

LIGHT LABORATORY, INC.

8165 E. Kaiser Blvd., Anaheim, CA 92808

SHT 1 OF 5

Test #: L061101

Date: 7/20/11

Test Prepared for: Bristolite Daylighting System

Objective:

Compare optical performance of two skylights.

Measure distribution photometry and relative optical efficiency for various configurations as outlined in test procedure.

Test Setup and Procedure:

The test is designed to compare two skylights: Bristolite and a Competing Prismatic Skylight. The skylights supplied by client. (fig 4 and fig 5).

A test light box enclosure was constructed (fig 3) with a metal halide lamp light sources and mounting provisions for 2 positions. Lamp was aligned at two angles at 45 deg. and 90 deg. to the lens surface interior of the light box painted flat white to ensure even light distribution. (fig 1 and fig 2)

All testing performed with luminaire operated at 120VAC in a 25 +/- 1 deg. Celsius free air ambient.

Photometric test performed on Type C goniphotometer to generate IES file and photometric test reports.

Additional tests with 1 and 2 foot extensions as outlined below. Extensions are painted white and extend from the bottom of the skylight on all four sides.

All tests used same lamp, ballast and light box.

Test configurations:	no extension	1 foot extension	2 foot extensions
Skylight #1 - Bristolite	x	x	x
Skylight #2 - Competing Prismatic Skylight	x	x	x
Above tests with metal halide light source. 6 tests at two different angles 45 and 90 deg.			
Total # of tests: 12 tests			

		Revision – catalog numbers corrected			JG	10/21/11
		Added prepared by 2/5			JG	8/8/11
	A				JG	7/20/11
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Equipment:

Light Laboratory Type C goniophotometer
Chroma Programmable AC Source – Model 61605
Xitron Power Analysis System 2503AH
Light box enclosure

Test Skylights and Light Source:

Competing Prismatic Skylight – Clear/White Prismatic Glazed
Bristolite Quasar Prismatic Skylight – Clear/White Prismatic Glazed
Ballast – Advance 71A5482
Lamp: Iwasaki MTD150D/7S/6500K

Summary of Data:

Table 1 shows the summary of test data.

The file number corresponds to the test reports. (attached).

Efficacy calculation is the total lumen/wattage.

For the purpose of comparison relative system efficiency, the ratio of Bristolite and Competing Prismatic Skylight efficacy for each configuration was used. Competing Prismatic Skylight was used as a baseline for the ratio calculation.

Test results shows that for all luminaire configurations, Bristolite skylights had higher total lumens and corresponding efficacy.

Test report prepared by:

Jason Gee
Engineering Manager

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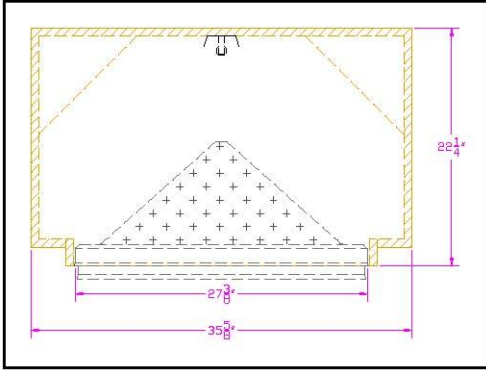


Figure 1

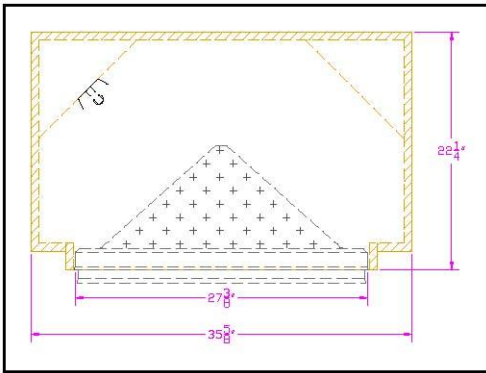


Figure 2

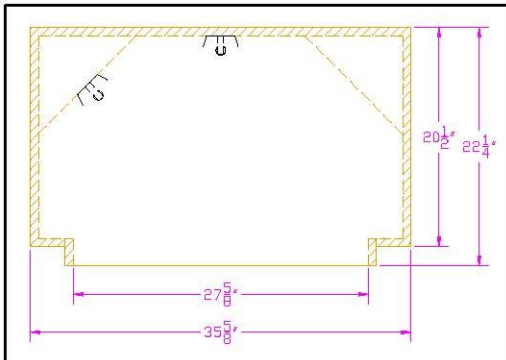


Figure 3

		Revision – catalog numbers corrected			JG	10/21/11
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Competing Prismatic Skylight – Clear/White Prismatic Glazed
Fig 4



Bristolite Quasar Prismatic Skylight – Clear/White Prismatic Glazed
Fig 5

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System Efficiency Comparison						
File No.	Catalog Number	Total Lumens	Wattage	Efficacy	Efficiency	Relative System
L06110101	Skylight#1 -Bristolite -90 deg-None	2750.72	168.40	16.33	25.00%	1.41
L06110107	Skylight#2 - Competing Prismatic Skylight - 90 deg-None	1956.98	169.30	11.56	17.80%	1.00
L06110102	Skylight#1 -Bristolite -90 deg-1'	2260.81	168.70	13.40	20.60%	1.50
L06110108	Skylight#2 - Competing Prismatic Skylight - 90 deg-1'	1514.50	169.10	8.96	13.80%	1.00
L06110103	Skylight#1 -Bristolite -90 deg-2'	1756.33	168.30	10.44	16.00%	1.54
L06110109	Skylight#2 - Competing Prismatic Skylight - 90 deg-2'	1131.93	167.40	6.76	10.30%	1.00
L06110104	Skylight#1 -Bristolite -45 deg-None	3356.87	170.70	19.67	30.50%	1.46
L06110110	Skylight#2 - Competing Prismatic Skylight - 45 deg-None	2291.54	170.50	13.44	20.83%	1.00
L06110105	Skylight#1 -Bristolite -45 deg-1'	2731.13	170.90	15.98	24.80%	1.54
L06110111	Skylight#2- Competing Prismatic Skylight - 45 deg-1'	1767.67	170.60	10.36	16.10%	1.00
L06110106	Skylight#1 -Bristolite -45 deg-2'	2104.64	171.00	12.31	19.10%	1.55
L06110112	Skylight#2 - Competing Prismatic Skylight - 45 deg-2'	1355.74	170.70	7.94	12.30%	1.00

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