

1.01 WHITE-LIGHT LIGHT EMITTING DIODE RETROFIT FOR THE SOURCE FOUR FIXTURE

A. General

1. The fixture shall be a white-light high-intensity LED illuminator with DMX control of intensity. The fixture shall also be able to be dimmed via a line-dimmed source. The fixture shall be a Source 4WRD LED as manufactured by Electronics Theatre Controls, Inc. or approved equal.
2. All LED fixtures shall be provided by a single manufacturer to ensure compatibility
3. The fixture shall be UL 1573 (full fixture) or UL 1598C (retrofit kit) listed.
4. The fixture shall comply with the USITT DMX-512A standard
5. The fixture shall carry a 3-year warranty

B. Physical

1. The unit shall be constructed of rugged, die cast aluminum, free of burrs and pits, finished in black.
2. The following shall be provided:
 - a. Shutter assembly shall allow for +/-25° rotation*
 - b. 20 gauge stainless steel shutters*
 - c. Interchangeable lens tubes for different field angles with Teflon guides for smooth tube movement*
 - d. Sturdy integral die cast gel frame holders with two accessory slots, and a top-mounted, quick release gel frame retainer*
 - e. Rugged steel yoke with two mounting positions allowing 300°+ rotation of the fixture within the yoke*
 - f. Positive locking, hand operated yoke clutch*
 - g. Slot with sliding cover for motorized pattern devices or optional iris*
3. The housing shall have a rugged black powder coat finish
 - a. White or silver/gray powder coat finishes shall be available as color options
 - b. Other powder coat color options shall be available on request
4. Power supply, cooling and electronics shall be integral to each unit.
5. The retrofit shall utilize all existing components of the Source Four except for the HPL burner assembly
6. The unit shall ship with:
 - a. Theatrical-style hanging yoke as standard*
 - b. Bare end power cable (1m) attached with option for choice of connector
 - 1) Edison

- 2) Stage pin
- 3) Twist
- c. A-size pattern holder*

C. Optical

- 1. The unit shall provide, but not be limited to:
 - a. Molded borosilicate reflector with multiple dichroic layers*
 - b. Low gate and beam temperature
 - c. Sharp imaging through a three-plane shutter design*
- 2. The unit shall provide, but not be limited to:
 - a. 5, 10, 14, 19, 26, 36, 50, 70 and 90 degree field angles*
 - b. High-quality pattern imaging*
 - c. Sharp shutter cuts without halation*
 - d. Shutter warping and burnout in normal use shall be unacceptable*
 - e. Adjustable hard and soft beam edges*
- 3. 19, 26, 36, and 50 degree units shall have optional lens tubes available for precision, high-contrast imaging.*
- 4. The fixture shall allow for tool-free field adjustment (z-knob adjustment)

D. Environmental and Agency Compliance

- 1. The fixture shall be ETL and cETL LISTED, and shall be so labeled when delivered to the job site.
- 2. The fixture shall be UL LISTED to the UL1573 or UL 1598C standard.
- 3. The fixture shall be rated for IP-20 dry location use.

E. Thermal

- 1. Fixture shall be equipped with a cooling fan.
- 2. The fixture shall utilize advanced thermal management systems to maintain LED life to an average of 70% intensity after an estimated 30,000 hours of use
 - a. Thermal management shall include a temperature sensor within the housing.
- 3. The fixture shall operate in an ambient temperature range of 5°C (41°F) minimum, to 40° C (104°F) maximum ambient temperature.

F. Electrical

- 1. The fixture shall be equipped with a 114V to 125V 60Hz internal power supply
- 2. The fixture shall be dimmable via a line-dimmed source
- 3. The fixture shall be dimmable via DMX-512

G. LED Emitters

1. All LEDs used in the fixture shall be high brightness and proven quality from established and reputable LED manufacturers.
 - a. Fixture shall utilize CREE LED emitters
2. Manufacturer of LED emitters shall utilize an advanced production LED binning process to maintain color consistency.
3. LED emitters should be rated for an estimated nominal 30,000-hour LED life to 70% intensity
4. All LED fixtures (100% of each lot) shall undergo a minimum three-hour burn-in test during manufacturing.
5. LED system shall comply with all relevant patents

H. Color

1. The fixture shall utilize 3000K LED emitters
2. The fixture shall have a minimum CRI of 80
 - a. There shall be a Gallery version that has a minimum CRI of 90

I. Dimming

1. The LED system shall be dimmable via DMX or a line-dimmed source

J. Control and User interface

1. The fixture shall be USITT DMX 512A-compatible via In and Thru RJ-45 connectors
2. The fixture shall be compatible with the ANSI RDM E1.20 standard
 - a. All fixture functions shall accessible via RDM protocol for modification from suitably equipped control console
 - b. Fixtures not offering RDM compatibility shall not be compatible
3. The fixture shall be equipped with a two-button user-interface
4. The fixture shall be equipped with a 7-segment display

*these items refer to the full fixture assembly