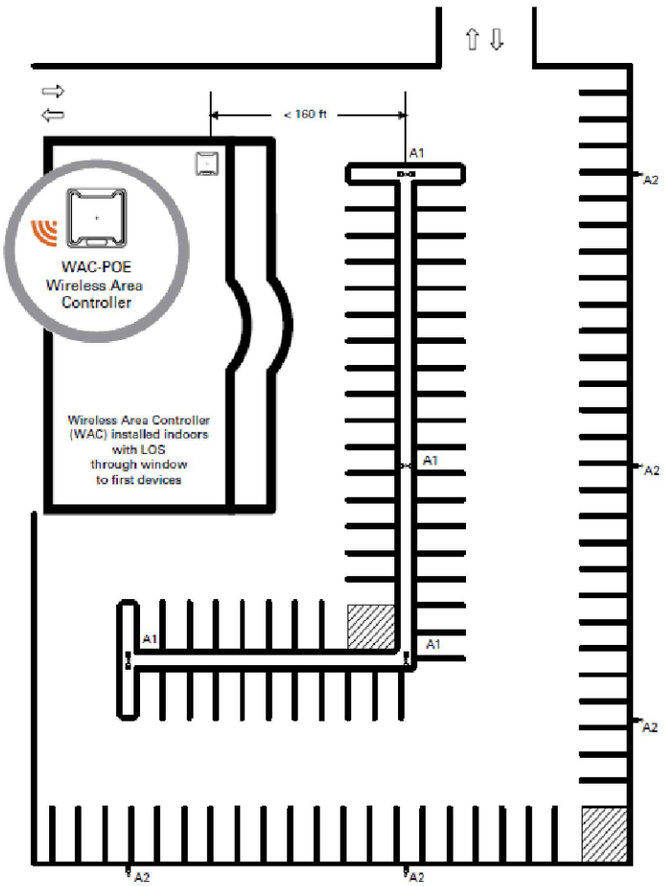
# Wireless Connected Lighting

**DESIGN GUIDE**
INTEGRATED EXTERIOR

WaveLinx Connected Lighting

## Exterior Lighting

example




| | Occupancy Sensor | Daylighting Control | UL924 (Energy Back-Up Circuit) |
|---|---|---|---|
| IECC 2018 | | • | |
| ASHRAE 90.1 - 2019 | | • | |
| T24 2019 | • | • | • |
| NECB 2017 | | • | • |

### Sequence of Operations

**Lighting**
- 0-10V lighting loads
- Each luminaire includes dimmable integrated sensor
- Each luminaire supports occupied/unoccupied programmable light levels

**Occupancy**
- Automatic auto on to 50%
- Automatic on to programmable level
- Programmable unoccupied light level

**Daylighting**
- Continuous dimming
- Individual luminaire daylight dimming
- Daylighting not required for indoor space

**Manual Controls**
- Programmable Zone/Scene control
- Optional Scene/Raise/Lower Control
- All Off

**Additional Features**
- Energy calculations (available through Trellix)
- Automatic demand response available from wireless area controller
- Scheduling of partial off light levels and times from wireless area controller
- UL924 emergency control capabilities available via luminaire battery backup

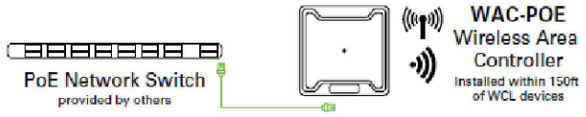
### Bill of Material

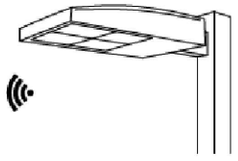
| Quantity | Catalog # | Description |
|---|---|---|
| 1 | WAC-POE | Wireless Area Controller |
| 8 | GLEON-AF-04-LED-E1-5MQ-BZ -SWPD5BZ | Galleon LED Area/Site Luminaire |
| 5 | GLEON-AF-04-LED-E1-T4W-BZ -SWPD5BZ | Galleon LED Area/Site Luminaire |

| Design Consideration | Best Practice | Maximum |
|---|---|---|
| Gateway / Wireless Area Controller range | 150 ft LOS | 300 ft LOS |
| Number of interior walls | LOS through a window to first nodes | |
| Distance from Wireless Area Controller to 1st WaveLinx device | 160 ft | 160 ft |
| Distance between WaveLinx devices | 160 ft | 160 ft |
| Number of hops from Wireless Area Controller | 10 hops | 10 hops |
| Number of areas per Wireless Area Controller | 15 + 1 construction area | |
| Number of zones per area | 3 | 16 |
| Number of scenes per area | 16 | 16 |

| | Dimming | Automatic OFF | Scheduled OFF | Bilevel Lighting | Manual | Functional Testing |
|---|---|---|---|---|---|---|
| IECC 2018 | C405.2.6 | C405.2.6 | C405.2.6 | C405.2.6 | | |
| ASHRAE 90.1-2019 | 9.4.1.1 (e) (f) | 9.4.1.1 (g) (h) | 9.4.1.1 (i) | 9.4.1.1 (d) | 9.4.1.1 (a) | 9.4.3 |
| T24 2019 | 130.2 (c) | 130.2 (c) | 130.2 (c) | 130.2 (c) | | |
| NECB 2017 | 4.2.2.1.(3)(6) | 4.2.2.1.(18-19) | 4.2.2.1.(20-23) | 4.2.2.1.(9) | 4.2.2.1.(3)(6) | |

### Typical Wiring Detail



**GLEON-AF-04-LED-E1-5MQ-BZ-ZW-SWPD5BZ**
Galleon LED Area/Site Luminaire