

SECTION 26 09 43 - NETWORK LIGHTING CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. **KROGER DIRECT BUY PROGRAM:** Owner supplied/Contractor installed.
 - a. The Kroger Co. will supply the following items:
 - 1) Wired Lighting Control Devices
 - 2) Wireless Lighting Control Devices
 - 3) System Software Interfaces
 - 4) System Backbone and Integration Equipment
 - b. Comply with requirements in Division 00 Section "General Conditions."
2. Contractor supplied items:
 - a. Miscellaneous boxes, fasteners, etc.
3. Contractor installed items:
 - a. Wired Lighting Control Devices
 - b. Wireless Lighting Control Devices
 - c. System Software Interfaces
 - d. System Backbone and Integration Equipment

1.2 REFERENCES

A. Definitions

1. Communication Bus: A wired interface a device uses to communicate with other control devices.
2. Device: A wired or wireless equipment that controls the light emitted by a lighting source, including fluorescent ballasts, LED drivers, incandescent lamps, manual switches, switching relays, dimming modules and sensors.
3. Group: A set of devices that communicate together
4. Scene: Digital light level associated with a preset
5. Supervisory System: A set of tools to acquire, process, communicate and display equipment status data, metered electrical parameter values, power quality evaluation data, event and alarm signals, tabulated reports, and event logs.
6. System Backbone: Devices used to connect separate spaces via TCP/IP, including bridging devices, gateways, and area controllers.
7. PoE: Power over ethernet.

B. Reference Standards

1. Components manufactured in accordance with the following where applicable:
 - a. UL 916 and UL 924.
 - b. CFR Title 47, Part 15.
 - c. ISED Canada RSS-24.
 - d. IFT-008-2015 and NOM-208-SCFI-2016.
2. The system shall be listed as a qualified system under Design Lights Consortium Networked Lighting Control System Specification v5.0.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Conference: Conduct conference at project site or via web conference.
- B. Pre-installation Coordination Meeting(s): For networked systems, conduct meeting(s) via videoconference or in person at the project site before construction activities.
 1. Attendees: GC, electrical and low voltage installers, and representatives of manufacturers. Notify the architect, construction project manager.
 2. Scope: Review the submittal drawing, sequence of operation, IT requirements, and wiring best practices, including wiring testing, device installation best practices and lighting control integration requirements with other systems with the project team.

1.4 SUBMITTALS

- A. The Owner will provide the following submittals for the Contractor's review. The Contractor shall review and return submittals as specified in Division 00 Section "General Conditions."
 1. Product Data: For each type of lighting control.
 2. Shop Drawings: Riser diagrams, IT system drawing.
 3. Sequence of Operation.
 4. Commissioning Forms: Including Contractor start-up/commissioning worksheet.
- B. As-Built Drawings: Showing device/controls locations with noted changes.

1.5 WARRANTY

- A. Warranty: The manufacturer and Installer warrant that installed lighting control devices perform per specified requirements and agree to repair or replace, including labor, materials, and equipment, devices that fail to perform as specified within the extended warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Faulty operation of lighting control hardware.
 - b. Faulty operation of lighting control firmware.
 2. Warranty Period: As indicated in Division 01 Section "Product Warranties."

PART 2 - PRODUCTS

2.1 PRODUCT COMPONENTS (PROVIDED BY OWNER)

- A. Direct Buy Product: Cooper Lighting Solutions LLC; WaveLinx.
- B. The system is composed of the following interconnected digital control devices and connected luminaires:
 - 1. Wallstations: Wired and wireless.
 - 2. Ceiling and Tile mount Occupancy/Vacancy Ceiling Sensors: Wired and wireless.
 - 3. Fixture Mount Sensors for Indoor, Industrial, and Outdoor Fixtures: Wireless.
 - 4. Dimming Switchpack: Wired and wireless.
 - 5. Area Controller: For networked spaces.
 - 6. Area Hub: To network multiple control areas to an area controller.
 - 7. Supervisory Server.
 - 8. Lighting Management Software Applications.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install control system in accordance with the manufacturer's printed instructions unless otherwise indicated
- B. Install and fully wire the control system as shown on the Drawings.
 - 1. With exception of the PoE lines to the lighting controller (Trellix) and the WACs (wireless access controls), complete all electrical connections to all control circuits.

3.2 COMMISSIONING (OWNER PROVIDED)

- A. Upon completion of the installation, the system shall be commissioned by the manufacturer's factory authorized representative, who will verify a complete, fully functional system.
- B. The electrical installer shall provide both the manufacturer and the Owner with four weeks written notice of the system start-up and adjustment date.
- C. Upon completion of the system commissioning, the factory-authorized technician shall provide the proper training to the owner's personnel on the adjustment and maintenance of the system.
- D. Factory Certified Field Service Engineer Qualifications: Certified by the equipment manufacturer on the system installed.
 - 1. Make the first visit upon completion of the installation of the WaveLinx connected lighting system:
 - 2. Verify locations of WaveLinx area controllers
 - 3. Verify implementation of construction group process

4. Identify connected devices and programs using WaveLinx Mobile Application and Automatic Code Commissioning.
 5. Verify that system operation control is based on the defined Sequence of Operations (SOO).
 6. Obtain sign-off on system functions.
 7. Make a second visit (optional) to demonstrate and educate Owner on system capabilities, programming, fine-tuning and maintenance.
- E. In remodels, expansions, or locations open for business, the start-up of the WaveLinx connected lighting system may be required outside of normal business hours (Monday through Friday, 8 a.m. to 9 p.m.).

END OF SECTION 26 09 43