



Lighting & Controls Application Design

Lighting management and control can minimize power consumption and energy costs by providing the right light levels where and when they are needed. Standards and codes provide guidance for the automation of lighting systems but taking advantage of these can be complicated.

Design Support

Cooper Lighting Solutions provides you with a team of experts to support your complete lighting system solution. Our dedicated specialists have the unique skillsets, tools, and techniques to provide you with a highly functional system solution that meets the specifications of your project whether simple or complex. Our extensive breadth of product lines offer a solution for stand alone or networked architecture and wired or wireless devices. With the help of a systems designer, Cooper Lighting Solutions provides you with the ability to take your lighting controls systems to a whole new level as the industry drives towards the Internet of Things and Connected Lighting. A well designed lighting control system can provide a better user experience, improved quality of life, improved productivity, energy efficiency, and cost savings.

Design Services

- Lighting Layouts
- Sensor Layouts
 - Daylighting
 - Occupancy
- Modular Wiring Systems Layouts
- Controls Submittals Packages

Cooper Lighting Solutions has innovative and reliable systems solutions for every lighting application

- Parking Garage
- Parking Areas
- Office
- Education
- Recreation
- Warehouse
- Roadway
- Healthcare
- Retail
- Residential
- Data Centers

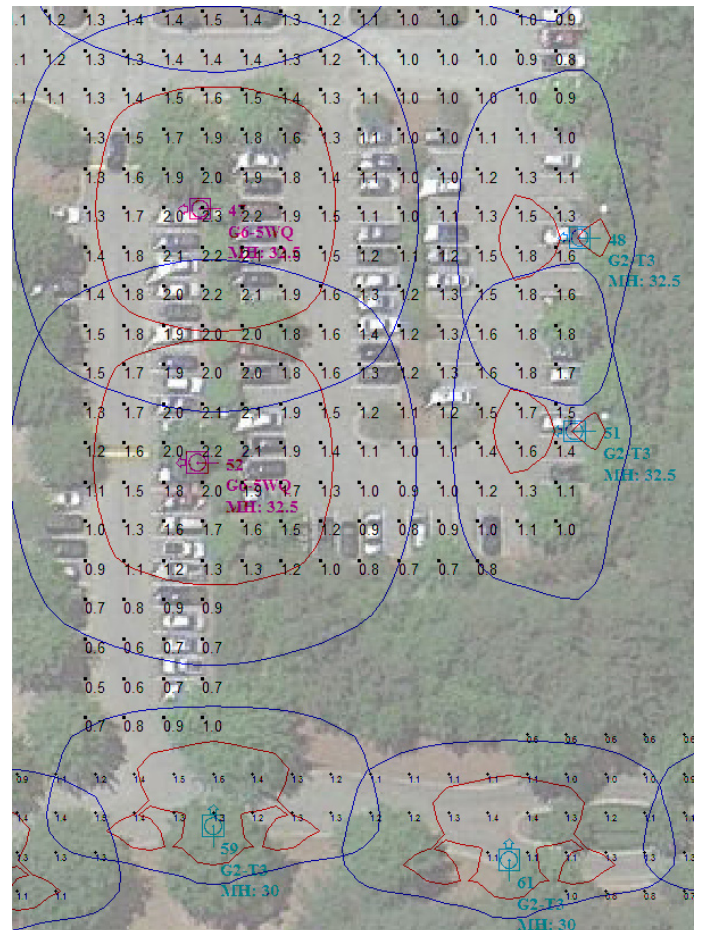
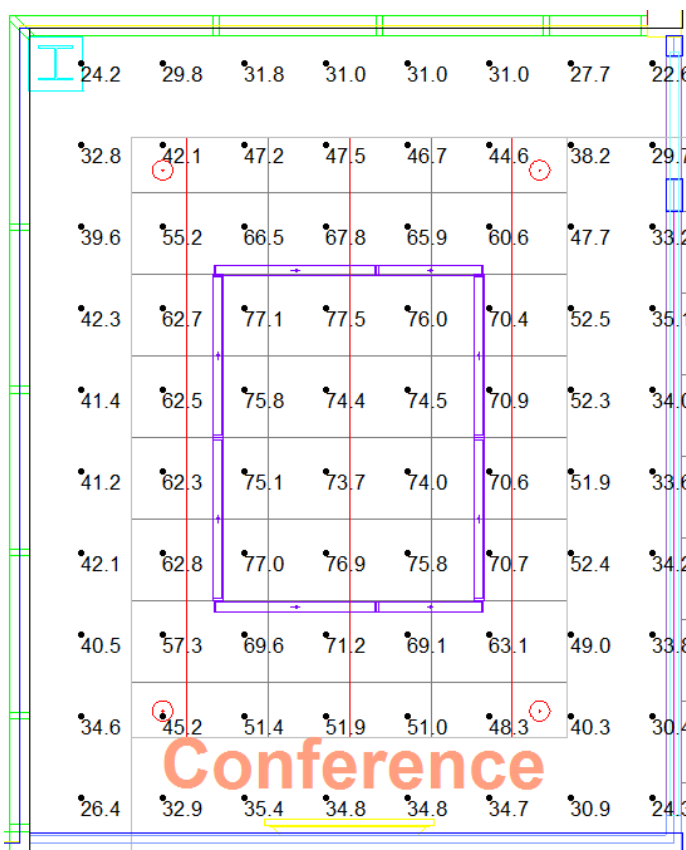
**Building a smarter, safer,
and brighter world.**

Lighting Layouts

The Lighting Applications team at Cooper Lighting Solutions offers photometric services for interior and exterior environments guided by the Illuminating Engineering Society of North America (IESNA) standards. As lighting systems become more intelligent, offering integrated solutions for multiple complex environments, the lighting application of a space is the first step in providing solutions for intelligent, well appointed, energy efficient spaces with the user experience in mind.

Applications Services Include

- Exterior Spaces – Commercial and industrial parking and area lighting
- Interior Spaces – Commercial and industrial interiors for ambient, safety and emergency lighting
- Automotive and Exterior Merchandising Spaces – Exterior sales areas
- Directional Lighting in Exterior Environments – Recreational sports and area lighting
- Roadway Lighting – Utility roadway lighting, intersections, roundabouts and tunnels



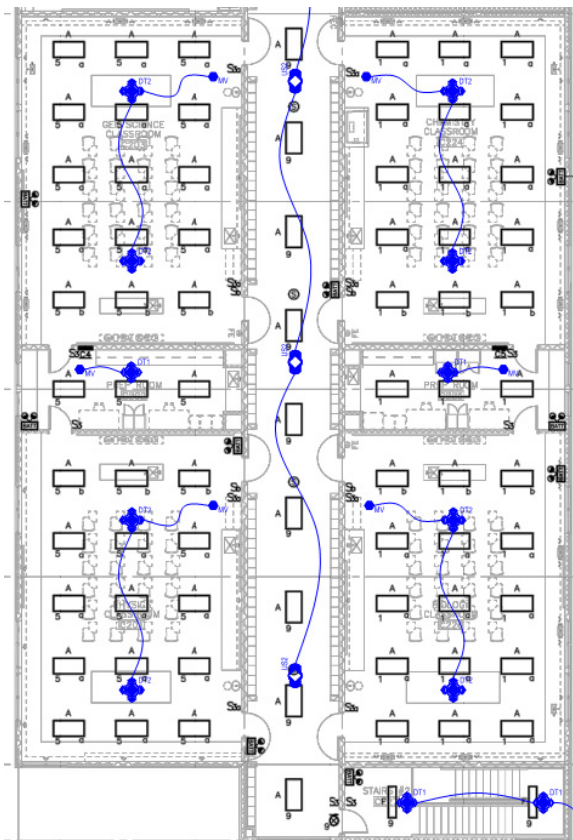
To request a lighting layout please contact your local Cooper Lighting Solutions representative.

Sensor Layouts

To streamline your building design process, Cooper Lighting Solutions provides sensor layouts services, allowing you to focus your valuable time elsewhere. By simply providing us with a reflected ceiling plan and control intent, our design team can provide you with the device placement and a complete bill of material for occupancy, vacancy and/or daylighting. We can design a new layout for proper coverage or verify the sensor placement already given.

It is important to properly characterize any given space. The following factors must be considered as they will influence sensor product selection:

- Room/space dimensions, shape, and function
- Location of walls, doors, windows, and drapes
- Location of any existing wall switches in spaces less than 500 square feet
- Location of shelves, file cabinets, large equipment, furniture, or any other large object that could block sensor coverage
- Ceiling heights
- Partition locations and heights
- Types of lighting being used and their locations
- Availability of daylight
- Extreme temperature conditions
- Air register locations



SENSOR LEGEND

QTY	SYMBOL	MODEL/DESCRIPTION -R = isolated relay -N = Neutral required
11		OAC-DT-1000 360 DEGREE 1000FT² DT CEILING SENSOR
31		OAC-DT-2000 360 DEGREE 2000FT² DT CEILING SENSOR
4		OAC-U-1000 TWO-WAY 1000FT² US CEILING SENSOR
13		OAC-U-2000 TWO-WAY 2000FT² US CEILING SENSOR
10		ONW-D-1001-MV 120/277VAC SINGLE RELAY DT WALL SWITCH SENSOR
4		ONW-D-1001-DMV 120/277VAC DUAL RELAY DT WALL SWITCH SENSOR
41		SP20-MV 120/277VAC SINGLE RELAY SWITCHPACK

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Controls Submittal Package

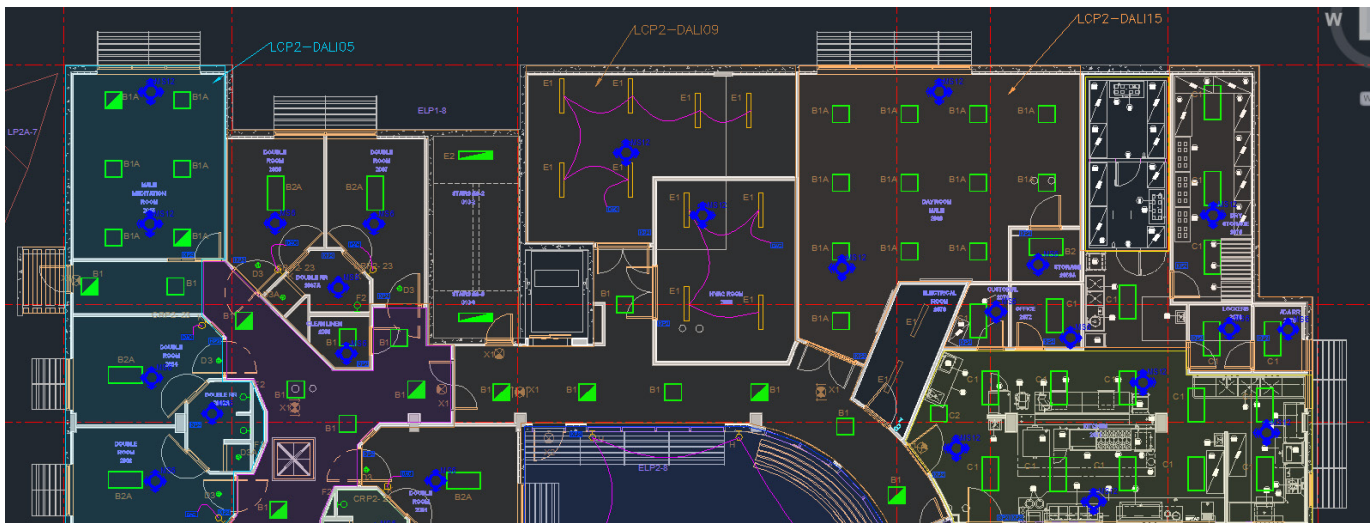
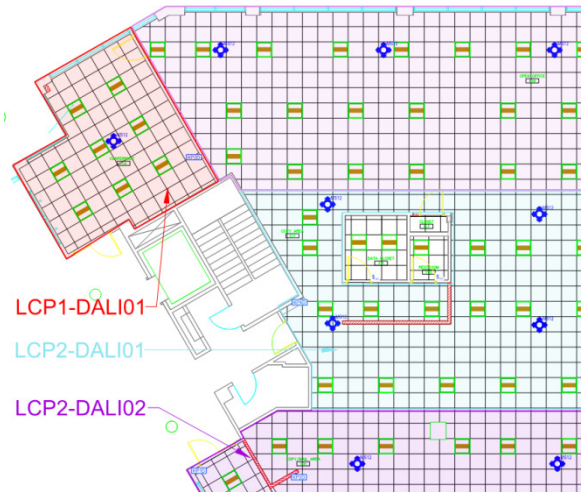
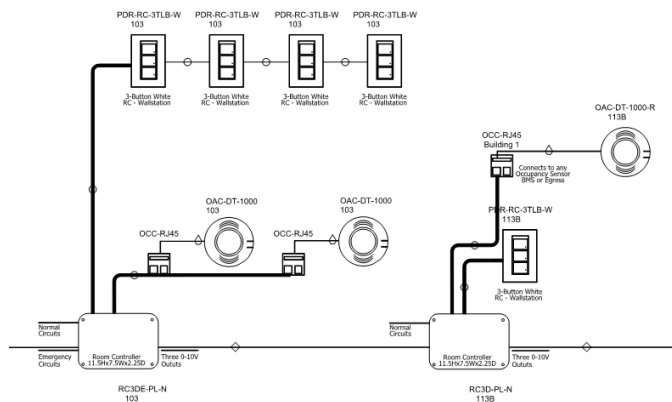
Cooper Lighting Solutions Controls Application team provides timely and quality solutions to meet each individual project's specification needs. Different energy codes can drive design criteria. Our qualified specialists have the capability to develop a complete proposal to provide accurate code compliance, whether designing to IECC, ASHRAE, or California Title 24. Cooper Lighting Solutions can help you maximize energy savings with a properly designed control system.

Our complete submittal package includes

- Assumptions and Exceptions
- Bill of Materials
- Device Placement
- Panel Schedules
- Riser and Wiring Diagrams
- Specification Sheets
- Commissioning Information and Start-up
- Warranty Information

Required from Customer

- Lighting Submittal Package
- Controls Specifications
- Floor Plans



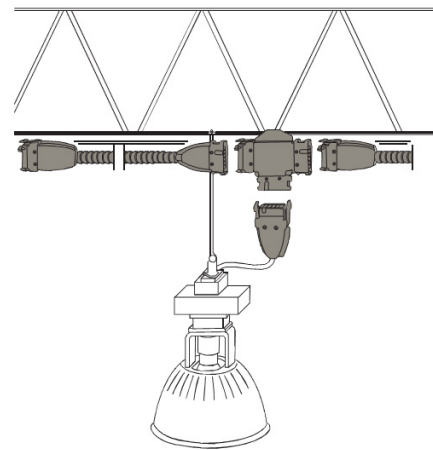
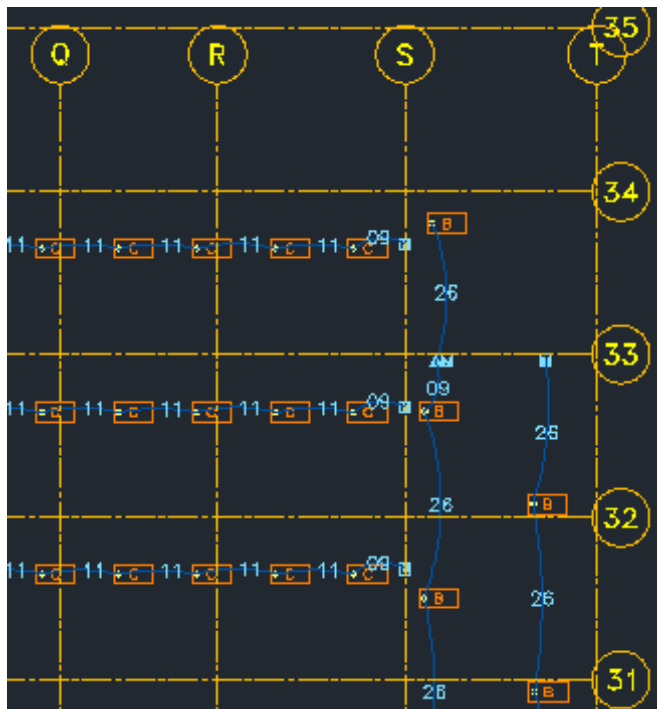
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MWS - Modular Wiring System Layouts

Branch circuit wiring for lighting and power is particularly affected by fast track construction schedules, late startups, and design changes. Even simple construction projects require rigorous planning to coordinate material and labor, especially when using traditional wiring where labor and support overhead are the greatest cost component of the electrical bid. Any reduction in installation time at the job site has a dramatic impact on total project costs, profitability, and even with completing a project on time. MWS, Cooper Lighting Solutions Modular Wiring System, is the key to solving the challenges of branch circuit wiring in new construction and renovation. MWS is a simple and cost effective modular wiring system consisting of factory assembled components that arrive at the job site ready to be snapped together into a complete branch circuit wiring system. Specialized members of Cooper Lighting Solutions Technical Applications team are available to provide technical support, quote assistance and the development of MWS layouts. They can provide the customer with a MWS design along with the bill of material needed based upon the project intent.

Required from Customer

- Current electrical/lighting drawing
- Specify the MWS system desired
- Fixture schedule
- Emergency requirements



MWS WIRING INSTRUCTIONS

SL-120V-277V-347V
BLACK WIRE TO THE BLACK WIRE OF ALL BALLASTS
WHITE WIRE TO WHITE WIRE OF ALL BALLASTS
GREEN TO APPROPRIATE GROUND LOCATION
IF BALLAST SENSING LEAD (GRAY) EXISTS, CONNECT TO WHITE WIRE FROM MWS MODULE, CAP ALL UNREFERENCED WIRES

MWS LEGEND AND BILL OF MATERIALS - CONTRACTOR INSTALLED

LABEL	SYMBOL	CATALOG NUMBER	DESCRIPTION	QUANTITY
	▲	27SP12/4G	SPLITTER	1
	■	27ST12/2G	STARTER FITTING/CABLE	11
09	~	27EC12/2G09	277V CABLE 12/2G09	10
11	~	27EC12/2G11	277V CABLE 12/2G11	117
26	~	27EC12/2G26	277V CABLE 12/2G26	13
B	□	27TS12/2G06(SL)	T SO CORD	14
C	□	27TS12/2G06(SL)	T SO CORD	126

To request a MWS layout please contact your local Cooper Lighting Solutions representative.