



January 12, 2010

Mr. Rudy Pavlik
Bristolite Skylights
401 E. Goetz Ave.
Santa Ana, California 92707

RE: Dade County Submittal Process

Dear Mr. Pavlik:

The following documents are enclosed pursuant to the testing of your heavy weather skylight.

Please note the following:

1. An envelope containing two copies of the report and one certification letter is enclosed for Dade County. Please forward this package with your application and check to your reviewing engineer.
2. The following are enclosed for Bristolite Skylights' files: one original and one photocopy of the report, one DVD and one certification letter.
3. Architectural Testing will retain your file for a period of ten years.

Thank you for the opportunity to serve you. Should you have any questions, please feel free to contact me.

Sincerely yours,

ARCHITECTURAL TESTING, INC.

Joshua M. Royce, P.E.
Senior Project Engineer

JMR:cmd

cc: 92682.01-301-18

130 Derry Court
York, PA 17406-8405
phone: 717-764-7700
fax: 717-764-4129
www.archtest.com



January 12, 2010

Mr. Jaime D. Gascon, P.E., Chief of Product Control Division
Metropolitan Dade County
Building Code Compliance Department
140 West Flagler Street, Suite 1603
Miami, Florida 33130

RE: Laboratory Compliance Letter

Dear Mr. Gascon:

Product physical testing of a heavy weather skylight for Bristolite Skylights was conducted under Miami-Dade Notification No. ATICA 09012 and was performed in accordance with the requirements of the Florida Building Code and Protocols TAS 201-94, TAS 202-94 and TAS 203-94.

A complete video log of testing has been recorded and will be retained by Architectural Testing, Inc.

Results are reported in Architectural Testing Report No. 92682.01-301-18.

Sincerely yours,

ARCHITECTURAL TESTING, INC.

A handwritten signature in black ink, appearing to read "JMR", is written over a horizontal line.

Digitally Signed by: Joshua M. Royce

Joshua M. Royce, P.E.
Senior Project Engineer

JMR:cmd

cc: Mr. Rudy Pavlik, Bristolite Skylights
92682.01-301-18

130 Derry Court
York, PA 17406-8405
phone: 717-764-7700
fax: 717-764-4129
www.archtest.com

A handwritten signature in black ink, appearing to read "JMR", is written above the date "1/13/10".



MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

BUILDING CODE COMPLIANCE OFFICE
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901
FAX (305) 375-2908
PRODUCT CONTROL DIVISION
(305) 375-2902
FAX (305) 372-6339

2/16/2010

Carl Schmidt
Bristol Fiberlite Industries, Inc.
401 E. goetz Ave.
Santa Ana CA 92707

Ref: 10-0216.02 HWS Skylight System

Dear Applicant:

The Building Code Compliance Office's Product Control Division welcomes the opportunity to assist you and thanks you for your confidence in our ability to serve you. If any further clarification is needed on your submittal, technical review personnel from our staff will be contacting you.

For tracking purposes, your application has been assigned the referenced number. Please use this number when quering the status of your file. You can also track the progress of your file at www.miamidade.gov/buildingcode.

Again, thank you for choosing Miami Dade Product Control Division as your certification entity.

You may contact our office at any of the phone numbers listed if you have any additional questions.

Sincerely,

Jaime D. Gascon, P.E.
Chief
Product Control Division

cc: File

**MIAMI-DADE COUNTY
PERFORMANCE TEST REPORT**

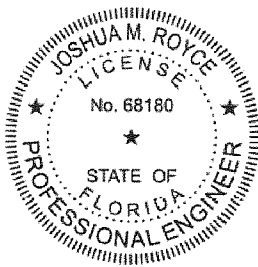
Rendered to:

BRISTOLITE SKYLIGHTS

**SERIES/MODEL: Heavy Weather Skylight
PRODUCT TYPE: Skylight**

This report contains in its entirety:

**Cover Page: 1 page
Report Body: 14 pages
Sketch: 1 page
Drawings: 2 pages**



Secure Electronic Seal
For Electronic Submissions



Digitally Signed by: Joshua M. Royce

Date: 2010.01.13 15:22:24 -05'00'

Report No.: 92682.01-301-18

Test Dates: 07/13/09

Through: 11/24/09

Report Date: 01/12/10

Expiration Date: 11/24/19

Miami-Dade County Notification No.: ATICA 09012

2524 E. Jensen Ave
Fresno, CA 93706
phone: 559-233-8705
fax: 559-233-8360
www.archtest.com





MIAMI-DADE COUNTY PERFORMANCE TEST REPORT

Rendered to:

BRISTOLITE SKYLIGHTS
401 E Goetz Ave.
P.O. Box 2515
Santa Ana, California 92707

Report No.: 92682.01-301-18

Test Dates: 07/13/09

Through: 11/24/09

Report Date: 01/12/10

Expiration Date: 11/24/19

Miami-Dade County Notification No.: ATICA 09012

Project Summary: Architectural Testing, Inc. was contracted by Bristolite Skylights to perform testing per Florida Building Code, Test Protocols for High Velocity Hurricane Zone, Protocols TAS 201-94, TAS 202-94 and TAS 203-94 on three Series/Model Heavy Weather Skylights. The samples tested met the performance requirements set forth in the protocols for a +55.0/-65.0 psf *Design Pressure* rating. Test specimen description and results are reported herein. The samples were provided by the client.

Test Procedures: The test specimens were evaluated in accordance with the following:

TAS 201-94, *Impact Test Procedures.*

TAS 202-94, *Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure Loading.*

TAS 203-94, *Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.*

Drawing Reference: The test specimen drawings have been reviewed and verified by Architectural Testing, Inc. and are representative of the samples tested.

Test Specimen Description:

Series/Model: Heavy Weather Skylight

Product Type: Skylight

Overall Size: 8' 4-1/16" wide by 5' 4-1/16" high

Curb Daylight Opening Size: 8' 0" wide by 5' 0" high

Finish: Painted aluminum

Glazing Details: All samples were dual glazed with clear polycarbonate. The inner dome had a thickness of 0.095" and a rise of 9". The outer dome had a thickness of 0.125" and a rise of 10". The domes were sealed together at the edges with silicone and set from the exterior onto a Santoprene rubber gasket. A 0.075" thick glazing cap was siliconed to the outer dome and secured through the dome with #10 x 1" hex head self-drilling screws with neoprene washer spaced 4" from the corner and 8" on center.

Weatherstripping: No weatherstripping was utilized.

Specimen #1 Frame Construction: Specimen #1 consisted of a curb mounted aluminum frame welded at the corners. #10 x 3/8" hex head sheet metal screws, located 6" on center, were used to secure the glazing cap to the frame.

Specimen #2 Frame Construction: Specimen #2 consisted of a 0.090" thick self-flashing aluminum frame, 6" tall and welded at the corners. #10 x 3/8" hex head sheet metal screws, located 6" on center, were used to secure the glazing cap to the frame.

Specimen #3 Frame Construction: Specimen #3 consisted of a 0.125" thick self-flashing aluminum base 12" tall and welded at the corners. A curb mounted aluminum frame on a Santoprene rubber gasket was attached to the base with #10 x 1" hex head self-drilling screws with neoprene washer spaced 9" on center. #10 x 3/8" hex head sheet metal screws, located 6" on center, were used to secure the glazing cap to the frame.

Hardware: No hardware was utilized.

Drainage:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
1/4" weep notch	4	Each corner through glazing support leg

Test Specimen Description: (Continued)

Reinforcement: No reinforcement was utilized.

Installation: Each sample was installed onto a 2 x 8 wood test buck using 1/4" x 1" lag screws spaced 9" on center.

Test Results: The following results have been recorded:

Protocol TAS 202-94, *Static Air Pressure Tests*

Test Unit #1

Design Pressure: +55.0 / -65.0 psf

Title of Test	Results		
Air Infiltration			
1.57 psf (25 mph)	0.09 cfm/ft ²		
6.24 psf (50 mph)	0.16 cfm/ft ²		
Structural Loads	Indicator Readings (inch)		
	#1	#2	#3
50% of Test Pressure (+41.25 psf)			
Maximum Deflection	<0.01	0.01	0.02
Permanent Set	<0.01	<0.01	<0.01
Design Pressure (+55.0 psf)			
Maximum Deflection	0.01	0.01	0.02
Permanent Set	<0.01	<0.01	<0.01
50% of Test Pressure (-48.75 psf)			
Maximum Deflection	0.02	0.05	0.02
Permanent Set	<0.01	<0.01	<0.01
Design Pressure (-65.0 psf)			
Maximum Deflection	0.04	0.06	0.04
Permanent Set	<0.01	0.02	0.01
Water Infiltration			
15% Positive Design Pressure (+9.19 psf)	No Penetration		
Test Pressure (+165.0 psf)			
Maximum Deflection	0.05	0.09	0.12
Permanent Set	0.02	0.01	0.01
Test Pressure (-130.0 psf)			
Maximum Deflection	0.18	0.21	0.14
Permanent Set	0.07	0.05	<0.01

- Notes:**
1. Deflection measurements taken across fastener span (9").
 2. Dome inverted during positive loads.

Test Results: (Continued)

Protocol TAS 202-94, *Static Air Pressure Tests*

Test Unit #2

Design Pressure: +55.0 / -65.0 psf

Title of Test	Results		
	Indicator Readings (inch)		
	#1	#2	#3
Structural Loads			
50% of Test Pressure (+41.25 psf)			
Maximum Deflection	0.08	0.05	0.06
Permanent Set	<0.01	0.01	<0.01
Design Pressure (+55.0 psf)			
Maximum Deflection	0.08	0.06	0.07
Permanent Set	<0.01	0.01	0.03
50% of Test Pressure (-48.75 psf)			
Maximum Deflection	0.36	0.35	0.34
Permanent Set	0.05	0.04	0.04
Design Pressure (-65.0 psf)			
Maximum Deflection	0.49	0.51	0.47
Permanent Set	0.09	0.07	0.07
Test Pressure (+165.0 psf)			
Maximum Deflection	0.26	0.19	0.16
Permanent Set	0.17	0.08	0.10
Test Pressure (-130.0 psf)			
Maximum Deflection	1.03	1.02	1.02
Permanent Set	0.34	0.27	0.30

- Notes:**
1. Deflection measurements taken across fastener span (9").
 2. Dome inverted during positive loads.

Test Results: (Continued)

Protocol TAS 202-94, Static Air Pressure Tests

Test Unit #1

Design Pressure: +55.0 / -65.0 psf

Title of Test	Results		
Air Infiltration			
1.57 psf (25 mph)	0.08 cfm/ft ²		
6.24 psf (50 mph)	0.17 cfm/ft ²		
Structural Loads	Indicator Readings (inch)		
	#1	#2	#3
50% of Test Pressure (+41.25 psf)			
Maximum Deflection	0.07	0.02	0.04
Permanent Set	0.01	0.01	0.01
Design Pressure (+55.0 psf)			
Maximum Deflection	0.07	0.04	0.04
Permanent Set	0.01	0.02	0.02
50% of Test Pressure (-48.75 psf)			
Maximum Deflection	0.22	0.19	0.18
Permanent Set	0.01	<0.01	0.01
Design Pressure (-65.0 psf)			
Maximum Deflection	0.31	0.30	0.27
Permanent Set	0.03	0.01	0.01
Water Infiltration			
15% Positive Design Pressure (+9.19 psf)	No Penetration		
Test Pressure (+165.0 psf)			
Maximum Deflection	0.89	0.74	0.48
Permanent Set	0.05	0.04	0.01
Test Pressure (-130.0 psf)			
Maximum Deflection	0.76	0.76	0.74
Permanent Set	0.29	0.29	0.23

- Notes:**
1. Deflection measurements taken across fastener span (9").
 2. Dome inverted during positive loads.

Test Results: (Continued)

Protocol TAS 201-94, *Impact Test Procedures*

Missile Weight: 8 lbs

Muzzle Distance from Test Specimen: 17 ft.

Test Unit #1

Impact #1: Missile Velocity: 49.3 fps

Impact Area: Center of dome

Observations: Missile did not puncture dome

Results: Pass

Impact #2: Missile Velocity: 49.4 fps

Impact Area: Lower left corner of dome

Observations: Missile did not puncture dome

Results: Pass

Test Unit #2

Impact #1: Missile Velocity: 50.1fps

Impact Area: Upper right corner of dome

Observations: Missile did not puncture dome

Results: Pass

Impact #2: Missile Velocity: 50.6 fps

Impact Area: Center of dome

Observations: Missile did not puncture dome

Results: Pass

Test Results: (Continued)

Protocol TAS 201-94, *Impact Test Procedures*

Missile Weight: 8 lbs

Muzzle Distance from Test Specimen: 17 ft.

Test Unit #3

Impact #1: Missile Velocity: 49.3 fps

Impact Area: Center of dome

Observations: Missile did not puncture dome

Results: Pass

Impact #2: Missile Velocity: 49.6 fps

Impact Area: Lower left corner of dome

Observations: Missile did not puncture dome

Results: Pass

Note: Refer to Architectural Testing Sketch #1 for impact locations.

Test Results: (Continued)

Protocol TAS 203-94, *Cyclic Wind Pressure Loading*

Test Unit #1

Design Pressure: +55.0 / -65.0 psf

POSITIVE PRESSURE

Pressure Range (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator (inch)		
			#1	#2	#3
11.0 to 27.5	3500	2.07	<0.01	0.01	<0.01
0 to 33.0	300	2.70	<0.01	0.01	<0.01
27.5 to 44.0	600	1.64	0.01	0.02	0.01
16.5 to 55.0	100	2.76	0.01	0.02	0.01
			Permanent Set (inch)		
			<0.01	<0.01	<0.01

NEGATIVE PRESSURE

Pressure Range (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator (inch)		
			#1	#2	#3
19.5 to 65.0	50	2.71	0.06	0.08	0.07
32.5 to 52.0	1050	1.52	0.04	0.06	0.05
0 to 39.0	50	2.73	0.04	0.06	0.04
13.0 to 32.5	3350	1.58	0.03	0.02	<0.01
			Permanent Set (inch)		
			<0.01	<0.01	<0.01

Result: Pass

- Notes:*
1. Deflection measurements taken across fastener span (9").
 2. Dome inverted during positive loads.

Test Results: (Continued)

Protocol TAS 203-94, *Cyclic Wind Pressure Loading*

Test Unit #2

Design Pressure: +55.0 / -65.0 psf

POSITIVE PRESSURE

Pressure Range (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator (inch)		
			#1	#2	#3
11.0 to 27.5	3500	2.06	0.02	0.03	0.02
0 to 33.0	300	2.67	0.03	0.04	0.02
27.5 to 44.0	600	1.95	0.05	0.05	0.04
16.5 to 55.0	100	2.35	0.08	0.06	0.05
			Permanent Set (inch)		
			0.02	0.01	0.02

NEGATIVE PRESSURE

Pressure Range (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator (inch)		
			#1	#2	#3
19.5 to 65.0	50	3.00	0.49	0.55	0.46
32.5 to 52.0	1050	1.81	0.36	0.36	0.32
0 to 39.0	50	2.74	0.29	0.31	0.26
13.0 to 32.5	3350	2.28	0.25	0.26	0.22
			Permanent Set (inch)		
			0.12	0.13	0.10

Result: Pass

- Notes:
1. Deflection measurements taken across fastener span (9").
 2. Dome inverted during positive loads.

Test Results: (Continued)

Protocol TAS 203-94, Cyclic Wind Pressure Loading

Test Unit #1

Design Pressure: +55.0 / -65.0 psf

POSITIVE PRESSURE

Pressure Range (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator (inch)		
			#1	#2	#3
11.0 to 27.5	3500	1.19	0.01	0.04	0.01
0 to 33.0	300	1.76	0.02	0.30	0.03
27.5 to 44.0	600	1.58	0.02	0.40	0.03
16.5 to 55.0	100	2.48	0.04	0.44	0.04
			Permanent Set (inch)		
			0.01	0.03	0.03

NEGATIVE PRESSURE

Pressure Range (psf)	Number of Cycles	Average Cycle Time (seconds)	Maximum Deflection at Indicator (inch)		
			#1	#2	#3
19.5 to 65.0	50	2.07	0.40	0.37	0.41
32.5 to 52.0	1050	1.27	0.22	0.23	0.25
0 to 39.0	50	2.14	0.22	0.21	0.21
13.0 to 32.5	3350	1.08	0.19	0.17	0.18
			Permanent Set (inch)		
			0.03	0.03	0.03

Result: Pass

- Notes:
1. Deflection measurements taken across fastener span (9").
 2. Dome inverted during positive loads.

Test Equipment: (See Appendix A)

Cannon: Steel pipe barrel utilizing compressed air to propel the missile

Missile: 2 x 4 Southern Pine

Timing Device: Electronic Beam Type

Cycling Mechanism: Computer controlled centrifugal blower with electronic pressure measuring device

Deflection Measuring Device: Linear transducers.

Laboratory Compliance Statements: The following are provided as required by the protocols for the testing reported herein.

Upon completion of testing, specimens tested for TAS 201-94 met the requirements of Section 1626 of the Florida Building Code, Building.

Upon completion of testing, specimens tested for TAS 202-94 met the requirements of Section 1620 of the Florida Building Code, Building.

Upon completion of testing, specimens tested for TAS 203-94 met the requirements of Section 1626 of the Florida Building Code, Building.

Tape and film were used to seal against air leakage during structural testing. In our opinion, did not influence the results of the test.

Testing was conducted at the Architectural Testing, Inc. laboratory located in Fresno, California.

List of Official Observers:

<u>Name</u>	<u>Company</u>
Carl Schmidt	Bristolite Skylights
Dennis Janzen	Architectural Testing, Inc.
Mason Kelly	Architectural Testing, Inc.
Joshua M. Royce, P.E.	Architectural Testing, Inc.
Tyler Westerling, P.E.	Architectural Testing, Inc.

Detailed drawings, data sheets, representative samples of test specimens, a copy of this report, or other pertinent project documentation will be retained by Architectural Testing, Inc. for a period of ten years from the original test date. At the end of this retention period, such materials shall be discarded without notice and the service life of this report will expire.

Results obtained are tested values and were secured by using the designated test methods. 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 specimens tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.



Digitally Signed by: Tyler Westerling

Tyler Westerling, P.E.
Project Engineer



Digitally Signed by: Joshua M. Royce

Joshua M. Royce, P.E.
Senior Project Engineer

TW:he/cmd

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

- Appendix-A: Test Equipment (1)
- Appendix-B: Sketch (1)
- Appendix-C: Drawings (2)

Revision Log

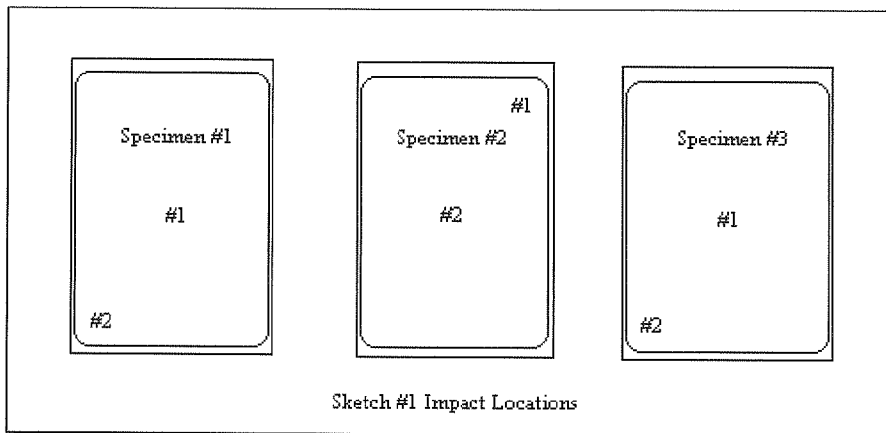
<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	01/12/10	N/A	Original report issue

Appendix A
Test Equipment

Instrument	Manufacturer	Asset #
Control Panel	Architectural Testing, Inc.	5062
Linear Transducer	Celesco	3429
Linear Transducer	Celesco	4485
Linear Transducer	Celesco	4488
Linear Transducer	Celesco	3431
Linear Transducer	Celesco	4486
Linear Transducer	Celesco	4483
Linear Transducer	Celesco	3429
Control Panel	Architectural Testing, Inc.	2213
Control Panel	Architectural Testing, Inc.	4984
2 x 4 Cannon	Architectural Testing, Inc.	3575

Appendix B

Sketch



Appendix C

Drawings

MANUFACTURER:
Bristolite Skylights
 401 EAST GOETZ AVENUE
 SANTA ANA, CA 92707
 TEL: (714) 540-8950
 FAX: (714) 540-5415

PRODUCT:
HEAVY WEATHER SKYLIGHT

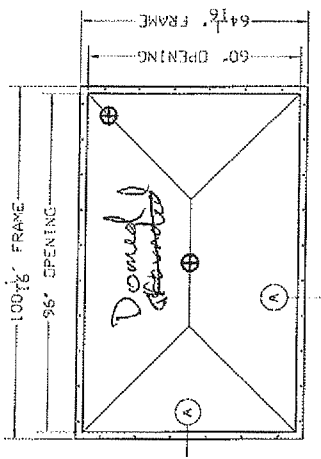
Engineering:
Engco Inc.
 CA 8116
 6971 W. Sunrise Blvd. 104
 Plantation, FL 32313
 ENGCO@ACL.COM

DRAFTING:
PK DRAFTING & MORE
 MIAMI-DADE BOCCO

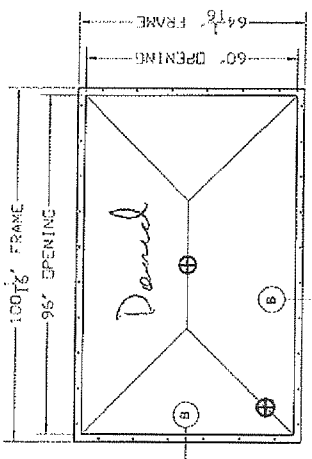
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Drawing Number
09-025T
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1 of 2

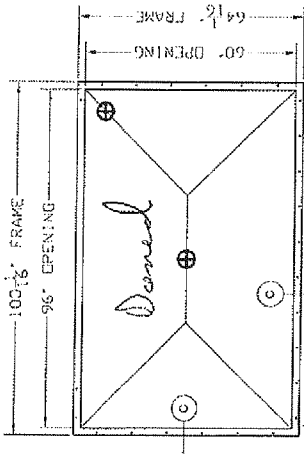
SAMPLES FLOOR PLAN



1-SAMPLE - CURB MOUNTED
 P-120 PSF - TAS 202
 P-120 PSF TAS 201, TAS 203
 W-120 PSF WATER TEST
 AND AIR INFILTRATION



2-SAMPLE - 6" SELF FLASHING BASE
 P-120 PSF - TAS 202
 P-120 PSF TAS 201, TAS 203
 W-120 PSF WATER TEST
 AND AIR INFILTRATION



3-SAMPLE - 12" SELF FLASHING BASE
 P-120 PSF - TAS 202
 P-120 PSF TAS 201, TAS 203
 W-120 PSF WATER TEST
 AND AIR INFILTRATION

⊕ IMPACT LOCATION - LARGE MISSILE PERPENDICULAR TO SKYLIGHT

COMPARATIVE ANALYSIS

QTY	48	60	72	80	96
36	120	120	120	120	120
42	120	120	120	120	114
48	120	120	120	120	100
54	120	120	115	107	89
60	120	120	107	95	80
72	120	107	--	--	--

TEST SAMPLES
 P-80 PSF AT TAS 202
 P-120 PSF AT TAS 203

USE SAFETY FACTOR OF 3 UNDER TAS 602 FOR PLASTIC SKYLIGHTS

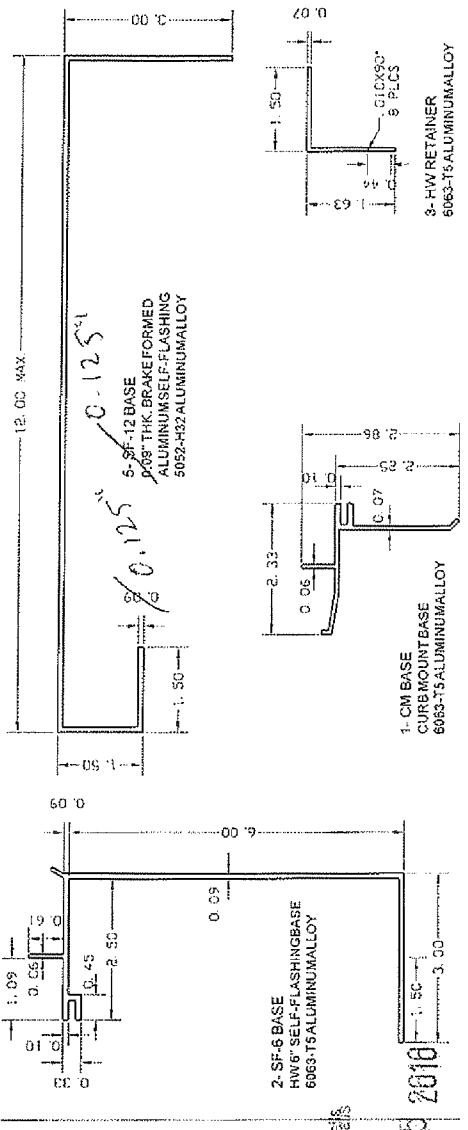
Architectural Testing, Inc.
 Test team are competent with 15 years details
 Deviations are noted

92682

JAN 03 2010

Report # _____ Date _____

PRODUCT COMPONENTS



1-CM BASE
 CURB MOUNT BASE
 6063-T5 ALUMINUM ALLOY

3-HW RETAINER
 6063-T5 ALUMINUM ALLOY

MANUFACTURER:
Bristolite Skylights
 401 EAST GOETZ AVENUE
 SANTA ANA, CA 92707
 TEL.: (714) 540-8850
 FAX: (714) 540-5415

PRODUCT:
HEAVY WEATHER SKYLIGHT

Engineering:
EngCo Inc.
 CA 8116
 8971 W. Sunrise Blvd. 104
 Plantation, FL 33313
 ENGCO@AOL.COM

Engineer: Saal
 Pedro De Figueiredo
 PE 52609

DRAFTING:
PK DRAFTING & MORE

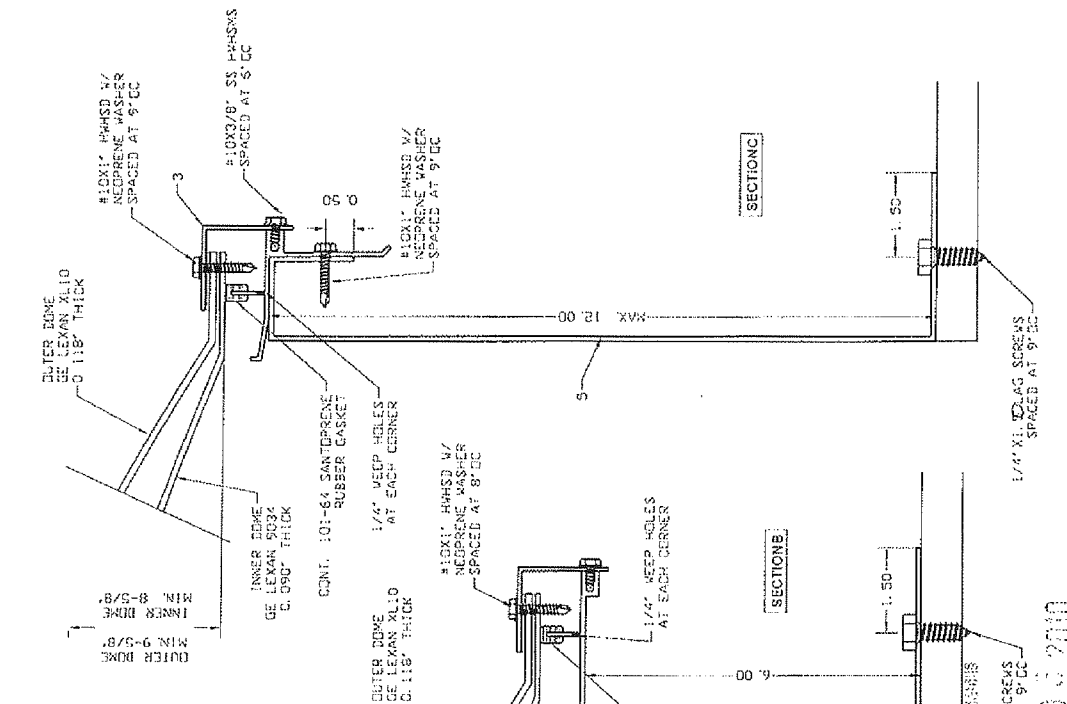
MIAMI-DADE BOCCO

Date: 02/18/09
 Scale: 1/4" = 1"
 Design by: PPMF

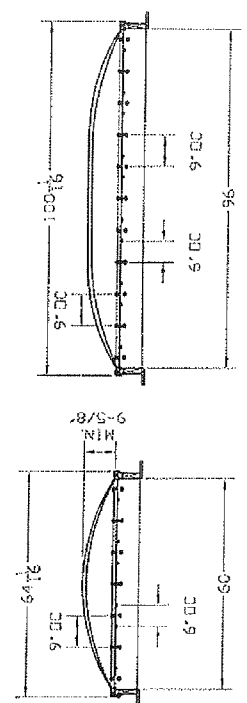
Drawing Number
09-025T

SHEET
2 of 2

CURB DETAILS



SAMPLES SECTIONS



Architectural Technol, Inc.
 Test sample compares with their drawings
 Deviations 270, 271, 272
 1/4" X 1" LAG SCREWS
 SPACED AT 9" OC

9 2 68 2
 JAN 0 5 2010

Revised: [Signature]
 Date: [Blank]
 Test: [Signature]

SECTION A

SECTION B

SECTION C