

# Uranus\_by\_season.pdf

updated 12/2013

Uranus notes and discrepancies

For a guide to this display, see [Readme\\_intro\\_planetary\\_data\\_files](#)

Normally, both comparison stars are utilized to generate the final planetary magnitudes, unless one is found to be intrinsically variable. These are designated "comp2" and "comp3" (Object "1" is always the planetary target, in this case Uranus).

The exceptions are

2004 Use comp2 only, HD 184509. Unidentified problem with comp 3 HD 184795

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OBJECT NO. 2 = URANUS
          MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 6.0900 & 6.5680 MEAN= 6.3290
          FOR HD 111998 & 113459 FROM FILE= urcomp.sv

UT  DATE   JUL DATE   VAR   ERR   COMP  ERR   N   DEG   DIST  PLANET
 1 17 72  11334.022  -0.8213 0.0013  0.4789 0.0025 4  3.10  0.0953  5.6002
 1 18 72  11334.999  -0.8327 0.0085  0.4650 0.0308 4  3.10  0.0973  5.5908
 2 11 72  11358.979  -0.8620 0.0027  0.4719 0.0038 4  2.60  0.1433  5.6080
 4 22 72  11429.913  -0.9277 0.0014  0.4812 0.0033 5  0.90  0.1912  5.5917
 4 26 72  11433.881  -0.9279 0.0027  0.4862 0.0042 4  1.10  0.1895  5.5897
 5  9 72  11446.903  -0.9089 0.0058  0.4808 0.0075 5  1.80  0.1763  5.5948
 5 20 72  11457.829  -0.8925 0.0011  0.4776 0.0014 4  2.30  0.1620  5.5964
 5 21 72  11458.878  -0.8963 0.0031  0.4803 0.0028 4  2.30  0.1605  5.5911
 6  7 72  11475.822  -0.8674 0.0012  0.4788 0.0046 4  2.80  0.1324  5.5915

MEANS      11414.6          0.0031  0.4779 0.0068          5.5949
STD. DEV. FOR N= 9          0.0061          0.0059
STD. ERR. OF MEAN          0.0020          0.0020

                                MEAN (COMP STAR 2 ONLY)  5.5948
                                MEAN (COMP STAR 3 ONLY)  5.5950

COLOR-CORRECTED PLANET MAGNITUDES.....          BOTH COMPS  5.5971
                                                COMP 2 ONLY  5.5961
                                                COMP 3 ONLY  5.5981

ASSUMED COLOR TERM A2 = -0.0156
ASSUMED B-Y COLORS.....          PLANET    =  0.370
                                HD 111998 =  0.290
                                HD 113459 =  0.168
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OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 6.3800 & 6.7360 MEAN= 6.5580  
FOR HD 111998 & 113459 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
1	17 72	11334.021	-0.8752	0.0035	0.3541	0.0054	4	3.10	0.0953	5.7722
1	18 72	11335.000	-0.8801	0.0038	0.3559	0.0067	4	3.10	0.0973	5.7693
2	11 72	11358.980	-0.9248	0.0055	0.3561	0.0082	4	2.60	0.1433	5.7716
4	22 72	11429.920	-0.9743	0.0020	0.3591	0.0040	4	0.90	0.1912	5.7732
4	26 72	11433.883	-0.9696	0.0025	0.3570	0.0041	4	1.10	0.1882	5.7746
5	9 72	11446.908	-0.9571	0.0020	0.3606	0.0036	4	1.80	0.1763	5.7738
5	20 72	11457.830	-0.9445	0.0008	0.3621	0.0023	4	2.30	0.1620	5.7711
5	21 72	11458.878	-0.9411	0.0014	0.3544	0.0019	4	2.30	0.1605	5.7730
6	7 72	11475.822	-0.9123	0.0030	0.3510	0.0030	4	2.80	0.1324	5.7728

MEANS 11414.6 0.0027 0.3567 0.0044 5.7724  
STD. DEV. FOR N= 9 0.0035 0.0016  
STD. ERR. OF MEAN 0.0012 0.0005

MEAN (COMP STAR 2 ONLY) 5.7727  
MEAN (COMP STAR 3 ONLY) 5.7720

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7739  
COMP 2 ONLY 5.7736  
COMP 3 ONLY 5.7742

ASSUMED COLOR TERM C2 = 1.0047 A21 = -0.0108  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 111998 = 0.290  
HD 113459 = 0.168

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 7.2330 & 7.1800 MEAN= 7.2065  
FOR HD 115503 & 116045 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5 27 73	11829.695	-1.7737	0.0015	-0.0592	0.0052	3	2.30	0.1519	5.5827
5 28 73	11830.668	-1.7710	0.0004	-0.0586	0.0027	2	2.40	0.1505	5.5838
6 28 73	11861.694	-1.7201	0.0042	-0.0575	0.0020	2	3.10	0.0949	5.5785
6 29 73	11862.684	-1.7192	0.0077	-0.0560	0.0055	2	3.10	0.0930	5.5775
MEANS	11846.2		0.0034	-0.0578	0.0038				5.5806
STD. DEV. FOR N=	4			0.0014					0.0031
STD. ERR. OF MEAN				0.0007					0.0015

MEAN (COMP STAR 2 ONLY) 5.5782  
MEAN (COMP STAR 3 ONLY) 5.5830

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.5801
COMP 2 ONLY	5.5792
COMP 3 ONLY	5.5810

ASSUMED COLOR TERM A2 = -0.0159  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 115503	=	0.305
HD 116045	=	0.497

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 7.5380 & 7.6770 MEAN= 7.6075  
FOR HD 115503 & 116045 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5 27 73	11829.701	-1.9859	0.0022	0.1379	0.0027	3	2.30	0.1519	5.7692
5 28 73	11830.679	-1.9804	0.0005	0.1362	0.0037	2	2.40	0.1505	5.7730
6 28 73	11861.694	-1.9289	0.0070	0.1306	0.0014	2	3.10	0.0949	5.7676
6 29 73	11862.685	-1.9206	0.0025	0.1354	0.0002	2	3.10	0.0930	5.7740
MEANS	11846.2		0.0030	0.1350	0.0020				5.7709
STD. DEV. FOR N=	4			0.0031					0.0030
STD. ERR. OF MEAN				0.0016					0.0015

MEAN (COMP STAR 2 ONLY) 5.7689  
MEAN (COMP STAR 3 ONLY) 5.7729

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.7705
COMP 2 ONLY	5.7697
COMP 3 ONLY	5.7713

ASSUMED COLOR TERM C2 = 1.0035 A21 = -0.0124  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 115503	=	0.305
HD 116045	=	0.497

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 7.3230 & 5.1870 MEAN= 6.2550  
FOR HD 117860 & 117818 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5 10 74	12177.734	-0.8550	0.0027	-2.1484	0.0030	4	1.40	0.1699	5.5686
5 25 74	12192.723	-0.8320	0.0059	-2.1531	0.0083	4	1.90	0.1535	5.5747
5 29 74	12196.701	-0.8312	0.0057	-2.1485	0.0084	4	2.30	0.1493	5.5710
6 21 74	12219.772	-0.7873	0.0021	-2.1488	0.0084	4	2.90	0.1095	5.5746
MEANS	12196.7		0.0041	-2.1497	0.0070				5.5722
STD. DEV. FOR N=	4			0.0023					0.0030
STD. ERR. OF MEAN				0.0011					0.0015

MEAN (COMP STAR 2 ONLY) 5.5654  
MEAN (COMP STAR 3 ONLY) 5.5791

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.5709
COMP 2 ONLY	5.5655
COMP 3 ONLY	5.5763

ASSUMED COLOR TERM A2 = -0.0163  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 117860	=	0.362
HD 117818	=	0.544

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 7.6850 & 5.7310 MEAN= 6.7080  
FOR HD 117860 & 117818 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5 10 74	12177.736	-1.1104	0.0018	-1.9628	0.0059	4	1.40	0.1699	5.7648
5 25 74	12192.723	-1.0941	0.0015	-1.9644	0.0040	4	1.90	0.1535	5.7637
5 29 74	12196.702	-1.0873	0.0039	-1.9631	0.0070	4	2.30	0.1493	5.7656
6 21 74	12219.773	-1.0482	0.0013	-1.9641	0.0091	4	2.90	0.1095	5.7638

MEANS	12196.7		0.0021	-1.9636	0.0065				5.7645
STD. DEV. FOR N=	4			0.0008					0.0009
STD. ERR. OF MEAN				0.0004					0.0005

MEAN (COMP STAR 2 ONLY)	5.7597
MEAN (COMP STAR 3 ONLY)	5.7693

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	5.7633
	COMP 2 ONLY	5.7598
	COMP 3 ONLY	5.7668

ASSUMED COLOR TERM C2 =	1.0022	A21 =	-0.0141
ASSUMED B-Y COLORS.....		PLANET	= 0.370
		HD 117860	= 0.362
		HD 117818	= 0.544

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 6.8250 & 7.0090 MEAN= 6.9170  
 FOR HD 121496 & 120756 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	2	75	12504.867	-1.5137	0.0095	0.1838	0.0122	4	1.10	0.1639	5.5662
4	3	75	12505.856	-1.5133	0.0005	0.1797	0.0011	4	1.00	0.1645	5.5673
4	4	75	12506.867	-1.5151	0.0026	0.1821	0.0023	4	1.00	0.1652	5.5662
4	15	75	12517.749	-1.5211	0.0033	0.1782	0.0038	4	0.30	0.1698	5.5654
4	15	75	12517.842	-1.5234	0.0010	0.1794	0.0029	4	0.30	0.1700	5.5633
4	16	75	12518.770	-1.5229	0.0045	0.1779	0.0098	4	0.30	0.1700	5.5638
4	16	75	12518.884	-1.5242	0.0036	0.1824	0.0053	6	0.30	0.1700	5.5625
4	18	75	12521.825	-1.5237	0.0026	0.1878	0.0029	6	0.20	0.1705	5.5636
4	20	75	12522.776	-1.5249	0.0003	0.1840	0.0038	4	0.10	0.1705	5.5625
4	20	75	12522.890	-1.5244	0.0017	0.1882	0.0043	4	0.10	0.1705	5.5630
5	9	75	12541.755	-1.5112	0.0021	0.2076	0.0027	4	1.00	0.1647	5.5696
5	31	75	12563.734	-1.4915	0.0034	0.1785	0.0034	4	2.10	0.1424	5.5660
6	17	75	12580.679	-1.4654	0.0059	0.2097	0.0060	4	2.70	0.1163	5.5654

MEANS 12526.5 0.0032 0.1861 0.0047 5.5650  
 STD. DEV. FOR N= 13 0.0106 0.0021  
 STD. ERR. OF MEAN 0.0029 0.0006

MEAN (COMP STAR 2 ONLY) 5.5660  
 MEAN (COMP STAR 3 ONLY) 5.5639

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.5641  
 COMP 2 ONLY 5.5674  
 COMP 3 ONLY 5.5607

ASSUMED COLOR TERM A2 = -0.0167  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 121496 = 0.289  
 HD 120756 = 0.562

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 7.1140 & 7.5710 MEAN= 7.3425  
FOR HD 121496 & 120756 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	2	75	12504.867	-1.7310	0.0113	0.4651	0.0093	4	1.10	0.1639	5.7733
4	3	75	12505.857	-1.7398	0.0028	0.4548	0.0006	4	1.00	0.1645	5.7653
4	4	75	12506.867	-1.7438	0.0028	0.4592	0.0028	4	1.00	0.1652	5.7620
4	15	75	12517.760	-1.7450	0.0029	0.4572	0.0045	4	0.30	0.1698	5.7667
4	15	75	12517.854	-1.7506	0.0025	0.4560	0.0025	4	0.30	0.1700	5.7613
4	16	75	12518.770	-1.7487	0.0048	0.4597	0.0067	4	0.30	0.1700	5.7632
4	16	75	12518.884	-1.7456	0.0020	0.4558	0.0035	6	0.30	0.1700	5.7663
4	18	75	12521.825	-1.7470	0.0039	0.4650	0.0053	6	0.20	0.1705	5.7656
4	20	75	12522.776	-1.7481	0.0015	0.4616	0.0021	4	0.10	0.1705	5.7647
4	20	75	12522.890	-1.7495	0.0024	0.4631	0.0024	4	0.10	0.1705	5.7633
5	9	75	12541.755	-1.7329	0.0016	0.4894	0.0035	4	1.00	0.1647	5.7724
5	31	75	12563.734	-1.7141	0.0007	0.4547	0.0028	4	2.10	0.1424	5.7668
6	17	75	12580.680	-1.6893	0.0025	0.4936	0.0020	4	2.70	0.1163	5.7643

MEANS 12526.5 0.0032 0.4642 0.0037 5.7658  
STD. DEV. FOR N= 13 0.0126 0.0036  
STD. ERR. OF MEAN 0.0035 0.0010

MEAN (COMP STAR 2 ONLY) 5.7694  
MEAN (COMP STAR 3 ONLY) 5.7622

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7649  
COMP 2 ONLY 5.7707  
COMP 3 ONLY 5.7592

ASSUMED COLOR TERM C2 = 1.0010 A21 = -0.0157  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 121496 = 0.289  
HD 120756 = 0.562

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013



OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 6.9600 & 7.6070 MEAN= 7.2835  
 FOR HD 124401 & 123453 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
3	25	76	12862.870	-1.8687	0.0012	0.6526	0.0058	4	1.67	0.1422	5.5555
3	27	76	12864.892	-1.8721	0.0037	0.6586	0.0120	4	1.58	0.1444	5.5544
4	3	76	12871.851	-1.8783	0.0025	0.6527	0.0014	4	1.22	0.1508	5.5549
4	19	76	12888.804	-1.8863	0.0010	0.6516	0.0006	4	0.29	0.1593	5.5562
4	29	76	12898.801	-1.8868	0.0025	0.6550	0.0067	4	0.29	0.1592	5.5556
5	1	76	12899.804	-1.8877	0.0033	0.6518	0.0055	4	0.34	0.1589	5.5544
5	25	76	12923.730	-1.8723	0.0050	0.6583	0.0073	4	1.60	0.1435	5.5532
5	27	76	12925.717	-1.8699	0.0026	0.6535	0.0040	4	1.70	0.1413	5.5533
6	16	76	12945.682	-1.8429	0.0013	0.6529	0.0034	3	2.50	0.1137	5.5520
6	17	76	12946.673	-1.8399	0.0034	0.6600	0.0074	3	2.55	0.1120	5.5533
MEANS		12902.9		0.0026	0.6547	0.0054					5.5543
STD. DEV. FOR N=		10			0.0031						0.0013
STD. ERR. OF MEAN					0.0010						0.0004

MEAN (COMP STAR 2 ONLY) 5.5581  
 MEAN (COMP STAR 3 ONLY) 5.5504

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.5527  
 COMP 2 ONLY 5.5547  
 COMP 3 ONLY 5.5508

ASSUMED COLOR TERM A2 = -0.0170  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 124401 = 0.574  
 HD 123453 = 0.347

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 7.5340 & 7.9540 MEAN= 7.7440  
FOR HD 124401 & 123453 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
3	25	76	12862.870	-2.1120	0.0142	0.4312	0.0086	4	1.67	0.1422	5.7710
3	27	76	12864.892	-2.1252	0.0023	0.4248	0.0054	4	1.58	0.1444	5.7602
4	3	76	12871.852	-2.1291	0.0027	0.4269	0.0010	4	1.22	0.1508	5.7634
4	19	76	12888.804	-2.1373	0.0024	0.4274	0.0026	4	0.29	0.1593	5.7654
4	29	76	12898.801	-2.1368	0.0024	0.4267	0.0035	4	0.29	0.1592	5.7658
5	1	76	12899.805	-2.1379	0.0048	0.4263	0.0063	4	0.34	0.1589	5.7644
5	25	76	12923.730	-2.1198	0.0049	0.4262	0.0009	4	1.60	0.1435	5.7646
5	27	76	12925.715	-2.1198	0.0025	0.4265	0.0033	4	1.70	0.1413	5.7622
6	16	76	12945.688	-2.0915	0.0062	0.4199	0.0071	3	2.50	0.1137	5.7614
6	17	76	12946.680	-2.0836	0.0061	0.4385	0.0033	3	2.55	0.1120	5.7675

MEANS 12902.9 0.0049 0.4274 0.0042 5.7646  
STD. DEV. FOR N= 10 0.0048 0.0031  
STD. ERR. OF MEAN 0.0015 0.0010

MEAN (COMP STAR 2 ONLY) 5.7683  
MEAN (COMP STAR 3 ONLY) 5.7609

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7630  
COMP 2 ONLY 5.7648  
COMP 3 ONLY 5.7613

ASSUMED COLOR TERM C2 = 0.9998 A21 = -0.0173  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 124401 = 0.574  
HD 123453 = 0.347

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 6.6290 & 7.0640 MEAN= 6.8465  
FOR HD 126766 & 127170 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
2	7 77	13182.020	-1.3472	0.0072	0.4359	0.0038	4	3.07	0.0461	5.5427
2	14 77	13189.016	-1.3601	0.0018	0.4334	0.0068	4	3.00	0.0599	5.5436
2	15 77	13189.988	-1.3595	0.0086	0.4357	0.0109	4	2.98	0.0619	5.5462
2	17 77	13192.004	-1.3687	0.0027	0.4339	0.0033	4	2.95	0.0658	5.5409
2	23 77	13197.954	-1.3796	0.0020	0.4376	0.0035	4	2.85	0.0770	5.5414
3	2 77	13204.952	-1.3904	0.0044	0.4350	0.0026	4	2.69	0.0897	5.5434
4	8 77	13241.859	-1.4464	0.0024	0.4387	0.0019	4	1.20	0.1388	5.5378
4	11 77	13244.837	-1.4499	0.0047	0.4423	0.0037	4	1.03	0.1410	5.5367
5	18 77	13281.749	-1.4489	0.0009	0.4437	0.0016	4	0.98	0.1416	5.5383
6	10 77	13304.703	-1.4225	0.0074	0.4374	0.0079	4	2.10	0.1180	5.5401
6	11 77	13305.693	-1.4256	0.0440	0.4430	0.0044	4	2.13	0.1167	5.5357
6	12 77	13306.693	-1.4229	0.0012	0.4389	0.0022	4	2.22	0.1152	5.5368
6	21 77	13315.687	-1.4123	0.0021	0.4432	0.0002	3	2.47	0.1016	5.5336

MEANS 13242.9 0.0069 0.4384 0.0041 5.5398  
STD. DEV. FOR N= 13 0.0037  
STD. ERR. OF MEAN 0.0010

MEAN (COMP STAR 2 ONLY) 5.5415  
MEAN (COMP STAR 3 ONLY) 5.5381

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.5416  
COMP 2 ONLY 5.5433  
COMP 3 ONLY 5.5400

ASSUMED COLOR TERM A2 = -0.0174  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 126766 = 0.264  
HD 127170 = 0.264

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 6.8930 & 7.3280 MEAN= 7.1105  
FOR HD 126766 & 127170 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
2	7	77	13182.020	-1.3944	0.0039	0.4414	0.0037	4	3.07	0.0461	5.7564
2	14	77	13189.017	-1.4093	0.0031	0.4380	0.0043	4	3.00	0.0599	5.7554
2	15	77	13189.989	-1.4124	0.0015	0.4356	0.0033	4	2.98	0.0619	5.7543
2	17	77	13192.004	-1.4147	0.0005	0.4380	0.0024	4	2.95	0.0658	5.7560
2	23	77	13197.954	-1.4267	0.0021	0.4370	0.0044	4	2.85	0.0770	5.7554
3	2	77	13204.952	-1.4430	0.0019	0.4367	0.0034	4	2.69	0.0897	5.7521
4	8	77	13241.864	-1.4963	0.0048	0.4418	0.0032	4	1.20	0.1388	5.7507
4	11	77	13244.838	-1.4945	0.0057	0.4440	0.0040	4	1.03	0.1410	5.7551
5	18	77	13281.749	-1.4983	0.0029	0.4433	0.0033	4	0.98	0.1416	5.7519
6	10	77	13304.703	-1.4802	0.0044	0.4451	0.0012	4	2.10	0.1180	5.7443
6	11	77	13305.694	-1.4722	0.0024	0.4394	0.0028	4	2.13	0.1167	5.7509
6	12	77	13306.693	-1.4712	0.0020	0.4446	0.0032	4	2.22	0.1152	5.7503
6	21	77	13315.693	-1.4544	0.0010	0.4401	0.0053	3	2.47	0.1016	5.7530

MEANS 13242.9 0.0028 0.4404 0.0034 5.7528  
STD. DEV. FOR N= 13 0.0032 0.0033  
STD. ERR. OF MEAN 0.0009 0.0009

MEAN (COMP STAR 2 ONLY) 5.7555  
MEAN (COMP STAR 3 ONLY) 5.7501

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7548  
COMP 2 ONLY 5.7575  
COMP 3 ONLY 5.7521

ASSUMED COLOR TERM C2 = 0.9985 A21 = -0.0189  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 126766 = 0.264  
HD 127170 = 0.264

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 6.3040 & 5.1330 MEAN= 5.7185  
FOR HD 130325 & 130819 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
2	7	78	13547.016	-0.2056	0.0019	-1.1690	0.0053	3	3.10	0.0236	5.5337
2	18	78	13557.994	-0.2245	0.0053	-1.1671	0.0037	4	3.00	0.0453	5.5366
2	20	78	13559.999	-0.2304	0.0016	-1.1647	0.0041	4	3.00	0.0493	5.5347
2	21	78	13560.997	-0.2281	0.0039	-1.1643	0.0037	4	3.00	0.0511	5.5388
2	22	78	13562.012	-0.2335	0.0015	-1.1627	0.0021	4	3.00	0.0531	5.5354
3	14	78	13581.977	-0.2698	0.0028	-1.1640	0.0027	4	2.50	0.0890	5.5354
3	15	78	13582.955	-0.2715	0.0044	-1.1694	0.0128	4	2.48	0.0904	5.5352
3	16	78	13583.943	-0.2779	0.0025	-1.1652	0.0015	4	2.44	0.0920	5.5304
3	17	78	13584.931	-0.2776	0.0019	-1.1651	0.0009	4	2.40	0.0936	5.5323
3	18	78	13585.927	-0.2753	0.0052	-1.1782	0.0190	4	2.36	0.0952	5.5362
3	25	78	13592.911	-0.2872	0.0017	-1.1587	0.0017	4	2.10	0.1052	5.5346
4	6	78	13604.931	-0.3029	0.0025	-1.1587	0.0034	4	1.56	0.1195	5.5337
4	7	78	13605.877	-0.3066	0.0011	-1.1616	0.0036	3	1.50	0.1205	5.5310
4	16	78	13614.835	-0.3131	0.0016	-1.1642	0.0059	2	1.04	0.1280	5.5324
4	17	78	13615.857	-0.3106	0.0058	-1.1650	0.0015	4	0.98	0.1286	5.5356
4	28	78	13626.831	-0.3191	0.0030	-1.1626	0.0028	4	0.40	0.1335	5.5326
4	29	78	13627.825	-0.3161	0.0032	-1.1576	0.0065	4	0.35	0.1337	5.5357
5	8	78	13636.811	-0.3185	0.0022	-1.1619	0.0058	4	0.14	0.1342	5.5340
5	11	78	13639.796	-0.3199	0.0012	-1.1599	0.0038	4	0.35	0.1337	5.5319
5	13	78	13641.781	-0.3188	0.0037	-1.1602	0.0016	4	0.45	0.1330	5.5323
5	18	78	13646.778	-0.3136	0.0018	-1.1630	0.0050	4	0.73	0.1312	5.5354
5	29	78	13657.791	-0.3070	0.0029	-1.1612	0.0032	4	1.27	0.1237	5.5341
6	1	78	13660.733	-0.3058	0.0011	-1.1584	0.0018	4	1.45	0.1210	5.5324
6	5	78	13664.749	-0.3000	0.0029	-1.1563	0.0028	4	1.65	0.1170	5.5340
6	13	78	13672.704	-0.2929	0.0016	-1.1589	0.0028	4	2.00	0.1074	5.5312
6	21	78	13680.686	-0.2814	0.0021	-1.1616	0.0022	4	2.34	0.0962	5.5312
6	22	78	13681.708	-0.2764	0.0042	-1.1658	0.0030	4	2.37	0.0946	5.5346
6	27	78	13686.681	-0.2700	0.0032	-1.1630	0.0035	3	2.55	0.0866	5.5328
7	3	78	13692.682	-0.2647	0.0019	-1.1652	0.0049	3	2.73	0.0765	5.5279
7	6	78	13695.678	-0.2542	0.0079	-1.1609	0.0114	3	2.80	0.0711	5.5329

MEANS 13621.8 0.0029 -1.1631 0.0044 5.5336  
STD. DEV. FOR N= 30 0.0043 0.0022  
STD. ERR. OF MEAN 0.0008 0.0004

MEAN (COMP STAR 2 ONLY) 5.5376  
MEAN (COMP STAR 3 ONLY) 5.5297

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.5326  
COMP 2 ONLY 5.5332  
COMP 3 ONLY 5.5319

ASSUMED COLOR TERM A2 = -0.0178  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 130325 = 0.615  
HD 130819 = 0.245



OBJECT NO. 2 = URANUS

MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 6.9190 & 5.3780 MEAN= 6.1485  
FOR HD 130325 & 130819 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
2	7	78	13547.026	-0.4145	0.0019	-1.5398	0.0037	4	3.10	0.0236	5.7517
2	18	78	13557.994	-0.4311	0.0019	-1.5394	0.0050	4	3.00	0.0453	5.7570
2	20	78	13560.000	-0.4364	0.0016	-1.5382	0.0030	4	3.00	0.0493	5.7557
2	21	78	13560.997	-0.4391	0.0030	-1.5298	0.0028	4	3.00	0.0511	5.7548
2	22	78	13562.013	-0.4404	0.0029	-1.5336	0.0026	4	3.00	0.0531	5.7555
3	14	78	13581.977	-0.4774	0.0009	-1.5337	0.0044	4	2.50	0.0890	5.7553
3	15	78	13582.957	-0.4776	0.0031	-1.5313	0.0028	4	2.48	0.0904	5.7566
3	16	78	13583.943	-0.4817	0.0027	-1.5355	0.0021	4	2.44	0.0920	5.7542
3	17	78	13584.931	-0.4823	0.0016	-1.5339	0.0019	4	2.40	0.0936	5.7552
3	18	78	13585.928	-0.4861	0.0060	-1.5348	0.0030	4	2.36	0.0952	5.7531
3	25	78	13592.911	-0.4905	0.0016	-1.5313	0.0029	4	2.10	0.1052	5.7592
4	6	78	13604.931	-0.5078	0.0034	-1.5284	0.0025	4	1.56	0.1195	5.7572
4	7	78	13605.886	-0.5123	0.0071	-1.5410	0.0080	4	1.50	0.1205	5.7538
4	16	78	13614.861	-0.5164	0.0054	-1.5301	0.0060	4	1.04	0.1280	5.7581
4	17	78	13615.858	-0.5183	0.0030	-1.5317	0.0033	4	0.98	0.1286	5.7569
4	28	78	13626.832	-0.5219	0.0022	-1.5350	0.0033	4	0.40	0.1335	5.7594
4	29	78	13627.826	-0.5191	0.0010	-1.5234	0.0033	4	0.35	0.1337	5.7624
5	8	78	13636.811	-0.5267	0.0022	-1.5337	0.0043	4	0.14	0.1342	5.7557
5	11	78	13639.796	-0.5230	0.0034	-1.5304	0.0035	4	0.35	0.1337	5.7585
5	13	78	13641.781	-0.5207	0.0024	-1.5287	0.0053	4	0.45	0.1330	5.7600
5	18	78	13646.779	-0.5210	0.0068	-1.5336	0.0036	4	0.73	0.1312	5.7573
5	29	78	13657.791	-0.5116	0.0014	-1.5300	0.0024	4	1.27	0.1237	5.7582
6	1	78	13660.734	-0.5067	0.0024	-1.5282	0.0015	4	1.45	0.1210	5.7601
6	5	78	13664.749	-0.5022	0.0031	-1.5210	0.0021	4	1.65	0.1170	5.7602
6	13	78	13672.704	-0.4946	0.0021	-1.5335	0.0039	4	2.00	0.1074	5.7575
6	21	78	13680.686	-0.4844	0.0013	-1.5302	0.0016	4	2.34	0.0962	5.7558
6	22	78	13681.708	-0.4800	0.0028	-1.5334	0.0028	4	2.37	0.0946	5.7586
6	27	78	13686.686	-0.4779	0.0026	-1.5319	0.0050	3	2.55	0.0866	5.7524
7	3	78	13692.687	-0.4639	0.0032	-1.5376	0.0013	3	2.73	0.0765	5.7559
7	6	78	13695.683	-0.4549	0.0045	-1.5306	0.0045	3	2.80	0.0711	5.7594

MEANS 13621.8 0.0029 -1.5325 0.0034 5.7569  
 STD. DEV. FOR N= 30 0.0044 0.0025  
 STD. ERR. OF MEAN 0.0008 0.0005

MEAN (COMP STAR 2 ONLY) 5.7611  
 MEAN (COMP STAR 3 ONLY) 5.7526

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7556  
 COMP 2 ONLY 5.7561  
 COMP 3 ONLY 5.7551

ASSUMED COLOR TERM C2 = 0.9973 A21 = -0.0205  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 130325 = 0.615  
 HD 130819 = 0.245





OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 7.7650 & 5.1350 MEAN= 6.4500  
FOR HD 133913 & 133774 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
2	14	79	13919.027	-0.9320	0.0026	-2.6415	0.0018	4	3.10	0.0144	5.5296
2	15	79	13920.036	-0.9378	0.0026	-2.6449	0.0034	4	3.10	0.0163	5.5257
2	24	79	13929.024	-0.9472	0.0041	-2.6432	0.0041	3	3.00	0.0339	5.5340
2	28	79	13933.001	-0.9581	0.0040	-2.6431	0.0038	4	3.00	0.0417	5.5309
3	4	79	13936.969	-0.9695	0.0030	-2.6387	0.0038	4	2.90	0.0491	5.5270
3	15	79	13947.939	-0.9863	0.0016	-2.6347	0.0046	4	2.70	0.0685	5.5298
3	23	79	13955.951	-1.0013	0.0019	-2.6421	0.0033	4	2.40	0.0813	5.5278
3	25	79	13957.952	-1.0022	0.0042	-2.6474	0.0021	4	2.30	0.0843	5.5300
3	26	79	13958.947	-1.0055	0.0024	-2.6422	0.0042	4	2.30	0.0859	5.5283
4	4	79	13967.899	-1.0162	0.0033	-2.6464	0.0010	4	1.89	0.0979	5.5300
4	5	79	13968.895	-1.0189	0.0006	-2.6406	0.0025	4	1.89	0.0990	5.5284
4	6	79	13969.899	-1.0192	0.0020	-2.6429	0.0031	4	1.80	0.1001	5.5292
4	7	79	13970.893	-1.0226	0.0014	-2.6376	0.0022	4	1.75	0.1013	5.5271
4	29	79	13992.848	-1.0399	0.0026	-2.6418	0.0035	4	0.61	0.1181	5.5276
5	4	79	13997.827	-1.0442	0.0040	-2.6404	0.0030	4	0.35	0.1195	5.5250
5	16	79	14009.794	-1.0355	0.0037	-2.6491	0.0056	4	0.35	0.1194	5.5336
5	18	79	14011.797	-1.0455	0.0073	-2.6394	0.0101	4	0.45	0.1188	5.5229
5	30	79	14023.764	-1.0382	0.0019	-2.6428	0.0036	4	1.10	0.1126	5.5234
6	10	79	14034.745	-1.0229	0.0030	-2.6489	0.0059	4	1.66	0.1027	5.5283
6	12	79	14036.714	-1.0242	0.0022	-2.6473	0.0050	4	1.75	0.1005	5.5247
6	21	79	14045.691	-1.0126	0.0066	-2.6416	0.0010	4	2.15	0.0892	5.5247
6	25	79	14049.688	-1.0109	0.0027	-2.6398	0.0037	4	2.31	0.0835	5.5205

MEANS 13979.1 0.0031 -2.6426 0.0037 5.5277  
STD. DEV. FOR N= 22 0.0037 0.0033  
STD. ERR. OF MEAN 0.0008 0.0007

MEAN (COMP STAR 2 ONLY) 5.5214  
MEAN (COMP STAR 3 ONLY) 5.5339

COLOR-CORRECTED PLANET MAGNITUDES.....  
BOTH COMPS 5.5233  
COMP 2 ONLY 5.5230  
COMP 3 ONLY 5.5236

ASSUMED COLOR TERM A2 = -0.0182  
ASSUMED B-Y COLORS.....  
PLANET = 0.370  
HD 133913 = 0.281  
HD 133774 = 0.939

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 8.0460 & 6.0740 MEAN= 7.0600  
 FOR HD 133913 & 133774 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
2	14	79	13919.027	-1.3131	0.0017	-1.9828	0.0039	3	3.10	0.0144	5.7554
2	15	79	13920.035	-1.3148	0.0017	-1.9808	0.0040	4	3.10	0.0163	5.7556
2	24	79	13929.024	-1.3319	0.0039	-1.9908	0.0034	4	3.00	0.0339	5.7563
2	28	79	13933.001	-1.3369	0.0038	-1.9855	0.0008	4	3.00	0.0417	5.7591
3	4	79	13936.970	-1.3488	0.0040	-1.9795	0.0045	4	2.90	0.0491	5.7548
3	15	79	13947.939	-1.3693	0.0024	-1.9770	0.0033	4	2.70	0.0685	5.7541
3	23	79	13955.951	-1.3789	0.0011	-1.9874	0.0037	4	2.40	0.0813	5.7578
3	25	79	13957.953	-1.3796	0.0016	-1.9871	0.0008	4	2.30	0.0843	5.7603
3	26	79	13958.947	-1.3851	0.0017	-1.9837	0.0017	4	2.30	0.0859	5.7564
4	4	79	13967.900	-1.3969	0.0039	-1.9879	0.0047	4	1.89	0.0979	5.7574
4	5	79	13968.895	-1.3957	0.0035	-1.9849	0.0083	4	1.89	0.0990	5.7597
4	6	79	13969.899	-1.3964	0.0006	-1.9852	0.0011	4	1.80	0.1001	5.7602
4	7	79	13970.893	-1.3988	0.0016	-1.9826	0.0034	4	1.75	0.1013	5.7592
4	29	79	13992.847	-1.4157	0.0015	-1.9843	0.0041	4	0.61	0.1181	5.7612
5	4	79	13997.827	-1.4189	0.0019	-1.9811	0.0043	4	0.35	0.1195	5.7600
5	16	79	14009.794	-1.4166	0.0012	-1.9854	0.0070	4	0.35	0.1194	5.7622
5	18	79	14011.796	-1.4203	0.0027	-1.9750	0.0065	4	0.45	0.1188	5.7577
5	30	79	14023.764	-1.4148	0.0014	-1.9840	0.0020	4	1.10	0.1126	5.7557
6	10	79	14034.745	-1.4009	0.0037	-1.9877	0.0052	4	1.66	0.1027	5.7586
6	12	79	14036.715	-1.3939	0.0019	-1.9924	0.0041	4	1.75	0.1005	5.7633
6	21	79	14045.691	-1.3879	0.0014	-1.9841	0.0018	4	2.15	0.0892	5.7572
6	25	79	14049.688	-1.3860	0.0030	-1.9784	0.0047	4	2.31	0.0835	5.7531

MEANS 13979.1 0.0023 -1.9840 0.0038 5.7580  
 STD. DEV. FOR N= 22 0.0042 0.0027  
 STD. ERR. OF MEAN 0.0009 0.0006

MEAN (COMP STAR 2 ONLY) 5.7520  
 MEAN (COMP STAR 3 ONLY) 5.7640

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7527  
 COMP 2 ONLY 5.7539  
 COMP 3 ONLY 5.7514

ASSUMED COLOR TERM C2 = 0.9960 A21 = -0.0221  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 133913 = 0.281  
 HD 133774 = 0.939

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 5.5890 & 6.9440 MEAN= 6.2665  
 FOR HD 137744 & 137463 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
3	21	80	14319.970	-0.8006	0.0025	1.3700	0.0052	4	2.55	0.0575	5.5211
4	10	80	14339.899	-0.8308	0.0007	1.3674	0.0027	4	1.75	0.0856	5.5197
4	11	80	14340.897	-0.8357	0.0060	1.3637	0.0042	4	1.70	0.0868	5.5161
5	4	80	14363.834	-0.8509	0.0051	1.3682	0.0042	3	0.51	0.1038	5.5189
5	9	80	14368.826	-0.8491	0.0025	1.3664	0.0050	4	0.23	0.1050	5.5222
5	12	80	14371.811	-0.8518	0.0011	1.3613	0.0037	4	0.05	0.1052	5.5199
5	19	80	14378.797	-0.8518	0.0014	1.3632	0.0041	4	0.35	0.1048	5.5191
5	25	80	14384.774	-0.8462	0.0062	1.3605	0.0051	4	0.63	0.1029	5.5227
6	3	80	14393.757	-0.8460	0.0030	1.3812	0.0052	4	1.09	0.0979	5.5174
6	5	80	14395.749	-0.8480	0.0053	1.3594	0.0032	4	1.20	0.0963	5.5138
6	12	80	14402.723	-0.8428	0.0047	1.3664	0.0039	4	1.56	0.0900	5.5123
6	16	80	14406.731	-0.8312	0.0038	1.3653	0.0044	4	1.78	0.0856	5.5193

MEANS 14372.3 0.0035 1.3661 0.0042 5.5185  
 STD. DEV. FOR N= 12 0.0057 0.0032  
 STD. ERR. OF MEAN 0.0017 0.0009

MEAN (COMP STAR 2 ONLY) 5.5241  
 MEAN (COMP STAR 3 ONLY) 5.5130

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.5127  
 COMP 2 ONLY 5.5140  
 COMP 3 ONLY 5.5114

ASSUMED COLOR TERM A2 = -0.0185  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 137744 = 0.912  
 HD 137463 = 0.456

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 6.5010 & 7.4000 MEAN= 6.9505  
 FOR HD 137744 & 137463 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
3	21	80	14319.970	-1.2458	0.0035	0.9172	0.0044	4	2.55	0.0575	5.7574
4	10	80	14339.899	-1.2755	0.0024	0.9129	0.0047	4	1.75	0.0856	5.7573
4	11	80	14340.897	-1.2828	0.0029	0.9110	0.0060	4	1.70	0.0868	5.7513
5	4	80	14363.840	-1.2968	0.0028	0.9148	0.0011	4	0.51	0.1038	5.7565
5	9	80	14368.826	-1.3031	0.0049	0.9236	0.0075	4	0.23	0.1050	5.7519
5	12	80	14371.812	-1.2967	0.0050	0.9125	0.0015	4	0.05	0.1052	5.7589
5	19	80	14378.797	-1.2961	0.0025	0.9112	0.0043	4	0.35	0.1048	5.7585
5	25	80	14384.774	-1.2959	0.0037	0.9064	0.0031	4	0.63	0.1029	5.7563
6	3	80	14393.757	-1.2891	0.0027	0.9306	0.0050	4	1.09	0.0979	5.7572
6	5	80	14395.749	-1.2910	0.0040	0.9052	0.0050	4	1.20	0.0963	5.7536
6	12	80	14402.723	-1.2847	0.0055	0.9131	0.0117	4	1.56	0.0900	5.7529
6	16	80	14406.731	-1.2796	0.0018	0.9204	0.0017	4	1.78	0.0856	5.7532

MEANS 14372.3 0.0035 0.9149 0.0047 5.7554  
 STD. DEV. FOR N= 12 0.0072 0.0027  
 STD. ERR. OF MEAN 0.0021 0.0008

MEAN (COMP STAR 2 ONLY) 5.7634  
 MEAN (COMP STAR 3 ONLY) 5.7475

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7480  
 COMP 2 ONLY 5.7505  
 COMP 3 ONLY 5.7454

ASSUMED COLOR TERM C2 = 0.9948 A21 = -0.0237  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 137744 = 0.912  
 HD 137463 = 0.456

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 5.3370 & 6.6270 MEAN= 5.9820  
 FOR HD 139446 & 139364 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
3	17	81	14680.975	-0.4990	0.0049	1.2946	0.0051	4	2.81	0.0275	5.5079
3	18	81	14681.976	-0.4996	0.0039	1.2942	0.0033	4	2.79	0.0292	5.5091
3	31	81	14694.934	-0.5215	0.0025	1.2910	0.0031	3	2.40	0.0506	5.5089
4	5	81	14699.930	-0.5340	0.0032	1.2957	0.0029	4	2.23	0.0579	5.5039
4	6	81	14700.930	-0.5351	0.0014	1.2945	0.0026	4	2.17	0.0593	5.5043
4	8	81	14702.922	-0.5366	0.0018	1.2943	0.0097	4	2.10	0.0621	5.5056
5	2	81	14726.862	-0.5669	0.0064	1.2988	0.0044	4	0.88	0.0853	5.4996
5	3	81	14727.853	-0.5674	0.0033	1.2948	0.0059	4	0.83	0.0859	5.4997
5	9	81	14733.838	-0.5649	0.0013	1.2959	0.0065	4	0.51	0.0885	5.5052
6	9	81	14764.758	-0.5612	0.0018	1.2939	0.0025	4	1.15	0.0818	5.5015
6	11	81	14766.750	-0.5623	0.0015	1.2955	0.0026	4	1.26	0.0802	5.4988
6	12	81	14767.753	-0.5565	0.0014	1.2923	0.0085	4	1.30	0.0793	5.5037

MEANS 14720.8 0.0028 1.2946 0.0048 5.5040  
 STD. DEV. FOR N= 12 0.0019 0.0036  
 STD. ERR. OF MEAN 0.0006 0.0010

MEAN (COMP STAR 2 ONLY) 5.5063  
 MEAN (COMP STAR 3 ONLY) 5.5017

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.5037  
 COMP 2 ONLY 5.5039  
 COMP 3 ONLY 5.5036

ASSUMED COLOR TERM A2 = -0.0189  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 139446 = 0.501  
 HD 139364 = 0.272

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 5.8380 & 6.8990 MEAN= 6.3685  
 FOR HD 139446 & 139364 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
3	17	81	14680.976	-0.6434	0.0035	1.0630	0.0034	4	2.81	0.0275	5.7472
3	18	81	14681.976	-0.6459	0.0024	1.0620	0.0037	4	2.79	0.0292	5.7465
3	31	81	14694.940	-0.6697	0.0021	1.0629	0.0050	4	2.40	0.0506	5.7448
4	5	81	14699.930	-0.6779	0.0051	1.0657	0.0015	4	2.23	0.0579	5.7443
4	6	81	14700.930	-0.6773	0.0026	1.0651	0.0028	4	2.17	0.0593	5.7464
4	8	81	14702.922	-0.6810	0.0033	1.0624	0.0030	4	2.10	0.0621	5.7456
5	2	81	14726.863	-0.7070	0.0031	1.0636	0.0054	4	0.88	0.0853	5.7451
5	3	81	14727.853	-0.7083	0.0021	1.0624	0.0036	4	0.83	0.0859	5.7445
5	9	81	14733.838	-0.7086	0.0041	1.0625	0.0028	4	0.51	0.0885	5.7475
6	9	81	14764.758	-0.7046	0.0008	1.0643	0.0026	4	1.15	0.0818	5.7435
6	11	81	14766.750	-0.7018	0.0031	1.0710	0.0020	4	1.26	0.0802	5.7445
6	12	81	14767.753	-0.6972	0.0017	1.0659	0.0026	4	1.30	0.0793	5.7482

MEANS 14720.8 0.0028 1.0642 0.0032 5.7457  
 STD. DEV. FOR N= 12 0.0025 0.0015  
 STD. ERR. OF MEAN 0.0007 0.0004

MEAN (COMP STAR 2 ONLY) 5.7473  
 MEAN (COMP STAR 3 ONLY) 5.7441

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7453  
 COMP 2 ONLY 5.7440  
 COMP 3 ONLY 5.7465

ASSUMED COLOR TERM C2 = 0.9936 A21 = -0.0254  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 139446 = 0.501  
 HD 139364 = 0.272

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0009

COMPARISON MAGS= 6.2730 & 6.6620 MEAN= 6.4675  
 FOR HD 146834 & 145809 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	25 82	15084.913	-1.0263	0.0032	0.3991	0.0038	4	1.60	0.0605	5.5003
5	14 82	15103.844	-1.0483	0.0061	0.4049	0.0086	4	0.56	0.0730	5.4917
5	21 82	15110.838	-1.0453	0.0019	0.3971	0.0039	4	0.02	0.0745	5.4967
5	26 82	15115.816	-1.0473	0.0029	0.3990	0.0046	4	0.01	0.0744	5.4946
6	18 82	15138.760	-1.0328	0.0026	0.4020	0.0050	4	1.45	0.0629	5.4963
6	27 82	15147.721	-1.0249	0.0024	0.3968	0.0012	4	1.75	0.0536	5.4946
7	11 82	15161.692	-1.0076	0.0033	0.4001	0.0029	4	2.33	0.0348	5.4926
MEANS		15123.4		0.0032	0.3999	0.0043				5.4953
STD. DEV. FOR N=		7			0.0028					0.0029
STD. ERR. OF MEAN					0.0011					0.0011

MEAN (COMP STAR 2 ONLY) 5.5007  
 MEAN (COMP STAR 3 ONLY) 5.4898

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.4928  
 COMP 2 ONLY 5.4957  
 COMP 3 ONLY 5.4898

ASSUMED COLOR TERM A2 = -0.0193  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 146834 = 0.629  
 HD 145809 = 0.369

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0019

COMPARISON MAGS= 6.9020 & 7.0310 MEAN= 6.9665  
 FOR HD 146834 & 145809 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	25 82	15084.913	-1.2775	0.0034	0.1364	0.0007	4	1.60	0.0605	5.7465
5	14 82	15103.844	-1.2919	0.0043	0.1460	0.0033	4	0.56	0.0730	5.7466
5	21 82	15110.838	-1.2940	0.0022	0.1368	0.0024	4	0.02	0.0745	5.7470
5	26 82	15115.816	-1.2960	0.0021	0.1330	0.0053	4	0.01	0.0744	5.7449
6	18 82	15138.760	-1.2790	0.0032	0.1390	0.0019	4	1.45	0.0629	5.7476
6	27 82	15147.721	-1.2733	0.0015	0.1362	0.0027	4	1.75	0.0536	5.7435
7	11 82	15161.692	-1.2545	0.0041	0.1389	0.0010	4	2.33	0.0348	5.7424
MEANS		15123.4		0.0030	0.1380	0.0025				5.7455
STD. DEV. FOR N=		7			0.0040					0.0020
STD. ERR. OF MEAN					0.0015					0.0007

MEAN (COMP STAR 2 ONLY) 5.7500  
 MEAN (COMP STAR 3 ONLY) 5.7410

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7420  
 COMP 2 ONLY 5.7430  
 COMP 3 ONLY 5.7410

ASSUMED COLOR TERM C2 = 0.9923 A21 = -0.0270  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 146834 = 0.629  
 HD 145809 = 0.369

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013



OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 6.3980 & 6.6620 MEAN= 6.5300  
 FOR HD 146436 & 145809 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	18 83	15442.930	-1.0583	0.0041	0.2864	0.0035	4	2.10	0.0316	5.4976
5	6 83	15460.871	-1.0777	0.0052	0.2842	0.0048	4	1.27	0.0502	5.4991
5	16 83	15470.873	-1.0937	0.0036	0.2875	0.0018	4	0.74	0.0562	5.4905
5	24 83	15478.789	-1.0934	0.0023	0.2875	0.0042	4	0.30	0.0586	5.4943
6	15 83	15500.772	-1.0875	0.0019	0.2831	0.0050	4	0.97	0.0531	5.4930
7	16 83	15531.679	-1.0457	0.0025	0.2870	0.0036	4	2.36	0.0191	5.4971
7	17 83	15532.679	-1.0500	0.0013	0.2868	0.0045	4	2.40	0.0175	5.4910
MEANS		15488.4		0.0030	0.2861	0.0039				5.4947
STD. DEV. FOR N=		7			0.0017					0.0033
STD. ERR. OF MEAN					0.0007					0.0013

MEAN (COMP STAR 2 ONLY) 5.5057  
 MEAN (COMP STAR 3 ONLY) 5.4836

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.4906  
 COMP 2 ONLY 5.4975  
 COMP 3 ONLY 5.4836

ASSUMED COLOR TERM A2 = -0.0197  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 146436 = 0.789  
 HD 145809 = 0.369

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 7.1870 & 7.0310 MEAN= 7.1090  
 FOR HD 146436 & 145809 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	18 83	15442.930	-1.3836	0.0010	-0.1361	0.0046	4	2.10	0.0316	5.7513
5	6 83	15460.872	-1.4028	0.0040	-0.1359	0.0068	4	1.27	0.0502	5.7530
5	16 83	15470.873	-1.4234	0.0033	-0.1306	0.0042	4	0.74	0.0562	5.7398
5	24 83	15478.789	-1.4172	0.0028	-0.1348	0.0029	4	0.30	0.0586	5.7495
6	15 83	15500.773	-1.4105	0.0032	-0.1359	0.0038	4	0.97	0.0531	5.7490
7	16 83	15531.679	-1.3682	0.0027	-0.1356	0.0073	4	2.36	0.0191	5.7536
7	17 83	15532.679	-1.3668	0.0039	-0.1371	0.0030	4	2.40	0.0175	5.7532

MEANS 15488.4 0.0030 -0.1351 0.0047 5.7499  
 STD. DEV. FOR N= 7 0.0021 0.0048  
 STD. ERR. OF MEAN 0.0008 0.0018

MEAN (COMP STAR 2 ONLY) 5.7603  
 MEAN (COMP STAR 3 ONLY) 5.7395

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7439  
 COMP 2 ONLY 5.7484  
 COMP 3 ONLY 5.7395

ASSUMED COLOR TERM C2 = 0.9911 A21 = -0.0286  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 146436 = 0.789  
 HD 145809 = 0.369

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 5.8420 & 6.7340 MEAN= 6.2880  
FOR HD 152311 & 152534 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
3	31 84	15790.973	-0.7758	0.0017	0.8882	0.0041	4	2.78	-0.0175	5.4871
4	23 84	15813.928	-0.8143	0.0007	0.8868	0.0025	4	2.01	0.0175	5.4857
4	24 84	15814.921	-0.8164	0.0035	0.8879	0.0015	4	1.97	0.0187	5.4849
4	30 84	15820.901	-0.8180	0.0013	0.9038	0.0015	4	1.70	0.0256	5.4910
5	24 84	15844.843	-0.8425	0.0019	0.8809	0.0060	4	0.46	0.0421	5.4863
6	9 84	15860.814	-0.8392	0.0074	0.8914	0.0043	4	0.46	0.0420	5.4895
6	21 84	15872.748	-0.8406	0.0050	0.8869	0.0027	4	1.10	0.0361	5.4805
6	23 84	15874.750	-0.8298	0.0070	0.8840	0.0073	4	1.20	0.0345	5.4895

MEANS	15836.7		0.0036	0.8887	0.0037					5.4868
STD. DEV. FOR N=	8			0.0068						0.0033
STD. ERR. OF MEAN				0.0024						0.0012

MEAN (COMP STAR 2 ONLY)	5.4852
MEAN (COMP STAR 3 ONLY)	5.4885

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	5.4849
	COMP 2 ONLY	5.4847
	COMP 3 ONLY	5.4852

ASSUMED COLOR TERM A2 = -0.0200  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 152311	=	0.396
HD 152534	=	0.533

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 6.2380 & 7.2670 MEAN= 6.7525  
FOR HD 152311 & 152534 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
3	31 84	15790.974	-0.9879	0.0019	1.0261	0.0021	4	2.78	-0.0175	5.7395
4	23 84	15813.928	-1.0232	0.0023	1.0255	0.0019	4	2.01	0.0175	5.7413
4	24 84	15814.920	-1.0239	0.0024	1.0255	0.0049	4	1.97	0.0187	5.7419
4	30 84	15820.902	-1.0309	0.0026	1.0389	0.0044	4	1.70	0.0256	5.7426
5	24 84	15844.843	-1.0480	0.0012	1.0149	0.0048	4	0.46	0.0421	5.7453
6	9 84	15860.815	-1.0486	0.0037	1.0258	0.0115	4	0.46	0.0420	5.7446
6	21 84	15872.749	-1.0407	0.0065	1.0258	0.0061	4	1.10	0.0361	5.7449
6	23 84	15874.750	-1.0401	0.0014	1.0183	0.0010	4	1.20	0.0345	5.7437

MEANS 15836.7 0.0027 1.0251 0.0046 5.7430  
STD. DEV. FOR N= 8 0.0070 0.0020  
STD. ERR. OF MEAN 0.0025 0.0007

MEAN (COMP STAR 2 ONLY) 5.7410  
MEAN (COMP STAR 3 ONLY) 5.7449

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7401  
COMP 2 ONLY 5.7403  
COMP 3 ONLY 5.7400

ASSUMED COLOR TERM C2 = 0.9898 A21 = -0.0302  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 152311 = 0.396  
HD 152534 = 0.533

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 7.0540 & 7.0350 MEAN= 7.0445  
 FOR HD 154117 & 154349 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
3	24 85	16149.001	-1.4955	0.0038	-0.0259	0.0043	4	2.93	-0.0541	5.4870
4	25 85	16180.922	-1.5488	0.0028	-0.0258	0.0039	4	2.10	-0.0016	5.4884
4	29 85	16184.913	-1.5556	0.0037	-0.0226	0.0070	4	1.90	0.0034	5.4872
5	28 85	16213.838	-1.5859	0.0081	-0.0138	0.0041	4	0.55	0.0262	5.4834
6	7 85	16223.804	-1.5826	0.0063	-0.0249	0.0066	4	0.01	0.0275	5.4893
6	15 85	16231.804	-1.5807	0.0061	-0.0326	0.0031	4	0.45	0.0260	5.4886
MEANS		16197.4		0.0051	-0.0243	0.0048				5.4873
STD. DEV. FOR N=		6			0.0061					0.0021
STD. ERR. OF MEAN					0.0025					0.0009

MEAN (COMP STAR 2 ONLY) 5.4847  
 MEAN (COMP STAR 3 ONLY) 5.4899

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.4817
COMP 2 ONLY	5.4805
COMP 3 ONLY	5.4829

ASSUMED COLOR TERM A2 = -0.0204  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 154117	=	0.577
HD 154349	=	0.717

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 7.6310 & 7.7520 MEAN= 7.6915  
 FOR HD 154117 & 154349 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
3	24 85	16149.001	-1.8819	0.0018	0.1113	0.0008	4	2.93	-0.0541	5.7476
4	25 85	16180.922	-1.9376	0.0024	0.1141	0.0088	4	2.10	-0.0016	5.7466
4	29 85	16184.913	-1.9418	0.0018	0.1188	0.0036	4	1.90	0.0034	5.7480
5	28 85	16213.838	-1.9679	0.0037	0.1171	0.0052	4	0.55	0.0262	5.7484
6	7 85	16223.804	-1.9657	0.0033	0.1119	0.0034	4	0.01	0.0275	5.7532
6	15 85	16231.804	-1.9623	0.0047	0.1081	0.0044	4	0.45	0.0260	5.7540
MEANS		16197.4		0.0029	0.1135	0.0044				5.7496
STD. DEV. FOR N=		6			0.0039					0.0031
STD. ERR. OF MEAN					0.0016					0.0013

MEAN (COMP STAR 2 ONLY) 5.7459  
 MEAN (COMP STAR 3 ONLY) 5.7534

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.7408
COMP 2 ONLY	5.7393
COMP 3 ONLY	5.7423

ASSUMED COLOR TERM C2 = 0.9886      A21 = -0.0318  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 154117	=	0.577
HD 154349	=	0.717

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 7.5120 & 6.5730 MEAN= 7.0425  
 FOR HD 156079 & 156365 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	10 86	16530.969	-1.4968	0.0050	-0.9390	0.0008	2	2.78	-0.0473	5.4909
6	7 86	16588.832	-1.5718	0.0020	-0.9372	0.0040	4	0.29	0.0119	5.4818
6	9 86	16590.837	-1.5718	0.0080	-0.9297	0.0049	4	0.11	0.0120	5.4824
6	12 86	16593.819	-1.5744	0.0048	-0.9400	0.0053	4	0.04	0.0120	5.4800
6	13 86	16594.827	-1.5638	0.0044	-0.9399	0.0048	2	0.13	0.0119	5.4903
6	14 86	16595.820	-1.5690	0.0062	-0.9392	0.0005	2	0.10	0.0118	5.4850
6	16 86	16597.801	-1.5684	0.0050	-0.9365	0.0039	4	0.18	0.0116	5.4852
7	6 86	16617.737	-1.5597	0.0026	-0.9457	0.0081	4	1.35	0.0007	5.4799

MEANS 16588.8 0.0047 -0.9384 0.0040 5.4844  
 STD. DEV. FOR N= 8 0.0045 0.0043  
 STD. ERR. OF MEAN 0.0016 0.0015

MEAN (COMP STAR 2 ONLY) 5.4847  
 MEAN (COMP STAR 3 ONLY) 5.4841

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.4842  
 COMP 2 ONLY 5.4845  
 COMP 3 ONLY 5.4839

ASSUMED COLOR TERM A2 = -0.0208  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 156079 = 0.382  
 HD 156365 = 0.381

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 7.8940 & 6.9540 MEAN= 7.4240  
 FOR HD 156079 & 156365 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	10 86	16530.986	-1.6166	0.0266	-0.9342	0.0162	4	2.78	-0.0473	5.7526
6	7 86	16588.833	-1.6894	0.0017	-0.9342	0.0031	4	0.29	0.0119	5.7457
6	9 86	16590.837	-1.6899	0.0068	-0.9347	0.0062	4	0.11	0.0120	5.7458
6	12 86	16593.824	-1.6914	0.0027	-0.9375	0.0059	4	0.04	0.0120	5.7445
6	13 86	16594.828	-1.6860	0.0074	-0.9373	0.0020	2	0.13	0.0119	5.7496
6	14 86	16595.820	-1.6915	0.0038	-0.9323	0.0030	2	0.10	0.0118	5.7440
6	16 86	16597.802	-1.6905	0.0069	-0.9383	0.0022	4	0.18	0.0116	5.7446
7	6 86	16617.738	-1.6819	0.0051	-0.9399	0.0024	4	1.35	0.0007	5.7392

MEANS 16588.8 0.0076 -0.9360 0.0051 5.7458  
 STD. DEV. FOR N= 8 0.0026 0.0040  
 STD. ERR. OF MEAN 0.0009 0.0014

MEAN (COMP STAR 2 ONLY) 5.7477  
 MEAN (COMP STAR 3 ONLY) 5.7438

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7454  
 COMP 2 ONLY 5.7473  
 COMP 3 ONLY 5.7434

ASSUMED COLOR TERM C2 = 0.9874 A21 = -0.0334  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 156079 = 0.382  
 HD 156365 = 0.381

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013



OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 6.1750 & 6.1520 MEAN= 6.1635  
FOR HD 160042 & 161664 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	4 87	16919.919	-0.6322	0.0042	-0.0259	0.0081	4	2.19	-0.0329	5.4925
5	27 87	16942.851	-0.6541	0.0047	-0.0279	0.0046	4	1.10	-0.0098	5.4967
5	28 87	16943.877	-0.6488	0.0021	-0.0296	0.0044	4	1.04	-0.0091	5.5028
5	29 87	16944.879	-0.6522	0.0030	-0.0320	0.0052	2	1.00	-0.0085	5.5001
6	4 87	16950.852	-0.6595	0.0027	-0.0380	0.0046	4	0.57	-0.0055	5.4970
8	17 87	17024.660	-0.6115	0.0023	-0.0557	0.0031	4	2.80	-0.0652	5.4793
8	18 87	17025.651	-0.6095	0.0033	-0.0531	0.0013	2	2.82	-0.0669	5.4795
MEANS		16964.7		0.0032	-0.0375	0.0045				5.4926
STD. DEV. FOR N=		7			0.0122					0.0095
STD. ERR. OF MEAN					0.0046					0.0036

MEAN (COMP STAR 2 ONLY) 5.4853  
MEAN (COMP STAR 3 ONLY) 5.4998

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.4852
COMP 2 ONLY	5.4827
COMP 3 ONLY	5.4877

ASSUMED COLOR TERM A2 = -0.0212  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 160042	=	0.493
HD 161664	=	0.940

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 6.6680 & 7.0920 MEAN= 6.8800  
 FOR HD 160042 & 161664 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	4 87	16919.919	-1.0830	0.0028	0.4150	0.0028	4	2.19	-0.0329	5.7582
5	27 87	16942.852	-1.0995	0.0022	0.4042	0.0046	4	1.10	-0.0098	5.7678
5	28 87	16943.877	-1.0995	0.0071	0.4055	0.0028	4	1.04	-0.0091	5.7686
5	29 87	16944.879	-1.0955	0.0058	0.4047	0.0027	2	1.00	-0.0085	5.7733
6	4 87	16950.852	-1.1039	0.0024	0.3977	0.0040	4	0.57	-0.0055	5.7691
8	17 87	17024.660	-1.0610	0.0017	0.3804	0.0017	4	2.80	-0.0652	5.7463
8	18 87	17025.651	-1.0525	0.0029	0.3780	0.0054	2	2.82	-0.0669	5.7530
MEANS		16964.7		0.0036	0.3979	0.0034				5.7623
STD. DEV. FOR N=		7			0.0138					0.0100
STD. ERR. OF MEAN					0.0052					0.0038

MEAN (COMP STAR 2 ONLY) 5.7493  
 MEAN (COMP STAR 3 ONLY) 5.7754

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7502  
 COMP 2 ONLY 5.7450  
 COMP 3 ONLY 5.7554

ASSUMED COLOR TERM C2 = 0.9861 A21 = -0.0350  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 160042 = 0.493  
 HD 161664 = 0.940

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 7.1230 & 7.3160 MEAN= 7.2195  
 FOR HD 162255 & 162343 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	25 88	17276.962	-1.6591	0.0043	0.1944	0.0006	2	2.60	-0.0666	5.4867
5	2 88	17283.957	-1.6741	0.0116	0.1926	0.0059	4	2.40	-0.0559	5.4830
5	10 88	17291.942	-1.6845	0.0009	0.1839	0.0006	2	2.10	-0.0451	5.4842
5	21 88	17302.883	-1.6959	0.0035	0.1895	0.0047	4	1.61	-0.0328	5.4865
6	8 88	17320.843	-1.7213	0.0029	0.1939	0.0007	2	0.68	-0.0208	5.4756
MEANS		17295.3		0.0046	0.1909	0.0025				5.4832
STD. DEV. FOR N=		5			0.0043					0.0045
STD. ERR. OF MEAN					0.0019					0.0020

MEAN (COMP STAR 2 ONLY) 5.4821  
 MEAN (COMP STAR 3 ONLY) 5.4843

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.4832  
 COMP 2 ONLY 5.4821  
 COMP 3 ONLY 5.4842

ASSUMED COLOR TERM A2 = -0.0215  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 162255 = 0.372  
 HD 162343 = 0.372

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 7.4950 & 7.6880 MEAN= 7.5915  
 FOR HD 162255 & 162343 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	25 88	17276.978	-1.7741	0.0020	0.1832	0.0008	4	2.60	-0.0666	5.7437
5	2 88	17283.958	-1.7843	0.0066	0.1830	0.0067	4	2.40	-0.0559	5.7448
5	10 88	17291.942	-1.8007	0.0028	0.1841	0.0107	2	2.10	-0.0451	5.7400
5	21 88	17302.883	-1.8142	0.0041	0.1871	0.0042	4	1.61	-0.0328	5.7402
6	8 88	17320.843	-1.8273	0.0001	0.1864	0.0036	2	0.68	-0.0208	5.7416
MEANS		17295.3		0.0031	0.1848	0.0052				5.7421
STD. DEV. FOR N=		5			0.0019					0.0021
STD. ERR. OF MEAN					0.0008					0.0010

MEAN (COMP STAR 2 ONLY) 5.7379  
 MEAN (COMP STAR 3 ONLY) 5.7462

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7420  
 COMP 2 ONLY 5.7379  
 COMP 3 ONLY 5.7461

ASSUMED COLOR TERM C2 = 0.9849 A21 = -0.0366  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 162255 = 0.372  
 HD 162343 = 0.372

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 4.9410 & 6.9400 MEAN= 5.9405  
FOR HD 166464 & 169966 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	19 89	17665.904	-0.3875	0.0023	1.9925	0.0054	2	1.90	-0.0551	5.4927
5	26 89	17672.880	-0.3986	0.0034	1.9972	0.0029	4	1.61	-0.0478	5.4897
5	28 89	17674.889	-0.3987	0.0033	1.9980	0.0022	4	1.50	-0.0460	5.4918
6	7 89	17684.845	-0.4076	0.0001	1.9959	0.0057	2	0.98	-0.0386	5.4916
6	10 89	17687.833	-0.4086	0.0071	1.9960	0.0032	2	0.84	-0.0371	5.4925
6	11 89	17688.834	-0.4126	0.0017	1.9966	0.0021	2	0.48	-0.0367	5.4899
MEANS		17679.2		0.0030	1.9960	0.0036				5.4914
STD. DEV. FOR N=		6			0.0019					0.0013
STD. ERR. OF MEAN					0.0008					0.0005

MEAN (COMP STAR 2 ONLY) 5.4899  
MEAN (COMP STAR 3 ONLY) 5.4929

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.4866
COMP 2 ONLY	5.4851
COMP 3 ONLY	5.4880

ASSUMED COLOR TERM A2 = -0.0219  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 166464	=	0.591
HD 169966	=	0.590

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0027

COMPARISON MAGS= 5.5320 & 7.5300 MEAN= 6.5310  
 FOR HD 166464 & 169966 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	19 89	17665.915	-0.7189	0.0007	1.9917	0.0014	2	1.90	-0.0551	5.7518
5	26 89	17672.880	-0.7273	0.0023	1.9951	0.0033	4	1.61	-0.0478	5.7515
5	28 89	17674.890	-0.7266	0.0033	1.9959	0.0027	4	1.50	-0.0460	5.7544
6	7 89	17684.845	-0.7345	0.0090	1.9944	0.0060	2	0.98	-0.0386	5.7552
6	10 89	17687.833	-0.7341	0.0038	2.0008	0.0001	2	0.84	-0.0371	5.7575
6	11 89	17688.834	-0.7333	0.0053	1.9999	0.0047	2	0.48	-0.0367	5.7597
MEANS		17679.2		0.0041	1.9963	0.0030				5.7550
STD. DEV. FOR N=		6			0.0035					0.0032
STD. ERR. OF MEAN					0.0014					0.0013

MEAN (COMP STAR 2 ONLY) 5.7542  
 MEAN (COMP STAR 3 ONLY) 5.7559

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.7466
COMP 2 ONLY	5.7457
COMP 3 ONLY	5.7475

ASSUMED COLOR TERM C2 = 0.9836      A21 = -0.0383  
 ASSUMED B-Y COLORS.....      PLANET = 0.370  
    HD 166464 = 0.591  
    HD 169966 = 0.590

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.9400 & 5.4480 MEAN= 6.1940  
FOR HD 169966 & 171115 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5 18 90	18029.906	-0.6088	0.0014	-1.5046	0.0017	2	2.17	-0.0770	5.5004
5 20 90	18031.909	-0.6010	0.0002	-1.5113	0.0006	2	2.10	-0.0745	5.5110
MEANS	18030.9		0.0008	-1.5080	0.0012				5.5057
STD. DEV. FOR N=	2			0.0047					0.0075
STD. ERR. OF MEAN				0.0033					0.0053
							MEAN (COMP STAR 2 ONLY)		5.4977
							MEAN (COMP STAR 3 ONLY)		5.5136

COLOR-CORRECTED PLANET MAGNITUDES.....

	BOTH COMPS	5.4947
	COMP 2 ONLY	5.4928
	COMP 3 ONLY	5.4966

ASSUMED COLOR TERM A2 = -0.0223  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 169966	=	0.590
HD 171115	=	1.135

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.5300 & 6.5830 MEAN= 7.0565  
FOR HD 169966 & 171115 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	18	90	18029.907	-1.1977	0.0036	-0.9839	0.0009	2	2.17	-0.0770	5.7709
5	20	90	18031.909	-1.1975	0.0046	-0.9936	0.0062	2	2.10	-0.0745	5.7740
MEANS		18030.9		0.0041	-0.9888	0.0036					5.7725
STD. DEV. FOR N=		2			0.0069						0.0022
STD. ERR. OF MEAN					0.0049						0.0016
										MEAN (COMP STAR 2 ONLY)	5.7516
										MEAN (COMP STAR 3 ONLY)	5.7934

COLOR-CORRECTED PLANET MAGNITUDES.....

										BOTH COMPS	5.7528
										COMP 2 ONLY	5.7428
										COMP 3 ONLY	5.7629

ASSUMED COLOR TERM C2 = 0.9824      A21 = -0.0399  
ASSUMED B-Y COLORS.....      PLANET = 0.370  
   HD 169966 = 0.590  
   HD 171115 = 1.135

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013



OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 7.1820 & 4.9650 MEAN= 6.0735  
 FOR HD 174170 & 175190 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	13	91	18389.907	-0.4581	0.0020	-2.2092	0.0021	2	2.50	-0.1052	5.5012
5	19	91	18395.929	-0.4633	0.0050	-2.2085	0.0037	2	2.30	-0.0967	5.5052
5	23	91	18399.897	-0.4743	0.0054	-2.2115	0.0050	2	2.15	-0.0914	5.5001
5	24	91	18400.896	-0.4735	0.0025	-2.2160	0.0021	2	2.10	-0.0901	5.5023
6	16	91	18423.883	-0.4941	0.0008	-2.2184	0.0003	2	1.00	-0.0690	5.5068
9	15	91	18514.618	-0.4202	0.0022	-2.2203	0.0056	2	2.98	-0.1457	5.4969
MEANS		18420.9		0.0030	-2.2140	0.0031					5.5021
STD. DEV. FOR N=		6			0.0050						0.0036
STD. ERR. OF MEAN					0.0020						0.0015

MEAN (COMP STAR 2 ONLY) 5.5036  
 MEAN (COMP STAR 3 ONLY) 5.5006

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.4928
COMP 2 ONLY	5.4941
COMP 3 ONLY	5.4916

ASSUMED COLOR TERM A2 = -0.0226  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 174170	=	0.788
HD 175190	=	0.769

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.9700 & 5.7340 MEAN= 6.8520  
FOR HD 174170 & 175190 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	13	91	18389.907	-0.9783	0.0014	-2.2280	0.0064	2	2.50	-0.1052	5.7560
5	19	91	18395.928	-0.9830	0.0040	-2.2297	0.0040	2	2.30	-0.0967	5.7608
5	23	91	18399.897	-0.9884	0.0047	-2.2405	0.0031	2	2.15	-0.0914	5.7615
5	24	91	18400.896	-0.9908	0.0003	-2.2298	0.0034	2	2.10	-0.0901	5.7606
6	16	91	18423.883	-1.0116	0.0046	-2.2395	0.0025	2	1.00	-0.0690	5.7664
9	15	91	18514.618	-0.9338	0.0022	-2.2397	0.0058	2	2.98	-0.1457	5.7576
MEANS		18420.9		0.0029	-2.2345	0.0042					5.7605
STD. DEV. FOR N=		6			0.0059						0.0036
STD. ERR. OF MEAN					0.0024						0.0015

MEAN (COMP STAR 2 ONLY) 5.7612  
MEAN (COMP STAR 3 ONLY) 5.7598

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.7435
COMP 2 ONLY	5.7439
COMP 3 ONLY	5.7432

ASSUMED COLOR TERM C2 = 0.9812 A21 = -0.0415  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 174170	=	0.788
HD 175190	=	0.769

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.8450 & 6.6330 MEAN= 6.7390  
FOR HD 177799 & 178250 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	2 92	18775.919	-1.1295	0.0068	-0.2029	0.0036	2	1.87	-0.0985	5.5043
6	4 92	18777.913	-1.1328	0.0052	-0.2057	0.0071	2	1.80	-0.0963	5.5034
6	6 92	18779.882	-1.1283	0.0079	-0.2071	0.0027	2	1.70	-0.0943	5.5103
6	7 92	18780.879	-1.1282	0.0001	-0.2200	0.0029	2	1.65	-0.0934	5.5115
6	21 92	18794.843	-1.1425	0.0068	-0.2101	0.0006	2	0.93	-0.0830	5.5102
7	1 92	18804.813	-1.1521	0.0112	-0.2081	0.0011	2	0.40	-0.0795	5.5060
7	2 92	18805.800	-1.1478	0.0051	-0.2098	0.0025	2	0.35	-0.0792	5.5107
MEANS		18788.6		0.0062	-0.2091	0.0029				5.5080
STD. DEV. FOR N=		7			0.0054					0.0034
STD. ERR. OF MEAN					0.0020					0.0013

MEAN (COMP STAR 2 ONLY) 5.5095  
MEAN (COMP STAR 3 ONLY) 5.5066

COLOR-CORRECTED PLANET MAGNITUDES.....  
BOTH COMPS 5.5036  
COMP 2 ONLY 5.5039  
COMP 3 ONLY 5.5032

ASSUMED COLOR TERM A2 = -0.0230  
ASSUMED B-Y COLORS.....  
PLANET = 0.370  
HD 177799 = 0.613  
HD 178250 = 0.517

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.4580 & 7.1500 MEAN= 7.3040  
 FOR HD 177799 & 178250 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	2 92	18775.920	-1.4368	0.0021	-0.2951	0.0009	2	1.87	-0.0985	5.7594
6	4 92	18777.914	-1.4411	0.0105	-0.2997	0.0012	2	1.80	-0.0963	5.7576
6	6 92	18779.883	-1.4410	0.0028	-0.3003	0.0085	2	1.70	-0.0943	5.7602
6	7 92	18780.879	-1.4422	0.0030	-0.3078	0.0046	2	1.65	-0.0934	5.7602
6	21 92	18794.843	-1.4602	0.0123	-0.3011	0.0010	2	0.93	-0.0830	5.7562
7	1 92	18804.814	-1.4617	0.0030	-0.3071	0.0006	2	0.40	-0.0795	5.7608
7	2 92	18805.800	-1.4642	0.0039	-0.3008	0.0038	2	0.35	-0.0792	5.7588

MEANS 18788.6 0.0054 -0.3017 0.0029 5.7590  
 STD. DEV. FOR N= 7 0.0044 0.0016  
 STD. ERR. OF MEAN 0.0017 0.0006

MEAN (COMP STAR 2 ONLY) 5.7622  
 MEAN (COMP STAR 3 ONLY) 5.7559

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7506  
 COMP 2 ONLY 5.7517  
 COMP 3 ONLY 5.7495

ASSUMED COLOR TERM C2 = 0.9799 A21 = -0.0431  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 177799 = 0.613  
 HD 178250 = 0.517

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.9990 & 6.9620 MEAN= 6.9805  
 FOR HD 182390 & 182648 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	21	93	19128.951	-1.3147	0.0026	-0.0431	0.0010	2	2.55	-0.1341	5.5225
5	22	93	19129.936	-1.3148	0.0026	-0.0427	0.0059	2	2.51	-0.1327	5.5239
5	23	93	19130.948	-1.3139	0.0053	-0.0444	0.0036	2	2.47	-0.1312	5.5265
6	2	93	19140.943	-1.3342	0.0120	-0.0338	0.0009	2	2.10	-0.1179	5.5209
6	9	93	19147.904	-1.3349	0.0041	-0.0426	0.0037	2	1.80	-0.1101	5.5290
6	10	93	19148.898	-1.3447	0.0044	-0.0516	0.0019	2	1.75	-0.1091	5.5204
6	17	93	19155.885	-1.3444	0.0068	-0.0450	0.0041	2	1.40	-0.1028	5.5282
6	26	93	19164.869	-1.3549	0.0052	-0.0552	0.0010	4	0.93	-0.0970	5.5253
6	30	93	19168.817	-1.3699	0.0011	-0.0364	0.0055	2	0.73	-0.0953	5.5126
7	27	93	19195.771	-1.3595	0.0047	-0.0379	0.0039	2	0.73	-0.0975	5.5208

MEANS 19151.3 0.0049 -0.0433 0.0032 5.5230  
 STD. DEV. FOR N= 10 0.0065 0.0048  
 STD. ERR. OF MEAN 0.0021 0.0015

MEAN (COMP STAR 2 ONLY) 5.5199  
 MEAN (COMP STAR 3 ONLY) 5.5261

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.5160  
 COMP 2 ONLY 5.5189  
 COMP 3 ONLY 5.5131

ASSUMED COLOR TERM A2 = -0.0234  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 182390 = 0.414  
 HD 182648 = 0.929

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.4130 & 7.8910 MEAN= 7.6520  
 FOR HD 182390 & 182648 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	21	93	19128.951	-1.7382	0.0003	0.4568	0.0036	2	2.55	-0.1341	5.7669
5	22	93	19129.937	-1.7403	0.0030	0.4541	0.0017	2	2.51	-0.1327	5.7664
5	23	93	19130.949	-1.7371	0.0021	0.4563	0.0025	2	2.47	-0.1312	5.7713
6	2	93	19140.943	-1.7502	0.0002	0.4708	0.0079	2	2.10	-0.1179	5.7734
6	9	93	19147.904	-1.7636	0.0029	0.4615	0.0131	2	1.80	-0.1101	5.7693
6	10	93	19148.898	-1.7671	0.0016	0.4511	0.0034	2	1.75	-0.1091	5.7671
6	17	93	19155.885	-1.7585	0.0196	0.4465	0.0019	2	1.40	-0.1028	5.7837
6	26	93	19164.870	-1.7658	0.0080	0.4441	0.0076	4	0.93	-0.0970	5.7846
6	30	93	19168.818	-1.7873	0.0028	0.4546	0.0015	2	0.73	-0.0953	5.7657
7	27	93	19195.771	-1.7737	0.0054	0.4630	0.0026	2	0.73	-0.0975	5.7771
MEANS		19151.3		0.0046	0.4559	0.0046					5.7725
STD. DEV. FOR N=		10			0.0079						0.0071
STD. ERR. OF MEAN					0.0025						0.0022

MEAN (COMP STAR 2 ONLY) 5.7615  
 MEAN (COMP STAR 3 ONLY) 5.7836

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7591  
 COMP 2 ONLY 5.7595  
 COMP 3 ONLY 5.7586

ASSUMED COLOR TERM C2 = 0.9787 A21 = -0.0447  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 182390 = 0.414  
 HD 182648 = 0.929

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.7190 & 7.6680 MEAN= 7.1935  
 FOR HD 184509 & 184795 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	9 94	19512.946	-1.5346	0.0025	0.9354	0.0013	2	1.96	-0.1287	5.5232
6	10 94	19513.937	-1.5324	0.0021	0.9297	0.0044	4	1.92	-0.1275	5.5267
6	15 94	19518.876	-1.5358	0.0049	0.9320	0.0013	4	1.70	-0.1224	5.5291
6	16 94	19519.908	-1.5388	0.0063	0.9248	0.0066	4	1.65	-0.1214	5.5274
8	4 94	19568.776	-1.5550	0.0030	0.9428	0.0049	3	1.00	-0.1134	5.5215
8	30 94	19594.684	-1.5291	0.0026	0.9373	0.0042	4	2.22	-0.1402	5.5162
9	2 94	19597.671	-1.5194	0.0023	0.9454	0.0015	4	2.86	-0.1445	5.5193
9	7 94	19602.656	-1.5130	0.0013	0.9512	0.0000	2	2.51	-0.1520	5.5195
9	8 94	19603.655	-1.5121	0.0042	0.9445	0.0081	4	2.55	-0.1536	5.5186
9	9 94	19604.654	-1.5103	0.0052	0.9418	0.0052	4	2.51	-0.1552	5.5190

MEANS 19563.8 0.0034 0.9385 0.0037 5.5220  
 STD. DEV. FOR N= 10 0.0081 0.0044  
 STD. ERR. OF MEAN 0.0026 0.0014

MEAN (COMP STAR 2 ONLY) 5.5168  
 MEAN (COMP STAR 3 ONLY) 5.5273

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.5199  
 COMP 2 ONLY 5.5179  
 COMP 3 ONLY 5.5220

ASSUMED COLOR TERM A2 = -0.0238  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 184509 = 0.322  
 HD 184795 = 0.595

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.0410 & 8.2630 MEAN= 7.6520  
 FOR HD 184509 & 184795 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	9 94	19512.946	-1.7542	0.0000	1.1949	0.0014	2	1.96	-0.1287	5.7593
6	10 94	19513.938	-1.7536	0.0046	1.1961	0.0085	4	1.92	-0.1275	5.7613
6	15 94	19518.876	-1.7622	0.0053	1.1955	0.0070	4	1.70	-0.1224	5.7589
6	16 94	19519.909	-1.7603	0.0043	1.1970	0.0079	4	1.65	-0.1214	5.7621
8	4 94	19568.767	-1.7713	0.0004	1.2063	0.0012	2	1.00	-0.1134	5.7623
8	30 94	19594.685	-1.7438	0.0043	1.2100	0.0041	4	2.22	-0.1402	5.7569
9	2 94	19597.671	-1.7412	0.0038	1.2122	0.0043	4	2.86	-0.1445	5.7520
9	7 94	19602.659	-1.7371	0.0037	1.2071	0.0046	4	2.51	-0.1520	5.7504
9	8 94	19603.655	-1.7286	0.0028	1.2095	0.0057	4	2.55	-0.1536	5.7570
9	9 94	19604.654	-1.7270	0.0032	1.2101	0.0026	5	2.51	-0.1552	5.7573

MEANS 19563.8 0.0032 1.2039 0.0047 5.7577  
 STD. DEV. FOR N= 10 0.0071 0.0040  
 STD. ERR. OF MEAN 0.0022 0.0013

MEAN (COMP STAR 2 ONLY) 5.7487  
 MEAN (COMP STAR 3 ONLY) 5.7668

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7536  
 COMP 2 ONLY 5.7509  
 COMP 3 ONLY 5.7564

ASSUMED COLOR TERM C2 = 0.9774 A21 = -0.0463  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 184509 = 0.322  
 HD 184795 = 0.595

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013



OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 7.6100 & 5.9760 MEAN= 6.7930  
FOR HD 189893 & 189561 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	6	95	19874.940	-1.1024	0.0050	-1.6310	0.0040	2	2.08	-0.1509	5.5322
6	10	95	19878.945	-1.1117	0.0016	-1.6393	0.0020	2	1.93	-0.1459	5.5285
6	11	95	19879.934	-1.1131	0.0051	-1.6408	0.0004	2	1.89	-0.1446	5.5285
6	19	95	19887.931	-1.1220	0.0058	-1.6401	0.0065	4	1.57	-0.1358	5.5296
6	20	95	19888.920	-1.1251	0.0055	-1.6360	0.0063	4	1.52	-0.1348	5.5276
6	21	95	19889.904	-1.1245	0.0042	-1.6432	0.0043	2	1.48	-0.1338	5.5294
6	22	95	19890.909	-1.1280	0.0012	-1.6396	0.0049	4	1.43	-0.1330	5.5268
6	23	95	19891.897	-1.1306	0.0064	-1.6403	0.0008	2	1.39	-0.1321	5.5253
7	1	95	19899.889	-1.1331	0.0002	-1.6250	0.0060	2	1.02	-0.1260	5.5302
7	3	95	19901.907	-1.1323	0.0015	-1.6359	0.0029	2	0.92	-0.1248	5.5326

MEANS 19888.5 0.0036 -1.6371 0.0038 5.5291  
STD. DEV. FOR N= 10 0.0055 0.0023  
STD. ERR. OF MEAN 0.0017 0.0007

MEAN (COMP STAR 2 ONLY) 5.5275  
MEAN (COMP STAR 3 ONLY) 5.5306

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.5272  
COMP 2 ONLY 5.5279  
COMP 3 ONLY 5.5265

ASSUMED COLOR TERM A2 = -0.0241  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 189893 = 0.354  
HD 189561 = 0.543

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.9640 & 6.5190 MEAN= 7.2415  
 FOR HD 189893 & 189561 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	6	95	19874.956	-1.3228	0.0059	-1.4502	0.0040	2	2.08	-0.1509	5.7574
6	10	95	19878.945	-1.3309	0.0011	-1.4551	0.0039	2	1.93	-0.1459	5.7551
6	11	95	19879.935	-1.3258	0.0037	-1.4556	0.0037	2	1.89	-0.1446	5.7616
6	19	95	19887.932	-1.3394	0.0044	-1.4544	0.0040	4	1.57	-0.1358	5.7585
6	20	95	19888.921	-1.3381	0.0032	-1.4557	0.0045	4	1.52	-0.1348	5.7609
6	21	95	19889.904	-1.3412	0.0034	-1.4604	0.0000	2	1.48	-0.1338	5.7591
6	22	95	19890.909	-1.3414	0.0038	-1.4524	0.0041	4	1.43	-0.1330	5.7599
6	23	95	19891.898	-1.3426	0.0000	-1.4518	0.0027	2	1.39	-0.1321	5.7599
7	1	95	19899.889	-1.3474	0.0005	-1.4467	0.0051	2	1.02	-0.1260	5.7630
7	3	95	19901.907	-1.3467	0.0075	-1.4527	0.0023	2	0.92	-0.1248	5.7654

MEANS 19888.5 0.0033 -1.4535 0.0034 5.7601  
 STD. DEV. FOR N= 10 0.0037 0.0029  
 STD. ERR. OF MEAN 0.0012 0.0009

MEAN (COMP STAR 2 ONLY) 5.7558  
 MEAN (COMP STAR 3 ONLY) 5.7643

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7563  
 COMP 2 ONLY 5.7566  
 COMP 3 ONLY 5.7560

ASSUMED COLOR TERM C2 = 0.9762 A21 = -0.0479  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 189893 = 0.354  
 HD 189561 = 0.543

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.8040 & 5.8300 MEAN= 6.3170  
 FOR HD 194213 & 192879 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6 17 96	20251.938	-0.6119	0.0034	-0.9675	0.0025	2	1.79	-0.1538	5.5449
6 23 96	20257.923	-0.6101	0.0020	-0.9838	0.0021	2	1.54	-0.1475	5.5539
6 24 96	20258.910	-0.6166	0.0031	-0.9725	0.0001	2	1.50	-0.1464	5.5486
6 25 96	20259.917	-0.6280	0.0029	-0.9796	0.0033	2	1.46	-0.1455	5.5383
MEANS	20257.2		0.0029	-0.9758	0.0020				5.5464
STD. DEV. FOR N=	4			0.0073					0.0066
STD. ERR. OF MEAN				0.0036					0.0033

MEAN (COMP STAR 2 ONLY) 5.5455  
 MEAN (COMP STAR 3 ONLY) 5.5473

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.5415
COMP 2 ONLY	5.5405
COMP 3 ONLY	5.5426

ASSUMED COLOR TERM A2 = -0.0245  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 194213	=	0.575
HD 192879	=	0.563

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.3790 & 6.3930 MEAN= 6.8860  
 FOR HD 194213 & 192879 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6 17 96	20251.938	-0.9474	0.0023	-0.9922	0.0026	2	1.79	-0.1538	5.7759
6 23 96	20257.923	-0.9540	0.0005	-0.9920	0.0025	2	1.54	-0.1475	5.7768
6 24 96	20258.911	-0.9538	0.0066	-0.9853	0.0042	2	1.50	-0.1464	5.7783
6 25 96	20259.917	-0.9572	0.0131	-0.9862	0.0045	2	1.46	-0.1455	5.7760
MEANS	20257.2		0.0056	-0.9889	0.0034				5.7768
STD. DEV. FOR N=	4			0.0037					0.0011
STD. ERR. OF MEAN				0.0018					0.0006

MEAN (COMP STAR 2 ONLY) 5.7753  
 MEAN (COMP STAR 3 ONLY) 5.7782

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7669  
 COMP 2 ONLY 5.7651  
 COMP 3 ONLY 5.7687

ASSUMED COLOR TERM C2 = 0.9750 A21 = -0.0495  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 194213 = 0.575  
 HD 192879 = 0.563

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.6960 & 7.2320 MEAN= 6.9640  
FOR HD 194959 & 196495 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	12	97	20611.937	-1.2350	0.0023	0.5332	0.0004	2	2.14	-0.1769	5.5444
9	20	97	20711.676	-1.2257	0.0058	0.5417	0.0095	4	2.30	-0.1886	5.5415
9	21	97	20712.676	-1.2237	0.0044	0.5280	0.0029	4	2.33	-0.1902	5.5418
9	22	97	20713.662	-1.2193	0.0042	0.5356	0.0017	4	2.35	-0.1917	5.5445
9	23	97	20714.675	-1.2179	0.0020	0.5347	0.0045	2	2.38	-0.1934	5.5441
9	28	97	20719.657	-1.2155	0.0060	0.5293	0.0032	2	2.51	-0.2016	5.5378
MEANS		20697.4		0.0041	0.5338	0.0037					5.5423
STD. DEV. FOR N=		6			0.0049						0.0026
STD. ERR. OF MEAN					0.0020						0.0011

MEAN (COMP STAR 2 ONLY) 5.5412  
MEAN (COMP STAR 3 ONLY) 5.5435

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.5400
COMP 2 ONLY	5.5402
COMP 3 ONLY	5.5397

ASSUMED COLOR TERM A2 = -0.0249  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 194959	=	0.410
HD 196495	=	0.520

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.1060 & 7.7520 MEAN= 7.4290  
 FOR HD 194959 & 196495 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	12 97	20611.937	-1.4777	0.0028	0.6399	0.0118	2	2.14	-0.1769	5.7637
9	20 97	20711.676	-1.4663	0.0047	0.6397	0.0087	4	2.30	-0.1886	5.7626
9	21 97	20712.675	-1.4655	0.0033	0.6392	0.0093	4	2.33	-0.1902	5.7617
9	22 97	20713.662	-1.4611	0.0033	0.6418	0.0026	4	2.35	-0.1917	5.7644
9	23 97	20714.675	-1.4642	0.0013	0.6425	0.0034	2	2.38	-0.1934	5.7595
9	28 97	20719.657	-1.4530	0.0062	0.6360	0.0019	2	2.51	-0.2016	5.7618
MEANS		20697.4		0.0036	0.6399	0.0063				5.7623
STD. DEV. FOR N=		6			0.0023					0.0017
STD. ERR. OF MEAN					0.0009					0.0007

MEAN (COMP STAR 2 ONLY) 5.7592  
 MEAN (COMP STAR 3 ONLY) 5.7654

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7574  
 COMP 2 ONLY 5.7572  
 COMP 3 ONLY 5.7577

ASSUMED COLOR TERM C2 = 0.9737 A21 = -0.0512  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 194959 = 0.410  
 HD 196495 = 0.520

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 7.4390 & 5.7460 MEAN= 6.5925  
 FOR HD 198902 & 199012 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	23 98	20987.925	-0.8506	0.0038	-1.7015	0.0067	4	1.90	-0.1786	5.5565
6	25 98	20989.934	-0.8546	0.0039	-1.7024	0.0041	4	1.83	-0.1762	5.5552
6	26 98	20990.926	-0.8516	0.0029	-1.6999	0.0067	4	1.79	-0.1750	5.5594
6	27 98	20991.914	-0.8527	0.0047	-1.7003	0.0058	4	1.75	-0.1739	5.5596
7	2 98	20996.923	-0.8667	0.0030	-1.7031	0.0052	4	1.54	-0.1687	5.5515
7	3 98	20997.895	-0.8665	0.0061	-1.7038	0.0064	4	1.50	-0.1677	5.5529
9	21 98	21077.680	-0.8433	0.0028	-1.6985	0.0073	4	2.18	-0.1933	5.5481

MEANS 21004.7 0.0039 -1.7014 0.0060 5.5547  
 STD. DEV. FOR N= 7 0.0019 0.0042  
 STD. ERR. OF MEAN 0.0007 0.0016

MEAN (COMP STAR 2 ONLY) 5.5506  
 MEAN (COMP STAR 3 ONLY) 5.5589

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.5519  
 COMP 2 ONLY 5.5518  
 COMP 3 ONLY 5.5520

ASSUMED COLOR TERM A2 = -0.0253  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 198902 = 0.322  
 HD 199012 = 0.645

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.7610 & 6.3910 MEAN= 7.0760  
 FOR HD 198902 & 199012 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6 23 98	20987.925	-1.1154	0.0006	-1.3873	0.0028	4	1.90	-0.1786	5.7725
6 25 98	20989.935	-1.1200	0.0047	-1.3888	0.0031	4	1.83	-0.1762	5.7707
6 26 98	20990.926	-1.1195	0.0023	-1.3874	0.0048	4	1.79	-0.1750	5.7725
6 27 98	20991.914	-1.1186	0.0038	-1.3845	0.0043	4	1.75	-0.1739	5.7748
7 2 98	20996.922	-1.1230	0.0045	-1.3827	0.0087	4	1.54	-0.1687	5.7766
7 3 98	20997.895	-1.1245	0.0028	-1.3907	0.0055	4	1.50	-0.1677	5.7763
9 21 98	21077.680	-1.1075	0.0037	-1.3869	0.0052	4	2.18	-0.1933	5.7643

MEANS 21004.7 0.0032 -1.3869 0.0049 5.7725  
 STD. DEV. FOR N= 7 0.0026 0.0042  
 STD. ERR. OF MEAN 0.0010 0.0016

MEAN (COMP STAR 2 ONLY) 5.7641  
 MEAN (COMP STAR 3 ONLY) 5.7810

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7665  
 COMP 2 ONLY 5.7666  
 COMP 3 ONLY 5.7665

ASSUMED COLOR TERM C2 = 0.9725 A21 = -0.0528  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 198902 = 0.322  
 HD 199012 = 0.645

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013



OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 7.2540 & 7.4300 MEAN= 7.3420  
 FOR HD 199143 & 199587 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	23 99	21352.942	-1.6105	0.0086	0.1639	0.0167	4	2.06	-0.1933	5.5308
8	13 99	21403.795	-1.6051	0.0046	0.2059	0.0032	4	0.28	-0.1630	5.5729
9	4 99	21425.744	-1.6060	0.0060	0.1757	0.0036	2	1.34	-0.1759	5.5552
9	29 99	21450.693	-1.5587	0.0024	0.1999	0.0038	4	2.29	-0.2077	5.5674
10	2 99	21453.634	-1.5880	0.0036	0.1373	0.0095	4	2.37	-0.2123	5.5332
10	3 99	21454.657	-1.5739	0.0095	0.1579	0.0111	4	2.40	-0.2140	5.5455
10	6 99	21457.654	-1.5413	0.0021	0.2120	0.0038	4	2.48	-0.2189	5.5729
10	17 99	21468.646	-1.5363	0.0029	0.1587	0.0180	2	2.70	-0.2382	5.5578

MEANS 21433.5 0.0050 0.1764 0.0087 5.5544  
 STD. DEV. FOR N= 8 0.0268 0.0167  
 STD. ERR. OF MEAN 0.0095 0.0059

MEAN (COMP STAR 2 ONLY) 5.5547  
 MEAN (COMP STAR 3 ONLY) 5.5542

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.5557  
 COMP 2 ONLY 5.5562  
 COMP 3 ONLY 5.5552

ASSUMED COLOR TERM A2 = -0.0256  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 199143 = 0.311  
 HD 199587 = 0.331

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.5650 & 7.7610 MEAN= 7.6630  
 FOR HD 199143 & 199587 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	23 99	21352.943	-1.7191	0.0053	0.1635	0.0031	4	2.06	-0.1933	5.7403
8	13 99	21403.795	-1.7149	0.0027	0.2260	0.0038	4	0.28	-0.1630	5.7837
9	4 99	21425.744	-1.7213	0.0009	0.1896	0.0001	2	1.34	-0.1759	5.7591
9	29 99	21450.693	-1.6684	0.0037	0.2157	0.0025	4	2.29	-0.2077	5.7755
10	2 99	21453.634	-1.7055	0.0046	0.1475	0.0038	4	2.37	-0.2123	5.7333
10	3 99	21454.657	-1.6879	0.0022	0.1706	0.0066	4	2.40	-0.2140	5.7491
10	6 99	21457.654	-1.6499	0.0027	0.2295	0.0032	4	2.48	-0.2189	5.7818
10	17 99	21468.635	-1.6469	0.0074	0.1815	0.0071	2	2.70	-0.2382	5.7644

MEANS 21433.5 0.0037 0.1905 0.0038 5.7609  
 STD. DEV. FOR N= 8 0.0304 0.0189  
 STD. ERR. OF MEAN 0.0108 0.0067

MEAN (COMP STAR 2 ONLY) 5.7581  
 MEAN (COMP STAR 3 ONLY) 5.7637

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7636  
 COMP 2 ONLY 5.7614  
 COMP 3 ONLY 5.7658

ASSUMED COLOR TERM C2 = 0.9712 A21 = -0.0544  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 199143 = 0.311  
 HD 199587 = 0.331

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 7.4370 & 7.1500 MEAN= 7.2935  
FOR HD 203311 & 205132 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	1	0	21696.944	-1.4857	0.0060	-0.2795	0.0036	4	2.73	-0.2408	5.5572
6	2	0	21697.941	-1.4839	0.0035	-0.2829	0.0044	4	2.71	-0.2390	5.5608
6	5	0	21700.933	-1.4972	0.0048	-0.2726	0.0038	2	2.66	-0.2339	5.5528
6	6	0	21701.936	-1.4893	0.0037	-0.2783	0.0075	4	2.64	-0.2322	5.5625
6	11	0	21706.932	-1.4987	0.0005	-0.2830	0.0028	4	2.53	-0.2240	5.5617
7	6	0	21731.909	-1.5376	0.0015	-0.2842	0.0044	4	1.70	-0.1899	5.5599
9	21	0	21808.697	-1.5294	0.0038	-0.2807	0.0043	4	1.90	-0.1993	5.5580
9	24	0	21811.708	-1.5253	0.0048	-0.2758	0.0032	4	2.01	-0.2033	5.5577
9	28	0	21815.660	-1.5192	0.0040	-0.2743	0.0007	2	2.14	-0.2089	5.5577
MEANS		21741.4		0.0036	-0.2790	0.0039					5.5587
STD. DEV. FOR N=		9			0.0041						0.0029
STD. ERR. OF MEAN					0.0014						0.0010

MEAN (COMP STAR 2 ONLY) 5.5627  
MEAN (COMP STAR 3 ONLY) 5.5547

COLOR-CORRECTED PLANET MAGNITUDES.....  
BOTH COMPS 5.5600  
COMP 2 ONLY 5.5632  
COMP 3 ONLY 5.5569

ASSUMED COLOR TERM A2 = -0.0260  
ASSUMED B-Y COLORS.....  
PLANET = 0.370  
HD 203311 = 0.351  
HD 205132 = 0.284

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.7880 & 7.4340 MEAN= 7.6110  
 FOR HD 203311 & 205132 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	1	0	21696.944	-1.5933	0.0038	-0.3507	0.0052	4	2.73	-0.2408	5.7632
6	2	0	21697.942	-1.5947	0.0038	-0.3476	0.0035	4	2.71	-0.2390	5.7637
6	5	0	21700.933	-1.5984	0.0064	-0.3437	0.0044	2	2.66	-0.2339	5.7654
6	6	0	21701.936	-1.6013	0.0064	-0.3521	0.0080	4	2.64	-0.2322	5.7643
6	11	0	21706.932	-1.6130	0.0046	-0.3450	0.0069	4	2.53	-0.2240	5.7614
7	6	0	21731.909	-1.6450	0.0032	-0.3439	0.0035	4	1.70	-0.1899	5.7676
9	21	0	21808.698	-1.6344	0.0028	-0.3468	0.0034	4	1.90	-0.1993	5.7678
9	24	0	21811.708	-1.6322	0.0020	-0.3476	0.0065	4	2.01	-0.2033	5.7655
9	28	0	21815.660	-1.6238	0.0084	-0.3447	0.0060	2	2.14	-0.2089	5.7676
MEANS			21741.4		0.0046	-0.3469	0.0053				5.7652
STD. DEV. FOR N=			9			0.0030					0.0022
STD. ERR. OF MEAN						0.0010					0.0007

MEAN (COMP STAR 2 ONLY) 5.7687  
 MEAN (COMP STAR 3 ONLY) 5.7616

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7681  
 COMP 2 ONLY 5.7698  
 COMP 3 ONLY 5.7664

ASSUMED COLOR TERM C2 = 0.9700 A21 = -0.0560  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 203311 = 0.351  
 HD 205132 = 0.284

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.6680 & 7.1450 MEAN= 6.9065  
FOR HD 206893 & 208704 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	27	1	22087.939	-1.1152	0.0034	0.4709	0.0029	4	2.19	-0.2138	5.5696
6	28	1	22088.934	-1.1186	0.0081	0.4745	0.0045	2	2.16	-0.2124	5.5677
6	30	1	22090.933	-1.1159	0.0045	0.4713	0.0037	4	2.09	-0.2096	5.5735
7	16	1	22106.892	-1.1407	0.0006	0.4704	0.0010	2	1.46	-0.1914	5.5692
7	19	1	22109.884	-1.1410	0.0036	0.4728	0.0035	4	1.33	-0.1888	5.5719
9	18	1	22170.719	-1.1359	0.0021	0.4722	0.0015	4	1.60	-0.1975	5.5674
9	25	1	22177.704	-1.1262	0.0052	0.4772	0.0090	4	1.88	-0.2058	5.5677

MEANS	22119.0		0.0039	0.4728	0.0037					5.5696
STD. DEV. FOR N=	7			0.0024						0.0023
STD. ERR. OF MEAN				0.0009						0.0009

MEAN (COMP STAR 2 ONLY)	5.5674
MEAN (COMP STAR 3 ONLY)	5.5717

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	5.5711
	COMP 2 ONLY	5.5702
	COMP 3 ONLY	5.5719

ASSUMED COLOR TERM A2 =	-0.0264
ASSUMED B-Y COLORS.....	PLANET = 0.370
	HD 206893 = 0.264
	HD 208704 = 0.362

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 6.9320 & 7.5070 MEAN= 7.2195  
 FOR HD 206893 & 208704 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	27	1	22087.939	-1.2252	0.0012	0.5616	0.0026	4	2.19	-0.2138	5.7696
6	28	1	22088.934	-1.2267	0.0025	0.5657	0.0016	2	2.16	-0.2124	5.7696
6	30	1	22090.933	-1.2273	0.0067	0.5638	0.0035	4	2.09	-0.2096	5.7722
7	16	1	22106.892	-1.2438	0.0074	0.5670	0.0057	2	1.46	-0.1914	5.7770
7	19	1	22109.884	-1.2506	0.0018	0.5659	0.0020	4	1.33	-0.1888	5.7734
9	18	1	22170.718	-1.2437	0.0020	0.5667	0.0017	4	1.60	-0.1975	5.7703
9	25	1	22177.705	-1.2292	0.0015	0.5641	0.0014	4	1.88	-0.2058	5.7751
MEANS		22119.0		0.0033	0.5650	0.0026					5.7725
STD. DEV. FOR N=		7			0.0019						0.0029
STD. ERR. OF MEAN					0.0007						0.0011

MEAN (COMP STAR 2 ONLY) 5.7674  
 MEAN (COMP STAR 3 ONLY) 5.7775

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7757  
 COMP 2 ONLY 5.7735  
 COMP 3 ONLY 5.7779

ASSUMED COLOR TERM C2 = 0.9688 A21 = -0.0576  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 206893 = 0.264  
 HD 208704 = 0.362

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 7.3370 & 6.9940 MEAN= 7.1655  
 FOR HD 209080 & 209154 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	30	2	22547.688	-1.3705	0.0049	-0.3642	0.0084	4	1.90	-0.2131	5.5751
10	4	2	22551.701	-1.3614	0.0017	-0.3593	0.0039	4	2.04	-0.2185	5.5783
10	5	2	22552.680	-1.3588	0.0022	-0.3630	0.0062	2	2.08	-0.2199	5.5793
10	7	2	22554.694	-1.3550	0.0025	-0.3603	0.0042	4	2.14	-0.2229	5.5799
10	8	2	22555.663	-1.3626	0.0051	-0.3559	0.0128	4	2.18	-0.2242	5.5709
10	9	2	22556.671	-1.3575	0.0033	-0.3602	0.0060	4	2.21	-0.2258	5.5743
MEANS		22553.2		0.0033	-0.3605	0.0069					5.5763
STD. DEV. FOR N=		6			0.0029						0.0035
STD. ERR. OF MEAN					0.0012						0.0014

MEAN (COMP STAR 2 ONLY) 5.5675  
 MEAN (COMP STAR 3 ONLY) 5.5850

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.5760
COMP 2 ONLY	5.5706
COMP 3 ONLY	5.5814

ASSUMED COLOR TERM A2 = -0.0267  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 209080	=	0.255
HD 209154	=	0.505

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.5920 & 7.4990 MEAN= 7.5455  
 FOR HD 209080 & 209154 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	30	2	22547.688	-1.5479	0.0062	-0.1186	0.0068	4	1.90	-0.2131	5.7750
10	4	2	22551.700	-1.5391	0.0026	-0.1232	0.0026	4	2.04	-0.2185	5.7777
10	5	2	22552.690	-1.5354	0.0046	-0.1209	0.0038	2	2.08	-0.2199	5.7798
10	7	2	22554.694	-1.5375	0.0045	-0.1141	0.0053	4	2.14	-0.2229	5.7744
10	8	2	22555.663	-1.5296	0.0049	-0.1185	0.0041	4	2.18	-0.2242	5.7808
10	9	2	22556.671	-1.5316	0.0007	-0.1186	0.0037	4	2.21	-0.2258	5.7771

MEANS 22553.2 0.0039 -0.1190 0.0044 5.7775  
 STD. DEV. FOR N= 6 0.0030 0.0025  
 STD. ERR. OF MEAN 0.0012 0.0010

MEAN (COMP STAR 2 ONLY) 5.7645  
 MEAN (COMP STAR 3 ONLY) 5.7905

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7769  
 COMP 2 ONLY 5.7713  
 COMP 3 ONLY 5.7825

ASSUMED COLOR TERM C2 = 0.9675 A21 = -0.0592  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 209080 = 0.255  
 HD 209154 = 0.505

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013



OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.8900 & 6.9160 MEAN= 6.9030  
 FOR HD 210172 & 210845 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
7	1	3	22821.924	-1.0869	0.0034	0.0157	0.0032	4	2.34	-0.2328	5.5749
7	3	3	22823.927	-1.0906	0.0056	0.0165	0.0082	4	2.28	-0.2299	5.5744
7	5	3	22825.926	-1.0962	0.0004	0.0178	0.0086	4	2.21	-0.2269	5.5719
7	7	3	22827.922	-1.1009	0.0041	0.0251	0.0038	4	2.15	-0.2241	5.5702
7	8	3	22828.921	-1.1012	0.0033	0.0227	0.0030	4	2.11	-0.2228	5.5714
9	16	3	22898.702	-1.1247	0.0029	0.0185	0.0032	4	1.12	-0.1992	5.5750
9	17	3	22899.701	-1.1230	0.0013	0.0149	0.0047	4	1.17	-0.2000	5.5758

MEANS 22846.7 0.0030 0.0187 0.0050 5.5734  
 STD. DEV. FOR N= 7 0.0038 0.0021  
 STD. ERR. OF MEAN 0.0014 0.0008

MEAN (COMP STAR 2 ONLY) 5.5697  
 MEAN (COMP STAR 3 ONLY) 5.5770

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.5736  
 COMP 2 ONLY 5.5723  
 COMP 3 ONLY 5.5749

ASSUMED COLOR TERM A2 = -0.0271  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 210172 = 0.276  
 HD 210845 = 0.447

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.1660 & 7.3630 MEAN= 7.2645  
 FOR HD 210172 & 210845 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
7	1	3	22821.924	-1.2474	0.0007	0.1777	0.0039	4	2.34	-0.2328	5.7727
7	3	3	22823.928	-1.2474	0.0052	0.1804	0.0081	4	2.28	-0.2299	5.7759
7	5	3	22825.926	-1.2570	0.0016	0.1819	0.0029	4	2.21	-0.2269	5.7695
7	7	3	22827.922	-1.2581	0.0055	0.1879	0.0095	4	2.15	-0.2241	5.7715
7	8	3	22828.921	-1.2588	0.0026	0.1895	0.0015	4	2.11	-0.2228	5.7724
9	16	3	22898.703	-1.2878	0.0039	0.1841	0.0035	4	1.12	-0.1992	5.7718
9	17	3	22899.702	-1.2790	0.0032	0.1798	0.0062	4	1.17	-0.2000	5.7796

MEANS 22846.7 0.0032 0.1830 0.0051 5.7733  
 STD. DEV. FOR N= 7 0.0044 0.0034  
 STD. ERR. OF MEAN 0.0016 0.0013

MEAN (COMP STAR 2 ONLY) 5.7664  
 MEAN (COMP STAR 3 ONLY) 5.7803

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7739  
 COMP 2 ONLY 5.7721  
 COMP 3 ONLY 5.7756

ASSUMED COLOR TERM C2 = 0.9663 A21 = -0.0608  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 210172 = 0.276  
 HD 210845 = 0.447

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.9160 & 6.4450 MEAN= 6.6805  
 FOR HD 210845 & 213198 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
10	5	4	23283.703	-0.8438	0.0047	-0.5196	0.0060	4	1.79	-0.2201	5.6102
10	9	4	23287.686	-0.8374	0.0061	-0.5164	0.0072	4	1.94	-0.2253	5.6108
10	13	4	23291.675	-0.8363	0.0081	-0.5216	0.0054	4	2.08	-0.2308	5.6059
10	14	4	23292.660	-0.8325	0.0046	-0.5199	0.0028	4	2.12	-0.2322	5.6082
10	15	4	23293.677	-0.8369	0.0089	-0.5197	0.0110	4	2.15	-0.2337	5.6022
10	31	4	23309.617	-0.8030	0.0049	-0.5251	0.0056	4	2.57	-0.2595	5.6087
11	2	4	23311.627	-0.7995	0.0098	-0.5187	0.0015	4	2.61	-0.2630	5.6085
11	3	4	23312.658	-0.7921	0.0015	-0.5244	0.0083	4	2.63	-0.2648	5.6141
11	4	4	23313.631	-0.7947	0.0035	-0.5201	0.0045	2	2.65	-0.2666	5.6097

MEANS 23299.7 0.0058 -0.5206 0.0058 5.6087  
 STD. DEV. FOR N= 9 0.0027 0.0033  
 STD. ERR. OF MEAN 0.0009 0.0011

MEAN (COMP STAR 2 ONLY) 5.5839  
 MEAN (COMP STAR 3 ONLY) 5.6335

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.6097  
 COMP 2 ONLY 5.5818  
 COMP 3 ONLY 5.6376

ASSUMED COLOR TERM A2 = -0.0275  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 210845 = 0.447  
 HD 213198 = 0.221

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.3630 & 6.6660 MEAN= 7.0145  
 FOR HD 210845 & 213198 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
10	5	4	23283.703	-0.9714	0.0054	-0.7577	0.0036	4	1.79	-0.2201	5.8141
10	9	4	23287.687	-0.9620	0.0028	-0.7591	0.0068	4	1.94	-0.2253	5.8175
10	13	4	23291.675	-0.9665	0.0025	-0.7601	0.0059	4	2.08	-0.2308	5.8068
10	14	4	23292.660	-0.9551	0.0104	-0.7605	0.0092	4	2.12	-0.2322	5.8166
10	15	4	23293.677	-0.9555	0.0021	-0.7694	0.0080	4	2.15	-0.2337	5.8146
10	31	4	23309.617	-0.9292	0.0052	-0.7673	0.0068	4	2.57	-0.2595	5.8129
11	2	4	23311.630	-0.9185	0.0032	-0.7677	0.0048	4	2.61	-0.2630	5.8199
11	3	4	23312.659	-0.9214	0.0045	-0.7629	0.0056	4	2.63	-0.2648	5.8151
11	4	4	23313.643	-0.9211	0.0003	-0.7692	0.0011	2	2.65	-0.2666	5.8136

MEANS 23299.7 0.0040 -0.7638 0.0058 5.8146  
 STD. DEV. FOR N= 9 0.0046 0.0036  
 STD. ERR. OF MEAN 0.0015 0.0012

MEAN (COMP STAR 2 ONLY) 5.7812  
 MEAN (COMP STAR 3 ONLY) 5.8480

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.8168  
 COMP 2 ONLY 5.7764  
 COMP 3 ONLY 5.8573

ASSUMED COLOR TERM C2 = 0.9650 A21 = -0.0625  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 210845 = 0.447  
 HD 213198 = 0.221

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.1310 & 6.2180 MEAN= 6.1745  
 FOR HD 213429 & 214448 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	29	5	23550.925	-0.3274	0.0052	0.0905	0.0077	4	2.59	-0.2570	5.5808
7	2	5	23553.932	-0.3314	0.0088	0.0914	0.0069	4	2.52	-0.2522	5.5819
7	3	5	23554.942	-0.3303	0.0049	0.0831	0.0103	4	2.49	-0.2506	5.5846
7	4	5	23555.928	-0.3293	0.0053	0.0889	0.0078	4	2.46	-0.2490	5.5873
7	5	5	23556.922	-0.3303	0.0101	0.0864	0.0089	4	2.44	-0.2475	5.5879
8	26	5	23608.807	-0.3868	0.0041	0.0871	0.0067	4	0.30	-0.1989	5.5877
MEANS		23563.6		0.0064	0.0879	0.0081					5.5850
STD. DEV. FOR N=		6			0.0030						0.0031
STD. ERR. OF MEAN					0.0012						0.0013

MEAN (COMP STAR 2 ONLY) 5.5855  
 MEAN (COMP STAR 3 ONLY) 5.5846

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.5844  
 COMP 2 ONLY 5.5865  
 COMP 3 ONLY 5.5822

ASSUMED COLOR TERM A2 = -0.0279  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 213429 = 0.333  
 HD 214448 = 0.456

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 6.4640 & 6.6740 MEAN= 6.5690  
 FOR HD 213429 & 214448 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	29	5	23550.924	-0.5245	0.0081	0.2046	0.0100	4	2.59	-0.2570	5.7745
7	2	5	23553.933	-0.5171	0.0060	0.2006	0.0087	4	2.52	-0.2522	5.7872
7	3	5	23554.942	-0.5277	0.0030	0.2020	0.0087	4	2.49	-0.2506	5.7783
7	4	5	23555.928	-0.5224	0.0057	0.1998	0.0104	4	2.46	-0.2490	5.7852
7	5	5	23556.923	-0.5265	0.0129	0.2071	0.0044	4	2.44	-0.2475	5.7828
8	26	5	23608.807	-0.5855	0.0122	0.1993	0.0059	4	0.30	-0.1989	5.7831
MEANS		23563.6		0.0080	0.2022	0.0080					5.7819
STD. DEV. FOR N=		6			0.0031						0.0047
STD. ERR. OF MEAN					0.0012						0.0019

MEAN (COMP STAR 2 ONLY) 5.7780  
 MEAN (COMP STAR 3 ONLY) 5.7857

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.7803  
 COMP 2 ONLY 5.7803  
 COMP 3 ONLY 5.7802

ASSUMED COLOR TERM C2 = 0.9638 A21 = -0.0641  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 213429 = 0.333  
 HD 214448 = 0.456

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.7140 & 6.6790 MEAN= 6.6965  
 FOR HD 216402 & 217877 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	18	6	23996.744	-0.9031	0.0026	-0.0388	0.0018	4	0.64	-0.2051	5.5860
9	19	6	23997.751	-0.8994	0.0022	-0.0391	0.0026	4	0.69	-0.2056	5.5890
9	20	6	23998.746	-0.9107	0.0047	-0.0409	0.0061	4	0.74	-0.2060	5.5771
9	27	6	24005.722	-0.8984	0.0019	-0.0344	0.0011	2	1.08	-0.2106	5.5837
10	13	6	24021.678	-0.8801	0.0032	-0.0409	0.0042	4	1.76	-0.2265	5.5836
10	16	6	24024.709	-0.8746	0.0027	-0.0388	0.0042	4	1.88	-0.2303	5.5848
10	19	6	24027.674	-0.8683	0.0040	-0.0444	0.0034	4	1.99	-0.2343	5.5867
MEANS		24010.4		0.0030	-0.0396	0.0033					5.5844
STD. DEV. FOR N=		7			0.0030						0.0037
STD. ERR. OF MEAN					0.0011						0.0014

MEAN (COMP STAR 2 ONLY) 5.5821  
 MEAN (COMP STAR 3 ONLY) 5.5867

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.5858
COMP 2 ONLY	5.5839
COMP 3 ONLY	5.5876

ASSUMED COLOR TERM A2 = -0.0282  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 216402	=	0.307
HD 217877	=	0.338

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.0210 & 7.0170 MEAN= 7.0190  
FOR HD 216402 & 217877 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	18	6	23996.744	-1.0310	0.0040	-0.0028	0.0009	4	0.64	-0.2051	5.7797
9	19	6	23997.751	-1.0271	0.0049	-0.0113	0.0053	4	0.69	-0.2056	5.7829
9	20	6	23998.746	-1.0365	0.0043	-0.0114	0.0029	4	0.74	-0.2060	5.7728
9	27	6	24005.733	-1.0212	0.0012	-0.0010	0.0045	2	1.08	-0.2106	5.7819
10	13	6	24021.679	-1.0073	0.0063	-0.0110	0.0064	4	1.76	-0.2265	5.7764
10	16	6	24024.709	-1.0049	0.0017	0.0005	0.0065	4	1.88	-0.2303	5.7744
10	19	6	24027.674	-1.0004	0.0018	-0.0091	0.0057	4	1.99	-0.2343	5.7743

MEANS	24010.4		0.0035	-0.0066	0.0046					5.7775
STD. DEV. FOR N=	7			0.0053						0.0040
STD. ERR. OF MEAN				0.0020						0.0015

MEAN (COMP STAR 2 ONLY)	5.7762
MEAN (COMP STAR 3 ONLY)	5.7788

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	5.7806
	COMP 2 ONLY	5.7803
	COMP 3 ONLY	5.7809

ASSUMED COLOR TERM C2 =	0.9626	A21 =	-0.0657
ASSUMED B-Y COLORS.....		PLANET	= 0.370
		HD 216402	= 0.307
		HD 217877	= 0.338

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013



OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.6790 & 7.3070 MEAN= 6.9930  
FOR HD 217877 & 218730 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	18	7	24361.768	-1.1933	0.0012	0.6293	0.0013	4	0.43	-0.2055	5.5926
9	19	7	24362.756	-1.1948	0.0010	0.6272	0.0019	4	0.48	-0.2060	5.5905
9	20	7	24363.754	-1.1926	0.0012	0.6311	0.0053	4	0.53	-0.2064	5.5921
9	30	7	24373.789	-1.1868	0.0027	0.6276	0.0055	4	1.02	-0.2120	5.5906
10	1	7	24374.769	-1.1856	0.0046	0.6277	0.0016	4	1.06	-0.2127	5.5909
10	3	7	24376.749	-1.1842	0.0065	0.6299	0.0039	4	1.15	-0.2142	5.5904
MEANS		24368.9		0.0029	0.6288	0.0033					5.5912
STD. DEV. FOR N=		6			0.0015						0.0009
STD. ERR. OF MEAN					0.0006						0.0004

MEAN (COMP STAR 2 ONLY) 5.5916  
MEAN (COMP STAR 3 ONLY) 5.5908

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.5919
COMP 2 ONLY	5.5925
COMP 3 ONLY	5.5914

ASSUMED COLOR TERM A2 = -0.0286

ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 217877	=	0.338
HD 218730	=	0.350

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.0170 & 7.6570 MEAN= 7.3370  
 FOR HD 217877 & 218730 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	18	7	24361.770	-1.3451	0.0004	0.6425	0.0015	4	0.43	-0.2055	5.7842
9	19	7	24362.756	-1.3429	0.0032	0.6387	0.0050	4	0.48	-0.2060	5.7857
9	20	7	24363.754	-1.3449	0.0016	0.6439	0.0050	4	0.53	-0.2064	5.7830
9	30	7	24373.789	-1.3333	0.0025	0.6376	0.0046	4	1.02	-0.2120	5.7866
10	1	7	24374.770	-1.3369	0.0018	0.6437	0.0073	4	1.06	-0.2127	5.7821
10	3	7	24376.749	-1.3354	0.0048	0.6425	0.0081	4	1.15	-0.2142	5.7816
MEANS		24368.9		0.0024	0.6415	0.0052					5.7839
STD. DEV. FOR N=		6			0.0027						0.0020
STD. ERR. OF MEAN					0.0011						0.0008

MEAN (COMP STAR 2 ONLY) 5.7846  
 MEAN (COMP STAR 3 ONLY) 5.7832

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.7856
COMP 2 ONLY	5.7868
COMP 3 ONLY	5.7845

ASSUMED COLOR TERM C2 = 0.9613      A21 = -0.0673  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 217877	=	0.338
HD 218730	=	0.350

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.4810 & 7.6660 MEAN= 7.0735  
 FOR HD 221356 & 222582 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	4	8	24713.832	-1.2695	0.0027	1.1874	0.0019	4	0.44	-0.2063	5.5961
9	5	8	24714.810	-1.2706	0.0051	1.1854	0.0028	4	0.40	-0.2060	5.5954
9	6	8	24715.805	-1.2694	0.0064	1.1869	0.0033	4	0.35	-0.2058	5.5970
9	7	8	24716.802	-1.2745	0.0032	1.1874	0.0017	4	0.30	-0.2057	5.5922
9	24	8	24733.754	-1.2697	0.0020	1.1855	0.0052	4	0.56	-0.2078	5.5940
10	21	8	24760.693	-1.2491	0.0052	1.1886	0.0068	4	1.78	-0.2305	5.5875
10	28	8	24767.674	-1.2359	0.0029	1.1914	0.0045	4	2.04	-0.2397	5.5906
MEANS		24731.9		0.0039	1.1875	0.0037					5.5933
STD. DEV. FOR N=		7			0.0020						0.0034
STD. ERR. OF MEAN					0.0008						0.0013

MEAN (COMP STAR 2 ONLY) 5.5945  
 MEAN (COMP STAR 3 ONLY) 5.5920

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.5939  
 COMP 2 ONLY 5.5958  
 COMP 3 ONLY 5.5919

ASSUMED COLOR TERM A2 = -0.0290  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 221356 = 0.327  
 HD 222582 = 0.373

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 6.8080 & 8.0390 MEAN= 7.4235  
 FOR HD 221356 & 222582 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	4	8	24713.833	-1.4245	0.0018	1.2350	0.0040	4	0.44	-0.2063	5.7905
9	5	8	24714.811	-1.4261	0.0042	1.2357	0.0010	4	0.40	-0.2060	5.7894
9	6	8	24715.805	-1.4248	0.0026	1.2343	0.0030	4	0.35	-0.2058	5.7912
9	7	8	24716.802	-1.4242	0.0051	1.2378	0.0022	4	0.30	-0.2057	5.7921
9	24	8	24733.755	-1.4215	0.0024	1.2386	0.0021	4	0.56	-0.2078	5.7914
10	21	8	24760.693	-1.3985	0.0045	1.2370	0.0046	4	1.78	-0.2305	5.7856
10	28	8	24767.675	-1.3907	0.0023	1.2371	0.0035	4	2.04	-0.2397	5.7829
MEANS		24731.9		0.0033	1.2365	0.0029					5.7890
STD. DEV. FOR N=		7			0.0016						0.0034
STD. ERR. OF MEAN					0.0006						0.0013

MEAN (COMP STAR 2 ONLY) 5.7918  
 MEAN (COMP STAR 3 ONLY) 5.7863

COLOR-CORRECTED PLANET MAGNITUDES.....

	BOTH COMPS	5.7904
	COMP 2 ONLY	5.7947
	COMP 3 ONLY	5.7861

ASSUMED COLOR TERM C2 = 0.9601      A21 = -0.0689  
 ASSUMED B-Y COLORS.....

	PLANET	=	0.370
	HD 221356	=	0.327
	HD 222582	=	0.373

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.8640 & 6.4810 MEAN= 6.6725  
 FOR HD 221146 & 221356 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
8	16	9	25059.861	-0.8560	0.0051	-0.3853	0.0017	4	1.54	-0.2213	5.5896
8	20	9	25063.857	-0.8607	0.0030	-0.3821	0.0035	4	1.37	-0.2176	5.5893
8	21	9	25064.837	-0.8586	0.0026	-0.3841	0.0029	4	1.32	-0.2168	5.5923
8	27	9	25070.816	-0.8654	0.0015	-0.3839	0.0031	4	1.04	-0.2122	5.5912
9	18	9	25092.761	-0.8713	0.0050	-0.3873	0.0043	4	0.06	-0.2054	5.5956
9	28	9	25102.709	-0.8677	0.0026	-0.3831	0.0028	4	0.55	-0.2078	5.5951
MEANS		25075.8		0.0033	-0.3843	0.0031					5.5922
STD. DEV. FOR N=		6			0.0018						0.0027
STD. ERR. OF MEAN					0.0007						0.0011

MEAN (COMP STAR 2 ONLY) 5.5915  
 MEAN (COMP STAR 3 ONLY) 5.5928

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.5929
COMP 2 ONLY	5.5917
COMP 3 ONLY	5.5941

ASSUMED COLOR TERM A2 = -0.0294  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 221146	=	0.365
HD 221356	=	0.327

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.2290 & 6.8080 MEAN= 7.0185  
 FOR HD 221146 & 221356 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
8	16	9	25059.862	-1.0047	0.0026	-0.4235	0.0025	4	1.54	-0.2213	5.7848
8	20	9	25063.857	-1.0104	0.0025	-0.4190	0.0046	4	1.37	-0.2176	5.7837
8	21	9	25064.837	-1.0053	0.0027	-0.4201	0.0047	4	1.32	-0.2168	5.7898
8	27	9	25070.816	-1.0119	0.0035	-0.4215	0.0025	4	1.04	-0.2122	5.7892
9	18	9	25092.761	-1.0232	0.0033	-0.4255	0.0020	4	0.06	-0.2054	5.7896
9	28	9	25102.709	-1.0152	0.0040	-0.4220	0.0003	4	0.55	-0.2078	5.7928
MEANS		25075.8		0.0031	-0.4219	0.0028					5.7883
STD. DEV. FOR N=		6			0.0023						0.0034
STD. ERR. OF MEAN					0.0010						0.0014

MEAN (COMP STAR 2 ONLY) 5.7878  
 MEAN (COMP STAR 3 ONLY) 5.7888

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.7900
COMP 2 ONLY	5.7882
COMP 3 ONLY	5.7918

ASSUMED COLOR TERM C2 = 0.9588      A21 = -0.0705  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 221146	=	0.365
HD 221356	=	0.327

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 6.8640 & 6.4810 MEAN= 6.6725  
 FOR HD 221146 & 221356 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
9 27 10	25466.751	-0.8741	0.0020	-0.3861	0.0009	4	0.28	-0.2048	5.5925
10 27 10	25496.764	-0.8469	0.0037	-0.3849	0.0038	4	1.68	-0.2261	5.5934
11 3 10	25503.720	-0.8430	0.0032	-0.3853	0.0071	4	1.95	-0.2349	5.5876
11 4 10	25504.699	-0.8418	0.0014	-0.3880	0.0041	4	1.99	-0.2362	5.5873
11 7 10	25507.719	-0.8333	0.0020	-0.3876	0.0007	4	2.09	-0.2404	5.5913
11 10 10	25510.639	-0.8289	0.0031	-0.3853	0.0042	4	2.19	-0.2447	5.5910

MEANS 25498.4 0.0026 -0.3862 0.0035 5.5905  
 STD. DEV. FOR N= 6 0.0013 0.0025  
 STD. ERR. OF MEAN 0.0005 0.0010

MEAN (COMP STAR 2 ONLY) 5.5889  
 MEAN (COMP STAR 3 ONLY) 5.5921

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.5912  
 COMP 2 ONLY 5.5891  
 COMP 3 ONLY 5.5934

ASSUMED COLOR TERM A2 = -0.0297  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 221146 = 0.365  
 HD 221356 = 0.327

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.2290 & 6.8080 MEAN= 7.0185  
FOR HD 221146 & 221356 FROM FILE= urcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
9	27 10	25466.751	-1.0278	0.0061	-0.4305	0.0065	4	0.28	-0.2048	5.7844
10	27 10	25496.764	-0.9999	0.0052	-0.4239	0.0069	4	1.68	-0.2261	5.7841
11	3 10	25503.720	-0.9898	0.0036	-0.4239	0.0052	4	1.95	-0.2349	5.7841
11	4 10	25504.699	-0.9879	0.0031	-0.4253	0.0031	4	1.99	-0.2362	5.7844
11	7 10	25507.717	-0.9819	0.0022	-0.4222	0.0035	4	2.09	-0.2404	5.7858
11	10 10	25510.639	-0.9780	0.0020	-0.4235	0.0032	4	2.19	-0.2447	5.7848

MEANS	25498.4		0.0037	-0.4249	0.0047					5.7846
STD. DEV. FOR N=	6			0.0029						0.0006
STD. ERR. OF MEAN				0.0012						0.0003

MEAN (COMP STAR 2 ONLY)	5.7827
MEAN (COMP STAR 3 ONLY)	5.7866

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	5.7863
	COMP 2 ONLY	5.7830
	COMP 3 ONLY	5.7897

ASSUMED COLOR TERM C2 =	0.9576	A21 =	-0.0721
ASSUMED B-Y COLORS.....		PLANET	= 0.370
		HD 221146	= 0.365
		HD 221356	= 0.327

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013



OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 5.1830 & 5.9280 MEAN= 5.5555  
 FOR HD 3196 & 3229 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
9 24 11	25828.787	0.2323	0.0016	0.7475	0.0058	4	0.09	-0.2017	5.5857
9 27 11	25831.812	0.2342	0.0035	0.7402	0.0064	4	0.08	-0.2017	5.5877
10 20 11	25854.700	0.2452	0.0029	0.7451	0.0035	4	1.19	-0.2122	5.5842
10 21 11	25855.724	0.2487	0.0015	0.7432	0.0035	4	1.24	-0.2131	5.5867
10 22 11	25856.718	0.2500	0.0010	0.7488	0.0021	4	1.28	-0.2140	5.5869
11 17 11	25882.639	0.2848	0.0036	0.7419	0.0033	4	2.27	-0.2462	5.5859
MEANS	25851.7		0.0023	0.7445	0.0041				5.5862
STD. DEV. FOR N=	6			0.0033					0.0012
STD. ERR. OF MEAN				0.0014					0.0005

MEAN (COMP STAR 2 ONLY) 5.5859  
 MEAN (COMP STAR 3 ONLY) 5.5865

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 5.5881  
 COMP 2 ONLY 5.5870  
 COMP 3 ONLY 5.5893

ASSUMED COLOR TERM A2 = -0.0301  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 3196 = 0.334  
 HD 3299 = 0.277

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 5.5170 & 6.2050 MEAN= 5.8610  
FOR HD 3196 & 3229 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
9 24 11	25828.788	0.1219	0.0013	0.6923	0.0068	4	0.09	-0.2017	5.7807
9 27 11	25831.812	0.1266	0.0025	0.6854	0.0035	4	0.08	-0.2017	5.7855
10 20 11	25854.700	0.1363	0.0068	0.6915	0.0015	4	1.19	-0.2122	5.7792
10 21 11	25855.724	0.1393	0.0011	0.6925	0.0015	4	1.24	-0.2131	5.7810
10 22 11	25856.718	0.1382	0.0023	0.6942	0.0049	4	1.28	-0.2140	5.7788
11 17 11	25882.639	0.1675	0.0048	0.6840	0.0015	4	2.27	-0.2462	5.7709
MEANS	25851.7		0.0031	0.6900	0.0033				5.7794
STD. DEV. FOR N=	6			0.0042					0.0048
STD. ERR. OF MEAN				0.0017					0.0019

MEAN (COMP STAR 2 ONLY) 5.7803  
MEAN (COMP STAR 3 ONLY) 5.7784

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	5.7841
COMP 2 ONLY	5.7830
COMP 3 ONLY	5.7852

ASSUMED COLOR TERM C2 = 0.9564 A21 = -0.0737  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 3196	=	0.334
HD 3299	=	0.277

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 7.1650 & 5.9280 MEAN= 6.5465  
 FOR HD 2344 & 3229 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
9 14 12	26184.789	-0.7552	0.0022	-1.2276	0.0014	4	0.76	-0.2016	5.5870
9 15 12	26185.801	-0.7556	0.0016	-1.2280	0.0031	4	0.71	-0.2011	5.5872
9 16 12	26186.809	-0.7568	0.0013	-1.2315	0.0023	4	0.66	-0.2007	5.5867
9 18 12	26188.805	-0.7572	0.0015	-1.2268	0.0015	4	0.56	-0.1999	5.5874
9 19 12	26189.799	-0.7578	0.0019	-1.2280	0.0019	4	0.51	-0.1994	5.5875
9 20 12	26190.791	-0.7608	0.0024	-1.2223	0.0031	4	0.46	-0.1991	5.5850
9 21 12	26191.798	-0.7583	0.0018	-1.2291	0.0024	4	0.41	-0.1988	5.5879
9 24 12	26194.792	-0.7612	0.0027	-1.2258	0.0016	4	0.26	-0.1983	5.5861

MEANS 26189.2 0.0019 -1.2274 0.0022 5.5868  
 STD. DEV. FOR N= 8 0.0027 0.0009  
 STD. ERR. OF MEAN 0.0009 0.0003

MEAN (COMP STAR 2 ONLY) 5.5916  
 MEAN (COMP STAR 3 ONLY) 5.5820

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.5858  
 COMP 2 ONLY 5.5867  
 COMP 3 ONLY 5.5849

ASSUMED COLOR TERM A2 = -0.0305  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 2344 = 0.532  
 HD 3299 = 0.277

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 7.6970 & 6.2050 MEAN= 6.9510  
 FOR HD 2344 & 3229 FROM FILE= urcomp.sv

UT DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
9 14 12	26184.789	-0.9554	0.0025	-1.4726	0.0031	4	0.76	-0.2016	5.7902
9 15 12	26185.800	-0.9579	0.0049	-1.4701	0.0046	4	0.71	-0.2011	5.7884
9 16 12	26186.810	-0.9574	0.0013	-1.4710	0.0045	4	0.66	-0.2007	5.7896
9 18 12	26188.803	-0.9600	0.0007	-1.4661	0.0019	3	0.56	-0.1999	5.7883
9 19 12	26189.800	-0.9592	0.0026	-1.4699	0.0054	4	0.51	-0.1994	5.7898
9 20 12	26190.791	-0.9593	0.0023	-1.4692	0.0052	4	0.46	-0.1991	5.7903
9 21 12	26191.798	-0.9644	0.0016	-1.4687	0.0007	4	0.41	-0.1988	5.7857
9 24 12	26194.792	-0.9604	0.0017	-1.4661	0.0021	4	0.26	-0.1983	5.7910

MEANS 26189.2 0.0022 -1.4692 0.0034 5.7892  
 STD. DEV. FOR N= 8 0.0023 0.0017  
 STD. ERR. OF MEAN 0.0008 0.0006

MEAN (COMP STAR 2 ONLY) 5.8006  
 MEAN (COMP STAR 3 ONLY) 5.7778

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7866  
 COMP 2 ONLY 5.7884  
 COMP 3 ONLY 5.7848

ASSUMED COLOR TERM C2 = 0.9551 A21 = -0.0754  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 2344 = 0.532  
 HD 3299 = 0.277

PRINTOUT MADE ON Fri Jan 11 10:46:32 2013

OBJECT NO. 2 = URANUS

MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0036

COMPARISON MAGS= 7.6250 & 6.5098 MEAN= 7.0674  
FOR HD 3703 & 3861 FROM FILE= urcompmt.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
11	2 13	26598.707	-1.2665	0.0011	-1.1008	0.0029	4	1.44	-0.2084	5.5873
11	4 13	26600.702	-1.2651	0.0024	-1.1011	0.0043	4	1.53	-0.2106	5.5862
11	6 13	26602.696	-1.2626	0.0022	-1.1031	0.0031	4	1.61	-0.2127	5.5863
11	10 13	26606.687	-1.2561	0.0024	-1.1001	0.0008	4	1.77	-0.2173	5.5876

MEANS	26602.2		0.0020	-1.1013	0.0028					5.5869
STD. DEV. FOR N=	4			0.0013						0.0007
STD. ERR. OF MEAN				0.0006						0.0003

MEAN (COMP STAR 2 ONLY)	5.5938
MEAN (COMP STAR 3 ONLY)	5.5799

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	5.5837
	COMP 2 ONLY	5.5856
	COMP 3 ONLY	5.5819

ASSUMED COLOR TERM A2 = -0.0308

ASSUMED B-Y COLORS.....	PLANET	=	0.370
	HD 3703	=	0.637
	HD 3861	=	0.306

PRINTOUT MADE ON Tue Nov 26 13:14:26 2013

OBJECT NO. 2 = URANUS  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0050

COMPARISON MAGS= 8.2622 & 6.8156 MEAN= 7.5389  
 FOR HD 3703 & 3861 FROM FILE= urcompmt.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
11	2 13	26598.707	-1.5353	0.0010	-1.4174	0.0034	4	1.44	-0.2084	5.7880
11	4 13	26600.701	-1.5334	0.0011	-1.4201	0.0055	4	1.53	-0.2106	5.7873
11	6 13	26602.695	-1.5283	0.0019	-1.4170	0.0017	4	1.61	-0.2127	5.7898
11	10 13	26606.688	-1.5223	0.0026	-1.4171	0.0042	4	1.77	-0.2173	5.7904

MEANS 26602.2 0.0016 -1.4179 0.0037 5.7889  
 STD. DEV. FOR N= 4 0.0015 0.0015  
 STD. ERR. OF MEAN 0.0007 0.0007

MEAN (COMP STAR 2 ONLY) 5.8032  
 MEAN (COMP STAR 3 ONLY) 5.7745

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 5.7811  
 COMP 2 ONLY 5.7827  
 COMP 3 ONLY 5.7795

ASSUMED COLOR TERM C2 = 0.9539 A2+C2-1 = -0.0770  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 3703 = 0.637  
 HD 3861 = 0.306