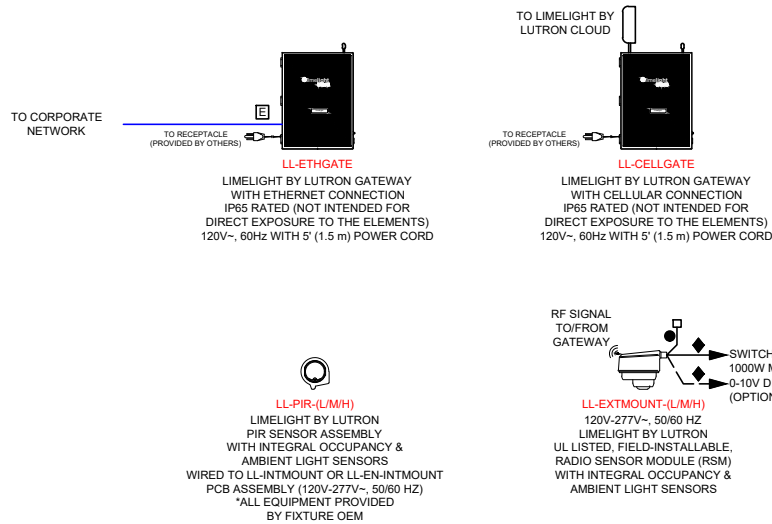


# TYPICAL PARKING GARAGE



**WIRING LEGEND:**

- INPUT POWER (NORMAL)
- ◆ 0-10V SIGNAL: 2 #18AWG (1.0 mm<sup>2</sup>)
- Ⓛ CAT5E OR BETTER CABLE FOR LUTRON NETWORK TERMINATED WITH RJ45 CONNECTORS (TO BE PROVIDED BY OTHERS). 328 ft (100 m) MAXIMUM RUN.

REFER TO DIAGRAMS TO THE RIGHT FOR COVERAGE PATTERNS BASED ON LOW (L), MEDIUM (M), OR HIGH (H) MOUNTING OPTIONS.

**SEQUENCE OF OPERATIONS:**

1. Daylighting:
  - a. Photocontrol is to override motion control if there is adequate illumination. Zones being turned off because of daylight harvesting during the day are at no time to drop below illumination required by authorities having jurisdiction.
  - b. Control exterior lighting via astronomical timeclock to turn off during daylight hours.
  - c. Interior lighting within designated daylight zones to be controlled as follows:
    - 1) Control such that combined illuminance from luminaires and available daylight is not less than the illuminance from luminaires when no daylight is available.
    - 2) When illuminance measured at the farthest edge of the secondary sidelit zone away from the glazing or opening is greater than 150 percent of the illuminance provided by the controlled lighting, power consumption of light source to be zero.
    - 3) Exception: Luminaires located in daylight adaptation zone within 66 feet (20.1 m) of a vehicular entrance to remain on even when there is available daylight.
2. Occupancy Sensing:
  - a. Control interior luminaires via occupancy sensor control, except for luminaires designated as security which are to remain at full on.
    - 1) Upon sensing an occupant at any general garage luminaire, bring all luminaires on that drive aisle or ramp to full on.
    - 2) Upon sensing an occupant adjacent to any stairwell entrance, bring all luminaires at all levels for that stair to full on.
    - 3) Upon sensing an occupant at any elevator lobby or stair, bring adjacent general garage lighting to full on.
    - 4) When a pedestrian steps out of any stair tower or pedestrian entry/exit, bring luminaires within 30 feet (9.1 m) of door to full on.
    - 5) If a vehicle turns into a drive aisle, bring luminaires in that drive aisle to full on.
    - 6) Bring luminaires in an intersection or turning bay to full on when an approaching vehicle reaches a point no less than 80 feet (24.4 m) from the area.
    - 7) When a vehicle reaches an intersection with multiple turning options, bring luminaires to full on within at least 80 feet (24.4 m) in each direction of possible travel.
    - 8) Lights return to their programmed unoccupied state after 15 minutes without motion detected.

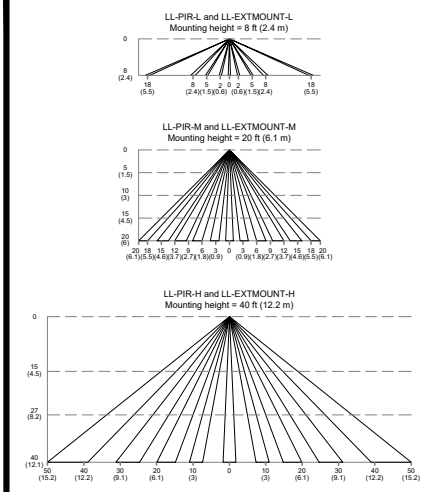
**SPEC:**

- Wireless Network:**
1. RF Frequency: 2.4 ghz; Wireless devices must be capable of communicating in a high density mesh for reliable and high performance communication in parking environments.
    - a. A single wireless gateway must be capable of communicating with up to 800 wireless nodes.
    - b. High density mesh network must be self-healing to ensure reliability of system performance if one luminaire stops functioning or is vandalized:
  2. If the system gateway is unable to communicate to the cloud, system operation due to occupancy and daylight and any scheduled events is unaffected.
  3. If the system gateway loses power, all the wireless nodes in the system will send their loads to maximum light level within 15 minutes and stay there until communication with the gateway is restored to ensure a safe and well-lit environment.
- Relay:**
1. Load switched in manner that prevents arcing at mechanical contacts when power is applied to and removed from load circuits.
  2. Rated for switching of electronic ballast or load up to 1000w
  3. Works with ballasts and drivers whose inrush current does not exceed NEMA410 standards for electronic ballasts/drivers
- Wireless Nodes:**
1. Must be capable of occupancy sensing and daylight sensing in a single unit without requiring wiring a 3rd party sensor
  2. Must be capable of measuring power with an accuracy of +/- 5%
  3. Must be able to tolerate environmental temperatures from -40C to 70C (-40F to 158F)
  4. Must be a minimum of IP65 rated
  5. Must be capable of measuring internal temperature with an accuracy of +/- 2C (3.6F)
  6. Must be capable of having occupancy settings, including sensitivity and detection profiles adjusted remotely
  7. Must have multiple occupancy sensor lens options for mounting at heights ranging from 8 feet to 40 feet
- System:**
1. Must be capable of connecting to an Enterprise level system that provides a single sign on and graphical navigation to multiple lighting control systems for interior and exterior spaces
  2. Must be capable of turning all fixtures on (via override) with a single button
  3. Must have capability to run diagnostics on any fixture
  4. Must have ability to check fixture status and identify errors
  5. Must have ability to flash any fixture
  6. Must have ability to see the total number of connected luminaries
  7. Must have ability for users to change system settings
  8. Must have ability to view a live map showing the status of all fixtures

Emergency interface(s) to be provided by contractor. Not in Lutron's scope.

**Limelight by Lutron PIR Coverage**

All units on the graphs are shown in ft (m).



**LIMELIGHT BY LUTRON PARKING GARAGE**

**LOCATION TBD**

**CONCEPT DRAWING NOT FOR CONSTRUCTION**

<b>Project Number:</b>	N/A
<b>Drawn By:</b>	CMT
<b>Drawing Revision:</b>	3
<b>Drawing Date:</b>	10.30.19
<b>Sheet:</b>	1 OF 1

