Energy Code Applications Guide

Design to meet code control provisions with Cooper Lighting Solutions' Digital Lighting Control Solution - WaveLinx

Title 24 (2025 edition)

COOPER Lighting Solutions

a signify business

cooperlighting.com

The WaveLinx connected lighting system are utilized by designers, electrical contractors, engineers, and building owners/operators to meet the latest energy codes, enhance energy efficiency, and elevate the occupant experience.

WaveLinx
Digital Lighting Control Solutions

Table of Contents

This document summarizes the lighting and receptacle control requirements for commercial buildings. It is for information purposes only. It is not meant to replace your state's or local jurisdiction's official energy code. The recommendations presented in this guide are based on the originally published code prior to addenda. Please refer to your local building energy code or Authority Having Jurisdiction (AHJ) for your precise requirements. Only the AHJ can guarantee code compliance.

WaveLinx overview

WaveLinx is a Cooper Lighting Solutions smart lighting system and more. It's an intelligent digital lighting system designed to help organizations drive down energy costs while creating healthier indoor and outdoor spaces.

WaveLinx offers an unparalleled choice of wired and wireless lighting control products, from simple switches to advanced automation, to fixtures with integrated sensors. It's one of the simplest systems to design, install, and commission.

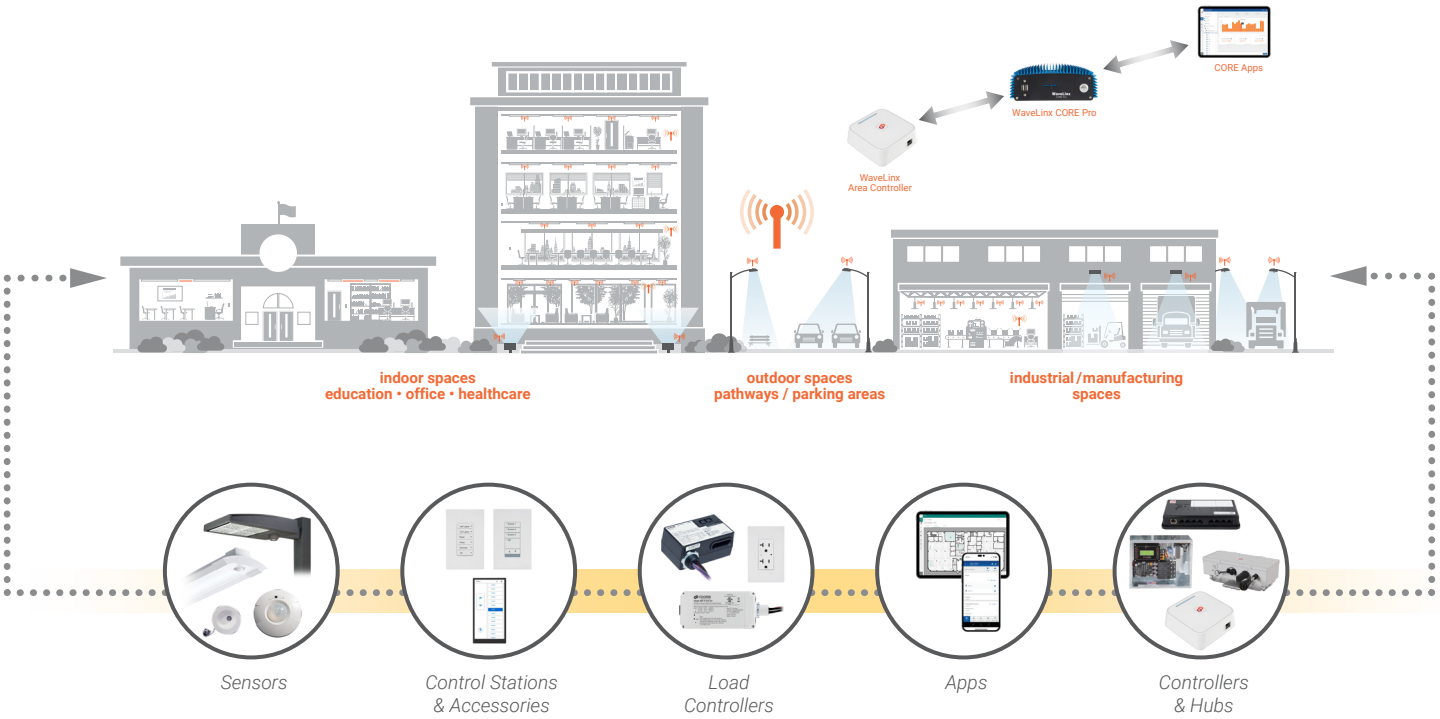
With WaveLinx, you experience the next level of aesthetics and personalized ambiance and comfort, along with our largest offering of WaveLinx-enabled fixtures embedded with sensing and connectivity.

A smarter way to save energy is here.

How does WaveLinx work?

WaveLinx is a system of wired and wireless devices that controls lighting in multiple spaces.

- For a **single space**, use either wired CAT devices or wireless LITE devices.
- For **connected spaces**, use wired CAT and/or wireless PRO devices, and connect them with the WaveLinx Area Controller to link spaces together.
- For **central management, visual floorplans, dashboards and data exchange**, use a WaveLinx CORE on-prem, that offers standard and proprietary interfaces such as BACnet®/IP, OpenADR, APIs, and visualization applications.



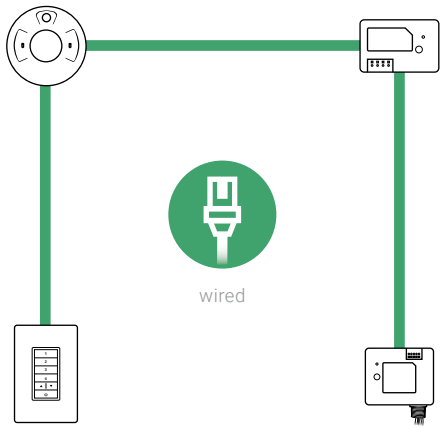
Save up to 60% or more in lighting energy with a WaveLinx system.

STRATEGY	DESCRIPTION	ESTIMATED SAVINGS
 Manual Dimmer	**Manual/personal dimming control –** one of five alternative methods that meets multi-level control requirements.	**10-20%**
 Occupancy Sensor	**Occupancy/vacancy sensing –** provides manual on/automatic off or automatic on/automatic off and partial off capabilities.	**20-60%**
 Daylighting Control	**Daylight dimming –** provides multiple daylight dimming zones that automatically adjust the lighting based on daylight available in the space, or fixture-integrated sensors, for completely granular daylighting control.	**20-45%**
 Receptacle Control	**Plug load control –** automatically turns on receptacles upon occupancy regardless of light status. Ensures receptacles are turned off when the space is vacant.	**15-50% controlled loads**
 Task Tuning	**High-end/task tuning –** lowers the maximum light level for automatic energy savings.	**10-30%**
 Demand Response	**Demand response –** automatically reduces light level based on signal from 3rd-party system.	**10-40%**
 Remote Signal Control	**BACnet –** coordinates control through BMS. **Remote signal control –** communicates to 3rd-party systems via API.	**20%**
 Outdoor Control	**Outdoor control –** automatically adjust area, site, and flood lighting via scheduling or astronomic clock.	**25%**
 HVAC System	**HVAC integration –** controls heating, ventilation, and air conditioning systems through contact closure or BACnet protocol.	**10-15%**

3 Different technologies for adaptability in any environment

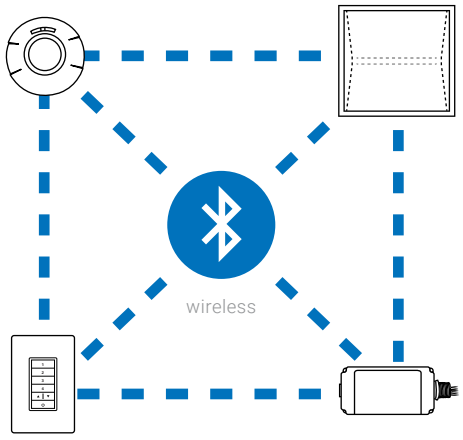
WaveLinx CAT

WaveLinx CAT devices communicate through CAT5 cables and are used in single- and networked-space applications.



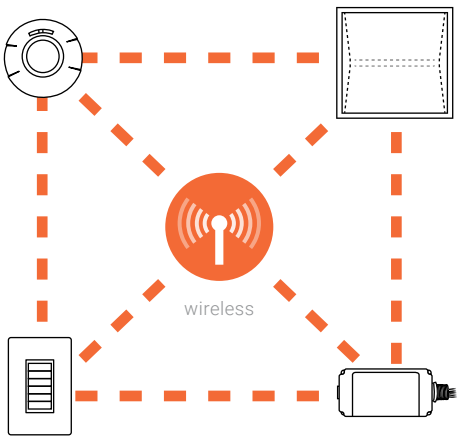
WaveLinx LITE

WaveLinx LITE devices communicate wirelessly and are used in single-space applications.



WaveLinx PRO

WaveLinx PRO devices communicate wirelessly and are used in networked-space applications.

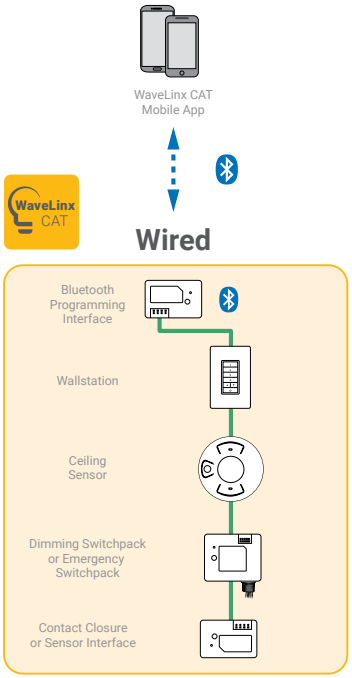


From standalone to enterprise solutions

Standalone spaces

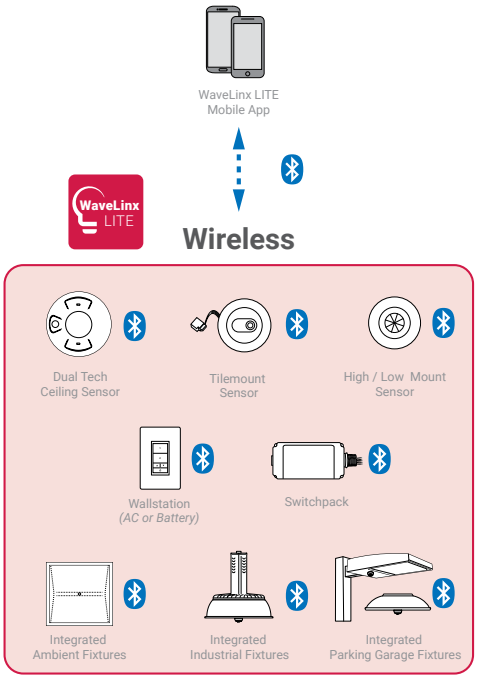
Single Room/Single Space

Start by implementing controls for a single room. Return at any time to easily upgrade to a connected system.



Functionality

1. User registration
2. Configuration
3. Firmware updates
4. Notifications
5. Backup/restore



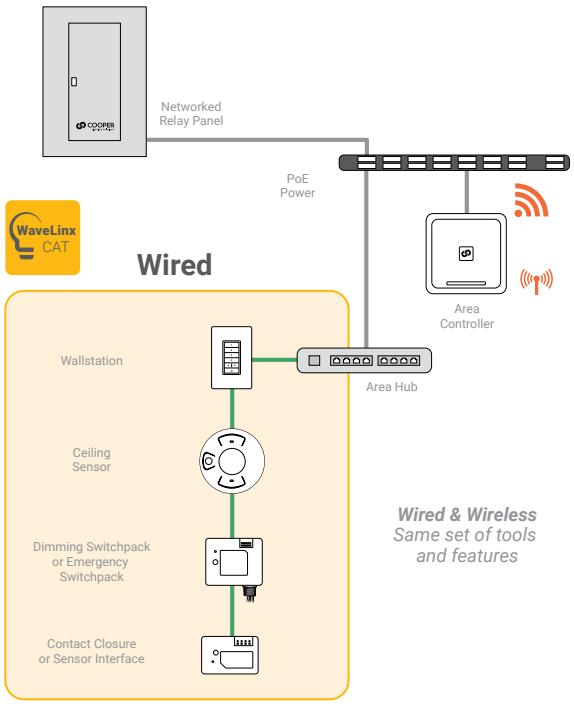
Functionality

1. User registration
2. Project data
3. Notifications
4. Firmware updates
5. Project configuration
6. Backup/restore

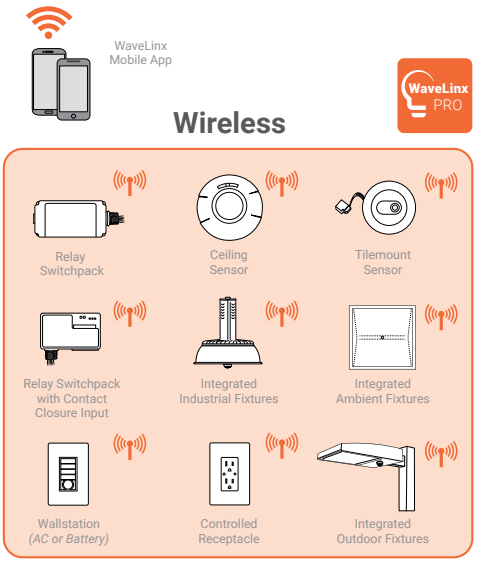
Connected spaces

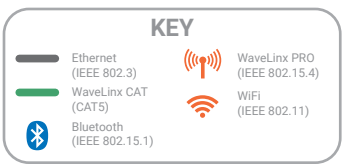
Multiple Rooms/Entire Floor

Add controls to more rooms or an entire floor without having to reprogram or replace existing equipment.



Wired & Wireless
Same set of tools and features

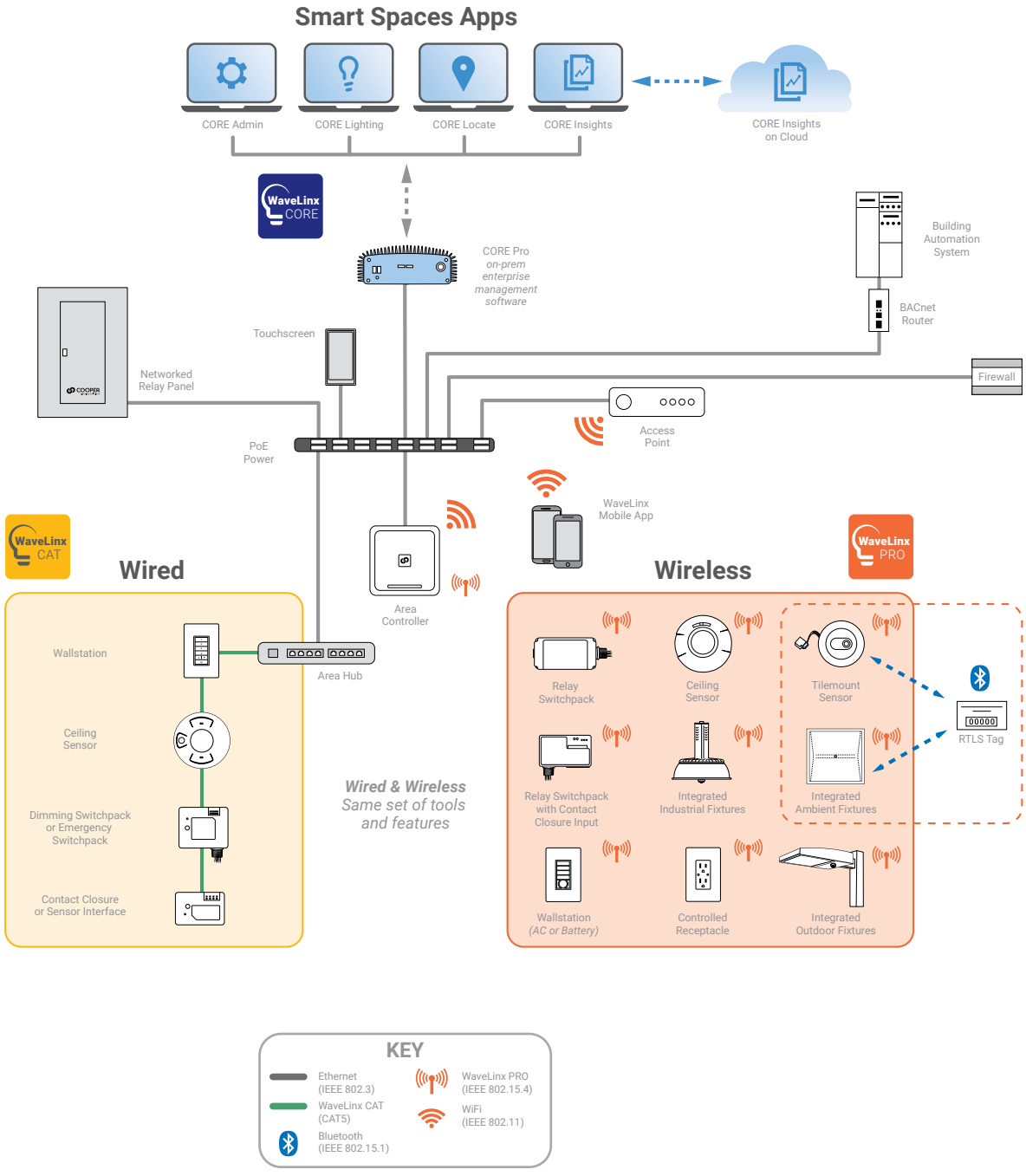




Enterprise solutions

Multiple Floors/Entire Building

Using WaveLinx Area Controller and CORE, controls can be scaled to multiple floors or an entire building on just one system, with independent control for each floor or network.



Typical control strategies for code compliance

	WaveLinx CAT	WaveLinx LITE	WaveLinx PRO	WaveLinx PRO & CORE
	WaveLinx CAT Wired solution for standalone or single spaces	**WaveLinx LITE** Wired solution for standalone or single spaces	**WaveLinx PRO** Wired & Wireless solution for connected spaces	**WaveLinx PRO & CORE** Wired & Wireless enterprise solution
Occupancy/Vacancy Sensing	●	●	●	●
Dimming Control	●	●	●	●
Daylight Control	●	●	●	●
Plug-Load Control	●	●	●	●
High-End Trim or Task Tuning	●	●	●	●
3rd Party Integration via Contact Closure Input	●	●	●	●
Emergency Lighting Control	●	●	●	●
Time-based Scheduling			●	●
Lighting dimming and Relay Panel			●	●
Demand Response Control	●	●	●	●
Energy Monitoring				●
Floorplan Visualization				●
BACnet Integration				●
3rd Party Integration via API				●
Alarms and Events				●
Asset tracking and Geofencing				●
Data insights				●

Energy codes can sometimes be complicated and difficult to navigate. This commercial application guide provides examples of how WaveLinx products can be used to meet or exceed code requirements. This guide focuses on CAT, LITE, and PRO. Keep in mind that to enable some advanced functionality, like BACnet integration, the CORE may be required. Please refer to the actual energy code document for details.

What triggers the energy code and what are the mandatory control requirements?

- New construction
- Alterations or retrofit
  - More than 10% of the number of luminaries in the space are being retrofitted, and use less than 80% of the maximum allowed lighting power.
  - One-for-one luminaire replacements for buildings or tenant spaces less than 5,000 ft2 when new lighting power is 40% lower than previous lighting power.

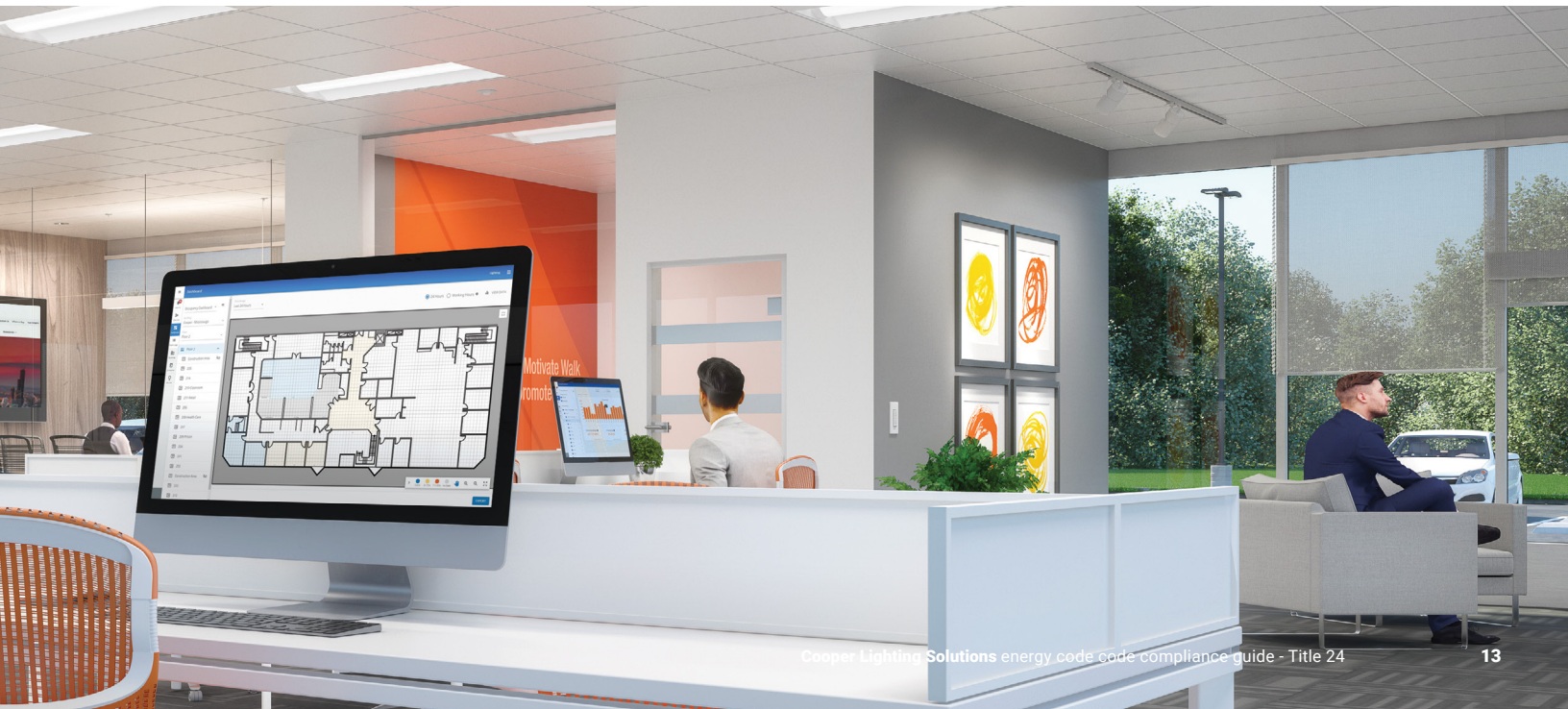
Typical control strategies for code compliance

	Requirement	Provisions	Summary
Manual Control	Local Control / Switch	130.1 (a)	Lighting shall be capable of turning ON and OFF. There shall be in easily accessible location where the controlled lights are visible OR they can be in a remote area, but identify the area served by the lights and indicate their status.
	Multi-level lighting controls	130.1 (b)	Spaces larger than 100 sq. ft and that use more than 0.5 watts per sq. ft of connected lighting power shall provide continous controls that can adjust lighting power from 100% to 10% or lower.
Automatic Control	Time-Switch Control	130.1 (c) 1 130.2 (c) 1, 2	**Interior:** Automatically turn off lights when a space is scheduled to be unoccupied. Occupancy sensors also comply as an alternate to using a time-switch. **Exterior:** Scheduled control, based on time-of-day and sunrise/sunset (requires astronomical timeclock), turns lighting ON or OFF based on typical occupancy and daylight."
	Occupant Sensor Controls	130.1 (c) 1, 5	Automatic control turns lighting ON or OFF after a vacancy of 20 minutes or less.
	Partial On	130.1 (c) 5	When initiated by a timeclock or occupancy sensor, lighting is automatically turned ON to 50% to 70% of maximum lighting power **Open Office:** Unoccupied control zones can turn on to not more than 20% (or remain unaffected)
	Partial Off	130.1 (c) 6 & 7 130.2 (c) 3	**Warehouse:** Automatically reduced by at least 50% within 20 mins when unoccupied. **Open office:** Automatically reduced to at least 20% within 20 mins when unoccupied. **Corridors:** Automatically reduced by at least 50% within 20 mins when unoccupied. **Interior Parking:** Automatically reduced between 20% to 50% within 20 mins when unoccupied. **Exterior Lighting:** Parking lot pole- and wall-mounted luminaires 24 ft. or less in height must be controlled with motion sensors that reduce lighting power by 50% to 90% or turn the lighting off when the zone is vacant by more than 15 minutes. Automatic full OFF also complies.
	Full Off	130.1 (c) 5 130.2 (a)	When initiated by a timeclock or occupancy sensor, lighting is automatically turned OFF.
Other	Daylight responsive control	130.1 (d) 130.2 (c) 1	**Interior:** A sensor which adjusts lighting in response to available daylight is required for sidelight and skylight zones. Add after the period. Daylight control is not required when the total lighting power of a daylight zone is 75W or less. **Exterior & parking garages:** A photosensor can be used as an alternate to the dawn/dusk operation of an astronomical timeclock. Daylight control is not required when the total lighting power of a daylight zone is 60W or less.
	Automatic Receptacle Control	130.5 (d)	At least 50% of the receptacles in certain spaces shall automatically turn OFF based on operating schedule or after a vacancy of 20 minutes or less. Each uncontrolled receptacle must have at least one controlled receptacle within 6 feet. Open offices with receptacles in modular furniture must include one controlled receptacle per workstation. Plug-in devices do not comply.
	Demand Response Control (capability)	130.1 (e) 110.12 (c) 110.12 (e)	Buildings using more than 4000 watts of lighting power shall have demand-responsive lighting controls that reduce lighting power in response to an OpenAPR signal. Controlled receptacles in buildings shall be capable of automatically turning off all loads connected to the receptacle in response to a demand response signal.
	Occupied-Standby Mode (capability)	130.1 (f)	Spaces that are required to have occupant sensing controls and where table 120.1-A allows the ventilation air to be reduced to zero when the space is in occupied-standby mode, the space conditioning shall be permitted to be controlled by occupancy sensing controls.

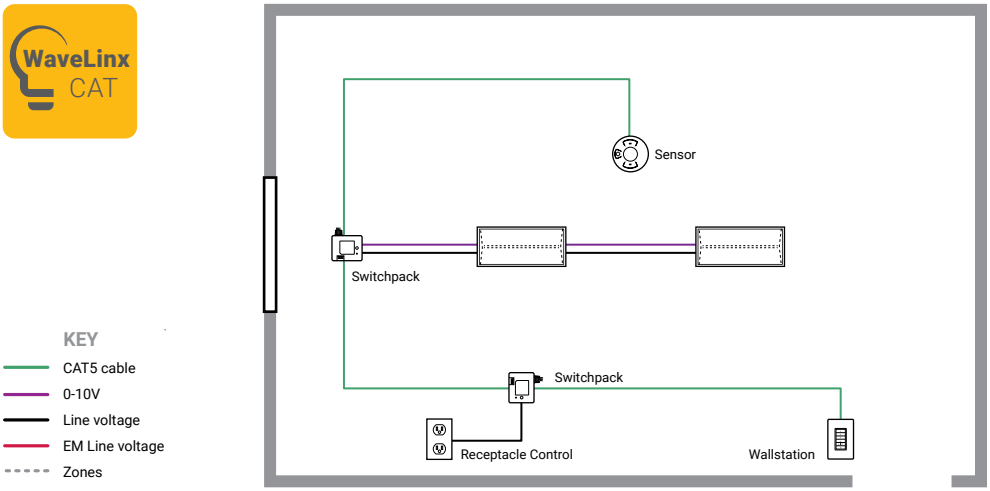
Control requirements by application type

	Requirement	Open Offices > 250 ft²	Conference/ Meeting/ Multipurpose Rooms	Classroom/ Lecture Hall/ Training Room	Lobby	Corridor
Manual Control	Local Control / Switch	●	●	●	●	●
	Multi-level lighting controls	●	●	●	●	●
Automatic Control	Time-Switch					
	Occupancy Sensor	●	●	●	●	●
	Partial On	●				
	Full On	●			●	●
	Partial Off	●				●
	Full Off	●	●	●	●	
Other	Daylight responsive control	●	●	●	●	●
	Automatic receptacle control	●	●	●	●	
	Demand response	●	●	●	●	●
	Occupancy Standby Mode	●	●	● *(lecture hall / postsecondary classroom)*	●	●

	Requirement	Restroom	Stairwell	Gymnasium/ Fitness Center	Warehouse/ Storage Area	Parking Garage	Exterior Lighting
Manual Control	Local Control / Switch	●	●	●	●		
	Multi-level lighting controls		●	●	●		
Automatic Control	Time-Switch					●	●
	Occupancy Sensor	●	●	●	●	●	
	Partial On					●	●
	Full On	●	●			●	●
	Partial Off	●	●			●	●
	Full Off	●		●			
Other	Daylight responsive control	●	●	●	●	●	●
	Automatic receptacle control						
	Demand response	●	●	●	●	●	●
	Occupancy Standby Mode						



Private Office (≤ 250 ft²) - Wired



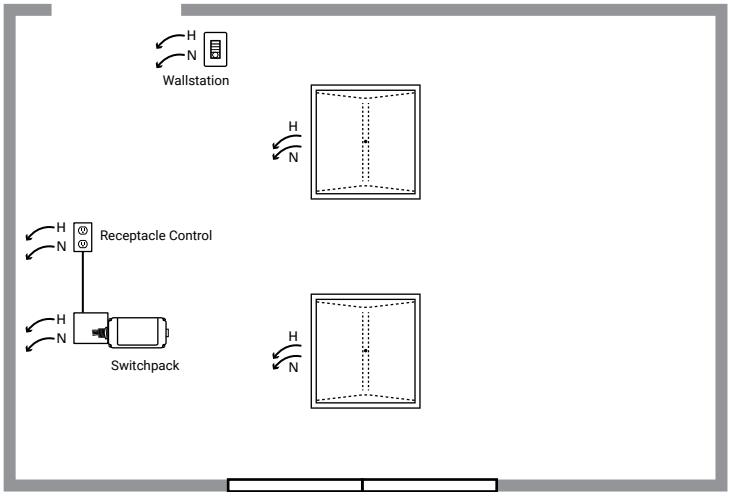
Control Strategies	
	Occupancy/ Vacancy
	Dimming Control
	High-end/ Task Tuning
	Plug load control

Control Functionality	
Occupant Enters	Lights and controlled receptacle automatically turn on to a level of 50% when an occupant enters the space. High-end trim set to 90%.
When Occupied	Manual: Occupant uses wall dimmer to set desired light levels for all lights.
Occupant Exits	All lights and receptacle automatically turn off 20 minutes after all occupants exit.

Bill of Material

Quantity	Catalog #	Description	Code Provision
2	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 1	Multi-level lighting control 130.1 (b) Automatic receptacle control 130.1 (e) 110.12 (c)
1	WST-C-3D	WST-C Wallstation 3 button dimming	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
1	OCS-C-P06	OCS-C Occupancy & Daylight ceiling sensor (600 ft²)	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1
2	24EN-LD2-34-UNV-L835-CD1-U	Encounter 2x4 fixture with 0-10V dimming	

Private Office (≤ 250 ft²) - Wireless



Control Strategies
Occupancy/ Vacancy
Dimming Control
High-end/ Task Tuning
Plug load control

Control Functionality	
Occupant Enters	Lights and controlled receptacle automatically turn on to a level of 50% when an occupant enters the space. High-end trim set to 90%.
When Occupied	Manual: Occupant uses wall dimmer to set desired light levels for all lights.
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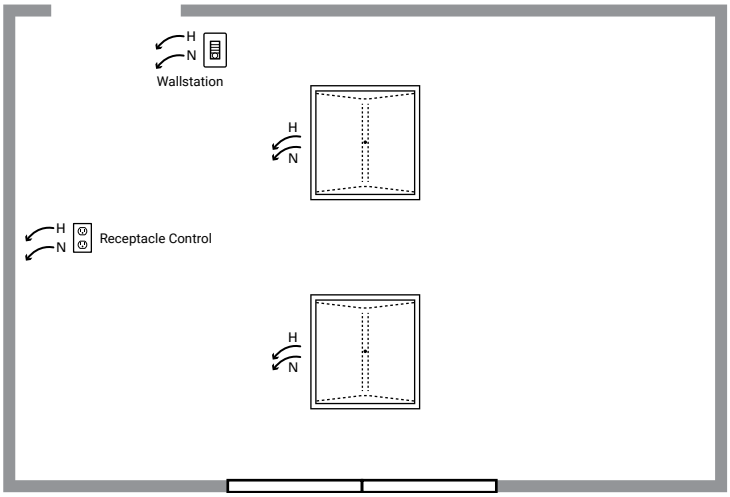
Bill of Material

Quantity	Catalog #	Description	Code Provision
1	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 1	Multi-level lighting control 130.1 (b) Automatic receptacle control 130.1 (e) 110.12 (c)
1	WST-C-3D	WST-C Wallstation 3 button dimming	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
2	22EN-LD2-34-UNVL835-CD1-WLS-U	Encounter 2x2 fixture with WLS integrated sensor	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1

Private Office (≤ 250 ft²) - Wireless



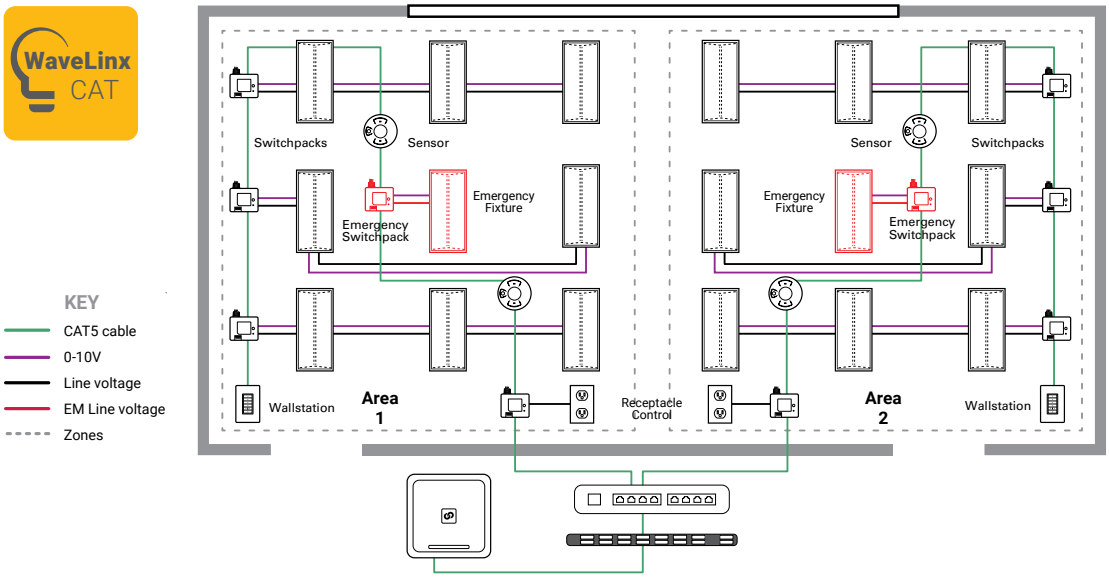
Control Strategies	
	Occupancy/ Vacancy
	Dimming Control
	High-end/ Task Tuning
	Plug load control

Control Functionality	
Occupant Enters	Lights and controlled receptacle automatically turn on to a level of 50% when an occupant enters the space. High-end trim set to 90%.
When Occupied	Manual: Occupant uses wall dimmer to set desired light levels for all lights.
Occupant Exits	All lights and receptacle automatically turn off 20 minutes after all occupants exit.

Bill of Material

Quantity	Catalog #	Description	Code Provision
1	WAC2-POE	WaveLinx Area Controller	
1	W4S-RL-W	WaveLinx PRO Wallstation	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
1	WR-20	WaveLinx PRO Receptacle	Automatic receptacle control 130.1 (e) 110.12 (c)
2	22EN-LD2-34-UNVL835-CD1-WPS-U	Encounter 2x2 fixture with WPS integrated sensor	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1

Open Office* (> 250 ft²) - Wired



Control Strategies

- Occupancy/ Vacancy
- Dimming Control
- Daylight Control
- High-end/ Task Tuning
- Plug load control

Control Functionality

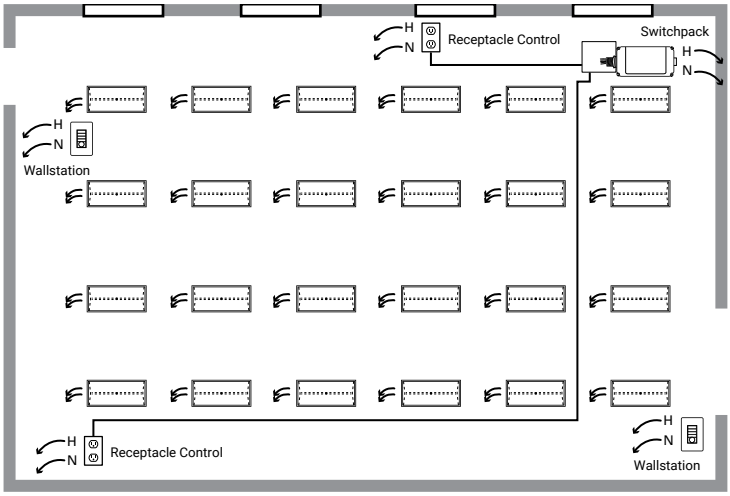
Occupant Enters	When the occupant enters Area 1, all fixtures in that area automatically turn on to 50% . Fixtures in Area 2, the unoccupied area, turn on to 20%. All controlled receptacles regain power.
When Occupied	Automatic: fixtures close to the window dims/brightens based on local daylight availability. Manual: Occupant uses the Wallstation to set desired light levels for the area. Unoccupied areas: Dim to 20%
Occupant Exits	Each area automatically turns off after 20 minutes. Controlled receptacles also turn off.

Bill of Material

Quantity	Catalog #	Description	Code Provision
8	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 1	Multi-level lighting control 130.1 (b) Automatic receptacle control 130.1 (e) 110.12 (c)
2	ESP-C-010-Z1	ESP-C-010-Z1	Multi-level lighting control 130.1 (b)
2	WST-C-3D	WST-C Wallstation 3 button dimming	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
4	OSC-C-P06	OCS-C Occupancy & Daylight ceiling sensor (600 ft²)	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1
18	24EN-LD2-34-UNVL835-CD1-U	Encounter 2x4 fixture with 0-10V dimming	

** Control zones are limited to 600ft²*

Open Office* (> 250 ft²) - Wireless



Control Strategies	
	Occupancy/ Vacancy
	Dimming Control
	Daylight Control
	High-end/ Task Tuning
	Plug load control

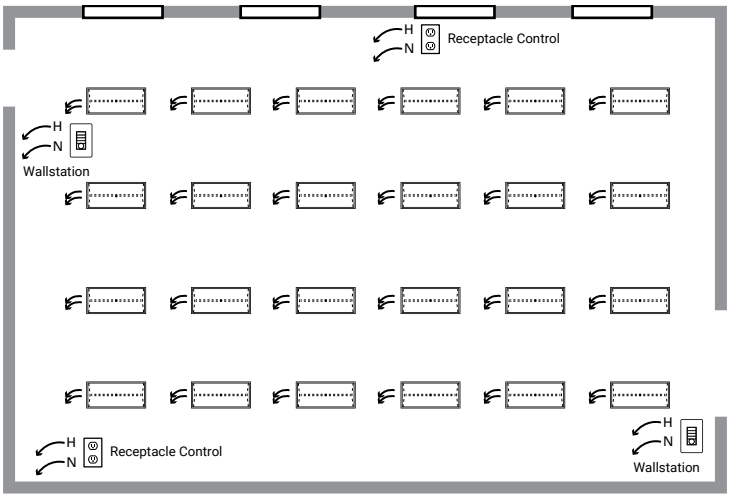
Control Functionality	
Occupant Enters	Each individual light automatically turns on to 50% light level as occupant approaches fixture proximity. High-end trim is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Each individual overhead light dims/brightens based on local daylight availability. Manual: Occupant uses wall station to set desired light levels for all lights. Unoccupied zones: Dim to 20%
Occupant Exits	Each individual light automatically turns off 20 minutes after all occupants exit fixture proximity. 50% of all receptacles automatically turn off 20 minutes after all occupants exit.

Bill of Material

Quantity	Catalog #	Description	Code Provision
1	RSP-L-010-347	RSP-L Relay switchpack	Automatic receptacle control 130.1 (e) 110.12 (c)
2	WWL3-RL-W	WaveLinx LITE Wallstation	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
24	24EN-LD2-34-UNVL835-CD1-WLS-U	Encounter 2x4 fixture with WLS integrated sensor	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1

** Control zones are limited to 600ft²*

Open Office* (> 250 ft²) - Wireless



Control Strategies	
	Occupancy/ Vacancy
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Control Functionality	
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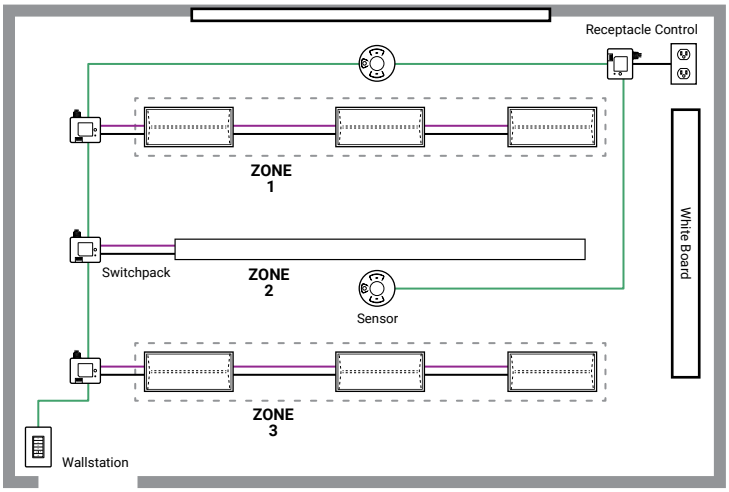
When Occupied	Automatic: Each individual overhead light dims/brightens based on local daylight availability. Manual: Occupant uses wall station to set desired light levels for all lights. Unoccupied zones: Dim to 20%
Occupant Exits	Each individual light automatically turns off 20 minutes after all occupants exit fixture proximity. 50% of all receptacles automatically turn off 20 minutes after all occupants exit.

Bill of Material

Quantity	Catalog #	Description	Code Provision
1	WAC2-POE	WaveLinx Area Controller	
2	W4S-RL-W	WaveLinx PRO Wallstation	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
2	WR-20	WaveLinx PRO Receptacle	Automatic receptacle control 130.1 (e) 110.12 (c)
24	24EN-LD2-34-UNVL835-CD1-WPS-U	Encounter 2x4 fixture with WPS integrated sensor	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1

** Control zones are limited to 600ft²*

Conference Room - Wired



KEY
- CAT5 cable
- 0-10V
- Line voltage
- EM Line voltage
- Zones

Control Strategies

- Occupancy/ Vacancy
- Dimming Control
- Daylight Control
- High-end/ Task Tuning
- Plug load control

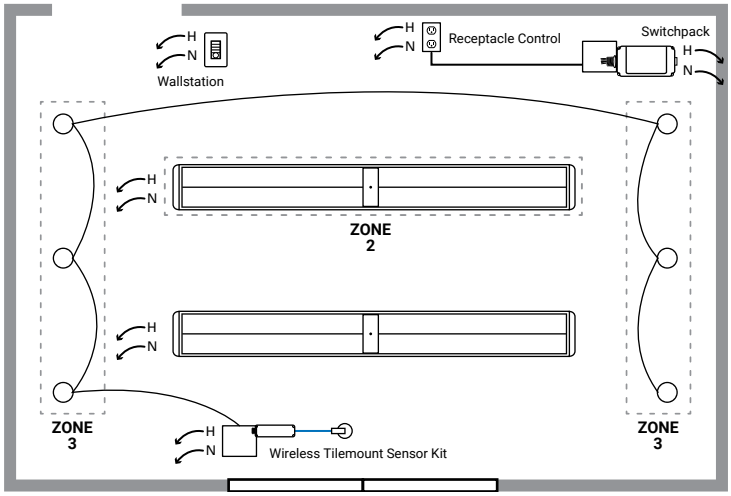
Control Functionality

Occupant Enters	Lights do not automatically turn on when an occupant enters the space; lights must be turned on manually. High-end trim is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Overhead lights dim/brighten based on daylight availability. Zone 1 is a primary daylight zone. Manual: Occupant uses wall dimmer to set desired light levels for all lights.
Occupant Exits	All lights and receptacle automatically turn off 15 minutes after all occupants exit. 50% of all receptacles automatically turn off 15 minutes after all occupants exit.

Bill of Material

Quantity	Catalog #	Description	Code Provision
2	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 1	Multi-level lighting control 130.1 (b) Automatic receptacle control 130.1 (e) 110.12 (c)
1	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 2	Multi-level lighting control 130.1 (b)
1	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 3	Multi-level lighting control 130.1 (b)
1	WST-C-3D	WST-C Wallstation 3 button dimming	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
2	OSC-C-P06	OCS-C Occupancy & Daylight ceiling sensor (600 ft^2)	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1
6	24EN-LD2-34-UNVL835-CD1-U	Encounter 2x4 fixture with 0-10V dimming	
1	8WSL-LD2-80-SRC-UNV-L840-CD1-U	WSL 8ft linear	

Conference Room - Wireless



Control Strategies

- Occupancy/ Vacancy
- Dimming Control
- Daylight Control
- High-end/ Task Tuning
- Plug load control

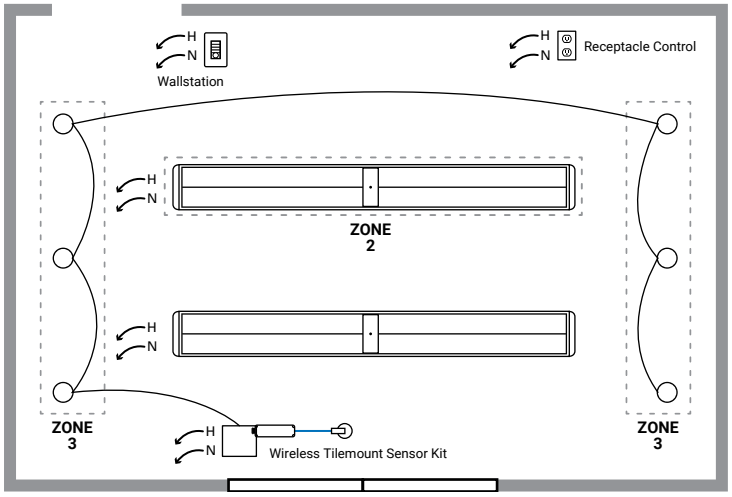
Control Functionality

Occupant Enters	Lights do not automatically turn on when an occupant enters the space; lights must be turned on manually. Maximum light level is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Overhead lights dim/brighten based on daylight availability. Zone 1 is a primary daylight zone. Zone 2 is the secondary daylight zone. Manual: Occupant uses wall dimmer to set desired light levels for all lights.
Occupant Exits	All lights and receptacle automatically turn off 15 minutes after all occupants exit. 50% of all receptacles automatically turn off 15 minutes after all occupants exit.

Bill of Material

Quantity	Catalog #	Description	Code Provision
1	RSP-L-010-347	RSP-L Relay switchpack	Automatic receptacle control 130.1 (e) 110.12 (c)
1	WWL3-RL-W	WaveLinx LITE Wallstation	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
1	WTK	WaveLinx LITE tile mount sensor kit	Occupancy Sensor Controls 130.1 (c) 1, 5 Zone 2 is the secondary daylight zone.
2	DSI-WS-40L835-1DUNV-STD-WLS-DC-WAC48-T1-8	Divide Suspended with WaveLinx Sensor	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1
6	PR6FS12D010 (Housing) PR6M12MD8FSMW (LED Module)	PR6M12MD8FSMW (LED Module)	

Conference Room - Wireless



Control Strategies

- Occupancy/ Vacancy
- Dimming Control
- Daylight Control
- High-end/ Task Tuning
- Plug load control

Control Functionality

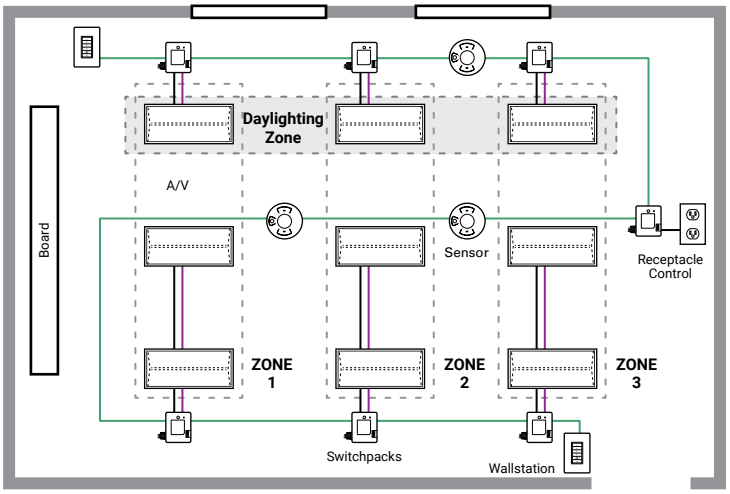
Occupant Enters	Lights do not automatically turn on when an occupant enters the space; lights must be turned on manually. Maximum light level is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Overhead lights dim/brighten based on daylight availability. Zone 1 is a primary daylight zone. Zone 2 is the secondary daylight zone. Manual: Occupant uses wall dimmer to set desired light levels for all lights.
Occupant Exits	All lights and receptacle automatically turn off 15 minutes after all occupants exit. 50% of all receptacles automatically turn off 15 minutes after all occupants exit.

Bill of Material

Quantity	Catalog #	Description	Code Provision
1	WAC2-POE	WaveLinx Area Controller	
1	W4S-RL-W	WaveLinx PRO Wallstation	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
1	WTA	WaveLinx LITE tile mount sensor kit	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1
1	WR-20	WaveLinx PRO Receptacle	Automatic receptacle control 130.1 (e) 110.12 (c)
2	DSI-WS-40L835-1DUNV-STD-WPS-DC-WAC48-T1-8	Divide Suspended with WaveLinx sensor	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1
6	PR6FS12D010 (Housing) PR6M12MD8FSMW (LED Module)	PR6M12MD8FSMW (LED Module)	

Classroom - Wired

WaveLinx CAT



KEY
- CAT5 cable
- 0-10V
- Line voltage
- EM Line voltage
- Zones

Control Strategies

	Occupancy/ Vacancy
	Dimming Control
	Daylight Control
	High-end/ Task Tuning
	Plug load control

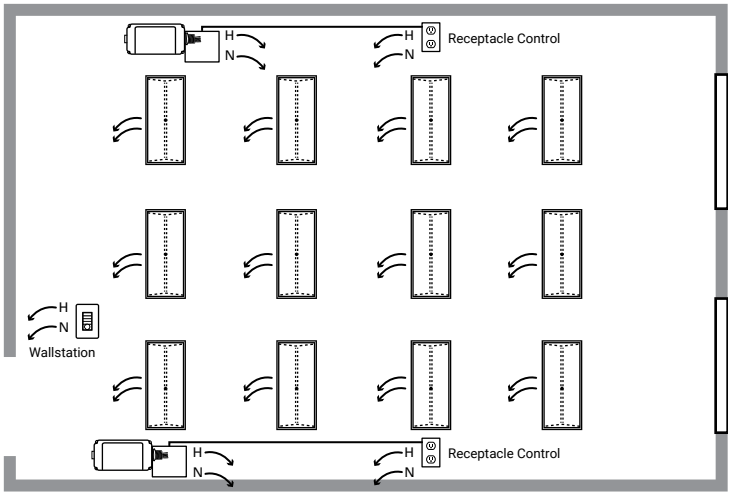
Control Functionality

Occupant Enters	Lights automatically turn on to 50%when an occupant enters the space. Maximum light level is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Overhead lights dim/brighten based on daylight availability. 3 fixtures close to the window is in a primary daylight zone. Manual: Occupant uses wall dimmer to set desired light levels for all lights.
Occupant Exits	All lights automatically turn off 15 minutes after all occupants exit. 50% of all receptacles automatically turn off 15 minutes after all occupants exit.

Bill of Material

Quantity	Catalog #	Description	Code Provision
7	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 1	Multi-level lighting control 130.1 (b) Automatic receptacle control 130.1 (e) 110.12 (c)
2	WST-C-3D	WST-C Wallstation 3 button dimming	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
3	OCS-C-P06	OCS-C Occupancy & Daylight ceiling sensor (600 ft^2)	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1
9	24EN-LD2-34-UNV-L835-CD1-U	Encounter 2x4 fixture with 0-10V dimming	

Classroom - Wireless



Control Strategies

- Occupancy/ Vacancy
- Dimming Control
- Daylight Control
- High-end/ Task Tuning
- Plug load control

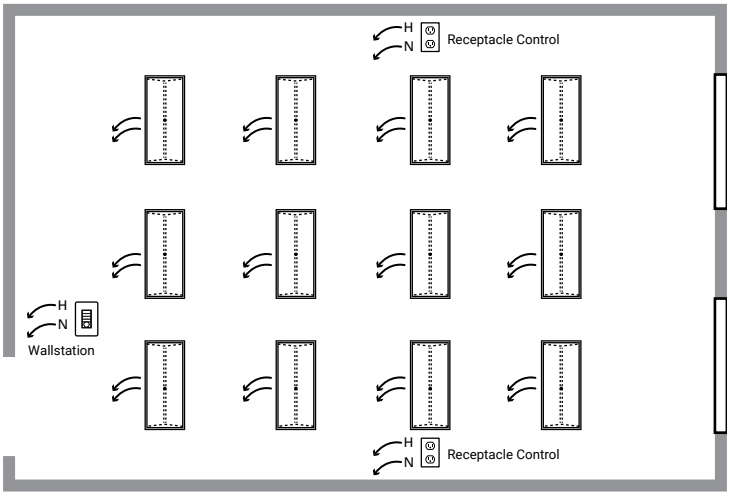
Control Functionality

Occupant Enters	Each individual light automatically turns on to 50% light level as occupant approaches fixture proximity. Maximum light level is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Each individual overhead light dims/brightens based on local daylight availability. Manual: Occupant uses wall station to set desired light levels for all lights. Unoccupied zones: Dim to 20%
Occupant Exits	Each individual light automatically turns off 20 minutes after all occupants exit fixture proximity. 50% of all receptacles automatically turn off 20 minutes after all occupants exit.

Bill of Material

Quantity	Catalog #	Description	Code Provision
1	RSP-L-010-347	RSP-L Relay switchpack	Automatic receptacle control 130.1 (e) 110.12 (c)
2	WWL3-RL-W	WaveLinx LITE Wallstation	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
12	24EN-LD2-34-UNVL835-CD1-WLS-U	Encounter 2x4 fixture with WLS integrated sensor	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1

Classroom - Wireless



Control Strategies

	Occupancy/ Vacancy
	Dimming Control
	Daylight Control
	High-end/ Task Tuning
	Plug load control

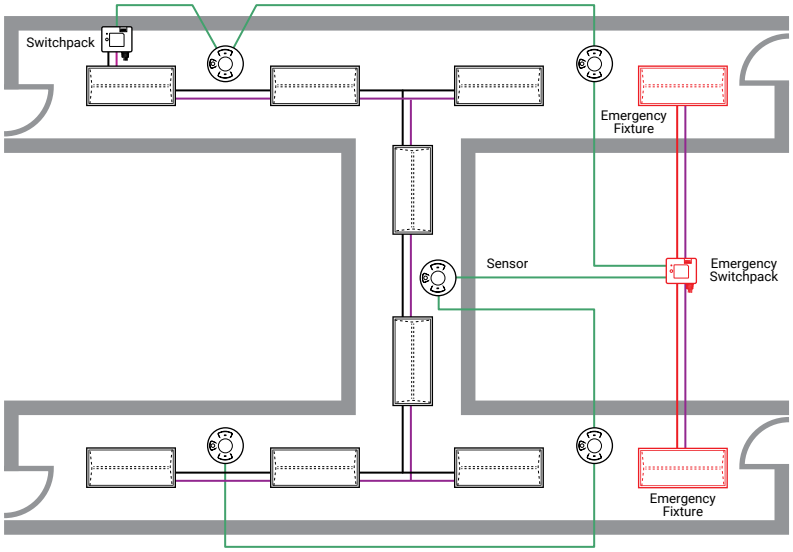
Control Functionality

Occupant Enters	Lights automatically turn on to 50%when an occupant enters the space. Maximum light level is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Overhead lights dim/brighten based on daylight availability. Closed loop daylight responsive control is implemented in the full area due to large windows. Manual: Occupant uses wall dimmer to set desired light levels for all lights.
Occupant Exits	All lights automatically turn off 20 minutes after all occupants exit. 50% of all receptacles automatically turn off 20 minutes after all occupants exit.

Bill of Material

Quantity	Catalog #	Description	Code Provision
1	WAC2-POE	WaveLinx Area Controller	
1	W4S-RL-W	WaveLinx PRO Wallstation	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
2	WR-20	WaveLinx PRO Receptacle	Automatic receptacle control 130.1 (e) 110.12 (c)
12	24EN-LD2-34-UNVL835-CD1-WPS-U	Encounter 2x4 fixture with WPS integrated sensor	Occupancy Sensor Controls 130.1 (c) 1, 5 Automatic daylight responsive control 130.1 (d) 130.2 (c) 1

Corridor - Wired



KEY
- CAT5 cable
- 0-10V
- Line voltage
- EM Line voltage
- Zones

Control Strategies

Occupancy/ Vacancy

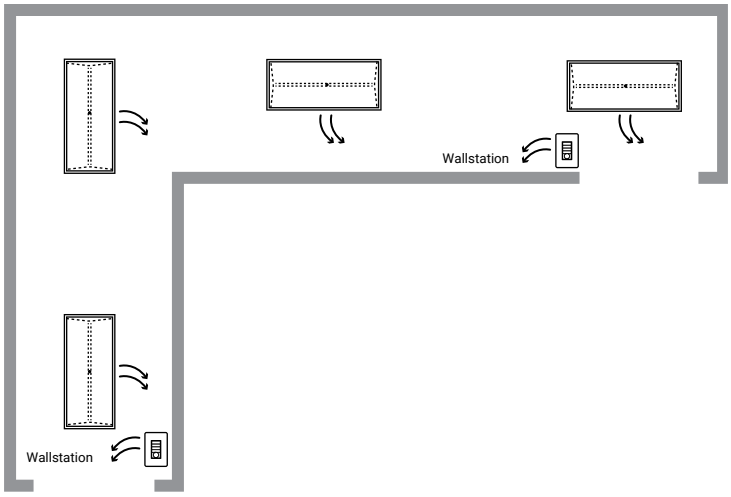
Control Functionality

Occupant Enters	Lights automatically turn on to 50% when an occupant enters the space.
Occupant Exits	All lights dim to minimum light level 20 minutes after all occupants exit. Minimum light level is set to 10%.
Emergency Mode	Lighting connected to emergency power turns on to full output, during an emergency situation.

Bill of Material

Quantity	Catalog #	Description	Code Provision
1	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 1	Multi-level lighting control 130.1 (b)
1	ESP-C-010-Z1	ESP-C Emergency Relay Switchpack - Zone 1	Multi-level lighting control 130.1 (b)
5	OCS-C-P06	OCS-C Occupancy & Daylight ceiling sensor (600 ft^2)	Occupancy Sensor Controls 130.1 (c) 1, 5
10	24EN-LD2-34-UNV-L835-CD1-U	Encounter 2x4 fixture with 0-10V dimming	

Corridor - Wireless



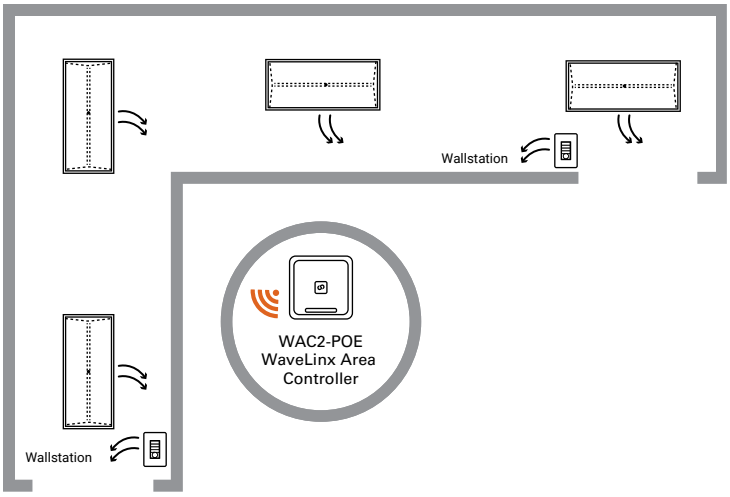
Control Strategies
Occupancy/ Vacancy

Control Functionality	
Occupant Enters	Lights automatically turn on to 50%when an occupant enters the space.
Occupant Exits	All lights dim to minimum light level 20 minutes after all occupants exit. Minimum light level is set to 10%.

Bill of Material

Quantity	Catalog #	Description	Code Provision
1	WWL3-RL-W	WaveLinx LITE Wallstation	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
4	24EN-LD2-34-UNVL835-CD1-WLS-U	Encounter 2x4 fixture with WLS integrated sensor	Occupancy Sensor Controls 130.1 (c) 1, 5

Corridor - Wireless



Control Strategies

Occupancy/
Vacancy

Control Functionality

Occupant Enters	Lights automatically turn on to 50% when an occupant enters the space.
Occupant Exits	All lights dim to minimum light level 20 minutes after all occupants exit. Minimum light level is set to 10%.

Bill of Material

Quantity	Catalog #	Description	Code Provision
1	WAC2-POE	WaveLinx Area Controller	
2	W4S-RL-W	WaveLinx PRO Wallstation	Local control / Switch 130.1 (a) Multi-level lighting control 130.1 (b)
4	24EN-LD2-34-UNVL835-CD1-WPS-U	Encounter 2x4 fixture with WPS integrated sensor	Occupancy Sensor Controls 130.1 (c) 1, 5

WaveLinx

Service and Support

A WaveLinx system creates incredible value, from the cost savings of occupancy detection to the flexibility and power of scheduled lighting control.

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Email (US):
controltechsupport@cooperlighting.com

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a signify business

Why Cooper Lighting Solutions?

At Cooper Lighting Solutions, we build forward-thinking lighting solutions that make people's lives safer, while making buildings, homes and cities smarter and more sustainable. We deliver an industry-leading portfolio of residential, sports, infrastructure, industrial, and commercial LED lighting; plus lighting controls and smart lighting systems.

We question, we seek and we solve. Because building a better world means asking tough questions and pushing harder for answers. Together with our customers, we create solutions that build a better world. At Cooper Lighting Solutions, we push past the ordinary to build brighter.

Cooper Lighting Solutions is a business unit of Signify, the world leader in lighting. Together we have a shared purpose to unlock the extraordinary potential of light for brighter lives and a better world.

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