

Part 1 General**1.1 RELATED SECTIONS**

- .1 Section 01 00 10 – General Instructions.
- .2 Section 26 05 00 – Common Work Results for Electrical.

1.2 REFERENCES

- .1 American National Standards Institute (ANSI)/ National Electrical Manufacturers Association (NEMA)
 - .1 ANSI/NEMA C82.1-2004, American National Standard for Lamp Ballasts - Line Frequency Fluorescent Lamp Ballasts.
- .2 Institute of Electrical and Electronics Engineers (IEEE)
 - .1 IEEE C62.41-1991, IEEE Recommended Practice for Surge Voltages in Low-Voltage AC Power Circuits.
- .3 American Society for Testing and Materials (ASTM)
 - .1 ASTM F1137-00 (2006), Standard Specification for Phosphate/Oil and Phosphate/Organic Corrosion Protective Coatings for Fasteners.

1.3 SHOP DRAWINGS AND PRODUCT DATA

- .1 Submit shop drawings in accordance with Section 01 00 10 – General Instructions.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 00 10 – General Instructions.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal all packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Divert unused metal and wiring materials from landfill to metal recycling facility as approved by Departmental Representative.
- .5 Fold up metal banding, flatten and place in designated area for recycling.

Part 2 Products**2.1 LAMPS**

- .1 Fluorescent lamps shall be:
 - .1 T8, 32 Watt, Medium bi-PIN, Rapid start, 3500 k, 30,000 hour lamp life, 3100 initial lamp lumens, CRI 85.

2.2 BALLASTS

- .1 Fluorescent ballast: CBM and CSA certified, energy efficient type, rapid start low frequency hybrid electronic ballast to meet the following:
 - .1 Rating: 120 V, 60 Hz for use with 2-32W, rapid start T-8 lamps.
 - .2 Self-powered emergency high frequency inverter suitable to operate two lamps.
 - .3 Inverter DC & supply, maintenance free, sealed nickel cadmium battery designed for high temperature operation.
 - .4 Integral solid state charger.
 - .5 Suitable for connection on switched lighting circuits.
 - .6 Emergency inverter operation time for two lamps for 90 minutes.
 - .7 Input total current harmonic distortion (THD) shall not exceed 10%.
 - .8 Class A sound level rating.
 - .9 Capable of starting at a minimum temperature of 10°C.
 - .10 Minimum Power Factor of 0.97.
 - .11 Lamp Current Crest Factor: shall not exceed 1.5 maximum during all modes of lamp operations.
 - .12 Ballast Factor: 0.90 or greater for all normal operating conditions and configurations.
 - .13 Ballast case temperature shall not exceed 25°C over 40° ambient.
 - .14 Lamp light output shall not change more than $\pm 10\%$ with $\pm 10\%$ change in voltage applied to the ballast.
 - .15 Total Circuit Power: 62 Watts.
 - .16 Mounting: integral with luminaire.

2.3 FINISHES

- .1 Baked enamel finish:
 - .1 Conditioning of metal before painting:
 - .1 For corrosion resistance conversion coating to ASTM F1137.
 - .2 For paint base, conversion coating to ASTM F1137.
 - .2 Metal surfaces of luminaire housing and reflectors finished with high gloss baked enamel to give smooth, uniform appearance, free from pinholes or defects.
 - .3 Reflector and other inside surfaces finished as follows:
 - .1 White, minimum reflection factor 85%.
 - .2 Colour fastness: yellowness factor not above 0.02 and after 250 hours exposure in Atlas fade-o-meter not to exceed 0.05.
 - .3 Film thickness, not less than 0.03 mm average and in no areas less than 0.025 mm.
 - .4 Gloss not less than 80 units as measured with Gardner 60° gloss meter.

- .5 Flexibility: withstand bending over 12 mm mandrel without showing signs of cracking or flaking under 10 times magnification.
- .6 Adhesion: 24 mm square lattice made of 3 mm squares cut through film to metal with sharp razor blade. Adhesive cellulose tape applied over lattice and pulled. Adhesion satisfactory if no coating removed.

2.4 LUMINAIRES

- .1 Type A Fluorescent luminaire design:
 - .1 No. of lamps: 2.
 - .2 Industrial open reflector fluorescent luminaire, surface mounted.
 - .3 Wire guard.
 - .4 Nominal dimensions: 1200 mm long x 300 mm wide x 200 mm high.
 - .5 Lamp design: RS T-8.
 - .6 Ballast design: 2-lamp.
 - .7 Ballast chamber: built-in.
 - .8 Housing: steel material, 0.76 mm thick, white colour, baked enamel finish.
 - .9 Reflector: steel material, 0.76 mm thick, baked white enamel.
 - .10 Operating Voltage: 120 Volt.
- .2 Type B LED Luminaire Design
 - .1 Exterior wall pack type
 - .2 Light emitting diode lamps
 - .3 min 12 LED bars.
 - .4 120 volts
 - .5 Built in photocell.
 - .6 Brown finish
 - .7 Cast aluminum housing.

Part 3 Execution

3.1 INSTALLATION

- .1 Locate and install luminaires as indicated.

3.2 WIRING

- .1 Connect luminaires to lighting circuits.

3.3 LUMINAIRE ALIGNMENT

- .1 Align luminaires mounted in continuous rows to form straight uninterrupted line.
- .2 Align luminaires mounted individually parallel or perpendicular to building grid lines.

END OF SECTION