

## **SHOWLINE SL NITRO 510C LED STROBE LUMINAIRE SPECIFICATIONS.**

### **GENERAL.**

#### A.) Overview.

The luminaire shall be an LED strobe luminaire employing five hundred and twenty eight (528) red, green, blue and white LED engines. The engines shall be capable of providing strobing and continuous on functions. The luminaire shall be capable of providing colour matched presets as well as millions of permutations of colour.

- 1.) The luminaire shall conform to UL 1573 stage and studio use as well as UL 8750 LED standards and tested via ETL to conform to the aforementioned UL specifications, the luminaire shall hold ETL, cETL, CE and C-Tick markings. .
- 2.) The luminaire shall conform to USITT DMX-512A(RDM) protocol standards.
- 3.) The luminaire shall employ six (6) LED light source engines that will not emit light in the ultra-violet (wavelengths less than 400nm for UV-A,B, or C) or the Infrared spectrum (wavelengths of more than 775 nm). Units that emit light within this spectrum shall not be accepted.
- 4.) The luminaire shall have an integrated control system that provides local controls offering access to set up parameters, stored custom presets and chases, and status reporting.
- 5.) The luminaire shall be a LED strobe with a one-hundred and twenty (120) degree homogenized output.
- 6.) The luminaire shall have control inputs for:
  - a. DMX512 with input/output connectivity via a 5 Pin DMX connector
  - b. RDM with input/output connectivity via a 5 Pin DMX connector
- 7.) All control and power input and output shall be located on opposite side of the luminaire lenses with inputs and outputs located at opposite ends to aid in cable management.
- 8.) All LED luminaires shall be provided by a single manufacturer to ensure over all compatibility.

#### B.) Physical

- 1.) The construction of the luminaire shall be sheet metal in a matt black finish.
- 2.) The linear wash luminaire shall be of compact dimensions, not exceeding 16 inches [390 mm] in length, 4 inches [103 mm] in height and 11 inches [263 mm] in width.
- 3.) The luminaire shall weigh no more than 17.6 lbs. [8 kg].
- 4.) The luminaire enclosure housing shall be constructed of steel with a plastic outer lens for lightweight strength and durability.

- 5.) The luminaire shall provide mounting capabilities from a pair of trunnions to which approved mounting devices can be attached. The trunnions shall also operate as floor stands and locking hardware shall permit units to be placed side by side without affecting the pixel pitch.
- 6.) A built-in quick-connect system shall allow connecting of units without the use of tools.
  - a. A top-to-bottom connection shall be operated with via two (2) spring-loaded pin systems.
  - b. Up to twenty (20) luminaires shall be allowed to be connected top-to-bottom from a single hanging point.
  - c. A set of three (3) pins shall be provided to allow alignment of multiple luminaires from side-to-side.
  - d. Both top-to-bottom and side-to-side connections shall maintain pixel pitch between connected luminaires.
  - e. Both connection systems shall be compatible with other Showline products.
- 7.) Safety cable attachment points shall be located on both ends of the luminaire.

#### E.) Mechanical Data.

- 1.) Variable fans shall be used to provide forced-air cooling for internal components. In addition, the fans shall be capable of being disabled where the unit shall regulate intensity without utilizing the fans.
- 2.) A full color LCD menu system shall provide essential system information and operational controls. The LCD display shall automatically orient the display according to the orientation of the unit, thus ensuring the menu is readable in various configurations.
- 3.) The finish shall be high temperature stoved black paint on the metal components.
- 4.) The luminaire shall be supplied with a limited two-year warranty when used in normal applications.

#### C.) Electrical.

- 1.) Supply Voltage shall be 100 to 240V, 50/60Hz. (+/- 10% auto-ranging)
- 2.) The luminaires current draw shall not exceed 360 watts with all LED engines at full output; luminaires that do not meet these criteria shall not be accepted.
- 3.) The light engine source shall consist of five hundred and twenty eight (528) red, white, green, and blue LED engines.

#### D.) Environmental.

- 1.) Maximum operating ambient temperature shall not exceed 104 degrees Fahrenheit (40 degrees Celsius)

- 2.) A variable speed cooling system shall be employed to maintain the optimal operating temperature of the luminaire.
- 3.) The luminaire shall be low maintenance and environmentally friendly and shall be mercury free.

E.) Operation.

- 1.) The luminaire shall have control inputs for:
  - a. DMX512 with input/output via a DMX 5 Pin Male and Female connector
  - b. RDM with input/output via a DMX 5 Pin Male and Female connector
  - c. Luminaires utilizing proprietary only controls shall not be accepted.
- 2.) DMX512 control will be via HSIC, RGBW 8 Bit, 6 channel, or RGBW16-Bit mode. Control parameters for each DMX512 mode shall be as follows:
  - a. HSIC Mode (1 Zone mode)
    - a. Master Intensity
    - b. Color Presets
    - c. Effects
    - d. Timing
    - e. Control
    - f. Hue - High
    - g. Hue – Low
    - h. Saturation
    - i. Intensity
    - j. CCT
    - k. Strobe Duration
    - l. Strobe Rate
  - b. RGBW 8 Bit (1 Zone Mode)
    - a. Master Intensity
    - b. Color Presets
    - c. Effects
    - d. Timing
    - e. Control
    - f. Red
    - g. Green
    - h. Blue
    - i. White
    - j. Strobe Duration
    - k. Strobe Rate
  - c. Six Channel Mode (6 Channel)
    - a. Master Intensity
    - b. Color Presets
    - c. Strobe Duration
    - d. Strobe Rate

- e. Effects
  - f. Control
- d. 16-Bit Mode (1 Zone Mode)
- a. Master Intensity – High
  - b. Master Intensity – Low
  - c. Color Presets
  - d. Effects
  - e. Intensity Timing
  - f. Color Timing
  - g. Control
  - h. Red – High
  - i. Green – Low
  - j. Blue – High
  - k. Blue – Low
  - l. Strobe Duration
  - m. Strobe Rate
- e. Luminaire addressing shall be setup via three different methods:
- i. Instant set up - from the control display on the luminaire utilize the shortcut key and navigation arrows for quick DMX 512 addressing.
  - ii. From the control menu – under Settings/DMX– set up the DMX address using the navigation arrows to set DMX 512 mode, LED zones, and address.
  - iii. RDM – using any RDM controller, the DMX address shall be assignable via standard RDM commands.
- 3.) The luminaire shall operate with all LEDs or in any combination of six (6) discrete zones.
- a. Zones shall be individually controllable when using the Zone Control DMX mode.
  - b. An Effects DMX channel shall allow only certain zones to be used in response to the master strobe and duration channels. Additional zone chases shall also be available.
- 4.) The luminaire shall be capable of unlimited extended operation with any strobe setting.
- 5.) The luminaire shall include a constant on mode that enables LEDs to be on without strobing for extended operation.
- 6.) The luminaire shall include an onboard LCD display and controls of the following:
- a. Menu settings:
    - i. Presets (standard and user defined)
    - ii. Effects (Chases – preloaded and user defined)
    - iii. Settings (configuration options)
    - iv. Fixture Lockout (to prevent changes)
    - v. Password Setting

vi. Current Fixture Operational Status

- 7.) Security settings shall be employed on a four (4) level access. Each level shall allow access to additional features and settings. Configuration settings, power up presets, hour reset, and password settings may be set under full access control. Security settings shall follow a four level access and noted as the following:
- a.) Level 0 System is unlocked
  - b.) Level 1 Editing and saving presets and settings are locked
  - c.) Level 2 Settings menu is locked
  - d.) Level 3 All settings available are locked

Luminaires not utilizing this type of technology or any security settings shall not be accepted.

- 8.) Access to on board presets shall be from the control panel of the luminaire and DMX. Each user definable preset shall store Zones, Rate and Duration as well as master intensity settings for each of the thirty-one (31) presets. All or discrete LED zones shall be selectable for editing. Presets shall be storable in the fixture firmware.
- 9.) Access to eighteen (18) on board chases shall be from the control panel of the luminaire and DMX. Each chase shall playback Zones, Rate and Duration settings for each step of the eighteen (18) presets. All or discrete LED zones shall be selectable for editing. Ten (10) built-in and eight (8) user adjustable presets shall be storable in the fixture firmware.
- a. A zone selection editor shall allow quick creation of zone chases across the zone groupings. A graphical interface shall display a representation of the zones used on each step of a chase.
- 10.) The luminaire shall provide temperature monitoring technology. This technology employs provides the operating temperature for the luminaire as well as high and low records.
- a. The current and past temperatures shall be readable in the menu system under Status.
  - b. The luminaire shall be capable of having its fans disabled via the menu system or DMX where the unit shall regulate luminaire intensity in relation to temperature without utilizing the fans.

Luminaires not utilizing temperature monitoring technology and luminaire status will not be accepted.

- 11.) The luminaire shall include five hundred and twenty eight (528) red, green, blue and white LED engines capable of multiple strobe rates and continuous on and that provides full field dimming - allowing for both smooth timed fades and fast blackouts. The LED engines shall operate in various zones allowing up to six (6) individually controlled LED zones. Built in zone effects shall enable only particular combinations of zones to be active.
  - a. The LEDs used in the luminaire shall be high brightness and proven quality from established and reputable LED manufacturers.
  - b. The LED emitters used in the luminaire shall be rated for nominal 50,000-hour LED life to 70% intensity.
  - c. All LED fixtures (100% of each lot) shall undergo a minimum seventy-two (72) hour burn-in test during manufacturing.

F). DIMMING.

- 1.) The luminaire, in 16-bit mode, shall use 16-bit nonlinear scaling techniques for high-resolution dimming.
  - a. Dimming curves shall be selectable via the luminaire menu, DMX and RDM for various methods of smooth dimming over long timed fades.
  - b. The luminaire shall be digitally driven using high-speed pulse width modulations (PWM) in concert with power factor control (PFC) to ensure a smooth flicker free dim curve from 100 to 0 % and shall be imperceptible to video cameras and video related devices.

**END OF SPECIFICATION.**