Contents

PART 1 - GENERAL

1.1 General

.1 Comply with the General Conditions of the Contract, Supplementary General Conditions, Requirements of Divisions 1, Basic Materials and Methods, Section 26 05 01.

1.2 Work Included

1. Work to be done under this Section shall include furnishing of labour, materials, and equipment required for installation, testing and putting into proper operation complete Electrical systems as shown, as specified and as otherwise required. Complete systems shall be left ready for continuous and efficient satisfactory operation.

.2 Catalogue Reference numbers given for individual fixture types are intended as a guide when read with the description and the fixture as finally applied. Verify catalogue references with description and co-ordinate with installation conditions, with particular regard to ceiling construction details, type and finish before ordering fixtures.

1.3 General Requirements for Luminaires

.1 Luminaires shall not be delivered to building or stored therein until dry and protected space is available for proper storage of luminaires.

.2 Submit samples of luminaires which are not catalogue items for approval. Additional luminaires shall not be manufactured until sample has been approved. Each approved sample shall be retained on job site until final completion of project. Luminaires which do not match quality and workmanship of standard sample will be rejected.

PART 2 - PRODUCTS

2.1 General Requirements for Luminaires

.1 Luminaires shall be suitable for individual or continuous mounting.

.2 Supply recessed luminaires, where installed in plaster or in acoustic ceilings, complete with plaster trim frame or ring and mounting brackets.

.3 Troffers in ceiling shall be equipped with adjustable mounting brackets.

2.2 Occupancy Sensors

.1 Watt Stopper Inc. Lutron, Legrand and Hubbell equal. CSA approved devices to provide automatic control of lighting with the following components:

.1 power and slave packs;
.2 ultrasonic occupancy sensors;
.3 passive infrared sensors;
.4 wiring in conduit and mounting hardware.
5 Photocell

.2 Power packs shall be self-contained, 120VAC/24VDC transformer relay system.

.3 Dual technology sensors shall be 24VDC, solid state, omni directional (360 degrees) ceiling or wall mount types with user adjustable time control, adjustable sensitivity and as follows:

DT0200 Wall Mount
DT355 Ceiling Mount

.5 Override switches shall be flush wall mounting on single gang faceplate.

.6 Wiring in conduit, mounting hardware and ancillary devices shall be provided as per manufacturer's requirements.

.7 System shall be complete with 5 year unlimited parts warranty and 1 year parts and labour warranty.

.9 Interconnect power packs with sensors to activate all sensors at the same time.

PART 3 - EXECUTION

3.1 General Requirements for Luminaires

.1 Position and aim adjustable lighting equipment as directed on the site. Position outdoor units after daylight hours as directed. Provide labour and materials necessary to accomplish this.

.2 Fixtures shall be clean at the time of final acceptance.

3.2 Luminaire Installation

.1 Locate hangers on tile centres or intersections. Mount recessed pot lights, troffers and surface mounted luminaires in or on full tiles.

.2 Verify ceiling types with the latest revised Architectural Drawings and order luminaires to suit the correct ceilings.

.3 Check lighting luminaires and mountings for their electrical and physical characteristics and relation to conditions due to building construction and mechanical equipment. Make necessary adjustments to luminaires or notification at time of shop drawings and before construction if decision on necessary changes is required.

.4 Co-operate with other trades to ensure proper installation of lighting luminaires.

.5 Carefully align luminaires, shown in continuous lines or rows, so that rows appear as straight lines.

.6 Mount luminaires perfectly level or plumb. Luminaires shall fit tightly to ceiling without showing a space or light leak between frame and ceiling.

.7 Take down any improperly installed luminaires and re-install without expense to Owner.

.8 Standard octagonal boxes may be supplied where conduits feeding luminaires in finished areas are exposed on ceiling if hanger canopies entirely cover outlet boxes and are neatly notched for conduit. Otherwise, provide cast condulet outlet boxes with a diameter larger than canopies.

.9 Do not mount luminaires above pipes, ducts or equipment. In event of unavoidable tight locations, provide hangers to clear obstructions. Check layouts of other trades on job and plan co-operatively. Luminaires in any room shall hang at one height. Obtain approval before any changes are made to layouts shown.

.10 Luminaires mounted in or on ceilings shall be supported independently of ceilings.

.11 Industrial luminaires where suspended shall be 12 mm conduit hangers and ARB ball aligners. Length and location shall clear equipment, ducts and pipes. Flexibar may be used for mounting of luminaires in mechanical areas and electrical rooms.

3.3 Lighting Luminaires

.1 Provide lighting luminaires exactly as shown and as specified. Luminaires shall be complete with necessary accessories and shall be properly **CLEANED** (luminaires and lenses) at time of Substantial Performance.

3.4 Installation of Occupancy Sensors

.1 Provide occupancy sensors and associated devices to control lighting in areas as shown on drawings.

.2 Exact type of occupancy sensors and type of lenses shall be verified by the manufacturer/supplier to ensure proper coverage in sensed areas only.

.3 It shall be the Contractor's responsibility to provide, locate and aim appropriate sensors in the correct location required for complete and proper volumetric coverage within the range of coverage(s) of controlled areas per the manufacturer's recommendations. Rooms shall have ninety 90 to one hundred 100 percent coverage to completely cover the controlled area to accommodate all occupancy habits of single or multiple occupants at any location within the room(s). The locations and quantities of sensors shown and/or noted are illustrations only and should only be used as guidelines. The Contractor shall provide additional sensors at his cost if required to properly and completely cover the respective room.

3.5 Emergency Battery Lighting

.1 Unit shall be capable of operating on a 120 volts, 60 Hz input and shall deliver power at 24 volts to battery operated LED type lighting heads, located on unit or remote form unit as shown. Lighting load to have a minimum of 1/2 hour time basis.

.2 Battery #RG24S350, shall be a sealed pure lead type or sealed lead calcium type and shall have a minimum ten year design life expectancy, with a published warranty of five years. Where batteries are shown on the drawings provide an adjacent duplex receptacle for battery plug-in.

.3 Charger shall be designed to re-charge battery completely within 24 hours and to maintain batteries fully charged at all times without damage to battery. Unit shall have externally accessible means for testing of unit and shall have two lamps indicating AC on, and high charge.

.4 Unit shall include a low voltage cut-off protection circuit.

.5 The complete units shall be as manufactured by one of the following:

Lumacell.
Beghelli
Emergi-Lite

.6 Provide complete emergency battery lights as shown and as specified.

.7 Unless otherwise noted, mount units on the wall, as high as possible above floor. Unit shall be hardwired to source. Provide lock-on devices on breakers.

.8 Where heads are shown remote from unit, provide suitable outlet box and install head. Connect with conduit to battery and charger unit. Wire size to suit manufacturer's recommendations, but not less than #12 gauge.

3.6 Emergency Equipment Types

.1 Remote Lamphead: Lumacell Model MQM-2-LD13, 24V, 4W, MR6 LED.

.2 Cube Type: LED lamp =, Lumacell # RSQB-MLD13, 24V, 4W MR16 LED.

.3 Dual Head Cube LED lamp = Lumacell # RSQBD-MLD13, 24V, 4W MR16 LED.

END OF SECTION