



# BRINGING NATURAL SUNLIGHT INDOORS

Saving Energy Costs  
Saving the Environment

## SUNPORT INTEGRATED DAYLIGHTING SYSTEMS

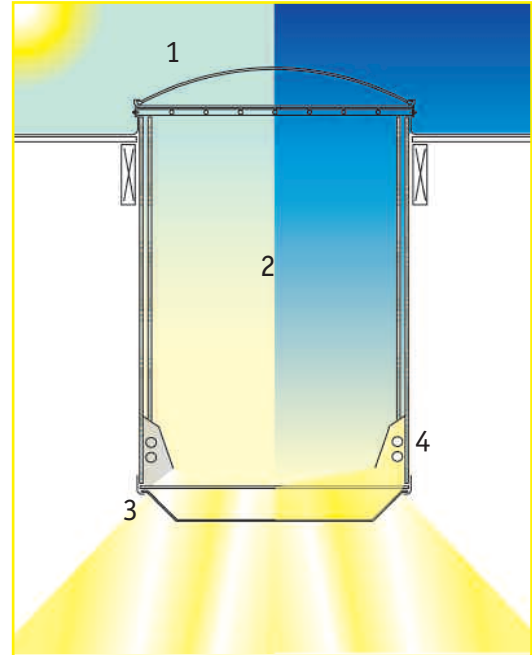
SunPorts bring natural sunlight indoors and are integrated with new or existing artificial lights through an innovative control system. This ensures that a constant light level is maintained throughout the building, day and night, and minimizes the amount of electricity consumed.

Every Sunport system is custom designed to meet the individual building's lighting requirements. A comprehensive facility audit is conducted and proprietary predictive modelling is used to determine the optimum SunPort size, spacing and lens configuration.

## SUNPORTS – HOW THEY WORK

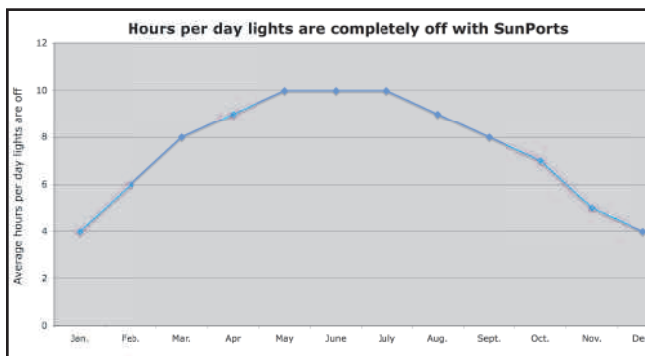
SunPorts are leading edge HPS (High Performance Skylights), also called deep-well skylights, designed to use sunlight to provide cool, diffused light to illuminate building interiors.

1. A technologically advanced [skylight lens](#) captures more sunlight for use in the building, even at dawn, dusk and on cloudy days. Use patented Wasco technology.
2. A highly reflective [light well](#) directs the sunlight into the building and insures against the undesirable gain or loss of heat.
3. A [diffusion lens](#), unique to SunPort, disperses the light evenly throughout the building.
4. An [integrated control system](#) using photo sensors adds artificial light (internal or existing external) only as needed to maintain the desired constant light level.

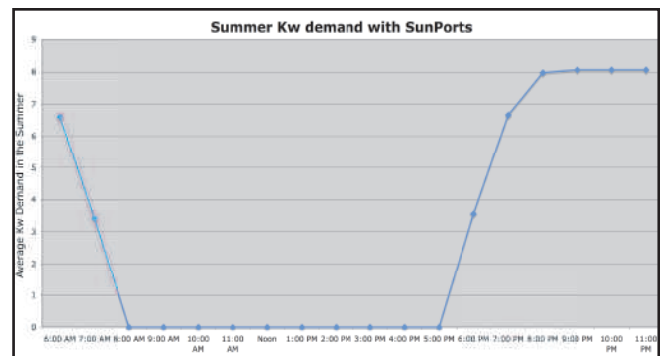


## SUNPORT PERFORMANCE

SunPorts enable artificial lights to be turned completely off an average of 7.6 hours per day. This varies by the time of year and building location. Importantly, the KW demand during the summer months is completely eliminated for most companies during the peak demand summer period. Integrated daylighting systems performance has been validated by independent experts.



Annually, lights off an average 7.6 hours per day.



During summer, lights can be turned off all day.

# DAYLIGHTING

Daylighting is the use of natural sunlight to illuminate the inside of a building. Windows are the source of daylight in most buildings, while skylights provide “top down” sunlight in areas open to the roof.

Over the past few years there has been a major paradigm shift in the way skylights have been viewed. Historically skylights have been thought of as simple architectural amenities: They let in sunlight and allow those in the building to see the sky. The current high cost of electricity and the desire to reduce harmful fossil fuel emissions have stimulated the development of High Performance Skylights that are integrated into the building’s artificial lighting system.

SKYLIGHT PARADIGM SHIFT	
<p style="text-align: center;"><b>SKYLIGHTS</b></p> <p style="text-align: center;"><b>Architectural Enhancement</b></p> <ul style="list-style-type: none"> <li>• Capture &lt;50% sunlight</li> <li>• Poor insulator: 1.5 R-value</li> <li>• Intense beam of light</li> <li>• Stand-alone units</li> </ul>	<p style="text-align: center;"><b>SUNPORTS®</b></p> <p style="text-align: center;"><b>Integrated Light Source</b></p> <ul style="list-style-type: none"> <li>• Capture 80-85% of sunlight</li> <li>• R-value better than the roof</li> <li>• Evenly dispersed light</li> <li>• Integrated with artificial light</li> </ul>

## SUNPORTS VS. SKYLIGHTS

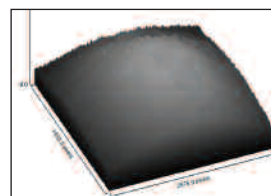
SunPorts use an innovative non-mechanical lens system to capture sunlight, even in low light conditions. This significantly extends the time a building can be lighted with natural sunlight.

Traditional skylights do not direct early and late daylight into the building.

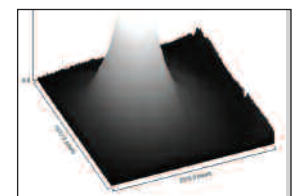


SunPort diffusing lenses distribute sunlight evenly throughout the building.

Traditional skylights have no internal diffusion lens, resulting in a narrow beam of light entering the building.



SunPort



Skylight

SunPorts have an R-value greater than the roof, thus inhibit heat from leaving the building in the winter and entering in the summer.

Traditional skylights do not prevent heat transference, thus requiring the building’s HVAC systems to be on significantly more often.



## SUNPORT CUSTOM COMPONENT DESIGN

Buildings are structurally unique and have a wide variety of uses, requiring component customization to insure maximum lighting performance. SunPorts are designed to marry the various components in a way that delivers the optimum light levels while maximizing electric savings.

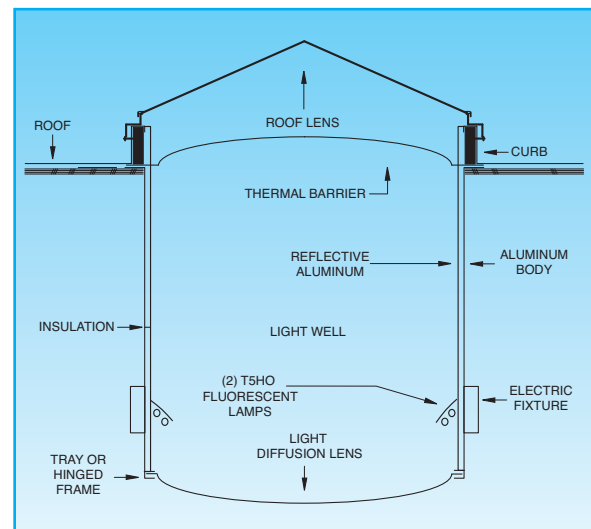
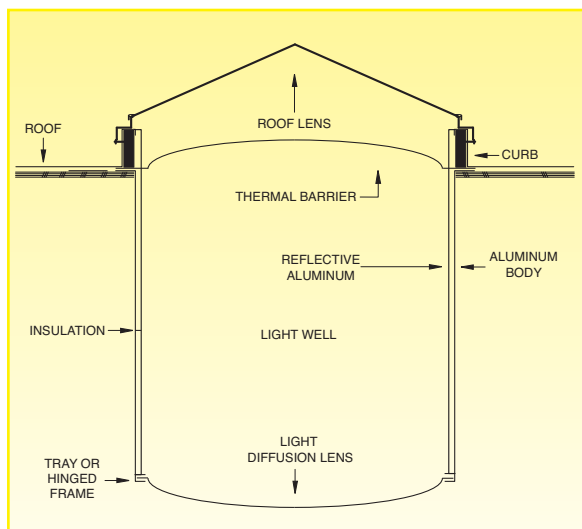
## SUNPORT MODELS

### SUNPORT I

- Where efficient lighting exists and is retained
- Integrated control system for existing lights

### SUNPORT II

- Where existing lights are inefficient or for new lighting; IESNA award winning design
- Internal control system regulates artificial light



## Specifications

- Standard Light Well dimensions (aluminum for durability): 4'x4', 4'x3', 4'x2'. The standard depth is 4'. Custom sizes are used in buildings with unusual existing conditions or use.
- Diffusion Lens: Crystalight – Unique lens technology that is used in high bay applications; Aislelight – Directs light up and down aisles between shelving; Ceilight: Evenly disperses light in hung or finished standard 8'-10' ceilings.

## SUNPORT OPTIONS

**Integral Curbs:** Built-in metal curb, enhancing the system's integrity and eliminating the costly construction of wooden curbs during installation.

**Plug & Play Wiring:** Patented low voltage system which cuts the electrical installation cost by 40%.

**Control Systems:** Several models are available, depending upon the building size.

**Shade System:** Built-in shade to darken room when needed.

**Skylight UV Protection:** Ultra Violet treatment for protection from sunlight.

**Security Grill:** A safety/security grill is available to protect against intruders and accidental falls.



## SUNPORT ECONOMIC BENEFITS



### Lower Operating Costs

- Lowers monthly electric bills for lighting by 40-80%
- Reduces peak summer demand to near zero, lowering rates year round
- Lowers maintenance cost; artificial light bulb life greatly extended
- Lowers cooling costs by eliminating heat generating inefficient lights
- Lowers heating costs in winter by preventing heat loss

### Increases Building Value

- By reducing operating costs, the value of a building is increased by the annual energy savings times the current cap rate

### Enhances Productivity

There are many documented and quantified benefits from sunlight, which is full spectrum, appears brighter, and is “flicker” free. Detail studies documenting the benefits are available.

- Worker Productivity: higher morale, reduced absenteeism, increased concentration, less eye fatigue
- Warehouses: faster pick and pack, fewer errors
- Manufacturing: faster assembly, fewer rejects, fewer returns, fewer accidents
- Offices: faster processing, fewer errors, fewer breaks, better recall
- Retail: increased sales due to enhanced product appeal, more impulse buying and longer store visits, fewer returns, faster checkout
- Schools: test results 7-25% higher



## SUNPORT ENVIRONMENTAL BENEFITS

Sunport systems significantly reduce the use of lights, cutting pollution caused by burning fossil fuel used to generate electricity:

- Each SunPort reduces harmful fossil fuel emissions by over a ton annually. In a typical 25,000 sq. ft. building, SunPorts reduce emissions by 70+ tons annually.
- Employees take pride in working for environmentally aware firms
- Firms investing in saving the environment enhance their image



### SunPort and LEED

LEED, Leadership in Energy and Environmental Design, is a rating system developed by the U.S. Green Building Council to encourage a sustainable whole building approach to design, development and operation of high-performance “green” buildings. LEED recognizes leadership in 5 key areas: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. SunPort systems offer potential LEED credits in several areas: Daylighting, lighting controls, energy optimization, recycled content, and design innovation. SunPort Industries has a LEED Accredited Professional on staff to assist design professionals maximize project LEED points towards certification at any of the 5 levels.

SunPorts meet the criteria for an Energy Star rating.



## SUNPORT – A WIDE RANGE OF APPLICATIONS

**SunPorts can be used in all low-rise buildings:** new construction, major renovations, existing structures, sky-light replacements.

**SunPorts can be installed on all types of roofs:** metal buildings, built-up roofs, membrane roofs, flat or sloped roofs.

**SunPorts can be used with all ceiling types.**

Warehouses & Manufacturing



Commercial & Schools



Offices & Hospitals



## SUNPORT – COMPLETE TURNKEY PROJECTS

SunPort Industries markets complete turnkey projects, not just products. The objective is to provide the most effective and efficient integrated lighting system at the lowest possible net total cost with the shortest pay-back period available.

### Planning

SunPort has an extensive representative network to provide customer service in each market area. They are supported by in-house Technical Services and Project Management teams.

- A comprehensive building audit is conducted to determine the lighting needs.
- SunPort proprietary prediction models are used to develop a complete integrated lighting design solution, including artificial lights and daylighting.
- A financial analysis is done to determine savings, payback period, and cash flow.

### Rebates & Allowances, Tax Credits, Accelerated Depreciation

- The State & power company rebates & incentive programs managed completely by SunPort Industries.
- Federal Tax Credits and Renewable Energy Credits are determined by SunPort Industries.
- Depreciation and other tax benefits are calculated.

### Financing

- SunPort Industries has partnered with financial institutions, offering project loans and leases.
- **SunPort projects can be financially structured to generate a positive cash flow from day one.**

### Installation

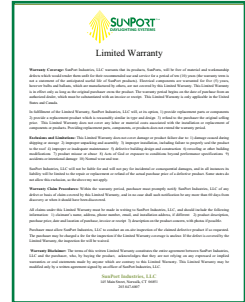
- SunPort Industries has ongoing relationships with the leading roofing contractors in each marketing area, all of whom are trained and Certified SunPort Installers.
- SunPorts ship flat, reducing shipping and handling costs.
- SunPorts, though technically advanced, are easy to assemble; a SunPort I has only 7 parts.
- Installation is simple and quick, particularly when the integral curb is utilized.

## SUNPORT WARRANTY

SunPort Industries warrants its products for 10 years from the date of purchase: the actual useful life is significantly longer. Installations are warranted by the Certified SunPort Installers.

## SUNPORT MAINTENANCE CONTRACT

SunPorts, when properly installed, are virtually maintenance free. They should, however, be given an annual “check up,” including exterior lens cleaning, controller recalibration, etc. For SunPort owners who do not wish to perform the simple tasks involved, SunPort Industries offers a modestly priced annual maintenance contract.



## FREQUENTLY ASKED QUESTIONS

- Q.** How can I be sure SunPorts will work as advertised?
- A.** SunPort performance has been evaluated by several of the most noted experts and institutions in the lighting field. The Lighting Research Center at RPI, for example, conducted ground breaking research in High Performance Skylights, which demonstrated conclusively the significant energy savings from such units. All power companies who have evaluated SunPort energy savings have approved requested incentives. Detailed studies are available.
- Q.** Don't skylights let in a lot of heat in the summer and allow heat to escape in the winter?
- A.** Yes, traditional skylights have this problem. However, SunPorts have been technically designed to have an R or insulating value actually higher than roofs, preventing this heat transfer. Dr. James Masi, an expert in the field, conducted two studies, which are available, to confirm that SunPorts have little heat gain or loss; the only HPS that can make this claim.
- Q.** Do SunPorts leak?
- A.** No. Early models of skylights did leak, but the best brands have solved this problem. The roof-top lens of SunPorts is made for us by Wasco, whose skylights are the most specified by architects in the industry and who utilize a patented sealing system. The installation of a skylight is equally important in preventing leaks. SunPort are installed only by certified contractors.
- Q.** Aren't SunPorts much more expensive than skylights?
- A.** No. The up front unit cost of a SunPort is higher (though reduced by rebates, tax credits and other incentives), but the installation costs are very similar. More importantly, traditional skylights are not integrated light sources, so do not lower electrical costs, and actually increase HVAC expenses. Over their lifetime, SunPorts cut electrical costs significantly, while skylights add to these costs.
- Q.** How do SunPorts compare to other HPS?
- A.** SunPorts have been designed to capture and transmit more sunlight into the building than other brands, and better disburse the light into the building's interior where it is needed. All SunPort systems are integrated with artificial light to insure maximum electrical savings. SunPorts have no moving parts or obstructions under the roof lens, thus are not subject to breakdowns or shading problems common with mirrored HPS. SunPort Industries is the only HPS company to offer complete turnkey projects: building audit, custom design, installation, rebate allowance processing and final commissioning.



**Energy Expert:**

“Rising energy costs, already high, are forcing businesses of all types to look for solutions to this problem. Combined with the societal desire to clean up the environment for future generations, there is strong motivation for businesses to consider the SunPort Daylighting Systems solution.”

**Warehouse Owner:**

“The SunPorts we installed in our warehouse and offices are working beautifully.”

**Commercial Customer:**

“I just wanted to write to tell you how pleased we are with the SunPorts. The lighting during the day is much better, and we’re saving money.”



**SunPort Industries**

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