

# Tender Specifications



## MOSAICOL

300W IP66 zoomable LED image projector with animation wheel and framing shutters

## 1. General

1. The luminaire shall be an IP rated LED Exterior projector for outdoor installations with 2 color wheels, rotanting gobos, animations wheel, framing shutters, control of intensity and zoomable optic, all controllable via DMX.
2. The luminaire shall be CE, UKCA, RCM, cTUVus, FCC compliant.
3. The luminaire shall comply with the USITT DMX-512 A and ANSI RDM E 1.20 protocol standards.
4. The luminaire shall feature a white LED source with a rated power of 300 W.
5. The luminaire shall feature an LED source made with a White CTC 8'000 K LED array.
6. The luminaire shall not infringe any Intellectual Property unless licenced by the owner.

## 2. Physical

1. The luminaire shall be constructed of rugged die cast aluminium, free of burrs and pits.
2. The luminaire dimensions shall be:
  - a) 451 mm (17,8") from base of the enclosure to the tip of the lens baffling.
  - b) 532 mm (20,9") across the exterior dimensions of the yoke.
  - c) Head length 451 mm (17.8").
  - d) The luminaire shall weigh 25 kg (55.1lbs).
  - e) The front lens diameter shall be 110 mm (4.3").
3. The luminaire shall be able to be either truss-mounted or stand on a surface. Fixture shall be suitably designed for operation over or under mounted on a truss perpendicular to the ground.
4. The following shall be provided:
  - a) The luminaire must include seven (7) interchangeable rotating gobos. Luminaires that have non-interchangeable gobo patterns shall not be deemed acceptable.
  - b) Interchangeable rotanting gobos shall have an outside diamter of 26.7 mm, and an image diameter of 23 mm, and accept 0.5 mm stainless steel or 1.1 mm glass gobo.
  - c) Rotanting gobo system must be able to index to any point on the 360° positioning of the gobo.
  - d) Rugged steel yoke with two mounting positions allowing 300+ rotations of the fixture within the yoke.

- e) Positive locking, hand operated yoke clutch.
  - f) Inspectable Slot-door on the chassis for easy access to Gobos and Animation wheel replacement.
  - g) A linear Heavy Frost filter 0 to 100%.
  - h) Automated linear zoom system from 7° to 49° and focus lens system.
  - i) Rotating fixed pattern wheel shall allow for animation in two directions and shall contain a unique and continuous breakup patterns. Fixtures with animation wheels that are made up of a single pattern shall not be deemed acceptable.
  - j) The pattern wheel should be fixed to the internal mechanical structure through a quick release magnetic system, which allow a quick replacement through the upper slot-door on the outer cover.
  - k) A Colour wheel containing 7 (seven) colour filters.
  - l) An automated motorized shutter system composed by 4 individually controllable shutter blades, working on 4 layers and each being able to cut through the entire projection, each shall allow a +/- 30° rotation, and the entire system shall be able to perform a self rotation of +/- 45°.
  - m) A circular 3 facet prism with rotating systems must be able to index to any point on the 360 positioning of the prism.
5. Power Supply, cooling, and driver electronics shall be integral to each luminaire.
6. Control/UI module shall have the option for battery power to allow fixture settings when the luminaire is not connected to the mains.

### **3. LED Emitters**

1. The luminaire shall feature a LED source emitter customized for Prolights with a Rated power of 300 Watt, and total Driven power of 400 Watt.
2. The luminaire shall feature a White 8'000 K Led source.
3. The luminaire shall feature an LED source consisting only of LED emitters from a know production batch and bin.
4. The luminaires shall feature only LED emitters rated for nominal 20'000-hours LED life to L70 with estimated colour shift over lifetime less than 200 K.
5. The luminaire shall feature a minimum of three hours burn-In test during its manufacturing process.
6. The luminaire shall feature a nominal LED frequency of 2'000 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: minimum beam angle, medium beam angle, maximum 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 and Opticals**

1. The luminaire shall meet the following minimum photometric performance requirements which should be supported by the photometric documentation:
  - a) The luminaire shall have a colour temperature of 8'000 K (+/- 125 K) with LEDs at full on.
  - b) The luminaire shall have an output in excess of 8'500 lm when set to 8'000 K at 7° beam angle.
  - c) The luminaire shall have an output in excess of 11'700 lm when set to 8'000 K at 49° beam angle.

#### **6. 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 440 W.
3. The luminaire shall feature a moulded IP rated main input connector.

4. The luminaire shall feature a moulded IP rated main through connector.
5. The luminaire shall feature a moulded IP rated for DMX input and DMX through.
6. The luminaire shall feature a built in Wireless DMX receiver manufactured by Wireless Solution Sweden
7. The luminaire shall feature an on board OLED graphic display, mounted in a recessed part of the cover which can be sealed through screw and gasket to avoid water ingress.
8. The luminaire shall be equipped with a protective vent to reduce condensation in the sealed enclosure.
9. The luminaire shall be compatible with the USITT DMX-512A RDM protocol.
10. The luminaire shall support firmware upgrades using a dedicated UP-LOADER device using a 5 pin XLR connector.
11. The luminaire shall meet all requirements of the LVD (Low Voltage Directive) 2014/35EC and with the EMC (Electromagnetic Compatibility Directive) 2014/30/EU.

## **7. Environmental**

1. The luminaire shall feature IP 66 rating and being suitable for outdoor installation; upon correct installation and periodic maintenances procedures.
2. The luminaire shall features a C2 minimum environment classification
3. The luminaire shall features a C5M environmental classification available on request.
4. The luminaire shall be capable of operating in ambient temperature range of -20°C (-4°F) to +45°C (113°F).
5. The luminaire shall be equipped with IP rated cooling fan.
6. Fan speed software shall permit the fixture to override DMX fan speed setting to prevent heat damage.
7. Thermal management shall include LED array circuit board temperature sensor.
8. Users shall permit monitoring of temperature sensor via legible black OLED multi-line display.
9. Fixtures that do not provide the active thermal monitoring of LED board, shall not be acceptable.

## **8. 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, 1.33, 1.37-1, 1.37-2, 1.37-7.
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 five buttons user interface
6. The luminaire shall offer 4 DMX control profiles.
7. The luminaire shall offer additional user definable options to including:
  - a) Display time out option.
  - b) Loss of data behaviour options.
8. The luminaire shall feature an advanced on board Stand Alone programming and playback features and below described:
  - a) User selectable playbacks of stored Shows, Chases, Scenes.
  - b) Edit section to apply user changes to Shows, Chases, Scenes capable of copying existing scenes.
  - c) Built in DMX recorder to record DMX input to be stored into selected Scene.
  - d) Time and Move Blackout settings to be assigned to existing Scenes.
  - e) Snapshot of input signal looks.

## 9. 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.
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.

## 10. Initialization

1. The luminaire shall be fitted with high resolution encoders on the internal feature such that initialization on power up or reset can be accomplished with zero or minimal movement of these axis.
2. Luminaires not offering position sensors or end stops in order to initialize shall not be acceptable.
3. The time to fully initialize the luminaire from power ON or reset shall be no more than 30 seconds.

## 11. Accessories

The following accessories shall be included in fixture supplied:

1. Moulded power (Bare End) IP connection adapter.
2. Moulded signal adapter from IP female connector to XLR 5p.
3. Moulded signal adapter from IP male connector to XLR 5p.

The following accessories shall be available as an optional:

1. Flight case for 2pcs with internal foam shells.
2. 1 unit foam shell.
3. Bracket for luminaire mounting on wall and poles both round or square.
4. Custom glass grid gobo for projection mapping.
5. Molded IP67 extension cable for power from 3m to 20m.
6. Molded IP67 extension cable for DMX from 3m to 20m.
7. Software uploader box, USB in to XLR output

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