

Chroma-Q Space Force Specification

VARIABLE CCT WHITE SOURCE LED SPACE LIGHT FIXTURE

A. General

1. The fixture shall be a white source LED fixture employing a variable white CCT LED engine. The fixture shall be a Space Force unit by Chroma-Q or approved equal.
2. The fixture shall be suitable as a replacement for conventional space lights and soft light sources commonly used in television broadcast and film applications.
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 512-A and ANSI E1.20 RDM control standards.
5. The colour rendering index of the fixture shall be 97 CRI.
6. The television lighting consistency index of the fixture shall be 97 TLCI.
7. The hot lumen output (combined) of the fixture shall be 26,700 lumens.
8. Fixture colour temperature (CCT) shall be adjustable between 2,800° and 6,300° Kelvin.
9. The LED lamp life of the fixture shall be a minimum of 50,000 hours (L70 rating).
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 powder-coated aluminium and shall be free of pits and burrs.
2. The fixture housing shall be available in black colour.
3. Power supply, cooling and electronics shall be integral to each unit.
4. Fixture net weight shall be 8kg (17.6lb).
5. Fixture net dimensions shall be (W x H x D) 655mm x 203mm x 655mm (25.8" x 8" x 25.8").

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6. The fixture shall be equipped with brackets for bridle hanging applications.
7. Optional accessories available shall include but not be limited to:
 - a. Manual Yoke
 - b. Low Profile Hanging Bracket
 - c. Black Mini skirt
 - d. Soft Egg Crate
 - e. Cyc Skirt/Silk
 - f. Soft Target Kit - for use with a skirt Full, 1/2, 1/4, 1/8
 - g. Soft Lantern
 - h. LumenRadio Kit (user installed)

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 22:2008 / EN55022:2010 (Class A), & CISPR 24:2010 / EN55024:2010, FCC Part 15 Subpart B:2015, ICES-003:2012; UL 1573:2003 / R:2014-01, CSA C22.2 No. 160-M1983 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 convection 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 a 100V to 240V 50/60Hz 400VA internal power supply.
2. The power supply of the fixture shall have a power factor of 0.97.

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3. The maximum power consumption shall not exceed 333W @ 120V AC, 331W @ 230V AC.
4. The idle power consumption shall be 18W @ 120V AC, 18W @ 230V AC.
5. Fixture In/Out power shall be via Neutrik powerCON TRUE1 connectors.
6. The fixture requires power from a constant non-dim power source.

F. Optical

1. The fixture shall provide a smooth and soft uniform output using a high efficiency diffuser.
2. The fixture beam angle shall be 65°.
3. The diffuse output of the fixture shall negate the need for silks or skirts.

G. Light Emitting Diodes

1. LEDs shall be rated for a 50,000-hour LED life to 70% intensity (L70).
2. All LEDs used in the fixture shall be high brightness and proven quality from reputable LED manufacturers.
3. LED systems manufacturers shall utilize an advanced production LED binning process to maintain LED color consistency.

H. Dimming

1. The LED system shall be digitally driven using high-speed pulse width modulation (PWM).
2. The fixture shall offer 8 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 ANSI E1.11 USITT DMX512-A protocol.

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2. The fixture shall be remotely configurable via the ANSI E1.20-2010 RDM (Remote Device Management) standard.
3. The fixture shall be capable of wireless control via LumenRadio CRMX connection when using optional radio module.
4. The fixture shall operate as a standalone unit with manual control operation.
5. The fixture shall offer recording and recall of 2 user-programmed looks in DMX control and standalone operation.
6. The DMX profile of the fixture shall consist of 2 DMX channels:
 - a. Channel 1: Intensity level adjustment.
 - b. Channel 2: Colour temperature adjustment.
7. A control panel located at the rear of the fixture shall consist of an LCD display, 2 rotary control knobs and 5 control buttons.
 - a. The above-mentioned rotary knobs shall provide access to the following functions:
 - 1) Right knob:
 - a) Selection of DMX start address to increase/decrease address value from 1 to 512 in increments of 1.
 - b) Adjust intensity.
 - c) Adjust intensity in 10% increments.
 - d) Menu navigation in LCD display.
 - e) Selection of fixture control and configuration options in menu.
 - 2) Left knob:
 - a) Selection of DMX start address to increase/decrease address value from 1 to 512 in increments of 10.
 - b) Adjust colour temperature.
 - c) Select preset colour temperature.
 - d) Menu navigation in LCD display.
 - e) Selection of fixture control and configuration options in menu.
 - b. The above-mentioned control buttons shall provide access to the following functions:
 - 1) M1 button: Recall factory default look (3200K). Record and recall user programmed look.
 - 2) M2 button: Recall factory default look (5600K). Record and recall user programmed look.
 - 3) Focus button: Switch fixture on to a preset output level for 30 seconds.

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- 4) Link button: Unlink fixture from remote wireless connection.
 - 5) Addr button: Set DMX start address selected from adjustment of rotary control knobs.
8. The fixture shall offer configuration and control options including but not limited to:
- a. Selection of standalone output options if a DMX control signal from an external source is not detected:
 - 1) OFF - Output snap to off.
 - 2) Hold - Output last valid DMX state.
 - 3) M1 - Output programmed look saved in M1.
 - 4) M2 - Output programmed look saved in M2.
 - b. DMX data display of DMX channel values.
 - c. Temperature of LED engine display.
 - d. LED scan rate (PWM) frequency mode selection:
 - 1) 750 Hz
 - 2) 1.5 kHz
 - 3) 3 kHz
 - 4) 6 kHz
 - 5) 12 kHz
 - 6) 24 kHz
 - 7) 48 kHz
 - 8) 96 kHz
 - e. DMX input selection:
 - 1) Input cable DMX from console via cable.
 - 2) Input RF wireless DMX from an external console.
 - f. LED engine load mode for uploading of LED engine software updates.

END SPECIFICATION