

## SHOWLINE SL BAR 660 LINEAR WASH LUMINAIRE SPECIFICATIONS.

### GENERAL.

#### A.) Overview.

- 1.) The luminaire shall be a color mixing luminaire employing thirty-six (36) red, green, blue, and white LED engines. The engine shall be capable of providing color matched presets as well as millions of permutations of color.
- 2.) 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, luminaire shall hold ETL, cETL, and CE markings. .
- 3.) The luminaire shall conform to USITT DMX-512A protocol standards.
- 4.) The luminaire shall employ thirty-six (36) 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.
- 5.) The luminaire shall have an integrated control system that provides local controls offering access to set up parameters, preset colors, stored custom presets and chases, and status reporting.
- 6.) The luminaire shall be a linear wash with either a 60 degree or a 30 degree homogenized output.
- 7.) 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
- 8.) 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.
- 9.) All LED luminaires shall be provided by a single manufacturer to ensure over all compatibility.

#### B.) Physical

- 1.) The construction of the unit shall be sheet metal with molded engineering grade plastic in a matt black finish.
- 2.) The linear wash luminaire shall be of compact dimensions, not exceeding 72 inches [1829 mm] in length, 9 inches [227 mm] in height and 7 inches [180 mm] in width.
- 3.) The luminaire shall weight no more than 50.7 lbs. [23 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.) Safety cable attachment points shall be located on both ends of the luminaire.

#### E.) Mechanical Data.

- 1.) The luminaire shall include an accessory slot above the lens. This shall be accessed via a sealed channel.
- 2.) 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.
- 3.) 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.
- 4.) The finish shall be high temperature stoved black paint on the metal components.
- 5.) The luminaire shall be supplied with a limited two-year warranty when used in normal applications.

#### C.) Electrical.

- 1.) Supply Voltage shall be 120 to 240V, 50/60Hz. (+/- 10% auto-ranging)
- 2.) The luminaires current draw shall not exceed 750 watts with all RGBW engines at full output and shall not exceed 750 watts in any of the preset color settings; luminaires that do not meet these criteria shall not be accepted.
- 3.) The light engine source shall consist of thirty-six (36) RGBW LED engines used in conjunction with thirty-six (36) light collecting reflectors. Each LED engine shall consist of two (2) Red LEDs, two (2) Green LEDs, two (2) Blue LEDs and two (2) White LEDs for a total of 288 LEDs per luminaire.
- 4.) The luminaire shall be ETL and cETL Listed and CE marked.

#### D.) Environmental.

- 1.) Maximum operating ambient temperature shall not exceed 122 degrees Fahrenheit (50 degrees Celsius)
- 2.) A variable speed cooling system shall be employed to maintain the optimal operating temperature of the luminaire.

- 3.) Luminaires shall be low maintenance and environmentally friendly, all units 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 Simple 8-Bit, HSIC, RGBW 8-Bit or RGBW 16-Bit mode. Each control type can be further broken into LED groupings of 1, 2, 3, 6, 9 or 18 LED pairs. Control parameters for each DMX512 mode shall be as follows (1 group mode):

- a. Simple 8-Bit Mode (6 Channel)

- a. Intensity
- b. Strobe
- c. Red
- d. Green
- e. Blue
- f. White

- b. HSIC Mode (10 Channel)

- a. Intensity
- b. Strobe
- c. Duration
- d. Timing
- e. Control
- f. Hue - High
- g. Hue - Low
- h. Saturation
- i. Intensity
- j. Color Temperature

- c. RGBW 8-Bit Mode (10 Channel)

- a. Intensity
- b. Color Presets
- c. Strobe
- d. Duration
- e. Timing
- f. Control
- g. Red
- h. Green
- i. Blue
- j. White

- d. RGBW 16-Bit Mode (16 Channel)

- a. Intensity – High
- b. Intensity - Low
- c. Color Presets
- d. Strobe
- e. Duration
- f. Intensity Timing
- g. Color Timing
- h. Control
- i. Red – High
- j. Red - Low
- k. Green – High
- l. Green - Low
- m. Blue – High
- n. Blue – High
- o. White - High
- p. White - Low

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 grouping, and address.
- iii. RDM – using any RDM controller, the DMX address shall be assignable via standard RDM commands.

3.) The luminaire shall include an onboard LCD display and controls of the following:

a. Menu settings:

- i. Presets (standard and user defined)
- ii. Color Filters
- iii. Effects (Chases – preloaded and user defined)
- iv. Strobe / Timing
- v. Settings (configuration options)
- vi. Fixture Lockout (to prevent changes)
- vii. Password Setting
- viii. Current Fixture Operational Status

4.) 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.

- 5.) Access to on board presets shall be from the control panel of the luminaire and DMX. Each user definable preset shall store RGBW and intensity settings for each of the thirty-one (31) presets. All or discrete LED pixel pairs shall be selectable for editing. Presets shall be storable in the fixture firmware.
- 6.) Access to eighteen (18) on board chases shall be from the control panel of the luminaire and DMX. Each chase shall playback RGBW and intensity settings for each step of the eighteen (18) presets. All or discrete LED pixels shall be selectable for editing. Ten (10) built-in and eight (8) user adjustable presets shall be storable in the fixture firmware.
  - a. A rainbow chase editor shall allow quick creation of color chases across the pixel groupings. A graphical interface shall display a representation of the colors used on each pixel pair of a chase.
- 7.) 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.

- 8.) The unit shall include a color calibration system, ensuring that each pixel can replicate colors within a pre-defined color space.
  - a. This color space shall match all Showline products and shall also include pre-defined preset colors.
  - b. The color calibration shall be set at the factory and shall be capable of being enabled or disabled via the menu, DMX, and RDM.

Luminaires not utilizing color calibration technology will not be accepted.

- 9.) The luminaire shall include thirty-six (36) RGBW LED engines for full-range color mixing and that provides full field dimming - allowing for both smooth timed fades and fast blackouts. The LED engines shall operate in various groupings allowing up to eighteen (18) individually controlled pairs of LED engines. The LED engines shall operate as a strobe system capable of various strobe effects from both rate and duration control channels.
  - a. Osram OSOLON LEDs used in the luminaire shall be high brightness and proven quality from established and reputable LED manufacturers.

- b. Osram OSOLON LEDs emitters should be rated for nominal 50,000-hour LED life to 70% intensity.
- c. All LED fixtures (100% of each lot) shall undergo a minimum eight-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.**