

1 General

1.1 REFERENCES

- .1 American National Standards Institute/Institute of Electrical and Electronics Engineers (ANSI/IEEE).
 - .1 ANSI/IEEE C62.41, Surge Voltages in Low-Voltage AC Power Circuits.
- .2 Illuminating Engineering Society of North America (IESNA).
 - .1 LM-79, Photometric Measurements of Solid State Lighting Products.
 - .2 LM-80, Measuring Lumen Maintenance of LED Light Sources.
 - .3 TM-21, Projecting Long Term Lumen Maintenance of LED Light Sources.
- .3 United States of America, Federal Communications Commission (FCC).
 - .1 FCC (CFR47) EM and RF Interference Suppression.

1.2 RELATED SECTIONS

- .1 Section 26 05 00 - Common Work Results - Electrical.

1.3 SUBMITTALS

- .1 Submit complete photometric data prepared by independent testing laboratory for luminaires where specified, for review by Departmental Representative.
- .2 Photometric data to include: VCP Table and spacing criterion and luminaire coefficient of utilization (CU) tables and/or electronic IES files.
- .3 Provide manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
- .4 Quality assurance submittals: provide the following in accordance with Division 01 - General Requirements.
 - .1 Manufacturer's instructions: provide manufacturer's written installation instructions and special handling criteria, installation, wiring, operation and cleaning procedures.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Division 01 - General Requirements.
- .2 Deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

1.5 MATERIAL

- .1 Luminaires described in this Section identify the minimum standard of quality and performance criteria which is acceptable for product.
 - .1 Appearance and lighting performance are similar.
 - .2 Quality is equal or better.
 - .3 Luminaire performance is equal or better.
 - .4 The fixture is provided with modifications and accessories to provide a complete product in keeping with the intent of the project.
 - .5 Approval in writing is obtained from the Departmental Representative to the Contractor five (5) days prior to tender closing date.

2 Products

2.1 LED DRIVERS

- .1 Power supply units including drivers:
 - .1 Minimum efficiency of 85%.
 - .2 Operate between -40°C and +50°C.

- .3 120 V ($\pm 10\%$) input voltage; UL Class 1 or 2 output.
- .4 Power factor greater than or equal to 0.90; total harmonic distortion less than or equal to 20%.
- .5 Located with luminaire housing or remote as indicated.
- .6 Minimum five (5) year warranty.

2.2 LED LUMINAIRES

- .1 Proposed equals must meet or exceed the overall performance requirements of the specific space without requiring changes to designed branch circuiting due to higher power consumption.
- .2 Luminaire efficacy to be a minimum of 90 lumens/watt, unless noted otherwise.
- .3 Color rendering index to be a minimum of 80 CRI.
- .4 Color temperature to be 4000K.
- .5 Luminaire shall be tested using IESNA LM-79-08, in situ temperature measurement test (ISTMT) and IESNA LM-80-08 in an EPA recognized laboratory.
- .6 A minimum of L70 = 50,000 hours or L90 = 36,000 hours as calculated using IESNA TM-21-11 standard.
- .7 Minimum five (5) year warranty on complete LED system including LED modules and driver.

2.3 FINISHES

- .1 Light fixture finish as indicated in Luminaire Schedule. Finish to meet ULC listings and CSA certifications related to intended installation.

2.4 LUMINAIRES

- .1 TYPE A:
 - .1 Description:
146mm (w) x 171mm (l) x 92mm (d), EXTERIOR LED WALL PACK, C/W INTEGRAL PHOTOCELL CONTROL, IMPACT RESISTANT TEMPERED GLASS AND BLACK POWER COAT FINISH, 120V DRIVER.
 - .2 Lamp:
LED, 2500 LUMENS, 26W, L90 at 72,000h, 70 CRI, 4000K.
 - .3 Mounting:
WALL MOUNTED ON THE EXTERIOR FACADE OF THE BUILDING. REFER TO DRAWING E2 FOR MOUNTING HEIGHTS. COORDINATE EXACT LOCATION ON SITE PRIOR TO ROUGH-IN.
- .2 TYPE B:
 - .1 Description:
610MM COMPACT LOW PROFILE LED STRIPLIGHT, SYMMETRIC REFLECTOR, STANDARD DIFFUSE SNAP ON LENS, 120V INPUT. COLD ROLLED STEEL HOUSING WITH WHITE POWER COAT FINISH.
 - .2 Lamp:
LED SOURCE, 41W, L90 at 60,000h, 5456 LUMENS, CRI 80, 4000K.
 - .3 Mounting:
SURFACE MOUNTED TO WALL AT 2400MM AFF.

3 Execution

3.1 INSTALLATION

- .1 Locate and install luminaires as indicated. complete with support systems as required at mounting heights as indicated.

3.2 WIRING

- .1 Connect luminaires to lighting circuits.
 - .1 Install flexible conduit for vertical power supply drop to luminaires as indicated. Horizontal wiring using flexible conduit is not permitted.

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.

3.4 FIELD QUALITY CONTROL

- .1 Perform tests in accordance with Section 26 05 00 – Common Work Results - Electrical

3.5 CLEANING

- .1 Luminaire lenses, housings, louvers, etc., are to be cleaned upon completion of construction in accordance with Division 01 - General Requirements.

END OF SECTION
