

SECTION 265561 – THEATRICAL LIGHTING FIXTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section specifies loose stage lighting equipment, including the following:

1. Stage Lighting Fixtures
2. Fixture Accessories
3. Lamps
4. Lighting Control Console & Accessories
5. Portable Dimming & Power Distribution
6. Cable Assemblies
7. Stage Hardware
8. Tools, Storage & Supplies

- B. Work not included:

1. Theatrical Lighting Controls
2. Installation of fixtures shall be by Owner

1.3 ACCEPTABLE VENDORS

- A. The equipment specified herein shall be supplied by only one of the following:

- | | |
|---|---|
| <ol style="list-style-type: none">1. Texas Scenic
2500 Central Parkway, Ste. M
Houston, TX 77092
Tel: +1 800 272 7490 | <ol style="list-style-type: none">2. Stagelight
3355 West 11th Street
Houston, TX 77008
Tel: +1 713-942-0555 |
| <ol style="list-style-type: none">3. Mainstage Theatrical Supply
15340 Vantage Parkway East,
Suite 260
Houston, TX 77032
Tel: +1 281 725 1448 | |

1.4 SUBMITTALS

- A. Submit a complete bill of materials for each product listed herein.
- B. Submit product data sheets for all items for approval prior to shipment.

1.5 QUALITY ASSURANCE AND STANDARDS

- A. Instruments shall be fabricated according to the standards of Underwriters' Laboratories, Inc. and shall be labeled to attest UL listing.
- B. Warrant the equipment to be free to defects in materials and workmanship for a period of one year from the date of acceptance by the Owner. The warranty shall specifically include, but not be limited to, lamp sockets, lenses, shutters, and clamps. If any item proves defective within the warranty period it shall be replaced at no cost to the Owner.

PART 2 - PRODUCTS

2.1 GENERAL FABRICATION REQUIREMENTS

- A. Instruments shall be free of light leaks and spurious reflections adjacent to their fields.

- B. Instrument fields shall be visually uniform and without hot spots, holes, stripes, or rings. Fields shall be adjustable to a cosine distribution.
- C. Lenses shall be water white, heat resisting, boro-silicate glass. Unless specifically excepted, ellipsoidal reflector spotlights shall have plano-convex lenses.
- D. Instruments shall be ventilated and/or conductively cooled to maintain temperature ratings set by lamp manufacturers.
- E. Exterior finishes shall be matte black high temperature enamel.
- F. Manufacturer's nameplates shall be inconspicuous, with letters not exceeding 1/2" (13mm) high.
- G. Pigtaills shall be 3'-0" inches (1M) long unless otherwise noted.
- H. Pipe clamps shall be C-Clamp type for 1.9" (48mm) O.D. pipe unless otherwise noted. Pipe clamps shall be fitted with a spacer between clamp and yoke to permit 360° rotation.
- I. Color frames, safety cables, top hats, donuts, barn doors, clamps and other similar accessories shall be finished in matte black high temperature paint.

2.2 STAGE LIGHTING FIXTURES

A. Furnish the following stage lighting fixtures:

1. Description: 19° Ellipsoidal Reflector Spotlight
 Manufacturer: Electronic Theatre Controls #419
 Accessories: Matte Black Color Frame, Pipe Clamp, Safety Cable
 Lamp Type: HPL750/115
 Connector: 20A Stage Pin
 Quantity: 10
2. Description: 26° Ellipsoidal Reflector Spotlight
 Manufacturer: Electronic Theatre Controls #426
 Accessories: Matte Black Color Frame, Pipe Clamp, Safety Cable
 Lamp Type: HPL750/115
 Connector: 20A Stage Pin
 Quantity: 20
3. Description: 36° Ellipsoidal Reflector Spotlight
 Manufacturer: Electronic Theatre Controls #436
 Accessories: Matte Black Color Frame, Pipe Clamp, Safety Cable
 Lamp Type: HPL750/115
 Connector: 20A Stage Pin
 Quantity: 30
4. Description: 25-50° Ellipsoidal Reflector Spotlight
 Manufacturer: Electronic Theatre Controls #42550
 Accessories: Matte Black Color Frame, Pipe Clamp, Safety Cable
 Lamp Type: HPL750/115
 Connector: 20A Stage Pin
 Quantity: 30

5. Description: 7" Fresnel
 Manufacturer: Electronic Theatre Controls #FRES7
 Accessories: Matte Black Color Frame, Pipe Clamp, Safety Cable
 Lamp Type: HPL750/115
 Connector: 20A Stage Pin
 Quantity: 20
6. Description: LED Cyc Light
 Manufacturer: Altman #SSCYC100-RGBW-B, FT
 Accessories: Pipe Clamps, Safety Cables (2), Floor trunion
 Connector: 220A Stage Pin to PowerCon
 Quantity: 7
7. Description: LED Zoom PAR
 Manufacturer: Philips #SL PAR 155 Zoom
 Accessories: Matte Black Color Frame, Pipe Clamp, Safety Cable,
 Connector: 20A Stage Pin to PowerCon
 Quantity: 35

2.3 FIXTURE ACCESSORIES

A. Furnish the following fixture accessories

1. Description: 70° Lens Tube for Ellipsoidal Reflector Spotlight
 Manufacturer: ETC #470LT
 Quantity: 5
2. Description: A-Size Template Holder for Ellipsoidal Reflector Spotlight
 Manufacturer: City Theatrical #2150
 Quantity: 30
3. Description: Donut for Ellipsoidal Reflector Spotlight
 Manufacturer: City Theatrical #2250
 Quantity: 10
4. Description: Drop-In Iris for Ellipsoidal Reflector Spotlight
 Manufacturer: City Theatrical #2180
 Quantity: 5
5. Description: Stackable Top Hat for 19°-50° Ellipsoidal Reflector Spotlight
 Manufacturer: City Theatrical #2840
 Quantity: 30
6. Description: Stackable Half Hat for 19°-50° Ellipsoidal Reflector Spotlight
 Manufacturer: City Theatrical #2841
 Quantity: 10
7. Description: Barndoor for 7" Fresnel and Showline PAR
 Manufacturer: City Theatrical #2488
 Quantity: 40
8. Description: Spare Color Frame for 19°-50° Ellipsoidal Reflector Spotlight
 Manufacturer: City Theatrical #2350
 Quantity: 20

9. Description: Spare Color Frame for 7" Fresnel and Showline PAR
Manufacturer: City Theatrical #2487
Quantity: 10
10. Description: Spare C-Clamp
Manufacturer: ETC #400CC
Quantity: 5
11. Description: Spare Safety Cable
Manufacturer: ETC #400SC
Quantity: 50

2.4 LAMPS

- A. Lamps shall be shipped to the job site in their original packing, unless used for bench focusing.
- B. Defective lamps shall be replaced without cost to the Owner, including shipping cost.
- C. Furnish the following lamps; spares have been included:
 1. Description: HPL 750W/115V long life
Quantity: 200

2.5 LIGHTING CONTROL CONSOLE

- A. The lighting control console shall be a microprocessor-based system specifically designed to provide complete control of stage, studio, and entertainment lighting systems.
 1. User interface shall be fully graphical with a command line. Control commands shall be accepted as either command line or direct entry.
 2. The main control shall consist of a numeric keypad, dedicated control keys, context sensitive soft keys, level control wheel, and pointing device.
 3. A blind display mode shall allow viewing and modification of all recordable attributes without affecting live stage levels.
 4. A patch display mode shall be used to display and modify system control channels with their associated data.
 5. Control and programming features for automated fixtures shall include: a standard library of fixture profiles, the ability to copy and edit existing profiles and create new profiles, patch displays including channel and output addressing, 16-bit fade resolution, color characterization allowing color mixing and storing in hue and saturation or native device values.
 6. Control channel data shall be recordable as cues, groups, submasters, palettes, effects, macros, curves, and patch contained in non-volatile electronic memory and stored as show data to internal storage or to any USB storage device.
 7. The console shall be capable of being placed in Tracking or Cue Only record mode by the user.
 8. A freely available offline editing application shall be provided for creation and modification of show data on a personal computer.
 9. A personal computer running a client software application shall be able to connect to a control system via the network and view current show data in a mirrored display environment.
 10. The system shall allow remote control from a wireless handheld remote.
 11. The system shall support configuration and operation of two consoles or a console and a dedicated processor as a main and fully tracking backup.
 12. Lighting Network device control:
 - a. Direct control of third party sACN/ACN devices

- b. DMX512 / RDM hardware interfaces
 - c. Support MIDI, SMPTE and RS-232 interfaces
- B. Provide the following control console:
 - 1. Electronic Theatre Controls Ion 1000 w/ 2x20 Fader Wing
- C. Provide two (2) external 22" or larger touchscreen LCD monitors, external keyboard, mouse, 6'-0" (2m) power and data cables, dust covers, and littlelight task lights.
- D. Provide a Wireless Hand-Held Remote capable of setting individual channels and groups of channels to levels, raising and lowering the levels, stepping automatically to the next or last cue or channel, going to and playing back individual cues.
- E. All peripheral accessories such as remote monitors and hand-held remote units shall interconnect as a network. The facility shall be wired by the Electrical Contractor for this function with an Ethernet cabling system as specified herein.
- F. Furnish the following console accessories:
 - 1. One (1) Portable uninterruptible power supply, APC Smart-UPS 750VA.
 - 2. Four (4) IEC C13 to C14 power cords, 10'-0" (3m) length.
 - 3. Two (2) 8 GB capacity USB storage keys, ETC #I6209 or approved equal.

2.6 PORTABLE DIMMING & POWER DISTRIBUTION

- A. Furnish the following items:
 - 1. Description: Source Four Dimmer
 Manufacturer: ETC # S4DIM, S4DIM-Jr, S4DIM-Par
 Accessories: Yoke Mount Bracket
 Connectors: 20A Stage Pin
 Quantity: 110

2.7 CABLE ASSEMBLIES

- A. All cable assemblies shall be tested after fabrication to assure wire continuity and correct polarity of connections.
- B. All cable assemblies shall include shrink wrapped identification label with text "Moody Center" beneath shrink wrap.
- C. DMX512 (5-pin XLR) cable assemblies shall consist of ruggedized cable, terminating at each end to Neutrik XX-Series XLR5 connectors with black shell and color coded bushing to identify cable length. Assemblies shall be terminated in accordance with USITT (United States Institute for Theatre Technology) DMX512 specification. Furnish the following:
 - 1. (80) DMX512 cable assemblies of 5'-0" (1.5M) length, red color code.
 - 2. (60) DMX512 cable assemblies of 10'-0" (3M) length, green color code.
 - 3. (40) DMX512 cable assemblies of 25'-0" (8M) length, purple color code.
 - 4. (2) DMX512 cable assemblies of 50'-0" (15M) length, orange color code.
- D. Ethernet cable assemblies shall consist of ruggedized Category 6a cable, terminating at each end to Neutrik Ethercon CAT6a RJ-45 connectors with black shell and color coded bushing to identify cable length. Assemblies shall be terminated in accordance with TIA/EIA-568-B standards. Furnish the following:
 - 1. (5) Ethernet cable assemblies of 5'-0" (1.5M) length, red color code.
 - 2. (5) Ethernet cable assemblies of 10'-0" (3M) length, green color code.
 - 3. (2) Ethernet cable assemblies of 25'-0" (8M) length, purple color code.

- E. Stage Pin Extension assemblies shall consist of 12/3 SOOW cables, terminating at each end with a 20A 2-pin & ground stage pin connector. Label cables at each end with shrink wrapped color- code to identify cable length. Furnish the following:
 - 1. (40) Stage Pin Extension assemblies of 5'-0" (1.5M) length, red color code.
 - 2. (50) Stage Pin Extension assemblies of 10'-0" (3M) length, green color code.
 - 3. (40) Stage Pin Extension assemblies of 25'-0" (8M) length, purple color code.
 - 4. (5) Stage Pin Extension assemblies of 50'-0" (15M) length, orange color code.
- F. Edison Extension assemblies shall consist of 12/3 SOOW cables, terminating at each end with a NEMA 5-15 connector. Label cables at each end with shrink wrapped color- code to identify cable length. Furnish the following:
 - 1. (3) Edison Extension assemblies of 25'-0" (8M) length, purple color code.
 - 2. (2) Edison Extension assemblies of 50'-0" (15M) length, orange color code.
- G. PowerCon pass thru jumper assemblies shall consist of 12/3 SOOW cables, terminating at each end with a Neutrik PowerCon connector. Label cables at each end with shrink wrapped color- code to identify cable length. Furnish the following:
 - 1. (40) PowerCon jumper assemblies of 5'-0" (1.5M) length, red color code
 - 2. (40) PowerCon jumper assemblies of 10'-0" (3M) length, green color code.
- H. Stage Pin Two-Fer and Three-Fer assemblies shall consist of high temperature wire in molded sleeves, a 20A male stage pin plug, and dual or triple 20A female stage pin receptacles. Furnish the following:
 - 1. (40) Stage Pin Two-Fer assemblies of 36" (1M) length.
- I. Adapter assemblies shall consist of 12/3 SJOW cables, terminating at one end with connectors as indicated below. Furnish the following:
 - 1. (5) Female Edison to male stage pin Adapter assemblies of 36" (1M) length.
 - 2. (5) Male Edison to female stage pin Adapter assemblies of 36" (1M) length.
 - 3. (5) Male Edison to PowerCon Adapter assemblies of 5'-0" (1.5M) length.

2.8 STAGE HARDWARE

- A. Furnish the following components:
 - 1. Description: City Theatrical Track Tamer with Hex Nut, #520
Quantity: 10
 - 2. Description: City Theatrical Track Tamer with Galvanized Clamp, #525
Quantity: 10

2.9 TOOLS, STORAGE, & SUPPLIES

- A. Furnish the following items:
 - 1. Description: Heavy Duty 30" x 30" Cable Trunk w/ 4" Casters
Quantity: 1
 - 2. Description: Fluke #179/1AC-II Multimeter Kit
Quantity: 1
 - 3. Description: GamChek Stage Pin Circuit Tester
Quantity: 1

4. Description: Psiber LanMaster LM35 Power & Link Tester
Quantity: 1
5. Description: TMB ProTester DMX Tester
Quantity: 1
6. Description: 5-Pin DMX Terminator
Quantity: 10
7. Description: Stage Pin Connector Pin Splitter
Quantity: 1
8. Description: Spare 2 Pin & Ground Stage Pin Connectors (Male)
Quantity: 5
9. Description: Spare 2 Pin & Ground Stage Pin Connectors (Female)
Quantity: 5
10. Description: 2"x180' Black Gaffers Tape
Quantity: 2
11. Description: 2"x75' Blacktak Masking Foil
Quantity: 1
12. Description: 3000' Spool 1/8" Black Cotton Unglazed Tie-Line
Quantity: 1
13. Description: Rip-Tie Cable Wrap, 1"x6" (10 pack)
Quantity: 10
14. Description: Rip-Tie Cable Wrap, 1"x14" (10 pack)
Quantity: 10

PART 3 - EXECUTION

3.1 SHOP PREPARATION

- A. Stencil "MOODY" in one inch high characters on each stage lighting fixture body, lens barrel, top hat, barndoor, storage case, power distribution box, and other similar items and components using rust red paint.
- B. Install connectors and lamps for all fixtures prior to delivery.
- C. Bench focus all ellipsoidal reflector spotlights.
- D. Test all fixtures prior to packing for delivery.

3.2 DELIVERY

- A. Bidder is responsible for coordinating delivery times per the Owner's schedule; delivery FOB to Houston, TX.

3.3 PROTECTION OF EQUIPMENT

- A. Protect the equipment in this Section from damage and deterioration during all phases of the work, from the time of manufacture to the acceptance of the completed installation.

END OF SECTION 265561