
40137.595	24252	+0.008	17	J. Bortle
40156.652	24287	+0.003	20	J. Bortle
40161.561	24296	+0.010	19	J. Bortle
40253.601	24465	+0.010	14	J. Bortle
40296.623	24544	+0.007	18	J. Bortle
40302.620	24555	+0.013	18	J. Bortle
40363.611	24667	+0.007	18	J. Bortle
40369.606	24678	+0.011	14	J. Bortle
40412.630	24757	+0.010	18	J. Bortle
40418.622	24768	+0.011	14	J. Bortle
40455.648	24836	+0.002	14	R. Monske
40456.733	24838	-0.001	15	R. Monske
40468.727	24860	+0.011	14	M. Baldwin
40473.623	24869	+0.006	9	L. Hazel
40491.603	24902	+0.013	10	J. Bortle
40528.632	24970	+0.008	11	M. Baldwin
40552.600	25014	+0.012	7	J. Bortle
<u>EK Cephei</u>				
39706.741	159	+0.001	14	S. Cook
<u>XY Ceti</u>				
39878.701	9454	-0.009	11	S. Cook
<u>RZ Comae Berenices</u>				
40323.588	16207	+0.001	19	J. Bortle
40324.598	16210	-0.005	21	J. Bortle
40338.638	16251.5	-0.012	17	J. Bortle
40346.597	16275	-0.008	18	J. Bortle
40347.617	16278	-0.005	20	J. Bortle
40348.631	16281	-0.006	19	J. Bortle
40369.621	16343	-0.003	15	J. Bortle
40380.625	16375.5	-0.001	14	J. Bortle

J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>Y Cygni 4)</u>				
40093.767	10199	-0.154	8	M. Baldwin
40129.703	10211	-0.174	13	M. Baldwin
40150.696:	10218	-0.155:	7	T. Cragg
40156.693	10220	-0.151	14	M. Baldwin
<u>SW Cygni</u>				
39640.669	1417	+0.066	20	L. Hazel
39704.708	1431	+0.084	25	L. Hazel
40079.715	1513	+0.105	16	L. Hazel
40454.685	1595	+0.089	12	L. Hazel
<u>ZZ Cygni</u>				
39679.744	29497	-0.028	19	L. Hazel
39701.747	29532	-0.027	15	L. Hazel
39703.637	29535	-0.023	15	L. Hazel
39725.634	29570	-0.028	16	L. Hazel
39764.611	29632	-0.025	13	W. Lowder
39786.611	29667	-0.026	7	W. Lowder
39982.740	29979	-0.026	15	L. Hazel
40028.635	30052	-0.020	11	L. Hazel
40038.692	30068	-0.021	13	L. Hazel
40060.693	30103	-0.021	12	L. Hazel
40145.555	30238	-0.023	15	L. Hazel
40160.640	30262	-0.025	19	J. Bortle
40363.689	30585	-0.019	17	J. Bortle
40380.658	30612	-0.023	16	J. Bortle
40446.660	30717	-0.026	13	R. Monske
40456.720	30733	-0.024	13	R. Monske
40466.778	30749	-0.023	10	M. Baldwin
40471.802	30757	-0.029	12	M. Baldwin
40473.685	30760	-0.031	14	L. Hazel
40478.711	30768	-0.034	10	L. Hazel
40512.664	30822	-0.027	12	M. Baldwin
40524.611	30841	-0.024	12	L. Hazel
<u>BR Cygni</u>				
40081.642	4970	+0.011	24	J. Bortle
40113.629	4994	+0.016	23	J. Bortle
40137.610	5012	+0.011	18	J. Bortle
40145.611	5018	+0.017	20	J. Bortle
40161.595	5030	+0.010	22	J. Bortle
40197.571	5057	+0.007	19	J. Bortle
40466.750	5259	+0.008	26	M. Baldwin
40470.751	5262	+0.012	23	M. Baldwin
<u>V477 Cygni</u>				
40525.613	3272	-0.007	10	L. Hazel

J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>W Delphini</u> 5)				
40459.296	4663	+0.099	26	M. Baldwin
<u>TT Delphini</u>				
40147.681	658	+0.026	10	M. Baldwin
40460.632	767	+0.028	22	D. Lucas
<u>TY Delphini</u>				
39701.717	9807	-0.005	17	M. Baldwin
39707.672	9812	-0.006	11	M. Baldwin
39757.698	9854	-0.008	11	M. Baldwin
40069.770	10116	-0.009	14	M. Baldwin
40081.672	10126	-0.018	15	L. Hazel
40087.626	10131	-0.020	12	L. Hazel
40112.655	10152	-0.004	19	J. Bortle
40118.613	10157	-0.002	19	J. Bortle
40143.598	10178	-0.030	11	L. Hazel
40411.631	10403	-0.001	14	J. Bortle
40443.788	10430	-0.003	18	M. Baldwin
40449.738	10435	-0.008	15	M. Baldwin
<u>YY Delphini</u>				
40455.728	1387	+0.013	15	R. Monske
40524.692	1474	-0.021	10	D. Lucas
<u>FZ Delphini</u>				
40094.746	11198	+0.004	15	M. Baldwin
40116.677	11226	+0.005	14	M. Baldwin
40145.650	11263	-0.001	12	D. Lucas
40156.616	11277	0.000	14	M. Baldwin
40416.640	11609	-0.003	11	D. Lucas
40466.771	11673	+0.003	18	M. Baldwin
40470.690	11678	+0.006	9	M. Baldwin
<u>Z Draconis</u>				
39686.685	4728	+0.001	19	M. Baldwin
39762.701	4784	0.000	20	M. Baldwin
39800.709	4812	0.000	16	M. Baldwin
39906.597	4890	+0.007	18	D. Livingston
39910.663	4893	+0.001	13	M. Baldwin
39918.804	4899	-0.003	23	M. Baldwin
39948.667	4921	-0.003	14	L. Hazel
39948.667	4921	-0.003	11	H. Blake
39948.669	4921	-0.001	17	F. Chapman
39948.670	4921	0.000	31	D. Livingston
39952.741	4924	-0.002	17	L. Hazel
39963.597	4932	-0.005	24	F. Chapman
39963.599	4932	-0.003	26	D. Livingston
39963.599	4932	-0.003	16	L. Hazel

J.D. hel. (2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>Z Draconis</u>				
40001.610	4960	-0.001	16	L. Hazel
40168.571	5083	-0.004	35	A. Dobkowski
40442.775	5285	-0.004	16	M. Baldwin
40457.709	5296	-0.001	14	M. Baldwin
<u>TW Draconis</u>				
40324.604	2293	-0.001	15	J. Bortle
40338.630	2298	-0.009	16	J. Bortle
40439.672	2334	-0.015	19	R. Monske
<u>TZ Draconis</u>				
40347.584	2813	-0.002	11	L. Hazel
<u>UZ Draconis</u>				
40363.607	6419	+0.007	13	J. Bortle
40376.650	6423	+0.005	15	J. Bortle
40513.632	6465	+0.012	19	J. Bortle
40557.650	6478.5	+0.003	17	M. Baldwin
<u>AI Draconis</u>				
39722.761	555	+0.007	14	S. Cook
40107.575	876	+0.002	16	J. Bortle
40108.768	877	-0.004	8	R. Nolthenius
40113.571	881	+0.004	19	J. Bortle
40113.571	881	+0.004	15	K. Simmons
40126.756:	892	+0.002:	10	R. Nolthenius
40313.779	1048	+0.011	18	R. Sweetsir
40337.752	1068	+0.007	16	R. Sweetsir
40427.653	1143	-0.003	21	J. Bortle
40439.643	1153	-0.001	15	R. Monske
40445.649	1158	+0.011	15	R. Monske
40469.620	1178	+0.005	16	R. Simkins
40469.622	1178	+0.007	14	K. Simmons
<u>YY Eridani</u>				
40200.638	20476.5	+0.001	19	J. Bortle
40208.679	20501.5	+0.004	18	J. Bortle
40232.624	20576	-0.002	18	J. Bortle
40233.586	20579	-0.004	19	J. Bortle
40237.613	20591.5	+0.004	19	J. Bortle
40556.691	21584	-0.003	11	M. Baldwin
<u>AS Eridani</u>				
40566.710	4515	-0.002	16	M. Baldwin
<u>RW Geminorum</u>				
40587.629	7777	+0.004	14	L. Hazel



J.D. hel. ( 2400000+)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>SX Geminorum</u>				
39922.607	15284	-0.011	14	L. Hazel
39948.577	15303	-0.011	15	L. Hazel

This work is sponsored by the American Association of Variable Star Observers, with the writer as program coordinator. The reductions were made by the writer except where otherwise noted.

MARVIN E. BALDWIN  
AAVSO  
187 Concord Ave.  
Cambridge, MA 02138, USA

- 1) Only the second half of the eclipse was observed. Data was fitted to observations of JD 2439701 to measure time of minimum.
- 2) Only the first half of the eclipse was observed. Data was fitted to M. Baldwin's observations of JD 2439701 to measure time of minimum.
- 3) Geocentric time of minimum determined by the observer. Heliocentric correction and O-C calculated by the writer.
- 4) In keeping with the introductory remarks only the linear elements were used in calculating the O-C residuals.
- 5) Time of minimum determined from observations of the last half of the eclipse of JD 2440449 and the first half of the eclipse of JD 2440468.