



TEST REPORT

Report No.: G4206.01-109-44

Rendered to:

VELUX America LLC
Greenwood, South Carolina

PRODUCT TYPE: Skylight with Curb

SERIES/MODEL: Specials Dome Skylight 0.150 Thickness 100% IMA Smooth/0.118 Thickness
50% IMA Prismatic (5' x 8') with CCAM Curb

SPECIFICATION(S): Occupational Safety and Health Administration/U.S. Department of
Labor Regulations (Standards- 29 CFR) - 1910.23(e) (8)

California Code of Regulations, Title 8, Section 3212

Test Date(s): 12/19/16

Report Date: 01/06/17

Test Record Retention End Date: 12/19/20

- 1.0 Report Issued To:** VELUX America LLC
1418 Evans Pond Road
P.O. Box 5001
Greenwood, South Carolina 29648-5001
- 2.0 Test Laboratory:** Architectural Testing, Inc., an Intertek company ("Intertek-ATI")
130 Derry Court
York, Pennsylvania 17406-8405
717-764-7700

3.0 Project Summary:

- 3.1 Product Type:** Skylight with Curb
- 3.2 Series/Model:** Specials Dome Skylight 0.150 Thickness 100% IMA Smooth/0.118 Thickness 50% IMA Prismatic (5' x 8') with CCAM Curb
- 3.3 Compliance Statement:** Results obtained are tested values and were secured by using the designated test method(s).
- 3.4 Test Date(s):** 12/19/16
- 3.5 Test Record Retention End Date:** All test records for this report will be retained until December 19, 2020.
- 3.6 Test Location:** Intertek-ATI test facility in York, Pennsylvania.
- 3.7 Test Specimen Source:** The test specimen(s) was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek-ATI for a minimum of two years from the test completion date.
- 3.8 Drawing Reference:** The test specimen drawings have been reviewed by Intertek-ATI and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek-ATI per the drawings on file with Intertek-ATI. Any deviations are documented herein or on the drawings.

3.9 List of Official Observers:

<u>Name</u>	<u>Company</u>
Timothy J. McGill	Intertek-ATI
Richard E. Hartman III	Intertek-ATI

4.0 Test Specification(s):

Occupational Safety and Health Administration/U.S. Department of Labor Regulations (Standards- 29 CFR) - 1910.23(e) (8)

California Code of Regulations, Title 8, Section 3212

A 400 lb weight, fabricated from a bag filled with lead shot, was placed on the center of the dome for a minimum of 60 seconds. The bag was removed and the test unit was inspected for any signs of damage or failure.

Additional Loading:

The specimen was taken to failure using sandbags placed on the center of the dome for a minimum of 60 seconds. The highest load causing penetration or damage was recorded.

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 46.6 ft²	Width (inches)	Length (inches)
Overall size	65-7/8	101-7/8

Curb Dimensions	Width (inches)	Length (inches)	Height (inches)
CCAM	63-1/4	99-1/4	9-1/4

5.0 Test Specimen Description: (Continued)

5.2 Frame Construction:

Frame Member	Material	Description
Inner frame	Aluminum	Extruded
Dome clamp cover	Aluminum	Extruded
CCAM	Aluminum	Formed aluminum sheet metal

	Joinery Type	Detail
Skylight corners	Mitered	Miter cut and welded
CCAM corners	Coped	Aluminum was wrapped around the interior of the insulation and overlapped itself with one continuous sheet. Aluminum was wrapped around the exterior of the insulation with one continuous sheet, butted, and welded at one corner. The aluminum at the top of the curb was secured by staples located 2-1/2" from the corners and 15" on center and the bottom of the curb was secured by the interior and exterior sheet being crimped together located 2-1/2" from the corners and 10" on center.

5.3 Reinforcement: No reinforcement was utilized.

5.4 Weatherstripping:

Description	Quantity	Location
Custom-shaped gasket	1 row	Located around the interior perimeter of the inner frame
Gasket wick	4	One wick was located at each corner inside the custom-shaped gasket

5.0 Test Specimen Description: (Continued)

5.5 Glazing: *No conclusions of any kind regarding the adequacy or inadequacy of the glazing in any glazed test specimen(s) can be made.*

Glazing Type	Interior Glaze	Spacer Type	Exterior Glaze	Glazing Method
3/8" spacing	1/8" IMA prismatic	Foam spacer	5/32" IMA smooth	The glazing was set from the exterior onto a custom-shaped gasket against the extruded aluminum frame. The glazing was secured using an extruded aluminum dome clamp cover with a bead of sealant on the glazing. The dome clamp cover was secured using spring clips and #10 x 5/8" self-tapping pan head screws located 2" from corners and one at the midspan on the length sides.

Location	Quantity	Daylight Opening (inches)	Glazing Bite
Dome	1	60-5/8 x 96-5/8	1"

6.0 Installation:

The specimen was installed into an aluminum CCAM curb. The rough opening allowed for a 1/2" shim space.

Location	Anchor Description	Anchor Location
Aluminum frame	#8-32 x 3-1/2" pan head machine screw with a washer and a hex nut	8-1/4" from corners and spaced 12" on center

7.0 Test Results: The results are tabulated as follows:

7.1 California (and OSHA) minimum loading:

Test Load	Load Location	Results
400 lb	Center of dome	No visible damage

Note: The 400 lb weight was gently applied perpendicular to the center of the dome. After 60 seconds of rest time, there was no visible damage to the glazing.

7.2 Additional loading (applied on the same unit in the listed order):

Test Load	Load Location	Results
500 lb at rest	Center of dome	No visible damage
600 lb at rest	Center of dome	No visible damage
700 lb at rest	Center of dome	No visible damage
800 lb at rest	Center of dome	No visible damage
900 lb at rest	Center of dome	No visible damage
1000 lb at rest	Center of dome	No visible damage
1100 lb at rest	Center of dome	No visible damage
1200 lb at rest	Center of dome	No visible damage
1300 lb at rest	Center of dome	No visible damage
1400 lb at rest	Center of dome	No visible damage
1500 lb at rest	Center of dome	No visible damage
1600 lb at rest	Center of dome	No visible damage
1700 lb at rest	Center of dome	No visible damage
1800 lb at rest	Center of dome	No visible damage
1900 lb at rest	Center of dome	Interior glazing broke
2000 lb at rest	Center of dome	No additional damage
2100 lb at rest	Center of dome	No additional damage
2200 lb at rest	Center of dome	No additional damage
2300 lb at rest	Center of dome	No additional damage
2400 lb at rest	Center of dome	No additional damage
2500 lb at rest	Center of dome	No additional damage
2600 lb at rest	Center of dome	No additional damage

7.0 Test Results: (Continued)**7.2 Additional loading (applied on the same unit in the listed order):** (Continued)

Test Load	Load Location	Results
2700 lb at rest	Center of dome	No additional damage
2800 lb at rest	Center of dome	No additional damage
2900 lb at rest	Center of dome	No additional damage
3000 lb at rest	Center of dome	No additional damage
3100 lb at rest	Center of dome	No additional damage
3200 lb at rest	Center of dome	No additional damage
3300 lb at rest	Center of dome	No additional damage
3400 lb at rest	Center of dome	See note #1

Note #1: After 3400 lbs, testing was discontinued.

Intertek-ATI will service this report for the entire test record retention period. Test records such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For ARCHITECTURAL TESTING, Inc.

Richard E. Hartman III
Technician

Timothy J. McGill
Manager – Product Testing

REH:asm/cmd

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Photograph(s) (1)

Appendix-B: Drawing(s) (0) Complete drawings packet on file with Intertek-ATI.

Appendix A
Photograph(s)

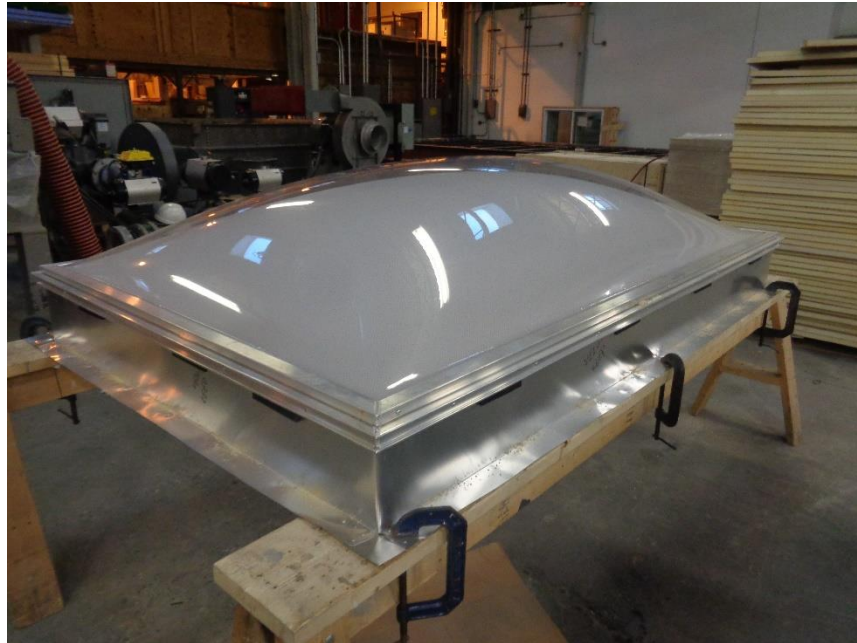


Photo No. 1
View of Tested Specimen



Photo No. 2
View of Tested Specimen with 400 lb Load Applied

Appendix B

Drawing(s)

***Note:** Complete drawings packet on file with Intertek-ATI.*