

STRAND LIGHTING 400F 10-INCH TUNGSTEN LED TELEVISION FRESNEL SPECIFICATION.

GENERAL.

A.) Overview.

- 1) The Television Fresnel fixture shall be purpose designed for television and studio lighting applications. Products designed for theatrical applications shall not be acceptable.
- 2) The Television Fresnel fixture shall be supplied with a four-leaf barndoor, a hard-tooled color frame and a short form instruction manual for immediate use. A detailed instruction manual shall be available for download from the manufacturer's website.
- 3) The Television Fresnel fixture shall comply with ETL and cETL standards and listed to U.L. standard 1573.
- 4) The Television Fresnel fixture shall be able to be operated on a universal power input voltage of 90V - 240V AC.
- 5) The Television Fresnel fixture shall use a 3200K custom designed LED engine.
- 6) The Television Fresnel fixture shall have a detachable power cable connector with a PowerCon Blue connector for power input and with a PowerCon White connector for daisy chain powering of units.
- 7) The Television Fresnel fixture shall not exceed 16.5 lbs. in weight excluding the barndoor accessory and color frame.
- 8) The Television Fresnel fixture shall have the following dimensions:
 - a) Height: 29.6 inches (to top of stirrup).
 - b) Width: 17.1 inches.
 - c) Length: 16.6 inches.
- 9) The lamp house of the Television Fresnel fixture shall have rounded corners and edges with no sharp edges. It shall be constructed from aluminum.
- 10) The sides of the Television Fresnel fixture shall be constructed from extruded aluminum for strength, lower weight and no noise during the expansion and contraction period when the Television Fresnel fixture is heating up. Sides constructed from sheet metal shall not be accepted. Ventilation of the Television Fresnel fixture shall be maximized by

convection slots running the entire length of the lamp house and slots on the rear enclosure.

- 11) The front and rear of the Television Fresnel fixture shall be constructed from cast aluminum to lower weight and no noise during the expansion and contraction period when the Television Fresnel fixture is heating up. Front and rear castings constructed of plastics shall not be accepted.
- 12) There shall be a rear grab handle mounted on the rear of the Television Fresnel fixture. The grab handle shall be ergonomically designed for ease of carrying.
- 13) For ease of service, the front lens assembly shall be on a hinged lockable door.
- 14) The paint finish of the Television Fresnel fixture shall be low reflective, matt charcoal color, electrostatically applied, baked on epoxy powder coat. The finish of all exterior plastic components shall be matt charcoal color.
- 15) The Television Fresnel lens shall be 10" in diameter, mounted inside the fixture and fully supported around its entire circumference. Stainless steel springs shall hold the lens in position and allow for movement caused by heat expansion.
- 16) The Television Fresnel fixture shall have a specially designed LED engine moving on a slide focus carriage. Units that move the lens to obtain focus shall not be accepted.
- 17) The lens shall be quickly accessed for cleaning without the need of tools by opening the hinged, front lockable, lens door.
- 18) The Television Fresnel fixture shall comply with the following performance specifications when:
 - a) Beam Angle: (2:1 variation from center peak) 12-45 degrees with 4½ turns of the focus knob
 - b) Peak Light Level: 12 degrees 183.9 foot candles, 45 degrees 18.3 foot candles at a 32 ft. throw

B.) Physical.

- 1) The Television Fresnel fixture shall be provided with either a manual stirrup or pole operated stirrup with a 29mm TV spigot for quick attachment and de-attachment of the luminaire from its mounting position.

- 2) The Television Fresnel fixture shall incorporate a locking clamp and knob for tilt operation. The operator shall be able to loosen the tilt-locking knob, tilt the Television Fresnel fixture and then lock the Television Fresnel fixture in place.
- 3) The focus system shall be by a resistant 4 « turn focus set, with yellow pole operated cup at the rear and yellow focus handle at the front. Units that do not employ pole operated cups for focus control shall be unacceptable.
- 4) It shall be possible to access the inside of the Television Fresnel fixture without the need of tools and without altering the focus position of the fixture or the barn-door accessory. Lens cleaning access that alters the focus position of the fixture or the barn-door accessory shall not be accepted.
- 5) The lens access shall be by means of a side hinged front lens door, held closed with a spring clip assembly.
- 6) The Television Fresnel fixture shall have two accessory slots for positioning of a color frame and barndoor accessory. The accessories shall be retained in place with a double safety lock mechanism to ensure they cannot accidentally become detached nor fall out during operation.
- 7) The Television Fresnel fixture shall have settings displayed on a clear LCD display at the base of the unit, with a rotary dial for adjusting and changing parameters.

C.) Environmental.

- 1) Maximum operating ambient temperature shall not exceed 99 degrees Fahrenheit (37 degrees Celsius).
- 2) A variable speed cooling system shall be employed to maintain the optimal operating temperature of the Television Fresnel fixture.
- 3) The Television Fresnel fixture shall be low maintenance and environmentally friendly, all units shall be mercury free.

D.) Operational.

- 1) The Television Fresnel fixture shall have control inputs for DMX512 with input/output connectivity and with Remote Device Management (RDM) Protocol via the same DMX control inputs. Luminaires utilizing proprietary only controls shall not be accepted.
- 2) DMX512 control will be via one of three user selectable modes:

- a.) Basic 8-bit Control
 - 1. Intensity
 - 2. Fading – Timing Channel
 - b.) Basic 16-bit Control
 - 1. Intensity ? High
 - 2. Intensity ? Low
 - 3. Fading - Timing Channel
 - c.) Simple Control
 - 1. Intensity
- 3) The Television Fresnel fixture shall have an onboard display and controls for the following:
- a.) Main Menu settings:
 - 1. Intensity Control
 - 2. DMX Address
 - 3. Dimming Curve
 - 4. Response Time
 - b.) Settings Menu:
 - 1. Auto lock
 - 2. Screen Save
 - 3. Intensity Format
 - 4. Fixture Control
 - 5. DMX Map
 - 6. When No DMX
 - 7. Fan Mode
 - 8. USB
 - 9. Set factory defaults
 - 10. Firmware Version
 - 11. RDM UID
- 4) The Television Fresnel fixture shall provide, via the on-board display, the ability to lock the fixtures' menu system from unauthorized changes. When the menu system is locked, the luminaire shall operate normally via DMX control. Units not utilizing this type of technology or any security settings shall not be accepted.

E.) Dimming.

- 1) The Television Fresnel fixture, in Basic sixteen-bit mode, shall use 16-bit nonlinear scaling techniques for high-resolution dimming.
- 2) Dimming curves shall be optimized for smooth dimming over longer timed fades.

- 3) The Television Fresnel fixture shall provide a choice of dimmer curves selectable from the Main Menu to include Linear, Square, S-Curve and PL Curve.
- 4) The luminaire shall be digitally driven using high-speed pulse width modulations (PWM) in concert with power factor control (PFC) to ensure a smooth flicker free dim curve from 100 to 0 % and shall be imperceptible to video cameras and video related devices.

F.) Warranty.

The Luminaire manufacturer shall offer a two-year warranty on the luminaire and LED. Manufacturers not offering a minimum of a two-year warranty shall not be accepted.

G.) Accessories.

Provide the following additional accessories with each unit:

- 1) 1 x Power Lead PowerCon to Edison/Stage Pin/Twistlock connector
- 2) Operation Manual.