

ICC-ES Report

ESR-3681

ICC-ES | (800) 423-6587 | (562) 699-0543 | www.icc-es.org

Valid: 01/15 to 01/16

DIVISION: 08 00 00—OPENINGS
SECTION: 08 62 00—UNIT SKYLIGHTS

REPORT HOLDER:

NATURAL LIGHT TUBULAR SKYLIGHTS

**2640 EAST ROSE GARDEN LANE, SUITE 6
PHOENIX, ARIZONA 85050**

EVALUATION SUBJECT:

NATURAL LIGHT TUBULAR SKYLIGHTS



Look for the trusted marks of Conformity!

*“2014 Recipient of Prestigious Western States Seismic Policy Council
(WSSPC) Award in Excellence”*



ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.



ICC-ES Evaluation Report

ESR-3681

Issued January 2015

This report is subject to renewal January 2016.
www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

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

REPORT HOLDER:

NATURAL LIGHT ENERGY SYSTEMS
 2640 EAST ROSE GARDEN LANE, SUITE 6
 PHOENIX, ARIZONA 85050
 (602) 485-5984
www.nltubular.com

EVALUATION SUBJECT:
NATURAL LIGHT TUBULAR SKYLIGHTS
1.0 EVALUATION SCOPE
Compliance with the following codes:

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)

Properties evaluated:

- Structural
- Air infiltration
- Water penetration resistance
- Durability

2.0 USES

The Natural Light Tubular Skylights are plastic-glazed skylights complying with IBC Sections 2405 and 2610 and IRC Section R308.6.

3.0 DESCRIPTION

The Natural Light Tubular Skylights are nonopenable dome-shaped skylights which consist of the following components: a plastic dome, a gasket, aluminum base (curb-mounted or self-flashed), and an aluminum light tube. The plastic domes are formed from ³/₁₆-inch-thick (4.76 mm) sheets of Optix® Acrylic Sheet recognized in ICC-ES report [ESR-2591](#). See Figure 1 for more information regarding the components used in the Natural Light Tubular Skylights.

4.0 INSTALLATION AND DESIGN
4.1 Installation:

4.1.1 General: Installation must be in accordance with the manufacturer's published installation instructions, this report, and Sections 2405 and 2610 of the IBC and Section R308.6 of the IRC, as applicable. Skylights must be

installed on roofs with slopes between 0 and 75 degrees from the horizontal. In the event of conflict between this report and the manufacturer's published installation instructions, this report governs.

4.1.2 Self-Flashing: The self-flashing skylights are mounted directly to the roof deck assembly. Compatible sealant must be applied on the mounting flange of the self-flashing unit and covered with the roof covering in such a manner as to ensure a watertight seal. See Figure 1 for more installation details.

4.1.3 Curb-Mounted: The curb-mounted skylights must be installed on a wood curb made of minimum 2-by lumber with a minimum 0.42 specific gravity. The wood curb and the attachment to the roof structure must be designed to resist the appropriate code-prescribed loads. The gap between the skylight frame and the wood curb must be fully shimmed. Flashing must comply with, and be installed in accordance with, IBC Section 1507 or IRC Section 905, as applicable. See Figure 1 for more installation details.

4.2 Design:

4.2.1 Allowable Loads: The allowable loads are expressed as performance grade rating values, PG. Under the IBC, the PG rating values must be equal to, or greater than, the maximum loads required by IBC Section 2405.5.2. Under the IRC, the PG rating values must be equal to, or greater than, the maximum loads determined in accordance with IBC Section 2405.5.2, except the design wind forces must be as specified for skylights in IRC Section R301.2.1. See Table 1 for allowable positive and negative PG rating values.

4.2.2 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).

5.0 CONDITIONS OF USE

The Natural Light Tubular 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 manufacturer's installation instructions must be available at the jobsite during installation.
- 5.2** The use of the skylights as components of fire-resistance-rated assemblies is outside the scope of this report.
- 5.3** The skylights are available with different diffusers attached to the bottom end of the aluminum light tube. These are outside the scope of this report.

5.4 The skylights are assembled in Phoenix, 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 Skylights (AC16), dated April 2011 (editorially revised August 2013).

7.0 IDENTIFICATION

The Natural Light Tubular Skylights come in packages bearing the manufacturer’s name and address; the model

number; the CC2 plastic classification of the plastic glazing (dome); the thickness of plastic glazing material prior to thermoforming; a warning label complying with Class 1, ANSI Standard Z35.1, specifications for accident prevention signs; allowable loads; the name of the inspection body (ICC-ES); and the evaluation report number (ESR-3681).

TABLE 1—DIMENSIONAL DETAILS AND PERFORMANCE GRADES FOR NATURAL LIGHT TUBULAR SKYLIGHTS¹

PRODUCT ²	INSIDE WOOD CURB DIMENSIONS (inches)	DOMES THICKNESS (inch)	DOMES RISE (inches)	PG _{POS} ³ (psf)	PG _{NEG} ⁴ (psf)
21" Dia. Tubular Skylights with Curb-Mounted Flashing	24.5 x 24.5	3/16	5 1/2	100	100
18" Dia. Tubular Skylights with Curb-Mounted Flashing	25.25 x 25.25	3/16	5	100	100
13" Dia. Tubular Skylights with Curb-Mounted Flashing	18.75 x 18.75	3/16	5 5/16	100	100
10" Dia. Tubular Skylights with Curb-Mounted Flashing	18.5 x 18.5	3/16	4 1/4	100	100
21" Dia. Tubular Skylights with Self-Flashing	-	3/16	5 1/2	100	100
18" Dia. Tubular Skylights with Self-Flashing	-	3/16	5	100	100
13" Dia. Tubular Skylights with Self-Flashing	-	3/16	5 5/16	100	100
10" Dia. Tubular Skylights with Self-Flashing	-	3/16	4 1/4	100	100

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

¹Installation must comply with Section 4.0 and Figure 1.

²Screws must be capable of resisting the tabulated loads when installed in metal-to-metal connections and metal-to-wood connections.

³PG_{POS} = Performance grade rating of the skylight under positive (inward) design pressure.

⁴PG_{NEG} = Performance grade rating of the skylight under negative (outward) design pressure.

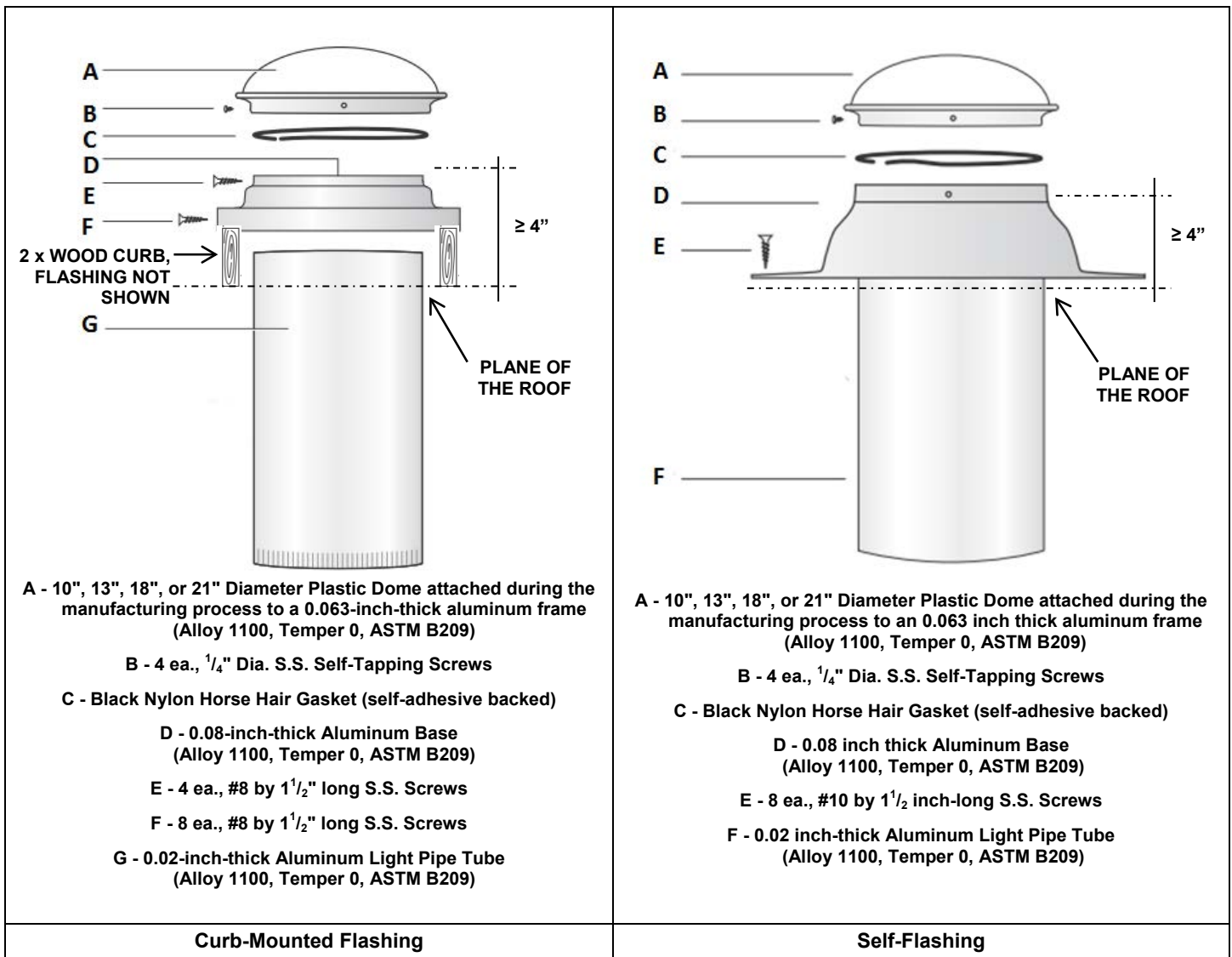


FIGURE 1—NATURAL LIGHT TUBULAR SKYLIGHTS