



# Product Evaluation

SK48| 0316

Engineering Services Program

*The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.*

*For more information, contact TDI Engineering Services Program at (800) 248-6032.*

**Evaluation ID:** SK-48

**Effective Date:** March 1, 2016

**Re-evaluation Date:** April 2018

**Product Name:** Aluminum Tubular Daylighting Device, Models 10", 13", 18", and 21", Impact Resistant

**Manufacturer:** Natural Light Energy Systems, LLC  
10821 North 23<sup>rd</sup> Avenue  
Phoenix, AZ 85029  
(602) 485-5984

### General Description:

System	Description	Label Rating	Design Pressure Rating
1	TDD Model 10"	CW-PG100 (10x10) – Type TDD Missile Level D	+80 / -80 psf
2	TDD Model 13"	CW-PG100 (13x13) – Type TDD Missile Level D	+80 / -80 psf
3	TDD Model 18"	CW-PG100 (18x18) – Type TDD Missile Level D	+80 / -80 psf
4	TDD Model 21"	CW-PG100 (21x21) – Type TDD Missile Level D	+80 / -80 psf

**Product Dimensions:**

Component	Model 10 Inch	Model 13 Inch	Model 18-Inch	Model 21-Inch
Outside Dome Diameter	11.6"	13.4"	19.7"	21.6"
Dome Thickness	0.18"	0.18"	0.18"	0.18"
Dome Material	Modified High Impact Optix Acrylic	Modified High Impact Optix Acrylic	Modified High Impact Optix Acrylic	Modified High Impact Optix Acrylic
Flashing Size/Option	23.6" Dia/Flat or 20 Degree Pitched / 0.08" 1100 Series Alum.	27.6" Dia/Flat or 20 Degree Pitched or Curb / 0.08" 1100 Series Alum.	33.0" Dia/Flat or 20 Degree Pitched / 0.09" 1100 Series Alum.	33.7" Dia/Flat or Curb / 0.09" 1100 Series Alum.
Ceiling and Trim Ring	9.7" ID / 0.06" 1100 Series Alum.	12.2" ID / 0.06" 1100 Series Alum	18.2" ID / 0.06" 1100 Series Alum	19.9" ID / 0.04" 1100 Series Alum
Diffuser	10.9" Dia / Prismatic / High Impact Acrylic	14.2" Dia / Prismatic / High Impact Acrylic	19.2" Dia / Prismatic / High Impact Acrylic	20.9" Dia / Prismatic / High Impact Acrylic

**Product Identification (Certification Label on Skylight):**

System		
1	Certification Agency	NAMI
	Manufacturer's Name or Code Name	Natural Light Energy Systems
	Product Name	10" TDD Aluminum Tubular Daylighting Device
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-08 ASTM E 1886, ASTM E 1996, Missile Level D
2	Certification Agency	NAMI
	Manufacturer's Name or Code Name	Natural Light Energy Systems
	Product Name	13" TDD Aluminum Tubular Daylighting Device
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-08 ASTM E 1886, ASTM E 1996, Missile Level D
3	Certification Agency	NAMI
	Manufacturer's Name or Code Name	Natural Light Energy Systems
	Product Name	18" TDD Aluminum Tubular Daylighting Device
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-08 ASTM E 1886, ASTM E 1996, Missile Level D
4	Certification Agency	NAMI
	Manufacturer's Name or Code Name	Natural Light Energy Systems
	Product Name	21" TDD Aluminum Tubular Daylighting Device
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-08 ASTM E 1886, ASTM E 1996, Missile Level D

**Impact Resistance:**

System	Impact Resistant	Requirement
1, 2, 3, 4	Yes	These products satisfy TDI's criteria for protection from windborne debris in the Inland I and Seaward zone. Install the assemblies at a height on the structure that does not exceed the design pressure rating for the assemblies.

**Installation:** Secure the TDD to a minimum nominal 15/32" thick plywood roof deck. Before installing, center the roof flashing over the location where the TDD is to be installed. Mark the inside circumference onto the roof covering with a lumber crayon. With a reciprocating saw, cut the hole to the proper diameter. Avoid cutting the roof framing members. Remove or loosen enough roof covering material along the perimeter of the roof hole to allow for the installation of the flashing. Apply two continuous concentric rings of 3/8" 2300 tripolymer sealant provided to the underside of the flashing. Slide the flashing under the underlayment and the shingles until the shingles come in contact with the raised portion of the flashing. The flashing is secured to the plywood roof deck with minimum No. 10 x 1-1/2" stainless steel screws through pre-drilled holes in the flashing spaced a maximum of 8" on center. Use fasteners long enough to penetrate into and completely through the roof deck. Complete the assembly of the TDD in accordance with the manufacturer's installation instructions that are provided with the TDD.

**Note:** Keep the manufacturer's installation instructions at the job site during installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.