



● Compliance to International Codes
● Compliance to State/Regional Codes

ICC-ES Evaluation Report

Reissued December 2021

ESR-2415

This report is subject to renewal December 2022.

DIVISION: 08 00 00—OPENINGS
Section: 08 62 00—Unit Skylights

REPORT HOLDER:

ACRALIGHT SOLAR, LLC

EVALUATION SUBJECT:

ACRALIGHT SKYLIGHTS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 1997 *Uniform Building Code*™ (1997 UBC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)†

†The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

For evaluation for compliance with codes adopted by Los Angeles Department of Building and Safety (LADBS), see [ESR-2415 LABC Supplement](#).

Properties evaluated:

- Durability
- Structural
- Water penetration resistance
- Air infiltration

2.0 USES

The Acralight skylights described in this report are plastic-glazed skylights complying with Sections 2405 and 2610 of the IBC and Sections 2409 and 2603 of the UBC.

3.0 DESCRIPTION

3.1 Acrylic Sheets:

Acralight acrylic skylights are glazed using smooth domes formed from 0.118-, 0.150-, 0.177-, and 0.236-inch-thick (3.0, 3.81, 4.5 and 6 mm) flat sheets of Class CC2 Optix acrylic plastic described in ICC-ES report [ESR-2591](#). The model A-S-CM is aluminum framed and curb-mounted, and model A-S-SF is aluminum framed and self-flashing.

3.2 Polycarbonate Sheets:

Acralight polycarbonate Sky-Arc™ skylights are glazed using Sky-Arc™ formed from 0.118-inch-thick (3.0 mm) flat sheets of Class CC1 Tuffak® polycarbonate plastic described in ICC-ES report [ESR-2728](#). The model A-S-ST-CM is aluminum framed and curb-mounted, and model A-S-ST-SF is aluminum framed and self-flashing.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 Allowable Load / Performance Grade:

The allowable loads are expressed as performance grade (PG) rating values and are noted in Tables 1 and 2.

4.1.2 Air Infiltration:

When tested at an air pressure differential of 1.57 psf (75 Pa), the skylights have an air leakage rate of less than 0.30 cfm/ft² (1.5 L/s*m²).

4.2 Installation:

The curb-mounted skylights must be installed on minimum nominally 2-by-6 lumber with a minimum 0.5 specific gravity, of a height sufficient so that installation of the plastic dome is a minimum of 4 inches (102 mm) above the plane of the roof. The wood curb and the attachment to the roof structure must be designed to resist wind uplift and gravity loads. The self-flashing units are designed to mount directly to the roof deck assembly.

For installation on existing roofs, the roof covering must be removed and an opening equal to the inside curb dimensions must be cut into the roof sheathing. The curbs and/or the roof deck must have a square and level mounting surface. A 1/2-inch-diameter (12.7 mm) bead of butyl sealant, silicone sealant, or an equal must be applied to the top of the deck or curb before the skylight is set in place.

The skylight must be attached to the wood curb or deck with 1/4-inch-diameter (6.4 mm), corrosion-resistant lag screws in each mounting hole, spaced 12 inches maximum, with the screw length being sufficient to penetrate the wood curb or wood deck framing member a minimum of 1 1/2 inches (38 mm).

Curb-mounted skylights must have the gap between the skylight frame and the wood curb fully shimmed for proper fastener installation. The units must be flashed as required by the code.

Compatible sealant is applied over the mounting flange of the self-flashing skylight units and covered with the roof covering in such a manner as to ensure a watertight seal.

See Tables 1 and 2 for the required number of fasteners. Additional installation details are provided in Figure 1.

5.0 CONDITIONS OF USE

The Acralight Skylights described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The skylights must be installed in accordance with this report, Sections 2405.4 and 2610 of the IBC or Sections 2409.4 and 2603 of the UBC, as applicable; and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's installation instruction, this report governs.
- 5.2 Allowable loads (performance grades) do not exceed those noted in Table 1 or Table 2 of this report. Snow loads are outside the scope of this report.
- 5.3 Appropriate manufacturer's installation instructions are provided at each jobsite installation.
- 5.4 The use of skylights as components of fire-resistance-rated assemblies is outside the scope of this report.

- 5.5 The skylights are manufactured in Tucson, Arizona, under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Plastic Glazed Skylights (AC16), dated April 2020 (editorially revised August 2020).

7.0 IDENTIFICATION

- 7.1 Each skylight is identified by a label noting the Acralight Solar, LLC, name and address, the evaluation report number (ESR-2415), the plastic classification (CC1 or CC2), plastic thickness before forming, model designation, and date of manufacture. In addition to the identification label, a label warning of risk of falling complying with Class I, ANSI Standard Z35.1 specifications is applied to each skylight.
- 7.2 The report holder's contact information is the following:

ACRALIGHT SOLAR, LLC
PO BOX 27337
TUCSON, ARIZONA 85726
(800) 325-4355
www.acralightsolar.com
info@acralight.com

**TABLE 1—DETAILS AND ALLOWABLE LOADS FOR ACRALIGHT INTERNATIONAL
A-S-CM AND A-S-SF SKYLIGHTS WITH ACRYLIC DOMES**

MODEL NO.	INSIDE CURB DIMENSIONS (inches)	DOME THICKNESS (inch)	DOME RISE (inches)	PERFORMANCE GRADE, PG, AND ALLOWABLE LOADS (psf)		NUMBER OF RETAINER FASTENERS ¹	NUMBER OF SKYLIGHT MOUNTING FASTENERS ²
				PG _{pos} (inward forces)	PG _{neg} (outward forces)		
1414	14.25 x 14.25	0.118	5	30	30	8	12
1422	14.25 x 22.25	0.118	5	30	30	8	12
1446	14.25 x 46.25	0.118	5	30	30	8	12
1919	19 x 19	0.118	5	30	30	8	12
2222	22.25 x 22.25	0.118	5	30	30	8	12
2230	22.5 x 30.25	0.118	5	30	30	10	12
2237	22.25 x 37	0.118	5	30	30	10	14
2246	22.25 x 46.25	0.118	5	30	30	12	16
3030	30.25 x 30.25	0.118	6	30	30	12	16
3037	30.25 x 37	0.118	5	30	30	12	16
3046	30.25 x 46.25	0.118	5	30	30	12	16
3737	37 x 37	0.118	7.5	30	30	12	16
3746	37 x 46.25	0.118	9	30	30	14	18
4242	42 x 42	0.118	8.5	30	30	16	20
4646	46.25 x 46.25	0.118	9.25	30	30	16	20
4848	48 x 48	0.118	10	30	30	16	20
2272	22.25 x 72	0.150	7.5	30	30	12	16
2296	22.25 x 96	0.150	9.75	30	30	20	24
3775	37 x 75	0.150	7.5	30	30	20	24
3859	38 x 59	0.150	6	30	30	16	20
4669	46.25 x 69.25	0.150	7	30	30	20	24
4689	46.25 x 89.25	0.150	9	30	30	24	30
3060	30.25 x 60	0.150	7	30	30	14	20
3069	30.25 x 69.25	0.150	7	30	30	16	24
3096	30.25 x 96	0.150	9.75	30	30	22	28
3496	34 x 96	0.150	10	30	30	22	30
4896	48 x 96	0.150	10	30	30	24	30
5555	55x55	0.177	9	30	30	20	24
5460	54 x 60	0.177	13	30	30	20	24
7070	70.25 x 70.25	0.177	13	30	30	24	28
6096	60x96	0.236	15.5	30	30	26	30
7575	75 x 75	0.236	19	30	30	26	28
8484	84 x 84	0.236	21	30	30	28	32
9292	92.5 x 92.5	0.236	23	30	30	32	36

For **SI**: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m².

¹Retainer fasteners are No. 10, self-drilling and –tapping, electrogalvanized steel sheet metal screws, spaced at 12 inches maximum.

²Fasteners to attach skylights to wood curbs or wood roof framing members, with specific gravity of 0.5, are 1/4-inch-diameter, corrosion-resistant steel lag screws having sufficient length to penetrate the wood member curb or wood roof framing member a minimum of 1 1/2 inches.

TABLE 2—DETAILS AND ALLOWABLE LOADS FOR ACRALIGHT INTERNATIONAL A-S-ST-CM AND A-S-ST-SF SKYLIGHTS WITH SKY-ARC™ POLYCARBONATE DOMES

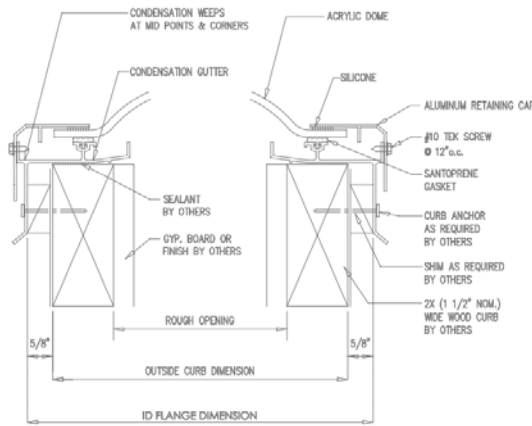
MODEL NO.	INSIDE CURB DIMENSIONS (inches)	DOME THICKNESS (inch)	DOME RISE (inches)	PERFORMANCE GRADE, PG, AND ALLOWABLE LOADS (psf)		NUMBER OF RETAINER FASTENERS ¹	NUMBER OF SKYLIGHT MOUNTING FASTENERS ²
				PG _{pos} (inward forces)	PG _{neg} (outward forces)		
2246	22.25 x 46.25	0.118	5.5	30	30	12	16
4646	46.25 x 46.25	0.118	11	30	30	16	20
4848	48 x 48	0.118	12	30	30	16	20
4896	48 x 96	0.118	12	30	30	24	30
6072	60 x 72	0.118	15	30	30	22	26

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m².

¹Retainer fasteners are No. 10, self-drilling and –tapping, electrogalvanized steel sheet metal screws, spaced at 12 inches maximum.

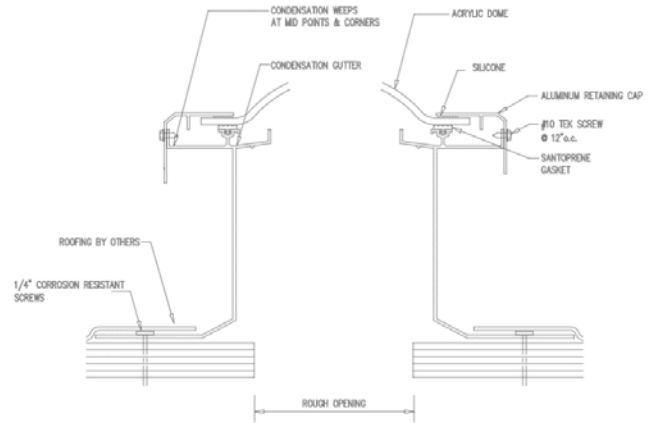
²Fasteners to attach skylights to wood curbs or wood roof framing members, with specific gravity of 0.5, are 1/4-inch-diameter, corrosion-resistant steel lag screws having sufficient length to penetrate the wood member curb or wood roof framing member a minimum of 1 1/2 inches.

Curb Mount Frame & Retainer (acrylic dome)



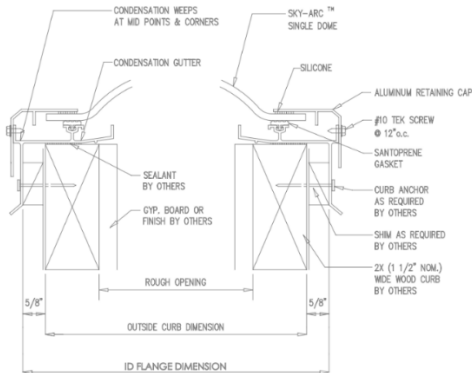
A-S-CM

Self Flashing Frame & Retainer (acrylic dome)



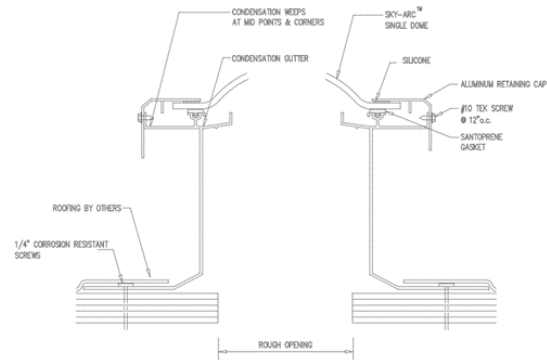
A-S-SF

Curb Mount Frame & Retainer (Sky-Arc™ polycarbonate dome)



A-S-ST-CM

Self Flashing Frame & Retainer (Sky-Arc™ polycarbonate dome)



A-S-ST-SF

NOT TO SCALE

FIGURE 1—SKYLIGHT DETAILS

DIVISION: 08 00 00—OPENINGS
Section: 08 62 00—Unit Skylights

REPORT HOLDER:

ACRALIGHT SOLAR, LLC

EVALUATION SUBJECT:

ACRALIGHT SKYLIGHTS

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that Acralight skylights described in ICC-ES evaluation report [ESR-2415](#), have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:

- 2020 *City of Los Angeles Building Code* (LABC)
- 2020 *City of Los Angeles Residential Code* (LARC)

2.0 CONCLUSIONS

The Acralight skylights, described in Sections 2.0 through 7.0 of the evaluation report [ESR-2415](#), comply with the LABC Chapters 24 and 26, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Acralight skylights described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-2415](#).
- The design, installation, conditions of use and identification of the Acralight skylights are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-2415](#).
- The design and installation are in accordance with additional requirements of LABC Chapters 16, 24 and 26, as applicable.

This supplement expires concurrently with the evaluation report, reissued December 2021.

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REPORT HOLDER:

ACRALIGHT SOLAR, LLC

EVALUATION SUBJECT:

ACRALIGHT SKYLIGHTS

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that Acralight skylights, described in ICC-ES evaluation report ESR-2415, have also been evaluated for compliance with the code noted below.

Applicable code edition:

- 2019 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

2.0 CONCLUSIONS**2.1 CBC:**

The Acralight skylights, described in Sections 2.0 through 7.0 of the evaluation report ESR-2415, comply with CBC Chapters 24 and 26, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16, 24 and 26, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

This supplement expires concurrently with the evaluation report, reissued December 2021.