ICC-ES Evaluation Report

ESR-4108

Reissued December 2024

Subject to renewal December 2025

This report also contains:

- **CA Supplement**
- **FL Supplement**

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.

DIVISION: 08 00 00—OPENINGS Section: 08 62 00—Unit Skylights	REPORT HOLDER: VELUX AMERICA LLC	EVALUATION SUBJECT: VELUX® DYNAMIC DOME SKYLIGHTS	

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021, 2018, 2015 and 2012 *International Building Code*® (IBC)
- 2021, 2018, 2015 and 2012 *International Residential Code*® (IRC)

Properties evaluated:

- Structural
- Air infiltration
- Water penetration resistance
- Durability

1.2 Evaluation to the following green standard:

- 2020, 2015 and 2012 ICC 700 *National Green Building Standard*™ (ICC700-2020, ICC 700-2015 and ICC 700-2012)

Attributes verified:

- See Section 2.0.

2.0 USES

The VELUX Dynamic Dome Skylights are non-operable plastic-glazed unit skylights complying with IBC Sections 2405 and 2610 and IRC Section R308.6.

The attributes of the skylights have been verified as conforming to the requirements of (i) ICC700-2020 Section 701.4.3.4 and 11.701.4.3.4; ICC 700-2015 Section 701.4.3.3 and 11.701.4.3.4; and ICC 700-2012 Section 701.4.3.3 and 11.701.4.3.3 for fenestration air leakage. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

3.0 DESCRIPTION

3.1 Single Dynamic Domes:

The VELUX CDS Single Dynamic Domes consist of a single geometric-shaped plastic dome factory-attached to an aluminum extruded frame with an aluminum extruded retainer cap.

The frame and retainer cap is manufactured from 0.06-inch-thick (1.52 mm) 6063-T5 or 6063-T6 aluminum. See Figures 1A and 1B.

The plastic dome is manufactured from a translucent-white polycarbonate panel with a uniform thickness of 0.118 inch (3.00 mm). The panel is recognized as Plaskolite, LLC's Tuffak® SK1 under ESR-2728.

3.2 Double Dynamic Domes:

The VELUX CMD2 Double Dynamic Domes consist of double geometric-shaped plastic domes factory-attached to frame as shown in Figures 2A-2E.

The frame and dome clamp is manufactured from 0.06-inch-thick (1.52 mm) 6063-T6 aluminum. See Figures 2A-2E.

The outer plastic dome is manufactured from a translucent-white or clear polycarbonate panel with a uniform thickness of 0.118 inch (3.00 mm).

The inner plastic dome is manufactured from a translucent-white or clear polycarbonate panel with one side prismatic with a thinnest thickness of 0.053 inch (overall thickness of 0.118-inch). The prismatic side faces the exterior.

The panels are recognized as Plaskolite, LLC's Tuffak® SK1 (outer) and SK (inner) under ESR-2728.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 Performance Grade: The performance grade (PG) ratings are provided 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/ft^2 (1.5 L/s*m^2).

4.2 Installation:

The skylight must be attached with minimum No. 8 corrosion-resistant wood screws in each mounting hole provided in the skylight frame, with the screw length being sufficient to penetrate a wood curb a minimum of 1 inch (25 mm). See Tables 1 and 2 for the required number of fasteners. Additional installation details are provided in Figures 1A-1B and 2A-2E.

The skylights are curb-mounted and must be installed on a minimum 2-by lumber with a minimum specific gravity of 0.42, sized to the inside dimension noted in Table 1, and of a height sufficient so that the plastic glazing is a minimum of 4 inches (102 mm) above the plane of the roof. The wood curb and its attachment to the roof structure must be designed to resist wind uplift and gravity loads.

Flashing must comply with, and be installed in accordance with, IBC Section 1507 or IRC Section R905, as applicable.

5.0 CONDITIONS OF USE:

The VELUX Dynamic Dome 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 Section R308.6 of the IRC, as applicable, and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.

5.2 The design pressure (performance grades) for the skylights are as set forth in Table 1 and Table 2, and must be used with the load combinations of the applicable code.

5.3 The manufacturer's installation instructions must be available at the jobsite during installation.

5.4 The use of the skylights as components of fire-resistance-rated assemblies is outside the scope of this report.

5.5 The attachment of the curbs to the supporting structure is outside the scope of this report.

5.6 The use of skylights in wind-borne debris regions is outside the scope of this report.

5.7 The skylights are manufactured in Greenwood, South Carolina 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 The skylights are labeled with the VELUX name and address; the Single Dynamic Dome or Double Dynamic Dome series; the model number and the product designation (SKP-PG30); the evaluation report number (ESR-4108); and a safety label complying with Class I, ANSI Z 35.1-1972 (warning of risk of falling).

7.2 The report holder's contact information is the following:

VELUX AMERICA LLC
POST OFFICE BOX 5001
GREENWOOD, SOUTH CAROLINA 29648
(864) 941-5360
www.veluxusa.com
vcustomer.service@velux.com
commercialteam@velux.com

TABLE 1—SINGLE DYNAMIC DOME SKYLIGHTS

MODEL NO.[1,2,3]	DOME RISE (inches)	NUMBER OF RETAINER FASTENERS[4]	NUMBER OF MOUNTING FASTENERS[5]	PERFORMANCE GRADE (PG)[6] (psf)	
				PG_{pos} (inward forces)	PG_{neg} (outward forces)
CDS 4896 3P200	15	24	24	30	30
CDS 4848 3P200		16	16		

For **SI:** 1 inch = 25.4 mm, 1 psf = 47.88 Pa

1. CDS = mill-finished frame
2. The numbers in the middle are the nominal inside curb dimensions in inches, width by length.
3. 3P200 = white polycarbonate dome
4. The retainer fasteners must be #10 by $^5/_8$"-long pan head screws. The screws must not be spaced greater than $7^1/_2$" from the corners nor 12" o.c.
5. The mounting fasteners must be #8 by $1^3/_4$"-long pan head screws. The screws must not be spaced greater than $8^1/_2$" from the corners nor 12" o.c.
6. Production designation = SKP-PG30

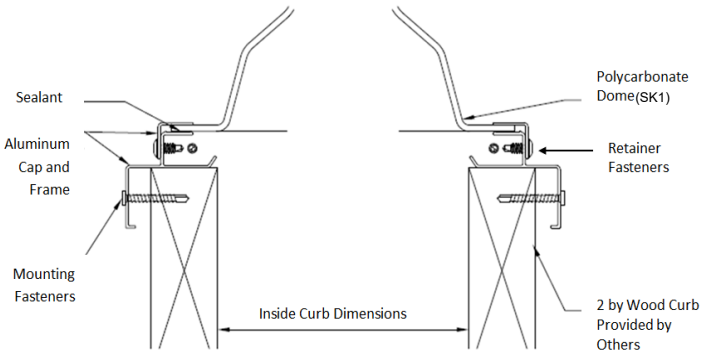


FIGURE 1A—SINGLE DYNAMIC DOME

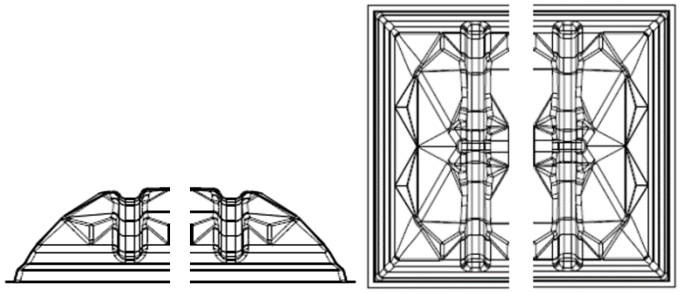


FIGURE 1B—SINGLE DYNAMIC DOME SIDE AND TOP VIEWS FOR 48-INCH-WIDE SKYLIGHTS

TABLE 2—DOUBLE DYNAMIC DOME SKYLIGHTS

MODEL NO.[1,2]	DOME RISE (inches)		NUMBER OF RETAINER FASTENERS[3]	NUMBER OF MOUNTING FASTENERS[4]	PERFORMANCE GRADE (PG)[5] (psf)	
	INNER	OUTER			PG_{pos} (inward forces)	PG_{neg} (outward forces)
CMD2 4896 P1C1	14	15	24	24	30	30
CMD2 4872 P1C1			20	20		
CMD2 4860 P1C1			18	18		
CMD2 4848 P1C1			16	16		
CMD2 4783 P1C1	13	14	22	22		
CMD2 3696 P1C1	$10^3/_8$	$11^3/_8$	22	22		
CMD2 3672 P1C1			18	18		
CMD2 3660 P1C1			16	16		
CMD2 3636 P1C1			12	12		
CMD2 2496 P1C1	$6^5/_8$	$7^5/_8$	20	20		
CMD2 2448 P1C1			12	12		
CMD2 4896 P1C2	14	15	24	24	30	30
CMD2 4872 P1C2			20	20		
CMD2 4860 P1C2			18	18		
CMD2 4848 P1C2			16	16		
CMD2 4783 P1C2	13	14	22	22		
CMD2 3696 P1C2	$10^3/_8$	$11^3/_8$	22	22		
CMD2 3672 P1C2			18	18		
CMD2 3660 P1C2			16	16		
CMD2 3636 P1C2			12	12		
CMD2 2496 P1C2	$6^5/_8$	$7^5/_8$	20	20		
CMD2 2448 P1C2			12	12		
CMD2 4896 P2C1	14	15	24	24	30	30
CMD2 4872 P2C1			20	20		
CMD2 4860 P2C1			18	18		
CMD2 4848 P2C1			16	16		
CMD2 4783 P2C1	13	14	22	22		
CMD2 3696 P2C1	$10^3/_8$	$11^3/_8$	22	22		
CMD2 3672 P2C1			18	18		
CMD2 3660 P2C1			16	16		
CMD2 3636 P2C1			12	12		
CMD2 2496 P2C1	$6^5/_8$	$7^5/_8$	20	20		
CMD2 2448 P2C1			12	12		

For **SI:** 1 inch = 25.4 mm, 1 psf = 47.88 Pa

1. The numbers in the middle are the inside curb dimensions in inches, width by length.
2. P1C1 = clear outer dome / clear inner dome with a prismatic side;
   P1C2 = clear outer dome / white inner dome with a prismatic side;
   P2C1 = white outer dome / clear inner dome with a prismatic side
3. The retainer fasteners must be SST #10-16 x 5/8" AB tapping screws with six lobe truss head. The screws must not be spaced greater than 8" from the corners nor 12" o.c..
4. The mounting fasteners must be #8 by $1^3/_4$"-long flat head screws. The screws must not be spaced greater than $8^1/_2$" from the corners nor 12" o.c.
5. Production designation = SKP-PG30

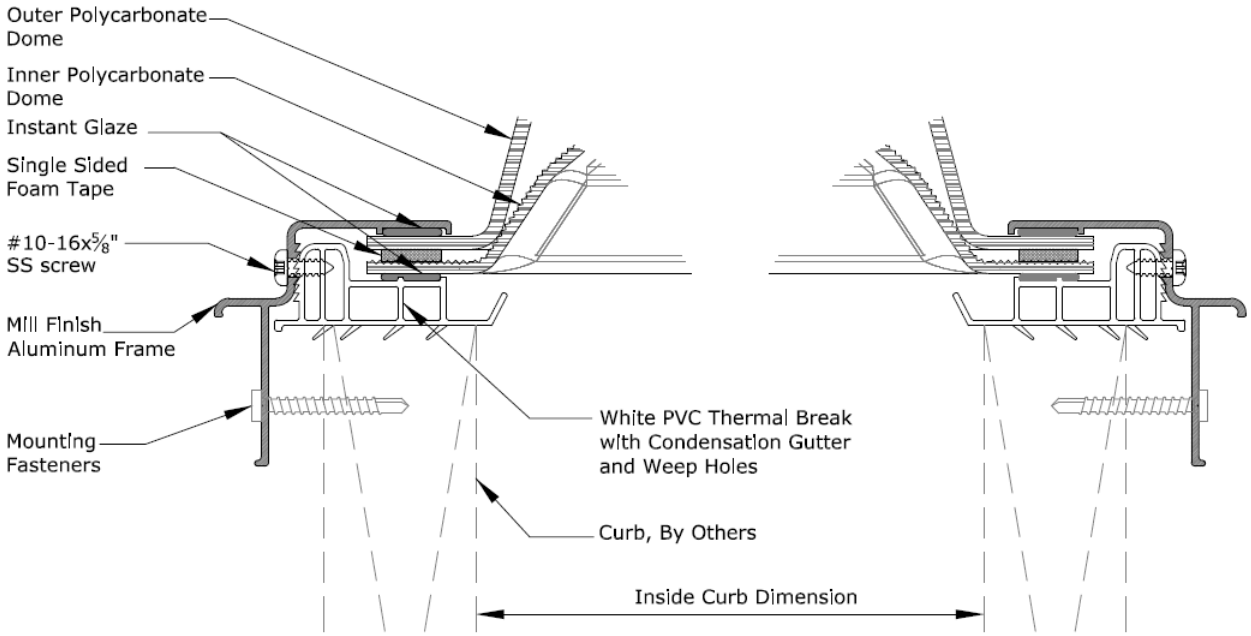
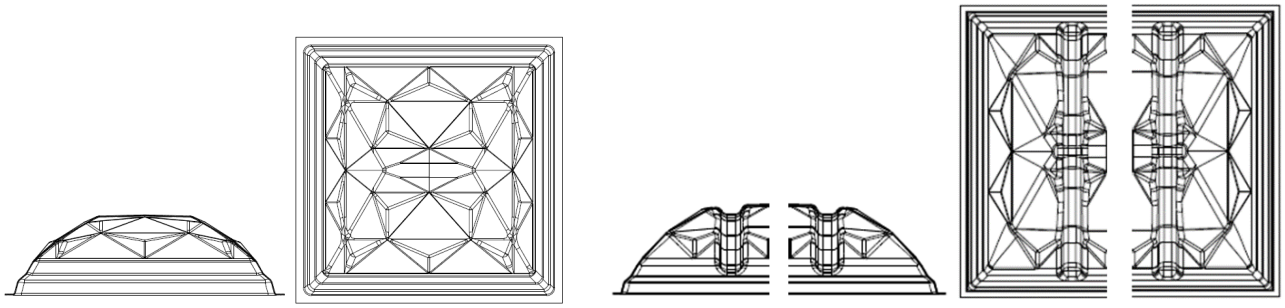
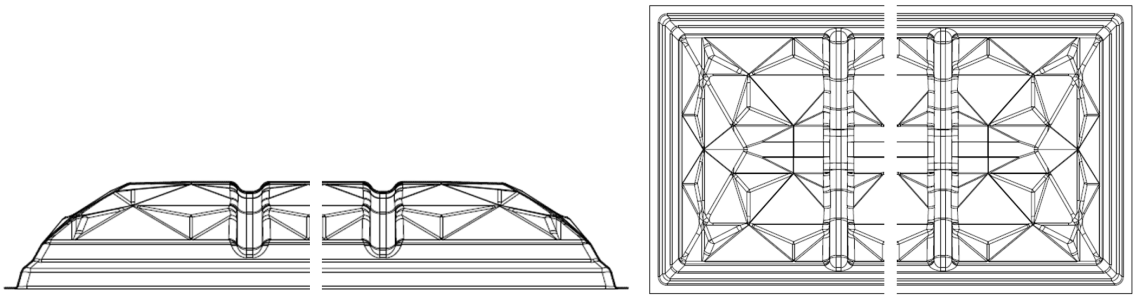


FIGURE 2A—DOUBLE DYNAMIC DOME



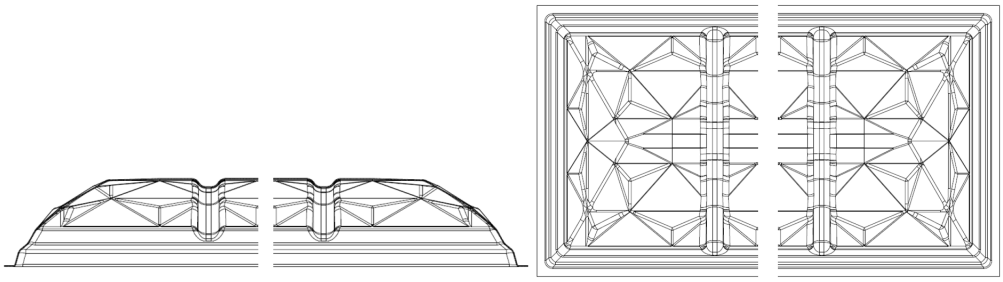
INSIDE CURB DIMENSIONS	RIBS
4848	2
3636	0

FIGURE 2B—DOUBLE DYNAMIC DOMES SIDE AND TOP VIEWS FOR SQUARE SKYLIGHTS



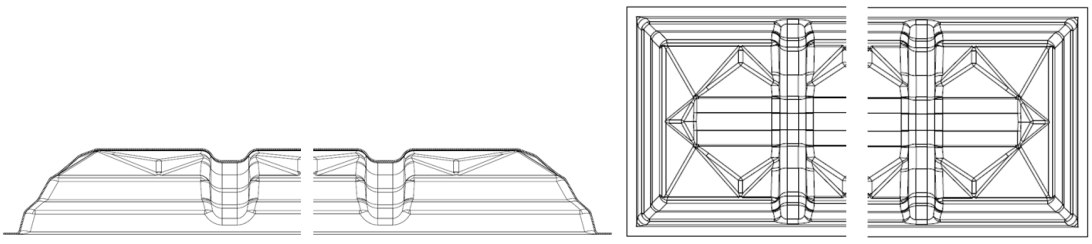
INSIDE CURB DIMENSIONS	RIBS
4896	6
4783	5
4872	4
4860	3

FIGURE 2C—DOUBLE DYNAMIC DOMES SIDE AND TOP VIEWS FOR 48-INCH-WIDE RECTANGULAR SKYLIGHTS



INSIDE CURB DIMENSIONS	RIBS
3696	5
3672	3
3660	2

FIGURE 2D—DOUBLE DYNAMIC DOMES SIDE AND TOP VIEWS FOR 36-INCH-WIDE RECTANGULAR SKYLIGHTS



INSIDE CURB DIMENSIONS	RIBS
2496	6
2448	2

FIGURE 2E—DOUBLE DYNAMIC DOMES SIDE AND TOP VIEW FOR 24-INCH-WIDE RECTANGULAR SKYLIGHTS

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

REPORT HOLDER:

VELUX AMERICA LLC

EVALUATION SUBJECT:

VELUX® DYNAMIC DOME SKYLIGHTS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that VELUX® Dynamic Dome Skylights, described in ICC-ES evaluation report ESR-4108, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2019 *California Building Code*® (CBC)

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

- 2019 *California Residential Code*® (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The VELUX® Dynamic Dome Skylights described in Sections 2.0 through 7.0 of the evaluation report ESR-4108, comply with CBC Sections 2405 and 2610, 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 24 and 26, as applicable.

2.1.1 OSHPD:

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

2.1.2 DSA:

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

2.1 CRC:

The VELUX® Dynamic Dome Skylights, described in Sections 2.0 through 7.0 of the evaluation report ESR-4108, comply with CRC Section R308.6, provided the design and installation are in accordance with the 2018 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued December 2024.

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

REPORT HOLDER:

VELUX AMERICA LLC

EVALUATION SUBJECT:

VELUX® DYNAMIC DOME SKYLIGHTS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that VELUX Dynamic Dome Skylights, described in ICC-ES evaluation report ESR-4108, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2020 *Florida Building Code—Building*
- 2020 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The VELUX Dynamic Dome Skylights, described in Sections 2.0 through 7.0 of the evaluation report ESR-4108, comply with the *Florida Building Code—Building* and *Florida Building Code—Residential*, provided the design requirements are determined in accordance with the *Florida Building Code—Building* and *Florida Building Code—Residential*. The installation requirements noted in ICC-ES evaluation report ESR-4108 for the 2018 *International Building Code®* meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential* with the following condition:

Use of VELUX Dynamic Dome Skylights in wind-borne debris regions is outside the scope of this supplement.

Use of the VELUX Dynamic Dome Skylights for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and *Florida Building Code—Residential* has not been evaluated and is outside the scope of this supplemental report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued December 2024.