

## **1.1 RELATED REQUIREMENTS**

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

## **1.2 REFERENCES**

- .1 American National Standards Institute (ANSI)
  - .1 ANSI C82.1-04, Lamp Ballasts-Line Frequency Fluorescent Lamp Ballast.
- .2 Canadian Standards Association (CSA International)
- .3 Underwriters' Laboratories of Canada (ULC)

## **1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .1 Product Data:
  - .1 Provide manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2 Provide complete photometric data prepared by independent testing laboratory for luminaires where specified, for Departmental Representative.
  - .3 Manufacturer's instructions: provide manufacturer's written installation instructions and special handling criteria, installation sequence, cleaning procedures.

## **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.

## **2 Products**

### **2.1 LAMPS**

- .1 Linear fluorescent lamps to be - T8, 28 Watt, medium bi-pin, Instant-start, 3500 K, 30,000 hour lamp life, 2950 initial lumens, CRI 85.

### **2.2 BALLASTS**

- .1 Fluorescent ballast: CBM and CSA certified, energy efficient type.
  - .1 Rating: 347 V, 60 Hz, for use with instant start lamps.
  - .2 Totally encased and designed for 40 degrees Celsius ambient temperature.
  - .3 Power factor: minimum 95 % with 95% of rated lamp lumens.
  - .4 Current crest factor: 1.7maximum.
  - .5 Harmonics: 10 % maximum THD.
  - .6 Operating frequency of electronic ballast: 20 kHz minimum.

- .7 Ballast factor: greater than 0.90.
- .8 Sound rated: Class A.
- .9 Mounting: integral with luminaire.

## **2.3 FINISHES**

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

## **2.4 OPTICAL CONTROL DEVICES**

- .1 As indicated in luminaire schedule.

## **2.5 LUMINAIRES**

- .1 As indicated in luminaire schedule.

## **3 Execution**

### **3.1 INSTALLATION**

- .1 Locate and install luminaires as indicated.
- .2 Provide adequate support to suit ceiling system.

### **3.2 WIRING**

- .1 Connect luminaires to lighting circuits:
  - .1 Install flexible or rigid conduit for luminaires as indicated.

### **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 CLEANING**

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Remove surplus materials, excess materials, rubbish, tools and equipment.
- .2 Waste Management: separate waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.