

ICC-ES Evaluation Report

ESR-2415

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This report is subject to renewal December 2020.

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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:

- 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.

Properties evaluated:

- Weathering
- Structural integrity

2.0 USES

The Acralight skylights described in this report are plastic-glazed skylights complying with Chapters 24 and 26 of the IBC and UBC.

3.0 DESCRIPTION

Acralight 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. Details and allowable loads for the skylights are noted in Table 1.

4.0 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, 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.

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** Skylight installation must comply with Sections 2405.4 and 2610 of the IBC or Sections 2409.4 and 2603 of the UBC, whichever is applicable; and with the manufacturer's instructions and this report.
- 5.2** Allowable loads do not exceed those noted in Table 1 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 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 2011.

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 (CC2), plastic thickness before forming, model designation, and date of manufacture. In addition to the identification label, a label warning of risk of fall is applied to each skylight.
- 7.2** The report holder's contact information is the following:

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**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 × 14.25	0.118	5	20	20	8	12
1422	14.25 × 22.25	0.118	5	20	20	8	12
1446	14.25 × 46.25	0.118	5	20	20	8	12
1919	19 × 19	0.118	5	20	20	8	12
2222	22.25 × 22.25	0.118	5	20	20	8	12
2230	22.5 × 30.25	0.118	5	20	20	10	12
2237	22.25 × 37	0.118	5	20	20	10	14
2246	22.25 × 46.25	0.118	5	20	20	12	16
3030	30.25 × 30.25	0.118	6	20	20	12	16
3037	30.25 × 37	0.118	5	20	20	12	16
3046	30.25 × 46.25	0.118	5	20	20	12	16
3737	37 × 37	0.118	7.5	20	20	12	16
3746	37 × 46.25	0.118	9	20	20	14	18
4242	42 × 42	0.118	8.5	20	20	16	20
4646	46.25 × 46.25	0.118	9.25	20	20	16	20
4848	48 × 48	0.118	10	20	20	16	20
2272	22.25 × 72	0.150	7.5	20	20	12	16
2296	22.25 × 96	0.150	9.75	20	20	20	24
3775	37 × 75	0.150	7.5	20	20	20	24
3859	38 × 59	0.150	6	20	20	16	20
4669	46.25 × 69.25	0.150	7	20	20	20	24
4689	46.25 × 89.25	0.150	9	20	20	24	30
3060	30.25 × 60	0.150	7	20	20	14	20
3069	30.25 × 69.25	0.150	7	20	20	16	24
3096	30.25 × 96	0.150	9.75	20	20	22	28
3496	34 × 96	0.150	10	20	20	22	30
4896	48 × 96	0.150	10	20	20	24	30
5555	55x55	0.177	9	19	19	20	24
5460	54 × 60	0.177	13	19	19	20	24
7070	70.25 × 70.25	0.177	13	19	19	24	28
6096	60x96	0.236	15.5	19	19	26	30
7575	75 × 75	0.236	19	19	19	26	28
8484	84 × 84	0.236	21	19	19	28	32
9292	92.5 × 92.5	0.236	23	19	19	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.

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.

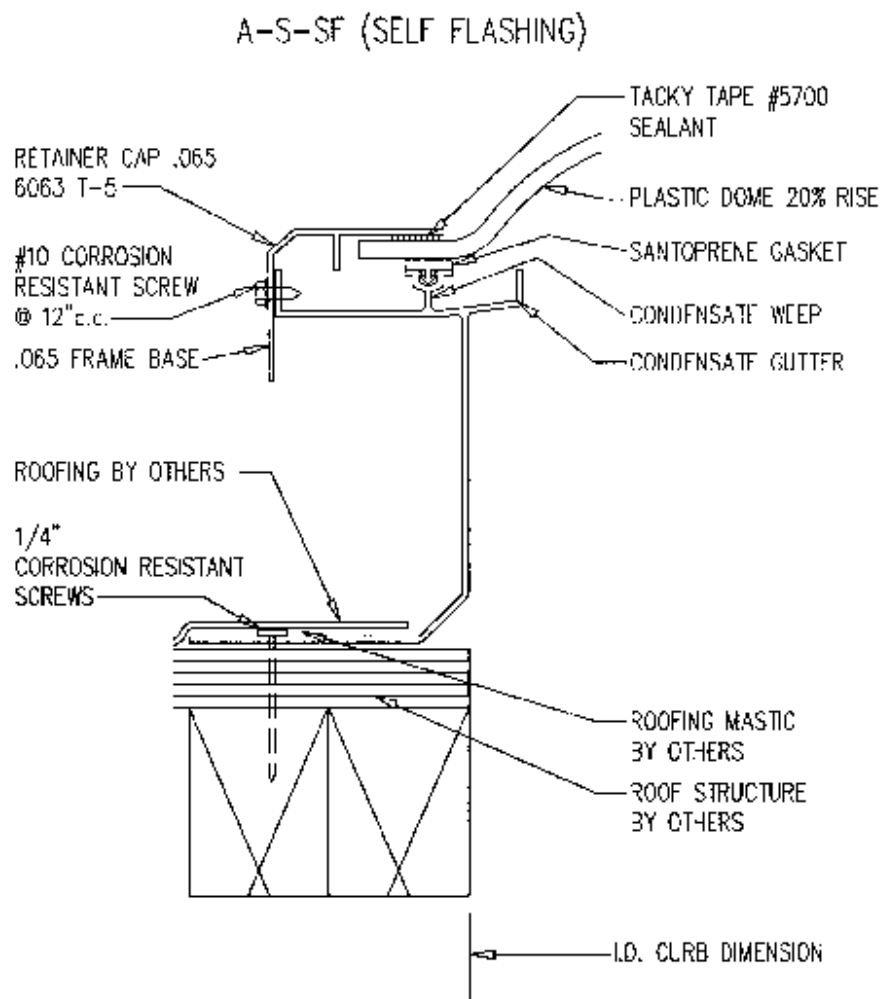
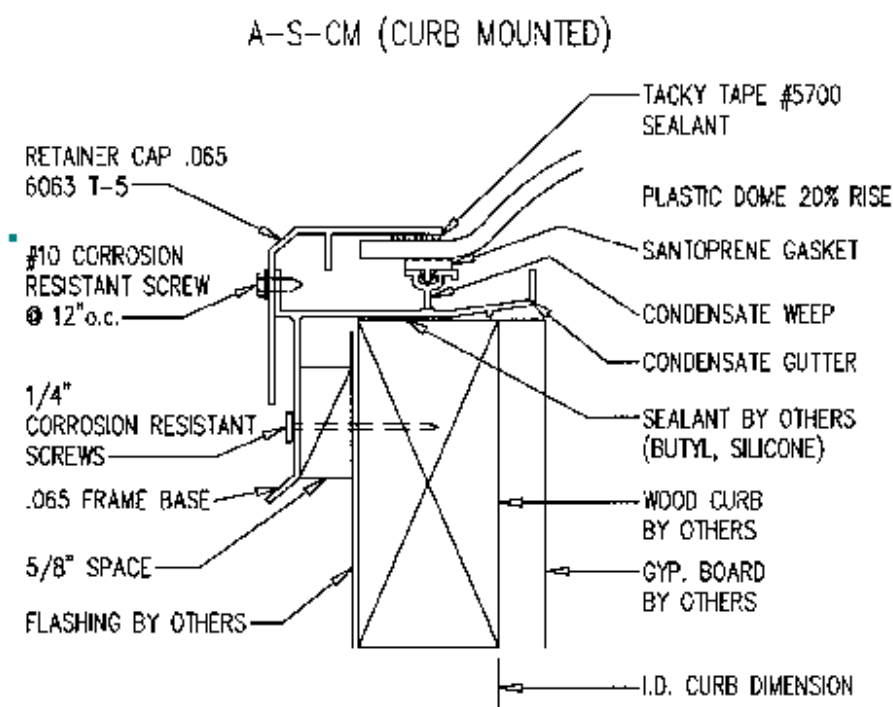


FIGURE 1—SKYLIGHT DETAILS