

5.1.2 FLAT FIELD LIGHT TRANSFER

5.1.2.1 NAC FM LIGHT TRANSFER CALIBRATION RESULTS

Modified Version of Reference 5.1.2.1-1 - updates CL1/CL2 numbers in "+5C" and "Results" tables

Reference 5.1.2.1-1 - IOM 388-PAG-CCA98-11, "NAC FM Calibration Results: Radiometric Slope Files", C. Avis, April 24

5.1.2.1.1 INTRODUCTION

The Flight Model thermal/vacuum testing included the acquisition of images taken in Light Transfer sequences. This memo reports on the use of those images to produce radiometric calibration files in each filter combination. These files store the slope term of the best linear fit to the response of each pixel (see Method - Slope Generation below).

The Light Transfer sequences generally consisted of 3 flat-field images at each of four exposure times plus 3 at zero exposure time. All were taken in 1x1 mode at Gain 2 with Lightflood ON and Antiblooming ON. The detector was at -90° C and the chamber was at -10° C, +5° C and +25° C.

5.1.2.1.2 METHOD - Slope Generation

For each pixel, the 'energy' received is:

$$e = r(t - t_0)$$

where e is the received 'energy' (in *millisecond radiance_units*)
 r is the measured radiance of the illuminant (in *radiance_units*)
 t is the commanded exposure time (in *milliseconds*)
 t_0 is the shutter-offset correction (in *milliseconds*)

A linear model for the response of a pixel gives:

$$d = ce + d_0 + dc(t)$$

where d is the measured pixel response (in *DN*)
 c is the radiometric slope of the response (in *DN millisecond⁻¹ radiance_unit⁻¹*)
 d_0 is the pixel response at zero exposure (in *DN*)
 $dc(t)$ is the Dark-current value generated by exposure time t (in *DN*)

Both $dc(t)$ and t_0 were derived in earlier analyses and zero exposure images were available from which to extract d_0 . Therefore, given the five exposure points, c was derived by the method of Least Squares. The radiometric slope term c is actually stored as its reciprocal $z=1/c$ to speed its use in later computations of radiometric correction (see Method - Radiometric Correction below).

The radiance of the illuminant was recorded for each sequence (in units of *picoamperes* of current generated at the meter).

5.1.2.1.2.1 RESULTS

The following table lists some characteristics of the light-transfer sequences and the resulting radiometric slope for each filter combination.

-10° C Gain 2 Antiblooming ON

Filters	# Points in sequence	Maximum exposure used (milliseconds)	Maximum DN of input data	Mean slope (picoamp-milliseconds / DN)	Slope
IRPO/MT2	4	68000	2961	18575.62	358.65
IRPO/CB2	4	26000	2773	7562.72	122.73
IRPO/MT3	4	56000	2878	15683.78	275.36
IRPO/CB3	3	150000	3377	35748.52	642.30
IRPO/IR3	4	8200	2930	2252.26	32.35
IRPO/IR1	4	2000	3112	518.54	7.61
PO/GRN	4	8200	3711	1766.10	28.63
PO/BL2	4	460000	3381	109746.80	6968.12
PO/MT2	4	82000	3547	18656.01	433.31
PO/CB2	4	32000	3596	7170.30	102.57
PO/MT1	4	180000	3423	42484.56	1274.31
PO/CB1	4	26000	2915	7190.48	104.25
PO/IR1	4	1800	3121	464.68	4.97
P120/GRN	4	8200	3447	1910.92	36.67
P120/BL2	4	460000	3106	119849.50	7824.58
P120/MT2	4	82000	3163	20932.82	423.58
P120/CB2	4	32000	3201	8033.06	136.09
P120/MT1	4	180000	3109	46844.74	1430.64
P120/CB1	4	26000	2640	7956.30	120.34
P120/IR1	4	1800	2820	515.56	7.04
P60/GRN	4	8200	3446	1894.69	38.62
P60/BL2	4	460000	3114	119107.30	7766.98
P60/MT2	4	82000	3168	20972.47	414.46
P60/CB2	4	32000	3123	8281.42	137.73
P60/MT1	4	180000	3058	47766.33	1484.49
P60/CB1	4	26000	2591	8068.38	126.48
P60/IR1	4	1800	2736	532.50	7.84
RED/GRN	4	5600	3385	1339.10	32.03
RED/MT1	4	68000	3065	17979.14	437.66
RED/CB1	4	12000	3130	3075.78	60.61
RED/IR1	3	2600	2326	903.15	17.14
IR4/IR3	4	46000	3019	11882.29	287.93
IR2/IR3	4	8200	3082	2135.11	36.03
IR2/IR1	4	6800	2624	2087.92	27.99
CL1/CL2	4	460	3120	118.76	1.59
CL1/GRN	4	2600	3262	638.88	12.40
CL1/BL2	4	180000	3832	37889.44	1083.90
CL1/MT2	4	38000	3380	9070.71	153.06
CL1/CB2	4	15000	3286	3673.02	57.71
CL1/MT3	4	22000	2274	7835.30	115.24
CL1/CB3	4	68000	3147	17438.69	374.98

Filters	# Points in sequence	Maximum exposure used (milliseconds)	Maximum DN of input data	Mean slope (picoamp-milliseconds / DN)	Slope
CL1/MT1	4	68000	3503	15694.03	312.72
CL1/CB1	4	10000	3015	2670.50	42.04
CL1/IR3	4	4600	3214	1153.75	15.44
CL1/IR1	4	1000	3141	255.82	3.34
CL1/CL2	4	460	3103	119.18	1.60
RED/CL2	4	1200	2882	336.00	6.49
BL1/CL2	4	32000	3810	6720.98	139.44
IRPO/CL2	4	1000	3067	262.23	4.02
P120/CL2	4	1000	3333	241.43	3.08
P60/CL2	4	1000	3354	239.89	3.21
PO/CL2	4	1000	3576	225.00	2.40
HAL/CL2	4	22000	3526	5027.96	83.75
IR4/CL2	4	38000	3360	9078.81	186.37
IR2/CL2	4	2600	3336	626.00	7.60

+5° C Gain 2 Antiblooming ON

Filters	# Points in sequence	Maximum exposure used (milliseconds)	Maximum DN of input data	Mean slope (picoamp-milliseconds / DN)	Slope
IRPO/MT2	4	18000	3140	18541.89	296.79
IRPO/CB2	4	6800	2921	7511.79	120.70
IRPO/MT3	4	15000	3129	15456.96	245.32
IRPO/CB3	4	38000	3532	34864.04	737.16
IRPO/IR3	4	2000	2840	2278.86	32.87
IRPO/IR1	4	460	2856	517.24	7.48
PO/GRN	4	2000	3533	1812.19	29.06
PO/BL2	3	100000	2763	116909.60	2392.04
PO/MT2	4	18000	3151	18489.63	373.23
PO/CB2	4	8200	3725	7053.43	94.95
PO/MT1	4	46000	3400	43652.89	746.77
PO/CB1	4	6800	2981	7346.35	102.08
PO/IR1	4	460	3211	462.16	4.91
P120/GRN	4	2000	3318	1931.35	37.24
P120/BL2	4	100000	2571	126020.10	2730.80
P120/MT2	4	18000	2868	20347.69	330.00
P120/CB2	4	8200	3377	7832.50	125.75
P120/MT1	4	46000	3128	47587.31	824.82
P120/CB1	4	6800	2725	8017.86	116.88
P120/IR1	4	460	2936	506.21	6.87
P60/GRN	4	2000	3339	1918.73	38.83

Filters	# Points in sequence	Maximum exposure used (milliseconds)	Maximum DN of input data	Mean slope (picoamp-milliseconds / DN)	Slope
P60/BL2	4	100000	2606	123983.80	2700.20
P60/MT2	4	18000	2891	20175.24	314.60
P60/CB2	4	8200	3388	7804.19	126.00
P60/MT1	4	46000	3133	47526.48	874.00
P60/CB1	4	6800	2730	8049.54	125.08
P60/IR1	4	460	2963	501.83	7.38
CL1/CL2	4	460	3071	120.72	1.56
CL1/CL2 (AB off)	4	460	3071	120.53	1.36
IR4/IR3	4	46000	3139	11795.61	294.65
IR2/IR3	4	8200	3240	2045.54	33.61
IR2/IR1	4	6800	2864	1915.56	25.70
CL1/GRN	4	2600	3206	653.15	12.55
CL1/BL2	4	180000	3552	40784.50	1205.56
CL1/MT2	4	38000	3349	9172.49	152.72
CL1/CB2	4	15000	3219	3757.97	59.06
CL1/MT3	4	22000	2221	8000.91	117.16
CL1/CB3	4	68000	3048	18147.02	396.68
CL1/MT1	4	68000	3444	15978.21	311.61
CL1/CB1	4	10000	2928	2744.25	42.13
CL1/IR3	4	4600	3129	1189.88	16.12
CL1/IR1	4	1000	3133	258.47	3.30
RED/CL2	4	1200	2855	338.43	6.36
BL1/CL2	4	32000	3646	7012.33	145.08
IRPO/CL2	4	1000	3038	264.86	3.95
P120/CL2	4	1000	3308	243.51	3.05
P60/CL2	4	1000	3330	241.86	3.13
PO/CL2	4	1000	3538	227.34	2.35
HAL/CL2	4	22000	3469	5113.47	78.41
IR4/CL2	4	38000	3298	9241.50	199.62
IR2/CL2	4	2600	3328	630.47	7.52
RED/GRN	4	5600	2778	1347.94	31.66
RED/MT1	4	68000	3043	18147.86	428.44
RED/CB1	4	12000	3133	3089.94	57.73
RED/IR1	3	2600	2355	900.02	17.02
CL1/UV3	4	18000	3264	173.08	3.33
UV2/CL2	4	100000	3563	880.46	22.20
UV1/CL2	4	320000	3569	2801.76	135.54
PO/UV3	4	56000	3516	498.96	7.93
P60/UV3	4	56000	3132	561.27	12.99
P120/UV3	4	56000	3097	567.39	12.48

+25° C Gain 2 Antiblooming ON

Filters	# Points in sequence	Maximum exposure used (milliseconds)	Maximum DN of input data	Mean slope (picoamp-milliseconds / DN)	Slope
CL1/CL2	4	460	3082	120.17	1.60
CL1/GRN	4	2600	3070	679.73	13.46
CL1/BL2	4	180000	3327	43593.18	1325.14
CL1/MT2	4	38000	3385	9063.57	152.29
CL1/CB2	4	15000	3281	3678.87	58.63
CL1/MT3	4	22000	2269	7840.64	121.87
CL1/CB3	4	68000	3070	17952.78	405.82
CL1/MT1	4	68000	3375	16262.57	326.69
CL1/CB1	4	10000	2903	2780.94	44.51
CL1/IR3	4	4600	3159	1175.49	16.63
CL1/IR1	4	1000	3185	253.19	3.36
RED/CL2	4	1200	2809	344.24	6.72
BL1/CL2	4	32000	2694	7523.18	160.98
IRPO/CL2	4	1000	3038	264.84	4.08
P120/CL2	4	1000	3321	242.57	3.15
P60/CL2	2	320	1097	239.04	3.36

5.1.2.1.2.2 ACCURACY

Comparison of the Slope values above at the various temperatures shows a distinct variation in Slope with temperature for some filters (some >10%). As the following tables show, this variation is entirely due to input raw DN variations. Examples of 4 filters are shown below. The overclocked pixel values did not vary by more than one or two DN. However, the image DN values, while self-consistent in each group of exposures, show large inconsistencies when compared to groups at other temperatures (which also means different times). The cause of this effect is not known.

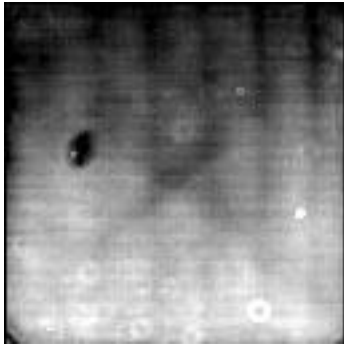
CL1/GRN				
Exp (msec)	Image	raw DN -10° C	Image	raw DN +25° C
820	119823	1058	116704	992
820	119824	1058	116705	992
820	119825	1058	116752	995
1800	119826	2282	116707	2145
1800	119827	2280	116708	2145
1800	119828	2280	116709	2145
2600	119829	3256	116710	3070
2600	119830	3262	116711	3071
2600	119831	3262	116712	3070

CL1/BL2				
Exp (msec)	Image	raw DN -10° C	Image	raw DN +25° C
56000	119836	1233	116716	1073
56000	119837	1233	116717	1073
56000	119874	1241	116718	1074
120000	119838	2607	116719	2264
120000	119839	2604	116720	2264
120000	119840	2608	116721	2264
180000	119842	3836	116722	3355
180000	119863	3833	116723	3354
180000	119875	3862	116724	3354

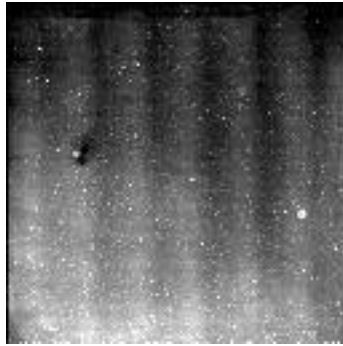
BL1/CL2				
Exp (msec)	Image	raw DN -10° C	Image	raw DN +25° C
10000	119542	1223	116871	1094
10000	119543	1223	116872	1095
10000	119565	1226	116873	1094
22000	119544	2650	116874	2370
22000	119545	2650	116876	2370
22000	119546	2649	116896	2372
32000	119547	3798	116877	3411
32000	119566	3817	116878	3411
32000	119567	3819		

IR1/IR2				
Exp (msec)	Image	raw DN -10° C	Image	raw DN +5° C
2000	120257	821	121405	879
2000	120258	807	121406	880
2000	120259	811	121407	882
4600	120260	1826	121408	1985
4600	120261	1820	121409	1980
4600	120262	1819	121410	1981
6800	120263	2663	121411	2899
6800	120264	2651	121412	2897
6800	120265	2647	121413	2888

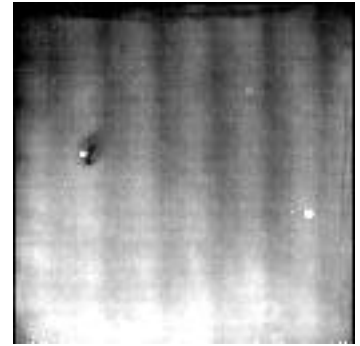
The following images are scaled-down views of the slope file of each filter combination. Each has had an output any comparable characteristics. The files are ordered more-or-less in wavelength order (except for CL1/ cases, the bright areas are regions of lower sensitivity).



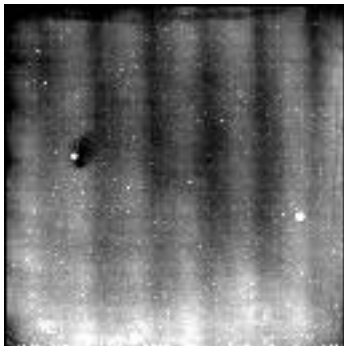
CL1/CL2



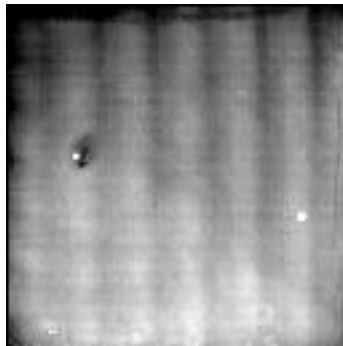
UV1/CL2



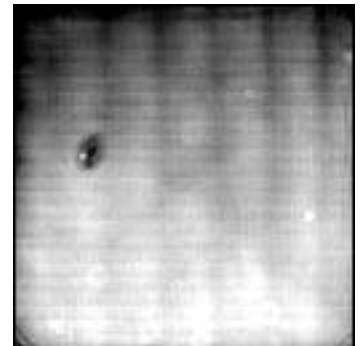
UV2/CL2



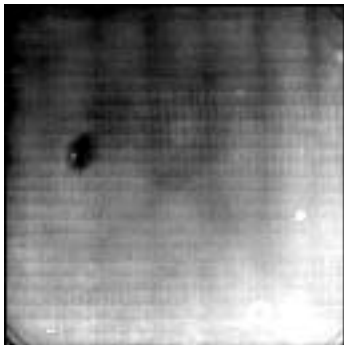
CL1/BL2



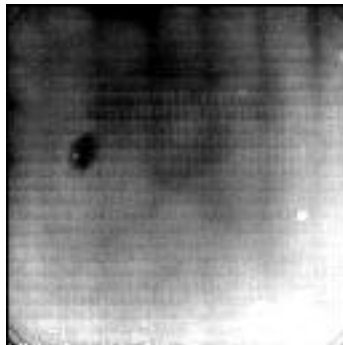
BL1/CL2



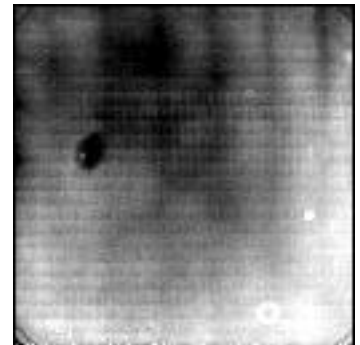
CL1/GRN



RED/CB1



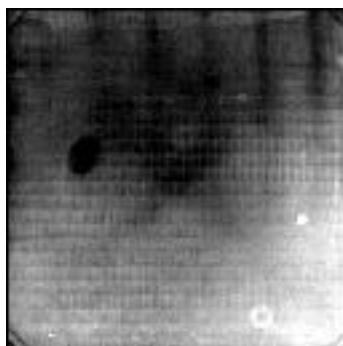
RED/MT1



CL1/MT1



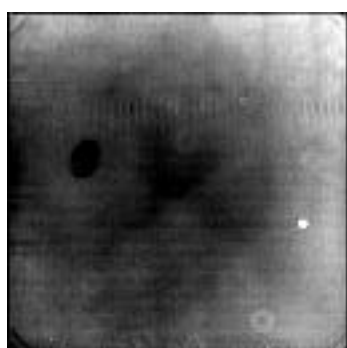
RED/CL2



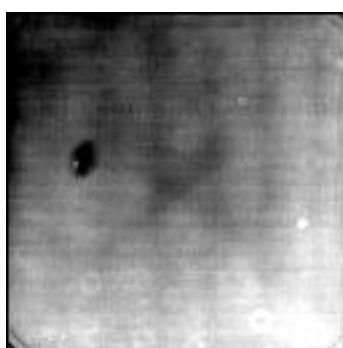
HAL/CL2



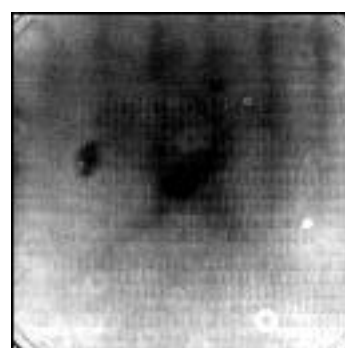
RED/IR1



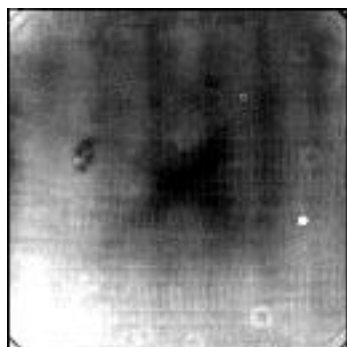
CL1/MT2



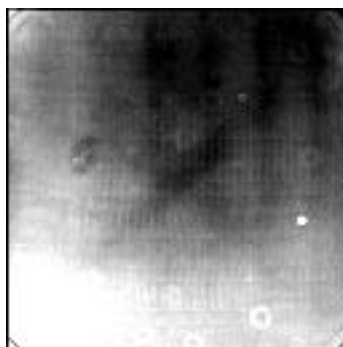
CL1/CB2



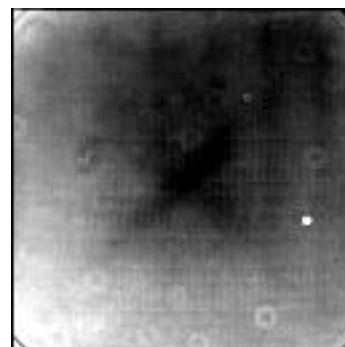
IR2/IR1



CL1/MT3

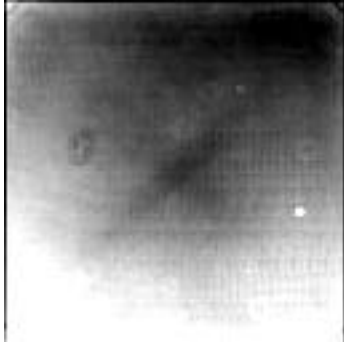


IR2/IR3

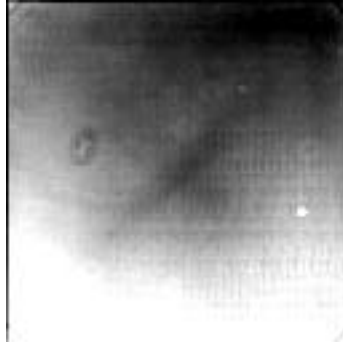


CL1/IR3

699-416

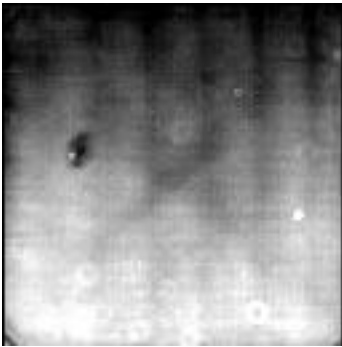


IR4/CL2

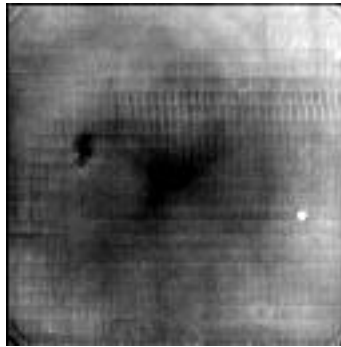


IR4/IR3

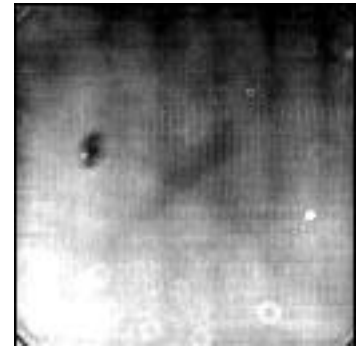
The following slope files were taken with Filter Wheel 1 using the IRP0 polarizer.



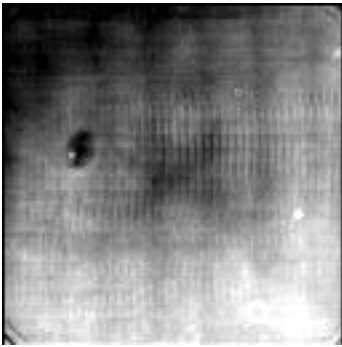
IRP0/CL2



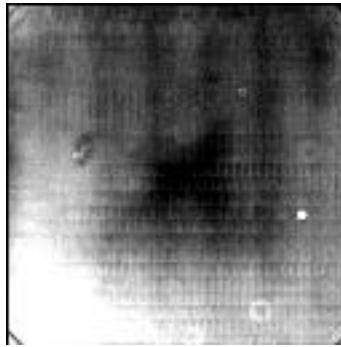
IRP0/MT2



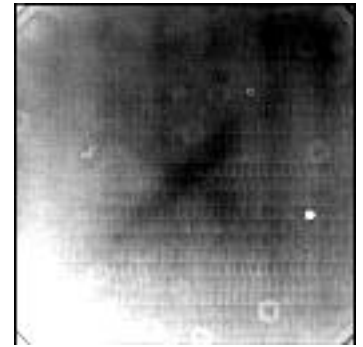
IRP0/IR1



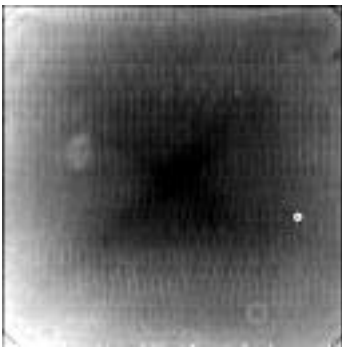
IRP0/CB2



IRP0/MT3

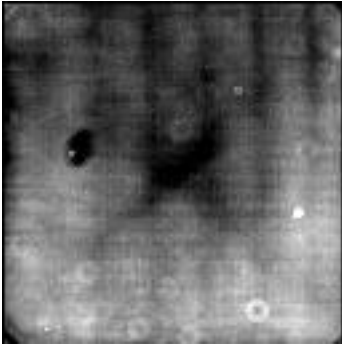


IRP0/IR3

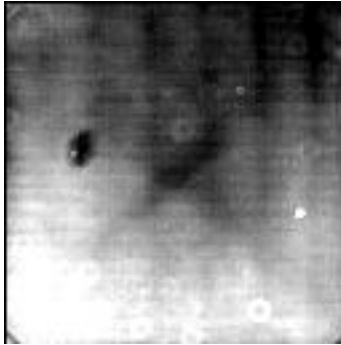


IRP0/CB3

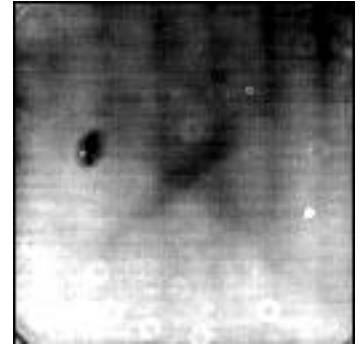
This group was taken with Filter Wheel 1 using the three polarizers filters P0, P60 and P120.



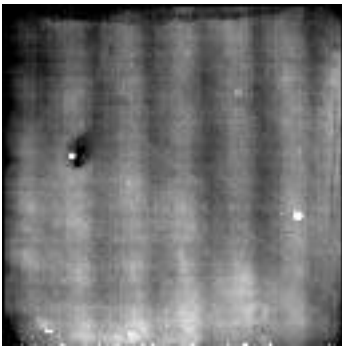
P0/CL2



P60/CL2



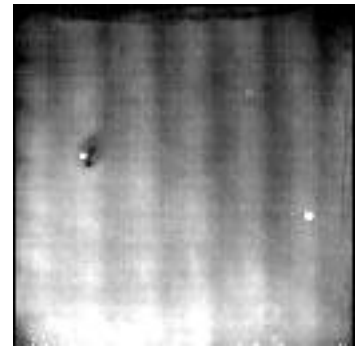
P120/CL2



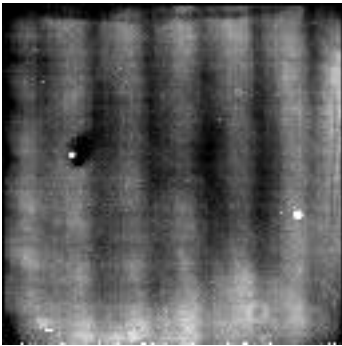
P0/UV3



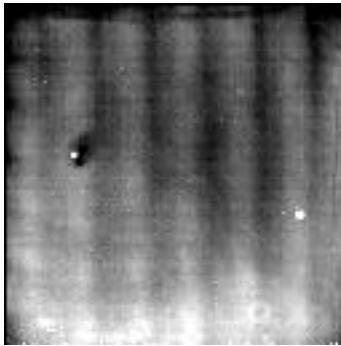
P60/UV3



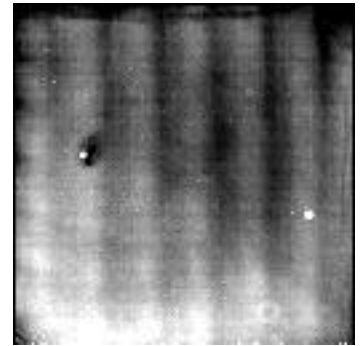
P120/UV3



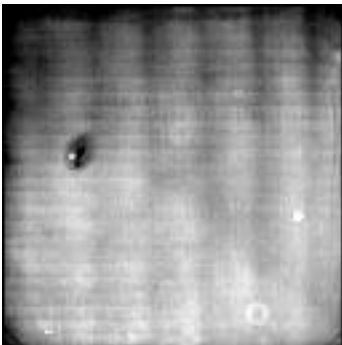
P0/BL2



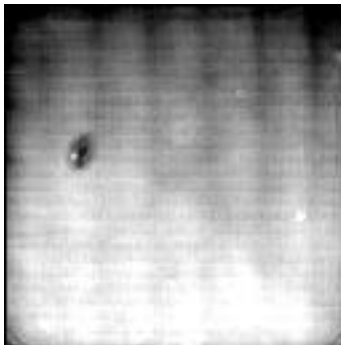
P60/BL2



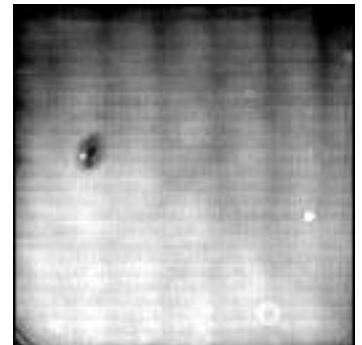
P120/BL2



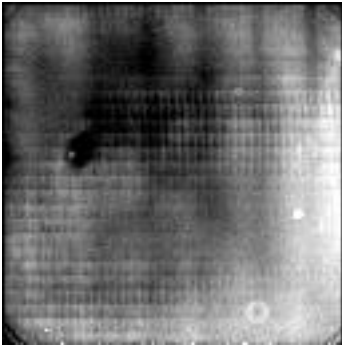
P0/GRN



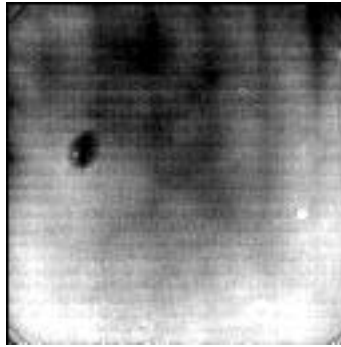
P60/GRN



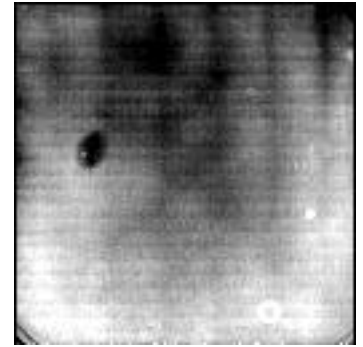
P120/GRN



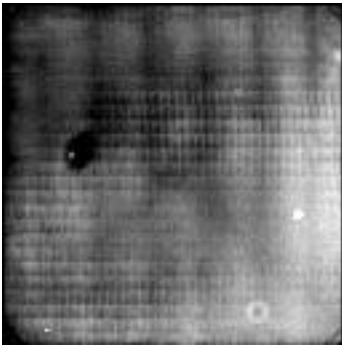
P0/MT1



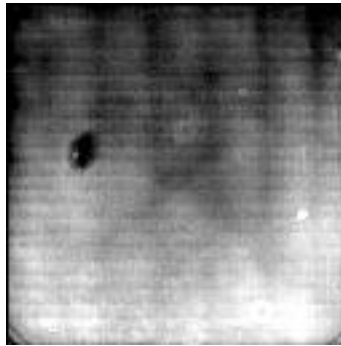
P60/MT1



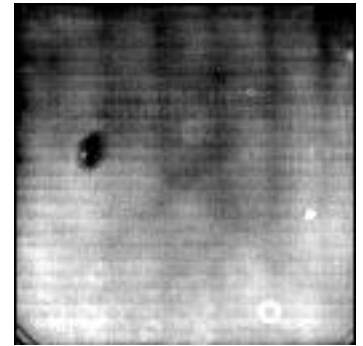
P120/MT1



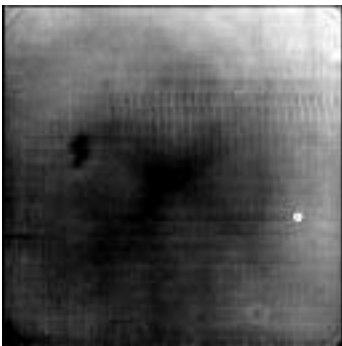
P0/CB1



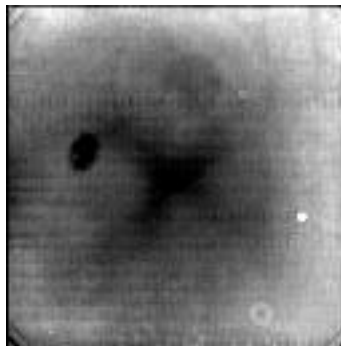
P60/CB1



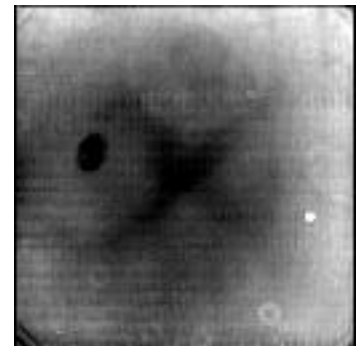
P120/CB1



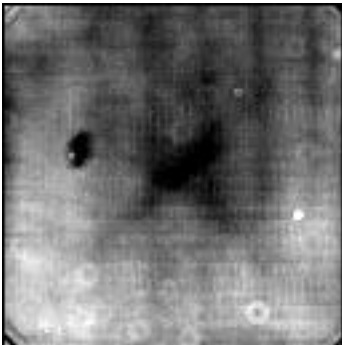
P0/MT2



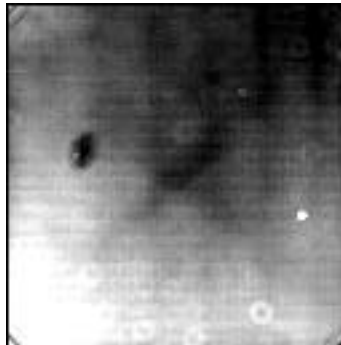
P60/MT2



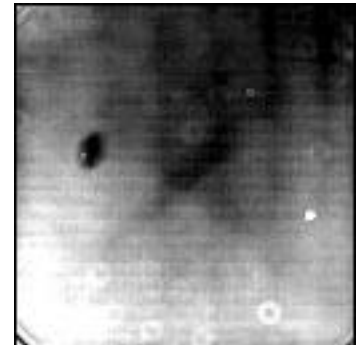
P120/MT2



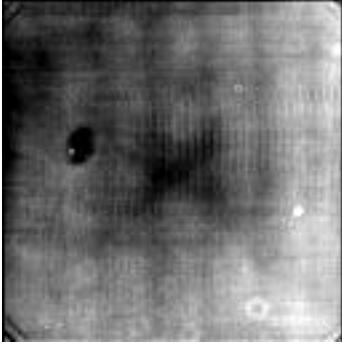
P0/IR1



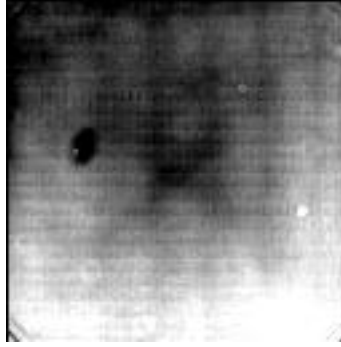
P60/IR1



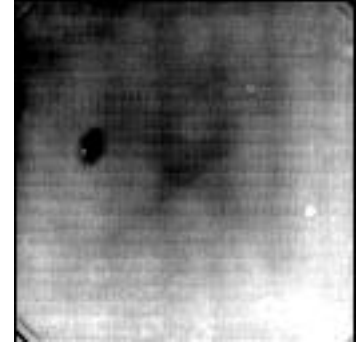
P120/IR1



P0/CB2

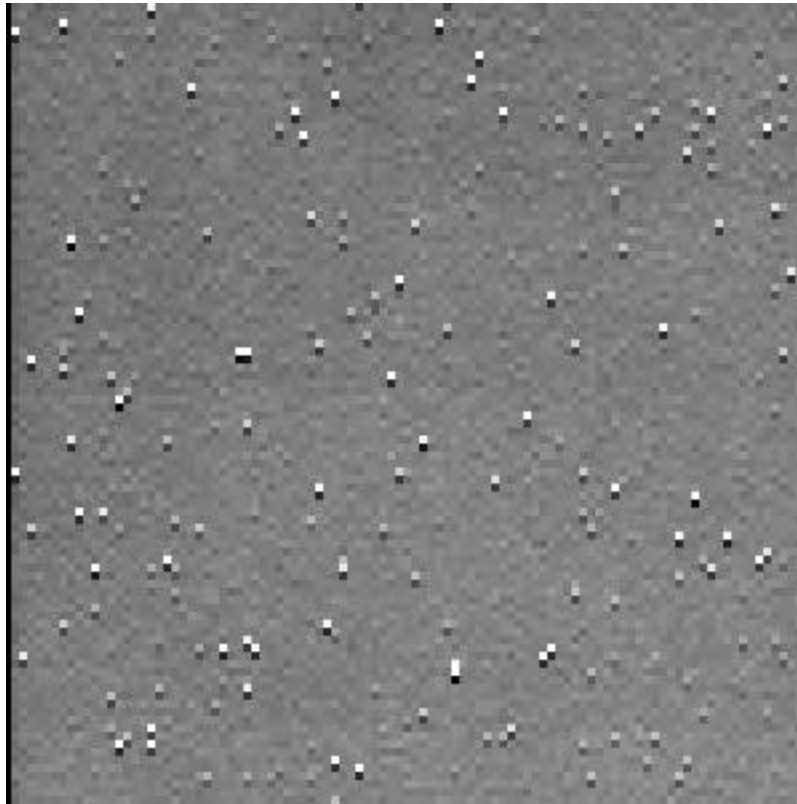


P60/CB2



P120/CB2

The following image shows a section of the UV1/CL2 Slope file at full resolution (100x100 in upper left corner). The bright-dark pairs are an effect of the Antiblooming mode combined with long exposures. This effect is studied in detail in separate report by Bob West.



UV1/CL2

5.1.2.1.3 METHOD - Radiometric Correction

Radiometric Correction is the process by which the value of a physical property of the scene is derived from a recorded DN value. For this calibration analysis, a derivation of the radiance of the illuminant is desired so it can be compared to the value noted at the time of the exposure. This analysis makes no attempt to convert the measured radiance units (*picoamperes*) to physically meaningful units like *nanowatts cm⁻² ster⁻¹ nm⁻¹*. This filter-dependent correction can be applied to the corrected data at a later stage of the process. The derivation of this correction will necessarily involve different measurements for the UV filters than for the visible filters due to the different light sources and radiometers.

Rearranging the above equations, the application of the derived radiometric slope is straightforward. For each pixel:

$$r = \frac{(d - d_0 - dc(t))z}{(t - t_0)}$$

Now that z has been derived, these values are all known and r can be easily derived from the raw DN value d . The value for d_0 can be taken from the above Least Squares fit or from any zero-exposure images (hopefully averaged).

The correction gets a little messier in real life. Appropriate corrections by the gain ratios will be necessary if all terms are not available in the same gain state. In addition, proper correction for the value of the overclocked pixels (bias level) must be included. Also, a scale factor may be included to produce output DN values in a certain range.

5.1.2.1.3.1 RESULTS

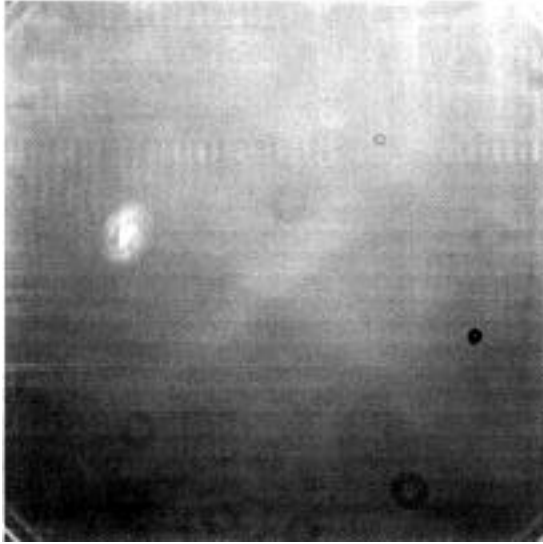
Flat-field images in various filters from non-light-transfer observations were corrected using the above equation and the derived slopes. Ideally, each corrected pixel value should equal the recorded actual radiance (times a scale factor). All are in 1x1 mode at Gain 2.

The two right-hand columns evaluate the quality of the correction. The “Percent Deviation from Expected” compares the corrected DN value to the value expected based upon the recorded radiance of the source. The “Flatness of Corrected Image” is the ratio of the DN of the upper-left corner to the DN of the center.

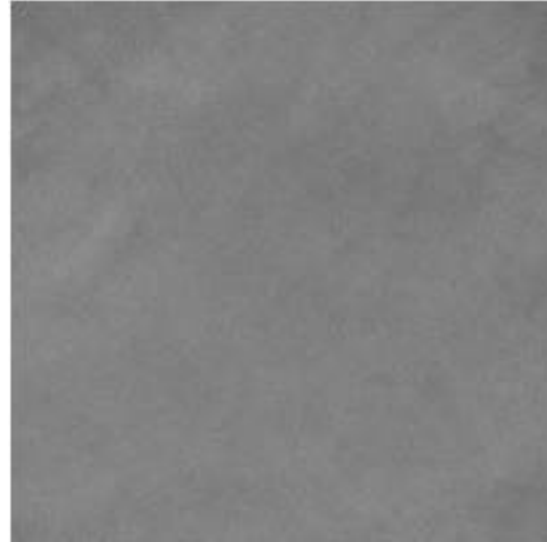
Image	Filters	Mean raw DN	Raw	Actual radiance (picoamps)	Expected DN (scaled)	Mean corrected DN	Corrected	Percent Deviation from Expected	Flatness of Corrected Image
816567	CL1/CL2	3093.9	32.42	800.	8000.	8015.8	26.74	0.2	0.987
816592	CL1/BL2	2224.6	48.53	800.	8000.	7383.3	68.83	-7.7	1.000
916599	BL1/CL2	3324.7	47.58	800.	8000.	7248.2	27.28	-9.4	0.998
816576	CL1/GRN	3037.5	39.32	800.	8000.	7595.8	27.27	-5.1	1.000
116972	RED/GRN	3352.8	50.65	800.	8000.	8011.8	28.63	0.1	0.998
116975	RED/CB1	3133.2	43.86	800.	8000.	7965.9	30.48	-0.4	1.000
116974	RED/MT1	3048.9	56.69	800.	8000.	7985.9	35.86	-0.2	1.001
816585	CL1/MT1	3314.9	57.47	800.	8000.	7647.1	44.47	-4.4	0.999
816583	CL1/CB1	2853.9	35.35	800.	8000.	7729.1	28.93	-3.4	0.999
916604	HAL/CL2	3424.6	46.07	800.	8000.	7847.2	27.30	-1.9	0.998
120842	RED/IR1	3559.5	45.84	3200.	3200.	3166.2	11.50	-1.1	0.998
816580	CL1/IR1	3153.9	33.28	800.	8000.	8065.9	28.32	0.8	0.979
816591	CL1/MT2	3386.5	45.49	800.	8000.	8014.9	38.47	0.2	0.993
816589	CL1/CB2	3216.2	38.36	800.	8000.	7953.1	28.65	-0.6	0.979
117013	IR2/IR1	3485.3	33.53	800.	8000.	8019.9	72.95	0.2	0.965
916609	IR2/CL2	3368.3	34.93	800.	8000.	8067.7	27.12	0.8	0.970
816588	CL1/MT3	2628.7	32.09	800.	8000.	7932.5	33.98	-0.8	0.979
117011	IR2/IR3	3265.9	36.63	800.	8000.	8034.1	71.29	0.4	0.950
816582	CL1/IR3	3147.6	33.26	800.	8000.	8014.6	27.97	0.2	0.981
816587	CL1/CB3	3041.8	50.07	800.	8000.	7874.2	35.56	-1.6	0.988
916607	IR4/CL2	3174.7	44.85	800.	8000.	7575.9	28.57	-5.3	0.979
117017	IR4/IR3	3116.4	37.79	800.	8000.	7839.5	91.30	-2.0	0.954
916602	P120/CL2	3288.4	34.76	800.	8000.	7920.3	27.09	-1.0	0.988
116987	P120/MT1	3657.6	42.44	800.	8000.	7774.7	101.09	-2.8	1.003
116989	P120/CB1	3733.9	39.43	800.	8000.	7798.5	80.94	-2.5	0.999
116991	P120/IR1	2875.0	27.02	800.	8000.	7981.5	74.15	-0.2	0.991
116985	P120/MT2	3161.2	33.12	800.	8000.	7660.8	85.03	-4.2	0.998
116986	P120/CB2	3238.6	35.52	800.	8000.	7800.9	80.80	-2.5	0.997
916601	IRP0/CL2	3010.5	33.62	800.	8000.	7906.3	28.44	-1.2	0.990
120835	IRP0/IR1	2859.3	31.54	3200.	3200.	3183.3	11.76	-0.5	0.988
120834	IRP0/MT2	3150.1	40.96	3200.	3200.	3180.7	13.02	-0.6	0.983
116994	IRP0/CB2	3377.4	35.45	800.	8000.	7830.5	80.56	-2.1	0.997
116995	IRP0/MT3	1974.6	21.41	800.	8000.	7842.5	79.55	-2.0	0.992
117003	IRP0/IR3	2866.3	26.36	800.	8000.	7841.7	69.04	-2.0	0.946
116998	IRP0/CB3	2744.4	30.22	800.	8000.	7704.6	87.45	-3.7	1.002

The significant “Deviations from Expected” reported above are entirely due to the raw data have unexpectedly low values for the exposure times and radiances used. No cause has been determined. These data were tabulated anyway because they were the only examples of these filter combinations other than the Light Transfer data. Note that the corrected images in the visible were extremely flat, but the IR data shows significant residual shading in the corners because of shading variations in the raw data.

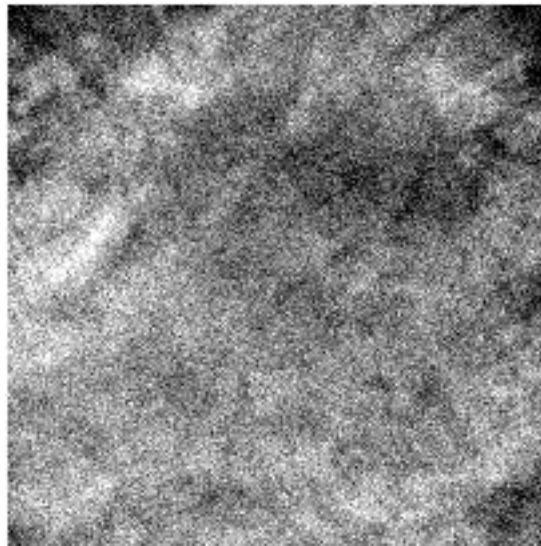
The images below show the effect of radiometric correction of a typical raw flat-field image. The raw image (with appropriate contrast enhancement) is compared to the corrected version (with the same enhancement) and to the corrected version with a strong enhancement to bring out any residual shading.



120842 - stretched raw



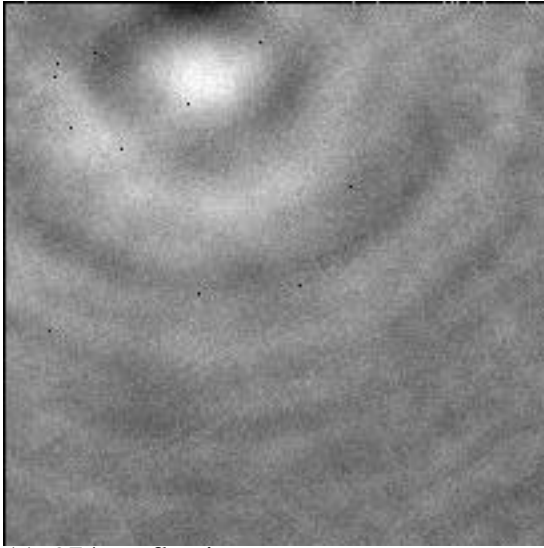
120842 - corrected (same stretch as raw)



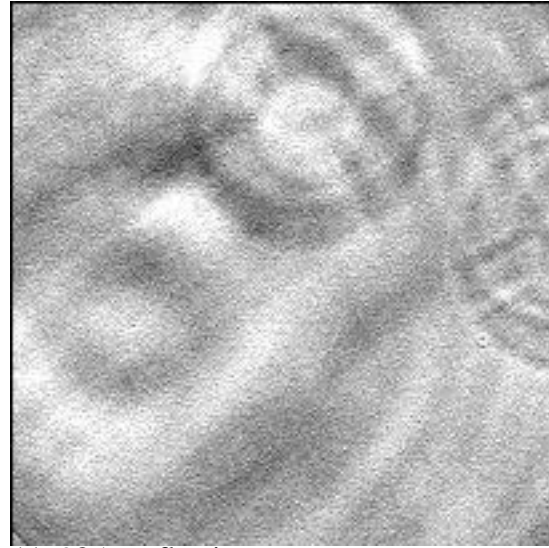
120842 - corrected (optimum stretch)

5.1.2.1.3.2 ARTIFACTS - Reflections

Artifacts appear in some of the corrected images (at the 1% or less level) which are difficult or impossible to see in raw data files. After correction some filters show what appear to be images of the aperture caused by reflections off first the CCD and then off one or more optical surfaces back to the CCD. The surfaces in question are probably the filters, but multiple reflections of different size may mean various surfaces. Many of the artifacts are double indicating their presence in the Slope files (because they are in the Light Transfer data) and in the raw data, but with the locations offset slightly. Almost all the corrected images show some sort of reflections.



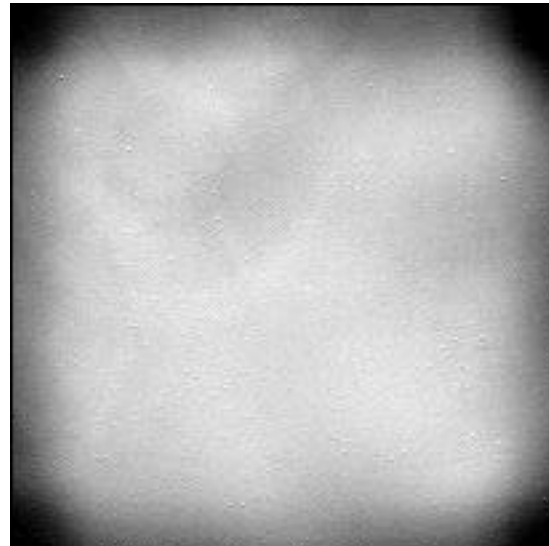
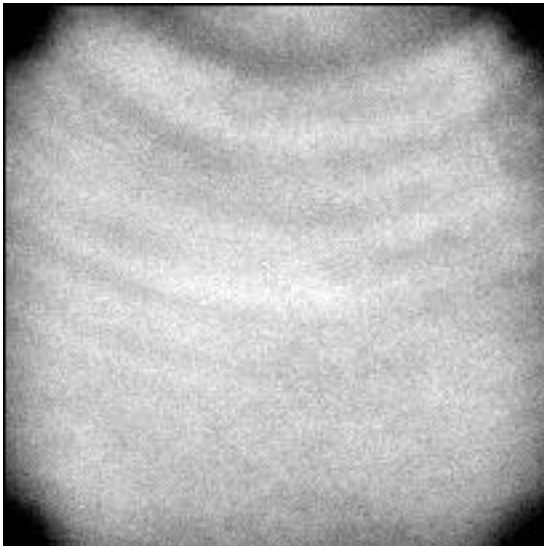
116974 - reflections



116985 - reflections

5.1.2.1.3.3 ARTIFACTS - Shading

Corner or edge darkening also appears after correction at the 5% or less level (mainly in the IR filter combinations). It is due to the raw image data having inconsistent response in these areas. The data being corrected just doesn't match the Light Transfer data from which the Slope files were made. The 'Flatness' column in the above table shows the degree of shading remaining after correction with the +5° C Slope files. Correction using the +25° C Slope files improved the results only slightly. The two examples below show corner shading after correction by +5° C Slope files.

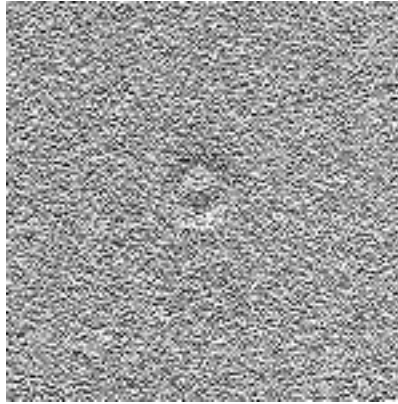


816589 - shading and reflections

117017 - shading and reflections

5.1.2.1.3.4 ARTIFACTS - Dust Spot Movement

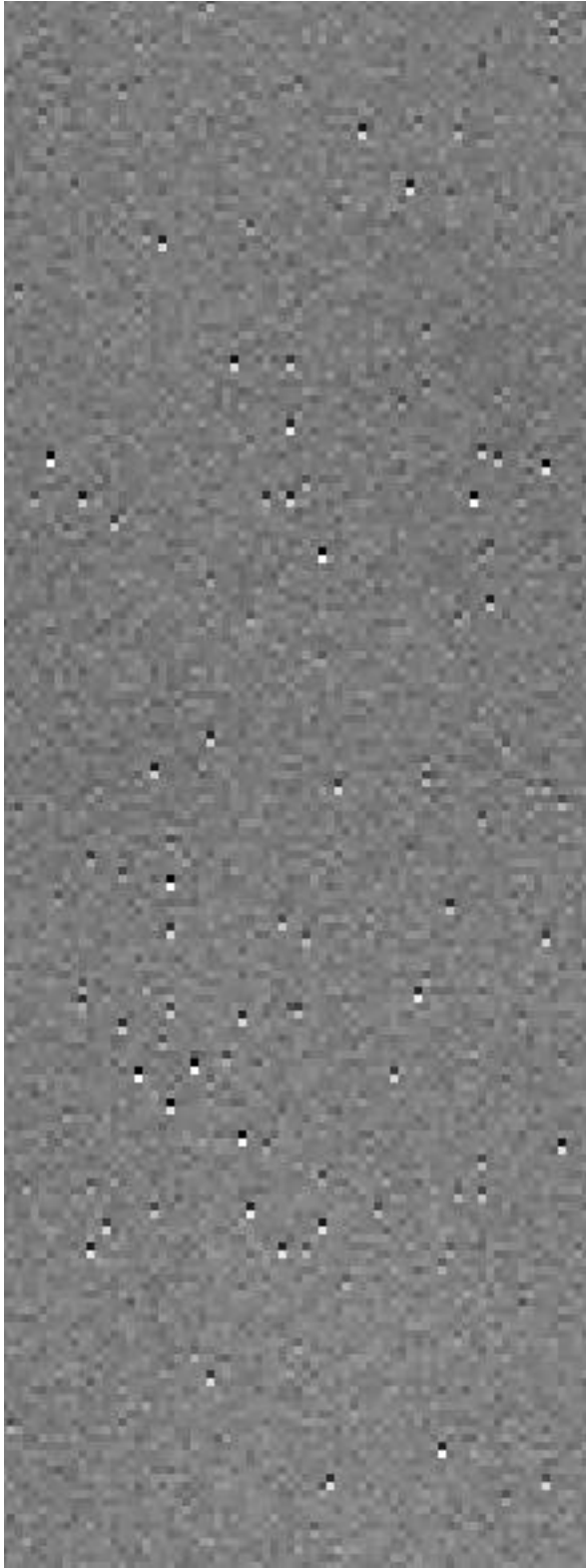
The intense dust spot shadow near the right side of images normally gets removed in the corrections process because it is in the same place in the raw data as in the Slope files. However, cases have been found where the spot has shifted in the line direction by less than a pixel. It is highly likely that the location of the spot was shifted at launch. The following image is a small area of the ratio of two consecutive raw images which show that a shift occurred between their exposures (15 minutes apart).



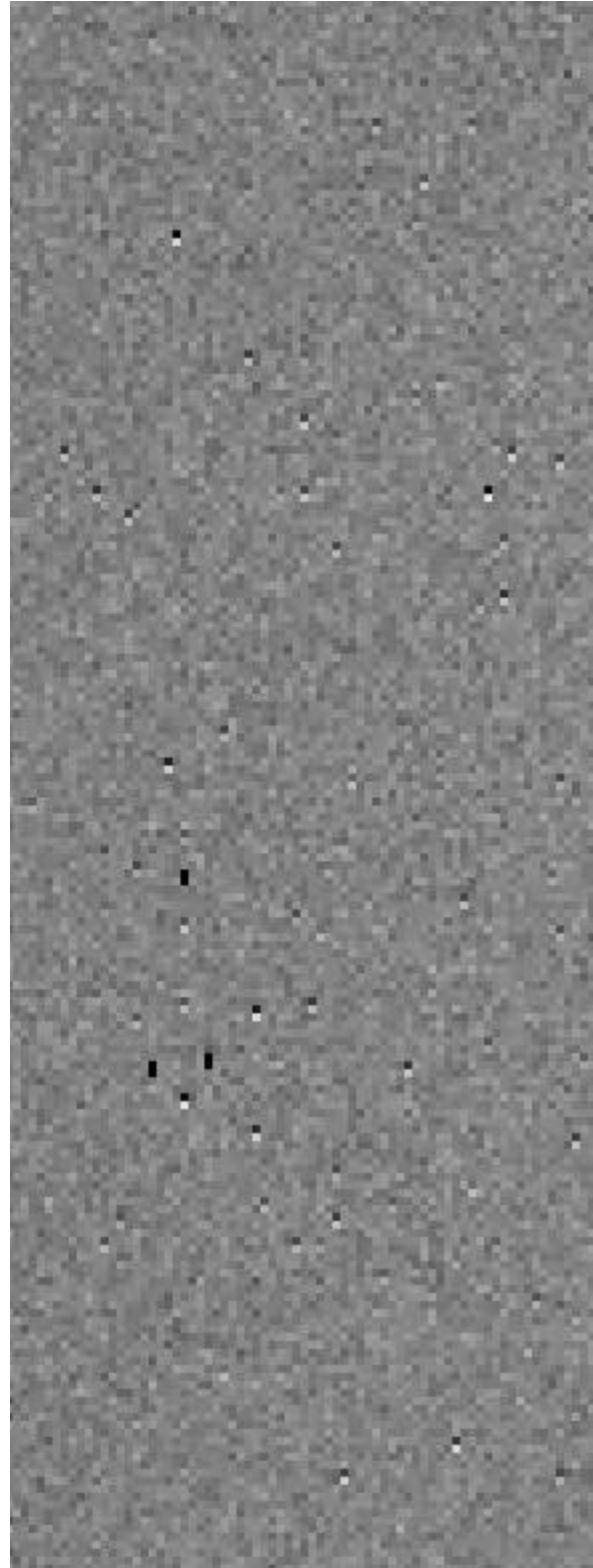
Ratio of 116978 to 116979

5.1.2.1.3.5 ARTIFACTS - Antiblooming Pairs

The behavior of the anitblooming pairs is apparently not correctable with the linear model used here. The following pair of images show a section of a raw image before and after correction.



816585 - raw



816585 - corrected

5.1.2.1.4 CONCLUSIONS

1. The radiometric slope files have been created for all filter combinations at +5° C, and incomplete sets at -10° C and +25° C (all Gain 2). Use of the linear model for radiometric correction was extremely successful, usually achieving excellent flatness and proper resulting DN values.
2. The accuracy of these files cannot be checked rigorously due the small number of non-Light Transfer images taken in the various filter combinations. The available images in the various filters were corrected using these files, but in some cases the input raw data does not agree closely with the raw Light Transfer data. This causes some of the corrected data to differ from the expected value. Most visible corrected images were extremely flat, even if some had DN levels that were suspect.
3. The residual structure seen consistently in the corrected images was dark corners (up to 5% variations) in the IR filter data and apparent reflections off optical surfaces (up to 1% variations).
4. The antiblooming pairs cannot be reliably corrected by the linear model.
5. At least one dust spot shadow has been seen to shift during the thermal/vacuum test period and conceivably may have moved at launch.

119959	138	23:6:44.0	LIGHT_TRANSFER_228	PO/BL2	460000	ON	-9.0	120124	139	9:5:4.0	LIGHT_TRANSFER_240	P120/CB1	0	ON	-9.0
119960	138	23:16:32.0	LIGHT_TRANSFER_228	PO/BL2	460000	ON	-9.0	120102	139	8:8:38.0	LIGHT_TRANSFER_240	P120/CB1	8200	ON	-9.0
119961	138	23:26:20.0	LIGHT_TRANSFER_228	PO/BL2	460000	ON	-9.0	120103	139	8:10:19.0	LIGHT_TRANSFER_240	P120/CB1	8200	ON	-9.0
119962	138	23:31:0.0	LIGHT_TRANSFER_229	PO/MT2	2600	ON	-9.0	120105	139	8:13:0.0	LIGHT_TRANSFER_240	P120/CB1	18000	ON	-9.0
119963	138	23:29:0.0	LIGHT_TRANSFER_229	PO/MT2	0	ON	-9.0	120106	139	8:15:21.0	LIGHT_TRANSFER_240	P120/CB1	18000	ON	-9.0
119964	138	23:30:29.0	LIGHT_TRANSFER_229	PO/MT2	0	ON	-9.0	120107	139	8:16:55.0	LIGHT_TRANSFER_240	P120/CB1	26000	ON	-9.0
119965	138	23:32:3.0	LIGHT_TRANSFER_229	PO/MT2	26000	ON	-9.0	120108	139	8:19:0.0	LIGHT_TRANSFER_240	P120/CB1	26000	ON	-9.0
119966	138	23:34:7.0	LIGHT_TRANSFER_229	PO/MT2	26000	ON	-9.0	120109	139	8:21:4.0	LIGHT_TRANSFER_240	P120/CB1	26000	ON	-9.0
119967	138	23:36:11.0	LIGHT_TRANSFER_229	PO/MT2	26000	ON	-9.0	120110	139	8:22:13.0	LIGHT_TRANSFER_241	P120/IR1	0	ON	-9.0
119968	138	23:38:40.0	LIGHT_TRANSFER_229	PO/MT2	56000	ON	-9.0	120111	139	8:23:42.0	LIGHT_TRANSFER_241	P120/IR1	0	ON	-9.0
119969	138	23:41:32.0	LIGHT_TRANSFER_229	PO/MT2	56000	ON	-9.0	120112	139	8:25:11.0	LIGHT_TRANSFER_241	P120/IR1	0	ON	-9.0
119970	138	23:44:24.0	LIGHT_TRANSFER_229	PO/MT2	56000	ON	-9.0	120113	139	8:26:40.0	LIGHT_TRANSFER_241	P120/IR1	560	ON	-9.0
119971	138	23:46:53.0	LIGHT_TRANSFER_229	PO/MT2	82000	ON	-9.0	120114	139	8:28:10.0	LIGHT_TRANSFER_241	P120/IR1	560	ON	-9.0
119972	138	23:49:45.0	LIGHT_TRANSFER_229	PO/MT2	82000	ON	-9.0	120115	139	8:29:39.0	LIGHT_TRANSFER_241	P120/IR1	560	ON	-9.0
119973	138	23:52:37.0	LIGHT_TRANSFER_229	PO/MT2	82000	ON	-9.0	120116	139	8:30:44.0	LIGHT_TRANSFER_241	P120/IR1	1200	ON	-9.0
119976	139	0:16:33.0	LIGHT_TRANSFER_229	PO/MT2	82000	ON	-9.0	120117	139	8:32:13.0	LIGHT_TRANSFER_241	P120/IR1	1200	ON	-9.0
119977	139	0:19:25.0	LIGHT_TRANSFER_229	PO/MT2	82000	ON	-9.0	120118	139	8:33:42.0	LIGHT_TRANSFER_241	P120/IR1	1200	ON	-9.0
119978	139	0:12:17.0	LIGHT_TRANSFER_229	PO/MT2	82000	ON	-9.0	120119	139	8:35:12.0	LIGHT_TRANSFER_241	P120/IR1	1800	ON	-9.0
119980	139	0:27:7.0	LIGHT_TRANSFER_230	PO/CB2	0	ON	-9.0	120120	139	8:36:41.0	LIGHT_TRANSFER_241	P120/IR1	1800	ON	-9.0
119981	139	0:28:36.0	LIGHT_TRANSFER_230	PO/CB2	0	ON	-9.0	120121	139	8:38:10.0	LIGHT_TRANSFER_241	P120/IR1	1800	ON	-9.0
119982	139	0:30:5.0	LIGHT_TRANSFER_230	PO/CB2	0	ON	-9.0	120126	139	9:15:59.0	LIGHT_TRANSFER_242	P60/GRN	0	ON	-9.0
119983	139	0:31:15.0	LIGHT_TRANSFER_230	PO/CB2	10000	ON	-9.0	120127	139	9:17:27.0	LIGHT_TRANSFER_242	P60/GRN	0	ON	-9.0
119984	139	0:32:55.0	LIGHT_TRANSFER_230	PO/CB2	10000	ON	-9.0	120161	139	11:24:20.0	LIGHT_TRANSFER_242	P60/GRN	0	ON	-9.0
119985	139	0:34:35.0	LIGHT_TRANSFER_230	PO/CB2	10000	ON	-9.0	120128	139	9:18:30.0	LIGHT_TRANSFER_242	P60/GRN	2600	ON	-9.0
119987	139	0:38:20.0	LIGHT_TRANSFER_230	PO/CB2	22000	ON	-9.0	120129	139	9:20:2.0	LIGHT_TRANSFER_242	P60/GRN	2600	ON	-9.0
119988	139	0:40:24.0	LIGHT_TRANSFER_230	PO/CB2	22000	ON	-9.0	120130	139	9:21:34.0	LIGHT_TRANSFER_242	P60/GRN	2600	ON	-9.0
120031	139	0:50:6.0	LIGHT_TRANSFER_230	PO/CB2	22000	ON	-9.0	120131	139	9:22:50.0	LIGHT_TRANSFER_242	P60/GRN	5600	ON	-9.0
119989	139	0:42:28.0	LIGHT_TRANSFER_230	PO/CB2	32000	ON	-9.0	120132	139	9:24:30.0	LIGHT_TRANSFER_242	P60/GRN	5600	ON	-9.0
119991	139	0:46:36.0	LIGHT_TRANSFER_230	PO/CB2	32000	ON	-9.0	120133	139	9:26:10.0	LIGHT_TRANSFER_242	P60/GRN	5600	ON	-9.0
120029	139	2:40:25.0	LIGHT_TRANSFER_230	PO/CB2	32000	ON	-9.0	120134	139	9:27:26.0	LIGHT_TRANSFER_242	P60/GRN	8200	ON	-9.0
119992	139	0:47:47.0	LIGHT_TRANSFER_231	PO/MT1	0	ON	-9.0	120135	139	9:29:6.0	LIGHT_TRANSFER_242	P60/GRN	8200	ON	-9.0
119993	139	0:49:16.0	LIGHT_TRANSFER_231	PO/MT1	0	ON	-9.0	120136	139	9:30:46.0	LIGHT_TRANSFER_242	P60/GRN	8200	ON	-9.0
119994	139	0:50:15.0	LIGHT_TRANSFER_231	PO/MT1	0	ON	-9.0	120137	139	9:31:56.0	LIGHT_TRANSFER_243	P60/BL2	0	ON	-9.0
119995	139	0:53:7.0	LIGHT_TRANSFER_231	PO/MT1	56000	ON	-9.0	120138	139	9:33:25.0	LIGHT_TRANSFER_243	P60/BL2	0	ON	-9.0
119996	139	0:55:59.0	LIGHT_TRANSFER_231	PO/MT1	56000	ON	-9.0	120139	139	9:34:54.0	LIGHT_TRANSFER_243	P60/BL2	0	ON	-9.0
119997	139	0:58:51.0	LIGHT_TRANSFER_231	PO/MT1	56000	ON	-9.0	120140	139	9:39:1.0	LIGHT_TRANSFER_243	P60/BL2	150000	ON	-9.0
119998	139	1:02:58.0	LIGHT_TRANSFER_231	PO/MT1	120000	ON	-9.0	120141	139	9:43:29.0	LIGHT_TRANSFER_243	P60/BL2	150000	ON	-9.0
119999	139	1:07:26.0	LIGHT_TRANSFER_231	PO/MT1	120000	ON	-9.0	120142	139	9:47:57.0	LIGHT_TRANSFER_243	P60/BL2	150000	ON	-9.0
120000	139	1:10:54.0	LIGHT_TRANSFER_231	PO/MT1	120000	ON	-9.0	120143	139	10:47:12.0	LIGHT_TRANSFER_243	P60/BL2	120000	ON	-9.0
120002	139	1:20:27.0	LIGHT_TRANSFER_231	PO/MT1	180000	ON	-9.0	120145	139	10:17:0.0	LIGHT_TRANSFER_243	P60/BL2	32000	ON	-9.0
120003	139	1:24:55.0	LIGHT_TRANSFER_231	PO/MT1	180000	ON	-9.0	120162	139	11:33:49.0	LIGHT_TRANSFER_243	P60/BL2	320000	ON	-9.0
120030	139	2:44:37.0	LIGHT_TRANSFER_231	PO/MT1	180000	ON	-9.0	120146	139	10:26:25.0	LIGHT_TRANSFER_243	P60/BL2	460000	ON	-9.0
120004	139	1:26:6.0	LIGHT_TRANSFER_232	PO/CB1	0	ON	-9.0	120147	139	10:36:13.0	LIGHT_TRANSFER_243	P60/BL2	460000	ON	-9.0
120005	139	1:27:35.0	LIGHT_TRANSFER_232	PO/CB1	0	ON	-9.0	120148	139	10:46:12.0	LIGHT_TRANSFER_243	P60/BL2	460000	ON	-9.0
120006	139	1:29:4.0	LIGHT_TRANSFER_232	PO/CB1	0	ON	-9.0	120149	139	10:47:12.0	LIGHT_TRANSFER_244	P60/MT2	0	ON	-9.0
120007	139	1:30:14.0	LIGHT_TRANSFER_232	PO/CB1	8200	ON	-9.0	120150	139	11:48:41.0	LIGHT_TRANSFER_244	P60/MT2	0	ON	-9.0
120008	139	1:31:54.0	LIGHT_TRANSFER_232	PO/CB1	8200	ON	-9.0	120151	139	10:50:11.0	LIGHT_TRANSFER_244	P60/MT2	0	ON	-9.0
120009	139	1:33:34.0	LIGHT_TRANSFER_232	PO/CB1	8200	ON	-9.0	120152	139	10:51:45.0	LIGHT_TRANSFER_244	P60/MT2	26000	ON	-9.0
120010	139	1:35:1.0	LIGHT_TRANSFER_232	PO/CB1	18000	ON	-9.0	120153	139	10:53:49.0	LIGHT_TRANSFER_244	P60/MT2	26000	ON	-9.0
120011	139	1:36:49.0	LIGHT_TRANSFER_232	PO/CB1	18000	ON	-9.0	120154	139	10:55:53.0	LIGHT_TRANSFER_244	P60/MT2	26000	ON	-9.0
120012	139	1:38:37.0	LIGHT_TRANSFER_232	PO/CB1	18000	ON	-9.0	120155	139	10:58:21.0	LIGHT_TRANSFER_244	P60/MT2	56000	ON	-9.0
120013	139	1:40:11.0	LIGHT_TRANSFER_232	PO/CB1	26000	ON	-9.0	120156	139	11:1:13.0	LIGHT_TRANSFER_244	P60/MT2	56000	ON	-9.0
120014	139	1:42:15.0	LIGHT_TRANSFER_232	PO/CB1	26000	ON	-9.0	120157	139	11:4:6.0	LIGHT_TRANSFER_244	P60/MT2	56000	ON	-9.0
120015	139	1:44:19.0	LIGHT_TRANSFER_232	PO/CB1	26000	ON	-9.0	120158	139	11:6:34.0	LIGHT_TRANSFER_244	P60/MT2	82000	ON	-9.0
120016	139	1:45:30.0	LIGHT_TRANSFER_233	PO/IR1	0	ON	-9.0	120159	139	11:9:26.0	LIGHT_TRANSFER_244	P60/MT2	82000	ON	-9.0
120017	139	1:46:59.0	LIGHT_TRANSFER_233	PO/IR1	0	ON	-9.0	120160	139	11:12:19.0	LIGHT_TRANSFER_244	P60/MT2	82000	ON	-9.0
120018	139	1:48:28.0	LIGHT_TRANSFER_233	PO/IR1	0	ON	-9.0	120178	139	13:18:53.0	LIGHT_TRANSFER_246	P60/CB2	0	ON	-9.0
120019	139	1:49:27.0	LIGHT_TRANSFER_233	PO/IR1	560	ON	-9.0	120179	139	13:24:22.0	LIGHT_TRANSFER_246	P60/CB2	0	ON	-9.0
120020	139	1:51:26.0	LIGHT_TRANSFER_233	PO/IR1	560	ON	-9.0	120180	139	13:21:51.0	LIGHT_TRANSFER_246	P60/CB2	0	ON	-9.0
120021	139	1:52:55.0	LIGHT_TRANSFER_233	PO/IR1	560	ON	-9.0	120181	139	13:23:1.0	LIGHT_TRANSFER_246	P60/CB2	10000	ON	-9.0
120022	139	1:54:1.0	LIGHT_TRANSFER_233	PO/IR1	1200	ON	-9.0	120182	139	13:24:41.0	LIGHT_TRANSFER_246	P60/CB2	10000	ON	-9.0
120023	139	1:55:30.0	LIGHT_TRANSFER_233	PO/IR1	1200	ON	-9.0	120183	139	13:26:21.0	LIGHT_TRANSFER_246	P60/CB2	10000	ON	-9.0
120024	139	1:56:19.0	LIGHT_TRANSFER_233	PO/IR1	1200	ON	-9.0	120184	139	13:28:0.0	LIGHT_TRANSFER_246	P60/CB2	22000	ON	-9.0
120025	139	1:58:28.0	LIGHT_TRANSFER_233	PO/IR1	1800	ON	-9.0	120185	139	13:34:6.0	LIGHT_TRANSFER_246	P60/CB2	22000	ON	-9.0
120026	139	1:59:57.0	LIGHT_TRANSFER_233	PO/IR1	1800	ON	-9.0	120221	139	15:53:26.0	LIGHT_TRANSFER_246	P60/CB2	22000	ON	-9.0
120027	139	2:1:26.0	LIGHT_TRANSFER_233	PO/IR1	1800	ON	-9.0	120187	139	13:34:14.0	LIGHT_TRANSFER_246	P60/CB2	32000	ON	-9.0
120032	139	3:21:4.0	LIGHT_TRANSFER_234	P120/GRN	0	ON	-9.0	120188	139	13:36:18.0	LIGHT_TRANSFER_246	P60/CB2	32000	ON	-9.0
120033	139	3:22:33.0	LIGHT_TRANSFER_234	P120/GRN	0	ON	-9.0	120189	139	13:38:22.0	LIGHT_TRANSFER_246	P60/CB2	32000	ON	-9.0
120034	139	3:24:2.0	LIGHT_TRANSFER_234	P120/GRN	0	ON	-9.0	120190	139	13:41:32.0	LIGHT_TRANSFER_247	P60/MT1	0	ON	-9.0
120035	139	3:25:4.0	LIGHT_TRANSFER_234	P120/GRN	2600	ON	-9.0	120191	139	13:41:1.0	LIGHT_TRANSFER_247	P60/MT1	0	ON	-9.0
120036	139	3:26:36.0	LIGHT_TRANSFER_234	P120/GRN	2600	ON	-9.0	120222	139	15:54:37.0	LIGHT_TRANSFER_247	P60/MT1	0	ON	-9.0
120037	139	3:28:8.0	LIGHT_TRANSFER_234	P120/GRN	2600	ON	-9.0	120193	139	13:44:53.0	LIGHT_TRANSFER_247	P60/MT1	56000	ON	-9.0
120038	139	3:29:25.0	LIGHT_TRANSFER_234	P120/GRN	5600	ON	-9.0	120194	139	13:47:45.0	LIGHT_TRANSFER_247	P60/MT1	56000	ON	-9.0
120039	139	3:31:5.0	LIGHT_TRANSFER_234	P120/GRN	5600	ON	-9.0	120195	139	13:50:37.0	LIGHT_TRANSFER_247	P60/MT1	56000	ON	-9.0
120068	139	5:44:24.0	LIGHT_TRANSFER_234	P120/GRN	5600	ON	-9.0	120196	139	13:54:13.0	LIGHT_TRANSFER_247	P60/MT1	120000	ON	-9.0
120041	139	3:34:11.0	LIGHT_TRANSFER_234	P120/GRN	8200	ON	-9.0	120197	139	13:59:12.0	LIGHT_TRANSFER_247	P60/MT1	120000	ON	-9.0
120042	139	3:35:51.0	LIGHT_TRANSFER_234	P120/GRN	8200	ON	-9.0	120198	139	14:3:40.0	LIGHT_TRANSFER_247	P60/MT1	120000	ON	-9.0
120043	139	3:37:31.0	LIGHT_TRANSFER_234	P120/GRN	8200	ON	-9.0	120199	139						

120293	139	19:54:24.0	LIGHT_TRANSFER_252	RED/CB1	0	ON	-9.0	119434	137	20:35:43.0	LIGHT_TRANSFER_270	CLL/CL2	0	ON	-9.0
120294	139	19:55:53.0	LIGHT_TRANSFER_252	RED/CB1	0	ON	-9.0	119435	137	20:37:11.0	LIGHT_TRANSFER_270	CLL/CL2	0	ON	-9.0
120295	139	19:56:55.0	LIGHT_TRANSFER_252	RED/CB1	3800	ON	-9.0	119436	137	20:38:41.0	LIGHT_TRANSFER_270	CLL/CL2	0	ON	-9.0
120296	139	19:58:27.0	LIGHT_TRANSFER_252	RED/CB1	3800	ON	-9.0	119437	137	20:40:10.0	LIGHT_TRANSFER_270	CLL/CL2	150	ON	-9.0
120297	139	19:59:59.0	LIGHT_TRANSFER_252	RED/CB1	3800	ON	-9.0	119438	137	20:41:39.0	LIGHT_TRANSFER_270	CLL/CL2	150	ON	-9.0
120298	139	20:1:18.0	LIGHT_TRANSFER_252	RED/CB1	8200	ON	-9.0	119439	137	20:43:8.0	LIGHT_TRANSFER_270	CLL/CL2	150	ON	-9.0
120300	139	20:4:38.0	LIGHT_TRANSFER_252	RED/CB1	8200	ON	-9.0	119440	137	20:44:13.0	LIGHT_TRANSFER_270	CLL/CL2	320	ON	-9.0
120318	139	20:44:18.0	LIGHT_TRANSFER_252	RED/CB1	8200	ON	-9.0	119441	137	20:45:42.0	LIGHT_TRANSFER_270	CLL/CL2	320	ON	-9.0
120301	139	20:6:18.0	LIGHT_TRANSFER_252	RED/CB1	12000	ON	-9.0	119442	137	20:47:12.0	LIGHT_TRANSFER_270	CLL/CL2	320	ON	-9.0
120302	139	20:7:58.0	LIGHT_TRANSFER_252	RED/CB1	12000	ON	-9.0	119443	137	20:48:41.0	LIGHT_TRANSFER_270	CLL/CL2	460	ON	-9.0
120303	139	20:9:38.0	LIGHT_TRANSFER_252	RED/CB1	12000	ON	-9.0	119444	137	20:50:10.0	LIGHT_TRANSFER_270	CLL/CL2	460	ON	-9.0
120304	139	20:10:49.0	LIGHT_TRANSFER_253	RED/IR1	0	ON	-9.0	119445	137	20:51:39.0	LIGHT_TRANSFER_270	CLL/CL2	460	ON	-9.0
120305	139	20:12:18.0	LIGHT_TRANSFER_253	RED/IR1	0	ON	-9.0	119458	137	21:26:19.0	LIGHT_TRANSFER_272	CLL/CL2	0	ON	-9.0
120306	139	20:13:47.0	LIGHT_TRANSFER_253	RED/IR1	0	ON	-9.0	119459	137	21:27:48.0	LIGHT_TRANSFER_272	CLL/CL2	0	ON	-9.0
120307	139	20:15:16.0	LIGHT_TRANSFER_253	RED/IR1	1200	ON	-9.0	119460	137	21:29:17.0	LIGHT_TRANSFER_272	CLL/CL2	0	ON	-9.0
120308	139	20:16:45.0	LIGHT_TRANSFER_253	RED/IR1	1200	ON	-9.0	119461	137	21:30:47.0	LIGHT_TRANSFER_272	CLL/CL2	150	ON	-9.0
120309	139	20:18:14.0	LIGHT_TRANSFER_253	RED/IR1	1200	ON	-9.0	119462	137	21:32:16.0	LIGHT_TRANSFER_272	CLL/CL2	150	ON	-9.0
120310	139	20:19:23.0	LIGHT_TRANSFER_253	RED/IR1	2600	ON	-9.0	119507	137	22:39:15.0	LIGHT_TRANSFER_272	CLL/CL2	150	ON	-9.0
120311	139	20:20:55.0	LIGHT_TRANSFER_253	RED/IR1	2600	ON	-9.0	119464	137	21:35:0.0	LIGHT_TRANSFER_272	CLL/CL2	320	ON	-9.0
120312	139	20:22:27.0	LIGHT_TRANSFER_253	RED/IR1	2600	ON	-9.0	119465	137	21:36:29.0	LIGHT_TRANSFER_272	CLL/CL2	320	ON	-9.0
120319	139	20:45:48.0	LIGHT_TRANSFER_253	RED/IR1	5600	ON	-9.0	119466	137	21:37:58.0	LIGHT_TRANSFER_272	CLL/CL2	320	ON	-9.0
120320	139	20:47:28.0	LIGHT_TRANSFER_253	RED/IR1	5600	ON	-9.0	119467	137	21:39:28.0	LIGHT_TRANSFER_272	CLL/CL2	460	ON	-9.0
120321	139	20:49:8.0	LIGHT_TRANSFER_253	RED/IR1	5600	ON	-9.0	119468	137	21:40:57.0	LIGHT_TRANSFER_272	CLL/CL2	460	ON	-9.0
120322	139	20:56:4.0	LIGHT_TRANSFER_253	RED/IR1	5600	ON	-9.0	119469	137	21:42:26.0	LIGHT_TRANSFER_272	CLL/CL2	460	ON	-9.0
120323	139	20:57:44.0	LIGHT_TRANSFER_253	RED/IR1	5600	ON	-9.0	119808	138	12:46:37.0	LIGHT_TRANSFER_278	CLL/CL2	0	ON	-9.0
120324	139	20:59:24.0	LIGHT_TRANSFER_253	RED/IR1	5600	ON	-9.0	119809	138	12:48:6.0	LIGHT_TRANSFER_278	CLL/CL2	0	ON	-9.0
116844	112	12:5:43.0	LIGHT_TRANSFER_254	CLL/CL2	0	ON	26.0	119810	138	12:49:35.0	LIGHT_TRANSFER_278	CLL/CL2	0	ON	-9.0
116845	112	12:7:12.0	LIGHT_TRANSFER_254	CLL/CL2	0	ON	26.0	119811	138	12:51:4.0	LIGHT_TRANSFER_278	CLL/CL2	150	ON	-9.0
116846	112	12:8:41.0	LIGHT_TRANSFER_254	CLL/CL2	0	ON	26.0	119812	138	12:52:33.0	LIGHT_TRANSFER_278	CLL/CL2	150	ON	-9.0
116847	112	12:10:10.0	LIGHT_TRANSFER_254	CLL/CL2	150	ON	26.0	119813	138	12:54:3.0	LIGHT_TRANSFER_278	CLL/CL2	150	ON	-9.0
116848	112	12:11:39.0	LIGHT_TRANSFER_254	CLL/CL2	150	ON	26.0	119814	138	12:55:8.0	LIGHT_TRANSFER_278	CLL/CL2	320	ON	-9.0
116849	112	12:13:8.0	LIGHT_TRANSFER_254	CLL/CL2	150	ON	26.0	119815	138	12:56:37.0	LIGHT_TRANSFER_278	CLL/CL2	320	ON	-9.0
116850	112	12:14:13.0	LIGHT_TRANSFER_254	CLL/CL2	320	ON	26.0	119816	138	12:58:6.0	LIGHT_TRANSFER_278	CLL/CL2	320	ON	-9.0
116851	112	12:15:43.0	LIGHT_TRANSFER_254	CLL/CL2	320	ON	26.0	119817	138	12:59:35.0	LIGHT_TRANSFER_278	CLL/CL2	460	ON	-9.0
116852	112	12:17:12.0	LIGHT_TRANSFER_254	CLL/CL2	320	ON	26.0	119818	138	13:1:5.0	LIGHT_TRANSFER_278	CLL/CL2	460	ON	-9.0
116853	112	12:18:41.0	LIGHT_TRANSFER_254	CLL/CL2	460	ON	26.0	119819	138	13:2:34.0	LIGHT_TRANSFER_278	CLL/CL2	460	ON	-9.0
116854	112	12:20:10.0	LIGHT_TRANSFER_254	CLL/CL2	460	ON	26.0	119820	138	13:3:43.0	LIGHT_TRANSFER_279	CLL/GRN	0	ON	-9.0
116855	112	12:21:39.0	LIGHT_TRANSFER_254	CLL/CL2	460	ON	26.0	119821	138	13:5:12.0	LIGHT_TRANSFER_279	CLL/GRN	0	ON	-9.0
116856	112	12:22:49.0	LIGHT_TRANSFER_255	RED/CL2	0	ON	26.0	119822	138	13:6:41.0	LIGHT_TRANSFER_279	CLL/GRN	0	ON	-9.0
116857	112	12:24:18.0	LIGHT_TRANSFER_255	RED/CL2	0	ON	26.0	119823	138	13:8:10.0	LIGHT_TRANSFER_279	CLL/GRN	820	ON	-9.0
116858	112	12:25:48.0	LIGHT_TRANSFER_255	RED/CL2	0	ON	26.0	119824	138	13:9:40.0	LIGHT_TRANSFER_279	CLL/GRN	820	ON	-9.0
116892	112	13:21:44.0	LIGHT_TRANSFER_255	RED/CL2	0	ON	26.0	119825	138	13:11:9.0	LIGHT_TRANSFER_279	CLL/GRN	820	ON	-9.0
116859	112	12:27:17.0	LIGHT_TRANSFER_255	RED/CL2	380	ON	26.0	119826	138	13:12:16.0	LIGHT_TRANSFER_279	CLL/GRN	1800	ON	-9.0
116860	112	12:28:46.0	LIGHT_TRANSFER_255	RED/CL2	380	ON	26.0	119827	138	13:13:45.0	LIGHT_TRANSFER_279	CLL/GRN	1800	ON	-9.0
116861	112	13:30:15.0	LIGHT_TRANSFER_255	RED/CL2	380	ON	26.0	119828	138	13:15:14.0	LIGHT_TRANSFER_279	CLL/GRN	1800	ON	-9.0
116862	112	13:31:22.0	LIGHT_TRANSFER_255	RED/CL2	820	ON	26.0	119829	138	13:16:16.0	LIGHT_TRANSFER_279	CLL/GRN	2600	ON	-9.0
116863	112	13:32:52.0	LIGHT_TRANSFER_255	RED/CL2	820	ON	26.0	119830	138	13:17:49.0	LIGHT_TRANSFER_279	CLL/GRN	2600	ON	-9.0
116864	112	13:34:21.0	LIGHT_TRANSFER_255	RED/CL2	820	ON	26.0	119831	138	13:19:21.0	LIGHT_TRANSFER_279	CLL/GRN	2600	ON	-9.0
116865	112	13:35:50.0	LIGHT_TRANSFER_255	RED/CL2	1200	ON	26.0	119832	138	13:20:30.0	LIGHT_TRANSFER_281	CLL/BL2	0	ON	-9.0
116866	112	13:37:19.0	LIGHT_TRANSFER_255	RED/CL2	1200	ON	26.0	119833	138	13:21:59.0	LIGHT_TRANSFER_281	CLL/BL2	0	ON	-9.0
116867	112	13:38:48.0	LIGHT_TRANSFER_255	RED/CL2	1200	ON	26.0	119834	138	13:23:28.0	LIGHT_TRANSFER_281	CLL/BL2	0	ON	-9.0
116868	112	13:39:58.0	LIGHT_TRANSFER_256	BLL/CL2	0	ON	26.0	119835	138	13:24:42.0	LIGHT_TRANSFER_281	CLL/BL2	5600	ON	-9.0
116869	112	13:41:28.0	LIGHT_TRANSFER_256	BLL/CL2	0	ON	26.0	119837	138	13:31:35.0	LIGHT_TRANSFER_281	CLL/BL2	5600	ON	-9.0
116870	112	13:42:57.0	LIGHT_TRANSFER_256	BLL/CL2	0	ON	26.0	119874	138	15:22:58.0	LIGHT_TRANSFER_281	CLL/BL2	5600	ON	-9.0
116871	112	13:44:7.0	LIGHT_TRANSFER_256	BLL/CL2	10000	ON	26.0	119838	138	13:35:39.0	LIGHT_TRANSFER_281	CLL/BL2	12000	ON	-9.0
116872	112	13:45:47.0	LIGHT_TRANSFER_256	BLL/CL2	10000	ON	26.0	119839	138	13:40:7.0	LIGHT_TRANSFER_281	CLL/BL2	12000	ON	-9.0
116873	112	13:47:27.0	LIGHT_TRANSFER_256	BLL/CL2	10000	ON	26.0	119840	138	13:44:35.0	LIGHT_TRANSFER_281	CLL/BL2	12000	ON	-9.0
116874	112	13:49:9.0	LIGHT_TRANSFER_256	BLL/CL2	22000	ON	26.0	119842	138	13:53:32.0	LIGHT_TRANSFER_281	CLL/BL2	18000	ON	-9.0
116876	112	13:53:18.0	LIGHT_TRANSFER_256	BLL/CL2	22000	ON	26.0	119863	138	14:53:12.0	LIGHT_TRANSFER_281	CLL/BL2	18000	ON	-9.0
116896	112	13:31:9.0	LIGHT_TRANSFER_256	BLL/CL2	22000	ON	26.0	119875	138	15:27:3.0	LIGHT_TRANSFER_281	CLL/BL2	18000	ON	-9.0
116877	112	12:55:22.0	LIGHT_TRANSFER_256	BLL/CL2	32000	ON	26.0	119844	138	13:59:22.0	LIGHT_TRANSFER_282	CLL/MT2	0	ON	-9.0
116878	112	12:57:26.0	LIGHT_TRANSFER_256	BLL/CL2	32000	ON	26.0	119845	138	14:0:51.0	LIGHT_TRANSFER_282	CLL/MT2	0	ON	-9.0
116879	112	12:59:30.0	LIGHT_TRANSFER_256	BLL/CL2	32000	ON	26.0	119846	138	14:2:20.0	LIGHT_TRANSFER_282	CLL/MT2	0	ON	-9.0
116880	112	13:0:50.0	LIGHT_TRANSFER_259	IRP0/CL2	0	ON	26.0	119847	138	14:3:50.0	LIGHT_TRANSFER_282	CLL/MT2	12000	ON	-9.0
116881	112	13:2:19.0	LIGHT_TRANSFER_259	IRP0/CL2	0	ON	26.0	119848	138	14:5:11.0	LIGHT_TRANSFER_282	CLL/MT2	12000	ON	-9.0
116882	112	13:3:48.0	LIGHT_TRANSFER_259	IRP0/CL2	0	ON	26.0	119849	138	14:6:51.0	LIGHT_TRANSFER_282	CLL/MT2	12000	ON	-9.0
116883	112	13:5:17.0	LIGHT_TRANSFER_259	IRP0/CL2	320	ON	26.0	119850	138	14:8:31.0	LIGHT_TRANSFER_282	CLL/MT2	26000	ON	-9.0
116884	112	13:6:46.0	LIGHT_TRANSFER_259	IRP0/CL2	320	ON	26.0	119851	138	14:10:35.0	LIGHT_TRANSFER_282	CLL/MT2	26000	ON	-9.0
116885	112	13:8:15.0	LIGHT_TRANSFER_259	IRP0/CL2	320	ON	26.0	119852	138	14:12:39.0	LIGHT_TRANSFER_282	CLL/MT2	26000	ON	-9.0
116887	112	13:10:50.0	LIGHT_TRANSFER_259	IRP0/CL2	680	ON	26.0	119853	138	14:13:30.0	LIGHT_TRANSFER_282	CLL/MT2	26000	ON	-9.0
116888	112	13:12:19.0	LIGHT_TRANSFER_259	IRP0/CL2	680	ON	26.0	119854	138	14:16:50.0	LIGHT_TRANSFER_282	CLL/MT2	38000	ON	-9.0
116894	112	13:24:53.0	LIGHT_TRANSFER_259	IRP0/CL2	680	ON	26.0	119855	138	14:19:10.0	LIGHT_TRANSFER_282	CLL/MT2	38000	ON	-9.0
116889	112	13:13:48.0	LIGHT_TRANSFER_259	IRP0/CL2	1000	ON	26.0	119856	138	14:20:19.0	LIGHT_TRANSFER_283	CLL/CB2	0	ON	-9.0
116891	112	13:16:46.0	LIGHT_TRANSFER_259	IRP0/CL2	1000	ON	26.0	119857	138	14:21:48.0	LIGHT_TRANSFER_283	CLL/CB2	0	ON	-9.0
116895	112	13:26:23.0	LIGHT_TRANSFER_259	IRP0/CL2	1000	ON	26.0	119858	138	14:23:17.0	LIGHT_TRANSFER_283	CLL/CB2	0	ON	-9.0
116897	112	13:39:41.0	LIGHT_TRANSFER_260	P120/CL2	0	ON	26.0	119861	138	14:28:48.0	LIGHT_TRANSFER_283	CLL/CB2	5600	ON	-9.0
116898	112	13:41:10.0	LIGHT_TRANSFER_260	P120/CL2	0	ON	26.0	119865	138	14:59:13.0	LIGHT_TRANSFER_283	CLL/CB2	5600	ON	-9.0
116899	112	13:42:39.0	LIGHT_TRANSFER_260	P120/CL2	0	ON	26.0								

119703	138	8:31:3.0	LIGHT_TRANSFER_287	CLL/CB1	6800	ON	-9.0	119636	138	5:46:48.0	LIGHT_TRANSFER_298	IR4/CL2	12000	ON	-9.0
119704	138	8:32:43.0	LIGHT_TRANSFER_287	CLL/CB1	10000	ON	-9.0	119637	138	5:48:29.0	LIGHT_TRANSFER_298	IR4/CL2	26000	ON	-9.0
119705	138	8:34:23.0	LIGHT_TRANSFER_287	CLL/CB1	10000	ON	6.0	119638	138	5:50:33.0	LIGHT_TRANSFER_298	IR4/CL2	26000	ON	-9.0
119706	138	8:37:0.0	LIGHT_TRANSFER_287	CLL/CB1	10000	ON	-9.0	119639	138	5:52:37.0	LIGHT_TRANSFER_298	IR4/CL2	26000	ON	-9.0
119707	138	8:37:13.0	LIGHT_TRANSFER_288	CLL/IR3	0	ON	-9.0	119640	138	5:54:27.0	LIGHT_TRANSFER_298	IR4/CL2	38000	ON	-9.0
119708	138	8:38:42.0	LIGHT_TRANSFER_288	CLL/IR3	0	ON	-9.0	119641	138	5:56:47.0	LIGHT_TRANSFER_298	IR4/CL2	38000	ON	-9.0
119709	138	8:40:11.0	LIGHT_TRANSFER_288	CLL/IR3	0	ON	-9.0	119656	138	6:38:30.0	LIGHT_TRANSFER_298	IR4/CL2	38000	ON	-9.0
119710	138	8:41:40.0	LIGHT_TRANSFER_288	CLL/IR3	1500	ON	-9.0	119643	138	6:0:28.0	LIGHT_TRANSFER_299	IR2/CL2	0	ON	-9.0
119711	138	8:43:38.0	LIGHT_TRANSFER_288	CLL/IR3	1500	ON	-9.0	119644	138	6:1:57.0	LIGHT_TRANSFER_299	IR2/CL2	0	ON	-9.0
119712	138	8:44:38.0	LIGHT_TRANSFER_288	CLL/IR3	1500	ON	-9.0	119645	138	6:3:26.0	LIGHT_TRANSFER_299	IR2/CL2	0	ON	-9.0
119713	138	8:45:47.0	LIGHT_TRANSFER_288	CLL/IR3	3200	ON	-9.0	119647	138	6:6:24.0	LIGHT_TRANSFER_299	IR2/CL2	820	ON	-9.0
119714	138	8:47:19.0	LIGHT_TRANSFER_288	CLL/IR3	3200	ON	-9.0	119648	138	6:7:53.0	LIGHT_TRANSFER_299	IR2/CL2	820	ON	-9.0
119715	138	8:48:52.0	LIGHT_TRANSFER_288	CLL/IR3	3200	ON	-9.0	119657	138	6:39:40.0	LIGHT_TRANSFER_299	IR2/CL2	820	ON	-9.0
119716	138	8:50:23.0	LIGHT_TRANSFER_288	CLL/IR3	4600	ON	-9.0	119649	138	6:8:59.0	LIGHT_TRANSFER_299	IR2/CL2	1800	ON	-9.0
119717	138	8:51:55.0	LIGHT_TRANSFER_288	CLL/IR3	4600	ON	-9.0	119650	138	6:10:28.0	LIGHT_TRANSFER_299	IR2/CL2	1800	ON	-9.0
119718	138	8:53:27.0	LIGHT_TRANSFER_288	CLL/IR3	4600	ON	-9.0	119651	138	6:11:57.0	LIGHT_TRANSFER_299	IR2/CL2	1800	ON	-9.0
119719	138	8:54:37.0	LIGHT_TRANSFER_289	CLL/IR1	0	ON	-9.0	119652	138	6:12:59.0	LIGHT_TRANSFER_299	IR2/CL2	2600	ON	-9.0
119720	138	8:56:6.0	LIGHT_TRANSFER_289	CLL/IR1	0	ON	-9.0	119653	138	6:14:31.0	LIGHT_TRANSFER_299	IR2/CL2	2600	ON	-9.0
119721	138	8:57:35.0	LIGHT_TRANSFER_289	CLL/IR1	0	ON	-9.0	119658	138	6:40:49.0	LIGHT_TRANSFER_299	IR2/CL2	2600	ON	-9.0
119722	138	8:59:4.0	LIGHT_TRANSFER_289	CLL/IR1	320	ON	-9.0	120843	141	18:42:49.0	LIGHT_TRANSFER_311	IRPO/MT2	0	ON	6.0
119723	138	9:0:33.0	LIGHT_TRANSFER_289	CLL/IR1	320	ON	-9.0	120844	141	18:44:18.0	LIGHT_TRANSFER_311	IRPO/MT2	0	ON	6.0
119724	138	9:2:2.0	LIGHT_TRANSFER_289	CLL/IR1	320	ON	-9.0	120845	141	18:45:47.0	LIGHT_TRANSFER_311	IRPO/MT2	0	ON	6.0
119725	138	9:3:8.0	LIGHT_TRANSFER_289	CLL/IR1	680	ON	-9.0	120846	141	18:46:57.0	LIGHT_TRANSFER_311	IRPO/MT2	5600	ON	6.0
119726	138	9:4:37.0	LIGHT_TRANSFER_289	CLL/IR1	680	ON	-9.0	120848	141	18:50:18.0	LIGHT_TRANSFER_311	IRPO/MT2	5600	ON	6.0
119727	138	9:6:6.0	LIGHT_TRANSFER_289	CLL/IR1	680	ON	-9.0	120928	141	22:5:35.0	LIGHT_TRANSFER_311	IRPO/MT2	5600	ON	6.0
119728	138	9:7:35.0	LIGHT_TRANSFER_289	CLL/IR1	1000	ON	-9.0	120849	141	18:51:34.0	LIGHT_TRANSFER_311	IRPO/MT2	12000	ON	6.0
119729	138	9:9:4.0	LIGHT_TRANSFER_289	CLL/IR1	1000	ON	-9.0	120851	141	18:54:54.0	LIGHT_TRANSFER_311	IRPO/MT2	12000	ON	6.0
119730	138	9:10:33.0	LIGHT_TRANSFER_289	CLL/IR1	1000	ON	-9.0	120852	141	18:56:12.0	LIGHT_TRANSFER_311	IRPO/MT2	18000	ON	6.0
119510	138	0:39:27.0	LIGHT_TRANSFER_290	CLL/CL2	0	ON	-9.0	120853	141	18:58:0.0	LIGHT_TRANSFER_311	IRPO/MT2	18000	ON	6.0
119511	138	0:40:56.0	LIGHT_TRANSFER_290	CLL/CL2	0	ON	-9.0	120854	141	18:59:49.0	LIGHT_TRANSFER_311	IRPO/MT2	18000	ON	6.0
119532	138	1:28:9.0	LIGHT_TRANSFER_290	CLL/CL2	0	ON	-9.0	120855	141	19:0:58.0	LIGHT_TRANSFER_312	IRPO/CB2	0	ON	6.0
119513	138	0:43:55.0	LIGHT_TRANSFER_290	CLL/CL2	150	ON	-9.0	120856	141	19:7:27.0	LIGHT_TRANSFER_312	IRPO/CB2	0	ON	6.0
119514	138	0:45:24.0	LIGHT_TRANSFER_290	CLL/CL2	150	ON	-9.0	120857	141	19:3:56.0	LIGHT_TRANSFER_312	IRPO/CB2	0	ON	6.0
119515	138	0:46:53.0	LIGHT_TRANSFER_290	CLL/CL2	320	ON	-9.0	120858	141	19:4:55.0	LIGHT_TRANSFER_312	IRPO/CB2	2000	ON	6.0
119516	138	0:47:58.0	LIGHT_TRANSFER_290	CLL/CL2	320	ON	-9.0	120859	141	19:6:24.0	LIGHT_TRANSFER_312	IRPO/CB2	2000	ON	6.0
119517	138	0:49:27.0	LIGHT_TRANSFER_290	CLL/CL2	320	ON	-9.0	120860	141	19:7:54.0	LIGHT_TRANSFER_312	IRPO/CB2	2000	ON	6.0
119518	138	0:50:57.0	LIGHT_TRANSFER_290	CLL/CL2	320	ON	-9.0	120861	141	19:9:4.0	LIGHT_TRANSFER_312	IRPO/CB2	4600	ON	6.0
119519	138	0:52:26.0	LIGHT_TRANSFER_290	CLL/CL2	460	ON	-9.0	120862	141	19:10:36.0	LIGHT_TRANSFER_312	IRPO/CB2	4600	ON	6.0
119520	138	0:53:55.0	LIGHT_TRANSFER_290	CLL/CL2	460	ON	-9.0	120863	141	19:12:8.0	LIGHT_TRANSFER_312	IRPO/CB2	4600	ON	6.0
119521	138	0:59:20.0	LIGHT_TRANSFER_291	RED/CL2	0	ON	-9.0	120864	141	19:13:18.0	LIGHT_TRANSFER_312	IRPO/CB2	6800	ON	6.0
119522	138	0:56:33.0	LIGHT_TRANSFER_291	RED/CL2	0	ON	-9.0	120865	141	19:14:59.0	LIGHT_TRANSFER_312	IRPO/CB2	6800	ON	6.0
119523	138	0:58:3.0	LIGHT_TRANSFER_291	RED/CL2	0	ON	-9.0	120866	141	19:16:39.0	LIGHT_TRANSFER_312	IRPO/CB2	6800	ON	6.0
119533	138	1:29:22.0	LIGHT_TRANSFER_291	RED/CL2	0	ON	-9.0	120867	141	19:17:59.0	LIGHT_TRANSFER_313	IRPO/MT3	0	ON	6.0
119525	138	1:1:1.0	LIGHT_TRANSFER_291	RED/CL2	380	ON	-9.0	120868	141	19:19:28.0	LIGHT_TRANSFER_313	IRPO/MT3	0	ON	6.0
119526	138	1:2:30.0	LIGHT_TRANSFER_291	RED/CL2	380	ON	-9.0	120869	141	19:20:57.0	LIGHT_TRANSFER_313	IRPO/MT3	0	ON	6.0
119527	138	1:3:59.0	LIGHT_TRANSFER_291	RED/CL2	380	ON	-9.0	120870	141	19:21:59.0	LIGHT_TRANSFER_313	IRPO/MT3	4600	ON	6.0
119528	138	1:5:6.0	LIGHT_TRANSFER_291	RED/CL2	820	ON	-9.0	120871	141	19:23:32.0	LIGHT_TRANSFER_313	IRPO/MT3	4600	ON	6.0
119529	138	1:6:36.0	LIGHT_TRANSFER_291	RED/CL2	820	ON	-9.0	120872	141	19:25:4.0	LIGHT_TRANSFER_313	IRPO/MT3	4600	ON	6.0
119534	138	1:30:30.0	LIGHT_TRANSFER_291	RED/CL2	820	ON	-9.0	120873	141	19:26:22.0	LIGHT_TRANSFER_313	IRPO/MT3	10000	ON	6.0
119536	138	1:33:28.0	LIGHT_TRANSFER_291	RED/CL2	1200	ON	-9.0	120874	141	19:28:2.0	LIGHT_TRANSFER_313	IRPO/MT3	10000	ON	6.0
119537	138	1:34:57.0	LIGHT_TRANSFER_291	RED/CL2	1200	ON	-9.0	120875	141	19:29:42.0	LIGHT_TRANSFER_313	IRPO/MT3	10000	ON	6.0
119538	138	1:35:58.0	LIGHT_TRANSFER_292	BLL/CL2	1200	ON	-9.0	120876	141	19:31:0.0	LIGHT_TRANSFER_313	IRPO/MT3	15000	ON	6.0
119539	138	1:36:8.0	LIGHT_TRANSFER_292	BLL/CL2	0	ON	-9.0	120877	141	19:32:48.0	LIGHT_TRANSFER_313	IRPO/MT3	15000	ON	6.0
119564	138	3:17:9.0	LIGHT_TRANSFER_292	BLL/CL2	0	ON	-9.0	120878	141	19:34:37.0	LIGHT_TRANSFER_313	IRPO/MT3	15000	ON	6.0
119542	138	1:41:56.0	LIGHT_TRANSFER_292	BLL/CL2	10000	ON	-9.0	120879	141	19:35:46.0	LIGHT_TRANSFER_314	IRPO/CB3	0	ON	6.0
119543	138	1:43:36.0	LIGHT_TRANSFER_292	BLL/CL2	10000	ON	-9.0	120880	141	19:37:15.0	LIGHT_TRANSFER_314	IRPO/CB3	0	ON	6.0
119544	138	3:18:19.0	LIGHT_TRANSFER_292	BLL/CL2	10000	ON	-9.0	120881	141	19:38:44.0	LIGHT_TRANSFER_314	IRPO/CB3	0	ON	6.0
119544	138	1:45:19.0	LIGHT_TRANSFER_292	BLL/CL2	22000	ON	-9.0	120882	141	19:40:2.0	LIGHT_TRANSFER_314	IRPO/CB3	15000	ON	6.0
119545	138	1:47:23.0	LIGHT_TRANSFER_292	BLL/CL2	22000	ON	-9.0	120884	141	19:43:39.0	LIGHT_TRANSFER_314	IRPO/CB3	15000	ON	6.0
119546	138	1:49:27.0	LIGHT_TRANSFER_292	BLL/CL2	22000	ON	-9.0	120924	141	21:57:49.0	LIGHT_TRANSFER_314	IRPO/CB3	15000	ON	6.0
119547	138	1:51:31.0	LIGHT_TRANSFER_292	BLL/CL2	32000	ON	-9.0	120885	141	19:45:21.0	LIGHT_TRANSFER_314	IRPO/CB3	32000	ON	6.0
119566	138	3:20:2.0	LIGHT_TRANSFER_292	BLL/CL2	32000	ON	-9.0	120886	141	19:47:25.0	LIGHT_TRANSFER_314	IRPO/CB3	32000	ON	6.0
119567	138	3:26:9.0	LIGHT_TRANSFER_292	BLL/CL2	32000	ON	-9.0	120887	141	19:49:29.0	LIGHT_TRANSFER_314	IRPO/CB3	32000	ON	6.0
119568	138	3:23:17.0	LIGHT_TRANSFER_293	IRPO/CL2	0	ON	-9.0	120888	141	19:51:26.0	LIGHT_TRANSFER_314	IRPO/CB3	38000	ON	6.0
119569	138	3:24:46.0	LIGHT_TRANSFER_293	IRPO/CL2	0	ON	-9.0	120889	141	19:53:46.0	LIGHT_TRANSFER_314	IRPO/CB3	38000	ON	6.0
119570	138	3:26:15.0	LIGHT_TRANSFER_293	IRPO/CL2	0	ON	-9.0	120890	141	19:56:16.0	LIGHT_TRANSFER_314	IRPO/CB3	38000	ON	6.0
119571	138	3:27:44.0	LIGHT_TRANSFER_293	IRPO/CL2	320	ON	-9.0	120891	141	19:57:16.0	LIGHT_TRANSFER_315	IRPO/IR3	0	ON	6.0
119573	138	3:30:42.0	LIGHT_TRANSFER_293	IRPO/CL2	320	ON	-9.0	120892	141	19:58:45.0	LIGHT_TRANSFER_315	IRPO/IR3	0	ON	6.0
119580	138	3:45:25.0	LIGHT_TRANSFER_293	IRPO/CL2	320	ON	-9.0	120893	141	20:0:14.0	LIGHT_TRANSFER_315	IRPO/IR3	0	ON	6.0
119574	138	3:31:48.0	LIGHT_TRANSFER_293	IRPO/CL2	680	ON	-9.0	120895	141	20:2:42.0	LIGHT_TRANSFER_315	IRPO/IR3	680	ON	6.0
119575	138	3:33:17.0	LIGHT_TRANSFER_293	IRPO/CL2	680	ON	-9.0	120896	141	20:4:12.0	LIGHT_TRANSFER_315	IRPO/IR3	680	ON	6.0
119576	138	3:34:46.0	LIGHT_TRANSFER_293	IRPO/CL2	680	ON	-9.0	120925	141	21:58:59.0	LIGHT_TRANSFER_315	IRPO/IR3	680	ON	6.0
119577	138	3:36:15.0	LIGHT_TRANSFER_293	IRPO/CL2	1000	ON	-9.0	120897	141	20:5:17.0	LIGHT_TRANSFER_315	IRPO/IR3	1500	ON	6.0
119578	138	3:37:44.0	LIGHT_TRANSFER_293	IRPO/CL2	1000	ON	-9.0	120898	141	20:6:46.0	LIGHT_TRANSFER_315	IRPO/IR3	1500	ON	6.0
119579	138	3:39:13.0	LIGHT_TRANSFER_293	IRPO/CL2	1000	ON	-9.0	120899	141	20:8:15.0	LIGHT_TRANSFER_315	IRPO/IR3	1500	ON	6.0
119581	138	4:12:57.0	LIGHT_TRANSFER_294	P120/CL2	0	ON	-9.0	120900	141	20:9:44.0	LIGHT_TRANSFER_315	IRPO/IR3	2000	ON	6.0
119582	138	4:14:26.0	LIGHT_TRANSFER_294	P120/CL2	0	ON	-9.0	120902	141	20:12:43.0	LIGHT_TRANSFER_315	IRPO/IR3	2000	ON	6.0
119583	138	4:15:55.0	LIGHT_TRANSFER_294	P120/CL2	0	ON	-9.0	120926	141	22:0:5.0	LIGHT_TRANSFER_315	IRPO/IR3	2000	ON	6.0
119584	138	4:17:24.0													

120931	141	22:28:29.0	LIGHT_TRANSFER_320	P0/CB2	0	ON	6.0	121118	142	7:34:19.0	LIGHT_TRANSFER_330	P120/IR1	320	ON	6.0
120933	141	22:31:4.0	LIGHT_TRANSFER_320	P0/CB2	2600	ON	6.0	121119	142	7:35:48.0	LIGHT_TRANSFER_330	P120/IR1	460	ON	6.0
120934	141	22:32:36.0	LIGHT_TRANSFER_320	P0/CB2	2600	ON	6.0	121120	142	7:37:17.0	LIGHT_TRANSFER_330	P120/IR1	460	ON	6.0
120935	141	22:33:3.0	LIGHT_TRANSFER_320	P0/CB2	2600	ON	6.0	121121	142	7:38:46.0	LIGHT_TRANSFER_331	P60/GRN	460	ON	6.0
120936	141	22:33:52.0	LIGHT_TRANSFER_320	P0/CB2	5600	ON	6.0	121122	142	7:57:35.0	LIGHT_TRANSFER_331	P60/GRN	0	ON	6.0
120937	141	22:35:32.0	LIGHT_TRANSFER_320	P0/CB2	5600	ON	6.0	121123	142	7:59:4.0	LIGHT_TRANSFER_331	P60/GRN	0	ON	6.0
120938	141	22:37:12.0	LIGHT_TRANSFER_320	P0/CB2	5600	ON	6.0	121124	142	8:16:49.0	LIGHT_TRANSFER_331	P60/GRN	0	ON	6.0
120939	141	22:38:53.0	LIGHT_TRANSFER_320	P0/CB2	8200	ON	6.0	121125	142	8:18:18.0	LIGHT_TRANSFER_331	P60/GRN	0	ON	6.0
120940	141	22:40:33.0	LIGHT_TRANSFER_320	P0/CB2	8200	ON	6.0	121126	142	8:19:47.0	LIGHT_TRANSFER_331	P60/GRN	0	ON	6.0
120941	141	22:42:13.0	LIGHT_TRANSFER_320	P0/CB2	8200	ON	6.0	121127	142	8:31:1.0	LIGHT_TRANSFER_331	P60/GRN	680	ON	6.0
120942	141	22:43:22.0	LIGHT_TRANSFER_321	P0/MT1	0	ON	6.0	121128	142	8:4:30.0	LIGHT_TRANSFER_331	P60/GRN	680	ON	6.0
120943	141	22:44:51.0	LIGHT_TRANSFER_321	P0/MT1	0	ON	6.0	121129	142	8:20:46.0	LIGHT_TRANSFER_331	P60/GRN	680	ON	6.0
120944	141	22:46:20.0	LIGHT_TRANSFER_321	P0/MT1	0	ON	6.0	121130	142	8:22:15.0	LIGHT_TRANSFER_331	P60/GRN	680	ON	6.0
120945	141	22:47:39.0	LIGHT_TRANSFER_321	P0/MT1	15000	ON	6.0	121131	142	8:23:44.0	LIGHT_TRANSFER_331	P60/GRN	680	ON	6.0
120946	141	22:51:15.0	LIGHT_TRANSFER_321	P0/MT1	15000	ON	6.0	121132	142	8:5:36.0	LIGHT_TRANSFER_331	P60/GRN	1500	ON	6.0
120947	141	0:35:5.0	LIGHT_TRANSFER_321	P0/MT1	15000	ON	6.0	121133	142	8:7:15.0	LIGHT_TRANSFER_331	P60/GRN	1500	ON	6.0
120948	141	22:52:57.0	LIGHT_TRANSFER_321	P0/MT1	32000	ON	6.0	121134	142	8:8:34.0	LIGHT_TRANSFER_331	P60/GRN	1500	ON	6.0
120949	141	22:55:1.0	LIGHT_TRANSFER_321	P0/MT1	32000	ON	6.0	121135	142	8:9:40.0	LIGHT_TRANSFER_331	P60/GRN	2000	ON	6.0
120950	141	22:57:15.0	LIGHT_TRANSFER_321	P0/MT1	32000	ON	6.0	121136	142	8:11:9.0	LIGHT_TRANSFER_331	P60/GRN	2000	ON	6.0
120951	141	22:59:2.0	LIGHT_TRANSFER_321	P0/MT1	46000	ON	6.0	121137	142	8:12:38.0	LIGHT_TRANSFER_331	P60/GRN	2000	ON	6.0
120952	141	23:3:42.0	LIGHT_TRANSFER_321	P0/MT1	46000	ON	6.0	121138	142	8:13:49.0	LIGHT_TRANSFER_332	P60/BL2	0	ON	6.0
120953	141	0:57:27.0	LIGHT_TRANSFER_321	P0/MT1	46000	ON	6.0	121139	142	8:15:18.0	LIGHT_TRANSFER_332	P60/BL2	0	ON	6.0
120954	141	23:4:53.0	LIGHT_TRANSFER_322	P0/CB1	0	ON	6.0	121140	142	8:16:47.0	LIGHT_TRANSFER_332	P60/BL2	0	ON	6.0
120955	141	23:6:22.0	LIGHT_TRANSFER_322	P0/CB1	0	ON	6.0	121141	142	8:18:55.0	LIGHT_TRANSFER_332	P60/BL2	38000	ON	6.0
120956	141	23:7:51.0	LIGHT_TRANSFER_322	P0/CB1	0	ON	6.0	121142	142	8:21:15.0	LIGHT_TRANSFER_332	P60/BL2	38000	ON	6.0
120957	141	23:8:51.0	LIGHT_TRANSFER_322	P0/CB1	2000	ON	6.0	121143	142	8:23:35.0	LIGHT_TRANSFER_332	P60/BL2	38000	ON	6.0
120958	141	23:10:20.0	LIGHT_TRANSFER_322	P0/CB1	2000	ON	6.0	121144	142	8:26:6.0	LIGHT_TRANSFER_332	P60/BL2	68000	ON	6.0
120959	141	23:11:49.0	LIGHT_TRANSFER_322	P0/CB1	2000	ON	6.0	121145	142	8:28:58.0	LIGHT_TRANSFER_332	P60/BL2	68000	ON	6.0
120960	141	23:21:17.0	LIGHT_TRANSFER_322	P0/CB1	4600	ON	6.0	121146	142	8:31:50.0	LIGHT_TRANSFER_332	P60/BL2	68000	ON	6.0
120961	141	23:22:57.0	LIGHT_TRANSFER_322	P0/CB1	4600	ON	6.0	121147	142	8:34:51.0	LIGHT_TRANSFER_332	P60/BL2	100000	ON	6.0
120962	141	0:38:34.0	LIGHT_TRANSFER_322	P0/CB1	4600	ON	6.0	121148	142	8:38:15.0	LIGHT_TRANSFER_332	P60/BL2	100000	ON	6.0
120963	141	0:40:6.0	LIGHT_TRANSFER_322	P0/CB1	4600	ON	6.0	121149	142	8:41:39.0	LIGHT_TRANSFER_332	P60/BL2	100000	ON	6.0
120964	141	0:41:39.0	LIGHT_TRANSFER_322	P0/CB1	4600	ON	6.0	121150	142	8:42:50.0	LIGHT_TRANSFER_333	P60/MT2	0	ON	6.0
120965	141	0:42:49.0	LIGHT_TRANSFER_322	P0/CB1	6800	ON	6.0	121151	142	8:44:19.0	LIGHT_TRANSFER_333	P60/MT2	0	ON	6.0
120966	141	0:46:9.0	LIGHT_TRANSFER_322	P0/CB1	6800	ON	6.0	121152	142	8:45:48.0	LIGHT_TRANSFER_333	P60/MT2	0	ON	6.0
120967	141	0:46:51.0	LIGHT_TRANSFER_322	P0/CB1	6800	ON	6.0	121153	142	8:47:57.0	LIGHT_TRANSFER_333	P60/MT2	0	ON	6.0
120968	141	23:24:8.0	LIGHT_TRANSFER_323	P0/IR1	0	ON	6.0	121154	142	9:28:26.0	LIGHT_TRANSFER_333	P60/MT2	0	ON	6.0
120969	141	23:25:37.0	LIGHT_TRANSFER_323	P0/IR1	0	ON	6.0	121155	142	9:29:55.0	LIGHT_TRANSFER_333	P60/MT2	0	ON	6.0
120970	141	0:47:18.0	LIGHT_TRANSFER_323	P0/IR1	0	ON	6.0	121156	142	8:46:58.0	LIGHT_TRANSFER_333	P60/MT2	6800	ON	6.0
120971	141	23:28:36.0	LIGHT_TRANSFER_323	P0/IR1	150	ON	6.0	121157	142	8:31:5.0	LIGHT_TRANSFER_333	P60/MT2	6800	ON	6.0
120972	141	23:30:5.0	LIGHT_TRANSFER_323	P0/IR1	150	ON	6.0	121158	142	9:32:45.0	LIGHT_TRANSFER_333	P60/MT2	6800	ON	6.0
120973	141	23:31:34.0	LIGHT_TRANSFER_323	P0/IR1	150	ON	6.0	121159	142	9:34:25.0	LIGHT_TRANSFER_333	P60/MT2	6800	ON	6.0
120974	141	23:32:39.0	LIGHT_TRANSFER_323	P0/IR1	320	ON	6.0	121160	142	8:51:45.0	LIGHT_TRANSFER_333	P60/MT2	12000	ON	6.0
120975	141	23:34:8.0	LIGHT_TRANSFER_323	P0/IR1	320	ON	6.0	121161	142	8:53:25.0	LIGHT_TRANSFER_333	P60/MT2	12000	ON	6.0
120976	141	23:35:38.0	LIGHT_TRANSFER_323	P0/IR1	320	ON	6.0	121162	142	8:55:5.0	LIGHT_TRANSFER_333	P60/MT2	12000	ON	6.0
120977	141	23:37:0.0	LIGHT_TRANSFER_323	P0/IR1	460	ON	6.0	121163	142	8:56:33.0	LIGHT_TRANSFER_333	P60/MT2	18000	ON	6.0
120978	141	23:38:36.0	LIGHT_TRANSFER_323	P0/IR1	460	ON	6.0	121164	142	8:58:18.0	LIGHT_TRANSFER_333	P60/MT2	18000	ON	6.0
120979	141	23:40:5.0	LIGHT_TRANSFER_323	P0/IR1	460	ON	6.0	121165	142	9:0:6.0	LIGHT_TRANSFER_333	P60/MT2	18000	ON	6.0
121029	142	4:2:18.0	LIGHT_TRANSFER_324	P120/GRN	0	OFF	6.0	121257	142	17:40:23.0	LIGHT_TRANSFER_334	P60/CB2	0	ON	8.0
121030	142	4:3:48.0	LIGHT_TRANSFER_324	P120/GRN	0	OFF	6.0	121258	142	17:41:52.0	LIGHT_TRANSFER_334	P60/CB2	0	ON	8.0
121031	142	4:5:17.0	LIGHT_TRANSFER_324	P120/GRN	0	OFF	6.0	121259	142	17:43:21.0	LIGHT_TRANSFER_334	P60/CB2	0	ON	8.0
121032	142	4:6:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121260	142	17:44:50.0	LIGHT_TRANSFER_334	P60/CB2	2600	ON	8.0
121033	142	4:7:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121261	142	17:46:19.0	LIGHT_TRANSFER_334	P60/CB2	2600	ON	8.0
121034	142	4:8:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121262	142	17:47:47.0	LIGHT_TRANSFER_334	P60/CB2	2600	ON	8.0
121035	142	4:10:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121263	142	17:49:16.0	LIGHT_TRANSFER_334	P60/CB2	2600	ON	8.0
121036	142	4:11:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121264	142	17:50:44.0	LIGHT_TRANSFER_334	P60/CB2	2600	ON	8.0
121037	142	4:13:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121265	142	17:52:13.0	LIGHT_TRANSFER_334	P60/CB2	5600	ON	8.0
121038	142	4:14:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121266	142	17:53:42.0	LIGHT_TRANSFER_334	P60/CB2	5600	ON	8.0
121039	142	4:16:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121267	142	17:55:11.0	LIGHT_TRANSFER_334	P60/CB2	8200	ON	8.0
121040	142	4:17:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121268	142	17:56:40.0	LIGHT_TRANSFER_334	P60/CB2	8200	ON	8.0
121041	142	4:19:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121269	142	17:58:9.0	LIGHT_TRANSFER_335	P60/MT1	0	ON	8.0
121042	142	4:20:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121270	142	17:59:38.0	LIGHT_TRANSFER_335	P60/MT1	0	ON	8.0
121043	142	4:22:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121271	142	18:0:27.0	LIGHT_TRANSFER_335	P60/MT1	0	ON	8.0
121044	142	4:23:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121272	142	18:2:56.0	LIGHT_TRANSFER_335	P60/MT1	15000	ON	8.0
121045	142	4:25:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121273	142	18:4:25.0	LIGHT_TRANSFER_335	P60/MT1	15000	ON	8.0
121046	142	4:26:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121274	142	18:6:54.0	LIGHT_TRANSFER_335	P60/MT1	15000	ON	8.0
121047	142	4:28:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121275	142	18:7:43.0	LIGHT_TRANSFER_335	P60/MT1	32000	ON	8.0
121048	142	4:29:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121276	142	18:9:12.0	LIGHT_TRANSFER_335	P60/MT1	32000	ON	8.0
121049	142	4:31:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121277	142	18:11:51.0	LIGHT_TRANSFER_335	P60/MT1	32000	ON	8.0
121050	142	4:32:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121278	142	18:13:54.0	LIGHT_TRANSFER_335	P60/MT1	46000	ON	8.0
121051	142	4:34:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121279	142	18:15:57.0	LIGHT_TRANSFER_335	P60/MT1	46000	ON	8.0
121052	142	4:35:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121280	142	18:18:0.0	LIGHT_TRANSFER_335	P60/MT1	46000	ON	8.0
121053	142	4:37:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121281	142	18:20:3.0	LIGHT_TRANSFER_335	P60/MT1	46000	ON	8.0
121054	142	4:38:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121282	142	18:22:6.0	LIGHT_TRANSFER_335	P60/MT1	46000	ON	8.0
121055	142	4:40:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121283	142	18:24:9.0	LIGHT_TRANSFER_335	P60/MT1	46000	ON	8.0
121056	142	4:41:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121284	142	18:26:12.0	LIGHT_TRANSFER_335	P60/MT1	46000	ON	8.0
121057	142	4:43:17.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121285	142	18:28:15.0	LIGHT_TRANSFER_335	P60/MT1	46000	ON	8.0
121058	142	4:44:47.0	LIGHT_TRANSFER_324	P120/GRN	680	ON	6.0	121286	142	18:30:18.0	LIGHT_TRANSFER_335	P60/MT1	46000	ON	8.0

121729	143	16:39:16.0	LIGHT_TRANSFER_368	CLL/CL2	320	OFF	8.0	121588	143	8:17:0.0	LIGHT_TRANSFER_379	CLL/MT1	22000	ON	8.0
121725	143	16:29:54.0	LIGHT_TRANSFER_368	CLL/CL2	460	OFF	8.0	121589	143	8:18:59.0	LIGHT_TRANSFER_379	CLL/MT1	46000	ON	8.0
121726	143	16:31:24.0	LIGHT_TRANSFER_368	CLL/CL2	460	OFF	8.0	121590	143	8:21:39.0	LIGHT_TRANSFER_379	CLL/MT1	46000	ON	8.0
121727	143	16:34:58.0	LIGHT_TRANSFER_368	CLL/CL2	460	OFF	8.0	121591	143	8:23:39.0	LIGHT_TRANSFER_379	CLL/MT1	46000	ON	8.0
121728	143	08:58:0.0	LIGHT_TRANSFER_369	IR4/IR3	0	ON	8.0	121592	143	8:26:1.0	LIGHT_TRANSFER_379	CLL/MT1	68000	ON	8.0
121379	143	0:10:27.0	LIGHT_TRANSFER_369	IR4/IR3	0	ON	8.0	121593	143	8:28:53.0	LIGHT_TRANSFER_379	CLL/MT1	68000	ON	8.0
121380	143	0:11:56.0	LIGHT_TRANSFER_369	IR4/IR3	0	ON	8.0	121594	143	8:31:45.0	LIGHT_TRANSFER_379	CLL/MT1	68000	ON	8.0
121381	143	0:13:15.0	LIGHT_TRANSFER_369	IR4/IR3	15000	ON	8.0	121595	143	8:32:56.0	LIGHT_TRANSFER_380	CLL/CB1	0	ON	8.0
121382	143	0:15:3.0	LIGHT_TRANSFER_369	IR4/IR3	15000	ON	8.0	121596	143	8:34:25.0	LIGHT_TRANSFER_380	CLL/CB1	0	ON	8.0
121383	143	0:16:51.0	LIGHT_TRANSFER_369	IR4/IR3	15000	ON	8.0	121597	143	8:35:54.0	LIGHT_TRANSFER_380	CLL/CB1	0	ON	8.0
121384	143	0:18:33.0	LIGHT_TRANSFER_369	IR4/IR3	32000	ON	8.0	121598	143	8:36:56.0	LIGHT_TRANSFER_380	CLL/CB1	32000	ON	8.0
121385	143	0:20:37.0	LIGHT_TRANSFER_369	IR4/IR3	32000	ON	8.0	121599	143	8:38:28.0	LIGHT_TRANSFER_380	CLL/CB1	32000	ON	8.0
121386	143	0:22:42.0	LIGHT_TRANSFER_369	IR4/IR3	32000	ON	8.0	121600	143	8:40:0.0	LIGHT_TRANSFER_380	CLL/CB1	32000	ON	8.0
121387	143	0:24:32.0	LIGHT_TRANSFER_369	IR4/IR3	46000	ON	8.0	121601	143	8:41:17.0	LIGHT_TRANSFER_380	CLL/CB1	68000	ON	8.0
121388	143	0:26:52.0	LIGHT_TRANSFER_369	IR4/IR3	46000	ON	8.0	121602	143	8:44:37.0	LIGHT_TRANSFER_380	CLL/CB1	68000	ON	8.0
121389	143	0:29:12.0	LIGHT_TRANSFER_369	IR4/IR3	46000	ON	8.0	121603	143	8:47:57.0	LIGHT_TRANSFER_380	CLL/CB1	68000	ON	8.0
121391	143	0:31:51.0	LIGHT_TRANSFER_370	IR2/IR3	0	ON	8.0	121604	143	8:46:17.0	LIGHT_TRANSFER_380	CLL/CB1	10000	ON	8.0
121392	143	0:33:21.0	LIGHT_TRANSFER_370	IR2/IR3	0	ON	8.0	121605	143	8:47:57.0	LIGHT_TRANSFER_380	CLL/CB1	10000	ON	8.0
121414	143	1:37:48.0	LIGHT_TRANSFER_370	IR2/IR3	0	ON	8.0	121606	143	8:49:37.0	LIGHT_TRANSFER_380	CLL/CB1	10000	ON	8.0
121393	143	0:34:23.0	LIGHT_TRANSFER_370	IR2/IR3	26000	ON	8.0	121607	143	8:50:49.0	LIGHT_TRANSFER_381	CLL/IR3	0	ON	8.0
121394	143	0:35:55.0	LIGHT_TRANSFER_370	IR2/IR3	26000	ON	8.0	121608	143	8:52:18.0	LIGHT_TRANSFER_381	CLL/IR3	0	ON	8.0
121395	143	0:37:27.0	LIGHT_TRANSFER_370	IR2/IR3	26000	ON	8.0	121609	143	8:53:47.0	LIGHT_TRANSFER_381	CLL/IR3	0	ON	8.0
121396	143	0:38:45.0	LIGHT_TRANSFER_370	IR2/IR3	56000	ON	8.0	121610	143	8:55:16.0	LIGHT_TRANSFER_381	CLL/IR3	15000	ON	8.0
121397	143	0:40:25.0	LIGHT_TRANSFER_370	IR2/IR3	56000	ON	8.0	121611	143	8:56:45.0	LIGHT_TRANSFER_381	CLL/IR3	15000	ON	8.0
121398	143	0:42:6.0	LIGHT_TRANSFER_370	IR2/IR3	56000	ON	8.0	121612	143	8:58:14.0	LIGHT_TRANSFER_381	CLL/IR3	15000	ON	8.0
121399	143	0:43:16.0	LIGHT_TRANSFER_370	IR2/IR3	82000	ON	8.0	121613	143	8:59:23.0	LIGHT_TRANSFER_381	CLL/IR3	32000	ON	8.0
121400	143	0:44:56.0	LIGHT_TRANSFER_370	IR2/IR3	82000	ON	8.0	121614	143	9:0:55.0	LIGHT_TRANSFER_381	CLL/IR3	32000	ON	8.0
121415	143	1:39:7.0	LIGHT_TRANSFER_371	IR2/IR1	82000	ON	8.0	121615	143	9:2:27.0	LIGHT_TRANSFER_381	CLL/IR3	32000	ON	8.0
121402	143	0:47:57.0	LIGHT_TRANSFER_371	IR2/IR1	0	ON	8.0	121616	143	9:3:59.0	LIGHT_TRANSFER_381	CLL/IR3	46000	ON	8.0
121403	143	0:49:26.0	LIGHT_TRANSFER_371	IR2/IR1	0	ON	8.0	121617	143	9:5:31.0	LIGHT_TRANSFER_381	CLL/IR3	46000	ON	8.0
121404	143	0:50:56.0	LIGHT_TRANSFER_371	IR2/IR1	0	ON	8.0	121618	143	9:7:3.0	LIGHT_TRANSFER_381	CLL/IR3	46000	ON	8.0
121405	143	0:52:25.0	LIGHT_TRANSFER_371	IR2/IR1	2000	ON	8.0	121619	143	9:8:14.0	LIGHT_TRANSFER_382	CLL/IR1	0	ON	8.0
121406	143	0:53:24.0	LIGHT_TRANSFER_371	IR2/IR1	2000	ON	8.0	121620	143	9:9:43.0	LIGHT_TRANSFER_382	CLL/IR1	0	ON	8.0
121407	143	0:55:23.0	LIGHT_TRANSFER_371	IR2/IR1	2000	ON	8.0	121621	143	9:11:12.0	LIGHT_TRANSFER_382	CLL/IR1	0	ON	8.0
121408	143	0:56:31.0	LIGHT_TRANSFER_371	IR2/IR1	46000	ON	8.0	121622	143	9:12:41.0	LIGHT_TRANSFER_382	CLL/IR1	32000	ON	8.0
121409	143	0:58:3.0	LIGHT_TRANSFER_371	IR2/IR1	46000	ON	8.0	121624	143	9:15:39.0	LIGHT_TRANSFER_382	CLL/IR1	32000	ON	8.0
121410	143	0:59:36.0	LIGHT_TRANSFER_371	IR2/IR1	46000	ON	8.0	121623	143	9:15:53.0	LIGHT_TRANSFER_382	CLL/IR1	32000	ON	8.0
121411	143	1:0:46.0	LIGHT_TRANSFER_371	IR2/IR1	68000	ON	8.0	121625	143	9:16:45.0	LIGHT_TRANSFER_382	CLL/IR1	68000	ON	8.0
121412	143	1:2:26.0	LIGHT_TRANSFER_371	IR2/IR1	68000	ON	8.0	121626	143	9:18:14.0	LIGHT_TRANSFER_382	CLL/IR1	68000	ON	8.0
121413	143	1:4:6.0	LIGHT_TRANSFER_371	IR2/IR1	68000	ON	8.0	121627	143	9:19:43.0	LIGHT_TRANSFER_382	CLL/IR1	68000	ON	8.0
121490	143	4:32:30.0	LIGHT_TRANSFER_372	CLL/CL2	0	ON	8.0	121628	143	9:21:12.0	LIGHT_TRANSFER_382	CLL/IR1	10000	ON	8.0
121491	143	4:34:0.0	LIGHT_TRANSFER_372	CLL/CL2	0	ON	8.0	121629	143	9:22:41.0	LIGHT_TRANSFER_382	CLL/IR1	10000	ON	8.0
121492	143	4:35:29.0	LIGHT_TRANSFER_372	CLL/CL2	0	ON	8.0	121630	143	9:24:10.0	LIGHT_TRANSFER_382	CLL/IR1	10000	ON	8.0
121493	143	4:36:58.0	LIGHT_TRANSFER_372	CLL/CL2	150	ON	8.0	121324	142	20:49:38.0	LIGHT_TRANSFER_383	CLL/CL2	0	ON	8.0
121494	143	4:38:27.0	LIGHT_TRANSFER_372	CLL/CL2	150	ON	8.0	121314	142	20:39:17.0	LIGHT_TRANSFER_383	CLL/CL2	0	ON	8.0
121495	143	4:39:56.0	LIGHT_TRANSFER_372	CLL/CL2	250	ON	8.0	121372	142	20:20:46.0	LIGHT_TRANSFER_383	CLL/CL2	0	ON	8.0
121497	143	4:42:31.0	LIGHT_TRANSFER_372	CLL/CL2	320	ON	8.0	121326	142	20:52:36.0	LIGHT_TRANSFER_383	CLL/CL2	150	ON	8.0
121498	143	4:44:0.0	LIGHT_TRANSFER_372	CLL/CL2	320	ON	8.0	121327	142	20:54:5.0	LIGHT_TRANSFER_383	CLL/CL2	150	ON	8.0
121500	143	4:46:58.0	LIGHT_TRANSFER_372	CLL/CL2	460	ON	8.0	121328	142	20:55:35.0	LIGHT_TRANSFER_383	CLL/CL2	150	ON	8.0
121501	143	4:48:27.0	LIGHT_TRANSFER_372	CLL/CL2	460	ON	8.0	121329	142	20:56:40.0	LIGHT_TRANSFER_383	CLL/CL2	320	ON	8.0
121503	143	4:51:7.0	LIGHT_TRANSFER_373	CLL/GRN	0	ON	8.0	121330	142	20:58:9.0	LIGHT_TRANSFER_383	CLL/CL2	320	ON	8.0
121551	143	6:35:6.0	LIGHT_TRANSFER_373	CLL/GRN	0	ON	8.0	121331	142	20:59:38.0	LIGHT_TRANSFER_383	CLL/CL2	320	ON	8.0
121557	143	6:54:44.0	LIGHT_TRANSFER_373	CLL/GRN	0	ON	8.0	121332	142	21:1:7.0	LIGHT_TRANSFER_383	CLL/CL2	460	ON	8.0
121505	143	4:54:5.0	LIGHT_TRANSFER_373	CLL/GRN	820	ON	8.0	121334	142	21:4:6.0	LIGHT_TRANSFER_383	CLL/CL2	460	ON	8.0
121507	143	4:57:3.0	LIGHT_TRANSFER_373	CLL/GRN	820	ON	8.0	121377	142	22:30:29.0	LIGHT_TRANSFER_383	CLL/CL2	460	ON	8.0
121515	143	6:38:4.0	LIGHT_TRANSFER_373	CLL/GRN	820	ON	8.0	121335	142	21:5:16.0	LIGHT_TRANSFER_384	RED/CL2	0	ON	8.0
121508	143	4:58:10.0	LIGHT_TRANSFER_373	CLL/GRN	1800	ON	8.0	121336	142	21:6:45.0	LIGHT_TRANSFER_384	RED/CL2	0	ON	8.0
121509	143	4:59:40.0	LIGHT_TRANSFER_373	CLL/GRN	1800	ON	8.0	121337	142	21:8:13.0	LIGHT_TRANSFER_384	RED/CL2	0	ON	8.0
121510	143	5:1:19.0	LIGHT_TRANSFER_373	CLL/GRN	1800	ON	8.0	121338	142	21:9:43.0	LIGHT_TRANSFER_384	RED/CL2	380	ON	8.0
121511	143	5:2:11.0	LIGHT_TRANSFER_373	CLL/GRN	2600	ON	8.0	121339	142	21:11:12.0	LIGHT_TRANSFER_384	RED/CL2	380	ON	8.0
121512	143	5:3:43.0	LIGHT_TRANSFER_373	CLL/GRN	2600	ON	8.0	121374	142	22:23:12.0	LIGHT_TRANSFER_384	RED/CL2	380	ON	8.0
121513	143	5:5:15.0	LIGHT_TRANSFER_373	CLL/GRN	2600	ON	8.0	121341	142	21:13:59.0	LIGHT_TRANSFER_384	RED/CL2	820	ON	8.0
121514	143	5:6:25.0	LIGHT_TRANSFER_374	CLL/BL2	0	ON	8.0	121342	142	21:15:28.0	LIGHT_TRANSFER_384	RED/CL2	820	ON	8.0
121515	143	5:7:55.0	LIGHT_TRANSFER_374	CLL/BL2	0	ON	8.0	121375	142	22:28:20.0	LIGHT_TRANSFER_384	RED/CL2	820	ON	8.0
121516	143	5:9:24.0	LIGHT_TRANSFER_374	CLL/BL2	0	ON	8.0	121344	142	21:18:26.0	LIGHT_TRANSFER_384	RED/CL2	1200	ON	8.0
121517	143	5:11:46.0	LIGHT_TRANSFER_374	CLL/BL2	56000	ON	8.0	121345	142	21:19:55.0	LIGHT_TRANSFER_384	RED/CL2	1200	ON	8.0
121518	143	5:14:38.0	LIGHT_TRANSFER_374	CLL/BL2	56000	ON	8.0	121346	142	21:21:25.0	LIGHT_TRANSFER_384	RED/CL2	1200	ON	8.0
121519	143	5:17:74.0	LIGHT_TRANSFER_374	CLL/BL2	56000	ON	8.0	121347	142	21:22:34.0	LIGHT_TRANSFER_385	BL1/CL2	0	ON	8.0
121520	143	5:21:35.0	LIGHT_TRANSFER_374	CLL/BL2	120000	ON	8.0	121348	142	21:24:3.0	LIGHT_TRANSFER_385	BL1/CL2	0	ON	8.0
121521	143	5:26:3.0	LIGHT_TRANSFER_374	CLL/BL2	120000	ON	8.0	121349	142	21:25:32.0	LIGHT_TRANSFER_385	BL1/CL2	0	ON	8.0
121522	143	5:30:31.0	LIGHT_TRANSFER_374	CLL/BL2	120000	ON	8.0	121350	142	21:26:42.0	LIGHT_TRANSFER_385	BL1/CL2	10000	ON	8.0
121523	143	5:34:59.0	LIGHT_TRANSFER_374	CLL/BL2	180000	ON	8.0	121351	142	21:28:22.0	LIGHT_TRANSFER_385	BL1/CL2	10000	ON	8.0
121525	143	5:43:55.0	LIGHT_TRANSFER_374	CLL/BL2	180000	ON	8.0	121352	142	21:30:3.0	LIGHT_TRANSFER_385	BL1/CL2	10000	ON	8.0
121544	143	6:42:18.0	LIGHT_TRANSFER_374	CLL/BL2	180000	ON	8.0	121354	142	21:34:0.0	LIGHT_TRANSFER_385	BL1/CL2	22000	ON	8.0
121526	143	5:45:6.0	LIGHT_TRANSFER_375	CLL/MT2	0	ON	8.0	121355	142	21:36:4.0	LIGHT_TRANSFER_385	BL1/CL2	22000	ON	8.0
121527	143	5:46:35.0	LIGHT_TRANSFER_375	CLL/MT2	0	ON	8.0	121376	142	22:26:6.0	LIGHT_TRANSFER_385	BL1/CL2	22000	ON	8.0
121528	143	5:48:4.0	LIGHT_TRANSFER_375	CLL/MT2	0	ON	8.0	121356	142	21:38:9.0	LIGHT_TRANSFER_385	BL1/CL2	32000	ON	8.0
121529	143	5:49:14.0	LIGHT_TRANSFER_375	CLL/MT2	12000	ON	8.0	121357	142	21:40:13.0	LIGHT_TRANSFER_385	BL1/CL2	32000	ON	8.0</

