

Radio Powr Savr Wireless Occupancy / Vacancy Wall-Mount Sensor

Lutron Radio Powr Savr wall-mounted occupancy and vacancy sensors are wireless, battery-powered, passive infrared (PIR) sensors that automatically control lights via RF communication to compatible dimming or switching devices. These sensors detect the heat from people moving within an area to determine when the space is occupied. The sensors then wirelessly transmit the appropriate commands to the associated dimming or switching devices to turn the lights on or off automatically. They combine both convenience and exceptional energy savings along with ease of installation.

Features

- Wireless occupancy/vacancy sensor has 2 settings available: Auto-On/Auto-Off, and Manual-On/Auto-Off
- Vacancy model meets CA Title 24 requirements
- Passive infrared motion detection with exclusive Lutron XCT Technology for fine motion detection
- 180° field of view model:
 - Minor motion = 1500 ft² (139.4 m²)
 - Major motion = 3000 ft² (278.7 m²)
- 90° field of view model:
 - Minor motion = 1225 ft² (113.8 m²)
 - Major motion = 2500 ft² (232.3 m²)
- Hallway model with long, narrow field of view:
 - Major motion = coverage of up to 150 ft (45.7 m)
- Simple and intuitive adjustments available for Timeout, Activity, and Auto-On settings
- Accessible test buttons make setup easy
- Lens illuminates during test mode to verify ideal locations
- Multiple sensors can be added for extended coverage; refer to product specification submittal of receiving device to determine system limits
- 10-year battery life design
- RoHS compliant

Compatible RF Devices

- For use with Lutron products only
- Supports simultaneous association with multiple Lutron Clear Connect devices and/or systems*

* Contact Lutron Customer Service at www.lutron.com/support for frequency/channel code compatibility with your particular geographic region, and for integrating with other Lutron lighting and shading products.



Models Available

- LRF - LB-P-WH
 - Coverage Type
 - Sensor Type
 - Frequency/Channel Code

Example:

LRF2-VHLB-P-WH

(434 MHz White Hallway Vacancy Sensor)

Frequency/Channel Code

2 = 431.0 – 437.0 MHz (US, Canada, Mexico, Brazil)*

3 = 868.125 – 869.850 MHz (Europe, UAE)

4 = 868.125 – 868.475 MHz (China, Singapore)

5 = 865.5 – 866.5 MHz (India)

7 = 433.0 – 433.7 MHz (Hong Kong, Macau)

Sensor Type

O = Occupancy/Vacancy (Auto-On/Auto-Off)

V = Vacancy (Manual-On/Auto-Off)**

Coverage Type

H = Hallway

K = 90° Corner-Mount

W = 180° Wall-Mount

* BAA compliant models available for LRF2 configurations. Add a "U" prefix to your chosen model number. Example: **ULRF2-OWLB-P**. For a complete list of BAA/TAA compliant products please visit our website at Lutron.com/BAA and select "Download BAA Product List".

** Vacancy sensor type for LRF2 models only

SPECIFICATION SUBMITTAL

Job Name:

Model Numbers:

Job Number:

Specifications

Regulatory

- Lutron Quality Systems Registered to ISO 9001:2008

Regulatory Approvals

LRF2-

- cULus® listed
- FCC certified
- IC certified
- COFETEL certified
- ANATEL certified
- SUTEL certified
- Meets CA (U.S.A.) Energy Commission Title 24 requirements

LRF3-

- CE marked (European Union)
- TRA type approved (United Arab Emirates)
- CITC type approved (Saudi Arabia)

LRF4-

- SRRC type approved (Mainland China)
- iDA registered (Singapore)

LRF5-

- WPC type (India)

Power/Performance

- Operating voltage: 3 V $\pm$
- Operating current: 14 μ A nominal
- Requires one CR 123 lithium battery
- 10-year battery-life design
- Non-volatile memory (saved changes are stored during power loss)

Environment

- Temperature: 32 °F to 104 °F (0 °C to 40 °C)
- For indoor use only
- Relative humidity: less than 90% non-condensing

Note: For unconditioned environments where the air temperature may approach the temperature of the occupants, additional sensors will be needed to achieve the same coverage. This is true of any sensor that relies exclusively on passive infrared technology.

Warranty

- 5-Year Limited Warranty. For additional Warranty information, please visit www.lutron.com/TechnicalDocumentLibrary/Sensor_Warranty.pdf

RF Range

- Distance between local load controls and sensor should not exceed 60 ft (18 m) line-of-sight or 30 ft (9 m) through walls.

Sensor Coverage Test

- Dedicated test button
- Lens illuminates orange in response to motion during test mode

Wireless Communication Test

- Dedicated test button
- Turn associated loads on and off

Timeout Options

- 1 minute*
- 5 minutes
- 15 minutes (default setting)
- 30 minutes

Auto-On Options (Occupancy Versions Only)

- **Enabled:** Sensor turns lights ON and OFF automatically (default setting)
- **Disabled**:** Lights must be turned ON manually from dimming or switching device. Sensor turns lights OFF automatically

Sensitivity Options

- **Low Activity:** $\frac{1}{2}$ (default setting)
- **Medium Activity:** $\frac{1}{4}$
- **High Activity:** $\frac{1}{8}$

* Intended for use in high-activity, briefly-occupied areas only

** There is a 15-second grace period that begins when the lights are automatically turned off, during which the lights will automatically turn back on in response to motion. This grace period is provided as a safety and convenience feature in the event the lights turn off while the room is still occupied, so that the user does not need to manually turn the lights back on. After 15 seconds, the grace period expires and the lights must be manually turned on.

Job Name:	Model Numbers:
Job Number:	

Installation Overview

Sensor Setup

- Sensor setup is available as a service by Lutron. For more information, please see the **Sensor Layout and Tuning** specification submittal (P/N 3601235) at www.lutron.com

Sensor Placement

- The mounting height of the sensor should be between 6 ft and 8 ft (1.6 m and 2.4 m).
- For smaller rooms less than 12 ft × 12 ft (3.7 m × 3.7 m), detection may be improved by mounting the sensor at 6 ft (1.8 m) from the floor.
- The ability to detect motion requires that the sensor have line-of-sight of all room occupants. The sensor must have an unobstructed view of the room. **DO NOT** mount behind or near tall cabinets, shelves, hanging fixtures, etc. The sensor cannot detect occupants through glass objects such as patio or shower doors.
- Hot objects and moving air currents can affect the performance of the sensor. To ensure proper operation, the sensor should be mounted at least 4 ft (1.2 m) away from HVAC vents and halogen or incandescent bulbs that are below the ceiling line.
- The performance of the sensor depends on a temperature differential between the ambient room temperature and that of room occupants. Warmer rooms may reduce the sensor’s ability to detect occupants.
- Distance between local load controls and sensor should not exceed 60 ft (18 m) line-of-sight or 30 ft (9 m) through walls.
- Devices emitting Radio Frequency (RF) energy can affect the performance of sensors. To ensure proper operation, sensors should be mounted at least 4 ft (1.2 m) away from devices that emit radio waves (e.g., microwave ovens, wireless routers, or other non-Clear Connect wireless devices). When using Clear Connect - Type X lamps or fuxtures, ensure sensor is mounted at a distance of 2 ft (0.6 m) or greater from the lamp or fixture.

Mounting

- 180° and hallway sensors mount directly to wall with mounting bracket (included). See Figure A.
- 90° sensors mount directly in corner or on wall offset away from corner with mounting bracket (included). See Figure B.
 - Temporary mounting is recommended to test sensor coverage and wireless communication before permanently installing the sensor.
 - Temporary mounting: A 3M™ Command™ adhesive strip is provided for temporarily mounting and testing the sensor. This strip is designed for easy, damage-free removal and is not reusable.
 - Permanent mounting: Mounting bracket, screws, and anchors are provided to mount sensor.
- The Flexible Mounting Armature, LRF-ARM-WH (purchased separately), allows sensors to be mounted at greater heights on a ceiling, wall, or other flat surface.
 - The ball-and-clamp design expands the coverage area for Lutron standard wall-, corner-, or hall-mount sensors. See Figure C.
 - Common mounting areas: warehouse aisles, loading docks, long hallways.

Figure A. 180° Wall-Mount Sensor and Hallway Sensor

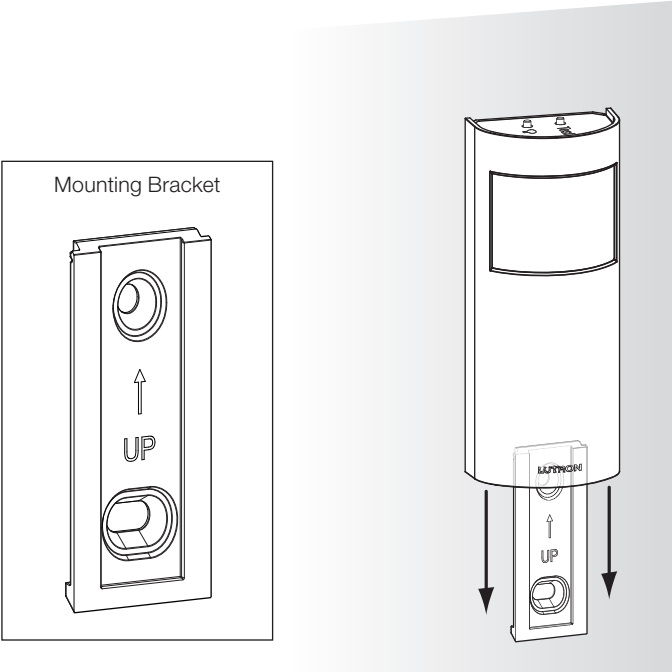


Figure B. 90° Corner-Mount Sensor

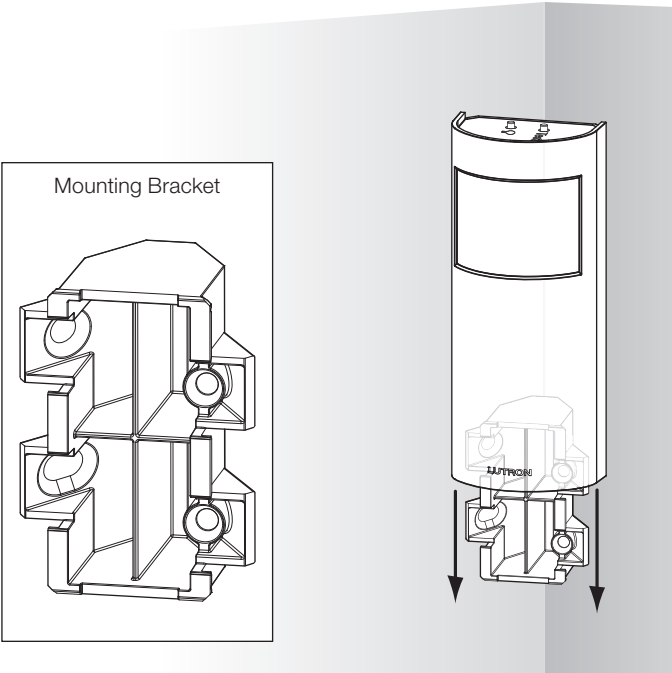
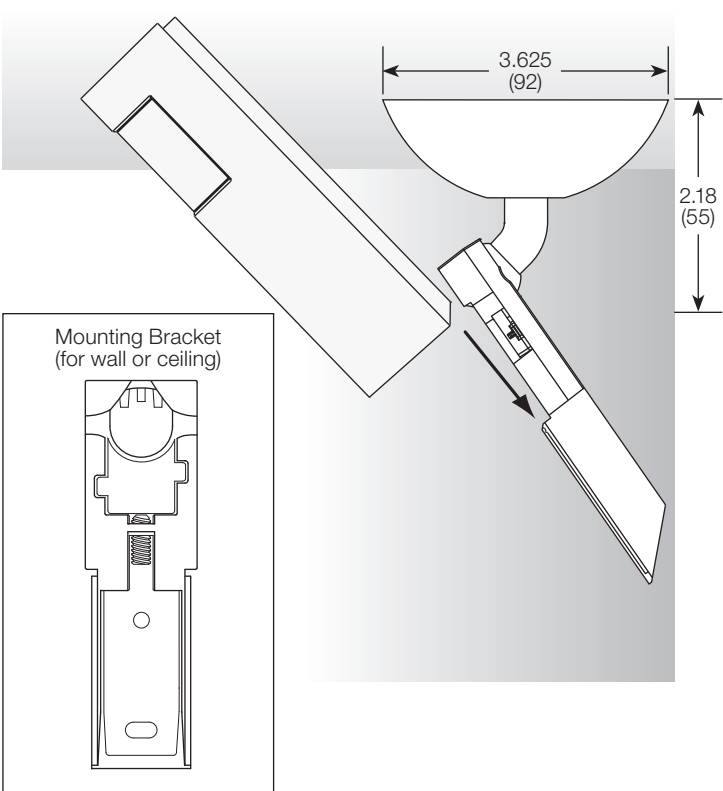
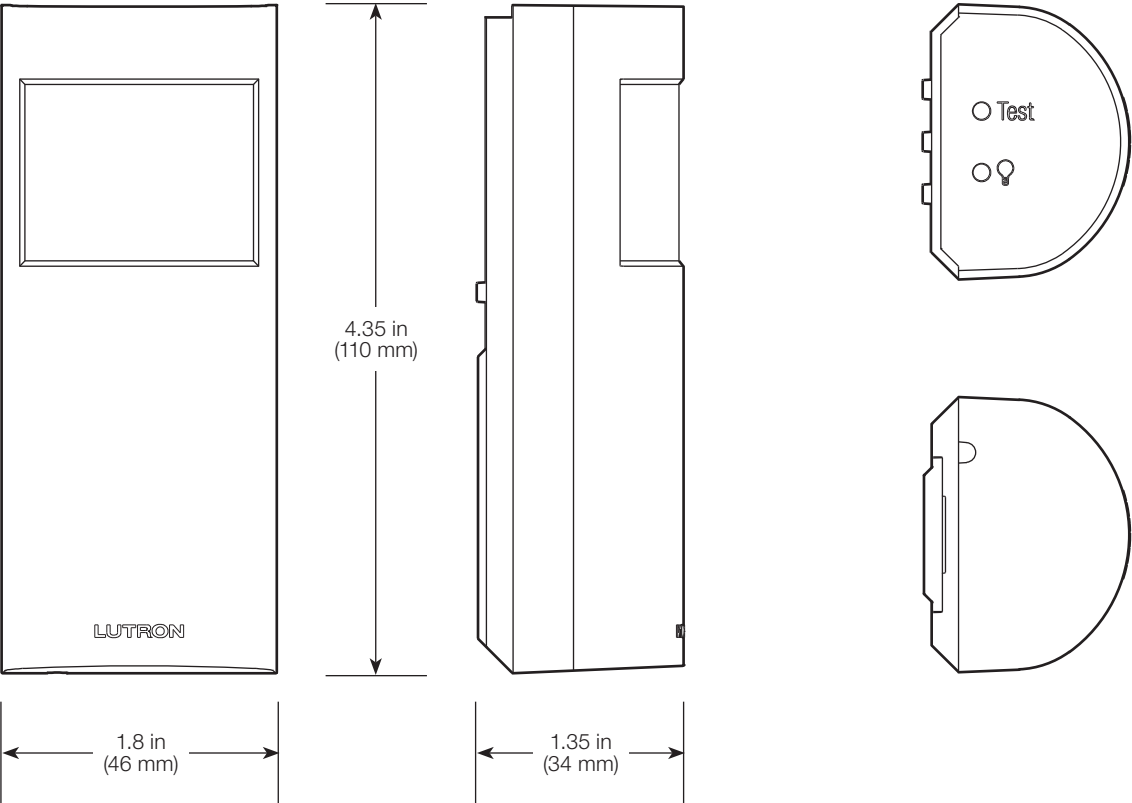


Figure C. Flexible Mounting Armature
Measurements are: in (mm)



Job Name:	Model Numbers:
Job Number:	

Dimensions



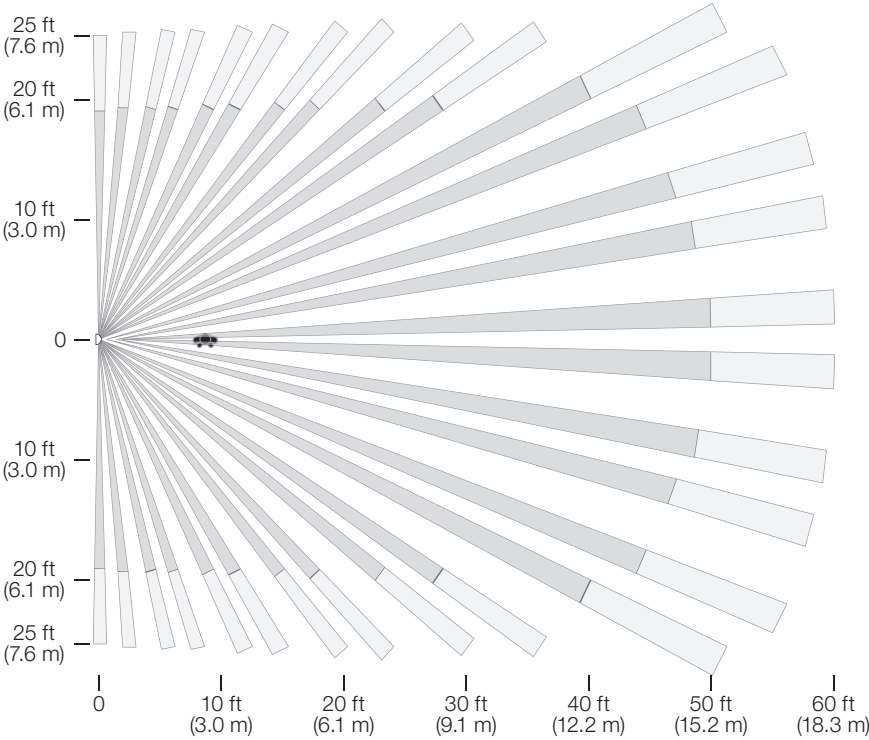
Job Name:	Model Numbers:
Job Number:	

Coverage Diagrams

180° Wall-Mount Sensors

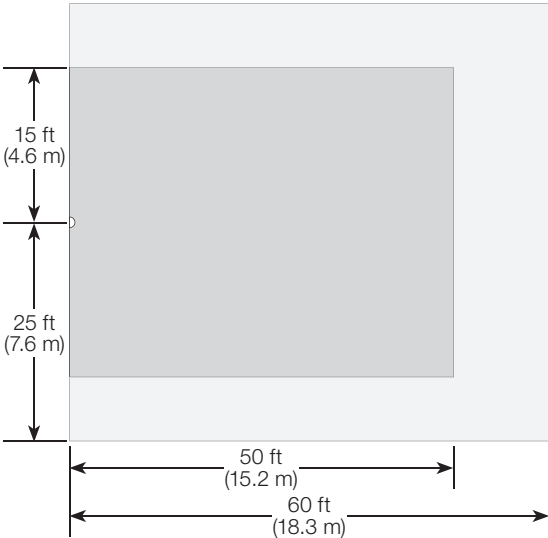
Models: LRFX-OWLB-P-WH and LRFX-VWLB-P-WH

Horizontal Beam Diagram

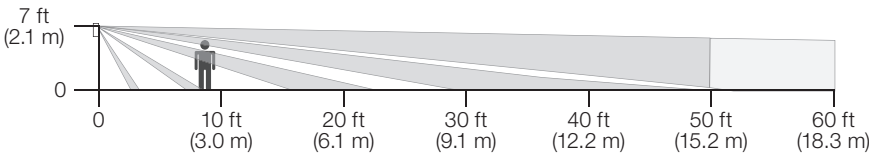


Tested Coverage Area

Major motion coverage: 3000 ft² (278.7 m²)
Minor motion coverage: 1500 ft² (139.4 m²)
Compliant to NEMA WD7 test grid (shown below)



Vertical Beam Diagram*



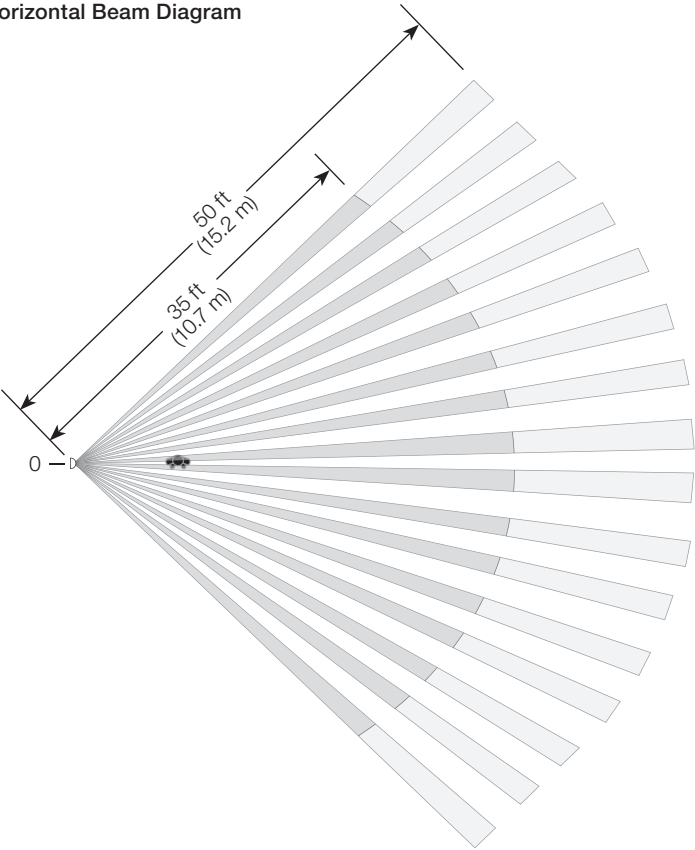
* Sensor mounting shown at 7 ft (2.1 m). Mounting height should be between 6 ft and 8 ft (1.6 m and 2.4 m).

Coverage Diagrams

90° Corner-Mount Sensors

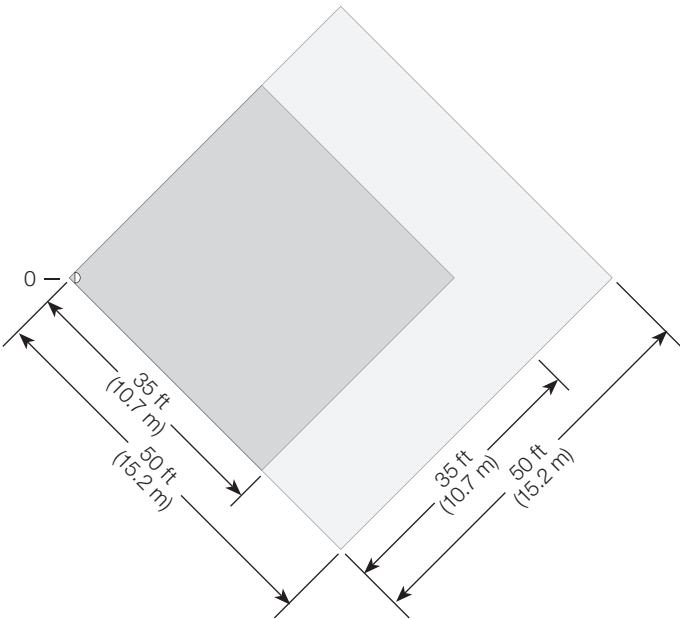
Models: LRFX-OKLB-P-WH and LRFX-VKLB-P-WH

Horizontal Beam Diagram

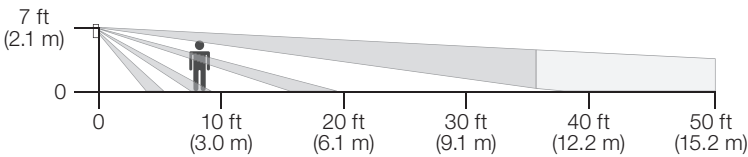


Tested Coverage Area

- Major motion coverage: 2500 ft² (232.3 m²)
 - Minor motion coverage: 1225 ft² (113.8 m²)
- Compliant to NEMA WD7 test grid (shown below)



Vertical Beam Diagram*



* Sensor mounting shown at 7 ft (2.1 m). Mounting height should be between 6 ft and 8 ft (1.6 m and 2.4 m).

Coverage Diagrams

Hallway Sensors

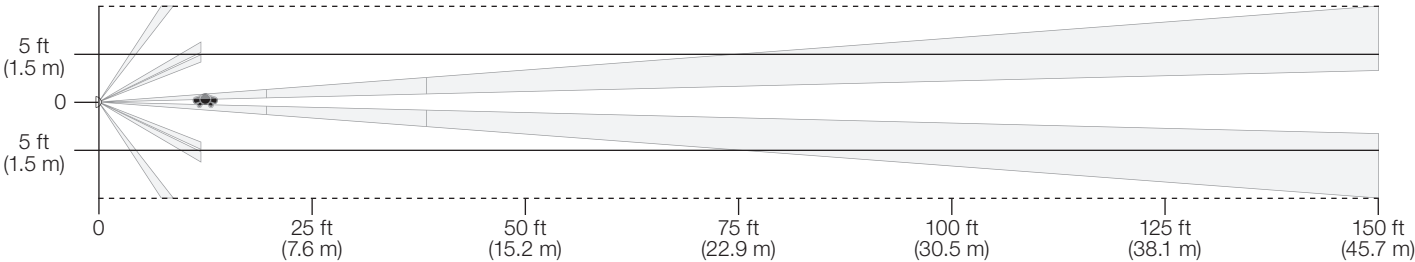
Models: LRFX-OHLB-P-WH and LRFX-VHLB-P-WH

- Designed to mount at the end of a hallway with a clear view down the length of a hall.
- Detection at longer distances is best when motion occurs at right angles to the sensor.
- Multiple sensors can be used to extend coverage.

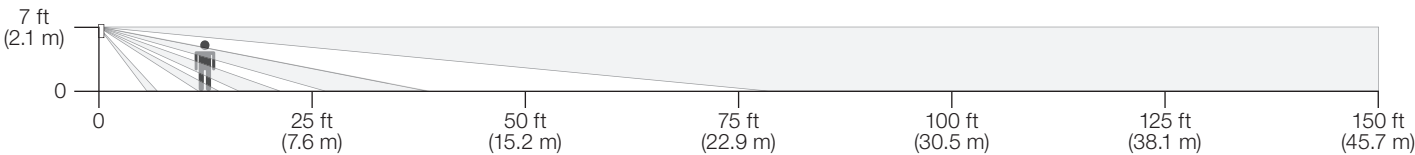
Maximum Recommended Hallway Length

Hall Width	Hall Length
6 ft (1.8 m) or less	50 ft (15.2 m)
8 ft (2.4 m) or less	100 ft (30.5 m)
10 ft (3.0 m) or more	150 ft (45.7 m)

Top View



Side View*



* Sensor mounting shown at 7 ft (2.1 m). Mounting height should be between 6 ft and 8 ft (1.6 m and 2.4 m) and centered within hallway.

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