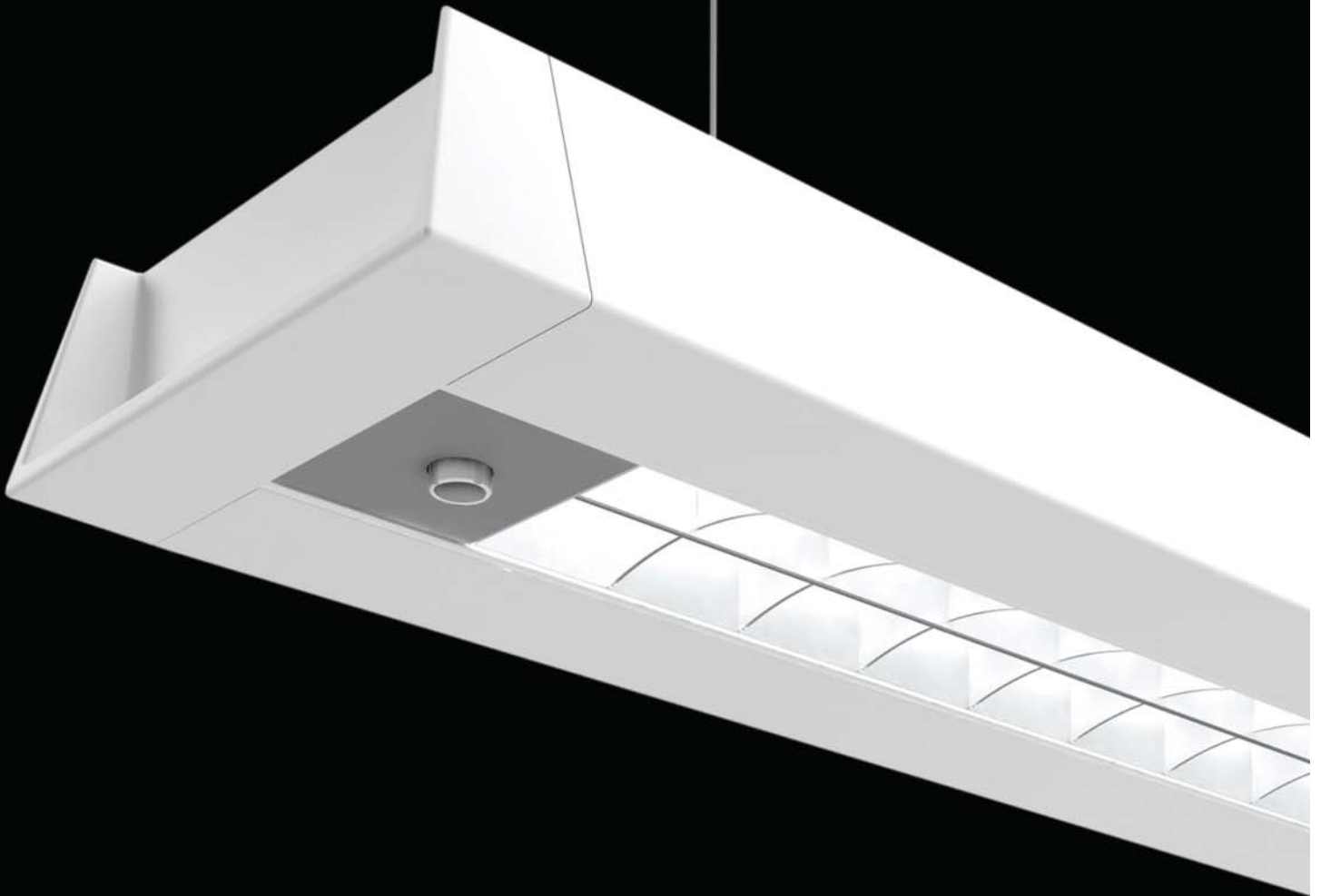


Corelite™



DaySense™

Technical Guide



DaySense™

Integrated Luminaire Daylight Sensor



Save energy and make your environment SMART with a little help from the sun.

- 35% Energy Savings Potential*
- Commissioning Not Required*
- Dimming Control Systems Not Required*
- 'Plug-N-Play' Setup: Install it and it Works*
- Small, Unobtrusive Sensor Design*
- Adjustable Light Sensitivity*



Create a truly smart lighting system by combining DaySense's innovative light-sensing technology with a variety of standard Corelite suspended direct-indirect fluorescent lighting systems. The beauty of DaySense lies in its combination of technology and simplicity. The DaySense technology conserves energy by sensing a rise in ambient light levels as the result of an influx of daylight, and reacts by signaling the luminaire to reduce light output. The end result is lower energy bills and a lighter carbon footprint. The DaySense's simplicity lies in its ease of set-up and installation; just install the luminaire and it works. Expensive and complicated control systems are not required - all of the intelligence is inside. Now that's a pretty SMART ENVIRONMENT.



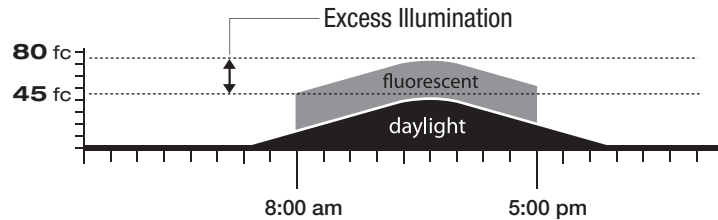
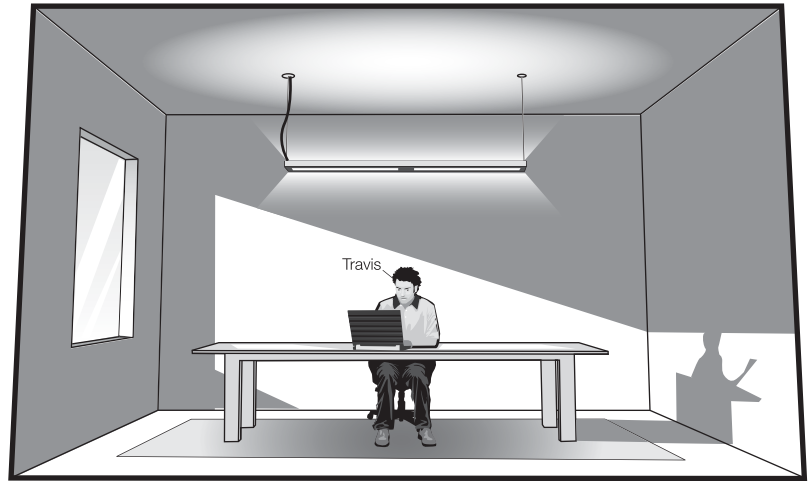
A SMART ENVIRONMENT by CORELITE



Typical Workday:

Without DaySense Sensor

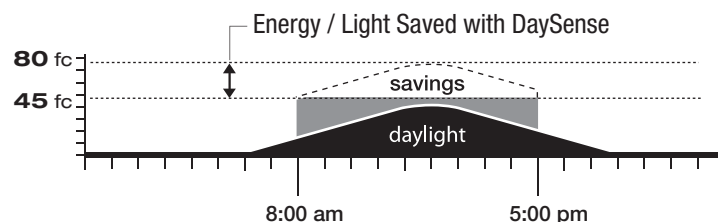
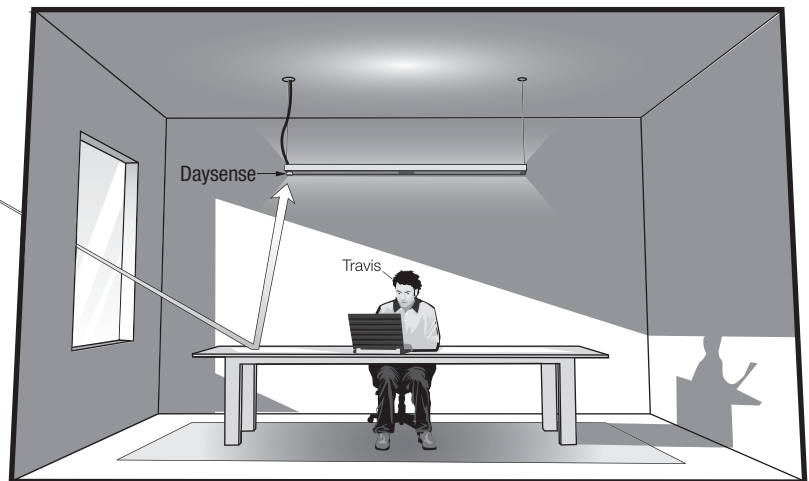
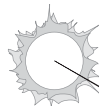
In this example, the employee turns on his light at 8:00 am and turns it off at 5:00 pm. The work surface is over-illuminated in the middle of the day, rendering the fluorescent luminaire useless (wasted light) as the work surface is adequately illuminated with sunlight.



Typical Workday:

With DaySense Sensor

In this example, the Corelite DaySense technology senses a rise in ambient illumination and dims the luminaire in response. DaySense is calibrated to maintain a maximum of 45 footcandles* of fluorescent light on the work surface. As the daylight increases, fluorescent light will decrease. The end result is major energy savings.

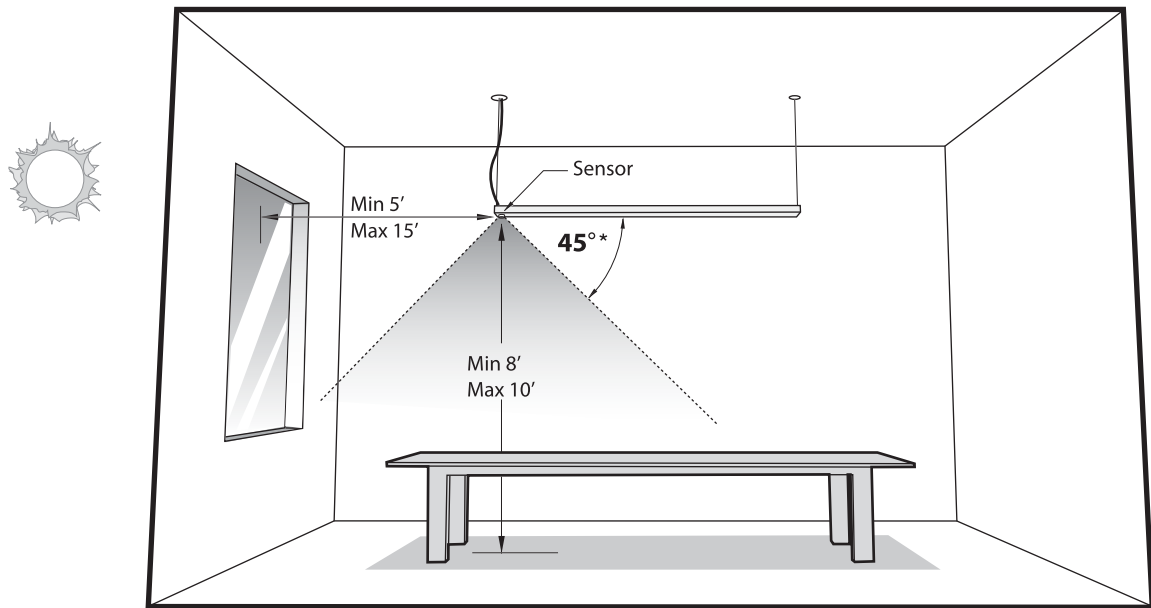


*Assumptions: Typical room reflectances, high reflectance matte finish furniture, 8'-10' sensor mounting height.

Sensor Info

Sensor Mounting Guidelines

In order to optimize the sensor's performance, it is important that the sensor is mounted in accordance with factory recommendations below.




*Approximate "cone of sight". Cone will vary dependent on sensor's setting.

Warning: Sensor will not perform properly if positioned directly over dark and/or reflective surfaces.

Adjusting the Sensor in the Field

The sensor is set at the factory at its mid-point, although, depending on field conditions, the sensor can be manually adjusted in the field to be either more or less sensitive. Sensor sensitivity may be adjusted to be either 3 times greater or 1/3 less than the factory pre-set.



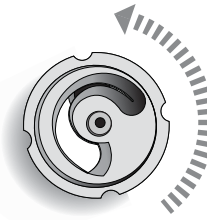
Factory Pre-Set

At the factory pre-set position, the sensor will maintain a maximum of 45 footcandles of fluorescent light at its mid-point (assuming optimal room reflectances and a 8'-10' mounting height).



More Sensitive

By rotating the sensor clockwise, its sensitivity will increase three fold beyond the factory pre-set. This means LESS FLUORESCENT LIGHT, as well as the greatest energy savings potential.



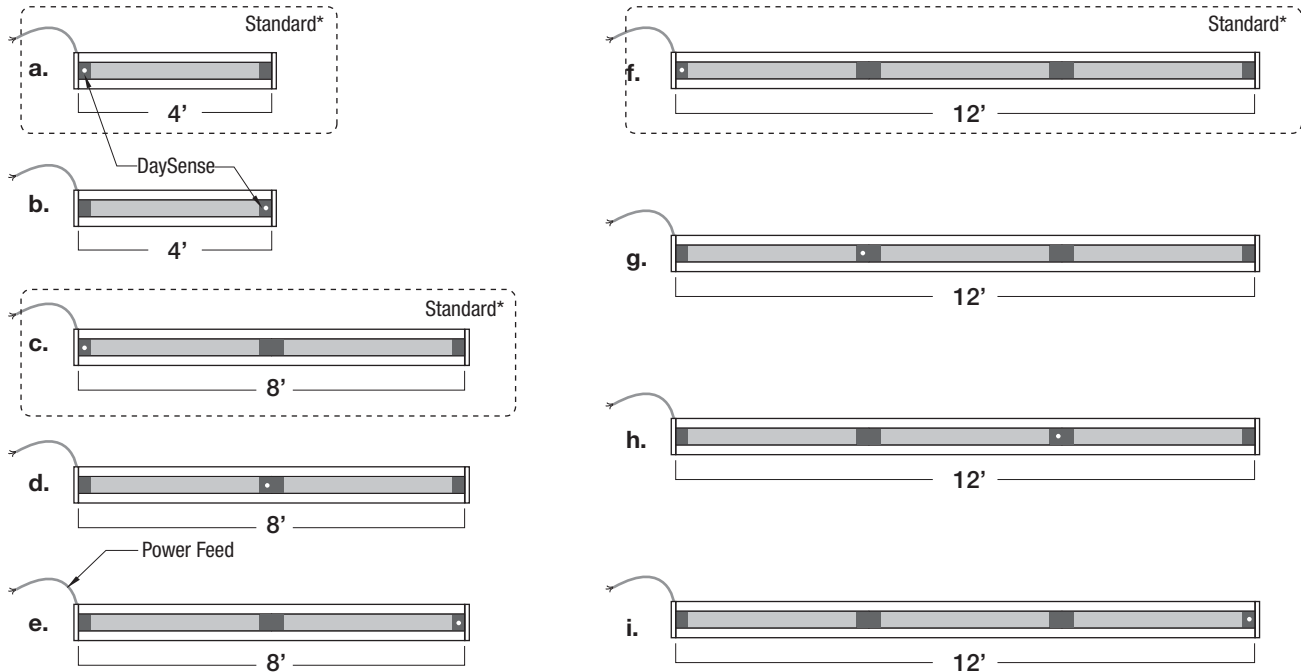
Less Sensitive

By rotating the sensor counter-clockwise, the dimming function will essentially be disabled. This position will INCREASE THE AMOUNT OF FLUORESCENT LIGHT present on the work surface.



Sensor Locations - Individual Luminaires

It is important to understand that there are limited possible locations for sensors, while also noting the sensor's location with regard to the power feed location. Sensor locations and power feed locations need to be clearly noted in the electrical drawing.



**Standard sensor location with regard to power feed; consult factory for all other options. Non-standard sensor locations must be clearly noted in electrical drawings.*

Sensor Locations - Continuous Rows

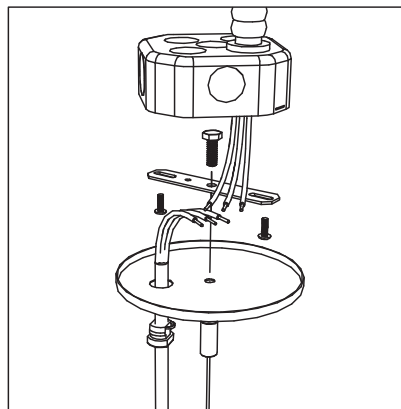
Standard Corelite products may be configured into limitless length, lamp quantity and circuiting configurations. One sensor may control up to 20 ballasts, although adding multiple sensors within a continuous row, or having a single sensor control a long run may create complex wiring scenarios that will involve approved detailed drawings via the Corelite submittal process. For best results, contact Corelite technical assistance on applications involving multiple sensors and/or longer runs.



20' Continuous row example: one sensor may control up to 20 ballasts

Installation

Corelite fluorescent luminaires with integral DaySense technology install as per standard Corelite products with one exception: for all continuous row applications, the contractor is required to make 2 additional wire connections as per typical low voltage dimming applications. For more detailed standard product installation instructions, visit www.corelite.com



2 Additional Control Through Wires for Continuous Rows

How to Specify and Order DaySense

Electrical Drawings and Configurations

Sensor specification and/or notations within electrical drawings should be done so by a certified professional. Each luminaire having a sensor will be wired in accordance with approved electrical drawings. Configurations will be approved via the Corelite submittal process.

1 Select Product Series

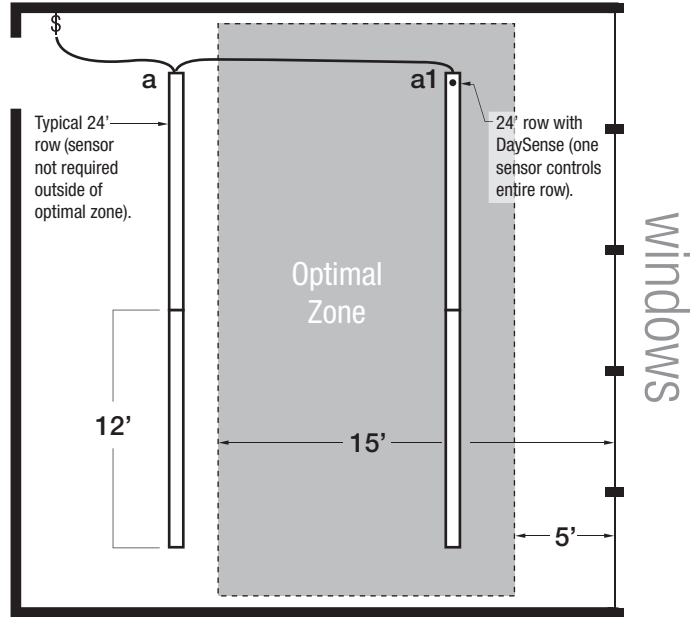
The suspended linear direct-indirect series¹ listed below offer DaySense as a standard option. Consult factory for availability of DaySense in product lines not listed below.

2 Specify Circuiting, Dimming and Voltage

The DaySense sensor must be used in conjunction with 0-10v dimming ballasts operating on a single circuit. This will be noted as "1D" in the "Number of Circuits" and "Wiring" ordering fields. Fixture voltage must also be specified as dimming ballasts are voltage-specific (UNV not available). Luminaires having DaySense require a simple switched (on/off) circuit for operation. Additional control hardware is not required.

3 Specify Sensor

When "DS" is specified as the option in the last ordering field, it is assumed that one sensor is controlling the entire row, regardless of the sensor's location within that row. Consult factory for applications requiring more than one sensor per row. For best results Corelite recommends utilizing DaySense in "Individual" luminaire lighting applications.



Type A1

24' row with DaySense (sensor controls entire row). Critical DaySense ordering requirements in gray.

Catalog #

E2 - **WM** - **2T5** - **1D** - **277** - **AC48** - **T1** - **24'** - **DS**



a Product Series	b Optics Up	c Optics Down	d Quantity of Lamps	e Lamp Type	f Number of Circuits	g Wiring
E2=Element L2=Loft VB=Vertechs TB=Traverse NB=Navigator MB=Minigator	W=White S=Specular	B=Cross Blade Louver C=Concave Metallic Perf H=RPerformance Louver M=Micro Prismatic lens W=High Efficiency Louver	1=1 lamp 2=2 lamp 3=3 lamp	N5=T5 Normal Output T5=T5 High Output T8=T8 Normal Output	1=1 Circuit 2=2 Circuits	C=Standard Circuit B=Battery Pack D=Dimming T=Nightlight E=Emergency Y=Daylight
1					2	2
h Voltage	i Suspension	j Power Feed	k Suspension Length	l Ceiling Type	m Run Length	n Options
120=120v 277=277v UNV=Universal 347=347v	A=Aircraft Cable P=Rigid Pendant	C=Straight Cord K=Curly Cord P=Rigid Pendant	Adjustable Cable 48", 120", 240", 300" or 360" Rigid Pendant 12", 15", 18", 21", 24" or 27"	T1=1" T-Bar T9=9/16" T-Bar TS=Slotted T-Bar ST=Structure JB=4" Octagonal J-Box	Specify overall run length in feet	DS=DaySense, Integral Daylight Sensor
2						3

*Not all options available. Please consult your Corelite representative for availability. Specifications and dimensions subject to change without notice.



Specifications

Description

DaySense is an energy-saving integral luminaire daylight sensor. The sensor "sees" in a downward direction and it reacts to increases in room brightness along a horizontal surface within its field of view. As room surfaces increase in brightness (as a result of daylight) beyond the pre-set threshold, the sensor then delivers a signal to the luminaire's dimming ballast to reduce light output. The sensor is regulated so as not to exceed a prescribed amount of electrical light, as defined by the sensor's geometry and setting. The sensor is limited to the dimming range of the luminaire's dimming ballast.

Mounting Guidelines

Please follow factory recommendations for best results:

1. Mounting Height: 8'-10' above finished floor
2. Distance from Window: 5'-15'
3. Room Finishes: As a general rule, for best results specify bright (preferably white) colored room surfaces (this should also include furniture and flooring material) having high reflectance values and a matte finish.

Dimming Ballast

DaySense will only work with dimming ballasts that operate under a 0-10 volt signal. Lamp options are limited to the available options provided by the dimming ballast manufacturer. Consult factory for dimming ballast availability. Corelite recommended ballasts include the Advance Mark VII and the Sylvania Helios.

System Design, Layout and Application

For best results, Corelite recommends the utilization of "individual" luminaire configurations. Individual luminaire applications help ensure a more localized reaction and orientation to the daylight conditions of the task. For example, if a sensor is 50' away from the ballast that it is controlling, it may be dimming lamps in an area that is absent of daylight, and in turn making a task or environment unsafe due to lack of ambient light.

The ideal application for DaySense is a small private office or conference room having plenty of available daylight. In these situations, the sensor may be optimally positioned directly over a work surface, which will ensure the sensor is reacting directly to the light conditions of the work surface it is monitoring. This sensor/task alignment may be more difficult to achieve in open office spaces with cubicles and miscellaneous obstructions.

Specification and Ordering

Given the "made-to-order" nature of Corelite luminaires, it is difficult to provide all required information in the catalog number with just the "DS" option. The submittal process will provide necessary detail for more complex scenarios. Regardless of row length or sensor location within the row, simply note "DS" at the end of the catalog number to define luminaires having a DaySense sensor. Corelite will assume that the entire row will be controlled by that one sensor unless otherwise noted. For questions regarding specification and ordering, please consult Corelite Technical Assistance and/or Customer Service.

Installation and Set-Up

DaySense luminaires must be installed by a certified professional electrician as per national and local electrical codes. Luminaires having DaySense sensors install as per typical Corelite luminaires (minus sensor). Visit www.corelite.com for detailed installation instructions for each product series. Corelite suspended luminaires easily mount to existing structure and/or ceiling systems with minimal structural hardware requirements. Luminaires with DaySense require only one additional step beyond standard installation: two additional wire connections in through-wire situations, in continuous rows.

Wall Switch Requirements

Although luminaires with DaySense require dimming ballasts, they do not require dimming and/or additional lighting controls. Luminaires install as per any standard single circuit on/off (single circuit - "1C") luminaire. A simple on/off wall switch delivers the required line voltage to the ballast, and the sensor in turn dims the ballasts independently of the line voltage circuit.

Field Adjustment of Sensor

The DaySense sensor is pre-set at the factory to maintain a maximum of 45 footcandles of fluorescent light under typical conditions. In the event of circumstances requiring either more or less fluorescent light contribution, the sensor may be adjusted within a range of 1/3 to 3 times the factory pre-set. To adjust the sensor in the field, it is recommended that it be done at night by a certified lighting professional, and that a light meter be utilized to ensure IES recommended light levels are still present for the work surface and/or the environment.

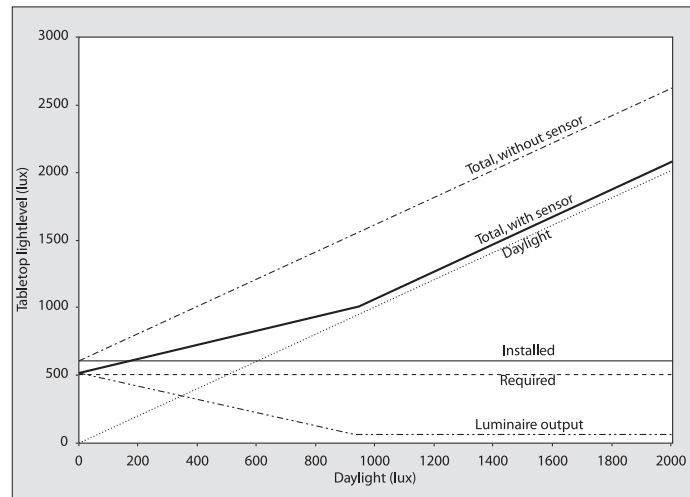
Energy Savings Potential

DaySense is an innovative energy-saving device, and the level of savings is highly dependent upon the geographic location and season. Results will vary.

		south	north
summer	windowside	55%	45%
	corridorside	35%	25%
winter	windowside	45%	35%
	corridorside	25%	15%

DaySense Controls Characteristics

DaySense compensates for approximately 50% of the added light (simulated and measured with a fluorescent light source). See graph below. In the case of a natural light source, the compensation is greater than 50%.



*Please note DaySense is not designed for maintaining a constant light level.

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