**Junocam**

# Junocam Calibration Report
# MSSS-JUNOCAM-DOC-0102

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**August 2010**
**(formatted August 3, 2010)**

## 1. Introduction

This document describes the results of the calibration effort for the Junocam flight instrument.

## 2. Applicable Documents

Junocam Verification, Validation and Calibration Plan, MSSS-JUNO-DOC-0004, 21 July 2009

Junocam Optics Acceptance Test Data Sheet, Rockwell-Collins Optronics 987-0301-051, 22 April 2010.

## 3. General

### 3.1. Optics

The Junocam optics is a 14-element all-refractive lens with a nominal focal length of 11 mm and a field of view of about 58 degrees (horizontal.) T/number varies somewhat across the field and with wavelength, but the nominal on-axis T/number is 3.2.

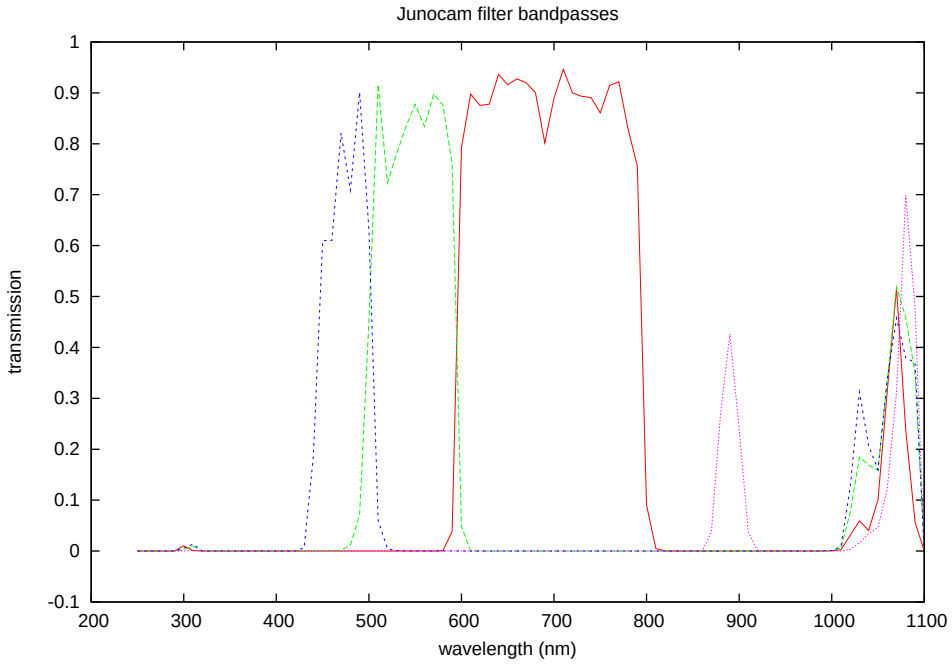
The Junocam lens was fabricated by Rockwell-Collins Optronics.

### 3.2. Filters

A color filter array (CFA) with four spectral bands is bonded to the CCD. The four bands are red (600-800 nm), green (500-600 nm), blue (420-520 nm), and methane absorption (880-900 nm).

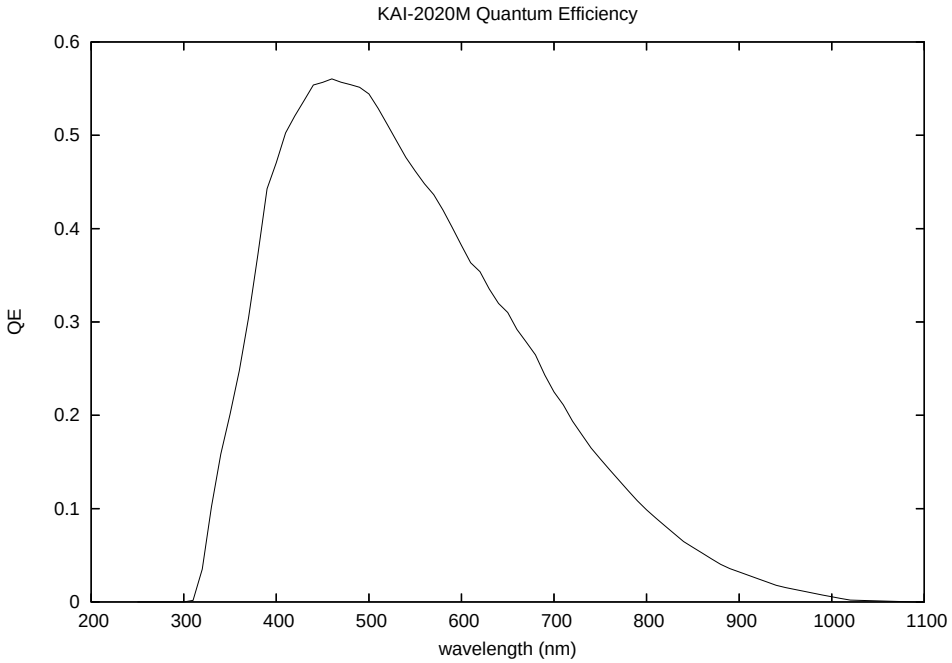
The Junocam filters were fabricated by Barr Associates.

The filter transmissions as measured by Barr from witness samples is shown below.




### 3.3. Electronics

The Junocam electronics use a Kodak KAI-2020M CCD, an electronically-shuttered interline transfer CCD with 1600x1200 7.4 micron pixels and integral microlenses.




The electronics read out the CCD at a pixel rate of 5 megapixels/sec. The CCD output is sampled twice by a 12 bit/pixel analog-to-digital converter (once for reset and once for video) and Correlated Double Sampling performed by subtracting the two samples, producing a final 12-bit pixel value. The nominal system scale factor is 16.3 electrons/DN.

These 12-bit DNs are then converted to 8-bit form using a piecewise-linear transfer function. For normal imaging the transfer function is set for square-root encoding to preserve the full 12-bit dynamic range. For calibration any power-of-two linear mapping can also be used (divide by 16, 8, 4, 2, or 1) to simplify data processing; any remaining high-order bits are simply discarded.

## 4. Objectives

The following calibration objectives are called out in the VV&C plan:

CCD Testing and Performance Validation
: Validate CCD linearity, read noise, full well, gain, bias, and dark current at system level (bench test; dark current measurements will be repeated in instrument thermal vac)

Absolute and relative radiometry
: Determine conversion between DN and radiance for each filter; measure system noise equivalent spectral radiance at each wavelength (test using a calibrated photodiode and integrating sphere)

Flatfields
: Determine flatfield image for each filter (test using integrating sphere)

System Spectral Throughput
: Determine relative throughput of system over each filter's bandpass; also determine rejection band throughput (test using monochrometer for bandpass shape and cutoff filters to verify out-of-band rejection)

MTF/PSF Target Imaging
: Measure MTF and PSF by observing a target with dots and horizontal, vertical, and diagonal bars of varying thickness/frequency; this test will be performed at several different TDI levels (imaging bar and point targets)

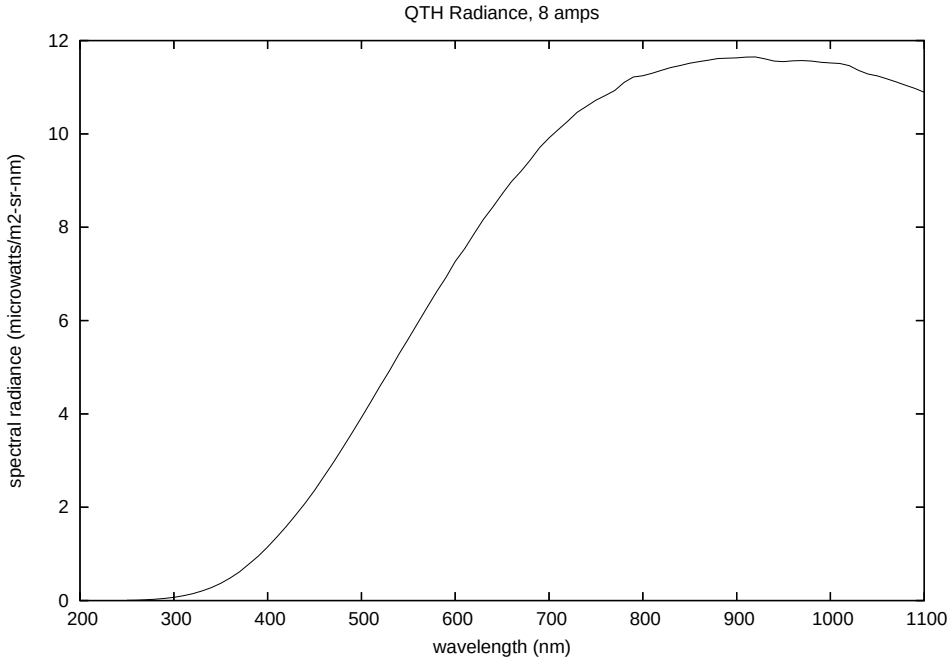
Geometric Mapping Function

Determine the mapping of angle from optic axis in front of the lens to pixel position in the focal plane. This will be done by imaging a point source at a series of angular positions with mounting the camera head on a precision rotation stage.

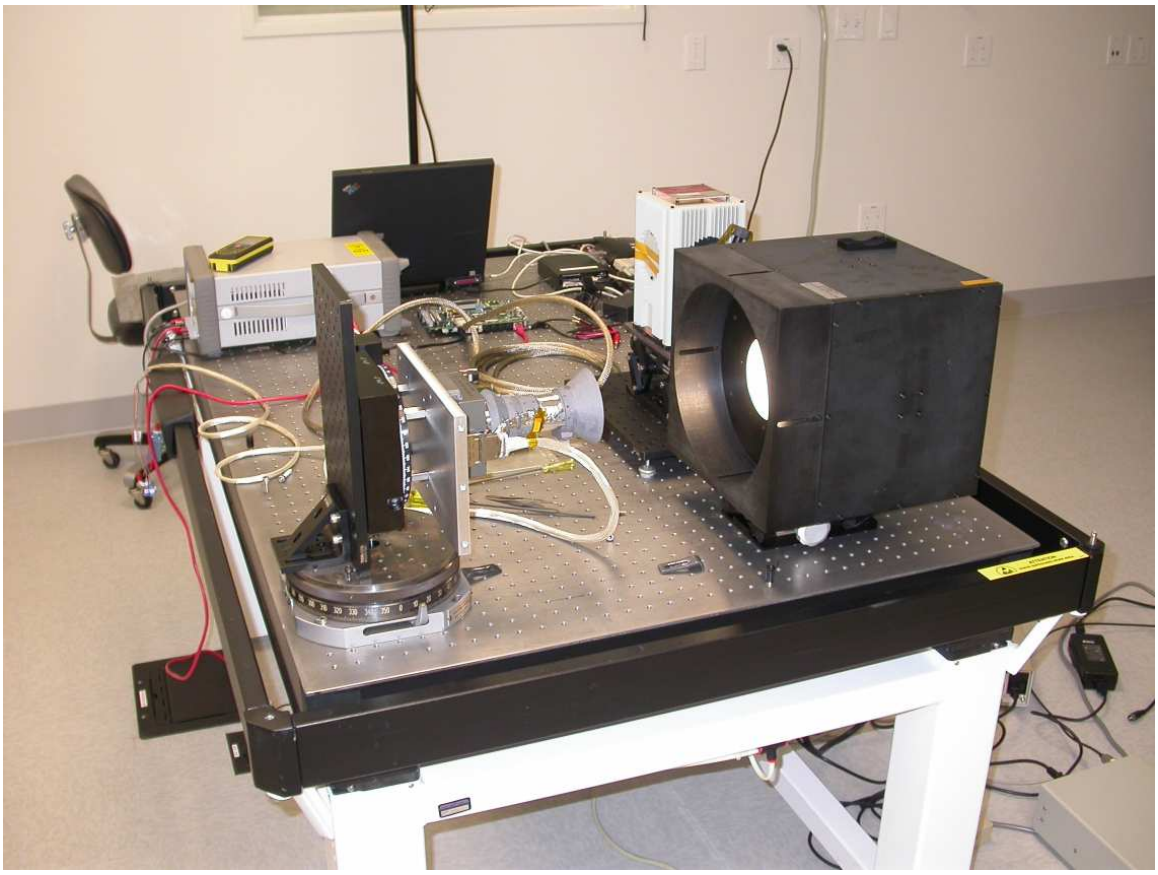
## 5. Test Setups and Results

### 5.1. Absolute response

Absolute response was measured using an Oriel 100W Quartz-Tungsten-Halogen (QTH) lamp feeding a 12-inch integrating sphere. The spectral radiance of the sphere output port was measured using NIST-traceable instruments by Gamma Scientific. At 8 amp lamp current, radiance was




Images were then taken of the sphere output port at various exposure times to avoid saturation.



Subframes of each image were averaged and zero-second exposures were subtracted; the signal levels were then converted and normalized to electrons/millisecond and compared with predicted values based on piecepart measurements of QE, T/number, filter bandpass, and system gain.

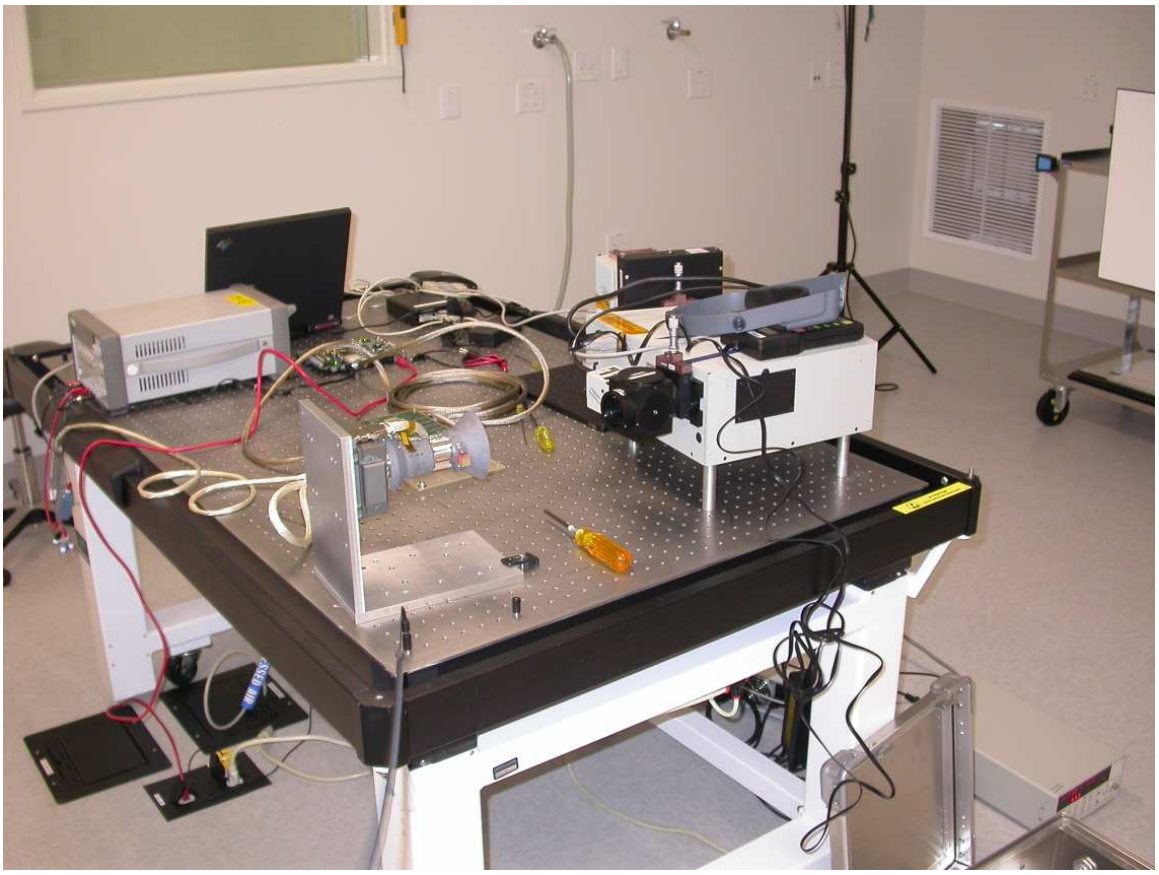
| band | predicted (e-) | measured (e-) | delta |
|---|---|---|---|
| red | 66698 | 60245 | -9.7 |
| green | 25913 | 24150 | -6.8 |
| blue | 6789 | 6077 | -10.5 |
| ch4 | 1069 | 1108 | +3.6 |

The same dataset was used to compute the response of the system, by computing the in-band radiance of the integrating sphere for each filter.

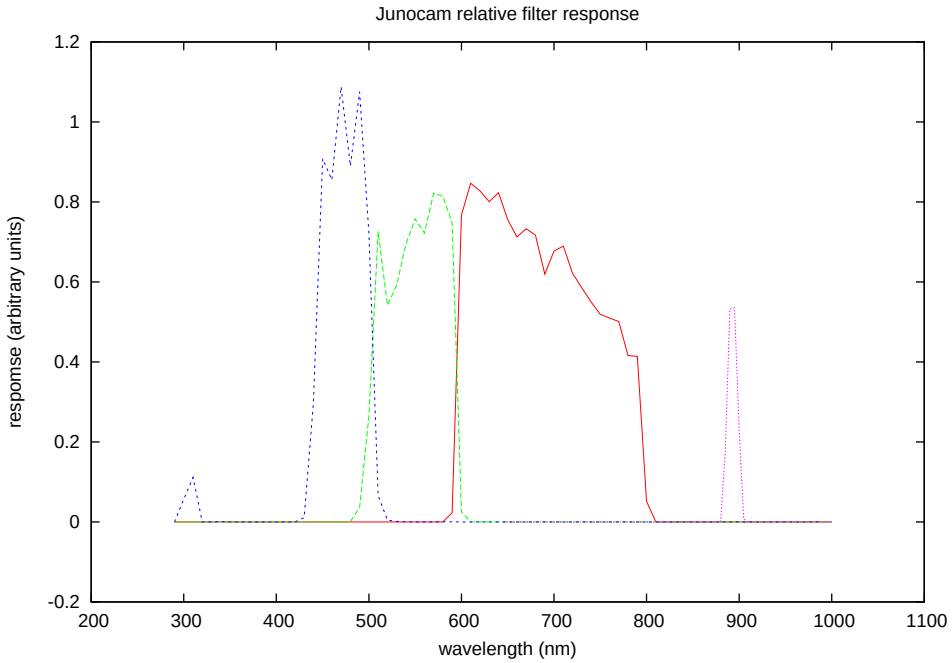
| band | response (DN/sec-W/m2/sr) |
|---|---|
| red | 217239 |
| green | 332944 |
| blue | 262186 |
| ch4 | 57761 |

### 5.2. Filter bandpasses

System spectral response was measured using the QTH lamp driving a Newport Cornerstone monochromator under the control of Newport's Traqbasic software running on an IBM PC. An attached Newport Optical Power Meter was used to measure light output.



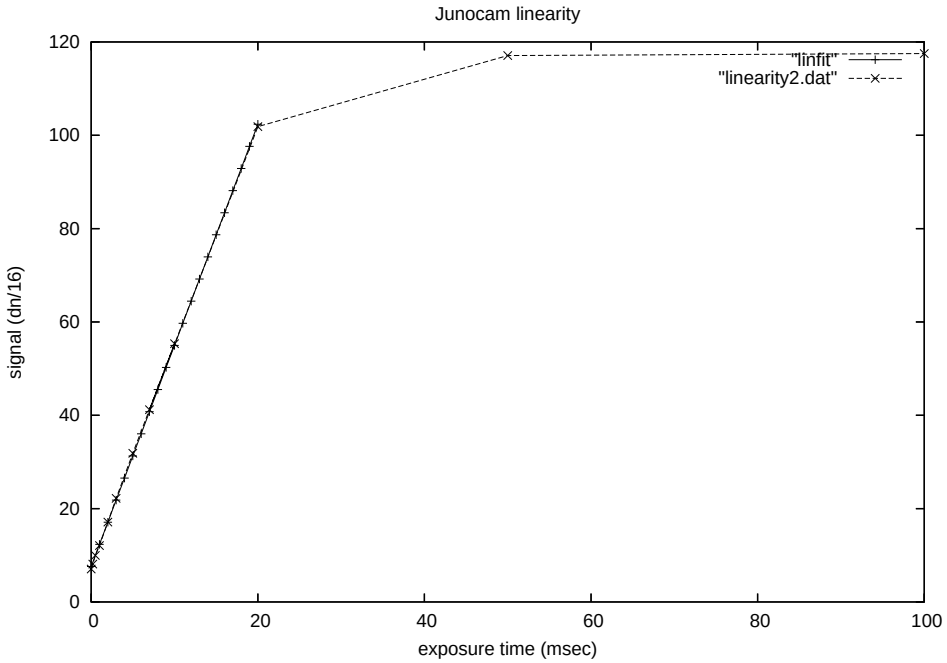
Junocam then directly imaged the output slit of the monochromator. Traqbasic commanded the monochromator to sweep in 10 or 5-nm steps once every 10 seconds, and the Junocam GSE imaged at this interval in an open-loop fashion. Light levels are too low to allow the monochromator to drive an integrating sphere, which would allow an absolute radiometric measurement to be made. Instead, we use the OPM measurement to normalize the average signal level of the spot imaged by the camera to produce a relative response.




Note that due to problems with the OPM at the methane wavelengths, the methane band's response is anomalously high compared to the visible bands. This is a measurement artifact and should be disregarded; the absolute measurements show that the methane band is responding as expected. The monochromator data should only be used as a confirmation of the filter spectral bandpasses.

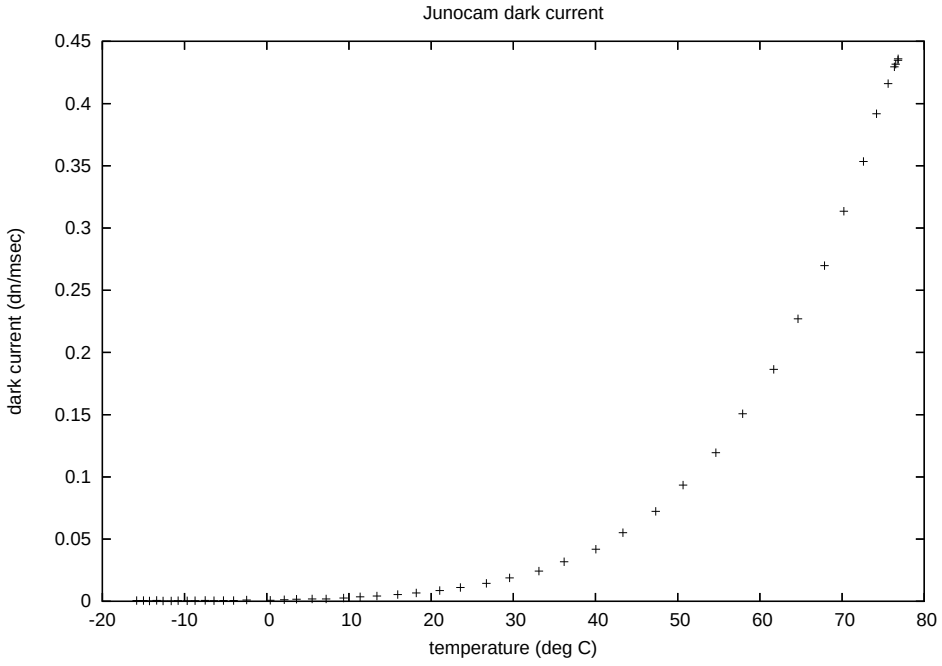
### 5.3. Linearity/full well

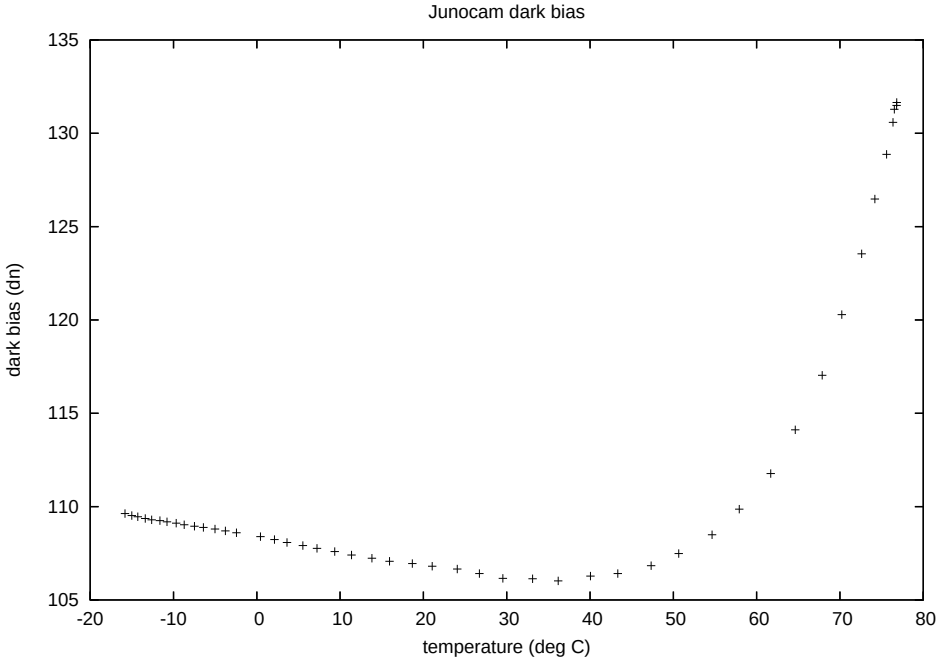
Linearity and full well were measured using integrating sphere images at different exposure times. This shows excellent linearity (r=0.99) until the full well is reached at about 1872 DN (30,500 electrons.)




### 5.4. Dark Current and Bias

Dark current was measured in instrument thermal/vac by acquiring sets of images at different exposure times during temperature ramps. These were then processed by averaging subframes with dark subtraction.

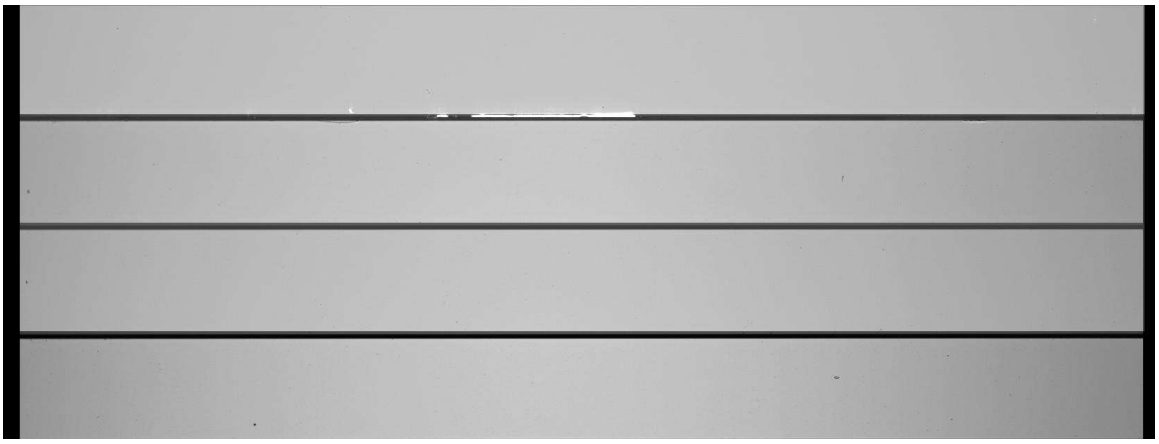





Note that the dark bias is typically a noiseless DC offset in the signal level. It is removed in flight by appropriate settings of the pixel companding function.

### 5.5. Flat field

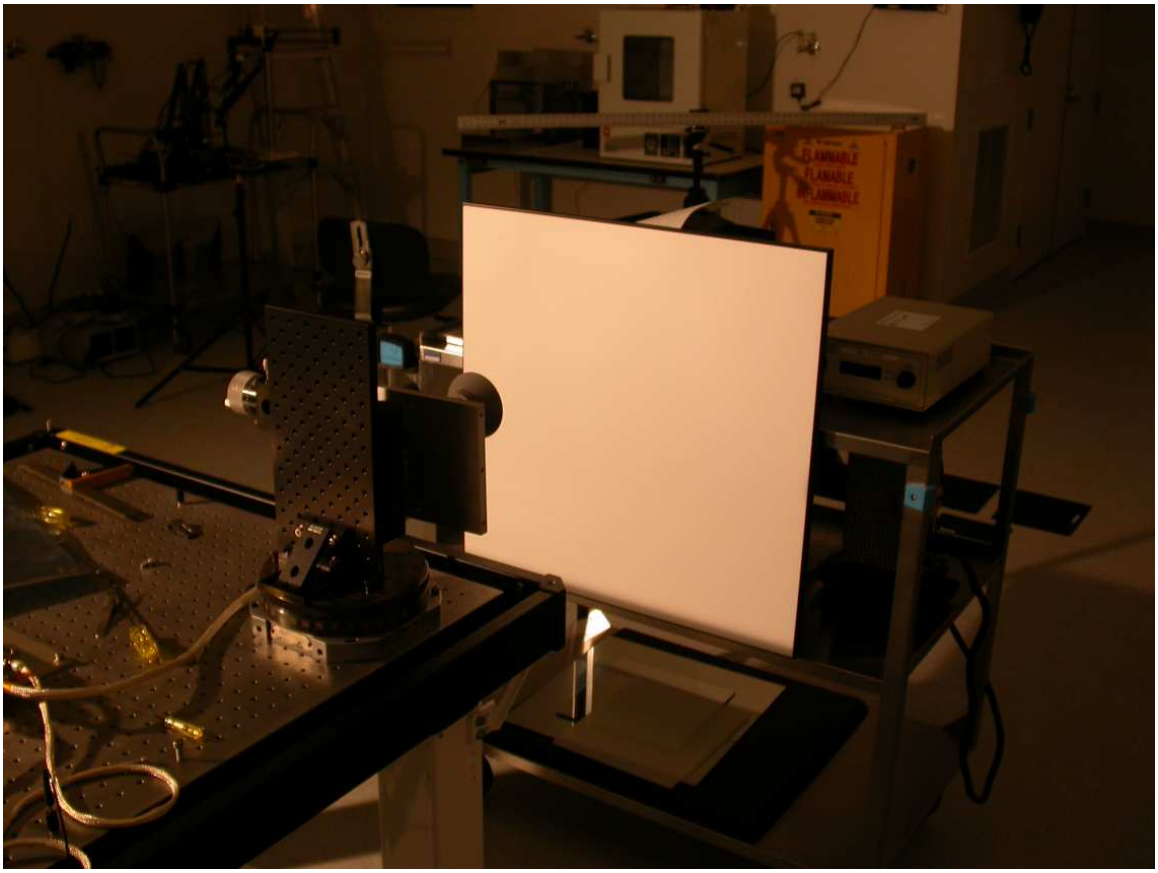
The instrument flat field was determined using two different techniques. In the first, the instrument imaged the exit port of the integrating sphere and was then swept in the along-row direction so that the image of the port covered the entire field of view. A composite image was then built by simply taking the maximum value of each pixel in the entire set of images. This was done for six different exposure times to provide good SNR for all spectral bands. A normalized 16-bit composite of the best exposure time for each band was constructed and a stretched version is shown here. (Exposure times used were 0.5 msec for red, 1 msec for green, 5 msec for blue, and 10 msec for methane.)

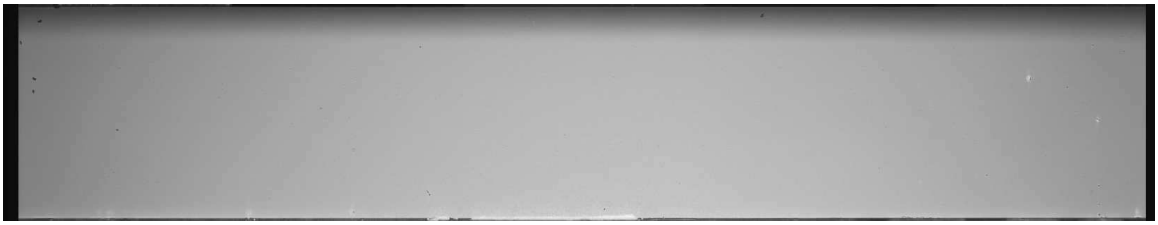


Note that this image only covers the bottom half of the methane region, and includes the interband masked areas of the filter. These will be edited out by the flight software for flight images.

The second method took a single image of a Spectralon target illuminated by halogen lamps. This may have some residual shape caused by non-uniform lighting, but is useful for comparison and covers the

entire methane region.



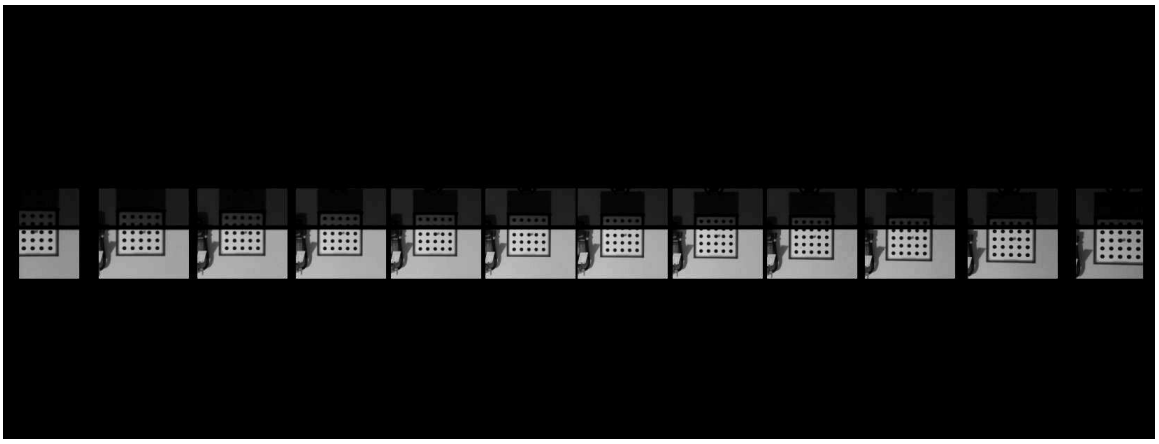


### 5.6. Geometric

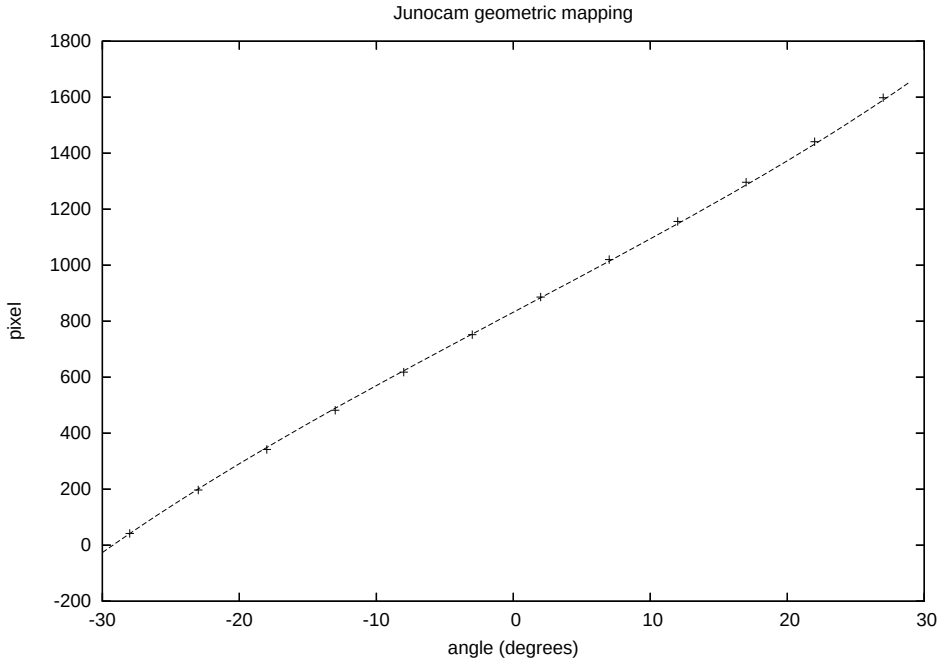
Our usual process for measuring the geometric properties of a camera uses an Ultradex precision rotation stage to sweep a point target across the camera's field of view.

Unfortunately, for Junocam fixturing limitations made it impossible to put the axis of rotation of the stage at the nodal point of the optics. This meant that correction for parallax had to be done.

If f is the distance between the rotation axis and the nodal point, l is the distance between the nodal point and the target, and theta is the angle between the instrument boresight and the normal to the target (the Ultradex angle), then the angle phi from the nodal point to the target is given by the arcsin of l*sin(theta)/s, where s is the slant range to the target, given by sqrt(l**2+f**2-2*f*l*cos(theta)). For the "geomb" sequence, l was 288.43 inches and f was 7.8 inches, so the difference between the Ultradex angle and the angle seen by the camera is about 0.1 degrees at the edge of the field (theta = 30 degrees.)

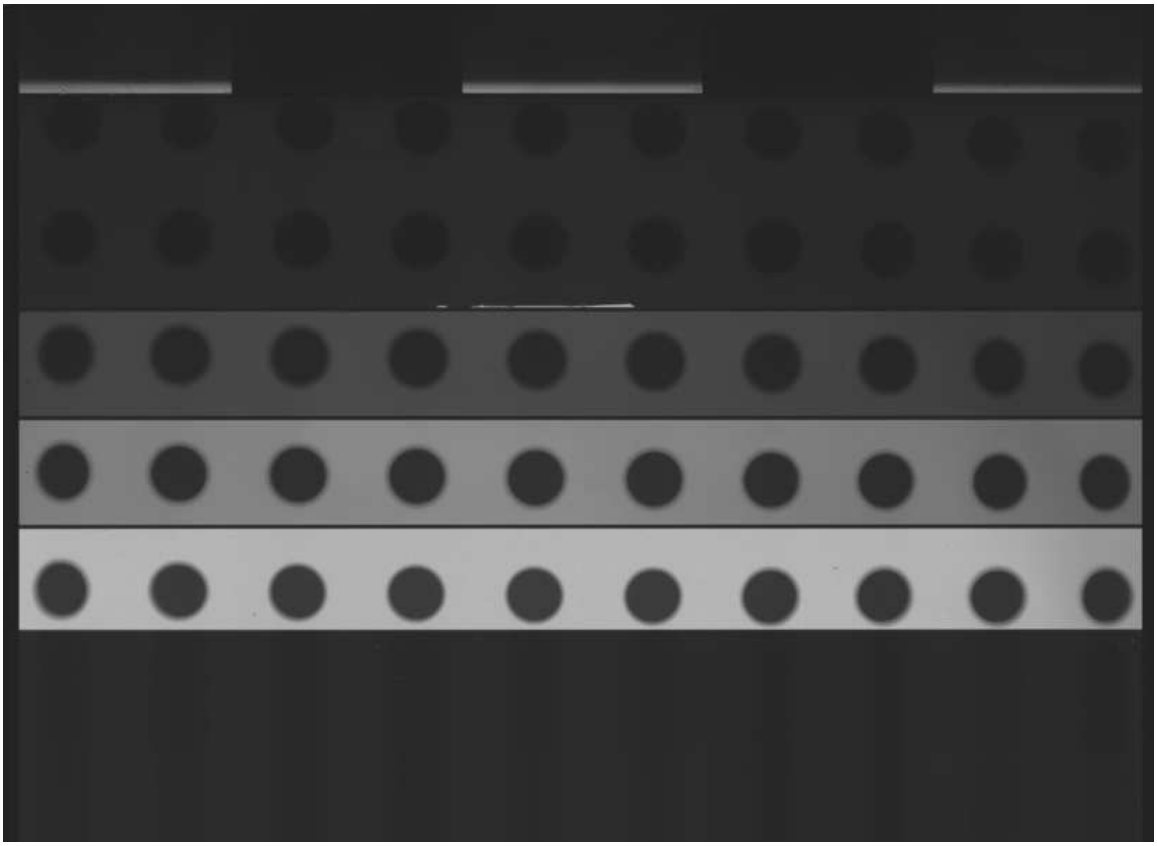


For the geomb sequence, we measured the central dot of the 5x5 dot grid of the target and then corrected the Ultradex angles using the formulas above.




The dashed line is the ideal f tan(theta) function.

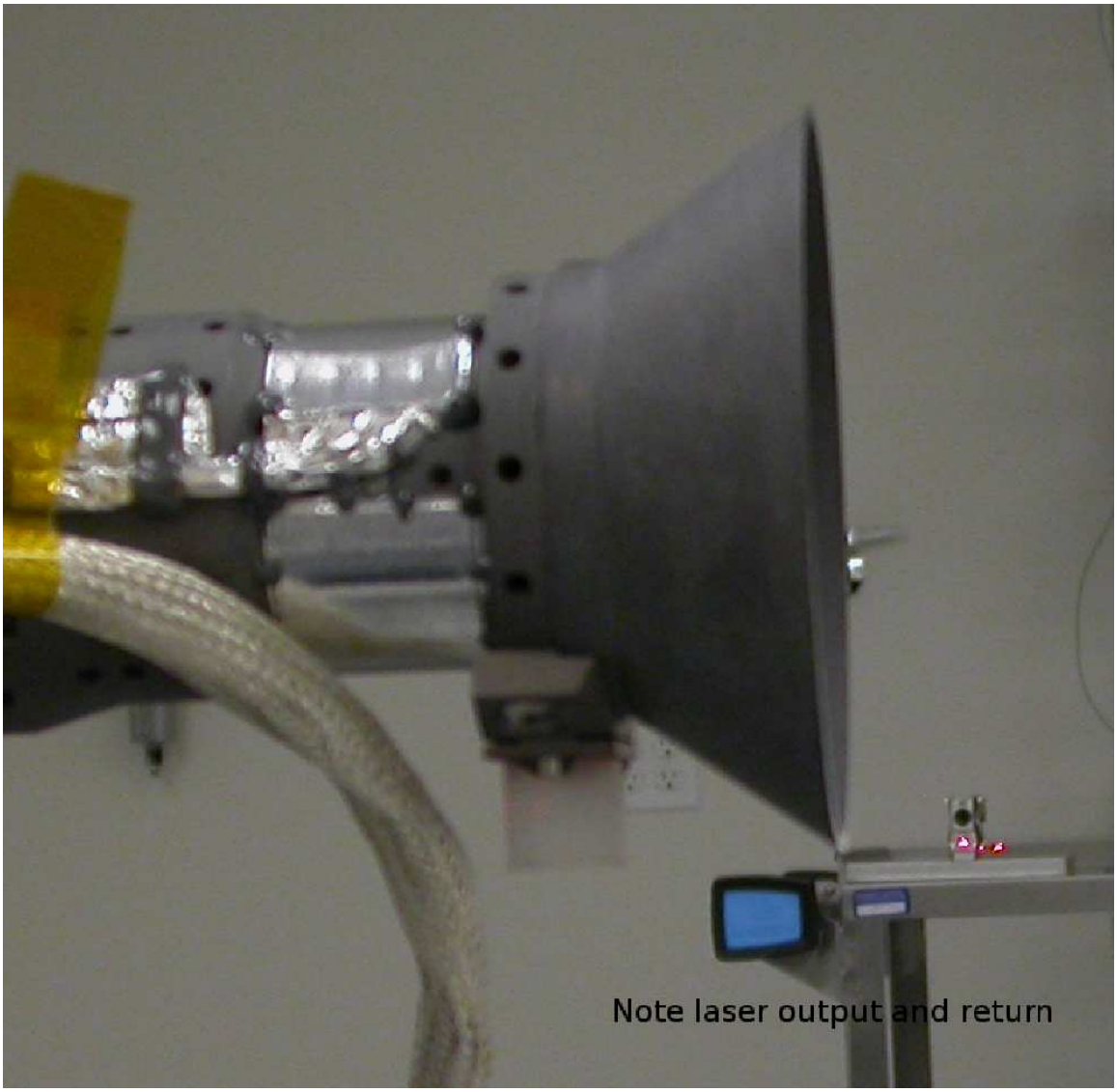
Because this dataset does not cover the entire field and is subject to errors caused by parallax, we took additional images using targets that could cover the entire field without rotation. The most useful of these is geomdot10, an image of a 2D target with a 10x10 grid of 1-inch dots on 2-inch centers at a range of 0.397 meters.

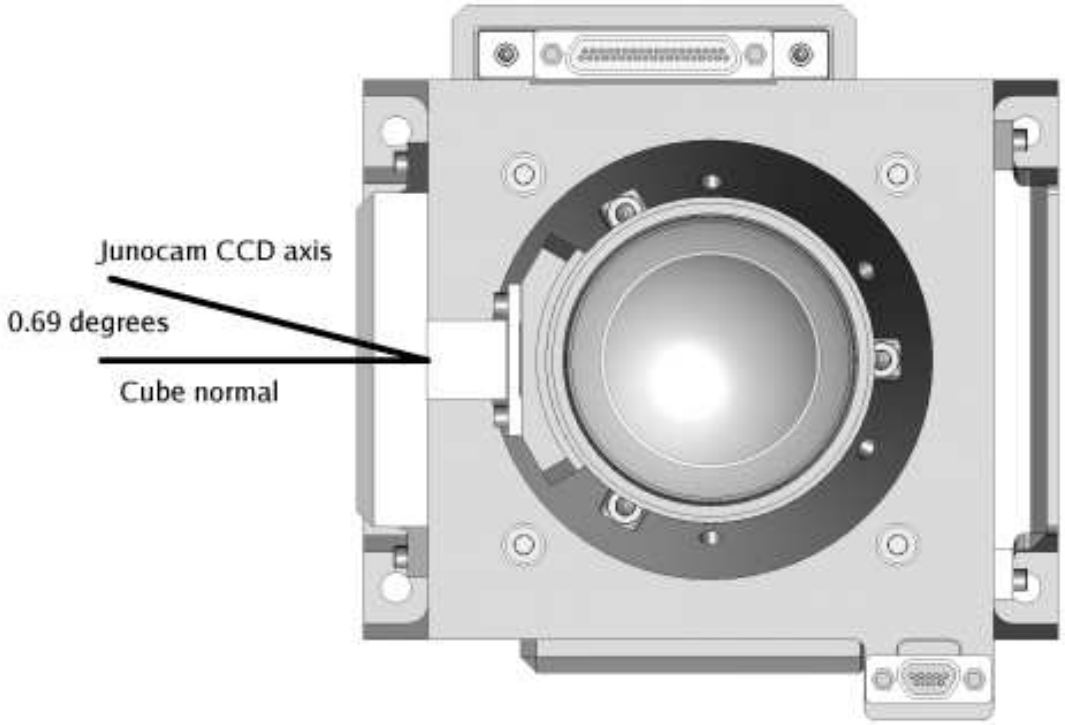


Further analysis of the Junocam geometric function for use in the data processing pipeline is ongoing.

### 5.7. Alignment

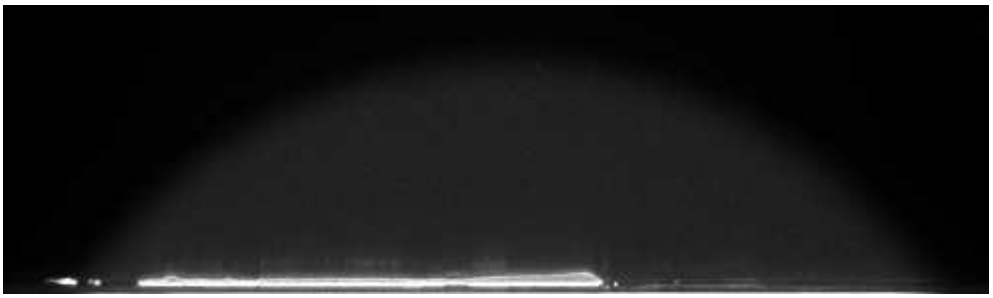
For the TDI to function correctly, the instrument CCD Y-axis has to be aligned to the spacecraft spin axis to high precision. Since the alignment is done using the reflective cube, the angle between the cube normal and the CCD must be measured. We did this by taking a sequence of images of a long straight target that had been leveled relative to gravity while rotating the camera about its boresight. Once the target was aligned with the CCD rows, we rotated the camera again until we got a direct return from the alignment cube face using a Bosch laser level. Thus the angle between CCD rows and the cube normal could be measured.


Note laser output and return




### 5.8. Stray light

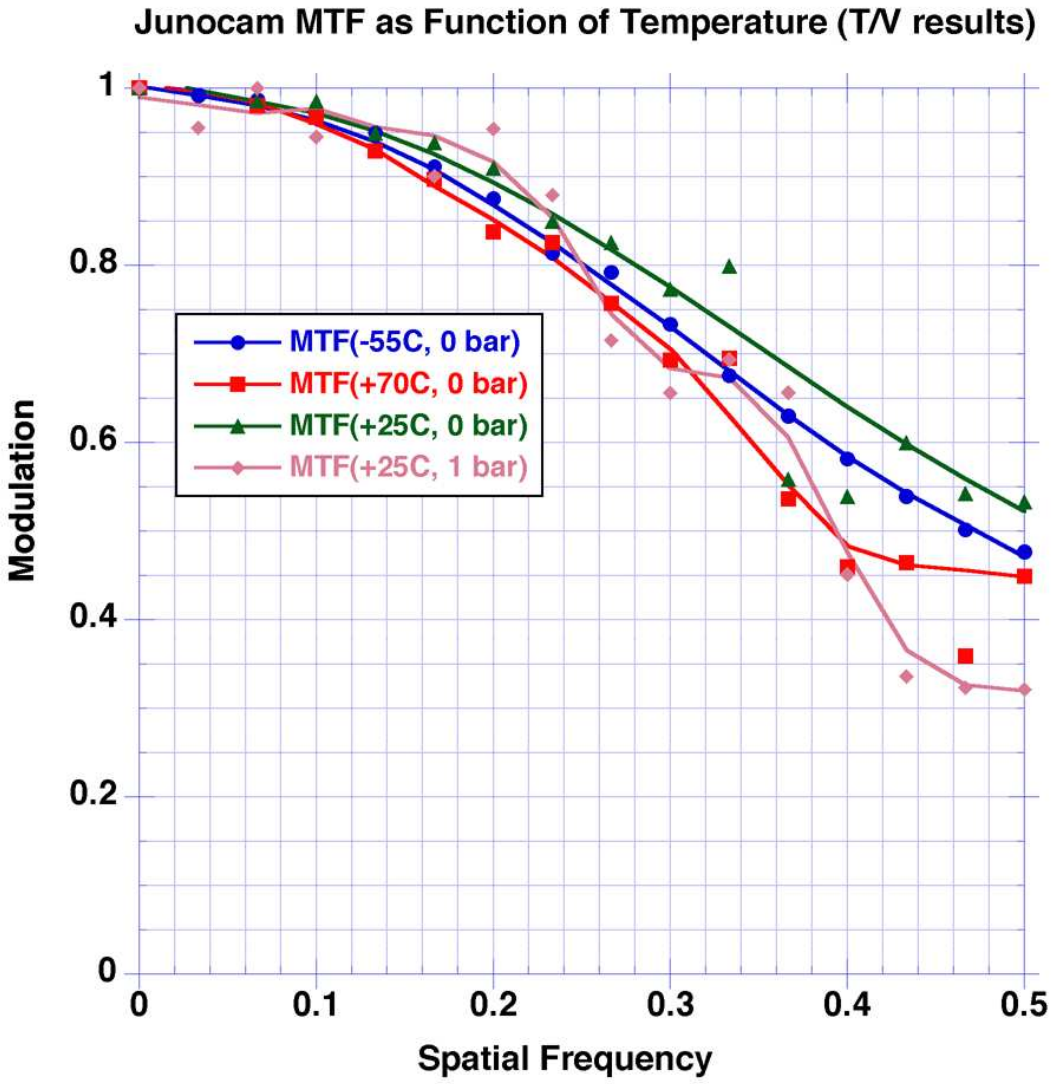
Our primary concern about stray light was the potential for visible light to leak under the narrowband methane filter. We measured this using the integrating sphere and QTH lamp, with and without an 850 mm long-wave-pass filter in place between the lamp and the sphere input. The signal level in the methane band was about 88 DN/16 without the filter and about 74.3 DN with it, a leakage of about 18.4%, but there was little evidence of structure in the leakage, so this is mostly leakage in the filter bandpass itself. The image below is a hard stretch of the difference image with and without the LWP filter.



Stray light from bright sources just outside the field (see, for example, images flatb78 and flatb87) show no more than 1-2% of additional signal.

### 5.9. MTF

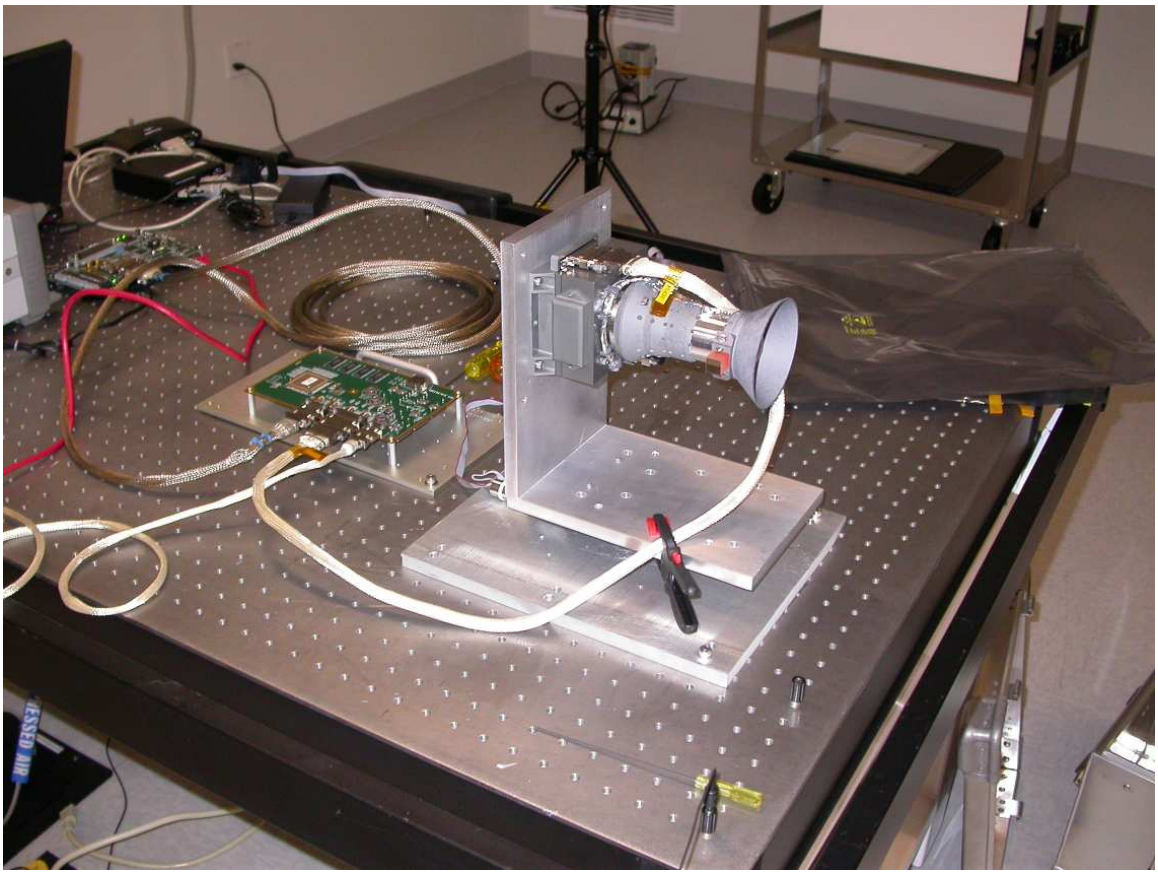
The modulation transfer function was measured over temperature and pressure during instrument thermal/vac. This was done by imaging a test target through the viewport of the vacuum chamber. These images were then analyzed using the MeasureMTF ImageJ plugin.



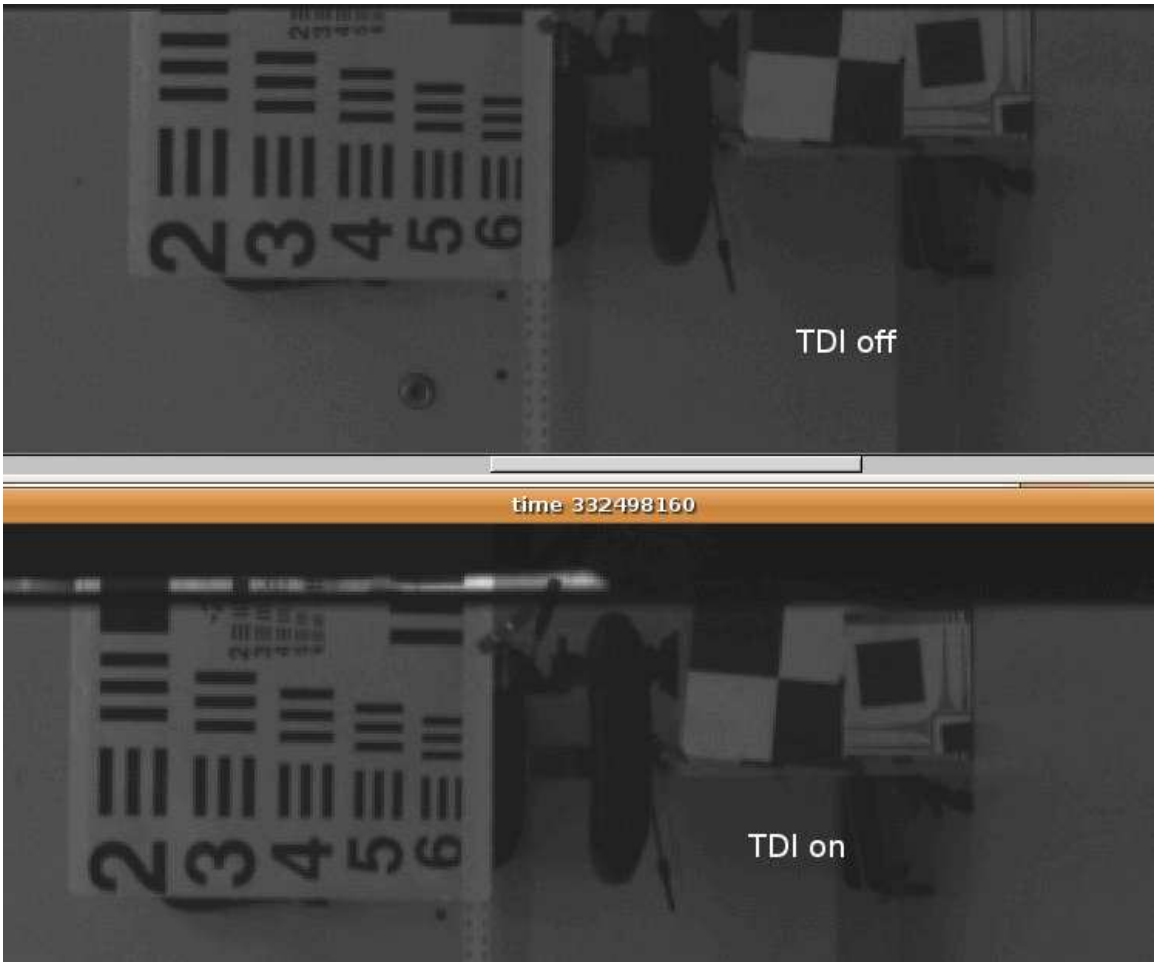

Note that the instrument was deliberately defocussed slightly at room temperature and atmosphere, to compensate for the focus shift when going to vacuum.

### 5.10. TDI Polarity and MTF

The VV&C plan called out MTF measurements at different values of TDI. Obviously the camera has to be rotating for clear images to be taken with TDI>1. For this, and for TDI polarity verification, we mounted the camera on a National Aperture Inc MM-4M-R motorized rotation stage and drove it at the nominal spacecraft rate of 2 RPM. Motion was restricted to a 90-degree arc for cable management reasons.

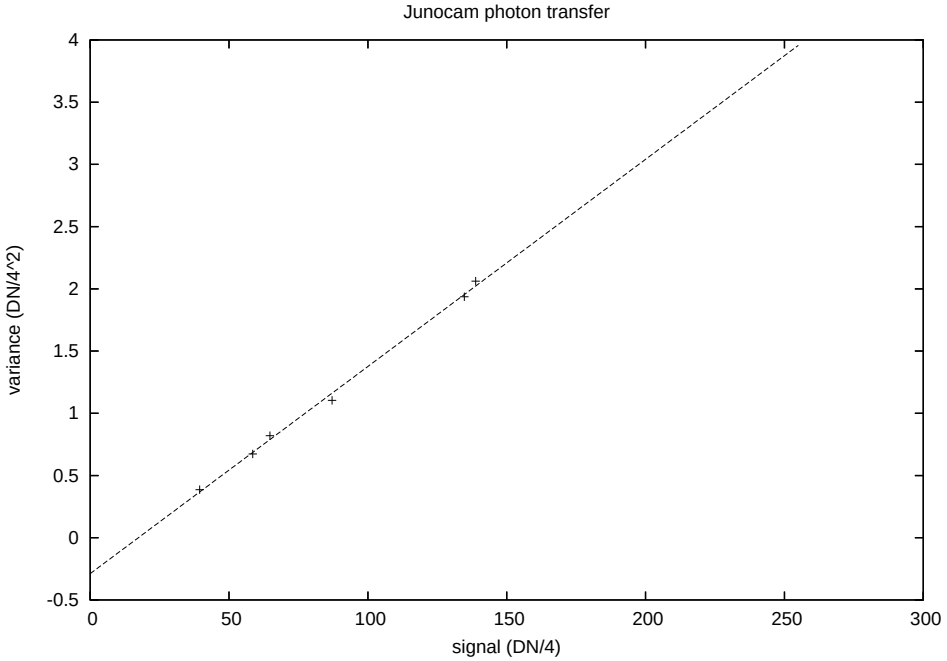


The following two images show a test target stationary, TDI off, and while moving (CCW as seen from above) with TDI=4 and equivalent exposure time. (These are blue-channel images so the SNR is not as high as in the other visible channels.)




### 5.11. Gain and read noise

The system scale factor was determined using the photon transfer method, using different exposure times and selecting different filter bands to cover a range of signal levels.




The best-fit line shows a system scale factor with divide-by-four linear companding of 60.07 e-/DN (r 0.99), corresponding to a raw system scale factor of 15.02 e-/DN. Because these measurements tend to be somewhat noisy, all further analysis is done using the nominal system scale factor of 16.3 e-/DN.

Read noise was determined by measuring the standard deviation of dark difference images. Using this method on dark frames absb13 and absb50, read noise was 0.36*4*16.3/sqrt(2) = 16.6 e-.

## 6. Appendix -- Calibration image directory

These images are on the MSSS computers at /net/fuga/vol/hwgrp/mc/juno/cal.

In general each set of images was acquired for a particular purpose, as described below.

tdia, tdidemoa, tdich4a -- verify TDI functionality and polarity

monoa, monosweepa, monosweepgrr, monosweepgrrb, monosweepreda, monosweepbluea, monosweepch4a -- monochromator sweeps for filter bandpass measurement

flata, flatb -- integrating sphere/Ultradex setup for flat field

geoma -- integrating sphere/washer/Ultradex setup for geometry

geomb -- dot target/Ultradex for geometry

geomc -- ruler imaging for geometry

aligna -- CCD/alignment cube offset angle measurement

geomd -- ruler/Ultradex for geometry (abandoned)

ch4off -- off-axis ch4 filter throughput

speca -- spectralon flat imaging, full-frame

walla -- wall with line of dots

targa -- example alignment target for LM

absa -- absolute photometry sequence

tditarg -- TDI target imaging

leak -- ch4 filter leakage using 850 nm LWP filter in integrating sphere

geomdot, geomdotb -- dot target imaging

geomdotc -- attempt to use optical breadboard as dot target

| Date | image | exposure (msec) | companding | note |
|---|---|---|---|---|
| 07/07/10 13:10:51 | tdia1 | 3.2 | 0 | on rotation stage, stationary |
| 07/07/10 13:13:00 | tdia2 | 3.2 | 0 | rotation stage, cw motion |
| 07/07/10 13:13:45 | tdia3 | 3.2 | 0 | rotation stage, cw motion |
| 07/07/10 13:14:39 | tdia4 | 3.2 | 0 | rotation stage, ccw motion |
| 07/07/10 13:15:23 | tdia5 | 3.2 | 0 | rotation stage, ccw motion |
| 07/07/10 13:16:09 | tdia6 | 12.8 | 0 | rotation stage, ccw motion |
| 07/07/10 15:05:04 | tdidemoa1 | 12.8 | 0 | rotation stage, ccw motion |
| 07/07/10 15:25:14 | tdidemoa2 | 3.2 | 0 | rotation stage, ccw motion |
| 07/07/10 15:27:00 | tdidemoa3 | 3.2 | 0 | rotation stage, ccw motion |
| 07/07/10 15:29:38 | tdidemoa4 | 3.2 | 0 | rotation stage, ccw motion |
| 07/07/10 15:30:53 | tdidemoa5 | 3.2 | 0 | rotation stage, ccw motion |
| 07/08/10 10:07:19 | tdich4a1 | 3.2 | 0 | rotation stage, ccw motion |
| 07/08/10 10:08:50 | tdich4a2 | 3.2 | 0 | rotation stage, ccw motion |
| 07/08/10 10:10:37 | tdich4a3 | 3.2 | 0 | rotation stage, ccw motion |
| 07/08/10 10:11:50 | tdich4a4 | 3.2 | 0 | rotation stage, ccw motion |
| 07/08/10 10:18:05 | tdich4b1 | 3.2 | 0 | rotation ccw |
| 07/08/10 10:18:54 | tdich4b2 | 3.2 | 0 | rotation ccw |
| 07/08/10 10:22:40 | tdich4c1 | 3.2 | 0 | ccw rotation |
| 07/08/10 10:23:58 | tdich4c2 | 3.2 | 0 | ccw rotation |
| 07/08/10 11:20:47 | monoa1 | 3.2 | 0 | lamp 7, wavelength 550 |
| 07/08/10 11:21:21 | monoa2 | 10.0 | 0 | lamp 7, wavelength 550 |
| 07/08/10 11:22:49 | monoa3 | 10.0 | 16 | lamp 7, wavelength 550 |
| 07/08/10 11:23:21 | monoa4 | 5.0 | 16 | lamp 7, wavelength 550 |
| 07/08/10 11:25:48 | monoa5 | 5.0 | 16 | lamp 7, wavelength 550 |
| 07/08/10 11:27:02 | monoa6 | 5.0 | 16 | lamp 7, wavelength 550 |
| 07/08/10 11:28:01 | monoa7 | 5.0 | 16 | lamp 7, wavelength 550 |
| 07/08/10 11:29:09 | monoa8 | 5.0 | 16 | lamp 7, wavelength 550 |
| 07/08/10 11:30:30 | monoa9 | 5.0 | 16 | lamp 7, wavelength 550 |
| 07/08/10 11:31:00 | monoa10 | 3.0 | 16 | lamp 7, wavelength 550 |
| 07/08/10 11:31:53 | monoa11 | 1.0 | 16 | lamp 7, wavelength 550 |
| 07/08/10 11:32:55 | monoa12 | 1.0 | 16 | lamp 7, wavelength 550 |
| 07/08/10 11:34:17 | monoa13 | 1.0 | 16 | lamp 7.5 |
| 07/08/10 11:35:47 | monoa14 | 1.0 | 16 | lamp 7.1 |
| 07/08/10 11:47:46 | monosweepa1 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:48:02 | monosweepa2 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:48:12 | monosweepa3 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:48:23 | monosweepa4 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:48:34 | monosweepa5 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:48:44 | monosweepa6 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:48:53 | monosweepa7 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:49:03 | monosweepa8 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:49:13 | monosweepa9 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:49:23 | monosweepa10 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:49:33 | monosweepa11 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:49:43 | monosweepa12 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |

| | | | | |
|---|---|---|---|---|
| 07/08/10 11:49:53 | monosweepa13 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:50:03 | monosweepa14 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:50:13 | monosweepa15 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:50:22 | monosweepa16 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:50:33 | monosweepa17 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:50:43 | monosweepa18 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:50:52 | monosweepa19 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:51:03 | monosweepa20 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:51:13 | monosweepa21 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:51:22 | monosweepa22 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:51:32 | monosweepa23 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:51:43 | monosweepa24 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:51:52 | monosweepa25 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:52:03 | monosweepa26 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:52:13 | monosweepa27 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:52:22 | monosweepa28 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:52:32 | monosweepa29 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:52:43 | monosweepa30 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:52:53 | monosweepa31 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:53:03 | monosweepa32 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:53:13 | monosweepa33 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:53:23 | monosweepa34 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:53:33 | monosweepa35 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:53:43 | monosweepa36 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:53:53 | monosweepa37 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:54:03 | monosweepa38 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:54:13 | monosweepa39 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:54:25 | monosweepa40 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:54:33 | monosweepa41 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:54:42 | monosweepa42 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:54:53 | monosweepa43 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:55:02 | monosweepa44 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:55:13 | monosweepa45 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:55:23 | monosweepa46 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:55:33 | monosweepa47 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:55:43 | monosweepa48 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:55:52 | monosweepa49 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:56:03 | monosweepa50 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:56:12 | monosweepa51 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:56:23 | monosweepa52 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:56:31 | monosweepa53 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:56:43 | monosweepa54 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:56:52 | monosweepa55 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:57:03 | monosweepa56 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:57:13 | monosweepa57 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:57:22 | monosweepa58 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:57:33 | monosweepa59 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:57:43 | monosweepa60 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:57:53 | monosweepa61 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:58:04 | monosweepa62 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:58:12 | monosweepa63 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:58:23 | monosweepa64 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |

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| 07/08/10 11:58:33 | monosweepa65 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:58:42 | monosweepa66 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:58:53 | monosweepa67 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:59:02 | monosweepa68 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:59:12 | monosweepa69 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:59:22 | monosweepa70 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:59:32 | monosweepa71 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:59:42 | monosweepa72 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 11:59:52 | monosweepa73 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 12:00:04 | monosweepa74 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 12:00:13 | monosweepa75 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 12:00:23 | monosweepa76 | 1.0 | 16 | trial, lamp 7.1, 200-1000 nm in 10 nm steps |
| 07/08/10 13:55:35 | monosweepgrr1 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:55:53 | monosweepgrr2 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:56:02 | monosweepgrr3 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:56:14 | monosweepgrr4 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:56:23 | monosweepgrr5 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:56:32 | monosweepgrr6 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:56:44 | monosweepgrr7 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:56:53 | monosweepgrr8 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:57:02 | monosweepgrr9 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:57:14 | monosweepgrr10 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:57:22 | monosweepgrr11 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:57:32 | monosweepgrr12 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:57:44 | monosweepgrr13 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:57:53 | monosweepgrr14 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:58:02 | monosweepgrr15 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:58:14 | monosweepgrr16 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:58:22 | monosweepgrr17 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:58:32 | monosweepgrr18 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:58:44 | monosweepgrr19 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:58:53 | monosweepgrr20 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:59:02 | monosweepgrr21 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:59:14 | monosweepgrr22 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:59:23 | monosweepgrr23 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:59:32 | monosweepgrr24 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:59:44 | monosweepgrr25 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 13:59:53 | monosweepgrr26 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:00:04 | monosweepgrr27 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:00:16 | monosweepgrr28 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:00:23 | monosweepgrr29 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:00:32 | monosweepgrr30 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:00:43 | monosweepgrr31 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:00:53 | monosweepgrr32 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:01:02 | monosweepgrr33 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:01:14 | monosweepgrr34 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:01:23 | monosweepgrr35 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:01:34 | monosweepgrr36 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:01:44 | monosweepgrr37 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:01:56 | monosweepgrr38 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:02:04 | monosweepgrr39 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:02:14 | monosweepgrr40 | 1.0 | 16 | lamp 7.1, green rerun |

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| 07/08/10 14:02:23 | monosweepgrr41 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:02:34 | monosweepgrr42 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:02:44 | monosweepgrr43 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:02:53 | monosweepgrr44 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:03:04 | monosweepgrr45 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:03:14 | monosweepgrr46 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:03:23 | monosweepgrr47 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:03:37 | monosweepgrr48 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:03:44 | monosweepgrr49 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:03:53 | monosweepgrr50 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:04:04 | monosweepgrr51 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:04:16 | monosweepgrr52 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:04:23 | monosweepgrr53 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:04:33 | monosweepgrr54 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:04:44 | monosweepgrr55 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:04:53 | monosweepgrr56 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:05:03 | monosweepgrr57 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:05:15 | monosweepgrr58 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:05:23 | monosweepgrr59 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:05:35 | monosweepgrr60 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:05:44 | monosweepgrr61 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:05:53 | monosweepgrr62 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:06:06 | monosweepgrr63 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:06:15 | monosweepgrr64 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:06:23 | monosweepgrr65 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:06:35 | monosweepgrr66 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:06:43 | monosweepgrr67 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:06:53 | monosweepgrr68 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:07:07 | monosweepgrr69 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:07:14 | monosweepgrr70 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:07:23 | monosweepgrr71 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:07:35 | monosweepgrr72 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:07:43 | monosweepgrr73 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:07:55 | monosweepgrr74 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:08:05 | monosweepgrr75 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:08:14 | monosweepgrr76 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:08:25 | monosweepgrr77 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:08:38 | monosweepgrr78 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:08:44 | monosweepgrr79 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:08:53 | monosweepgrr80 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:09:04 | monosweepgrr81 | 1.0 | 16 | lamp 7.1, green rerun |
| 07/08/10 14:24:02 | monosweepgrrb1 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:24:12 | monosweepgrrb2 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:24:23 | monosweepgrrb3 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:24:32 | monosweepgrrb4 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:24:42 | monosweepgrrb5 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:24:53 | monosweepgrrb6 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:25:02 | monosweepgrrb7 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:25:12 | monosweepgrrb8 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:25:24 | monosweepgrrb9 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:25:32 | monosweepgrrb10 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:25:43 | monosweepgrrb11 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |

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| 07/08/10 14:25:53 | monosweepgrrb12 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:26:02 | monosweepgrrb13 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:26:14 | monosweepgrrb14 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:26:22 | monosweepgrrb15 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:26:32 | monosweepgrrb16 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:26:41 | monosweepgrrb17 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:26:53 | monosweepgrrb18 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:27:02 | monosweepgrrb19 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:27:11 | monosweepgrrb20 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:27:22 | monosweepgrrb21 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:27:32 | monosweepgrrb22 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:27:43 | monosweepgrrb23 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:27:53 | monosweepgrrb24 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:28:02 | monosweepgrrb25 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:28:11 | monosweepgrrb26 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:28:22 | monosweepgrrb27 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:28:32 | monosweepgrrb28 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:28:42 | monosweepgrrb29 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:28:52 | monosweepgrrb30 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:29:02 | monosweepgrrb31 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:29:12 | monosweepgrrb32 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:29:22 | monosweepgrrb33 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:29:32 | monosweepgrrb34 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:29:43 | monosweepgrrb35 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:29:52 | monosweepgrrb36 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:30:02 | monosweepgrrb37 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:30:13 | monosweepgrrb38 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:30:24 | monosweepgrrb39 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:30:32 | monosweepgrrb40 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:30:41 | monosweepgrrb41 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:30:53 | monosweepgrrb42 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:31:01 | monosweepgrrb43 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:31:11 | monosweepgrrb44 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:31:23 | monosweepgrrb45 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:31:34 | monosweepgrrb46 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:31:43 | monosweepgrrb47 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:31:52 | monosweepgrrb48 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:32:02 | monosweepgrrb49 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:32:12 | monosweepgrrb50 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:32:23 | monosweepgrrb51 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:32:32 | monosweepgrrb52 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:32:42 | monosweepgrrb53 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:32:53 | monosweepgrrb54 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:33:02 | monosweepgrrb55 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:33:12 | monosweepgrrb56 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:33:23 | monosweepgrrb57 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:33:32 | monosweepgrrb58 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:33:44 | monosweepgrrb59 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:33:53 | monosweepgrrb60 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:34:02 | monosweepgrrb61 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:34:12 | monosweepgrrb62 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:34:22 | monosweepgrrb63 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |

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| 07/08/10 14:34:32 | monosweepgrrb64 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:34:42 | monosweepgrrb65 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:34:53 | monosweepgrrb66 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:35:01 | monosweepgrrb67 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:35:12 | monosweepgrrb68 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:35:22 | monosweepgrrb69 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:35:32 | monosweepgrrb70 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:35:42 | monosweepgrrb71 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:35:52 | monosweepgrrb72 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:36:02 | monosweepgrrb73 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:36:13 | monosweepgrrb74 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:36:22 | monosweepgrrb75 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:36:32 | monosweepgrrb76 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:36:42 | monosweepgrrb77 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:36:52 | monosweepgrrb78 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:37:02 | monosweepgrrb79 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:37:12 | monosweepgrrb80 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:37:22 | monosweepgrrb81 | 1.0 | 16 | rerun again, lamp 7.1, 200-1000 by 10 |
| 07/08/10 14:44:46 | monosweepreda1 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:44:57 | monosweepreda2 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:45:05 | monosweepreda3 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:45:17 | monosweepreda4 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:45:25 | monosweepreda5 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:45:37 | monosweepreda6 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:45:45 | monosweepreda7 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:45:57 | monosweepreda8 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:46:07 | monosweepreda9 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:46:16 | monosweepreda10 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:46:26 | monosweepreda11 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:46:38 | monosweepreda12 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:46:46 | monosweepreda13 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:46:56 | monosweepreda14 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:47:07 | monosweepreda15 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:47:16 | monosweepreda16 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:47:26 | monosweepreda17 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:47:37 | monosweepreda18 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:47:46 | monosweepreda19 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:47:56 | monosweepreda20 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:48:06 | monosweepreda21 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:48:16 | monosweepreda22 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:48:26 | monosweepreda23 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:48:37 | monosweepreda24 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:48:46 | monosweepreda25 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:48:57 | monosweepreda26 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:49:07 | monosweepreda27 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:49:17 | monosweepreda28 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:49:27 | monosweepreda29 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:49:38 | monosweepreda30 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:49:48 | monosweepreda31 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:49:56 | monosweepreda32 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:50:07 | monosweepreda33 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:50:16 | monosweepreda34 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |

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| 07/08/10 14:50:26 | monosweepreda35 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:50:36 | monosweepreda36 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:50:47 | monosweepreda37 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:50:55 | monosweepreda38 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:51:07 | monosweepreda39 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:51:16 | monosweepreda40 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:51:25 | monosweepreda41 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:51:37 | monosweepreda42 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:51:47 | monosweepreda43 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:51:55 | monosweepreda44 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:52:07 | monosweepreda45 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:52:17 | monosweepreda46 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:52:25 | monosweepreda47 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:52:37 | monosweepreda48 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:52:47 | monosweepreda49 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:52:55 | monosweepreda50 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:53:07 | monosweepreda51 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:53:16 | monosweepreda52 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:53:25 | monosweepreda53 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:53:37 | monosweepreda54 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:53:46 | monosweepreda55 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:53:57 | monosweepreda56 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:54:06 | monosweepreda57 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:54:17 | monosweepreda58 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:54:26 | monosweepreda59 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:54:37 | monosweepreda60 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:54:47 | monosweepreda61 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:54:56 | monosweepreda62 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:55:07 | monosweepreda63 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:55:17 | monosweepreda64 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:55:26 | monosweepreda65 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:55:37 | monosweepreda66 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:55:47 | monosweepreda67 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:55:56 | monosweepreda68 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:56:07 | monosweepreda69 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:56:19 | monosweepreda70 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:56:26 | monosweepreda71 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:56:37 | monosweepreda72 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:56:47 | monosweepreda73 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:56:56 | monosweepreda74 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:57:07 | monosweepreda75 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:57:17 | monosweepreda76 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:57:26 | monosweepreda77 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:57:38 | monosweepreda78 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:57:46 | monosweepreda79 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:57:56 | monosweepreda80 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 14:58:08 | monosweepreda81 | 1.0 | 16 | lamp 7.1, 200 to 1000 by 10 |
| 07/08/10 15:38:18 | monosweepbluea1 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:38:31 | monosweepbluea2 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:38:39 | monosweepbluea3 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:38:49 | monosweepbluea4 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:39:00 | monosweepbluea5 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |

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| 07/08/10 15:39:09 | monosweepbluea6 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:39:18 | monosweepbluea7 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:39:30 | monosweepbluea8 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:39:40 | monosweepbluea9 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:39:49 | monosweepbluea10 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:40:00 | monosweepbluea11 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:40:08 | monosweepbluea12 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:40:22 | monosweepbluea13 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:40:30 | monosweepbluea14 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:40:40 | monosweepbluea15 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:40:49 | monosweepbluea16 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:41:00 | monosweepbluea17 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:41:10 | monosweepbluea18 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:41:20 | monosweepbluea19 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:41:30 | monosweepbluea20 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:41:40 | monosweepbluea21 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:41:49 | monosweepbluea22 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:42:01 | monosweepbluea23 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:42:10 | monosweepbluea24 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:42:20 | monosweepbluea25 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:42:30 | monosweepbluea26 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:42:40 | monosweepbluea27 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:42:49 | monosweepbluea28 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:43:00 | monosweepbluea29 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:43:10 | monosweepbluea30 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:43:19 | monosweepbluea31 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:43:31 | monosweepbluea32 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:43:39 | monosweepbluea33 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:43:49 | monosweepbluea34 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:44:01 | monosweepbluea35 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:44:10 | monosweepbluea36 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:44:19 | monosweepbluea37 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:44:30 | monosweepbluea38 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:44:39 | monosweepbluea39 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:44:49 | monosweepbluea40 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:45:01 | monosweepbluea41 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:45:10 | monosweepbluea42 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:45:19 | monosweepbluea43 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:45:30 | monosweepbluea44 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:45:39 | monosweepbluea45 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:45:49 | monosweepbluea46 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:46:01 | monosweepbluea47 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:46:10 | monosweepbluea48 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:46:21 | monosweepbluea49 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:46:31 | monosweepbluea50 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:46:39 | monosweepbluea51 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:46:49 | monosweepbluea52 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:47:01 | monosweepbluea53 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:47:10 | monosweepbluea54 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:47:21 | monosweepbluea55 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:47:30 | monosweepbluea56 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:47:40 | monosweepbluea57 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |

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| 07/08/10 15:47:49 | monosweepbluea58 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:48:01 | monosweepbluea59 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:48:10 | monosweepbluea60 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:48:19 | monosweepbluea61 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:48:31 | monosweepbluea62 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:48:39 | monosweepbluea63 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:48:49 | monosweepbluea64 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:49:01 | monosweepbluea65 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:49:10 | monosweepbluea66 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:49:21 | monosweepbluea67 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:49:31 | monosweepbluea68 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:49:40 | monosweepbluea69 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:49:49 | monosweepbluea70 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:50:00 | monosweepbluea71 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:50:10 | monosweepbluea72 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:50:20 | monosweepbluea73 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:50:30 | monosweepbluea74 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:50:40 | monosweepbluea75 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:50:50 | monosweepbluea76 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:51:00 | monosweepbluea77 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:51:10 | monosweepbluea78 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:51:20 | monosweepbluea79 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:51:30 | monosweepbluea80 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 15:51:40 | monosweepbluea81 | 1.0 | 16 | 200 to 1000 by 10, lamp 7.5 |
| 07/08/10 16:05:54 | monosweepch4a1 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:06:04 | monosweepch4a2 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:06:15 | monosweepch4a3 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:06:23 | monosweepch4a4 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:06:34 | monosweepch4a5 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:06:43 | monosweepch4a6 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:06:53 | monosweepch4a7 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:07:05 | monosweepch4a8 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:07:13 | monosweepch4a9 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:07:23 | monosweepch4a10 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:07:34 | monosweepch4a11 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:07:44 | monosweepch4a12 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:07:53 | monosweepch4a13 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:08:04 | monosweepch4a14 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:08:13 | monosweepch4a15 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:08:23 | monosweepch4a16 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:08:34 | monosweepch4a17 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:08:44 | monosweepch4a18 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:08:54 | monosweepch4a19 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:09:04 | monosweepch4a20 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:09:13 | monosweepch4a21 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:09:23 | monosweepch4a22 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:09:34 | monosweepch4a23 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:09:43 | monosweepch4a24 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:09:53 | monosweepch4a25 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:10:03 | monosweepch4a26 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:10:15 | monosweepch4a27 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:10:23 | monosweepch4a28 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |

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| 07/08/10 16:10:34 | monosweepch4a29 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:10:43 | monosweepch4a30 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:10:55 | monosweepch4a31 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:11:04 | monosweepch4a32 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:11:13 | monosweepch4a33 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:11:24 | monosweepch4a34 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:11:34 | monosweepch4a35 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:11:43 | monosweepch4a36 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:11:53 | monosweepch4a37 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:12:04 | monosweepch4a38 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:12:13 | monosweepch4a39 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:12:25 | monosweepch4a40 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:12:34 | monosweepch4a41 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:12:43 | monosweepch4a42 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:12:55 | monosweepch4a43 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:13:04 | monosweepch4a44 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:13:14 | monosweepch4a45 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:13:25 | monosweepch4a46 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:13:34 | monosweepch4a47 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:13:43 | monosweepch4a48 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:13:55 | monosweepch4a49 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:14:04 | monosweepch4a50 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:14:14 | monosweepch4a51 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:14:25 | monosweepch4a52 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:14:34 | monosweepch4a53 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:14:43 | monosweepch4a54 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:14:54 | monosweepch4a55 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:15:04 | monosweepch4a56 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:15:13 | monosweepch4a57 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:15:24 | monosweepch4a58 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:15:34 | monosweepch4a59 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:15:44 | monosweepch4a60 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:15:54 | monosweepch4a61 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:16:03 | monosweepch4a62 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:16:14 | monosweepch4a63 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:16:24 | monosweepch4a64 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:16:33 | monosweepch4a65 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:16:43 | monosweepch4a66 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:16:53 | monosweepch4a67 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:17:04 | monosweepch4a68 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:17:13 | monosweepch4a69 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:17:24 | monosweepch4a70 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:17:34 | monosweepch4a71 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:17:43 | monosweepch4a72 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:17:53 | monosweepch4a73 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:18:04 | monosweepch4a74 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:18:13 | monosweepch4a75 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:18:23 | monosweepch4a76 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:18:34 | monosweepch4a77 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:18:44 | monosweepch4a78 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:18:53 | monosweepch4a79 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/08/10 16:19:04 | monosweepch4a80 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |

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| 07/08/10 16:19:14 | monosweepch4a81 | 2.0 | 16 | lamp 7.0, 600 to 1000 by 5 |
| 07/09/10 12:54:51 | flata1 | 1.0 | 16 | integrating sphere, QTH lamp at 8.0 |
| 07/09/10 12:58:18 | flata2 | 1.0 | 16 | ultradex 263, z-stage leveled |
| 07/09/10 13:00:02 | flata3 | 1.0 | 16 | ultradex 250 |
| 07/09/10 13:01:09 | flata4 | 1.0 | 16 | ultradex 245 |
| 07/09/10 13:02:57 | flata5 | 1.0 | 16 | ultradex 250 |
| 07/09/10 13:03:36 | flata6 | 1.0 | 16 | ultradex 245 |
| 07/09/10 13:04:23 | flata7 | 1.0 | 16 | ultradex 260 (last was 255) |
| 07/09/10 13:05:06 | flata8 | 1.0 | 16 | ultradex 265 |
| 07/09/10 13:06:03 | flata9 | 1.0 | 16 | ultradex 270 |
| 07/09/10 13:06:45 | flata10 | 1.0 | 16 | ultradex 275 |
| 07/09/10 13:07:27 | flata11 | 1.0 | 16 | ultradex 280 |
| 07/09/10 13:08:41 | flata12 | 1.0 | 16 | ultradex 285 |
| 07/09/10 13:11:23 | flatb1 | 1.0 | 16 | lowered sphere, centered ultradex |
| 07/09/10 13:13:58 | flatb2 | 1.0 | 16 | sphere closer |
| 07/09/10 13:15:39 | flatb3 | 1.0 | 16 | lamp 7.5 |
| 07/09/10 13:16:34 | flatb4 | 0.5 | 16 | lamp 7.5 |
| 07/09/10 13:17:04 | flatb5 | 10.0 | 16 | lamp 7.5 |
| 07/09/10 13:17:21 | flatb6 | 50.0 | 16 | lamp 7.5 |
| 07/09/10 13:18:16 | flatb7 | 0.0 | 16 | lamp 7.5 |
| 07/09/10 13:22:23 | flatb8 | 0.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:22:29 | flatb9 | 0.2 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:22:36 | flatb10 | 0.5 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:22:43 | flatb11 | 1.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:22:51 | flatb12 | 2.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:23:00 | flatb13 | 3.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:23:06 | flatb14 | 5.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:23:12 | flatb15 | 10.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:23:19 | flatb16 | 7.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:23:58 | flatb17 | 0.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:24:05 | flatb18 | 0.2 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:24:13 | flatb19 | 0.5 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:24:19 | flatb20 | 1.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:24:26 | flatb21 | 2.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:24:35 | flatb22 | 3.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:24:42 | flatb23 | 5.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:24:48 | flatb24 | 10.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:24:57 | flatb25 | 7.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:25:30 | flatb26 | 0.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:25:36 | flatb27 | 0.2 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:25:42 | flatb28 | 0.5 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:25:54 | flatb29 | 1.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:26:05 | flatb30 | 2.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:26:14 | flatb31 | 3.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:26:20 | flatb32 | 5.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:26:26 | flatb33 | 10.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:26:35 | flatb34 | 7.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:27:06 | flatb35 | 0.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:27:12 | flatb36 | 0.2 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:27:20 | flatb37 | 0.5 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:27:26 | flatb38 | 1.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:27:35 | flatb39 | 2.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |

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| 07/09/10 13:27:40 | flatb40 | 3.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:27:49 | flatb41 | 5.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:27:56 | flatb42 | 10.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:28:05 | flatb43 | 7.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:28:38 | flatb44 | 0.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:28:44 | flatb45 | 0.2 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:28:50 | flatb46 | 0.5 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:28:56 | flatb47 | 1.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:29:03 | flatb48 | 2.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:29:09 | flatb49 | 3.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:29:17 | flatb50 | 5.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:29:24 | flatb51 | 10.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:29:32 | flatb52 | 7.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:30:15 | flatb53 | 0.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:30:22 | flatb54 | 0.2 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:30:29 | flatb55 | 0.5 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:30:33 | flatb56 | 1.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:30:39 | flatb57 | 2.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:30:45 | flatb58 | 3.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:30:50 | flatb59 | 5.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:30:58 | flatb60 | 10.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:31:07 | flatb61 | 7.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:32:35 | flatb62 | 0.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:32:43 | flatb63 | 0.2 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:32:50 | flatb64 | 0.5 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:32:57 | flatb65 | 1.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:33:05 | flatb66 | 2.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:33:11 | flatb67 | 3.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:33:17 | flatb68 | 5.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:33:24 | flatb69 | 10.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:33:33 | flatb70 | 7.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:34:15 | flatb71 | 0.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:34:23 | flatb72 | 0.2 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:34:29 | flatb73 | 0.5 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:34:35 | flatb74 | 1.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:34:44 | flatb75 | 2.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:34:50 | flatb76 | 3.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:34:58 | flatb77 | 5.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:35:03 | flatb78 | 10.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:35:09 | flatb79 | 7.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:35:47 | flatb80 | 0.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:35:54 | flatb81 | 0.2 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:35:59 | flatb82 | 0.5 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:36:05 | flatb83 | 1.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:36:10 | flatb84 | 2.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:36:16 | flatb85 | 3.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:36:23 | flatb86 | 5.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:36:29 | flatb87 | 10.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:36:35 | flatb88 | 7.0 | 16 | lamp 7.5, scan from 245 to 285 by 5 |
| 07/09/10 13:37:40 | flatb89 | 0.0 | 16 | dark |
| 07/09/10 13:37:46 | flatb90 | 0.2 | 16 | dark |
| 07/09/10 13:37:53 | flatb91 | 0.5 | 16 | dark |

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| 07/09/10 13:38:00 | flatb92 | 1.0 | 16 | dark |
| 07/09/10 13:38:07 | flatb93 | 2.0 | 16 | dark |
| 07/09/10 13:38:16 | flatb94 | 3.0 | 16 | dark |
| 07/09/10 13:38:22 | flatb95 | 5.0 | 16 | dark |
| 07/09/10 13:38:29 | flatb96 | 10.0 | 16 | dark |
| 07/09/10 13:38:36 | flatb97 | 7.0 | 16 | dark |
| 07/09/10 13:38:56 | flatb98 | 0.0 | 1 | dark |
| 07/09/10 13:39:05 | flatb99 | 0.2 | 1 | dark |
| 07/09/10 13:39:10 | flatb100 | 0.5 | 1 | dark |
| 07/09/10 13:39:20 | flatb101 | 1.0 | 1 | dark |
| 07/09/10 13:39:27 | flatb102 | 2.0 | 1 | dark |
| 07/09/10 13:39:35 | flatb103 | 3.0 | 1 | dark |
| 07/09/10 13:39:42 | flatb104 | 5.0 | 1 | dark |
| 07/09/10 13:39:50 | flatb105 | 10.0 | 1 | dark |
| 07/09/10 13:39:56 | flatb106 | 7.0 | 1 | dark |
| 07/09/10 14:50:42 | geoma1 | 1.0 | 16 | lamp 8.0, room lights on |
| 07/09/10 14:52:07 | geoma2 | 1.0 | 16 | lamp 8.0, room lights on |
| 07/09/10 14:53:30 | geoma3 | 1.0 | 16 | lamp 8.0, room lights on |
| 07/09/10 14:54:40 | geoma4 | 2.0 | 16 | lamp 8.0, room lights on |
| 07/09/10 14:55:34 | geoma5 | 2.0 | 16 | lamp 8.0, room lights on |
| 07/09/10 14:56:15 | geoma6 | 2.0 | 16 | lamp 8.0, room lights on |
| 07/09/10 14:56:58 | geoma7 | 2.0 | 16 | lamp 8.0, room lights on |
| 07/09/10 14:57:37 | geoma8 | 2.0 | 16 | ultradex 244 |
| 07/09/10 14:58:33 | geoma9 | 2.0 | 16 | ultradex 245 to 285 by 5 |
| 07/09/10 14:58:59 | geoma10 | 2.0 | 16 | ultradex 245 to 285 by 5 |
| 07/09/10 14:59:16 | geoma11 | 2.0 | 16 | ultradex 245 to 285 by 5 |
| 07/09/10 14:59:32 | geoma12 | 2.0 | 16 | ultradex 245 to 285 by 5 |
| 07/09/10 14:59:47 | geoma13 | 2.0 | 16 | ultradex 245 to 285 by 5 |
| 07/09/10 15:00:01 | geoma14 | 2.0 | 16 | ultradex 245 to 285 by 5 |
| 07/09/10 15:00:18 | geoma15 | 2.0 | 16 | ultradex 245 to 285 by 5 |
| 07/09/10 15:00:34 | geoma16 | 2.0 | 16 | ultradex 245 to 285 by 5 |
| 07/09/10 15:00:50 | geoma17 | 2.0 | 16 | ultradex 245 to 285 by 5 |
| 07/09/10 15:02:59 | geoma18 | 2.0 | 16 | ultradex 277 |
| 07/09/10 15:03:52 | geoma19 | 2.0 | 16 | ultradex 278 to 280 by 1 |
| 07/09/10 15:04:07 | geoma20 | 2.0 | 16 | ultradex 278 to 280 by 1 |
| 07/09/10 15:04:19 | geoma21 | 2.0 | 16 | ultradex 278 to 280 by 1 |
| 07/09/10 15:04:40 | geoma22 | 2.0 | 16 | ultradex 278 to 280 by 1 |
| 07/09/10 15:05:44 | geoma23 | 2.0 | 16 | ultradex 262 |
| 07/09/10 15:06:06 | geoma24 | 2.0 | 16 | ultradex 263 |
| 07/09/10 15:06:53 | geoma25 | 2.0 | 16 | ultradex 250 |
| 07/09/10 15:08:28 | geoma26 | 2.0 | 16 | ultradex 245 z stage 314 |
| 07/09/10 15:09:10 | geoma27 | 2.0 | 16 | ultradex 245 z stage 300 |
| 07/09/10 15:10:01 | geoma28 | 1.0 | 16 | ultradex 245 z stage 295 |
| 07/09/10 15:10:41 | geoma29 | 1.0 | 16 | ultradex 244 z stage 295 |
| 07/09/10 15:11:22 | geoma30 | 1.0 | 16 | ultradex 243 z stage 295 |
| 07/09/10 15:12:23 | geoma31 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:12:47 | geoma32 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:13:03 | geoma33 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:13:19 | geoma34 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:13:34 | geoma35 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:13:49 | geoma36 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:14:03 | geoma37 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |

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| 07/09/10 15:14:16 | geoma38 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:14:31 | geoma39 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:14:47 | geoma40 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:15:04 | geoma41 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:15:19 | geoma42 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:15:31 | geoma43 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:15:47 | geoma44 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:16:04 | geoma45 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:16:17 | geoma46 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:16:35 | geoma47 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:16:51 | geoma48 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:17:05 | geoma49 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:17:22 | geoma50 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:17:35 | geoma51 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:17:50 | geoma52 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/09/10 15:18:07 | geoma53 | 1.0 | 16 | zstage 295 ultradex 243 to 265 by 1 |
| 07/12/10 09:31:36 | geomb1 | 3.0 | 0 | ultradex 352 z 44 range 7.128m from sunshade |
| 07/12/10 09:34:06 | geomb2 | 3.0 | 0 | ultradex 351 z 44 range 7.128m from sunshade |
| 07/12/10 09:35:23 | geomb3 | 3.0 | 0 | ultradex 353 z 44 range 7.128m from sunshade |
| 07/12/10 09:38:23 | geomb4 | 3.0 | 0 | ultradex 353 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:39:22 | geomb5 | 3.0 | 0 | ultradex 352 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:40:26 | geomb6 | 3.0 | 0 | ultradex 335 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:41:14 | geomb7 | 3.0 | 0 | ultradex 330 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:42:02 | geomb8 | 3.0 | 0 | ultradex 325 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:43:32 | geomb9 | 3.0 | 0 | ultradex 340 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:44:08 | geomb10 | 3.0 | 0 | ultradex 345 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:44:41 | geomb11 | 3.0 | 0 | ultradex 350 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:45:17 | geomb12 | 3.0 | 0 | ultradex 355 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:45:50 | geomb13 | 3.0 | 0 | ultradex 360 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:46:51 | geomb14 | 3.0 | 0 | ultradex 365 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:47:34 | geomb15 | 3.0 | 0 | ultradex 370 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:48:44 | geomb16 | 3.0 | 0 | ultradex 375 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:49:43 | geomb17 | 3.0 | 0 | ultradex 380 z 314.3 range 7.128m from sunshade |
| 07/12/10 09:50:37 | geomb18 | 3.0 | 0 | ultradex 385 z 314.3 range 7.128m from sunshade |
| 07/12/10 11:32:13 | geomc1 | 3.0 | 0 | fixture dis/reassembled |
| 07/12/10 11:37:14 | geomc2 | 3.0 | 0 | ruler and instrument leveled |
| 07/12/10 11:38:55 | geomc3 | 3.0 | 0 | ruler and instrument leveled |
| 07/12/10 11:40:59 | geomc4 | 3.0 | 0 | ruler and instrument leveled |
| 07/12/10 11:42:19 | geomc5 | 3.0 | 0 | ruler and instrument leveled |
| 07/12/10 11:44:37 | geomc6 | 3.0 | 0 | ruler and instrument leveled |
| 07/12/10 11:47:12 | geomc7 | 3.0 | 0 | ruler and instrument leveled |
| 07/12/10 15:30:13 | geomc8 | 3.0 | 0 | z-stage set for cube normal return -- 314.93 |
| 07/12/10 15:35:16 | geomc9 | 3.0 | 0 | feet level connector up |
| 07/12/10 15:49:54 | geomc10 | 3.0 | 0 | cube normal connector up -- z 43.83 from 44.08 |
| 07/13/10 09:05:44 | aligna1 | 3.0 | 0 | z stage 314.0 |
| 07/13/10 09:07:40 | aligna2 | 3.0 | 0 | z stage 314.0 |
| 07/13/10 09:09:37 | aligna3 | 3.0 | 0 | z stage 314.01 |
| 07/13/10 09:10:44 | aligna4 | 3.0 | 0 | z stage 314.02 |
| 07/13/10 09:11:50 | aligna5 | 3.0 | 0 | z stage 314.03 |
| 07/13/10 09:12:59 | aligna6 | 3.0 | 0 | z stage 314.04 |
| 07/13/10 09:14:07 | aligna7 | 3.0 | 0 | z stage 314.05 |
| 07/13/10 09:15:10 | aligna8 | 3.0 | 0 | z stage 314.06 |

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|---|---|---|---|---|
| 07/13/10 09:16:17 | aligna9 | 3.0 | 0 | z stage 314.07 |
| 07/13/10 09:17:16 | aligna10 | 3.0 | 0 | z stage 314.08 |
| 07/13/10 09:18:22 | aligna11 | 3.0 | 0 | z stage 314.09 |
| 07/13/10 09:19:49 | aligna12 | 3.0 | 0 | z stage 314.10 |
| 07/13/10 09:21:29 | aligna13 | 3.0 | 0 | z stage 314.11 |
| 07/13/10 09:22:42 | aligna14 | 3.0 | 0 | z stage 314.12 |
| 07/13/10 09:23:26 | aligna15 | 3.0 | 0 | z stage 314.13 |
| 07/13/10 09:24:43 | aligna16 | 3.0 | 0 | z stage 314.14 |
| 07/13/10 09:25:25 | aligna17 | 3.0 | 0 | z stage 314.15 |
| 07/13/10 09:26:34 | aligna18 | 3.0 | 0 | z stage 314.16 |
| 07/13/10 09:27:08 | aligna19 | 3.0 | 0 | z stage 314.17 |
| 07/13/10 09:27:55 | aligna20 | 3.0 | 0 | z stage 314.18 |
| 07/13/10 09:28:29 | aligna21 | 3.0 | 0 | z stage 314.19 |
| 07/13/10 09:29:14 | aligna22 | 3.0 | 0 | z stage 314.20 |
| 07/13/10 09:32:25 | aligna23 | 3.0 | 0 | z stage 314.21 |
| 07/13/10 09:32:58 | aligna24 | 3.0 | 0 | z stage 314.22 |
| 07/13/10 09:33:29 | aligna25 | 3.0 | 0 | z stage 314.23 |
| 07/13/10 09:34:06 | aligna26 | 3.0 | 0 | z stage 314.24 |
| 07/13/10 09:34:42 | aligna27 | 3.0 | 0 | z stage 314.25 |
| 07/13/10 09:36:38 | aligna28 | 3.0 | 0 | z stage 314.26 |
| 07/13/10 09:37:08 | aligna29 | 3.0 | 0 | z stage 314.27 |
| 07/13/10 09:37:37 | aligna30 | 3.0 | 0 | z stage 314.28 |
| 07/13/10 09:38:06 | aligna31 | 3.0 | 0 | z stage 314.29 |
| 07/13/10 09:38:38 | aligna32 | 3.0 | 0 | z stage 314.30 |
| 07/13/10 09:40:29 | aligna33 | 3.0 | 0 | z stage 314.35 |
| 07/13/10 09:41:36 | aligna34 | 3.0 | 0 | z stage 314.33 |
| 07/13/10 09:42:40 | aligna35 | 3.0 | 0 | z stage 314.31 |
| 07/13/10 09:43:21 | aligna36 | 3.0 | 0 | z stage 314.30 |
| 07/14/10 11:05:58 | geomd1 | 3.0 | 0 | ultradex 356, z stage 315.0 |
| 07/14/10 11:07:31 | geomd2 | 6.0 | 0 | ultradex 356, z stage 315.0 |
| 07/14/10 11:07:47 | geomd3 | 10.0 | 0 | ultradex 356, z stage 315.0 |
| 07/14/10 11:10:41 | ch4off1 | 10.0 | 0 | setup |
| 07/14/10 11:11:50 | ch4off2 | 10.0 | 0 | setup |
| 07/14/10 11:12:47 | ch4off3 | 10.0 | 0 | setup |
| 07/14/10 11:19:44 | ch4off4 | 10.0 | 0 | setup |
| 07/14/10 11:24:59 | ch4off5 | 10.0 | 0 | setup |
| 07/14/10 11:25:59 | ch4off6 | 10.0 | 0 | setup |
| 07/14/10 11:27:05 | ch4off7 | 10.0 | 0 | setup |
| 07/14/10 11:31:49 | ch4off8 | 10.0 | 0 | setup |
| 07/14/10 11:32:26 | ch4off9 | 50.0 | 0 | setup |
| 07/14/10 11:33:59 | ch4off10 | 50.0 | 0 | setup |
| 07/14/10 11:34:33 | ch4off11 | 100.0 | 0 | setup |
| 07/14/10 11:35:41 | ch4off12 | 100.0 | 0 | setup |
| 07/14/10 11:37:06 | ch4off13 | 100.0 | 1 | 895 nm |
| 07/14/10 11:39:18 | ch4off14 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:39:27 | ch4off15 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:39:38 | ch4off16 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:39:48 | ch4off17 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:39:59 | ch4off18 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:40:08 | ch4off19 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:40:18 | ch4off20 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:40:29 | ch4off21 | 100.0 | 1 | 800 to 1000 by 5 |

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|---|---|---|---|---|
| 07/14/10 11:40:38 | ch4off22 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:40:48 | ch4off23 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:40:57 | ch4off24 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:41:08 | ch4off25 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:41:18 | ch4off26 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:41:27 | ch4off27 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:41:38 | ch4off28 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:41:48 | ch4off29 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:41:57 | ch4off30 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:42:07 | ch4off31 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:42:18 | ch4off32 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:42:27 | ch4off33 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:42:38 | ch4off34 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:42:48 | ch4off35 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:42:57 | ch4off36 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:43:08 | ch4off37 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:43:18 | ch4off38 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:43:27 | ch4off39 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:43:37 | ch4off40 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:43:48 | ch4off41 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:43:57 | ch4off42 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:44:08 | ch4off43 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:44:17 | ch4off44 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:44:27 | ch4off45 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:44:38 | ch4off46 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:44:48 | ch4off47 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:44:57 | ch4off48 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:45:08 | ch4off49 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:45:18 | ch4off50 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:45:27 | ch4off51 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:45:38 | ch4off52 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:45:48 | ch4off53 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 11:45:58 | ch4off54 | 100.0 | 1 | 800 to 1000 by 5 |
| 07/14/10 13:46:26 | speca1 | 10.0 | 0 | spectralon, halogen lamp |
| 07/14/10 13:47:44 | speca2 | 10.0 | 0 | spectralon, halogen lamp |
| 07/14/10 13:49:29 | speca3 | 0.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:49:38 | speca4 | 0.2 | 16 | spectralon, halogen lamp |
| 07/14/10 13:49:52 | speca5 | 0.5 | 16 | spectralon, halogen lamp |
| 07/14/10 13:50:02 | speca6 | 1.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:50:14 | speca7 | 2.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:50:26 | speca8 | 3.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:50:37 | speca9 | 5.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:50:46 | speca10 | 10.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:50:58 | speca11 | 7.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:51:23 | speca12 | 20.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:51:55 | speca13 | 50.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:52:37 | speca14 | 100.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:53:05 | speca15 | 200.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:53:29 | speca16 | 300.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:54:32 | speca17 | 400.0 | 16 | spectralon, halogen lamp |
| 07/14/10 13:55:36 | speca18 | 10.0 | 1 | dark |
| 07/14/10 13:55:47 | speca19 | 10.0 | 1 | dark |

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| 07/14/10 13:55:59 | speca20 | 10.0 | 1 | dark |
| 07/14/10 13:56:24 | speca21 | 10.0 | 1 | dark |
| 07/14/10 13:59:10 | walla1 | 10.0 | 0 | wall images |
| 07/14/10 14:04:27 | walla2 | 10.0 | 0 | wall images |
| 07/14/10 14:06:26 | walla3 | 10.0 | 0 | wall images |
| 07/14/10 14:07:17 | walla4 | 10.0 | 0 | wall images |
| 07/14/10 14:09:09 | walla5 | 10.0 | 0 | wall images |
| 07/14/10 14:21:21 | walla6 | 10.0 | 0 | wall distance 3.972 m, dots 0.75 inch diam 4 inch sp |
| 07/14/10 14:24:52 | walla7 | 10.0 | 0 | wall distance 3.972 m, dots 0.75 inch diam 4 inch sp |
| 07/14/10 14:26:35 | walla8 | 10.0 | 0 | z 315, ultradex 266 |
| 07/14/10 14:27:18 | walla9 | 10.0 | 0 | z 310 |
| 07/14/10 14:28:56 | walla10 | 10.0 | 0 | z 305 |
| 07/14/10 14:30:38 | walla11 | 10.0 | 0 | z 320 |
| 07/14/10 14:31:33 | walla12 | 10.0 | 0 | z 320 |
| 07/14/10 14:33:08 | walla13 | 10.0 | 0 | last was 325, this 330 |
| 07/15/10 11:20:54 | targa1 | 10.0 | 0 | target 2.059m |
| 07/15/10 11:23:07 | targa2 | 10.0 | 0 | target 2.059m |
| 07/15/10 11:32:54 | absa1 | 10.0 | 16 | QTH lamp 8.0 |
| 07/15/10 11:34:28 | absa2 | 10.0 | 16 | 8.0 sphere closer |
| 07/15/10 11:35:07 | absa3 | 0.0 | 16 | 8.0 sphere closer |
| 07/15/10 11:35:17 | absa4 | 0.2 | 16 | 8.0 sphere closer |
| 07/15/10 11:35:25 | absa5 | 0.5 | 16 | 8.0 sphere closer |
| 07/15/10 11:35:33 | absa6 | 1.0 | 16 | 8.0 sphere closer |
| 07/15/10 11:35:39 | absa7 | 2.0 | 16 | 8.0 sphere closer |
| 07/15/10 11:35:46 | absa8 | 3.0 | 16 | 8.0 sphere closer |
| 07/15/10 11:35:52 | absa9 | 5.0 | 16 | 8.0 sphere closer |
| 07/15/10 11:35:58 | absa10 | 10.0 | 16 | 8.0 sphere closer |
| 07/15/10 11:36:06 | absa11 | 7.0 | 16 | 8.0 sphere closer |
| 07/15/10 11:41:18 | absb1 | 10.0 | 16 | lamp 8.0, companding test |
| 07/15/10 11:41:34 | absb2 | 10.0 | 8 | lamp 8.0, companding test |
| 07/15/10 11:41:48 | absb3 | 10.0 | 4 | lamp 8.0, companding test |
| 07/15/10 11:43:18 | absb4 | 0.0 | 8 | lamp 8.0 |
| 07/15/10 11:43:25 | absb5 | 0.2 | 8 | lamp 8.0 |
| 07/15/10 11:43:32 | absb6 | 0.5 | 8 | lamp 8.0 |
| 07/15/10 11:43:40 | absb7 | 1.0 | 8 | lamp 8.0 |
| 07/15/10 11:43:47 | absb8 | 2.0 | 8 | lamp 8.0 |
| 07/15/10 11:43:54 | absb9 | 3.0 | 8 | lamp 8.0 |
| 07/15/10 11:44:00 | absb10 | 5.0 | 8 | lamp 8.0 |
| 07/15/10 11:44:08 | absb11 | 10.0 | 8 | lamp 8.0 |
| 07/15/10 11:44:15 | absb12 | 7.0 | 8 | lamp 8.0 |
| 07/15/10 11:44:34 | absb13 | 0.0 | 8 | lamp 8.0 |
| 07/15/10 11:44:40 | absb14 | 0.2 | 8 | lamp 8.0 |
| 07/15/10 11:44:48 | absb15 | 0.5 | 8 | lamp 8.0 |
| 07/15/10 11:44:54 | absb16 | 1.0 | 8 | lamp 8.0 |
| 07/15/10 11:45:00 | absb17 | 2.0 | 8 | lamp 8.0 |
| 07/15/10 11:45:08 | absb18 | 3.0 | 8 | lamp 8.0 |
| 07/15/10 11:45:15 | absb19 | 5.0 | 8 | lamp 8.0 |
| 07/15/10 11:45:22 | absb20 | 10.0 | 8 | lamp 8.0 |
| 07/15/10 11:45:30 | absb21 | 7.0 | 8 | lamp 8.0 |
| 07/15/10 11:45:50 | absb22 | 0.0 | 4 | lamp 8.0 |
| 07/15/10 11:45:58 | absb23 | 0.2 | 4 | lamp 8.0 |
| 07/15/10 11:46:06 | absb24 | 0.5 | 4 | lamp 8.0 |

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|---|---|---|---|---|
| 07/15/10 11:46:13 | absb25 | 1.0 | 4 | lamp 8.0 |
| 07/15/10 11:46:21 | absb26 | 2.0 | 4 | lamp 8.0 |
| 07/15/10 11:46:28 | absb27 | 3.0 | 4 | lamp 8.0 |
| 07/15/10 11:46:36 | absb28 | 5.0 | 4 | lamp 8.0 |
| 07/15/10 11:46:44 | absb29 | 10.0 | 4 | lamp 8.0 |
| 07/15/10 11:46:51 | absb30 | 7.0 | 4 | lamp 8.0 |
| 07/15/10 11:47:18 | absb31 | 0.0 | 4 | lamp 8.0 |
| 07/15/10 11:47:26 | absb32 | 0.2 | 4 | lamp 8.0 |
| 07/15/10 11:47:36 | absb33 | 0.5 | 4 | lamp 8.0 |
| 07/15/10 11:47:43 | absb34 | 1.0 | 4 | lamp 8.0 |
| 07/15/10 11:47:50 | absb35 | 2.0 | 4 | lamp 8.0 |
| 07/15/10 11:47:57 | absb36 | 3.0 | 4 | lamp 8.0 |
| 07/15/10 11:48:05 | absb37 | 5.0 | 4 | lamp 8.0 |
| 07/15/10 11:48:10 | absb38 | 10.0 | 4 | lamp 8.0 |
| 07/15/10 11:48:18 | absb39 | 7.0 | 4 | lamp 8.0 |
| 07/15/10 11:48:36 | absb40 | 0.0 | 16 | lamp 8.0 |
| 07/15/10 11:48:44 | absb41 | 0.2 | 16 | lamp 8.0 |
| 07/15/10 11:48:51 | absb42 | 0.5 | 16 | lamp 8.0 |
| 07/15/10 11:48:58 | absb43 | 1.0 | 16 | lamp 8.0 |
| 07/15/10 11:49:06 | absb44 | 2.0 | 16 | lamp 8.0 |
| 07/15/10 11:49:15 | absb45 | 3.0 | 16 | lamp 8.0 |
| 07/15/10 11:49:22 | absb46 | 5.0 | 16 | lamp 8.0 |
| 07/15/10 11:49:29 | absb47 | 10.0 | 16 | lamp 8.0 |
| 07/15/10 11:49:37 | absb48 | 7.0 | 16 | lamp 8.0 |
| 07/15/10 11:51:16 | absb49 | 1.0 | 4 | dark |
| 07/15/10 11:51:27 | absb50 | 0.0 | 4 | dark |
| 07/15/10 11:51:33 | absb51 | 0.2 | 4 | dark |
| 07/15/10 11:51:39 | absb52 | 0.5 | 4 | dark |
| 07/15/10 11:51:48 | absb53 | 1.0 | 4 | dark |
| 07/15/10 11:51:55 | absb54 | 2.0 | 4 | dark |
| 07/15/10 11:52:03 | absb55 | 3.0 | 4 | dark |
| 07/15/10 11:52:09 | absb56 | 5.0 | 4 | dark |
| 07/15/10 11:52:17 | absb57 | 10.0 | 4 | dark |
| 07/15/10 11:52:23 | absb58 | 7.0 | 4 | dark |
| 07/15/10 11:52:43 | absb59 | 0.0 | 8 | dark |
| 07/15/10 11:52:49 | absb60 | 0.2 | 8 | dark |
| 07/15/10 11:52:56 | absb61 | 0.5 | 8 | dark |
| 07/15/10 11:53:01 | absb62 | 1.0 | 8 | dark |
| 07/15/10 11:53:09 | absb63 | 2.0 | 8 | dark |
| 07/15/10 11:53:19 | absb64 | 3.0 | 8 | dark |
| 07/15/10 11:53:25 | absb65 | 5.0 | 8 | dark |
| 07/15/10 11:53:31 | absb66 | 10.0 | 8 | dark |
| 07/15/10 11:53:37 | absb67 | 7.0 | 8 | dark |
| 07/15/10 11:53:53 | absb68 | 0.0 | 16 | dark |
| 07/15/10 11:54:01 | absb69 | 0.2 | 16 | dark |
| 07/15/10 11:54:07 | absb70 | 0.5 | 16 | dark |
| 07/15/10 11:54:16 | absb71 | 1.0 | 16 | dark |
| 07/15/10 11:54:24 | absb72 | 2.0 | 16 | dark |
| 07/15/10 11:54:33 | absb73 | 3.0 | 16 | dark |
| 07/15/10 11:54:39 | absb74 | 5.0 | 16 | dark |
| 07/15/10 11:54:48 | absb75 | 10.0 | 16 | dark |
| 07/15/10 11:54:53 | absb76 | 7.0 | 16 | dark |

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|---|---|---|---|---|
| 07/15/10 12:34:13 | leak1 | 50.0 | 16 | lamp at 8.0, no filter |
| 07/15/10 12:34:34 | leak2 | 30.0 | 16 | lamp at 8.0, no filter |
| 07/15/10 12:34:54 | leak3 | 20.0 | 16 | lamp at 8.0, no filter |
| 07/15/10 12:36:22 | leak4 | 20.0 | 16 | 850 lwp in place |
| 07/15/10 12:39:25 | leak5 | 20.0 | 16 | 850 lwp in place ultradex offset |
| 07/15/10 12:40:30 | leak6 | 20.0 | 16 | 850 lwp out ultradex offset |
| 07/15/10 12:42:07 | leak7 | 20.0 | 16 | lwp in reflective surface towards lamp (earlier was re |
| 07/15/10 13:27:28 | tditarg1 | 12.8 | 16 | stationary |
| 07/15/10 13:29:45 | tditarg2 | 12.8 | 16 | stationary |
| 07/15/10 13:31:53 | tditarg3 | 12.8 | 16 | stationary |
| 07/15/10 13:33:49 | tditarg4 | 3.2 | 16 | ccw motion |
| 07/15/10 13:35:18 | tditarg5 | 3.2 | 16 | ccw motion |
| 07/15/10 13:36:50 | tditarg6 | 3.2 | 16 | ccw motion |
| 07/15/10 13:38:21 | tditarg7 | 3.2 | 16 | ccw motion |
| 07/15/10 13:39:52 | tditarg8 | 3.2 | 16 | ccw motion |
| 07/15/10 13:41:23 | tditarg9 | 3.2 | 16 | ccw motion |
| 07/15/10 13:42:37 | tditarg10 | 3.2 | 16 | ccw motion |
| 07/15/10 13:44:07 | tditarg11 | 3.2 | 16 | ccw motion |
| 07/15/10 13:46:25 | tditarg12 | 3.2 | 16 | walking in front of camera |
| 07/15/10 13:48:38 | tditarg13 | 3.2 | 16 | walking in front of camera |
| 07/15/10 13:50:17 | tditarg14 | 3.2 | 16 | cw motion |
| 07/15/10 15:00:55 | geomdot1 | 10.0 | 0 | dot target setup |
| 07/15/10 15:01:41 | geomdot2 | 10.0 | 0 | dot target setup |
| 07/15/10 15:02:51 | geomdot3 | 10.0 | 0 | dot target setup |
| 07/15/10 15:04:03 | geomdot4 | 10.0 | 0 | dot target setup |
| 07/15/10 15:05:03 | geomdot5 | 10.0 | 0 | dot target setup |
| 07/15/10 15:05:38 | geomdot6 | 10.0 | 0 | dot target setup |
| 07/15/10 15:06:50 | geomdot7 | 10.0 | 0 | dot target setup |
| 07/15/10 15:08:00 | geomdot8 | 10.0 | 0 | dot target setup |
| 07/15/10 15:08:59 | geomdot9 | 10.0 | 0 | dot target setup |
| 07/15/10 15:09:48 | geomdot10 | 10.0 | 0 | dot target setup |
| 07/15/10 15:11:15 | geomdotb1 | 10.0 | 0 | dot target setup |
| 07/15/10 15:11:30 | geomdotb2 | 0.0 | 0 | dot target setup |
| 07/15/10 15:11:38 | geomdotb3 | 0.2 | 0 | dot target setup |
| 07/15/10 15:11:46 | geomdotb4 | 0.5 | 0 | dot target setup |
| 07/15/10 15:11:56 | geomdotb5 | 1.0 | 0 | dot target setup |
| 07/15/10 15:12:05 | geomdotb6 | 2.0 | 0 | dot target setup |
| 07/15/10 15:12:12 | geomdotb7 | 3.0 | 0 | dot target setup |
| 07/15/10 15:12:22 | geomdotb8 | 5.0 | 0 | dot target setup |
| 07/15/10 15:12:32 | geomdotb9 | 10.0 | 0 | dot target setup |
| 07/15/10 15:12:40 | geomdotb10 | 7.0 | 0 | dot target setup |
| 07/15/10 15:19:42 | geomdotb11 | 1.0 | 0 | optical breadboard setup |
| 07/15/10 15:27:50 | geomdotc1 | 10.0 | 0 | optical breadboard setup |

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