nLight

Florida Building Code - Energy Conservation - 2023 - 8th Edition

nLight® Applications Guide

/ nLight® Lighting Controls Platform

Not just smarter. Easier.

nLight is your networked lighting controls platform, for indoor and outdoor applications, providing wired or wireless options. Scaling from room to campus-wide applications, it is the one platform that grows with your business today and tomorrow, to seamlessly address energy cost optimization, building code compliance, improved occupant comfort, and much more. 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.
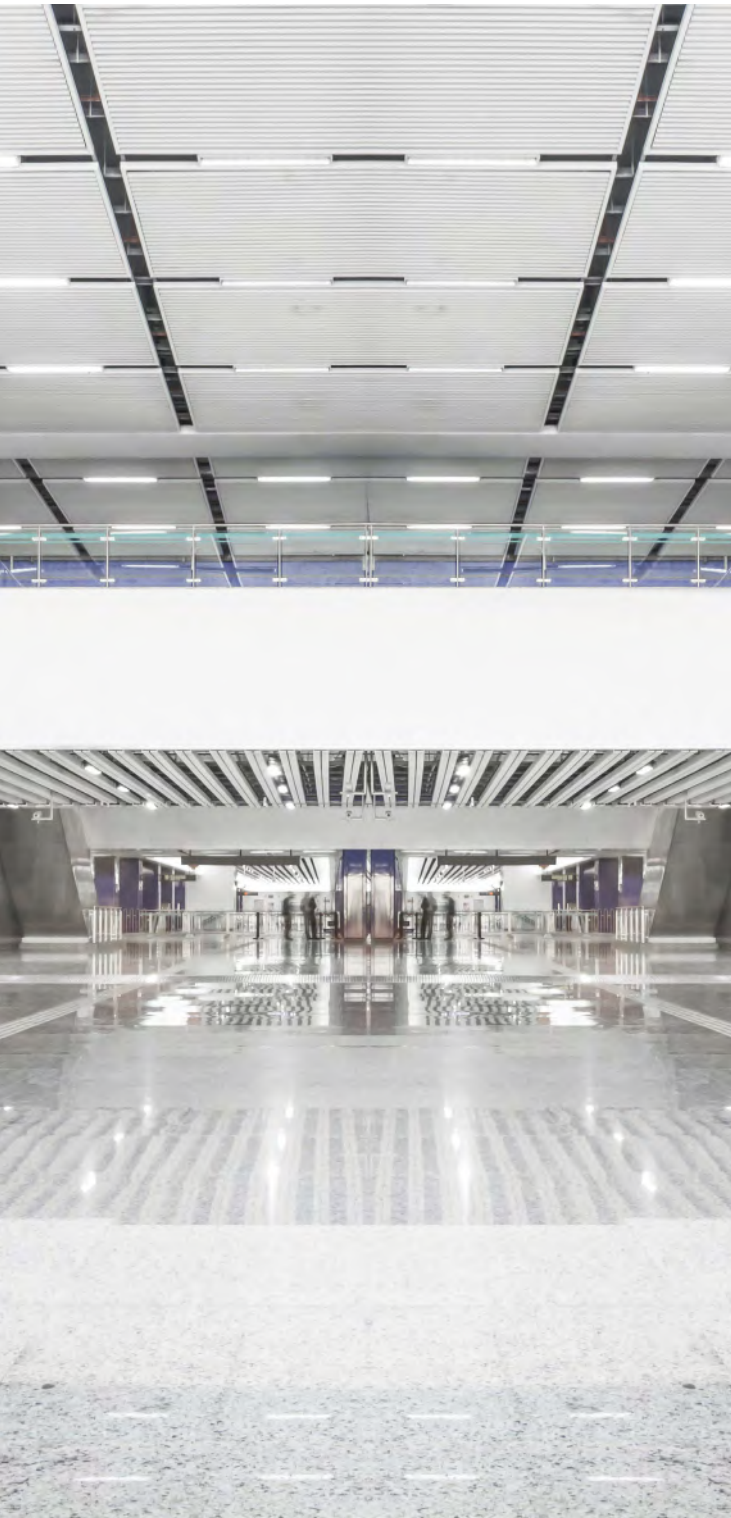
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/ ABOUT

About Florida Building Code 2023

Florida Building Code's Energy Conservation section is an energy code designed to reduce energy consumption. The 2023 version has specific requirements for lighting controls. The use of advanced lighting controls to synchronize light levels with daylight, occupancy, and multi-level control capability are required in order to be compliant.

About This Guide

Acuity Brands® offers the nLight® Florida Building Code 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 your networked lighting controls platform, for indoor and outdoor applications, providing wired or wireless lighting controls that easily connect luminaires, sensors, and other control devices to create one digital lighting controls platform to seamlessly address energy cost optimization, building code compliance, improved occupant comfort, and much more. 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.

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

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

Wired

Wireless

nWSXA PDT LV DX

rPODU DX

CAT-5e Cable

Line Voltage Wires

Line Power Feed

Line Voltage Wires

Line Power Feed

Bill of Materials

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

Bill of Materials

Symbol	Qty	Product #	Description
	2	See Note	Troffer with Wireless Networked Embedded Controls from nLight with Sensor Option
	1	rPODU DX G2	Battery Powered, On/Off, Raise/Lower Wall Switch

/ 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 turn off automatically when room becomes vacant

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

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 Florida Building Code - Energy Conservation - 2023 - 8th Edition.

/ 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)
- For emergency lighting control use a power pack with ER/EM option or luminaire with networked embedded controls from nLight with emergency option

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

Additional options that add control capacity beyond code requirements

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 Florida Building Code.

About this guide: The scope of this guide includes lighting controls for interior and exterior applications, as required for new construction, additions, and alterations that replace >=10% of the luminaires in a space.
Exceptions: Continuously lit security or emergency areas; interior exit stairways and ramps, and exit passageways; emergency egress lighting that is normally off.

	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	Gymasium	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, exception	C405.2.1.1	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.						✔		✔ (and)		✔
	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.					✔ (or)	✔ (or)	✔ (or)	✔ (or)		✔ (or)
	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.	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Light Reduction Controls	C405.2.3.1	Spaces shall have a manual control that allows the occupant to reduce the connected lighting load from full output to <20% of full power.					✔**		✔**			
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)		
✔		✔
✔	✔	✔

Other Lighting Control Requirements

C405.2.1.3

Open Plan Office Areas:

- The controls shall be configured so that general lighting can be controlled separately in control zones with floor areas not greater than 600sqft within the open plan office space.
- The controls shall automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the open plan office space.
- The controls shall be configured so that general lighting power in each control zone is reduced by not less than 80 percent of the full zone general lighting power in a reasonably uniform illumination pattern within 20 minutes of all occupants leaving that control zone. Control functions that switch control zone lights completely off when the zone is vacant meet this requirement.

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C405.2.5.2

Hotel/Motel Sleeping Units and Guest Suites:
Master control device turns off all installed luminaires and switched receptacles within 20 minutes of occupants leaving.

Exceptions:
Lighting and switched receptacles controlled by card key controls.

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C405.2.7.4

Exterior Time-Switch Control Function:
Time-switch controls for exterior lighting shall comply with the following:

- They shall have a clock that is not less than 7 days.
- They shall be capable of being set for seven different day types per week.
- They shall incorporate an automatic holiday setback feature.
- They shall have program backup capabilities that prevent loss of program and time settings of >=10 hours, if power is interrupted.

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C405.2.7

Exterior Lighting Controls:

- Automatically turn lights off with daylight.
- Facade, landscape lights automatically turn off as a function of dusk/dawn and open/close time.
- Reduce all other lighting by ≥50% from no later than midnight to 6AM, one hour after closing to one hour before opening, or when no activity is detected for > 15 minutes.
- Not more than 1,500W of outdoor parking area lighting may be controlled together when mounted <=24ft and rated >78W.

Exceptions:

- Covered vehicle entrances/exits for eye adaptation.
- Lighting controlled from within dwelling units.

C408.3

Lighting System Functional Testing:

Prior to passing the final inspection, the registered design professional or approved agency shall provide evidence that the lighting control systems have been tested to ensure that control hardware and software are calibrated, adjusted, programmed, and in proper working condition in accordance with the construction documents and manufacturer's instructions.

C408.3.1.1: Test occupancy sensors

C408.3.1.2: Test auto time switch

C408.3.1.3: Test daylight responsive

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C405.2.8

Parking Garage Lighting Controls:

- Automatically reduce power >=30% when no activity in a zone is detected for >20 minutes. Zones must be <= 3,600sqft.

Exceptions: Zones with <=1.5 FC at the darkest point.

- Eye adaption areas shall be reduced >=50% from dusk to dawn.
- Daylight harvest by >=50% lights within 20ft of perimeter wall opening.

Exceptions: Opening-to-wall ratio <40%, nearby exterior daylight obstructions, or obstructed openings by permanent screens or similar (ref. code for details).

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C406

Additional Efficiency Package:

Note: Lighting options listed below, other options include: HVAC, renewable energy, outdoor air, service water heating.
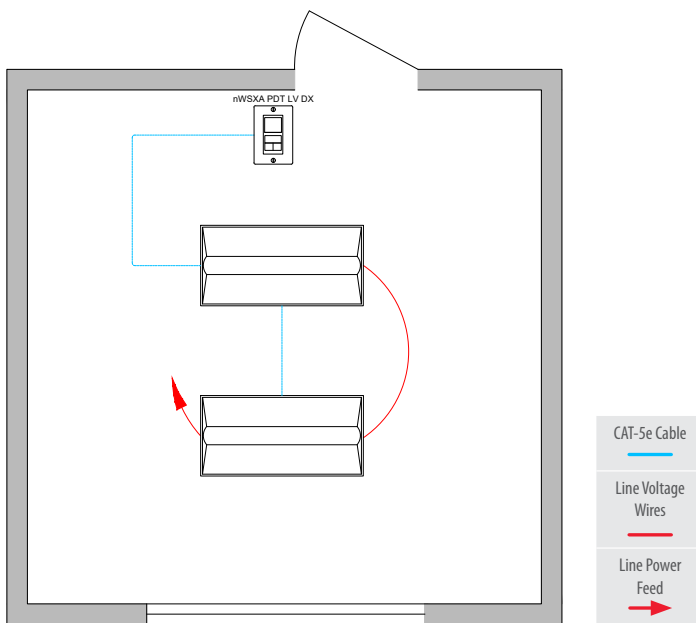
C406.3: Reduced lighting power density:

Use 90% of total interior lighting power as identified in Table C405.3.2(1) or by using Space-by-Space method from C405.3.2(2).

C406.4: Enhanced digital lighting controls:

Continuous dimming, individually addressable luminaires, daylight zones, digitally reconfigurable, load shedding, individual user control, digitally reconfigurable occupancy sensor.

Wired

CAT-5e Cable	
Line Voltage Wires	
Line Power Feed	

Bill of Materials

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

Wireless

Line Voltage Wires	
Line Power Feed	

Bill of Materials

Symbol	Qty	Product #	Description
	2	See Note	Troffer with Wireless Networked Embedded Controls from nLight with Sensor Option
	1	rPODU DX G2	Battery Powered, On/Off, Raise/Lower Wall Switch

/ 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 turn off automatically when room becomes vacant

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

Manual Control:
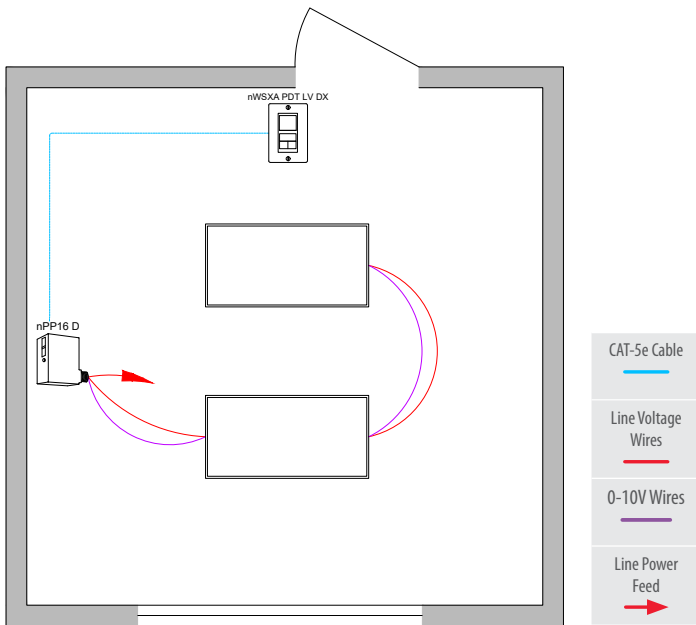- On/off & raise/lower control of fixtures

/ 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 nLight® 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)
- For emergency lighting control use a power pack with ER/EM option or luminaire with networked embedded controls from nLight with emergency option
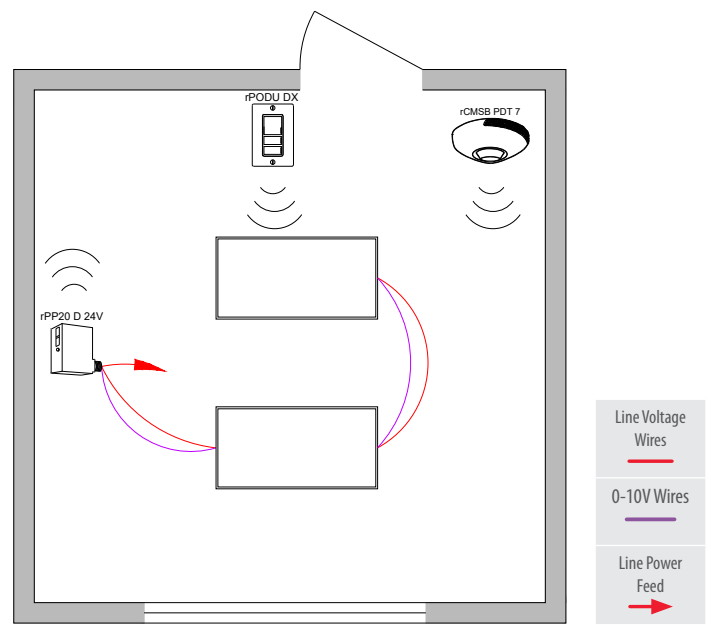
Note: Contact your local lighting agent for more information on luminaires with networked embedded controls from nLight. nLight wired or wireless networked control devices address the requirements of Luminaire Level Lighting Controls (LLLC), as specified in the Florida Building Code - Energy Conservation - 2023 - 8th Edition.

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Wired

		CAT-5e Cable
		Line Voltage Wires
		0-10V Wires
		Line Power Feed

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 and Daylight Sensor with On/Off, Raise/Lower

Wireless

		Line Voltage Wires
		0-10V Wires
		Line Power Feed

Bill of Materials

Symbol	Qty	Product #	Description
	1	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPODU DX G2	Battery Powered, On/Off, Raise/Lower Wall Switch
	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 turn off automatically when room becomes vacant

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

/ 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 nLight® ECLYPSE™ controller
- For emergency lighting control use a power pack with ER/EM option or luminaire with networked embedded controls from nLight with emergency option
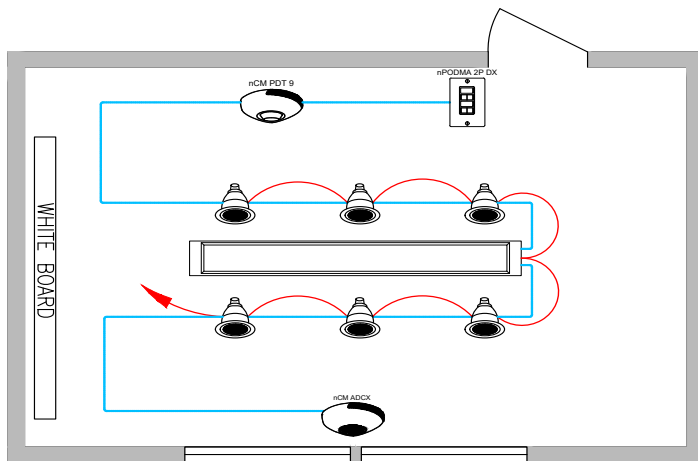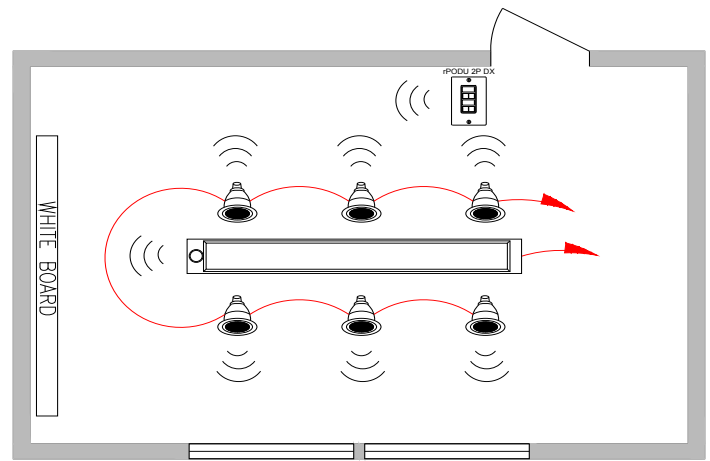
Wired

| CAT-5e Cable | Line Voltage Wires | Line Power Feed |

Wireless

| Line Voltage Wires | Line Power Feed |

Bill of Materials

Symbol	Qty	Product #	Description
	1	See Note	Luminaire with Wired Networked Embedded Controls From nLight
	6	See Note	Downlight with Wired Networked Embedded Controls From nLight
	1	nPODMA 2P DX	2-Pole, On/Off, Raise/Lower WallPod
	1	nCM PDT 9 RJB	Occupancy Sensor
	1	nCM ADCX RJB	Daylight Sensor

Bill of Materials

Symbol	Qty	Product #	Description
	1	See Note	Luminaire with Wireless Networked Embedded Controls From nLight with Sensor Option
	6	See Note	Downlight with Wireless Networked Embedded Controls From nLight
	1	rPODU 2P DX G2	Battery Powered, 2-Pole, On/Off, Raise/Lower Wall Switch

/ 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 turn off automatically when room becomes vacant

Daylight Control:
- Smooth continuous dimming
- Custom grouping of fixtures into separate daylight zones (max number zones = number of fixtures)
- Not required for areas without windows or that have loads <150w in sidelit zones
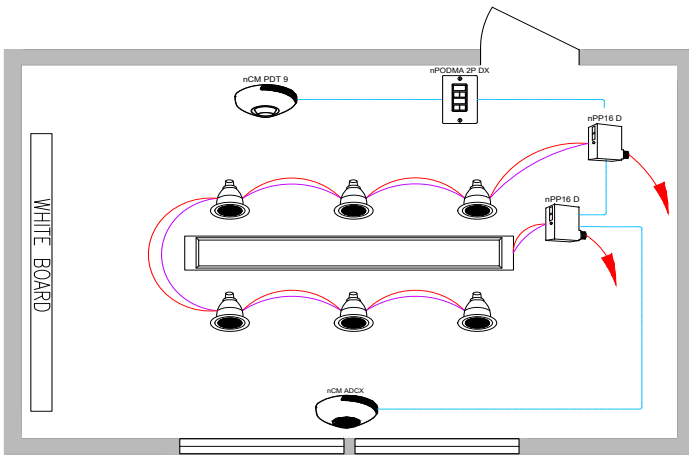
Manual Control:
- On/off & raise lower control of two zones of fixtures
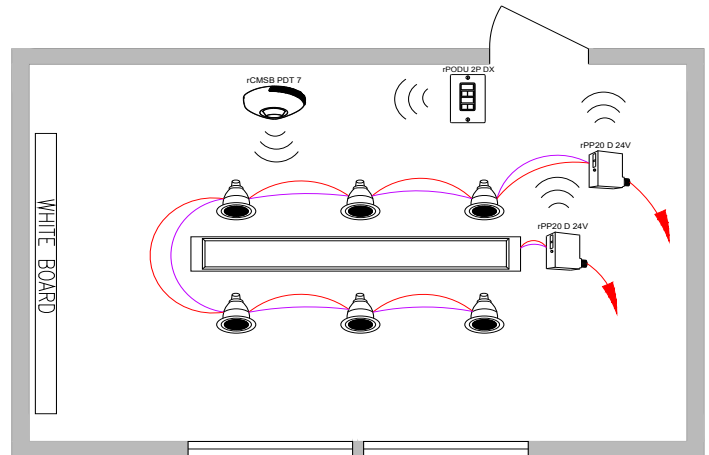
/ ADDITIONAL OPTIONS:

- 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 nLight® 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)
- 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 (LLLC), as specified in the Florida Building Code - Energy Conservation - 2023 - 8th Edition.

Wired

| CAT-5e Cable | Line Voltage Wires | Line Power Feed | 0-10V Wires |

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 RJB	Daylight Sensor

Wireless

| Line Voltage Wires | Line Power Feed | 0-10V Wires |

Bill of Materials

Symbol	Qty	Product #	Description
	2	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPODU 2P DX G2	Battery Powered, 2-Pole, On/Off, Raise/Lower Wall Switch
	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 must be turned on manually (or optionally can be configured to come on automatically to 50%)
- Fixtures turn off automatically when room becomes vacant

Daylight Control:
- Smooth continuous dimming
- Daylight zones defined by rows
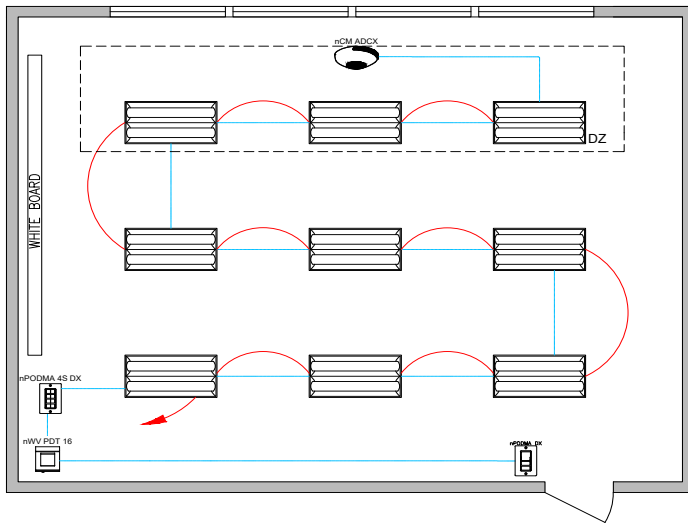- Not required for areas without windows or that have loads <150W in sidelit zones

Manual Control:
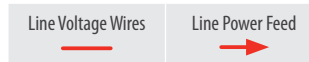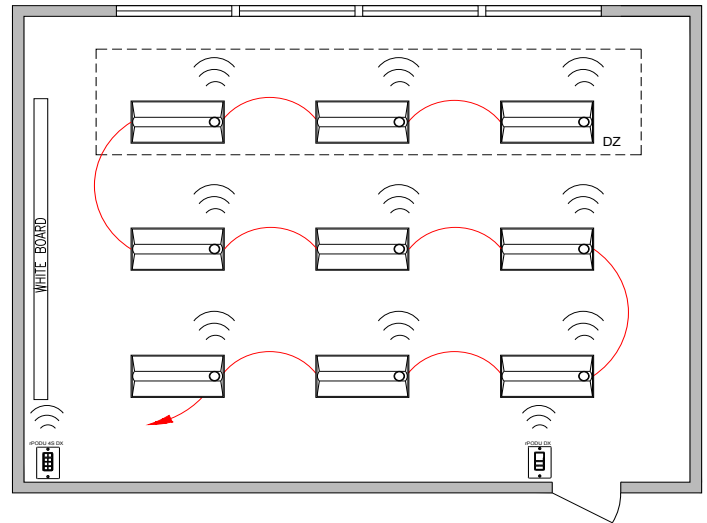- On/off & raise lower control of two zones of fixtures

/ 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 nLight® ECLYPSE™ controller
- For emergency lighting control use a power pack with ER/EM option or luminaire with networked embedded controls from nLight with emergency option

Wired

CAT-5e Cable	Line Voltage Wires	Line Power Feed

Bill of Materials

Symbol	Qty	Product #	Description
	9	See Note	Troffer with Wired Networked Embedded Controls from nLight
	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 RJB	Daylight Sensor

Wireless

Line Voltage Wires	Line Power Feed

Bill of Materials

Symbol	Qty	Product #	Description
	9	See Note	Troffer with Wireless Networked Embedded Controls from nLight with Sensor Option
	1	rPODU DX G2	Battery Powered, On/Off, Raise/Lower Wall Switch
	1	rPODU 4S DX G2	Teacher Station — Battery Powered 4 Scene Control with Master On/Off & Raise/Lower

/ 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 automatically turn off when room becomes vacant

Daylight Control:
- Smooth continuous dimming
- Custom grouping of fixtures into separate daylight zones (max number zones = number of fixtures)
- Not required for areas without windows or that have loads <150W in sidelit zones
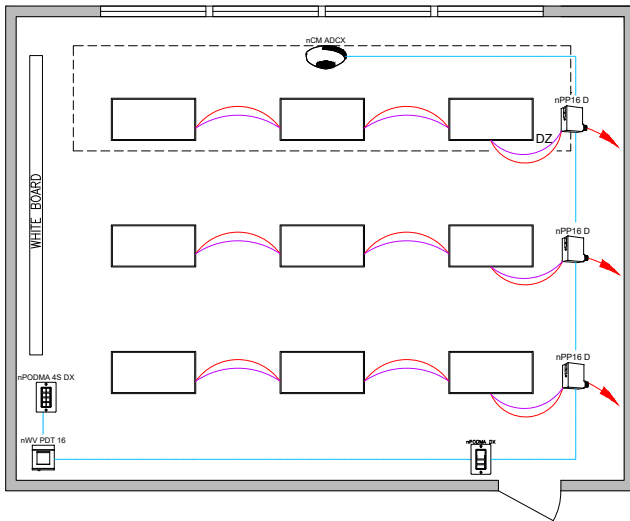
Manual Control:
- On/off & raise/lower control of entire room
- Teacher station with 4 preset scenes
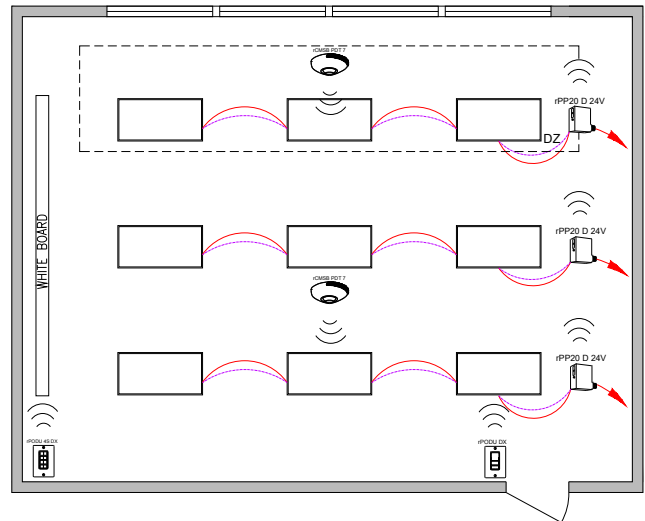
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Wired

CAT-5e Cable	Line Voltage Wires	Line Power Feed	0-10V Wires

Wireless

Line Voltage Wires	Line Power Feed	0-10V Wires

Bill of Materials

Symbol	Qty	Product #	Description
	3	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 RJB	Daylight Sensor

Bill of Materials

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

/ 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 automatically turn off when room becomes vacant

Daylight Control:
- Smooth continuous dimming
- Daylight zones defined by rows
- 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
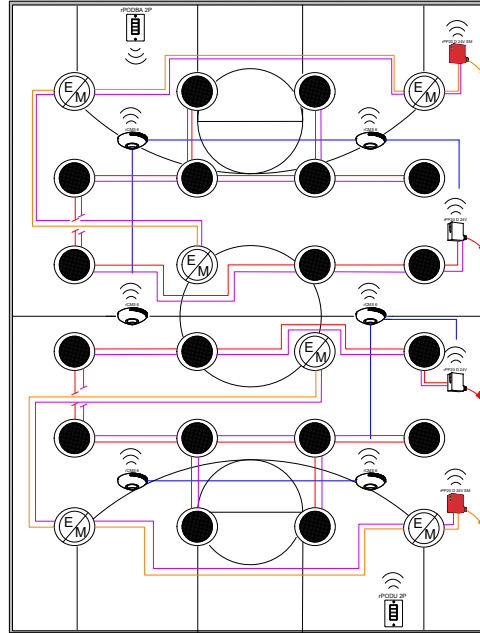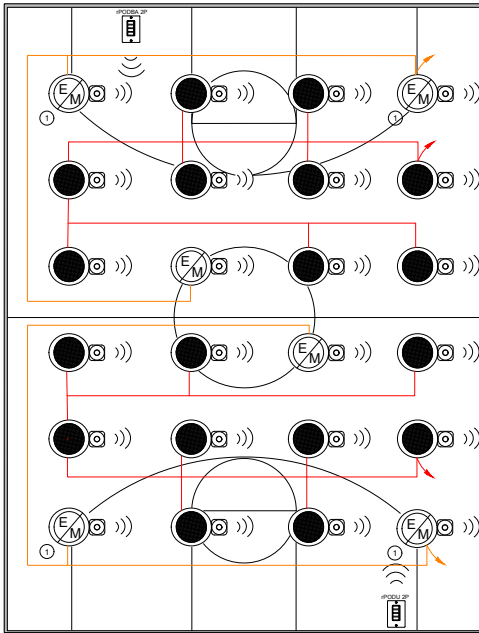- Teacher station with 4 preset scenes

/ 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 nLight® ECLYPSE™ controller
- For emergency lighting control use a power pack with ER/EM option or luminaire 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.

Line Voltage Wires	Normal Power Feed	EMG Power Feed

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	rPODU 2P G2	Battery Powered, 2-Pole, On/Off Wall Switch

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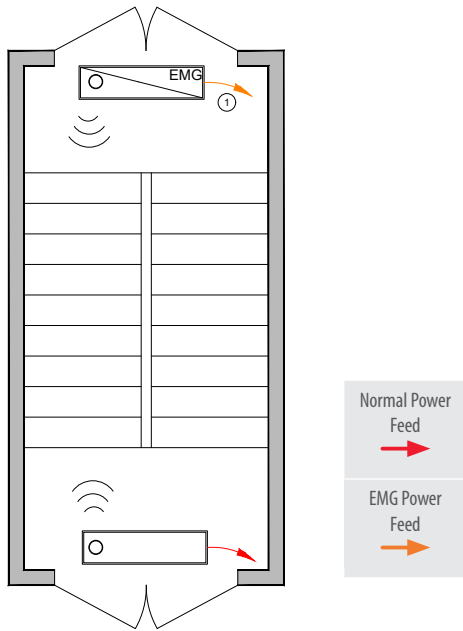
Manual Control:
- On/off & raise/lower control of fixtures
- Raise/lower control is not required for spaces with occupancy sensors but is recommended

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 Florida Building Code - Energy Conservation - 2023 - 8th Edition.

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.

Low Voltage Wires	0-10V Wires	Line Voltage Wires	Normal Power Feed	EMG Power Feed

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	rPODU 2P G2	Battery Powered, 2-Pole, On/Off Wall Switch
	6	rCMS 6 G2	High Bay Occupancy and Daylight 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 nLight® 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)

Luminaire with Wireless Networked Embedded Controls From nLight

Wireless with 0-10V Dimming Fixtures

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.

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

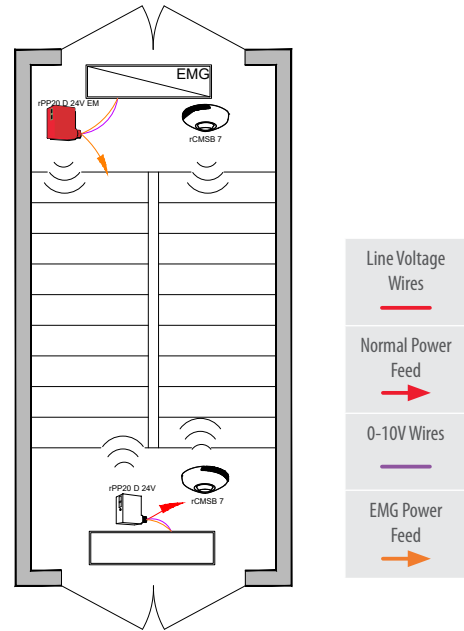| Symbol	Qty	Product #	Description
	1	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPP20 D 24V EM EFP G2	Emergency Relay Pack with 0-10V Dimming Output
	2	rCMSB PDT 7 G2	Battery Powered Occupancy Sensor

/ 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 (LLLC), as specified in the Florida Building Code - Energy Conservation - 2023 - 8th Edition.
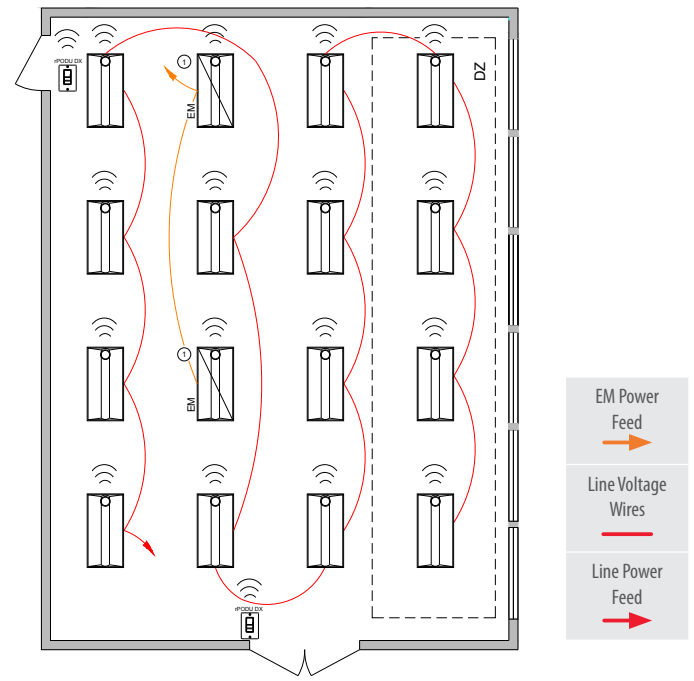
/ ADDITIONAL OPTIONS:

- 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 nLight® 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 (LLLC)
- For emergency lighting control use a power pack with ER/EM option or luminaire with networked embedded controls from nLight with emergency option

Wired

CAT-5e Cable	
Line Voltage Wires	
Line Power Feed	
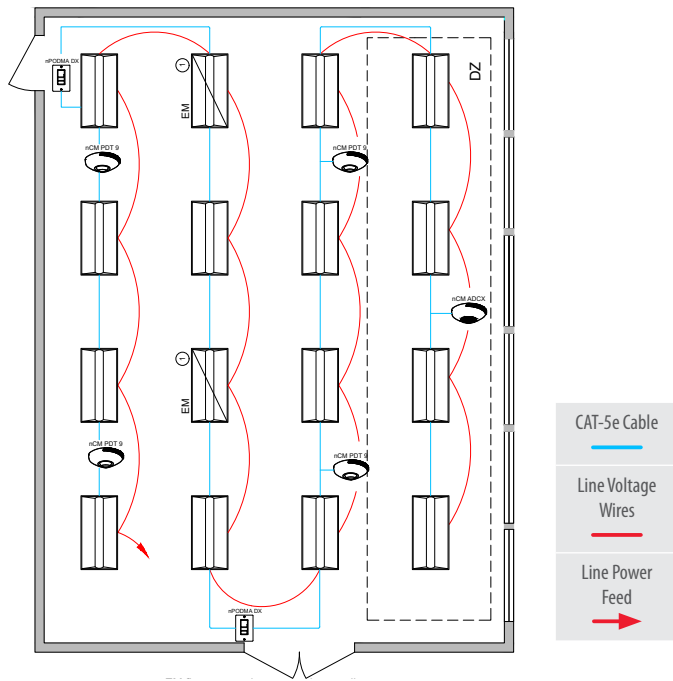
(1) Some emergency luminaires with networked embedded controls from nLight require a normal sense line connection. Wiring shown assumes battery backup emergency option. See fixture spec sheets for details.

Bill of Materials

Symbol	Qty	Product #	Description
	14	See Note	Troffer with Wired Networked Embedded Controls from nLight
	2	See Note	Troffer with Wired Networked Embedded Controls from nLight with Battery Option (typical)
	2	nPODMA DX	On/Off, Raise/Lower WallPod
	4	nCM PDT 9 RJB	Occupancy Sensor
	1	nCM ADCX RJB	Daylight Sensor

Wireless

EM Power Feed	
Line Voltage Wires	
Line Power Feed	

(1) Fixture(s) assumed to include power interruption detection emergency option. For battery backup option, no dedicated EM circuit necessary.

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 Emergency Option
	2	rPODU DX G2	Battery Powered, On/Off, Raise/Lower Wall Switch

/ 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 turn on to 100% upon occupancy. When the space is vacant, the light is reduced to 20%
- Fixtures turn off automatically when room becomes vacant
- General lighting must be controlled in zones not greater than 600 sq. ft.

Daylight Control:
- Smooth continuous dimming
- Custom grouping of fixtures into separate daylight zones (max. number zones = number of fixtures)
- Not required for offices without windows or that have loads <150W in sidelit zones

Manual Control:
- On/off & raise/lower control of fixtures

/ 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 nLight® 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)
- Occupant sensor controls in open plan office spaces less than 300 sq. ft. in area shall comply with Section C405.2.1.1

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 Florida Building Code - Energy Conservation - 2023 - 8th Edition.
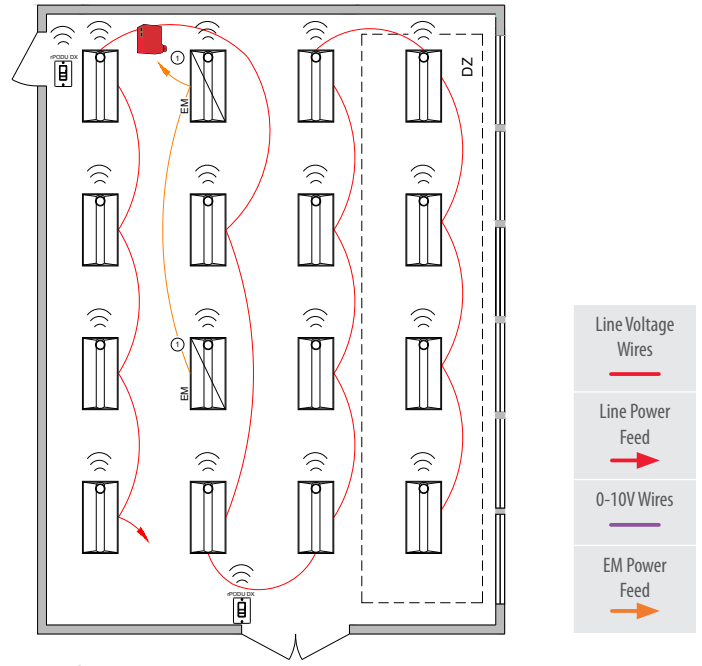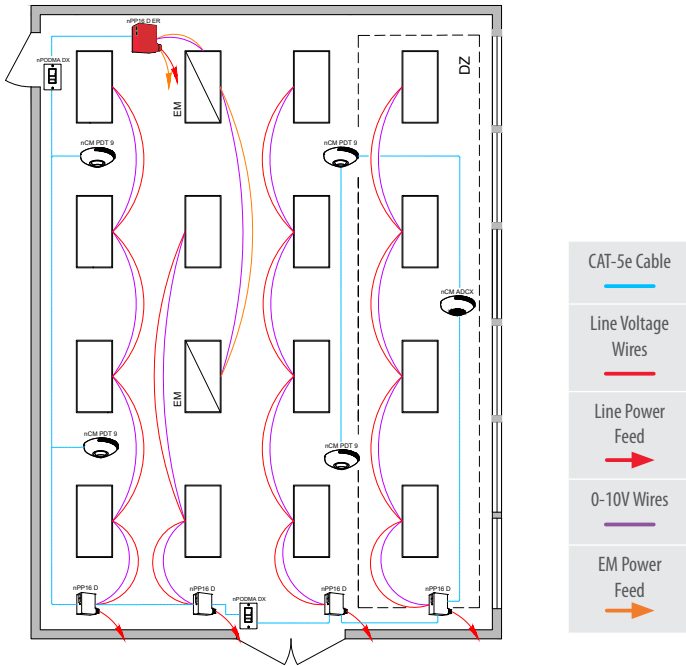
Wired

CAT-5e Cable	——
Line Voltage Wires	——
Line Power Feed	➡
0-10V Wires	——
EM Power Feed	➡

Wireless

Line Voltage Wires	——
Line Power Feed	➡
0-10V Wires	——
EM Power Feed	➡

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 RJB	Daylight Sensor

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	rPODU DX G2	Battery Powered, On/Off, Raise/Lower Wall Switch
	5	rCMSB PDT 7 G2	Battery Powered Occupancy and Daylight Sensor

/ 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:
- Fixtures turn on to 100% upon occupancy. When the space is vacant, the light is reduced to 20%
- Fixtures turn off automatically when room becomes vacant
- General lighting must be controlled in zones not greater than 600 sq. ft.

Daylight Control:
- Smooth continuous dimming
- Daylight zones defined by rows
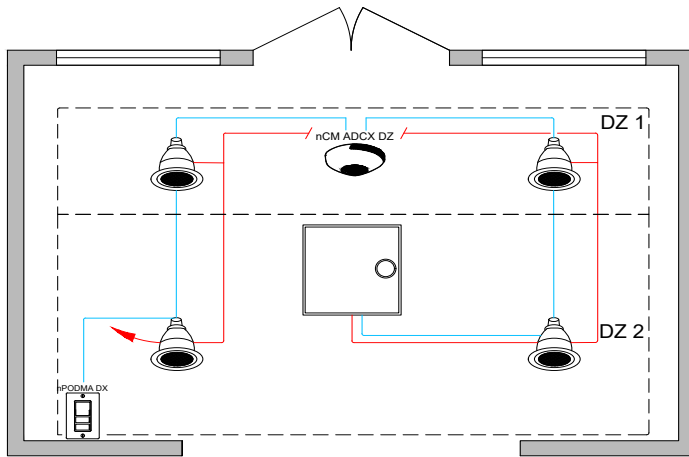- Not required for offices without windows or that have loads <150W in sidelit zones

Manual Control:
- On/off & raise/lower control of fixtures

/ 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 nLight® ECLYPSE™ controller
- Occupant sensor controls in open plan office spaces less than 300 sq. ft. in area shall comply with Section C405.2.1.1
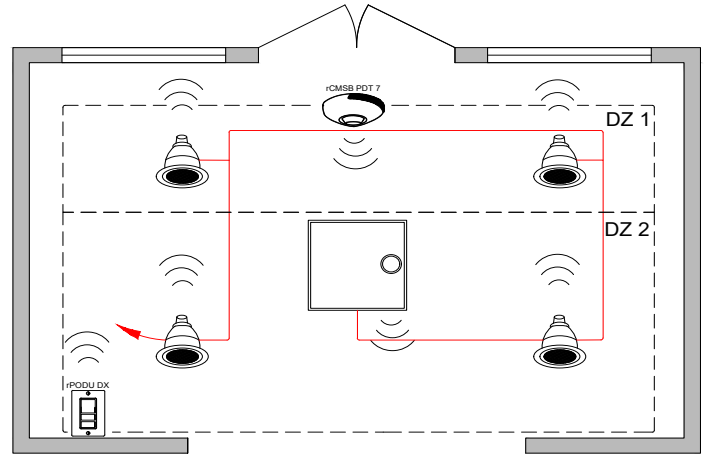
Wired

CAT-5e Cable	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

Wireless

Line Voltage Wires	Normal Power Feed

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	rPODU DX G2	Battery Powered, On/Off, Raise/Lower Wall Switch
	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
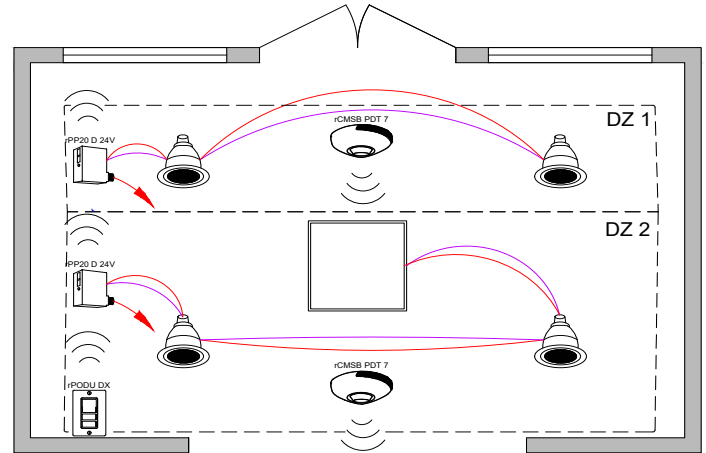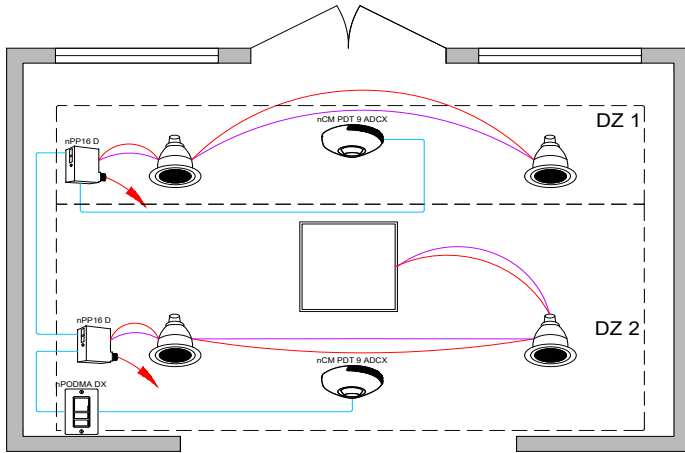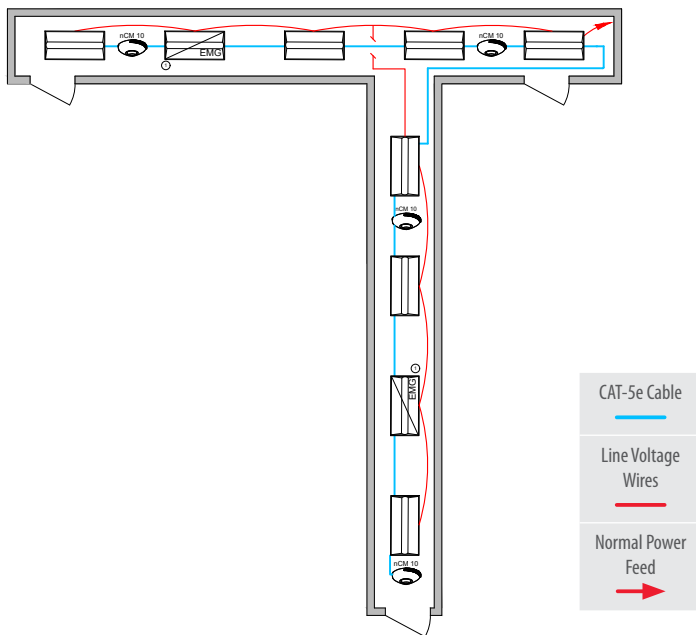
/ ADDITIONAL OPTIONS:

- 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 nLight® 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 (LLLC)
- 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 (LLLC), as specified in the Florida Building Code - Energy Conservation - 2023 - 8th Edition.

Wired

| CAT-5e Cable | Line Voltage Wires | Normal Power Feed | 0-10V Wires |

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

Wireless

| Line Voltage Wires | Normal Power Feed | 0-10V Wires |

Bill of Materials

Symbol	Qty	Product #	Description
	2	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	1	rPODU DX G2	Battery Powered, On/Off, Raise/Lower Wall Switch
	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 nLight® 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
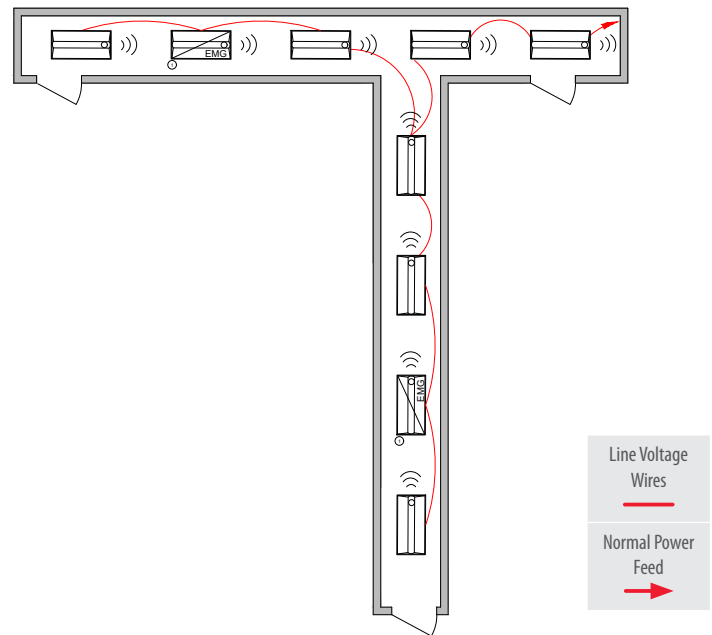
Wired

CAT-5e Cable	——
Line Voltage Wires	——
Normal Power Feed	→

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
▭	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

Wireless

Line Voltage Wires	——
Normal Power Feed	→

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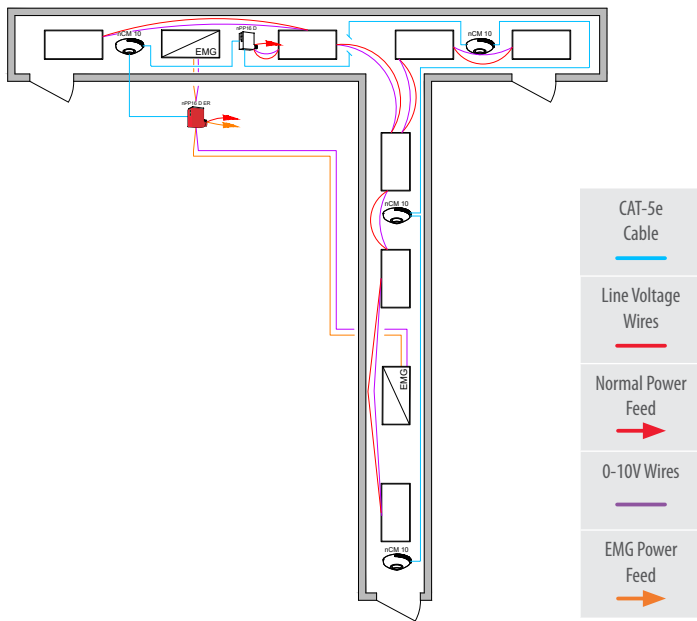
Occupancy Control:
- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when space becomes vacant

/ 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 nLight® 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)

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 Florida Building Code - Energy Conservation - 2023 - 8th Edition.
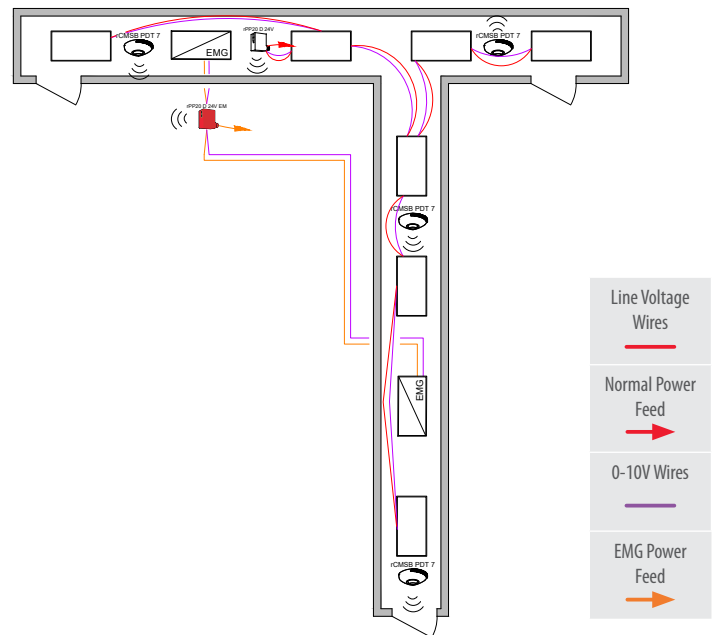
Wired

CAT-5e Cable		
Line Voltage Wires		
Normal Power Feed		
0-10V Wires		
EMG Power Feed		

Wireless

Line Voltage Wires		
Normal Power Feed		
0-10V Wires		
EMG Power Feed		

(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
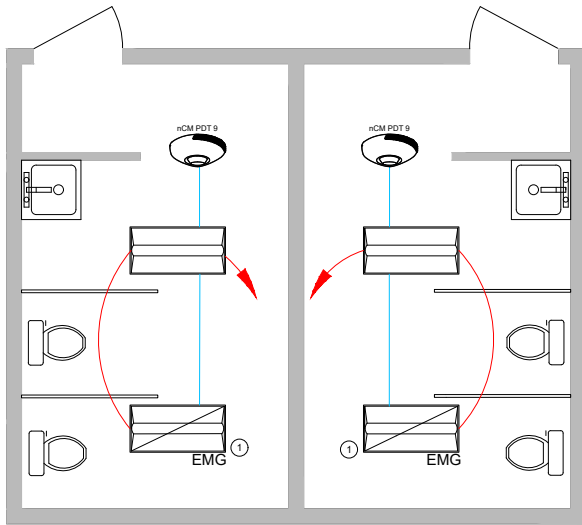- Maximum level can be task tuned to any percentage via programming

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 nLight® 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
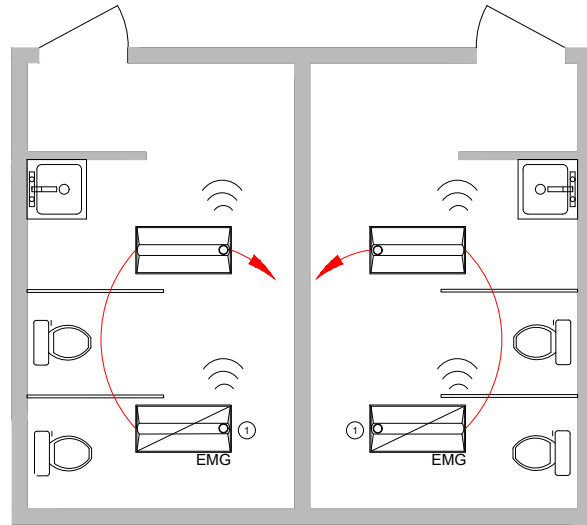
Wired

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.

CAT-5e Cable   Line Voltage Wires   Normal Power Feed

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.

Line Voltage Wires   Normal Power Feed

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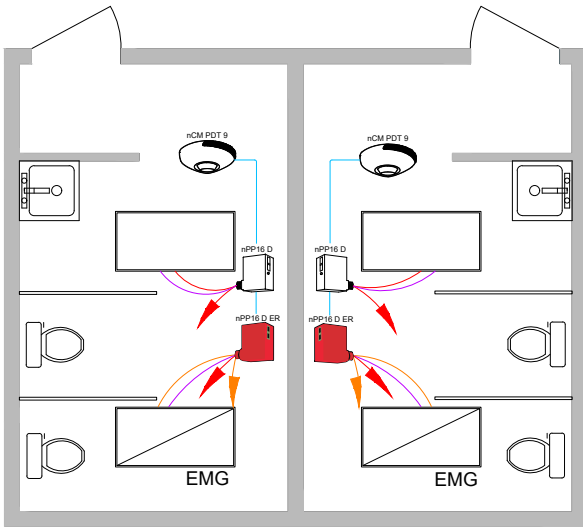
Occupancy Control:
- Fixtures automatically go to full bright when occupied (or optionally can be configured to come on automatically to 50%)
- Fixtures automatically turn off when space becomes vacant

/ 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 nLight® 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)

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 Florida Building Code - Energy Conservation - 2023 - 8th Edition.
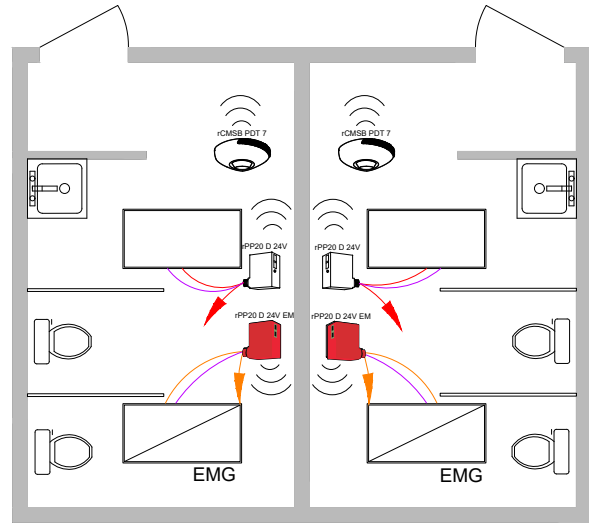
Wired

| CAT-5e Cable | 0-10V Wires | Line Voltage Wires | Normal Power Feed | EMG Power Feed |

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.

| 0-10V Wires | Line Voltage Wires | Normal Power Feed | EMG Power Feed |

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%)
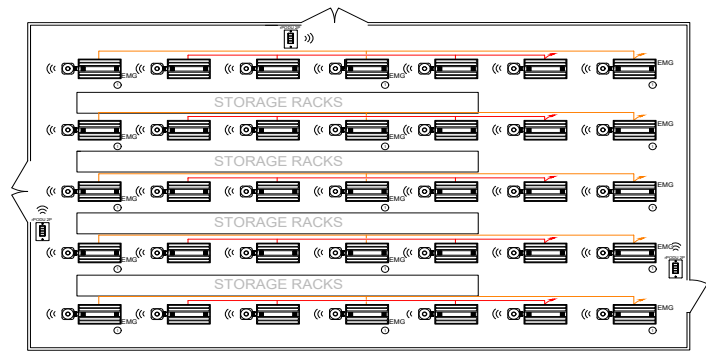- Fixtures automatically turn off when space becomes vacant

/ 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 nLight® 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

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 Florida Building Code - Energy Conservation - 2023 - 8th Edition.

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.

Line Voltage Wires	Normal Power Feed	EMG Power Feed

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	rPODU 2P G2	Battery Powered, 2-Pole, On/Off Wall Switch

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.

Low Voltage Wires	0-10V Wires	Line Voltage Wires	Normal Power Feed	EMG Power Feed

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	rPODU 2P G2	Battery Powered, 2-Pole, On/Off Wall Switch
	12	rCMS 6 G2	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 or optionally can be configured to drop to low dim setting when space becomes vacant
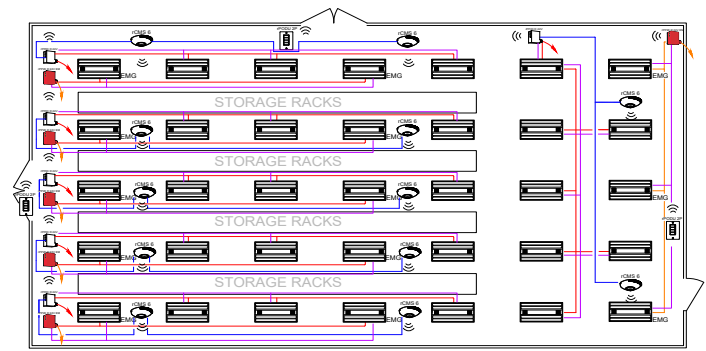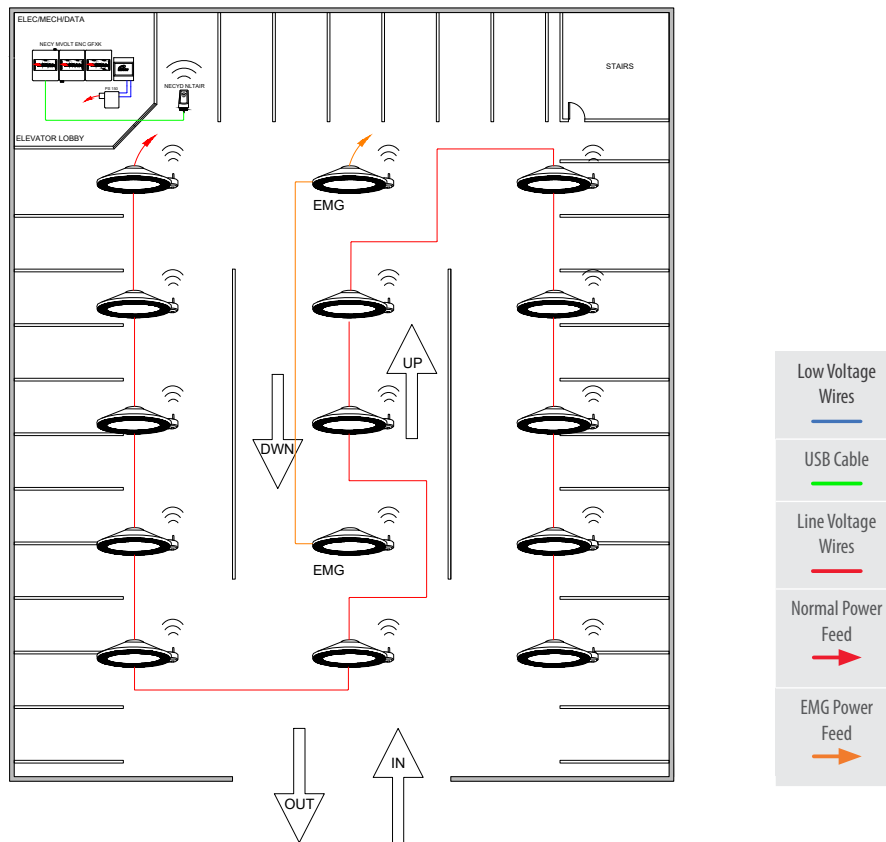
Daylight Control:
- Daylight responsive controls lights to full off when adequate daylight present
- Not required for spaces without skylights or that have loads <150W in toplit zones

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

/ 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 nLight® 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)

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 Florida Building Code - Energy Conservation - 2023 - 8th Edition.

Wireless Parking Garage

		Low Voltage Wires
		USB Cable
		Line Voltage Wires
		Normal Power Feed
		EMG Power Feed

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)

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 Florida Building Code - Energy Conservation - 2023 - 8th Edition.

Wireless Site / Parking Area

NECY MVOLT ENC GFXK

NECYD NLTAIR

IN

OUT

USB Cable

Line Voltage Wires

Normal Power Feed
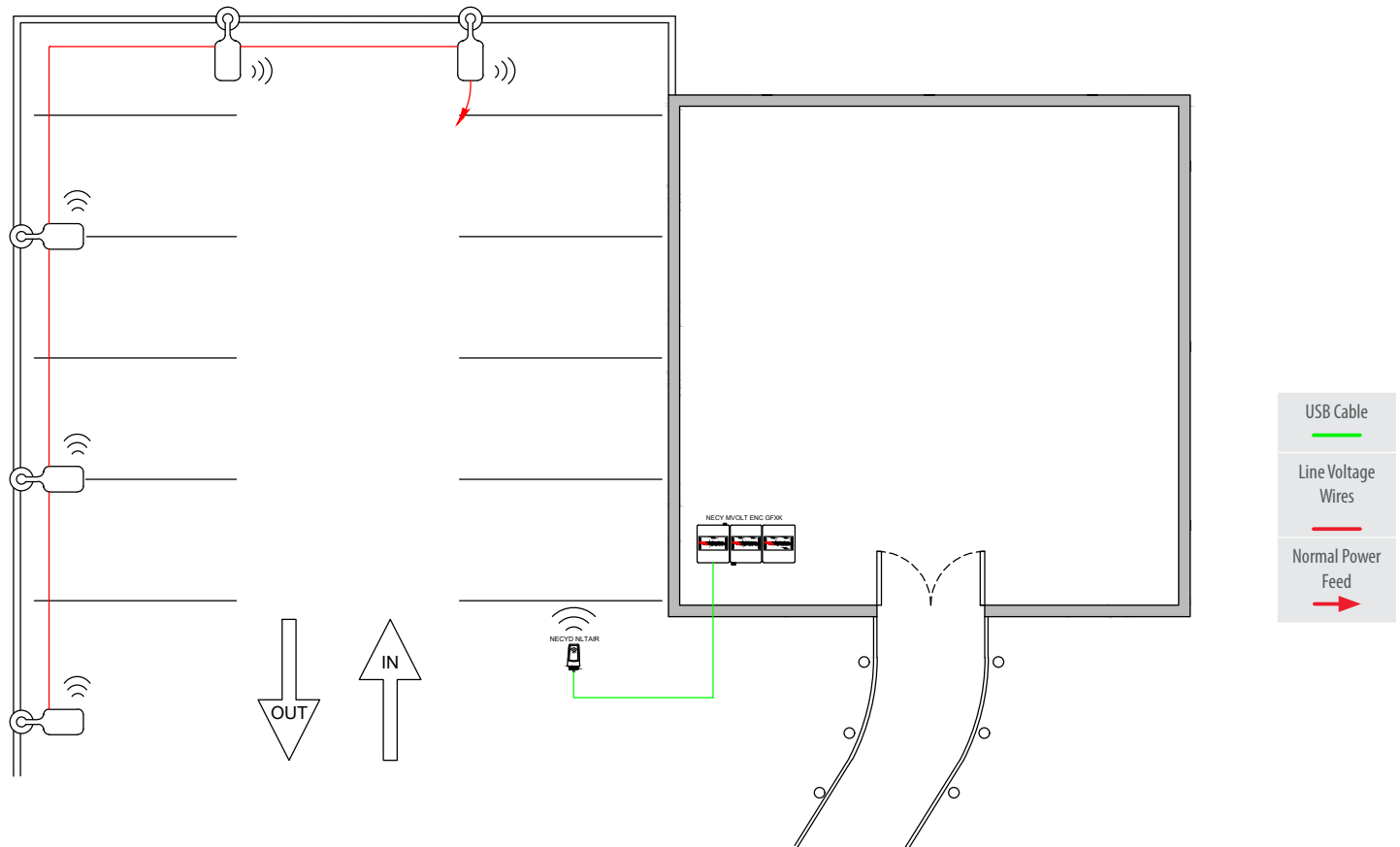
Bill of Materials

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)

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 Florida Building Code - Energy Conservation - 2023 - 8th Edition.

Wireless Facade and Landscaping

USB Cable

Line Voltage Wires

Normal Power Feed
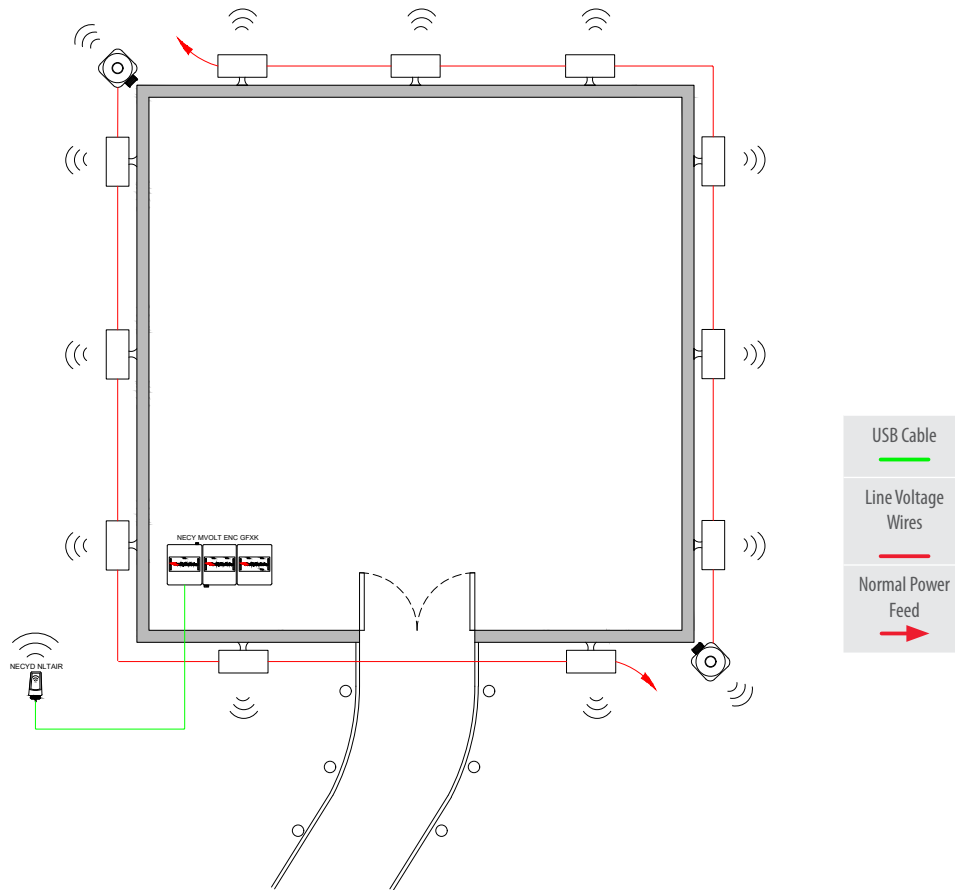
Bill of Materials

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

/ **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)

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 Florida Building Code - Energy Conservation - 2023 - 8th Edition.

nLight Hybrid Network
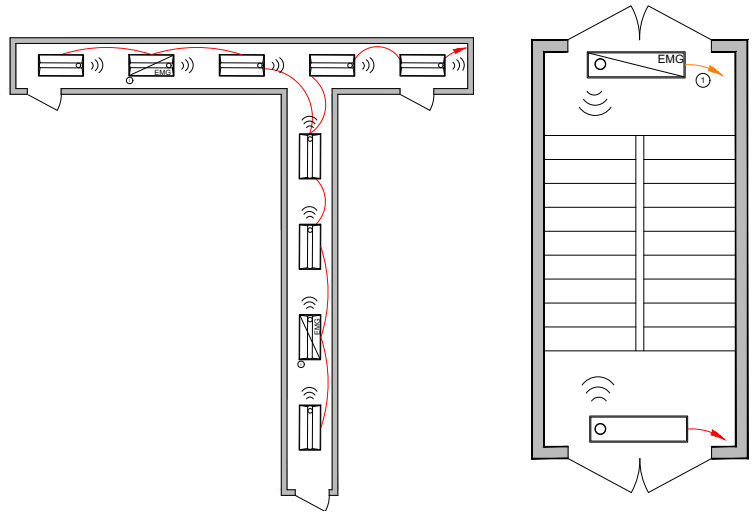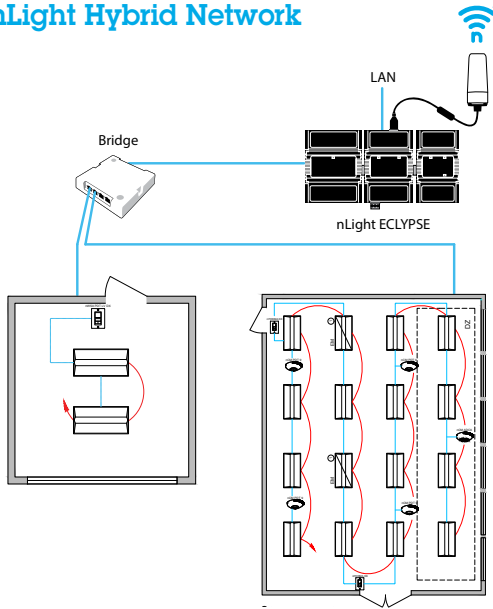
Bill of Materials

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 FBC 2023 Provision C405.2.2.1, Time-Switch Controls.

Control Requirement	Code Provision	nLight Solution Details		
Shut-Off Control — 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.		
		Push-Button WallPod		**Touchscreen WallPod***
		nPODMA Series rPOD Micro (rPODU) Series		nLight UNITOUCH Touchscreen Wall Switch
		Traditional tactile buttons and LED user feedback.		Full-color touchscreen provides a sophisticated look and feel.
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).		
		Network System Controller		
		nLight® ECLYPSE™ Network System Controller		
		Additional benefits of installing an nLight backbone include remote status monitoring, system-wide configuration changes, and BMS interface capability.		
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	**360° Occupancy Sensor**		**120° WideView Corner Sensor***
		nCM Series rCMS Series rCMSB Series		nWV Series
		Surface mounts to ceiling tiles or sheetrock/plaster.		Directly mounts in corner or to ceiling via repositionable ceiling bracket.
Light Level Control — 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.		
		Acuity Brands Luminaires with Networked Embedded Controls from nLight		**Dimming Relay Packs**
				nPP16 Series rPP20 Series
		Acuity Brands offers a wide variety of LED fixtures with factory installed embedded controls from nLight that provide smooth continuous dimming.		nLight dimming relay enable control of any 0-10VDC dimmable LED luminaire.
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.		
		Ceiling Mount Dimming Photocell		**Recessed Mount Dimming Photocell**
		nCM Series rCMSB Series		nRM Series* rCMSB Series

*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.

2023 Florida Building Code 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).

FBC 2023 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 FBC 2023 and emergency operation in compliance with locally enforced fire codes.
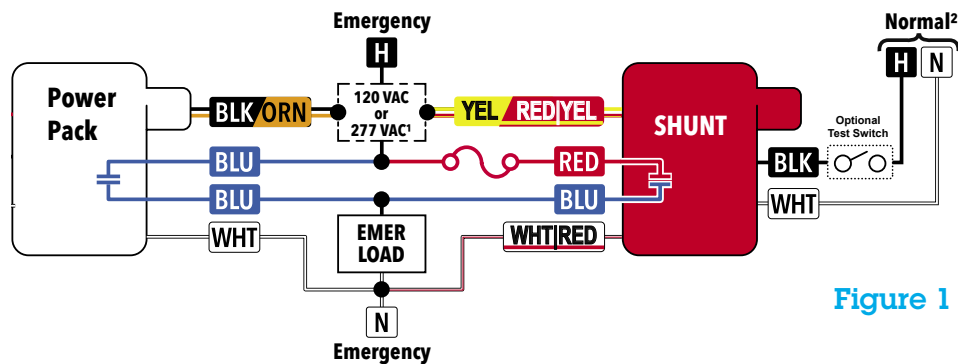
Traditional Shunt

Figure 1

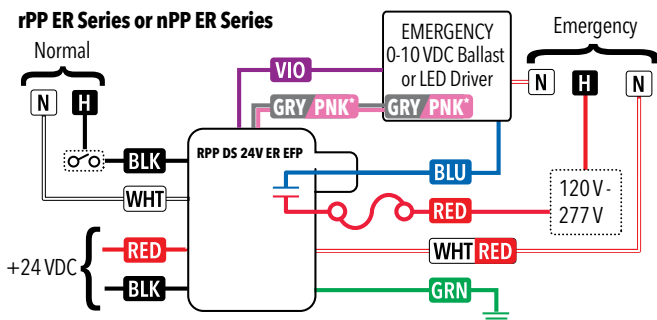## Control With Built-In Emergency Option Via Normal Power Sense

Figure 2

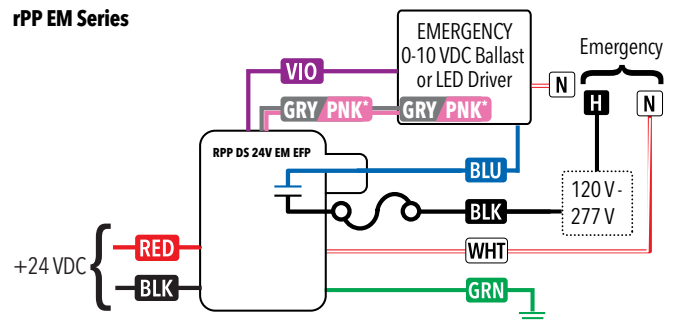## Control With Built-In Emergency Option Via nLight AIR EM

Figure 3

*0-10V Dimming Common from luminaire may be pink or as otherwise indicated per section 410.69 of the 2020 NEC

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 codes 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.

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Acuity Brands Lighting is under license.

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 Brands Typical Layout Drawings

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

Florida Building Code - Energy Conservation - 2023 - 8th Edition

https://www.floridabuilding.org/

Use the Following Sections of the FBC 2023 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

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 or contact your local Acuity Brands representative for more information.

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