SECTION 16510D - INTERIOR LIGHTING

A. RECOMMENDED FIXTURES: Fluorescent fixtures are generally preferred. Use of the more efficient H.I.D. fixtures is encouraged where practical. Incandescent lighting may be used only in special applications such as dimming. Fixtures having lenses shall be designed so that the optical train is an engineered system, which takes in consideration the lamp and reflector.

B. FLUORESCENT FIXTURES: Commercial fixtures shall be all metal with hinged shielding louvers. Recessed fixtures with hinged frame open louvers may be used where required for architectural effect. Two hundred seventy-seven (277) volt fixtures shall be used where this voltage is available. Fixtures shall meet or exceed the requirements of the Code of Energy Conservation in New Building Construction.

Fixtures shall have the following features:

1. Line Fuses: A line fuse shall be included in the fixture for each ballast in addition to the internal protection of the class “P” ballasts. Line fuses shall be appropriate for the application and wired in place by the fixture’s manufacturer.
2. Lens shall not be specified as an alternative for louvers. If lenses are required for the job, the job shall be engineered for these units.
3. Fluorescent Lamps: Provide the 32 watt rapid start. Prefer: T-8 lamps in 3500° K color. T-12 only if T-8 will not work. PL & BIAX - all types in 3500° K color.
4. Ballast:
   a. Use Electronic Ballasts. High efficiency, premium grade, class “P” rated, minimum 95% power factor, having THD of 10% or less, Ballasts shall be CBM and ETL approved. Sound rating shall be “A”
   b. Use electronic integrated circuit ballast types for T-8 lamps, 39w BIAX, U-tubes.
   c. Use H.P.F. electronic (discrete) for PL & BIAX lamps.
   d. Fluorescent dimming ballast of the controllable integrated circuit design for dimming to minimum 20% light output is preferable. Dimming to 0% is prohibited.

C. HID FIXTURES: HID fixtures shall be metal halide type only for interior and exterior use. Use only potted or encapsulated ballast for quiet operation in fixtures located in interior spaces.

D. SPECIAL FIXTURES: Low Voltage: Avoid use of special lamps (e.g. MR16’s, etc.). Use only if project has specific need and discuss with the University Project Manager.
E. EXIT LIGHTS: Exit signs shall incorporate red light emitting diodes for the source of illumination. The LEDs shall have a life expectancy of not less than 20 years. Power consumption for the entire exit sign shall not exceed 7 watts (single face) 8 watts (double face). The unit shall be capable of accepting 120/277 volt input.

F. LIGHTING SAFETY: Stairwells in buildings shall have sufficient fixtures so that the loss of one lamp or ballast will not leave the area dark. The mounting of the fixtures shall not be at the extreme height but must be accessible for maintenance.

G. INSTALLATION: Fixture locations must be such that they can be serviced from a 5 foot step ladder. Mounting heights greater than this must have the approval of the University’s Project Manager.

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