PART 1 - GENERAL

1.1 RELATED SECTIONS

.1 Division 01 as per Architectural Specifications.

1.2 REFERENCES

.1 American National Standards Institute (ANSI).

.1 ANSI C82.1-1997, Electric Lamp Ballasts-Line Frequency Fluorescent Lamp Ballast.

.2 ANSI C82.4,-2002 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 C62.41-1995 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.

1.3 SHOP DRAWINGS AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Architectural Specifications.

.2 Provide manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish, and limitations.

.3 These photometric data must include the following: the photometric curve on paper and on CD, luminance ratio, Table TBV criteria for separation of aircraft, total power consumption (watts), light intensity in 5 shots, on beam patterns polar curves, luminous flux zonal fixture performance standard, CIE designation, utilization factor, type of lamp luminous flux (lumens) as IESNA testing and the type and finish of the diffuser and louver. Submit leaflets also proposed device and its components with the characteristics of each. Approval to all the Departmental Representative.

1.4 GUARANTEE

.1 Replace fluorescent lamps roasted within twelve months after acceptance of the facility.

.2 5-year warranty regardless of the annual operating time, and allowance of $25.00 per ballast for labor when the owner replaces the defective ballasts. If a ballast no longer meets the specifications set out above or can operate the lamps according to ANSI applicable, it is deemed defective and must be replaced by the Contractor.

PART 2 - PRODUCTS

2.1 LAMPS

.1 Fluorescent Lamps to be:

.1 Instant start.

.2 Form T-8.

.3 Power 32 W.

.4 Initial flux 3,100 lumens.

.5 CRI 86.

.6 Colour temperature 4,100 K.

.7 Lamp life of 30,000 hours.

.8 Manufacturers: Osram/Sylvania (Ecologic); Philips (Alto).

.2 Fluorescent lamps with the following characteristics:

.1 Instant start.

.2 Form T-5.

.3 Power as specified in the plans.

.4 Color rendering index of 86.

.5 Color temperature of 3,500°K.

.6 Lamp life of 30,000 h.

.7 Acceptable Products: Osram / Sylvania (Ecologic), Philips (Alto).

.3 Compact fluorescent lamps with the following characteristics:

.1 Compact.

.2 Wattage stated.

.3 Lamp life of 12,000 h.

.4 Color rendering index of 82.

.5 Color temperature of 4,100°K.

.6 Acceptable Products: Osram / Sylvania, Philips.

.4 Induction lamps with the following characteristics:

.1 Wattage and form as specified in the drawings;

.2 Lamp life of 100,000 h;

.3 Electronic ballast with high factor (>0.95);

.4 Color temperature of 5,000°K;

.5 Acceptable Products: Stampro.

2.2 BALLASTS

.1 Fluorescent Ballast: CBM and CSA certified, energy efficient type, IC electronic.

.1 Rating: 347 V, and / or 120 V 60 Hz, for use with 2 lamps T8 or 32W T-5.

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

.3 Ambient temperature: ballast to start lamps up to a minimal ambient temperature of 10°C.

.4 Power factor: minimum 90% with 95% of rated lamp lumens.

.5 Sound rated: Class A.

.6 Mounting: integral with luminaire.

.7 Harmonics: 10% maximum THD.

.8 Electromagnetic emissions: not to exceed Class A, as defined by FCC, part 18, 15C, concerning electromagnetic interference (EMI) and radio frequency interference (RFI).

.9 Protection against transient voltages: ballast to withstand transient voltage fluctuation and electric noise, as described in ANSI C62.41 and IEEE 587, with and without lamps in secondary circuit.

.10 Thermal protection: according to CSA C22.2 No. 74-1969, item 1.6.7.3 or according to technical information letter (T.I.L.) No. 37 of July 25, 1988.

.11 Supply voltage: ballast to withstand 10% input voltage variation without damage.

.12 Ballast factor: greater than 0.90.

.13 Connection: plug and socket.

.14 Acceptable products: PHILIPS or apoproved equivalent.

2.3 LENS

.1 When applicable, all fluorescent lighting should be provided with pure acrylic lenses.

PART 3 - EXECUTION

3.1 INSTALLATION

.1 Arrange and install lights as indicated.

.2 The Contractor electrician is responsible for the suspension of luminaires. Fluorescent type surface or recessed, which are installed in a suspended ceiling tile must be independently supported from the ceiling or the ceiling grid.

.3 In mechanical rooms, the suspension of the luminaires will be using suspension chains and exact location will be determined on site.

3.2 REPLACEMENT

.1 Replace all lenses, reflectors, fittings, etc., that have been damaged during or after installation, before acceptance of work.

3.3 SUPPORT

.1 Luminaires (new and/or existing relocated) mounted in ceiling must be independently supported from the ceiling and/or ceiling grid. They must be supported from two diametrically opposed lines on the device that must be fixed to the slab. These lines can be made with steel wire No. 12 minimum.

.2 Install fluorescent light fixtures mounted strip lights on gutters son-pass, which must be supported at intervals of 2.5 m.

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.

END OF SECTION