PART 1 GENERAL

1.1 REFERENCES

.1 American National Standards Institute (ANSI)

.1 ANSI C82.1, Electric Lamp Ballasts-Line Frequency Fluorescent Lamp Ballast.

.2 ANSI C82.4, Ballasts for High-Intensity-Discharge and Low-Pressure Sodium Lamps.

.2 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.

.3 American Society for Testing and Materials (ASTM)

.1 ASTM F1137, Specification for Phosphate/Oil and Phosphate/Organic Corrosion Protective Coatings for Fasteners.

.4 United States of America, Federal Communications Commission (FCC)

.1 FCC (CFR47) EM and RF Interference Suppression.

1.2 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 45 00 - Quality Control.

1.3 SUBMITTALS

.1 Submit complete photometric data prepared by independent testing laboratory for luminaires where specified, for review by Owner’s Representative.

.2 Photometric data to include: VCP Table and spacing criterion and luminaire coefficient of utilization (CU) tables.

.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 Section 01 45 00 - Quality Control.

.1 Manufacturer's instructions: provide manufacturer's written installation instructions and special handling criteria, installation sequence, cleaning procedures and relamping schedule.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Deliver materials to site in original factory packaging, labelled with manufacturer's name, address.

.3 Divert unused metal materials from landfill to metal recycling facility.

.4 Disposal and recycling of fluorescent lamps as per local regulations.

.5 Disposal of old PCB filled ballasts.

1.5 ACCEPTABLE PRODUCTS

.1 Luminaires described in the Lighting Fixture Schedule identify quality, performance criteria and other parameters, as indicated for this project. Named fixtures are acceptable with modifications and accessories, as indicated.

.2 Fixtures from other manufacturers may be acceptable provided:

.1 Appearance and lighting performance are similar.

.2 Quality is equal or better.

.3 Lamp and ballast criteria remain the same.

.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 Owner’s Representative to the supplier/manufacturer 5 days prior to tender closing date.

PART 2 PRODUCTS

2.1 LAMPS

.1 Fluorescent lamps to be - T8, 32 Watt, medium bi-pin, high performance, energy efficient, instant start, 4100 K, 30,000 hour lamp life, 2950 initial lumens, CRI 80; or as indicated.

.2 Compact fluorescent lamps to be - 26 Watt, 12,000 hour lamp life, 12,000 initial lumens, 4100 K, CRI 80; or as indicated.

2.2 BALLASTS

.1 Fluorescent ballast: CBM and CSA certified, high performance, energy efficient type, IC electronic.

.1 Rating: 120 V, 60 Hz, as indicated, for use with 2-32W, T8 octron imperial lamps.

.2 RFI/EMI suppression circuit to: FCC (CFR47) Part 18, sub-part C, Class A and Part 15, sub-part B, Class B.

.3 Totally encased and designed for 40 °C ambient temperature.

.4 Power factor: minimum 98 % with 98% of rated lamp lumens.

.5 Crest factor: 1.5 maximum.

.6 Capacitor: thermally protected.

.7 Thermal protection: non-resettable on coil.

.8 Harmonics: 10 % maximum THD.

.9 Operating frequency of electronic ballast: 20 khz minimum.

.10 Total Circuit Power: 62 Watts.

.11 Ballast Factor: greater than 0.90.

.12 Sound rated: Class A.

.13 Mounting: integral with luminaire.

.14 Be warranted by manufacturer for five years.

2.3 FINISHES

.1 Light fixture finish and construction to meet ULC listings and CSA certifications related to intended installation.

2.4 LUMINAIRES

.1 As indicated in luminaire schedule on drawings. Provide 10% spare lamps and 10% spare ballast of each type noted in luminaire schedule.

2.5 OPTICAL CONTROL DEVICES

.1 As indicated in luminaire schedule on drawings.

PART 3 EXECUTION

3.1 INSTALLATION

.1 Locate and install luminaires as indicated. Install lamps in all fixtures.

.1 Provide adequate support to suit ceiling system.

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 SUPPORTS

.1 For suspended ceiling installations support luminaires from ceiling grid in accordance with local inspection requirements.

3.4 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.

3.5 FIELD QUALITY CONTROL

.1 Perform tests in accordance with Section 26 05 00 – Common Work Results - Electrical and Division 01.

END OF SECTION