

# Tender Specifications



## **ECLFRESNELTW**

LED Fresnel FC and Tunable White with colour correction, to replace 1.000W lamp

## **1. General**

1. The luminaire shall be a colour-mixing LED Fresnel with DMX control of intensity and colour.
2. The luminaire shall be CE compliant.
3. The luminaire shall comply with the USITT DMX-512 A and ANSI RDM E 1.20 protocol standards.
4. The luminaire shall be capable of delivering a variable white output from 2'800 K to 10'000 K, featuring an average CRI, in excess of 89 Ra when measured across the full colour temperature range.
5. The luminaire shall be capable of delivering an extensive range of saturated and pastel colours.
6. The luminaire shall feature an LED source with a power of 260 W.
7. The luminaire shall features an LED source containing 6 different colours of LED.
8. The luminaire shall be capable of making adjustment to the green and magenta value any point on the CCT range.
9. The luminaire shall not infringe any Intellectual Property unless licenced by the owner.

## **2. Physical**

1. The luminaire shall be constructed from a combinations of rugged die cast aluminium, free of burrs and pits, and high quality thermo plastic all finished in black.
2. The luminaire shall feature a Fresnel lens constructed from a light weight acrylic material that shall not create any sharp points in the case of breakage.
3. The luminaire shall feature a lens diameter not exceeding 200 mm.
4. The luminaire shall feature an integral frame holder including safety locks and a top latch.
5. The luminaire shall feature an adjustable yoke constructed from die-cast aluminium and finished in black that allows a minimum of 180° tilt rotation and 360° pan rotation.
6. The luminaire shall feature a secure locking mechanism for the tilt axis.
7. The luminaire shall feature an option for pole operated control of both the pan and tilt axes as well the zoom.

8. The luminaire shall feature control of beam diameter by knobs situated on both sides of the luminaire requiring no more than 3 complete revolutions for the full range of adjustment.
9. The luminaire shall feature integral power and electronics.
10. The luminaire shall weigh no more than 7,5 kg.
11. The luminaire shall feature an active cooling system.
12. The luminaire shall be supplied with an eight leaf barn door.
13. The luminaire shall be supplied with a 28 mm extruded aluminium spigot suitable for attachment to industry standard accessories.
14. The luminaire shall be supplied with a Filter holder.

### **3. LED Emitters**

1. The luminaire shall feature an LED source comprising an array of 89 LED emitters manufactured by Philips and branded Lumiled C-line.
2. The luminaire shall feature an LED source comprising of 6 pcs Red LED, 15 pcs Amber LED, 4 pcs Green LED, 16 pcs Royal Blue LED, 12pcs Blue LED, 36 pcs Lime LED.
3. The luminaire shall feature an LED source consisting only of LED emitters from a known production batch and bin.
4. The luminaires shall feature only LED emitters rated for nominal 50'000-hours LED life to L70.
5. The luminaire shall feature a minimum of three hours burn-In test during its manufacturing process.
6. The luminaire shall feature adjustable PWM frequency to include 25'000 Hz.

### **4. Photometric documentation**

1. The luminaire shall be supplied with a full and detailed photometric report measured by a calibrated two axis photogoniometer in a constant temperature environment and with the luminaire in a stabilised condition with not more than 0.5% variation in output over a 15 minute period.
2. The photometric report supplied with the luminaire shall detail CRI, CQS, TM-30 and spectral distribution at full output.
3. The photometric report supplied with the luminaire shall detail the spectral distribution of each constituent LED colour of LED source.

4. The photometric report supplied with the luminaire shall detail light level measured in lux and foot candles and beam diameter measured in meters and feet at 1 m, 2 m, 3 m, 4 m, 5 m, 6 m, 7.5 m, 10 m, 15 m, 20 m, 25 m, 30 m, 40 m distance with the luminaire at its smallest, middle and largest beam angle.
5. The photometric report supplied with the fixture shall include ISO LUX and candela diagrams, showing light distribution in both X and Y planes measured with the luminaire mounted at height of 10 meters.

## **5. Photometric performance**

1. The luminaire shall meet the following minimum photometric performance requirements which should be supported by the photometric documentation:
  - The luminaire shall have a colour temperature of 5'825 K (+/- 125 K) with LEDs at full on.
  - The luminaire shall have a CRI in excess of 88 across the entire zoom range with all LEDs at full on.
  - The luminaire shall have an output in excess of 7.100 lm at maximum beam angle with all LEDs on.
  - The luminaire shall have a colour temperature within 100 K of the target colour temperature when set to a preset of 3'200 K or 5'600 K.
  - The luminaire shall have a CRI in excess of 91 across the entire zoom range when set to a preset of 3'200 K.
  - The luminaire shall have an output in excess of 7'900 lm at maximum beam angle when set to preset of 3'200 K.
  - The luminaire shall have a CRI in excess of 88 across the entire zoom range when set to a preset of 5'600 K.
  - The luminaire shall have an output in excess of 7'200 lm at maximum beam angle when set to preset of 5'600 K.

## **10. Calibration**

1. The luminaire shall be factory calibrated during its production process.
2. The luminaire shall permanently store calibration data on internal PCB.
3. The luminaire shall feature replacement LED source calibrated using the same method as the standard.
4. Fixtures not offering LED calibration shall not be acceptable.

## **11. Electrical**

1. The luminaire shall feature an internal auto sensing power supply with an input range from 100 V to 240 V AC 50/60 Hz protect by on board fuse.
2. The luminaire shall feature a nominal power consumption of 260 W.
3. The luminaire shall feature a Neutrik® PowerCON True1 main input connector.
4. The luminaire shall feature a Neutrik® PowerCON True1 main through connector.
5. The luminaire shall feature an Amphenol 5 pin XLR connector for DMX input and DMX through.
6. The luminaire shall feature an on board OLED graphic display.
7. The luminaire shall be compatible with the USITT DMX-512A RDM protocol.
8. The luminaire shall support firmware upgrades using a dedicated UP-LOADER device using a 5 pin XLR connector.
9. The luminaire shall meet all requirements of the LVD (Low Voltage Directive) 2014/35EC and with the EMC (Electromagnetic Compatibility Directive) 2014/30/EU.

## **12. Optical**

1. The luminaire shall offer continuous beam adjustment from 15° to 45°.

## **13. Environmental**

1. The luminaire shall feature IP 20 rating.
2. The luminaire shall be capable of operating in ambient temperature range of -20°C (-4°F) to +45°C (113°F).

## **14. Control And User Interface**

1. The luminaire shall feature a temperature sensor which shall be accessible in real time via RDM.
2. The luminaire report its internal temperature on its graphical display.
3. The luminaire shall feature local control using four buttons and three rotary clickable encoders.
4. The luminaire shall feature a range of control modes including:
  - Control of color temperature, intensity and green/magenta adjustment.
  - Control of intensity, hue and saturation.
5. The luminaire shall offer a "Studio Mode" option to set the output to a default calibrated white point of 6'000 K.
6. The luminaire shall offer a tungsten emulation option to emulate both the intensity and colour shift characteristics of a tungsten source.

## **15. Dimming**

1. The luminaire shall feature continuous smooth and linear dimming of intensity from 0% to 100%.
2. The luminaire shall feature control of intensity in 8 bit or 16 bit mode.
3. The luminaire shall feature a minimum of 4 options for dimming curves, selectable from the on board menu.

## **16. Accessories**

The following accessories shall be included in fixture supplied:

1. 28 mm conical connector adapter for stands or pantographs.
2. 8 way Leaf barn door.
3. Filter holder.
4. 16 A 3G 2.5 mm Power cable with Neutrik PowerCON TRUE – Shuko.

The following accessories shall be available as an optional:

1. 4 Unit flight cases, with 4 wheels and 8 handles to house four fixture plus their accessories.

## 2. Up-loader Tool (UPBOX1) and it's Microsoft Software.

Approved device shall be the PROLIGHTS ECLFRESNELTW; no alternates or equals.