L7-C
LED Fresnel

LIGHTING - PRODUCT SPECIFICATION

V1.4

A. General

1. The luminaire shall be a RGBW color mixing LED Fresnel luminaire with an electronically controlled LED light source especially with the ability to spot and flood the beam as needed.
2. The luminaire shall be capable of providing fully tunable white light from 2,800 to 10,000K and allow precise manipulation of intensity, green-magenta point (full minusgreen and full plusgreen), hue and saturation.
3. The precise continuous manipulation of intensity from 0% to 100% is mandatory.
4. All functions shall be controllable through USITT DMX 512A and fully RDM compatible and equipped with a feedback channel for reporting.
5. An on-board control shall be available to control intensity, color temperature, green-magenta point, hue and saturation.
6. The luminaire shall be available as a hanging, hanging pole operated, and stand-mount version.

B. Physical

1. The luminaire shall be constructed of rugged, die-cast aluminum and molded engineering grade plastic.
2. The body of the fixture shall be available in blue/silver or matt black finish.
3. Technical requirements for the Fresnel luminaire:
    a. The Fresnel luminaire shall be in a compact construction, not exceeding 349 mm (13.7”) in length, 303 mm (11.9”) in height without yoke, 423 mm (16.5”) with yoke, and 374 mm (14.7”) in width.
    b. Fresnel lens shall have a 175 mm (7”) diameter with a sturdy integral frame holder including safety catches and top latch to allow to add accessories.
    c. The sliding stirrup shall allow precise compensation for front-end accessories and made of extruded aluminum with a 28 mm 1 1/8” spigot.
    d. High strength tilt lock shall guaranty secure locking to eliminate any movement or slippage to ensure the luminaire will stay in position.
    e. Focus knobs on both sides of the fixture shall allow precise adjustments and rapid flood-to-spot with only three turns.
    f. A tilt range of +/- 90° is required.
    g. The beam angle shall range from 15° (spot) to 50° (flood).
    h. Weight for the manual version shall be 8.2 kg (18.1 lb.) and for the pole operated version 9.8 kg (21.6 lb.).

4. The luminaire shall be equipped with a cooling fan.
5. The fan noise emission shall not exceed 20 dBA (1m) at any time.
6. The LED emitters used in the fixture should be rated for nominal 50,000-hour LED life to 70% intensity with an estimated color shift over lifetime less than 200 K.
7. The luminaire shall provide monitoring of the hours in use and the actual temperature.

C. Electrical

1. The luminaire shall be furnished with a built in power supply for 100 to 250 V AC 50/60Hz supply voltage.
2. The luminaire shall require power from a non-dim source.
3. The nominal power consumption shall be 160 W and shall not exceed 220 W at full output.
4. Available options shall include but not be limited to:

    a. Power cable with bare ends
    b. Power cable with power switch and Edison connector

c. Power cable with power switch and Schuko connector

5. The fuse holder shall be easy accessible at the back of the fixture.
6. Only integrated light engines that will not emit light in the ultra-violet or the infrared spectrum are acceptable.
7. A control and indicator panel for on-board control shall be available.
8. The fixture shall be equipped with an RDM/DMX interface with a waterproofed input socket.
9. 9A DMX distribution box shall be mounted at the input socket with a XLR 5 pin DMX in and XLR 5 pin DMX through.
10. The fixture shall have a Mini USB port used for updating the fixture's internal firmware, adjusting operating parameters and for service purposes.

D. Optical

1. The optical system shall offer a continuous focus range of 15° to 50° half peak angle with real Fresnel characteristics, an extremely smooth, uniform light field and clean shadow rendition with following optical characteristics:

    a. Lens Diameter of 175 mm (7")
    b. Color rendition index CRI of 95
    c. Continuously variable correlated color temperature range from 2,800 K – 10,000 K
    d. Full RGBW color gamut with hue and saturation control
    e. Continuously variable green-magenta adjustment
    f. Color temperature tolerance of +/- 100 K (nominal), +/- 1/8 Green-Magenta (nominal)

2. The manufacturer shall ensure that there will be no differences in the quality of the light field between production batches of the lighting fixtures.

E. Environmental

1. The fixture shall be rated IP 20 for dry location use
2. The fixture shall operate in an ambient temperature range of -20°C (-4°F) to 45°C (113°F)
3. The fixture shall be in compliance with CE standards as well as GS and FCC certified
4. The fixture shall be UL LISTED, or equivalent certification, to the UL1573 standard for stage and studio use.

F. Operation

1. It shall be possible to remote control the luminaire via DMX 512 A
2. The fixture shall be fully RDM compatible & equipped with a feedback channel for reporting.
3. An optional onboard control with LC display for intensity, color temperature, +/- green, hue and saturation control shall be available.
4. The luminaire shall offer 15 DMX profiles, which can be pre-configured by the user.
5. The 8 bit profiles should include but not be limited to following operating mode:

    a. White & RGBW mode shall require not more than 8 DMX channels and provide control over intensity, color temperature, +/- green, and individual red, green, blue, and white color channels, plus white-color cross fade
    b. White mode shall require not more than 3 DMX channels and provide control over intensity, color temperature, and +/- green
    c. White & HIS mode shall use not more than 6 DMX channels and provide control over intensity, color temperature, +/- green, color hue, color saturation, and white-color crossfade

d. RGBW mode shall use not more than 5 DMX channels and provide control over intensity and individual red, green, blue, and white color channels
e. HIS mode shall use not more than 3 DMX channels and provide control over color hue, color saturation and intensity

6. The 16 bit profiles should include but not be limited to following operating mode:

    a. White & RGBW mode shall require not more than 16 DMX channels and provide control over intensity, color temperature, +/- green, and individual red, green, blue, and white color channels, plus white-color cross fade
    b. White mode shall require not more than 6 DMX channels and provide control over intensity, color temperature, and +/- green
    c. White & HIS mode shall use not more than 12 DMX channels and provide control over intensity, color temperature, +/- green, color hue, color saturation, and white-color crossfade
    d. RGBW mode shall use not more than 10 DMX channels and provide control over intensity and individual red, green, blue, and white color channels
    e. HIS mode shall use not more than 6 DMX channels and provide control over color hue, color saturation and intensity

7. The 8 bit profiles with additional coarse/fine option shall require 2 DMX channels for all functions that include the coarse/fine option and 1 DMX channel for all other functions

    a. White & RGBW C/F mode shall require not more than 14 channels and provide coarse/fine control for intensity, color temperature, individual red, green, blue, and white color channels, and single channel control over white-color cross fade and +/- green
    b. White C/F mode shall require not more than 5 DMX channels and provide coarse/fine control over intensity, color temperature, and single channel control over +/- green
    c. White & HIS C/F mode shall use not more than 10 DMX channels and provide coarse/fine control over intensity, color temperature, color hue, color saturation, and single channel control white-color crossfade, and +/- green
    d. RGBW C/F mode shall use not more than 10 DMX channels and provide coarse/fine control over intensity and individual red, green, blue, and white color channels
    e. HIS mode shall use not more than 6 DMX channels and provide coarse/fine control over color hue, color saturation and intensity

G. Dimming

1. The fixture shall allow continuous linear and flicker free dimming from 0% to 100% in an 8 bit mode (0.3922% per step) or 16 bite mode (0.001529% per step).
2. Coarse and fine dimming shall be possible with 2 consecutive DMX channels in the 8 bit mode. The first channel shall allow setting the target value in 256 steps from 0 to 100% output value. The second channel shall allow an additional fine adjustment in 256 steps from 0 to 10% output value.

H. Accessories

Following accessories shall be available

1. General accessories:
    a. Safety cable
    b. Junior pipe clamp

2. Following front end accessories:
    a. 4-leaf barndoor
    b. 8-leaf barndoor
    c. Filter frame

d. Snoot
e. 7 ¾” half single scrim
f. 7 ¾” half double scrim
g. Scrim bag