

SECTION 265100-INTERIOR LIGHTING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions, Division 00 and Division 01, apply to this section.

1.2 REFERENCES AND QUALITY ASSURANCE

- A. Underwriter's Laboratory.
- B. NFPA 70 – National Electric Code.
- C. Fluorescent fixtures UL 1570.
- D. Track lighting UL 1574.
- E. Exit signs UL 924.
- F. ANSI C82.1 - Ballasts for Fluorescent Lamps - Specifications.
- G. LED
 - 1. Lighting fixtures shall be of specification grade and listed or labeled by Underwriters Laboratories (UL) or an approved Nationally Recognized Testing Laboratory (NRTL).
 - 2. LED fixtures shall comply with the following:
 - a. UL Standard 8750 "Light Emitting Diode Equipment for use in Lighting Products", IES Standard LM-79 "Electrical and Photometric Measurements of Solid-State Lighting Products", IES Standard LM-80 "Measuring Lumen Maintenance of LED Light Sources", and IES Standard TM-21 "Projecting Long Term Lumen Maintenance of LED Light Sources".
 - b. ANSI C78.377 "Specifications for the Chromaticity of Solid State Lighting Products" with LEDs binned within a maximum five-step MacAdam Ellipse to ensure color consistency amongst luminaires of the same type.

1.3 SUBMITTALS

- A. Section 013300 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate dimensions and components for each luminaire not standard product of manufacturer.
- C. Product Data: Submit dimensions, ratings, and performance data.
 - 1. **For each lighting fixture type, the ballast/driver and the lamp must be submitted.**

- D. Samples: Submit two color chips 3 x 3 inch in size illustrating luminaire finish color where indicated in luminaire schedule.

1.4 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.5 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.6 MAINTENANCE MATERIALS

- A. Refer to Division 1 requirements.
- B. Furnish one of each plastic lens type.
- C. Furnish one replacement lamps for each lamp installed.
- D. Furnish one of each ballast type.

PART 2 PRODUCTS

2.1 INTERIOR LUMINAIRES

- A. Product Description: Complete interior luminaire assemblies, with features, options, and accessories as scheduled.
- B. Refer to Section 016000 - Product Requirements for product options.

2.2 ACCEPTABLE MANUFACTURERS

- A. Cooper Industries.
- B. Hubbell.
- C. Daybrite.
- D. Williams.
- E. Lithonia
- F. Holophane.

2.3 LED DRIVERS

- A. Manufacturers:
 - 1. General Electric Co.
 - 2. Philips
 - 3. Sylvania.

2.4 EXIT SIGNS

- A. Type
 - 1. Cast aluminum construction.
 - 2. Color by design professional.
 - 3. LED lamp type.
 - 4. Wireguards as required.
 - 5. Red lettering.
 - 6. Directional Chevrons
- B. Manufacturers
 - 1. Surelites
 - 2. Lithonia
 - 3. Dual Lite

2.5 LED

- A. Recessed lighting fixtures shall be thermally protected.
- B. LED fixtures shall be modular and allow for separate replacement of LED lamps and drivers.
- C. End user must be able to service/replace LED lamps and drivers from the room side.
- D. LED drivers shall be electronic type, labeled as compliant with radio frequency interference (RFI) requirements of FCC Title 47 Part 15, and comply with NEMA SSL 1 “Electronic Drivers for LED Devices, Arrays, or Systems”. LED drivers shall have a sound rating of “A”, have a minimum efficiency of 85% and be rated for a THD of less than 20 percent of all input voltages.
- E. Dimmable LED drivers shall be 0-10V type. (unless noted different on fixture schedule) Dimmable LED drivers shall be capable of dimming without LED strobing or flicker across their full dimming range.
- F. For non-LED lighting fixtures and components, provide a complete warranty for parts and labor for a minimum of one year from the date of Substantial Completion.
- G. For LED fixtures, lamps, drivers, and components, provide a complete warranty for parts and labor for a minimum of five years from the date of Substantial Completion.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install suspended luminaires using pendants supported from swivel hangers. Install pendant length required to suspend luminaire at indicated height.
- B. Support luminaires larger than 2 x 4 foot size independent of ceiling framing.
- C. Locate recessed ceiling luminaires as indicated on Drawings.

- D. Install surface mounted luminaires plumb and adjust to align with building lines and with each other. Secure to prevent movement.
- E. Exposed Grid Ceilings: Support surface-mounted luminaires on grid ceiling directly from building structure.
- F. Install recessed luminaires to permit removal from below.
- G. Install recessed luminaires using accessories and firestopping materials to meet regulatory requirements for fire rating.
- H. Install clips to secure recessed grid-supported luminaires in place.
- I. Install wall-mounted luminaires at height as indicated on Drawings or as scheduled.
- J. Install accessories furnished with each luminaire.
- K. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.
- L. Install specified lamps in each luminaire.
- M. Ground and bond interior luminaires in accordance with Section 260500.
- N. Chain hang troffer type fixtures from structural steel independent of grid or attach fixtures to grid with clips and grid support at each corner of grid.

3.2 FIELD QUALITY CONTROL

- A. Refer to Division 1 requirements.
- B. Operate each luminaire after installation and connection. Inspect for proper connection and operation.

3.3 ADJUSTING

- A. Refer to Division 1 requirements.
- B. Aim and adjust luminaires as indicated on architectural Drawings.

3.4 CLEANING

- A. Remove dirt and debris from enclosures.
- B. Clean photometric control surfaces as recommended by manufacturer.
- C. Clean finishes and touch up damage.

3.5 PROTECTION OF FINISHED WORK

- A. Refer to Division 1 requirements.

- B. Relamp luminaires having failed lamps at Substantial Completion.

3.6 LAMPS

- A. 10% of all lamp types and LED light engines types.

3.7 ACCESSORIES

- A. Suspended fixture support components include stem, rod and hook hangers.
- B. Fixture support poles, mast arms and brackets shall be sized appropriately for the EPA of the fixture.

3.8 SCHEDULES

- A. See drawings.

END OF SECTION 265100

THIS PAGE IS INTENTIONALLY LEFT BLANK