



BENEFITS OF Daylighting SERIES



DAYLIGHTING 101

Sunoptics®, the leader in integrated daylighting solutions, presents this educational series on the benefits of daylighting where we live, work and learn.

What is Daylighting?

You could ask multiple people the meaning of the word “daylighting,” and you will get various answers. Since the dawn of time, humans have used the sun’s natural, full-spectrum, visible light as its primary illumination source. Webster dictionary defines the word, Daylighting as simply “illumination of indoor spaces by natural light.”

However, daylighting is so much more than just the natural light in buildings! The Whole Building Design Guide website (<https://www.wbdg.org>) defines Daylighting as “the controlled admission of natural light, direct sunlight, and diffused-skylight into a building to reduce electric lighting and save energy.” This is the definition of daylighting that brings excellent value to a building owner/operator, as Daylighting isn’t just about using the light of the sun. It is the use of that light to offset the use of energy-consuming, carbon-producing, electricity-driven light sources in a space that are there because daylight isn’t present.

The main thing to understand about daylighting in buildings is that skylights and windows do not save energy; lighting control saves energy! There is a distinct difference between putting skylights in a building and putting in a daylighting solution with skylights. Without controls, skylights and windows can actually increase energy usage in a building. Their thermal performance can never match the thermal performance of the building envelope and let light in. Even slight adjustments in a lower U-Value or lower SHGC, which end up decreasing visible light transmission, reduce the opportunity to save energy through lighting controls by reducing the daily hours that daylight can be used as the primary illuminator source.

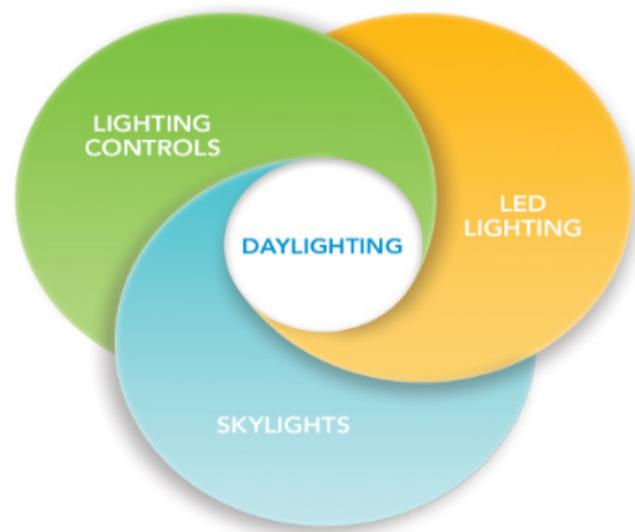
However, the inclusion of lighting control, the use of properly diffused and dispersed natural light as the primary illumination source, and dimming or turning off electric lighting provides electric energy savings and the inherent carbon reduction that comes from reduced energy usage. All this while providing a lighting source that has been proven repeatedly to provide humans with their most productive and desired lighting source.

The True Definition of Daylighting Solution

Today’s building inhabitant is very used to using electric-powered illumination in the built environment. Despite those of us who are daylighting geeks, humans turn on the lights when they start the day in the morning. If they are not leaving that space, they will leave the electric lights on — even in the presence of plenty of natural illumination from the daylight in the space. Manually turning the lights off is not a natural tendency. This is why the true definition of daylighting in buildings is a solution where natural light (without glare and harmful visual impediments) can be utilized as the primary illumination source, complemented by electric lighting with integrated lighting controls. Combining these elements results in the intrinsic value of properly diffused and dispersed daylight and the realized energy savings associated with automatically dimming and turning off the electric light when it is not necessary.

The Optimum Solution

The optimum solution for daylighting for the built environment is not fully realized unless the trifecta of using properly diffused and dispersed daylighting, with the integration of lighting control, in coordination with electric lighting in a systems approach. It is then, and only then, that daylighting becomes a passive solar, energy-efficient building solution that has economic benefits, environmental benefits, and social benefits from documented human performance increases.





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DAYLIGHTING 101 continued...

The Sunoptics Difference

At Sunoptics® Prismatic Skylights and Daylighting Systems, our proprietary Signature™ Series prismatic skylights, smoke vents, and LightFlex™ tubular daylighting devices (TDD) are just one piece of the total daylighting solution. This is the same place where many “skylight” manufacturers who promote “Daylighting” are limited. However, on February 24, 2011, Sunoptics was acquired by Acuity Brands, a North American leader in energy efficiency through connected solutions in lighting. This enabled Sunoptics, the innovator and inventor of high-performance plastic prismatic skylights, to become the ONLY complete daylighting solution provider with high-performance prismatic daylighting solutions, lighting controls, and solid-state LED lighting solutions. If you are designing, specifying, owning, or operating single-story buildings for retail, warehouse, distribution, manufacturing, or schools and universities, the benefits of high-performance daylighting solutions have advantages that make financial, environmental, and social / ESG initiative sense. After all, when it comes to Daylighting, *There's No Greater Efficiency Than Off!*®

Please visit and bookmark our Daylighting Blog at: <https://insights.acuitybrands.com/daylighting> for more articles in the Benefits of Daylighting series.

Grant Grable, LEED A.P. is the Vice-President of Business Development for Sunoptics® Prismatic Skylights and Daylighting Systems, an Acuity Brands Company. Grant has spent more than 19 years of his career in the promotion of the financial, environmental, and human impact of daylighting solutions, as well as green building energy efficiency measures.