

Neptune\_by\_season.prt

Updated 3/30/2017

For each apparition there are two compilations of nightly data, one for b and one for y.

The quantities tabulated are:

**Raw data section**

**FILTER** b or y  
**SOLAR PHASE COEFFICIENT** in units of magnitudes per degree solar phase angle  
**COMPARISON MAGS** adopted b or y comparison star magnitudes for that season  
the first named star we call COMP2 and the second named star we call COMP3  
**FOR HD** Henry Draper (HD) catalog identification  
**UT DATE** month, day, 2 digit year  
**JUL DATE** Julian Date of the observation  
**VAR** raw differential magnitude, planet minus mean of 2 comps.  
**ERR** std.dev. of the N measurements of VAR  
**COMP** raw differential mag of COMP3 minus COMP2  
**ERR** std.dev of the N measurements of COMP3 - COMP2  
**N** number of cycles of measurement, COMP2 - PLANET- COMP3  
see accompanying file example, [Readme\\_raw\\_planetary\\_data.pdf](#)  
**DEG** solar phase angle in degrees  
**DIST** distance correction (in magnitudes) to standard values of geocentric and heliocentric distances in AU  
**PLANET** final "raw" (i.e., no color correction applied) planet magnitude corrected for solar phase angle and distance  
**MEAN, STD. DEV, STD. DEV. OF MEAN** summary statistics for the columns above  
**MEAN (COMP STAR 2) ONLY** planet magnitude based on COMP2 only  
**MEAN (COMP STAR 3) ONLY** planet magnitude based on COMP3 only  
necessary only if one of the comparison stars has been found to be unreliable

**Adjusted data section (Planetary data corrected for the transformation color terms)**

**COLOR CORRECTED PLANET MAGNITUDES** magnitudes adjusted for the color term determined from independent photometry of the comparison stars  
**ASSUMED COLOR TERM A2** color term for the y filter.  
or....  
**ASSUMED COLOR TERM C2** color term for the b-y color. the color term for b is A2+C2-1  
The applied correction = color term x (difference in b-y color between planet and comparison stars)

OBJECT NO. 3 = NEPTUNE

MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.0010 & 8.0840 MEAN= 7.5425  
 FOR HD 144766 & 146216 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	21	72	11429.003	0.3223	0.0024	1.0820	0.0023	4	1.10	-0.0477	7.8112
4	22	72	11430.054	0.3201	0.0025	1.0828	0.0023	4	1.00	-0.0467	7.8106
5	5	72	11443.010	0.3141	0.0052	1.0822	0.0013	4	0.60	-0.0394	7.8140
5	8	72	11446.001	0.3118	0.0041	1.0813	0.0024	4	0.50	-0.0382	7.8134
5	9	72	11446.990	0.3111	0.0023	1.0824	0.0023	4	0.50	-0.0378	7.8131
5	19	72	11457.029	0.3062	0.0004	1.0801	0.0026	3	0.20	-0.0355	7.8122
5	21	72	11458.979	0.3018	0.0013	1.0840	0.0009	3	0.10	-0.0352	7.8085
5	27	72	11464.922	0.3051	0.0038	1.0786	0.0039	4	0.10	-0.0351	7.8120
6	18	72	11486.873	0.3146	0.0030	1.0831	0.0030	4	0.80	-0.0409	7.8119
6	19	72	11487.871	0.3207	0.0006	1.0838	0.0036	4	0.80	-0.0415	7.8175
6	20	72	11488.855	0.3164	0.0022	1.0833	0.0045	4	0.90	-0.0420	7.8121
6	23	72	11491.822	0.3219	0.0030	1.0762	0.0003	4	1.00	-0.0438	7.8153

MEANS 11461.0 0.0026 1.0816 0.0025 7.8127  
 STD. DEV. FOR N= 12 0.0023 0.0023  
 STD. ERR. OF MEAN 0.0007 0.0007

MEAN (COMP STAR 2 ONLY) 7.8120  
 MEAN (COMP STAR 3 ONLY) 7.8133

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8144  
 COMP 2 ONLY 7.8126  
 COMP 3 ONLY 7.8163

ASSUMED COLOR TERM A2 = -0.0156  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 144766 = 0.331  
 HD 146216 = 0.181

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.3320 & 8.2650 MEAN= 7.7985  
 FOR HD 144766 & 146216 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	21	72	11429.033	0.1858	0.0027	0.9320	0.0023	2	1.10	-0.0477	7.9321
4	22	72	11430.054	0.1849	0.0017	0.9302	0.0023	4	1.00	-0.0467	7.9326
5	5	72	11443.010	0.1752	0.0025	0.9271	0.0033	4	0.60	-0.0394	7.9318
5	8	72	11446.001	0.1743	0.0027	0.9316	0.0041	4	0.50	-0.0382	7.9325
5	9	72	11446.987	0.1712	0.0003	0.9297	0.0018	3	0.50	-0.0378	7.9298
5	19	72	11457.022	0.1682	0.0028	0.9334	0.0042	3	0.20	-0.0355	7.9304
5	21	72	11458.971	0.1658	0.0012	0.9335	0.0017	3	0.10	-0.0352	7.9286

5	27	72	11464.922	0.1723	0.0031	0.9266	0.0031	4	0.10	-0.0351	7.9353
6	18	72	11486.874	0.1769	0.0019	0.9332	0.0040	4	0.80	-0.0409	7.9312
6	19	72	11487.871	0.1775	0.0010	0.9333	0.0037	4	0.80	-0.0415	7.9313
6	20	72	11488.855	0.1793	0.0047	0.9315	0.0037	4	0.90	-0.0420	7.9321
6	23	72	11491.822	0.1834	0.0010	0.9261	0.0009	4	1.00	-0.0438	7.9340

MEANS	11461.0		0.0021	0.9307	0.0029						7.9318
STD. DEV. FOR N=	12			0.0028							0.0018
STD. ERR. OF MEAN				0.0008							0.0005

MEAN (COMP STAR 2 ONLY)	7.9307
MEAN (COMP STAR 3 ONLY)	7.9330

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.9331
	COMP 2 ONLY	7.9311
	COMP 3 ONLY	7.9350

ASSUMED COLOR TERM C2 =	1.0047	A2+C2-1 =	-0.0108
ASSUMED B-Y COLORS.....		PLANET =	0.370
		HD 144766 =	0.331
		HD 146216 =	0.181

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.6990 & 8.5760 MEAN= 8.6375  
FOR HD 147195 & 147807 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	7	73	11779.956	-0.7622	0.0035	-0.1210	0.0031	4	1.50	-0.0606	7.8068
4	23	73	11795.933	-0.7748	0.0036	-0.1327	0.0064	4	1.10	-0.0471	7.8098
4	24	73	11796.951	-0.7766	0.0021	-0.1259	0.0028	4	1.10	-0.0463	7.8087
4	26	73	11798.936	-0.7824	0.0029	-0.1221	0.0015	4	1.00	-0.0450	7.8048
4	27	73	11799.911	-0.7814	0.0043	-0.1249	0.0032	4	1.00	-0.0444	7.8064
4	29	73	11801.931	-0.7788	0.0023	-0.1209	0.0028	4	0.90	-0.0431	7.8108
5	2	73	11804.909	-0.7891	0.0016	-0.1217	0.0020	3	0.80	-0.0414	7.8028
5	3	73	11805.908	-0.7862	0.0020	-0.1219	0.0027	4	0.80	-0.0409	7.8062
5	23	73	11825.867	-0.7972	0.0027	-0.1240	0.0059	4	0.10	-0.0345	7.8052
5	24	73	11826.862	-0.8035	0.0006	-0.1240	0.0024	4	0.10	-0.0344	7.7990
5	28	73	11830.851	-0.8053	0.0071	-0.1253	0.0037	3	0.00	-0.0343	7.7979
6	16	73	11850.793	-0.7889	0.0030	-0.1256	0.0012	3	0.70	-0.0386	7.8063
6	18	73	11851.818	-0.7883	0.0043	-0.1275	0.0028	2	0.70	-0.0390	7.8065
6	19	73	11852.812	-0.7886	0.0080	-0.1316	0.0029	2	0.80	-0.0395	7.8052
6	21	73	11854.766	-0.7866	0.0055	-0.1246	0.0109	3	0.80	-0.0404	7.8062
7	21	73	11884.698	-0.7653	0.0031	-0.1245	0.0089	3	1.60	-0.0634	7.8003
7	23	73	11886.699	-0.7689	0.0004	-0.1279	0.0030	3	1.60	-0.0654	7.7947
7	24	73	11887.697	-0.7621	0.0014	-0.1232	0.0032	3	1.60	-0.0664	7.8005

MEANS 11829.8 0.0032 -0.1250 0.0039 7.8043  
 STD. DEV. FOR N= 18 0.0033 0.0043  
 STD. ERR. OF MEAN 0.0008 0.0010

MEAN (COMP STAR 2 ONLY) 7.8034  
 MEAN (COMP STAR 3 ONLY) 7.8053

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8045  
 COMP 2 ONLY 7.8028  
 COMP 3 ONLY 7.8063

ASSUMED COLOR TERM A2 = -0.0159

ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 147195 = 0.405  
 HD 147807 = 0.309

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 9.1040 & 8.8850 MEAN= 8.9945  
 FOR HD 147195 & 147807 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	7 73	11779.973	-0.9958	0.0041	-0.2156	0.0039	5	1.50	-0.0606	7.9320
4	23 73	11795.934	-1.0044	0.0014	-0.2207	0.0015	4	1.10	-0.0471	7.9385
4	24 73	11796.951	-1.0086	0.0051	-0.2198	0.0020	4	1.10	-0.0463	7.9350
4	26 73	11798.938	-1.0128	0.0040	-0.2138	0.0030	4	1.00	-0.0450	7.9326
4	27 73	11799.911	-1.0178	0.0057	-0.2156	0.0028	4	1.00	-0.0444	7.9282
4	29 73	11801.931	-1.0117	0.0020	-0.2164	0.0022	4	0.90	-0.0431	7.9360
5	2 73	11804.916	-1.0203	0.0019	-0.2176	0.0013	3	0.80	-0.0414	7.9295
5	3 73	11805.907	-1.0213	0.0021	-0.2161	0.0011	4	0.80	-0.0409	7.9290
5	23 73	11825.867	-1.0304	0.0040	-0.2200	0.0022	4	0.10	-0.0345	7.9292
5	24 73	11826.862	-1.0336	0.0020	-0.2187	0.0022	4	0.10	-0.0344	7.9260
5	28 73	11830.844	-1.0357	0.0004	-0.2164	0.0040	3	0.00	-0.0343	7.9245
6	16 73	11850.800	-1.0261	0.0012	-0.2231	0.0013	3	0.70	-0.0386	7.9269
6	18 73	11851.818	-1.0255	0.0003	-0.2197	0.0015	2	0.70	-0.0390	7.9271
6	19 73	11852.812	-1.0220	0.0005	-0.2235	0.0033	2	0.80	-0.0395	7.9297
6	21 73	11854.773	-1.0129	0.0033	-0.2139	0.0055	3	0.80	-0.0404	7.9379
7	21 73	11884.704	-0.9992	0.0018	-0.2195	0.0039	3	1.60	-0.0634	7.9254
7	23 73	11886.706	-0.9938	0.0031	-0.2147	0.0043	3	1.60	-0.0654	7.9287
7	24 73	11887.703	-0.9935	0.0037	-0.2217	0.0012	3	1.60	-0.0664	7.9281

MEANS 11829.9 0.0026 -0.2182 0.0026 7.9302  
 STD. DEV. FOR N= 18 0.0030 0.0042  
 STD. ERR. OF MEAN 0.0007 0.0010

MEAN (COMP STAR 2 ONLY) 7.9307  
 MEAN (COMP STAR 3 ONLY) 7.9298

COLOR-CORRECTED PLANET MAGNITUDES.....

	BOTH COMPS	7.9304
	COMP 2 ONLY	7.9302
	COMP 3 ONLY	7.9306

ASSUMED COLOR TERM C2 = 1.0035      A2+C2-1 = -0.0124  
 ASSUMED B-Y COLORS.....              PLANET = 0.370  
    HD 147195 = 0.405  
    HD 147807 = 0.309

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.7170 & 8.2930 MEAN= 8.5050  
 FOR HD 149435 & 148516 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	17	74	12154.928	-0.6529	0.0106	-0.4283	0.0063	4	1.30	-0.0528	7.7924
4	20	74	12157.911	-0.6490	0.0086	-0.4232	0.0040	4	1.20	-0.0504	7.7992
4	22	74	12159.915	-0.6576	0.0084	-0.4275	0.0051	4	1.20	-0.0481	7.7930
5	1	74	12168.903	-0.6652	0.0086	-0.4282	0.0104	4	0.90	-0.0425	7.7925
5	3	74	12170.880	-0.6655	0.0038	-0.4234	0.0038	4	0.90	-0.0413	7.7934
5	10	74	12177.873	-0.6691	0.0081	-0.4186	0.0021	4	0.60	-0.0379	7.7949
5	21	74	12188.856	-0.6696	0.0038	-0.4270	0.0050	4	0.30	-0.0343	7.7995
6	21	74	12219.864	-0.6693	0.0037	-0.4224	0.0105	4	0.70	-0.0385	7.7935
6	22	74	12220.874	-0.6607	0.0020	-0.4266	0.0014	4	0.70	-0.0389	7.8017
6	23	74	12221.883	-0.6625	0.0012	-0.4275	0.0054	4	0.80	-0.0394	7.7988
6	24	74	12222.872	-0.6725	0.0150	-0.4291	0.0097	4	0.80	-0.0399	7.7883
6	25	74	12223.851	-0.6643	0.0033	-0.4276	0.0042	4	0.80	-0.0404	7.7961
6	26	74	12224.845	-0.6600	0.0036	-0.4225	0.0018	4	0.90	-0.0410	7.7993
7	6	74	12234.823	-0.6515	0.0016	-0.4237	0.0079	4	1.10	-0.0474	7.8003
7	8	74	12236.823	-0.6460	0.0042	-0.4230	0.0049	4	1.20	-0.0488	7.8039
7	9	74	12237.822	-0.6483	0.0039	-0.4207	0.0046	4	1.20	-0.0496	7.8007
7	11	74	12239.800	-0.6457	0.0013	-0.4246	0.0030	4	1.30	-0.0512	7.8012
7	12	74	12240.799	-0.6436	0.0086	-0.4233	0.0027	4	1.30	-0.0520	7.8025
7	13	74	12241.807	-0.6463	0.0073	-0.4247	0.0053	5	1.30	-0.0530	7.7988
7	15	74	12243.825	-0.6487	0.0028	-0.4267	0.0041	4	1.40	-0.0547	7.7942
MEANS		12209.5		0.0055		-0.4249	0.0051				7.7972
STD. DEV. FOR N=		20				0.0028					0.0042
STD. ERR. OF MEAN						0.0006					0.0009
										MEAN (COMP STAR 2 ONLY)	7.7967
										MEAN (COMP STAR 3 ONLY)	7.7977

COLOR-CORRECTED PLANET MAGNITUDES.....

	BOTH COMPS	7.7972
	COMP 2 ONLY	7.7957

ASSUMED COLOR TERM A2 = -0.0163  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 149435 = 0.431  
 HD 148516 = 0.304

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 9.1480 & 8.5970 MEAN= 8.8725  
 FOR HD 149435 & 148516 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	17	74	12154.928	-0.8885	0.0069	-0.5457	0.0047	4	1.30	-0.0528	7.9258
4	20	74	12157.910	-0.8969	0.0021	-0.5483	0.0039	4	1.20	-0.0504	7.9203
4	22	74	12159.915	-0.8989	0.0043	-0.5482	0.0034	4	1.20	-0.0481	7.9206
5	1	74	12168.904	-0.9092	0.0051	-0.5510	0.0041	4	0.90	-0.0425	7.9171
5	3	74	12170.882	-0.9059	0.0059	-0.5533	0.0041	4	0.90	-0.0413	7.9216
5	10	74	12177.873	-0.9155	0.0156	-0.5357	0.0144	4	0.60	-0.0379	7.9167
5	21	74	12188.856	-0.9160	0.0022	-0.5535	0.0054	4	0.30	-0.0343	7.9210
6	21	74	12219.864	-0.9094	0.0030	-0.5475	0.0041	4	0.70	-0.0385	7.9218
6	22	74	12220.873	-0.9086	0.0026	-0.5520	0.0037	4	0.70	-0.0389	7.9221
6	23	74	12221.883	-0.9116	0.0031	-0.5510	0.0038	4	0.80	-0.0394	7.9182
6	24	74	12222.873	-0.9140	0.0039	-0.5614	0.0050	4	0.80	-0.0399	7.9153
6	25	74	12223.851	-0.9095	0.0015	-0.5503	0.0048	4	0.80	-0.0404	7.9193
6	26	74	12224.845	-0.9106	0.0044	-0.5481	0.0048	4	0.90	-0.0410	7.9172
7	6	74	12234.824	-0.8988	0.0012	-0.5470	0.0043	4	1.10	-0.0474	7.9218
7	8	74	12236.823	-0.8978	0.0036	-0.5454	0.0018	4	1.20	-0.0488	7.9210
7	9	74	12237.822	-0.8949	0.0014	-0.5442	0.0037	4	1.20	-0.0496	7.9231
7	11	74	12239.800	-0.8893	0.0023	-0.5502	0.0032	4	1.30	-0.0512	7.9267
7	12	74	12240.799	-0.8961	0.0032	-0.5493	0.0041	4	1.30	-0.0520	7.9190
7	13	74	12241.813	-0.8930	0.0024	-0.5514	0.0063	4	1.30	-0.0530	7.9212
7	15	74	12243.825	-0.8959	0.0149	-0.5605	0.0231	4	1.40	-0.0547	7.9162

MEANS 12209.5 0.0045 -0.5497 0.0056 7.9203  
 STD. DEV. FOR N= 20 0.0055 0.0030  
 STD. ERR. OF MEAN 0.0012 0.0007

MEAN (COMP STAR 2 ONLY) 7.9209  
 MEAN (COMP STAR 3 ONLY) 7.9196

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9203  
 COMP 2 ONLY 7.9201  
 COMP 3 ONLY 7.9206

ASSUMED COLOR TERM C2 = 1.0022 A2+C2-1 = -0.0141  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 149435 = 0.431

HD 148516 = 0.304

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE

MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.8030 & 9.2180 MEAN= 9.0105  
FOR HD 149760 & 149999 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	3 75	12505.952	-1.1385	0.0022	0.4115	0.0036	4	1.60	-0.0680	7.7955
4	4 75	12506.973	-1.1345	0.0064	0.4138	0.0051	4	1.60	-0.0668	7.8007
4	15 75	12517.939	-1.1506	0.0023	0.4202	0.0056	4	1.40	-0.0559	7.7966
4	20 75	12522.937	-1.1652	0.0036	0.4202	0.0026	4	1.30	-0.0515	7.7869
5	30 75	12562.830	-1.1850	0.0060	0.4149	0.0016	4	0.10	-0.0325	7.7924
6	9 75	12573.798	-1.1897	0.0027	0.4155	0.0120	4	0.30	-0.0331	7.7861
6	28 75	12591.749	-1.1745	0.0075	0.4183	0.0039	4	0.30	-0.0397	7.7948
7	18 75	12611.702	-1.1535	0.0038	0.4093	0.0056	4	1.40	-0.0541	7.7955
MEANS		12549.2		0.0043	0.4155	0.0050				7.7936
STD. DEV. FOR N=		8			0.0040					0.0049
STD. ERR. OF MEAN					0.0014					0.0017

MEAN (COMP STAR 2 ONLY) 7.7938  
MEAN (COMP STAR 3 ONLY) 7.7933

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7935  
COMP 2 ONLY 7.7929  
COMP 3 ONLY 7.7942

ASSUMED COLOR TERM A2 = -0.0167

ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 149760 = 0.423  
HD 149999 = 0.320

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE

MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 9.2260 & 9.5380 MEAN= 9.3820  
FOR HD 149760 & 149999 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	3 75	12505.952	-1.3892	0.0056	0.3046	0.0042	4	1.60	-0.0680	7.9182
4	4 75	12506.973	-1.3923	0.0031	0.3097	0.0072	4	1.60	-0.0668	7.9163
4	15 75	12517.939	-1.4062	0.0030	0.3018	0.0070	4	1.40	-0.0559	7.9141
4	20 75	12522.937	-1.4121	0.0049	0.3056	0.0038	4	1.30	-0.0515	7.9130
5	30 75	12562.830	-1.4319	0.0055	0.3047	0.0049	4	0.10	-0.0325	7.9171
6	9 75	12573.799	-1.4380	0.0072	0.3124	0.0069	4	0.30	-0.0331	7.9097
6	28 75	12591.748	-1.4205	0.0064	0.3088	0.0017	4	0.30	-0.0397	7.9206
7	18 75	12611.703	-1.4127	0.0029	0.3061	0.0078	3	1.40	-0.0541	7.9095
MEANS			12549.2	0.0048	0.3067	0.0054				7.9148
STD. DEV. FOR N=			8		0.0034					0.0040
STD. ERR. OF MEAN					0.0012					0.0014

MEAN (COMP STAR 2 ONLY) 7.9122  
MEAN (COMP STAR 3 ONLY) 7.9175

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9148  
COMP 2 ONLY 7.9114  
COMP 3 ONLY 7.9183

ASSUMED COLOR TERM C2 = 1.0010 A2+C2-1 = -0.0157  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 149760 = 0.423  
HD 149999 = 0.320

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.6780 & 8.7590 MEAN= 8.7185  
FOR HD 151451 & 150621 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	1 76	12899.903	-0.8913	0.0058	0.0766	0.0044	4	1.09	-0.0433	7.7781
5	24 76	12923.793	-0.9038	0.0103	0.0750	0.0065	2	0.30	-0.0325	7.7806
5	25 76	12924.827	-0.9045	0.0033	0.0785	0.0033	4	0.30	-0.0323	7.7801
5	27 76	12925.856	-0.9068	0.0080	0.0853	0.0084	4	0.20	-0.0321	7.7785
6	16 76	12945.770	-0.9039	0.0033	0.0801	0.0017	4	0.40	-0.0333	7.7792
6	18 76	12947.755	-0.8881	0.0041	0.0701	0.0027	4	0.50	-0.0339	7.7939
6	21 76	12950.762	-0.8915	0.0063	0.0727	0.0050	4	0.60	-0.0353	7.7885
6	25 76	12954.741	-0.8921	0.0021	0.0756	0.0029	4	0.70	-0.0366	7.7861
7	4 76	12963.705	-0.8907	0.0030	0.0716	0.0027	4	1.00	-0.0414	7.7811
MEANS			12937.5	0.0051	0.0762	0.0042				7.7829
STD. DEV. FOR N=			9		0.0047					0.0054
STD. ERR. OF MEAN					0.0016					0.0018



MEAN (COMP STAR 2 ONLY) 7.7805  
MEAN (COMP STAR 3 ONLY) 7.7853

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7835  
COMP 2 ONLY 7.7813  
COMP 3 ONLY 7.7856

ASSUMED COLOR TERM A2 = -0.0170  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 151451 = 0.320  
HD 150621 = 0.354

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.9980 & 9.1130 MEAN= 9.0555  
FOR HD 151451 & 150621 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	1 76	12899.904	-1.0993	0.0064	0.1206	0.0056	4	1.09	-0.0433	7.9084
5	24 76	12923.804	-1.1145	0.0020	0.1125	0.0032	2	0.30	-0.0325	7.9073
5	25 76	12924.827	-1.1136	0.0006	0.1202	0.0048	4	0.30	-0.0323	7.9084
5	27 76	12925.855	-1.1101	0.0025	0.1168	0.0034	4	0.20	-0.0321	7.9125
6	16 76	12945.770	-1.1080	0.0040	0.1135	0.0041	4	0.40	-0.0333	7.9126
6	18 76	12947.756	-1.1042	0.0035	0.1149	0.0052	4	0.50	-0.0339	7.9154
6	21 76	12950.762	-1.0976	0.0037	0.1213	0.0067	4	0.60	-0.0353	7.9201
6	25 76	12954.742	-1.0992	0.0031	0.1132	0.0041	4	0.70	-0.0366	7.9169
7	4 76	12963.707	-1.0934	0.0017	0.1145	0.0071	4	1.00	-0.0414	7.9166

MEANS 12937.5 0.0031 0.1164 0.0049 7.9131  
STD. DEV. FOR N= 9 0.0035 0.0045  
STD. ERR. OF MEAN 0.0012 0.0015

MEAN (COMP STAR 2 ONLY) 7.9138  
MEAN (COMP STAR 3 ONLY) 7.9124

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9137  
COMP 2 ONLY 7.9147  
COMP 3 ONLY 7.9127

ASSUMED COLOR TERM C2 = 0.9998 A2+C2-1 = -0.0173  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 151451 = 0.320  
HD 150621 = 0.354

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.4250 & 6.7360 MEAN= 7.5805  
 FOR HD 152395 & 152534 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	11	77	13244.975	0.2925	0.0047	-1.6920	0.0045	4	1.56	-0.0619	7.8028
4	13	77	13246.967	0.2926	0.0036	-1.6882	0.0070	4	1.55	-0.0599	7.8050
4	14	77	13247.961	0.2892	0.0063	-1.6816	0.0057	4	1.53	-0.0589	7.8027
5	18	77	13281.860	0.2643	0.0014	-1.6880	0.0096	4	0.60	-0.0346	7.8070
5	28	77	13291.849	0.2567	0.0075	-1.6873	0.0040	4	0.30	-0.0316	7.8040
5	30	77	13293.833	0.2581	0.0023	-1.6989	0.0039	4	0.24	-0.0313	7.8060
6	10	77	13304.812	0.2506	0.0040	-1.6930	0.0108	4	0.17	-0.0310	7.7992
6	11	77	13305.786	0.2554	0.0020	-1.6988	0.0032	4	0.20	-0.0311	7.8037
6	12	77	13306.791	0.2581	0.0025	-1.6932	0.0080	4	0.24	-0.0312	7.8061
6	13	77	13307.786	0.2579	0.0037	-1.6966	0.0036	4	0.27	-0.0314	7.8056
6	21	77	13315.767	0.2593	0.0025	-1.6944	0.0065	4	0.47	-0.0332	7.8041

MEANS 13286.2 0.0037 -1.6920 0.0061 7.8042  
 STD. DEV. FOR N= 11 0.0053 0.0022  
 STD. ERR. OF MEAN 0.0016 0.0007

MEAN (COMP STAR 2 ONLY) 7.8027  
 MEAN (COMP STAR 3 ONLY) 7.8057

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8032  
 COMP 2 ONLY 7.8036  
 COMP 3 ONLY 7.8028

ASSUMED COLOR TERM A2 = -0.0174  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 152395 = 0.316  
 HD 152534 = 0.535

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.7410 & 7.2710 MEAN= 8.0060  
 FOR HD 152395 & 152534 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
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4	11	77	13244.975	0.0023	0.0041	-1.4710	0.0071	4	1.56	-0.0619	7.9400
4	13	77	13246.967	0.0027	0.0057	-1.4662	0.0065	4	1.55	-0.0599	7.9424
4	14	77	13247.961	0.0000	0.0061	-1.4597	0.0087	4	1.53	-0.0589	7.9409
5	18	77	13281.860	-0.0269	0.0067	-1.4644	0.0060	4	0.60	-0.0346	7.9421
5	28	77	13291.849	-0.0244	0.0022	-1.4680	0.0023	4	0.30	-0.0316	7.9488
5	30	77	13293.833	-0.0310	0.0026	-1.4709	0.0038	4	0.24	-0.0313	7.9427
6	10	77	13304.814	-0.0329	0.0040	-1.4573	0.0096	4	0.17	-0.0310	7.9414
6	11	77	13305.786	-0.0295	0.0023	-1.4713	0.0047	4	0.20	-0.0311	7.9446
6	12	77	13306.791	-0.0227	0.0043	-1.4760	0.0041	4	0.24	-0.0312	7.9511
6	13	77	13307.787	-0.0313	0.0051	-1.4700	0.0047	4	0.27	-0.0314	7.9422
6	21	77	13315.767	-0.0252	0.0056	-1.4739	0.0039	4	0.47	-0.0332	7.9456
MEANS			13286.2	0.0044		-1.4681	0.0056				7.9438
STD. DEV. FOR N=			11			0.0058					0.0035
STD. ERR. OF MEAN						0.0017					0.0010

MEAN (COMP STAR 2 ONLY)	7.9448
MEAN (COMP STAR 3 ONLY)	7.9428

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.9427
	COMP 2 ONLY	7.9458
	COMP 3 ONLY	7.9397

ASSUMED COLOR TERM C2 =	0.9985	A2+C2-1 =	-0.0189
ASSUMED B-Y COLORS.....		PLANET =	0.370
		HD 152395 =	0.316
		HD 152534 =	0.535

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.0340 & 7.0550 MEAN= 7.0445  
FOR HD 154349 & 154117 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	11	78	13609.967	0.8389	0.0016	0.0242	0.0077	3	1.56	-0.0639	7.8113
4	13	78	13611.960	0.8328	0.0089	0.0146	0.0020	4	1.57	-0.0618	7.8072
4	17	78	13615.952	0.8283	0.0043	0.0162	0.0040	4	1.50	-0.0578	7.8071
4	20	78	13618.939	0.8257	0.0054	0.0189	0.0020	4	1.44	-0.0549	7.8076
4	28	78	13626.918	0.8124	0.0043	0.0156	0.0037	4	1.25	-0.0479	7.8024
5	8	78	13636.899	0.8097	0.0029	0.0143	0.0036	4	0.95	-0.0405	7.8087
5	11	78	13639.898	0.8111	0.0034	0.0175	0.0013	4	0.88	-0.0387	7.8123
5	13	78	13641.872	0.8096	0.0027	0.0166	0.0025	4	0.80	-0.0375	7.8123
5	29	78	13657.862	0.7976	0.0092	0.0222	0.0009	4	0.30	-0.0313	7.8093
6	1	78	13660.827	0.7922	0.0063	0.0202	0.0028	4	0.20	-0.0307	7.8050
6	5	78	13664.835	0.7917	0.0037	0.0202	0.0046	4	0.07	-0.0303	7.8055
6	27	78	13686.750	0.8036	0.0065	0.0110	0.0107	4	0.63	-0.0339	7.8108
7	3	78	13692.750	0.8088	0.0046	0.0048	0.0065	4	0.82	-0.0367	7.8123

7	6	78	13695.743	0.8080	0.0037	0.0095	0.0079	4	0.92	-0.0383	7.8093
8	6	78	13726.685	0.8387	0.0051	0.0179	0.0110	4	1.68	-0.0640	7.8103
8	16	78	13736.658	0.8541	0.0007	0.0182	0.0021	4	1.78	-0.0749	7.8142
8	23	78	13743.668	0.8578	0.0073	0.0133	0.0070	4	1.85	-0.0830	7.8095
8	26	78	13746.646	0.8641	0.0043	0.0104	0.0020	4	1.86	-0.0865	7.8123
8	30	78	13750.645	0.8662	0.0071	0.0240	0.0018	4	1.87	-0.0913	7.8095
8	31	78	13751.644	0.8634	0.0098	0.0161	0.0055	4	1.87	-0.0925	7.8055
MEANS			13675.9		0.0051	0.0163	0.0045				7.8091
STD. DEV. FOR N=			20			0.0049					0.0030
STD. ERR. OF MEAN						0.0011					0.0007

MEAN (COMP STAR 2 ONLY)	7.8068
MEAN (COMP STAR 3 ONLY)	7.8115

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.8042
	COMP 2 ONLY	7.8006
	COMP 3 ONLY	7.8078

ASSUMED COLOR TERM A2 = -0.0178  
ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 154349	=	0.717
HD 154117	=	0.578

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.7510 & 7.6330 MEAN= 7.6920  
FOR HD 154349 & 154117 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	11	78	13609.973	0.3232	0.0105	-0.1220	0.0026	3	1.56	-0.0639	7.9449
4	13	78	13611.961	0.3228	0.0040	-0.1268	0.0015	4	1.57	-0.0618	7.9466
4	17	78	13615.952	0.3150	0.0021	-0.1215	0.0030	4	1.50	-0.0578	7.9431
4	20	78	13618.939	0.3105	0.0039	-0.1210	0.0039	4	1.44	-0.0549	7.9417
4	28	78	13626.918	0.3023	0.0033	-0.1230	0.0037	4	1.25	-0.0479	7.9413
5	8	78	13636.900	0.2948	0.0045	-0.1238	0.0028	4	0.95	-0.0405	7.9424
5	11	78	13639.898	0.2963	0.0053	-0.1193	0.0022	4	0.88	-0.0387	7.9460
5	13	78	13641.873	0.2925	0.0043	-0.1206	0.0033	4	0.80	-0.0375	7.9437
5	29	78	13657.862	0.2883	0.0018	-0.1174	0.0031	4	0.30	-0.0313	7.9478
6	1	78	13660.827	0.2820	0.0015	-0.1212	0.0037	4	0.20	-0.0307	7.9425
6	5	78	13664.835	0.2796	0.0045	-0.1167	0.0065	4	0.07	-0.0303	7.9410
6	27	78	13686.751	0.2918	0.0075	-0.1206	0.0061	4	0.63	-0.0339	7.9473
7	3	78	13692.750	0.3003	0.0067	-0.1393	0.0030	4	0.82	-0.0367	7.9523
7	6	78	13695.743	0.2966	0.0074	-0.1355	0.0041	4	0.92	-0.0383	7.9465
8	6	78	13726.685	0.3220	0.0069	-0.1196	0.0095	4	1.68	-0.0640	7.9431
8	16	78	13736.668	0.3399	0.0023	-0.1218	0.0028	4	1.78	-0.0749	7.9497
8	23	78	13743.668	0.3445	0.0011	-0.1283	0.0051	4	1.85	-0.0830	7.9459

8 26 78	13746.646	0.3464	0.0016	-0.1269	0.0036	4	1.86	-0.0865	7.9443
8 30 78	13750.645	0.3599	0.0072	-0.1290	0.0016	4	1.87	-0.0913	7.9529
8 31 78	13751.644	0.3578	0.0069	-0.1151	0.0074	4	1.87	-0.0925	7.9496
MEANS	13675.9		0.0047	-0.1235	0.0040				7.9456
STD. DEV. FOR N=	20			0.0060					0.0035
STD. ERR. OF MEAN				0.0014					0.0008

MEAN (COMP STAR 2 ONLY)	7.9429
MEAN (COMP STAR 3 ONLY)	7.9484

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.9399
	COMP 2 ONLY	7.9358
	COMP 3 ONLY	7.9441

ASSUMED COLOR TERM C2 =	0.9973	A2+C2-1 =	-0.0205
ASSUMED B-Y COLORS.....		PLANET =	0.370
		HD 154349 =	0.717
		HD 154117 =	0.578

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.7870 & 7.5140 MEAN= 7.1505  
FOR HD 152233 & 156079 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
3	23 79	13955.998	0.7601	0.0010	0.7319	0.0031	4	1.90	-0.0880	7.8125
3	24 79	13956.985	0.7538	0.0039	0.7302	0.0020	3	1.90	-0.0869	7.8073
3	26 79	13959.996	0.7562	0.0015	0.7314	0.0028	3	1.90	-0.0844	7.8122
4	4 79	13967.967	0.7337	0.0037	0.7272	0.0022	4	1.77	-0.0738	7.8010
4	5 79	13968.961	0.7415	0.0022	0.7366	0.0066	4	1.75	-0.0728	7.8100
4	6 79	13969.962	0.7391	0.0037	0.7315	0.0021	4	1.75	-0.0716	7.8087
4	7 79	13970.969	0.7352	0.0037	0.7362	0.0070	4	1.70	-0.0704	7.8063
4	29 79	13992.928	0.7169	0.0024	0.7363	0.0062	4	1.30	-0.0486	7.8119
5	4 79	13997.918	0.7160	0.0028	0.7354	0.0044	4	1.17	-0.0446	7.8157
5	30 79	14023.850	0.7002	0.0038	0.7367	0.0082	4	0.37	-0.0311	7.8176
6	2 79	14026.850	0.6916	0.0109	0.7391	0.0101	4	0.28	-0.0304	7.8102
6	21 79	14045.787	0.6875	0.0037	0.7329	0.0040	4	0.36	-0.0308	7.8053
6	25 79	14049.776	0.7005	0.0014	0.7352	0.0021	4	0.50	-0.0319	7.8165
7	14 79	14068.736	0.7032	0.0043	0.7341	0.0021	4	1.12	-0.0412	7.8065
7	17 79	14071.730	0.7059	0.0065	0.7328	0.0074	3	1.19	-0.0434	7.8067

MEANS	14001.9		0.0037	0.7338	0.0047					7.8099
STD. DEV. FOR N=	15			0.0031						0.0046
STD. ERR. OF MEAN				0.0008						0.0012

MEAN (COMP STAR 2 ONLY)	7.8133
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MEAN (COMP STAR 3 ONLY) 7.8065

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8080  
COMP 2 ONLY 7.8098  
COMP 3 ONLY 7.8062

ASSUMED COLOR TERM A2 = -0.0182

ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 155233 = 0.563  
HD 156079 = 0.383

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.3500 & 7.8970 MEAN= 7.6235  
FOR HD 155233 & 156079 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
3	23	79	13955.999	0.4190	0.0033	0.5537	0.0015	4	1.90	-0.0880	7.9467
3	24	79	13956.990	0.4156	0.0064	0.5525	0.0050	3	1.90	-0.0869	7.9444
3	26	79	13959.001	0.4128	0.0019	0.5528	0.0009	3	1.90	-0.0844	7.9441
4	4	79	13967.968	0.3951	0.0040	0.5524	0.0047	4	1.77	-0.0738	7.9375
4	5	79	13968.961	0.3989	0.0037	0.5566	0.0037	4	1.75	-0.0728	7.9425
4	6	79	13969.962	0.3976	0.0022	0.5543	0.0010	4	1.75	-0.0716	7.9423
4	7	79	13970.970	0.3954	0.0041	0.5537	0.0042	4	1.70	-0.0704	7.9415
4	29	79	13992.929	0.3790	0.0028	0.5572	0.0026	4	1.30	-0.0486	7.9486
5	4	79	13997.919	0.3748	0.0046	0.5522	0.0069	4	1.17	-0.0446	7.9489
5	30	79	14023.851	0.3599	0.0065	0.5523	0.0032	4	0.37	-0.0311	7.9508
6	2	79	14026.850	0.3544	0.0055	0.5622	0.0085	4	0.28	-0.0304	7.9463
6	21	79	14045.788	0.3572	0.0034	0.5567	0.0055	4	0.36	-0.0308	7.9484
6	25	79	14049.776	0.3552	0.0051	0.5527	0.0017	4	0.50	-0.0319	7.9448
7	14	79	14068.736	0.3720	0.0035	0.5540	0.0024	4	1.12	-0.0412	7.9497
7	17	79	14071.736	0.3734	0.0027	0.5525	0.0025	4	1.19	-0.0434	7.9486

MEANS 14001.8 0.0040 0.5544 0.0036 7.9457  
STD. DEV. FOR N= 15 0.0028 0.0037  
STD. ERR. OF MEAN 0.0007 0.0009

MEAN (COMP STAR 2 ONLY) 7.9494  
MEAN (COMP STAR 3 ONLY) 7.9420

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9434  
COMP 2 ONLY 7.9451  
COMP 3 ONLY 7.9417

ASSUMED COLOR TERM C2 = 0.9960 A2+C2-1 = -0.0221  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 155233 = 0.563

HD 156079 = 0.383

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.2290 & 8.5100 MEAN= 7.8695  
FOR HD 157862 & 157470 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	10	80	14339.981	0.0272	0.0063	1.3110	0.0045	4	1.69	-0.0682	7.8195
4	11	80	14340.970	0.0307	0.0025	1.2980	0.0066	4	1.67	-0.0671	7.8242
4	14	80	14343.971	0.0271	0.0061	1.3045	0.0033	4	1.63	-0.0639	7.8240
5	9	80	14368.901	-0.0127	0.0060	1.2963	0.0015	4	1.05	-0.0415	7.8097
5	12	80	14371.888	-0.0133	0.0042	1.2888	0.0028	4	0.95	-0.0396	7.8116
5	19	80	14378.871	-0.0138	0.0046	1.2930	0.0062	4	0.76	-0.0356	7.8161
5	25	80	14384.865	-0.0133	0.0049	1.2915	0.0059	4	0.56	-0.0328	7.8204
6	5	80	14395.818	-0.0297	0.0084	1.2787	0.0055	3	0.21	-0.0298	7.8089
6	12	80	14402.820	-0.0359	0.0048	1.2900	0.0081	4	0.04	-0.0292	7.8042
MEANS		14369.8		0.0053	1.2946	0.0049					7.8154
STD. DEV. FOR N=		9			0.0094						0.0072
STD. ERR. OF MEAN					0.0031						0.0024

MEAN (COMP STAR 2 ONLY) 7.8222  
MEAN (COMP STAR 3 ONLY) 7.8086

COLOR-CORRECTED PLANET MAGNITUDES.....  
BOTH COMPS 7.8098  
COMP 2 ONLY 7.8102  
COMP 3 ONLY 7.8095

ASSUMED COLOR TERM A2 = -0.0185  
ASSUMED B-Y COLORS.....  
PLANET = 0.370  
HD 157862 = 1.021  
HD 157470 = 0.323

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.2500 & 8.8330 MEAN= 8.5415

FOR HD 157862 & 157470 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	10 80	14339.982	-0.5094	0.0040	0.6074	0.0043	4	1.69	-0.0682	7.9569
4	11 80	14340.972	-0.5041	0.0008	0.6063	0.0009	4	1.67	-0.0671	7.9634
4	14 80	14343.972	-0.5132	0.0052	0.6081	0.0016	4	1.63	-0.0639	7.9577
5	9 80	14368.901	-0.5404	0.0060	0.6062	0.0075	4	1.05	-0.0415	7.9552
5	12 80	14371.887	-0.5465	0.0025	0.5911	0.0082	4	0.95	-0.0396	7.9516
5	19 80	14378.871	-0.5512	0.0004	0.5923	0.0022	4	0.76	-0.0356	7.9516
5	25 80	14384.865	-0.5550	0.0024	0.5889	0.0068	4	0.56	-0.0328	7.9514
6	5 80	14395.823	-0.5680	0.0042	0.5860	0.0083	3	0.21	-0.0298	7.9429
6	12 80	14402.820	-0.5663	0.0094	0.5929	0.0073	4	0.04	-0.0292	7.9458

MEANS	14369.8		0.0039	0.5977	0.0052					7.9529
STD. DEV. FOR N=	9			0.0091						0.0062
STD. ERR. OF MEAN				0.0030						0.0021

MEAN (COMP STAR 2 ONLY)	7.9603
MEAN (COMP STAR 3 ONLY)	7.9456

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.9458
	COMP 2 ONLY	7.9448
	COMP 3 ONLY	7.9467

ASSUMED COLOR TERM C2 =	0.9948	A2+C2-1 =	-0.0237
ASSUMED B-Y COLORS.....		PLANET =	0.370
		HD 157862 =	1.021
		HD 157470 =	0.323

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.1790 & 6.1750 MEAN= 7.1770  
FOR HD 158882 & 160042 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	6 81	14700.984	0.7208	0.0048	-2.0101	0.0027	4	1.78	-0.0752	7.8132
4	9 81	14703.979	0.7128	0.0047	-2.0113	0.0037	4	1.76	-0.0717	7.8088
5	2 81	14726.931	0.6995	0.0051	-2.0139	0.0088	3	1.35	-0.0485	7.8209
5	5 81	14729.924	0.6929	0.0044	-2.0174	0.0065	4	1.27	-0.0460	7.8172
5	6 81	14730.915	0.6973	0.0033	-2.0195	0.0071	4	1.25	-0.0452	7.8225
5	9 81	14733.914	0.6914	0.0079	-2.0081	0.0086	4	1.16	-0.0429	7.8194
6	9 81	14764.836	0.6702	0.0026	-2.0091	0.0040	4	0.17	-0.0291	7.8172
6	25 81	14780.786	0.6668	0.0039	-2.0087	0.0057	4	0.35	-0.0299	7.8121
7	25 81	14810.676	0.6891	0.0041	-2.0046	0.0027	4	1.24	-0.0455	7.8141
7	26 81	14811.709	0.6911	0.0027	-2.0044	0.0052	4	1.32	-0.0463	7.8148

MEANS	14749.5		0.0044	-2.0107	0.0055					7.8160
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STD. DEV. FOR N= 10 0.0050 0.0042  
 STD. ERR. OF MEAN 0.0016 0.0013

MEAN (COMP STAR 2 ONLY) 7.8127  
 MEAN (COMP STAR 3 ONLY) 7.8194

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8113  
 COMP 2 ONLY 7.8056  
 COMP 3 ONLY 7.8170

ASSUMED COLOR TERM A2 = -0.0189  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 158882 = 0.741  
 HD 160042 = 0.493

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.9200 & 6.6680 MEAN= 7.7940  
 FOR HD 158882 & 160042 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	6 81	14700.985	0.2373	0.0049	-2.2574	0.0031	4	1.78	-0.0752	7.9488
4	9 81	14703.980	0.2303	0.0025	-2.2614	0.0045	4	1.76	-0.0717	7.9454
5	2 81	14726.937	0.2142	0.0056	-2.2563	0.0061	4	1.35	-0.0485	7.9542
5	5 81	14729.924	0.2111	0.0026	-2.2606	0.0051	4	1.27	-0.0460	7.9539
5	6 81	14730.915	0.2106	0.0092	-2.2565	0.0028	4	1.25	-0.0452	7.9543
5	9 81	14733.913	0.2100	0.0044	-2.2568	0.0060	4	1.16	-0.0429	7.9564
6	9 81	14764.835	0.1908	0.0049	-2.2574	0.0019	4	0.17	-0.0291	7.9550
6	25 81	14780.786	0.1878	0.0014	-2.2558	0.0060	4	0.35	-0.0299	7.9505
7	25 81	14810.676	0.2102	0.0062	-2.2509	0.0051	4	1.24	-0.0455	7.9537
7	26 81	14811.710	0.2128	0.0021	-2.2499	0.0078	4	1.32	-0.0463	7.9551

MEANS 14749.5 0.0044 -2.2563 0.0048 7.9527  
 STD. DEV. FOR N= 10 0.0036 0.0034  
 STD. ERR. OF MEAN 0.0011 0.0011

MEAN (COMP STAR 2 ONLY) 7.9506  
 MEAN (COMP STAR 3 ONLY) 7.9549

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9465  
 COMP 2 ONLY 7.9412  
 COMP 3 ONLY 7.9518

ASSUMED COLOR TERM C2 = 0.9936 A2+C2-1 = -0.0254  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 158882 = 0.741  
 HD 160042 = 0.493

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.4710 & 8.6160 MEAN= 8.5435  
FOR HD 161134 & 160989 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	20 82	15109.895	-0.6912	0.0041	0.1337	0.0040	4	0.90	-0.0367	7.8108
5	21 82	15110.890	-0.6896	0.0027	0.1397	0.0027	4	0.85	-0.0361	7.8133
5	30 82	15119.846	-0.6882	0.0054	0.1443	0.0049	4	0.60	-0.0318	7.8203
6	21 82	15141.823	-0.6953	0.0046	0.1396	0.0040	4	0.14	-0.0283	7.8191
6	27 82	15147.787	-0.7078	0.0029	0.1379	0.0008	4	0.35	-0.0292	7.8046
7	11 82	15161.753	-0.6976	0.0054	0.1219	0.0108	4	0.77	-0.0342	7.8076

MEANS	15132.0		0.0042	0.1362	0.0045					7.8126
STD. DEV. FOR N=	6			0.0078						0.0062
STD. ERR. OF MEAN				0.0032						0.0025

MEAN (COMP STAR 2 ONLY)	7.8082
MEAN (COMP STAR 3 ONLY)	7.8171

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.8065
	COMP 2 ONLY	7.8052
	COMP 3 ONLY	7.8079

ASSUMED COLOR TERM A2 = -0.0193

ASSUMED B-Y COLORS.....	PLANET	=	0.370
	HD 161134	=	0.527
	HD 160989	=	0.847

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.9980 & 9.4630 MEAN= 9.2305  
FOR HD 161134 & 160989 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	20 82	15109.896	-1.2446	0.0038	0.4535	0.0023	4	0.90	-0.0367	7.9455

5	21	82	15110.890	-1.2406	0.0025	0.4586	0.0052	4	0.85	-0.0361	7.9503
5	30	82	15119.846	-1.2459	0.0071	0.4646	0.0067	4	0.60	-0.0318	7.9503
6	21	82	15141.823	-1.2542	0.0021	0.4566	0.0069	4	0.14	-0.0283	7.9474
6	27	82	15147.787	-1.2506	0.0018	0.4585	0.0042	4	0.35	-0.0292	7.9493
7	11	82	15161.754	-1.2455	0.0028	0.4471	0.0053	4	0.77	-0.0342	7.9477

MEANS	15132.0		0.0034		0.4565	0.0051					7.9484
STD. DEV. FOR N=	6				0.0059						0.0019
STD. ERR. OF MEAN					0.0024						0.0008

MEAN (COMP STAR 2 ONLY)	7.9442
MEAN (COMP STAR 3 ONLY)	7.9527

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.9399
	COMP 2 ONLY	7.9399
	COMP 3 ONLY	7.9398

ASSUMED COLOR TERM C2 = 0.9923      A2+C2-1 = -0.0270  
ASSUMED B-Y COLORS.....              PLANET = 0.370  
   HD 161134 = 0.527  
   HD 160989 = 0.847

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.3180 & 8.6550 MEAN= 7.9865  
FOR HD 162343 & 162435 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	9	83	15463.928	-0.1407	0.0033	1.3243	0.0049	4	1.50	-0.0455	7.7924
6	11	83	15496.857	-0.1635	0.0031	1.3149	0.0052	4	0.28	-0.0283	7.7932
6	13	83	15498.845	-0.1714	0.0045	1.3291	0.0048	4	0.20	-0.0280	7.7861
6	16	83	15501.839	-0.1616	0.0073	1.3263	0.0063	4	0.10	-0.0277	7.7967
7	4	83	15519.770	-0.1630	0.0058	1.3178	0.0029	4	0.50	-0.0296	7.7913
7	15	83	15530.755	-0.1621	0.0049	1.3159	0.0062	4	0.85	-0.0342	7.7857
7	16	83	15531.744	-0.1592	0.0048	1.3230	0.0056	4	0.87	-0.0348	7.7879

MEANS	15506.2		0.0048		1.3216	0.0051					7.7905
STD. DEV. FOR N=	7				0.0055						0.0041
STD. ERR. OF MEAN					0.0021						0.0015

MEAN (COMP STAR 2 ONLY)	7.7828
MEAN (COMP STAR 3 ONLY)	7.7982

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.7868
	COMP 2 ONLY	7.7828
	COMP 3 ONLY	7.7908

ASSUMED COLOR TERM A2 = -0.0197  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 162343 = 0.371  
 HD 162435 = 0.746

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.6890 & 9.4010 MEAN= 8.5450  
 FOR HD 162343 & 162435 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	9 83	15463.929	-0.5624	0.0023	1.6922	0.0065	4	1.50	-0.0455	7.9310	
6	11 83	15496.857	-0.5881	0.0018	1.6945	0.0088	4	0.28	-0.0283	7.9274	
6	13 83	15498.845	-0.5962	0.0025	1.6968	0.0042	4	0.20	-0.0280	7.9200	
6	16 83	15501.839	-0.5921	0.0077	1.6966	0.0095	4	0.10	-0.0277	7.9248	
7	4 83	15519.770	-0.5885	0.0068	1.6948	0.0020	4	0.50	-0.0296	7.9249	
7	15 83	15530.756	-0.5799	0.0089	1.6875	0.0074	4	0.85	-0.0342	7.9274	
7	16 83	15531.744	-0.5744	0.0041	1.6910	0.0010	4	0.87	-0.0348	7.9323	
MEANS		15506.2		0.0049	1.6933	0.0056				7.9268	
STD. DEV. FOR N=		7			0.0033					0.0041	
STD. ERR. OF MEAN					0.0013					0.0016	
										MEAN (COMP STAR 2 ONLY)	7.9175
										MEAN (COMP STAR 3 ONLY)	7.9362

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9214  
 COMP 2 ONLY 7.9175  
 COMP 3 ONLY 7.9254

ASSUMED COLOR TERM C2 = 0.9911 A2+C2-1 = -0.0286  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 162343 = 0.371  
 HD 162435 = 0.746

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.8680 & 8.7740 MEAN= 8.3210  
 FOR HD 163935 & 163799 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	24	84	15814.969	-0.4513	0.0021	0.9310	0.0007	3	1.63	-0.0602	7.8008
4	25	84	15815.958	-0.4474	0.0071	0.9403	0.0033	2	1.61	-0.0592	7.8059
4	29	84	15819.966	-0.4572	0.0066	0.9370	0.0066	4	1.55	-0.0552	7.8004
4	30	84	15820.945	-0.4555	0.0045	0.9334	0.0062	4	1.53	-0.0542	7.8032
5	8	84	15828.908	-0.4680	0.0045	0.9268	0.0082	4	1.35	-0.0468	7.7990
5	24	84	15844.897	-0.4770	0.0030	0.9275	0.0037	4	0.90	-0.0352	7.8041
6	3	84	15854.864	-0.4904	0.0026	0.9359	0.0106	4	0.59	-0.0303	7.7972
MEANS		15828.6		0.0043	0.9331	0.0056					7.8015
STD. DEV. FOR N=		7			0.0050						0.0030
STD. ERR. OF MEAN					0.0019						0.0011

MEAN (COMP STAR 2 ONLY) 7.8151  
 MEAN (COMP STAR 3 ONLY) 7.7880

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7959  
 COMP 2 ONLY 7.8031  
 COMP 3 ONLY 7.7886

ASSUMED COLOR TERM A2 = -0.0200  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 163935 = 0.966  
 HD 163799 = 0.338

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.8340 & 9.1120 MEAN= 8.9730  
 FOR HD 163935 & 163799 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	24	84	15814.975	-0.9744	0.0045	0.3094	0.0066	3	1.63	-0.0602	7.9317
4	25	84	15815.968	-0.9740	0.0000	0.3196	0.0000	1	1.61	-0.0592	7.9332
4	29	84	15819.966	-0.9790	0.0010	0.3159	0.0029	4	1.55	-0.0552	7.9325
4	30	84	15820.945	-0.9754	0.0047	0.3184	0.0033	4	1.53	-0.0542	7.9372
5	8	84	15828.908	-0.9885	0.0052	0.3111	0.0067	4	1.35	-0.0468	7.9322
5	24	84	15844.897	-0.9927	0.0061	0.3132	0.0036	4	0.90	-0.0352	7.9415
6	3	84	15854.865	-0.9988	0.0017	0.3154	0.0086	4	0.59	-0.0303	7.9415
MEANS		15828.6		0.0033	0.3147	0.0045					7.9357
STD. DEV. FOR N=		7			0.0037						0.0044
STD. ERR. OF MEAN					0.0014						0.0017

MEAN (COMP STAR 2 ONLY) 7.9540

MEAN (COMP STAR 3 ONLY) 7.9173

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9271  
COMP 2 ONLY 7.9360  
COMP 3 ONLY 7.9183

ASSUMED COLOR TERM C2 = 0.9898 A2+C2-1 = -0.0302  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 163935 = 0.966  
HD 163799 = 0.338

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.3410 & 7.7610 MEAN= 8.0510  
FOR HD 166191 & 166263 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	25	85	16180.961	-0.2065	0.0049	-0.6114	0.0108	3	1.66	-0.0608	7.7749
4	29	85	16184.958	-0.1894	0.0064	-0.5910	0.0018	4	1.60	-0.0566	7.7965
5	28	85	16213.883	-0.2317	0.0063	-0.6032	0.0058	4	0.82	-0.0332	7.7818
6	13	85	16229.846	-0.2435	0.0066	-0.6154	0.0024	4	0.38	-0.0268	7.7787
6	27	85	16243.794	-0.2440	0.0034	-0.6115	0.0023	4	0.10	-0.0256	7.7809
8	10	85	16287.687	-0.2179	0.0032	-0.6065	0.0048	4	1.42	-0.0481	7.7775
8	16	85	16293.671	-0.2015	0.0046	-0.6083	0.0065	4	1.55	-0.0537	7.7876
MEANS		16233.5		0.0051		-0.6068	0.0049				7.7826
STD. DEV. FOR N=		7				0.0080					0.0073
STD. ERR. OF MEAN						0.0030					0.0028

MEAN (COMP STAR 2 ONLY) 7.7692  
MEAN (COMP STAR 3 ONLY) 7.7959

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7787  
COMP 2 ONLY 7.7700  
COMP 3 ONLY 7.7874

ASSUMED COLOR TERM A2 = -0.0204  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 166191 = 0.329  
HD 166263 = 0.787

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE

MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.6700 & 8.5480 MEAN= 8.6090  
 FOR HD 166191 & 166263 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
4	25 85	16180.966	-0.6308	0.0103	-0.1669	0.0048	3	1.66	-0.0608	7.9106
4	29 85	16184.958	-0.6131	0.0032	-0.1406	0.0036	4	1.60	-0.0566	7.9328
5	28 85	16213.883	-0.6547	0.0058	-0.1519	0.0037	4	0.82	-0.0332	7.9178
6	13 85	16229.847	-0.6647	0.0026	-0.1698	0.0053	4	0.38	-0.0268	7.9159
6	27 85	16243.794	-0.6655	0.0039	-0.1623	0.0065	4	0.10	-0.0256	7.9175
8	10 85	16287.687	-0.6323	0.0052	-0.1634	0.0085	4	1.42	-0.0481	7.9228
8	16 85	16293.671	-0.6273	0.0039	-0.1566	0.0110	4	1.55	-0.0537	7.9216

MEANS 16233.5 0.0050 -0.1588 0.0062 7.9199  
 STD. DEV. FOR N= 7 0.0100 0.0069  
 STD. ERR. OF MEAN 0.0038 0.0026

MEAN (COMP STAR 2 ONLY) 7.9015  
 MEAN (COMP STAR 3 ONLY) 7.9382

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9139  
 COMP 2 ONLY 7.9028  
 COMP 3 ONLY 7.9250

ASSUMED COLOR TERM C2 = 0.9886 A2+C2-1 = -0.0318  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 166191 = 0.329  
 HD 166263 = 0.787

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.2450 & 8.9500 MEAN= 8.0975  
 FOR HD 168731 & 168865 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	4 86	16554.948	-0.2656	0.0052	1.7266	0.0061	4	1.55	-0.0528	7.7709
5	5 86	16555.960	-0.2685	0.0046	1.7198	0.0112	4	1.52	-0.0518	7.7692
5	10 86	16560.955	-0.2523	0.0061	1.7255	0.0060	3	1.41	-0.0471	7.7907
5	12 86	16562.953	-0.2501	0.0012	1.7274	0.0042	2	1.10	-0.0452	7.7963
5	13 86	16563.945	-0.2578	0.0052	1.7259	0.0021	4	1.35	-0.0443	7.7882
6	6 86	16587.877	-0.2780	0.0074	1.7249	0.0102	4	0.66	-0.0286	7.7874
6	7 86	16588.879	-0.2735	0.0075	1.7274	0.0088	4	0.63	-0.0282	7.7925

6	12	86	16593.860	-0.2771	0.0063	1.7217	0.0060	3	0.47	-0.0264	7.7915
6	13	86	16594.861	-0.2774	0.0081	1.7116	0.0035	4	0.45	-0.0261	7.7916
6	16	86	16597.837	-0.2827	0.0018	1.7295	0.0021	3	0.24	-0.0253	7.7882
7	6	86	16617.784	-0.2839	0.0050	1.7294	0.0049	4	0.35	-0.0252	7.7866

MEANS	16580.0		0.0053	1.7245	0.0059						7.7866
STD. DEV. FOR N=	11			0.0052							0.0087
STD. ERR. OF MEAN				0.0016							0.0026

MEAN (COMP STAR 2 ONLY)	7.7964
MEAN (COMP STAR 3 ONLY)	7.7769

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.7798
	COMP 2 ONLY	7.7839
	COMP 3 ONLY	7.7757

ASSUMED COLOR TERM A2 = -0.0208

ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 168731	=	0.974
HD 168865	=	0.429

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE

MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.2190 & 9.3790 MEAN= 8.7990

FOR HD 168731 & 168865 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	4	86	16554.949	-0.8138	0.0045	1.1950	0.0151	4	1.55	-0.0528	7.9261
5	5	86	16555.960	-0.8259	0.0084	1.1808	0.0039	4	1.52	-0.0518	7.9151
5	10	86	16560.960	-0.8090	0.0045	1.1917	0.0034	3	1.41	-0.0471	7.9372
5	12	86	16562.963	-0.8137	0.0090	1.1950	0.0026	2	1.10	-0.0452	7.9356
5	13	86	16563.945	-0.8123	0.0049	1.1937	0.0043	4	1.35	-0.0443	7.9368
6	6	86	16587.877	-0.8267	0.0071	1.1823	0.0070	4	0.66	-0.0286	7.9410
6	7	86	16588.879	-0.8282	0.0067	1.1965	0.0026	4	0.63	-0.0282	7.9401
6	12	86	16593.865	-0.8380	0.0041	1.1899	0.0107	3	0.47	-0.0264	7.9327
6	13	86	16594.861	-0.8322	0.0028	1.1836	0.0023	4	0.45	-0.0261	7.9389
6	16	86	16597.842	-0.8393	0.0013	1.1944	0.0084	3	0.24	-0.0253	7.9334
7	6	86	16617.784	-0.8355	0.0051	1.1867	0.0054	4	0.35	-0.0252	7.9369

MEANS	16580.0		0.0053	1.1900	0.0060						7.9340
STD. DEV. FOR N=	11			0.0057							0.0075
STD. ERR. OF MEAN				0.0017							0.0023

MEAN (COMP STAR 2 ONLY)	7.9489
MEAN (COMP STAR 3 ONLY)	7.9190



COLOR-CORRECTED PLANET MAGNITUDES.....

	BOTH COMPS	7.9229
	COMP 2 ONLY	7.9288
	COMP 3 ONLY	7.9170

ASSUMED COLOR TERM C2 = 0.9874      A2+C2-1 = -0.0334  
 ASSUMED B-Y COLORS.....              PLANET = 0.370  
    HD 168731 = 0.974  
    HD 168865 = 0.429

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.9410 & 7.2450 MEAN= 7.0930  
 FOR HD 169966 & 168731 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	4	87	16919.960	0.7521	0.0042	0.3042	0.0011	2	1.58	-0.0538	7.7830
5	22	87	16937.904	0.7409	0.0033	0.2993	0.0018	2	1.15	-0.0376	7.7902
5	27	87	16942.900	0.7402	0.0015	0.2996	0.0035	4	1.04	-0.0340	7.7937
5	28	87	16943.916	0.7458	0.0098	0.3017	0.0096	3	1.00	-0.0334	7.8001
6	4	87	16950.899	0.7451	0.0081	0.2856	0.0088	4	0.79	-0.0293	7.8046
7	19	87	16995.756	0.7394	0.0052	0.3000	0.0074	4	0.69	-0.0271	7.8017
8	17	87	17024.713	0.7555	0.0017	0.3022	0.0021	2	1.50	-0.0472	7.7934
8	18	87	17025.686	0.7504	0.0047	0.3043	0.0017	4	1.51	-0.0481	7.7873
8	28	87	17035.657	0.7616	0.0071	0.2938	0.0070	4	1.68	-0.0581	7.7875
MEANS			16975.3		0.0051	0.2990	0.0048				7.7935
STD. DEV. FOR N=			9			0.0059					0.0073
STD. ERR. OF MEAN						0.0020					0.0024

MEAN (COMP STAR 2 ONLY) 7.7910  
 MEAN (COMP STAR 3 ONLY) 7.7960

COLOR-CORRECTED PLANET MAGNITUDES.....

	BOTH COMPS	7.7848
	COMP 2 ONLY	7.7863
	COMP 3 ONLY	7.7832

ASSUMED COLOR TERM A2 = -0.0212  
 ASSUMED B-Y COLORS.....              PLANET = 0.370  
    HD 169966 = 0.592  
    HD 168731 = 0.974

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.5330 & 8.2190 MEAN= 7.8760  
FOR HD 169966 & 168731 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	4 87	16919.973	0.1113	0.0051	0.6751	0.0035	2	1.58	-0.0538	7.9271
5	22 87	16937.917	0.1025	0.0022	0.6739	0.0011	3	1.15	-0.0376	7.9362
5	27 87	16942.901	0.1039	0.0059	0.6766	0.0041	4	1.04	-0.0340	7.9416
5	28 87	16943.924	0.1027	0.0036	0.6714	0.0019	3	1.00	-0.0334	7.9412
6	4 87	16950.899	0.1068	0.0064	0.6545	0.0035	4	0.79	-0.0293	7.9503
7	19 87	16995.756	0.0963	0.0058	0.6744	0.0048	4	0.69	-0.0271	7.9424
8	17 87	17024.713	0.1150	0.0062	0.6683	0.0019	2	1.50	-0.0472	7.9377
8	18 87	17025.686	0.1210	0.0050	0.6682	0.0015	4	1.51	-0.0481	7.9427
8	28 87	17035.657	0.1304	0.0062	0.6670	0.0028	4	1.68	-0.0581	7.9414

MEANS 16975.3 0.0052 0.6699 0.0028 7.9401  
 STD. DEV. FOR N= 9 0.0067 0.0062  
 STD. ERR. OF MEAN 0.0022 0.0021

MEAN (COMP STAR 2 ONLY) 7.9320  
 MEAN (COMP STAR 3 ONLY) 7.9481

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9256  
 COMP 2 ONLY 7.9243  
 COMP 3 ONLY 7.9269

ASSUMED COLOR TERM C2 = 0.9861 A2+C2-1 = -0.0350  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 169966 = 0.592  
 HD 168731 = 0.974

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.5500 & 8.0640 MEAN= 7.8070  
FOR HD 172623 & 171810 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	11 88	17292.951	0.0257	0.0069	0.5317	0.0052	4	1.52	-0.0469	7.7778
5	21 88	17302.928	0.0328	0.0063	0.5320	0.0116	4	1.25	-0.0380	7.7951
6	8 88	17320.880	0.0186	0.0045	0.5259	0.0058	4	0.72	-0.0266	7.7952
6	11 88	17323.865	0.0193	0.0074	0.5367	0.0084	4	0.64	-0.0252	7.7977
6	12 88	17324.859	0.0129	0.0044	0.5478	0.0062	4	0.60	-0.0249	7.7919
6	16 88	17328.869	0.0032	0.0037	0.5304	0.0023	4	0.45	-0.0235	7.7844

8	13	88	17386.696	0.0244	0.0047	0.5466	0.0121	4	1.39	-0.0408	7.7833
8	14	88	17387.689	0.0348	0.0021	0.5341	0.0038	4	1.43	-0.0417	7.7926
9	2	88	17406.683	0.0391	0.0033	0.5172	0.0130	2	1.75	-0.0606	7.7763
9	5	88	17409.638	0.0338	0.0041	0.5209	0.0052	4	1.79	-0.0639	7.7675
9	9	88	17413.641	0.0362	0.0038	0.5453	0.0108	4	1.82	-0.0684	7.7652

MEANS	17354.4		0.0047	0.5335	0.0077						7.7842
STD. DEV. FOR N=	11			0.0101							0.0114
STD. ERR. OF MEAN				0.0030							0.0034

MEAN (COMP STAR 2 ONLY)	7.7940
MEAN (COMP STAR 3 ONLY)	7.7745

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.7767
	COMP 2 ONLY	7.7779
	COMP 3 ONLY	7.7754

ASSUMED COLOR TERM A2 = -0.0215  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 172623	=	1.116
HD 171810	=	0.327

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.6660 & 8.3910 MEAN= 8.5285  
 FOR HD 172623 & 171810 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	11	88	17292.951	-0.5512	0.0062	-0.2344	0.0067	4	1.52	-0.0469	7.9242
5	21	88	17302.928	-0.5461	0.0023	-0.2407	0.0044	4	1.25	-0.0380	7.9392
6	8	88	17320.880	-0.5640	0.0040	-0.2466	0.0018	4	0.72	-0.0266	7.9350
6	11	88	17323.865	-0.5608	0.0070	-0.2352	0.0073	4	0.64	-0.0252	7.9398
6	12	88	17324.859	-0.5596	0.0049	-0.2206	0.0040	4	0.60	-0.0249	7.9416
6	16	88	17328.869	-0.5781	0.0052	-0.2426	0.0064	4	0.45	-0.0235	7.9251
8	13	88	17386.696	-0.5489	0.0109	-0.2335	0.0088	4	1.39	-0.0408	7.9331
8	14	88	17387.690	-0.5378	0.0068	-0.2362	0.0024	4	1.43	-0.0417	7.9432
9	2	88	17406.683	-0.5404	0.0091	-0.2387	0.0035	2	1.75	-0.0606	7.9204
9	5	88	17409.638	-0.5399	0.0042	-0.2508	0.0041	4	1.79	-0.0639	7.9174
9	9	88	17413.641	-0.5293	0.0084	-0.2266	0.0048	4	1.82	-0.0684	7.9234

MEANS	17354.4		0.0063	-0.2369	0.0049						7.9311
STD. DEV. FOR N=	11			0.0085							0.0093
STD. ERR. OF MEAN				0.0026							0.0028

MEAN (COMP STAR 2 ONLY)	7.9502
MEAN (COMP STAR 3 ONLY)	7.9121

COLOR-CORRECTED PLANET MAGNITUDES.....

	BOTH COMPS	7.9182
	COMP 2 ONLY	7.9228
	COMP 3 ONLY	7.9136

ASSUMED COLOR TERM C2 = 0.9849      A2+C2-1 = -0.0366  
ASSUMED B-Y COLORS.....              PLANET = 0.370  
   HD 172623 = 1.116  
   HD 171810 = 0.327

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.1850 & 7.9170 MEAN= 7.5510  
FOR HD 174170 & 176126 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	10	89	17626.971	0.3324	0.0024	0.7347	0.0001	2	1.86	-0.0830	7.7905
4	13	89	17629.979	0.3217	0.0064	0.7270	0.0089	4	1.85	-0.0793	7.7836
4	14	89	17630.971	0.3200	0.0056	0.7316	0.0033	4	1.85	-0.0782	7.7830
4	16	89	17632.967	0.3124	0.0077	0.7332	0.0051	4	1.85	-0.0757	7.7779
5	10	89	17656.936	0.2999	0.0032	0.7329	0.0034	4	1.57	-0.0489	7.7937
6	7	89	17684.878	0.2736	0.0019	0.7387	0.0046	4	0.85	-0.0269	7.7932
6	8	89	17685.905	0.2654	0.0077	0.7299	0.0023	4	0.81	-0.0264	7.7857
MEANS			17649.8		0.0050	0.7326	0.0040				7.7868
STD. DEV. FOR N=			7			0.0037					0.0059
STD. ERR. OF MEAN						0.0014					0.0022
										MEAN (COMP STAR 2 ONLY)	7.7871
										MEAN (COMP STAR 3 ONLY)	7.7865

COLOR-CORRECTED PLANET MAGNITUDES.....

	BOTH COMPS	7.7772
	COMP 2 ONLY	7.7780
	COMP 3 ONLY	7.7764

ASSUMED COLOR TERM A2 = -0.0219  
ASSUMED B-Y COLORS.....              PLANET = 0.370  
   HD 174170 = 0.787  
   HD 176126 = 0.832

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.9720 & 8.7490 MEAN= 8.3605  
FOR HD 174170 & 176126 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
4	10	89	17626.984	-0.3355	0.0125	0.7778	0.0021	2	1.86	-0.0830	7.9344
4	13	89	17629.979	-0.3409	0.0045	0.7715	0.0108	4	1.85	-0.0793	7.9327
4	14	89	17630.971	-0.3396	0.0097	0.7682	0.0008	4	1.85	-0.0782	7.9351
4	16	89	17632.967	-0.3441	0.0038	0.7645	0.0031	4	1.85	-0.0757	7.9331
5	10	89	17656.936	-0.3636	0.0043	0.7729	0.0028	4	1.57	-0.0489	7.9416
6	7	89	17684.878	-0.3882	0.0023	0.7799	0.0077	4	0.85	-0.0269	7.9419
6	8	89	17685.905	-0.3899	0.0046	0.7693	0.0041	4	0.81	-0.0264	7.9409

MEANS 17649.8 0.0060 0.7720 0.0045 7.9371  
 STD. DEV. FOR N= 7 0.0054 0.0042  
 STD. ERR. OF MEAN 0.0020 0.0016

MEAN (COMP STAR 2 ONLY) 7.9346  
 MEAN (COMP STAR 3 ONLY) 7.9396

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9203  
 COMP 2 ONLY 7.9187  
 COMP 3 ONLY 7.9219

ASSUMED COLOR TERM C2 = 0.9836 A2+C2-1 = -0.0383  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 174170 = 0.787  
 HD 176126 = 0.832

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 5.6480 & 7.7840 MEAN= 6.7160  
FOR HD 174947 & 176473 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	20	90	18031.945	1.1141	0.0024	2.1287	0.0032	4	1.38	-0.0405	7.7823
5	23	90	18034.943	1.1135	0.0065	2.1307	0.0023	2	1.35	-0.0379	7.7845
5	26	90	18037.961	1.1091	0.0018	2.1256	0.0085	2	1.24	-0.0353	7.7832
6	14	90	18056.844	1.0970	0.0080	2.1251	0.0039	4	0.70	-0.0235	7.7858
6	14	90	18056.894	1.0946	0.0046	2.1311	0.0077	4	0.70	-0.0234	7.7835
6	14	90	18056.939	1.0920	0.0090	2.1333	0.0023	3	0.70	-0.0234	7.7809
6	15	90	18057.809	1.0762	0.0068	2.1285	0.0081	4	0.66	-0.0231	7.7656
6	15	90	18057.856	1.0794	0.0058	2.1276	0.0025	4	0.66	-0.0231	7.7688
6	15	90	18057.916	1.0828	0.0046	2.1335	0.0022	4	0.66	-0.0230	7.7723

6	16	90	18058.817	1.0947	0.0041	2.1280	0.0065	4	0.63	-0.0226	7.7848
6	16	90	18058.862	1.0949	0.0062	2.1315	0.0044	4	0.63	-0.0226	7.7850
6	17	90	18059.810	1.0997	0.0088	2.1279	0.0038	4	0.60	-0.0222	7.7903
6	18	90	18060.805	1.0958	0.0063	2.1259	0.0031	4	0.56	-0.0219	7.7870
6	18	90	18060.895	1.0929	0.0056	2.1341	0.0035	4	0.57	-0.0218	7.7841
6	18	90	18060.934	1.0892	0.0045	2.1285	0.0034	3	0.57	-0.0218	7.7804
6	19	90	18061.816	1.0916	0.0020	2.1280	0.0047	2	0.56	-0.0215	7.7831
6	19	90	18061.844	1.0971	0.0007	2.1299	0.0071	2	0.56	-0.0214	7.7887
6	19	90	18061.868	1.0918	0.0018	2.1324	0.0009	2	0.56	-0.0214	7.7834
6	19	90	18061.893	1.0972	0.0071	2.1260	0.0005	2	0.56	-0.0213	7.7889
6	19	90	18061.918	1.0952	0.0078	2.1275	0.0075	2	0.56	-0.0213	7.7869
6	19	90	18061.942	1.0970	0.0008	2.1322	0.0010	2	0.56	-0.0213	7.7887
6	20	90	18062.777	1.0974	0.0062	2.1322	0.0023	2	0.50	-0.0211	7.7897
6	20	90	18062.798	1.0930	0.0023	2.1386	0.0091	2	0.50	-0.0211	7.7853
6	20	90	18062.825	1.0951	0.0072	2.1411	0.0054	2	0.50	-0.0211	7.7874
6	20	90	18062.846	1.0871	0.0011	2.1355	0.0030	2	0.50	-0.0211	7.7794
6	20	90	18062.916	1.0865	0.0023	2.1386	0.0002	2	0.50	-0.0211	7.7788
6	21	90	18063.782	1.0934	0.0025	2.1400	0.0060	2	0.48	-0.0208	7.7861
6	21	90	18063.804	1.0918	0.0023	2.1293	0.0003	2	0.48	-0.0208	7.7845
6	21	90	18063.829	1.0904	0.0049	2.1379	0.0008	2	0.48	-0.0208	7.7831
6	21	90	18063.849	1.0957	0.0042	2.1334	0.0015	2	0.48	-0.0208	7.7884
6	21	90	18063.902	1.0924	0.0070	2.1390	0.0051	2	0.48	-0.0208	7.7851
6	21	90	18063.923	1.0890	0.0001	2.1296	0.0049	2	0.48	-0.0208	7.7817
6	22	90	18064.787	1.0833	0.0004	2.1283	0.0057	2	0.44	-0.0205	7.7765
6	22	90	18064.808	1.0911	0.0028	2.1300	0.0000	2	0.44	-0.0205	7.7843
6	22	90	18064.897	1.0826	0.0057	2.1273	0.0035	2	0.44	-0.0205	7.7758
6	22	90	18064.917	1.0864	0.0135	2.1376	0.0140	2	0.44	-0.0205	7.7796
8	18	90	18121.692	1.1112	0.0030	2.1343	0.0016	4	1.35	-0.0382	7.7819
8	19	90	18122.647	1.1057	0.0038	2.1429	0.0101	2	1.36	-0.0390	7.7755
8	21	90	18124.671	1.1056	0.0070	2.1323	0.0064	4	1.42	-0.0408	7.7733

MEANS 18064.3 0.0047 2.1319 0.0043 7.7824  
 STD. DEV. FOR N= 39 0.0047 0.0057  
 STD. ERR. OF MEAN 0.0008 0.0009

MEAN (COMP STAR 2 ONLY) 7.7804  
 MEAN (COMP STAR 3 ONLY) 7.7845

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7752  
 COMP 2 ONLY 7.7722  
 COMP 3 ONLY 7.7783

ASSUMED COLOR TERM A2 = -0.0223  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 174947 = 0.737  
 HD 176473 = 0.648

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 6.3850 & 8.4320 MEAN= 7.4085  
FOR HD 174947 & 176473 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	20	90	18031.945	0.5679	0.0052	2.0402	0.0044	4	1.38	-0.0405	7.9302
5	23	90	18034.955	0.5417	0.0256	2.0288	0.0122	2	1.35	-0.0379	7.9068
5	26	90	18037.961	0.5671	0.0018	2.0388	0.0047	2	1.24	-0.0353	7.9352
6	14	90	18056.844	0.5438	0.0060	2.0449	0.0046	4	0.70	-0.0235	7.9259
6	14	90	18056.897	0.5449	0.0042	2.0431	0.0032	5	0.70	-0.0234	7.9271
6	14	90	18056.941	0.5439	0.0045	2.0430	0.0061	3	0.70	-0.0234	7.9261
6	15	90	18057.809	0.5387	0.0074	2.0428	0.0086	4	0.66	-0.0231	7.9214
6	15	90	18057.856	0.5405	0.0044	2.0359	0.0071	4	0.66	-0.0231	7.9232
6	15	90	18057.916	0.5407	0.0059	2.0484	0.0072	4	0.66	-0.0230	7.9235
6	16	90	18058.817	0.5439	0.0105	2.0448	0.0055	4	0.63	-0.0226	7.9272
6	16	90	18058.863	0.5388	0.0066	2.0452	0.0051	4	0.63	-0.0226	7.9221
6	17	90	18059.810	0.5401	0.0069	2.0451	0.0080	4	0.60	-0.0222	7.9239
6	18	90	18060.805	0.5445	0.0049	2.0382	0.0073	4	0.56	-0.0219	7.9288
6	18	90	18060.895	0.5423	0.0060	2.0415	0.0060	4	0.57	-0.0218	7.9267
6	18	90	18060.930	0.5435	0.0063	2.0443	0.0030	2	0.57	-0.0218	7.9279
6	19	90	18061.817	0.5456	0.0001	2.0425	0.0007	2	0.56	-0.0215	7.9303
6	19	90	18061.845	0.5447	0.0038	2.0407	0.0079	2	0.56	-0.0214	7.9295
6	19	90	18061.868	0.5439	0.0007	2.0435	0.0075	2	0.56	-0.0214	7.9287
6	19	90	18061.893	0.5445	0.0032	2.0390	0.0046	2	0.56	-0.0213	7.9294
6	19	90	18061.918	0.5496	0.0003	2.0409	0.0047	2	0.56	-0.0213	7.9345
6	19	90	18061.942	0.5420	0.0076	2.0466	0.0013	2	0.56	-0.0213	7.9269
6	20	90	18062.778	0.5390	0.0006	2.0451	0.0008	2	0.50	-0.0211	7.9244
6	20	90	18062.798	0.5467	0.0015	2.0423	0.0011	2	0.50	-0.0211	7.9321
6	20	90	18062.825	0.5392	0.0053	2.0481	0.0005	2	0.50	-0.0211	7.9246
6	20	90	18062.846	0.5420	0.0053	2.0420	0.0002	2	0.50	-0.0211	7.9274
6	20	90	18062.915	0.5429	0.0031	2.0467	0.0019	2	0.50	-0.0211	7.9283
6	21	90	18063.782	0.5411	0.0015	2.0520	0.0046	2	0.48	-0.0208	7.9269
6	21	90	18063.804	0.5402	0.0010	2.0471	0.0040	2	0.48	-0.0208	7.9260
6	21	90	18063.829	0.5452	0.0047	2.0468	0.0002	2	0.48	-0.0208	7.9310
6	21	90	18063.849	0.5406	0.0010	2.0488	0.0034	2	0.48	-0.0208	7.9264
6	21	90	18063.902	0.5430	0.0045	2.0523	0.0029	2	0.48	-0.0208	7.9288
6	21	90	18063.923	0.5439	0.0040	2.0482	0.0089	2	0.48	-0.0208	7.9297
6	22	90	18064.787	0.5434	0.0054	2.0419	0.0047	2	0.44	-0.0205	7.9296
6	22	90	18064.808	0.5444	0.0060	2.0498	0.0061	2	0.44	-0.0205	7.9306
6	22	90	18064.897	0.5466	0.0038	2.0451	0.0001	2	0.44	-0.0205	7.9328
6	22	90	18064.918	0.5381	0.0062	2.0413	0.0051	2	0.44	-0.0205	7.9243
8	18	90	18121.693	0.5640	0.0040	2.0450	0.0040	4	1.35	-0.0382	7.9288
8	19	90	18122.659	0.5607	0.0072	2.0492	0.0045	3	1.36	-0.0390	7.9246
8	21	90	18124.671	0.5574	0.0052	2.0426	0.0059	4	1.42	-0.0408	7.9193

MEANS 18064.3 0.0049 2.0439 0.0046 7.9269  
STD. DEV. FOR N= 39 0.0045 0.0048  
STD. ERR. OF MEAN 0.0007 0.0008

MEAN (COMP STAR 2 ONLY) 7.9254  
MEAN (COMP STAR 3 ONLY) 7.9285

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.9141  
COMP 2 ONLY 7.9108  
COMP 3 ONLY 7.9174

ASSUMED COLOR TERM C2 = 0.9824 A2+C2-1 = -0.0399  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 174947 = 0.737  
 HD 176473 = 0.648

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.1370 & 6.8430 MEAN= 6.9900  
 FOR HD 177166 & 177799 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	12	91	18388.955	0.8390	0.0050	-0.3018	0.0074	4	1.60	-0.0494	7.7711
5	13	91	18389.939	0.8384	0.0034	-0.3005	0.0025	4	1.59	-0.0484	7.7716
5	19	91	18395.953	0.8265	0.0014	-0.3056	0.0044	2	1.49	-0.0425	7.7661
5	23	91	18399.932	0.8213	0.0062	-0.3100	0.0077	4	1.40	-0.0389	7.7650
5	24	91	18400.930	0.8215	0.0036	-0.2995	0.0052	4	1.36	-0.0380	7.7663
6	16	91	18423.910	0.8092	0.0094	-0.3052	0.0016	2	0.71	-0.0225	7.7730
8	5	91	18473.738	0.8170	0.0053	-0.2962	0.0024	4	0.90	-0.0259	7.7763
9	9	91	18508.649	0.8410	0.0012	-0.2958	0.0020	2	1.70	-0.0563	7.7657
9	13	91	18512.638	0.8418	0.0010	-0.3074	0.0072	2	1.75	-0.0607	7.7618
MEANS			18432.7		0.0041	-0.3024	0.0045				7.7685
STD. DEV. FOR N=			9			0.0049					0.0047
STD. ERR. OF MEAN						0.0016					0.0016

MEAN (COMP STAR 2 ONLY) 7.7643  
 MEAN (COMP STAR 3 ONLY) 7.7728

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7663  
 COMP 2 ONLY 7.7654  
 COMP 3 ONLY 7.7672

ASSUMED COLOR TERM A2 = -0.0226  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 177166 = 0.320  
 HD 177799 = 0.615

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B



SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.4570 & 7.4580 MEAN= 7.4575  
FOR HD 177166 & 177799 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
5	12 91	18388.956	0.5047	0.0027	-0.0126	0.0045	4	1.60	-0.0494	7.9062
5	13 91	18389.939	0.5035	0.0044	-0.0141	0.0009	4	1.59	-0.0484	7.9061
5	19 91	18395.953	0.4942	0.0028	-0.0148	0.0030	2	1.49	-0.0425	7.9031
5	23 91	18399.932	0.4888	0.0028	-0.0187	0.0025	4	1.40	-0.0389	7.9017
5	24 91	18400.931	0.4906	0.0026	-0.0173	0.0029	4	1.36	-0.0380	7.9045
6	16 91	18423.910	0.4663	0.0053	-0.0172	0.0001	2	0.71	-0.0225	7.8984
8	5 91	18473.738	0.4781	0.0052	-0.0073	0.0034	4	0.90	-0.0259	7.9060
9	9 91	18508.649	0.5117	0.0001	-0.0046	0.0070	2	1.70	-0.0563	7.9059
9	13 91	18512.638	0.5038	0.0053	-0.0165	0.0064	2	1.75	-0.0607	7.8934

MEANS	18432.7		0.0035	-0.0137	0.0034					7.9028
STD. DEV. FOR N=	9			0.0048						0.0044
STD. ERR. OF MEAN				0.0016						0.0015

MEAN (COMP STAR 2 ONLY)	7.8955
MEAN (COMP STAR 3 ONLY)	7.9102

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.8988
	COMP 2 ONLY	7.8975
	COMP 3 ONLY	7.9000

ASSUMED COLOR TERM C2 =	0.9812	A2+C2-1 =	-0.0415
ASSUMED B-Y COLORS.....		PLANET =	0.370
		HD 177166 =	0.320
		HD 177799 =	0.615

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.3620 & 7.3440 MEAN= 6.8530  
FOR HD 179201 & 180416 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	4 92	18777.943	0.9477	0.0058	0.9861	0.0074	3	1.10	-0.0294	7.7655
6	6 92	18779.919	0.9448	0.0057	0.9889	0.0022	4	1.05	-0.0281	7.7642
6	21 92	18794.883	0.9374	0.0058	0.9857	0.0069	4	0.60	-0.0199	7.7673
7	1 92	18804.836	0.9397	0.0008	0.9810	0.0047	2	0.27	-0.0171	7.7742
7	27 92	18830.777	0.9369	0.0056	0.9914	0.0055	4	0.60	-0.0197	7.7670
8	28 92	18862.665	0.9643	0.0029	0.9815	0.0068	4	1.48	-0.0414	7.7680
9	1 92	18866.660	0.9610	0.0032	0.9837	0.0056	4	1.55	-0.0453	7.7605
9	18 92	18883.625	0.9862	0.0054	0.9824	0.0074	4	1.80	-0.0637	7.7659
9	21 92	18886.624	0.9868	0.0038	0.9812	0.0087	4	1.82	-0.0673	7.7628

MEANS 18832.0 0.0043 0.9847 0.0061 7.7662  
 STD. DEV. FOR N= 9 0.0037 0.0038  
 STD. ERR. OF MEAN 0.0012 0.0013

MEAN (COMP STAR 2 ONLY) 7.7675  
 MEAN (COMP STAR 3 ONLY) 7.7648

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7601  
 COMP 2 ONLY 7.7612  
 COMP 3 ONLY 7.7590

ASSUMED COLOR TERM A2 = -0.0230  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 179201 = 0.642  
 HD 180416 = 0.623

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.0040 & 7.9670 MEAN= 7.4855  
 FOR HD 179201 & 180416 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	4	92	18777.945	0.4449	0.0052	0.9603	0.0026	3	1.10	-0.0294	7.8965
6	6	92	18779.919	0.4453	0.0024	0.9704	0.0058	4	1.05	-0.0281	7.8984
6	21	92	18794.883	0.4420	0.0085	0.9690	0.0016	4	0.60	-0.0199	7.9051
7	1	92	18804.836	0.4359	0.0072	0.9604	0.0007	2	0.27	-0.0171	7.9032
7	27	92	18830.778	0.4414	0.0079	0.9692	0.0066	5	0.60	-0.0197	7.9047
8	28	92	18862.665	0.4685	0.0047	0.9664	0.0031	4	1.48	-0.0414	7.9065
9	1	92	18866.660	0.4652	0.0030	0.9688	0.0043	4	1.55	-0.0453	7.8990
9	18	92	18883.625	0.4855	0.0051	0.9685	0.0037	4	1.80	-0.0637	7.8999
9	21	92	18886.625	0.4861	0.0020	0.9689	0.0042	4	1.82	-0.0673	7.8968

MEANS 18832.0 0.0051 0.9669 0.0036 7.9011  
 STD. DEV. FOR N= 9 0.0038 0.0038  
 STD. ERR. OF MEAN 0.0013 0.0013

MEAN (COMP STAR 2 ONLY) 7.9031  
 MEAN (COMP STAR 3 ONLY) 7.8992

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8898  
 COMP 2 ONLY 7.8914  
 COMP 3 ONLY 7.8883

ASSUMED COLOR TERM C2 = 0.9799 A2+C2-1 = -0.0431  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 179201 = 0.642

HD 180416 = 0.623

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.9980 & 6.9610 MEAN= 6.9795  
FOR HD 182390 & 182648 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	21	93	19128.953	0.8290	0.0012	-0.0431	0.0010	2	1.52	-0.0424	7.7581
5	22	93	19129.938	0.8282	0.0061	-0.0427	0.0059	2	1.50	-0.0414	7.7583
5	23	93	19130.950	0.8314	0.0022	-0.0444	0.0036	2	1.48	-0.0405	7.7626
5	25	93	19132.936	0.8368	0.0020	-0.0463	0.0148	2	1.44	-0.0386	7.7700
6	2	93	19140.945	0.8204	0.0119	-0.0338	0.0009	2	1.25	-0.0318	7.7615
6	17	93	19155.887	0.8133	0.0045	-0.0450	0.0041	2	0.81	-0.0219	7.7666
6	30	93	19168.819	0.7890	0.0020	-0.0364	0.0055	2	0.41	-0.0169	7.7495
7	27	93	19195.773	0.7972	0.0011	-0.0379	0.0039	2	0.50	-0.0179	7.7561
MEANS		19148.0		0.0039		-0.0412	0.0050				7.7603
STD. DEV. FOR N=		8				0.0046					0.0064
STD. ERR. OF MEAN						0.0016					0.0023

MEAN (COMP STAR 2 ONLY) 7.7582  
MEAN (COMP STAR 3 ONLY) 7.7624

COLOR-CORRECTED PLANET MAGNITUDES.....  
BOTH COMPS 7.7533  
COMP 2 ONLY 7.7572  
COMP 3 ONLY 7.7493

ASSUMED COLOR TERM A2 = -0.0234  
ASSUMED B-Y COLORS.....  
PLANET = 0.370  
HD 182390 = 0.415  
HD 182648 = 0.930

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

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

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	21	93	19128.953	0.2945	0.0046	0.4568	0.0036	2	1.52	-0.0424	7.8979
5	22	93	19129.939	0.2883	0.0041	0.4541	0.0017	2	1.50	-0.0414	7.8927
5	23	93	19130.951	0.2972	0.0060	0.4563	0.0025	2	1.48	-0.0405	7.9027
5	25	93	19132.937	0.2919	0.0084	0.4507	0.0151	2	1.44	-0.0386	7.8994
6	2	93	19140.945	0.2842	0.0042	0.4708	0.0079	2	1.25	-0.0318	7.8993
6	17	93	19155.887	0.2830	0.0179	0.4465	0.0019	2	0.81	-0.0219	7.9098
6	30	93	19168.819	0.2491	0.0022	0.4546	0.0015	2	0.41	-0.0169	7.8826
7	27	93	19195.773	0.2657	0.0001	0.4630	0.0026	2	0.50	-0.0179	7.8977
MEANS			19148.0		0.0059	0.4566	0.0046				7.8978
STD. DEV. FOR N=			8			0.0075					0.0078
STD. ERR. OF MEAN						0.0026					0.0028

MEAN (COMP STAR 2 ONLY) 7.8871  
MEAN (COMP STAR 3 ONLY) 7.9085

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8842  
COMP 2 ONLY 7.8850  
COMP 3 ONLY 7.8834

ASSUMED COLOR TERM C2 = 0.9787 A2+C2-1 = -0.0447  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 182390 = 0.415  
HD 182648 = 0.930

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.7210 & 7.6670 MEAN= 7.1940  
FOR HD 184509 & 184795 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	9	94	19512.948	0.5910	0.0025	0.9354	0.0013	2	1.10	-0.0273	7.7518
6	10	94	19513.939	0.5828	0.0028	0.9297	0.0044	4	1.07	-0.0267	7.7445
6	16	94	19519.910	0.5783	0.0033	0.9248	0.0066	4	0.90	-0.0228	7.7447
8	30	94	19594.686	0.5840	0.0038	0.9373	0.0042	4	1.42	-0.0367	7.7338
9	2	94	19597.673	0.5974	0.0055	0.9454	0.0015	4	1.49	-0.0394	7.7441
9	7	94	19602.653	0.5984	0.0042	0.9482	0.0034	3	1.59	-0.0443	7.7397
9	8	94	19603.656	0.6028	0.0036	0.9445	0.0081	4	1.60	-0.0453	7.7431
9	9	94	19604.656	0.6004	0.0083	0.9418	0.0052	4	1.63	-0.0463	7.7395
MEANS			19568.8		0.0043	0.9384	0.0043				7.7426
STD. DEV. FOR N=			8			0.0081					0.0052
STD. ERR. OF MEAN						0.0029					0.0018

MEAN (COMP STAR 2 ONLY) 7.7388

MEAN (COMP STAR 3 ONLY) 7.7464

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7405  
COMP 2 ONLY 7.7400  
COMP 3 ONLY 7.7411

ASSUMED COLOR TERM A2 = -0.0238

ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 184509 = 0.323  
HD 184795 = 0.597

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.0440 & 8.2640 MEAN= 7.6540  
FOR HD 184509 & 184795 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	9 94	19512.948	0.2571	0.0022	1.1949	0.0014	2	1.10	-0.0273	7.8792
6	10 94	19513.940	0.2589	0.0063	1.1964	0.0085	4	1.07	-0.0267	7.8818
6	16 94	19519.910	0.2527	0.0043	1.1970	0.0079	4	0.90	-0.0228	7.8802
8	30 94	19594.686	0.2625	0.0039	1.2100	0.0041	4	1.42	-0.0367	7.8740
9	2 94	19597.673	0.2633	0.0041	1.2122	0.0043	4	1.49	-0.0394	7.8718
9	7 94	19602.661	0.2681	0.0042	1.2071	0.0046	4	1.59	-0.0443	7.8713
9	8 94	19603.657	0.2741	0.0052	1.2095	0.0057	4	1.60	-0.0453	7.8763
9	9 94	19604.655	0.2732	0.0042	1.2101	0.0026	5	1.63	-0.0463	7.8742

MEANS 19568.8 0.0043 1.2047 0.0049 7.8761  
STD. DEV. FOR N= 8 0.0072 0.0039  
STD. ERR. OF MEAN 0.0026 0.0014

MEAN (COMP STAR 2 ONLY) 7.8684  
MEAN (COMP STAR 3 ONLY) 7.8838

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8719  
COMP 2 ONLY 7.8706  
COMP 3 ONLY 7.8733

ASSUMED COLOR TERM C2 = 0.9774 A2+C2-1 = -0.0463  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 184509 = 0.323  
HD 184795 = 0.597

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.5850 & 6.6480 MEAN= 7.1165  
 FOR HD 186803 & 186938 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	5 95	19873.932	0.6641	0.0025	-0.9459	0.0050	4	1.27	-0.0313	7.7426
6	6 95	19874.907	0.6668	0.0074	-0.9388	0.0035	4	1.25	-0.0305	7.7462
6	9 95	19877.907	0.6517	0.0044	-0.9416	0.0033	4	1.16	-0.0281	7.7340
6	21 95	19889.872	0.6475	0.0045	-0.9499	0.0039	4	0.80	-0.0203	7.7394
6	22 95	19890.868	0.6455	0.0010	-0.9449	0.0034	4	0.80	-0.0198	7.7380
6	23 95	19891.865	0.6500	0.0050	-0.9460	0.0025	4	0.75	-0.0193	7.7432
6	23 95	19891.865	0.6500	0.0050	-0.9460	0.0025	4	0.75	-0.0193	7.7432
7	1 95	19899.857	0.6485	0.0060	-0.9367	0.0027	4	0.50	-0.0159	7.7464
7	2 95	19900.854	0.6467	0.0034	-0.9422	0.0096	4	0.46	-0.0156	7.7452
7	3 95	19901.876	0.6464	0.0041	-0.9483	0.0053	4	0.45	-0.0153	7.7453
7	4 95	19902.870	0.6458	0.0051	-0.9484	0.0037	4	0.40	-0.0150	7.7452

MEANS 19890.6 0.0044 -0.9444 0.0041 7.7426  
 STD. DEV. FOR N= 11 0.0042 0.0039  
 STD. ERR. OF MEAN 0.0013 0.0012

MEAN (COMP STAR 2 ONLY) 7.7389  
 MEAN (COMP STAR 3 ONLY) 7.7463

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7405  
 COMP 2 ONLY 7.7384  
 COMP 3 ONLY 7.7426

ASSUMED COLOR TERM A2 = -0.0241  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 186803 = 0.389  
 HD 186938 = 0.526

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.9740 & 7.1740 MEAN= 7.5740  
 FOR HD 186803 & 186938 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
6	5 95	19873.933	0.3309	0.0042	-0.8092	0.0030	4	1.27	-0.0313	7.8684
6	6 95	19874.908	0.3310	0.0055	-0.8063	0.0025	4	1.25	-0.0305	7.8694

6	9	95	19877.907	0.3254	0.0031	-0.8039	0.0020	4	1.16	-0.0281	7.8665
6	21	95	19889.872	0.3193	0.0060	-0.8204	0.0061	4	0.80	-0.0203	7.8697
6	22	95	19890.868	0.3194	0.0053	-0.8084	0.0020	4	0.80	-0.0198	7.8703
6	23	95	19891.865	0.3169	0.0031	-0.8100	0.0013	4	0.75	-0.0193	7.8685
6	23	95	19891.865	0.3169	0.0031	-0.8100	0.0013	4	0.75	-0.0193	7.8685
7	1	95	19899.857	0.3211	0.0021	-0.7998	0.0095	4	0.50	-0.0159	7.8771
7	2	95	19900.854	0.3163	0.0031	-0.7999	0.0051	4	0.46	-0.0156	7.8729
7	3	95	19901.876	0.3166	0.0038	-0.8089	0.0035	4	0.45	-0.0153	7.8735
7	4	95	19902.870	0.3116	0.0035	-0.8103	0.0075	4	0.40	-0.0150	7.8690

MEANS	19890.6		0.0039	-0.8079	0.0040						7.8704
STD. DEV. FOR N=	11			0.0057							0.0030
STD. ERR. OF MEAN				0.0017							0.0009

MEAN (COMP STAR 2 ONLY)	7.8664
MEAN (COMP STAR 3 ONLY)	7.8743

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.8662
	COMP 2 ONLY	7.8655
	COMP 3 ONLY	7.8668

ASSUMED COLOR TERM C2 =	0.9762	A2+C2-1 =	-0.0479
ASSUMED B-Y COLORS.....		PLANET =	0.370
		HD 186803 =	0.389
		HD 186938 =	0.526

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.5850 & 6.6480 MEAN= 7.1165  
FOR HD 186803 & 186938 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	27	96	20230.944	0.6750	0.0053	-0.9406	0.0023	4	1.50	-0.0395	7.7441
5	28	96	20231.941	0.6715	0.0036	-0.9309	0.0020	4	1.50	-0.0385	7.7415
6	17	96	20251.904	0.6437	0.0058	-0.9508	0.0020	4	1.00	-0.0223	7.7326
6	18	96	20252.880	0.6492	0.0052	-0.9476	0.0051	4	0.90	-0.0217	7.7393
6	23	96	20257.887	0.6477	0.0036	-0.9488	0.0080	4	0.80	-0.0187	7.7413
6	24	96	20258.879	0.6451	0.0045	-0.9487	0.0055	4	0.80	-0.0182	7.7392
6	25	96	20259.884	0.6432	0.0063	-0.9430	0.0039	4	0.70	-0.0177	7.7383
9	16	96	20342.663	0.6756	0.0010	-0.9369	0.0040	4	1.60	-0.0470	7.7366
10	4	96	20360.608	0.6885	0.0075	-0.9449	0.0040	2	1.85	-0.0676	7.7276

MEANS	20272.0		0.0048	-0.9436	0.0041						7.7378
STD. DEV. FOR N=	9			0.0065							0.0050
STD. ERR. OF MEAN				0.0022							0.0017

MEAN (COMP STAR 2 ONLY)	7.7345
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MEAN (COMP STAR 3 ONLY) 7.7411

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7357  
COMP 2 ONLY 7.7341  
COMP 3 ONLY 7.7373

ASSUMED COLOR TERM A2 = -0.0245  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 186803 = 0.389  
HD 186938 = 0.526

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.9740 & 7.1740 MEAN= 7.5740  
FOR HD 186803 & 186938 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	27	96	20230.945	0.3420	0.0024	-0.8037	0.0040	4	1.50	-0.0395	7.8704
5	28	96	20231.941	0.3405	0.0070	-0.7941	0.0056	5	1.50	-0.0385	7.8698
6	17	96	20251.904	0.3179	0.0028	-0.8082	0.0051	4	1.00	-0.0223	7.8655
6	18	96	20252.880	0.3159	0.0017	-0.8199	0.0093	4	0.90	-0.0217	7.8645
6	23	96	20257.889	0.3103	0.0038	-0.8088	0.0023	4	0.80	-0.0187	7.8623
6	24	96	20258.879	0.3146	0.0026	-0.8123	0.0035	4	0.80	-0.0182	7.8671
6	25	96	20259.884	0.3074	0.0020	-0.8073	0.0037	4	0.70	-0.0177	7.8608
9	16	96	20342.663	0.3425	0.0032	-0.8065	0.0031	4	1.60	-0.0470	7.8630
10	4	96	20360.608	0.3706	0.0022	-0.8053	0.0079	2	1.85	-0.0676	7.8694
MEANS			20272.0		0.0031	-0.8073	0.0049				7.8659
STD. DEV. FOR N=			9			0.0069					0.0035
STD. ERR. OF MEAN						0.0023					0.0012

MEAN (COMP STAR 2 ONLY) 7.8622  
MEAN (COMP STAR 3 ONLY) 7.8695

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8615  
COMP 2 ONLY 7.8613  
COMP 3 ONLY 7.8618

ASSUMED COLOR TERM C2 = 0.9750 A2+C2-1 = -0.0495  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 186803 = 0.389  
HD 186938 = 0.526

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013



OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.6110 & 7.9810 MEAN= 7.7960  
 FOR HD 189893 & 190617 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	10	97	20609.923	-0.0328	0.0021	0.3673	0.0046	2	1.24	-0.0277	7.7289
6	11	97	20610.926	-0.0308	0.0042	0.3649	0.0029	4	1.22	-0.0270	7.7318
6	12	97	20611.901	-0.0314	0.0080	0.3639	0.0033	3	1.19	-0.0261	7.7322
7	2	97	20631.880	-0.0498	0.0076	0.3708	0.0004	4	0.61	-0.0143	7.7287
7	3	97	20632.884	-0.0468	0.0065	0.3667	0.0025	4	0.58	-0.0139	7.7322
7	4	97	20633.878	-0.0525	0.0037	0.3684	0.0044	4	0.55	-0.0135	7.7271
7	5	97	20634.870	-0.0559	0.0072	0.3621	0.0093	4	0.52	-0.0132	7.7242
9	23	97	20714.641	-0.0140	0.0099	0.3734	0.0097	4	1.70	-0.0504	7.7226
9	24	97	20715.640	-0.0129	0.0026	0.3696	0.0063	4	1.71	-0.0515	7.7225
9	28	97	20719.625	-0.0054	0.0050	0.3678	0.0046	4	1.76	-0.0561	7.7251

MEANS 20651.6 0.0057 0.3675 0.0048 7.7275  
 STD. DEV. FOR N= 10 0.0033 0.0038  
 STD. ERR. OF MEAN 0.0011 0.0012

MEAN (COMP STAR 2 ONLY) 7.7263  
 MEAN (COMP STAR 3 ONLY) 7.7288

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7282  
 COMP 2 ONLY 7.7267  
 COMP 3 ONLY 7.7298

ASSUMED COLOR TERM A2 = -0.0249  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 189893 = 0.353  
 HD 190617 = 0.329

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.9640 & 8.3100 MEAN= 8.1370  
 FOR HD 189893 & 190617 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	10	97	20609.933	-0.2537	0.0025	0.3429	0.0020	2	1.24	-0.0277	7.8505
6	11	97	20610.926	-0.2526	0.0035	0.3443	0.0068	4	1.22	-0.0270	7.8525

6	12	97	20611.907	-0.2535	0.0023	0.3444	0.0039	4	1.19	-0.0261	7.8525
7	2	97	20631.881	-0.2708	0.0072	0.3471	0.0085	4	0.61	-0.0143	7.8494
7	3	97	20632.884	-0.2692	0.0029	0.3531	0.0064	4	0.58	-0.0139	7.8515
7	4	97	20633.878	-0.2697	0.0020	0.3453	0.0029	4	0.55	-0.0135	7.8515
7	5	97	20634.870	-0.2760	0.0027	0.3522	0.0122	4	0.52	-0.0132	7.8457
9	23	97	20714.641	-0.2294	0.0040	0.3503	0.0054	4	1.70	-0.0504	7.8502
9	24	97	20715.639	-0.2360	0.0060	0.3532	0.0046	4	1.71	-0.0515	7.8425
9	28	97	20719.625	-0.2246	0.0030	0.3412	0.0015	4	1.76	-0.0561	7.8490

MEANS	20651.6		0.0036		0.3474	0.0054					7.8495
STD. DEV. FOR N=	10				0.0045						0.0032
STD. ERR. OF MEAN					0.0014						0.0010

MEAN (COMP STAR 2 ONLY)	7.8502
MEAN (COMP STAR 3 ONLY)	7.8488

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.8510
	COMP 2 ONLY	7.8511
	COMP 3 ONLY	7.8509

ASSUMED COLOR TERM C2 =	0.9737	A2+C2-1 =	-0.0512
ASSUMED B-Y COLORS.....		PLANET =	0.370
		HD 189893 =	0.353
		HD 190617 =	0.329

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.2970 & 7.2680 MEAN= 7.7825  
FOR HD 190775 & 191434 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	22	98	20955.945	-0.0021	0.0024	-1.0150	0.0038	4	1.68	-0.0468	7.7246
5	24	98	20957.940	-0.0025	0.0037	-1.0184	0.0024	4	1.65	-0.0446	7.7266
5	25	98	20958.944	-0.0029	0.0040	-1.0214	0.0058	4	1.63	-0.0436	7.7273
5	27	98	20960.942	-0.0131	0.0140	-1.0200	0.0145	4	1.60	-0.0415	7.7194
6	23	98	20987.880	-0.0327	0.0051	-1.0252	0.0079	4	0.96	-0.0186	7.7261
6	25	98	20989.893	-0.0373	0.0040	-1.0181	0.0111	4	0.90	-0.0173	7.7231
6	26	98	20990.886	-0.0384	0.0050	-1.0188	0.0043	4	0.87	-0.0167	7.7227
9	18	98	21074.671	-0.0127	0.0070	-1.0185	0.0033	4	1.58	-0.0408	7.7207
9	20	98	21076.651	-0.0106	0.0037	-1.0209	0.0050	4	1.61	-0.0428	7.7205
9	21	98	21077.634	-0.0060	0.0027	-1.0188	0.0055	4	1.63	-0.0438	7.7240

MEANS	21003.1		0.0052		-1.0195	0.0064					7.7235
STD. DEV. FOR N=	10				0.0027						0.0027
STD. ERR. OF MEAN					0.0008						0.0009

MEAN (COMP STAR 2 ONLY)	7.7283
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MEAN (COMP STAR 3 ONLY) 7.7188

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7207  
COMP 2 ONLY 7.7215  
COMP 3 ONLY 7.7198

ASSUMED COLOR TERM A2 = -0.0253

ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 190775 = 0.638  
HD 191434 = 0.328

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.9350 & 7.5960 MEAN= 8.2655  
FOR HD 190775 & 191434 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
5	22	98	20955.945	-0.3616	0.0081	-1.3235	0.0057	4	1.68	-0.0468	7.8502
5	24	98	20957.940	-0.3609	0.0106	-1.3198	0.0052	4	1.65	-0.0446	7.8532
5	25	98	20958.944	-0.3635	0.0064	-1.3149	0.0047	4	1.63	-0.0436	7.8517
5	27	98	20960.943	-0.3707	0.0043	-1.3227	0.0101	4	1.60	-0.0415	7.8468
6	23	98	20987.879	-0.3878	0.0048	-1.3159	0.0039	4	0.96	-0.0186	7.8552
6	25	98	20989.893	-0.3861	0.0038	-1.3210	0.0092	4	0.90	-0.0173	7.8584
6	26	98	20990.886	-0.3893	0.0042	-1.3218	0.0058	4	0.87	-0.0167	7.8559
9	18	98	21074.672	-0.3705	0.0044	-1.3197	0.0040	4	1.58	-0.0408	7.8478
9	20	98	21076.651	-0.3645	0.0019	-1.3230	0.0024	4	1.61	-0.0428	7.8516
9	21	98	21077.634	-0.3558	0.0035	-1.3215	0.0059	4	1.63	-0.0438	7.8592

MEANS 21003.1 0.0052 -1.3204 0.0057 7.8530  
STD. DEV. FOR N= 10 0.0029 0.0042  
STD. ERR. OF MEAN 0.0009 0.0013

MEAN (COMP STAR 2 ONLY) 7.8623  
MEAN (COMP STAR 3 ONLY) 7.8437

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8470  
COMP 2 ONLY 7.8481  
COMP 3 ONLY 7.8459

ASSUMED COLOR TERM C2 = 0.9725 A2+C2-1 = -0.0528

ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 190775 = 0.638  
HD 191434 = 0.328

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.7300 & 7.7860 MEAN= 7.7580  
 FOR HD 192923 & 193454 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
8	7 99	21397.781	-0.0405	0.0041	0.0516	0.0040	4	0.39	-0.0085	7.7069
8	13 99	21403.752	-0.0288	0.0178	0.0461	0.0169	4	0.58	-0.0105	7.7157
9	4 99	21425.708	-0.0203	0.0039	0.0579	0.0056	4	1.21	-0.0237	7.7076
9	6 99	21427.692	-0.0182	0.0056	0.0573	0.0038	4	1.26	-0.0253	7.7078
9	7 99	21428.667	-0.0258	0.0057	0.0475	0.0106	2	1.29	-0.0261	7.6993
9	29 99	21450.649	0.0021	0.0057	0.0589	0.0045	4	1.71	-0.0481	7.7029
10	3 99	21454.613	0.0045	0.0070	0.0478	0.0039	4	1.76	-0.0526	7.7005
10	11 99	21462.613	0.0165	0.0026	0.0522	0.0025	4	1.84	-0.0621	7.7026
MEANS		21431.4		0.0066	0.0524	0.0065				7.7054
STD. DEV. FOR N=		8			0.0051					0.0053
STD. ERR. OF MEAN					0.0018					0.0019

MEAN (COMP STAR 2 ONLY) 7.7036  
 MEAN (COMP STAR 3 ONLY) 7.7072

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7075  
 COMP 2 ONLY 7.7058  
 COMP 3 ONLY 7.7091

ASSUMED COLOR TERM A2 = -0.0256  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 192923 = 0.284  
 HD 193454 = 0.296

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.0140 & 8.0820 MEAN= 8.0480  
 FOR HD 192923 & 193454 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
8	7 99	21397.782	-0.2087	0.0031	0.0532	0.0073	4	0.39	-0.0085	7.8292
8	13 99	21403.752	-0.2025	0.0047	0.0664	0.0054	4	0.58	-0.0105	7.8327
9	4 99	21425.708	-0.1913	0.0038	0.0624	0.0057	4	1.21	-0.0237	7.8280

9	6	99	21427.692	-0.1819	0.0074	0.0678	0.0037	4	1.26	-0.0253	7.8356
9	7	99	21428.678	-0.1818	0.0044	0.0613	0.0013	2	1.29	-0.0261	7.8348
9	29	99	21450.650	-0.1622	0.0039	0.0678	0.0013	4	1.71	-0.0481	7.8307
10	3	99	21454.612	-0.1611	0.0073	0.0638	0.0139	4	1.76	-0.0526	7.8270
10	11	99	21462.613	-0.1514	0.0032	0.0602	0.0036	4	1.84	-0.0621	7.8269

MEANS	21431.4		0.0047	0.0629	0.0053						7.8306
STD. DEV. FOR N=	8			0.0049							0.0034
STD. ERR. OF MEAN				0.0017							0.0012

MEAN (COMP STAR 2 ONLY)	7.8280
MEAN (COMP STAR 3 ONLY)	7.8332

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	7.8350
COMP 2 ONLY	7.8327
COMP 3 ONLY	7.8372

ASSUMED COLOR TERM C2 =	0.9712	A2+C2-1 =	-0.0544
ASSUMED B-Y COLORS.....		PLANET =	0.370
		HD 192923 =	0.284
		HD 193454 =	0.296

PRINTOUT MADE ON Fri Jan 04 14:23:44 2013

Below replaced 3/30/2017

OBJECT NO. 3 = NEPTUNE

MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.6960 & 8.2160 MEAN= 7.4560

FOR HD 194959 & 196892 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	3	0	21698.921	0.2885	0.0026	1.5205	0.0034	2	1.55	-0.0348	7.7015
6	7	0	21702.940	0.2884	0.0063	1.5257	0.0033	4	1.47	-0.0309	7.7058
6	9	0	21704.930	0.2867	0.0092	1.5283	0.0027	4	1.42	-0.0290	7.7061
6	10	0	21705.938	0.2846	0.0012	1.5274	0.0046	4	1.40	-0.0281	7.7051
6	12	0	21707.937	0.2804	0.0029	1.5215	0.0031	4	1.35	-0.0263	7.7029
7	6	0	21731.865	0.2625	0.0039	1.5280	0.0030	4	0.70	-0.0100	7.7048
9	21	0	21808.653	0.2930	0.0025	1.5236	0.0047	4	1.56	-0.0360	7.7047
9	24	0	21811.663	0.2999	0.0039	1.5292	0.0050	4	1.61	-0.0391	7.7083
9	28	0	21815.625	0.2943	0.0025	1.5257	0.0062	4	1.67	-0.0434	7.6980
MEANS		21743.2		0.0039	1.5255	0.0040					7.7041
STD. DEV. FOR N=		9			0.0031						0.0030
STD. ERR. OF MEAN					0.0010						0.0010

MEAN (COMP STAR 2 ONLY) 7.7069  
MEAN (COMP STAR 3 ONLY) 7.7014

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	7.7044
COMP 2 ONLY	7.7059
COMP 3 ONLY	7.7029

ASSUMED COLOR TERM A2 = -0.0260

ASSUMED B-Y COLORS.....

PLANET = 0.370  
HD 194959 = 0.410  
HD 196892 = 0.312

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.1060 & 8.5280 MEAN= 7.8170  
 FOR HD 194959 & 196892 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	3	0	21698.931	0.0576	0.0070	1.4373	0.0026	2	1.55	-0.0348	7.8335
6	7	0	21702.940	0.0544	0.0079	1.4354	0.0017	4	1.47	-0.0309	7.8345
6	9	0	21704.931	0.0438	0.0038	1.4300	0.0061	4	1.42	-0.0290	7.8260
6	10	0	21705.938	0.0453	0.0034	1.4321	0.0044	4	1.40	-0.0281	7.8285
6	12	0	21707.938	0.0464	0.0038	1.4283	0.0066	4	1.35	-0.0263	7.8316
7	6	0	21731.865	0.0249	0.0046	1.4322	0.0065	4	0.70	-0.0100	7.8290
9	21	0	21808.653	0.0595	0.0041	1.4310	0.0041	4	1.56	-0.0360	7.8341
9	24	0	21811.663	0.0603	0.0078	1.4368	0.0063	4	1.61	-0.0391	7.8316
9	28	0	21815.624	0.0535	0.0214	1.4353	0.0030	4	1.67	-0.0434	7.8202

MEANS 21743.2 0.0071 1.4332 0.0046 7.8299  
 STD. DEV. FOR N= 9 0.0032 0.0046  
 STD. ERR. OF MEAN 0.0011 0.0015

MEAN (COMP STAR 2 ONLY) 7.8355  
 MEAN (COMP STAR 3 ONLY) 7.8243

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8304  
 COMP 2 ONLY 7.8332  
 COMP 3 ONLY 7.8276

ASSUMED COLOR TERM C2 = 0.9700 A2+C2-1 = -0.0560  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 194959 = 0.410  
 HD 196892 = 0.312

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.2160 & 7.6320 MEAN= 7.9240  
 FOR HD 196892 & 197818 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	15	1	22075.916	-0.1911	0.0039	-0.5860	0.0020	4	1.35	-0.0240	7.7018
6	15	1	22075.916	-0.1911	0.0039	-0.5860	0.0020	4	1.35	-0.0240	7.7018
6	16	1	22076.913	-0.1946	0.0013	-0.5795	0.0026	3	1.32	-0.0232	7.6992
6	17	1	22077.919	-0.2012	0.0024	-0.5816	0.0066	4	1.30	-0.0223	7.6936
6	27	1	22087.896	-0.1997	0.0029	-0.5824	0.0100	4	1.04	-0.0148	7.7041
6	28	1	22088.900	-0.2092	0.0052	-0.5838	0.0054	4	1.01	-0.0141	7.6954
6	30	1	22090.889	-0.2049	0.0033	-0.5802	0.0009	4	0.95	-0.0128	7.7012
7	16	1	22106.860	-0.2192	0.0068	-0.5789	0.0090	4	0.46	-0.0054	7.6970
7	19	1	22109.842	-0.2298	0.0047	-0.5805	0.0016	4	0.37	-0.0046	7.6877
8	24	1	22145.779	-0.2142	0.0084	-0.5836	0.0034	4	0.80	-0.0100	7.6956
9	18	1	22170.672	-0.1859	0.0034	-0.5851	0.0028	4	1.45	-0.0288	7.7016

MEANS 22100.7 0.0042 -0.5825 0.0042 7.6981  
 STD. DEV. FOR N= 11 0.0026 0.0048  
 STD. ERR. OF MEAN 0.0008 0.0014

MEAN (COMP STAR 2 ONLY) 7.6988  
 MEAN (COMP STAR 3 ONLY) 7.6973

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.6991  
 COMP 2 ONLY 7.7004  
 COMP 3 ONLY 7.6978

ASSUMED COLOR TERM A2 = -0.0264  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 196892 = 0.312  
 HD 197818 = 0.352

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017



OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.5280 & 7.9840 MEAN= 8.2560  
FOR HD 196892 & 197818 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	15	1	22075.916	-0.3997	0.0019	-0.5428	0.0021	4	1.35	-0.0240	7.8268
6	15	1	22075.916	-0.3997	0.0019	-0.5428	0.0021	4	1.35	-0.0240	7.8268
6	16	1	22076.924	-0.3984	0.0046	-0.5442	0.0035	4	1.32	-0.0232	7.8290
6	17	1	22077.919	-0.4045	0.0048	-0.5421	0.0050	4	1.30	-0.0223	7.8239
6	27	1	22087.896	-0.4104	0.0036	-0.5471	0.0042	4	1.04	-0.0148	7.8266
6	28	1	22088.901	-0.4146	0.0022	-0.5449	0.0054	4	1.01	-0.0141	7.8232
6	30	1	22090.890	-0.4177	0.0050	-0.5449	0.0043	4	0.95	-0.0128	7.8216
7	16	1	22106.860	-0.4268	0.0058	-0.5485	0.0088	4	0.46	-0.0054	7.8219
7	19	1	22109.842	-0.4316	0.0003	-0.5471	0.0039	4	0.37	-0.0046	7.8183
8	24	1	22145.779	-0.4177	0.0015	-0.5422	0.0047	4	0.80	-0.0100	7.8250
9	18	1	22170.673	-0.3994	0.0069	-0.5413	0.0044	4	1.45	-0.0288	7.8219

MEANS 22100.7 0.0035 -0.5444 0.0044 7.8241  
STD. DEV. FOR N= 11 0.0024 0.0031  
STD. ERR. OF MEAN 0.0007 0.0009

MEAN (COMP STAR 2 ONLY) 7.8239  
MEAN (COMP STAR 3 ONLY) 7.8243

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8263  
COMP 2 ONLY 7.8272  
COMP 3 ONLY 7.8253

ASSUMED COLOR TERM C2 = 0.9688 A2+C2-1 = -0.0576  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 196892 = 0.312  
HD 197818 = 0.352

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.8240 & 8.3955 MEAN= 8.1098  
FOR HD 198029 & 198220 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	9	2	22434.947	-0.3863	0.0037	0.5738	0.0080	4	1.53	-0.0303	7.6850
6	10	2	22435.933	-0.3806	0.0082	0.5714	0.0055	4	1.51	-0.0293	7.6918
6	11	2	22436.929	-0.3803	0.0051	0.5703	0.0077	4	1.49	-0.0284	7.6932
6	12	2	22437.933	-0.3823	0.0034	0.5642	0.0075	4	1.47	-0.0274	7.6922
6	18	2	22443.892	-0.3819	0.0022	0.5685	0.0024	2	1.34	-0.0220	7.6988
8	12	2	22498.773	-0.4167	0.0041	0.5733	0.0080	4	0.34	-0.0028	7.6885
10	9	2	22556.627	-0.3653	0.0045	0.5683	0.0028	4	1.76	-0.0469	7.6882

MEANS	22463.6		0.0045	0.5700	0.0060					7.6911
STD. DEV. FOR N=	7			0.0033						0.0044
STD. ERR. OF MEAN				0.0013						0.0017

MEAN (COMP STAR 2 ONLY)	7.6903
MEAN (COMP STAR 3 ONLY)	7.6919

COLOR-CORRECTED PLANET MAGNITUDES.....	BOTH COMPS	7.6929
	COMP 2 ONLY	7.6931
	COMP 3 ONLY	7.6926

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

PLANET	=	0.370
HD 198029	=	0.265
HD 198220	=	0.341

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.0890 & 8.7370 MEAN= 8.4130  
 FOR HD 198029 & 198220 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	9	2	22434.948	-0.5519	0.0035	0.6414	0.0032	4	1.53	-0.0303	7.8245
6	10	2	22435.933	-0.5526	0.0019	0.6418	0.0041	4	1.51	-0.0293	7.8249
6	11	2	22436.929	-0.5576	0.0014	0.6409	0.0014	4	1.49	-0.0284	7.8209
6	12	2	22437.933	-0.5574	0.0036	0.6405	0.0038	4	1.47	-0.0274	7.8221
6	18	2	22443.902	-0.5703	0.0138	0.6337	0.0188	2	1.34	-0.0220	7.8153
8	12	2	22498.772	-0.5915	0.0032	0.6461	0.0085	4	0.34	-0.0028	7.8173
10	9	2	22556.627	-0.5404	0.0030	0.6451	0.0038	4	1.76	-0.0469	7.8185

MEANS 22463.6 0.0043 0.6414 0.0062 7.8205  
 STD. DEV. FOR N= 7 0.0040 0.0036  
 STD. ERR. OF MEAN 0.0015 0.0014

MEAN (COMP STAR 2 ONLY) 7.8172  
 MEAN (COMP STAR 3 ONLY) 7.8238

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8245  
 COMP 2 ONLY 7.8234  
 COMP 3 ONLY 7.8255

ASSUMED COLOR TERM C2 = 0.9675 A2+C2-1 = -0.0592  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 198029 = 0.265  
 HD 198220 = 0.341

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.4374 & 7.2460 MEAN= 7.3417  
 FOR HD 198902 & 199143 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	26	3	22816.933	0.3720	0.0054	-0.1994	0.0104	4	1.20	-0.0159	7.6914
7	1	3	22821.881	0.3745	0.0077	-0.2193	0.0078	4	1.07	-0.0123	7.6983
7	3	3	22823.882	0.3661	0.0018	-0.2040	0.0062	4	1.01	-0.0109	7.6915
8	5	3	22856.815	0.3613	0.0042	-0.2292	0.0018	4	0.03	-0.0001	7.7028
9	12	3	22894.693	0.4036	0.0059	-0.2545	0.0025	4	1.19	-0.0161	7.7230
9	13	3	22895.698	0.4040	0.0065	-0.2504	0.0024	4	1.21	-0.0169	7.7224
9	15	3	22897.700	0.3900	0.0033	-0.2242	0.0006	4	1.26	-0.0186	7.7064

MEANS 22858.2 0.0050 -0.2259 0.0045 7.7051  
 STD. DEV. FOR N= 7 0.0210 0.0132  
 STD. ERR. OF MEAN 0.0080 0.0050

MEAN (COMP STAR 2 ONLY) 7.6879  
 MEAN (COMP STAR 3 ONLY) 7.7223

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.7064  
 COMP 2 ONLY 7.6891  
 COMP 3 ONLY 7.7237

ASSUMED COLOR TERM A2 = -0.0271  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 198902 = 0.324  
 HD 199143 = 0.319

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.7610 & 7.5650 MEAN= 7.6630  
 FOR HD 198902 & 199143 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	26	3	22816.933	0.1726	0.0015	-0.2171	0.0032	4	1.20	-0.0159	7.8148
7	1	3	22821.881	0.1829	0.0036	-0.2350	0.0068	4	1.07	-0.0123	7.8292
7	3	3	22823.882	0.1709	0.0021	-0.2201	0.0047	4	1.01	-0.0109	7.8188
8	5	3	22856.815	0.1646	0.0029	-0.2455	0.0037	4	0.03	-0.0001	7.8274
9	12	3	22894.693	0.2043	0.0056	-0.2710	0.0046	4	1.19	-0.0161	7.8464
9	13	3	22895.700	0.2047	0.0069	-0.2753	0.0015	4	1.21	-0.0169	7.8459
9	15	3	22897.700	0.1889	0.0045	-0.2397	0.0030	4	1.26	-0.0186	7.8281

MEANS 22858.2 0.0039 -0.2434 0.0039 7.8301  
 STD. DEV. FOR N= 7 0.0227 0.0122  
 STD. ERR. OF MEAN 0.0086 0.0046

MEAN (COMP STAR 2 ONLY) 7.8064  
 MEAN (COMP STAR 3 ONLY) 7.8538

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8331  
 COMP 2 ONLY 7.8092  
 COMP 3 ONLY 7.8569

ASSUMED COLOR TERM C2 = 0.9663 A2+C2-1 = -0.0608  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 198902 = 0.324  
 HD 199143 = 0.319

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.4374 & 7.4300 MEAN= 7.4337  
 FOR HD 198902 & 199587 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	14	4	23170.930	0.2980	0.0061	-0.0106	0.0063	4	1.51	-0.0265	7.6972
6	15	4	23171.924	0.2970	0.0031	-0.0103	0.0046	4	1.49	-0.0255	7.6972
6	18	4	23174.925	0.2921	0.0040	0.0003	0.0056	4	1.43	-0.0227	7.6956
10	5	4	23283.653	0.3044	0.0122	-0.0137	0.0123	4	1.64	-0.0352	7.6942
10	7	4	23285.632	0.3132	0.0056	-0.0242	0.0029	2	1.67	-0.0374	7.7006
10	9	4	23287.635	0.3153	0.0038	0.0061	0.0093	4	1.70	-0.0396	7.7004
10	13	4	23291.626	0.3276	0.0067	-0.0158	0.0065	4	1.76	-0.0442	7.7078
10	14	4	23292.612	0.3202	0.0075	-0.0142	0.0109	4	1.77	-0.0454	7.6991
10	15	4	23293.627	0.3109	0.0052	-0.0055	0.0109	4	1.78	-0.0466	7.6886
MEANS		23250.3		0.0060	-0.0098	0.0077					7.6979
STD. DEV. FOR N=		9			0.0090						0.0052
STD. ERR. OF MEAN					0.0030						0.0017

MEAN (COMP STAR 2 ONLY) 7.6967  
 MEAN (COMP STAR 3 ONLY) 7.6990

COLOR-CORRECTED PLANET MAGNITUDES.....  
 BOTH COMPS 7.6990  
 COMP 2 ONLY 7.6979  
 COMP 3 ONLY 7.7001

ASSUMED COLOR TERM A2 = -0.0275  
 ASSUMED B-Y COLORS.....  
 PLANET = 0.370  
 HD 198902 = 0.324  
 HD 199587 = 0.332

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.7610 & 7.7620 MEAN= 7.7615  
FOR HD 198902 & 199587 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	14	4	23170.930	0.0956	0.0014	-0.0026	0.0092	4	1.51	-0.0265	7.8244
6	15	4	23171.924	0.0899	0.0029	0.0040	0.0056	4	1.49	-0.0255	7.8197
6	18	4	23174.926	0.0844	0.0086	0.0067	0.0028	4	1.43	-0.0227	7.8174
10	5	4	23283.654	0.0953	0.0103	-0.0012	0.0042	4	1.64	-0.0352	7.8149
10	7	4	23285.646	0.0987	0.0057	-0.0008	0.0035	2	1.67	-0.0374	7.8159
10	9	4	23287.636	0.1017	0.0058	0.0046	0.0038	4	1.70	-0.0396	7.8166
10	13	4	23291.626	0.1093	0.0087	-0.0052	0.0071	4	1.76	-0.0442	7.8194
10	14	4	23292.612	0.1084	0.0057	0.0030	0.0048	4	1.77	-0.0454	7.8173
10	15	4	23293.627	0.1052	0.0064	0.0042	0.0058	4	1.78	-0.0466	7.8128
MEANS		23250.3		0.0062	0.0014	0.0052					7.8176
STD. DEV. FOR N=		9			0.0040						0.0033
STD. ERR. OF MEAN					0.0013						0.0011

MEAN (COMP STAR 2 ONLY) 7.8178  
MEAN (COMP STAR 3 ONLY) 7.8174

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8202  
COMP 2 ONLY 7.8207  
COMP 3 ONLY 7.8198

ASSUMED COLOR TERM C2 = 0.9650 A2+C2-1 = -0.0625  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 198902 = 0.324  
HD 199587 = 0.332

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.1303 & 7.4370 MEAN= 7.7836  
 FOR HD 202022 & 203311 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	14	5	23535.943	-0.0592	0.0048	-0.7035	0.0025	4	1.57	-0.0278	7.6884
6	15	5	23536.929	-0.0552	0.0089	-0.7017	0.0087	4	1.55	-0.0267	7.6935
6	16	5	23537.926	-0.0594	0.0025	-0.7069	0.0104	4	1.53	-0.0258	7.6904
6	18	5	23539.925	-0.0618	0.0087	-0.7040	0.0109	4	1.49	-0.0238	7.6902
6	19	5	23540.923	-0.0620	0.0116	-0.7046	0.0105	4	1.52	-0.0242	7.6894
8	26	5	23608.760	-0.0842	0.0086	-0.7059	0.0055	4	0.58	-0.0011	7.6953
8	27	5	23609.741	-0.0892	0.0051	-0.7008	0.0083	4	0.61	-0.0014	7.6898
9	11	5	23624.729	-0.0734	0.0107	-0.7117	0.0052	4	1.05	-0.0099	7.6947

MEANS 23566.9 0.0076 -0.7049 0.0077 7.6915  
 STD. DEV. FOR N= 8 0.0034 0.0027  
 STD. ERR. OF MEAN 0.0012 0.0009

MEAN (COMP STAR 2 ONLY) 7.6857  
 MEAN (COMP STAR 3 ONLY) 7.6973

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.6931  
 COMP 2 ONLY 7.6884  
 COMP 3 ONLY 7.6978

ASSUMED COLOR TERM A2 = -0.0279  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 202022 = 0.272  
 HD 203311 = 0.352

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017



OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.4020 & 7.7890 MEAN= 8.0955  
 FOR HD 202022 & 203311 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	14	5	23535.944	-0.2416	0.0094	-0.6191	0.0078	4	1.57	-0.0278	7.8197
6	15	5	23536.929	-0.2506	0.0059	-0.6159	0.0065	4	1.55	-0.0267	7.8118
6	16	5	23537.926	-0.2535	0.0021	-0.6254	0.0083	4	1.53	-0.0258	7.8100
6	18	5	23539.926	-0.2504	0.0182	-0.6147	0.0108	4	1.49	-0.0238	7.8152
6	19	5	23540.924	-0.2483	0.0022	-0.6225	0.0056	4	1.52	-0.0242	7.8167
8	26	5	23608.759	-0.2774	0.0071	-0.6222	0.0067	4	0.58	-0.0011	7.8147
8	27	5	23609.741	-0.2752	0.0028	-0.6248	0.0052	4	0.61	-0.0014	7.8164
9	11	5	23624.729	-0.2660	0.0046	-0.6228	0.0097	4	1.05	-0.0099	7.8153

MEANS 23566.9 0.0065 -0.6209 0.0076 7.8150  
 STD. DEV. FOR N= 8 0.0040 0.0030  
 STD. ERR. OF MEAN 0.0014 0.0011

MEAN (COMP STAR 2 ONLY) 7.8110  
 MEAN (COMP STAR 3 ONLY) 7.8189

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8187  
 COMP 2 ONLY 7.8173  
 COMP 3 ONLY 7.8201

ASSUMED COLOR TERM C2 = 0.9638 A2+C2-1 = -0.0641  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 202022 = 0.272  
 HD 203311 = 0.352

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

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

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	23	6	23909.939	0.4246	0.0106	-0.2707	0.0013	3	1.43	-0.0203	7.6902
8	27	6	23974.769	0.4079	0.0041	-0.2754	0.0066	4	0.53	0.0006	7.6992
8	28	6	23975.739	0.4107	0.0025	-0.2779	0.0032	4	0.56	0.0003	7.7015
8	29	6	23976.727	0.3991	0.0042	-0.2751	0.0065	4	0.59	-0.0001	7.6894
9	17	6	23995.715	0.4237	0.0043	-0.2792	0.0043	4	1.14	-0.0114	7.6998
9	19	6	23997.705	0.4245	0.0068	-0.2744	0.0055	4	1.20	-0.0129	7.6987
9	20	6	23998.698	0.4232	0.0077	-0.2803	0.0052	4	1.22	-0.0137	7.6965
9	21	6	23999.690	0.4258	0.0039	-0.2824	0.0037	4	1.25	-0.0146	7.6981

MEANS 23978.6 0.0055 -0.2769 0.0045 7.6967  
 STD. DEV. FOR N= 8 0.0037 0.0045  
 STD. ERR. OF MEAN 0.0013 0.0016

MEAN (COMP STAR 2 ONLY) 7.7017  
 MEAN (COMP STAR 3 ONLY) 7.6916

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.6981  
 COMP 2 ONLY 7.7022  
 COMP 3 ONLY 7.6941

ASSUMED COLOR TERM A2 = -0.0282  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 203311 = 0.352  
 HD 205132 = 0.284

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.7890 & 7.4340 MEAN= 7.6115  
 FOR HD 203311 & 205132 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
6	23	6	23909.946	0.2360	0.0106	-0.3502	0.0225	3	1.43	-0.0203	7.8213
8	27	6	23974.769	0.2095	0.0058	-0.3449	0.0099	4	0.53	0.0006	7.8195
8	28	6	23975.734	0.2056	0.0046	-0.3466	0.0022	4	0.56	0.0003	7.8151
8	29	6	23976.727	0.2048	0.0143	-0.3494	0.0048	4	0.59	-0.0001	7.8138
9	17	6	23995.716	0.2203	0.0045	-0.3452	0.0057	4	1.14	-0.0114	7.8157
9	19	6	23997.705	0.2272	0.0047	-0.3425	0.0050	4	1.20	-0.0129	7.8209
9	20	6	23998.698	0.2221	0.0084	-0.3489	0.0058	4	1.22	-0.0137	7.8149
9	21	6	23999.690	0.2230	0.0043	-0.3432	0.0028	4	1.25	-0.0146	7.8148

MEANS 23978.6 0.0072 -0.3464 0.0073 7.8170  
 STD. DEV. FOR N= 8 0.0029 0.0030  
 STD. ERR. OF MEAN 0.0010 0.0011

MEAN (COMP STAR 2 ONLY) 7.8213  
 MEAN (COMP STAR 3 ONLY) 7.8127

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8204  
 COMP 2 ONLY 7.8225  
 COMP 3 ONLY 7.8183

ASSUMED COLOR TERM C2 = 0.9626 A2+C2-1 = -0.0657  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 203311 = 0.352  
 HD 205132 = 0.284

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.5386 & 7.1500 MEAN= 7.3443  
 FOR HD 203565 & 205132 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	18	7	24361.713	0.3569	0.0105	-0.3776	0.0048	4	1.11	-0.0091	7.6863
9	19	7	24362.706	0.3727	0.0062	-0.3744	0.0016	4	1.13	-0.0098	7.7012
9	20	7	24363.705	0.3673	0.0028	-0.3800	0.0072	4	1.16	-0.0106	7.6949
9	27	7	24370.714	0.3764	0.0018	-0.3792	0.0036	4	1.33	-0.0164	7.6972
10	1	7	24374.720	0.3786	0.0038	-0.3762	0.0024	4	1.42	-0.0201	7.6952
10	3	7	24376.700	0.3769	0.0060	-0.3779	0.0018	4	1.47	-0.0220	7.6915

MEANS 24368.4 0.0052 -0.3775 0.0036 7.6944  
 STD. DEV. FOR N= 6 0.0020 0.0051  
 STD. ERR. OF MEAN 0.0008 0.0021

MEAN (COMP STAR 2 ONLY) 7.6999  
 MEAN (COMP STAR 3 ONLY) 7.6889

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.6935  
 COMP 2 ONLY 7.6957  
 COMP 3 ONLY 7.6913

ASSUMED COLOR TERM A2 = -0.0286  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 203565 = 0.518  
 HD 205132 = 0.284

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.0567 & 7.4340 MEAN= 7.7454  
 FOR HD 203565 & 205132 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	18	7	24361.713	0.0910	0.0017	-0.6042	0.0054	4	1.11	-0.0091	7.8227
9	19	7	24362.706	0.0897	0.0038	-0.5959	0.0089	4	1.13	-0.0098	7.8206
9	20	7	24363.705	0.0926	0.0030	-0.6013	0.0040	4	1.16	-0.0106	7.8226
9	27	7	24370.714	0.0972	0.0035	-0.6022	0.0064	4	1.33	-0.0164	7.8207
10	1	7	24374.720	0.0995	0.0028	-0.6059	0.0041	4	1.42	-0.0201	7.8189
10	3	7	24376.700	0.1037	0.0045	-0.6004	0.0029	4	1.47	-0.0220	7.8211

MEANS 24368.4 0.0032 -0.6017 0.0053 7.8211  
 STD. DEV. FOR N= 6 0.0035 0.0014  
 STD. ERR. OF MEAN 0.0014 0.0006

MEAN (COMP STAR 2 ONLY) 7.8316  
 MEAN (COMP STAR 3 ONLY) 7.8106

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8190  
 COMP 2 ONLY 7.8217  
 COMP 3 ONLY 7.8164

ASSUMED COLOR TERM C2 = 0.9613 A2+C2-1 = -0.0673  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 203565 = 0.518  
 HD 205132 = 0.284

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.6683 & 8.0440 MEAN= 7.3562  
 FOR HD 206893 & 207237 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	4	8	24713.779	0.3425	0.0028	1.3727	0.0047	4	0.65	0.0013	7.6965
9	5	8	24714.760	0.3412	0.0044	1.3704	0.0046	4	0.68	0.0009	7.6946
9	6	8	24715.753	0.3449	0.0040	1.3746	0.0050	4	0.71	0.0004	7.6977
9	7	8	24716.754	0.3441	0.0098	1.3817	0.0067	4	0.74	-0.0001	7.6962
9	24	8	24733.701	0.3577	0.0035	1.3726	0.0061	4	1.22	-0.0113	7.6961
10	21	8	24760.640	0.3848	0.0034	1.3773	0.0079	4	1.74	-0.0386	7.6931

MEANS 24725.9 0.0047 1.3749 0.0058 7.6957  
 STD. DEV. FOR N= 6 0.0041 0.0016  
 STD. ERR. OF MEAN 0.0017 0.0007

MEAN (COMP STAR 2 ONLY) 7.6953  
 MEAN (COMP STAR 3 ONLY) 7.6961

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.6974  
 COMP 2 ONLY 7.6984  
 COMP 3 ONLY 7.6965

ASSUMED COLOR TERM A2 = -0.0290  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 206893 = 0.264  
 HD 207237 = 0.356

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 6.9324 & 8.4000 MEAN= 7.6662  
 FOR HD 206893 & 207237 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	4	8	24713.780	0.1528	0.0038	1.4645	0.0063	4	0.65	0.0013	7.8177
9	5	8	24714.760	0.1538	0.0019	1.4628	0.0031	4	0.68	0.0009	7.8181
9	6	8	24715.753	0.1523	0.0064	1.4655	0.0051	4	0.71	0.0004	7.8160
9	7	8	24716.754	0.1570	0.0026	1.4678	0.0101	4	0.74	-0.0001	7.8201
9	24	8	24733.702	0.1594	0.0065	1.4630	0.0020	4	1.22	-0.0113	7.8093
10	21	8	24760.641	0.1925	0.0042	1.4662	0.0044	4	1.74	-0.0386	7.8129

MEANS 24725.9 0.0042 1.4650 0.0052 7.8157  
 STD. DEV. FOR N= 6 0.0019 0.0039  
 STD. ERR. OF MEAN 0.0008 0.0016

MEAN (COMP STAR 2 ONLY) 7.8144  
 MEAN (COMP STAR 3 ONLY) 7.8170

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8198  
 COMP 2 ONLY 7.8217  
 COMP 3 ONLY 7.8180

ASSUMED COLOR TERM C2 = 0.9601 A2+C2-1 = -0.0689  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 206893 = 0.264  
 HD 207237 = 0.356

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.0440 & 7.1440 MEAN= 7.5940  
 FOR HD 207237 & 208704 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
8	15	9	25058.854	0.0905	0.0067	-0.9076	0.0069	4	0.09	0.0072	7.6913
8	16	9	25059.809	0.0944	0.0042	-0.9010	0.0048	4	0.05	0.0072	7.6953
8	20	9	25063.809	0.0984	0.0028	-0.9055	0.0047	4	0.08	0.0071	7.6991
8	21	9	25064.793	0.0909	0.0041	-0.9067	0.0032	4	0.12	0.0071	7.6914
8	27	9	25070.769	0.0916	0.0039	-0.9087	0.0078	4	0.31	0.0061	7.6900
9	18	9	25092.711	0.1130	0.0023	-0.9035	0.0013	4	0.99	-0.0037	7.6981

MEANS 25068.5 0.0040 -0.9055 0.0048 7.6942  
 STD. DEV. FOR N= 6 0.0028 0.0039  
 STD. ERR. OF MEAN 0.0012 0.0016

MEAN (COMP STAR 2 ONLY) 7.6914  
 MEAN (COMP STAR 3 ONLY) 7.6969

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.6945  
 COMP 2 ONLY 7.6919  
 COMP 3 ONLY 7.6972

ASSUMED COLOR TERM A2 = -0.0294  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 207237 = 0.356  
 HD 208704 = 0.362

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017



OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.4000 & 7.5060 MEAN= 7.9530  
 FOR HD 207237 & 208704 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
8	15	9	25058.854	-0.1465	0.0069	-0.9095	0.0041	4	0.09	0.0072	7.8134
8	16	9	25059.809	-0.1373	0.0037	-0.8936	0.0044	4	0.05	0.0072	7.8227
8	20	9	25063.810	-0.1411	0.0057	-0.9022	0.0053	4	0.08	0.0071	7.8187
8	21	9	25064.793	-0.1394	0.0024	-0.8962	0.0061	4	0.12	0.0071	7.8202
8	27	9	25070.769	-0.1429	0.0042	-0.9003	0.0043	4	0.31	0.0061	7.8149
9	18	9	25092.711	-0.1264	0.0042	-0.8985	0.0035	4	0.99	-0.0037	7.8189

MEANS 25068.5 0.0045 -0.9000 0.0046 7.8181  
 STD. DEV. FOR N= 6 0.0055 0.0034  
 STD. ERR. OF MEAN 0.0023 0.0014

MEAN (COMP STAR 2 ONLY) 7.8151  
 MEAN (COMP STAR 3 ONLY) 7.8211

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8189  
 COMP 2 ONLY 7.8161  
 COMP 3 ONLY 7.8217

ASSUMED COLOR TERM C2 = 0.9588 A2+C2-1 = -0.0705  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 207237 = 0.356  
 HD 208704 = 0.362

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.1440 & 7.7150 MEAN= 7.4295  
 FOR HD 208704 & 209029 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
8	13 10	25421.862	0.2584	0.0050	0.5746	0.0099	4	0.23	0.0082	7.6949
8	20 10	25428.805	0.2566	0.0016	0.5679	0.0052	4	0.02	0.0087	7.6947
8	31 10	25439.754	0.2662	0.0020	0.5690	0.0057	4	0.36	0.0073	7.7011
9	2 10	25441.755	0.2641	0.0033	0.5652	0.0041	4	0.43	0.0067	7.6980
9	3 10	25442.742	0.2648	0.0040	0.5711	0.0041	4	0.46	0.0064	7.6982
9	5 10	25444.740	0.2609	0.0023	0.5734	0.0023	4	0.52	0.0058	7.6934
9	9 10	25448.747	0.2638	0.0054	0.5706	0.0070	4	0.65	0.0042	7.6941

MEANS 25438.3 0.0034 0.5703 0.0055 7.6963  
 STD. DEV. FOR N= 7 0.0032 0.0028  
 STD. ERR. OF MEAN 0.0012 0.0011

MEAN (COMP STAR 2 ONLY) 7.6960  
 MEAN (COMP STAR 3 ONLY) 7.6967

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.6976  
 COMP 2 ONLY 7.6962  
 COMP 3 ONLY 7.6989

ASSUMED COLOR TERM A2 = -0.0297  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 208704 = 0.362  
 HD 209029 = 0.296

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.5060 & 8.0110 MEAN= 7.7585  
 FOR HD 208704 & 209029 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
8	13 10	25421.865	0.0579	0.0046	0.4948	0.0015	4	0.23	0.0082	7.8237
8	20 10	25428.806	0.0531	0.0053	0.5063	0.0058	4	0.02	0.0087	7.8202
8	31 10	25439.752	0.0590	0.0031	0.5003	0.0061	4	0.36	0.0073	7.8233
9	2 10	25441.755	0.0600	0.0017	0.5007	0.0024	4	0.43	0.0067	7.8234
9	3 10	25442.742	0.0605	0.0038	0.5053	0.0039	4	0.46	0.0064	7.8235
9	5 10	25444.740	0.0581	0.0052	0.5073	0.0019	4	0.52	0.0058	7.8202
9	9 10	25448.747	0.0584	0.0064	0.5008	0.0089	4	0.65	0.0042	7.8184

MEANS 25438.3 0.0043 0.5022 0.0044 7.8218  
 STD. DEV. FOR N= 7 0.0044 0.0021  
 STD. ERR. OF MEAN 0.0017 0.0008

MEAN (COMP STAR 2 ONLY) 7.8204  
 MEAN (COMP STAR 3 ONLY) 7.8232

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8248  
 COMP 2 ONLY 7.8210  
 COMP 3 ONLY 7.8286

ASSUMED COLOR TERM C2 = 0.9576 A2+C2-1 = -0.0721  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 208704 = 0.362  
 HD 209029 = 0.296

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 7.7150 & 6.9950 MEAN= 7.3550  
FOR HD 209029 & 209154 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
7	1 11	25743.942	0.3669	0.0019	-0.7224	0.0038	4	1.52	-0.0172	7.6966
7	2 11	25744.924	0.3617	0.0017	-0.7218	0.0036	4	1.50	-0.0163	7.6925
8	5 11	25778.889	0.3455	0.0038	-0.7261	0.0062	4	0.58	0.0072	7.7046
8	6 11	25779.858	0.3397	0.0081	-0.7282	0.0082	4	0.55	0.0075	7.6993
8	7 11	25780.846	0.3468	0.0033	-0.7281	0.0045	4	0.51	0.0078	7.7069
9	18 11	25822.712	0.3515	0.0066	-0.7230	0.0103	4	0.85	0.0025	7.7046
9	23 11	25827.701	0.3525	0.0087	-0.7282	0.0056	4	0.99	-0.0006	7.7016

MEANS 25782.7 0.0049 -0.7254 0.0060 7.7009  
STD. DEV. FOR N= 7 0.0029 0.0051  
STD. ERR. OF MEAN 0.0011 0.0019

MEAN (COMP STAR 2 ONLY) 7.6982  
MEAN (COMP STAR 3 ONLY) 7.7036

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.6999  
COMP 2 ONLY 7.7004  
COMP 3 ONLY 7.6994

ASSUMED COLOR TERM A2 = -0.0301  
ASSUMED B-Y COLORS..... PLANET = 0.370  
HD 209029 = 0.296  
HD 209154 = 0.508

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.0110 & 7.5030 MEAN= 7.7570  
 FOR HD 209029 & 209154 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
7	1 11	25743.942	0.0926	0.0066	-0.5154	0.0052	4	1.52	-0.0172	7.8262
7	2 11	25744.924	0.0874	0.0031	-0.5185	0.0036	4	1.50	-0.0163	7.8220
8	5 11	25778.889	0.0723	0.0046	-0.5172	0.0143	4	0.58	0.0072	7.8341
8	6 11	25779.859	0.0701	0.0073	-0.5252	0.0054	4	0.55	0.0075	7.8323
8	7 11	25780.846	0.0687	0.0025	-0.5278	0.0039	4	0.51	0.0078	7.8314
9	18 11	25822.712	0.0719	0.0066	-0.5213	0.0053	4	0.85	0.0025	7.8280
9	23 11	25827.701	0.0712	0.0052	-0.5232	0.0023	4	0.99	-0.0006	7.8235

MEANS 25782.7 0.0051 -0.5212 0.0057 7.8282  
 STD. DEV. FOR N= 7 0.0045 0.0046  
 STD. ERR. OF MEAN 0.0017 0.0017

MEAN (COMP STAR 2 ONLY) 7.8216  
 MEAN (COMP STAR 3 ONLY) 7.8348

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8259  
 COMP 2 ONLY 7.8271  
 COMP 3 ONLY 7.8247

ASSUMED COLOR TERM C2 = 0.9564 A2+C2-1 = -0.0737  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 209029 = 0.296  
 HD 209154 = 0.508

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.9160 & 7.2220 MEAN= 7.0690  
 FOR HD 210845 & 211360 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	14	12	26184.749	0.6224	0.0043	0.3054	0.0040	4	0.68	0.0071	7.6949
9	15	12	26185.719	0.6221	0.0044	0.3093	0.0021	4	0.71	0.0066	7.6940
9	16	12	26186.725	0.6245	0.0024	0.3089	0.0050	4	0.74	0.0061	7.6957
9	18	12	26188.720	0.6238	0.0025	0.3114	0.0029	4	0.80	0.0050	7.6936
9	19	12	26189.722	0.6231	0.0028	0.3099	0.0008	4	0.83	0.0045	7.6922
9	20	12	26190.725	0.6155	0.0035	0.3067	0.0027	4	0.86	0.0039	7.6839

MEANS 26187.7 0.0033 0.3086 0.0029 7.6924  
 STD. DEV. FOR N= 6 0.0022 0.0043  
 STD. ERR. OF MEAN 0.0009 0.0018

MEAN (COMP STAR 2 ONLY) 7.6937  
 MEAN (COMP STAR 3 ONLY) 7.6911

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.6881  
 COMP 2 ONLY 7.6913  
 COMP 3 ONLY 7.6849

ASSUMED COLOR TERM A2 = -0.0305  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 210845 = 0.448  
 HD 211360 = 0.571

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.3640 & 7.7930 MEAN= 7.5785  
 FOR HD 210845 & 211360 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
9	14	12	26184.749	0.2406	0.0049	0.4270	0.0025	4	0.68	0.0071	7.8234
9	15	12	26185.719	0.2480	0.0036	0.4292	0.0043	4	0.71	0.0066	7.8302
9	16	12	26186.722	0.2473	0.0011	0.4310	0.0027	4	0.74	0.0061	7.8289
9	18	12	26188.720	0.2452	0.0049	0.4334	0.0035	4	0.80	0.0050	7.8255
9	19	12	26189.722	0.2436	0.0035	0.4303	0.0036	4	0.83	0.0045	7.8232
9	20	12	26190.725	0.2425	0.0032	0.4272	0.0026	4	0.86	0.0039	7.8214

MEANS 26187.7 0.0035 0.4297 0.0032 7.8254  
 STD. DEV. FOR N= 6 0.0024 0.0035  
 STD. ERR. OF MEAN 0.0010 0.0014

MEAN (COMP STAR 2 ONLY) 7.8258  
 MEAN (COMP STAR 3 ONLY) 7.8251

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8149  
 COMP 2 ONLY 7.8199  
 COMP 3 ONLY 7.8099

ASSUMED COLOR TERM C2 = 0.9551 A2+C2-1 = -0.0754  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 210845 = 0.448  
 HD 211360 = 0.571

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 8.0590 & 7.2220 MEAN= 7.6405  
 FOR HD 211021 & 211360 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
9	29 13	26564.731	0.0580	0.0023	-0.8354	0.0060	4	1.05	0.0014	7.6944
10	1 13	26566.702	0.0542	0.0010	-0.8410	0.0074	4	1.10	-0.0001	7.6888
10	2 13	26567.709	0.0561	0.0024	-0.8423	0.0027	4	1.13	-0.0008	7.6898
10	3 13	26568.692	0.0591	0.0023	-0.8441	0.0036	4	1.15	-0.0015	7.6919
MEANS		26567.0		0.0020	-0.8407	0.0049				7.6912
STD. DEV. FOR N=		4			0.0038					0.0025
STD. ERR. OF MEAN					0.0019					0.0012

MEAN (COMP STAR 2 ONLY) 7.6894  
 MEAN (COMP STAR 3 ONLY) 7.6931

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	7.6861
COMP 2 ONLY	7.6854
COMP 3 ONLY	7.6869

ASSUMED COLOR TERM A2 = -0.0308

ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 211021	=	0.501
HD 211360	=	0.571

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017



OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 8.5600 & 7.7930 MEAN= 8.1765  
 FOR HD 211021 & 211360 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
9	29 13	26564.732	-0.3478	0.0054	-0.7781	0.0042	5	1.05	0.0014	7.8258
10	1 13	26566.703	-0.3460	0.0044	-0.7763	0.0015	4	1.10	-0.0001	7.8259
10	2 13	26567.709	-0.3512	0.0045	-0.7771	0.0059	4	1.13	-0.0008	7.8199
10	3 13	26568.692	-0.3443	0.0068	-0.7820	0.0080	4	1.15	-0.0015	7.8259
MEANS		26567.0		0.0053	-0.7784	0.0049				7.8244
STD. DEV. FOR N=		4			0.0025					0.0030
STD. ERR. OF MEAN					0.0013					0.0015

MEAN (COMP STAR 2 ONLY) 7.8187  
 MEAN (COMP STAR 3 ONLY) 7.8301

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	7.8116
COMP 2 ONLY	7.8086
COMP 3 ONLY	7.8146

ASSUMED COLOR TERM C2 = 0.9539      A2+C2-1 = -0.0770  
 ASSUMED B-Y COLORS.....      PLANET = 0.370  
    HD 211021 = 0.501  
    HD 211360 = 0.571

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.9160 & 6.8580 MEAN= 6.8870  
 FOR HD 213575 & 214686 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
8	6 14	26875.867	0.7936	0.0046	-0.0567	0.0021	4	0.76	0.0096	7.6862
8	7 14	26876.858	0.8003	0.0037	-0.0601	0.0020	4	0.73	0.0102	7.6936
8	24 14	26893.821	0.7921	0.0037	-0.0555	0.0028	4	0.18	0.0150	7.6932
8	29 14	26898.786	0.7803	0.0015	-0.0559	0.0053	4	0.03	0.0153	7.6825

MEANS 26886.3 0.0034 -0.0571 0.0030 7.6889  
 STD. DEV. FOR N= 4 0.0021 0.0054  
 STD. ERR. OF MEAN 0.0010 0.0027

MEAN (COMP STAR 2 ONLY) 7.6893  
 MEAN (COMP STAR 3 ONLY) 7.6884

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.6896  
 COMP 2 ONLY 7.6889  
 COMP 3 ONLY 7.6903

ASSUMED COLOR TERM A2 = -0.0312  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 213575 = 0.383  
 HD 214686 = 0.309

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.2990 & 7.1670 MEAN= 7.2330  
 FOR HD 213575 & 214686 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
8	6 14	26875.867	0.5811	0.0005	-0.1265	0.0022	4	0.76	0.0096	7.8206
8	7 14	26876.858	0.5833	0.0026	-0.1298	0.0032	4	0.73	0.0102	7.8235
8	24 14	26893.821	0.5763	0.0064	-0.1288	0.0026	4	0.18	0.0150	7.8236
8	29 14	26898.786	0.5771	0.0024	-0.1305	0.0024	4	0.03	0.0153	7.8253

MEANS 26886.3 0.0030 -0.1289 0.0026 7.8232  
 STD. DEV. FOR N= 4 0.0017 0.0019  
 STD. ERR. OF MEAN 0.0009 0.0010

MEAN (COMP STAR 2 ONLY) 7.8248  
 MEAN (COMP STAR 3 ONLY) 7.8217

COLOR-CORRECTED PLANET MAGNITUDES..... BOTH COMPS 7.8251  
 COMP 2 ONLY 7.8238  
 COMP 3 ONLY 7.8265

ASSUMED COLOR TERM C2 = 0.9526 A2+C2-1 = -0.0786  
 ASSUMED B-Y COLORS..... PLANET = 0.370  
 HD 213575 = 0.383  
 HD 214686 = 0.309

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.9120 & 7.6300 MEAN= 7.2710  
 FOR HD 214572 & 215144 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
7	22	15	27225.918	0.4332	0.0023	0.7192	0.0027	4	1.25	-0.0003	7.6973
7	23	15	27226.906	0.4336	0.0076	0.7175	0.0053	4	1.23	0.0004	7.6985
7	27	15	27230.890	0.4326	0.0036	0.7202	0.0017	4	1.12	0.0035	7.7011
7	28	15	27231.877	0.4236	0.0042	0.7195	0.0050	2	1.09	0.0042	7.6930
8	17	15	27251.836	0.4090	0.0052	0.7189	0.0053	4	0.49	0.0144	7.6918
MEANS		27233.5		0.0046	0.7191	0.0040					7.6963
STD. DEV. FOR N=		5			0.0010						0.0039
STD. ERR. OF MEAN					0.0004						0.0017

MEAN (COMP STAR 2 ONLY) 7.6969  
 MEAN (COMP STAR 3 ONLY) 7.6958

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	7.6939
COMP 2 ONLY	7.6973
COMP 3 ONLY	7.6905

ASSUMED COLOR TERM A2 = -0.0316  
 ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 214572	=	0.355
HD 215144	=	0.539

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.2670 & 8.1690 MEAN= 7.7180  
 FOR HD 214572 & 215144 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
7	22	15	27225.919	0.1208	0.0009	0.9013	0.0015	4	1.25	-0.0003	7.8334
7	23	15	27226.906	0.1201	0.0073	0.9030	0.0027	4	1.23	0.0004	7.8335
7	27	15	27230.891	0.1196	0.0051	0.9021	0.0055	4	1.12	0.0035	7.8365
7	28	15	27231.889	0.1047	0.0022	0.8967	0.0035	2	1.09	0.0042	7.8224
8	17	15	27251.836	0.1030	0.0044	0.8970	0.0020	4	0.49	0.0144	7.8334
MEANS		27233.5		0.0040	0.9000	0.0030					7.8318
STD. DEV. FOR N=		5			0.0030						0.0054
STD. ERR. OF MEAN					0.0013						0.0024

MEAN (COMP STAR 2 ONLY) 7.8308  
 MEAN (COMP STAR 3 ONLY) 7.8328

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	7.8256
COMP 2 ONLY	7.8320
COMP 3 ONLY	7.8193

ASSUMED COLOR TERM C2 = 0.9514      A2+C2-1 = -0.0802  
 ASSUMED B-Y COLORS.....              PLANET = 0.370  
    HD 214572 = 0.355  
    HD 215144 = 0.539

PRINTOUT MADE ON Thu Mar 30 10:25:39 2017

OBJECT NO. 3 = NEPTUNE  
MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.55 = Y

SOLAR PHASE COEFFICIENT= 0.0053

COMPARISON MAGS= 6.7120 & 7.9820 MEAN= 7.3470  
FOR HD 216402 & 216777 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET	
7	9	16	27578.938	0.3738	0.0037	1.2745	0.0033	4	1.58	-0.0123	7.7001
7	9	16	27578.938	0.3738	0.0037	1.2745	0.0033	4	1.58	-0.0123	7.7001
7	11	16	27580.925	0.3636	0.0130	1.2723	0.0059	4	1.54	-0.0103	7.6921
7	12	16	27581.925	0.3715	0.0060	1.2712	0.0021	4	1.52	-0.0094	7.7011
7	13	16	27582.927	0.3674	0.0035	1.2739	0.0041	4	1.50	-0.0084	7.6980
MEANS		27580.7		0.0060	1.2733	0.0037					7.6983
STD. DEV. FOR N=		5			0.0015						0.0036
STD. ERR. OF MEAN					0.0007						0.0016

MEAN (COMP STAR 2 ONLY) 7.6999  
MEAN (COMP STAR 3 ONLY) 7.6966

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	7.6993
COMP 2 ONLY	7.7020
COMP 3 ONLY	7.6966

ASSUMED COLOR TERM A2 = -0.0320

ASSUMED B-Y COLORS.....

PLANET	=	0.370
HD 216402	=	0.306
HD 216777	=	0.372

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OBJECT NO. 3 = NEPTUNE  
 MAGNITUDES COMPUTED FOR LINEAR SOLAR PHASE FUNCTION

FILTER NO.47 = B

SOLAR PHASE COEFFICIENT= 0.0041

COMPARISON MAGS= 7.0180 & 8.3540 MEAN= 7.6860  
 FOR HD 216402 & 216777 FROM FILE= nepcomp.sv

UT	DATE	JUL DATE	VAR	ERR	COMP	ERR	N	DEG	DIST	PLANET
7	9 16	27578.938	0.1686	0.0024	1.3348	0.0050	4	1.58	-0.0123	7.8358
7	9 16	27578.938	0.1686	0.0024	1.3348	0.0050	4	1.58	-0.0123	7.8358
7	11 16	27580.926	0.1661	0.0033	1.3412	0.0113	4	1.54	-0.0103	7.8354
7	12 16	27581.925	0.1673	0.0041	1.3429	0.0021	4	1.52	-0.0094	7.8377
7	13 16	27582.928	0.1633	0.0054	1.3412	0.0039	4	1.50	-0.0084	7.8347
MEANS		27580.7		0.0035	1.3390	0.0055				7.8359
STD. DEV. FOR N=		5			0.0039					0.0011
STD. ERR. OF MEAN					0.0017					0.0005

MEAN (COMP STAR 2 ONLY) 7.8374  
 MEAN (COMP STAR 3 ONLY) 7.8344

COLOR-CORRECTED PLANET MAGNITUDES.....

BOTH COMPS	7.8384
COMP 2 ONLY	7.8426
COMP 3 ONLY	7.8342

ASSUMED COLOR TERM C2 = 0.9502      A2+C2-1 = -0.0818  
 ASSUMED B-Y COLORS.....            PLANET = 0.370  
    HD 216402 = 0.306  
    HD 216777 = 0.372

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