PART 1: GENERAL

1.01 SYSTEM DESCRIPTION

A. Lighting systems in this section shall include, but not be limited to, interior lighting fixtures and their respective housings, shielding, ballasts, and lamps.

PART 2: PRODUCTS

2.01 LIGHTING FIXTURES

A. Standard Lighting Fixtures

1. Planning, Design and Construction “standard” lighting fixtures and approved installation locations shall be as specified in the attached lighting fixture chart (see Lighting Fixture Chart). Lighting fixtures not included in the attached lighting fixture chart shall be as specified below.

B. Interior Lighting Fixtures

1. Housings - recessed, surface, or pendant-mounted, metal construction, baked enamel finish, ≥ 90% reflectance, troffer type.

2. Diffusers and lenses - acrylic, glass, or anodized aluminum type with .125" minimum thickness. Louvers, baffles, and reflectors shall be of the anodized aluminum with semi-specular finish and ≥ 90% reflectance type. (Note: Do not use small-cell parabolic shielding unless specifically authorized by Planning, Design and Construction.)

3. Ballasts - electronic, single or multi-lamp, rapid start, fused, thermally protected, ≥ 90% power factor, ≥ 20 kHz frequency, ≤ 20% total harmonic distortion, ± 10% voltage-variation tolerant, and ≥ 5 year warranty type. (Note: Ballasts design shall be specific to the quantity and type of lamps operated. Use instant-start type ballasts only where ≤ 50°F ambient temperature starts are not avoidable, and only as specifically authorized by Planning, Design and Construction. Rapid-start and instant-start type ballasts shall be wired to allow full-light output of single lamps in multi-lamp fixtures where one or more of the remaining lamps may fail. Do not use dimming ballasts unless specifically authorized by Planning, Design and Construction. Do not use mixed-lamp (e.g., combination T4 and T5 lamp) type ballasts or lamp starters.)
4. Lamps - fluorescent, metal halide, halogen, or incandescent type and as specified in the attached lamp chart (see Lamp Chart). (Note: Do not use incandescent lamps, type T12 fluorescents (except for high output) and compact 5, 7, 9 and 13 watt fluorescents lamps unless specifically authorized by Planning, Design and Construction. Limit the use of type T8 fluorescent lamps less than 48" in length.)

2.02 ACCEPTABLE MANUFACTURERS

A. Lamps and Ballasts

1. General Electric shall be the sole manufacturer of lamps and ballasts. Substitutions are not acceptable.

B. Lighting Fixtures

1. The Engineer shall specify a lighting system with a minimum of two manufacturers specified per fixture, and these shall be packaged based on the acceptable manufacturer representative’s product lines listed in paragraph 5, below.

2. The equipment, components, and accessories conform to the requirements herein. The Contract Documents shall provide a minimum of two equals (i.e., alternatives) by different manufacturers and manufacturers’ representatives for each lighting fixture specified when possible. Requests for authorization to substitute, vary, or change the specified equipment, components, or accessories of the approved manufacturers may be submitted, in compliance with Cornell University’s Design & Construction Standards (see Section 01001 - General Requirements), to Planning, Design and Construction prior to the Contractor’s submission of the invitation-for-bid proposal.

3. A “Lighting Fixture Chart” is provided to indicate Cornell University’s “standard” lighting fixtures. The Engineer of Record may specify lighting fixtures not included in the standards, if they meet the criteria herein this Section and are approved by the Department of Planning, Design and Construction during the review process.

4. Specified lighting fixtures other than the “standards” shall be supplied from Cornell University’s acceptable manufacturers’ representatives’ product lines. Obtain line cards (the list of lighting system manufacturers represented by the Manufacturers’ Representative) from each of the acceptable representatives listed below in paragraph 5.
5. The acceptable Manufacturers’ Representatives are:
   a. Ferrini-Konarski Assoc., Inc. (315-635-3232)
   b. Lumen-Power Sources Inc. (315-487-1105)
   c. Quality Lighting Systems, Inc. (716-586-8510)
   d. Spectro Lume Inc. (716-424-2540)
   e. Total Lighting Concepts Inc. (607-734-0701)

2.03 ACCEPTABLE DISTRIBUTORS, NON-CAPITAL PROJECTS

   A. Cornell University’s Purchasing Office has entered into a long-term contract with Graybar, Inc.- Syracuse, NY. Procure lamps and ballasts outside of capital projects through Graybar Inc.