Energy Code
Applications Guide

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

IECC (2024 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

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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.**
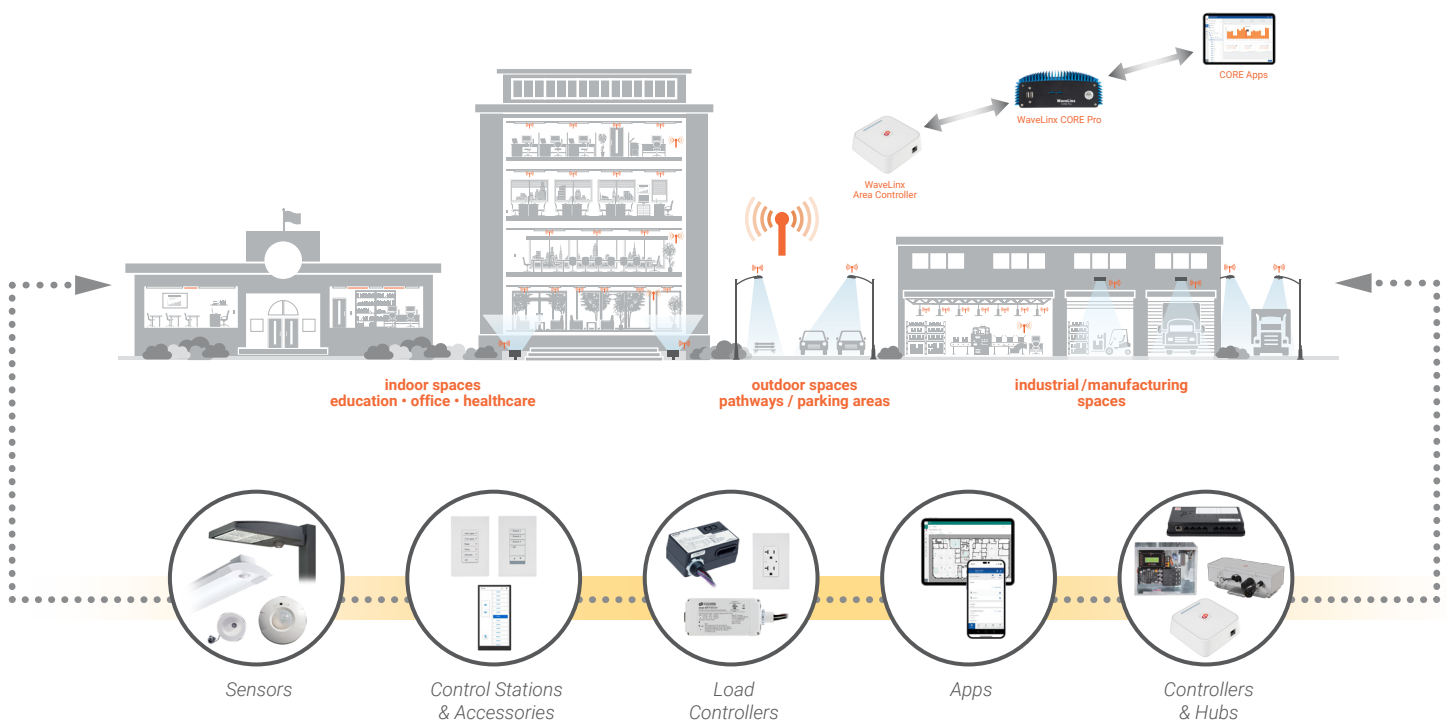
A smarter way to save energy is here.

WaveLinx
Digital Lighting
Control
Solutions

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.

CORE Apps

WaveLinx CORE Pro

WaveLinx Area Controller

indoor spaces
education • office • healthcare

outdoor spaces
pathways / parking areas

industrial / manufacturing spaces

Sensors

Control Stations & Accessories

Load Controllers

Apps

Controllers & Hubs

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.
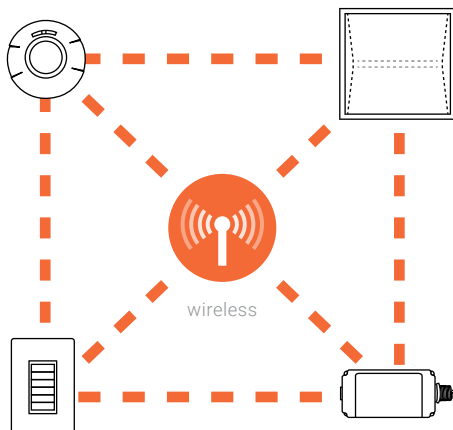
WaveLinx CAT

wired
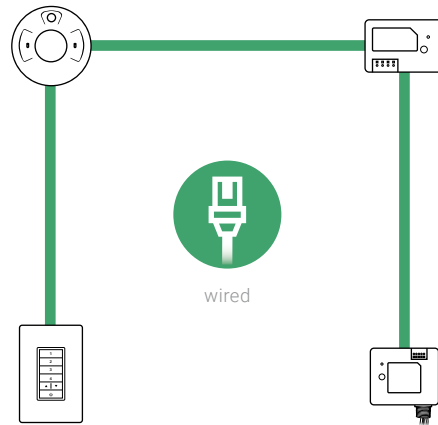
WaveLinx LITE

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

WaveLinx LITE
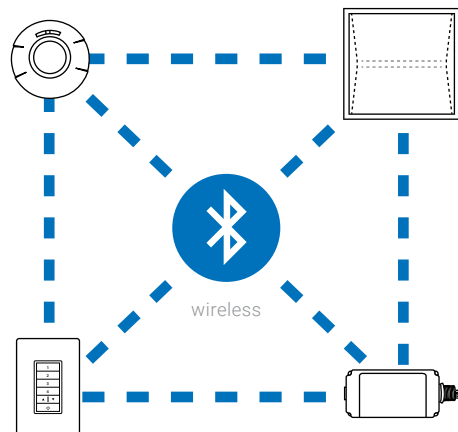
wireless

WaveLinx PRO

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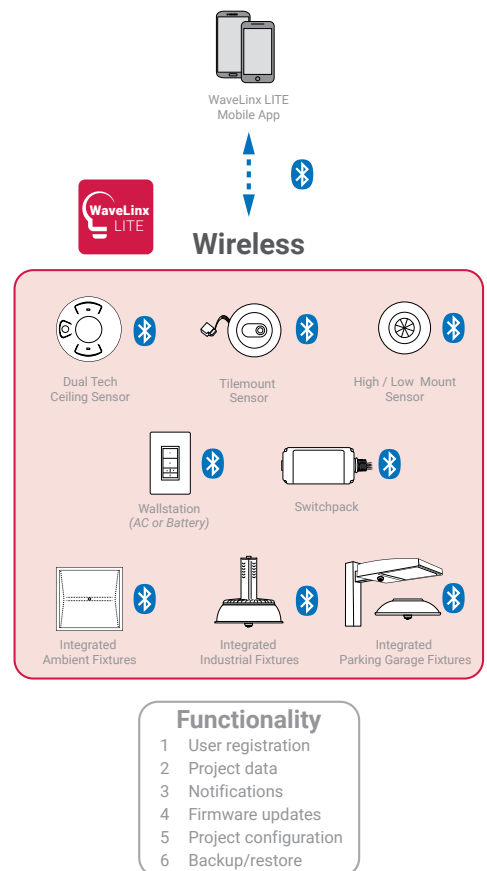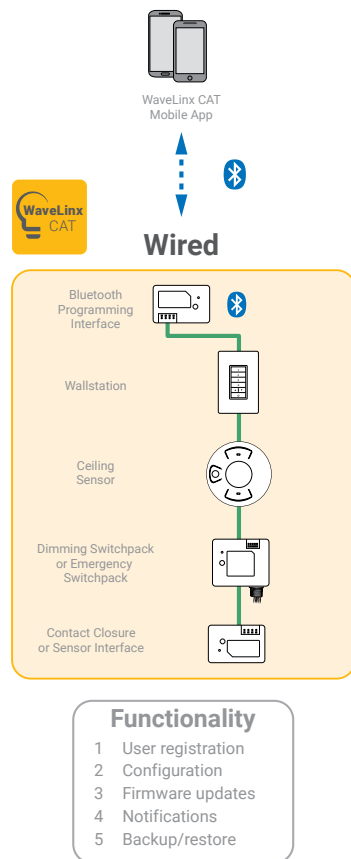
WaveLinx PRO

wireless

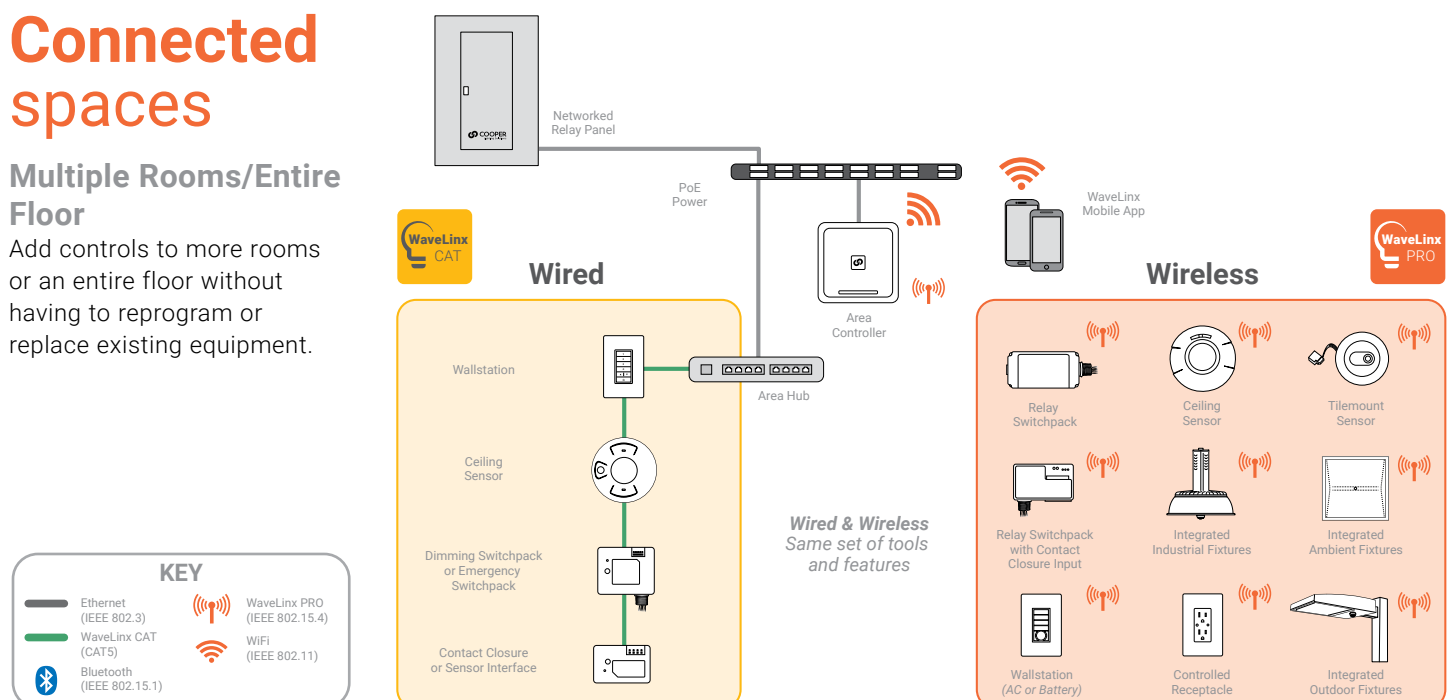# From standalone to enterprise solutions

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.

WaveLinx CAT Mobile App

WaveLinx CAT

Wired

- Bluetooth Programming Interface
- Wallstation
- Ceiling Sensor
- Dimming Switchpack or Emergency Switchpack
- Contact Closure or Sensor Interface

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

WaveLinx LITE Mobile App

WaveLinx LITE

Wireless

- Dual Tech Ceiling Sensor
- Tilemount Sensor
- High / Low Mount Sensor
- Wallstation (AC or Battery)
- Switchpack
- Integrated Ambient Fixtures
- Integrated Industrial Fixtures
- Integrated Parking Garage Fixtures

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.

Networked Relay Panel

PoE Power

Area Controller

WaveLinx Mobile App

WaveLinx CAT

Wired

- Wallstation
- Area Hub
- Ceiling Sensor
- Dimming Switchpack or Emergency Switchpack
- Contact Closure or Sensor Interface

Wired & Wireless Same set of tools and features

WaveLinx PRO

Wireless

- Relay Switchpack
- Ceiling Sensor
- Tilemount Sensor
- Relay Switchpack with Contact Closure Input
- Integrated Industrial Fixtures
- Integrated Ambient Fixtures
- Wallstation (AC or Battery)
- Controlled Receptacle
- Integrated Outdoor Fixtures

KEY

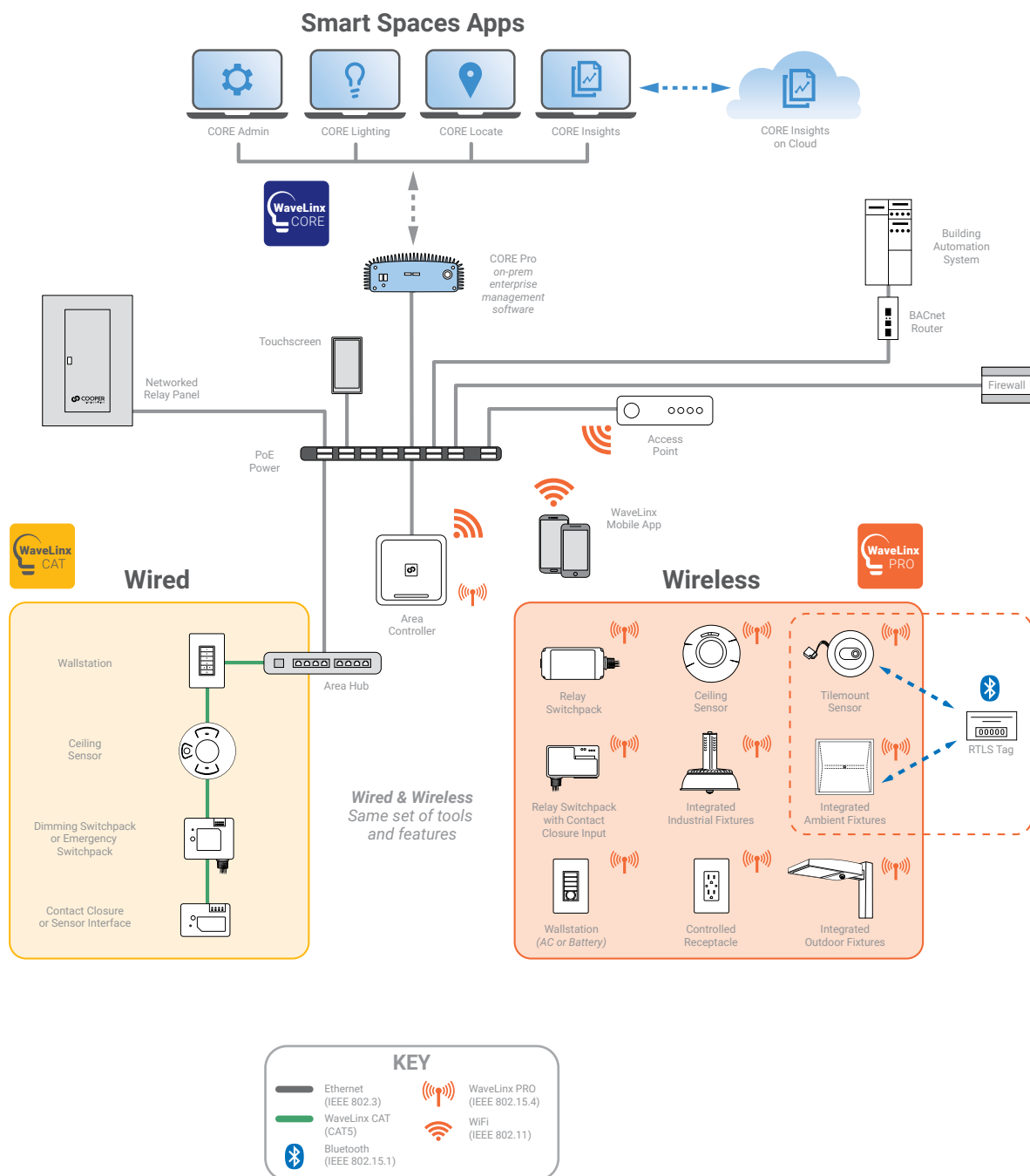|	
Ethernet (IEEE 802.3)	WaveLinx PRO (IEEE 802.15.4)
WaveLinx CAT (CAT5)	WiFi (IEEE 802.11)
Bluetooth (IEEE 802.15.1)	

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.

Smart Spaces Apps

- CORE Admin
- CORE Lighting
- CORE Locate
- CORE Insights
- CORE Insights on Cloud

WaveLinx CORE

CORE Pro
on-prem enterprise management software

Building Automation System

BACnet Router

Touchscreen

Networked Relay Panel

Firewall

PoE Power

Access Point

WaveLinx Mobile App

Area Controller

WaveLinx CAT

Wired

- Wallstation
- Ceiling Sensor
- Dimming Switchpack or Emergency Switchpack
- Contact Closure or Sensor Interface

Area Hub

Wired & Wireless Same set of tools and features

WaveLinx PRO

Wireless

- Relay Switchpack
- Ceiling Sensor
- Tilemount Sensor
- RTLS Tag
- Relay Switchpack with Contact Closure Input
- Integrated Industrial Fixtures
- Integrated Ambient Fixtures
- Wallstation (AC or Battery)
- Controlled Receptacle
- Integrated Outdoor Fixtures

KEY

—— Ethernet (IEEE 802.3)	WaveLinx PRO (IEEE 802.15.4)
—— WaveLinx CAT (CAT5)	WiFi (IEEE 802.11)
Bluetooth (IEEE 802.15.1)	

Typical control strategies for code compliance

	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
  - Where an alteration of an interior space includes addition or relocation of full height partitions
  - Where lighting within the interior spaces is altered.
  - Where lighting controls within spaces are altered

Typical control strategies for code compliance

	Requirement	Provisions	Summary
Manual Control	Local Control	C405.2.6	Lighting shall be capable of turning ON and OFF. The control 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.
	Dimming Control	C405.2.3.1	The general lighting in the space shall be manually controlled with continuous dimming to 10% or less of full lighting power in addition to full ON and full OFF. Manual dimming is not required in spaces where high-end trim controls are provided.
Automatic Control	Time-Switch Control[1]	C405.2.1.2 C405.2.2 C405.2.7.2 C405.2.7.3 C 405.2.7.4	**Warehouse:** Automatically turn off lights when space is scheduled to be unoccupied via a 7-day clock. **Interior:** Automatically turn off lights when a space is scheduled to be unoccupied via a 7-day clock. **Exterior:** Automatically turn off lights when a space is scheduled to be unoccupied via a 7-day clock.. Building facade and landscape lighting should automatically shut off within 1 hour after building/business closing. Lighting setbacks (reduce lighting wattage by not less than 50% by selective switching or dimming fixtures) for other exterior lighting.
	Occupant Sensor Controls	C405.2.1.1	Automatic control turns lighting ON to not more than 50% upon occupancy or OFF after a vacancy of 20 minutes or less.
	Partial On[2]	C405.2.1.1	When initiated by an occupancy sensor, lighting is automatically turned ON to 50% or less of maximum lighting power. **Open Office:** Unoccupied control zones can turn on to not more than 20% (or remain unaffected). Control zones should not be greater than 600 ft^2.
	Partial Off	C405.2.1.2 C405.2.1.3 C405.2.1.4 C405.2.7.3 C405.2.9	**Warehouse:** Automatically reduce lighting by not more than 50% within 20 mins when unoccupied. **Open office:** Automatically reduce lighting to not more than 20% within 20 mins when unoccupied. Control zones in an open office plan is limited to 600 ft^2 **Corridors:** Automatically reduce lighting by not more than 50% within 20 mins when unoccupied. **Interior Parking:** Automatically reduce lighting by not less than 30% within 20 mins when unoccupied. **Exterior Lighting:** Reduce lighting wattage by not less than 50% by selective switching or dimming fixtures within 15 mins of no activity.
	Full Off	C405.2.1	When initiated by a timeclock or occupancy sensor, lighting is automatically turned OFF within 20 mins.
Other	Daylight responsive control	C405.2.4 C405.2.7.1 C405.2.9	**Interior:** If the general lighting within the primary sidelighted and toplighted area is ≥ 75W or the general lighting within the primary and secondary sidelighted area is ≥ 150W, the general lighting in these areas shall be controlled to provide continuous daylight dimming to 15% or less and off. **Exterior & parking garages:** Exterior lighting shall automatically turn off when there is sufficient daylight. The perimeter 20 ft. of parking garages with access to daylight and daylight transition zones must automatically reduce lighting power by at least 50% in response to daylight.
	Automatic Receptacle Control	C405.12	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.
	Demand Response Control (capability)[3]	C405.2.8.1	Automatically reduce the output of controlled lighting by 80% or less. When a high-end trim is set, reduce the light level to 80% or less of the high-end trim. Upon receiving a demand response signal, the lighting should be smoothly and continuously dimmed to avoid any disruption, with the setpoint being reached within 15 minutes.
	High-End Trim (Capability)[4]	C406.2.5.2	Must be done by an authorized user and not greater than 85% of full power or light output.

1. See the code C405.2.2.1 for seven interior requirements and C405.2.7.4 for four exterior requirements like holiday "shutoff", backup capability, override, and exceptions.

2. See section C405.2.7.3 for lighting setback requirements for building façade and landscape lighting based on time of day and business/building opening.

3. Demand Response control is optional and not mandated anywhere. However, if you choose to implement this functionality, you must adhere to appendix CI.

4. High-end trim is not mandated by the energy code. However, the additional energy credits section of the code offers a credit for high-end trim (L04), and these are the requirements to obtain that credit.
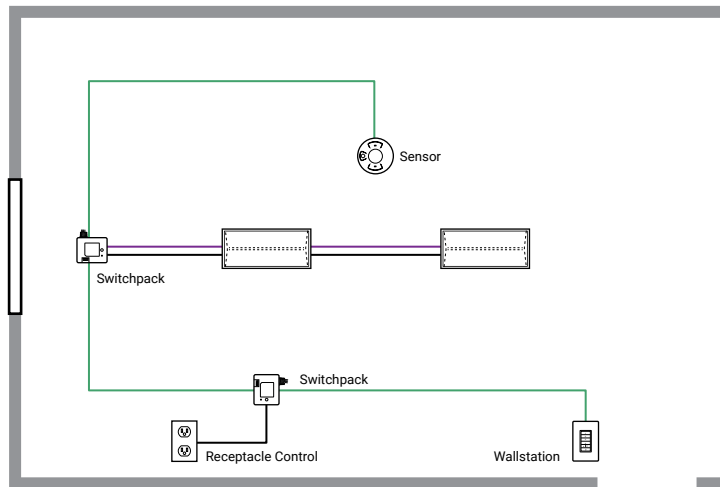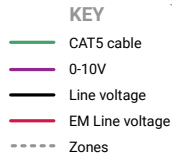
Control requirements by application type

	Requirement	Offices > 300 ft^2	Conference/ Meeting/ Multipurpose Rooms	Classroom/ Lecture Hall/ Training Room	Lobby	Corridor	Restroom
Manual Control	Local Control	●	●	●	●	●	
	Dimming Control	●	●	●	●		
Automatic Control	Time-Switch						
	Occupancy Sensor	●	●	●	●	●	●
	Partial On	●	●	●			
	Full On				●	●	●
	Partial Off	●			●	●	
	Full Off	●	●	●			●
Other	Daylight responsive control	●	●	●	●	●	
	Automatic Receptacle Control	●	●	●			

1. Demand Response control is optional and not mandated anywhere. However, if you choose to implement this functionality, you must adhere to appendix CI.

2. High-end trim is not mandated by the energy code. However, the additional energy credits section of the code offers a credit for high-end trim (L04), and these are the requirements to obtain that credit.

	Requirement	Stairwell	Gymnasium/Fitness Center	Warehouse/Storage Area	Sales Area / Retail Sales	Parking Garage	Exterior Lighting
Manual Control	Local Control		●	●	●		
	Dimming Control		●				
Automatic Control	Time-Switch			●		●	●
	Occupancy Sensor	●	●	●		●	
	Partial On					●	●
	Full On	●				●	●
	Partial Off	●		●		●	●
	Full Off						
Other	Daylight responsive control	●	●	●	●	●	●
	Automatic Receptacle Control						

Private Office (≤ 300 ft^2) - Wired

WaveLinx CAT

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

Diagram labels: Sensor, Switchpack, Switchpack, Receptacle Control, Wallstation

Control Strategies

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

Control Functionality

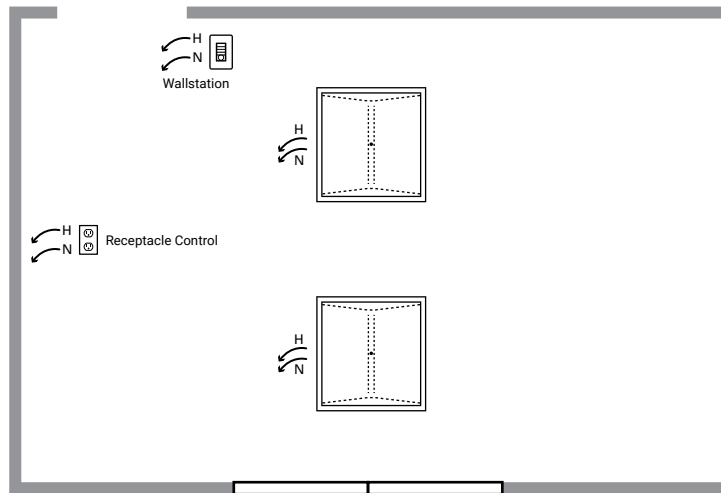|	
Occupant Enters	Lights and controlled receptacle automatically turn on to a level of 50% when an occupant enters the space. High-end trim set to 90%.
When Occupied	Manual: Occupant uses wall dimmer to set desired light levels for all lights.
Occupant Exits	All lights and receptacle automatically turn 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	Dimming control C405.2.3.1 Automatic receptacle control C405.12
1	WST-C-3D	WST-C Wallstation 3 button dimming	Local control C405.2.6 Dimming Control C405.2.3.1
1	OCS-C-P06	OCS-C Occupancy & Daylight ceiling sensor (600 ft^2)	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4
2	24EN-LD2-34-UNV-L835-CD1-U	Encounter 2x4 fixture with 0-10V dimming	

Private Office (≤ 300 ft^2) - 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

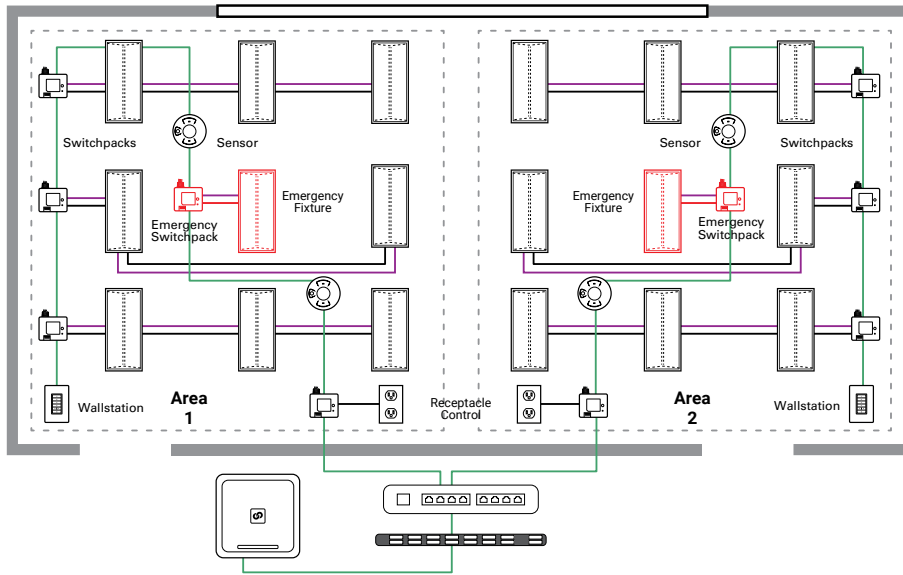| Quantity	Catalog #	Description	Code Provision
1	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 1	Dimming control C405.2.3.1 Automatic receptacle control C405.12
1	WST-C-3D	WST-C Wallstation 3 button dimming	Local control C405.2.6 Dimming Control C405.2.3.1
2	22EN-LD2-34-UNVL835-CD1-WLS-U	Encounter 2x2 fixture with WLS integrated sensor	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4

Private Office (≤ 300 ft^2) - Wireless

WaveLinx PRO

Wallstation

Receptacle Control

WAC2-POE
WaveLinx Area
Controller

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 C405.2.6 Dimming Control C405.2.3.1
1	WR-20	WaveLinx PRO Receptacle	Automatic receptacle control C405.12
2	22EN-LD2-34-UNVL835-CD1-WPS-U	Encounter 2x2 fixture with WPS integrated sensor	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4

Open Office* (> 300 ft^2) - Wired

WaveLinx CAT

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

Switchpacks **Sensor**

Emergency Switchpack **Emergency Fixture**

Wallstation **Area 1** **Receptacle Control** **Area 2** **Wallstation**

Sensor **Switchpacks**

Emergency Fixture **Emergency Switchpack**

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	Dimming control C405.2.3.1 Automatic receptacle control C405.12
2	ESP-C-010-Z1	ESP-C-010-Z1	
2	WST-C-3D	WST-C Wallstation 3 button dimming	Local control C405.2.6 Dimming Control C405.2.3.1
4	OSC-C-P06	OCS-C Occupancy & Daylight ceiling sensor (600 ft^2)	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4
18	24EN-LD2-34-UNVL835-CD1-U	Encounter 2x4 fixture with 0-10V dimming	

* Control zones are limited to 600ft^2

Open Office* (> 300 ft^2) - Wireless

WaveLinx LITE

Control Strategies

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

Control Functionality

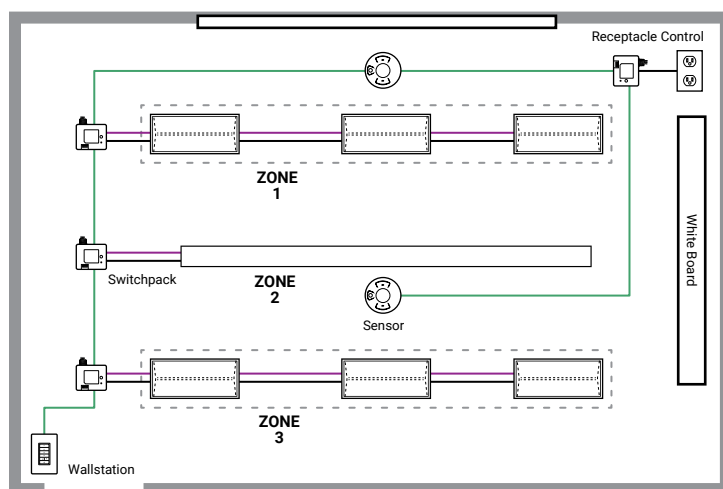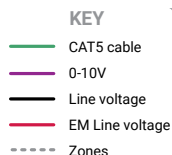|	
Occupant Enters	Each individual light automatically turns on to 50% light level as occupant approaches fixture proximity. High-end trim is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Each individual overhead light dims/brightens based 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 C405.12
2	WWL3-RL-W	WaveLinx LITE Wallstation	Local control C405.2.6 Dimming Control C405.2.3.1
24	24EN-LD2-34-UNVL835-CD1-WLS-U	Encounter 2x4 fixture with WLS integrated sensor	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4

* Control zones are limited to 600ft^2

Open Office* (> 300 ft^2) - Wireless

WaveLinx PRO

Receptacle Control

Wallstation

Receptacle Control

Wallstation

WAC2-POE WaveLinx Area Controller

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	WAC2-POE	WaveLinx Area Controller	
2	W4S-RL-W	WaveLinx PRO Wallstation	Local control C405.2.6 Dimming Control C405.2.3.1
2	WR-20	WaveLinx PRO Receptacle	Automatic receptacle control C405.12
24	24EN-LD2-34-UNVL835-CD1-WPS-U	Encounter 2x4 fixture with WPS integrated sensor	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4

Control zones are limited to 600ft^2

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

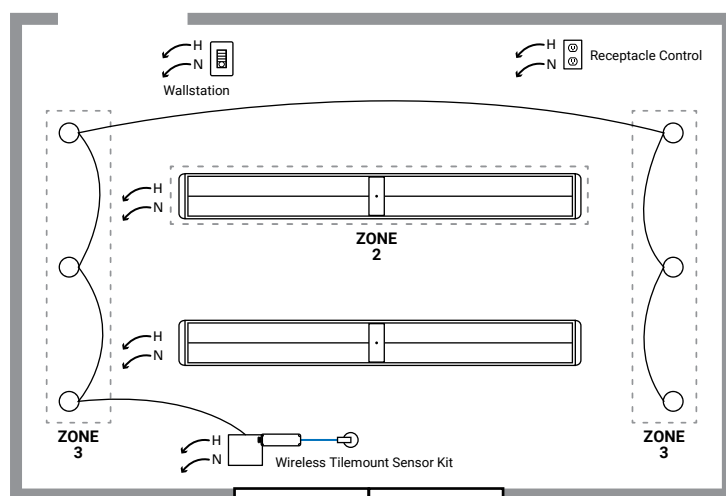| Control Functionality	
Occupant Enters	Lights do not automatically turn on when an occupant enters the space; lights must be turned on manually. High-end trim is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Overhead lights dim/brighten 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	Dimming Control C405.2.3.1 Automatic receptacle control C405.12
1	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 2	Dimming Control C405.2.3.1
1	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 3	Dimming Control C405.2.3.1
1	WST-C-3D	WST-C Wallstation 3 button dimming	Local control C405.2.6 Dimming Control C405.2.3.1
2	OSC-C-P06	OCS-C Occupancy & Daylight ceiling sensor (600 ft^2)	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4
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

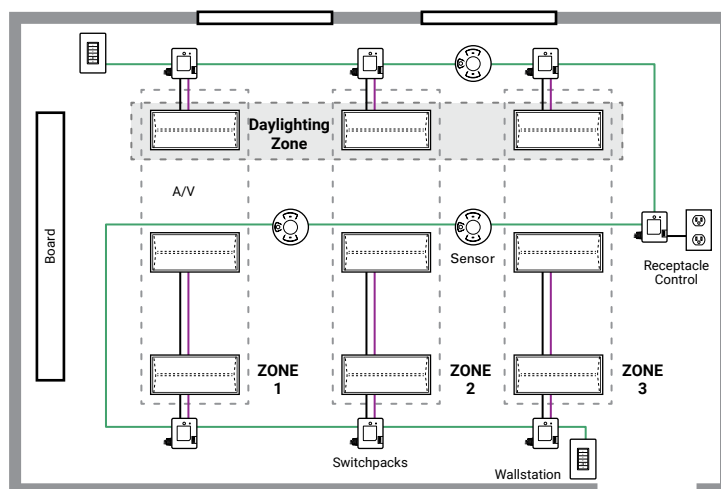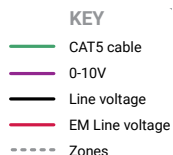|	
Occupant Enters	Lights do not automatically turn on when an occupant enters the space; lights must be turned on manually. Maximum light level is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Overhead lights dim/brighten based on daylight 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 C405.12
1	WWL3-RL-W	WaveLinx LITE Wallstation	Local control C405.2.6 Dimming Control C405.2.3.1
1	WTK	WaveLinx LITE tile mount sensor kit	Occupancy Sensor Controls C405.2.1.1 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 C405.2.1.1 Automatic daylight responsive control C405.2.4
6	PR6FS12D010 (Housing) PR6M12MD8FSMW (LED Module)	PR6M12MD8FSMW (LED Module)	

Conference Room - Wireless

WaveLinx PRO

Wallstation

Receptacle Control

ZONE 2

ZONE 3

ZONE 3

Wireless Tilemount Sensor Kit

WAC2-POE
WaveLinx Area Controller

Control Strategies

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

Control Functionality

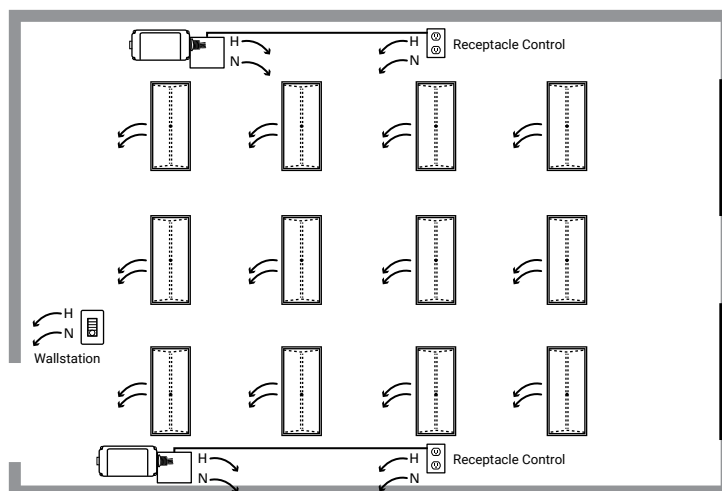|	
Occupant Enters	Lights do not automatically turn on when an occupant enters the space; lights must be turned on manually. Maximum light level is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Overhead lights dim/brighten based on daylight 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 C405.2.6 Dimming Control C405.2.3.1
1	WTA	WaveLinx LITE tile mount sensor kit	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4
1	WR-20	WaveLinx PRO Receptacle	Automatic receptacle control C405.12
2	DSI-WS-40L835-1DUNV-STD-WPS-DC-WAC48-T1-8	Divide Suspended with WaveLinx sensor	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4
6	PR6FS12D010 (Housing) PR6M12MD8FSMW (LED Module)	PR6M12MD8FSMW (LED Module)	

Classroom - 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

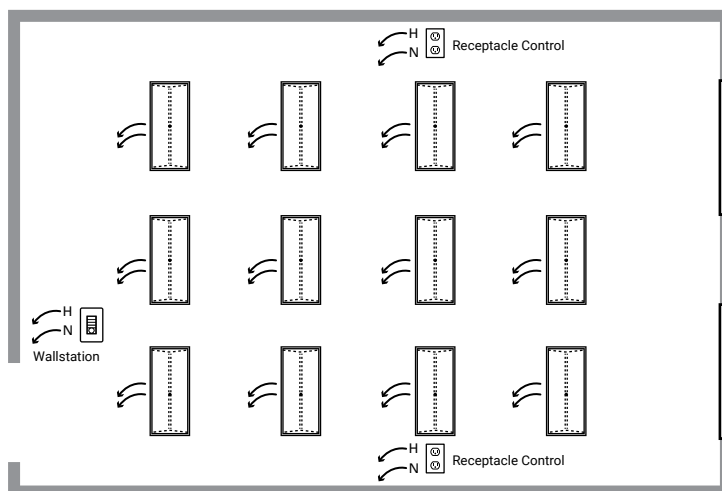|	
Occupant Enters	Lights automatically turn on to 50%when an occupant enters the space. Maximum light level is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Overhead lights dim/brighten based on daylight availability. 3 fixtures close to 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	Dimming control C405.2.3.1 Automatic receptacle control C405.12
2	WST-C-3D	WST-C Wallstation 3 button dimming	Local control C405.2.6 Dimming Control C405.2.3.1
3	OCS-C-P06	OCS-C Occupancy & Daylight ceiling sensor (600 ft^2)	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4
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

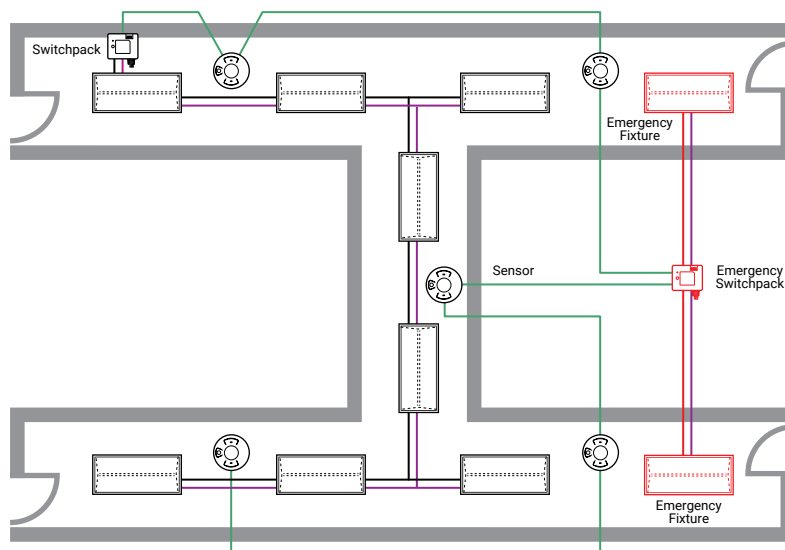| Control Functionality	
Occupant Enters	Each individual light automatically turns on to 50% light level as occupant approaches fixture proximity. Maximum light level is set to 80%. Controlled receptacles automatically regain power when occupant enters.
When Occupied	Automatic: Each individual overhead 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 C405.12
2	WWL3-RL-W	WaveLinx LITE Wallstation	Local control C405.2.6 Dimming Control C405.2.3.1
12	24EN-LD2-34-UNVL835-CD1-WLS-U	Encounter 2x4 fixture with WLS integrated sensor	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4

Classroom - Wireless

WaveLinx PRO

WAC2-POE
WaveLinx Area
Controller

Receptacle Control

Wallstation

Receptacle Control

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 C405.2.6 Dimming Control C405.2.3.1
2	WR-20	WaveLinx PRO Receptacle	Automatic receptacle control C405.12
12	24EN-LD2-34-UNVL835-CD1-WPS-U	Encounter 2x4 fixture with WPS integrated sensor	Occupancy Sensor Controls C405.2.1.1 Automatic daylight responsive control C405.2.4

Corridor - Wired

WaveLinx CAT

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

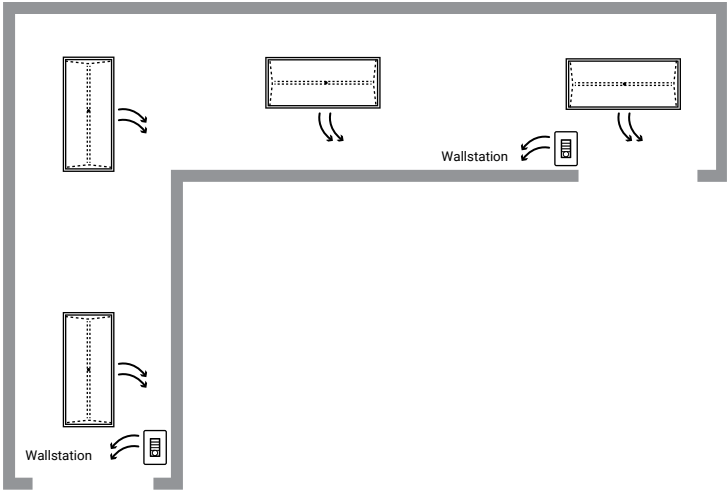| Control Strategies	
	Occupancy/ Vacancy

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.

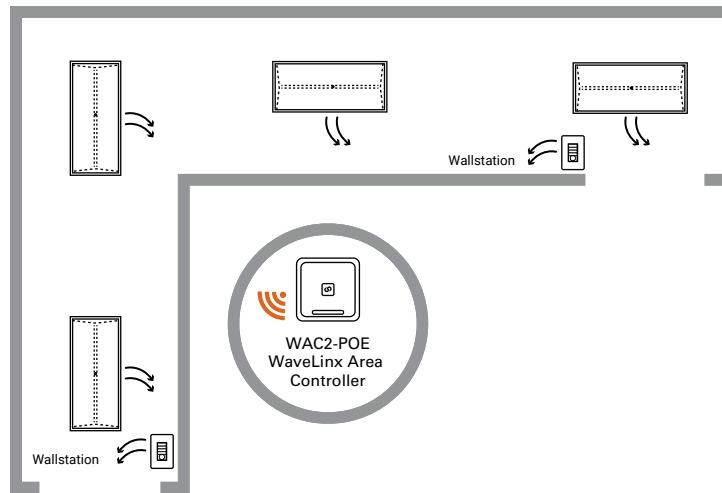| Bill of Material			
Quantity	Catalog #	Description	Code Provision
1	RSP-C-010-Z1	RSP-C Relay Switchpack – Zone 1	Dimming control C405.2.3.1
1	ESP-C-010-Z1	ESP-C Emergency Relay Switchpack - Zone 1	
5	OCS-C-P06	OCS-C Occupancy & Daylight ceiling sensor (600 ft^2)	Occupancy Sensor Controls C405.2.1.1
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 C405.2.6 Dimming Control C405.2.3.1
4	24EN-LD2-34-UNVL835-CD1-WLS-U	Encounter 2x4 fixture with WLS integrated sensor	Occupancy Sensor Controls C405.2.1.1

Corridor - Wireless

WaveLinx PRO

Wallstation

WAC2-POE
WaveLinx Area
Controller

Wallstation

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 C405.2.6 Dimming Control C405.2.3.1
4	24EN-LD2-34-UNVL835-CD1-WPS-U	Encounter 2x4 fixture with WPS integrated sensor	Occupancy Sensor Controls C405.2.1.1

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.

To maximize the return on your lighting system investment, your WaveLinx system must perform at its peak.

We can help. With a network of experienced and skilled control specialists and a national presence, we can help with everything from system design, quote, implementation, and on-going maintenance.

Service Plans

Service Plans offer proactive, onsite, and remote diagnostics, configuration changes, training, and software/firmware updates typical of maintaining lighting control systems. Service Plans help facility managers and owners maintain their investment for optimal performance and maximum value.

- Prepaid, budgeted services, with coverage options for planned and unplanned visits.

- Fully customizable to meet your unique requirements

- Optimize your system as your building needs evolve

- Our Service Plans are available in single or multi-year arrangements and are customized to fit your exact needs. Cooper Lighting Solutions has two Service Plans designed to fit your service requirements and budget.

We offer:

Field Project Design Services

Pre-Commissioning Support

Field Project Startup

Verification Walkthrough

Optimization Services

SCAN
for more
Support & Services
information

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.

Lighting Brands
Ametrix
AtLite
Corelite
Ephesus
Fail-Safe
HALO
HALO Commercial
Invue
iO
Iris
Lumark
LumarkAP
Lumière
McGraw-Edison
Metalux
MWS
NeoRay
Portfolio
PrentaLux - 3D Printed Lighting
RSA
Shaper
Streetworks
Sure-Lites

Controls Brands
Greengate
Fifth Light
Intelligent Lighting Controls

Connected Lighting Systems and Smart Spaces Platform
WaveLinx
Trellix Infrastructure

SCAN
for more
WaveLinx
information

COOPER
Lighting Solutions
a ⓢignify business