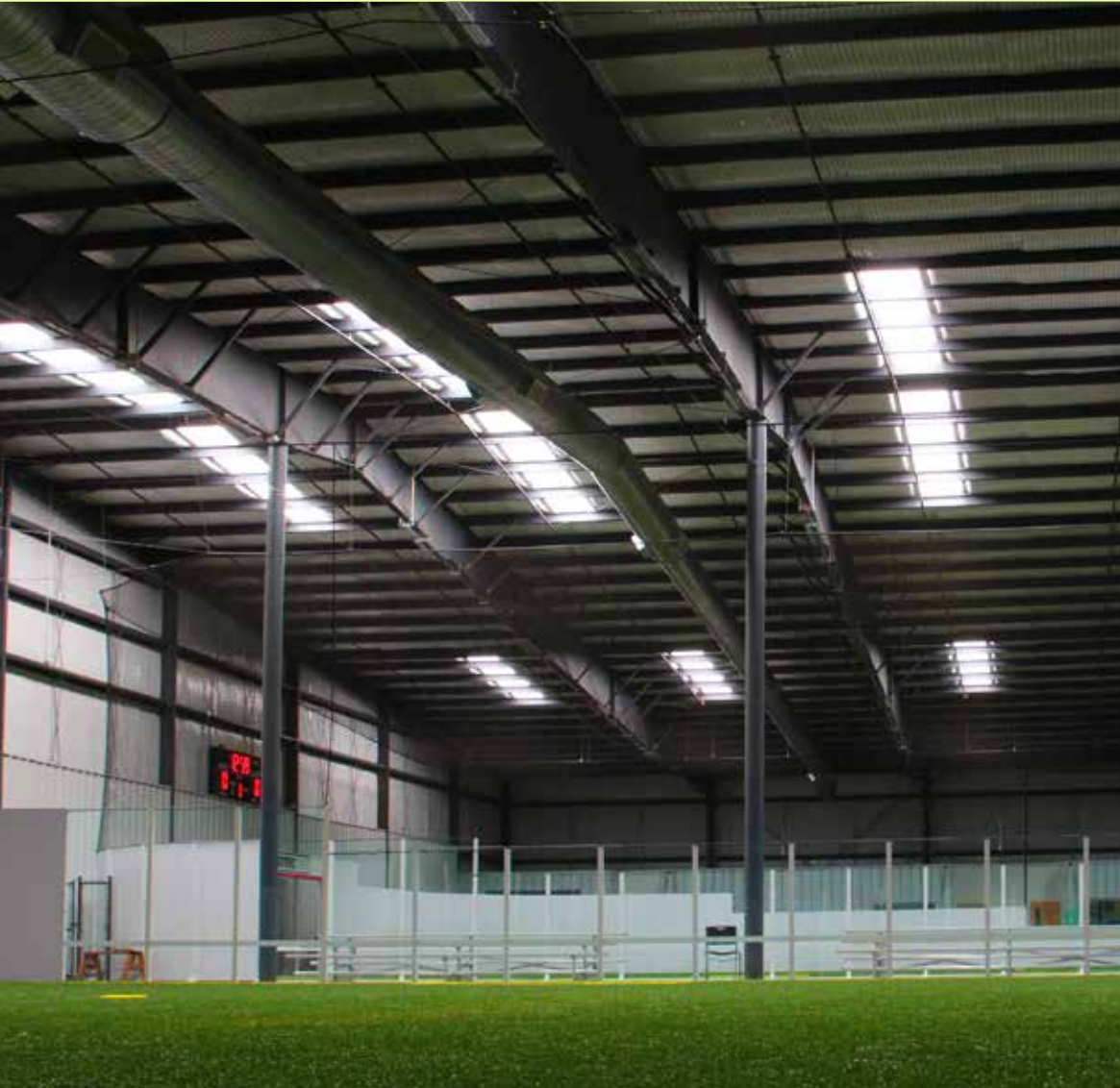




CASE STUDY

DAYLIGHT HARVESTING

Polycarbonate Roofing Solution that Maximizes Natural Light



westernstatesmetalroofing.com

Phoenix: ☎ (602) 495-0048 ✉ sales@westernstatesmetalroofing.com | Washington: ☎ (509) 418-2833 ✉ washington-wsmr@westernstatesmetalroofing.com

Tucson: ☎ (520) 574-4247 ✉ tucsonsales@westernstatesmetalroofing.com | Texas: ☎ (972) 843-4343 ✉ texas-sales@westernstatesmetalroofing.com

SCORE OKC MULTI-SPORT FACILITY

Located in Edmond, Oklahoma, Score OKC is a state-of-the-art indoor multi-sport facility and design-build project completed in the fall of 2018. Score OKC is composed of approximately 70,000 sqft of sporting area, plus a 4,000 sqft lobby and a 3,000 sqft viewing mezzanine.



PROJECT OVERVIEW

- Product: SUNSKY® 12
- Product Type: 1.5mm White Opal Corrugated Polycarbonate Panel, 45% Light Transmission
- Application Type: Daylight Harvesting for Energy Savings
- Total Product Usage: 3,125 sqft or less than 5% of total roofing area
- Year of Completion: 2018



Using SUNSKY in less than 5% of the roof area allowed diffused daylight to illuminate the facility completely.

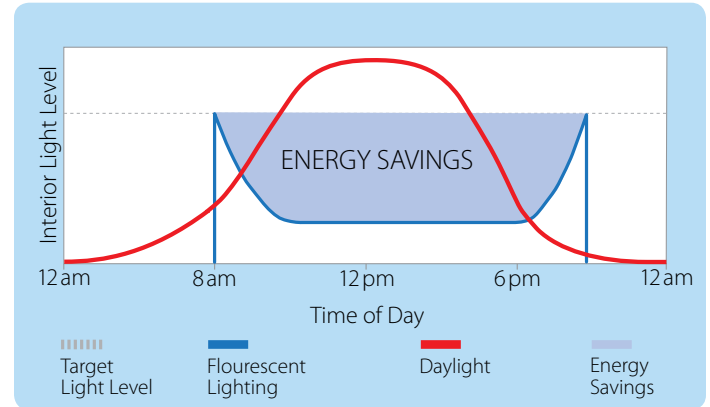
"Many facilities have skylights but also turn on the lights. Our thought was if you are going to turn on the lights during the day, why have the skylights in the first place? With that in mind, the

goal was to produce enough light through daylight harvesting so that lights would not need to be turned on during the day."

— David Corona, Gideon Steel Panel Company, LLC

The facility was designed with Daylight Harvesting in mind, featuring 3,120 sqft of Palram's SUNSKY® 12, 1.5 mm (0.059") polycarbonate panels in white opal with 45% Light Transmission. Using SUNSKY in less than 5% of the roof area allowed diffused daylight to illuminate the facility completely. The color of the panel also allowed for a higher light diffusion, spreading out the daylight evenly while avoiding harsh glares and shadows.

A Daylight Harvesting module, also known as a photocontroller, was installed and programmed. The photocontroller utilizes a photocell to read light levels and transmit the data to the controller module, usually located in the lighting control panel. When the light level data received from the photocell indicates that the setpoint, in this case, 50 footcandles, has been reached for a sufficient time, the controller will switch lighting off. Conversely, when light level data from the photocell indicates that the daylight contribution is not adequate, the controller will switch lighting on. This is called a closed loop system. The photocontroller saves energy by automating the artificial lighting, thus lessening the cooling load of the building and allows a 'set it and forget it' kind of solution. It is important to note that the Illuminating Engineering Society (IES) has stated in their report RP-6-15 that a Class III sporting



facility, such as Score OKC, only requires 30 footcandles of light to achieve maximum results for sports. The Score OKC building regularly maintains 50 footcandles. During the summer, when the sun is high in the sky, the facility has been known to reach 100 footcandles by daylighting alone.

SUNSKY 12 and all other building products were provided by Gideon Steel Panel Company, LLC, an authorized distributor for Palram Americas and premier manufacturer for metal roofing and metal building components.

Note: All photos shown depict natural lighting, no artificial lights were turned on.



The Score OKC facility maintains a surplus level of light in summer, despite the small percentage of daylighting panels, saving energy.



Authorized Distributor

WESTERN STATES METAL ROOFING

Phoenix: 901 W Watkins St., Phoenix, AZ 85007 | ☎ (602) 495-0048 | ✉ sales@westernstatesmetalroofing.com

Tucson: 4975 E. Drexel Rd., Tucson, AZ 85706 | ☎ (520) 574-4247 | ✉ tucsonsales@westernstatesmetalroofing.com

Texas: 15023 County Rd 545, Nevada, TX 75173 | ☎ (972) 843-4343 | ✉ texas-sales@westernstatesmetalroofing.com

Washington: 3610 N. Barker Rd. STE C Spokane Valley, WA 99027 | ☎ (509) 418-2833 | ✉ washington-wsmr@westernstatesmetalroofing.com



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