Warehouse Aisle Wireless Sensors

Lutron® Radio Powr Savr™ Wireless Occupancy/Vacancy sensors are a great solution for warehouse aisles. These sensors, used in conjunction with a Lutron® lighting control, can provide significant energy savings. The following provides guidelines on how to use Lutron® Radio Powr Savr™ Wireless Occupancy/Vacancy sensors in applications with 6 to 12 ft (1.8 to 3.6 m) wide aisles.

How To Install Sensors At The Entrance

Radio Powr Savr™ hallway sensors (LRF2-OHLB-P-WH) should be mounted at each entrance to the aisle. The sensors should be mounted horizontally on the ceiling (with lens facing down), parallel to the aisle (see Figure 2 on page 2). The sensors should be mounted so they are offset from the edge of the aisle by 2 ft (0.61 m) and so that the bottom of the sensor is facing into the aisle. This is to compensate for the beam spread of the hallway sensor. The sensor will detect when someone enters the aisle. Lutron recommends keeping the sensor at the default 15 minute timeout and setting the sensor to high activity (see Figure 1 below).

How To Install Sensors Within The Aisle

Radio Powr Savr™ corner sensors (LRF2-OKLB-P-WH) should be mounted within the aisle to provide proper coverage of the entire aisleway. These sensors should be mounted horizontally on the ceiling, perpendicular to the aisle, and offset from the center of the aisle so that the end of the sensor is in line with the edge of the aisle (see Figure 2 on page 2). See Table 1 (below) for sensor coverage capability for typical mounting heights.

The sensor should be mounted so that the end of the sensor's coverage does not go beyond the edge of the aisle. Lutron recommends that the coverage should end 5 ft (1.5 m) before the edge of the aisle to assure that the sensor does not detect activity beyond the aisleway (see Figure 2 on page 2).

For longer aisles that require multiple sensors, Lutron recommends 10 ft (3.05 m) coverage overlap between sensors to assure sensors cover all of the aisleway. Lutron recommends keeping the sensor at the default 15 minute timeout and setting the sensor to high activity. See Figure 1 (below) for sensor controls on back of sensor.

Note: There are small gaps in the sensor coverage. If a person happens to be in these gaps for prolonged periods (>15 min), the lights may turn off. If this is a concern, set the timeout to 30 minutes.

Figure 1
Back of sensor

Timeout	Activity	Auto-On
30 min		Enabled
15 min		
5 min		Disabled

Table 1

Mounting height of sensor	Coverage distance on floor
20 ft (6.1 m)	46 ft (14.0 m)
25 ft (7.6 m)	58 ft (17.7 m)
30 ft (9.1 m)	69 ft (21.0 m)

Figure 2: Top View
Ceiling height = 30 ft (9.1 m) in this example

Hallway Sensor
(LRF2-OHLB-P-WH)

Hallway Sensor
(LRF2-OHLB-P-WH)

Shelving Units
or Racks

10 ft (3.05 m)
overlap

90° Corner Mount Sensor*
(LRF2-OKLB-P-WH)

Shelving Units
or Racks

90° Corner Mount Sensor*
(LRF2-OKLB-P-WH)

2 ft
(0.61 m)

Aisle Length =130 ft (42.6 m)

= Sensor Coverage

= Coverage Overlap
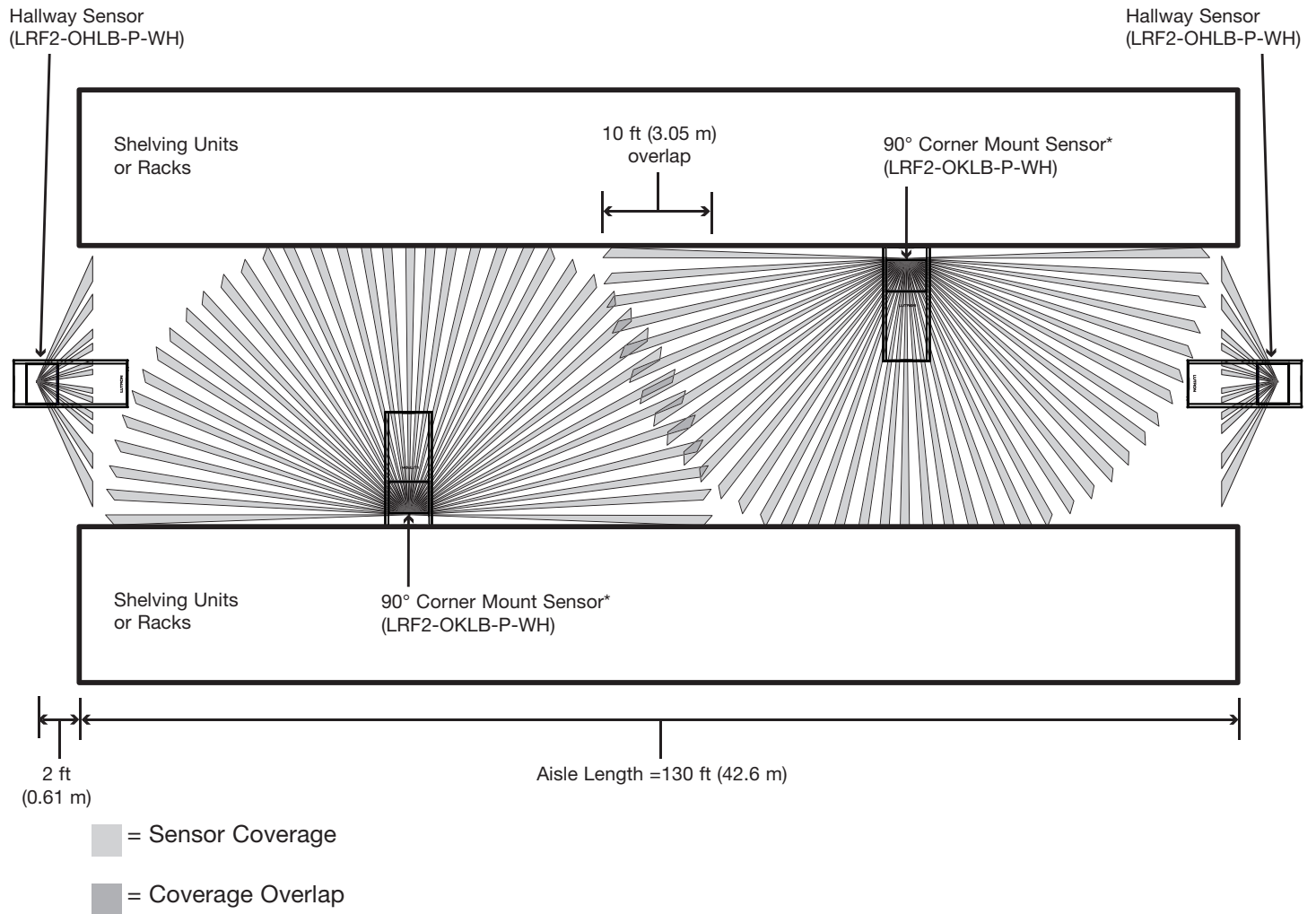
* For mounting the corner mount sensor to a flat ceiling, please contact Lutron for assistance.

Figure 3: Side View
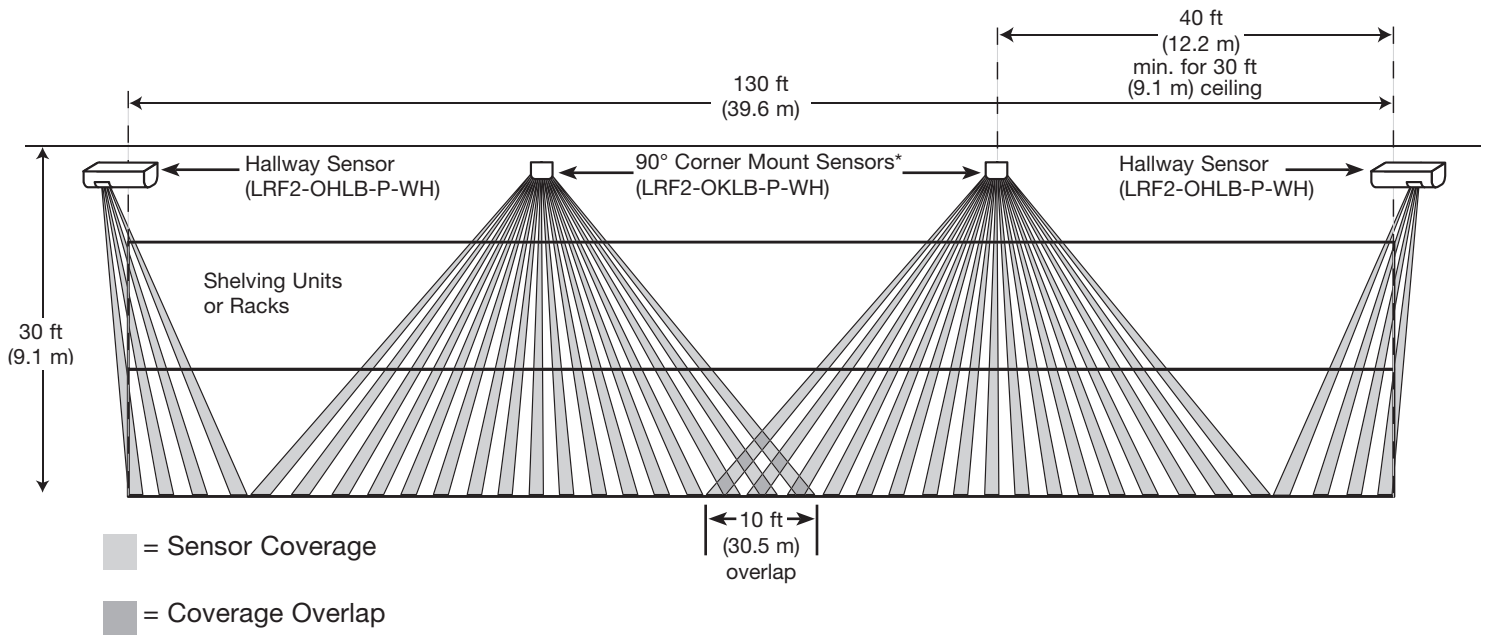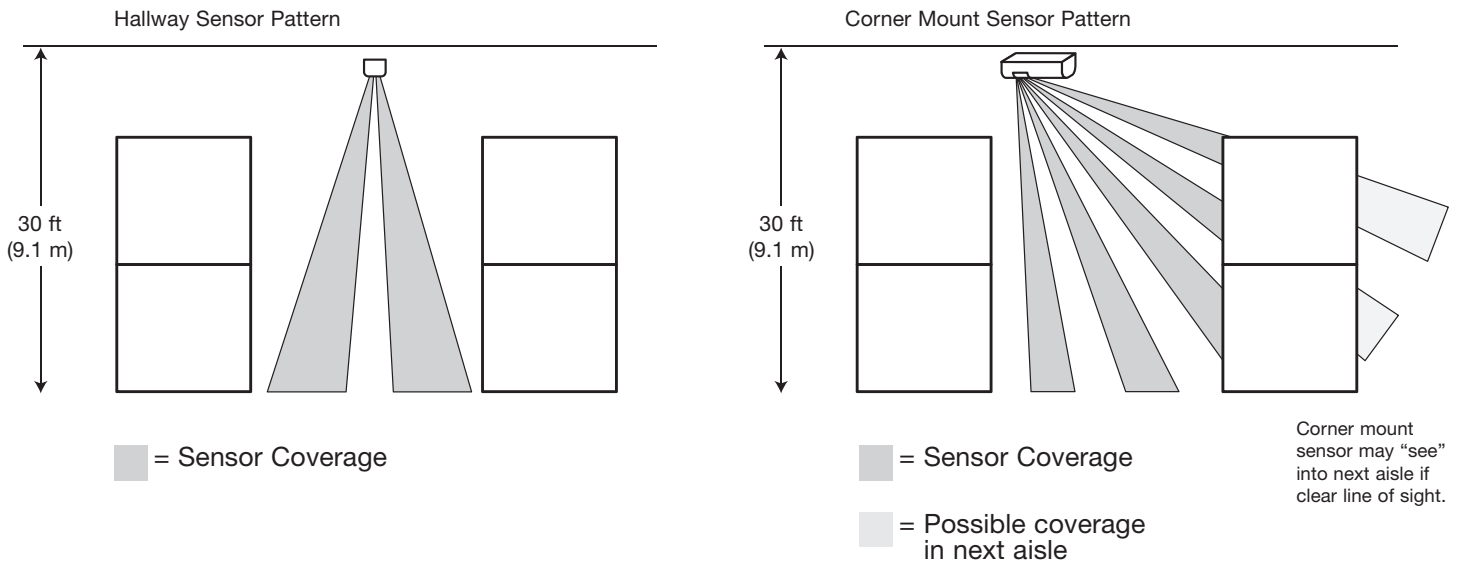Ceiling height = 30 ft (9.1 m) in this example

- 40 ft (12.2 m) min. for 30 ft (9.1 m) ceiling
- 130 ft (39.6 m)
- Hallway Sensor (LRF2-OHLB-P-WH)
- 90° Corner Mount Sensors* (LRF2-OKLB-P-WH)
- Hallway Sensor (LRF2-OHLB-P-WH)
- Shelving Units or Racks
- 30 ft (9.1 m)
- 10 ft (30.5 m) overlap
- = Sensor Coverage
- = Coverage Overlap

Figure 4: End View
Ceiling height = 30 ft (9.1 m) in this example

Hallway Sensor Pattern

Corner Mount Sensor Pattern

- 30 ft (9.1 m)
- = Sensor Coverage
- = Sensor Coverage
- = Possible coverage in next aisle
- Corner mount sensor may "see" into next aisle if clear line of sight.

For further information on Lutron® products please visit www.lutron.com

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