

**NX** DISTRIBUTED™  
INTELLIGENCE  
The Next Generation of Lighting Control

Design & Application Guide  
Vol. 3 - August 2020







# **NX** DISTRIBUTED INTELLIGENCE™

The NX Distributed Intelligence™ lighting control system is a simple and cost-effective tool that meets state and local energy codes and other requirements, while also providing the flexibility to help users feel comfortable. Using a small number of components, NX covers a wide variety of applications across commercial, institutional and industrial buildings. Using the same short list of products, the system scales from one office or one floor, to one building or across an entire campus. The NX mobile application can be used to make adjustments to the standard settings, and to customize the settings and lighting to get the most from the system.

This Design & Application Guide provides Engineers, Designers and Architects with detailed product information on the NX system and exemplifies how to design and specify a system. Facility Manager, Operating Engineers and Installing Contractors can also use this document to find additional information on the use of the NX system.

## Table of Contents

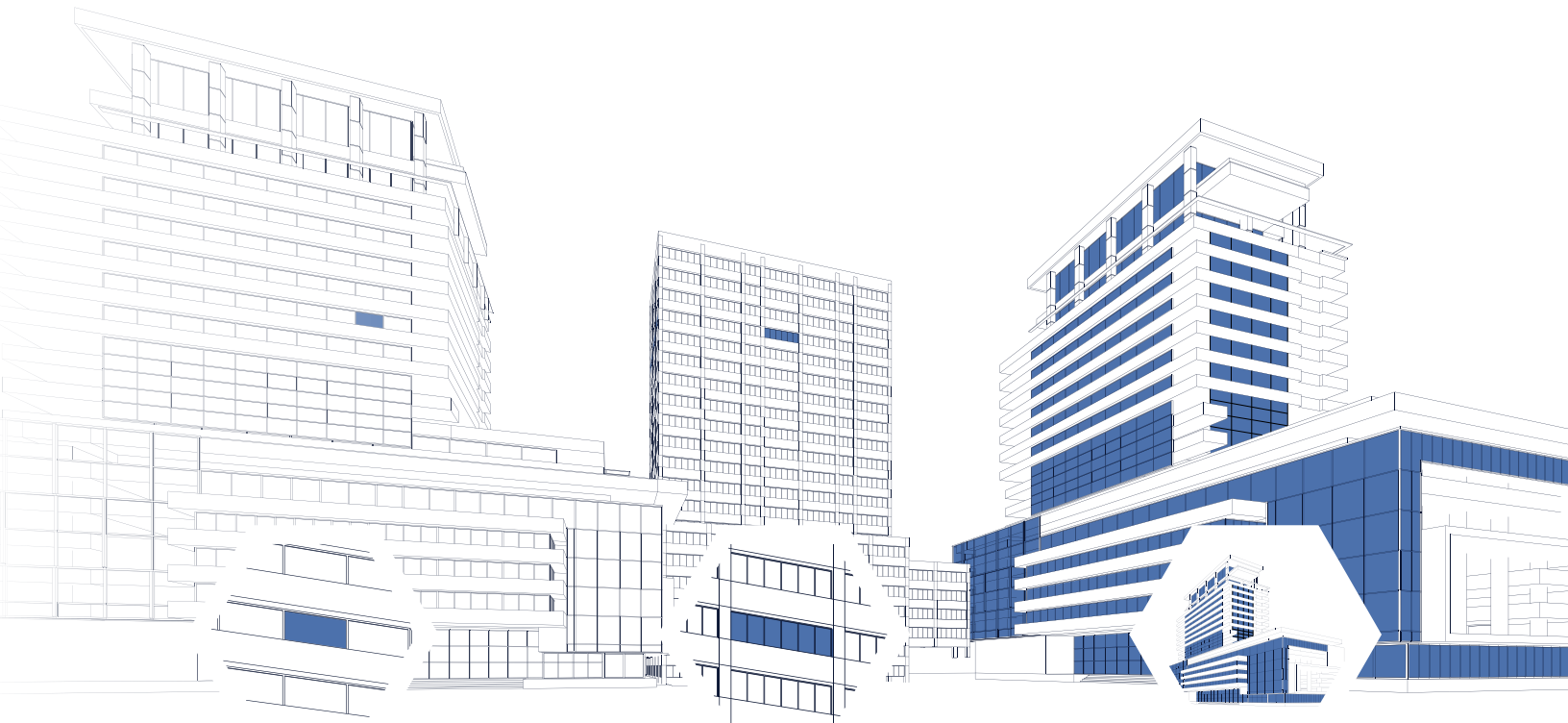
4	<b>The Value of NX</b>	14	<b>SpectraSync™ Color Tuning Technology</b>
6	<b>Meet Codes &amp; Standards</b>	16	<b>Applications</b>
8	<b>Choosing System Architecture</b>	36	<b>Appendix</b>
10	<b>Lighting Control Intent</b>	40	<b>Project Support</b>
12	<b>Best Practices</b>		



NX Distributed Intelligence™ lighting control platform utilizes a Distributed Network Architecture (DNA) that connects intelligent devices including luminaires, controllers, panels, occupancy sensors, photocells, wall switches and dimmers. NX's fully distributed design means programming is stored at the device, and each control can function independently all the way down to the room, fixture and device level.

This approach eliminates operational dependencies on software, gateways and servers.

- NX is designed for commercial and industrial applications with panel, room-based and in-fixture controllers, sensors and wall switches, integration interfaces, and native BACnet® support for Building Automation Systems
- NX supports indoor and outdoor applications, wired, wireless and hybrid networked lighting control deployments
- NX is designed to self-configure, automatically meeting energy code requirements as devices are connected. Further configuration may be done using either the NX smartphone application (local) or a browser-based interface (networked)



### In-Fixture Control



- Luminaire-integrated design
- Out-of-the-box operation
- User-friendly Bluetooth® App

### Room Control



- Easy plug-in installation
- SmartPORT™ auto-configuration
- Adaptive energy efficient operation

### Networked Building Control



- Networked solution
- Control and monitor software
- Integration with BAS



NX integrated luminaires use the Device Setup App for wireless programming and scheduling, dramatically reducing the time it takes to configure or modify crucial settings.



### Bluetooth Programming Interface

- Plug n play
- Portable
- Enables easy mobile app access

## Complete Suite of Products

NX Distributed Intelligence™ offers a broad portfolio of controllers, network devices, panels, sensors, and interfaces under one platform to address new construction and retrofit applications.

### Lighting Controllers



#### In-Fixture Sensor Modules

- Luminaire-integrated design reduces complexity and design time
- Intelligent auto-configuration
- Bluetooth® enabled sensors available in five versions to address occupancy and daylight dimming



#### Radio Modules

- Provide HubbNET™ wireless mesh network communication
- Robust and reliable IEEE 802.15.4 2.4GHz radio
- Remote, in-fixture and on-fixture mounting options



#### Room Controllers

- Intelligent auto-configuration
- Automatic code compliance
- Cat5 plug and play connectivity
- UL924 emergency solutions
- Plug load controller available in split and full control, 15A and 20A options



#### Plug Load Control Room Controller Accessory

- Enables code compliance
- Easily integrates with Room Controllers
- Available in split and full control, 15A and 20A options

### Wall Stations



#### Wall Stations

- Attractive, architecturally-pleasing decorator style design
- Plug and play integration with NX system
- Multiple switch options available including SpectraSync™ CCT control



#### SimpleTouch™ Graphic Wall Station

- Full color touchscreen control of groups presets and schedules
- Flexible, user friendly interface
- Customizable home screen and navigation

### Sensors



#### OMNI Ceiling Sensor

- Patented IntelliDAPT™ self-adaptive technology
- Passive Infrared, Ultrasonic and Dual Technology versions
- With occupancy or vacancy mode up to 2000 sq ft coverage area



#### Daylight Sensors

- Open-loop daylighting controls
- Supports up to 6 lighting zones per room
- Simple device setup using the NX mobile App

### Network



#### Area Controllers

- Central component for enterprise solutions
- Real-time programming and monitoring
- Native BACnet® support



#### Network Bridges

- Connect Room Controllers to HubbNET network
- Provide communication link for Area Controllers
- CAT5 plug and play connectivity

### Interfaces



#### Interfaces

- Provides inputs to and outputs from the system
- Options for contact closure, serial/AV, or 0-10V dimming
- Simplified connections to HubbNET or SmartPORT™



#### NX Relay Panels

- Provides programmable switching and dimming of lighting circuits
- Can be used exclusively or as part of a network solution
- Available in 8, 16, 24, 32 and 48 relay versions

These are the key components. See appendix or please visit [www.hubbellcontrolsolutions.com](http://www.hubbellcontrolsolutions.com) for a full list of NX products.

# Code Compliance at Every Level of Scalability

From a single standalone fixture solution to a complete networked building approach, NX can maximize energy savings and meet or exceed today's energy code requirements.



**High End Trim** - An artificial maximum light output set below actual maximum light output for each space



**Continuous Daylighting** - Automatically turns lights down to a reduced level or off based on the amount of daylight present in a space

**Daylight OFF** - Automatically turns the lights off based on the amount of daylight



**Local Control** - Manual lighting controls that control all the lights in that space and requires human intervention



**Demand Response** - A defined temporary reduction of lighting load or load shedding in response to a request from an energy authority such as a utility or regional transmission operator



**Scheduling** - Controls light levels based on facility schedule



**BMS Integration** - The data exchange for control and monitoring from a facility's Building Management System or Energy Management System using a common protocol such as BACnet®



**Full OFF** - Automatically turns the lights off within a set period of time after all occupants leave the space

**Partial ON** - Automatically turns lights on to a reduced level between full ON and full OFF when occupants enter the space

**Partial OFF** - Automatically turns lights down to a reduced level between full ON and full OFF after all occupants leave the space



**Setback** - Automatically turns lights down to a reduced level after all occupants leave the area

## Loads and Codes

The NX Distributed Intelligence system has solutions for every project type, all that's needed is a list of loads and which energy codes are required. NX Room Controllers, in-fixture controllers, sensors and wall switch stations are selected based more on the project scope and design intent rather than on cryptic rules. Combined with an array of accessories and a native BACnet building automation interface, the system will work with other systems. It has toolsets to allow large systems to network together to control multiple buildings with one system.

## Standards & Code

ENERGY CODES

NX SCALABLE SOLUTIONS

IECC 2015

ASHRAE 90.1 2016

Title 24 Part 6 2016



Fixture



Room



Building

I N D O O R						
High End Trim				✓	✓	✓
Local Control	C405.2.2.3	9.4.1.1 (a)	130.1 (a)	✓	✓	✓
Multi Level Control	C405.2.2.2	9.4.1.1 (b)	130.1 (b)	✓	✓	✓
Scheduling	C405.2.2.1	9.4.1.1 (i)	130.1 (c) 4	✓	✓	✓
Occupancy Sensor Full OFF	C405.2.1.1	9.4.1.1 (h)	130.1 (c) 6	✓	✓	✓
Occupancy Sensor Partial ON	C405.2.1.1	9.4.1.1 (c)	130.1 (c) 5	✓	✓	✓
Occupancy Sensor Partial OFF	C405.2.1.2	9.4.1.1 (g)	130.1 (c) 6	✓	✓	✓
Continuous Daylighting	C405.2.3	9.4.1.1 (e)	130.1 (d)	✓	✓	✓
Plug Load Control		8.4.2	130.5 (d)	✗	✓	✓
Demand Response			130.1 (e)	Contact Closure	Contact Closure	BACnet®
BMS Integration				Contact Closure	Contact Closure	BACnet
O U T D O O R						
Astronomical Timeclock	C405.2.5(2)	9.4.1.4 (b)	C405.2.2.3	✓		✓
Setback	C405.2.5(3)	9.4.1.4 (d)	C405.2.2.3	✓		✓
Daylight OFF	C405.2.5(1)	9.4.1.4 (a)	C405.2.2.3	✓		✓
Demand Response				Contact Closure		BACnet
BMS Integration				Contact Closure		BACnet

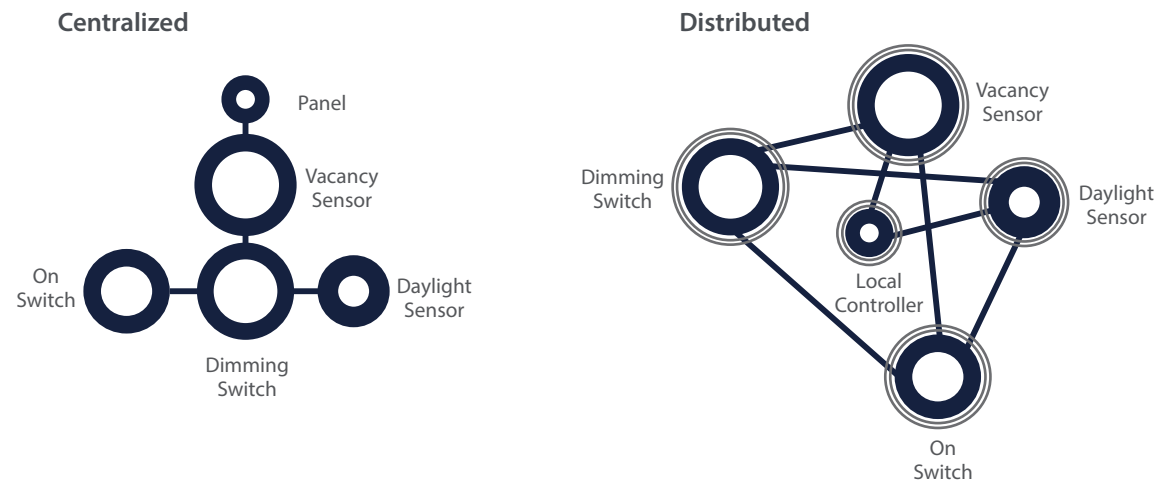


## Choosing The Right System Architecture

All systems, including lighting controls, have a structure of hierarchy and topology, known as a system architecture. In commercial and industrial lighting control applications, a system architecture must be evaluated against several criteria, including security, performance, and flexibility. Most lighting control systems have a fixed structure, requiring certain devices to be a part of any system, no matter how small. Many systems also have a centralized hierarchy, where a master device commands the entire system. These rules can be difficult to understand and apply, and a new design is needed for each new project.

- Security
- Performance
- Flexibility
- Building System Integration

Most lighting control systems have a fixed structure, requiring certain devices to be a part of any system, no matter how small. System connections will be shown through the topology. Many systems also have a fixed hierarchy, such centralized, where a master device commands the entire system. These rules make most systems difficult to understand and must be redesigned project to project. The system has a wide variety of applications, while remaining flexible and easy to design with.



### Distributed Network Architecture (DNA)

The NX system utilizes the Distributed Network Architecture, or DNA. Each part in the NX system always knows what its role is. This structure allows NX to scale from a single intelligent fixture to an entire building or campus using only parts needed for the task without, central processors or gateways. NX systems are flexible, easy to design with and can be used in a wide variety of applications, including education, office, industrial and outdoor venues.

### Wired, Wireless and Hybrid

The NX system uses a secure wired, wireless or hybrid topology. Deployment within the topology requires using room or fixture-based controls, sensors and wall switch stations. Where the ceiling is accessible, low-voltage Cat5 cable connects the system together. When areas controlled by NX are not as accessible, wireless accessories can be added anywhere along the way. NX allows any combination of these networks. The system can be configured and managed wirelessly using the mobile App designed for both Android™ and iOS platforms.

### In-fixture or Circuit Level Control

NX systems have a strong heritage in circuit-level control using devices that switch and dim large areas at once. Unlike traditional lighting relay panels, Room Controller devices can be placed within the area they control and are wired for group control. Ceiling/wall sensors and wall switch stations provide inputs, and NX automatically configures to meet basic code requirements. In-fixture controls are the ultimate in distributed control, where each luminaire can switch and dim itself. Fixtures can include occupant and light detection, meeting most codes out of the box, without installing other devices. NX allows any combination of these styles on the same project, and NX even has relay panels built on the same DNA as the other choices, allowing for multiple design paths.



## NX: Best in Class Intelligent Lighting Controls System

While meeting and exceeding energy codes, NX is easy to design with, install and configure. The Distributed Network Architecture (DNA) of NX is reliable and scales for any size project. NX allows for project completion on time and budget, without wondering if the system can meet standards. Hubbell Control Solutions provides world-class service and support every step of the way, including a 5-year warranty.



## Lighting Control Intent

### Circuit Level vs. Fixture Level Control

Designing the right lighting control system for your application requires a few decisions to put you on the path to success. This process begins at the room level. Most of the sequence of operation can be accomplished with programming, however some flexibility is required. The number of control groups needed for the room has to be considered. A simple space with only general lighting requirements can benefit from the simplicity of a Room Controller providing circuit level control. Repeatability of spaces with identical, simple control intent is a good use for room-based needs such as in hospital's patient rooms, or school's classrooms. Rooms with multiple lighting zones, like a classroom with windows, a White board, and the need for dimming, may be served better with an in-fixture control that uses programming instead of control wiring to group the lighting into zones. A need for re-zoning in the future, like in the case of a tenant occupied commercial office space, could also use the in-fixture control programming. With NX in-fixture solutions, all of the switching, dimming and grouping of lighting is provided by controls internal to the luminaires.

### Stand-Alone Or Networked

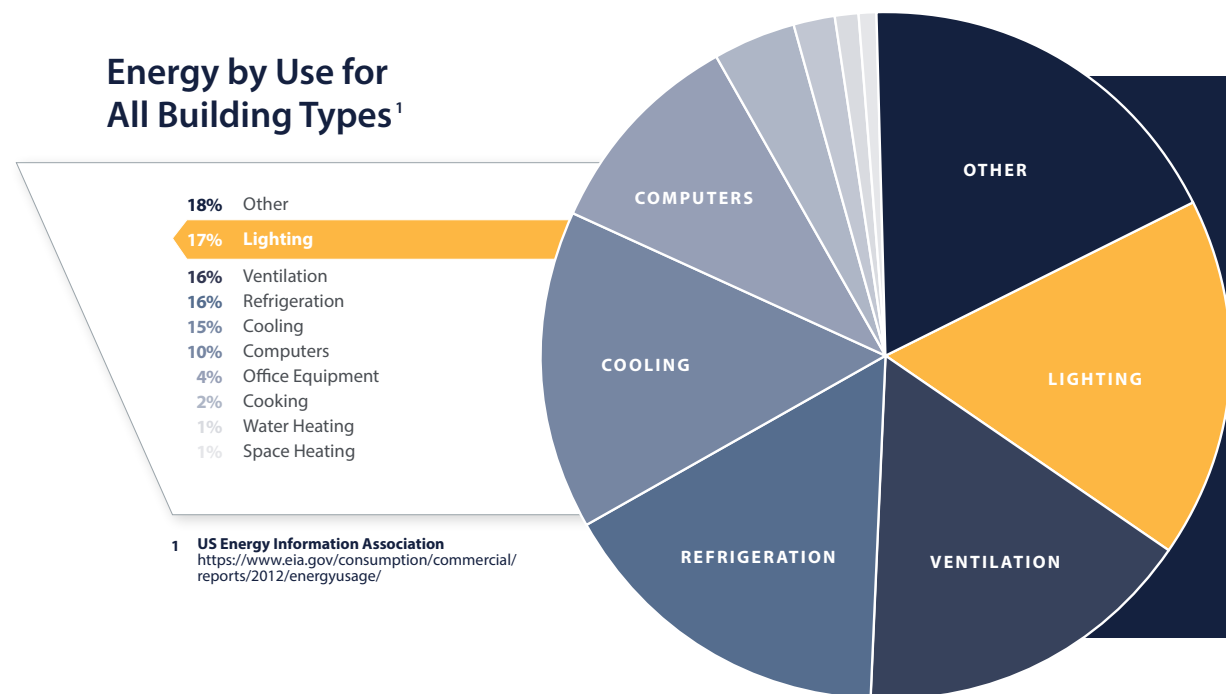
With NX, networking becomes an option to be considered in light of additional requirements. The lighting controls operate independently regardless of a network being installed or not and regardless of the complexity of the code or control intent of an individual space. Reasons for installing a network might include the need to alter building-wide schedules on a regular basis or to integrate the lighting controls into the Building Automation System. Making the step up to a facility wide network simply requires the addition of a Network Bridge module to each room or space that is to be on the network.

### Exterior Lighting Control

Connecting NX enabled outdoor luminaires wirelessly to the building controls only requires the addition of a single radio to the wired building network. Since NX uses common messaging for wired and wireless control, the interior and exterior lighting will operate seamlessly from the same browser based user interface.



## Energy by Use for All Building Types<sup>1</sup>



<sup>1</sup> US Energy Information Association  
<https://www.eia.gov/consumption/commercial/reports/2012/energyusage/>

### Energy Savings

Lighting comprises 17% of the total energy consumption in a building. While commercial lighting energy use continues to decline as a result of increased LED lighting efficacy and more stringent energy codes, there are still opportunities for energy savings. For example, additional savings can be seen through controlling plug loads and the deployment of dimmable LED luminaires controlled with occupancy or daylight sensors.

### Additional HVAC Savings

Native BACnet® Integration with Building Management Systems (BMS) allows an exchange of occupancy and daylight information to help manage energy strategies and promote additional energy efficiency improvements through other building systems, such as HVAC. Integrating lighting control equipment through BACnet has the added benefit of reducing the initial equipment cost, reducing wall and ceiling clutter by eliminating the need for duplicate sensors and leveraging Hubbell Controls Solutions advanced sensor technology. Enabling BMS control of dimmable LED luminaires may represent an additional point of control which reduces the overall thermal load within a conditioned space.





## NX Lighting Control System Best Practices

Hubbell's NX Distributed Network Architecture (DNA) uses two networks for communication and control. Each is designed to support NX's DNA: SmartPORT™ for the local area network and HubbNET™ for the wide area network. Hubbell recommends the following parameters for best practice design:

### HubbNET

Communication backbone for area control. All HubbNET devices must be daisy chained from any single HubbNET Segment port from an Area Controller

- 328 ft per daisy chained segment– Ethernet, CAT5e or better
- Up to 64 devices per HubbNET port (See last bullet)
- HubbNET is a powered network; do not connect HubbNET CAT5 cables to standard Ethernet devices. Consult factory if additional network segments are required
- Number of ports can be expanded using POE switch (see diagram)
- Total number of HubbNET devices cannot exceed 500 per Area Controller

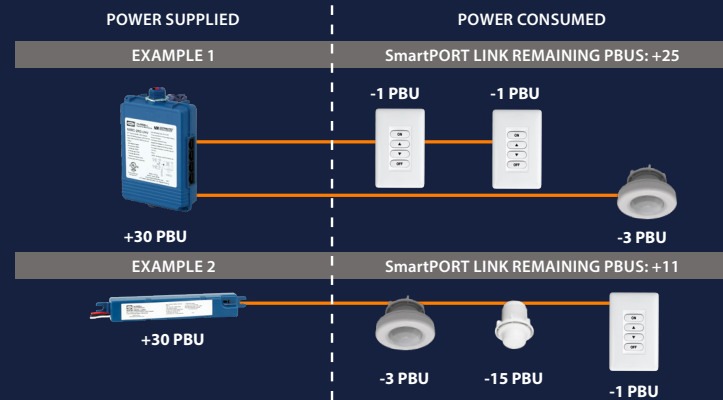
### SmartPORT

Communication backbone for zone level control. Bridges connect HubbNET and SmartPORT layers.

- All SmartPORT devices are CAT5 daisy chain connected
- Up To 1,000 ft total cable length per SmartPORT Zone Segment
- Up to 32 NX Devices per SmartPORT Zone Segment

### SmartPORT Power Budgeting

Each SmartPORT connection has a PBU (Power Budget Unit). SmartPORT devices either supply power (+ PBUs) to the network or draw power from it (-PBUs). For every device this is pre-calculated from factory. See tables on pages 36-39 for PBU allocation by device. Below is a reference example for PBU calculation when designing a system.

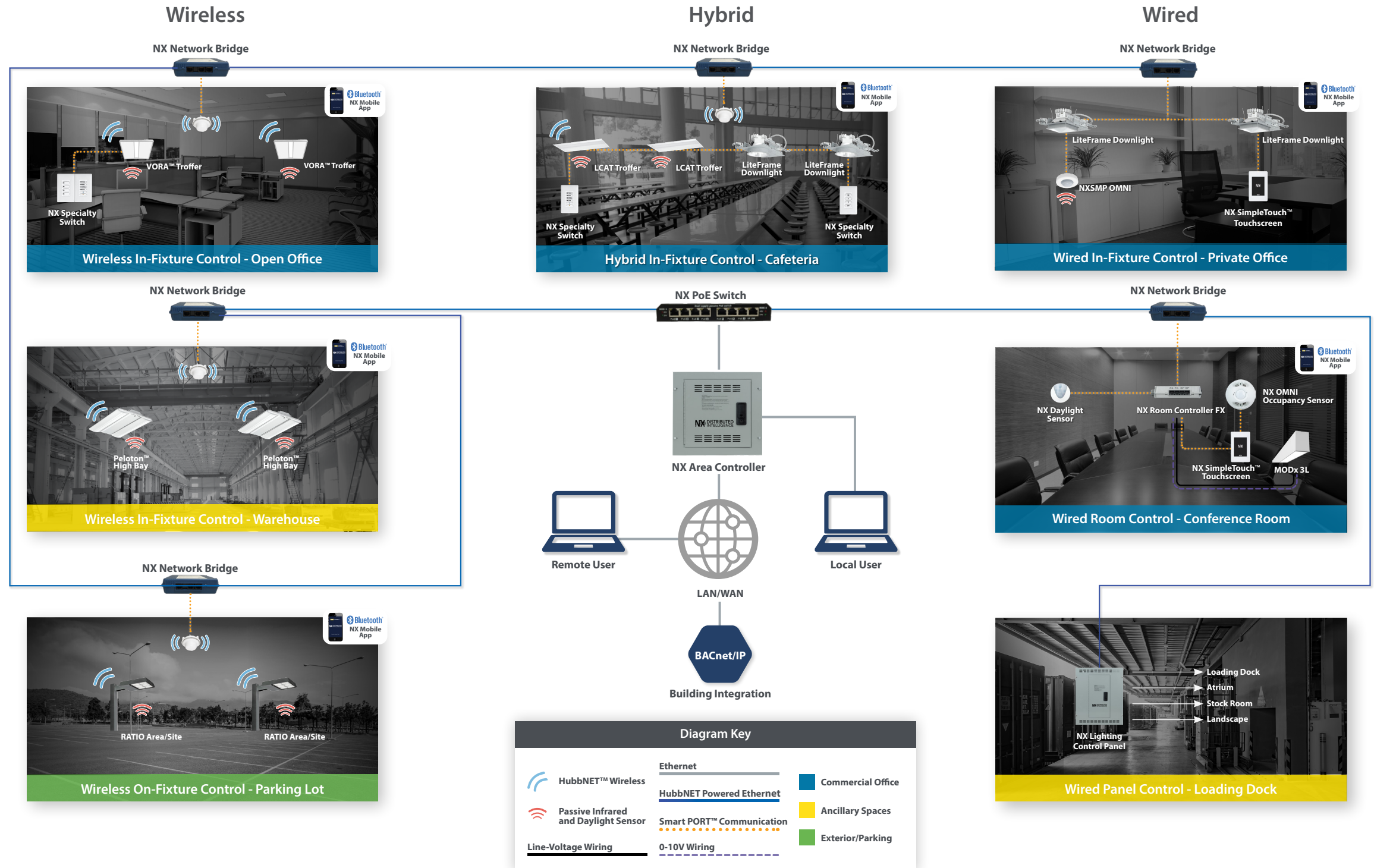


### Wireless Radio

Best practice indoor radio range for NXRM-H is 100 ft. Actual range is dependent upon building construction and radio location. Best practice outdoor range is 300 ft. Actual range is dependent upon a clear line of site.

# NX DISTRIBUTED INTELLIGENCE™

## Network Topology







SpectraSync™ Color Tuning Technology enables dynamic control over the lighting of indoor spaces. Control indoor spaces based on the needs of the application, specific activities throughout the day and preferences of the occupants with three distinct SpectraSync™ Color Tuning Technologies. For additional details please click the SpectraSync™ logo above.



#### Dim to Warm

Dim to Warm mimics the familiar warming effect that occurs with traditional incandescent sources as they are dimmed. (Available with 2200K-3000K)



#### Tunable White

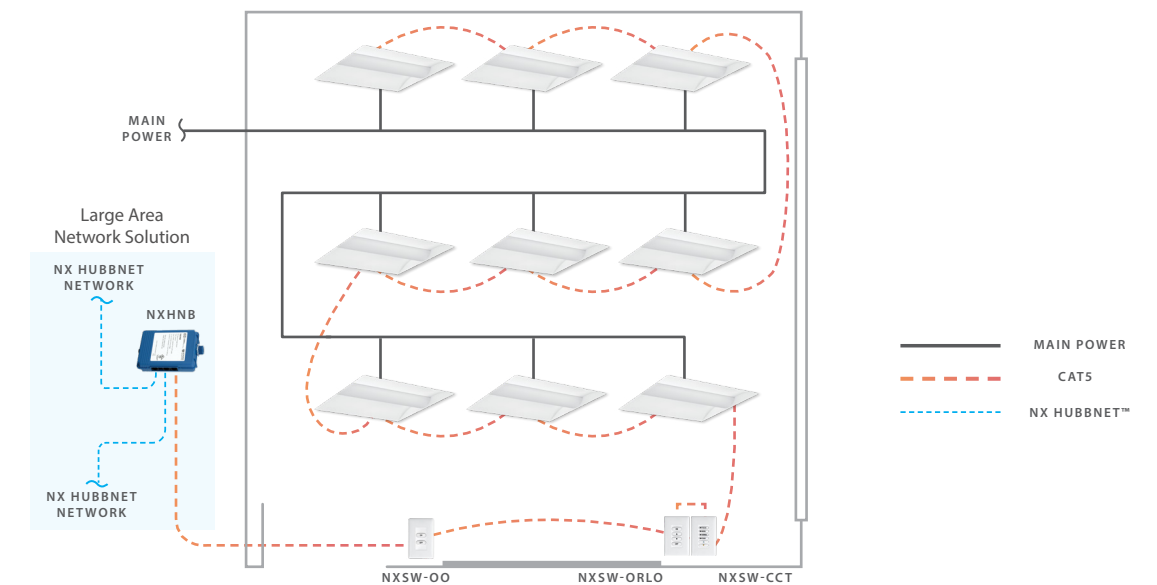
Tunable White offers the ability to tailor correlated color temperature (CCT) to the occupants personal preference, enhancing task visibility, material and colors and the aesthetics of the space. (Available with 2700K-5000K or 2700K-6500K)



#### Scheduled White

Scheduled White creates an environment that mimics the rhythm of natural light or follows an alternative user-defined schedule throughout the day, enhancing an occupant's mood and well-being. (Available with 2700K-5000K or 2700K-6500K)

When paired with SpectraSync™ enabled luminaires, NX delivers a comprehensive color control solution, simplifying setup and code compliance through self-configuration and a Bluetooth® interface with mobile application.



Typical NX Distributed Intelligence Layout for In-fixture Control

- NX Distributed Intelligence supports SpectraSync™ in both room control and in-fixture deployments
- Simplified installation with device auto-configuration and plug and play connectivity
- Free Bluetooth NX Device Setup App for ease of configuration - Available for iOS and Android devices
- Intuitive App interface and user-friendly wall stations for precise control



# EDUCATION



The Parts of a Library Patron

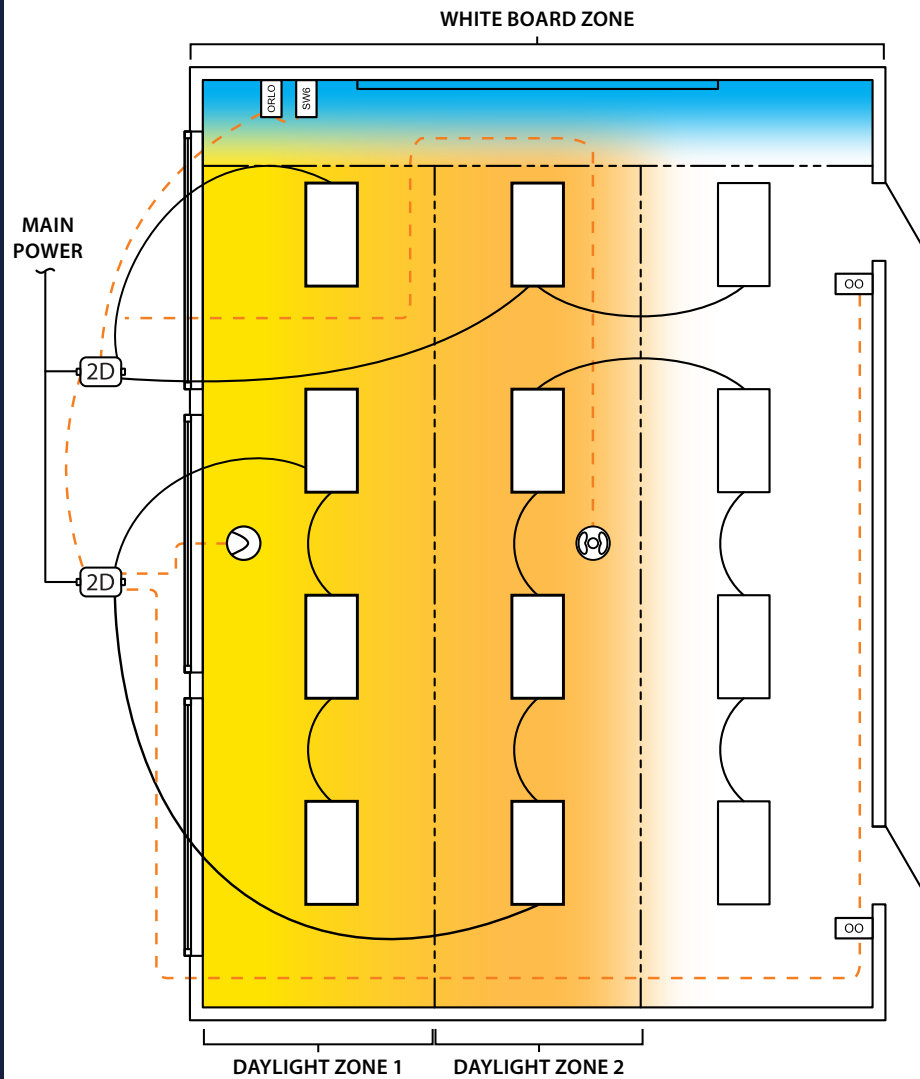
Eyes for reading a good book

An evaluative mind for choosing books that are right for ME.



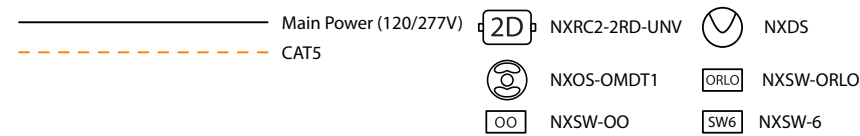
## CLASSROOM (800 SQ FT)

### Wired - Room Control



Note: Drawings not shown to scale and are intended as illustrative example of the application.

#### KEY



#### BILL OF MATERIALS

QTY.	Catalog #	Description
2	NXRC2-2RD-UNV	Room Controller with 2 dimming outputs
1	NXOS-OMDT1	Occupancy sensor
1	NXDS	Daylight sensor
1	NXSW-ORLO*	ORLO Specialty Switch
2	NXSW-OO	On/Off Specialty Switch
1	NXSW-6	6 Button Programmable Smart Switch
12	LCAT24-35MLG-EDU1	2x4 LCAT LED Troffers

\*This switch is acting as the partition switch

ASHRAE 90.1

#### SOLUTION STRATEGY

- Use NX Room Controllers for cost effective energy code compliance in simple room applications

#### BEST PRACTICE LAYOUT

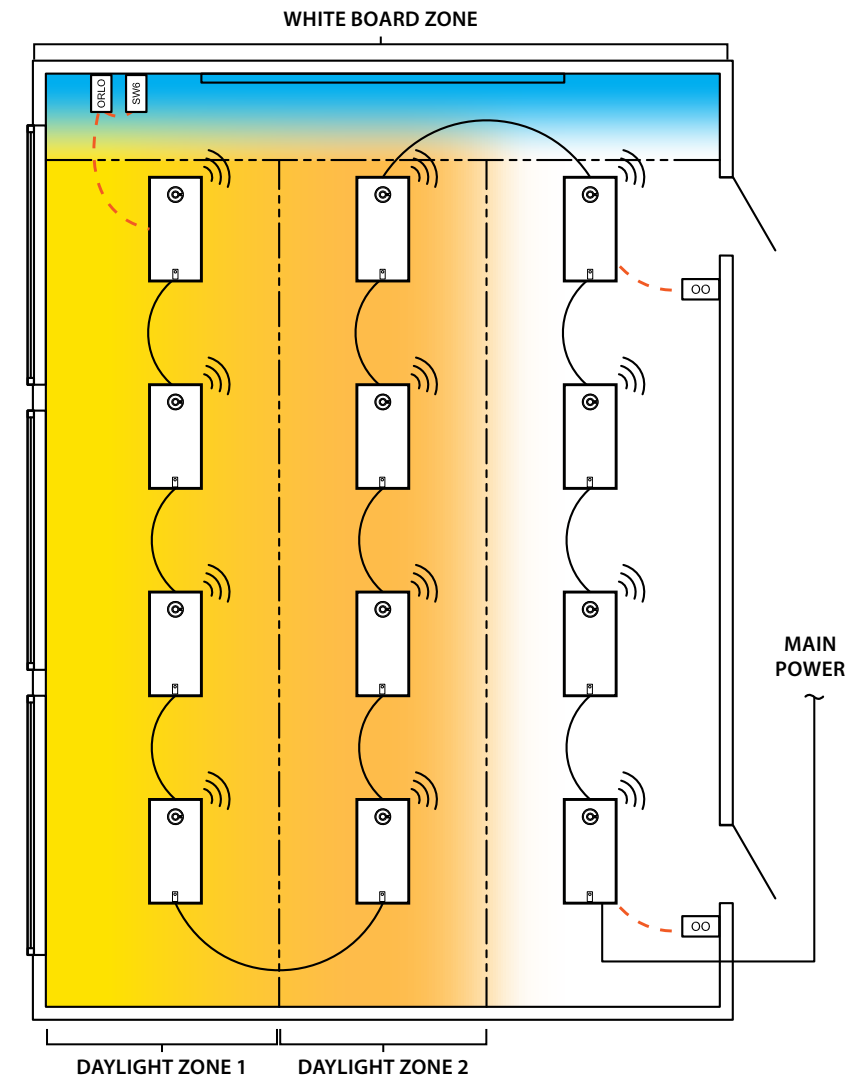
- Place the occupancy sensor as close to the center of the room as possible free of obstructions
- The daylight sensor should be placed near the window aperture and aligned to the middle of the opening for accurate measurement
- Switch stations should be located near each door and teacher's station for convenient access
- All scene control switch stations should be located near the front of the classroom for convenient adjustment of lighting levels during instruction

#### OPERATIONAL DESCRIPTION

- 0-10V Dimming
- 2 Controllable zones
- 2 Daylighting zones
- Auto ON to 80% upon occupancy
- Daylighting configured for continuous dimming
- Manual control – Full ON, All OFF, Preset Scenes, and Raise/Lower
- UL924 compliance with integral luminaire battery back-up
- NX Device Setup Mobile App for system programming

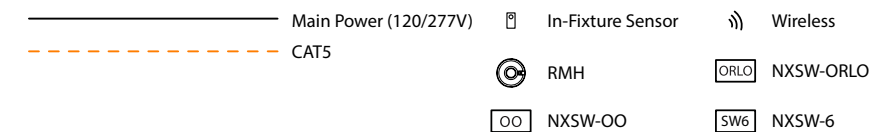
## CLASSROOM (950 SQ FT)

### Wireless - Room Control



\*The partition scheme shown above is "manual controlled partitioning." For automatic, refer to WSPS - Partitioning sensor in Appendix Note: Drawings not shown to scale and are intended as illustrative example of the application.

#### KEY



#### BILL OF MATERIALS

QTY.	Catalog #	Description
9	LCAT24-35MLG-EDU1-NXSW	LCAT LED Troffers, NX Wireless Enabled with Sensor
2	NXRC-2RD-UNV	Room Controller with 2 dimming outputs
2	NXSW-SS	6 button scene station
3	LCAT-24-35MLG-EDU-NXSWD	LCAT LED Troffers, NX Wireless Enabled with Dual Smart-PORTs and Sensor
1	NXSW-6	6 Button Programmable Smart Switch
2	NXSW-OO	On/Off Specialty Switch

ASHRAE 90.1

#### SOLUTION STRATEGY

- Use NX wireless enabled fixtures throughout the space to reduce installation complexity

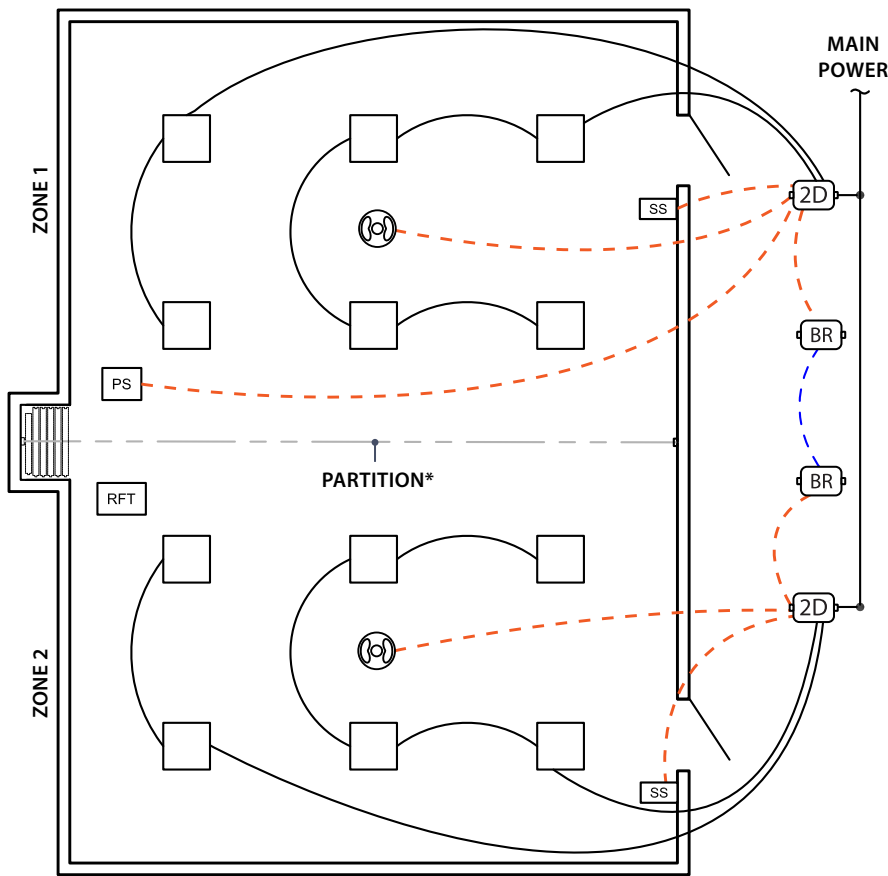
#### BEST PRACTICE LAYOUT

- All luminaires are enabled with NX smart sensors to provide optimal coverage for occupancy detection
- For daylighting only one smart sensor located near the window aperture should be enabled for daylight harvesting
- Switch stations should be located near each door and teacher's station for convenient access
- All scene control switch stations should be located near the front of the classroom for convenient adjustment of lighting levels during instruction
- All switch stations can be wired to NX enabled luminaires through CAT5 connections eliminating need for NX room controllers

#### OPERATIONAL DESCRIPTION

- 0-10V Dimming
- 2 Controllable zones
- 2 Daylighting zones
- Auto ON to 80% upon occupancy
- Daylighting configured for continuous dimming
- Manual control – Full ON, All OFF, Preset Scenes, and Raise/Lower
- UL924 compliance with integral luminaire battery back-up
- NX Device Setup Mobile App for system programming





\*Partition scheme shown above is achieved through automatic partitioning. For automatic partitioning an NXCI is required with the NXWPS wall partition sensor. See NXWPS specification sheet for additional details.  
 Note: Drawings not shown to scale and are intended as illustrative example of the application.

KEY		
—	Main Power (120/277V)	[2D] NXRC-2RD-UNV
- - -	CAT5	[NXOS-OM-DT5] NXOS-OM-DT5
- - -	NX HubbNET™	[BR] NXHNB2
		[SS] NXSW-SS
		[RFT] Reflector
		[PS] NXWPS

BILL OF MATERIALS		
QTY.	Catalog #	Description
2	NXRC2-2RD-UNV	Room Controller with 2 dimming outputs
2	NXOS-OM-DT5	Occupancy sensor
2	NXSW-SS	6 button scene station
12	LCAT24-35MLG-EDU1	2x4 LCAT LED Troffers
2	NXHNB2	NX Bridge

SOLUTION STRATEGY

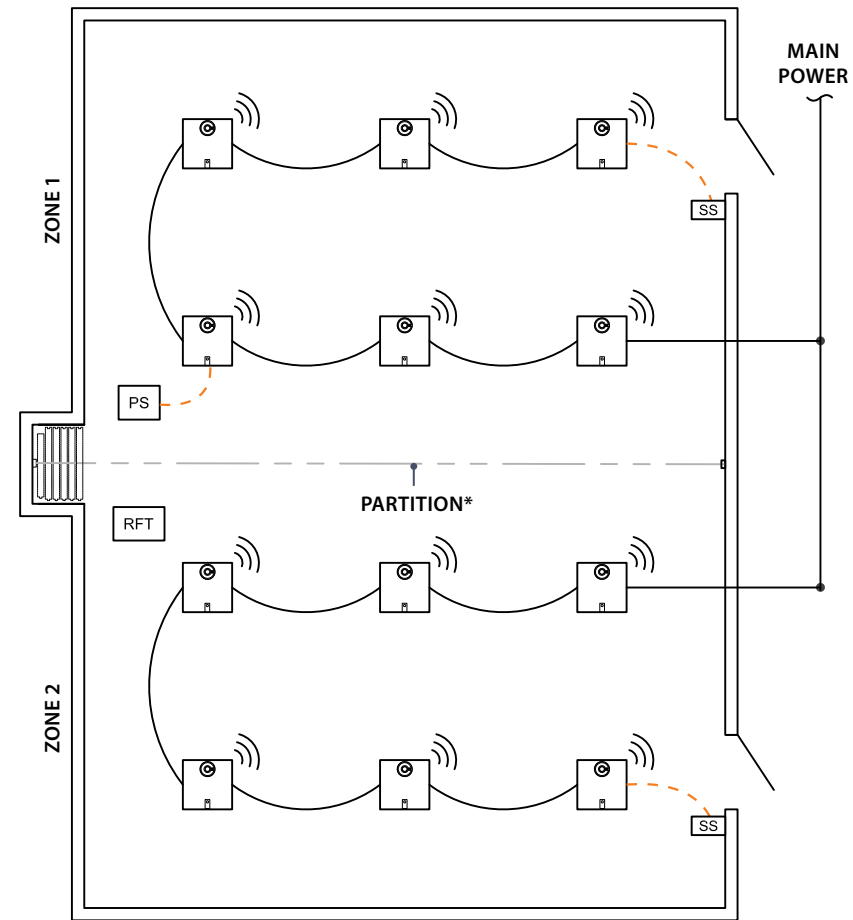
- Use NX Room Controllers for multipurpose rooms and partitionable spaces

BEST PRACTICE LAYOUT

- Place 1 occupancy sensor in the center of each partitionable space for optimal coverage
- Switch stations should be located near each door for convenient access
- Each partition space should be configured identically
- Utilize a NXWPS partition sensor for automatic room combine functionality
- Place a partition sensor combined with an NXCI on one side of the partitioned space
- The corresponding partition reflector should be placed on the opposite side of the partition directly across from the NXWPS

OPERATIONAL DESCRIPTION

- 0-10V Dimming
- Auto ON to 80% upon occupancy
- Manual control – Full ON, All Off, Preset Scenes, and Raise/Lower
- UL924 compliance with integral luminaire battery back-up
- Room can divide into two rooms with 2 dimmable zones each or combine into a single room with 4 dimmable zones
- Room combine to be done with automatic partitioning with NXWPS partition sensor
- NX Device Setup Mobile App for system programming (including partitioning)



\*Partition scheme shown above is achieved through automatic partitioning. For automatic partitioning an NXCI is required with the NXWPS wall partition sensor. See NXWPS specification sheet for additional details.  
 Note: Drawings not shown to scale and are intended as illustrative example of the application.

KEY		
—	Main Power (120/277V)	[SS] NXSW-SS
- - -	CAT5	[PS] NXWPS
		[RFT] Reflector
		[In-Fixture Sensor] In-Fixture Sensor
		[RMH] RMH

BILL OF MATERIALS		
QTY.	Catalog #	Description
4	LCAT24-35MLG-EDU1-NXSWD	LCAT LED Troffers, NX Wireless Enabled with Dual SmartPORTs and Sensor
8	LCAT24-35MLG-EDU1-NXSW	LCAT LED Troffers, NX Wireless Enabled with Sensor
2	NXSW-SS	6 button scene station

SOLUTION STRATEGY

- Use NX wireless enabled fixtures for multipurpose rooms and partitionable spaces

BEST PRACTICE LAYOUT

- All luminaires are enabled with NX smart sensors to provide optimal coverage for occupancy detection
- Switch stations should be located near each door for convenient access
- Each partition space should be configured identically
- All switch stations and partition sensors can be wired to NX enabled luminaires through CAT5 connections eliminating need for NX room controllers
- Utilize a NXWPS partition sensor for automatic room combine functionality
- Place a partition sensor combined with an NXCI on one side of the partitioned space
- The corresponding partition reflector should be placed on the opposite side of the partition directly across from the NXWPS

OPERATIONAL DESCRIPTION

- 0-10V Dimming
- Auto ON to 80% upon occupancy
- Manual control – Full ON, All Off, Preset Scenes, and Raise/Lower
- UL924 compliance with integral luminaire battery back-up
- Room can divide into two rooms with 2 dimmable zones each or combine into a single room with 4 dimmable zones
- Room combine to be done with automatic partitioning with NXWPS partition sensor
- NX Device Setup Mobile App for system programming (including partitioning)



Wireless - In-fixture Control



SOLUTION STRATEGY

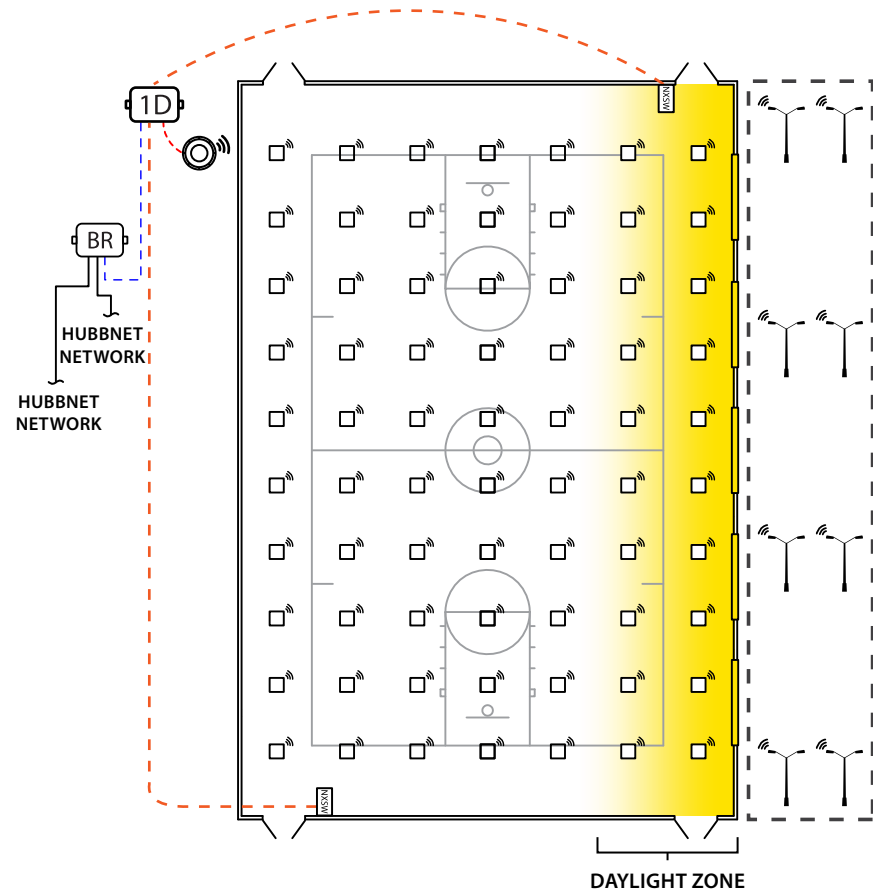
- Manual ON/OFF control
- Use NX wireless enabled fixtures throughout the space including the outdoor areas to reduce installation complexity

BEST PRACTICE LAYOUT

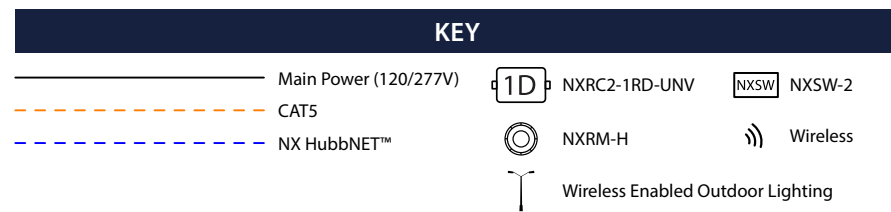
- Connect both wall switch stations to the room controller
- Install 2 button wall switch stations near the door to control all lights
- Tie the room controller to the rest of the space using the radio module
- For outdoor space, use NX enabled outdoor fixtures integrated with NXOFMs

OPERATIONAL DESCRIPTION

- 2 daylight zones, sensors are integral to fixtures
- 3 Schedule Presets (weekday, weekend, holidays)
- Manual control via 2 button wall stations
- Schedule outdoor lighting
- Auto ON to 50% upon occupancy (indoor only)
- Daylight dimming
- Programmable by Area Controller
- UL924 compliance via battery back-up



Note: Drawings not shown to scale and are intended as illustrative example of the application.



BILL OF MATERIALS

QTY.	Catalog #	Description
70	PEL2-50MH-FPW-EDU-NXSW	Peloton High Bay Fixture with NX wireless
1	NXRC2-1RD-UNV	Single zone room controller
8	AL-D 36L-80 3K7 4X4 UNV PCR-TL	Alpha Outdoor Fixtures with Photocontrol - Twist-lock® Cell
8	NXOFM-1R1D-UNV	On-fixture module
2	SCLNX	PIR outdoor sensor in the fixture
2	NXSW-2	2 Button Programmable Smart Station
1	NXRM-H	Radio module
2	NXSW-SS	Specialty Scene Switch

Wired - In-fixture Control with SpectraSync™



SOLUTION STRATEGY

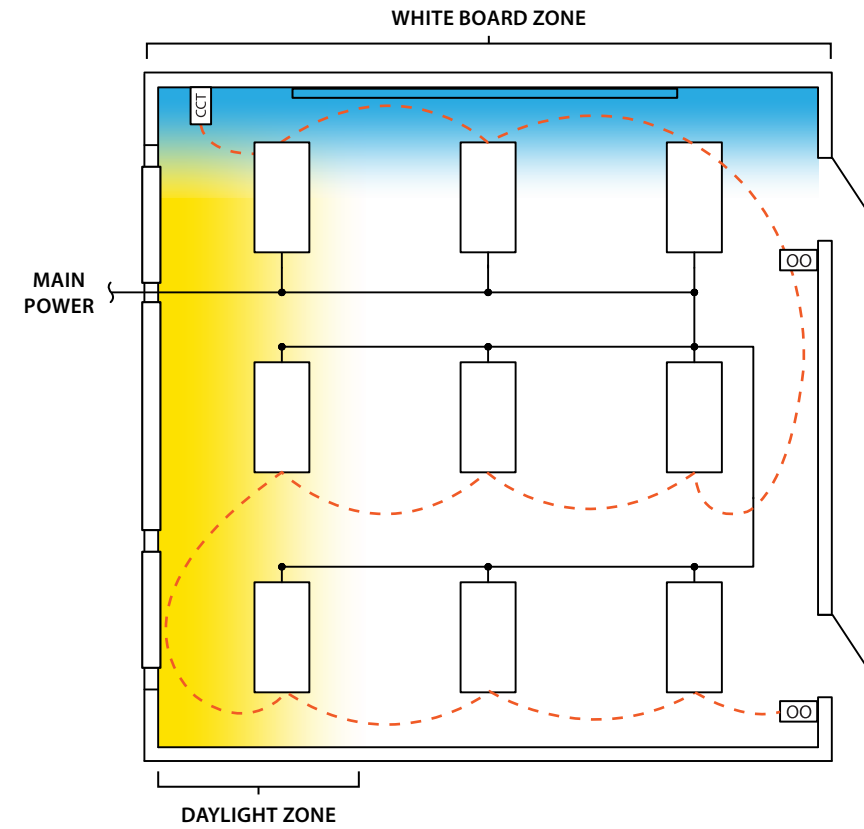
- Use NX wired, SpectraSync enabled LCAT LED Troffers for color tuning and code compliance

BEST PRACTICE LAYOUT

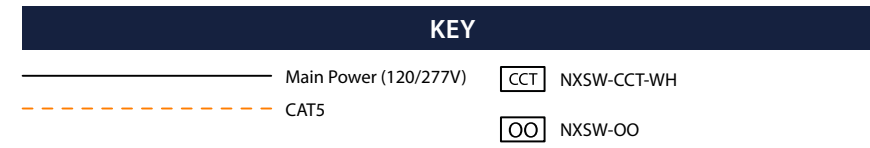
- Use a dedicated wall station for color tuning control
- Deploy a simple ON/OFF switch to turn all lights ON/OFF for non-working hours
- Place the CCT wall station near the Whiteboard and the ON/OFF switch near the door

OPERATIONAL DESCRIPTION

- 0-10V dimming loads
- 1 daylight zone (teacher station)
- 4 dimmable zones (3 general lighting and 1 teacher station)
- Daylight dimming
- Master manual ON/OFF control at door
- Tunable White, preset scene control at door
- Tunable White scenes: Art Learning, Teacher Presentation, Art Fun and Nap
- Auto ON to 50% upon occupancy
- Programming via NX Device Setup App
- UL924 compliance via battery back-up



Note: Drawings not shown to scale and are intended as illustrative example of the application.



BILL OF MATERIALS

QTY.	Catalog #	Description
9	LCAT24-2765TMLG-EDU-NXES	LCAT LED troffer, NX and SpectraSync enabled
1	NXSW-OO-WH	On/Off Specialty Switch
1	NXSW-CCT-WH	Color Tuning Specialty Switch





# COMMERCIAL OFFICE





**SOLUTION STRATEGY**

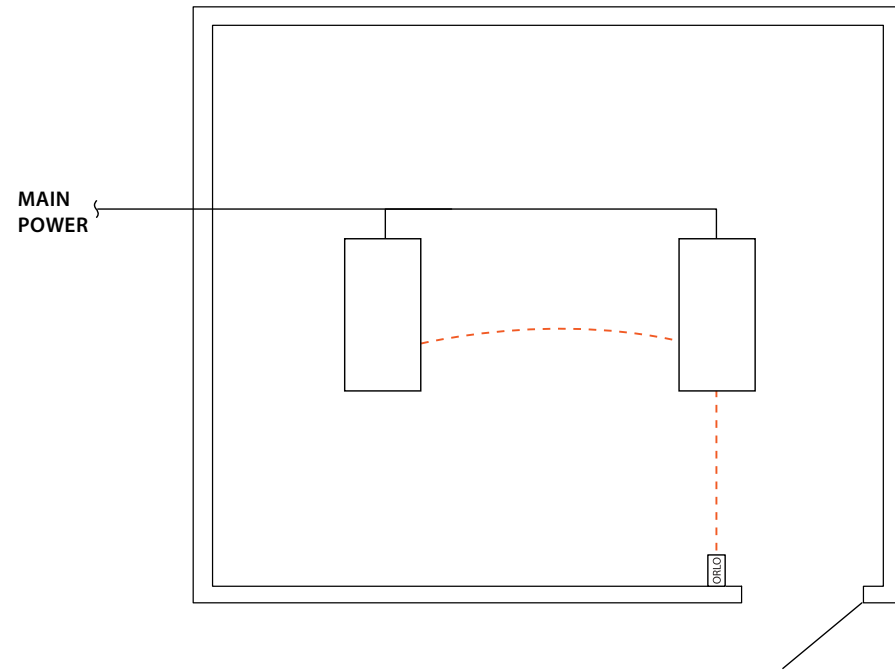
- Auto ON to 50% upon occupancy
- Programming via NX Device Setup App

**OPERATIONAL DESCRIPTION**

- Auto ON to 50% upon occupancy
- Manual control - ON/Raise/Lower/OFF
- UL924 compliance via battery backup
- Programming via NX Device Setup App

**PRIVATE OFFICE (120 SQ FT)**

**Wired - In-fixture Control**



Note: Drawings not shown to scale and are intended as illustrative example of the application.

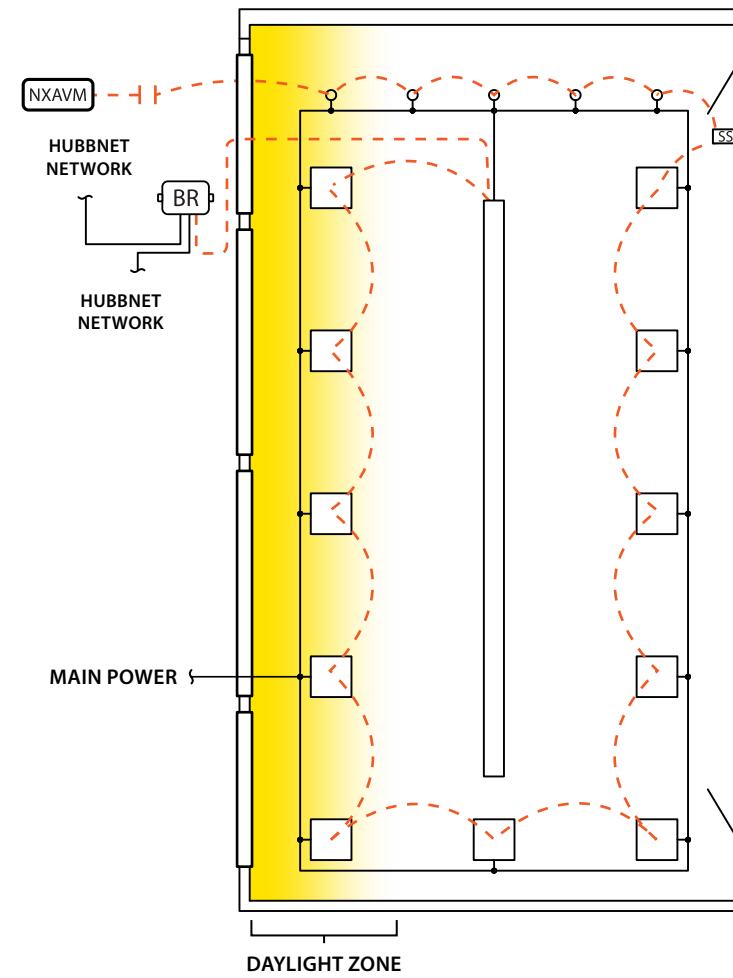
KEY	
—	Main Power (120/277V) <span style="border: 1px solid black; padding: 2px;">ORLO</span> NXSW-ORLO
- - -	CAT5

BILL OF MATERIALS		
QTY.	Catalog #	Description
2	LCAT24-35MLG-EDU-NXES	LCAT LED Troffers (with NXES Control option)
1	NXSW-ORLO	ORLO Specialty Switch

Note: NX control options located in Appendix

**CONFERENCE ROOM (1,100 SQ FT)**

**Wired - In-fixture Control**



Note: Drawings not shown to scale and are intended as illustrative example of the application.

KEY	
—	Main Power (120/277V) <span style="border: 1px solid black; padding: 2px;">SS</span> NXSW-SS
- - -	CAT5

BILL OF MATERIALS		
QTY.	Catalog #	Description
5	LF4SLDM1NXE-4LFLS15L35K8WT	Prescolite Downlights (with NXE control option)
1	3L-R-D-4-SOF-C1-35K-D050-D00-1C-UNV-W1-NXES**	Litecontrol Recessed Linear (with NXES control option)
11	TCAT24-35MLG-ED1U-NXES**	Columbia Recessed Troffers (with NXES control option)
1	NXSW-SS	Specialty Scene Switch
1	NXHBN2	NX bridge
1	NXAVM	Audio/visual interface

\*\*Uses a dim to off driver



**SOLUTION STRATEGY**

- Use Prescolite downlights and Litecontrol fixtures (for architectural effect) in the conference room (along with LCAT family troffers)
- All fixtures come NX Enabled (wired option) - for ease of future reconfiguration and centralized control
- Where possible, utilize the dim to OFF drivers to reduce total installed cost per fixture

**BEST PRACTICE LAYOUT**

- Place the NXAVM module close to the audio/visual control equipment (50 ft or less)
- Place the scene button station near the entry door
- Recommend using scene switch stations whenever deploying dim to OFF fixtures

**OPERATIONAL DESCRIPTION**

- Auto ON to 50% upon occupancy
- Scene selection in conference room
- Audio/visual integration
- UL924 compliance via battery backup
- Add 1 daylight zone





**SOLUTION STRATEGY**

- Use NX Room Controller and NX UL924 Load Controller for corridor applications

**BEST PRACTICE LAYOUT**

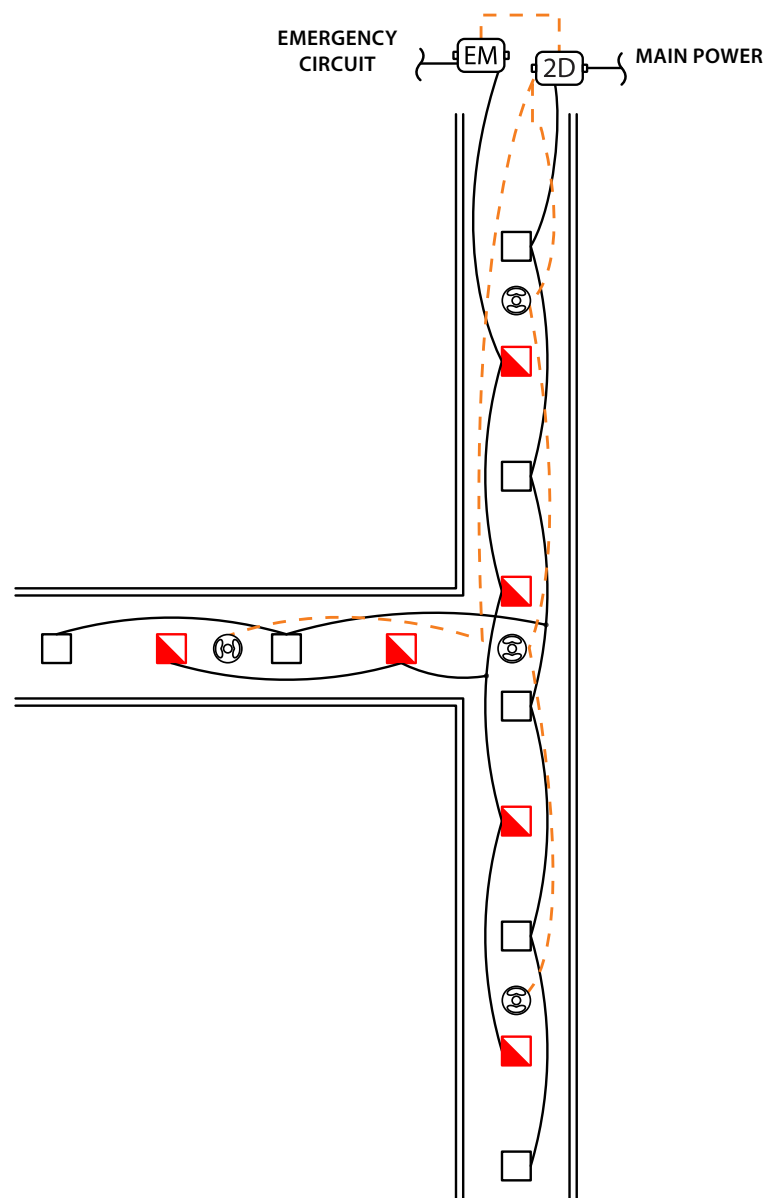
- For corridor applications it is recommended to utilize ultrasonic only sensors for optimized coverage and detection
- Place occupancy sensors appropriately throughout corridor ensuring that evenly spaced and are placed at the center of the junction
- For required emergency lighting utilize a NXRC-UL924 load controller

**OPERATIONAL DESCRIPTION**

- 0-10V Dimming Loads
- Auto On to set level
- Weekday, holiday, and weekend scheduling for active/inactive sensing times for occupancy detection
- UL924 compliance via NXRC-UL924 Load Controller
- NX Device Setup Mobile App for system programming

**CORRIDOR (950 SQ FT)**

**Wired - Corridor Control**



Note: Drawings not shown to scale and are intended as illustrative example of the application.

**KEY**

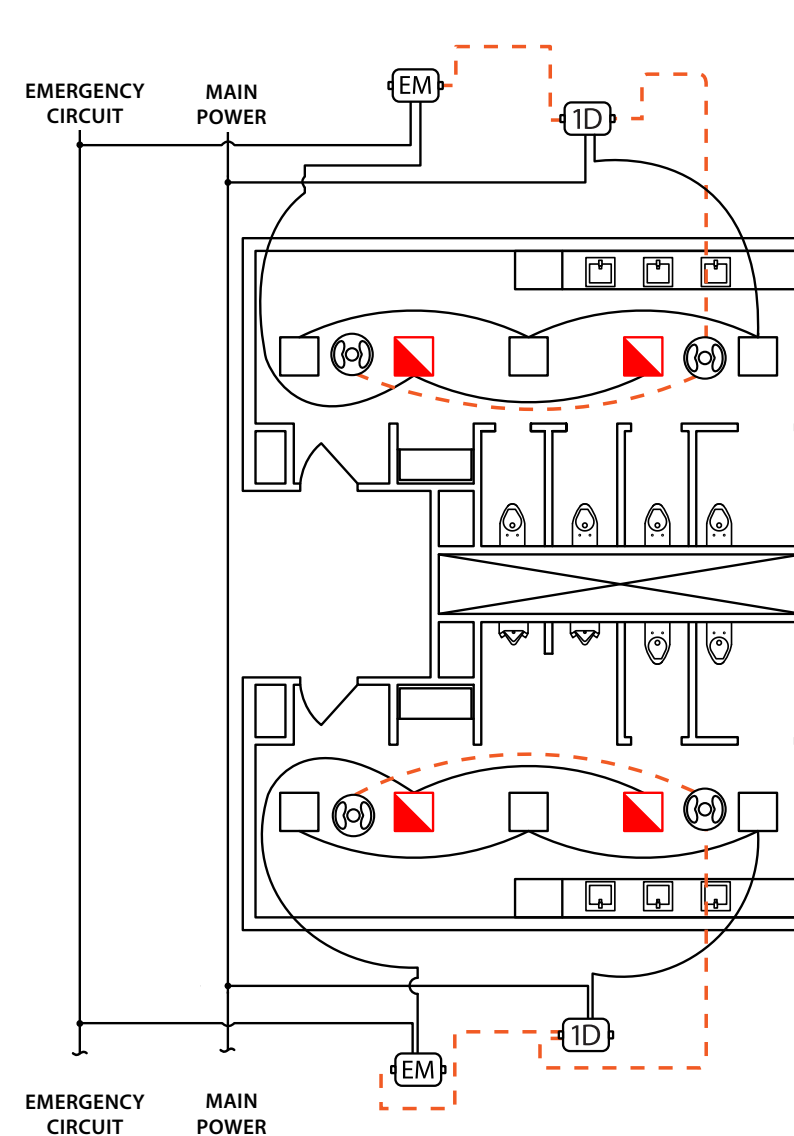
- Main Power (120/277V)
- - - CAT5
- - - NX HubbNET™
- 2D NXRC2-2RD-UNV
- ⊗ NXOS-OMDT5
- EM NXRC-UL924

**BILL OF MATERIALS**

QTY.	Catalog #	Description
1	NXRC2-2RD-UNV	Room Controller with 2 dimming outputs
1	NXRC-UL924	UL924 Emergency Lighting Load Controller
2	NXOS-OMDT5	Occupancy sensor
10	LCAT22-35MLG-EDU1	2x2 LCAT LED Troffers

**RESTROOM (410 SQ FT)**

**Wired - Multi-stall Restroom**



Note: Drawings not shown to scale and are intended as illustrative example of the application.

**KEY**

- Main Power (120/277V)
- - - CAT5
- - - NX HubbNET™
- 1D NXRC2-1RD-UNV
- ⊗ NXOS-OMDT1
- EM NXRC-UL924

**BILL OF MATERIALS**

QTY.	Catalog #	Description
2	NXRC2-1RD-UNV	Room Controller with 2 dimming outputs
2	NXRC-UL924	UL924 Emergency Lighting Load Controller
2	NXOS-OMDT1	Occupancy sensor
10	LCAT22-MLG-EDU1	2x2 LCAT LED Troffers



**SOLUTION STRATEGY**

- Use NX Room Controller and NX UL924 Load Controller for restroom and multi-stall restroom applications

**BEST PRACTICE LAYOUT**

- For restroom applications it is recommended to utilize ultrasonic only sensors for optimized coverage and detection
- Place occupancy sensors appropriately spaced in restrooms to provide optimal coverage
- For required emergency lighting utilize a NXRC-UL924 load controller

**OPERATIONAL DESCRIPTION**

- 0-10V Dimming Loads
- Auto On to set level
- Weekday, holiday, and weekend scheduling for active/inactive sensing times for occupancy detection
- UL924 compliance via NXRC-UL924 Load Controller
- NX Device Setup Mobile App for system programming



SOLUTION STRATEGY

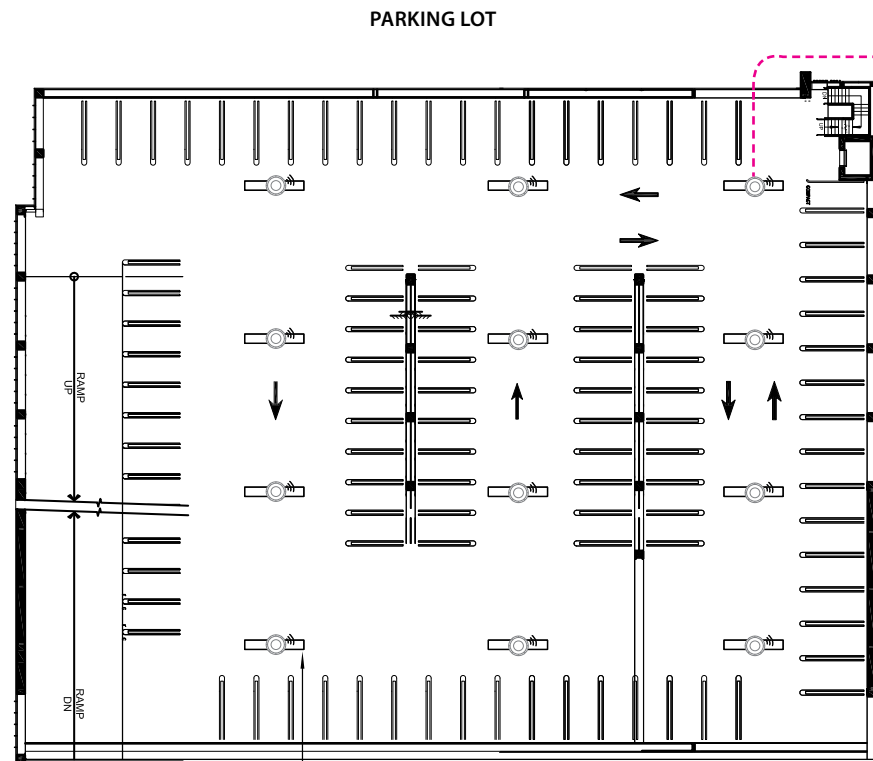
- Use NX in-fixture wired for the indoor spaces (Each fixture becomes individually addressable for ease of reconfiguration in future)
- Tie all zones and areas together with an Area Controller, that will act as one common user interface
- The bridge and NXRM-H radio module, joins the parking lot and outdoor areas to the indoor areas
- Hubbell Outdoor Ratio fixtures integrated with NX wireless, for parking lot
- All indoor fixtures have standard 0-10V drivers. Outdoor fixtures are dim to OFF

BEST PRACTICE LAYOUT

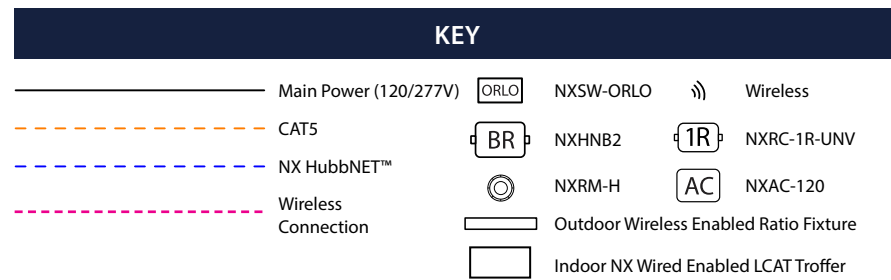
- Place the bridge and radio module within 100 ft or less, of at least one wireless device
- Do not exceed 32 fixtures per bridge
- A bridge is required for every 32 fixtures wrap within a zone
- Add additional bridge for extending the zone beyond 32 fixtures

OPERATIONAL DESCRIPTION

- Auto ON to 50% upon occupancy
- Continuous daylight dimming (Common Office Area)
- Manual control - ON/Raise/Lower/OFF
- Weekday, holiday and weekend schedule for all indoor
- Holiday schedule for outdoor parking
- UL924 compliance via battery backup
- Programming via area controller



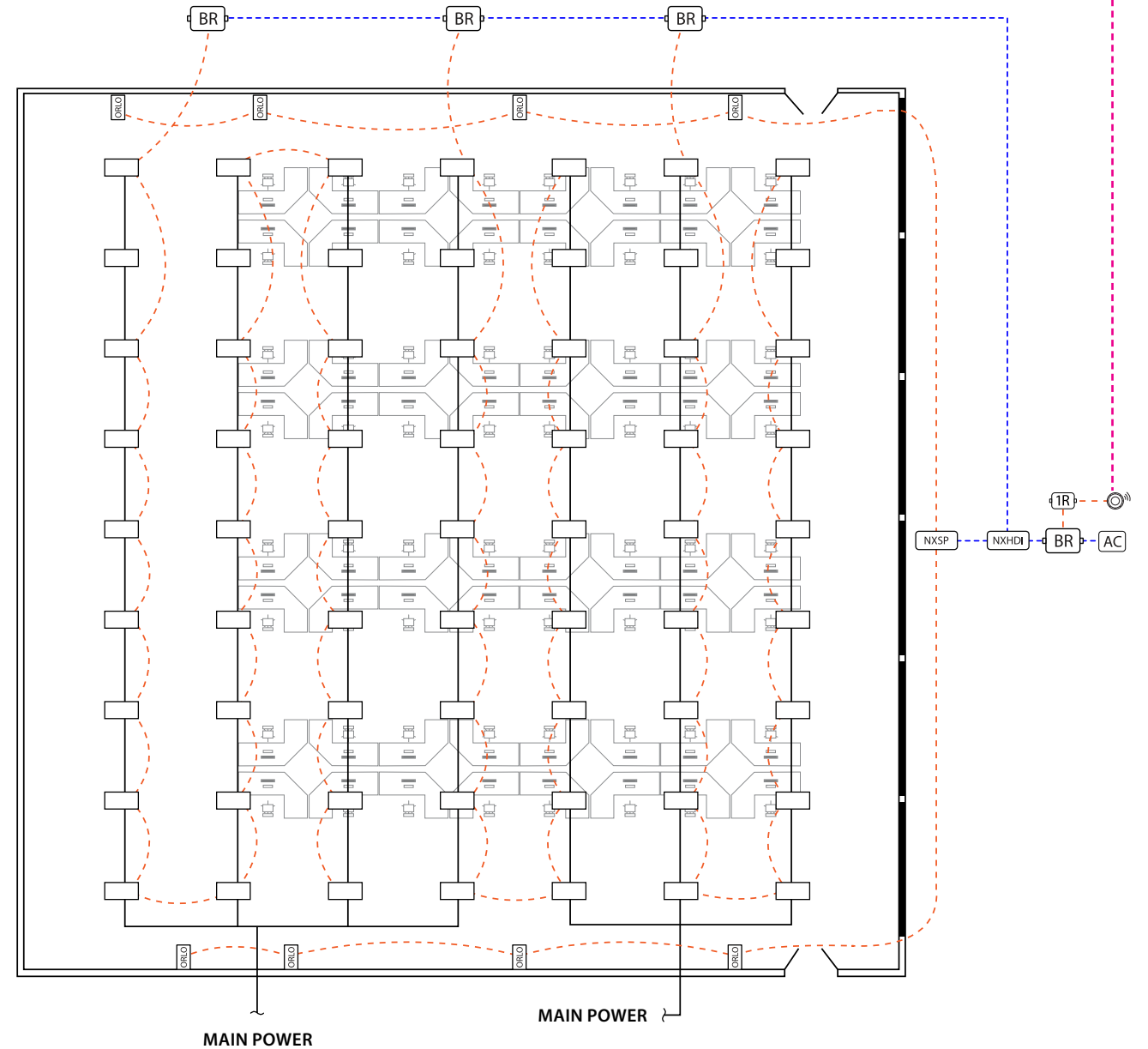
Note: Drawings not shown to scale and are intended as illustrative example of the application.



QTY.	Catalog #	Description
63	LCAT24-35MLG-EDU-NXES	LCAT LED Troffers (with NXES Control option)
12	RAR2-320L-110-3K7-3-UNV-A4-DB-NXWE	Ratio area/site luminaire
12	NXOFM-1RD-UNV	7-pin On-Fixture wireless control module for use with outdoor fixtures
1	NXAC	NX Area Controller
8	NXSW-ORLO	ORLO Specialty Switch
4	NXHNB2	NX Bridge
1	NXRC-1R-UNV	Room Controller with 1 Relay, Non Dimming
1	NXRM-H	Radio module
1	NXSP*	SmartPORT™ module
1	NXHDI*	Network Interface module

\*Also requires a power supply and an enclosure where these need to be mounted, please refer to the NXHDI spec-sheet for details

WIRELESS CONNECTION  
(PARKING LOT AND COMMON OFFICE WIRELESSLY CONNECTED)



- Notes:
1. Each bridge can connect only up to 32 fixtures
  2. The bridges are self powered from the HubbNET





# PARKING LOTS AND DECKS



**SOLUTION STRATEGY**

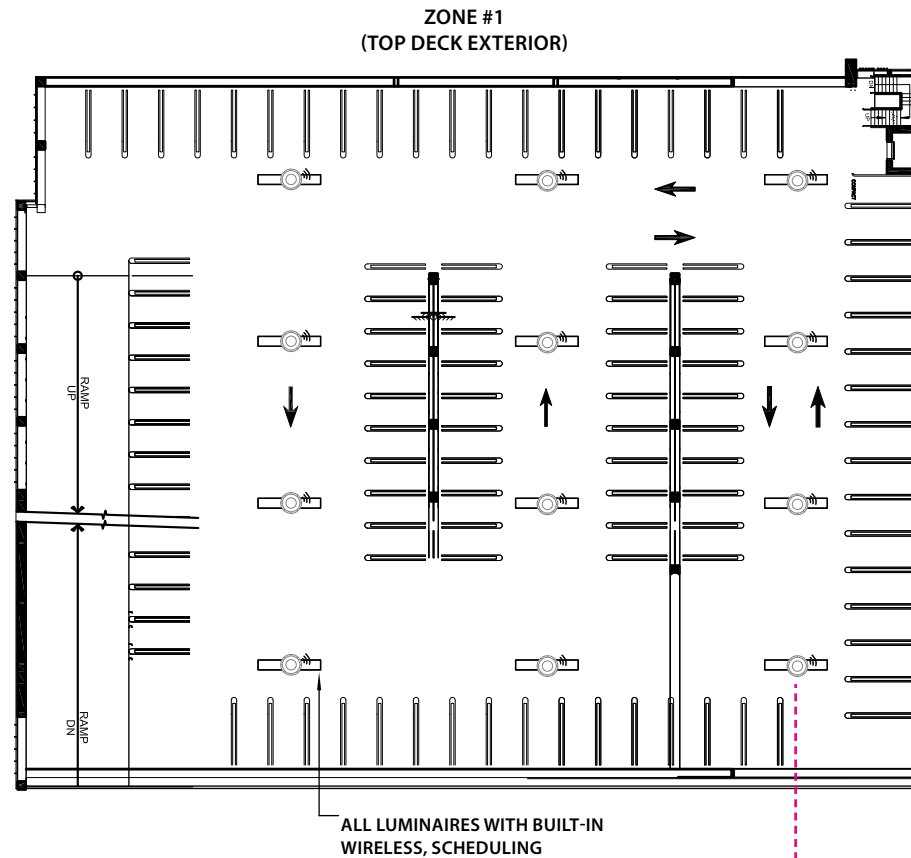
- Use NX wireless enabled fixtures with photocell for top deck of parking garage
- Use NX wireless fixtures with integrated sensors for parking stalls and driving aisles
- NX wireless enabled fixtures for entry and exit, and stairwell areas
- Programming via Area Controller

**BEST PRACTICE LAYOUT**

- For the interior floor parking aisles, group every two luminaires together to ensure better sensor coverage when an occupant walks by
- Tie all areas together over NX wireless network
- Install bridge with the radio module within 100 ft of at least one fixture
- Ensure that every wireless fixture less than 100 ft from the next wireless fixture

**OPERATIONAL DESCRIPTION**

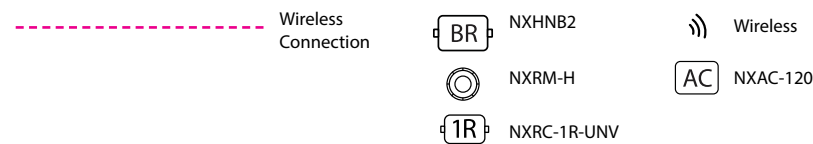
- Multi-zone daylight harvesting for exterior walls
- Full ON to 100% upon occupancy
- Dim to 50% upon vacancy
- Dusk to dawn photo ON/OFF/dim for top deck



**WIRELESS CONNECTION**  
(INTERIOR PARKING FLOORS AND TOP DECK WIRELESSLY CONNECTED)

Note: Drawings not shown to scale and are intended as illustrative example of the application.

**KEY**



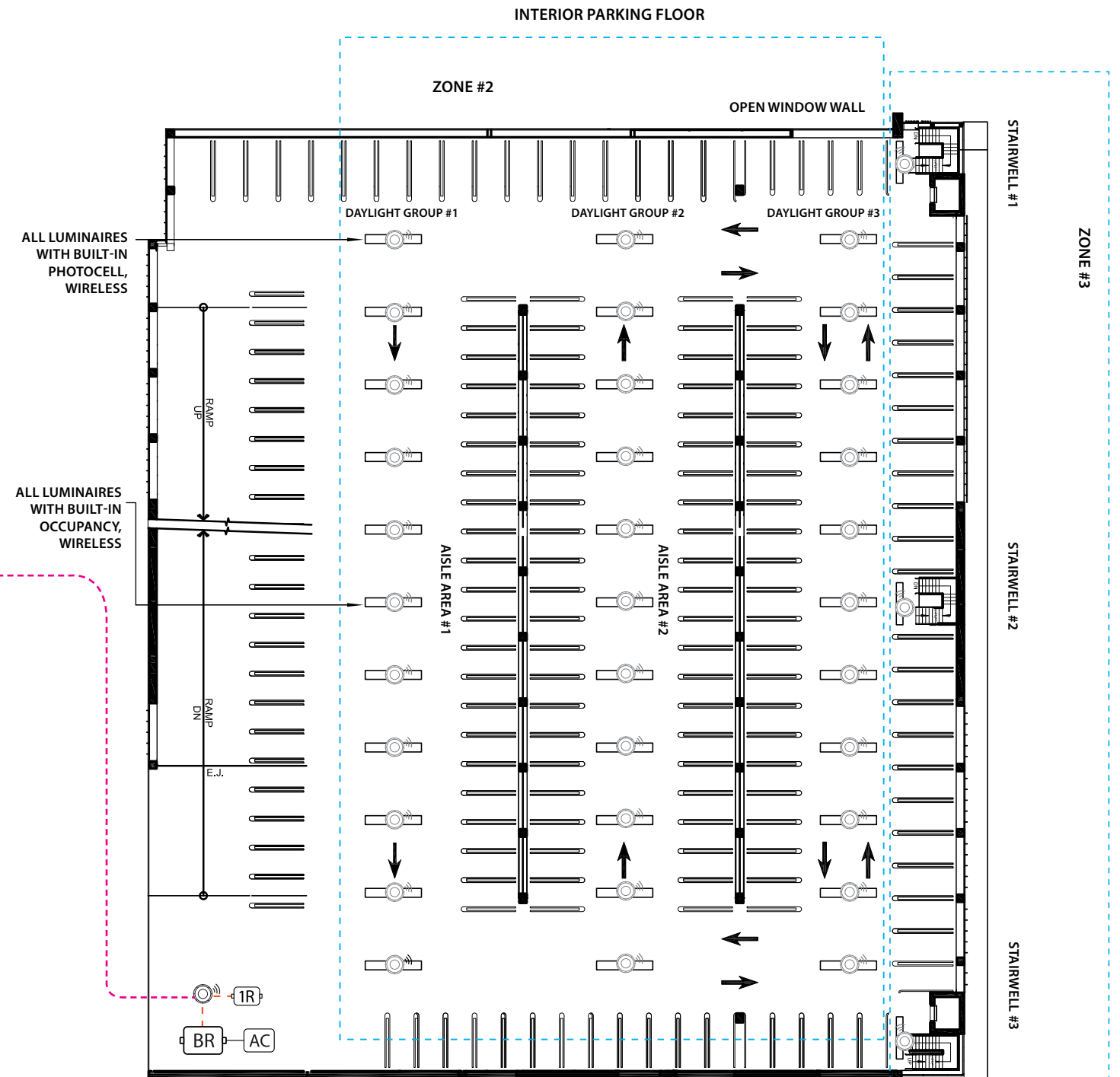
**BILL OF MATERIALS**

QTY.	Catalog #	Description
12	VPS/30NB-70/5K/T4/UNV/7PR-TL/BBT	Small Viper fixtures, black finish, with 7-pin receptacle (no control, ordered separately)
12	NXOFM-1RD-UNV	On-fixture module, daylight harvesting, scheduled dimming
33	ARS-24L5K-070-5M-U-BL-NXSW	Arceos garage light fixtures with NX wireless control option with smart sensor
1	NXRC-1R-UNV	Room Controller with 1 Relay, Non Dimming
1	NXHNB2	NX Bridge
1	NXRM-H	NX Radio Module
3	ESL4-35HL-FAW-EDU-NXOS	Escalate stairwell fixture with NX OMNI, PIR occupancy sensor, dimming daylight harvesting
1	NXAC-120	Area Controller

Wireless - In-fixture Control

**AREAS**

- Multi-level public parking garage
- Parking stalls and driving aisles
- Stairwells and elevator areas
- Top deck and exterior
- Entry and Exit



Notes:  
1. The radio attached to the bridge needs to be powered separately hence a UVPP is used here





**INDUSTRIAL**





**Storage Aisles - High Activity**

- 50% to dim after no vacancy, 100% upon occupancy

**Storage Aisles - Low Activity**

- 100% upon occupancy, OFF when vacant after 20 minute timeout
- Scheduled OFF on holidays and non-operational days

**Daylit Workstations**

- 100% upon occupancy, OFF when vacant after 20 minute timeout
- Daylight based control

**SOLUTION STRATEGY**

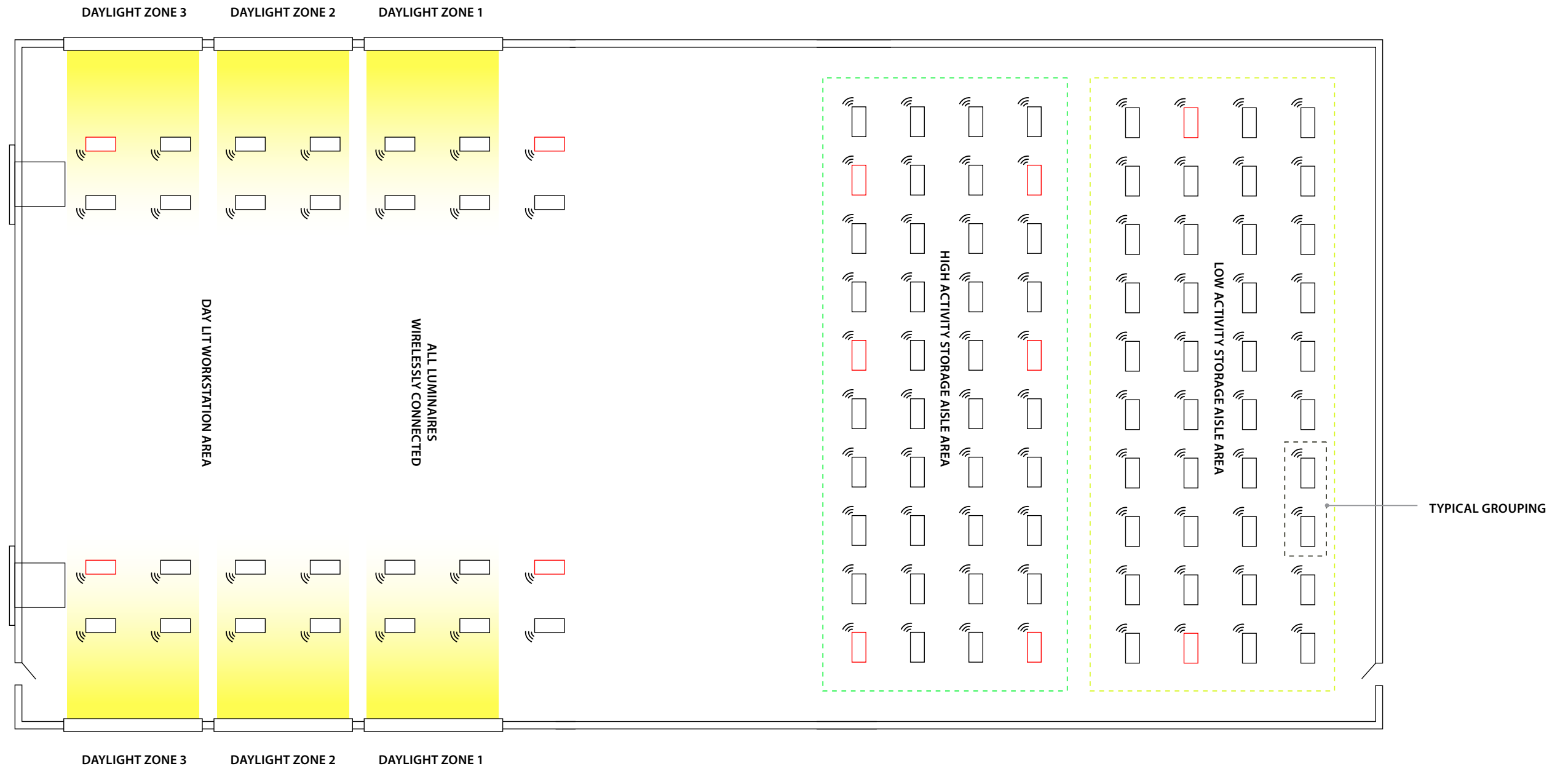
- Deploy Hubbell's Peloton high bay fixtures with high mount integrated sensors
- Include the wireless option for individual fixture control and ease of installation
- With no wiring involved, it's the most hassle free way of achieving out of the box code compliance in a challenging space

**BEST PRACTICE LAYOUT**

- Place majority of luminaires with emergency backup fixtures in the high activity storage aisle area and workstation areas
- Take advantage of any natural light available

**OPERATIONAL DESCRIPTION**

- UL924 via battery backup on select emergency fixtures
- Fixtures to be pre-configured with industrial commissioning profile
- Any additional programming via mobile App
- Zone based control limited to 2 aisle sensors per group for enhanced coverage upon occupancy



Note: Drawings not shown to scale and do not reflect actual quantity of fixtures in shown space

**KEY**

- Wireless Enabled High-Bay Fixture
- Emergency Wireless Enabled High-Bay Fixture

**BILL OF MATERIALS**

QTY.	Catalog #	Description
96	PEL4-40MM-N-EDU-NXSPWH	Peloton High Bay Fixture with NX Wireless
12	PEL4-40MM-N-ELL14-EDU-NXSPWH	Peloton High Bay Fixture with NX wireless and emergency backup, 10W

**AREAS**

- Low activity storage aisles
- High activity aisles
- Daylit workstations
- 40 ft ceilings
- All indoor, no wet locations/areas





**APPENDIX**



# APPENDIX

For additional resources view our [NX In-Fixture Selection Guide](#)

## NX System Components and Accessories

Catalog No.	Descriptor	Colors
<b>Area Controllers</b>		
<a href="#">NXAC-120</a>	NX Area Controller, NEMA 1, HubbNET™, BACnet, 120 volt	Gray
<b>Network Bridges</b>		
<a href="#">NXHNB2</a>	NX network bridge module	Blue
<b>Room Controllers</b>		
<a href="#">NXRC-1R-UNV</a>	NX Room Controller, 1 relay, universal voltage (120-347VAC)	Blue
<a href="#">NXRC-2R-UNV</a>	NX Room Controller, 2 relay, universal voltage (120-347VAC)	Blue
<a href="#">NXRC2-1RD</a>	NX Room Controller, 1 relay, 0-10V dimming, power monitoring, universal voltage (120-347VAC)	Blue
<a href="#">NXRC2-2RD</a>	NX Room Controller, 2 Relay, 0-10V dimming, power monitoring, universal voltage (120-347VAC)	Blue
<a href="#">NXRC-UL924-UNV</a>	NX Emergency Lighting Room Controller, one single pole relay, one 0-10 dimmer, one color control channel (120-347VAC)	Red
<b>Lighting Control Panels</b>		
<a href="#">NXP08-2-083L-S</a>	NX lighting control panel, 120/277VAC input, 8 relay capacity, 8-30A /1P latching relays, surface mount	Gray
<a href="#">NXP08-2-043L-S</a>	NX lighting control panel, 120/277VAC input, 8 relay capacity, 4-30A /1P latching relays, 4 relay spaces, surface mount	Gray
<a href="#">NXP16-2-163L-S</a>	NX lighting control panel, 120/277VAC input, 16 relay capacity, 16-30A /1P latching relays, surface mount	Gray
<a href="#">NXP16-2-083L-S</a>	NX lighting control panel, 120/277VAC input, 16 relay capacity, 8-30A /1P latching relays, 8 relay spaces, surface mount	Gray
<a href="#">NXP24-2-243L-S</a>	NX lighting control panel, 120/277VAC input, 24 relay capacity, 24-30A /1P latching relays, surface mount	Gray
<a href="#">NXP24-2-163L-S</a>	NX lighting control panel, 120/277VAC input, 24 relay capacity, 16-30A /1P latching relays, 8 relay spaces, surface mount	Gray
<a href="#">NXP32-2-323L-S</a>	NX lighting control panel, 120/277VAC input, 32 relay capacity, 32-30A /1P latching relays, surface mount	Gray
<a href="#">NXP32-2-243L-S</a>	NX lighting control panel, 120/277VAC input, 32 relay capacity, 24-30A /1P latching relays, 8 relay spaces, surface mount	Gray
<a href="#">NXP48-2-483L-S</a>	NX lighting control panel, 120/277VAC input, 48 relay capacity, 48-30A /1P latching relays, surface mount	Gray
<a href="#">NXP48-2-323L-S</a>	NX lighting control panel, 120/277VAC input, 48 relay capacity, 32-30A /1P latching relays, 8 relay spaces, surface mount	Gray
<a href="#">NXP08-3-083L-S</a>	NX lighting control panel, 120/347VAC input, 8 relay capacity, 8-30A /1P latching relays, surface mount	Gray
<a href="#">NXP08-3-043L-S</a>	NX lighting control panel, 120/347VAC input, 8 relay capacity, 4-30A /1P latching relays, 4 relay spaces, surface mount	Gray
<a href="#">NXP16-3-163L-S</a>	NX lighting control panel, 120/347VAC input, 16 relay capacity, 16-30A /1P latching relays, surface mount	Gray
<a href="#">NXP24-3-243L-S</a>	NX lighting control panel, 120/347VAC input, 24 relay capacity, 24-30A /1P latching relays, surface mount	Gray
<a href="#">NXP24-3-163L-S</a>	NX lighting control panel, 120/347VAC input, 24 relay capacity, 16-30A /1P latching relays, 8 relay spaces, surface mount	Gray
<a href="#">NXP32-3-323L-S</a>	NX lighting control panel, 120/347VAC input, 32 relay capacity, 32-30A /1P latching relays, surface mount	Gray
<a href="#">NXP32-3-243L-S</a>	NX lighting control panel, 120/347VAC input, 32 relay capacity, 24-30A /1P latching relays, 8 relay spaces, surface mount	Gray
<a href="#">NXP48-3-483L-S</a>	NX lighting control panel, 120/347VAC input, 48 relay capacity, 48-30A /1P latching relays, surface mount	Gray
<a href="#">NXP48-3-323L-S</a>	NX lighting control panel, 120/347VAC input, 48 relay capacity, 32-30A /1P latching relays, 8 relay spaces, surface mount	Gray
<a href="#">NXP08-2-00SP-S</a>	NX lighting control panel, 120/277VAC input, 8 relay capacity, 8 relay spaces, surface mount	Gray
<a href="#">NXP16-2-00SP-S</a>	NX lighting control panel, 120/277VAC input, 16 relay capacity, 16 Relay spaces, surface mount	Gray
<a href="#">NXP24-2-00SP-S</a>	NX lighting control panel, 120/277VAC input, 24 relay capacity, 24 relay spaces, surface mount	Gray
<a href="#">NXP32-2-00SP-S</a>	NX lighting control panel, 120/277VAC input, 32 relay capacity, 32 Relay spaces, surface mount	Gray

\*\*Part Numbers at hyperlinked to Specifications Sheets or family page online\*\*

Catalog No.	Descriptor	Colors
<b>Lighting Control Panel Accessories</b>		
<a href="#">NXP48-2-00SP-S</a>	NX lighting control panel, 120/277VAC input, 48 relay capacity, 48 relay spaces, surface mount	Gray
<a href="#">NXP8-FCVR</a>	NX 8 relay panel door, flush mount	Gray
<a href="#">NXP1624-FCVR</a>	NX 16/24 relay panel door, flush mount	Gray
<a href="#">NXP32-FCVR</a>	NX 32 relay panel door, flush mount	Gray
<a href="#">NXP48-FCVR</a>	NX 48 relay panel door, flush mount	Gray
<a href="#">NXENC-D</a>	NX accessory enclosure, hinged door, DIN rails	Gray
<b>Relays</b>		
<a href="#">NXR-TN</a>	NX relay, two pole, electrically held, normally open, 240/208/480V, 20A - 50/60Hz	N/A
<a href="#">NXR-TC</a>	NX relay, two pole, electrically held, normally closed, 240/208/480V, 20A - 50/60 Hz	N/A
<a href="#">NXR-3L</a>	NX relay, single pole, latching, normally open, 120/277/347V, 30A - 50/60 Hz	N/A
<a href="#">NXR-3LEM</a>	NX emergency UL924 relay, single pole, latching, normally open, 120/277/347V, 30A - 50/60 Hz	N/A
<b>NX Radio Modules</b>		
<a href="#">NXOFM</a>	NX series on-fixture module	NA
<a href="#">NXRM-H</a>	NX HubbNET™ radio module	White, Black, Gray
<a href="#">NXBTR</a>	NX Bluetooth® radio bridge module	Black
<a href="#">NXBTC</a>	NX Bluetooth radio bridge with real time clock	Blue
<b>Interfaces</b>		
<a href="#">NXCI</a>	NX dry contact input module	N/A
<a href="#">NXAVM</a>	NX audio visual interface module	N/A
<a href="#">NXRO</a>	NX occupancy output interface	N/A
<a href="#">NXP-DIM8</a>	NX dimming controller board, 8-channels, 100mA per channel	N/A
<a href="#">NXHDI</a>	NX device network interface module, DIN rail mount	Blue
<a href="#">NXSP</a>	NX SmartPORT™ Module, 4 SmartPORTs, 8 RJ45 connectors, DIN rail mount	Blue
<a href="#">NXDCIO</a>	NX dry contact interface module, 6 inputs, 6 outputs, DIN rail mount	Blue
<b>Adapters</b>		
<a href="#">NXFSP</a>	NX fixture SmartPORT adapter	Blue
<a href="#">NXDSP</a>	NX fixture dual SmartPORT adapter	White
<b>Vacancy Sensors</b>		
<a href="#">NXOS-OMDT2</a>	Ceiling mount, PIR and ultrasonic, 2000 sq ft	White
<a href="#">NXOS-OMDT2R</a>	Ceiling mount, PIR and ultrasonic, 360°, 2000 sq ft, form C relay	White
<a href="#">NXOS-OMDT1</a>	Ceiling mount, PIR and ultrasonic, 180°, 1000 sq ft	White
<a href="#">NXOS-OMDT1R</a>	Ceiling mount, PIR and ultrasonic, 180°, 1000 sq ft, form C relay	White
<a href="#">NXOS-OMDT5</a>	Ceiling mount, PIR and ultrasonic, 180°, 500 sq ft	White
<a href="#">NXOS-OMDT5R</a>	Ceiling mount, PIR and ultrasonic, 180°, 500 sq ft, form C relay	White
<a href="#">NXOS-OMUS2</a>	Ceiling mount, ultrasonic, 2000 sq ft	White
<a href="#">NXOS-OMUS2R</a>	Ceiling mount, ultrasonic, 360°, 2000 sq ft, form C relay	White
<a href="#">NXOS-LODT</a>	Wall mount, PIR and ultrasonic, 1600 sq ft	White
<a href="#">NXOS-LODTR</a>	Wall mount, PIR and ultrasonic, 1600 sq ft, form C relay	White

\*\*Part numbers at hyperlinked to Specifications Sheets or family page online\*\*



## NX System Components and Accessories (continued)

Catalog No.	Descriptor	Colors
<b>Daylight Sensors</b>		
<a href="#">NXDS</a>	NX legacy daylight sensor	White
<a href="#">NXDS-O</a>	NX legacy daylight sensor, outdoor	White
<b>Switches</b>		
<a href="#">NXSW-TH3-WH</a>	NX SimpleTouch™ graphic wall station	White
<a href="#">NXSW-1-xx</a>	NX digital toggle switch, 1 button, momentary, pilot	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-2-xx</a>	NX digital toggle switch, 2 buttons, momentary, pilot	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-3-xx</a>	NX digital toggle switch, 3 buttons, momentary, pilot	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-4-xx</a>	NX digital toggle switch, 4 buttons, momentary, pilot	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-6-xx</a>	NX digital toggle switch, 6 buttons, momentary, pilot	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-CCT-xx</a>	NX digital color control, 6 buttons, 4 presets, raise/lower CCT	Black, Gray, Ivory, Light Almond, Red, White
<a href="#">NXSW-SS-xx</a>	NX digital scene Switch, 6 buttons, 4 presets, raise/lower	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-RL-xx</a>	NX digital switch station, 2 buttons, raise/lower	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-OO-xx</a>	NX digital switch station, ON/OFF	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-TO-xx</a>	NX digital switch station, timed-on, pilot	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-ORLO-xx</a>	NX digital switch Station, ON/Raise/Lower/OFF	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-BTNAL-xx</a>	NX large arrow button for switch stations, no pilot light, 25 count	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-BTNAS-xx</a>	NX small arrow button for switch stations, no pilot Light, 25 count	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-BTNONL-xx</a>	NX large ON button for switch stations, no pilot Light, 25 count	Black, Gray, Ivory, Light Almond, White
<a href="#">NXSW-BTNOFFL-xx</a>	NX large OFF button for switch stations, no pilot Light, 25 count	Black, Gray, Ivory, Light Almond, White
<b>CAT5 System Cables</b>		
<a href="#">CAT5-3F-OR-PLENUM</a>	CAT5 cable for NX SmartPORT™ devices, plenum rated, 3ft, Orange	Orange
<a href="#">CAT5-10F-OR-PLENUM</a>	CAT5 cable for NX SmartPORT devices, plenum rated, 10ft, Orange	Orange
<a href="#">CAT5-25F-OR-PLENUM</a>	CAT5 cable for NX SmartPORT devices, plenum rated, 25ft, Orange	Orange
<a href="#">CAT5-50F-OR-PLENUM</a>	CAT5 cable for NX SmartPORT devices, plenum rated, 50ft, Orange	Orange
<a href="#">CAT5-100F-OR-PLENUM</a>	CAT5 cable for NX SmartPORT devices, plenum rated, 100ft, Orange	Orange
<b>NX In-Fixture Cables</b>		
<a href="#">NX-CBL-I-6</a>	Cable inline to NX, 6" non-plenum rated	Black
<a href="#">NX-CBL-I-10</a>	Cable inline to NX, 10" non-plenum rated	Black
<a href="#">NX-CBL-I-24</a>	Cable inline to NX, 24" non-plenum rated	Black
<a href="#">NX-CBL-I-48</a>	Cable inline to NX, 48" non-plenum rated	Black
<a href="#">NX-CBL-O-6</a>	Cable offset to NX, 6" non-plenum rated	Black
<a href="#">NX-CBL-O-10</a>	Cable offset to NX, 10" non-plenum rated	Black
<a href="#">NX-CBL-O-24</a>	Cable offset to NX, 24" non-plenum rated	Black
<a href="#">NX-CBL-O-48</a>	Cable offset to NX, 48" non-plenum rated	Black
<a href="#">NXCBL-P-10</a>	Plenum cable, 10"	White
<b>Accessories</b>		
<a href="#">NXRJSPLITTER</a>	CAT5 splitter, non-plenum	Ivory
<a href="#">RJ45ADAPTER</a>	Pigtail to CAT5 adapter	Grey
<a href="#">PHDIM1277</a>	0-10V dimming to phase dimming module	Grey
<a href="#">NXPOE-7-24B</a>	Seven port HubbNET™ POE switch	Black
<a href="#">NXWPS</a>	Wall position sensor module, with reflector	White
<a href="#">HCSREC</a>	Controlled receptacle	Black, brown, Gray, Green, Ivory, Light Almond, White
<a href="#">UVPP</a>	Universal power pack	Black
<a href="#">NX-EOF-MC-01</a>	NX Media Converter	Gray

\*\*Part numbers are hyperlinked to Specifications Sheets or Product Family page online\*\*

Catalog No.	Descriptor	Colors
<b>Emergency Lighting Controls</b>		
<a href="#">UL924EPC1-UNV</a>	UL924 flush mount relay	White
<a href="#">UL924EPC1D-UNV</a>	UL924 flush mount relay with dimming override	White
<a href="#">UL924BRUNV</a>	UL924 automatic load control relay	Black
<a href="#">UL1008BCELT51277</a>	UL1008 branch circuit transfer switch	White

## NX In-Fixture Options Selection Guide

### Indoor Options

NX Option	Description
<b>NX Standalone</b>	
NXOS	NX, PIR BT Occupancy/Daylight Sensor, Round Ceiling Mount <sup>1</sup>
NXS	NX, PIR BT Occupancy/Daylight Sensor, Slide Mount
NXSPH	NX, PIR BT Occupancy/Daylight Sensor, High Mount
NXSPL	NX, PIR BT Occupancy/Daylight Sensor, Low Mount
<b>NX Networked – Wired</b>	
NXE	NX, Dual SmartPORTs™
NXEOS	NX, PIR BT Occupancy/Daylight Sensor, Round, Dual SmartPORTs <sup>3</sup>
NXES	NX, PIR BT Occupancy/Daylight Sensor, Slide Mount, Dual SmartPORTs
NXESPH	NX, PIR BT Occupancy/Daylight Sensor, High Mount, Dual SmartPORTs
NXESPL	NX, PIR BT Occupancy/Daylight Sensor, Low Mount, Dual SmartPORTs
<b>NX Networked – Wireless</b>	
NXOSW	NX Wireless, PIR BT Occupancy/Daylight Sensor <sup>4</sup>
NXSPWH	NX Wireless, PIR BT Occupancy/Daylight Sensor, High Mount <sup>5</sup>
NXSPWL	NX Wireless, PIR BT Occupancy/Daylight Sensor, Low Mount <sup>7</sup>
NXSW	NX Wireless, PIR BT Occupancy/Daylight Sensor
NXWE	NX Wireless Enabled <sup>8</sup>
<b>NX Networked – Wired/Wireless Hybrid</b>	
NXSWD	NX Wireless, PIR BT Occupancy/Daylight Sensor, Dual SmartPORTs
NXWD	NX Wireless, Dual SmartPORTs <sup>2</sup>

#### Notes:

- |   |  |
|---|--|
| 1 Same as NXS but sensor has different form factor.                               | 5 Same as NXSW but with a high mount sensor.                 |
| 2 Requires an NXBTC plugged into the SmartPORT for programming via NX Mobile App. | 6 Same as NXSW but with a high mount sensor.                 |
| 3 Same as NXES but sensor has different form factor.                              | 7 Same as NXSW but with a low mount sensor.                  |
| 4 Same as NXSW but sensor has different form factor.                              | 8 Programming via NX Mobile App requires factory assistance. |

BT = Bluetooth® Technology

### Outdoor Options

NX Option	Description
<b>NX Standalone</b>	
NXSP14F	NX, PIR BT Occupancy Sensor, Daylight Harvesting, up to 14' mounting height
NXSP30F	NX, PIR BT Occupancy Sensor, Daylight Harvesting, 14' - 30' mounting height
NXOS	NX, PIR BT Occupancy Sensor, Daylight Harvesting, up to 12' mounting height <sup>1</sup>
<b>NX Networked – Wireless</b>	
NXOFM-1R1D-UNV	NX Wireless, Daylight Harvesting, BT, 7-pin, Twist-lock <sup>3,4</sup>
NXOSW	NX Wireless, PIR BT Occupancy Sensor, Daylight Harvesting, up to 12' mounting height <sup>1</sup>
NXSPW14F	NX Wireless, PIR BT Occupancy Sensor, Daylight Harvesting, up to 14' mounting height
NXSPW30F	NX Wireless, PIR BT Occupancy Sensor, Daylight Harvesting, 14' - 30' mounting height
NXWE	NX Wireless Enabled <sup>5</sup>

#### Notes:

- |  |  |
|--|--|
| 1 Same as NXS but sensor has smaller form factor.                  | 4 Sensor (SCLNX) not integrated into NXOFM. Has to be ordered separately as an add-on. |
| 2 Same as NXES but sensor has smaller form factor.                 | 5 Programming via NX Mobile App requires factory assistance.                           |
| 3 NXOFM-1R1D-UNV is an NX accessory and must be ordered separately |  |

BT = Bluetooth® Technology





## Technical Service & Support

For additional resources view our [Technical Services Catalog](#)

### Our Experience

Hubbell Control Solutions offers customers a wide variety of services, a wealth of field experience and the highest quality products. We are committed to the same level of quality when providing services including layouts, training and system start-ups to our customers.

### Solutions

From the first contact through the final system adjustment, Hubbell Control Solutions Technical Sales and Service personnel adhere to the highest level of professionalism and responsiveness. Because we value our customers so highly, we ensure that they receive full corporate support throughout every phase of a sale. Our service organization offers the convenience of a variety of services: on-site troubleshooting, maintenance contracts for periodic system checks, on-site start up and check out to maximize system performance.

Service & Support capabilities:

- Sensor Layout and Tuning
- Onsite Startup
- Telephone Startup
- Onsite Performance-Verification Walkthrough
- Customer-Site Solution Training
- Onsite Support
- Remote Diagnostics
- Onsite Programming

## Phone and Online Support

While it is our goal to provide you with intelligent, simple and scalable control solutions, customer experience level and project complexity may necessitate additional support during the design development, construction and post-occupancy stages of a project.

The Hubbell Control Solutions support team is available for consultation to evaluate multiple control scenarios to identify the ideal lighting control device or system to meet energy code requirement and customer criteria. Additionally, our team of friendly and experienced professionals is enabled to assist on-site personnel, such as installation contractors, 3rd party integrators, certified field technicians and facilities personnel, to quickly resolve issues and provide additional support.

Technical Service Center:  
(800) 888-8006 



## Design Service

Our team of lighting control system design professionals are available to provide sensor layouts, networked system design services and 3rd party integration support for new and retrofit projects. Our goal is to provide you with on-time and accurate delivery of design deliverables optimized for your specific application, compliant with local building codes and project specifications.

## On-site Support

Hubbell Control Solutions offers on-site support service to ensure your project goes smoothly. While Hubbell Control Solutions products are designed with simplicity in mind, some projects may benefit from a Field Service Engineer (FSE) to perform an on-site pre-installation walk-through, after-hours and remote startup assistance, occupant training, sensor tuning, preset programming and other pre/post-occupancy services.



**FIELD SERVICE ENGINEER**

HUBBELL  
Control Solutions





ALERA LIGHTING

ARCHITECTURAL AREA LIGHTING

BEACON PRODUCTS

COLUMBIA LIGHTING

COMPASS

DUAL-LITE

HUBBELL CONTROL SOLUTIONS

HUBBELL INDUSTRIAL LIGHTING

HUBBELL OUTDOOR LIGHTING

KIM LIGHTING

KURT VERSEN

LITECONTROL

PRESCOLITE

**HUBBELL**<sup>®</sup>  
**Control Solutions**

701 Millennium Blvd. Greenville, SC 29607  
Tel 864.678.1000  
[www.hubbellighting.com](http://www.hubbellighting.com)

HCS18000067 08/20

Copyright © 2020 Hubbell Lighting, Inc. All rights reserved. Please refer to online specifications for most up-to-date content as specifications are subject to change without notice.