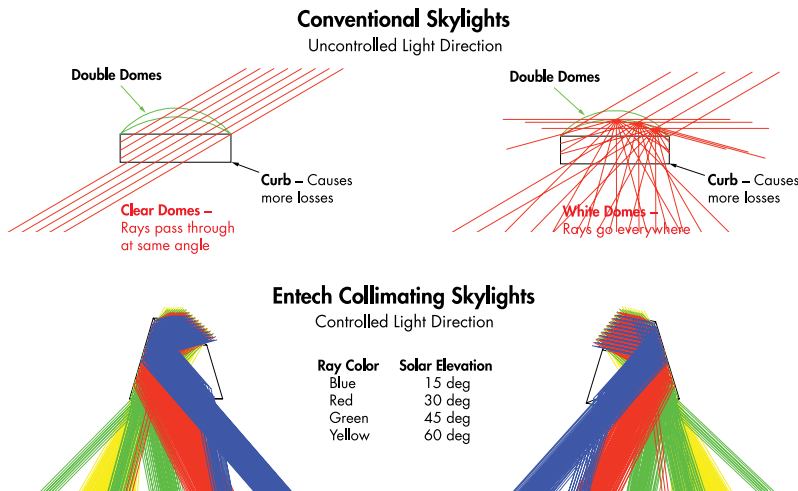


Daylighting

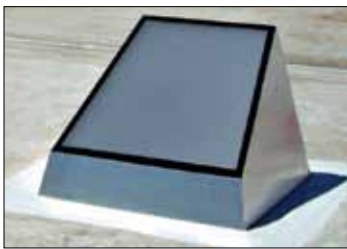
Daylighting is a truly sustainable way to displace artificial lighting and thereby reduce use of electricity. Natural daylight has additional benefits of improving student performance in schools, increasing sales in retail areas, and improving productivity and job satisfaction in the work environment. Providing daylighting with skylights on the roof is one of the best ways to provide natural lighting to interior spaces. Entech Solar has developed products that optimize the use of skylights to provide daylighting.

Entech Collimating Skylights

Entech Solar's patented technology efficiently collects and collimates sunlight to redefine the future of daylighting. Collimation is the technique of redirecting sunlight, which arrives from all directions from the sky above, to the desired interior space of the building below, throughout the day and throughout the year. Entech Solar's advanced daylighting technology uses a tilted window aperture to collect more sunlight above the roof than conventional horizontal skylights. The Entech Collimating Skylight typically requires only one or two reflections to optimally redirect the sunlight, thereby enabling the use of very low cost reflectors. This combination of high efficiency and low material cost redefines the daylighting cost per lumen.



The upper graphic above shows how conventional clear domed or white domed skylights work. Conventional skylights lack control over where the light goes inside the building. In contrast, the Entech Collimating Skylight redirects the incident sunlight to the working space beneath the skylight. This provides excellent engineered control over the light placement, without any moving parts or other complicated features.



The unique pyramidal shape of the Entech Collimating Skylight shown above begins collimation as soon as the sunlight enters the dome and is completed immediately under the roof inside the building. The dome aperture is tilted toward the equator to maximize the annual amount of sunlight that can be captured by a stationary skylight, and to provide a similar light output near solar noon year-round, simplifying lighting engineering design for the space below.

Entech Collimating Skylights

Features:

- Tilted aperture to maximize annual sunlight capture
- Integral dome and diffuser to maximize light transmission
- Collimation started immediately in skylight above the roof
- Secondary diffuser engineered to maximize quantity and uniformity of light delivered to desired area
- Water proof, welded aluminum assembly for maximum performance and reliability
- Thermally insulated skylight housing for minimizing heat transfer and eliminating condensation in skylight
- Collimation engineered to minimize light bounces allowing use of low cost reflectors
- Available in both 900 and 1,900 square inch aperture areas with respective outputs of about 50,000 and 120,000 lumens

Benefits:

- Three times the unit lumen output compared to conventional skylights
- Maximizes usable light and its quality delivered to working area
- Above features allow Entech to provide lower prices per lumen than ever before



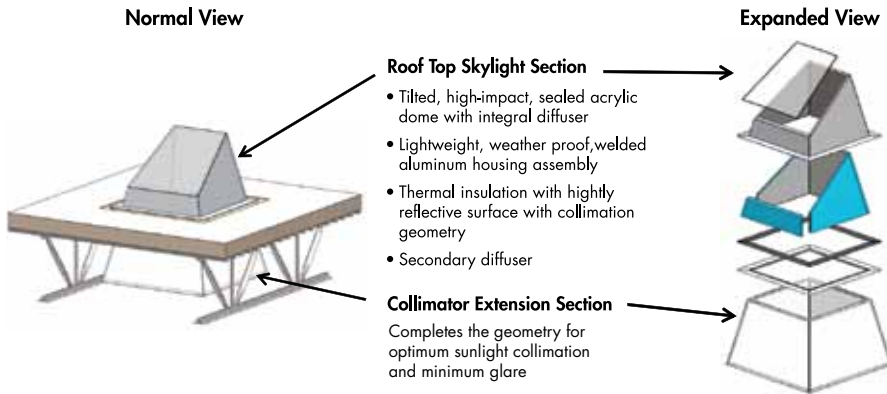
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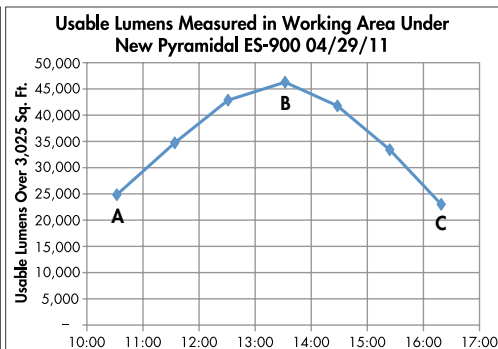
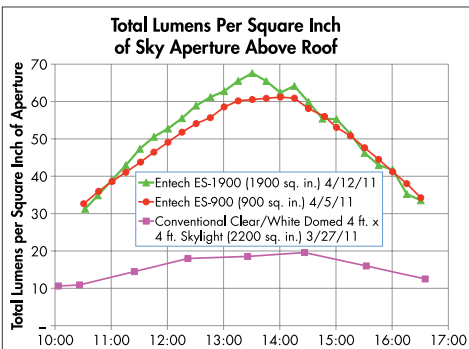
Entech Collimating Skylight



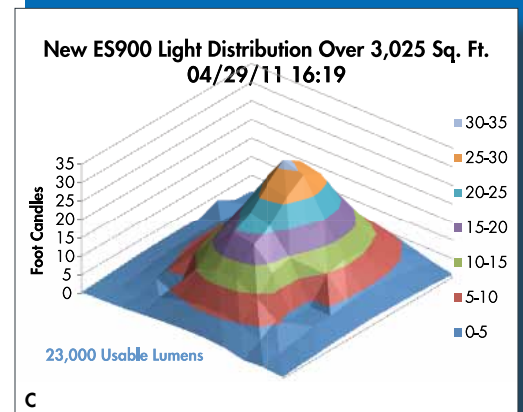
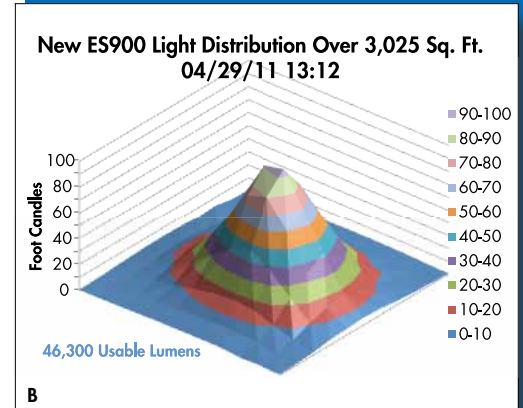
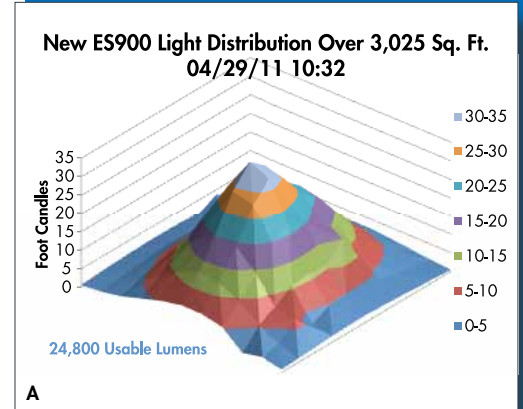
Key components of the Entech Collimating Skylight are shown above in a cutaway of a typical roof. This skylight is a perfect solution where significant amounts of light are required in large spaces, for example, warehouses, manufacturing facilities, big box stores with no ceilings, gymnasiums, auditoriums, etc. A tube can be added to the bottom of the collimator to provide a perfect daylighting solution for task lighting or work areas with a suspended ceiling, such as retail stores, offices, classrooms, libraries, conference rooms, hospitals, etc.

Entech Collimating Skylight Test Results

Entech Solar has created its own 17,000 square foot skylight laboratory at the Company's headquarters for confirming performance of its skylights as well as making side by side performance comparisons with skylights from other key manufacturers. In this laboratory, Entech Solar primarily takes two types of measurements to quantify the performance of each skylight: (1) total lumen output measured at the skylight, and (2) light distribution in the working area below the skylight, which we designate as usable lumens. The roof in the skylight lab is about 27 feet above the light sensors, and we define usable lumens as those contained within an angular region about +/- 45 degrees wide by about +/- 45 degrees long, or about 3000 sq. ft., measured from the centerline of the skylight. These two types of measurements are repeated over the course of a clear day to get total lumens, usable lumens, and light distribution data versus time.



Based on our side-by-side measurements, the lumens per square inch of skylight aperture area for two different sizes of the Entech Collimating Skylight are about 3 times greater than for a conventional domed skylight. The Entech Collimating Skylight also provides excellent, consistent light distribution at the working level throughout the day as shown in the A, B and C light distribution charts.



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