



High Performance Prismatic **Daylighting**



High Performance Prismatic Daylighting

An **Acuity** Brands Company

Because... There's No Greater Efficiency Than Off!®

Before Sunoptics

30 Foot Candles

\$14,000 Per Year



Most building energy usage comes from the electric lighting system.

Fluorescent lights do an adequate job, but they still leave a *lot* to be desired.

America could reduce its peak load electrical demand by 20,000 megawatts – **just by daylighting** appropriate existing buildings. **That is equal to twenty 1000-megawatt nuclear plants!** And it can be done at 1/20 the cost of photovoltaics.

In 2008, the U.S. Department of Energy released a final report on **Commercial Building Toplighting** regarding the energy savings opportunity and potential paths forward. They summarized that high-performance daylighting with lighting controls provides a substantial energy-savings opportunity for building owners.

In this report, the DOE found that the **single most important factor for skylight design was to maximize visible light transmission and diffusion** to eliminate intrusive glare or hotspots to the interior.

From: Commercial Building Toplighting: Energy Saving Potential and Potential Paths Forward – FINAL REPORT. Prepared by TIAx, LLC for the U.S. Department of Energy, Building Technologies Program, June 2008.



After Sunoptics

100 Foot Candles
\$0 Per Year



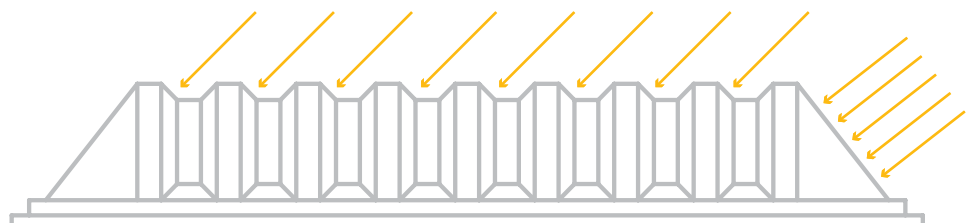
"The Sunoptics high-white prismatic design produced a higher uniformity and lower glare than the standard high-white unit. The uniformity and low glare of this unit approaches that produced by the medium-white skylights without loss in overall lighting level that these units produce."

— Bill F. Jones, P.E.,
Consulting Illumination Engineer,
Lighting Research Laboratory

Sunoptics high performance prismatic skylights are designed to provide the maximum amount of visible light into a building — *with 100% diffusion*.

No moving parts, no hot spots, no glare,
no UV damage.

Just light.



Because... There's No Greater Efficiency Than Off!®



The Patented Sunoptics Signature Series Dome: **MAXIMUM Light.** **MAXIMUM Strength.** **MAXIMUM Lifespan.**

"One of the most visual aspects of the H.E. (High Efficiency) store is the daylight harvesting system. As the sun comes up on a bright sunny day, we have controls that slowly dim the lights down until they are no longer needed. That avoids about \$50,000,000 per year in utility costs so, it's a pretty big deal."

— James McClendon, Director,
Engineering Prototype &
New Format Development, Walmart

Excerpt taken from
Walmart Sustainability 2.0,
Buildings Video

Why Sunoptics?

Sunoptics' Customers:

Walmart
Best Buy
Kroger
The Home Depot
Lowe's
Fresh & Easy
Albertsons
Office Depot
WinCo
Raley's
Hy-Vee
My Organic Market
Safeway
Giant Eagle
99¢ Stores
Petco
Discount Tire
Sprouts
PetSmart
Coca-Cola
Hormel
Nestle Purina
Pepsi Co.
Medline

The Highest Daylighting Performance, *Guaranteed.*

For 30 years, Sunoptics has focused exclusively on prismatic lens technology for their skylights. Their daylighting systems are designed to **maximize visible light transmission with 100% diffusion** – to bring the highest levels of glare-free natural light into the building.

Signature Series Dome: Maximum Light. Maximum Strength. Maximum Lifespan.

Sunoptics' patented **Signature Series Dome** shape is designed to **optimize lighting performance even at low sun angles** – with no moving parts – compared to competitive daylighting products. The Signature Series dome design leads the industry in structural integrity and durability. The resulting performance provides better quality light for the maximum hours per day, thus maximizing energy savings by greatly reducing electric lighting use.



In-House Prismatic Acrylic Extrusion.

Sunoptics extrudes and thermally forms all of its own high-performance prismatic acrylic and UV-capped polycarbonate.

This capability, coupled with their proprietary high-white diffusing lens technology, provides **unmatched lumen output and longevity**. Their 100% impact-modified acrylic and UV-capped polycarbonate materials are **the highest UV-resistant plastics available**, providing superior performance. Sunoptics also regrinds 100% of its post-industrial scrap (cut offs and trims) providing recycled content which can be utilized for LEED® certified projects.



Unlike some competitive glazing materials, Sunoptics uses the highest UV resistant materials available. This insures high visible light transmission for the life of the product.

High-Performance 800 MD Frame Design.

Sunoptics' proven history of trouble-free installations stems from their **800MD frame design**. Their multi-glazed products come standard with insulated thermal break, condensation gutter, foam curb seals (no caulking required), exterior weeping gutter, and integrated weather sweep – all assuring you years of leak-free peace of mind.

Sunoptics is a Company Committed to a Purpose.

Since 1978, Sunoptics has had a single-minded mission: to properly daylight spaces in order to reduce energy consumption by turning electric lights off. Sunoptics lives this commitment every day by manufacturing the best performing daylighting products available.

Sunoptics is the Most Trusted Name in Daylighting.

Sunoptics is the specified choice for the largest daylighting users in the world. Sunoptics products have been installed in close to a billion square feet of space worldwide – saving their customers hundreds of millions of dollars annually.

Because... There's No Greater Efficiency Than Off!®



Daylighting Generates Brain Power!

"Students that had a well-designed skylight in their room, one that diffused the daylight throughout the room and which allowed teachers to control the amount of daylight entering the room, improved 19-20% faster than those students without a skylight... These effects were all observed with 99% statistical certainty."

From: Daylighting in Schools, An Investigation into the Relationship Between Daylighting and Human Performance. Submitted to: George Loisos, The Pacific Gas and Electric Company on behalf of the California Board for Energy Efficiency Third Party Program. Prepared by: Heschong Mahone Group, August 1999



Applications

Typical Applications:

Retail

Big Box
Mid Box
Specialty

Logistics

Distribution Centers
Warehousing
Order Fulfillment

Sports Facilities

Health Clubs
Racquet Clubs
Indoor Recreation

Education

Elementary
Secondary
Universities

Manufacturing

Production Areas
Warehousing

Commercial

Office Space
Conference Rooms
Cafeterias

Other

Airports
Museums
Conference Centers

Government

Airplane Hangers
Repair Facilities
Base Operations
Exchange/PX



*"...a typical retailer spends about \$300,000 on lighting – about 10% of total construction costs.... **Armed with data that shows the right lighting can increase sales**, retailers such as Albertsons, Safeway, Walmart and Whole Foods Market are using illumination tricks to make merchandise more attractive. Walmart builds its supercenters to exploit natural lighting. While energy savings are an important draw, the company reports that **the improved lighting increases sales.**"*

— Design Services Group,
in Business 2.0,
September 2005



"We've only replaced the lightbulbs once in 30 years!"

— Brothers Plumbing

*"If you look at the most efficient way to illuminate the inside of a space, it's taking the roof off and letting the natural light in," said Shmel. "We continue to look at other alternative energy strategies, but for us, **the simplest way to save energy is to just let the sunshine in.**"*

— Dwane Shmel,
Project Development Manager,
Best Buy

Because... There's No Greater Efficiency Than Off!®

Daylighting Pioneers

More than Three Decades Devoted to Turning Electric Lighting Off!

In 1978, Jerry Blomberg, along with his sons Jim and Tom, founded Sunoptics with the idea of using prismatic skylights as a building's daytime illumination source. Today, Sunoptics has stayed true to their original vision – to help create “An Energy Independent World Through Daylighting.”

The name of the company was formed by the words “sun” and “optics.” *Sun*, because it is the source of light, and *optics*, which is the science of light and vision. Sunoptics is committed to providing the best source of properly diffused natural light through prismatic plastics in its patented glazed domes.

Third-party tested, Sunoptics prismatic daylighting technology provides a softer, natural light to both employees and customers for more hours of the day without moving parts that are common in other daylighting solutions in the marketplace.

Sunoptics extrudes and forms all of its own acrylic and polycarbonate prismatic lenses as well as provides the complete glazing assembly in-house. Sunoptics also regrinds 100% of its post-industrial scrap plastic and reuses the recycled content in the manufacturing of its skylights.

Moreover, the company's photometric lab gives Sunoptics the ability to test competitive products as well as different glazing combinations. This testing enables the company to provide solutions that achieve optimal lighting results. Sunoptics' commitment to excellence in product performance and R&D insure that the company maintains its industry leadership.

Outside of the United States, Sunoptics distributes to Mexico, Central America, South America, Europe, Africa, Australia, New Zealand, Turkey, Hungary, Poland, Sri Lanka, India, Malaysia, Indonesia, and wherever in the world the sun shines.



Sunoptics Photometric Test Lab



The skylights on this truck represent the equivalent of 240 kW of power plant output.



Thermal forming Sunoptics' high-performance prismatics.



High Performance Prismatic Daylighting

An AcuityBrands Company

6201 27th Street
Sacramento, CA 95822
(916) 395-4700 Phone
(916) 395-9204 Fax
pure.energy@sunoptics.com

For more information, call Toll Free:

1-800-289-4700

Or visit our website at:

www.sunoptics.com

© 2011 Acuity Brands Lighting, Inc. All Rights Reserved. 04/11. Form No. 1060.002



Because... There's No Greater Efficiency Than Off!®