



# NATIONAL CERTIFIED TESTING LABORATORIES

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## STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-110-10178-1  
Test Date: 05/19/06  
Report Date: 05/30/06  
Revision Date: 04/05/10

**Client:** Acurlite Structural Skylights  
1017 North Vine Street  
Berwick, PA 18603

**Test Specimen:** Acurlite Structural Skylights' Model "Pyramid" Glazed Aluminum Skylight  
SKG HC75 75 98x98.

**Test Method:** AAMA/WDMA 1600/I.S.7-2000 (Editorial Revisions 2003), "Voluntary  
Specification for Skylights"

### TEST SPECIMEN DESCRIPTION

**General:** The test specimen was a square based pyramid type glazed aluminum skylight measuring 98-1/4" long by 98-1/4" wide by 32-1/2" high overall. The curb measured 96" long by 96" wide. The specimen consisted of four (4) equal triangular sides. From base to peak, each joint consisted of an exterior hip cap fastened to an interior hip rafter with twelve (12) evenly spaced #10x1-1/2" screws with sealed washers. The assembly screws were concealed via an aluminum snap cap located at each base to peak joint. Each hip rafter was fastened to the base with two (2) #14 20x3/4" truss head bolts and to the peak with two (2) 3/8 hex head 1/4" 20x1" through a 1/4" thick ridge plate. The base was of welded mitered corner construction. The base was thermally broken using poured urethane thermal barriers, debridged to 3/16". An extruded aluminum cap was fastened to the base using eight (8) evenly spaced #12x1" tek screws with a sealed washer. One (1) 4" long extruded aluminum glass rest angle was located at 16" from each end and at midspan of each base member. An extruded aluminum cover was located at the peak.

**Glazing:** Each lite was exterior glazed using sealed insulating glass with interior and exterior flexible vinyl glazing gaskets and exterior hip cap retainers. The overall insulating glass thickness was 1" consisting of one (1) lite of 1/4" thick heat strengthened glass to the exterior, one (1) lite of laminated glass and one (1) space created by a desiccant-filled aluminum spacer system. The laminated glass consisted of two (2) lites of 3/16" heat strengthened glass and a 0.060" PVB interlayer.

**Weeps:** One (1) weep hole with plastic weep cover measuring 1/4" in diameter was located at midspan of all base members. One (1) weep hole measuring 1/4" in diameter was located at 2" from each end and at midspan of the interior base channel.

**Weatherseals:** No weatherseals employed.

**Interior & Exterior Surface Finish:** Clear anodized aluminum.

**Sealant:** The frame corners, cap perimeter and all glazing perimeters were sealed with a silicone sealant.

**Installation:** The specimen was fastened to the test buck around the entire curb perimeter with three (3) evenly spaced 3/8" x 3" lag bolts per side.

### TEST RESULTS

<u>Para. No.</u>	<u>Title of Test</u>	<u>Measured</u>	<u>Allowed</u>
4.1.5	Air Infiltration – ASTM E283 1.57 psf (25 mph)	0.1 cfm / ft <sup>2</sup> (0.04 cfm / ft <sup>2</sup> )	0.3 cfm / ft <sup>2</sup>
	Air Infiltration 6.24 psf (50 mph)	0.1 cfm / ft <sup>2</sup> (0.08 cfm / ft <sup>2</sup> )	0.1 cfm / ft <sup>2</sup>
	Air Infiltration 12.0 psf (68.5 mph)	0.1 cfm / ft <sup>2</sup> (0.10 cfm / ft <sup>2</sup> )	-----
4.1.6	Water Penetration – ASTM E331 WTP= 15.0 psf	No Leakage	No Leakage
4.1.8	** Uniform Load Structural – ASTM E330 112.5 psf exterior 112.5 psf interior	0.023" 0.024"	0.284" 0.284"

\*\* No glass breakage or permanent damage causing the unit to be inoperable.

Note: For structural loads, the AAMA 1605.1 load test procedure was followed as required by AAMA/WDMA 1600/I.S.7-2000 for plastic skylights.

### TESTS COMPLETED 05/19/06

The tested specimen meets (or exceeds) the performance levels specified in Table 2.3.1 of AAMA/WDMA 1600/I.S.7-2000 for air infiltration. The listed results were secured by using the designated test methods and indicate compliance with the performance requirements of the referenced specification paragraphs for the SKG HC75 75 98x98 product designation.

This test report was prepared by National Certified Testing Laboratory (NCTL), for the exclusive use of the above named client and it does not constitute certification of this product. The results are for the particular specimen tested and do not imply the quality of similar or identical products manufactured or installed from specifications identical to the tested product. The test specimen was supplied to NCTL by the above named client. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen are to be drawn from the ASTM E 330 test. Foam tape is mounted to the perimeter of the test buck prior to clamping to the test wall. NCTL is a testing lab and assumes that all information provided by the client is accurate and does not guarantee or warranty any product tested or installed.

Detailed drawings were available for laboratory records and compared to the test specimen at the time of this report. Component drawings were reviewed for product verification. The bill of materials contains details with any deviations noted. Ambient conditions during the referenced testing are available upon request. A copy of this report along with representative sections of the test specimen will be retained by NCTL. This report does not constitute certification or approval of the product, which may only be granted by a certification program validator or recognized approval entity. All tests were conducted in full compliance with the referenced specifications and/or test methods. This report may not be reproduced, except in full, without the written consent of NCTL.

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## ***APPENDIX A***

### **Section 1:**

Component Drawings, with Applicable Part Numbers, Manufacturing and Modeling Details,  
were Reviewed (as submitted) for Product Verification  
(Reference: NCTL-110-10178-1)

See Attached Documentation;  
any deviations noted.

Note: The above referenced component drawings along with representative sections of the test specimen will be retained per procedure by NCTL. This testing facility assumes that all information provided by the client is accurate.

### **Section 2:**

<u>Identification</u>	<u>Date</u>	<u>Page &amp; Revision</u>
Original Issue	05/30/06	Not Applicable
Rev 01	04/17/07	Page 1 - Address revision
Rev 02	04/05/10	Page 1 - Client requested expiration date deletion