Radio Powr Savr™

Installation Instructions
Please Read Before Installing

English

Wireless Battery-Powered Daylight Sensor

LRF5-DCRB 3 V⎓ 7 µA 865 MHz

Compatible Products

For a full list of compatible products visit www.lutron.com/globalenergysolutions

Product Description

Lutron's Daylight Sensor is a wireless, ceiling-mounted, battery-powered device that automatically controls lights through RF communication with a dimming or switching device. The Sensor detects light in the space, and then transmits the appropriate commands to the associated dimming or switching device. When sufficient daylight is available, the system will decrease or turn off the electrical light. When insufficient daylight is available, the system will increase the electrical light.

- **Easy-to-follow Instructions**

P/N 041-313

Important Notes

1. This Sensor is part of a system and cannot be used to control a load without a compatible dimming or switching device. Refer to the instruction sheets of the receiving devices for installation information.
2. ***Clean Sensor with a soft damp cloth only.*** **DO NOT** use any chemical cleaners.
3. The Sensor is intended for indoor use only. Operate between 0 °C and 40 °C (32 °F and 104 °F).
4. **DO NOT** paint Sensor.
5. Use only high-quality lithium batteries, one (1) size CR2450, 3 V⎓ (ANSI-5029LC, IEC-CR2450). **DO NOT** use rechargeable batteries. Using improperly rated batteries could damage the Sensor.

NOTICE: DO NOT disassemble, crush, puncture, or incinerate batteries. DO NOT dispose of batteries in normal household waste. Please recycle, take to a proper battery disposal facility, or contact your local waste disposal provider regarding local restrictions on the disposal or recycling of batteries.

6. The range and performance of the RF system is highly dependent on a variety of complex factors such as:
   - Distance between system components
   - Geometry of the building structure
   - Construction of walls separating system components
   - Electrical equipment located near system components

WARNING: Entrapment hazard. To avoid the risk of entrapment this product must not be used to control equipment which could create hazardous situations, such as entrapment, if operated accidentally. Examples of equipment which must not be controlled with this product include (but are not limited to) motorized gates, garage doors, industrial doors, etc. Accidental operation of the above equipment with this product could result in serious injury or death.

Technical Assistance

For questions concerning the installation or operation of this product, call the ***Lutron Technical Support Center.*** Please provide exact model number when calling.

India, New Delhi
+91.12.4471.1900

United Kingdom
0800.282.107 or +44.(0)20.7680.4481

Other countries 8am – 8pm EST
+1.610.282.3800 www.lutron.com

Lutron Electronics hereby declares that LRF5-DCRB is compliant with the essential requirements and other relevant provisions of Directive 1999/5/EC. A copy of the DoC can be obtained by writing to: Lutron Electronics Co., Inc. 7200 Suter Road, Coopersburg, PA 18036 U.S.A.

Limited Warranty

Lutron EA Ltd. ("Lutron EA") warrants each unit to be free from defects in material and workmanship and to perform under normal use and service. To the extent permitted by law, Lutron EA and Lutron Electronics Co. Inc. ("Lutron") make no warranties or representations as to the units except as set forth herein. This warranty shall run for a period of two years from the date of purchase and Lutron's obligations under this warranty are limited to remedying any defect, replacing any defective part or replacement (at Lutron EA's sole option) and shall be effective only if the defective unit is shipped to Lutron EA postage prepaid within 24 months after purchase of the unit. Repair or replacement of the unit does not affect the expiry date of the warranty. This warranty does not cover damage or deficiencies due to abuse, misuse, inadequate wiring or insulation or use or installation other than in accordance with instructions accompanying the unit. To the extent permitted by law, neither Lutron EA nor Lutron shall be liable for any other loss or damage including consequential or special loss or damages, loss of profits, loss of income, or loss of contracts arising out of or relating to the supply of the unit or the use of the unit and the purchaser assumes and will hold harmless Lutron EA and Lutron in respect of all such loss or damage. Nothing in this warranty shall have the effect of limiting or excluding Lutron EA's or Lutron's liability for fraud or for death or personal injury resulting from its own negligence, or any other liability, if and to the extent that the same may not be limited or excluded as a matter of law. This warranty does not affect the statutory rights of consumer purchasers of this product. Although every attempt is made to ensure that catalogue information is accurate and up-to-date, please check with Lutron EA before specifying or purchasing this equipment to confirm availability, exact specifications, and suitability for your application.

LUTRON®

Lutron Electronics Co., Inc.
7200 Suter Road
Coopersburg, PA 18036-1299, U.S.A.
3/11 P/N 041-313 Rev. A

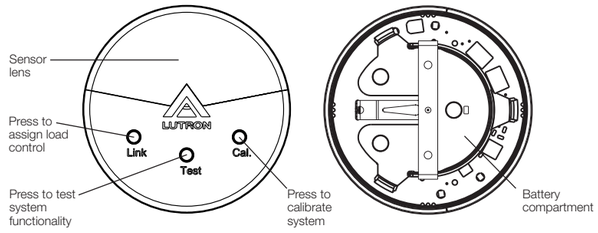
Instructions

Install a Sensor in as little as 15 minutes.

Getting Started:

Key Features

- **Easy Installation.** No wiring required.
- **Easy Set-Up.** Default settings are ideal for most situations. Simple and intuitive adjustments available.
- **Low Maintenance**. 10-year battery life.
- **Daylight Dimming and Switching.** Sensors integrate with various Lutron Dimmers and Switches.
- **Multiple Devices.** Each Sensor may be added to up to 10 receiving devices.



Sensor Operation: Daylight Sensor Only

Switching – The lights must be manually turned on at the switching device. The Sensor will automatically turn the lights off 15 minutes after sufficient daylight is available in the space.

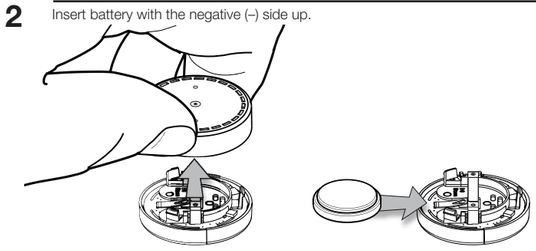
Sensor Operation: Daylight & Occupancy Sensor

Switching – The lights will automatically turn on when the space is occupied and there is not sufficient daylight available. The Sensor will automatically turn the lights off 15 minutes after sufficient daylight is available in the space. **NOTE:** For dimming and switching systems, the lights can also be manually turned off at any time by using the dimming or switching device directly.

A Pre-Installation

1 Before setting up the Sensor, the corresponding dimming or switching device(s) should be installed. Refer to that product's installation sheet for instructions.

2 Insert battery with the negative (–) side up.



B Set-Up

In order for the Sensor to operate properly, it must first be set up with a corresponding dimming or switching device.

To set up a sensor with a device, visit www.lutron.com or consult the installation guide for that device.

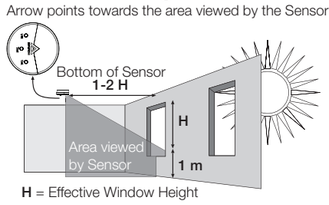
C Sensor Placement

Determine the Daylight Sensor Mounting Location using the diagrams below:

- The arrow on the Daylight Sensor points toward the area viewed by the Sensor.
- Place the Daylight Sensor so its arrow is pointed at the nearest window at a distance from the window of one to two times the effective window height (H).
- The effective window height (H) starts at the window sill or 3 ft (1 m) up from the floor, whichever is higher, and ends at the top of the window.
- Ensure that the view of the Daylight Sensor is not obstructed.
- **Do not position the Daylight Sensor above an electric light that shines up at the ceiling or at the Sensor.**
- Do not position the Daylight Sensor in the well of a skylight.
- For narrow areas where the Daylight Sensor cannot be placed 1-2 (H) from windows, place Sensor near windows facing into the space.

Location for average size areas

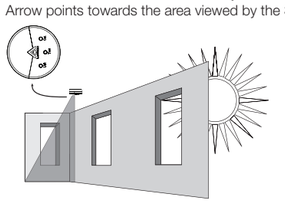
Arrow points towards the area viewed by the Sensor (toward windows)



H = Effective Window Height

Location for narrow areas (corridors, private offices)

Arrow points towards the area viewed by the Sensor (away from window)



D Temporary Mounting Methods

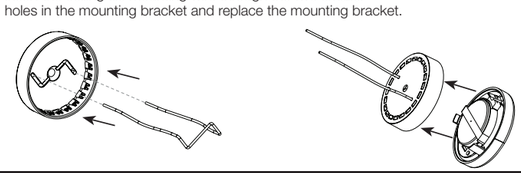
If you are uncertain about correctly positioning the Sensor, the following temporary mounting and testing procedures are recommended to verify proper performance before permanently installing the Sensor.

1 Temporary Mounting: Drop Ceiling

Use this procedure if the Sensor will be mounted on a ceiling tile.

The ceiling tile mounting wire is provided for both temporary and permanent mounting of the Sensor to drop ceilings composed of multiple tiles. It is designed to allow temporary mounting, testing, and repositioning (if necessary) of the Sensor without damaging a ceiling tile. Once the Sensor's final position has been chosen, the mounting wire can be twisted to lock the Sensor in place permanently.

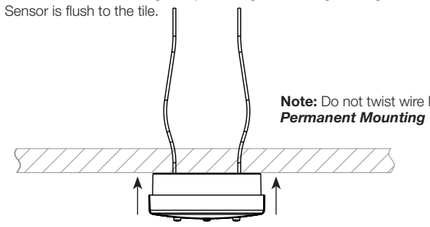
1.1 Insert the ceiling tile mounting wire through the two smaller holes in the mounting bracket and replace the mounting bracket.



D Temporary Mounting Methods *continued*

1 Temporary Mounting: Drop Ceiling - *continued*

1.2 Mount Sensor to a ceiling tile by inserting the wire legs through the tile making sure the Sensor is flush to the tile.



Note: Do not twist wire legs together until ***Permanent Mounting*** **(Section H)**.

1.3 Perform the Calibration and Test the Sensor as described in sections ***E. Calibration*** and ***F. Testing the Daylight Sensor***.

1.4 If the Sensor does not perform satisfactorily from this location, it may be moved to another location by pulling the Sensor straight down and repeating steps 1.2 and 1.3.

1.5 If the Sensor's performance is satisfactory, it should be permanently attached to the ceiling tile, as described in section ***H. Permanent Mounting Methods***.

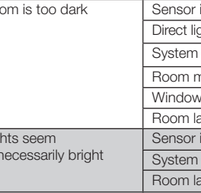
2 Temporary Mounting: Solid Ceiling

Use this procedure if the Sensor will be mounted on a solid, continuous ceiling surface such as drywall, plaster, concrete, or wood.

Two 3M™ Command™ adhesive strips are provided for temporarily mounting and testing the Sensor on smooth, solid ceiling surfaces. These strips are designed for easy, damage-free removal and are not reusable. These strips should not be used for permanently mounting the Sensor (see section ***H. Permanent Mounting Methods***). Carefully follow the removal instructions below to ensure the ceiling is not damaged during removal.

NOTE: DO NOT use the adhesive strips on ceiling tiles, as they will likely cause damage to the tile upon removal.

2.1 Peel the **red** "Command Strips" liner off of one of the adhesive strips and apply the strip to the flat side of the mounting bracket as shown in the diagram. Press firmly.



NOTE: Leave the removal tab exposed past the edge of the bracket so it can be accessed for removal later.

2.2 Identify a location for the Sensor (see section **C. Sensor Placement**).

2.3 Remove the **black** "wall side" liner from the adhesive strip.

2.4 Position the mounting bracket on a clean, dry, dust-free ceiling and press firmly for several seconds.

2.5 Attach the Sensor to the mounting bracket.

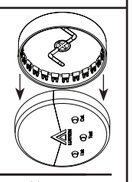
2.6 Perform the Calibration and Test the Sensor as described in section ***E. Calibration*** and ***F. Testing the Daylight Sensor***.

2.7 If the Sensor does not perform satisfactorily from this location, it may be moved to another location. Simply remove the temporary mounting strip, steps 3.1 – 3.2, and repeat steps 2.1 – 2.6.

2.8 If the Sensor's performance is satisfactory, it should be permanently attached to the ceiling tile, as described in section ***H. Permanent Mounting Methods***.

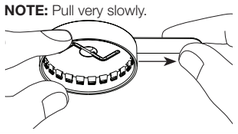
3 Removing Temporary Mounting Strip

3.1 Remove the Sensor from the mounting bracket by pulling downward.



3.2 To remove the bracket from the ceiling, firmly hold the mounting bracket with one hand and grasp the removal tab on the adhesive strip with the other hand. Pull the tab **VERY SLOWLY** straight across the ceiling, stretching the strip until the bracket releases from the ceiling. Discard the strip. **NEVER** pull the strip at an angle, as it may break or damage the ceiling surface.

NOTE: Pull very slowly.



NOTE: Do not pull at an angle.

E Calibration

Before calibrating, ensure power to the lighting circuit is ON and the lighting control system is set up.

WARNING: Electric shock hazard. Death or serious injury could occur if the lighting circuit is energized before wiring is complete and all persons are clear of fixtures/devices. Turn power ON only after checking that it is safe to do so.

Calibration must be done when daylight is available but not extremely bright, i.e. when some artificial light is required to achieve the desired light level in the space.

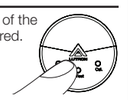
For instructions on tuning or calibrating the sensor, refer to the instruction sheet of the dimming or switching device.

F Testing the Daylight Sensor

Before testing, ensure power to the lighting circuit is ON and the lighting control system is set up and calibrated properly.

WARNING: Electric shock hazard. Death or serious injury could occur if the lighting circuit is energized before wiring is complete and all persons are clear of fixtures/devices. Turn power ON only after checking that it is safe to do so.

1 Activate Test mode by tapping the "Test" button on the front of the Sensor. The lens will flash indicating that the mode was entered.



The Sensor's lens will continue to flash every 5 seconds indicating that the Sensor is still in the selected mode.

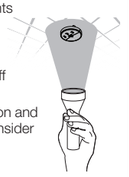
2

If lights are dim/off:

- **Cover the Sensor –** The system should switch on the lights in the room.

If lights are bright/on:

- **Shine light on the Sensor –** The system should switch off the lights in the room.
- **Do nothing to the Sensor –** If the lights in the room cycle on and off, there is too much feedback from the electric lights. Consider moving Sensor away from electric lights or re-calibrate the system (see section ***E. Calibration***).



3 To exit Test mode prior to entering another mode, tap the "Test" button on the Sensor.

G Tuning the System (Optional)

Tuning can be used in rooms controlled with more than one switch. The following procedure can be used to make one zone of lights turn on and off at a different light level than the other zones in the space.

For instructions on tuning or calibrating the sensor, refer to the instruction sheet of the dimming or switching device.

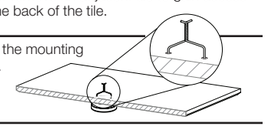
H Permanent Mounting Methods

Do not permanently mount the Sensor unless sections **A – F** have been completed and the system performs to your satisfaction.

1 Permanent Mounting: Drop Ceiling

1.1 After the Sensor has been temporarily mounted, leave the Sensor in place on the tile and either take the tile down or remove an adjacent tile to gain access to the legs of the mounting wire on the back of the tile.

1.2 Twist the wire legs together tightly so the mounting bracket remains snug against the tile.



1.3 Replace the tile.

1.4 If desired, repeat ***F. Testing the Daylight Sensor*** for verification.

2 Permanent Mounting: Solid Ceiling

2.1 Drill one 0.18 in (4.6 mm) pilot hole for the provided screw anchor.

2.2 Press the anchor into the hole and tap flush with a hammer.

2.3 Place the flat side of the mounting bracket against the ceiling and install provided screw using a hand screwdriver.

NOTE: Do not over-tighten.

2.4 Attach the Sensor to the mounting bracket.

2.5 If desired, repeat ***F. Testing the Daylight Sensor*** for verification.

Troubleshooting

Symptom	Possible Causes	Solution
Room is too dark	Sensor is too close to the window	Refer to section **C. Sensor Placement**
	Direct light from a fixture is shining on the Sensor	Refer to section **C. Sensor Placement**
	System was calibrated when it was too dark outside	Refer to section **E. Calibration**
	Room may be too large	Only control lights within the reach of sunlight's penetration
	Windows may be too small	Refer to **Frequently Asked Questions** at www.lutron.com
	Room layout may have changed	Refer to section **E. Calibration**
Lights seem unnecessarily bright	Sensor is too far away from the window	Refer to section **C. Sensor Placement**
	System was calibrated when it was too bright outside	Refer to section **E. Calibration**
	Room layout may have changed	Refer to section **E. Calibration**
Lights never turn back on when the room gets dark	The system may not have an Occupancy Sensor associated to it	Refer to **Getting Started: Sensor Operation**
	The battery in the Occupancy Sensor may need to be replaced	Replace battery. For more details, refer to **Frequently Asked Questions** at www.lutron.com
	System was calibrated when it was too dark outside	Refer to section **E. Calibration**
Lights never turn off when the room gets bright	System was calibrated when it was too bright outside	Refer to section **E. Calibration**
	Sensor is too far away from the window	Refer to section **C. Sensor Placement**
	Sensor is resting in a shadow	Refer to section **C. Sensor Placement**
	Target light level is too high	Refer to section **G. Tuning the System**
The lights oscillate (lights turn on, off, on, ...)	Direct light from a fixture is shining on the Sensor	Refer to section **C. Sensor Placement**
	System was not calibrated	Refer to section **E. Calibration**