**VARI-LITE VL2600 PROFILE LUMINAIRE SPECIFICATION.**

**GENERAL.**

A.) Overview.

1. The luminaire shall be a motorized color mixing luminaire employing a fixed white LED engine.
2. The luminaire shall be one of a family comprising a Profile, Spot, and Wash luminaire utilizing an interchangeable common LED Engine, and common system components.
3. 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, CE, FCC, CSA and ISO 9001 markings.
4. The luminaire shall conform to USITT DMX-512A (RDM) protocol standards.
5. The luminaire shall employ one (1) LED light source engine that will not emit light in the ultra-violet (wavelengths less than 380nm for UV-A, B, or C) or the Infrared spectrum (wavelengths of more than 800 nm). Units that emit light within this spectrum shall not be accepted.
6. The luminaire shall have an integrated control system that provides local controls offering access to set up parameters, reset functions, calibration functions, pre-programmed chase, and status reporting.
7. The luminaire shall be a motorized profile with a variable motorized seven (7) to greater or equal to forty-eight (48) degree homogenized output.
8. The luminaire shall have an output of up to 19000 lumens.
9. The luminaire shall achieve an output CRI of 81 and CCT of 7200.
10. The luminaire shall have control inputs for:
	1. DMX512 (RDM) input/output connectivity via a 5 Pin DMX connector
	2. DMX512 input connectivity over Ethernet via a RJ45 connector
11. All control and power input and output sockets shall be located on the opposite side of the control panel to aid in cable management. There shall be no on/off switch.

B.) Physical

1. The construction of the luminaire shall be sheet metal with molded engineering grade plastic in a matt black finish. Each top and bottom luminaire cover shall be secured in place by two quick release screws and secured to the luminaire by a safety cable.
2. The luminaire shall not exceed 18.26 inches [464 mm] in height, 28.15 inches [715 mm] in length and 11.81 inches [300 mm] in width.
3. The luminaire shall weigh no more than 70.55 lbs. [32 kg].
4. The luminaire shall provide mounting capabilities from a pair of quick connect rails to which approved mounting devices can be attached. It shall be possible to remove the quick connect rails without the use of tools. The luminaire shall have four feet constructed from densely molded rubber for floor mounting.
5. The luminaire shall be provided with a robust carrying grip on each side of the yoke assembly above the central pivot point. The grips shall be made of molded engineering plastic and shall be smooth and free of any burrs or other manufacturing remnants. The grips shall be securely mechanically fastened to the yoke assembly using fasteners appropriately rated for the carrying load. The grips shall be fashioned in a manner to allow easy, stress-free manual handling of the luminaire without causing injury.
6. A safety cable lug attachment point shall be located on the base of the luminaire allowing for an appropriately load-rated steel wire rope safety bond to be secured to the base of the luminaire without impacting on the mounting rails or affecting the method of suspension in any way.
7. The luminaire shall be rated IP20

C.) Mechanical Data.

1. A variable speed fan shall be used to provide forced-air cooling for internal components.
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 black.
4. The luminaire shall be supplied with a limited two-year warranty when used in normal applications.
5. The luminaire shall have a motorized pan and tilt system comprising a pair of two-phase stepper motors. The luminaire shall have a normal pan range of 540 degrees, a tilt range of 270 degrees, and 0.014-degree resolution per step.
6. The speed of the pan and tilt movements shall be no less than 3.4 and 2.5 seconds respectively.
7. The luminaire shall have a mechanical pan and tilt lock. It shall be possible to lock the pan in four (4) different positions. It shall be possible to lock the tilt in nine (9) different positions.
8. The luminaire shall have a motorized zoom system. The beam angle range shall be from seven (7) to forty-eight (48) degrees. It shall be possible to focus the beam to a hard edge throughout the total beam angle range.
9. The luminaire shall have a color mixing system comprising of Cyan, Magenta and Yellow coated dichroic glass flags.
10. The luminaire shall have a separate color wheel consisting of seven (7) colors + open. It shall be possible to select a color wheel position between two (2) colors to create a split color effect.
11. The luminaire shall have a separate variable CTO flag from 7200K to 2700K. It shall be possible to operate this independently of the color mixing system and color wheel.
12. The luminaire shall have a rotating gobo wheel consisting of seven (7) coated glass images + open. It shall be possible to rotate each image clockwise or counterclockwise continuously, step clockwise or counterclockwise continuously, or alternatively rotate to an indexable fixed position. It shall be possible to shake each image in the beam. Once the top and bottom cover has been removed, it shall be possible to remove and replace the glass images without the use of tools.
13. The luminaire shall have an automatic CTB insertion system when gobos are used, which shall be selectable from the fixture control system.
14. The luminaire shall have a fixed gobo wheel consisting of eight (8) coated glass images + open. It shall be possible to shake each image in the beam. Once the top and bottom cover has been removed, it shall be possible to remove and replace the glass images without the use of tools.
15. Each gobo shall have a dedicated control channel that controls how the wheel moves, comprising total wheel spin, wheel shake and twist function.
16. The luminaire shall have a three (3) facet prism to split the beam in a circular fashion. It shall be possible to rotate the prism clockwise or counterclockwise continuously, step clockwise or counterclockwise continuously, or alternatively rotate to an indexable fixed position.
17. The luminaire shall have a variable frost flag system comprising a medium diffusion frost filter. It shall be possible to insert the frost filter into the beam by selecting a fixed value from the frost control parameter.
18. The luminaire shall have a fifteen (15) leaf iris.
19. The luminaire shall have a framing shutter system. The framing shutter system shall comprise four (4) blades, each on a separate plane. It shall be possible to control each side of each blade independently. It shall be possible to rotate the framing shutter gate ninety (90) degrees either side of horizontal.
20. The luminaire shall have an electronic strobe system that operates independently to the full field dimming system.
21. The luminaire shall have a dedicated separate control channel that allows for continuous strobe, random strobe and random sync strobe functionality. The random sync feature shall allow multiple fixtures to randomly strobe at the same time.
22. There shall be separate timing control parameters for the beam shaping system, pan and tilt movement, color mixing system, gobo system, and optical lenses.
23. The luminaire shall have a separate control channel parameter. Using the control parameter, it shall be possible to individually reset the color system, pan and tilt, gobo wheels, framing shutter system, prism, frost and optical lenses. It shall be possible to fully recalibrate the luminaire from the control parameter, shutdown the luminaire, turn the luminaire display off and on, reboot the luminaire, and enable the luminaire display to show operational status information. There shall be a standard maximum output mode and an optional studio reduced output mode with variable level control to achieve quieter fan settings.
24. The luminaire shall have an optical style channel, as an aid to programmers allowing the user to select preset styles.

D.) Electrical.

1. Supply Voltage shall be 120 to 240V, 50/60Hz. (+/- 10% auto-ranging).
2. The luminaire current draw shall not exceed 820 watts.
3. The power input and thru connectors shall be the Neutrik PowerCON True1 to ensure safe power disconnection while under load. A power input connector shall be supplied with the luminaire.
4. The light source shall consist of one (1) five-hundred and fifty (550) watt fixed white LED engine with a Color Temperature of 7200K.
	1. It shall be possible to adjust the refresh frequency of the LED Engine.
	2. It shall be possible to adjust the Gamma correction of the LED Engine.
	3. The LED Engine shall be common to the Spot and Wash luminaires in the same family.
	4. The LED Engine shall have an elapsed LM70 time of at least 20,000 hrs. duration with a drive current of 2.2A.

E.) Environmental.

1. Maximum operating ambient temperature shall not exceed 113 degrees Fahrenheit (45 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, all units shall be mercury free.

F.) Operation.

1. The luminaire shall have control inputs for:
2. DMX512 with input/output via a DMX 5 Pin Male and Female connector
3. DMX512 with input/output connectivity over Ethernet via a RJ45 connector

Luminaires utilizing proprietary only controls shall not be accepted.

1. DMX512 16-bit Enhanced (Default) control shall utilize 47 channels as follows:

Intensity – High

Intensity – Low

Pan – High

Pan – Low

Tilt – High

Tilt – Low

Focus – High

Focus – Low

Zoom – High

Zoom – Low

Cyan

Yellow

Magenta

CTO

Color Wheel

Color Wheel - Control

Gobo Wheel 1 – Fixed

Gobo Wheel 1 – Rotating/Index - High

Gobo Wheel 1 – Rotating/Index - Low

Gobo Wheel 1 - Control

Gobo Wheel 2 – Fixed

Gobo Wheel 2 - Control

Iris

Frame 1A

Frame 1B

Frame 2A

Frame 2B

Frame 3A

Frame 3B

Frame 4A

Frame 4B

Frame Rotate

Triangular / Prism

Prism – Index/Rotation – High

Prism – Index/Rotation – Low

Frost

Strobe Speed

Strobe Control

Programmers Channel

Focus Timing

Optics Timing

Color Timing

Beam Timing

Gobo Timing

Fan Control

Optical Style

Luminaire Control

1. The luminaire shall include an onboard LCD display and control of the following:
2. Menu settings:
3. Address (DMX addressing)
4. Configure (Signal input settings, Artnet settings, DMX universe settings, LED engine settings, Luminaire motor settings, Display settings, Default reset)
5. Fixture (Status, Recalibrate, Reboot, Software version, Elapsed hours, Software cross load, Service settings)
6. DMX (Input values, Pan/Tilt settings, DMX mode options)
7. Manual (Manual control of luminaire)
8. Test (Test settings)
9. The luminaire shall include one (1) Fixed White LED engine delivering full field dimming - allowing for both smooth timed fades and fast blackouts.
10. The LED engine used in the luminaire shall be high brightness and proven quality from established and reputable LED manufacturers.
11. There shall be a standard maximum output mode and an optional studio reduced output mode with quieter fan settings.

G). Dimming.

1. The luminaire shall use 16-bit nonlinear scaling techniques for high-resolution dimming:

	1. Four (4) dimming curves shall be selectable via the Programming Control parameter.
	2. 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 dimming curve from 100 to 0 % and shall be imperceptible to video cameras and video related devices.

H). Warranty.

The Luminaire manufacturer shall offer a two-year limited warranty on the luminaire and LED. Manufacturers not offering a minimum of a two-year warranty shall not be accepted.

G.) Accessories.

Provide the following additional accessories with each unit:

1. 1 x Power Lead PowerCon True1 to local power connector
2. Appropriately rated industry-standard suspension clamps
3. Operation Manual.

**END OF SPECIFICATION.**