

# Tender Specifications



## ECLPARTU

Single source multipurpose LED PAR

## 1. General

1. The luminaire shall be a colour-mixing PAR LED 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 white output of 3'200 K.
5. The luminaire shall feature a single LED source with a power of 177W.
6. 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 following shall be provided:
  - a) Interchangeable lens fresnel with silicone shock mounts.
  - b) Sturdy integral die cast gel frame holders with two accessory slots, and a top mounted quick release gel frame retained.
3. The luminaire shall feature an integral frame holder including safety locks and top latch.
4. The luminaire shall features a secure locking mechanism knobs for tilt orientation.
5. The luminaires shall features on board mechanics for rigging to the ceiling.
6. The luminaire shall have a rugged black powder coat finishing.
  - a) Other powder coat colour options shall be available on request.
7. The luminaire shall feature integral power and electronics.
8. The luminaire shall weight no more than 5.5 kg.
9. The luminaire shall feature an active cooling system.

### **3. LED Emitters**

1. The luminaire shall feature one LED source manufactured by Citizen.
2. The luminaire shall feature an LED source consisting only of LED emitter from a known production batch and bin.
3. The luminaires shall feature only LED emitters rated for nominal 50'000 hours LED life to L70.
4. The luminaire shall feature a minimum of three hours burn-In test during its manufacturing process.
5. 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 the following beam angle: 24 and 73 degrees.
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 3'200 K (+/- 125 K) with LEDs at full on.

- The luminaire shall have a CRI in excess of 97 with mounted 12°, 24° or 73° lens fresnel with LEDs at full on.
- The luminaire shall have an output in excess of 11'700 lm with mounted 12° lens fresnel when set to Full On preset.
- The luminaire shall have an output in excess of 12'400 lm with mounted 24° lens fresnel when set to Full On preset.
- The luminaire shall have an output in excess of 11'800 lm with mounted 73° lens fresnel when set to Full On preset.

## **6. 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.

## **7. 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 207 W.
3. The luminaire shall feature a Neutrik® PowerCON main input connector.
4. The luminaire shall feature a Neutrik® PowerCON main through connector.
5. The luminaire shall feature an Amphenol 3+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 3 or 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.

## **8. Optical**

1. The light beam should have a 2-to-1 centre-to-edge drop-off ratio.
2. The units shall provide, but not be limited to:
  - a) 28, 41, 102 degree fixed field angles fresnel lens.
  - b) Egg crate accessorie.

## **9. Environmental**

1. The luminaire shall feature IP 20 rating.
2. The luminaire shall be capable of operating in ambient temperature range of -10°C (4°F) to +45°C (113°F).
3. The luminaire shall be equipped with a cooling fan.
4. Thermal management shall include LED array circuit board temperature sensors.
5. Users shall permit monitoring of temperature sensor via legible black OLED multi-line display.
6. Fixtures that do not provide the active thermal monitoring of LED board, shall not be acceptable.

## **10. Control And User Interface**

1. The luminaire shall feature a temperature sensor which shall be accessible in real time via RDM.
2. The luminaire shall be compatible with the ANSI RDM E 1,20 standard.
3. Fixtures not offering RDM compatibility features access or temperature monitoring via RDM shall not be acceptable.
4. The luminaire shall be equipped with multi-line OLED display for easy to read status reports and configurations changes.
5. The luminaire shall be equipped with four buttons user interface.
6. The luminaire shall offer additioanal use options to including the Display timeout.
7. The luminaire shall offer stand alone functionally including:
  - a) Fixtures can be linked together with standard DMX cable and controlled from designated master fixture up to 32 units linked.

b) Fixtures in stand-alone state shall restore to the setting preset prior to power cycling.

10. Fixtures without stand-alone operation features described above shall not be acceptable.

## **11. 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. LED control shall be compatible with broadcast equipment in the following ways:
  - a) PWM control of LED levels shall be imperceptible to video cameras and related equipment.
  - b) PWM rates shall be adjustable by the user at the fixture if necessary to avoid any visible interference on video camera and related equipment.
4. The luminaire shall feature a minimum of 4 options for dimming curves, selectable from the on board menu.
5. Dimming curves shall be optimized for smooth dimming over longer time fades.
6. The LED system shall be digitally driven using high-speed pulse width PWM modulation.

## **12. Accessories**

The following accessories shall be included in fixture supplied:

1. Safety steel cable.
2. 16 A 3G 2.5 mm Power cable with Neutrik PowerCON – Shuko.
3. 24° Lens fresnel.
4. 65° Lens fresnel.
5. Gel filter frame.

The following accessories shall be available as an optional:

1. 6 Units flight case, with 4 wheels and 8 handles to house 6 fixtures plus their accessories.
2. 40° Lens fresnel.
3. Egg crate.

4. Barn door.
5. Up-loader Tool (UPBOX1) and it is Microsoft Software.

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