

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies the furnishing, installation, and connection of the surgical lighting fixtures.

1.2 RELATED WORK

- A. Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS: General electrical requirements and items that are common to more than one section of Division 26.
- B. Section 26 05 26, GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS: Requirements for personnel safety and to provide a low impedance path for possible ground fault currents.

1.3 QUALITY ASSURANCE

Refer to Paragraph, QUALIFICATIONS, in Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS.

1.4 SUBMITTALS

- A. Submit in accordance with Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS.
- B. Shop Drawings:
 - 1. Clearly present sufficient information to determine compliance with drawings and specifications.
 - 2. Include electrical ratings, dimensions, mounting details, materials required clearances, terminations, wiring and connection diagrams, lubrication, ballasts, lenses, louvers, lamps, and controls.
 - 3. Include photometric data for surgical lighting fixture Types A, B, C, and D from an independent testing laboratory. The photometric report shall include data to show that the surgical light fixtures are in full compliance with requirements for illumination level, shadow reduction, beam heat, and color temperature. Where testing procedures or parameters are specified, the report shall indicate the surgical light fixtures were tested to those criteria.
- C. Manuals:
 - 1. When submitting the shop drawings, submit companion copies of complete maintenance and operating manuals, including technical data sheets, wiring diagrams, and information for ordering replacement parts.

- a. Wiring diagrams shall have their terminals identified to facilitate installation, operation, and maintenance.
 - b. Wiring diagrams shall indicate internal wiring for each item of equipment and the interconnections between the items of equipment.
 - c. Provide a clear and concise description of operation including all details required to properly operate the equipment and system.
 - d. Approvals will be based on complete submissions of manuals together with shop drawings.
2. Two weeks prior to final inspection, submit four copies of a final updated maintenance and operating manual to the COTR.
- a. The manual shall be updated to include any information necessitated by shop drawing approval.
 - b. Complete "As Installed" wiring and schematic diagrams shall be included, showing all pieces of equipment and their interconnecting wiring.
 - c. Show all terminal identification.
 - d. Include information for testing, repair, troubleshooting, lubrication, assembly, disassembly, and recommended maintenance procedures and intervals.
 - e. Provide a replacement parts list with current prices. Include a list of recommended spare parts, lamps, tools, and instruments for testing and maintenance.
- D. Certifications: Two weeks prior to final inspection, submit four copies of the following to the COTR:
1. Certification by the manufacturer that the materials are in accordance with the drawings and specifications.
 2. Certification by the contractor that the equipment has been properly adjusted, installed, and tested.

1.5 APPLICABLE PUBLICATIONS

- A. Publications listed below (including amendments, addenda, revisions, supplements, and errata) form a part of this specification to the extent referenced. Publications are referenced in the text by designation only.
- B. Illuminating Engineering Society of North America (IESNA):

RP-29-06.....Lighting for Hospitals and Health Care
Facilities

HB-9-00.....Lighting Handbook Reference and Application

C. National Fire Protection Association (NFPA):

70-08.....National Electrical Code (NEC)

99-05.....Health Care Facilities

D. Underwriters Laboratories, Inc. (UL):

60601-1.....Medical Electrical Equipment, Part 1: General
Requirements for Safety

1598-08.....Luminaires

PART 2 - PRODUCTS

2.1 SURGICAL LIGHTING FIXTURES, GENERAL

- A. Fixtures shall be in accordance with UL 1598, NEC, NFPA 99, and IESNA RP-29, as shown on the drawings and as specified.
- B. Fixtures shall be complete, grounded, fungi-proof, adequately enclosed for asepsis, and designed for use in human operating rooms by a manufacturer that regularly produces such fixtures.
- E. All exposed surfaces shall be free of burrs and sharp edges. Finishes on all exposed surfaces shall be specifically designed to resist scuffing and deleterious effects of the use of hospital cleaning materials.
- F. Except for finished aluminum, stainless steel, chrome, nickel and brass surfaces, all metal surfaces shall be thoroughly cleaned and painted at the factory with a corrosion-resistant primer and not fewer than two coats of lacquer or baked enamel finish.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Installation shall be in accordance with NEC, as shown on the drawings, and in accordance with the manufacturer's recommendations.
- B. Coordinate the components electrically and mechanically with the ceiling heights and with other equipment, such as radiology equipment, ductwork, service drops, and like items, in the room where each fixture will be installed.
- C. Mount the controls with the bottom of the control 59 in [1500 mm] above the finished floor.

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MEDICAL AND SURGICAL LIGHTING FIXTURES

- D. For remote transformer installation, ensure that the wiring distance is not more than that allowed by the manufacturer.
- E. Upon completion of the installation, conduct an operating test to demonstrate that each surgical lighting fixture meets the requirements of this specification. Perform all manufacturer's recommended visual and physical performance checks.

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