PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Fluorescent lamps.
   2. HID lamps.
   3. Incandescent lamps.

B. Related Sections:
   1. Section 16502 - Ballasts and Accessories
   2. Section 16510 - Lighting Fixtures
   3. Section 16530 - Site Lighting

1.02 REFERENCES

A. Specify Underwriters Laboratories (UL) or Electrical Testing Laboratories (ETL) listed equipment, assemblies and materials.

1.03 SUBMITTALS

A. Require submittals under the provisions of Section 16010 - Basic Electrical Requirements and 01300 - Submittals.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fluorescent Lamps:
   1. General Electric
   2. Phillips
   3. OSRAM/Sylvania
   4. Others only by approval of University

B. HID Lamps:
   1. OSRAM/Sylvania
   2. General Electric
   3. Phillips
   4. Others only by approval of University.

C. Incandescent Lamps:
1. General Electric
2. OSRAM/Sylvania
3. Phillips
4. Others only by approval of University

2.02 MATERIALS

A. General

1. All lamps used as lighting during construction for ≥ 100 hours of use shall be replaced before final c.o. is issued. All lamps in new buildings shall have less than 100 hours of burn time or use.

B. Fluorescent Lamps

1. Fluorescent lamps shall be T-5 F32 energy saving with 3,500 degree K color only and with a color rendering index (CR1) of 73 or greater. All fluorescent lamps shall be low mercury type. Other lengths of lamps may be specified only by University written approval and if special conditions require them. Use compact fluorescent style lamps for down light applications where possible in lieu of incandescent for energy conservation and maintenance savings. Phillips F32T8/TL835 (T-5).
2. The use of T-5 lamps is required in all new luminaires. New T-12 lamps may only be used in existing to be reuse luminaires and with University approval.
3. Outdoor fluorescent lamps shall be high output, cool white, lengths as required.
4. All CFL’s installed shall have the date of installation written in permanent marker at the base of lamp.

C. HID Lamps:

1. Use super Metal Halide position orientated lamps for all exterior lighting.
2. For indoors, use color corrected metal halide lamps for applications where high light output and color rendering is required. Use low wattage color corrected metal halide lamps for lower ceiling architectural applications.

D. Incandescent Lamps:

1. A style, inside frosted, /130 Volt
2. Use Tungsten Halogen PAR lamps for higher efficiency and longer life. Use “T” type when high output incandescent is needed.
3. Incandescent lamps may not be used without written University approval from campus electrical engineer.

PART 3 EXECUTION

3.01 INSTALLATION
A. Require color matching of metal halide color corrected lamps to replace lamps when color shift is noticeable.

B. Use highest efficiency lamp for each application while satisfying the needs of architectural goals.

C. Require enclosed fixtures for all HID lamp applications.

D. Replace non-functional lamps at time of final acceptance and provide 10% spare lamps.

END OF SECTION 16501