

SUNOPTICS PRISMATIC SKYLIGHTS TEST REPORT

SCOPE OF WORK

FALL PROTECTION TESTING ON EXTERNAL SKYLIGHT FALL-PROTECTION GUARD

REPORT NUMBER

J1866.01-301-44

TEST DATE(S)

12/21/18

ISSUE DATE

07/22/19

RECORD RETENTION END DATE

12/21/23

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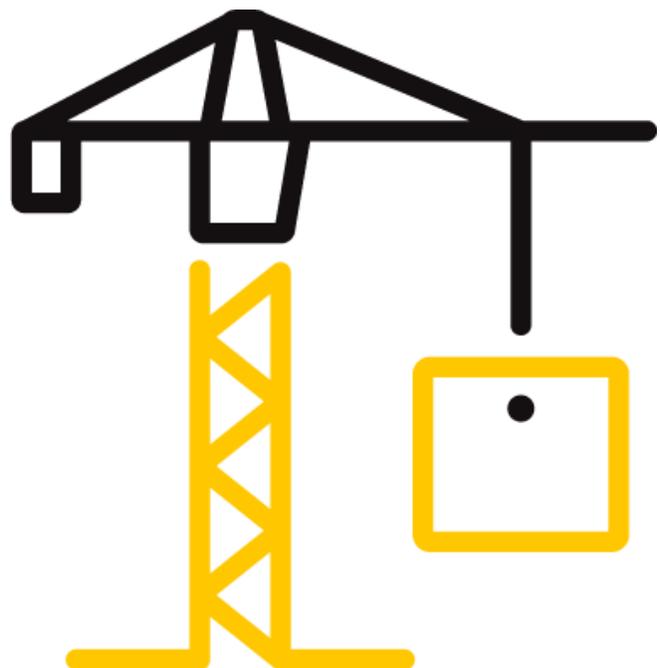
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TEST REPORT FOR SUNOPTICS PRISMATIC SKYLIGHTS

Report No.: J1866.01-301-44

Date: 07/22/19

REPORT ISSUED TO

SUNOPTICS PRISMATIC SKYLIGHTS

6201 27th Street

Sacramento, California 95822

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Sunoptics Prismatic Skylights to perform testing in accordance with OSHA 1926.502(c) *Safety Net Systems*, on their External Skylight Fall-Protection Guard. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at the Intertek B&C test facility in Fresno, California. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2

SUMMARY OF TEST RESULTS

Product Type: Guard

Series/Model: External Skylight Fall-Protection Guard

Size Tested: 1346 mm wide x 2438 mm high x 400 mm high (53" x 96" x 15-3/4")

TITLE	RESULTS
Static Load 400 blm	Pass
Impact Load 1,400 lb-ft	Pass

For INTERTEK B&C:

COMPLETED BY:	David Douglass	REVIEWED BY:	Tyler Westerling, P.E.
TITLE:	Project Manager	TITLE:	Senior Project Engineer
SIGNATURE:		SIGNATURE:	
DATE:	07/22/19	DATE:	07/22/19

DD:ms

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SECTION 3

TEST METHOD(S)

The specimen was evaluated in accordance with the following:

OSHA 1926 Subpart M, Fall Protection

Section 1926.502(c), Safety Net Systems

"... shall be capable of absorbing an impact force equal to that produced by the drop test..."
"... The drop-test shall consist of a 400 pound (180 kg) bag of sand 30 ±2 inches (76 ±5 cm) in diameter dropped into the net from [at least] 42 inches (1.1 m)..."

OSHA 1910 Subpart D, Walking-Working Surfaces

Section 1910.29(e), Covers

"... capable of supporting without failure, at least twice the maximum intended load..."
"... secured to prevent accidental displacement."

Cal-OSHA Title 8 Subchapter 7, General Industry Safety Orders

Group 1, General Physical Conditions and Structures Orders

Article 2, Standard Specifications

Section 3212, Floor Openings, Floor Holes and Roofs

"... capable of safely supporting the greater of 400 pounds or twice the weight of the employees, equipment and materials that may be imposed on any one square foot..."

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen will be retained by Intertek B&C for a minimum of five years from the test completion date.

The specimen was installed by the client onto Signature Series double-dome skylight. The skylight was installed by the client onto a test curb fabricated from Douglas fir nominal 2x8 lumber.

ANCHOR DESCRIPTION	LOCATION	SPACING
Guard: aluminum clip fastened with two #10 x 3/4" hex washer head drill point screws	Long sides	16" on center
Skylight frame: #12 x 1-1/2" hex washer head screws and rubber coated washer	Into sides of curb, all sides	12" on center

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SECTION 5

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
David Douglass	Intertek B&C
Tyler Westerling	Intertek B&C

SECTION 6

TEST SPECIMEN DESCRIPTION

Product Type: Guard

Series/Model: External Skylight Fall-Protection Guard

Product Size(s):

SIZE	Metric	U.S.
Test Curb (I/D)	1219 x 2438 mm	48" x 96"
Skylight frame (O/D)	1340 x 2559 mm	52-3/4" x 100-3/4"
Dome rise (from bead)	356 mm	14"
Guard size (installed)	1346 x 2438 mm	53" x 96"
Guard height	400 mm	15-3/4"
Guard / dome clearance	Approximately 102 mm	Approximately 4"

Product Construction:

MEMBER	MATERIAL	DESCRIPTION
Screen	Steel	Galvanized; 1/4" dia rod
JOINT	TYPE	DETAIL
All Corners	Welded	Resistance-welded at all joints

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SECTION 7

TEST RESULTS

The temperature during testing was 11°C (52°F). The results are tabulated as follows:

TITLE OF TEST	RESULTS	ALLOWED	NOTE
Static Concentrated Load 400 lbm on 1 ft ² , 5 minutes	Pass	No contact with dome	1, 2
Impact Load 400 lbm, 42" drop height 5 minutes after impact	Pass Pass	Impact fully absorbed Load maintained	3, 4, 5

General Note: All testing was performed in accordance with the referenced standard(s).

Note 1: Load was applied to top of guard using 1' x 1' contact plate of high-density foam.

Note 2: At the end of 5 minutes, the load remained stationary in place with no further evidence of sagging or other additional damage observed

Note 3: The 400 lbm sandbag impacted the designated target area at the center of the guard.

Note 4: After impact, the following observations were made:

- The aluminum guard anchor clips deformed.
- The guard screen disengaged one anchor clip each side.
- No fractures were observed in the dome.

Note 5: For 5 minutes following impact, the load remained stationary in place with no further evidence of sagging or other additional damage observed.

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SECTION 8 PHOTOGRAPHS



Photo No. 1
Prior to static load



Photo No. 2
5 min. into static load at 400 lbf on 1 ft²

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Photo No. 3
After impact of 400 lbm dropped 42"



Photos No. 4
Disengaged guard clip; load still fully supported

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Photo No. 5
After impact test



Total Quality. Assured.

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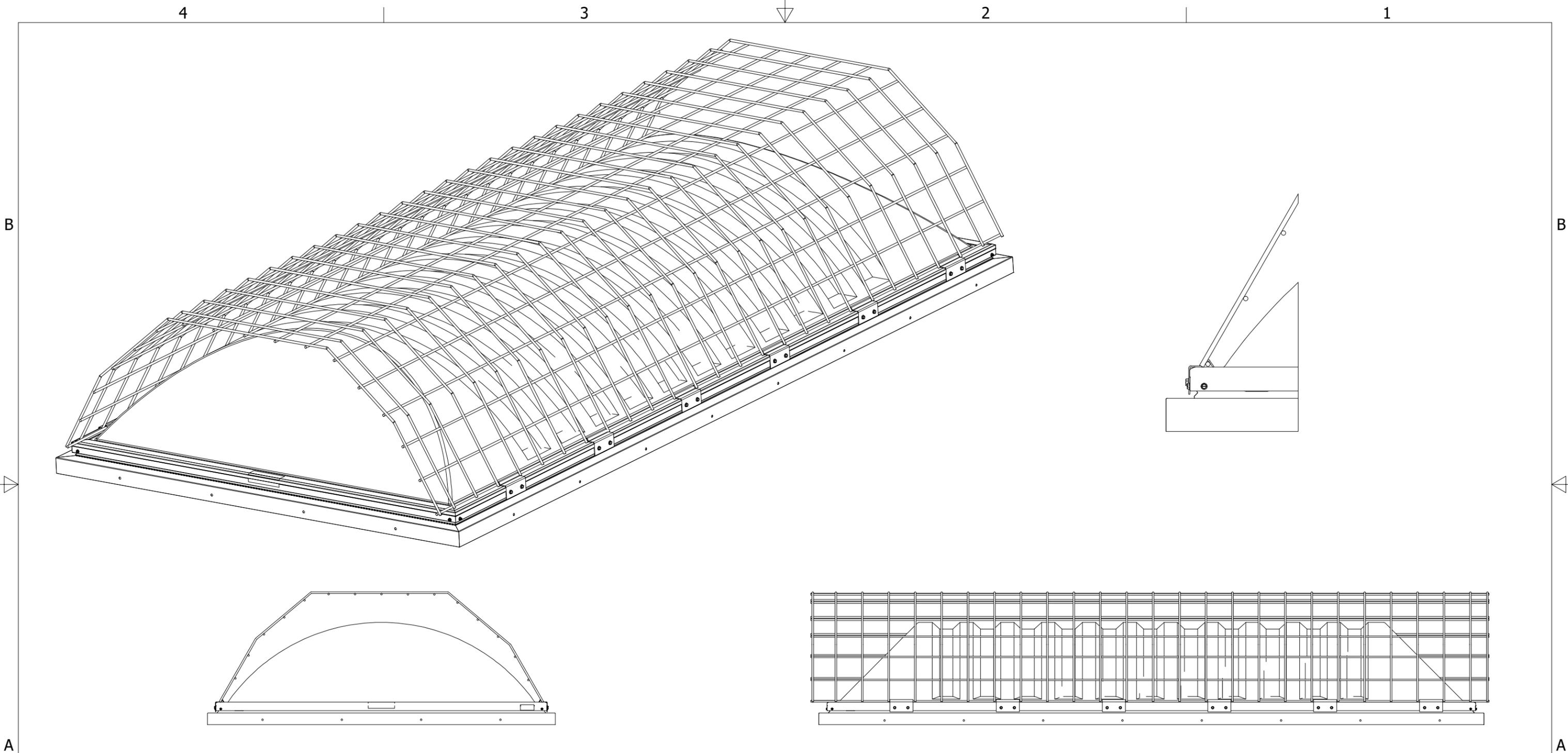
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SECTION 9 DRAWINGS

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.



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Date: 07/23/19
Verified by: 
Digitally Signed by: David Douglas

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
DECIMAL ANGULAR
.X ±.03 ±.25°
.XX ±.01
.XXX ±.005

SURFACE ROUGHNESS $\sqrt{125}$
REMOVE ALL BURRS AND
BREAK SHARP EDGES .03 MAX
SURFACE TEXTURE IN ACCORDANCE
WITH LATEST ANSI B46.1
DIMS. & TOL. IN ACCORDANCE
WITH LATEST ANSI Y14.5

MATERIAL
3GA GALVANIZED MESH, 4"
OC

FINISH
PRE-GALV.

DRAWN
JME 2/12/2019
CHECKED
QA
MFG
APPROVED



6201 27th STREET
SACRAMENTO, CA 95822
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TITLE

SIZE DWG NO REV
B ESFP 4080 1

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THIRD ANGLE PROJECTION



SCALE

SHEET 1 OF 1



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SECTION 10

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	07/22/19	N/A	Original Report Issue