



Florida Building Code 5th Edition (2014)

nLight® Applications Guide





/ ACUITY CONTROLS

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

Acuity Controls is advanced lighting controls technology, service and support from a single expert source. We offer one of the industry's most extensive product portfolios for indoor and outdoor applications; single rooms to campuses to municipalities. Our product solutions include occupancy and photosensors, centralized and distributed systems, panels, fixture-integrated, wired and wireless controls that simply work.



/ TABLE OF CONTENTS

- 04 Code Requirements for Common Building Spaces
- 05 How to Use This Guide
- 06 Private Office Solutions
- 10 Open Office Solutions
- 12 Conference Room Solutions
- 14 Classroom Solutions
- 17 Stairwell Solutions
- 18 Lobby Solutions
- 20 Restroom Solutions
- 24 Corridor Solutions
- 26 Network Control
- 26 BLE Radio Module
- 27 Appendix A – Luminaires with Networked Embedded Controls from nLight
- 28 Appendix B – Requirements Overview



/ ABOUT

About Florida Building Code 2014

The Florida Building Code replaced Florida's patchwork of codes and regulations that were developed, amended, administered and enforced by more than 400 local jurisdictions and state agencies with building code regulation responsibilities. The current Code is a single statewide code based on national model codes and consensus standards, amended for Florida specific needs for the design and construction of buildings. The Code is designed to make the local building process more efficient, increase accountability, bring new and safer products to the market, increase consumer confidence, and better protect the residents of this natural-disaster prone state.

About this Guide

Acuity Controls offers the nLight Florida Building Code 5th Edition (2014) Application Guide to facilitate quicker and easier code compliant lighting control solutions to aid in complying with the requirements of FBC 5th Edition (2014). Use this guide as a quick reference of typical nLight layouts that can help get your project on the path towards compliance. The Acuity Controls 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

The nLight networked digital lighting control system is easy-to-use, easy-to-install and saves energy. Using only standard CAT-5e cable, nLight networks together occupancy sensors, wall stations, and digital LED luminaires to create a digital lighting system with unmatched flexibility! nLight easily scales from one room to an entire campus. Create a lighting control solution that's perfect for your space and need.

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 5th Edition (2014).

	Control Requirement*	Code Provision	Code Summary*	Space Type								
				Private Office	Open Office	Conference, Meeting, Multipurpose Room	Classroom, Lecture Hall, Training Room	Lobby	Corridor	Restroom	Stairwell	
On-Off Control	Manual-On or Partial-On	C405.2.2.2	Automatically controlled spaces shall be either manual on or automatically turn the lighting on to not more than 50% power.	✓		✓	✓					
	Full Automatic-On	C405.2.2.2	Automatically controlled spaces are allowed to turn on to full.					✓	✓	✓	✓	
	Full Auto-Off via Occupancy Sensor	C405.2.2.2	Fixtures must automatically turn off within 30 minutes of all occupants leaving the space.	✓	✓	✓	✓	✓	✓	✓	✓	✓
					(or)			(or)	(or)	(or)	(or)	
	Automatic Time Switch Control	C405.2.2.1	Each area of the building not provided with occupant sensor controls shall be provided with time switch controls. These areas must also be provided with a manual override switch.		✓			✓	✓	✓	✓	✓
	Manual Lighting Reduction	C405.2.1.2	Spaces shall have a manual control that allows the occupant to reduce the connected lighting load uniformly by at least 50%.		✓							
	Local or Remote Switch	C405.2.1.1	Areas shall incorporate a manual control to allow occupants to turn fixtures off.	✓	✓	✓	✓			✓		
Daylight Control	Daylight-Zone Controls	C405.2.2.3.1/2/3	Daylight-zone controls shall be provided within each space with sidelight and toplight daylight zones. Daylight control must control zone to less than 35% of normal power at max output.	✓	✓	✓	✓			✓		

*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.

Quick summary of applicable code sections

Room description

Room layout with devices & locations

6
PRIVATE OFFICE: No Windows, Luminaires with Networked Embedded Controls from nLight

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Manual-On or Partial On to no more than 50% Power via Occupancy Sensor (C405.2.2.2)

CAT-5e Cable

Line Voltage Wires

Line Power Feed

Bill of Materials

Symbol	Qty	Product #	Description
	4	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight
	1	nPODM DX	On/Off & Raise/Lower WallPod
	1	nCM PDT 9 (RJB)	Dual Technology Occupancy Sensor

OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently
- Maximum level can be limited to 80%
- Optional automatic lumen compensation

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:

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

Manual Control:

- On/off & raise/lower control of fixtures

ADDITIONAL OPTIONS:

- Surface or recessed mount sensors also available
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control order fixtures with -n80EMG or -n100EMG option

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Room layout diagram with control, fixture, and wiring type detail

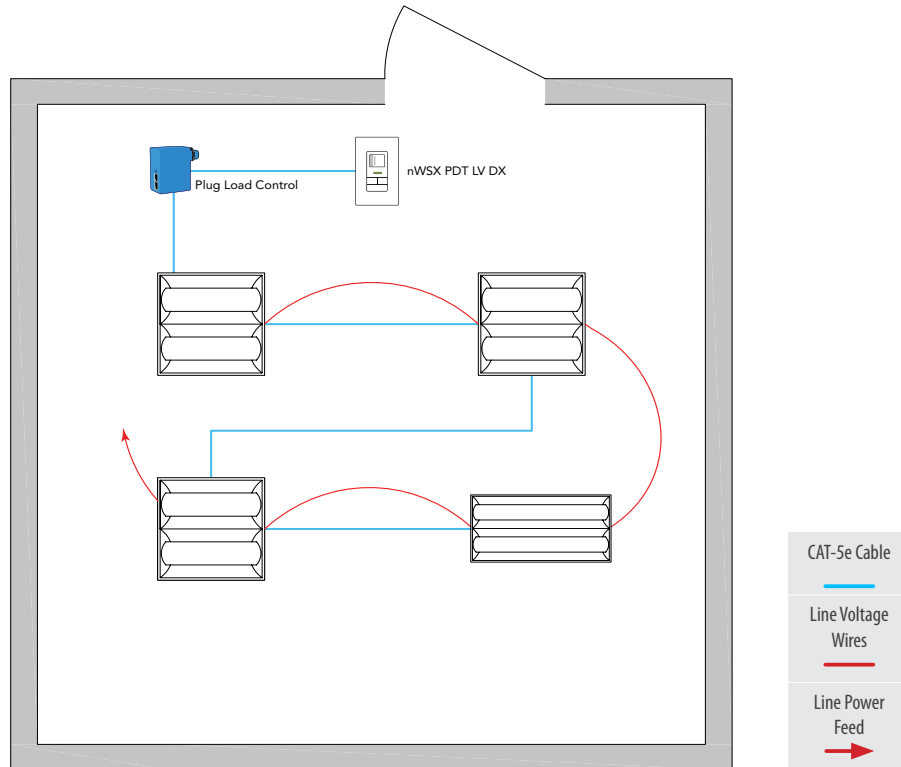
Required list of devices in order to implement room layout design above

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




Additional options that add control capacity beyond code requirements

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Manual-On or Partial On to no more than 50% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials

Symbol	Qty	Product #	Description
	4	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight
	1	nPODM DX	On/Off & Raise/Lower WallPod
	1	nCM PDT 9 (RJB)	Dual Technology Occupancy Sensor

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently
- Maximum level can be limited to 80%
- Optional automatic lumen compensation

Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to no more than 50% power)
- Fixtures automatically turn off within 30 minutes when room becomes vacant

Daylight Control:

- Not required for offices without windows or skylights

Manual Control:

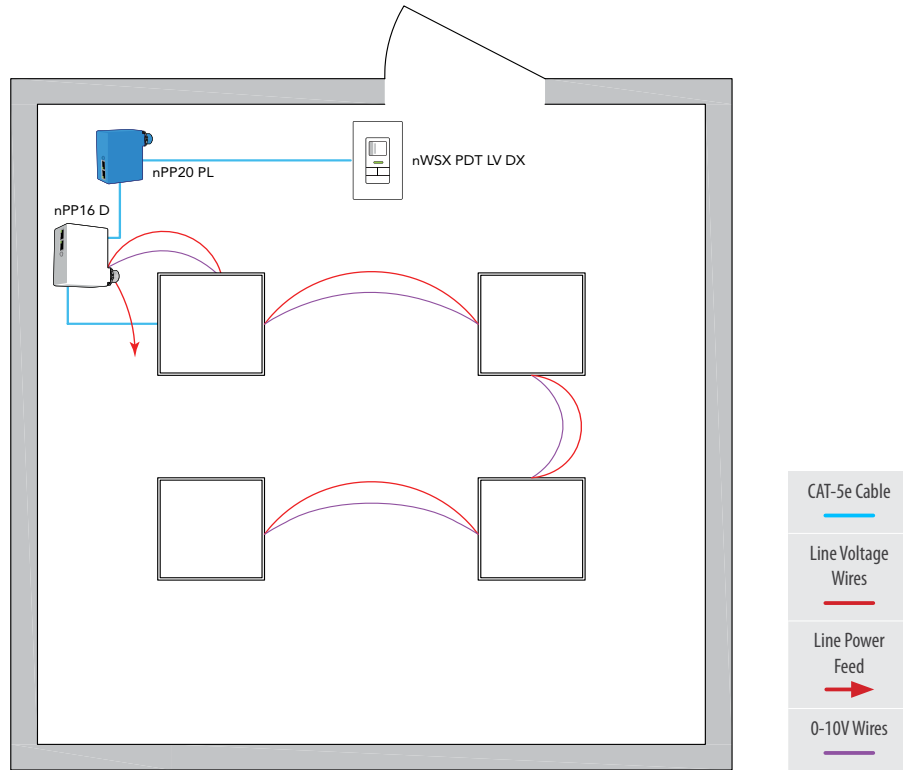
- On/off & raise/lower control of fixtures

/ ADDITIONAL OPTIONS:




- Surface or recessed mount sensors also available
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control order fixtures with -n80EMG or -n100EMG option

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Manual-On or Partial On to no more than 50% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials

Symbol	Qty	Product #	Description
	1	nPP16 D	Relay Module with 0-10V Dimming Output
	1	nPODM DX	On/Off & Raise/Lower WallPod
	1	nCM PDT 9 (RJB)	Dual Technology Occupancy Sensor

OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together
- Maximum level can be limited to 80%

Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to no more than 50% power)
- Fixtures automatically turn off within 30 minutes when room becomes vacant

Daylight Control:

- Not required for offices without windows or skylights

Manual Control:

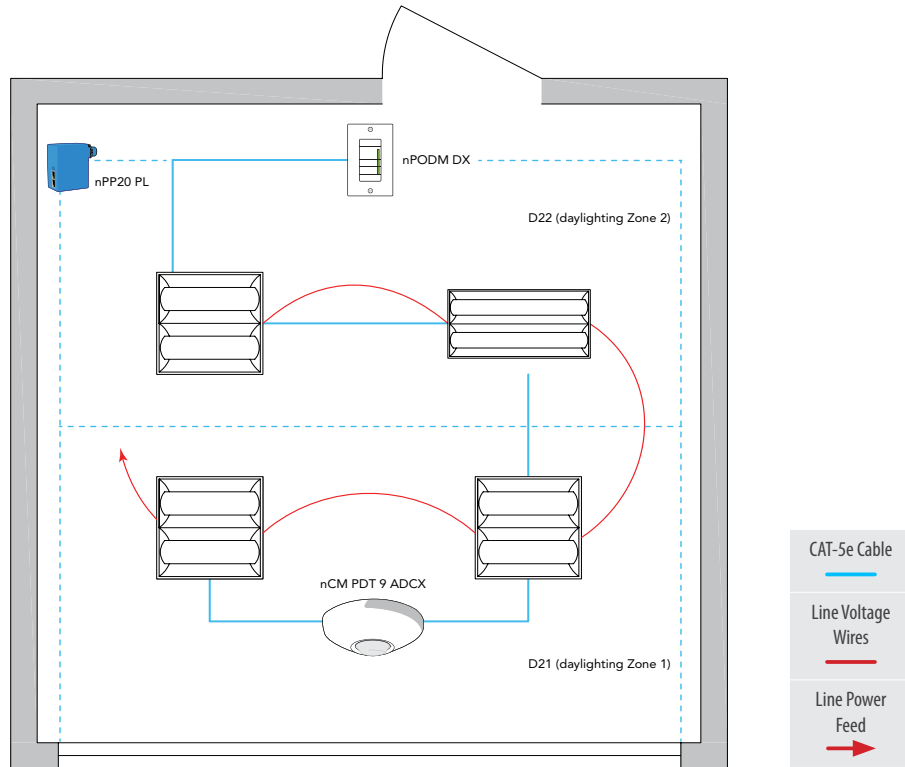
- On/off & raise/lower control of fixtures

ADDITIONAL OPTIONS:




- Surface or recessed mount sensors also available
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control add a nPP16 D ER pack

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Manual-On or Partial On to no more than 50% Power via Occupancy Sensor (C405.2.2.2)
- Automatic Daylight Controls (C405.2.2.3.2)



Bill of Materials

Symbol	Qty	Product #	Description
	4	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight
	1	nPODM DX	On/Off & Raise/Lower WallPod
	1	nCM PDT 9 ADCX (RJB)	Dual Technology Occupancy Sensor with Automatic Dimming Photocell

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently
- Maximum level can be limited to 80%
- Optional automatic lumen compensation

Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to no more than 50% power)
- Fixtures automatically turn off within 30 minutes when room becomes vacant

Daylight Control:

- Use of automatic daylighting controls requires continuous dimming capable of reducing the daylight zone lighting to less than 35% of max output or step-dimming where one control step is between 50-70% of max output and the other control step is less than 35% of max output
- Lights in daylight zone are controlled separately from general lighting
- Manual control of daylight zone lighting shall be provided if automatic controls are not used

Manual Control:

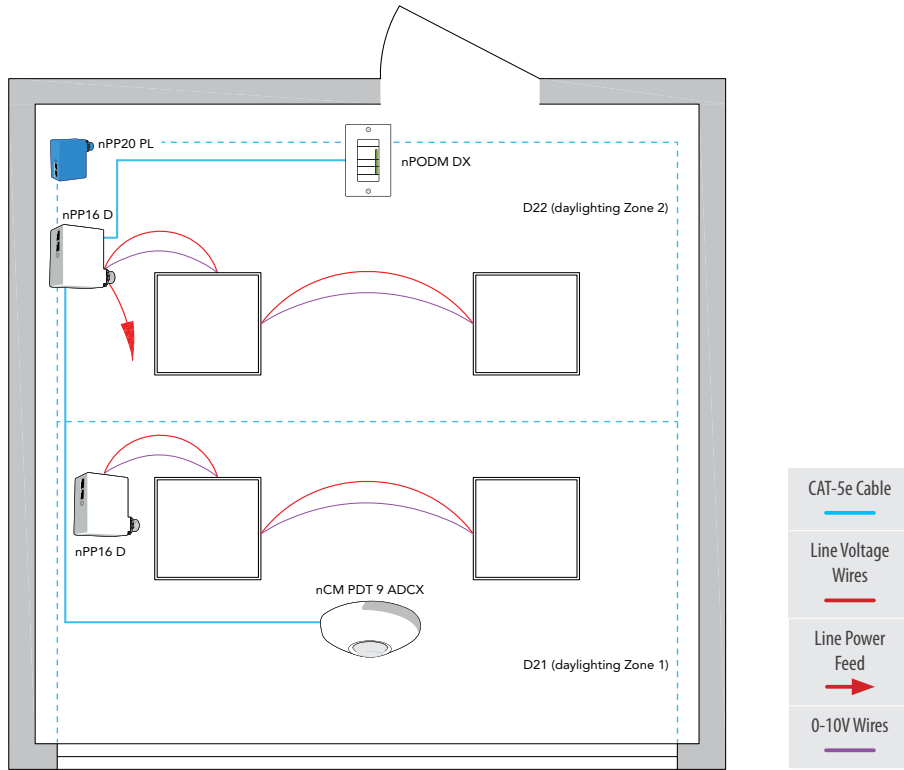
- On/off & raise/lower control of fixtures

/ ADDITIONAL OPTIONS:




- Surface or recessed mount sensors also available
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control order fixtures with -n80EMG or -n100EMG option

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Manual-On or Partial On to no more than 50% Power via Occupancy Sensor (C405.2.2.2)
- Automatic Daylight Controls (C405.2.2.3.2)



Bill of Materials

Symbol	Qty	Product #	Description
	1	nPP16 D	Relay Module with 0-10V Dimming Output
	1	nPODM DX	On/Off & Raise/Lower WallPod
	1	nCM PDT 9 ADCX (RJB)	Dual Technology Occupancy Sensor with Automatic Dimming Photocell

OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together within daylight zone
- Maximum level can be limited to 80%

Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to no more than 50% power)
- Fixtures automatically turn off within 30 minutes when room becomes vacant

Daylight Control:

- Use of automatic daylighting controls requires continuous dimming capable of reducing the daylight zone lighting to less than 35% of max output or step-dimming where one control step is between 50-70% of max output and the other control step is less than 35% of max output
- Lights in daylight zone are controlled separately from general lighting
- Manual control of daylight zone lighting shall be provided if automatic controls are not used

Manual Control:

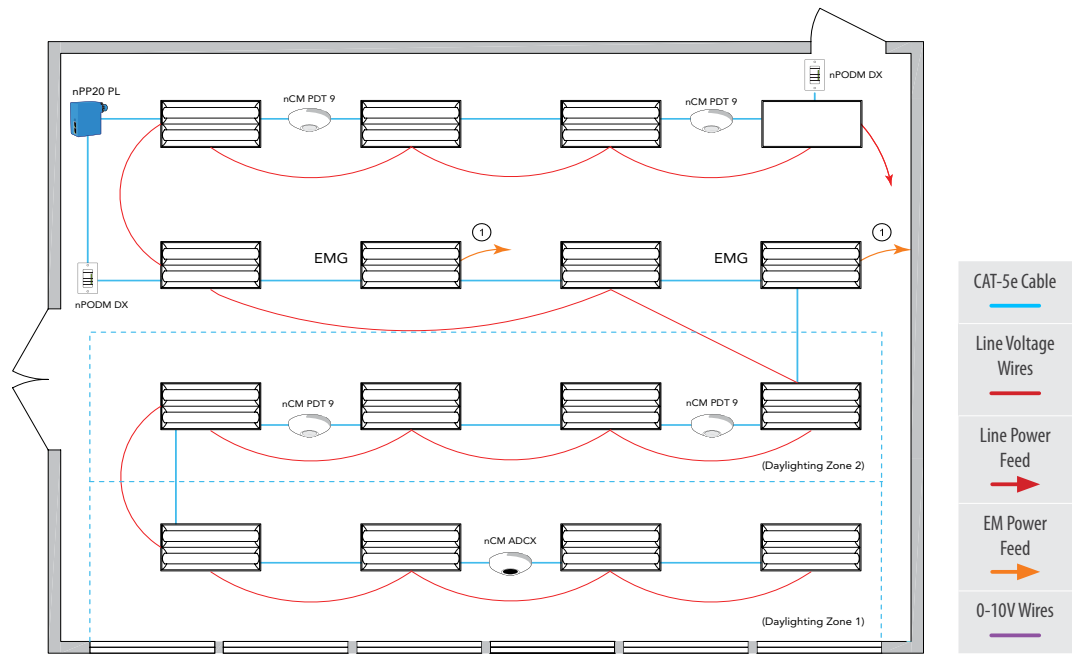
- On/off & raise/lower control of fixtures

ADDITIONAL OPTIONS:

- Surface or recessed mount sensors also available
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control add a nPP16 D ER pack

Supports the Following Requirements:

- Local Switch (C405.2.1.1)
- Manual Lighting Reduction - unless Occupancy Sensors are used (C405.2.1.2)
- Automatic Daylight Controls (C405.2.2.3.2)
- Automatic Time Switch Control - unless Occupancy Sensors are used (C405.2.2.1)



① Note: Not all emergency luminaires with networked embedded controls from nLight require a normal monitoring feed. Refer to data sheet for additional information.

Bill of Materials

Symbol	Qty	Product #	Description
	14	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight
	2	Various; see Appendix A	Luminaires with Networked Embedded Controls from nLight with Emergency Option
	2	nPODM DX	On/Off & Raise/Lower WallPod
	4	nCM PDT 9 (RJB)	Dual Technology Occupancy Sensor
	1	nCM ADCX (RJB)	Automatic Dimming Control Photocell

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently
- Maximum level can be limited to 80%
- Optional automatic lumen compensation

Occupancy Control (not required):

- Fixtures are permitted to go to full brightness when occupied
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when room becomes vacant

Daylight Control:

- Use of automatic daylighting controls requires continuous dimming capable of reducing the daylight zone lighting to less than 35% of max output or step-dimming where one control step is between 50-70% of max output and the other control step is less than 35% of max output
- Lights in daylight zone are controlled separately from general lighting
- Manual control of daylight zone lighting shall be provided if automatic controls are not used
- Not required for offices without windows

Manual Control:

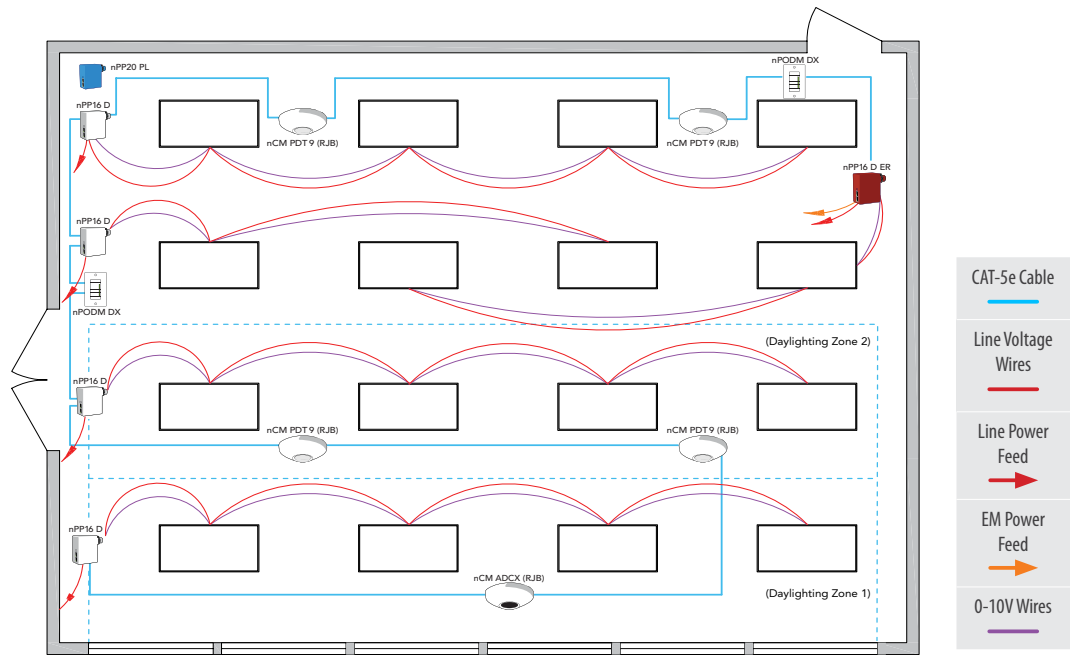
- Master on/off & raise/lower control of fixtures
- Optional individual row control (add nPODM 4P DX)

/ ADDITIONAL OPTIONS:

- Surface or recessed mount sensors also available
- Add Graphic WallPod (model npod gfx) for individual row and up to 16 scene control
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)

Supports the Following Requirements:

- Local Switch (C405.2.1.1)
- Manual Lighting Reduction - unless Occupancy Sensors are used (C405.2.1.2)
- Automatic Daylight Controls (C405.2.2.3.2)
- Automatic Time Switch Control - unless Occupancy Sensors are used (C405.2.2.1)



Bill of Materials

Symbol	Qty	Product #	Description
	4	nPP16 D	Relay Module with 0-10V Dimming Output
	1	nPP16 D ER	Emergency Relay Module with 0-10V Dimming Output
	2	nPODM DX	On/Off & Raise/Lower WallPod
	4	nCM PDT 9 (RJB)	Dual Technology Occupancy Sensor
	1	nCM ADCX (RJB)	Automatic Dimming Control Photocell

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- Each row controlled independently
- Maximum level can be limited to 80%

Occupancy Control (not required):

- Fixtures are permitted to go to full brightness when occupied
- Fixtures automatically turn off or optionally can be configured to drop to low dim setting when room becomes vacant

Daylight Control:

- Use of automatic daylighting controls requires continuous dimming capable of reducing the daylight zone lighting to less than 35% of max output or step-dimming where one control step is between 50-70% of max output and the other control step is less than 35% of max output
- Lights in daylight zone are controlled separately from general lighting
- Manual control of daylight zone lighting shall be provided if automatic controls are not used
- Not required for offices without windows or skylight

Manual Control:

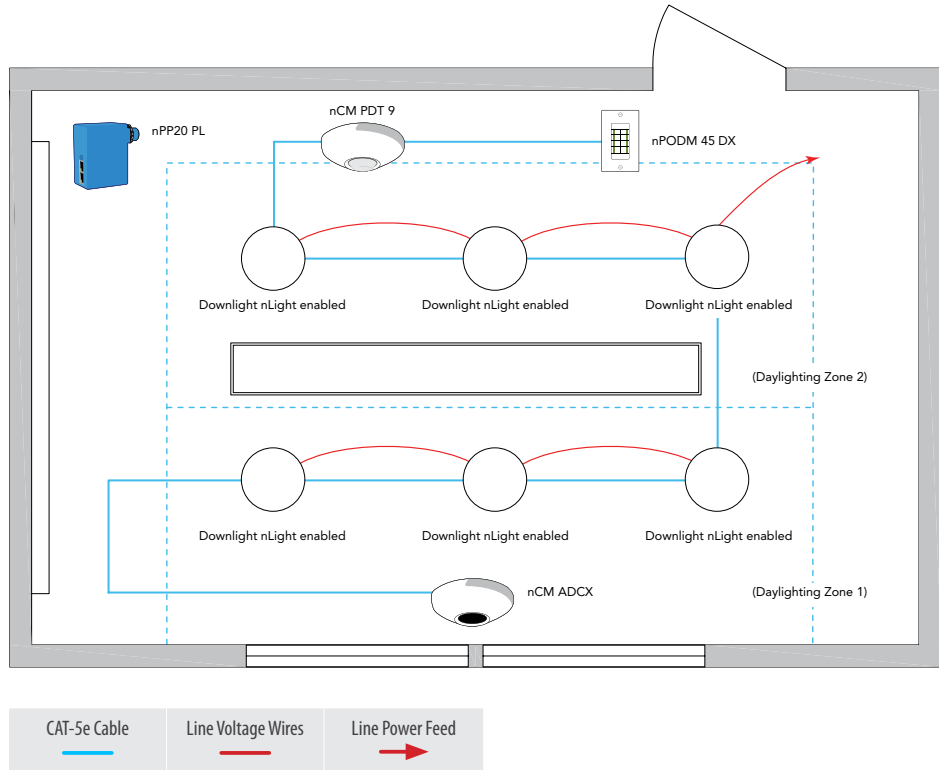
- Master on/off & raise/lower control of fixtures
- Optional individual row control (add npodm 4P dx)

/ ADDITIONAL OPTIONS:

- Surface or recessed mount sensors also available
- Add Graphic WallPod (model nPOD GFX) for individual row and up to 16 scene control
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Manual-On or Partial On to no more than 50% Power via Occupancy Sensor (C405.2.2.2)
- Automatic Daylight Controls (C405.2.2.3.2)



Bill of Materials

Symbol	Qty	Product #	Description
	6	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight
	1	nPODM 2P DX	Dual On/Off & Raise/Lower WallPod
	1	nCM PDT 9 (RJB)	Dual Technology Occupancy Sensor

Options

	1	nCM ADCX (RJB)	Automatic Dimming Control Photocell
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/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- Each row/fixture controlled independently
- Maximum level can be limited to 80%
- Optional automatic lumen compensation

Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to no more than 50% power)
- Fixtures automatically turn off within 30 minutes when room becomes vacant

Daylight Control:

- Use of automatic daylighting controls requires continuous dimming capable of reducing the daylight zone lighting to less than 35% of max output or step-dimming where one control step is between 50-70% of max output and the other control step is less than 35% of max output
- Lights in daylight zone are controlled separately from general lighting
- Manual control of daylight zone lighting shall be provided if automatic controls are not used
- Not required for offices without windows or skylights

Manual Control:

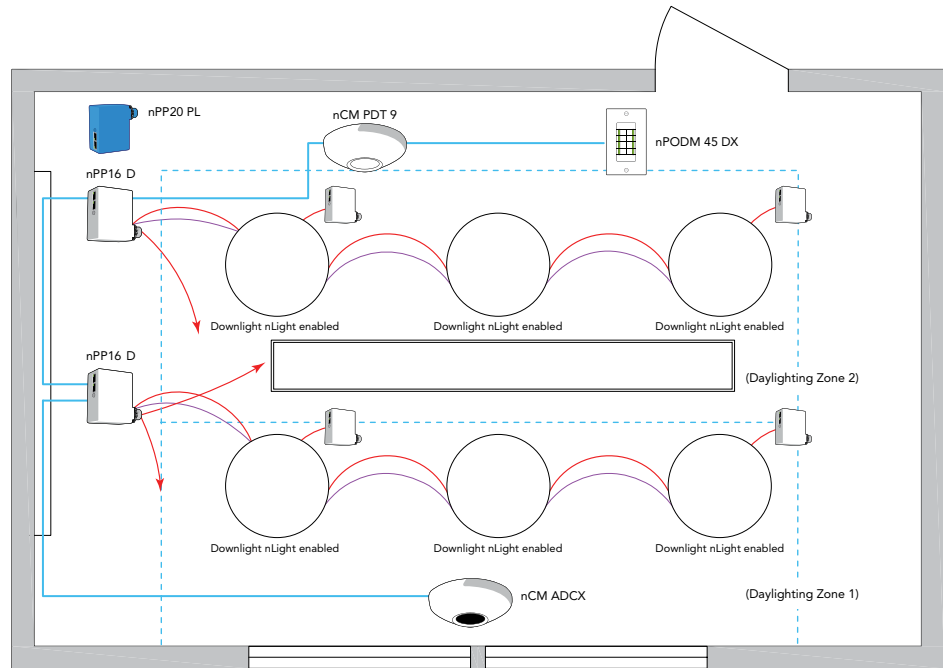
- On/off & raise/lower control of two groups of fixtures

/ ADDITIONAL OPTIONS:

- Surface or recessed mount sensors also available
- Add nPODM 4S for four scene or nPOD GFX for touch screen control
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control order fixtures with -n80EMG or -n100EMG option

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Manual-On or Partial On to no more than 50% Power via Occupancy Sensor (C405.2.2.2)
- Automatic Daylight Controls (C405.2.2.3.2)



Bill of Materials

Symbol	Qty	Product #	Description
	2	nPP16 D	Relay Module with 0-10V Dimming Output
	1	nPODM 2P DX	Dual On/Off & Raise/Lower WallPod
	1	nCM PDT 9 (RJB)	Dual Technology Occupancy Sensor

Options

	1	nCM ADCX (RJB)	Automatic Dimming Control Photocell
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/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- Each row controlled independently
- Maximum level can be limited to 80%

Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to no more than 50% power)
- Fixtures automatically turn off within 30 minutes when room becomes vacant

Daylight Control:

- Use of automatic daylighting controls requires continuous dimming capable of reducing the daylight zone lighting to less than 35% of max output or step-dimming where one control step is between 50-70% of max output and the other control step is less than 35% of max output
- Lights in daylight zone are controlled separately from general lighting
- Manual control of daylight zone lighting shall be provided if automatic controls are not used
- Not required for offices without windows or skylights

Manual Control:

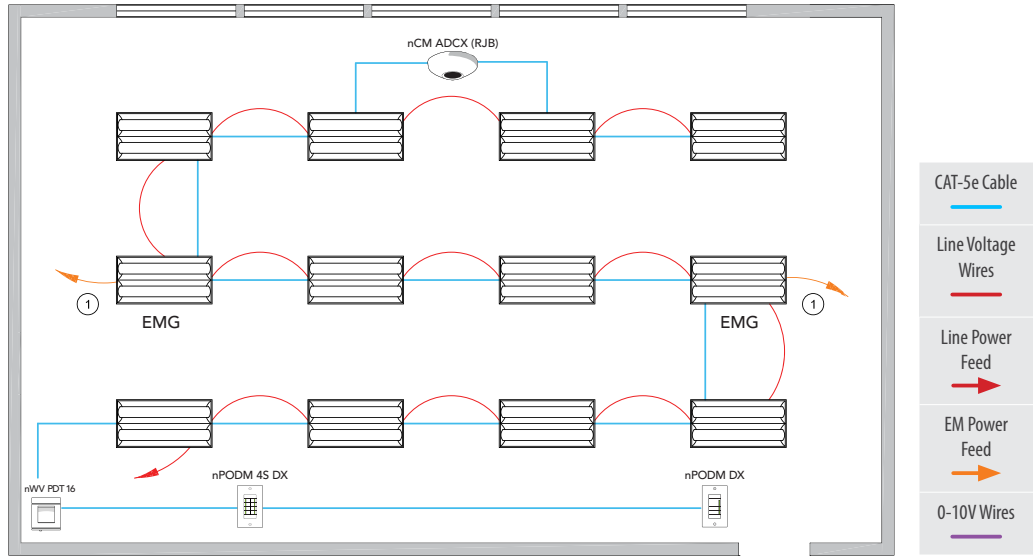
- On/off & raise/lower control of each row

/ ADDITIONAL OPTIONS:

- Surface or recessed mount sensors also available
- Add nPODM 45 for four scene or nPOD GFX for touch screen control
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control add a nPP16 D ER pack

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Manual-On or Partial On to no more than 50% Power via Occupancy Sensor (C405.2.2.2)
- Automatic Daylight Controls (C405.2.2.3.2)



① Note: Not all emergency luminaires with networked embedded controls from nLight require a normal monitoring feed. Refer to data sheet for additional information.

Bill of Materials

Symbol	Qty	Product #	Description
	10	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight
	2	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight with Emergency Option
	1	nPODM DX	On/Off & Raise/Lower WallPod
	1	nWV PDT 16	Dual Technology Wide View Occupancy Sensor

Options

	1	nPODM 4S DX	Teacher Station — 4 Scene Control Master On/Off & Raise/Lower
	1	nCM ADCX (RJB)	Automatic Dimming Control Photocell

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- Each row/fixture controlled independently
- Maximum level can be limited to 80%
- Optional automatic lumen compensation

Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to no more than 50% power)
- Fixtures automatically turn off within 30 minutes when room becomes vacant

Daylight Control:

- Use of automatic daylighting controls requires continuous dimming capable of reducing the daylight zone lighting to less than 35% of max output or step-dimming where one control step is between 50-70% of max output and the other control step is less than 35% of max output
- Lights in daylight zone are controlled separately from general lighting
- Manual control of daylight zone lighting shall be provided if automatic controls are not used
- Not required for offices without windows or skylights

Manual Control:

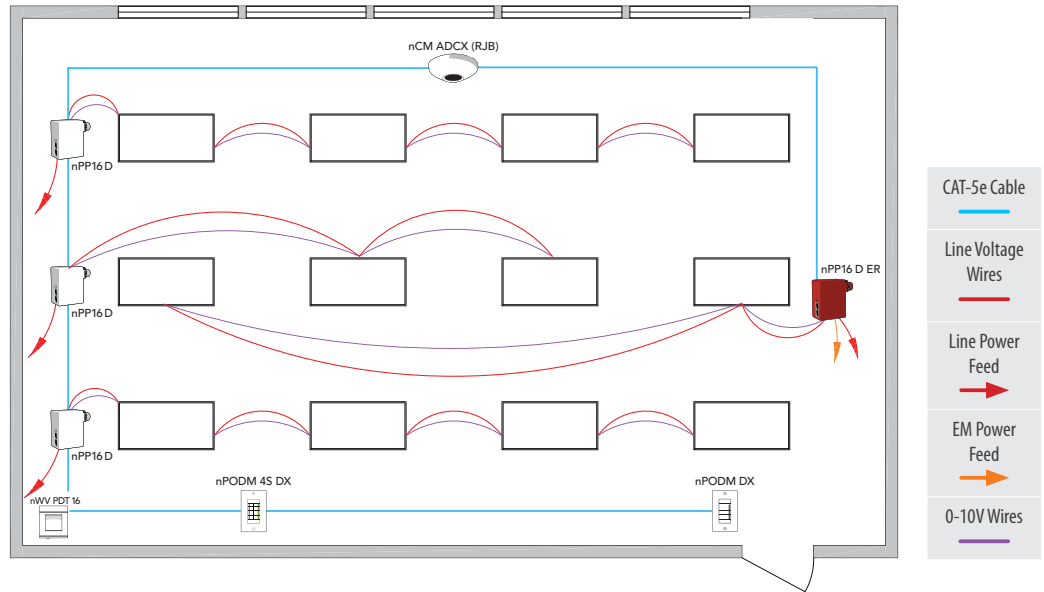
- Master on/off & raise/lower control of entire room
- Optional 4 scene control

/ ADDITIONAL OPTIONS:

- Surface or recessed mount sensors also available
- Add additional relay pack (model nPP16 D) if a white board lighting zone also required
- Add graphic wallpod (model nPOD GFX) for individual row and up to 16 scene control
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Manual-On or Partial On to no more than 50% Power via Occupancy Sensor (C405.2.2.2)
- Automatic Daylight Controls (C405.2.2.3.2)



Bill of Materials

Symbol	Qty	Product #	Description
	3	nPP16 D	Relay Module with 0-10V Dimming Output
	1	nPP16 D ER	Emergency Relay Module with 0-10V Dimming Output
	1	nPODM DX	On/Off & Raise/Lower WallPod
	1	nWV PDT 16	Dual Technology Wide View Occupancy Sensor

Options

	1	nPODM 4S DX	Teacher Station — 4 Scene Control Master On/Off & Raise/Lower
	1	nCM ADCX (RJB)	Automatic Dimming Control Photocell

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- Each row controlled independently
- Maximum level can be limited to 80%

Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to no more than 50% power)
- Fixtures automatically turn off within 30 minutes when room becomes vacant

Daylight Control:

- Use of automatic daylighting controls requires continuous dimming capable of reducing the daylight zone lighting to less than 35% of max output or step-dimming where one control step is between 50-70% of max output and the other control step is less than 35% of max output
- Manual control of daylight zone lighting shall be provided if automatic controls are not used
- Lights in daylight zone are controlled separately from general lighting
- Not required for offices without windows or skylights

Manual Control:

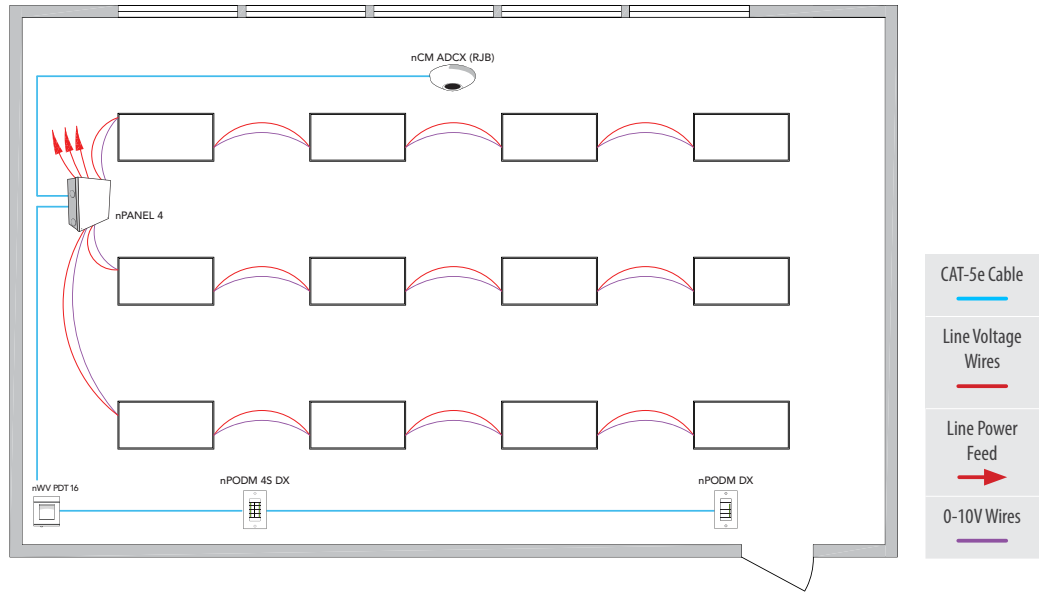
- Master on/off & raise/lower control of entire room
- Optional 4 scene control

/ ADDITIONAL OPTIONS:




- Surface or recessed mount sensors also available
- Add additional relay pack (model nPP16 D) if a white board lighting zone also required
- Add graphic wallpod (model nPOD GFX) for individual row and up to 16 scene control
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)

Supports the Following Requirements:



- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Manual-On or Partial On to no more than 50% Power via Occupancy Sensor (C405.2.2.2)
- Automatic Daylight Controls (C405.2.2.3.2)



Bill of Materials

Symbol	Qty	Product #	Description
	1	nPANEL 4	Four Relay Module With 0-10V Dimming Output & EM Options
	1	nPODM DX	On/Off & Raise/Lower WallPod
	1	nWV PDT 16	Dual Technology Wide View Occupancy Sensor

Options

	1	nPODM 4S DX	Teacher Station — 4 Scene Control Master On/Off & Raise/Lower
	1	nCM ADCX (RJB)	Automatic Dimming Control Photocell

OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- Each row controlled independently
- Maximum level can be limited to 80%

Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to come on automatically to no more than 50% power)
- Fixtures automatically turn off within 30 minutes when room becomes vacant

Daylight Control:

- Use of automatic daylighting controls requires continuous dimming capable of reducing the daylight zone lighting to less than 35% of max output or step-dimming where one control step is between 50-70% of max output and the other control step is less than 35% of max output
- Lights in daylight zone are controlled separately from general lighting
- Manual control of daylight zone lighting shall be provided if automatic controls are not used
- Not required for offices without windows or skylights

Manual Control:

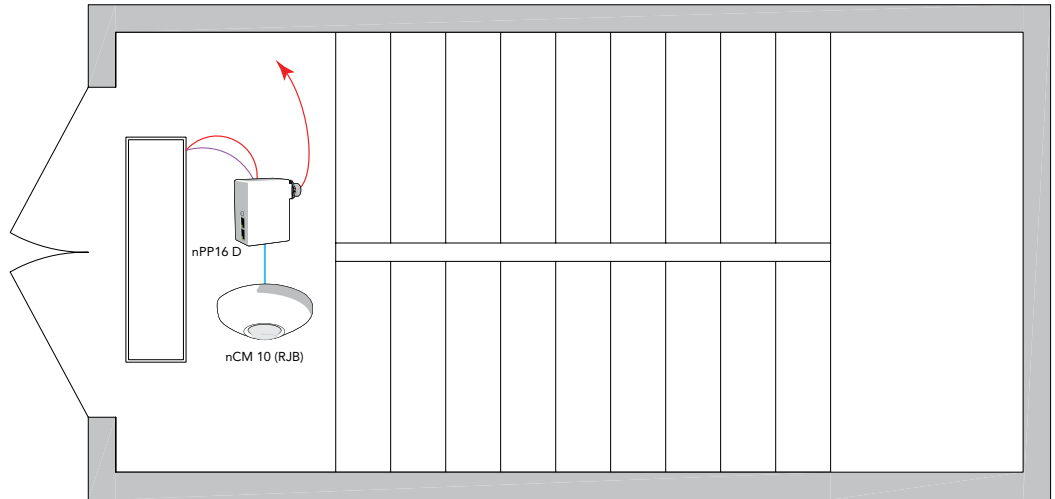
- Master on/off & raise/lower control of entire room
- Optional 4 scene control

ADDITIONAL OPTIONS:

- Surface or recessed mount sensors also available
- Add additional relay pack (model nPP16 D) if a white board lighting zone also required
- Add graphic wallpod (model nPOD GFX) for individual row and up to 16 scene control
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control add a Voltage Barrier to nPANEL 4

Supports the Following Requirements:

- Automatic On to 100% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials

Symbol	Qty	Product #	Description
	1	nPP16 D	Relay Module with 0-10V Dimming Output
	1	nCM 10 (RJB)	PIR Extended Range Occupancy Sensor

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- Maximum level can be limited to 80%

Occupancy Control:

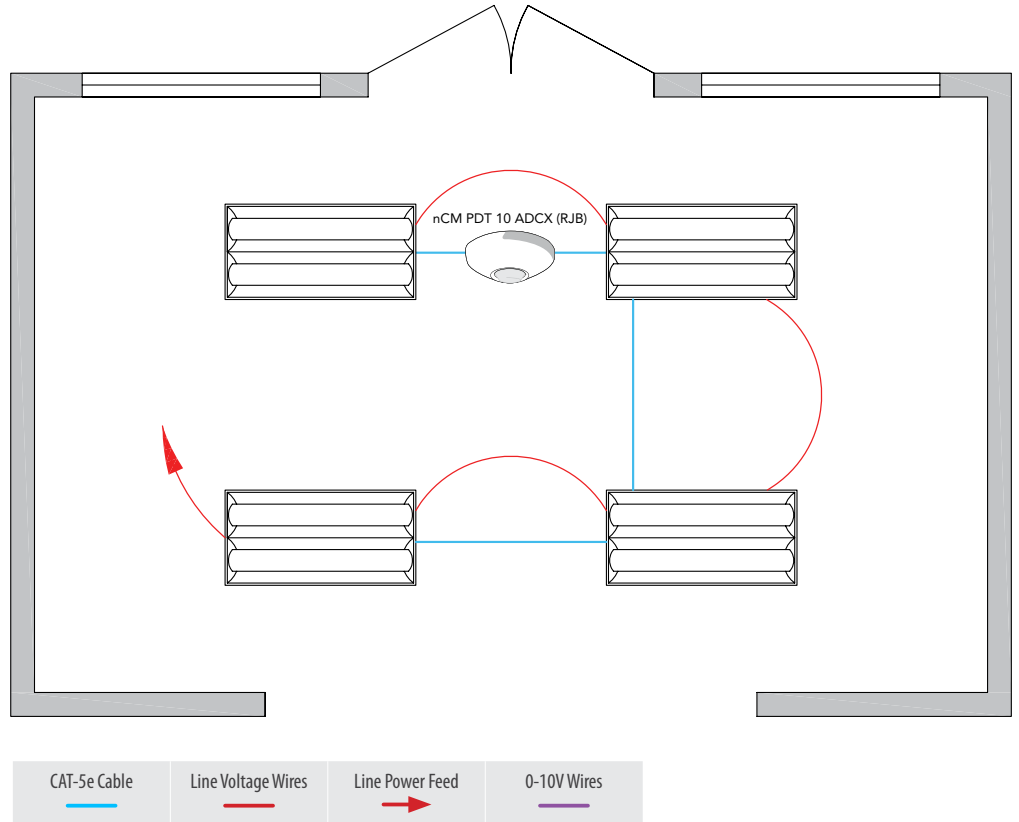
- Fixtures automatically go to full bright when occupied
- Fixtures can be configured to drop to low dim setting when space becomes vacant

/ ADDITIONAL OPTIONS:



- Surface or recessed mount sensors also available
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control add a nPP16 D ER pack
- Add nCM ADCX (RJB) for daylight zone control (C405.2.2.3.2)

Supports the Following Requirements:

- Automatic On to 100% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials

Symbol	Qty	Product #	Description
	4	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight
	1	nCM PDT 10 ADCX (RJB)	Dual Technology Extended Range Occupancy Sensor

OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently
- Maximum level can be limited to 80%
- Optional automatic lumen compensation

Occupancy Control (not required):

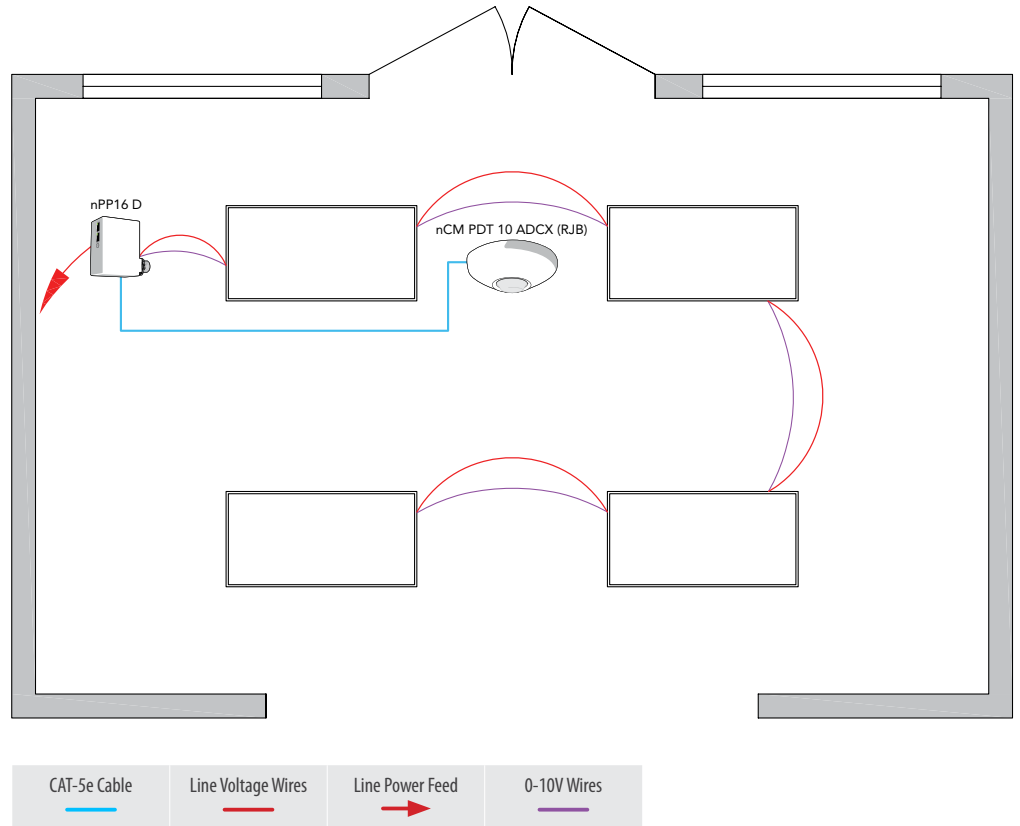
- Fixtures automatically go to full bright when occupied
- Fixtures can be configured to low dim setting when space becomes vacant

ADDITIONAL OPTIONS:



- Surface or recessed mount sensors also available
- Space can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control, order fixtures with -n80EMG or -n100EMG option

Supports the Following Requirements:

- Automatic On to 100% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials

Symbol	Qty	Product #	Description
	1	nPP16 D	Relay Module with 0-10V Dimming Output
	1	nCM PDT 10 ADCX (RJB)	Dual Technology Extended Range Occupancy Sensor

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together
- Maximum level can be limited to 80%

Occupancy Control (not required):

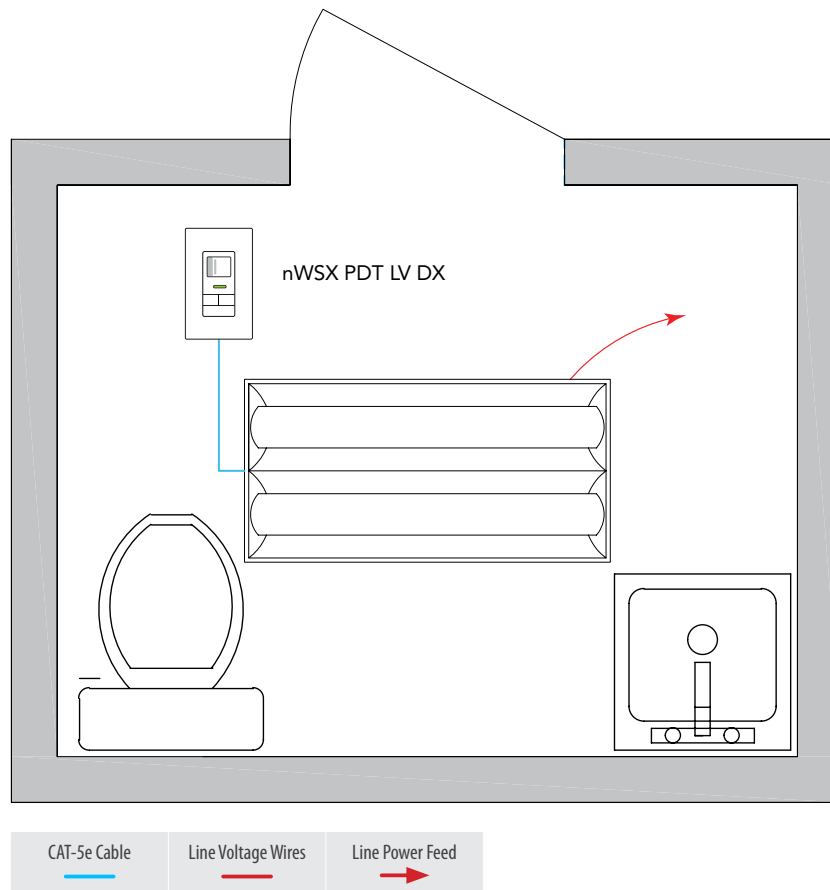
- Fixtures automatically go to full bright when occupied
- Fixtures can be configured to drop to low dim setting when space becomes vacant

/ ADDITIONAL OPTIONS:



- Surface or recessed mount sensors also available
- Space can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control add a nPP16 D ER pack

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Automatic On to 100% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials

Symbol	Qty	Product #	Description
	1	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight
	1	nWSX PDT LV DX	Dual Technology Occupancy Wall Switch w/ Raise/Lower

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- Maximum level can be limited to 80%
- Optional automatic lumen compensation

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 within 30 minutes when space becomes vacant

Manual Control:

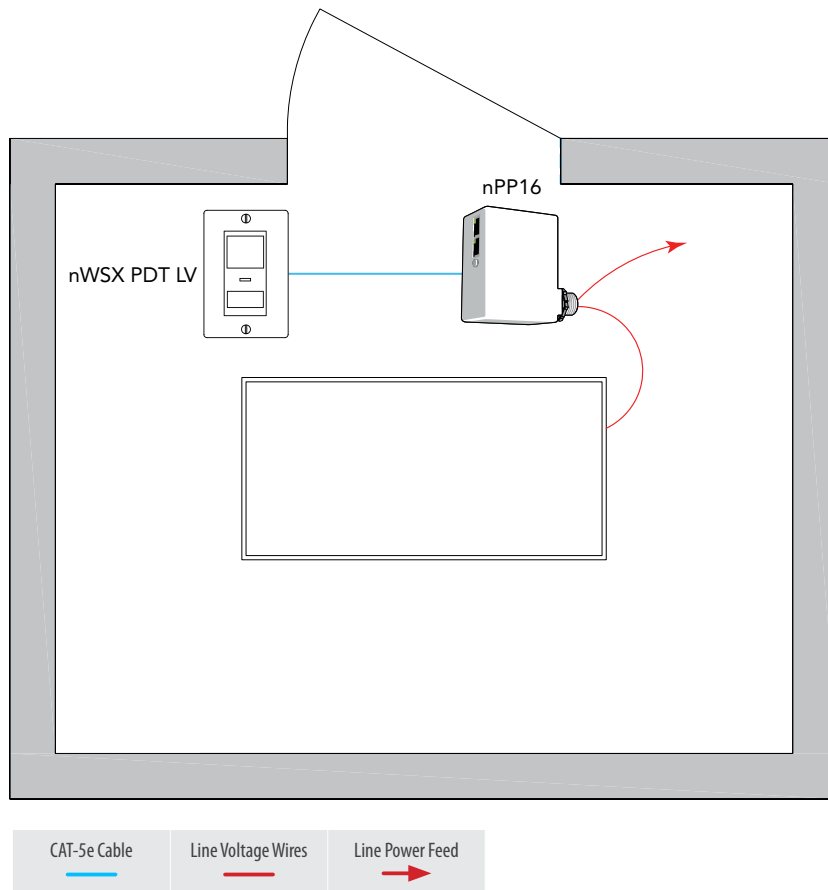
- On/off & raise/lower control of fixtures

/ ADDITIONAL OPTIONS:



- Surface or recessed mount sensors also available
- Space can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control order fixtures with -n80EMG or -n100EMG option

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Automatic On to 100% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials

Symbol	Qty	Product #	Description
	1	nPP16	Relay Pack
	1	nWSX PDT LV	Dual Technology Occupancy Wall Switch

/ OPERATION DETAILS:

Fixtures:

- Switching only, no dimming

Occupancy Control:

- Fixtures automatically turn on when occupied
- Fixtures automatically turn off within 30 minutes when space becomes vacant

Manual Control:

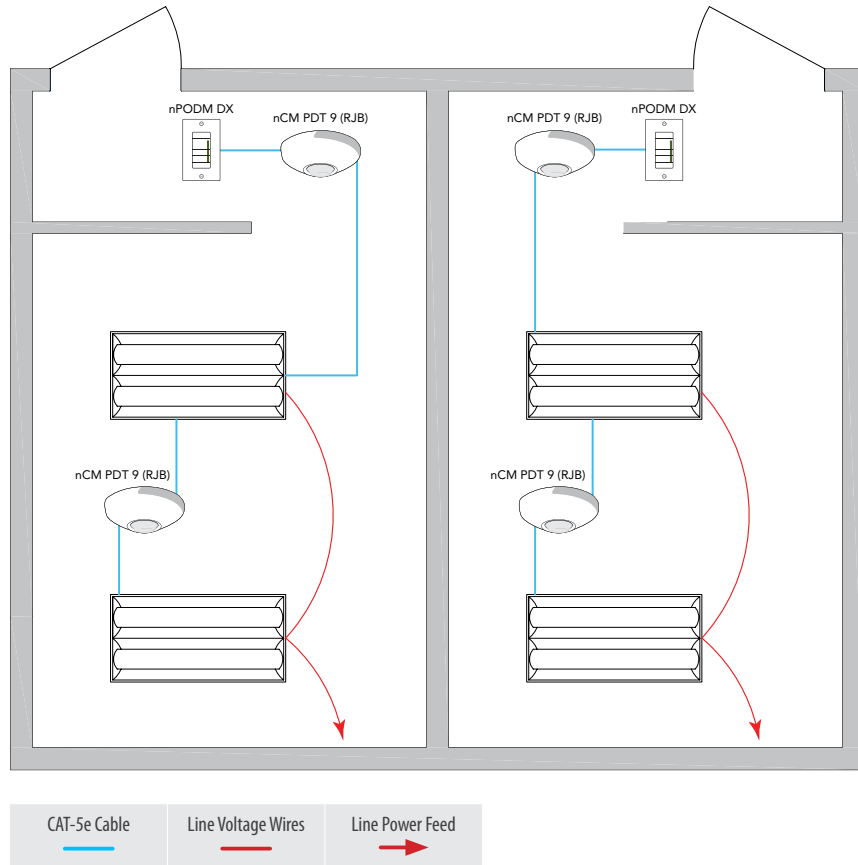
- On/off control of fixtures

/ ADDITIONAL OPTIONS:

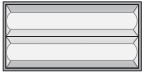


- Surface or recessed mount sensors also available
- Space can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control add a nPP16 ER pack

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Automatic On to 100% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials (Each Restroom)

Symbol	Qty	Product #	Description
	2	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight
	1	nPODM DX	On/Off & Raise/Lower WallPod
	2	nCM PDT 9 (RJB)	Dual Technology Occupancy Sensor

OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently (per room)
- Maximum level can be limited to 80%
- Optional automatic lumen compensation

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 within 30 minutes when room becomes vacant

Manual Control:

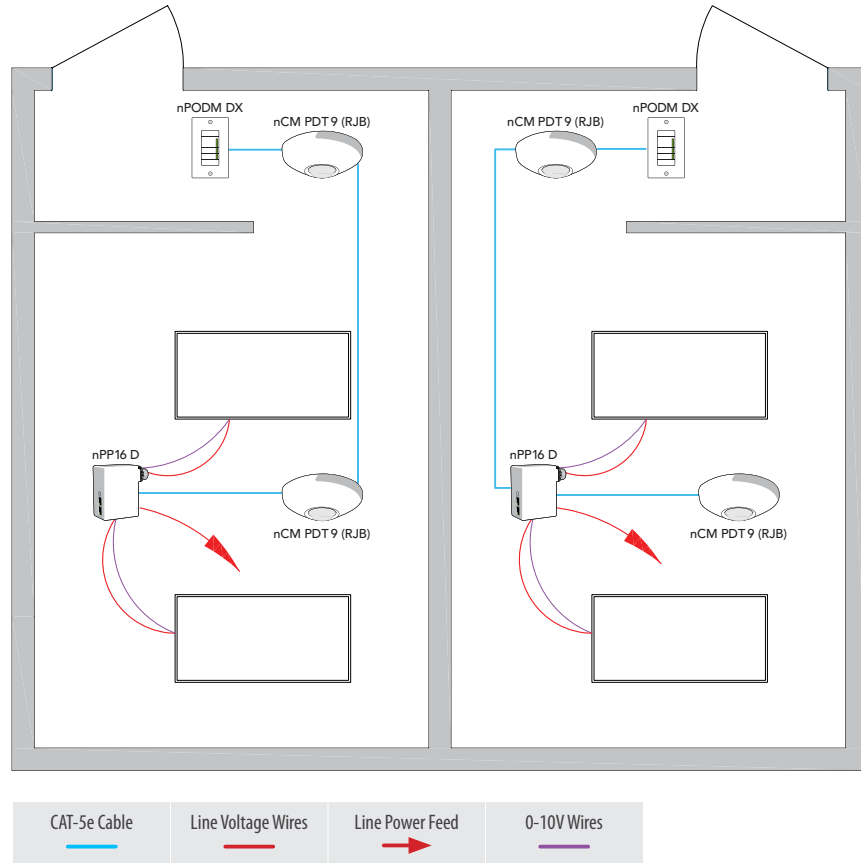
- On/off & raise/lower control of fixtures (per room)

ADDITIONAL OPTIONS:




- Surface or recessed mount sensors also available
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control order fixtures with -n80EMG or -n100EMG option

Supports the Following Requirements:

- Full Auto-Off via Occupancy Sensor (C405.2.2.2)
- Local Switch (C405.2.1.1)
- Automatic On to 100% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials (Each Restroom)

Symbol	Qty	Product #	Description
	1	nPP16 D	Relay Module with 0-10V Dimming Output
	1	nPODM DX	On/Off & Raise/Lower WallPod
	2	nCM PDT 9 (RJB)	Dual Technology Occupancy Sensor

OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together (per room)
- Maximum level can be limited to 80%

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 within 30 minutes when room becomes vacant

Manual Control:

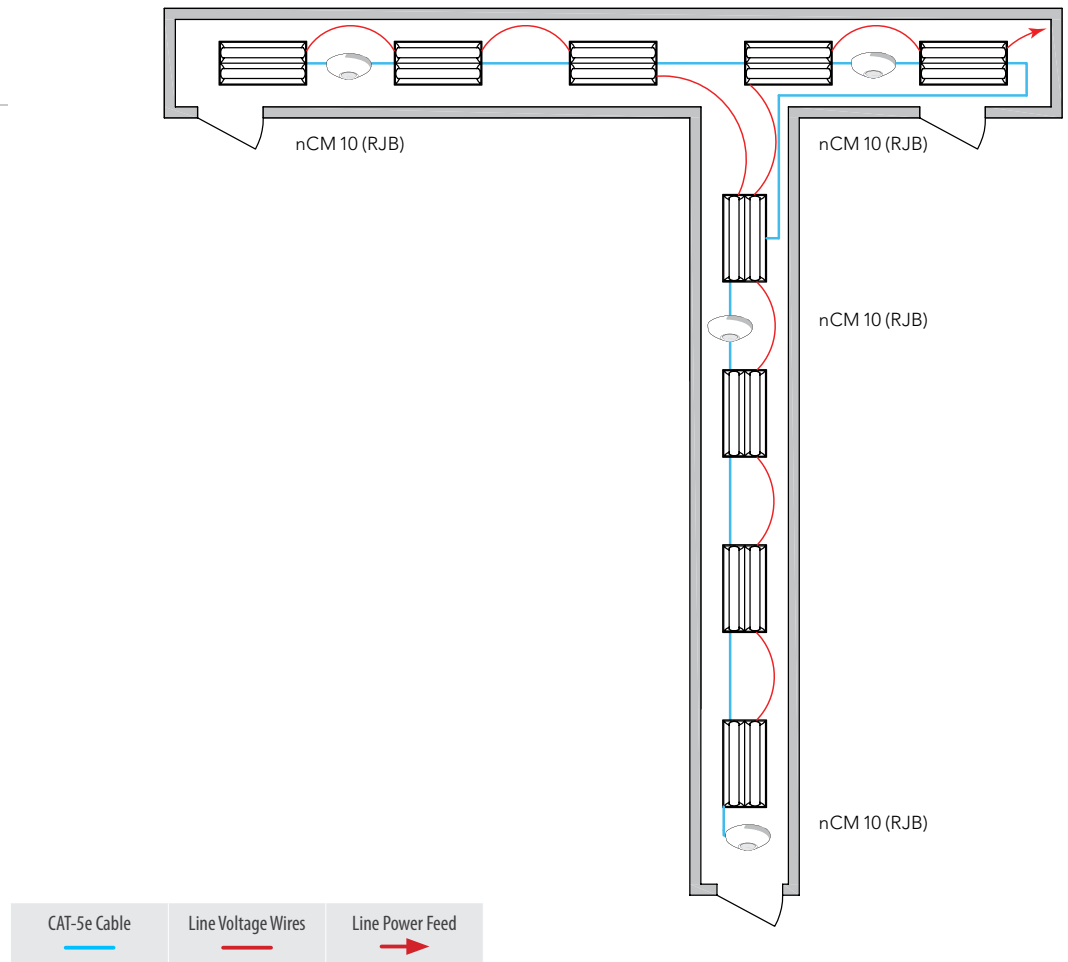
- On/off & raise/lower control of fixtures (per room)

ADDITIONAL OPTIONS:



- Surface or recessed mount sensors also available
- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control add a nPP16 D ER pack

Supports the Following Requirements:

- Automatic On to 100% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials

Symbol	Qty	Product #	Description
	9	Various; see Appendix A	Luminaire with Networked Embedded Controls from nLight
	4	nCM 10 (RJB)	Extended Range PIR Occupancy Sensor

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together or independently
- Maximum level can be limited to 80%
- Optional automatic lumen compensation

Occupancy Control:

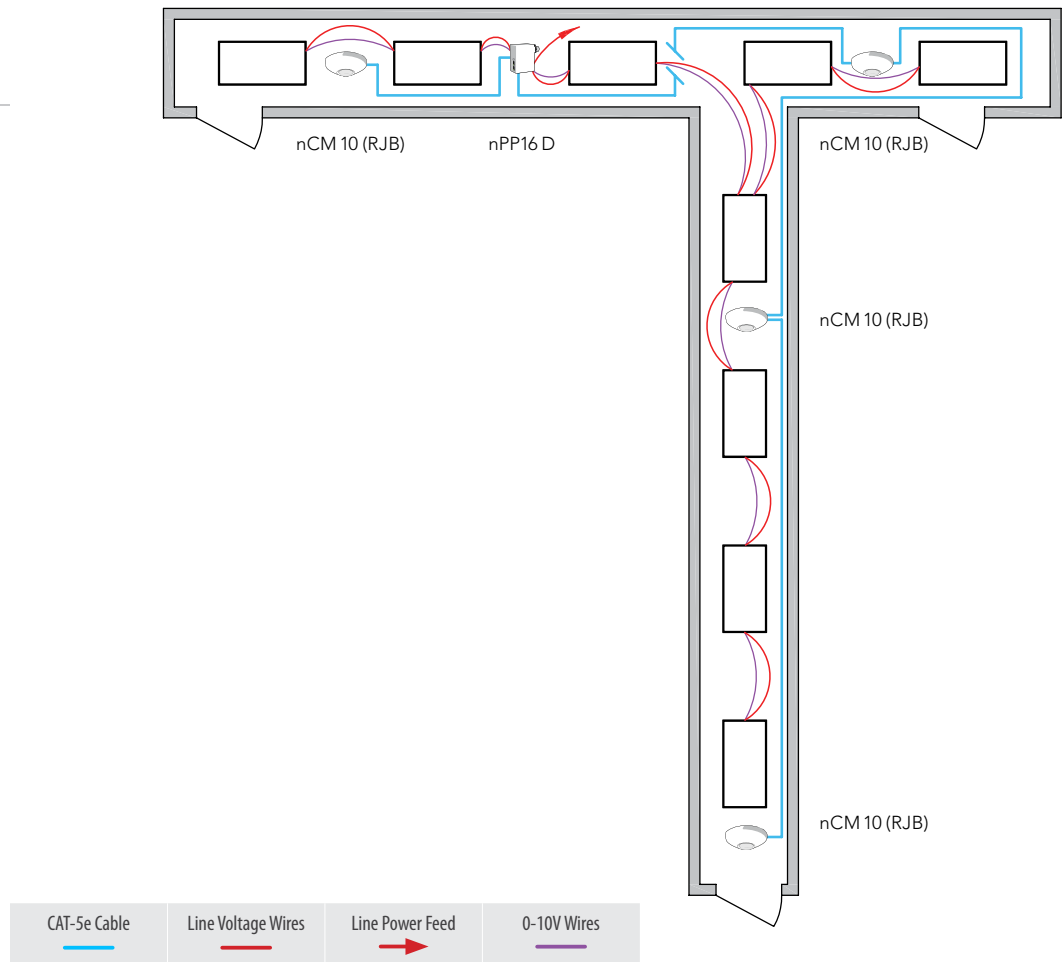
- Fixtures automatically go to full bright when occupied
- Fixtures can be configured to drop to low dim setting when space becomes vacant

/ ADDITIONAL OPTIONS:



- Surface or recessed mount sensors also available
- Space/zone can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control order fixtures with -n80EMG or -n100EMG option
- Add nCM ADCX (RJB) for daylight zone control (C405.2.2.3.2)

Supports the Following Requirements:

- Automatic On to 100% Power via Occupancy Sensor (C405.2.2.2)



Bill of Materials

Symbol	Qty	Product #	Description
	1	nPP16 D	Relay Module with 0-10V Dimming Output
	4	nCM 10 (RJB)	Extended Range PIR Occupancy Sensor

/ OPERATION DETAILS:

Fixtures:

- All fixtures are dimmable
- All fixtures are controlled together
- Maximum level can be limited to 80%

Occupancy Control:

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

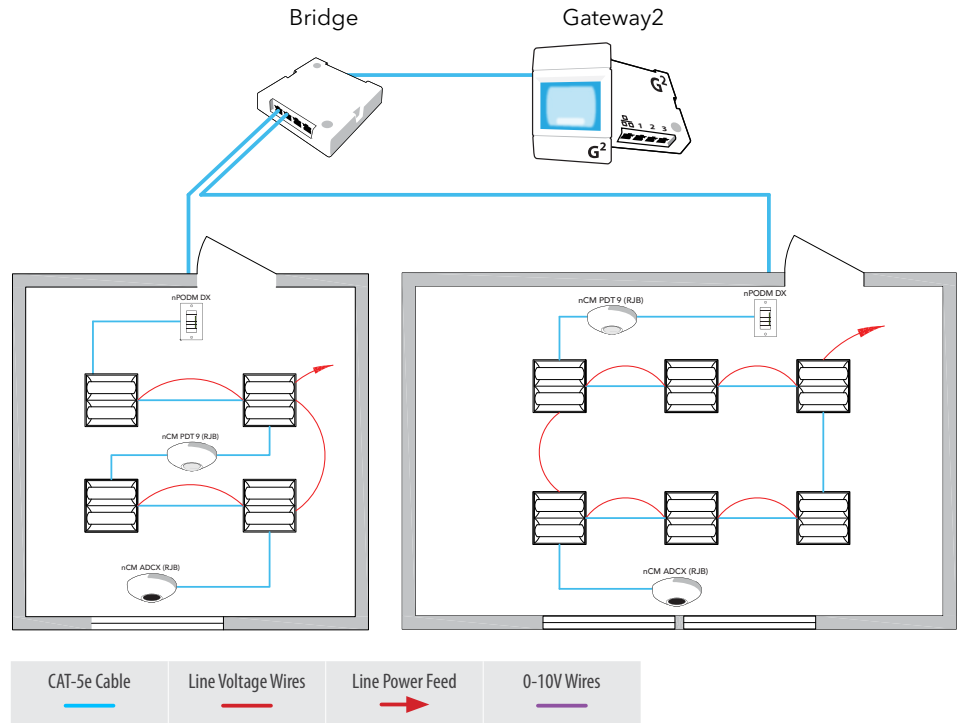
/ ADDITIONAL OPTIONS:

- Surface or recessed mount sensors also available
- Space/zone can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1)
- For emergency lighting control add a nPP16 D ER
- Add nCM ADCX (RJB) for daylight zone control (C405.2.2.3.2)



Programmable Timeclock Control:

Although not pictured within each of the individual room design guides, each nLight Control Zone can be connected via an nLight backbone to create a networked nLight lighting control system capable of meeting the requirements of the Florida Building Code programmable timeclock provision (Section C405.2.2.1). A networked system also enables astronomical time clock control.

For additional information regarding building management integration or demand response features, please contact your Acuity Brands Sales Representative.



Bill of Materials

Symbol	Qty	Product #	Description
	1	nBRG 8 KIT	8-Port Backbone Bridge
	1	nGWY2 KIT	Network Gateway Controller

nLight BLE Radio Module

The nLight® nIO BT Bluetooth Low Energy (BLE) module enables wireless communication to an nLight zone of devices from a smartphone. The nLight smartphone app, nConfig, easily modifies the settings and operation of the devices in an nLight zone aiding in meeting energy code requirements.

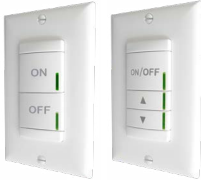

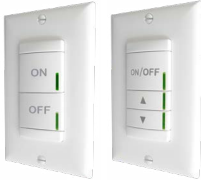

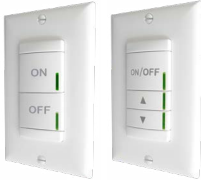








The nLight BLE Module connects to an nLight zone of devices using CAT-5e cables and is powered directly off of the CAT-5e cables. Upon powering up the nIO BT communicates with the Acuity Controls smartphone app via **Bluetooth Low Energy**. The on-board blue LED indicates paired state, and pin code recognition ensures system security.







Product Family	Fixture Series	Notes
Lithonia Lighting	AC Series	LED Recessed
Lithonia Lighting	AL Series	LED High Performance Architectural Recessed
Lithonia Lighting	ALLS	LED Surface Mount
Lithonia Lighting	AVLED	Avante® LED Recessed - Direct/Indirect
Lithonia Lighting	BZL Series	LED Recessed Indirect
Lithonia Lighting	BLT Series	LED Recessed Troffer
Lithonia Lighting	FSL Series	LED Recessed
Lithonia Lighting	RT Series	LED Recessed Volumetric
Lithonia Lighting	T Series	LED Recessed Troffer
Lithonia Lighting	VT Series	LED Recessed Volumetric
Lithonia Lighting	GT Series	General Recessed Troffer
Lithonia Lighting	SBS Series	LED Shadow Box Square
Lithonia Lighting	WL Series	LED Wall Bracket Surface Mount
Lithonia Lighting	RTLX	LED Surface Volumetric
Lithonia Lighting	ST LED	LED Surface Volumetric
Lithonia Lighting	IBL / IBH	LED Highbay
Lithonia Lighting	PTN	LED Highbay - Proteon
Lithonia Lighting	LDN	Downlight
Lithonia Lighting	ACLX	AC Series Surface Mount
Lithonia Lighting	RTLX	LED Relight Volumetric Recessed Mount
Lithonia Lighting	RTLEDRT	Relight Volumetric for Lensed Troffers
Lithonia Lighting	SBS LX	LED Relight Shadow Box Square
Lithonia Lighting	T LX	LED Relight Surface Mount
Lithonia Lighting	VTL RT LED	LED Relight Lensed Troffers
Lithonia Lighting	VTLR LED	LED Relight Parabolic Lensed
Lithonia Lighting	VTLX	LED Relight Volumetric Surface Mount
Gotham	EVO	LED Downlight
Gotham	Incito	LED Downlight

Product Family	Fixture Series	Notes
Mark Architectural Lighting	Slot 4 LED	Pendant, Wall, Surface, Recessed
Mark Architectural Lighting	Slot 6 LED	Recessed
Mark Architectural Lighting	Fin LED	Recessed
Mark Architectural Lighting	Whisper LED	Recessed
Mark Architectural Lighting	Nol LED	Recessed
Mark Architectural Lighting	SPR LED	Perimeter
Peerless	Vellum LED	Suspended, Recessed
Peerless	Mino LED	Recessed
Peerless	Round 2/4 LED	Suspended, Wall
Peerless	Square LED	Suspended, Wall
Peerless	Origami LED	Suspended, Wall
Peerless	Bruno LED	Suspended, Wall
Peerless	Staple	Suspended, Wall
Peerless	Lightline, Indirect	Suspended
Peerless	Lightedge	Suspended
Peerless	Ice tray	Suspended
Peerless	Cerra	Suspended
Peerless	Prima	Suspended
Peerless	Naro	Suspended
Peerless	Tulip	Suspended
Peerless	Envision	Suspended
Peerless	Aero	Suspended
Peerless	Enzo	Suspended

Note: New luminaires with networked embedded controls from nLight are added regularly. Please reference fixture spec sheets for luminaires with networked embedded controls from nLight.

	Control Requirement	Code Provision	Code Summary*	Recommendations for Compliance	nLight Solution Details						
Shut-Off Control	Local/Remote Switch	C405.2.1.1	Areas shall incorporate a manual or remote control to allow occupants to turn fixtures off.	Include manual control device(s) in all room control system designs.	<p>nLight WallPod devices provide a user with local control of lighting within an nLight controlled space (i.e., nLight zone). WallPods are available in multiple styles – each with varying features and user experience.</p> <table border="1"> <thead> <tr> <th>Push-Button WallPod</th> <th>Graphic WallPod</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <td>Traditional tactile buttons and LED user feedback.</td> <td>Full color touch screen provides a sophisticated look and feel.</td> </tr> </tbody> </table>	Push-Button WallPod	Graphic WallPod			Traditional tactile buttons and LED user feedback.	Full color touch screen provides a sophisticated look and feel.
	Push-Button WallPod	Graphic WallPod									
											
	Traditional tactile buttons and LED user feedback.	Full color touch screen provides a sophisticated look and feel.									
Programmable Timeclock	C405.2.2.1	Each area of the building not provided with occupant sensor controls shall be provided with time switch controls. These areas must also be provided with a manual override switch.	Utilizing controls capable of being networked across an entire building enables simple compliance via a single central programmable time clock.	<p>Individual nLight Control Zones (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 an nLight Gateway. The Gateway provides programmable time clock functionality for an nLight network as well as interfaces to the SensorView Suite of web-based software applications (via an Ethernet LAN / WAN connection).</p> <p style="text-align: center;">Network Gateway</p>  <p>Additional benefits of installing an nLight backbone include remote status monitoring, iOS smartphone app control, and BMS interface capability.</p>							
Full Auto-Off via Occupancy Sensor	C405.2.2.2	Fixtures must automatically turn off within 30 minutes of all occupants leaving the space.	Always include occupancy sensors in all control system designs regardless of lighting type.	<p>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.</p>							
Manual-On, Partial-On, Full Automatic On	C405.2.2.2	Automatically controlled spaces must be controlled to either turn the lighting on to not more than 50%, or in certain spaces, to full on.	Always include occupancy sensors in all control system designs. Reducing the level of dimmable fixtures to 50% is easiest method of compliance, however turning off 50% of lighting via circuit switching is also an option.	<table border="1"> <thead> <tr> <th>360° Occupancy Sensor</th> <th>120° WideView Corner Sensor</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <td>Surface or recessed mounts to ceiling tiles or sheetrock/plaster.</td> <td>Directly mounts in corner or to ceiling via repositionable ceiling bracket.</td> </tr> </tbody> </table>	360° Occupancy Sensor	120° WideView Corner Sensor			Surface or recessed mounts to ceiling tiles or sheetrock/plaster.	Directly mounts in corner or to ceiling via repositionable ceiling bracket.	
360° Occupancy Sensor	120° WideView Corner Sensor										
											
Surface or recessed mounts to ceiling tiles or sheetrock/plaster.	Directly mounts in corner or to ceiling via repositionable ceiling bracket.										

*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.

Control Requirement	Code Provision	Code Summary*	Recommendation for Compliance	nLight Solution Details	
Light Reduction Controls	C405.2.1.2	Spaces shall have a manual control that allows the occupant to reduce the connected lighting load uniformly by at least 50%.	Continuously dimmable LED (or fluorescent) fixtures and manual dimming controls are the easiest method of compliance.	nLight provides multiple options for controlling continuous dimming fixtures. 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 / Panels
					
				Acuity offers a wide variety of LED fixtures with factory installed integrated nLight controls that provide smooth continuous dimming, and optional automatic lumen maintenance or manual task tuning.	nLight dimming relay packs / panels enable control of any 0-10VDC dimmable LED (or fluorescent) fixture. Manual task tuning control can also be used.
Daylight-Responsive Controls	C405.2.2.3.1/2/3	Daylight-responsive controls shall be provided within each space with sidelight and toplight daylight zones.	Automatic daylight harvesting photocells that continuously adjust the level of dimming fixtures according to daylight levels provide the most effective and least distracting control.	nLight offers standalone daylight harvesting sensors as well as occupancy sensors with integrated daylight harvesting. Sensors are available in four different 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
					

*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.



Additional Resources:

Acuity Controls Typical Layout Drawings

<http://www.acuitybrands.com/typicals>

Florida Building Code 5th Edition (2014)

<http://codes.iccsafe.org/Florida.html>

Use the Following Sections of the Florida Building Code 5th Edition (2014) as Reference:

- Section C405.2.2.2 – Full Auto-Off via Occupancy Sensor
- Section C405.2.2.2 – Manual-On or Partial-On
- Section C405.2.2.2 – Full Automatic On
- Section C405.2.1.1 – Local Switch
- Section C405.2.2.1 – Programmable Timeclock
- Section C405.2.1.2 – Manual Lighting Reduction
- Section C405.2.2.3.2 – Automatic Daylighting Controls



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.