Chroma-Q Studio One 100 D Specification

DAYLIGHT CCT WHITE SOURCE LED PAR FIXTURE

A. General

1. The fixture shall be a white source LED fixture employing a daylight white CCT LED engine. The fixture shall be a Studio One 100 D unit by Chroma-Q or approved equal.
2. The fixture shall provide a fully homogenised beam output.
3. The fixture shall be UL 1573 listed for stage and studio use.
4. The fixture shall comply with the ANSI E1.11 USITT DMX-512A control protocol standard.
5. The fixture shall be capable of control via wireless IR remote unit.
6. The colour rendering index of the fixture shall be 82 CRI.
7. The hot lumen output (combined) of the fixture shall be 2,500 lumens.
8. Fixture colour temperature (CCT) shall be 6,100° Kelvin (+/- 200K).
9. The fixture’s LED lamp life shall have a L70 rating at a minimum of 50,000 hours.
10. Fixtures shall be factory calibrated to ensure all units output the same exact colour.
11. Fixtures which do not comply with this specification shall not be accepted.

B. Physical

1. The fixture housing shall be constructed of robust cast machined aluminium and shall be free of pits and burrs.
2. The fixture housing shall be available in black colour with custom colour available upon request.
3. Power supply, cooling and electronics shall be integral to each unit.
4. Fixture net weight (without fixings) shall be 3.8kg (8.5lbs.).
5. Fixture net dimensions (without fixings, full open yoke) shall be (W x H x D) 214mm x 267mm x 232mm (8.5" x 10.5” x 9").
6. The fixture shall include a built-in 6.25” accessory holder.

7. The fixture shall include a built-in split yoke for mounting purposes.

C. Agency Compliance and Environmental

1. The fixture shall be UL Listed and shall be so labeled.

2. The fixture Approvals shall include the following: CISPR 15/EN55015& EN61547, FCC Part 15 Subpart B:2012 / ICES-003:2012, CSA C22.2, UL 1573, IEC 60598

3. The IP rating of the fixture shall be IP20 for dry location use.

D. Thermal

1. The fixture shall be cooled via natural convention without the aid of fans.

2. The fixture shall operate in an ambient temperature range of 0°C (32°F) minimum, to 40° C (104°F) maximum ambient temperature.

3. The fixture shall provide automatic protection to reduce the output when the internal temperature reaches the maximum limit due to extreme ambient temperature conditions.

E. Electrical

1. The fixture shall be equipped with an internal power supply.

2. The power input rating of the fixture shall be 100V to 240V 50/60 Hz 125VA.

3. The fixture’s power supply shall have a power factor of 0.5.

4. The fixture’s maximum power consumption shall not exceed 60W @ 120V AC; 61W @ 230V AC.

5. The fixture’s stand-by power consumption shall be 3W @ 120V AC; 5W @ 230V AC.

6. The inrush current of the fixture shall be 15A @ 120V AC; 36A @ 230V AC.

7. Fixture In/Out power shall be via Neutrik powerCON TRUE1 connectors.

8. The fixture requires power from a constant non-dim power source.

F. Optical

1. The fixture’s fully homogenised output shall provide a smooth, uniform and defined beam.

2. The fixture beam angle shall be 18°.

G. Light Emitting Diodes

1. The fixture shall be equipped with one LED Engine.

2. The fixture LED Engine shall utilize a combination of cold white LEDs.

3. All LEDs used in the fixture shall be of high brightness and proven quality from reputable LED manufacturers.

4. LED systems manufacturers shall utilize an advanced production LED binning process to maintain LED color consistency.

5. LEDs shall be rated for a 50,000-hour LED life to 70% intensity (L70).

H. Dimming

1. The LED system shall be digitally driven using high-speed pulse width modulation (PWM).

2. The fixture shall offer 4 LED scan rate (PWM) frequency modes for compatibility with video broadcast equipment in order to avoid a flickering effect.

3. The dimming curve shall be of theatrical grade for smooth dimming over longer timed fades and at low intensities.

I. Control and User Interface

1. The fixture shall be equipped with two 5-Pin XLR connectors (In and Out) for data control via DMX512-A protocol.

2. The fixture shall be capable of standalone operation:

    a. The fixture shall be assignable as either a master or slave standalone unit.

    b. Slave designated fixtures can be linked together via DMX cables and controlled from designated master fixture.

3. The fixture shall be capable of control in standalone operation via a wireless IR remote control unit. IR remote control options shall include:

    a. Fixture power on and power off.

    b. Fade in and out.

4. The fixture shall be equipped with a two-line backlit LCD display for viewing menu control and configuration functions.

5. The fixture shall be equipped with four push buttons located beneath the LCD display for accessing menu control and configuration functions.

6. The fixture shall offer the following DMX control modes and standalone modes to include:

    a. Dimmer – 1 channel DMX mode for intensity adjustment of LEDs.

    b. Master – mode to assign unit as master in standalone operation.

    c. Slave – mode to assign unit as slave in standalone operation.

7. The fixture shall offer configuration and control options including but not limited to:

    a. Look Store mode:

        1) Selection of five looks in standalone operation (Look 1 - 5).

        2) Recording of 5 user-programmed looks (Look 1 – 5) via external DMX control console.

        3) Recall and modification of a look in standalone operation.

    b. Loss of DMX data behavior (No DMX present) options:

        1) Off – no light output from fixture

        2) Hold Last – last valid DMX state output from fixture

        3) IR Remote – fixture control via remote infrared control unit

        4) Look 1 – snap to user-programmed look.

        5) Look 2 – snap to user-programmed look.

        6) Look 3 – snap to user-programmed look.

        7) Look 4 – snap to user-programmed look.

        8) Look 5 – snap to user-programmed look.

    c. Selection of four LED scan rate (PWM) frequency modes for compatibility with video broadcast equipment: 750 Hz, 1500 Hz, 3000Hz, 6000 Hz.

    d. DMX data display of DMX channel values.

    e. Temperature of LED engine display.

    f. Calibration data display.

END SPECIFICATION