



Bristolite[®] Skylights

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Light Level Comparison Test Report

Series/Model: 6072-ES-CMG-2-MF

(Bristolite Energy Star Curb Mount Dual Glazed Skylight)

Report BR-ES-12151609

Date of Testing: 12/15 – 12/16/ 2009

Test Sample Description:

Series/Model: 6072-ES-CMG-2-MF
(Refer to attached model drawing for detail)

Test Procedure:

Random skylights were selected from six (6) different Costco locations. Four (4) of the locations are in Southern California (Westlake Village, Vista, Burbank and Poway). One (1) was located in Gilbert, Arizona and one (1) in Albuquerque, New Mexico. Skylights were originally provided (and these stores originally opened) at different times (reference below).

These units would be tested to obtain and compare levels of light allowed inside the units for comparative purposes only. This test was not performed to any specific ASTM or other nationally recognized procedure and therefore would **not** provide actual transmittance values but rather simple comparative light level values.

Thirty-six (36) samples that had been installed on these projects, six (6) from each of the six (6) locations were identified, marked, and removed from the roof per the following:

Store Location	Year Provided	Identification
Gilbert, Arizona	1999	1A, 1B, 1C, 1D, 1E, 1F
Albuquerque, NM	1996	2A, 2B, 2C, 2D, 2E, 2F
Westlake Village, CA	1996	3A, 3B, 3C, 3D, 3E, 3F
Vista, CA	1993	4A, 4B, 4C, 4D, 4E, 4F
Burbank, CA	2001	5A, 5B, 5C, 5D, 5E, 5F
Poway, CA	2004	6A, 6B, 6C, 6D, 6E, 6F

A test chamber was constructed and set up at the Bristolite facility per the attached drawing to mount the skylights onto. This chamber would be set into another chamber to provide a controlled and consistent light source at the exterior of the dome.

*Although efforts were made to maintain “as is” or existing dust/debris levels on these units, handling/transport strap areas were identifiable and did reduce the amount of dust/debris on these units in those areas. Because this

affected less than 5% of the affected domes' areas, it was determined that the test results would not be significantly affected.

Test Procedure (cont.)

The light source consisted of (4) 500w halogen lamps spaced equally on the sides of the dome. Readings were taken with a Minolta T-1H Illuminance meter. The meter was positioned on a strut at the lower center of the chamber and its position was maintained throughout the testing for consistency.

The meter self-calibrated prior to each reading and a lux (measure of Illuminance) reading was taken for each unit. The results are as follows:

1A	72.2	
1B	74.1	
1C	66.6	10 year old (Gilbert, AZ) units = 71.4 (average)
1D	70.2	
1E	69.9	
1F	75.5	
2A	60.0	
2B	65.7	
2C	64.3	13 year old (Albuquerque, NM) units = 62.7 (average)
2D	61.3	
2E	60.6	
2F	64.7	
3A	57.0	

3B	59.2	13 year old (Westlake Village, CA) units = 57.6 (average)
3C	61.9	
3D	53.8	
3E	53.5	
3F	60.5	
4A	58.7	
4B	57.2	
4C	57.8	
4D	57.9	
4E	59.4	
4F	57.5	
5A	72.9	8 year old (Burbank, CA) units = 67.5 (average)
5B	67.5	
5C	66.9	
5D	65.5	
5E	65.2	
5F	67.4	
6A	68.2	5 year old (Poway, CA) units = 67.1 (average)
6B	67.3	
6C	67.7	
6D	64.6	
6E	67.9	

6F N/R (damaged)

(2) samples were randomly taken from the production floor to check current readings (same test procedure/fixture as detailed above):

7A 68.6
7B 68.8 New units = **68.7 (average)**

Sorted by age, the results are as follows:

AGE	Location	Average Reading	Dev. From New (rounded to nearest percent)
New		68.7	
5yrs.	Poway, CA	67.1	-2%
8yrs.	Burbank, CA	67.5	-2%
10yrs.	Gilbert, AZ	71.4	+3%
13yrs.	Alb, NM	62.7	-9%
13yrs.	WlkV, CA	57.6	-16%
16yrs.	Vista, CA	58.1	-15%

Comments:

As stated above, efforts were taken to maintain “as is” condition of the domes from removal to testing. It was noted that the Gilbert, AZ (highest average reading) domes were very clean with good color (except for darkening around the perimeter), while the Westlake Village, CA (lowest average reading) were very dirty. This dust/dirt accumulation would account for a small amount of the deviation (both high and low) from

After obtaining the above results this testing was concluded.

Testing witnessed by (all or partial testing): Rudy Pavlik, Emiliano Monje

(Bristolite Skylights)

Testing conducted and witnessed by: Carl Schmidt (Bristolite Skylights)



60x72 LIGHT
TESTING CHAMBER-2



ES-CMG-2 - Light
Test.pdf



60x72 LIGHT
TESTING CHAMBER-3

