



# IECC 2021

nLight® Applications Guide





## / nLight Lighting Controls Platform

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### **Not just smarter. Easier.**

nLight is a digital lighting controls solution that offers wired and wireless lighting controls that easily connect luminaires, sensors, and other control devices to create a digital network. The nLight platform of products enables ease in specification, installation, and ownership, making it the go-to digital lighting controls platform for specifiers, contractors, and building owners.



## / TABLE OF CONTENTS

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04	Code Requirements for Common Building Spaces
05	How to Use This Guide
06	Enclosed Office Solutions
08	Conference Room Solutions
10	Classroom Solutions
12	Gymnasium Solutions
13	Stairwell Solutions
14	Open Plan Office Solutions
16	Lobby Solutions
18	Corridor Solutions
20	Restroom Solutions
22	Warehouse Storage Solutions
23	Parking Garage Solutions
24	Site Lighting Solutions
25	Facade and Landscaping Solutions
26	nLight Hybrid Networked Lighting Control
27	Requirements Overview
28	Emergency Lighting
29	Luminaires with Networked Embedded Controls from nLight



## / ABOUT

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### **About IECC 2021**

The International Energy Conservation Code (IECC) 2021 is a residential and commercial building energy code. The IECC has been adopted by many states and municipalities. The intention of this code is to reduce energy consumption by outlining design and construction requirements which include specific constraints for lighting controls. The use of lighting controls to synchronize light levels with daylight, occupancy, and scheduled/manual inputs are required in order to be compliant.

### **About This Guide**

Acuity Brands® offers the nLight® IECC Applications Guide as a reference of typical nLight layouts that help make code compliance quicker and easier. The Acuity Brands Design Services Team is also available to support engineers and contractors with detailed design, submittal, and installation. For additional information, please contact your Acuity Brands Sales Representative.

### **About nLight**

nLight® is a sensor-based digital lighting controls solution that offers wired and wireless lighting controls that easily connect luminaires, sensors, and other control devices to create one digital lighting controls platform to aid in code compliance, reduce energy, and enable advanced networked capabilities. Ideal for practically any application, small to large, indoor to outdoor, nLight offers lighting controls that scale from one room to an entire floor, from one floor to an entire building, from one building to an entire campus.

The chart below is an overview of the Code Requirements for Common Building Spaces. Please use this information as a guide. For specific code requirements please refer to the IECC code.

	Control Requirement*	Code Provision	Code Summary*	Indoor Space Type										
				Enclosed Office, Copy / Print, Open Office <300ft	Conference, Meeting, Multipurpose Room	Classroom, Lecture Hall, Training Room	Gymnasium	Non-Exit Stairwell	Open Plan Office	Lobby	Corridor	Restroom	Warehouse	
On-Off Control	Manual-On or AutoOn ≤ 50%	C405.2.1.1.2	Automatically controlled spaces must be controlled to automatically turn the lighting on to not more than 50% power.	✓	✓	✓	✓							
	Full Automatic-On	C405.2.1.1, exception	Automatically controlled spaces are allowed to turn on to full.					✓	✓	✓		✓	✓	
	Manual Control (Local Switch)	C405.2.1.1.3	Areas with occupant sensors shall incorporate a manual control to allow occupants to turn fixtures off.	✓	✓	✓	✓						✓	
	Auto Reduce Light Level via Occupancy	C405.2.1.2.2 C405.2.1.3.4 C405.2.1.4 C405.2.7.3.2 C405.2.8.1	Occupancy sensors shall automatically reduce lighting.						✓			✓	✓	
	Time-Switch Controls (via System Controller)	C405.2.2.1 C405.2.7.2 C405.2.7.3.1.1 C405.2.7.3.1.2	Each area not provided with occupant sensor controls shall be provided with time switch controls.					✓	✓	✓	✓	(and)	✓	
	Full Auto-Off via Occupancy Sensor	C405.2.1.1.1 C405.2.7.3.1.3	Fixtures must automatically turn off within 20 minutes of all occupants leaving the space.	✓	✓	✓	✓	(or)	(or)	(or)	(or)		(or)	
	Light Reduction Controls	C405.2.3.1	Spaces shall have a manual control that allows the occupant to reduce the connected lighting load uniformly by not less than 50%.					✓**			✓**			
	Automatic Receptacle Control	C405.11.1	50% of all receptacles, and 25% of branch circuit feeders installed for modular furniture, shall be automatically turned off by an occupant sensor within 20 minutes of all occupants leaving the space.	✓	✓	✓				✓				
Daylight Control	Daylight-Responsive Controls	C405.2.4.1 C405.2.4.2 C405.2.7.1 C405.2.8.2 C405.2.8.3	Daylight-responsive controls shall be provided.	✓	✓	✓	✓			✓	✓		✓	

Notes:  
 \*This summary is for general information purposes only and is provided without any warranty as to accuracy, completeness, or otherwise. The user should read the applicable code sections for more complete and detailed descriptions of code requirements and exceptions and should consult with a professional engineer or other competent advisor before making any decision or taking any action based on this summary.  
 \*\*Light-reduction control required in conjunction with time-switch control where occupancy sensors are not provided.

Outdoor Space Type		
Parking Garage	Site, Parking Area	Facade and Landscape
✓	✓	
	(or)	
✓	✓	✓
(or)		
✓		✓
✓	✓	✓

For each space type there will be a wired solution on the left and wireless solution on the right.

Room description

Room layout diagram with controls, fixtures, and wiring

Wire type legend

Required list of devices in order to implement room layout design above

Operational details describe the functionality provided by the equipment specified in the solution

Additional options that add control capacity beyond code requirements

**6 ENCLOSED OFFICE: < 250 sq. ft., Windows, Luminaires with Networked Embedded Controls from nLight**

**Wired**

**Wireless**

Symbol	Qty	Product #	Description
	2	See Note	Troffer with Wired Networked Embedded Controls from nLight with Sensor Option
	1	rWSXA PDT LV DX	Wall Switch Occupancy Sensor with On/Off, Raise/Lower
	1	rPP20 PL	Plug Load Relay Pack

Symbol	Qty	Product #	Description
	2	See Note	Troffer with Wireless Networked Embedded Controls from nLight with Sensor Option
	1	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower Wall/Food
	1	rPP20 24V EFP G2	Plug Load Relay Pack

**OPERATIONAL DETAILS:**

**Light Fixtures:**

- All fixtures are dimmable
- All fixtures can be controlled together or independently
- Maximum level can be task tuned to any percentage via programming

**Occupancy Control:**

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to 50%)
- Fixtures and plug load automatically turn off when room becomes vacant
- Plug load turns on automatically

**Daylight Control:**

- Not required for offices without windows or that have loads <150W in sidelit zones

**Manual Control:**

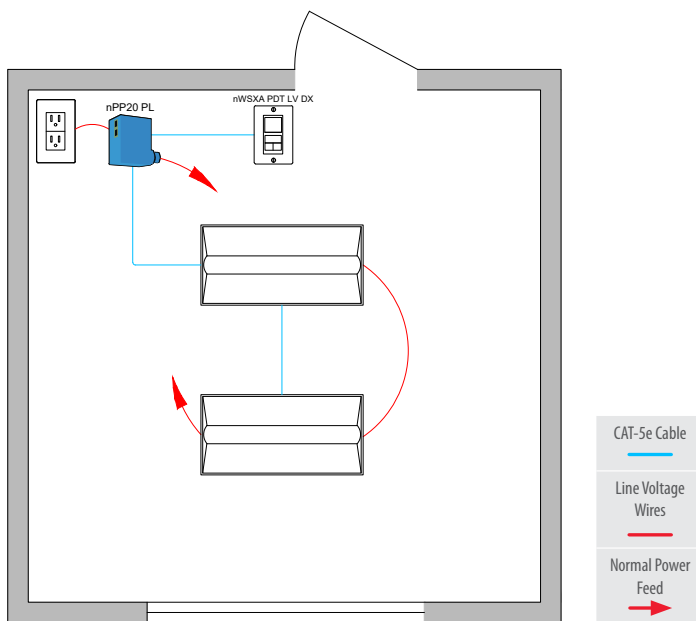
- On/off & raise/lower control of fixtures
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

**ADDITIONAL OPTIONS:**

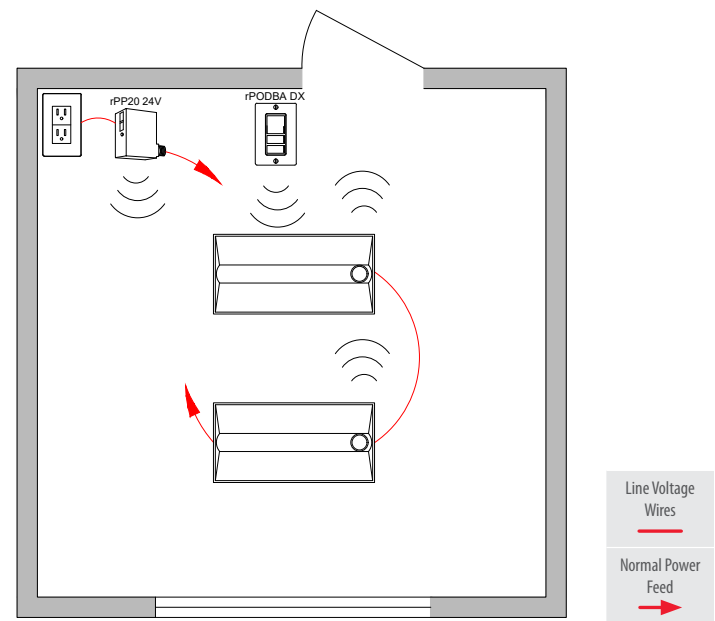
- Room can be connected to nLight backbone to enable network control or time schedules (CA05.2.2.1 - Time-Switch Control), and also qualify for Enhanced Digital Lighting Controls (CA05.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE® controller
- Luminaires with wireless networked embedded controls from nLight and occupancy/daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (CA05.2.5)
- For emergency lighting control use a power pack with ELEM option or luminaires with networked embedded controls from nLight with emergency option

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


## Wired






## Wireless



## Bill of Materials

Symbol	Qty	Product #	Description
	2	See Note	Troffer with Wired Networked Embedded Controls from nLight with Sensor Option
	1	nWSXA PDT LV DX	Wall Switch Occupancy Sensor with On/Off, Raise/Lower
	1	nPP20 PL	Plug Load Relay Pack

## Bill of Materials

Symbol	Qty	Product #	Description
	2	See Note	Troffer with Wireless Networked Embedded Controls from nLight with Sensor Option
	1	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower WallPod
	1	rPP20 24V EFP G2	Plug Load Relay Pack

## / OPERATIONAL DETAILS:

## Light Fixtures:

- All fixtures are dimmable
- All fixtures can be controlled together or independently
- Maximum level can be task tuned to any percentage via programming

## Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to 50%)
- Fixtures and plug load automatically turn off when room becomes vacant
- Plug load turns on automatically

## Daylight Control:

- Not required for offices without windows or that have loads <150W in sidelit zones

## Manual Control:

- On/off & raise/lower control of fixtures
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

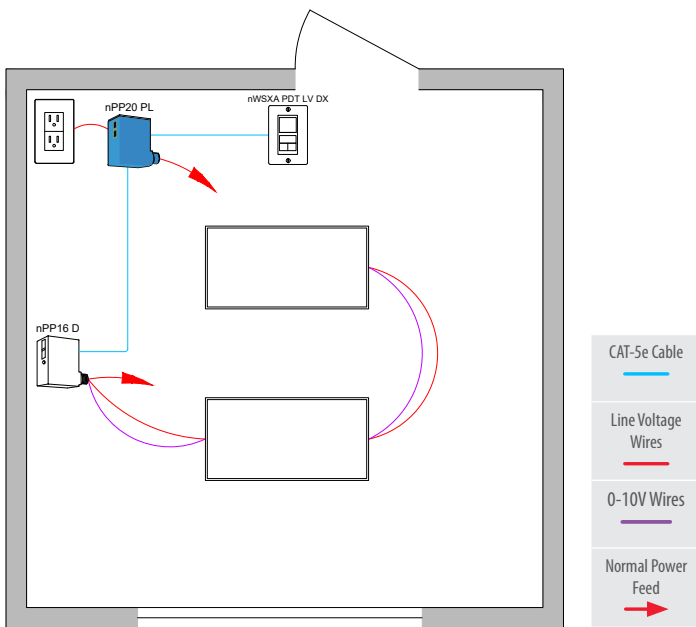
**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLLC), as specified in the IECC 2021 CODE.

## / ADDITIONAL OPTIONS:

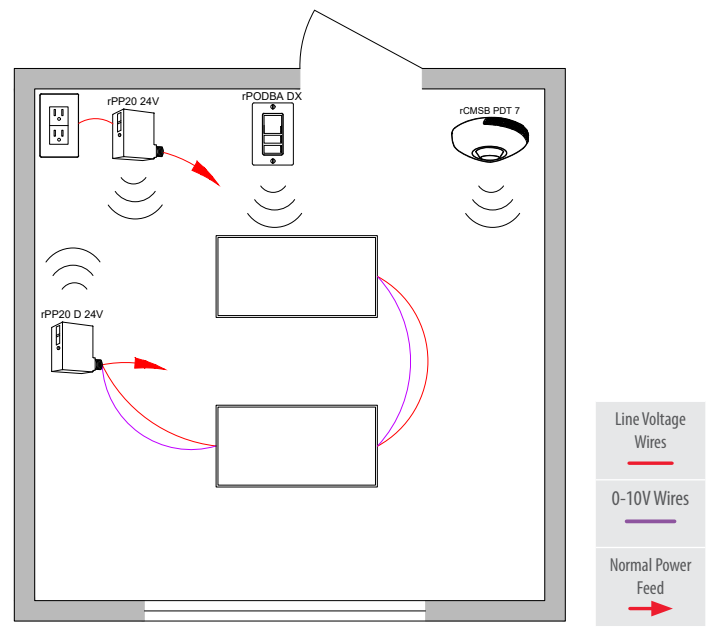
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE® controller
- Luminaires with wireless networked embedded controls from nLight and occupancy/daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (C405.2.5)
- For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight with emergency option



**Wired**



**Wireless**



**Bill of Materials**

Symbol	Qty	Product #	Description
	1	nPP16 D EFP	Relay Pack with 0-10V Dimming Output
	1	nWSXA PDT LV DX	Wall Switch Occupancy Sensor with On/Off, Raise/Lower
	1	nPP20 PL	Plug Load Relay Pack

**Bill of Materials**

Symbol	Qty	Product #	Description
	1	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPP20 24V EFP G2	Plug Load Relay Pack
	1	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower WallPod
	1	rCMSB PDT 7 G2	Battery Powered Occupancy and Daylight Sensor

**OPERATIONAL DETAILS:**

**Light Fixtures:**

- All fixtures are dimmable
- All fixtures are controlled together
- Maximum level can be task tuned to any percentage via programming

**Occupancy Control:**

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to 50%)
- Fixtures and plug load automatically turn off when room becomes vacant
- Plug load turns on automatically

**Daylight Control:**

- Not required for offices without windows or that have loads <150W in sidelit zone

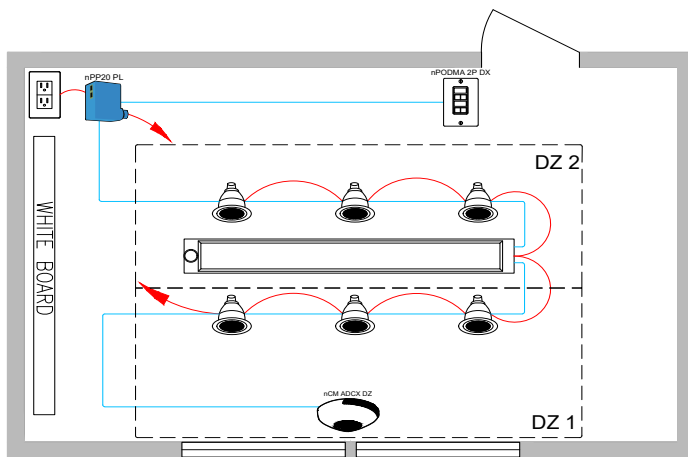
**Manual Control:**

- On/off & raise/lower control of fixtures
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

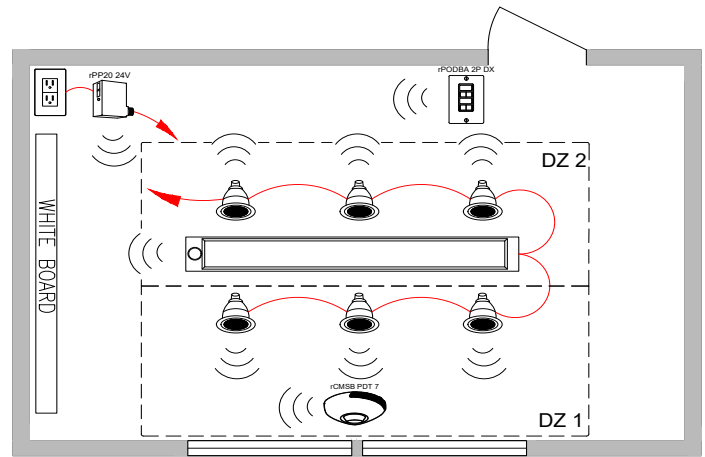
**ADDITIONAL OPTIONS:**

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE® controller
- For emergency lighting control use a power pack with ER/EM option or luminaire with networked embedded controls with nLight emergency option

## Wired



## Wireless



## Bill of Materials

Symbol	Qty	Product #	Description
	1	See Note	Luminaire with Wired Networked Embedded Controls From nLight With Sensor Option
	6	See Note	Downlight with Wired Networked Embedded Controls From nLight
	1	nPODMA 2P DX	2-Pole, On/Off, Raise/Lower WallPod
	1	nPP20 PL	Plug Load Relay Pack
	1	nCM ADCX DZ RJB	Dual Zone Daylight Sensor

## Bill of Materials

Symbol	Qty	Product #	Description
	1	See Note	Luminaire with Wireless Networked Embedded Controls From nLight and Sensor Option
	6	See Note	Downlight with Wireless Networked Embedded Controls From nLight
	1	rPODBA 2P DX G2	Battery Powered, 2-Pole, On/Off, Raise/Lower WallPod
	1	rPP20 24V EFP G2	Plug Load Relay Pack
	1	rCMSB PDT 7 G2	Battery Powered Occupancy and Daylight Sensor

### OPERATIONAL DETAILS:

#### Light Fixtures:

- All fixtures are dimmable
- Maximum level can be task tuned to any percentage via programming
- A/V zone can be programmed to control two fixtures in front of the whiteboard

#### Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to 50%)
- Fixtures and plug load automatically turn off when room becomes vacant
- Plug load turns on automatically

#### Daylight Control:

- Smooth continuous dimming
- Daylight zones sizes defined by window size or skylight placement (not shown)
- Not required for areas without windows or that have loads <150w in sidelit zones

#### Manual Control:

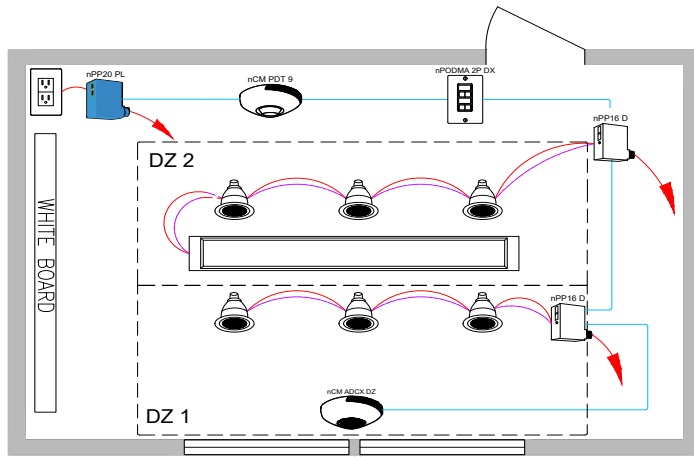
- On/off & raise lower control of two zones of fixtures
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

### ADDITIONAL OPTIONS:

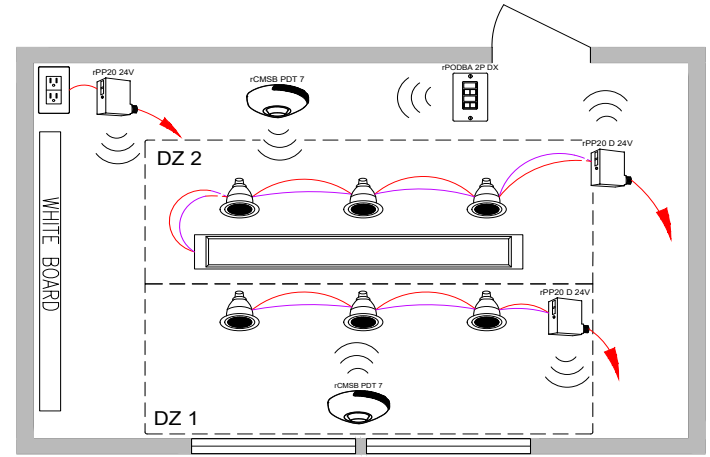
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Luminaires with wireless networked embedded controls from nLight and occupancy/daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLC) (C405.2.5)
- For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight with emergency option

**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLC), as specified in the IECC 2021 CODE.

**Wired**



**Wireless**



**Bill of Materials**

Symbol	Qty	Product #	Description
	2	nPP16 D EFP	Relay Pack with 0-10V Dimming Output
	1	nPODMA 2P DX	2-Pole, On/Off, Raise/Lower WallPod
	1	nCM PDT 9 RJB	Occupancy Sensor
	1	nCM ADCX DZ RJB	Dual Zone Daylight Sensor
	1	nPP20 PL	Plug Load Relay Pack

**Bill of Materials**

Symbol	Qty	Product #	Description
	2	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPODBA 2P DX G2	Battery Powered, 2-Pole, On/Off, Raise/Lower WallPod
	2	rCMSB PDT 7 G2	Battery Powered Occupancy and Daylight Sensor
	1	rPP20 24V EFP G2	Plug Load Relay Pack

**OPERATIONAL DETAILS:**

**Light Fixtures:**

- All fixtures are dimmable
- Maximum level can be task tuned to any percentage via programming

**Occupancy Control:**

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to 50%)
- Fixtures and plug load automatically turn off when room becomes vacant
- Plug load turns on automatically

**Daylight Control:**

- Smooth continuous dimming
- Daylight zones sizes defined by window size or skylight placement (not shown)
- Not required for areas without windows or that have loads <150W in sidelit zones

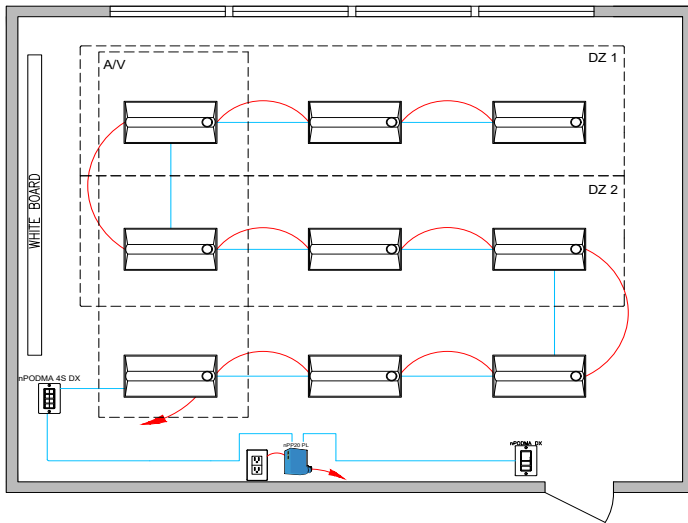
**Manual Control:**

- On/off & raise lower control of two zones of fixtures
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

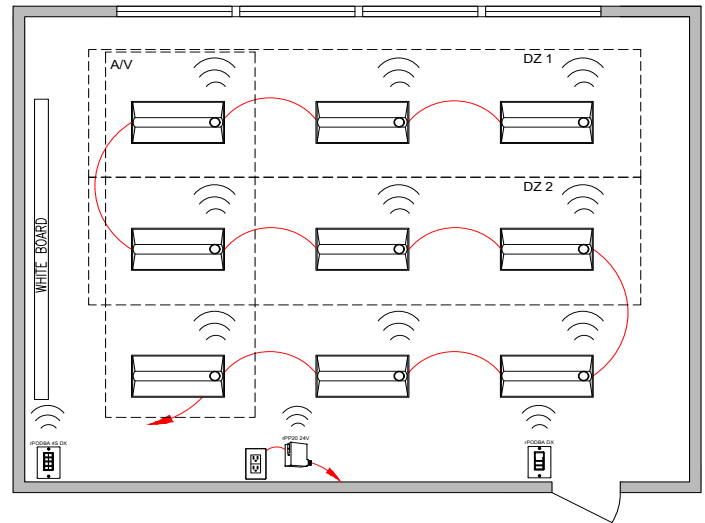
**ADDITIONAL OPTIONS:**

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight with emergency option





## Wired







## Wireless



## Bill of Materials

Symbol	Qty	Product #	Description
	9	See Note	Luminaire with Wired Networked Embedded Controls from nLight with Sensor Option
	1	nPODMA DX	On/Off, Raise/Lower WallPod
	1	nPP20 PL	Plug Load Relay Pack
	1	nPODMA 4S DX	Teacher Station — 4 Scene Control with Master On/Off & Raise/Lower

## Bill of Materials

Symbol	Qty	Product #	Description
	9	See Note	Luminaire with Wireless Networked Embedded Controls from nLight with Sensor Option
	1	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower WallPod
	1	rPODBA 4S DX G2	Teacher Station — Battery Powered 4 Scene Control with Master On/Off & Raise/Lower
	1	rPP20 24V EFP G2	Plug Load Relay Pack

### OPERATIONAL DETAILS:

#### Light Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently
- Maximum level can be task tuned to any percentage via programming

#### Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to some on automatically to 50%)
- Fixtures and plug load automatically turn off when room becomes vacant
- Plug load turns on automatically

#### Daylight Control:

- Smooth continuous dimming
- Daylight zones sizes defined by window size or skylight placement (not shown)
- Not required for areas without windows or that have loads <150W in sidelit zones

#### Manual Control:

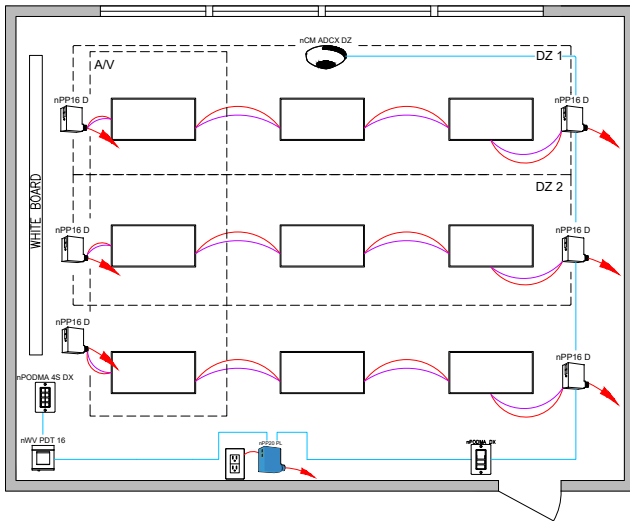
- On/off & raise/lower control of entire room
- Teacher station with 4 preset scenes
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

### ADDITIONAL OPTIONS:

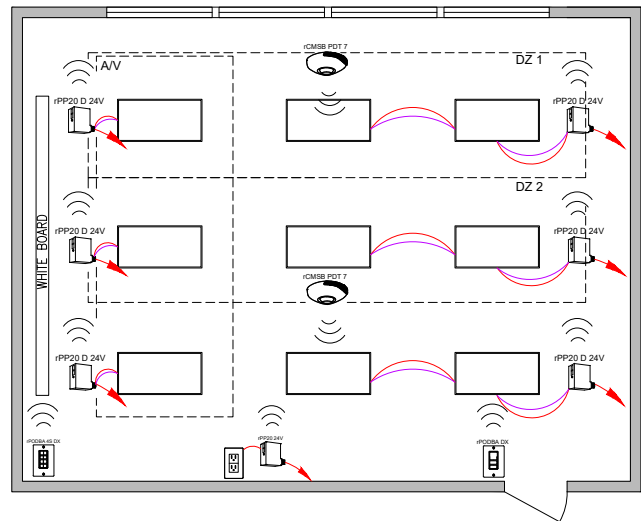
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Luminaires with wireless networked embedded controls from nLight and occupancy/daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLC) (C405.2.5)
- For emergency lighting control use a power pack with ER/EM option or luminaire with networked embedded controls from nLight with emergency option

**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight.

**Wired**



**Wireless**



**Bill of Materials**

Symbol	Qty	Product #	Description
	6	nPP16 D EFP	Relay Module with 0-10V Dimming Output
	1	nPODMA DX	On/Off, Raise/Lower WallPod
	1	nWV PDT 16	Dual Technology Wide View Occupancy Sensor
	1	nPODMA 4S DX	Teacher Station — 4 Scene Control with Master On/Off & Raise/Lower
	1	nCM ADCX DZ RJB	Dual Zone Daylight Sensor
	1	nPP20 PL	Plug Load Relay Pack

**Bill of Materials**

Symbol	Qty	Product #	Description
	6	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower WallPod
	2	rCMSB PDT 7 G2	Battery Powered Occupancy and Daylight Sensor
	1	rPODBA 4S DX G2	Teacher Station — Battery Powered 4 Scene Control with Master On/Off & Raise/Lower
	1	rPP20 24V EFP G2	Plug Load Relay Pack

**OPERATIONAL DETAILS:**

**Light Fixtures:**

- All fixtures are dimmable
- Each row can be controlled independently
- Maximum level can be task tuned to any percentage via programming

**Occupancy Control:**

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to 50%)
- Fixtures and plug load automatically turn off when room becomes vacant
- Plug load turns on automatically

**Daylight Control:**

- Smooth continuous dimming
- Daylight zones sizes defined by window size or skylight placement (not shown)
- Not required for areas without windows or that have loads <150W in sidelit zones

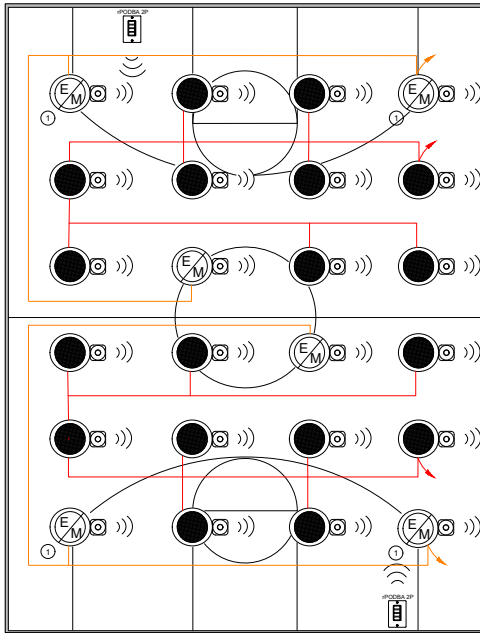
**Manual Control:**

- Master on/off & raise/lower control of entire room
- Teacher station with 4 preset scenes
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

**ADDITIONAL OPTIONS:**

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight with emergency option

## Luminaire with Wireless Networked Embedded Controls From nLight



① Fixture(s) assumed to include nLight AIR EM emergency options. For battery backup option, no dedicated emergency circuit necessary. nLight AIR devices with an EM option must be grouped with a normal power sensing device to exit emergency operation. See control device spec sheet for details.



### Bill of Materials

Symbol	Qty	Product #	Description
	18	See Notes	Luminaires with Wireless Networked Embedded Controls From nLight with Sensor Option
	6	See Notes	Luminaire with Wireless Networked Embedded Controls From nLight with Sensor and Emergency Option
	2	rPODBA 2P G2	Battery Powered, 2-Pole, On/Off WallPod

#### / OPERATIONAL DETAILS:

##### Light Fixtures:

- All fixtures are dimmable
- Maximum level can be task tuned to any percentage via programming

##### Occupancy Control:

- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when space becomes vacant

##### Daylight Control:

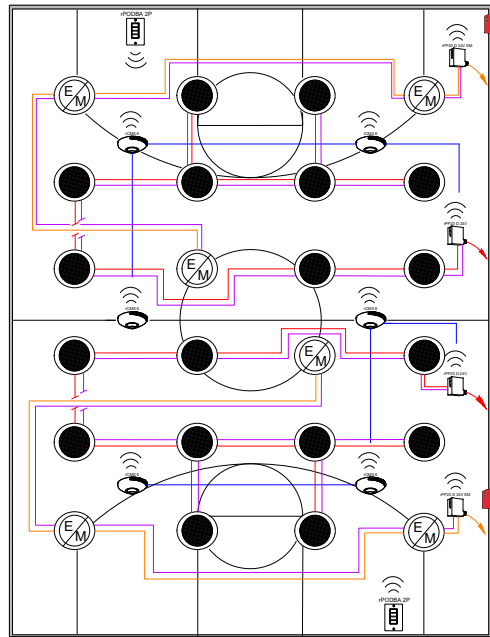
- Daylight responsive controls lights to full off when adequate daylight present
- Not required for spaces without skylights or that have loads <150W in toplit zones

##### Manual Control:

- On/off & raise/lower control of fixtures
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

**Note: Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLLC), as specified in the IECC 2021 CODE.**

## Wireless with 0-10V Dimming Fixtures



① nLight AIR devices with an EM option must be grouped with a normal power sensing device to exit emergency operation. See control device spec sheet for details.



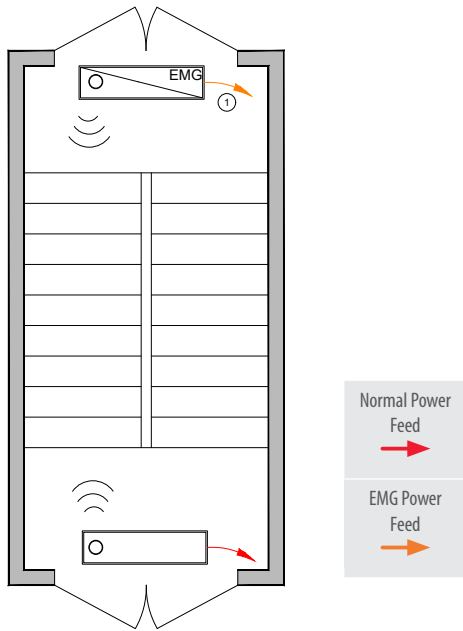
### Bill of Materials

Symbol	Qty	Product #	Description
	2	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	2	rPP20 D 24V EM EFP G2	Emergency Relay Pack with 0-10V Dimming Output
	2	rPODBA 2P G2	Battery Powered, 2-Pole, On/Off WallPod
	6	rCMS 6 G2	High Bay Occupancy Sensor

#### / ADDITIONAL OPTIONS:

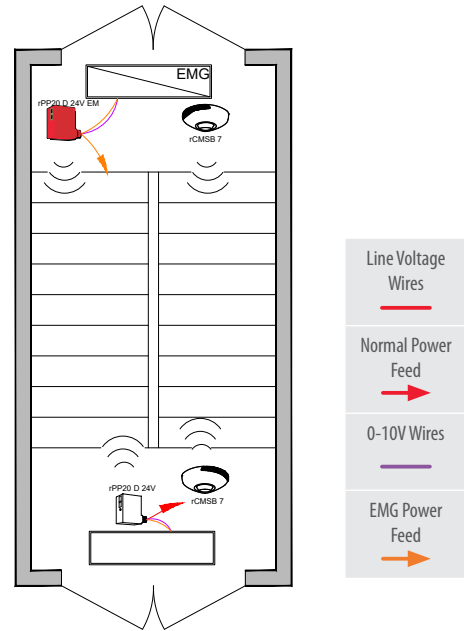
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Luminaires with wireless networked embedded controls from nLight with occupancy/daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (C405.2.5)

## Luminaire with Wireless Networked Embedded Controls From nLight



① Fixture(s) assumed to include nLight AIR EM emergency options. For battery backup option, no dedicated emergency circuit necessary. nLight AIR devices with an EM option must be grouped with a normal power sensing device to exit emergency operation. See control device spec sheet for details.

## Wireless with 0-10V Dimming Fixtures



① nLight AIR devices with an EM option must be grouped with a normal power sensing device to exit emergency operation. See control device spec sheet for details.

### Bill of Materials

Symbol	Qty	Product #	Description
	1	See Note	Luminaires with Wireless Networked Embedded Controls From nLight and Sensor Option
	1	See Note	Luminaires with Wireless Networked Embedded Controls From nLight with Sensor and Emergency Option

### Bill of Materials

Symbol	Qty	Product #	Description
	1	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPP20 D 24V EM EFP G2	Emergency Relay Pack with 0-10V Dimming Output
	2	rCMSB PDT 7 G2	Battery Powered Occupancy Sensor

#### OPERATIONAL DETAILS:

##### Light Fixtures:

- All fixtures are dimmable
- Maximum level can be task tuned to any percentage via programming

##### Occupancy Control:

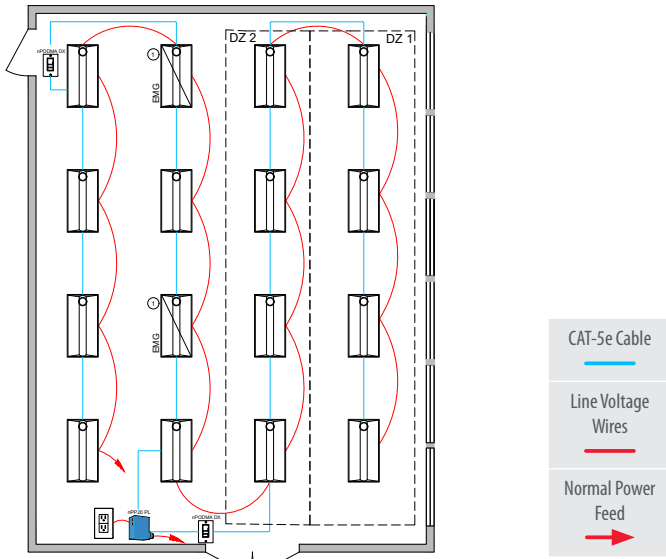
- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when space becomes vacant

**Note: Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLC), as specified in the IECC 2021 CODE.**

#### ADDITIONAL OPTIONS:

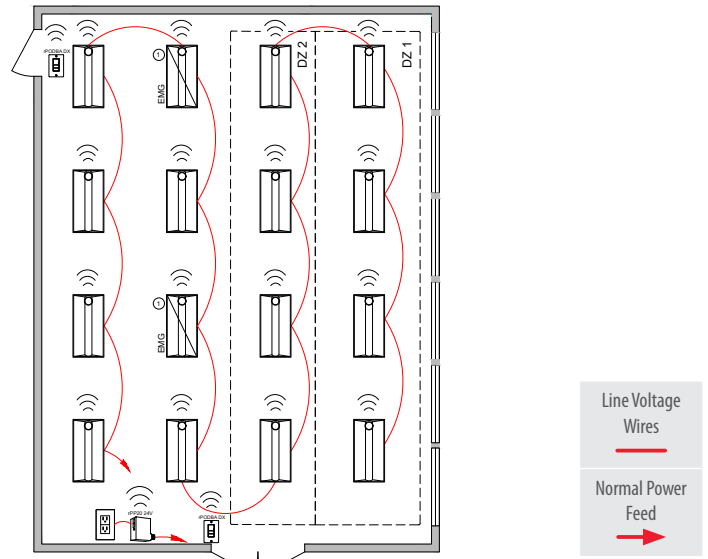
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Luminaires with wireless networked embedded control and occupancy/daylighting sensor options available, please see the fixture specification sheet
- Luminaires with networked embedded controls from nLight comply with monitoring and configuration requirements of Luminaire Level Lighting Controls (LLC) (C405.2.5)
- For emergency lighting control use a power pack with ER/EM option or luminaire with networked embedded controls from nLight with emergency option

## Wired



① Some emergency luminaires with networked embedded controls from nLight require separate normal and emergency connections. Wiring shown assumes battery backup emergency option. See fixture spec sheets for options and details.

## Wireless



① Some emergency luminaires with networked embedded controls from nLight require separate normal and emergency connections. Wiring shown assumes battery backup emergency option. See fixture spec sheets for options and details.

### Bill of Materials

Symbol	Qty	Product #	Description
	14	See Note	Troffer with Wired Networked Embedded Controls from nLight with Sensor Option
	2	See Note	Troffer with Networked Embedded Controls from nLight with Battery Option (typical) and Sensor Option
	2	nPODMA DX	On/Off, Raise/Lower WallPod
	1	nPP20 PL	Plug Load Relay Pack

### Bill of Materials

Symbol	Qty	Product #	Description
	14	See Note	Troffer with Wireless Networked Embedded Controls from nLight with Sensor Option
	2	See Note	Troffer with Wireless Networked Embedded Controls from nLight with Sensor and Battery Option
	2	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower WallPod
	1	rPP20 24V EFP G2	Plug Load Relay Pack

### OPERATIONAL DETAILS:

#### Light Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently
- Maximum level can be task tuned to any percentage via programming

#### Occupancy Control:

- General lighting in each control zone may turn on to 100% upon occupancy. Unoccupied zones may come on automatically to not more than 20% or may stay off
- Fixtures and plug load automatically turn off when room becomes vacant
- General lighting must be controlled in zones not greater than 600 sq. ft.
- Plug load turns on automatically

#### Daylight Control:

- Smooth continuous dimming
- Daylight zones sizes defined by window size or skylight placement (not shown)
- Not required for offices without windows or that have loads <150W in sidelit zones

#### Manual Control:

- On/off & raise/lower control
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

### ADDITIONAL OPTIONS:

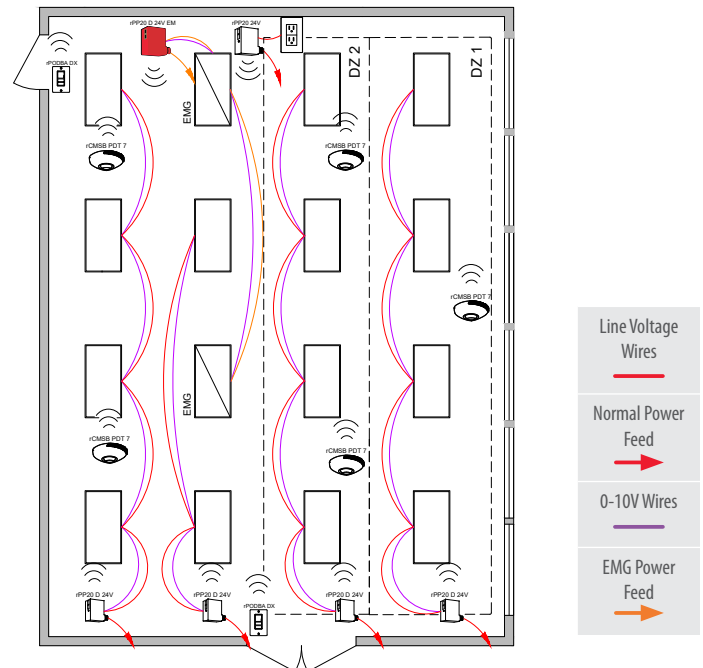
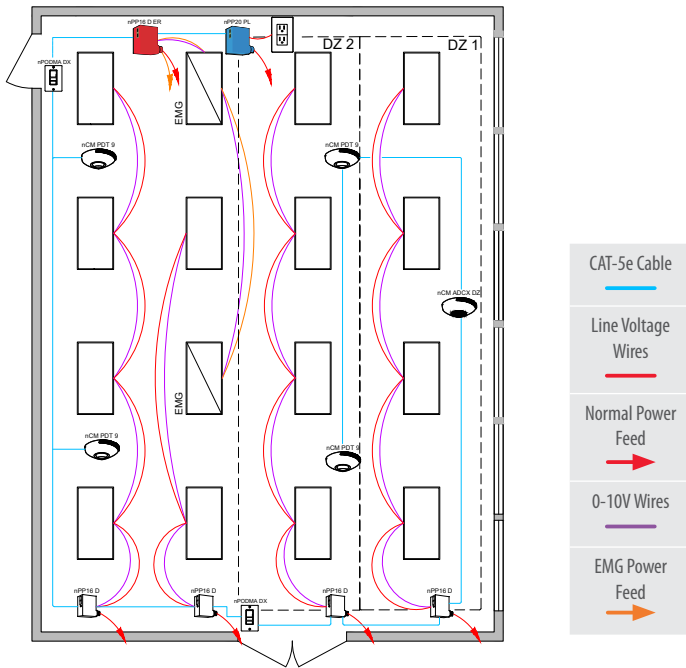
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Luminaires with wireless networked embedded controls from nLight and occupancy/daylighting sensor options available, please see the fixture specification sheet
- Luminaires with networked embedded controls from nLight comply with monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (C405.2.5)
- Occupant sensor controls in open plan office spaces less than 300 sq. ft. in area shall comply with Section C405.2.1.3

**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLLC), as specified in the IECC 2021 CODE.



**Wired**

**Wireless**



① nLight AIR devices with an EM option must be grouped with a normal power sensing device to exit emergency operation. See control device spec sheet for details.

**Bill of Materials**

Symbol	Qty	Product #	Description
	4	nPP16 D EFP	Relay Pack with 0-10V Dimming Output
	1	nPP16 D ER EFP	Emergency Relay Pack with 0-10V Dimming Output
	2	nPODMA DX	On/Off, Raise/Lower WallPod
	4	nCM PDT 9 RJB	Occupancy Sensor
	1	nCM ADCX DZ RJB	Dual Zone Daylight Sensor
	1	nPP20 PL	Plug Load Relay Pack

**Bill of Materials**

Symbol	Qty	Product #	Description
	4	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPP20 D 24V EM EFP G2	Emergency Relay Pack with 0-10V Dimming Output
	2	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower WallPod
	5	rCMBS PDT 7 G2	Battery Powered Occupancy and Daylight Sensor
	1	rPP20 24V EFP G2	Plug Load Relay Pack

**OPERATIONAL DETAILS:**

**Light Fixtures:**

- All fixtures are dimmable
- Each row controlled independently
- Maximum level can be task tuned to any percentage via programming

**Occupancy Control:**

- General lighting in each control zone may turn on to 100% upon occupancy. Unoccupied zones may come on automatically to not more than 20% or may stay off
- Fixtures and plug load automatically turn off when room becomes vacant
- Plug load turns on automatically
- General lighting must be controlled in zones not greater than 600 sq. ft.

**Daylight Control:**

- Smooth continuous dimming
- Daylight zones sizes defined by window size or skylight placement (not shown)
- Not required for offices without windows or that have loads <150W in sidelit zones

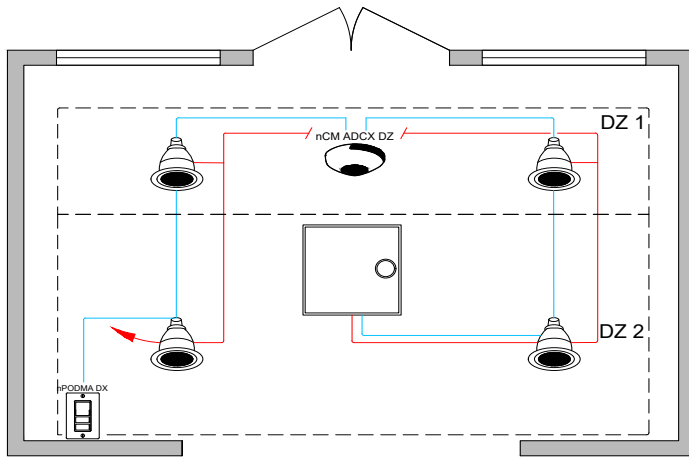
**Manual Control:**

- On/off & raise/lower control
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

**ADDITIONAL OPTIONS:**

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Occupant sensor controls in open plan office spaces less than 300 sq. ft. in area shall comply with Section C405.2.1.3

## Wired

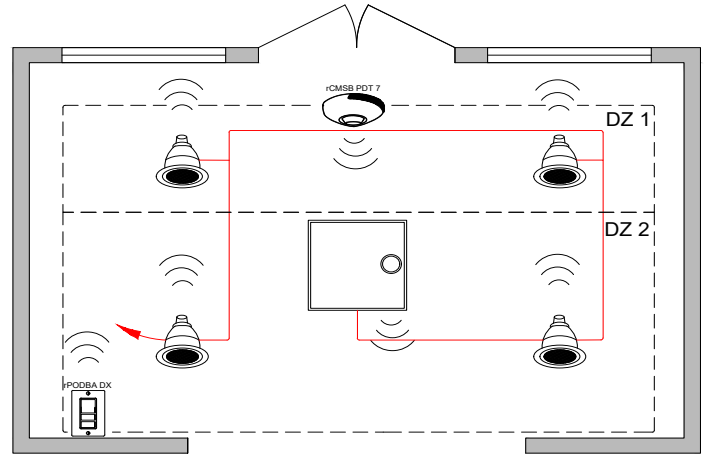


CAT-5e Cable

Line Voltage Wires

Normal Power Feed

## Wireless



Line Voltage Wires

Normal Power Feed

## Bill of Materials

Symbol	Qty	Product #	Description
	4	See Notes	Downlight Luminaire with Wired Networked Embedded Controls from nLight
	1	See Notes	Troffer with Wired Networked Embedded Controls from nLight with Sensor Option
	1	nPODMA DX	On/Off, Raise/Lower WallPod
	1	nCM ADCX DZ RJB	Dual Zone Daylight Sensor

## Bill of Materials

Symbol	Qty	Product #	Description
	4	See Notes	Downlight Luminaire with Wireless Networked Embedded Controls from nLight
	1	See Notes	Troffer with Wireless Networked Embedded Controls from nLight with Sensor Option
	1	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower WallPod
	1	rCMSB PDT 7 G2	Battery Powered Occupancy and Daylight Sensor

## / OPERATIONAL DETAILS:

## Light Fixtures:

- All fixtures are dimmable
- Maximum level can be task tuned to any percentage via programming

## Occupancy Control:

- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off when room becomes vacant

## Daylight Control:

- Smooth continuous dimming
- Daylight zones sizes defined by window size or skylight placement (not shown)
- Not required for areas without windows or that have loads <150W in sidelit zones

## Manual Control:

- On/off & raise/lower control of fixtures
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

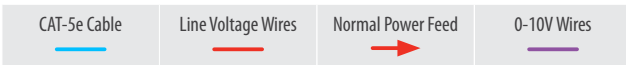
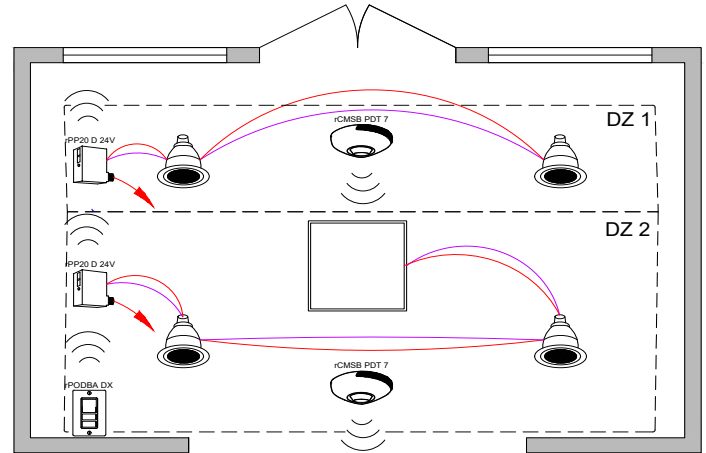
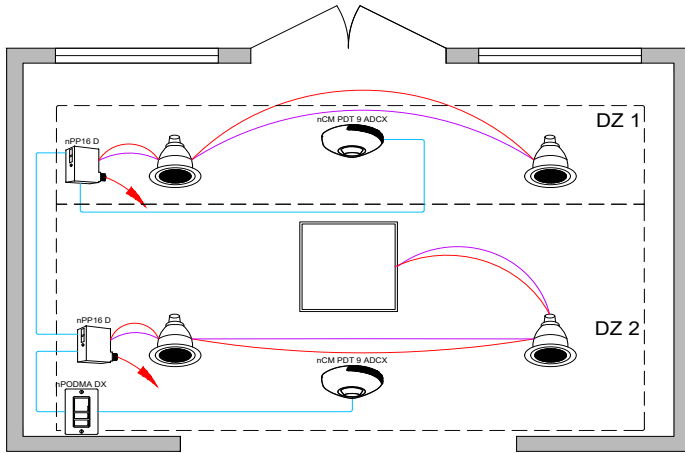
## / ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Wireless networked embedded control from nLight and occupancy/daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLC) (C405.2.5)
- For emergency lighting control use a power pack with ER/EM option or luminaire with networked embedded controls from nLight with emergency option

**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLC), as specified in the IECC 2021 CODE.

**Wired**

**Wireless**



**Bill of Materials**

Symbol	Qty	Product #	Description
	2	nPP16 D EFP	Relay Pack with 0-10V Dimming Output
	1	nPODMA DX	On/Off, Raise/Lower WallPod
	2	nCM PDT 9 ADCX	Occupancy and Daylight Sensor

**Bill of Materials**

Symbol	Qty	Product #	Description
	2	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower WallPod
	2	rCMSB PDT 7 G2	Battery Powered Occupancy and Daylight Sensor

**OPERATIONAL DETAILS:**

**Light Fixtures:**

- All fixtures are dimmable
- Maximum level can be task tuned to any percentage via programming

**Occupancy Control:**

- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off when room becomes vacant

**Daylight Control:**

- Smooth continuous dimming
- Daylight zones defined by relay module wiring
- Not required for areas without windows or that have loads <150W in sidelit zones

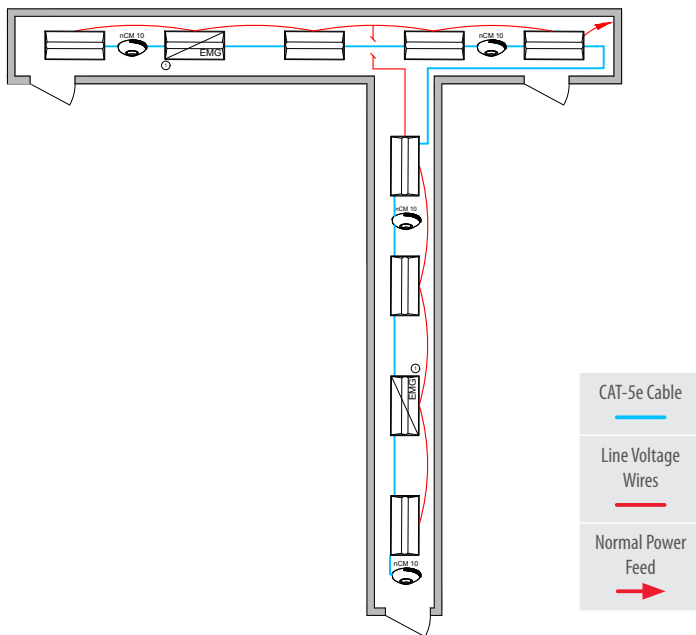
**Manual Control:**

- On/off & raise/lower control of fixtures
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

**ADDITIONAL OPTIONS:**

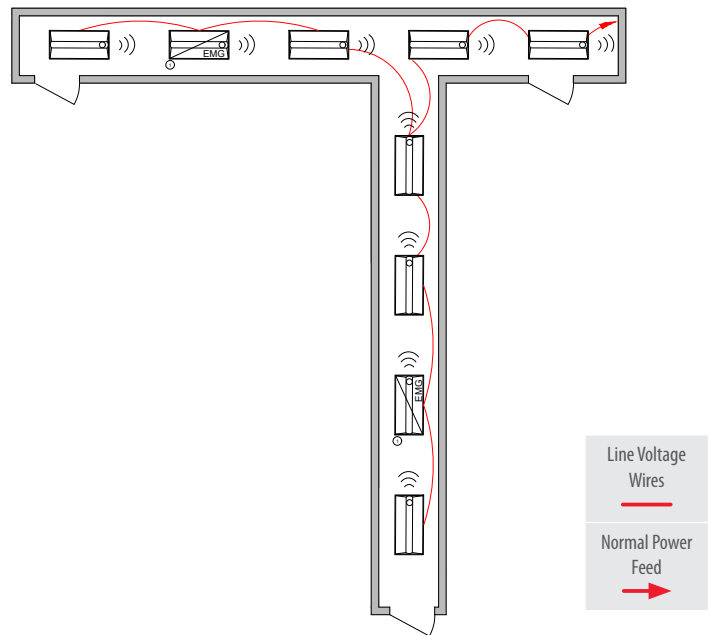
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight and emergency option

## Wired






- ① Some emergency luminaires with networked embedded controls from nLight require separate normal and emergency connections. Wiring shown assumes battery backup emergency option. See fixture spec sheets for options and details.

## Wireless





- ① Some emergency luminaires with wireless networked embedded controls from nLight require separate normal and emergency connections. Wiring shown assumes battery backup emergency option. See fixture spec sheets for options and details.

## Bill of Materials

Symbol	Qty	Product #	Description
	7	See Note	Troffer with Wired Networked Embedded Controls from nLight and Sensor Option
	2	See Note	Troffer with Wired Networked Embedded Controls from nLight and Battery Option
	4	nCM 10 RJB	Occupancy Sensor

## Bill of Materials

Symbol	Qty	Product #	Description
	7	See Note	Troffer with Wireless Networked Embedded Controls from nLight and Sensor Option
	2	See Note	Troffer with Wireless Networked Embedded Controls from nLight and Battery Option

## / OPERATIONAL DETAILS:

## Light Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently
- Maximum level can be task tuned to any percentage via programming

## Occupancy Control:

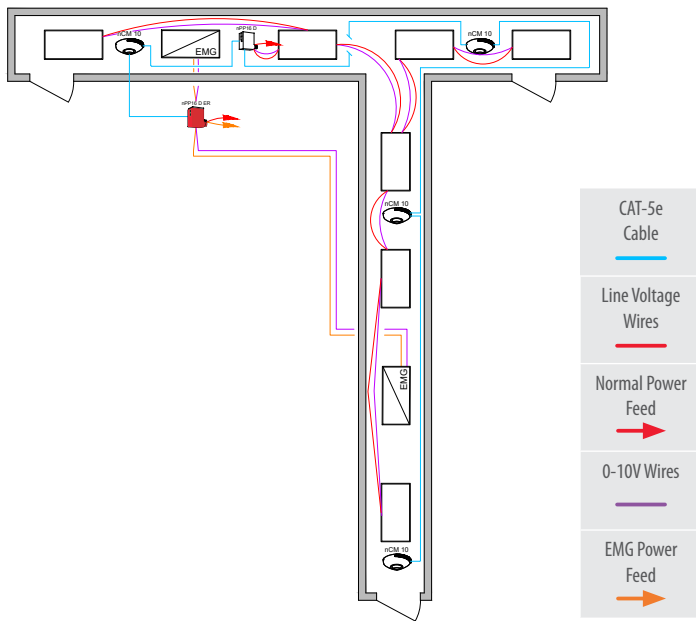
- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when space becomes vacant

**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLLC), as specified in the IECC 2021 CODE.

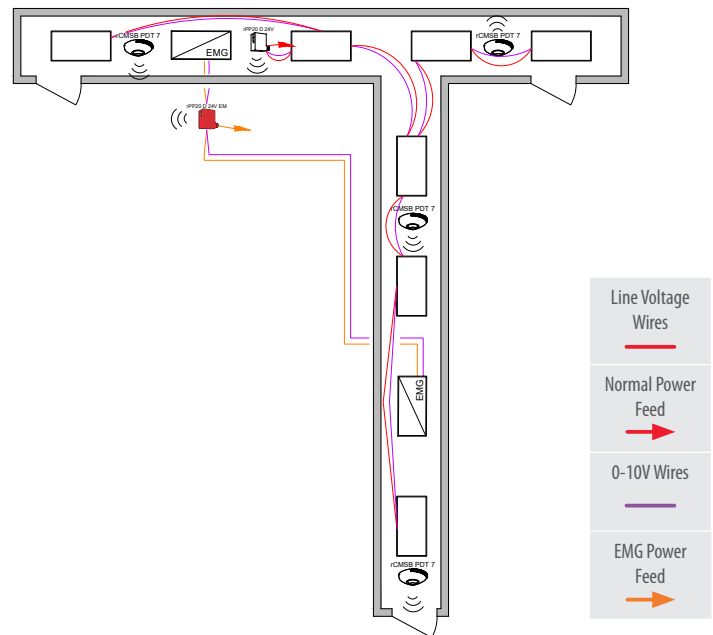
## / ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Luminaire with networked wireless control and occupancy daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (C405.2.5)

## Wired






## Wireless






① nLight AIR devices with an EM option must be grouped with a normal power sensing device to exit emergency operation. See control device spec sheet for details.

## Bill of Materials

Symbol	Qty	Product #	Description
	1	nPP16 D EFP	Relay Pack with 0-10V Dimming Output
	1	nPP16 D ER EFP	Emergency Relay Pack with 0-10V Dimming Output
	4	nCM 10 RJB	Occupancy Sensor

## Bill of Materials

Symbol	Qty	Product #	Description
	1	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPP20 D 24V EM EFP G2	Emergency Relay Pack with 0-10V Dimming Output
	4	rCMSB PDT 7 G2	Battery Powered Occupancy Sensor

## / OPERATIONAL DETAILS:

## Light Fixtures:

- All fixtures are dimmable
- Maximum level can be task tuned to any percentage via programming

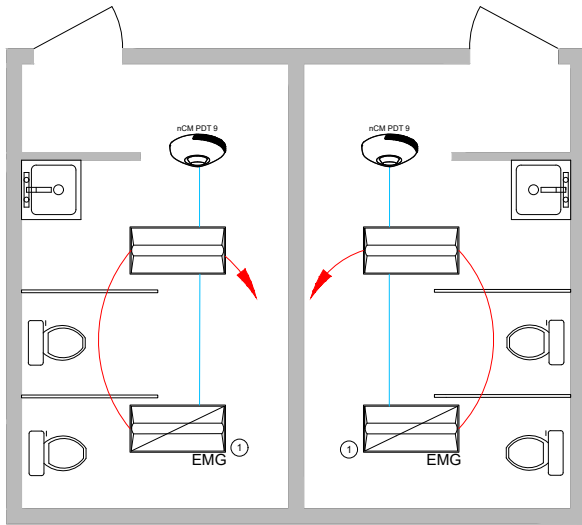
## Occupancy Control:

- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when space becomes vacant

## / ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- For emergency lighting control use a power pack with ER/EM option or luminaire with networked embedded controls from nLight and emergency option

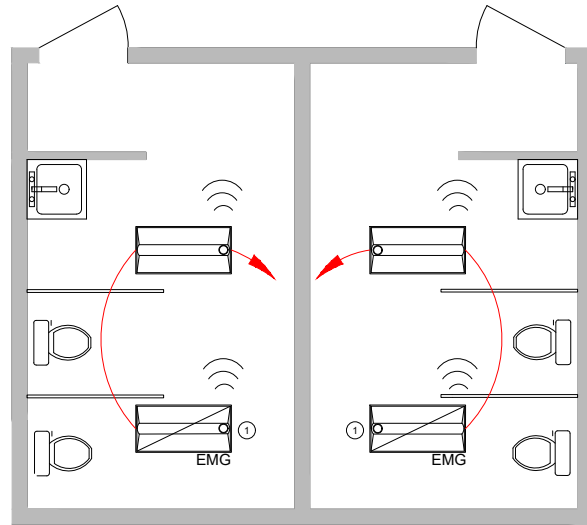
## Wired



- ① Some emergency luminaires with wireless networked embedded controls from nLight require separate normal and emergency connections. Wiring shown assumes battery backup emergency option. See fixture spec sheets for options and details.



## Wireless



- ① Some emergency luminaires with wireless networked embedded controls from nLight require separate normal and emergency connections. Wiring shown assumes battery backup emergency option. See fixture spec sheets for options and details.



## Bill of Materials

Symbol	Qty	Product #	Description
	2	See Note	Troffer with Wired Networked Embedded Controls from nLight
	2	See Note	Troffer with Wired Networked Embedded Controls from nLight and Battery Option
	2	nCM PDT 9 RJB	Occupancy Sensor

## Bill of Materials

Symbol	Qty	Product #	Description
	2	See Note	Troffer with Wireless Networked Embedded Controls from nLight and Sensor Option
	2	See Note	Troffer with Wireless Networked Embedded Controls from nLight and Battery Option

## / OPERATIONAL DETAILS:

## Light Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently (per room)
- Maximum level can be task tuned to any percentage via programming

## Occupancy Control:

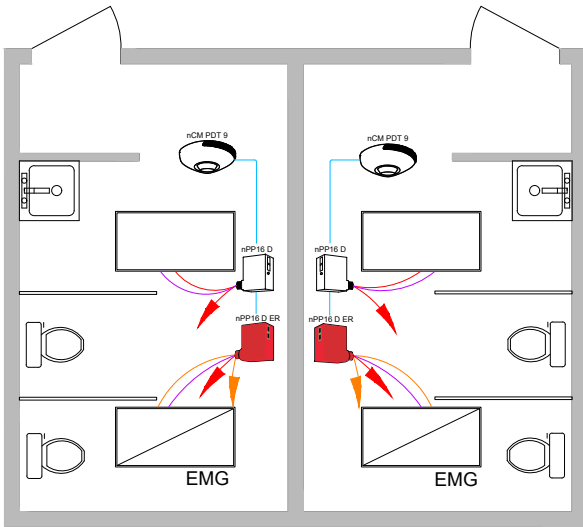
- Fixtures automatically go to full bright when occupied (or optionally can be configured to come on automatically to 50%)
- Fixtures automatically turn off when space becomes vacant

**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLLC), as specified in the IECC 2021 CODE.

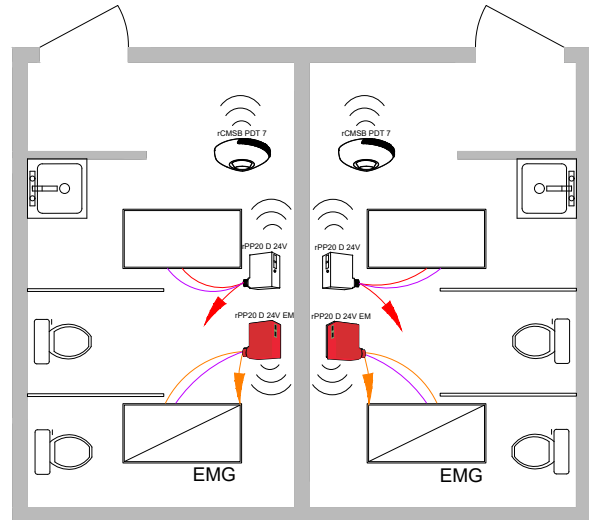
## / ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Luminaires with networked embedded controls from nLight and occupancy/daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (C405.2.5)

**Wired**



**Wireless**



① nLight AIR devices with an EM option must be grouped with a normal power sensing device to exit emergency operation. See control device spec sheet for details.



**Bill of Materials**

Symbol	Qty	Product #	Description
	2	nPP16 D EFP	Relay Pack with 0-10V Dimming Output
	2	nPP16 D ER EFP	Emergency Module with 0-10V Dimming Output
	2	nCM PDT 9 RJB	Occupancy Sensor

**Bill of Materials**

Symbol	Qty	Product #	Description
	2	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	2	rPP20 D 24V EM EFP G2	Emergency Relay Pack with 0-10V Dimming Output
	2	rCMSB PDT 7 G2	Battery Powered Occupancy Sensor

**OPERATIONAL DETAILS:**

**Light Fixtures:**

- All fixtures are dimmable
- All fixtures are controlled together or independently (per room)
- Maximum level can be task tuned to any percentage via programming

**Occupancy Control:**

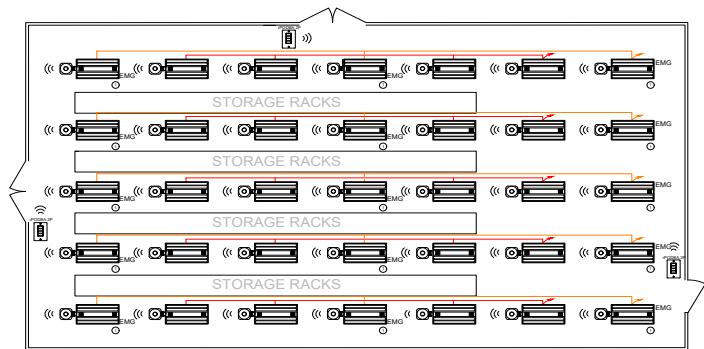
- Fixtures automatically go to full bright when occupied (or optionally can be configured to come on automatically to 50%)
- Fixtures automatically turn off when space becomes vacant

**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLC), as specified in the IECC 2021 CODE.

**ADDITIONAL OPTIONS:**

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Luminaires with wireless networked embedded controls from nLight and occupancy/daylighting sensor options available, please see the fixture specification sheet
- For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight with emergency option

## Luminaires with Wireless Networked Embedded Controls from nLight



① Fixture(s) assumed to include nLight AIR EM emergency options. For battery backup option, no dedicated emergency circuit necessary. nLight AIR devices with an EM option must be grouped with a normal power sensing device to exit emergency operation. See control device spec sheet for details.



### Bill of Materials

Symbol	Qty	Product #	Description
	20	See Note	High Bay Luminaire with Wireless Networked Embedded Controls from nLight with Sensor Option
	15	See Note	High Bay Luminaire with Wireless Networked Embedded Controls from nLight with Sensor and Emergency Option
	3	rPODBA 2P G2	Battery Powered, 2-Pole, On/Off WallPod

### OPERATIONAL DETAILS:

#### Light Fixtures:

- All fixtures are dimmable
- Maximum level can be task tuned to any percentage via programming

#### Occupancy Control:

- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when space becomes vacant

#### Daylight Control:

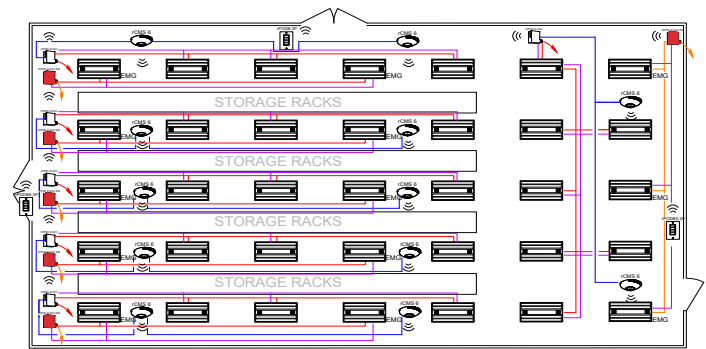
- Daylight responsive controls lights to full off when adequate daylight present
- Not required for spaces without skylights or that have loads <150W in toplit zones

#### Manual Control:

- Safety may preclude the use of a manual control in these areas

**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLLC), as specified in the IECC 2021 CODE.

## Wireless with 0-10V Dimming Fixtures



① nLight AIR devices with an EM option must be grouped with a normal power sensing device to exit emergency operation. See control device spec sheet for details.



### Bill of Materials

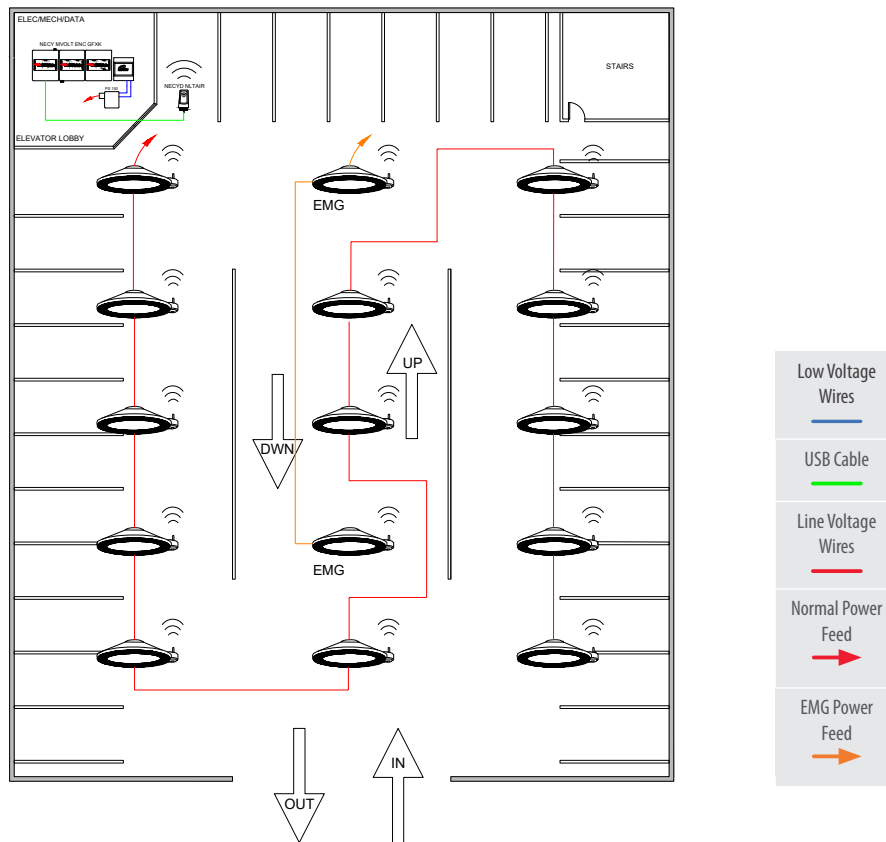
Symbol	Qty	Product #	Description
	6	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	6	rPP20 D 24V EM EFP G2	Emergency Relay Pack with 0-10V Dimming Output
	3	rPODBA 2P G2	Battery Powered, 2-Pole, On/Off WallPod
	12	rCMS 6 G2	Occupancy Sensor

### ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller
- Luminaires with wireless networked embedded controls from nLight with sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (C405.2.5)



## Wireless Parking Garage



① Fixture(s) assumed to include nLight AIR EM emergency options. For battery backup option, no dedicated emergency circuit necessary. nLight AIR devices with an EM option must be grouped with a normal power sensing device to exit emergency operation. See control device spec sheet for details.

### Bill of Materials

Symbol	Qty	Product #	Description
	13	See Note	Canopy Luminaire with Wireless Networked Embedded Controls from nLight with Sensor Option
	2	See Note	Canopy Luminaire with Wireless Networked Embedded Controls from nLight with Sensor and Emergency Option
	1	nECY	nLight ECLYPSE Network System Controller
	1	nECYD NLTAIR G2	nLight AIR Adapter

#### OPERATIONAL DETAILS:

##### Light Fixtures:

- All fixtures are dimmable
- All fixtures can be controlled together or independently
- Maximum level can be task tuned to any percentage via programming

##### Occupancy Control:

- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when space becomes vacant

##### Daylight Control:

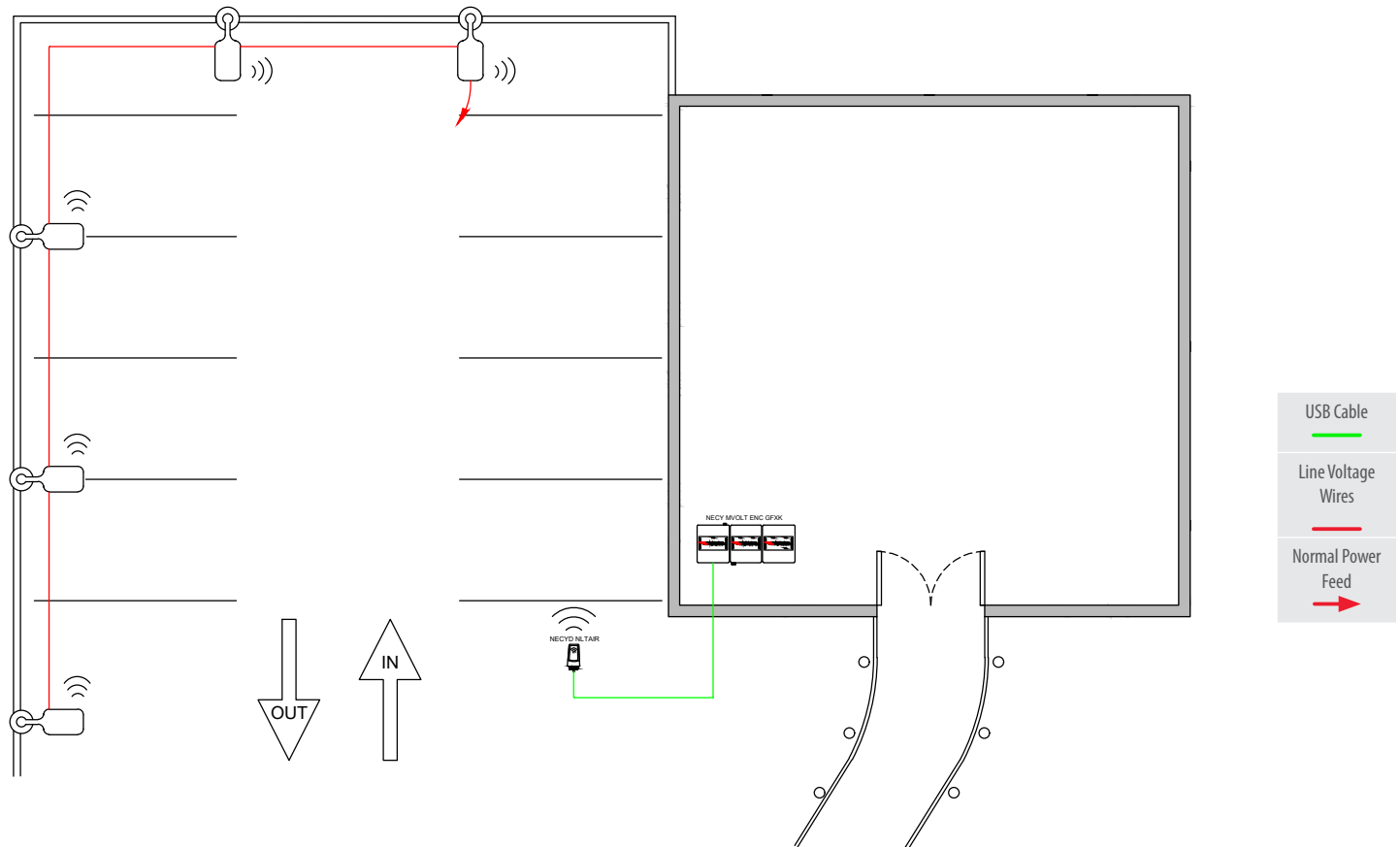
- Daylight responsive controls lights to full off when adequate daylight present

#### ADDITIONAL OPTIONS:




- Devices can be connected to nLight backbone to luminaires with networked embedded control or time schedules, including time schedules (C405.2.2.1), lighting setback (C405.2.7.3), & exterior time-switch control (C405.2.6.4).
- Luminaires with wireless networked embedded control from nLight with occupancy/daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (C405.2.5)

**Note: Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLLC), as specified in the IECC 2021 CODE.**

## Wireless Site/Parking Area



## Bill of Materials

Symbol	Qty	Product #	Description
	5	See Note	Luminaire with Wireless Networked Embedded Controls from nLight
	1	nECY	nLight ECLYPSE Network System Controller
	1	nECYD NLTAIR G2	nLight AIR Adapter

## / OPERATIONAL DETAILS:

## Light Fixtures:

- All fixtures are dimmable
- All fixtures can be controlled together or independently
- Maximum level can be task tuned to any percentage via programming

## Occupancy Control:

- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when space becomes vacant

## Daylight Control:

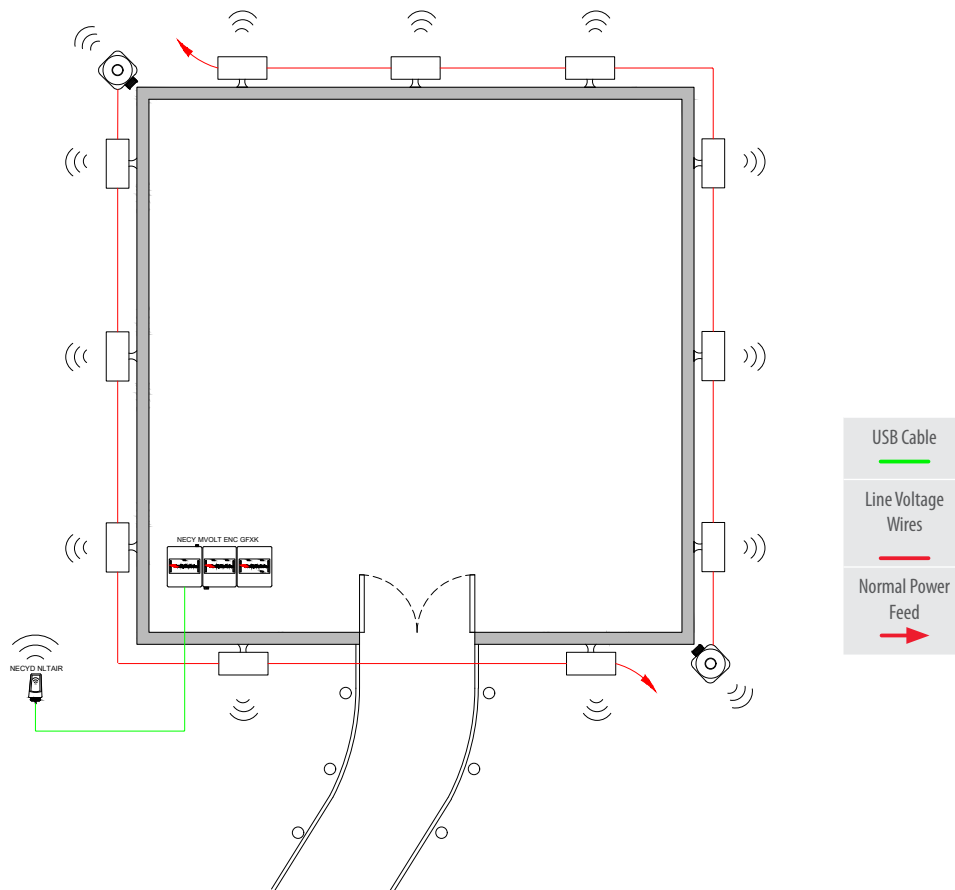
- Daylight responsive controls lights to full off when adequate daylight present

## / ADDITIONAL OPTIONS:

- Devices can be connected to nLight backbone to luminaires with networked embedded control or time schedules, including time schedules (C405.2.2.1), lighting setback (C405.2.7.3), & exterior time-switch control (C405.2.6.4).
- Luminaires with wireless networked embedded controls from nLight with occupancy/daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (C405.2.5)

**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLLC), as specified in the IECC 2021 CODE.

## Wireless Facade and Landscaping



### Bill of Materials

Symbol	Qty	Product #	Description
	11	See Note	Wall Mount with Wireless Networked Embedded Controls from nLight
	1	nECY	nLight ECLYPSE Network System Controller
	1	nECYD NLTAIR G2	nLight AIR Adapter
	2	rSBOR	nLight AIR Sensor and Wireless Repeater

#### OPERATIONAL DETAILS:

##### Light Fixtures:

- All fixtures are dimmable
- All fixtures can be controlled together or independently
- Maximum level can be task tuned to any percentage via programming

##### Daylight Control:

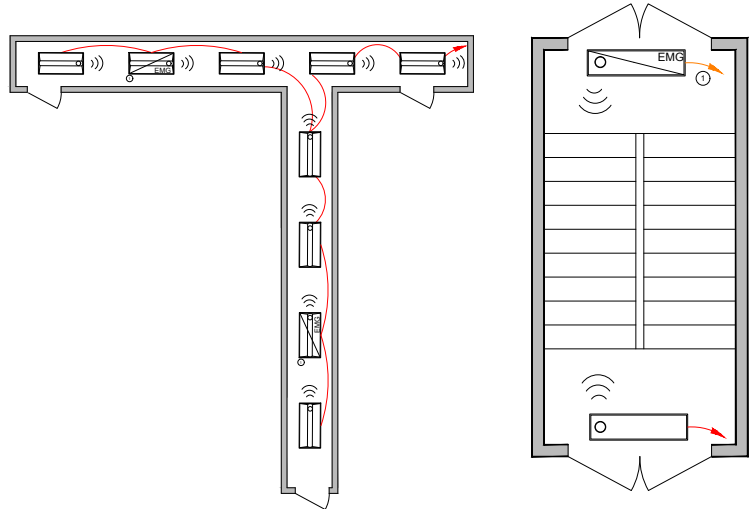
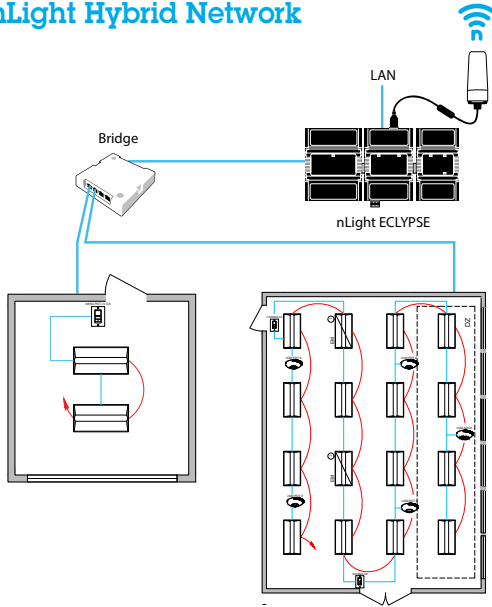
- Daylight responsive controls lights to full off when adequate daylight present

**Note:** Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLLC), as specified in the IECC 2021 CODE.

#### ADDITIONAL OPTIONS:

- Devices can be connected to nLight backbone to luminaires with networked embedded control or time schedules, including time schedules (C405.2.2.1), lighting setback (C405.2.7.3), & exterior time-switch control (C405.2.6.4).
- Luminaires with wireless networked embedded control from nLight and occupancy/daylighting sensor options available, please see the fixture specification sheet
- nLight wired or wireless networked control devices address the monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (C405.2.5)

**nLight Hybrid Network**












**Bill of Materials**

Symbol	Qty	Product #	Description
	1	nBRG 8 KIT	8-Port Backbone Bridge
	1	nECY MVOLT ENC	nLight ECLYPSE Network System Controller and Optional BMS Interface
	1	nECYD NLTAIR G2	nLight AIR Adapter

**Programmable Time Clock Control:**

Although not pictured within each of the individual room design guides, each nLight controlled space can be connected via an nLight backbone to create a networked nLight lighting control system capable of meeting the requirements of IECC 2021 Provision C405.2.2.1, Time-Switch Controls.

Control Requirement	Code Provision	nLight Solution Details	
Manual Control (Local Switch)	C405.2.1.1.3	nLight WallPod devices provide a user with local control of lighting within an nLight controlled space. WallPods are available in multiple styles – each with varying features and user experiences.	
		<p style="text-align: center;"><b>Push-Button WallPod</b></p>	<p style="text-align: center;"><b>Graphic WallPod*</b></p>
		<p> <a href="#">nPODMA Series</a>  <a href="#">rPODBA Series</a> </p>  <p style="text-align: center;">Traditional tactile buttons and LED user feedback.</p>	<p> <a href="#">nLight UNITOUCH Touchscreen Wall Switch</a> </p>  <p style="text-align: center;">Full-color touch screen provides a sophisticated look and feel.</p>
Shut-Off Control Time-Switch Controls and Exterior Lighting Control (via System Controller)	C405.2.2.1 C405.2.7.2 C405.2.7.3.1.1 C405.2.7.3.1.2 C405.2.7.4	Individual nLight control groups (i.e.: rooms) can be easily networked together across an entire building simply by connecting them into a “backbone” made up of one or more nLight bridge devices and/or nLight AIR adapters and an nLight ECLYPSE system controller. The system controller provides programmable time clock functionality for an nLight network as well as interfaces to the SensorView suite of web-based software applications (via an Ethernet LAN / WAN connection).	
		<p><b>Network System Controller</b></p>	
		<p style="text-align: center;"><a href="#">Network System Controller</a></p>  <p>Additional benefits of installing an nLight backbone include remote status monitoring, system-wide configuration changes, and BMS interface capability.</p>	
Full Auto-Off via Occupancy Sensor	C405.2.1.1	nLight occupancy sensors utilize 100% digital passive infrared (PIR) detection, come in several mounting styles, and offer multiple coverage pattern options. Additionally, nLight sensors are available with patented Microphonics™ dual technology detection for rooms with obstructions. Configuring for full off vs. partial off control is done with system programming.	
Manual On, Auto-On <=50%, Full Automatic On	C405.2.1.1, Exception	<p><b>360° Occupancy Sensor</b></p>	<p><b>120° WideView Corner Sensor*</b></p>
		<p> <a href="#">nCM Series</a>  <a href="#">rCMS Series</a>  <a href="#">rCMSB Series</a> </p>  <p style="text-align: center;">Surface mounts to ceiling tiles or sheetrock/plaster.</p>	<p> <a href="#">nWV Series</a> </p>  <p style="text-align: center;">Directly mounts in corner or to ceiling via repositionable ceiling bracket.</p>
Light-Reduction Controls	C405.2.3.1	nLight provides multiple options for controlling continuous dimming luminaires. This allows spaces with several lighting types and technologies to be controlled together and with a common user experience.	
		<p><b>Acuity Brands Luminaires with Networked Embedded Controls from nLight</b></p>	<p><b>Dimming Relay Packs</b></p>
		 <p>Acuity Brands offers a wide variety of LED fixtures with factory installed embedded controls from nLight that provide smooth continuous dimming.</p>	<p> <a href="#">nPP16 Series</a>  <a href="#">rPP20 Series</a> </p>  <p>nLight dimming relay enable control of any 0-10VDC dimmable LED luminaire.</p>
Daylight-Responsive Controls	C405.2.4.1 C405.2.4.2 C405.2.7.1 C405.2.8.2 C405.2.8.3	nLight offers standalone daylight harvesting sensors as well as occupancy sensors with integrated daylight harvesting. Sensors are available in various housings and provide continuous dimming control of any/all luminaires with networked embedded controls from nLight or dimming relay packs, each capable of being its own daylight zone.	
		<p><b>Ceiling Mount Dimming Photocell</b></p>	<p><b>Recessed Mount Dimming Photocell*</b></p>
		<p> <a href="#">nCM Series</a>  <a href="#">rCMSB Series</a> </p> 	<p> <a href="#">nRM Series</a> </p> 

\*Available with nLight Wired products only.

Note: This summary is for general information purposes only and is provided without any warranty as to accuracy, completeness, or otherwise. The user should read the applicable code sections for more complete and detailed descriptions of code requirements and exceptions and should consult with a professional engineering or other competent advisor before making any decision or taking any action based on this summary.

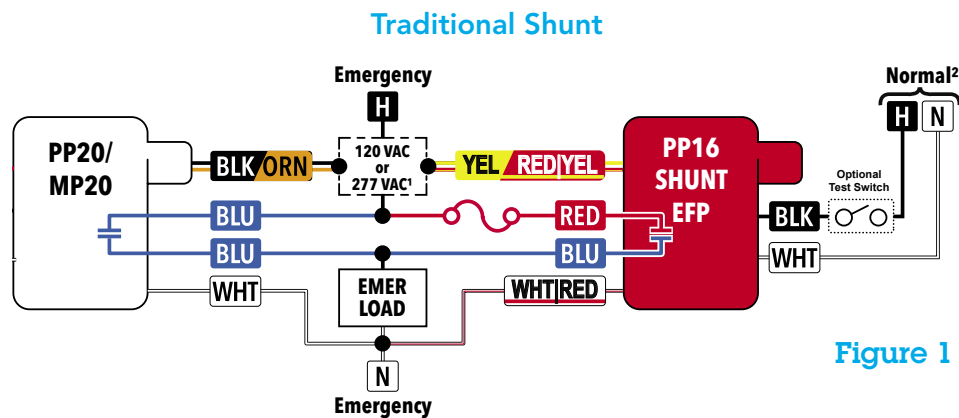
## 2021 IECC and Emergency Lighting

The nLight platform offers flexible, UL 924 compliant control of emergency lighting. It addresses the needs of conventional projects that use extra wiring to charge battery packs inside of fixtures or to tell control devices to enter an emergency state when normal power is lost. Traditional lighting controls would make use of a shunt device in addition to a lighting control device (Figure 1). nLight consolidates the shunt device and lighting control device into a single digital device, which reduces installation and maximizes control (Figure 2). Wireless products also offer power detection through devices connected to normal power to initiate emergency control when normal power is lost. This modern method removes the need for extra wiring, further reducing the cost of installing emergency controls without sacrificing the intelligence and configurability that is expected from nLight devices (Figure 3).

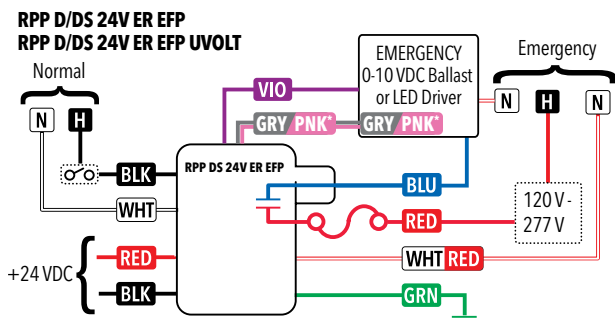
IECC lighting controls requirement C405.2 (and subsection 405.2.7 for exterior lighting controls) provides exceptions for emergency and egress lighting, indicating that lighting controls are not required for the following types of lighting:

- Areas designated as security or emergency areas that are required to be continuously lighted.
- Interior exit stairways, interior exit ramps and exit passageways.
- Emergency egress lighting that is normally off.
- Lighting for covered vehicle entrances or exits from buildings or parking structures where required for safety, security or eye adaptation.

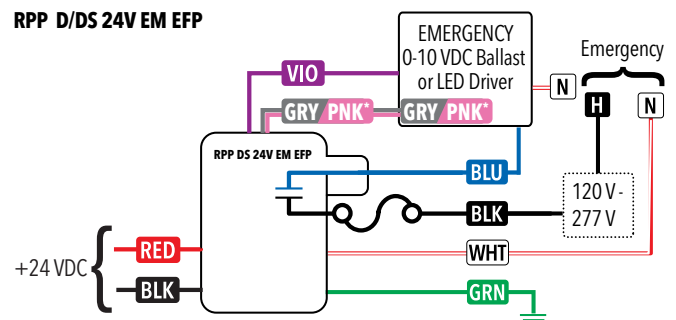
Generally speaking, lighting that is normally on during occupied periods, normally dimmed or off during unoccupied periods, and also used to provide for egress during emergency power conditions should be controlled in compliance with C405.2. nLight features various UL 924 listed options that can be specified to provide both lighting control in compliance with IECC and emergency operation in compliance with locally enforced fire codes.



### Control With Built-In Emergency Option Via Normal Power Sense



### Control With Built-In Emergency Option Via nLight AIR EM



## Luminaires with Networked Embedded Controls from nLight

Acuity Brands offers the industry's broadest portfolio of luminaires with networked embedded controls from nLight. Please scan the QR code to see the current luminaires with networked embedded controls from nLight.



Luminaires with Wireless Networked Embedded Controls from nLight



Luminaires with Wired Networked Embedded Controls from nLight

## CLAIRITY™ + Mobile App

Quick and Easy Lighting Configuration and Control In the Palm of Your Hand

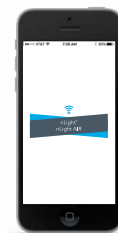
### nLight Wired



The nLight Wired micro-application of CLAIRITY+ is a cost-effective method that simplifies programming and reduces start-up times for nLight devices in smaller projects.

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### nLight AIR



The nLight AIR application provides easy startup, configuration and modification of nLight® AIR wireless controls. This cloud connected app allows validated end users (electrical contractors, sales agents or facility maintenance professionals) to start up, configure and troubleshoot from a compatible smartphone or tablet.



# Additional Resources

## Acuity Controls Typical Layout Drawings

<https://www.acuitybrands.com/resources/tools-and-documents/typicals>

## IECC

<http://www.iccsafe.org/>

### Use the Following Sections of the IECC 2021 Code as Reference:

- Section C405.2.1.1.2 – Manual-On or Partial-On
- Section C405.2.1.1, – Full Automatic On  
Exception
- Section C405.2.6.1 – Local Switch
- Section C405.2.2.1 – Programmable Timeclock
- Section C405.2.4 – Daylight-Responsive Controls
- Section C405.2.3.1 – Manual Lighting Reduction
- Section C405.2.7 – Exterior Lighting Controls
- Section C406.4 – Enhanced Digital Lighting Controls

## Explore Acuity Academy

Acuity Academy provides educational resources for individuals wanting to expand their lighting, controls and building management technical knowledge. On Acuity Academy, you can register for instructor-led classes, take e-learning courses or watch videos and recorded content.

<https://www.acuitybrands.com/resources/training-and-education>

## nLight Lighting Controls

[www.nlightcontrols.com](http://www.nlightcontrols.com)



**A+ Certified** solutions from Acuity Brands help you quickly and confidently select and implement lighting systems that are both compatible and consistent.

For lighting applications, A+ means verified consistent performance, visual appearance and system interoperability of all luminaires and controls within the certified solutions. For lighting professionals it means confidence that all parts of the lighting system will work together and meet common Acuity Brands specifications.

Go to [www.acuitybrands.com/solutions/a-certified](http://www.acuitybrands.com/solutions/a-certified) or contact your local Acuity Brands representative for more information.

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