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# Data Centers

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# Lighting Technology

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# Overview

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Efficiency, Security, and Reliability.

**Current**





**Data Centers demand high levels of illumination to ensure safe navigation and efficient equipment maintenance. Effective lighting plays a critical role in maintaining seamless operations in the digital era. The following are some essential factors that affect data center lighting.**

**Visibility:**

Proper lighting ensures the efficient and safe completion of intricate work activities. These activities often involve maintenance and troubleshooting tasks requiring the identification and manipulation of small cables and input sockets.

**Energy Efficiency:**

Data Center Server loads and cooling systems are major contributors to high energy consumption. By utilizing efficient lighting solutions and implementing lighting controls, Data Center operators have the ability to decrease both their total energy consumption and operating costs.

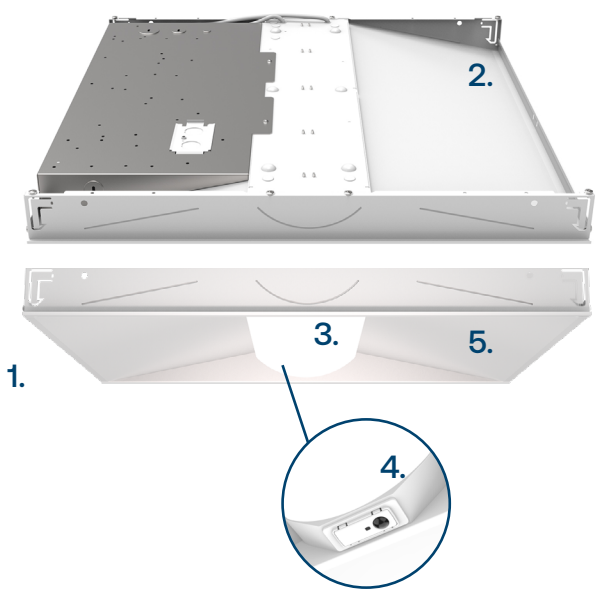
**Installation and Maintenance:**

When selecting lighting fixtures for data centers, it is crucial to prioritize fixtures that offer simple installation processes and require minimal upkeep.



Structural ceiling systems are frequently utilized by data centers to handle their mechanical infrastructure and necessary utility distribution equipment. These ceilings offer advantages in terms of cost and ease of installation, while also guaranteeing a debris-free environment for delicate equipment.

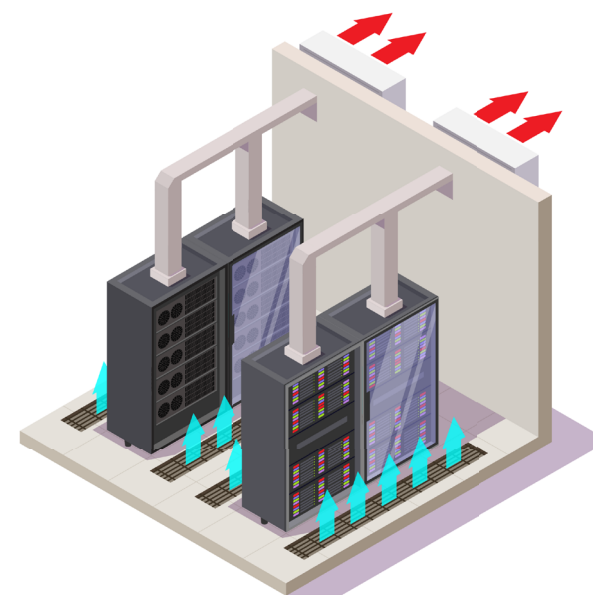
Air management is an essential task for data center systems, particularly with regards to the regulation of hot air. Modern data centers employ containment tactics to establish Hot Aisles and Cool Zones that ensure optimal airflow balance and consistent temperature management.



## LCATD-S

Data centers with structural ceilings need lay-in lighting solutions that are:

1. Low profile to fit the crowded plenum
2. Specifically sized for the non-traditional grid spacing
3. Designed to provide excellent illumination
4. Controllable to provide automatic, on-demand lighting
5. Efficient in operation to manage energy usage and heat generation



## MPS

### Multipurpose Linear

Hot containment areas and cool zones have unique lighting requirements.

Columbia Lighting's Multipurpose Linear, MPS is designed for both areas.

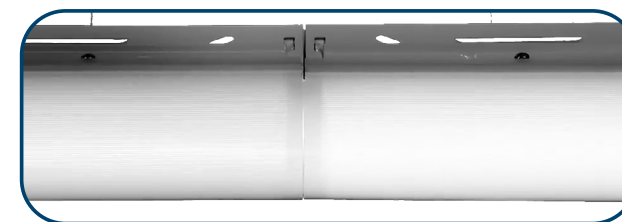
- The MPS delivers up to 10,000 lm per 4' section for cool zone areas maintained below 40°C.
- In Hot Aisles where temperatures can reach 50°C, MPS delivers up to 5,000 lm per 4' section.

LCATD-S is the lay-in lighting solution for structural data center ceiling systems from Gordon Incorporated, Tate, and Polargy.

2'x2'



2'x4'



- Adaptable for all Data Center zones
- Effective in illumination
- Efficient in operation
- Easily configurable for continuous runs



# The NX Area Controller with Site Manager provides Building Owners & Facility Managers with multi-building lighting control, insights into their lighting system, and integration with Building Management Systems (BMS)



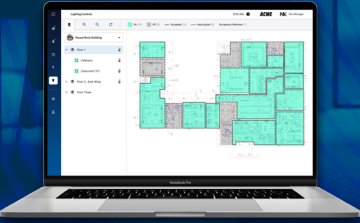
## Controls Sequence of Operation

- Occupancy sensor base control
  - When Unoccupied - Set lighting to off or to levels that support the use of security cameras
  - When Occupied - Set lighting to levels required for personnel to navigate and perform required tasks
- User Control
  - Provide manually operated controls that allow for lighting to be overridden to levels required for performing maintenance and repairs.

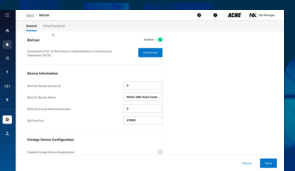
All NX wireless sensors come enabled with our proprietary IntelliSCOPE™ functionality, which provides true ladder-less programming and installation all with the click of a button. IntelliSCOPE™ provides real-time occupancy data to help optimize sensor detection in any application, which helps save time and money. The NX Area Controller with Site Manager provides Building Owners & Facility Managers with multi-building lighting control, insights into their lighting system, and integration with Building Management Systems (BMS) Controls Sequence of Operation.

NX Lighting Controls wireless platform is a simple, scalable solution for commercial lighting systems that enables instant energy savings, code compliance, greater overall operational efficiency and improved occupant comfort. Intelligence is rooted in the NX wireless controls “DNA” or Distributed Network Architecture, which enables NX wireless devices to seamlessly connect with NX Lighting Control devices and NX enabled luminaires.

## NX SITE MANAGER

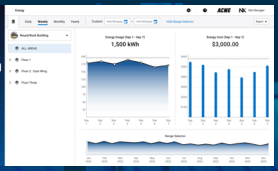


**Floor Plan**

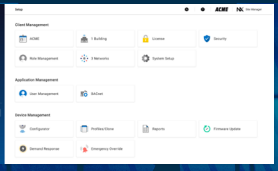


**Integration**

- BACnet
- Automated Demand Response



**Energy**



**Management**



## 2.4GHZ WIRELESS MESH COMMUNICATION

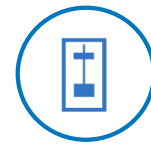
Creates a robust mesh infrastructure that easily connects 1000 devices with a single NX Area Controller in a variety of commercial applications with NX dual radio architecture.

## Energy Savings Strategy & Code Compliance at Every Level of Scalability

From a single standalone room or luminaire 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



**LOCAL CONTROLS**  
Manual lighting controls that control all the lights in that space and requires human intervention



**MULTI-LEVEL CONTROL**  
Providing additional light levels in a space beyond Full ON and Full OFF

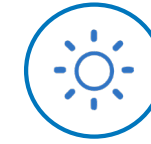
**PLUG LOAD CONTROL**  
Automatically turns off designated receptacles in response to all occupants leaving the space or time of day

**SCHEDULING**  
Controls light levels based on facility schedule

**ASTRONOMICAL TIME CLOCK**  
Controls light levels based on sunrise/sunset and project location



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



**CONTINUOUS DAYLIGHTING**  
Automatically turns lights down to a reduced level based on the amount of daylight present in a space



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

**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



**BMS Integration**  
The data exchange for control and monitoring from a facilities 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



**SECURE**  
NX Lighting Controls use AES-128bit encryption to ensure peace of mind for both owners and occupants that your lighting system is secure.



**SCALABLE DEPLOYMENT**  
NX wireless can be scaled from a single space to an entire facility for both indoor and outdoor applications. It can also be used alongside wired NX Lighting Controls deployments providing additional flexibility.



**NX LIGHTING CONTROLS APP**  
The intuitive interface of our mobile commissioning app simplifies and streamlines programming and features a ladder-less sensitivity adjustment using IntelliSCOPE for real time occupancy data visualization.



Dual-Lite has been providing quality life safety products since 1940 and offers a broad range of solutions suitable for data center applications, large or small.



In an emergency, life safety is the number one priority in any facility, but data centers have additional, more specialized needs. Central lighting inverters can play a vital role.

Using quality central lighting inverters keeps luminaires at full brightness during power failures, ensuring a well-lit evacuation path that encourages calm and orderly exits.

Adequately sized uninterruptible power supplies (UPS) not only shield sensitive IT equipment from power disruptions that result in data loss but can also supply backup power to essential auxiliary loads like cooling, fire suppression, and security systems, effectively preventing expensive downtimes.

The Life Safety Code (NFPA 101) requires egress pathway illumination from inside the building to the nearest exit point and from outside the building to the “public way” including stairs, aisles, corridors, outdoor pathways and parking lots.



To learn more about Dual-Lite’s full portfolio of Life Safety Solutions visit: [currentlighting.com/dual-lite](http://currentlighting.com/dual-lite)

LSN LIFE SAFETY NETWORK

Trident



### Features and Benefits:

- Energy Efficient and Sustainable** - Improves Power Usage Effectiveness (PUE) with high efficiency ratings and small footprints to lower the overall total cost of ownership.
- “No break” Design** - Transfers the load instantaneously when normal power is interrupted.
- Double Conversion Technology (Trident Series)** - Ensures consistent and steady delivery of clean, filtered power to your critical loads in both normal and emergency operating mode.
- Self-Testing/Self-Diagnostic Electronics** - Performs continuous testing of critical subsystems and lighting loads.
- Easy Code Compliance** - Performs user-programmable, automatic discharge tests then logs results into memory to meet NFPA 101 Life Safety Code requirements.
- Centralized Maintenance and Communication** - Notify the user of operating status through a secure, intuitive interface. Emails test results or alarm conditions to maintenance personnel and can tie into other Building Management Systems (BMS).
- Trusted Partner** - Dual-Lite ensures proper operation following installation with on-site factory start ups and additional training for owner/user personnel by a factory trained technician. Preventive maintenance programs including extended warranty programs are also available.



# Always On.

At Current, inspiration flows both ways. In providing the lighting and controls solutions that help create beautiful, functional and safe environments, we're inspired by the people who live, work and play in those spaces.

Only Current can provide reliable performance, responsive service, and the uncompromising quality you expect from an industry leader every time, always.

## Our Vertical Markets



### Commercial

Stores, Offices, Hotels, Supermarkets, Restaurants, Healthcare, Education



### Industrial

Manufacturing Centers, Warehouses, Food Processing Plants



### Municipal

Roadways, Residential Streets, Shared Spaces



### Specialty

Greenhouses, Disinfection Lighting, Signage, Transportation

## Our Solutions



### LED Lighting

Optimize utilities to end excess energy spending, promote safety and improve aesthetics



### Controls, Sensors & IoT Solutions

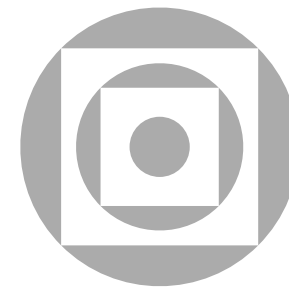
Improve space utilization and increase productivity, and find actionable insights with IOT



### Energy Management Systems

Establish more sustainable energy practices across an enterprise

# Current



## Industry-leading portfolio of innovative product and tech brands

With the convergence of two iconic leaders who each bring rich histories and deep talent, Current is uniquely positioned to help our customers solve complex challenges with the industry's widest selection of advanced lighting and intelligent controls.



Current's HLI Brands portfolio of products offers well-known and respected brands, offering a comprehensive range of indoor luminaires, outdoor luminaires, and connected lighting solutions for architectural, commercial, industrial and institutional applications.





ARCHITECTURAL AREA LIGHTING

BEACON

COLUMBIA LIGHTING

COMPASS

DUAL-LITE

EXO

FORUM

KIM LIGHTING

KURT VERSEN

LIFESHIELD

LITECONTROL

NX LIGHTING CONTROLS

PRESCOLITE

**Current** 

**Current - HLI Brands**

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Greenville, SC 29607

[currentlighting.com/prescolite](http://currentlighting.com/prescolite)

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