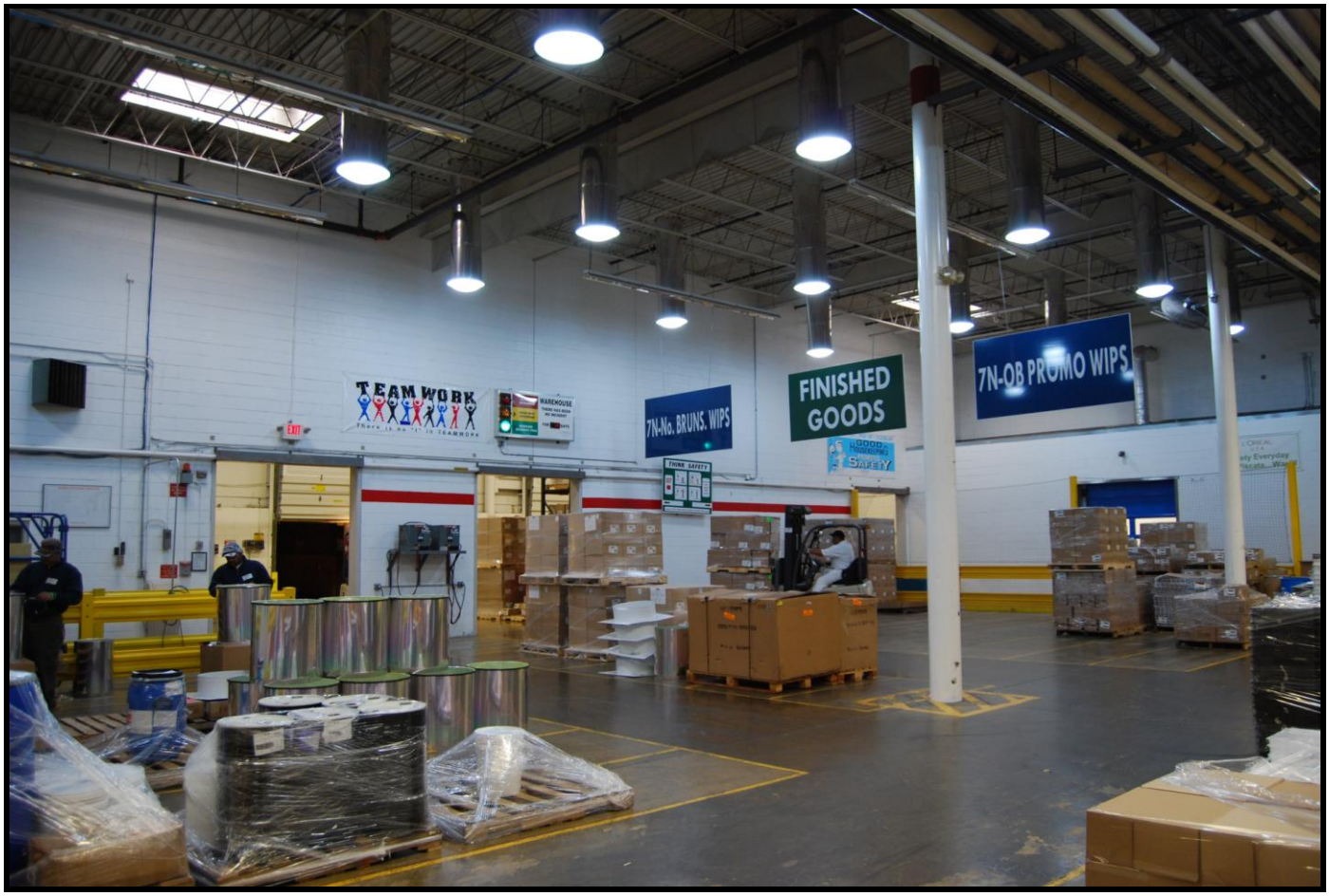
Tubular Skylights by Sun-Dome®

A Green Building Product

Cost Effective and Fast ROI

Click Here to
Visit our page on ARCAT to view AutoCAD drawings, BIM objects and More!!



Sun-Dome® Product Profile

PROVIDING SOLUTIONS FOR ENERGY CONSERVATION SINCE 1996

Incorporated in February of 1996, Sun-Dome® manufactures high-quality tubular daylighting devices for all types of commercial and residential applications.

The Sun-Dome® tubular daylighting device is manufactured with the following basic components:

- Polycarbonate clear dome
- Aluminum roof flashing
  - Sun-Dome® fabricates flashings for roof slopes ranging from flat to 8/12 to provide maximum light collection all day.
  - Upon request, custom flashings are available for steep slopes as well as metal roof applications.
  - All metal fabrication is performed in-house.
- Highly-reflective light-transfer tube with an adjustable option.
- Domed diffuser or troffer with flat or pyramidal lens.

Other parts are available, such as curb and cap options, troffers, and dimmers.

Sun-Dome® units easily withstand exposure to ice, snow and hail in cooler climates. All Sun-Dome® units are tested and approved for small & large missile impact under Dade County protocol TAS-201/TAS-202/TAS-203/ ASTM F588-85 (Level 10), Miami-Dade County FL Approval number: NOA-07-0917.03. All units are HVHZ (High Velocity Hurricane Zone) approved. All units meet or exceed the Florida Building Code and comply with the new Florida Product Approval System 9B-72 that came into effect 10/1/03 FBC-#1628.1). The Certification Agency and Quality Assurance Entity for Sun-Dome® is Miami-Dade County whose approval is accepted throughout the entire state of Florida as well as in most other states.

Sun-Dome® is NFRC certified, Minority/Woman-owned certified, and an Energy Star Partner. Sun-Dome® offers optional units that qualify for Energy Tax Credit. All units manufactured by Sun-Dome® are Green Building products.

National Fenestration Rating Council

3612 Reese Avenue, West Palm Beach, FL 33404
(800) 596-8414 / (561) 840-0095
www.sun-dome.com

ENERGY STAR PARTNER

Sun-Dome® By Daylighting Technologies, Inc.

Tubular Skylights by Sun-Dome®

Sun-Dome® Tubular Skylights are inconspicuous.
The skylight flashing shown above is painted the same color as the tile roof.

TABLE OF CONTENTS

Advantages of Sun-Dome® Tubular Skylights

- Save up to 90% daytime lighting costs with significant reduction in both A/C heat load and run time with tubular skylights by Sun-Dome®.
- These high quality, cost-efficient tubular skylights assist in conserving energy and money. **O WATTS PER LUMEN!**
- No extra directional device in the dome is required to obtain maximum sunlight capture because Sun-Dome® flashing mounts the roof dome in an upright position. Roof slopes ranging from flat to 8/12 can be accommodated.

Sun-Dome® tubular skylights have been placed in numerous LEED Certified projects as well as other projects. Under LEED, Sun-Dome units can be used to gain any of the following credits:

- Credit for daylight: The minimum daylight factor of 2% in 75% of all space occupied for critical visual work. (1 point)
- Energy optimization credit: Determined by minimizing the design energy cost as compared to the energy cost budget for energy systems regulated by ASHRAE/ESNA Standard 90.1-1999, this credit is factored using a whole building simulation according to the Energy Cost Budget Method. (1 - 10 points depending upon the energy simulation results)
- Recycled content: Scrap metal, polycarbonate, and acrylic materials are recycled throughout the manufacturing process. More than 5% of materials are recycled. (1 point)
- Controllability of systems (perimeter and nonperimeter): Credit is applicable if the Eclypse Daylight Dimmer is used to offer daylighting control. (1 or 2 points)

Tubular Daylighting Devices Added To Masterformat

Source: ARCHITECTURAL LIGHTING Magazine, November 14, 2007
By Stephani L. Miller

At the urging of industry advocates, the Construction Specifications Institute (CSI) **MasterFormat**, a structured hierarchy of divisions and subsections that standardize information for construction project manuals, will now include a subsection on T**ubular Daylighting Devices** (TDDs): subsection 08 62 23. Formerly, TDD products were not given a separate designation under MasterFormat and frequently were grouped under unit skylights, roof accessories, or window openings, none of which accurately described the specification of TDDs. For more information on the new specification, visit www.csinet.org.

Useful Websites

Current Green Building market trends:
http://www.Greensource.construction.com/resources/smartMarket.asp

Investment tax credits: http://www.edcmag.com

Educational studies pertaining to natural light utilization: http://www.ncpa.org

Homes and Schools

Offices and Restrooms

Stores and Warehouses

This suspended installation at a wholesale grocery store saved over 31,000 watts of fluorescent lighting.

This convenience store takes advantage of free sunlight with tubular skylights in an acoustical, suspended ceiling.

Auto Body Shops and Manufacturing Facilities

Suspended tubular skylights in this auto body shop render natural light that is perfect for matching paint.

Suspended tubular skylights in this machine shop provide natural light for close-work visibility.

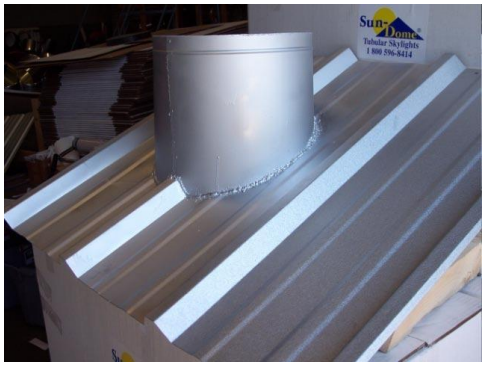
Suspended skylights in this warehouse allow workers to easily identify shelf items.

Sun-Dome®
By Daylighting Technologies, Inc.

Installations on Metal Roofs

See page 13 for illustration, “Reverse Mount Applications.”

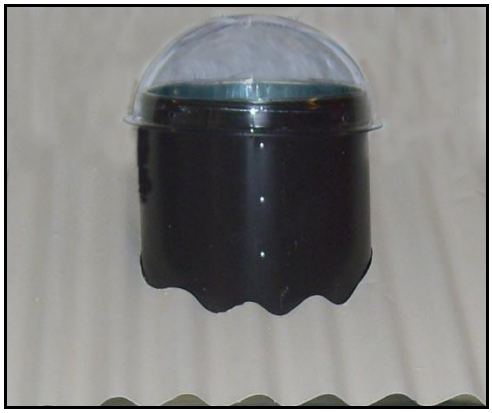
This is installation is on a flat metal deck roof with insulation.



This is a custom-welded roof flashing for R Panel.

This is a custom-welded metal roof flashing for a Maxi-Rib Galvalume 24 gauge panel.

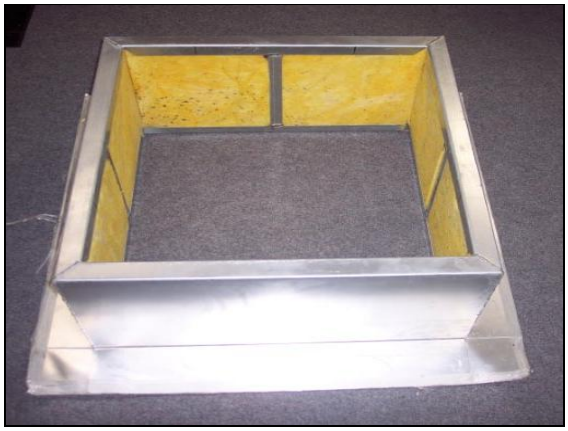
This is installation is on a standing-seam metal roof.

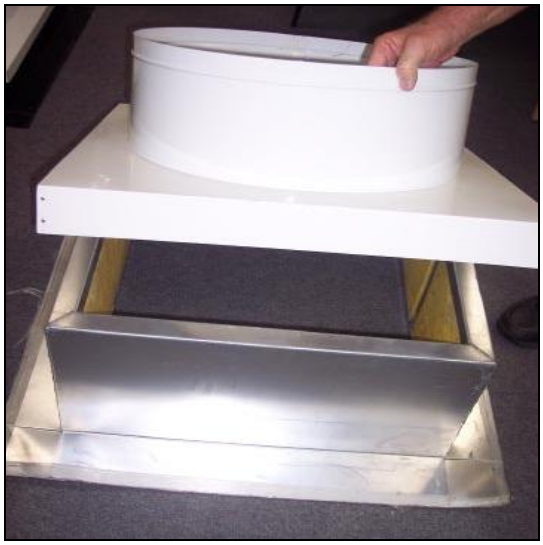


This installation is on a corrugated metal roof.

Steel Curb Mount Installation

This is a steel curb, insulated installation. See page 14 for illustration, *Steel Curb Mount Installation (Lay-In Ceiling)*.





The Sun-Dome® Insulated curb is 18 gauge steel with welded corners. The curb cap has 2-3/4 inch turn downs with boxed, riveted corners.

2 ft. x 2 ft. Troffer Lens Options

Pyramidal Flat Apex Lens

Pyramidal Prismatic Lens

Flat Prismatic Lens

Sun-Dome® Eclypse Dimmer

The Sun-Dome® Eclypse Dimmer can be used in installations that require sunlight from the unit to be dimmed. See page 12 for CAD drawings of this option.

SPECIFICATIONS FOR
ECLYPSE DIMMER SYSTEM

The Eclypse Dimmer is supplied as an assembled unit ready for installation.

The unit is powered by a 24 volt motor with a step down transformer and conduit for hook up to a 110 volt power source.

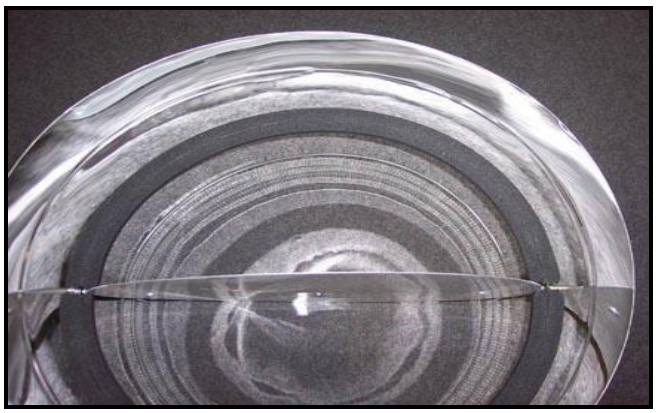
PF42440 Manufactured by Packard

CONTROL TRANSFORMER 24V 40VA
120/208/240V PRIMARY

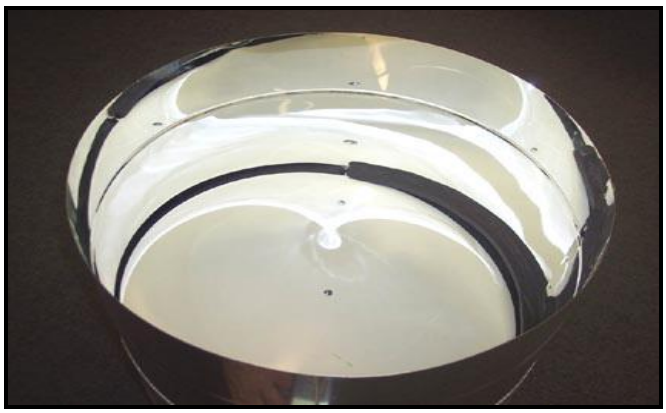
Honeywell M847D1012, 24 volt motor

Honeywell M847D1012 - DAMPER ACTUATOR FOR ARD AND ZD ZONE DAMPERS: 24 VAC. 60Hz 6W SPST TWO POSITION, SPRING RETURN, DIRECT MOUNT, W/ADJUSTABLE STOP. REPLACES RDMH, RDMZ, AND RDMA.

These items are UL approved and labeled.



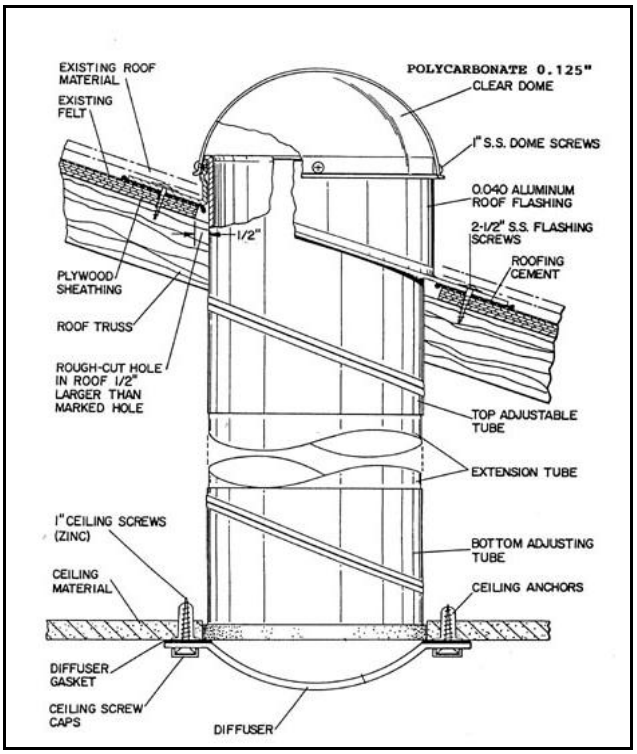
Open position



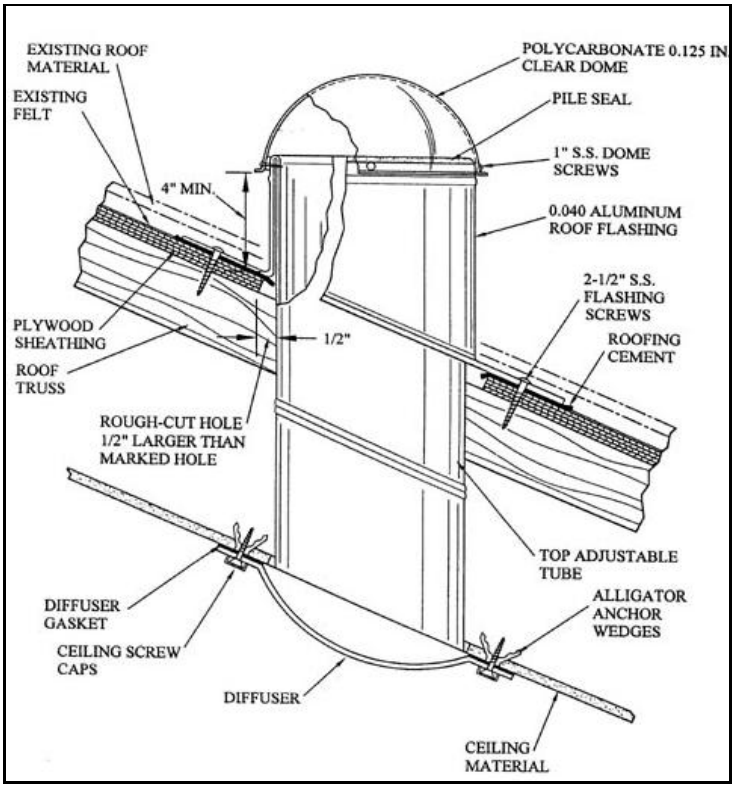
Closed position

ILLUSTRATIONS

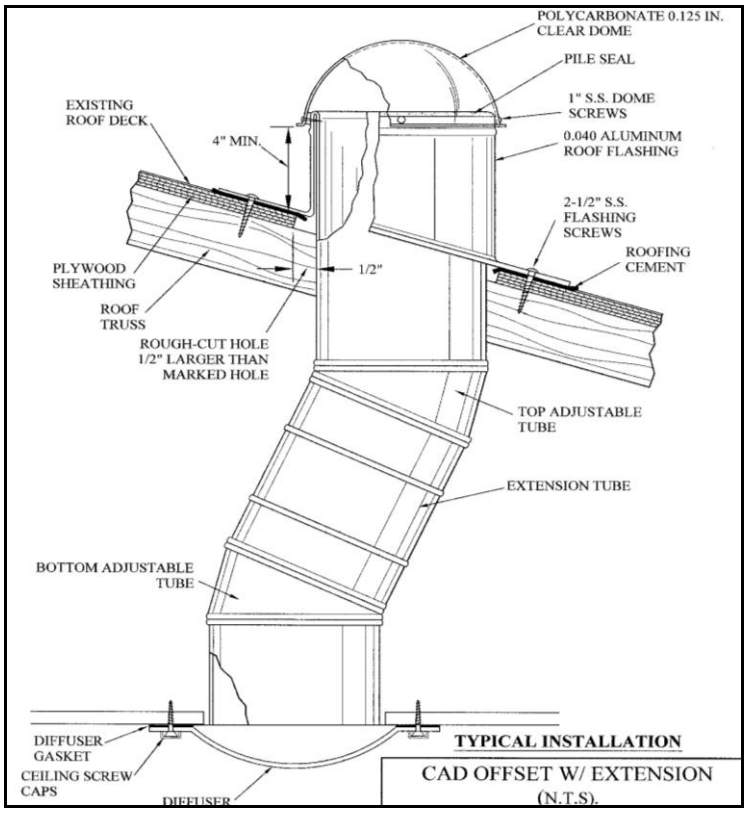
FLAT CEILING INSTALLATION



VAULTED CEILING INSTALLATION



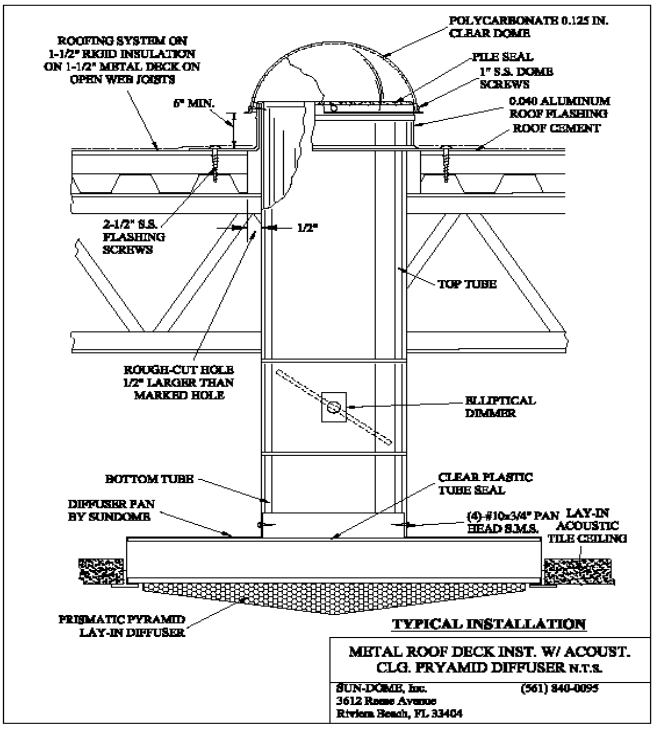
OFFSET WITH EXTENSION / FLAT CEILING



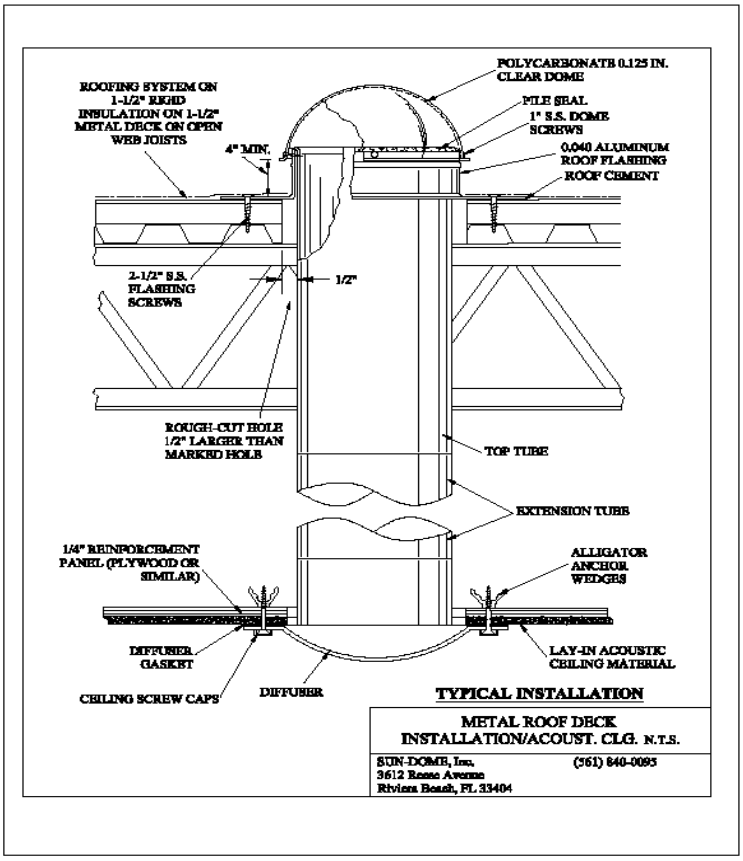
Sun-Dome®
By Daylighting Technologies, Inc.

ILLUSTRATIONS

METAL ROOF DECK W/ ACOUSTIC CEILING PYRAMID DIFFUSER



METAL ROOF DECK LAY-IN W/ ACOUSTIC CEILING DOMED DIFFUSER



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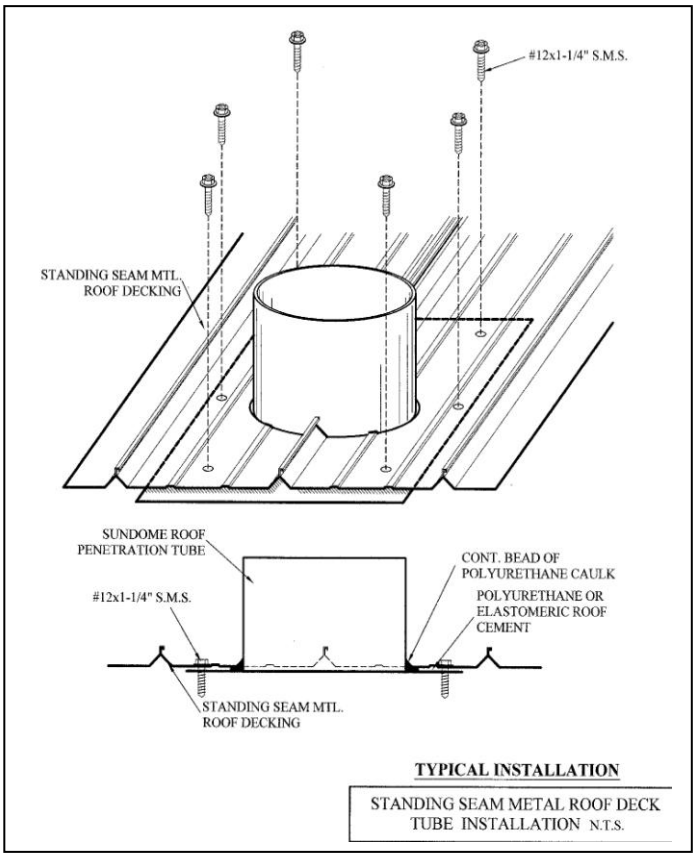
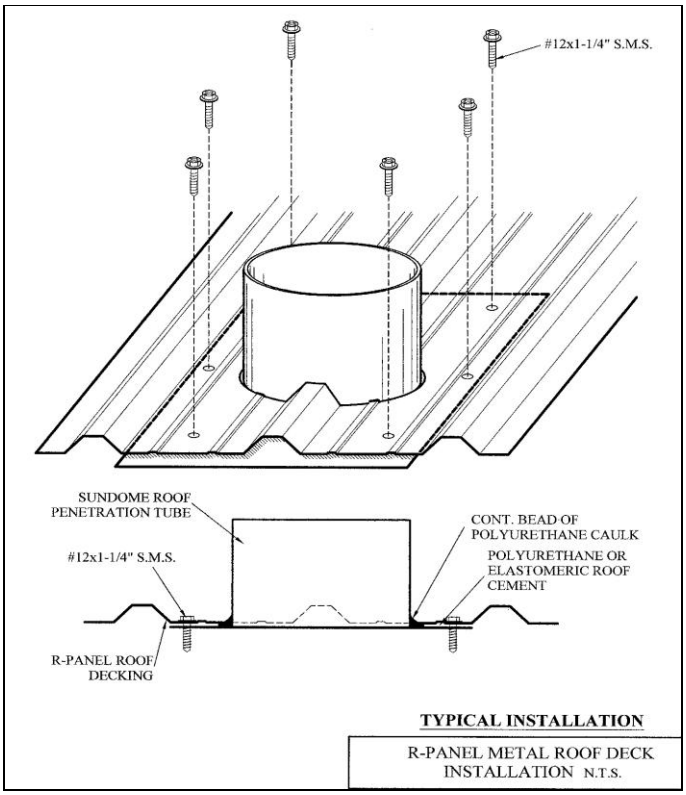
ILLUSTRATIONS

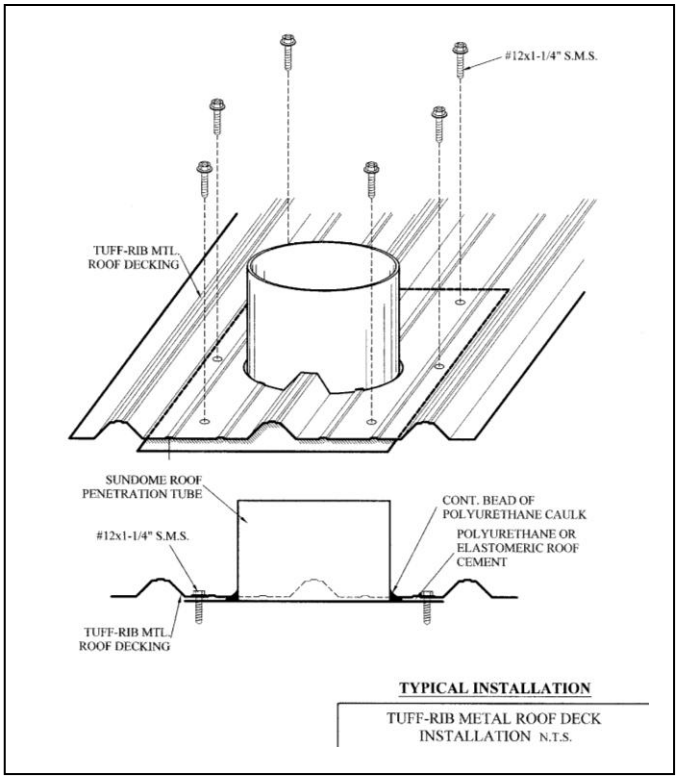
STANDING SEAM METAL ROOF DECK



R-PANEL / METAL ROOF DECK



TUFF-RIB METAL ROOF DECK



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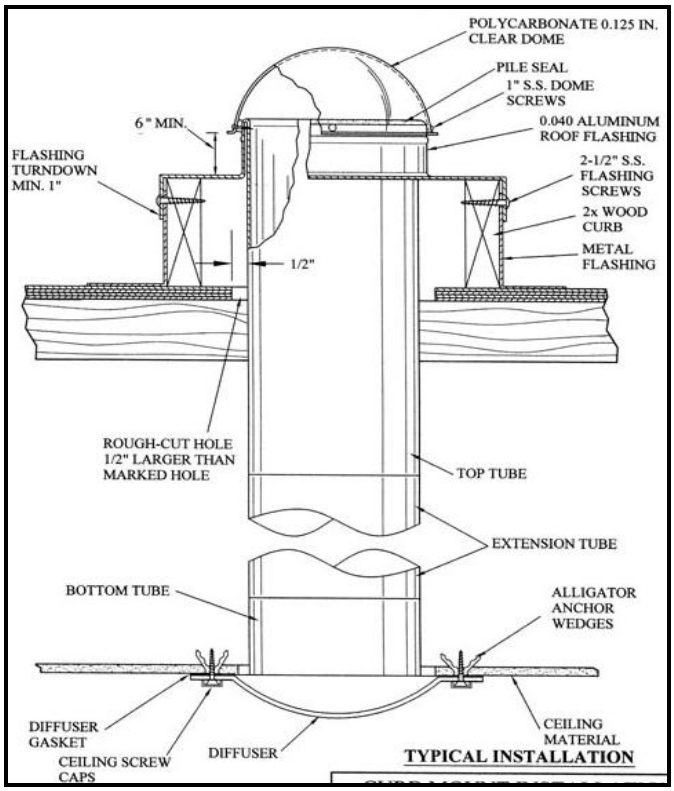
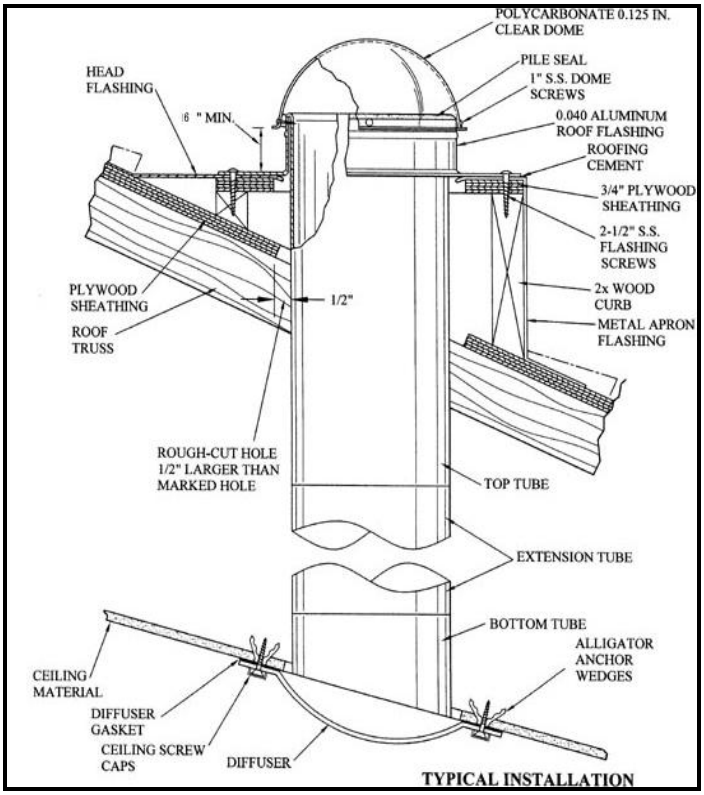
ILLUSTRATIONS

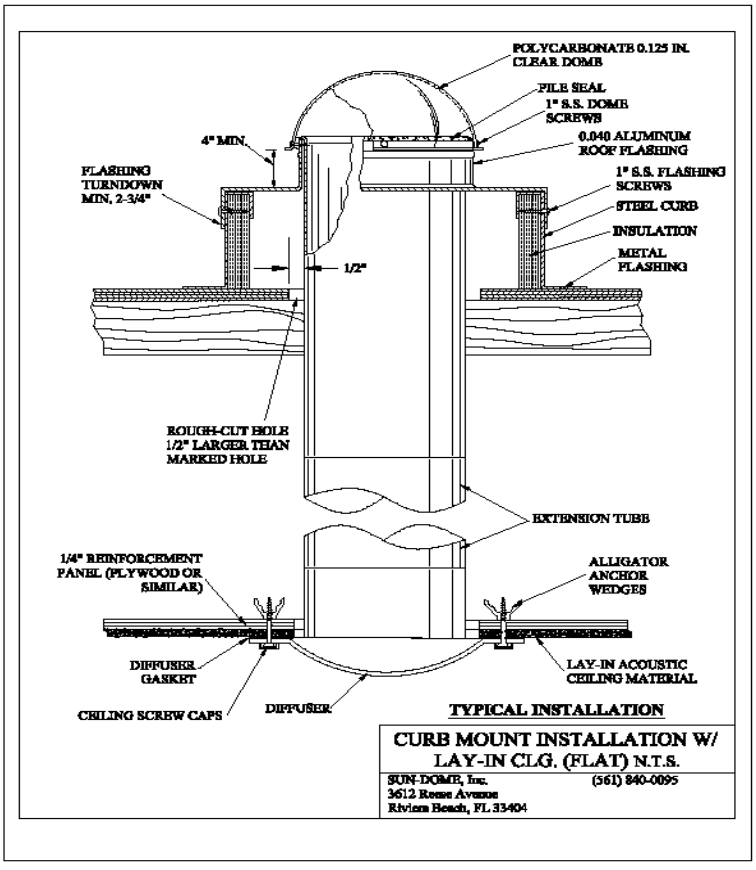
WOOD CURB MOUNT (FLAT)



WOOD CURB MOUNT (SLOPED)

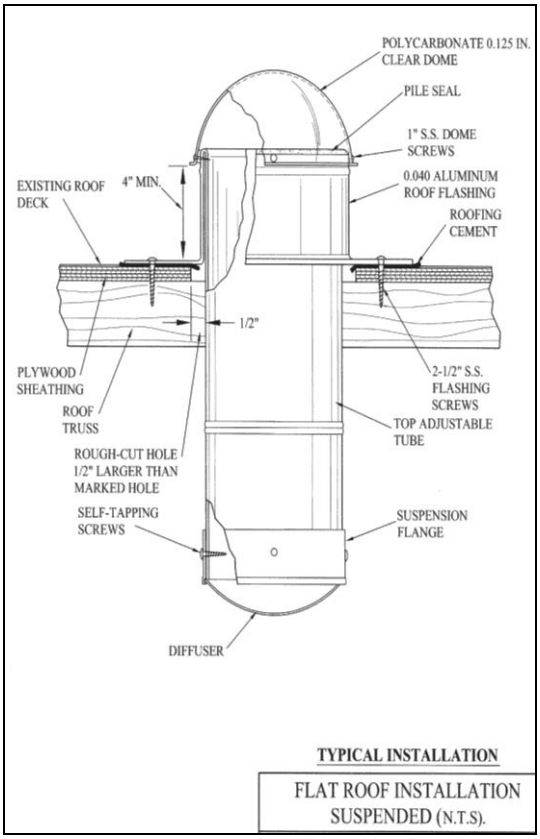


STEEL CURB MOUNT (LAY-IN CLG)

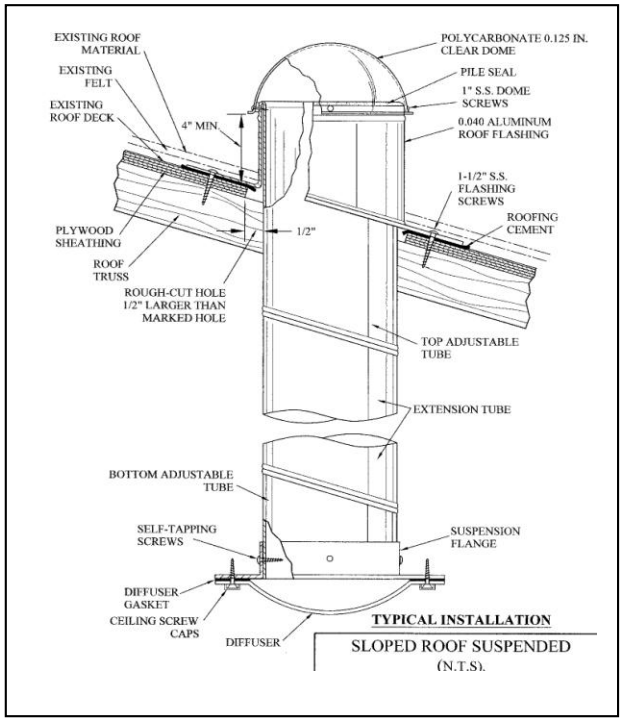


ILLUSTRATIONS

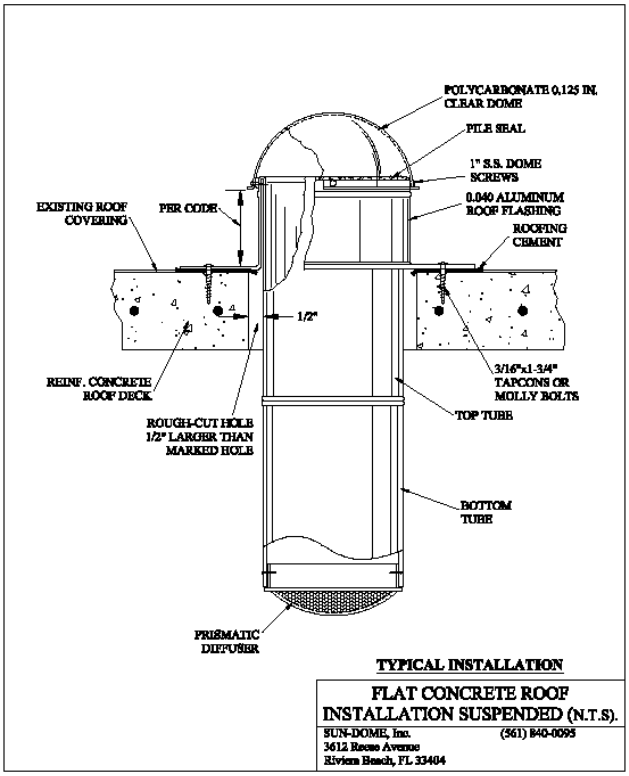
FLAT ROOF INSTALLATION (SUSPENDED)



SLOPED ROOF (SUSPENDED)

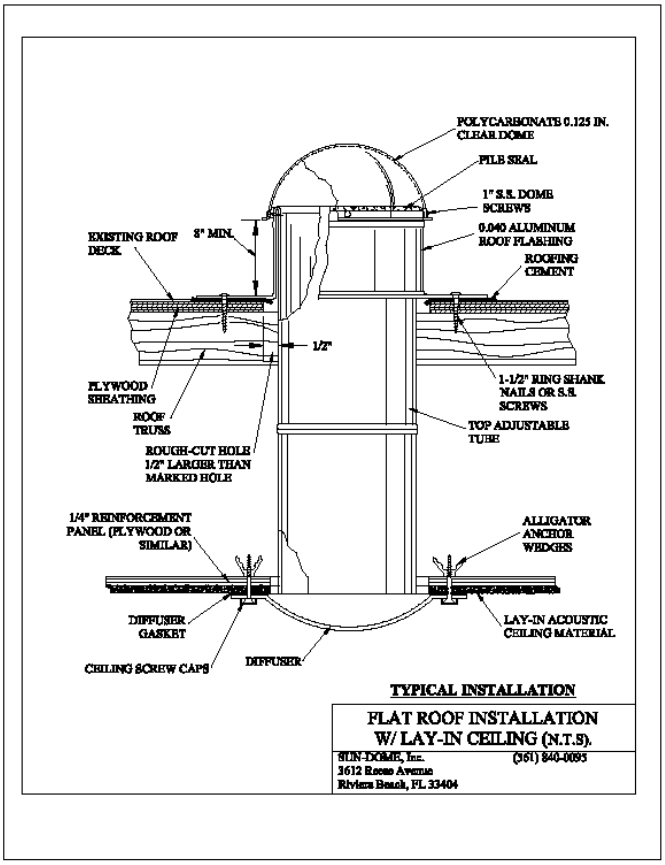


FLAT ROOF CONCRETE ROOF (SUSPENDED)

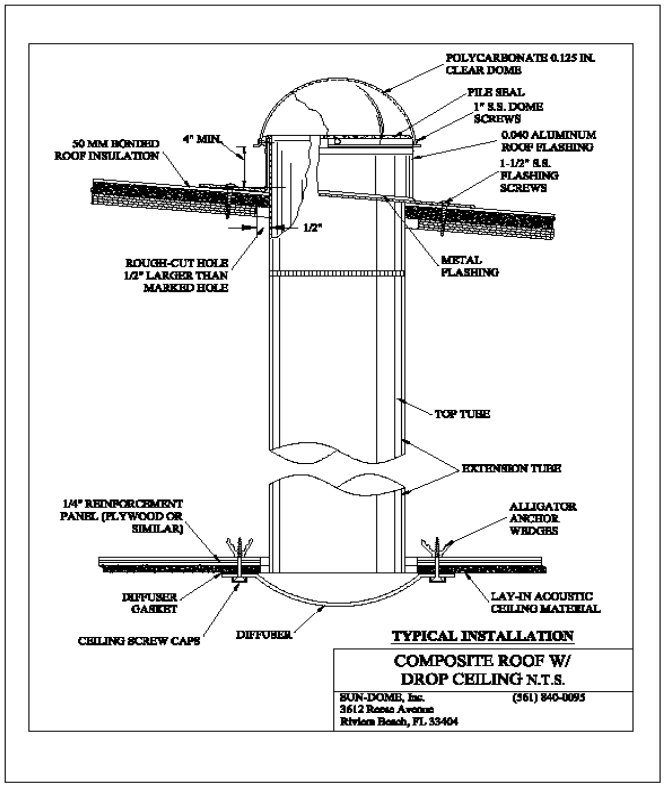


ILLUSTRATIONS

FLAT ROOF WITH LAY-IN CEILING



COMPOSITE SLOPED ROOF WITH DROP CEILING



Suspended Unit Design is Fast & Easy to Install

See page 15 for illustration, *Flat Roof Installation (Suspended)*.

The Sun-Dome® Prismatic Diffuser for commercial applications is designed for easy installation into open areas. Because the units can be lowered directly into the flashing barrel from the roof, there is no need to access the inside of the building to attach the diffuser.

The installation is fast, cost-effective, and is less labor intensive.
Because no tall ladders or platform scaffolds required, liability exposures are greatly reduced.

3612 Reese Avenue, West Palm Beach, FL 33404
(800) 596-8414 / (561) 840-0095
www.sun-dome.com

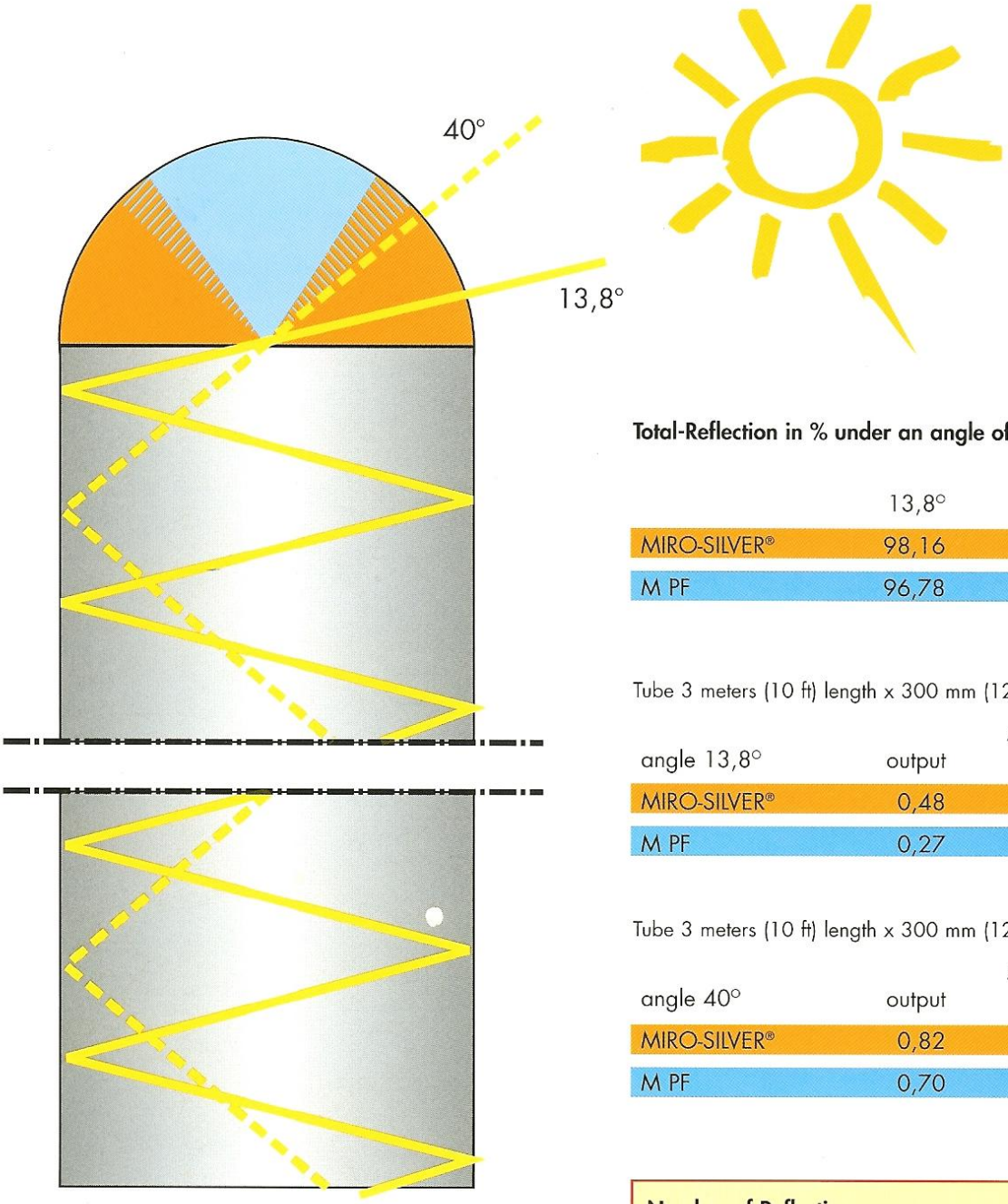
Reflector Material under different angles

Comparison between MIRO-SILVER® and Multi-layer Polymeric Film (MPF)

Advantage for MIRO-SILVER® (0 – 45°)

Same reflectivity for both products

MIRO-SILVER® light-pipes transmit much more light between zero and 45 degrees – when usable light is really needed!



Total-Reflection in % under an angle of

	13,8°	40°
MIRO-SILVER®	98,16	98,22
M PF	96,78	97,66

Tube 3 meters (10 ft) length x 300 mm (12 inch) diameter

angle 13,8°	output	MIRO-SILVER® advantage
MIRO-SILVER®	0,48	+78%
M PF	0,27	0%

Tube 3 meters (10 ft) length x 300 mm (12 inch) diameter

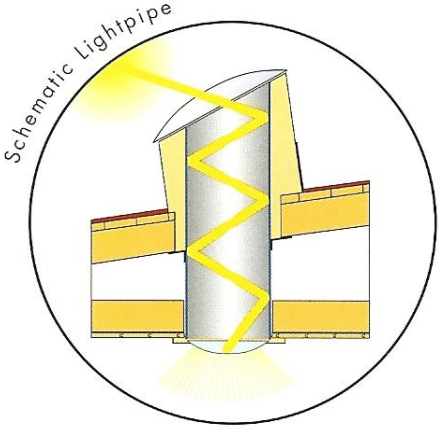
angle 40°	output	MIRO-SILVER® advantage
MIRO-SILVER®	0,82	+17%
M PF	0,70	0%

Number of Reflections:

13,8°	40 Reflections	Advantage 78%
40,0°	11 Reflections	Advantage 17%

MIRO-SILVER® and MIRO® – Qualities, optical and mechanical values

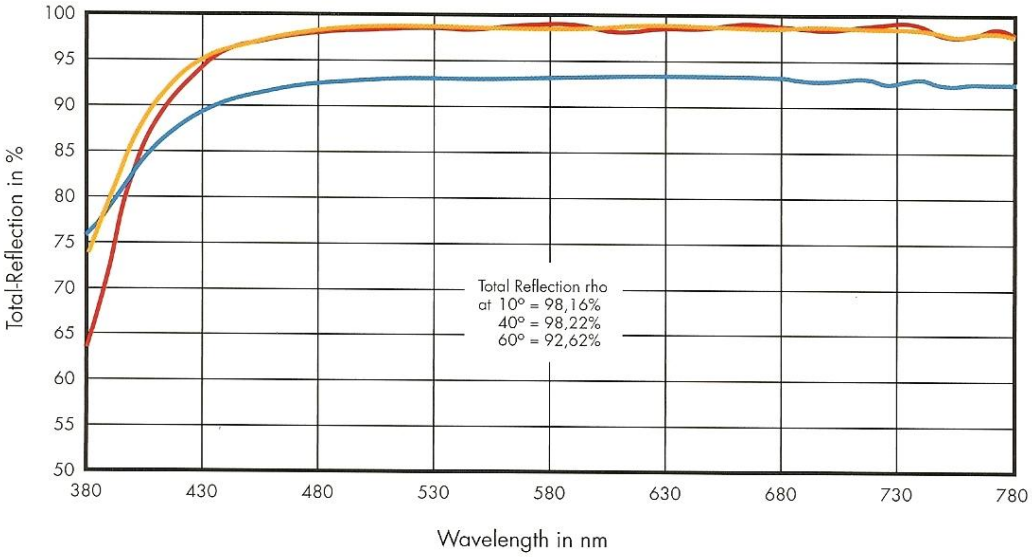
	Alloy (Al...)%	Tensile Strength R_m (MPa)	KSI	Yield Strength R_p (MPa)	KSI	Total-Reflection DIN 5036 (%) ASTM-E 1651 (%)	Diffuse-Reflection DIN 5036 (%)
MIRO-SILVER®	99,85						
4270 AG	PVD Ag 99,95	160 – 200	23,2 – 29,0	140 – 180	20,3 – 26,4	98	≤ 6
	AlMn1Cu clad 99,85						
4279 AG	PVD Ag 99,95	210 – 260	30,5 – 37,7	190 – 220	27,6 – 31,9	98	≤ 6
MIRO®	99,85						
4270 GP	PVD Al 99,99	160 – 200	23,2 – 29,0	140 – 180	20,3 – 26,4	95	≤ 6
	AlMn1Cu clad 99,85						
4279 GP	PVD Al 99,99	210 – 260	30,5 – 37,7	190 – 220	27,6 – 31,9	95	≤ 6
	99,85						
4400 GP	PVD Al 99,99	160 – 200	23,2 – 29,0	140 – 180	20,3 – 26,4	95	≤ 12
	99,85						
4270 YP	PVD Al 99,99	160 – 200	23,2 – 29,0	140 – 180	20,3 – 26,4	95	≤ 6
	99,85						
4400 YP	PVD Al 99,99	160 – 200	23,2 – 29,0	140 – 180	20,3 – 26,4	95	≤ 12



Products/Pictures by courtesy of: TALIS Tageslichtsysteme GmbH - Bempflingen/Germany

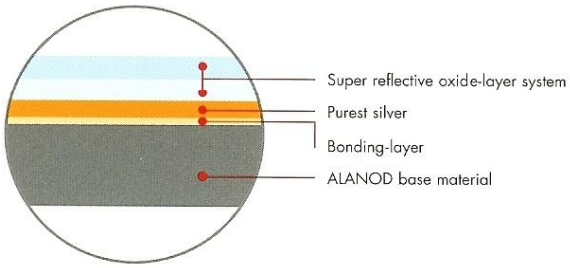
Total-Reflection of MIRO-SILVER® – in the visible range

Reflectivity demonstrated at different angles above the horizontal plane

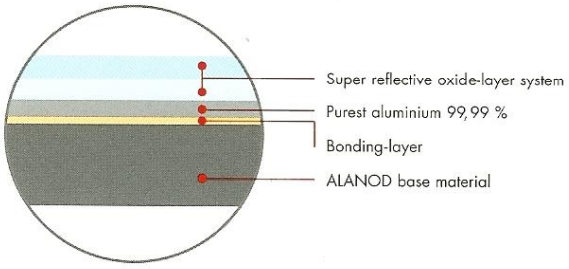


Graph shows MIRO-SILVER® is designed to have the highest reflectivity of any material at shallow angles.
This design feature increases the number of hours each day, that the light-pipe delivers usable light in the room.

MIRO-SILVER®

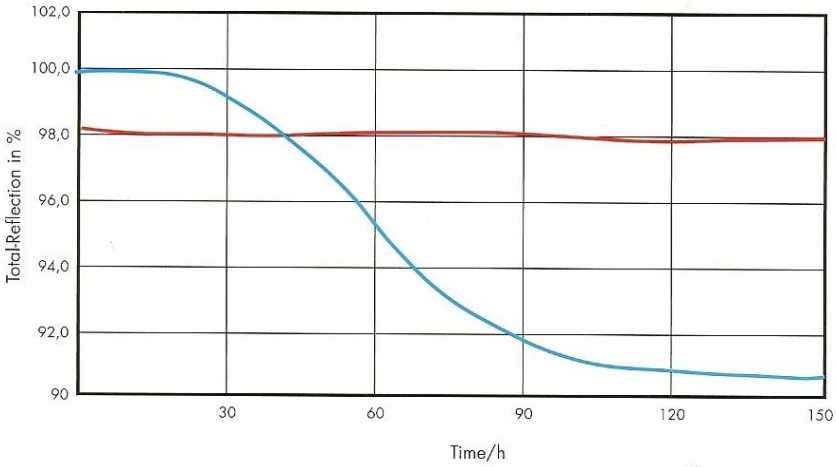


MIRO®



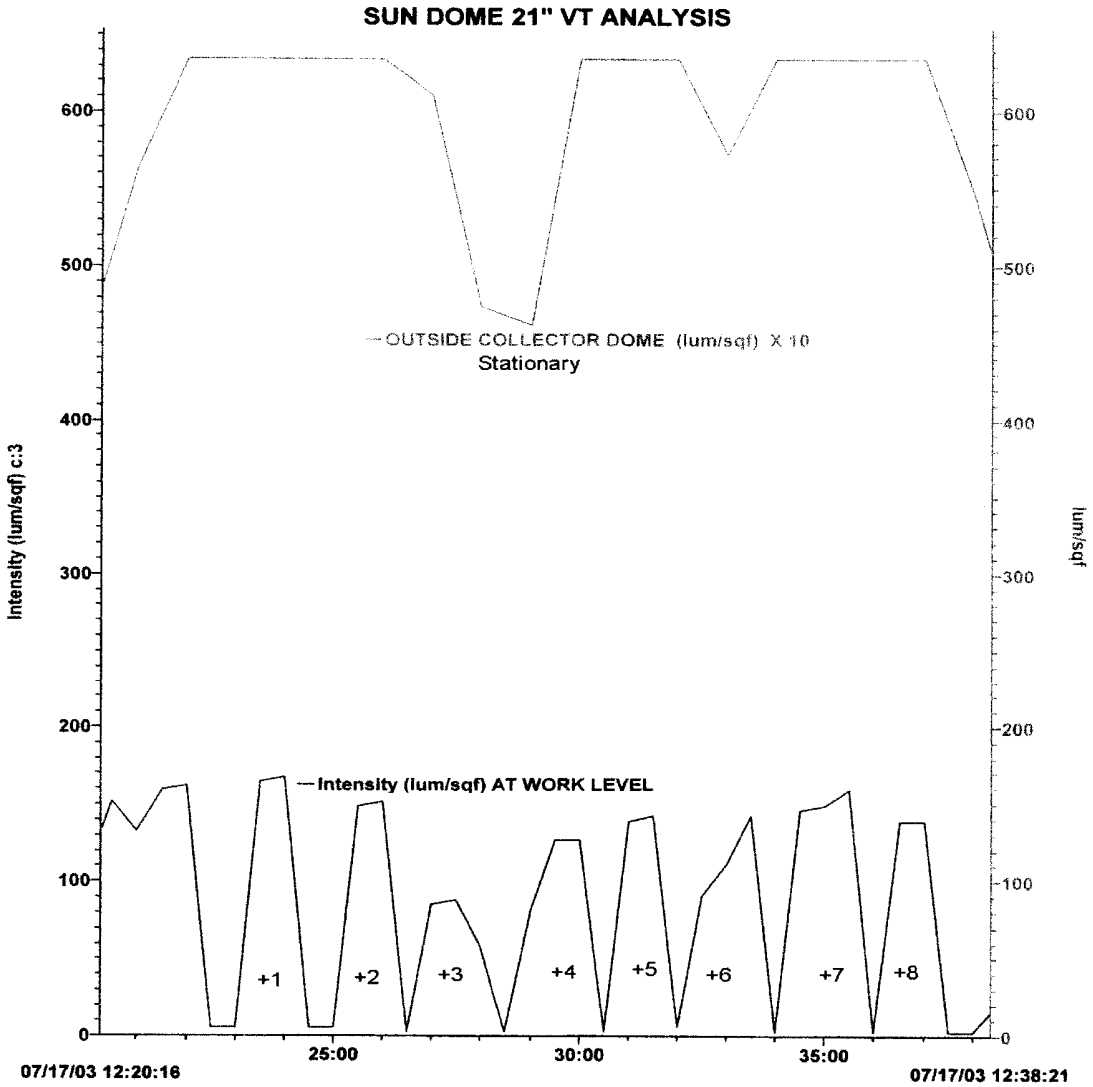
Reflectivity-Over-Time-Test – MIRO-SILVER® vs. Multi-layer Polymeric Film

Comparison of sustained reflectivity after 150 hours UV-C Exposure



MIRO-SILVER® produces sustained reflectivity over time

- Our survey indicated that the ***Sun Dome 21" System*** could significantly reduce conventional electric lighting loads by **95% *during day light operating hours. This Passive Daylighting Energy Conservation Measure (ECM) can be installed in existing structures or new construction with a minimal negative effect on the existing buildings heating and air conditioning cost, original Architectural Aesthetics and when properly installed has no impact on the roofing systems water tight integrity.*** The chart below shows a synopsis of our lighting cost findings;



All of the Light recorded in the above chart was being produced at a total cost of

"0" WATTS PER LUMEN

An average INCANDESCENT BULB has a cost of 20 Watts Per Lumen

An average Metal Halide Lamp has a cost of 80 Watts Per Lumen

An average Fluorescent Tube has a cost of 55 Watts per Lumen