

# ASHRAE 90.1–2019

# nLight<sup>®</sup> Applications Guide







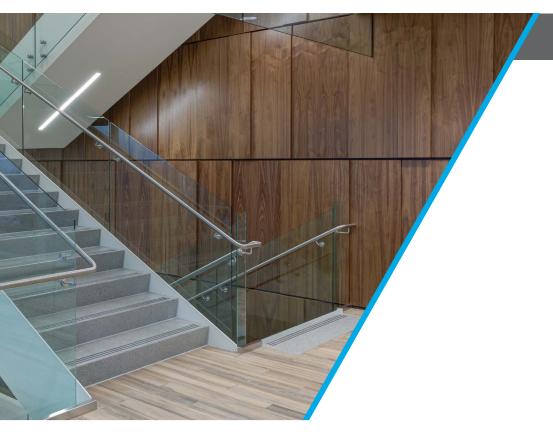
www.nlightcontrols.com



# I nLight Lighting Controls Platform

### It's not just smarter. It's easier.

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 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.



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### / ABOUT

#### About ASHRAE 90.1

ASHRAE 90.1 is an energy code designed to reduce energy consumption. The ASHRAE 90.1–2019 energy code 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® ASHRAE 90.1–2019 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.

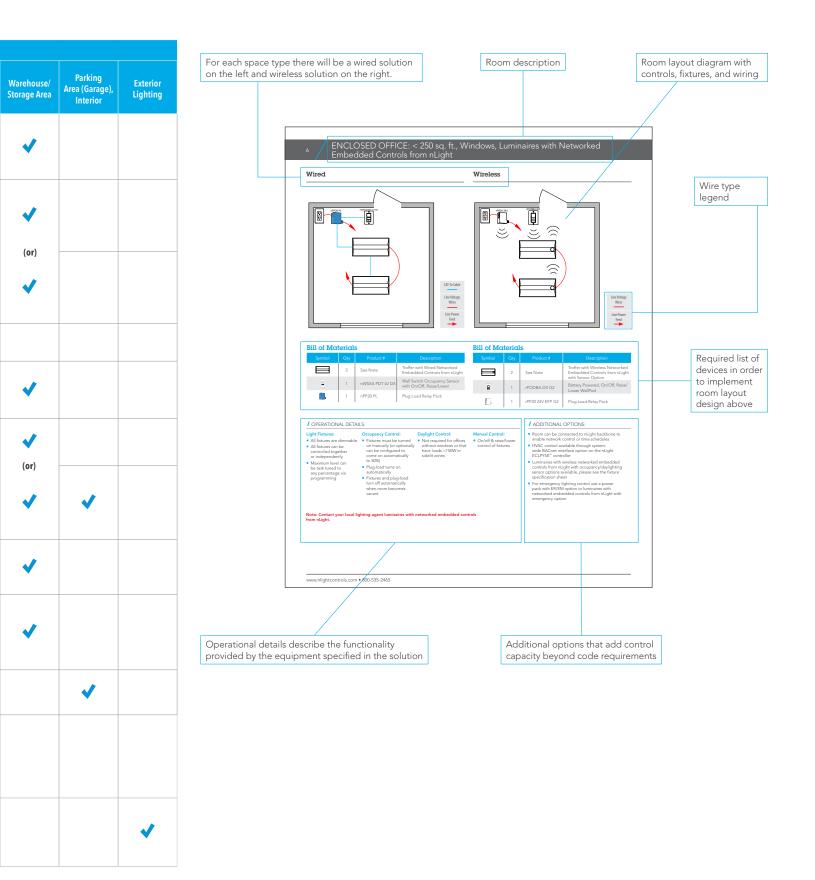
#### About nLight

# A Single Lighting Controls Platform for Indoor & Outdoor Spaces

nLight<sup>®</sup> is a distributed intelligence, lighting control platform that offers wired and wireless control products. Luminaires, sensors, switches, and other control devices create one solution that aids in code compliance, energy reduction, and advanced network capabilities. Ideal for 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, and 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 ASHRAE code requirements please refer to the ASHRAE 90.1–2019 code.

							Space T	уре				
	Control Requirement*	Code Provision	Code Summary*	Enclosed Office	Open Plan Office	Conference, Meeting, Multipurpose Room	Classroom, Lecture Hall, Training Room	Lobby	Corridor	Restroom	Stairwell	Gymnasium/ Fitness Center
	Local (i.e., Switch) Control	9.4.1.1[a]	There shall be one or more readily accessible manual lighting controls in the space that controls all lighting in the space. Note: Remote locations permitted for reasons of safety or security.	•	~	•	•	•	~	•	•	•
	Manual ON	9.4.1.1[b]	None of the lighting in the space shall be automatically turned on.	•	•	•	~					~
introl	Partial Automatic ON	9.4.1.1[c]	The general lighting shall be allowed to be turned on automatically to 50% of the lighting power.	(or)	(or)	(or)	(or)					(or)
On-Off Control	Full Automatic ON	9.4.1.1	Automatically controlled spaces are allowed to turn on to full.					✓	~	~	~	
	Automatic Partial OFF Via Occupancy Sensor	9.4.1.1[g]	The general lighting power shall be automatically reduced by at least 50% within 20 minutes of all occupants leaving the space. Note: Full Off also complies.					•	~		•	
	Automatic Full OFF Via Occupancy Sensor	9.4.1.1[h]	All lighting shall be automatically shut off within 20 minutes of all occupants leaving the space.	•	•	•	•	•	•	~		✓
	Scheduled Shut- off & Off During Non-Business Hours	9.4.1.1[i] 9.4.1.1[j]	All lighting shall be automatically shut off during periods when the space is scheduled to be unoccupied using a time-of-day operated control. Note: A signal from another automatic control device or alarm/security system complies.		(or)			(or)	(or)		(or)	(or)
ntrol	Bi-Level Lighting Control	9.4.1.1[d]	Controlled lighting shall have at least one control step between 30% and 70%, or continuous dimming, in additional to full on and full off.	•	~	•	•				~	•
Light Level Control	Automatic Daylight Responsive Controls for Sidelighting/ Toplighting	9.4.1.1[e] 9.4.1.1[f]	If the general lighting load is 150W or greater in the primary sidelighted or toplighted areas, or 300W or greater in the primary & secondary sidelighted areas, the general lighting in these areas shall be controlled by multi-step or continuous dimming photocontrols.	•	~	•	•	•	~	•	•	•
slo.	Parking Garage Lighting Power Setback	9.4.1.2[b]	Lighting power of each luminaire shall be automatically reduced by a minimum of 30% when there is no activity detected within a lighting zone for 20 minutes.									
Additional Controls	Automatic Receptacle (i.e. Plug Load Control)	8.4.2	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. Note A time of day schedule or a signal from another an- tomatic control device or alem/security system comples	•	~	•	~					
Exterior Control	Exterior Lighting Controls	9.4.1.4	9.4.1.4[a] Daylight shutoff 9.4.1.4[b] Facade and Landscape lighting shutoff 9.4.1.4[c] Lighting setback									

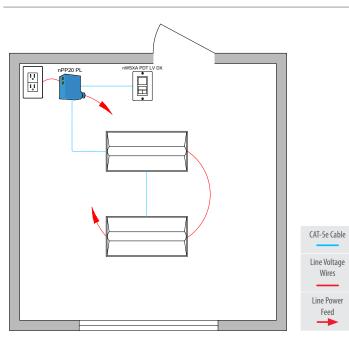
\* Note: This summary is for general information purposes only and is provided without any warranty as to accuracy, completeness, or otherwise. The user should read the applicable code sections for more complete and detailed descriptions of code requirements and exceptions and should consult with a professional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

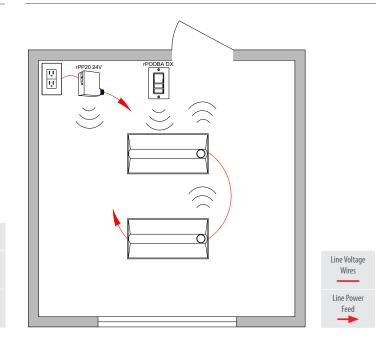


# ENCLOSED OFFICE: < 250 sq. ft., Windows, Luminaires with Networked Embedded Controls from nLight

**Wireless** 

#### Wired





#### **Bill of Materials**

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

come on automatically to 50%) Plug-load turns on automatically

can be configured to

 Fixtures and plug-load 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:

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 On/off & raise/lower control of fixtures

**Bill of Materials** 

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See Note

rPODBA DX G2

rPP20 24V EFP G2

#### ADDITIONAL OPTIONS:

 Room can be connected to nLight backbone to enable network control or time schedules

Troffer with Wireless Networked

Embedded Controls from nLight

Battery Powered, On/Off, Raise/

with Sensor Option

Plug Load Relay Pack

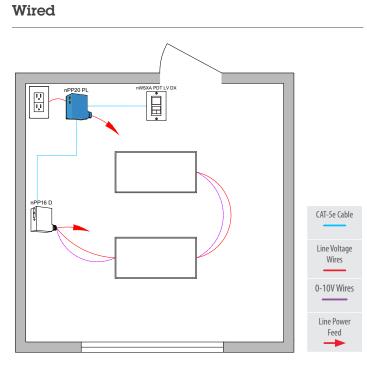
Lower WallPod

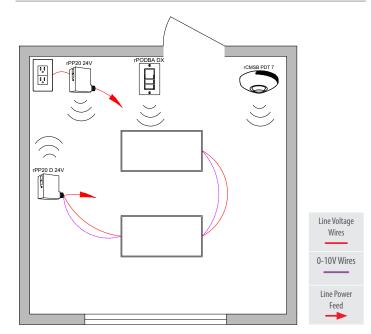
- HVAC control available through systemwide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- Luminaires with wireless networked embedded controls from nLight with occupancy/daylighting sensor options available, please see the fixture specification sheet
- For emergency lighting 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 luminaires with networked embedded controls from nLight.

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# ENCLOSED OFFICE: < 250 sq. ft., Windows, 0-10V Dimming Fixtures





#### **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

#### 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:DaylFixtures must be turnedNot
- on manually (or optionally can be configured to come on automatically to 50%) Plug-load turns on
- automatically Fixtures and plug-load 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
- HVAC control available through systemwide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight with emergency option

#### Bill of Materials

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

Wireless

# OPEN PLAN OFFICE: Luminaires with Networked Embedded Controls from nLight

#### Wired



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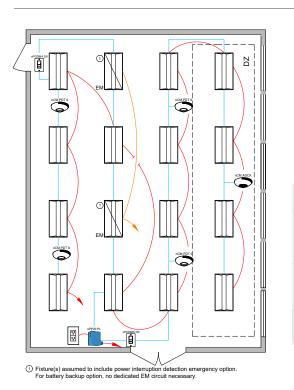
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#### **Bill of Materials**

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
	2	nPODMA DX	On/Off, Raise/Lower WallPod
	4	nCM PDT 9 RJB	Occupancy Sensor
	1	nCM ADCX RJB	Daylight Sensor
	1	nPP20 PL	Plug Load Relay Pack

#### $\overline{\sim}$ $\overline{\sim}$ $\tilde{\sim}$ $\tilde{\sim}$ ρ 0 NΡ $\overline{\sim}$ $\overline{\sim}$ $\overline{a}$ $\overline{a}$ ₿ 1 Ū. (1) Fixture(s) assumed to include power interruption detection emergency option. For battery backup option, no dedicated EM circuit necessary.

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#### **Bill of Materials**

**Manual Control:** 

On/off & raise/lower

control of fixtures

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	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:**

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

#### **Daylight Control:**

CAT-5e Cable

Line Voltage

Wires

Line Power

Feed

EM Power Feed

- 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

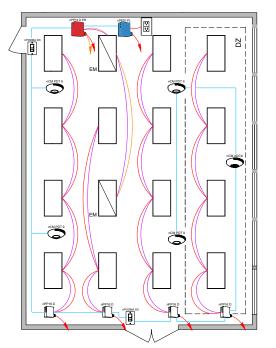
#### ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- Luminaires with wireless networked embedded controls from nLight with 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 luminaires with networked embedded controls from nLight.

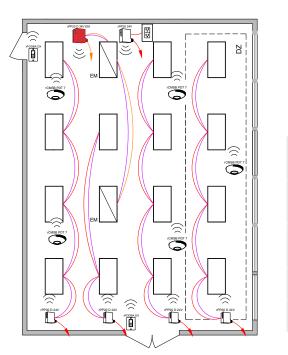
## **OPEN PLAN OFFICE: 0-10V Dimming Fixtures**

#### Wired



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

#### **Wireless**





#### **Bill of Materials**

On/off & raise/lower

control of fixtures

Symbol	Qty	Product #	Description
$\square$	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	rCMSB PDT 7 G2	Battery Powered Occupancy and Daylight Sensor
	1	rPP20 24V EFP G2	Plug Load Relay Pack

#### **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
$\bigcirc$	1	nCM ADCX RJB	Daylight Sensor
	1	nPP20 PL	Plug Load Relay Pack

#### **/** OPERATIONAL DETAILS:

#### **Light Fixtures:**

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

#### **Occupancy Control:**

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

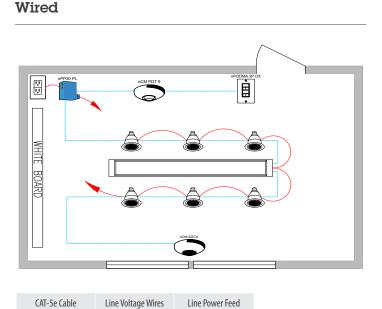
#### **Daylight Control:** Manual Control:

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

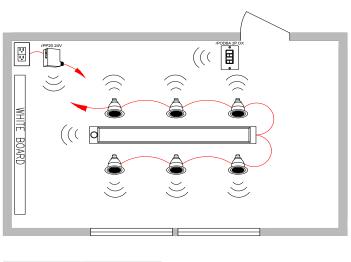
#### ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight with emergency option

# CONFERENCE ROOM with Luminaires with Networked Embedded Controls from nLight



Wireless



#### **Bill of Materials**

#### Luminaire with Wired 1 See Note Networked Embedded Controls from nLight Downlight Luminaire with 6 See Note Networked Embedded Controls from nLight 2-Pole, On/Off, Raise/ İ 1 nPODMA 2P DX Lower WallPod 1 nCM PDT 9 RJB G Occupancy Sensor 1 nCM ADCX RJB Daylight Sensor nPP20 PL Plug Load Relay Pack

#### **Bill of Materials**

Line Power Feed

Line Voltage Wires

Symbol	Qty	Product #	Description
8]	1	See Note	Luminaire with Wireless Networked Embedded Controls from nLight with Sensor Option
â	6	See Note	Downlight with Wireless Networked Embedded Controls from nLight
1 rPO		rPODBA 2P DX G2	Battery Powered, 2-Pole, On/ Off, Raise/ Lower WallPod
ß	1	rPP20 24V EFP G2	Plug Load Relay Pack

#### OPERATIONAL DETAILS:

#### **Light Fixtures:**

- All fixtures are dimmable
   Fixtures must be turned on manual (or optionally can optimized to approximate and approxim
- any percentage via programming • A/V zone can be
- programmed to control two fixtures in front of the whiteboard

#### Occupancy Control: Daylight Control:

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

#### ontrol: Manual Control:

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

#### ADDITIONAL OPTIONS:

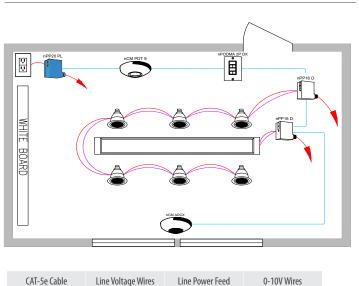
- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- Luminaires with wireless networked embedded controls from nLight with occupancy/daylighting sensor 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 luminaires with networked embedded controls from nLight.

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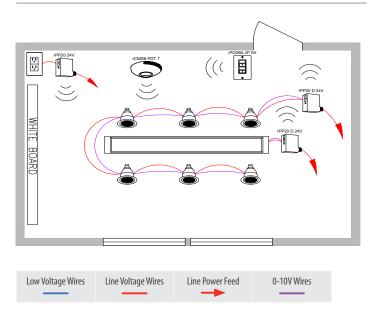
# CONFERENCE ROOM with 0-10V Dimming Fixtures

#### Wired



CAT-5e Cable

**Wireless** 



#### **Bill of Materials**

Symbol	Qty	Product #	Description
Ĺ,	2	nPP16 D EFP	Relay Pack with 0-10V Dimming Output
i.	1	nPODMA 2P DX	2-Pole, On/Off, Raise/ Lower WallPod
	1	nCM PDT 9 RJB	Occupancy Sensor
$\bigcirc$	1	nCM ADCX RJB	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
Ē	1	rPODBA 2P DX G2	Battery Powered, 2-Pole, On/ Off, Raise/ Lower WallPod
	1	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 Fixtures must be Maximum level can be task tuned to
- any percentage via programming

#### **Occupancy Control:**

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

#### Manual Control:

- Smooth continuous On/off & raise lower control of two zones of fixtures
- dimming Daylight zones defined by rows
- Not required for areas without windows or that have loads <150W in sidelit zones

**Daylight Control:** 

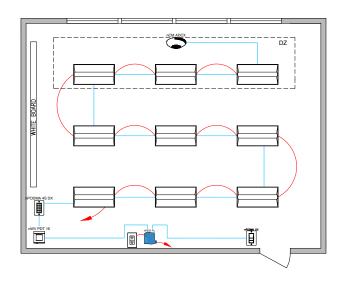
#### ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight with emergency option

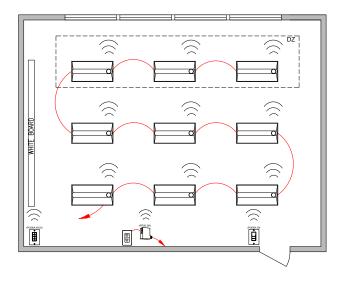
# CLASSROOM with Luminaires with Networked Embedded Controls from nLight

#### Wired

#### Wireless



CAT-5e Cable	Line Voltage Wires	Line Power Feed



Line Voltage Wires Line Power Feed

**Bill of Materials** 

Manual Control:

control of

entire room

preset scenes

On/off & raise/lower

Teacher station with 4

Symbol	Qty	Product #	Description
	9	See Note	Troffer with Wireless Networked Embedded Controls from nLight with Sensor Option
Ê.	1	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower WallPod
Ĩ	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

#### **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
Ē	1	nPODMA 4S DX	Teacher Station — 4 Scene Control with Master On/Off & Raise/Lower
$\bigcirc$	1	nCM ADCX RJB	Daylight Sensor
	1	nPP20 PL	Plug Load Relay Pack

/ OPERATIONAL	DETAILS:

#### Light Fixtures:

- All fixtures are dimmableAll fixtures are
- An instance 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%)
- Plug-load turns on automatically
  Fixtures and plug-load 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

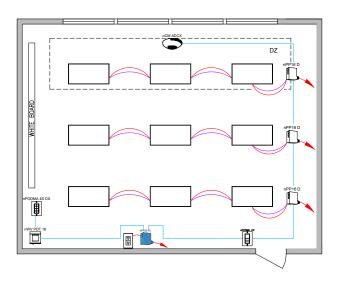
### ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- Luminaires with wireless networked embedded controls from nLight with 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 luminaires with networked embedded controls from nLight.

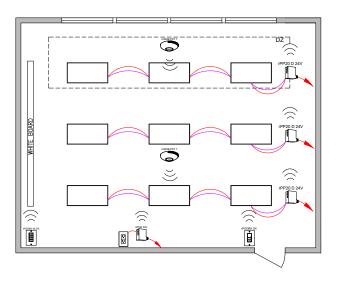
# CLASSROOM with 0-10V Dimming Fixtures

#### Wired



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

#### **Wireless**



Low Voltage Wires	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
$\bigcirc$	1	nCM ADCX RJB	Daylight Sensor
	1	nPP20 PL	Plug Load Relay Pack

#### **Bill of Materials**

Symbol	Qty	Product #	Description
Γ,	3	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%)
- Plug-load turns on automatically
- Fixtures and plug-load turn off automatically when room becomes vacant

Smooth continuous dimming Daylight zones defined

Daylight Control:

- 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
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller

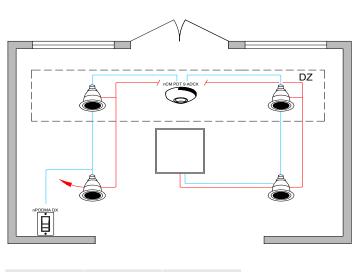
ADDITIONAL OPTIONS:

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

Room can be connected to nLight backbone to enable network control or time schedules

#### Wired

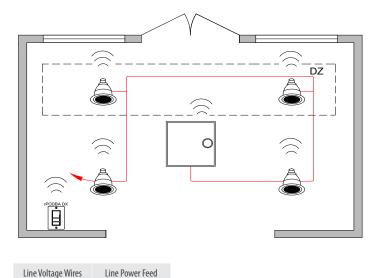
Wireless



CAT-5e Cable

Line Voltage Wires

res Line Power Feed



#### **Bill of Materials**

Symbol	Qty	Product #	Description
٢	4	See Notes	Downlight with Wired Networked Embedded Controls from nLight
	1	See Notes	Troffer with Wired Networked Embedded Controls from nLight
	1	nPODMA DX	On/Off, Raise/Lower WallPod
	1	nCM PDT 9 ADCX RJB	Occupancy and Daylight Sensor

#### OPERATIONAL DETAILS:

#### Light Fixtures:

- All fixtures are dimmableAll fixtures are
- controlled together or independentlyMaximum 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
- 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

#### **Bill of Materials**

Manual Control:

On/off & raise/lower

control of fixtures

Symbol	Qty	Product #	Description
٢	4	See Notes	Downlight with Wireless Networked Embedded Controls from nLight
0	1	See Notes	Troffer with Wireless Networked Embedded Controls from nLight with Sensor Option
Ė	1	rPODBA DX G2	Battery Powered, On/Off, Raise/Lower WallPod

#### ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- Luminaires with wireless networked embedded controls from nLight with 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

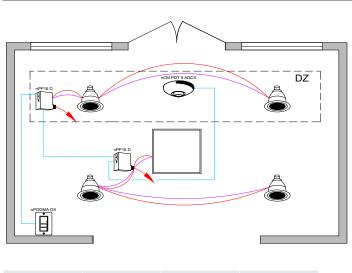
Note: Contact your local lighting agent luminaires with networked embedded controls from nLight.

14

## LOBBY with 0-10V Dimming Fixtures

#### Wired

Wireless



CAT-5e Cable

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6

Cable

**Bill of Materials** 

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Line Voltage Wires Line Power Feed

nPP16 D EFP

nPODMA DX

nCM PDT 9

ADCX RJB

0-10V Wires

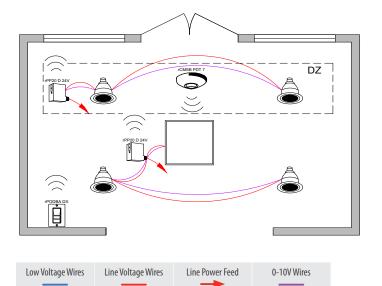
Relay Pack with 0-10V

On/Off, Raise/Lower WallPod

Dimming Output

Occupancy and

Daylight Sensor



#### **Bill of Materials**

Manual Control:

On/off & raise/lower

control of fixtures

Symbol	Qty	Product #	Description
Ē,	2	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	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
- 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

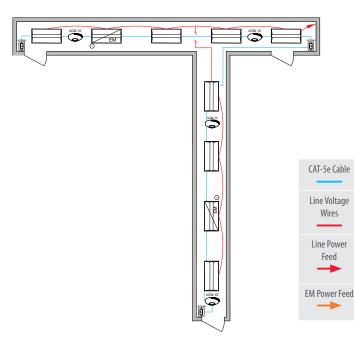
### ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight with emergency option

# CORRIDOR with Luminaires with Networked Embedded Controls from nLight

#### Wired

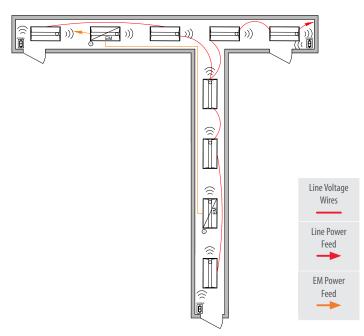
#### Wireless



O 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
	7	See Note	Troffer with Wired Networked Embedded Controls from nLight with Sensor Option
	2	See Note	Troffer with Wired Networked Embedded Controls from nLight with Battery Option
	3	nPODMA	On/Off WallPod
	4	nCM 10 RJB	Occupancy Sensor



D 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
	7	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
	3	rPODBA G2	Battery Powered, On/Off WallPod

#### OPERATIONAL DETAILS:

#### **Light Fixtures:**

- All fixtures are dimmableAll 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

#### Daylight Control:

 Not required for areas without windows or that have loads <150W in sidelit zones Manual Control:

 On/off control of fixtures

#### ADDITIONAL OPTIONS:

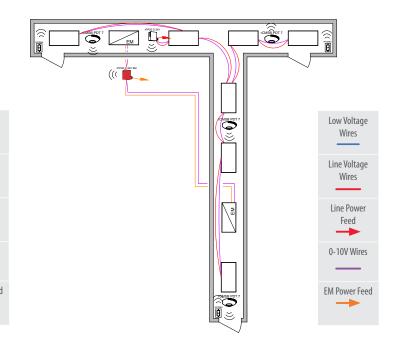
- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- Luminaires with wireless networked embedded controls from nLight with occupancy/daylighting sensor 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 luminaires with networked embedded controls from nLight.

## CORRIDOR with 0-10V Dimming Fixtures

# nCM 10 CAT-5e nCM 1 Cable Line Voltage Wires Line Power EN/ Feed 0-10V Wires EM Power Feed

#### **Wireless**



#### **Bill of Materials**

Wired

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	
Ì	3	nPODMA	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:

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

#### Manual Control:

- On/off control of fixtures
- If switch poses a safety
- concern, optionally can be programmed for 'on' only.

**Bill of Materials** 

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#### ADDITIONAL OPTIONS:

rPP20 D 24V EFP G2

rPP20 D 24V EM

rCMSB PDT 7 G2

rPODBA G2

EFP G2

- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the <code>nLight</code>  $\mathsf{ECLPYSE}^{\scriptscriptstyle{\mathsf{TM}}}$  controller

WallPod

Relay Pack with 0-10V

0-10V Dimming Output Battery Powered

Emergency Relay Pack with

Dimming Output

Occupancy Sensor Battery Powered, On/Off

• For emergency lighting control use a power pack with ER/EM option or luminaires with networked embedded controls from nLight with emergency option

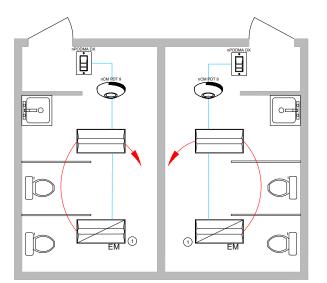
# RESTROOM with Luminaires with Networked Embedded Controls from nLight

#### Wired

#### Wireless

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O 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.

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
	2	See Note	Troffer with Wired Networked Embedded Controls from nLight with Battery Option
	2	nPODMA DX	On/Off, Raise/Lower WallPod
0	2	nCM PDT 9 RJB	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

space becomes vacant

Fixtures automatically turn off or optionally can be configured to drop to low dim setting when

#### Manual Control:

 On/off & raise/lower control of fixtures

(1)

Line Voltage Wires

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**Bill of Materials** 

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 If switch poses safety concerns, optionally can be programmed for "on only"

#### ADDITIONAL OPTIONS:

 Room can be connected to nLight backbone to enable network control or time schedules

Option

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Troffer with Wireless Networked Embedded

Controls from nLight with Sensor Option Troffer with Wireless Networked Embedded

Controls from nLight with Sensor and Emergency

Battery Powered, On/Off,

Raise/Lower WallPod

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

EM Power Feed

Line Power Feed

See Note

See Note

rPODBA DX G2

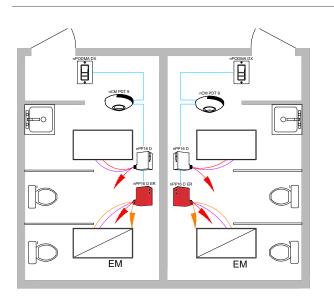
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- Luminaires with wireless networked embedded controls from nLight with occupancy/daylighting sensor options available, please see the fixture specification sheet
- For emergency lighting 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 luminaires with networked embedded controls from nLight.

## **RESTROOM** with 0-10V Dimming Fixtures

#### Wired

Wireless



CAT-5e Cable	0-10V Wires	Line Voltage Wires	Line Power Feed	EM 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	nPODMA DX	On/Off & Raise/Lower WallPod
	2	nCM PDT 9 RJB	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 (or optionally can be configured to come on automatically to 50%)
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when space becomes vacant

#### Manual Control:

- On/off & raise/lower control of fixtures
- If switch poses safety concerns, optionally can be programmed for "on only"

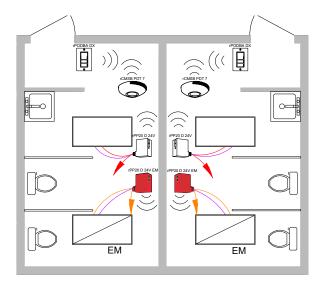
#### ADDITIONAL OPTIONS:

 Room can be connected to nLight backbone to enable network control or time schedules

EM Power Feed

- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- Luminaires with wireless networked embedded controls from nLight with 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

ASHRAE 90.1–2019: nLight Applications Guide



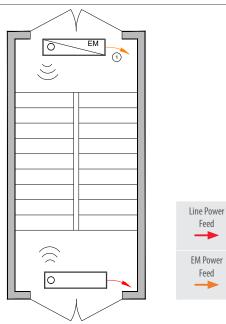
0-10V Wires	Line Voltage Wires	Line Power Feed
		-

#### **Bill of Materials**

Symbol	Qty Product #		Description
$\square$	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 DX G2	Battery Powered, On/Off & Raise/Lower WallPod
	2	rCMSB PDT 7 G2	Battery Powered Occupancy Sensor

### STAIRWELL with Luminaires with Networked Embedded Controls from nLight/0-10V Dimming Fixtures

#### Luminaires with Wireless Networked Embedded Controls from nLight



(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
0	1	See Note	Luminaire with Networked Embedded Controls from nLight with Sensor Option
	1	See Note	Luminaire with Networked Embedded Controls from nLight with Sensor and Emergency Option

#### OPERATIONAL DETAILS:

#### Light Fixtures:

from nLight.

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

#### **Occupancy Control:**

Fixtures automatically turn off

or optionally can be configured to drop to low dim setting when

bright when occupied

space becomes vacant

Note: Contact your local lighting agent luminaires with networked embedded controls

- Fixtures automatically go to full

  - manual control in these areas

#### Manual Control:

Safety may preclude the use of a

**Bill of Materials** 

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ADDITIONAL OPTIONS:

rPP20 D 24V EFP

rPP20 D 24V EM

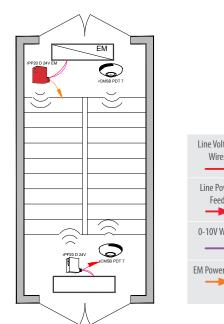
rCMSB PDT 7 G2

G2

EFP G2

- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- Luminaires with wireless networked embedded controls from nLight with 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

#### Wireless with 0-10V Dimming Fixtures





Relay Pack with 0-10V

0-10V Dimming Output

Dimming Output Emergency Relay Pack with

Battery Powered

Occupancy Sensor

#### Luminaires with Wireless Networked Embedded Controls from nLight

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

Line Voltage Wires	Line Power Feed	EM Power Feed

#### **Bill of Materials**

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

#### OPERATIONAL DETAILS:

#### Light Fixtures:

from nLight.

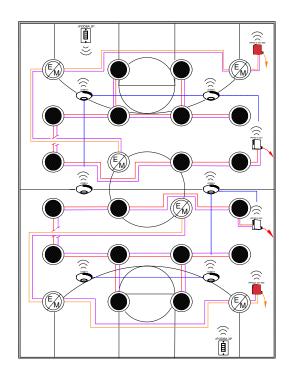
- All fixtures are dimmable
- Maximum level can be task tuned to any percentage via programming

#### 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 luminaires with networked embedded controls

# Wireless with 0-10V Dimming Fixtures



Low Voltage Wires	0-10V Wires	Line Voltage Wires	Line Power Feed	EM 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
İ	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
- HVAC control available through systemwide BACnet interface option on the nLight ECLPYSE<sup>™</sup> controller
- Luminaires with wireless networked embedded controls from nLight with 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

2

**Daylight Control:** 

daylight present

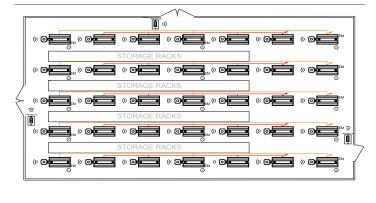
<150W in toplit zones

Daylight responsive controls

lights to full off when adequate

 Not required for spaces without skylights or that have loads

#### Luminaires with Wireless Networked Embedded Controls from nLight





#### **Bill of Materials**

Symbol	Qty	Product #	Description
0	20	See Note	High Bay with Wireless Networked Embedded Controls from nLight with Sensor Option
0	15	See Note	High Bay with Wireless Networked Embedded Controls from nLight with Sensor and Emergency Option
İ	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

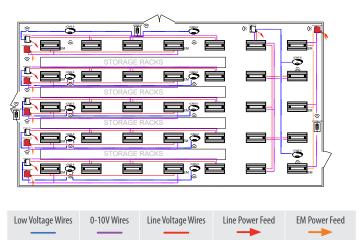
#### Occupancy Control:

- 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</li>

## Wireless with 0-10V Dimming Fixtures



#### **Bill of Materials**

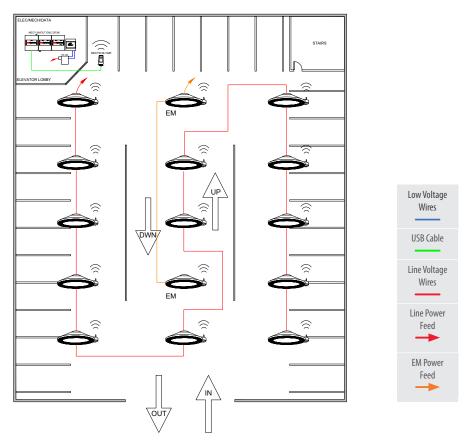
Symbol	Qty	Product #	Description
	6	rPP20 D 24V EFP G2	Relay Pack with 0-10V Dimming Output
	6	rPP20 D 24V EM EFP G2	Emergency Relay Pack with 0-10V Dimming Output
ļ	3	rPODBA 2P G2	Battery Powered, 2-Pole, On/Off WallPod
0	12	rCMS 6 G2	High Bay Occupancy Sensor

#### ADDITIONAL OPTIONS:

- Room can be connected to nLight backbone to enable network control or time schedules
- HVAC control available through system-wide BACnet interface option on the nLight ECLPYSE<sup>™</sup> 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 luminaires with networked embedded controls from nLight.

#### Wireless Parking Garage



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
ô	13	See Note	Canopy Luminaire with Wireless Networked Embedded Controls from nLight with Sensor Option
Ô	2	See Note	CanopyLluminaire with Wireless Networked Embedded Controls from nLight with Sensor and Emergency Option
	1	nECY	nLight ECLYPSE™ Network System Controller
Ģ	1	nECYD NLTAIR G2	nLight AIR Adapter

#### OPERATIONAL DETAILS:

#### Light Fixtures:

from nLight.

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

#### **Occupancy Control:**

Note: Contact your local lighting agent luminaires with networked embedded controls

- 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

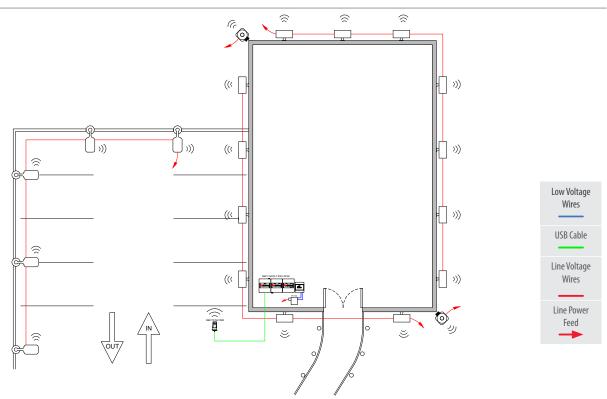
#### Daylight Control:

 Daylight responsive controls lights to full off when adequate daylight present

#### ADDITIONAL OPTIONS:

- Devices can be connected to nLight backbone to embedded network control or time schedules, including astronomical time schedules for shutoff. GFXK option can be added to nLight ECLYPSE<sup>™</sup> to provide manual override (9.4.4.1[a]).
- 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

#### Wireless Site Lighting



#### **Bill of Materials**

Symbol	Qty	Product #	Description		
¢—	5	See Note	Area Luminaire with Wireless Networked Embedded Controls from nLight		
	5	See Note	Wall Mount with Wireless Networked Embedded Controls from nLight		
	1	nECY	nLight ECLYPSE™ Network System Controller		
Ļ	1	nECYD NLTAIR G2	nLight AIR Adapter		
	2	rSBOR	nLight AIR Outdoor Box Mount Sensor		

#### OPERATIONAL DETAILS:

#### **Light Fixtures:**

from nLight.

- 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:**

Note: Contact your local lighting agent luminaires with networked embedded controls

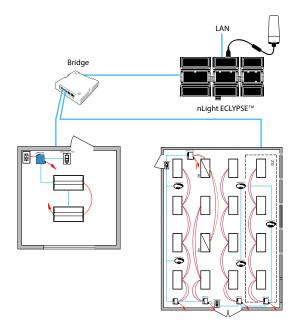
- Fixtures automatically go to full bright when occupied
- Fixtures automatically turn off or optionally can be configured to drop to
- low dim setting when space becomes vacant

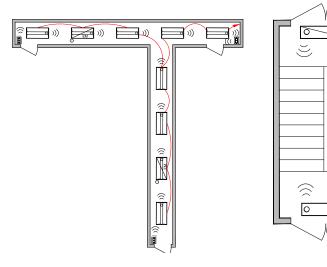
#### **Daylight Control:**

Daylight responsive controls lights to full off when adequate daylight present

#### ADDITIONAL OPTIONS:

- Devices can be connected to nLight backbone to embedded network control or time schedules, including astronomical time schedules for lighting shutoff (9.4.1.4[b]) and lighting setback (9.4.1.4[c]). GFXK option can be added to nLight ECLYPSE<sup>™</sup> to provide manual override (9.4.4.1[a]). Luminaires reduced to 50% when no activity is detected for 15-minutes (9.4.1.4[d]).
- 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
- Outdoor nLight AIR devices (such as the rSBOR sensors shown) can repeat wireless, network messages around corners.





#### 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 ASHRAE 90.1 scheduled shutoff, provision 9.4.1.4[i]. A networked system also enables astronomical time clock control.

#### **Bill of Materials**

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

1

# APPENDIX A: Requirements Overview

	Control Requirement	Code Provision	nLight Solution Details			
			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	Graphic WallPod*		
	Local (i.e. Switch) Control	9.4.1.1[a]	nPODMA Series	nLight UNITOUCH Touchscreen Wall Switch		
			Traditional tactile buttons and LED user feedback.	Full-color touch screen provides a sophisticated look and feel.		
		9.4.1.1[i] 9.4.1.1[j] 9.4.1.4	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).			
0	Scheduled		Network System Controller			
Shut-Off Control	Shutoff & Off During Non-Business Hours		Network System Controller			
			Additional benefits of installing an nLight backbone include remote status management system integration, and optional automated demand respor			
	Automatic Full OFF Via Occupancy Sensor	9.4.1.1[h]	nLight occupancy sensors utilize 100% digital passive infrared (PIR) detection, come in several mounting styles, and offer multiple coverage options. Additionally, nLight sensors are available with patented Microphonics™ dual technology detection for rooms with obstructions. Con for full off vs. partial off control is done with system programming.			
	Automatic Partial OFF Via Occupancy Sensor	9.4.1.1[g]	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.		

\*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.

# APPENDIX B: Requirements Overview

	Control Requirement	Code Provision	nLight Solu	ition Details	
	Bi-Level Lighting Control		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	
		9.4.1.1[d]		nPP16 Series rPP20 Series	
Light Level Control			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.	
Light Lev	Automatic Daylight Responsive Controls for Sidelighting/ Toplighting	9.4.1.1[e] 9.4.1.1[f]	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 rCMS Series rCMSB Series	nRM Series	
	Automatic Receptacle (i.e. Plug Load) Control	ptacle Plug Load) 8.4.2	The nLight Plug Load Relay Pack is capable of switching an entire 20A rece (room) and the sensor will automatically switch off when the room is vacar		
Controls			Plug Load / Receptacle Relay Pack		
Additional Controls			nPP20 PL Series	rPP20 Series	

# 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.



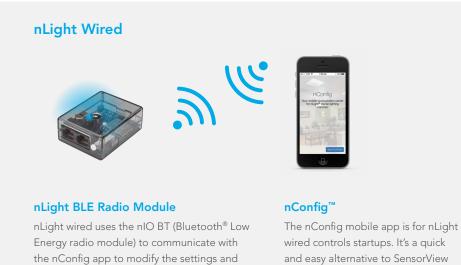
Luminaires with Wireless Networked **Embedded Controls from nLight** 



Luminaires with Wired Networked **Embedded Controls from nLight** 

# **Mobile Apps**

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



and easy alternative to SensorView software for smaller projects and simple programming.

#### nLight AIR



#### CLAIRITY<sup>™</sup> Pro

The CLAIRITY Pro mobile app allows you to start up, configure and troubleshoot nLight AIR wireless controls from a compatible smartphone or tablet.

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operation of the devices in an nLight zone.

# **Specification Tools**

We have developed a set of productivity tools to help you do your job faster and easier. Using our easy-to-use tools, you can specify and design with confidence more quickly.





#### Develop Your Sequence of Operations Faster

Methodik is an online tool that generates a sequence of operations quickly, designed to save time and increase your productivity. The sequence of operations can export your project into DXF, PDF, and CSV file formats to include in your electrical set. Additionally, it gives recommendations on products that can be used in each space--fixtures and controls side by side.

Get The Tool! https://methodik.acuitybrands.com/#/

# SPEC BUILDER



#### Spec Builder - Build Your Spec Faster and Easier

We have developed an online tool designed to make the creation and manipulation of project specifications faster and easier.

Spec Builder includes Division 26, network lighting control specification language, as well as Division 23 and Division 25 HVAC and integration specification language.

Build Your Spec Now! https://www.spec.build/



#### A Quicker Way to do a Design Take-Off

The Visual Controls software supports efficient design and specification with Acuity Controls. You can quickly perform a design take-off to bid a project and generate a comprehensive professional submittal.

To get access to the Visual Controls software, please contact your local lighting agent to get access today.

#### **Get Access Now**

https://www.acuitybrands.com/support/ how-to-buy



# nLight<sup>®</sup> ASHRAE 90.1–2019 Applications Guide

In addition to being North America's leading manufacturer of indoor and outdoor luminaires, Acuity Brands offers an extensive portfolio of advanced lighting control and building technology solutions for indoor and outdoor applications, from single-room control to fully connected smart building management. Our products, technology, expertise and support include occupancy and photosensors, centralized and distributed systems, panels, luminaireintegrated wired/wireless networked controls and IoT platform services.

#### nLight Typical Layout Drawings

http://www.acuitybrands.com/typicals

#### ASHRAE

https://www.ashrae.org/

#### Use the Following Sections of the ASHRAE 90.1–2019 Code as Reference:

Section 8.4.2	_	Automatic Receptacle Control
Section 9.4.1.1[a]	_	Local Control
Section 9.4.1.1[b]	_	Manual On
Section 9.4.1.1[c]	_	Partial Automatic On
Section 9.4.1.1[d]	_	Bi-Level Lighting Control
Section 9.4.1.1[e]	_	Automatic Daylight Responsive Control for Sidelighting
Section 9.4.1.1[f]	_	Automatic Daylight Responsive Controls for Toplighting
Section 9.4.1.1[g]	_	Automatic Partial Off
Section 9.4.1.1[h]	_	Automatic Full Off
Section 9.4.1.1[i]	_	Scheduled Shutoff
Section 9.4.1.1[j]	_	Scheduled Shutoff During Non-Business Hours
Section 9.4.1.2	_	Parking Garage Lighting Control
Section 9.4.1.4	_	Exterior Lighting Control



**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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