

The Daylighting Dilemma

- How do you receive the exact daylighting you want, no more and no less?
- How do you avoid unwanted solar heat gain?
- How do you control daylighting glare?

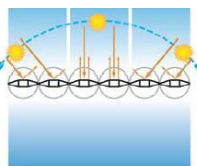
The Problem

- Sunlight transmits solar heat gain and glare through the glazing
- Solar heat inside the space is generally correlated to light transmission, glazing performance, Solar Heat Gain Coefficient (SHGC) values, and the size of the glazing area in relation to the space
- Many traditional passive skylight designs are compromises, resulting in a failure to maximize daylighting benefits
- Passive skylight designs deliver too much solar heat on hot sunny days and during peak sunlight hours or too little light on dark gloomy days
- Passive skylight designs provide no control over glare, sun-shading, and high energy costs

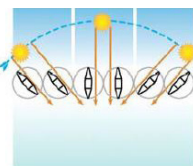
The Solution

IntelaSun® offers controlled daylighting that delivers the exact daylight amount you want - no more, no less. Intelligent SolaBlades® within the glazing panels gauge the sun's position in the sky to dynamically manage the desired sunlight, solar heat, and sun-shading inside the space. The IntelaSun Controlled Daylighting System provides more daylight in the winter, morning, late afternoon, and on dark gloomy days, and less daylight in the summer and peak sunlight hours.

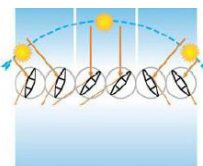
The SolaBlades can be set to deliver direct or diffused sunlight. By angling the sunlight that penetrates the space, the SolaBlades make use of the physical fact that light hitting at an angle delivers less energy per square foot than direct sunlight. A sun-tracking sensor also allows alignment of the SolaBlades to an optimal position in relation to the sun's position in the sky, to harvest daylight that would otherwise be lost due to the low incident angle of the sun early and late in the day.



Minimum Light Transmission and Solar Heat Gain



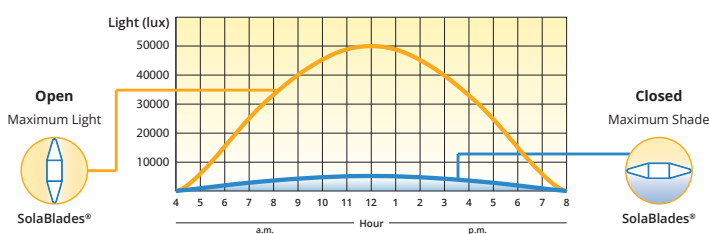
Maximum Light Transmission Regardless of the sun's angle



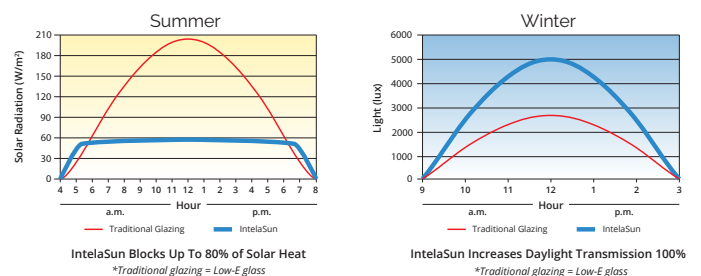
Angled to diffuse light transmission to suit user preference

Typical Light Level (lux) vs Hour of Day

IntelaSun® Delivers Any Amount of Sunlight Desired



IntelaSun® Compared to Traditional Glazing



Controlled Daylighting: The Design Strategy

Our IntelaSun[®] Systems use extra design strategies so they can provide preferred levels of BOTH light transmission and solar heat, including the following:

Enlarge And Shade

- Design strategy allows for larger daylighting apertures to harvest maximum daylight in the morning, evening, and on dark gloomy days
- The system design scales down the daylighting area during hot sunny days and peak sunlight hours by dynamically shading the oversized daylighting area

The Sun's Position In The Sky

- Innovative sun sensors gauge the sun's position in relation to the skylight, allowing delivery of the exact preferred daylighting mix - no more, no less

Angling The Sunlight

- The system's design allows altering of the SolaBlades to deliver direct or diffused sunlight
- By angling the sunlight that penetrates the space, the blades make use of the physical fact that light hitting at an angle delivers less energy per square foot than direct sunlight

Low-Angle Sunlight Harvesting

- Controlled daylighting sun-tracking sensors also allow optimal position alignment of the SolaBlades, harvesting daylight that would otherwise be lost due to the low incident angle of the sun early and late in the day

Diffused Daylighting

- The system can deliver direct or diffused daylighting with effective glare control

Controlled Daylighting: The Benefits

The IntelaSun Controlled Daylighting System fosters a comfortable and productive indoor environment year round while benefitting the architect and owners' creation of the space.

Solar Control

- Maintains the perfect balance between light transmission, sun-shading, and thermal performance

Energy Savings

- Provides savings on energy costs due to reduced energy consumption during hot summer months
- Reducing solar heat gain at peak demand provides upfront savings on capital expenses for HVAC systems
- Can be integrated with artificial lighting controls for energy savings

Light Pollution Control

- Dynamically or manually reduces light pollution at night
- Reflects artificial light back into the space

Green Construction

- Helps green construction projects earn LEED Certification through a variety of credits

Design Control

- Empowers architects with the flexibility to design large glazed opening
- Avoids potential design mistakes related to the glazing selection or the size of the glazing area