



VARI\*LITE

# VL5LED WASH

USER MANUAL

# 1 DESCRIPTION

## FEATURES

- LED
- 14,000 lumen of output
- 8° to 35° zoom range
- RGBA + Lime + Cyan color mixing
- Blade system
- Ultra compact

Download the product datasheet from the Vari-Lite website at [www.vari-lite.com](http://www.vari-lite.com) for the full technical specifications.

## COMPONENTS

### INCLUDED ITEMS

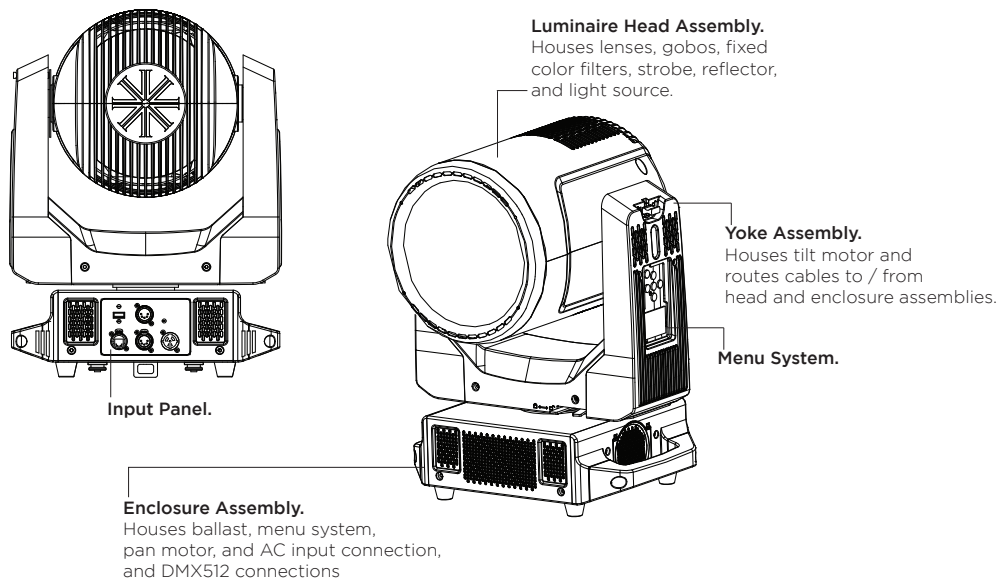
The following illustration shows all items included with the luminaire:

Note: Check with the local Signify Office or Authorized Vari\*Lite dealer for availability on accessories.



### LUMINAIRE OVERVIEW

The following illustration shows the external luminaire components and controls.



# 2 INSTALLATION

## SPECIAL WARNINGS

### EXCEPTIONAL SAFETY INFORMATION FOR THE VL5LED WASH

The light intensity and power density of the VL5LED WASH exceeds that of other fixtures typically used in this application. The warnings and cautions that follow are critically important to the safe operation of this fixture. This product is for commercial use only by trained professionals only.

If you have any questions about the safe installation and operation of the VL5LED WASH, please contact Vari-Lite customer service at VARI-LITE (1-877-827-4548), 1-214-647-7880, or [entertainment.service@signify.com](mailto:entertainment.service@signify.com).

**WARNING:** Light Beam Projects Intense Heat. Do not illuminate objects within 15m (49.21 feet) of the VL5LED WASH. Objects within this range can scorch, melt, or ignite from the heat projected by the light beam.

**WARNING:** High Intensity Light Output. Do not look directly into the light beam. Avoid looking at nearby surfaces illuminated by the beam. It is hazardous to operate luminaires without lens or shield. Shields, lenses, or ultraviolet screens must be changed if they have become visibly damaged to such an extent that their effectiveness is impaired. For example, by cracks, deep scratches, or coating breakdown.

**WARNING:** Hot Exterior Surfaces. The exterior surfaces of the luminaire can get very hot - up to 120°C (248°F). Do not touch any surface of the luminaire while it is operating. Keep all combustible materials a minimum of 200 mm (7.87 inches) away from the luminaire. To maintain cooling fan operation after the LED is doused, keep the luminaire powered on for 10 minutes. Wait an additional 10 minutes before touching the luminaire.

**WARNING:** Operating Environment. Do not operate the luminaire when the ambient temperature exceeds 45°C (113°F).

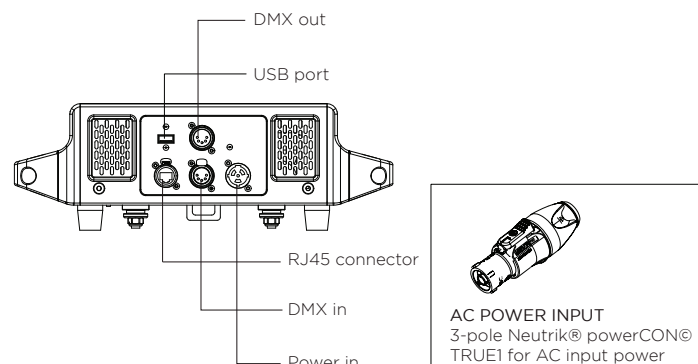
**WARNING:** Approved LED Type. Use only approved LED types in VL5LED WASH. Users can check the latest version of Vari-Lite Technical Notice TN-248, on the Vari-Lite web site, for all approved LED. Power and Data Cabling Requirements

## POWER AND DATA CABLING REQUIREMENTS

### POWER

The luminaire requires standard AC power distribution from AC100-240V~, 50/60Hz. Current required depends on the AC supply voltage and product model.

**NOTE:** The mating Neutrik PowerCon connector is supplied, however, you will need to purchase or construct a cable appropriate for your application. Allow one hour warm up if ambient temperature is below 10°C (50°F).



## CONNECTING POWER

Depending on the application, the luminaire's AC input cable may require a different connector. If required, install a new connector meeting your requirements using the following wire color code reference:

WIRE*	CONNECTION
green	Ground (earth)
white	AC neutral
black	AC line

\*International (harmonized) standard

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**WARNING:** DO NOT connect to three-phase service in countries with 240 volt power.

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For single-phase power at 240V RMS:

CONNECTION	PIN
AC neutral	N
AC line	L
Ground (earth)	G

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**WARNING:** It is not recommended to power any Vari-Lite luminaire from a dimmer - even in 'NONDIM' mode. Dimmer and non-dim modules are not suitable sources of power because their output modifies the AC wave form. This may work for a short time, but will eventually result in power problems, luminaire mis-operation and/or failure and may void the luminaire's warranty.

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## DMX TERMINATION CONNECTOR

A DMX termination connector is required at the last luminaire (or "far end of the line") to prevent signal reflections. Signal reflections may cancel out the signal at certain line lengths, resulting in errors. The terminator is also necessary for software downloads and running tests on multiple luminaires. To construct your own connector, you will need a 5-pin, male XLR connector.

**NOTE:** A DMX termination connector assembly is available as an accessory from Vari-Lite.

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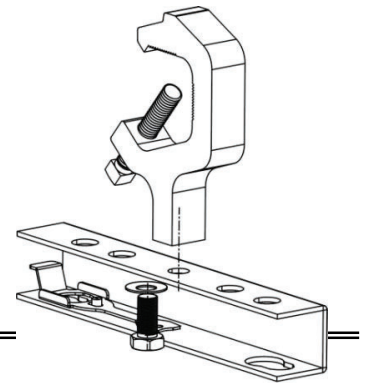
## INSTALLATION PROCEDURES

### HANGING THE LUMINAIRE

The VL5LED WASH can be hung horizontally or vertically from any structure designed to work with the type of load created by this moving luminaire. Two mounting truss hooks or other mounting hardware are required. Many compatible truss hooks are available from different manufacturers for your particular needs. A minimum of two hooks per luminaire is required. If mounting method does not use truss hooks, two attachment points, per luminaire, are required.

**To install mounting hardware and brackets:**

- Step 1. Install truss hooks on two provided truss hook brackets as required.
- Step 2. Determine required configuration of bracket installation. Brackets may be installed in many different orientations.
- Step 3. While pulling up on locking mechanism release, fit keyed holes onto raised mounting buttons at bottom of enclosure. Slide forward and release locking mechanism to lock in place. Ensure brackets are locked securely.




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**WARNING:** Ensure that the bracket locking mechanism is fully seated after the bracket is installed on the luminaire.

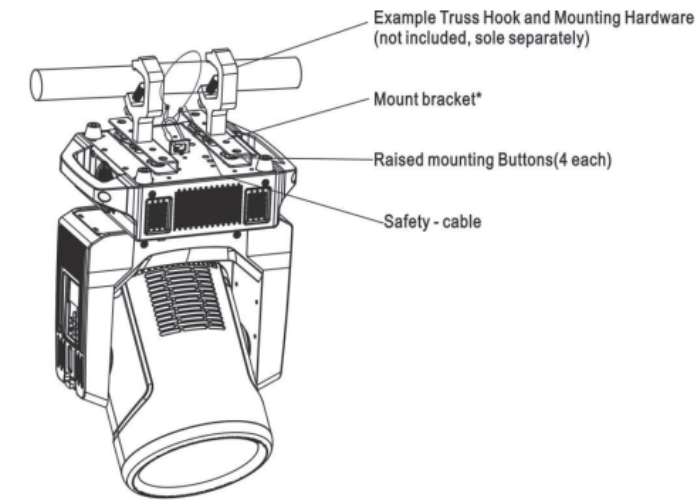
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### FLOOR MOUNTING THE LUMINAIRE

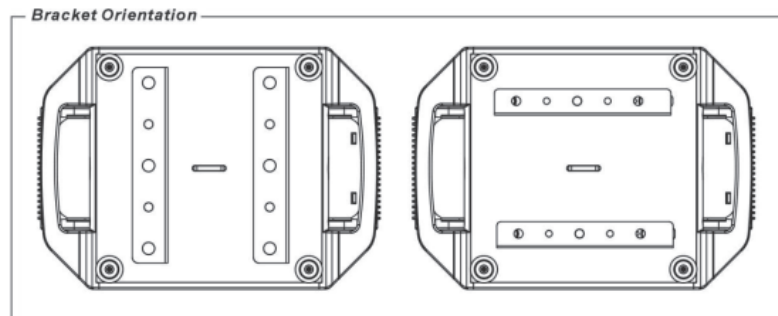
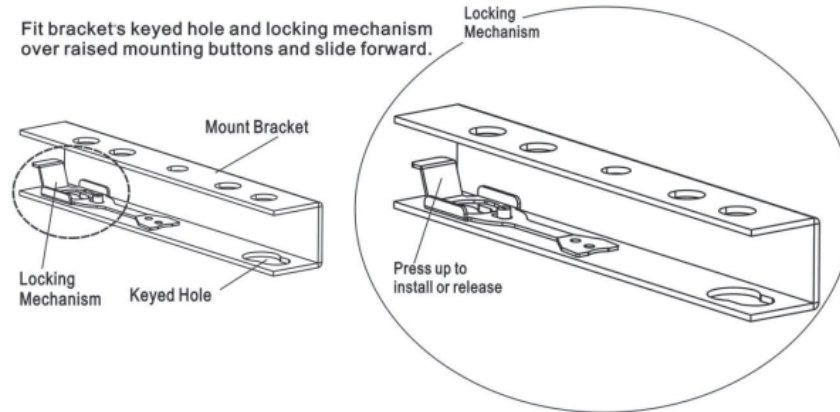
All luminaires included in this manual are designed to sit directly on its base in a floor installation application. When used in this type of application, be sure to leave enough space around the luminaire to allow proper, unin-

errupted airflow for cooling and movement.

**WARNING:** Light beam projects intense heat. Do not illuminate objects within 15m (49.21 feet) of the VL5LED



Fit bracket's keyed hole and locking mechanism over raised mounting buttons and slide forward.



WASH. Objects within this range can scorch, melt, or ignite from the heat projected by the light beam.

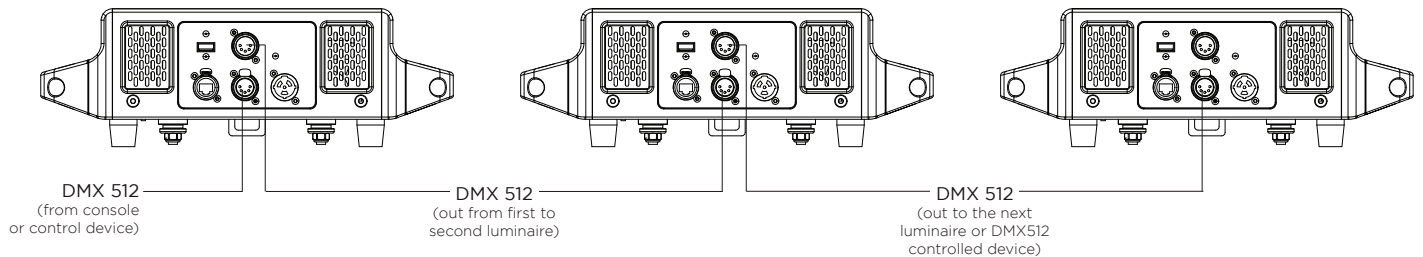
## CONNECTING DATA AND POWER

A maximum of 16 luminaires may be connected in any one DMX data link.

**NOTE:** This maximum limit applies to the luminaire “daisy chain” only. Your system or console may require fewer luminaires on a single data link path. Consult your console documentation for more information.

**To connect power and data:**

- Step 1. Connect data cable from console to first luminaire in chain at DATA IN connector.
- Step 2. If required, connect additional data cables from DATA THRU connectors to DATA IN connectors of remaining luminaires in link.
- Step 3. At last luminaire in link, install male termination connector at DATA THRU connector. (Luminaires and other devices on the same DMX chain may not function properly without termination.)
- Step 4. Connect AC Input Cable connector to power input source.
- Step 5. Dress AC input and data cables and secure them so that they will not interfere with luminaire head and yoke movement.



## POWERING UP

### POWER UP AND CONFIGURATION PROCEDURE

The internal color, gobo, and beam mechanisms will also move through a full range of motion. After calibration, the luminaire head will either stop at its “home” position (which positions the pan axis at mid-rotation and the head parallel to the yoke with the lens pointing away from the luminaire upper enclosure) or move to its current DMX-defined position if DMX data is present. All internal mechanisms also move to their “home” or DMX-defined positions.

Subsequently, depending on the luminaire’s setting for Power-Up State (refer to “VL5LED WASH Menu System Function Chart” on page 45).

**CAUTION:** Before applying power, be sure the luminaire is hung or positioned so that the head and yoke can move freely without restriction. Make sure service tilt and pan locks are disengaged so luminaire moves freely.

**To power up:**

- Step 1. At each luminaire, apply power by connecting luminaire to input power source (100 to 240VAC). Luminaire will cycle through calibration and stop at “home” position.

## ADDRESSING

### PROGRAM STARTING ADDRESS

The address setting for DMX console controlled systems is entered using the Menu Display. The luminaire retains the DMX address even if power is removed.

**NOTE:** Refer to your console operating instructions for specific information regarding its addressing requirements.

**To program a DMX starting address:**

- Step 1. Power unit on (either via mains or battery)
- Step 2. Press [ESC] to access menu
- Step 3. Press [▲] or [▼] to access ADDRESS and press [OK].
- Step 4. Use [◀] or [▶] to move cursor to Hundreds, Tens or Ones...then press [◀] or [▶] to select desired digit. Note it will scroll from 9 to 0 or 0 to 9. Once all three digits are set, press [OK] to accept.

## PROGRAM STARTING ADDRESS WITHOUT CALIBRATING LUMINAIRE

It is possible to bypass the calibration sequence and go directly to the Menu Display programming in order to pre-program an address setting.

### **To program starting address without calibrating luminaire:**

- Step 1. While powering up luminaire, press and hold
- Step 2. Program address as in Program Starting Address above.
- Step 3. Press and hold until display changes to the DMX address.
- Step 4. Alternatively, boot via battery. Press [ESC] and [OK] the same time until display boots

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**NOTE:** The luminaire requires a reset to restore control.

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# 3 DMX MAPPING

The following tables assumes a DMX start address of 1. When a different starting address is used, this address becomes channel 1 function and other functions follow in sequence.

**TABLE 1. SMART COLOR CONTROL**

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
1	1	1	Intensity High	0	0-65535	16-bit control of dimming
2	2	2	Intensity Low			
3	3	3	Pan High	32767	0-65535	540° total pan rotation
4	4	4	Pan Low			
5	5	5	Tilt High	32767	0-65535	270° total tilt
6	6	6	Tilt Low			
7	7	7	Zoom High	128	0-255	Zoom control 0 = widest zoom 255 = narrowest zoom Default value 50% zoom range
8	8	8	Cyan (High)	0	0 - 65535	Cyan Color Level Control 0 - 100% Saturation 6 Color LED array auto adjust to meet Cyan / mixed color point of full available color spectrum
9	9	9	Cyan (Low)			
10	10	10	Yellow (High)	0	0 - 65535	Yellow Color Level Control 0 - 100% Saturation 6 Color LED array auto adjust to meet Yellow / mixed color point of full available color spectrum
11	11	11	Yellow (Low)			
12	12	12	Magenta High)	0	0 - 65535	Magenta Color Level Control 0 - 100% Saturation 6 Color LED array auto adjust to meet Magenta / mixed color point of full available color spectrum
13	13	13	Magenta (Low)			
14	14	14	CTO	75	0 - 250	Variable color temperature control channel Channel works independent of color mixing channel and will adjust all mixed color from selected color temperature level. Values stated below are a for guidance only channel should be mapped in such away that channel level runs variable from 0 - 250
					0	1800k
					25	2700K
					50	3000K
					75	3200K (Default)
					100	4000K
					125	4500K
					150	5000K
					175	5600K
					200	6500K
					225	8000K
					250	10000K
					250 - 255	Reserved Hold 10000K



TABLE 1. SMART COLOR CONTROL

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
15	15	15	Green Shift	100	0 - 255  0-10 11-29 30-69 70-129 130-189 190-255	TV Camera Green Shift adjustment - work in conjunction with CTO (channel 14) Channel works only with CTO channel not any mixed CYM color to allow users to balance green levels in the white for on camera use 0 to -100% Minus Green Levels 100% = to Lee Filter Full minus Green 247  NO FUNCTION FULL MINUS GREEN -99% -1% NO FUNCTION (Default 100) 1% 99% FULL PLUS GREEN
16	16	16	Color Preset	0	0 - 255  0 - 10 11 - 14 15 - 18 19 - 22 23 - 26 27 - 30 31 - 34 35 - 38 39 - 42 43 - 46 47 - 50 51 - 54 55 - 58 59 - 62 63 - 66 67 - 70 71 - 74 75 - 78 79 - 82 83 - 86 87 - 90 91 - 94 95 - 98 99 - 102 103 - 106 107 - 110 111 - 114 115 - 118 119 - 122 123 - 126 127 - 130 131 - 134 135 - 138	Calibrated color presets 01 to 33 User definable color preset 01 to 20  Channel OFF Color Mixing take priority Moroccan Pink Pink Flesh Pink Bright Rose Follies Pink Fuchsia Pink Surprise Pink Congo Blue Blue Virgin Blue Midnight Maya Double C.T Blue Slate Blue Regal Blue Full C.T Blue Steel Blue Lighter Blue Cyan Marine Blue Soft Green Moss Green Green Fem Green JAS Green Pale Green Spring Yellow Yellow Deep Amber Chrome Orange Orange Magenta Flame Red

TABLE 1. SMART COLOR CONTROL

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
16	16	16	Color Preset	0	139 - 142 143 - 146 147 - 150 151 - 154 155 - 158 159 - 162 163 - 166 167 - 170 171 - 174 175 - 178 179 - 182 183 - 186 187 - 190 191 - 194 195 - 198 199 - 202 203 - 206 207 - 210 211 - 214 215 - 218 219 - 222 223 - 255	Purple User Preset 1** User Preset 2** User Preset 3** User Preset 4** User Preset 5** User Preset 6** User Preset 7** User Preset 8** User Preset 9** User Preset 10** User Preset 11** User Preset 12** User Preset 13** User Preset 14** User Preset 15** User Preset 16** User Preset 17** User Preset 18** User Preset 19** User Preset 20** Channel OFF Color Mixing take priority **User defined color preset when replayed from DMX will only playback stored color values
17	17	17	Frost	0	0-255	Linear control of frost mechanism 0 = Fully open 255 = full closed
18	18	18	Strobe / Shutter	9	0 - 5 6 - 11 12 - 87 88 - 93 94 - 169 170 - 245 246 - 251 252 - 255	Shutter Closed Shutter Open (Default) Strobe Slow>>>>>>>>>>Fast Shutter Open Strobe Random Slow>>>>>>>>>>Fast Strobe Random Sync Slow>>>>>>>>>>Fast Shutter Open Reserved
19	19	19	Fan Control*	0	0 - 255 0-4 05 - 255	Dynamically control fan speed vs LED Output operation. Control values as follows . . . Automatic fan/output adjustment (Default) Linear control of fan speed and LED max output* DMX 5 =Highest Constant Fan Speed (Standard mode) DMX 255 = Lowest Constant Fan Speed (Whisper mode) * Standard mode only function is deactivated if Studio or Whsiper modes are slected via DMX or User Interface

TABLE 1. SMART COLOR CONTROL

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
20	20	20	Programmers Channel	0	0-40	Functions do not require 3 second DMX rule. mode will change once DMX level is reached
					41 - 45	Dimming Curve Linear
					46 - 50	Dimming Curve S-Curve
					51 - 55	Dimming Curve Square Curve (Default)**
					56 - 60	Reserved Values
					61 - 65	Dimmer Snap On
					66 - 70	Dimmer Snap Off (Default)
					71 - 75	Reserved Values
					76 - 80	Reserved Values
					81 - 85	Reserved Values
					86 - 90	Reserved Values
					91 - 95	Color Snap off (Default) (Color Timing active user definable smoothing to color - see color timing channel for specific timing values)
					96 - 100	Color Snap on (This switches color timing channel color changes now at fastest rate no smoothing timing applied)
					101 - 105	Reserved Values
					106 - 110	Movement fast (Default)
					111 - 115	Movement smooth
					116 - 120	Reserved Values
					121 - 125	Tungsten Dimming On
					126 - 130	Tungsten Dimming Off (Default)
					131 - 135	Reserved Values
136 - 140	Reserved Values					
141 - 145	Reserved Values					
146 - 150	Reserved Values					
151 - 155	Reserved Values					
156 - 160	Reserved Values					
161 - 165	Reserved Values					
166 - 170	Reserved Values					
171 - 175	Reserved Values					
176 - 255	Reserved Values					
21	21	21	Focus Timing	255	0 - 255	Please refer to timing table
22	22	22	Color Timing	255	0 - 255	Please refer to timing table
23	23	23	Beam Timing	255	0 - 255	Please refer to timing table
24	24	24	Control Channel	0	0 - 255	Control Channel used for full fixture settings lamp controls; Set discrete value of desired effect then set value to 0 (Idle).
					0 - 5	Idle (Default)
					6 - 10	Full Luminaire ReCal
					11 - 15	Fixture Shutdown
					16 - 20	Reserved Values
					21 - 25	Reserved Values
					26 - 30	Reserved Values
31 - 35	Reserved Values					

TABLE 1. SMART COLOR CONTROL

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
24	24	24	Control Channel	0	36 - 40	Reserved Values
					41 - 45	Reserved Values
					46 - 50	Reserved Values
					51 - 55	Reserved Values
					56 - 60	Reserved Values
					61 - 65	Reserved Values
					66 - 70	Pixel Sync on (only works in 16 pixel modes - blades pixels now work like pixel group 1 regardless of patch - without changing DMX footprint)
					71 - 75	Pixel Sync off(Default)(only works in 16 pixel mode deactivates pixel Sync)
					76 - 80	Display On
					81 - 85	Display Off
					86 - 90	Status Check
					91 - 95	Color Calibration on (Default)
					96 - 100	Color Calibration off
					101 - 105	Reserved Values
					106 - 110	Reserved Values
					111 - 115	Standard Mode - Fixture operates at maximum output (Default)
					116 - 120	Studio Mode - Reduced output with lower fan settings
					121 - 125	Whisper Mode - Reduced output with lower fan settings
					126 - 130	Reserved Values
					131 - 135	Record User Color Preset
					136 - 140	Fan On (Default)
					141 - 145	Fan Auto
					146 - 150	Reserved Values
					151 - 155	ReCal Position
156 - 160	Reserved Values					
161 - 165	ReCal Beam					
166 - 170	Reserved Values					
171 - 175	Reset fixture to default					
176 - 255	Reserved Values					
25	25	25	Intensity Blades	255	0-255	8-bit Dimming control of the Blade LED
26	26	26	Blade Light - Color Preset	0	0 - 5	No color
					6	Full Red
					7	Full Green
					8	Full Blue
					9	Full White (Red + Green + Blue 100%)
					10	Full Yellow (Blue + Green 100%)
					11	Full Magenta (Red + Blue 100%)
					12	Full Cyan (Blue + Green 100%)
13	Moroccan Pink					

**TABLE 1. SMART COLOR CONTROL**

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
					14	Pink
					15	Flesh Pink
					16	Bright Rose
					17	Follies Pink
					18	Fuchsia Pink
					19	Surprise Pink
					20	Congo Blue
					21	Blue
					22	Virgin Blue
					23	Midnight Maya
					24	Double C.T Blue
					25	Slate Blue
					26	Regal Blue
					27	Full C.T Blue
					28	Steel Blue
					29	Lighter Blue
					30	Cyan
					31	Marine Blue
					32	Soft Green
					33	Moss Green
					34	Green
26	26	26	Blade Light - Color Preset	0	35	Fem Green
					36	JAS Green
					37	Pale Green
					38	Spring Yellow
					39	Yellow
					40	Deep Amber
					41	Chrome Orange
					42	Orange
					43	Magenta
					44	Flame Red
					45	Purple
					46	Color Effect 1
					47	Color Effect 2
					48	Color Effect 3
					49	Color Effect 4
					50	Color Effect 5
					51	Color Effect 6
					52	Color Effect 7
					53	Color Effect 8
					54	Color Effect 9
					55	Color Effect 10
					56 - 94	Color Chase 1 (S>>>>>F)
					95 - 133	Color Chase 2 (S>>>>>F)
					134 - 172	Color Chase 3 (S>>>>>F)

**TABLE 1. SMART COLOR CONTROL**

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
26	26	26	Blade Light - Color Preset	0	173 - 211 212 - 250 251 - 255	Color Chase 4 (S>>>>F) Color Chase 5 (S>>>>F) No Color
27	27	27	Blade Light - Macro Effects	0	0 - 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 231-255	No effect static color based on Blade color preset channel uses blade effect fade & speed channels to control parameters of chase Strobe Sync full Strobe Random full Blade chase 1 >>> 16 Random blade chase Blade chase (Paired blades ) Start 1 Baled chase (Paired blades) Start 1 Blade chase (1/4 blades ) Start 1 Blade chase (1/2 blades ) Start 1 Blade chase (opposing blades Single ) Start 1 Blade chase (opposing blades pairs ) Start 1 Blade chase (opposing blades pairs ) Start 1 Blade chase (opposing blades pairs ) Start 1 Blade chase (opposing blades 1/4 ) Start 1 Blade chase (opposing 4 Pixel Rot) Start 1 Blade chase (3 Pixel Rotation) Start 1 Blade chase TBC Blade chase TBC Blade chase TBC Blade chase TBC Blade chase TBC Blade chase TBC Blade chase TBC Blade chase TBC Blade chase TBC Blade chase TBC Blade chase TBC Blade chase TBC Blade chase TBC Reserved
28	28	28	Blade light effects fade time	0	0 - 255	0 Fade time to XX fade time
29	29	29	Blade light effect speed	0	0 - 5 6 - 106 107 - 112 113 - 213 214 - 224 225 - 235 236 - 255	Stop No movement Clockwise chase S>>>>>>>>F (Strobe flash rate in strobe effects) Pause No movement hold last position Counter clockwise chase S>>>>>>>F Pause No movement hold last position Stop No movement Reserved
	30	30	Blade LED Red (1*) *blade 1 of 16 group	0	0 - 255	8-bit control of Red LED Blade light

TABLE 1. SMART COLOR CONTROL

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
	31	31	Blade LED Green (1*) *blade 1 of 16 group	0	0 - 255	8-bit control of Green LED blade light
	32	32	Blade LED Blue *blade 1 of 16 group	0	0 - 255	8-bit control of Blue LED Blade light
		33	Blade LED Red 2	0	0 - 255	8-bit control of Red LED Blade light
		34	Blade LED Green 2	0	0 - 255	8-bit control of Green LED blade light
		35	Blade LED Blue 2	0	0 - 255	8-bit control of Blue LED Blade light
		36	Blade LED Red 3	0	0 - 255	8-bit control of Red LED Blade light
		37	Blade LED Green 3	0	0 - 255	8-bit control of Green LED blade light
		38	Blade LED Blue 3	0	0 - 255	8-bit control of Blue LED Blade light
		39	Blade LED Red 4	0	0 - 255	8-bit control of Red LED Blade light
		40	Blade LED Green 4	0	0 - 255	8-bit control of Green LED blade light
		41	Blade LED Blue 4	0	0 - 255	8-bit control of Blue LED Blade light
		42	Blade LED Red 5	0	0 - 255	8-bit control of Red LED Blade light
		43	Blade LED Green 5	0	0 - 255	8-bit control of Green LED blade light
		44	Blade LED Blue 5	0	0 - 255	8-bit control of Blue LED Blade light
		45	Blade LED Red 6	0	0 - 255	8-bit control of Red LED Blade light
		46	Blade LED Green 6	0	0 - 255	8-bit control of Green LED blade light
		47	Blade LED Blue 6	0	0 - 255	8-bit control of Blue LED Blade light
		48	Blade LED Red 7	0	0 - 255	8-bit control of Red LED Blade light
		49	Blade LED Green 7	0	0 - 255	8-bit control of Green LED blade light
		50	Blade LED Blue 7	0	0 - 255	8-bit control of Blue LED Blade light
		51	Blade LED RED 8	0	0 - 255	8-bit control of Red LED Blade light
		52	Blade LED Green 8	0	0 - 255	8-bit control of Green LED blade light
		53	Blade LED Blue 8	0	0 - 255	8-bit control of Blue LED Blade light
		54	Blade LED RED 9	0	0 - 255	8-bit control of Red LED Blade light
		55	Blade LED Green 9	0	0 - 255	8-bit control of Green LED blade light
		56	Blade LED Blue 9	0	0 - 255	8-bit control of Blue LED Blade light
		57	Blade LED RED 10	0	0 - 255	8-bit control of Red LED Blade light
		58	Blade LED Green 10	0	0 - 255	8-bit control of Green LED blade light
		59	Blade LED Blue 10	0	0 - 255	8-bit control of Blue LED Blade light
		60	Blade LED RED 11	0	0 - 255	8-bit control of Red LED Blade light
		61	Blade LED Green 11	0	0 - 255	8-bit control of Green LED blade light
		62	Blade LED Blue 11	0	0 - 255	8-bit control of Blue LED Blade light
		63	Blade LED RED 12	0	0 - 255	8-bit control of Red LED Blade light
		64	Blade LED Green 12	0	0 - 255	8-bit control of Green LED blade light
		65	Blade LED Blue 12	0	0 - 255	8-bit control of Blue LED Blade light
		66	Blade LED RED 13	0	0 - 255	8-bit control of Red LED Blade light
		67	Blade LED Green 13	0	0 - 255	8-bit control of Green LED blade light
		68	Blade LED Blue 13	0	0 - 255	8-bit control of Blue LED Blade light
		69	Blade LED RED 14	0	0 - 255	8-bit control of Red LED Blade light
		70	Blade LED Green 14	0	0 - 255	8-bit control of Green LED blade light
		71	Blade LED Blue 14	0	0 - 255	8-bit control of Blue LED Blade light
		72	Blade LED RED 15	0	0 - 255	8-bit control of Red LED Blade light
		73	Blade LED Green 15	0	0 - 255	8-bit control of Green LED blade light

**TABLE 1. SMART COLOR CONTROL**

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
		74	Blade LED Blue 15	0	0 - 255	8-bit control of Blue LED Blade light
		75	Blade LED RED 16	0	0 - 255	8-bit control of Red LED Blade light
		76	Blade LED Green 16	0	0 - 255	8-bit control of Green LED blade light
		77	Blade LED Blue 16	0	0 - 255	8-bit control of Blue LED Blade light

**TABLE 2. OPEN SOURCE**

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
1	1	1	Intensity High	0	0-65535	16 Bit control of Dimming
2	2	2	Intensity Low			
3	3	3	Pan High	32767	0-65535	540° Total Pan Rotation
4	4	4	Pan Low			
5	5	5	Tilt High	32767	0-65535	270° Total Tilt
6	6	6	Tilt Low			
7	7	7	Zoom High	128	0-255	Zoom control 0 = widest zoom 255 = narrowest zoom Default value 50% zoom range
8	8	8	Red (High)	0	0 - 65535	0 - 100% linear control of Red LED output
9	9	9	Red (Low)			
10	10	10	Green (High)	0	0 - 65535	0 - 100% linear control of Green LED output
11	11	11	Green (Low)			
12	12	12	Blue (High)	0	0 - 65535	0 - 100% linear control of Blue LED output
13	13	13	Blue (Low)			
14	14	14	Amber(High)	0	0 - 65535	0 - 100% linear control of Amber LED output
15	15	15	Amber (Low)			
16	16	16	Lime (High)	0	0 - 65535	0 - 100% linear control of Lime LED output
17	17	17	Lime (Low)			
18	18	18	Cyan (High)	0	0 - 65535	0 - 100% linear control of Cyan LED output
19	19	19	Cyan (Low)			
20	20	20	Color Preset	0	0 - 255	Calibrated color presets 1 to 33 User definable color preset 1 to 20
					0 - 10	Channel OFF Color Mixing take priority
					11 - 14	Moroccan Pink
					15 - 18	Pink
					19 - 22	Flesh Pink
					23 - 26	Bright Rose
					27 - 30	Follies Pink
					31 - 34	Fuchsia Pink
					35 - 38	Surprise Pink
					39 - 42	Congo Blue
					43 - 46	Blue
					47 - 50	Virgin Blue
					51 - 54	Midnight Maya
					55 - 58	Double C.T Blue
					59 - 62	Slate Blue



TABLE 2. OPEN SOURCE

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
					63 - 66	Regal Blue
					67 - 70	Full C.T Blue
					71 - 74	Steel Blue
					75 - 78	Lighter Blue
					79 - 82	Cyan
					83 - 86	Marine Blue
					87 - 90	Soft Green
					91 - 94	Moss Green
					95 - 98	Green
					99 - 102	Fem Green
					103 - 106	JAS Green
					107 - 110	Pale Green
					111 - 114	Spring Yellow
					115 - 118	Yellow
					119 - 122	Deep Amber
					123 - 126	Chrome Orange
					127 - 130	Orange
					131 - 134	Magenta
					135 - 138	Flame Red
					139 - 142	Purple
20	20	20	Color Preset	0	143 - 146	User Preset 1**
					147 - 150	User Preset 2**
					151 - 154	User Preset 3**
					155 - 158	User Preset 4**
					159 - 162	User Preset 5**
					163 - 166	User Preset 6**
					167 - 170	User Preset 7**
					171 - 174	User Preset 8**
					175 - 178	User Preset 9**
					179 - 182	User Preset 10**
					183 - 186	User Preset 11**
					187 - 190	User Preset 12**
					191 - 194	User Preset 13**
					195 - 198	User Preset 14**
					199 - 202	User Preset 15**
					203 - 206	User Preset 16**
					207 - 210	User Preset 17**
					211 - 214	User Preset 18**
					215 - 218	User Preset 19**
					219 - 222	User Preset 20**
					223 - 255	Channel OFF Color Mixing take priority **User defined color preset whe replayed from Dmx will only playback stored color values
21	21	21	Frost	0	0-255	Linear control of frost mechanism 0 = Fully open 255 = full closed

TABLE 2. OPEN SOURCE

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
22	22	22	Strobe / Shutter	9	0 - 5 6 - 11 12 - 87 88 - 93 94 - 169 170 - 245 246 - 251 252 - 255	Shutter Closed Shutter Open (Default) Strobe Slow>>>>>>>Fast Strobe Open Strobe Random Slow>>>>>>>Fast Strobe Random Sync Slow>>>>>>>Fast Shutter Open Reserved
23	23	23	Fan Control*	0	0 - 255 0-4 05 - 255	Dynamically control fan speed vs LED Output operation. Control values as follows . . . Automatic fan/output adjustment (Default) Linear control of fan speed and LED max output* DMX 5 =Highest Constant Fan Speed (Standard mode) DMX 255 = Lowest Constant Fan Speed (Whisper mode) * Standard mode only function is deactivated if Studio or Whsiper modes are slected via Dmx or User Interface once DMX level is reached
24	24	24	Programmers Channel	0	0-40 41 - 45 46 - 50 51 - 55 56 - 60 61 - 65 66 - 70 71 - 75 76 - 80 81 - 85 86 - 90 91 - 95 96 - 100 101 - 105 106 - 110 111 - 115 116 - 120 121 - 125 126 - 130 131 - 135 136 - 140 141 - 145 146 - 150 151 - 155	Idle Dimming Curve Linear Dimming Curve S-Curve Dimming Curve Square Curve (Default)** Reserved Values Dimmer Snap On Dimmer Snap Off (Default) Reserved Values Reserved Values Reserved Values Reserved Values Color Snap off (Default) (Color Timing active user definable smoothing to color - see color timing channel for specific timing values) Color Snap on (This switches color timing channel color changes now at fastest rate no smoothing timing applied) Reserved Values Movement fast (Default) Movement smooth Reserved Values Tungsten Dimming On Tungsten Dimming Off (Default) Reserved Values Reserved Values Reserved Values Reserved Values

TABLE 2. OPEN SOURCE

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
24	24	24	Programmers Channel <i>continued</i>	0	156 - 160	Reserved Values
					161 - 165	Reserved Values
					166 - 170	Reserved Values
					171 - 175	Reserved Values
					176 - 255	Reserved Values
25	25	25	Focus Timing	255	0 - 255	Please refer to timing table
26	26	26	Color Timing	255	0 - 255	Please refer to timing table
27	27	27	Beam Timing	255	0 - 255	Please refer to timing table
28	28	28	Control Channel	0	0 - 255	Control Channel used for full fixture settings lamp controls Set discrete value of desired effect then set value to 0 (Idle).
					0 - 5	Idle (Default)
					6 - 10	Full Luminaire ReCal
					11 - 15	Fixture Shutdown
					16 - 20	Reserved Values
					21 - 25	Reserved Values
					26 - 30	Reserved Values
					31 - 35	Reserved Values
					36 - 40	Reserved Values
					41 - 45	Reserved Values
					46 - 50	Reserved Values
					51 - 55	Reserved Values
					56 - 60	Reserved Values
					61 - 65	Reserved Values
					66 - 70	Pixel Sync on (only works in 16 pixel modes - blades pixels now work like pixel group 1 regardless of patch - without changing DMX footprint)
					71 - 75	Pixel Sync off(Default)(only works in 16 pixel mode deactivates pixel Sync)
					76 - 80	Display On
					81 - 85	Display Off
					86 - 90	Status Check
					91 - 95	Color Calibration on (Default)
					96 - 100	Color Calibration off
					101 - 105	Reserved Values
					106 - 110	Reserved Values
111 - 115	Standard Mode - Fixture operates at maximum output (Default)					
116 - 120	Studio Mode - Reduced output with lower fan settings					
121 - 125	Whisper Mode - Reduced output with lower fan settings					
126 - 130	Reserved Values					
131 - 135	Record User Color Preset					
136 - 140	Fan On (Default)					
141 - 145	Fan Auto					
146 - 150	Reserved Values					

TABLE 2. OPEN SOURCE

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
28	28	28	Control Channel	0	151 - 155 156 - 160 161 - 165 166 - 170 171 - 175 176 - 255	ReCal Position Reserved Values ReCal Beam Reserved Values Reset fixture to default Reserved Values
29	29	29	Intensity Blades	255	0-255	8-bit Dimming control of the Blade LED
30	30	30	Blade Light - Color Preset	0	0 - 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42	No color Full Red Full Green Full Blue Full White (Red + Green + Blue 100%) Full Yellow (Blue + Green 100%) Full Magenta (Red + Blue 100%) Full Cyan (Blue + Green 100%) Moroccan Pink Pink Flesh Pink Bright Rose Follies Pink Fuchsia Pink Surprise Pink Congo Blue Blue Virgin Blue Midnight Maya Double C.T Blue Slate Blue Regal Blue Full C.T Blue Steel Blue Lighter Blue Cyan Marine Blue Soft Green Moss Green Green Fem Green JAS Green Pale Green Spring Yellow Yellow Deep Amber Chrome Orange Orange

TABLE 2. OPEN SOURCE

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
30	30	30	Blade Light - Color Preset <i>continued</i>	0	43	Magenta
					44	Flame Red
					45	Purple
					46	Color Effect 1
					47	Color Effect 2
					48	Color Effect 3
					49	Color Effect 4
					50	Color Effect 5
					51	Color Effect 6
					52	Color Effect 7
					53	Color Effect 8
					54	Color Effect 9
					55	Color Effect 10
					56 - 94	Color Chase 1 (S>>>>>F)
					95 - 133	Color Chase 2 (S>>>>>F)
					134 - 172	Color Chase 3 (S>>>>>F)
					173 - 211	Color Chase 4 (S>>>>>F)
					212 - 250	Color Chase 5 (S>>>>>F)
					251 - 255	No Color
					31	31
6	Strobe Sync full					
7	Strobe Random full					
8	Blade chase 1 >>> 16					
9	Random blade chase					
10	Blade chase (Paired blades ) Start 1					
11	Blade chase (Paired blades) Start 1					
12	Blade chase (1/4 blades ) Start 1					
13	Blade chase (1/2 blades ) Start 1					
14	Blade chase (opposing blades Single ) Start 1					
15	Blade chase (opposing blades pairs ) Start 1					
16	Blade chase (opposing blades pairs ) Start 1					
17	Blade chase (opposing blades pairs ) Start 1					
18	Blade chase (opposing blades 1/4 ) Start 1					
19	Blade chase (opposing 4 Pixel Rotating)Start 1					
20	Blade chase (3 Pixel Rotation) Start 1					
21	Blade chase TBC					
22	Blade chase TBC					
23	Blade chase TBC					
24	Blade chase TBC					
25	Blade chase TBC					
26	Blade chase TBC					
27	Blade chase TBC					
28	Blade chase TBC					

TABLE 2. OPEN SOURCE

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
31	31	31	Blade Light - Macro Effects <i>continued</i>	0	29 30 231-255	Blade chase TBC Blade chase TBC Reserved
32	32	32	Blade light effects fade time	0	0 - 255	0 Fade time to XX fade time
33	33	33	Blade light effect speed	0	0 - 5 6 - 106 106 - 112 113 - 213 214 - 224 225 - 235 236 - 255	Stop No movement Clockwise chase S>>>>>>>>>F (Strobe flash rate in strobe effects) Pause No movement hold last position Counter clockwise chase S>>>>>>>>F Pause No movement hold last position Stop No movement Reserved
	34	34	Blade LED Red (1*) *blade 1 of 16 group	0	0 - 255	8-bit control of Red LED Blade light
	35	35	Blade LED Green (1*) *blade 1 of 16 group	0	0 - 255	8-bit control of Green LED blade light
	36	36	Blade LED Blue *blade 1 of 16 group	0	0 - 255	8-bit control of Blue LED Blade light
		37	Blade LED Red 2	0	0 - 255	8-bit control of Red LED Blade light
		38	Blade LED Green 2	0	0 - 255	8-bit control of Green LED blade light
		39	Blade LED Blue 2	0	0 - 255	8-bit control of Blue LED Blade light
		40	Blade LED Red 3	0	0 - 255	8-bit control of Red LED Blade light
		41	Blade LED Green 3	0	0 - 255	8-bit control of Green LED blade light
		42	Blade LED Blue 3	0	0 - 255	8-bit control of Blue LED Blade light
		43	Blade LED Red 4	0	0 - 255	8-bit control of Red LED Blade light
		44	Blade LED Green 4	0	0 - 255	8-bit control of Green LED blade light
		45	Blade LED Blue 4	0	0 - 255	8-bit control of Blue LED Blade light
		46	Blade LED Red 5	0	0 - 255	8-bit control of Red LED Blade light
		47	Blade LED Green 5	0	0 - 255	8-bit control of Green LED blade light
		48	Blade LED Blue 5	0	0 - 255	8-bit control of Blue LED Blade light
		49	Blade LED Red 6	0	0 - 255	8-bit control of Red LED Blade light
		50	Blade LED Green 6	0	0 - 255	8-bit control of Green LED blade light
		51	Blade LED Blue 6	0	0 - 255	8-bit control of Blue LED Blade light
		52	Blade LED Red 7	0	0 - 255	8-bit control of Red LED Blade light
		53	Blade LED Green 7	0	0 - 255	8-bit control of Green LED blade light
		54	Blade LED Blue 7	0	0 - 255	8-bit control of Blue LED Blade light
		55	Blade LED RED 8	0	0 - 255	8-bit control of Red LED Blade light
		56	Blade LED Green 8	0	0 - 255	8-bit control of Green LED blade light
		57	Blade LED Blue 8	0	0 - 255	8-bit control of Blue LED Blade light
		58	Blade LED RED 9	0	0 - 255	8-bit control of Red LED Blade light
		59	Blade LED Green 9	0	0 - 255	8-bit control of Green LED blade light
		60	Blade LED Blue 9	0	0 - 255	8-bit control of Blue LED Blade light
		61	Blade LED RED 10	0	0 - 255	8-bit control of Red LED Blade light
		62	Blade LED Green 10	0	0 - 255	8-bit control of Green LED blade light
		63	Blade LED Blue 10	0	0 - 255	8-bit control of Blue LED Blade light

TABLE 2. OPEN SOURCE

DMX CHANNEL BLADE LED GROUP			PARAMETER	DEFAULTS	RANGE	DESCRIPTION
0	1 (DEFAULT)	16				
		64	Blade LED RED 11	0	0 - 255	8-bit control of Red LED Blade light
		65	Blade LED Green 11	0	0 - 255	8-bit control of Green LED blade light
		66	Blade LED Blue 11	0	0 - 255	8-bit control of Blue LED Blade light
		67	Blade LED RED 12	0	0 - 255	8-bit control of Red LED Blade light
		68	Blade LED Green 12	0	0 - 255	8-bit control of Green LED blade light
		69	Blade LED Blue 12	0	0 - 255	8-bit control of Blue LED Blade light
		70	Blade LED RED 13	0	0 - 255	8-bit control of Red LED Blade light
		71	Blade LED Green 13	0	0 - 255	8-bit control of Green LED blade light
		72	Blade LED Blue 13	0	0 - 255	8-bit control of Blue LED Blade light
		73	Blade LED RED 14	0	0 - 255	8-bit control of Red LED Blade light
		74	Blade LED Green 14	0	0 - 255	8-bit control of Green LED blade light
		75	Blade LED Blue 14	0	0 - 255	8-bit control of Blue LED Blade light
		76	Blade LED RED 15	0	0 - 255	8-bit control of Red LED Blade light
		77	Blade LED Green 15	0	0 - 255	8-bit control of Green LED blade light
		78	Blade LED Blue 15	0	0 - 255	8-bit control of Blue LED Blade light
		79	Blade LED RED 16	0	0 - 255	8-bit control of Red LED Blade light
		80	Blade LED Green 16	0	0 - 255	8-bit control of Green LED blade light
		81	Blade LED Blue 16	0	0 - 255	8-bit control of Blue LED Blade light

TABLE 3. COLOR PRESETS

COLOR PRESET	LED OUTPUT LEVEL %						CIE 1931 COORDINATES	
	R	G	B	A	L	C	X	Y
CP_1_Moroccan Pink	100.00%	0.00%	7.82%	100.00%	36.52%	0.00%	0.492	0.386
CP_2_Pink	100.00%	0.00%	4.30%	100.00%	9.66%	0.00%	0.558	0.348
CP_3_Flesh Pink	100.00%	0.00%	7.16%	100.00%	11.19%	0.00%	0.527	0.331
CP_4_Bright Rose	100.00%	0.00%	2.75%	48.96%	0.00%	0.00%	0.617	0.302
CP_5_Follies Pink	100.00%	0.00%	8.67%	78.89%	0.00%	0.00%	0.532	0.266
CP_6_Fuchsia Pink	100.00%	0.00%	31.39%	100.00%	22.87%	0.00%	0.395	0.255
CP_7_Surprise Pink	100.00%	0.00%	51.62%	100.00%	72.73%	0.00%	0.364	0.293
CP_8_Congo Blue	63.07%	0.00%	100.00%	0.00%	0.00%	95.26%	0.202	0.0879
CP_9_Blue	22.29%	0.00%	100.00%	0.00%	0.00%	77.16%	0.173	0.069
CP_10_Virgin Blue	36.12%	100.00%	100.00%	0.00%	10.09%	100.00%	0.192	0.171
CP_11_Midnight Maya	89.29%	12.95%	100.00%	0.00%	0.00%	100.00%	0.217	0.106
CP_11_Double C.T Blue	49.60%	100.00%	100.00%	0.00%	71.25%	100.00%	0.25	0.256
CP_13_Slate Blue	0.00%	100.00%	93.69%	10.03%	100.00%	100.00%	0.25	0.291
CP_14_Regal Blue	69.74%	38.62%	100.00%	0.00%	0.00%	100.00%	0.204	0.12
CP_15_Full C.T Blue	100.00%	100.00%	63.22%	100.00%	100.00%	59.40%	0.33	0.339
CP_16_Steel Blue	51.51%	100.00%	40.49%	100.00%	100.00%	100.00%	0.332	0.39
CP_17_Lighter Blue	0.00%	100.00%	36.57%	0.00%	40.06%	100.00%	0.25	0.366
CP_18_Cyan	0.00%	100.00%	44.76%	0.00%	20.07%	100.00%	0.1923	0.2842
CP_19_Marine Blue	0.00%	100.00%	23.89%	0.00%	58.86%	100.00%	0.268	0.419
CP_20_Soft Green	0.00%	100.00%	11.39%	0.00%	37.38%	100.00%	0.256	0.472
CP_21_Moss Green	0.00%	100.00%	0.00%	0.00%	42.13%	38.02%	0.311	0.58
CP_22_Green	0.00%	100.00%	0.00%	0.00%	7.59%	0.00%	0.225	0.65
CP_23_Fem Green	0.00%	100.00%	1.56%	0.00%	94.75%	100.00%	0.336	0.549

**TABLE 3. COLOR PRESETS**

COLOR PRESET	LED OUTPUT LEVEL %						CIE 1931 COORDINATES	
	R	G	B	A	L	C	X	Y
CP_24_JAS Green	0.00%	100.00%	0.00%	0.00%	45.20%	52.79%	0.3094	0.5757
CP_25_Pale Green	100.00%	89.95%	10.99%	100.00%	100.00%	0.00%	0.419	0.463
CP_26_Spring Yellow	82.28%	100.00%	2.63%	100.00%	100.00%	99.99%	0.4032	0.5019
CP_27_Yellow	100.00%	67.93%	6.36%	100.00%	100.00%	0.00%	0.4375	0.475
CP_28_Deep Amber	100.00%	0.00%	1.55%	54.55%	0.00%	0.00%	0.6389	0.3187
CP_29_Chrome Orange	100.00%	0.00%	3.40%	100.00%	22.49%	0.00%	0.5393	0.3898
CP_30_Orange	100.00%	0.00%	2.59%	100.00%	12.08%	0.00%	0.5701	0.3706
CP_31_Magenta	100.00%	0.00%	9.12%	54.42%	0.00%	0.00%	0.5232	0.2493
CP_32_Flame Red	100.00%	0.00%	2.54%	100.00%	3.36%	0.00%	0.5992	0.3403
CP_33_Purple	100.00%	0.00%	41.06%	100.00%	3.63%	0.00%	0.3588	0.1725

**TABLE 4. CTO CHANNEL**

DEFAULT	RANGE DMX	COLOR TEMPERATURE
	0 - 250	Variable color temperature control channel Channel works independent of color mixing channel and will adjust all mixed color from selected color temperature level. Values stated below are a for guidance only channel should be mapped in such away that channel level runs variable from 0 - 250
	0	1800K
	25	2700K
	50	3000K
	75	3200K (Default)
75	100	4000K
	125	4500K
	150	5000K
	175	5600K
	200	6500K
	225	8000K
	250	10000K
	250 - 255	Reserved Hold 10000K

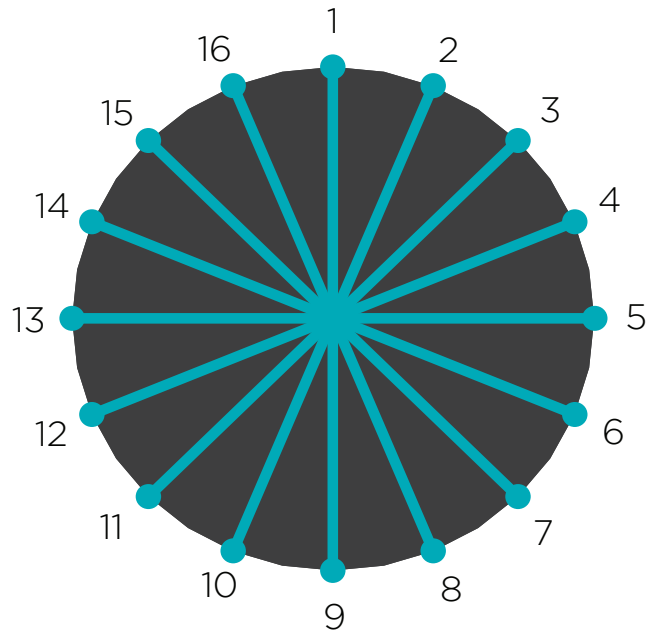
**TABLE 5. BLADE COLOR CONTROL**

PARAMETER	DEFAULTS	RANGE DMX	DESCRIPTION
Blade light - color preset	0	0 - 5	No color
		6	Full Red
		7	Full Green
		8	Full Blue
		9	Full White (Red + Green + Blue 100%)
		10	Full Yellow (Blue + Green 100%)
		11	Full Magenta (Red + Blue 100%)
		12	Full Cyan (Blue + Green 100%)
		13	Moroccan Pink
		14	Pink
		15	Flesh Pink
		16	Bright Rose
		17	Follies Pink
		18	Fuchsia Pink
		19	Surprise Pink



TABLE 5. BLADE COLOR CONTROL

PARAMETER	DEFAULTS	RANGE DMX	DESCRIPTION
Blade light - color preset <i>continued</i>	0	20	Congo Blue
		21	Blue
		22	Virgin Blue
		23	Midnight Maya
		24	Double C.T Blue
		25	Slate Blue
		26	Regal Blue
		27	Full C.T Blue
		28	Steel Blue
		29	Lighter Blue
		30	Cyan
		31	Marine Blue
		32	Soft Green
		33	Moss Green
		34	Green
		35	Fem Green
		36	JAS Green
		37	Pale Green
		38	Spring Yellow
		39	Yellow
		40	Deep Amber
		41	Chrome Orange
		42	Orange
		43	Magenta
		44	Flame Red
		45	Purple
		46	Color Effect 1
		47	Color Effect 2
		48	Color Effect 3
		49	Color Effect 4
		50	Color Effect 5
		51	Color Effect 6
		52	Color Effect 7
		53	Color Effect 8
		54	Color Effect 9
		55	Color Effect 10
56 - 94	Color Chase 1 (S>>>>>F)		
95 - 133	Color Chase 2 (S>>>>>F)		
134 - 172	Color Chase 3 (S>>>>>F)		
173 - 211	Color Chase 4 (S>>>>>F)		
212 - 250	Color Chase 5 (S>>>>>F)		
251 - 255	No Color		



**TABLE 6. BLADE EFFECTS MACROS**

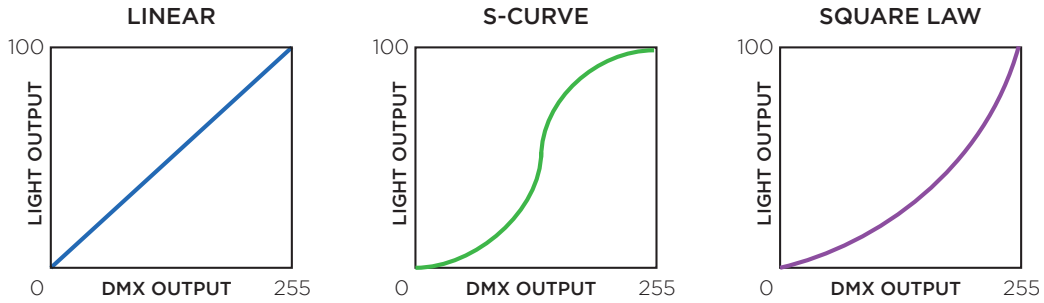
DMX	FX	STEP	BLADE																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
0-5	Blade light - macro effects; uses blade effect fade & speed channels to control parameters of chase																			
6	Strobe Normal (all Blades) Speed control via																			
7	Strobe Random (All Blades)																			
8	Blade chase 1 >>> 16	1	■																	
		2		■																
		3			■															
		4				■														
		5					■													
		6						■												
		7							■											
		8								■										
		9									■									
		10										■								
		11											■							
		12												■						
		13													■					
		14														■				
		15															■			
		16																■		
8	Random blade chase																			
9	Blade chase (Paired blades ) Start 1	1	■	■																
		2		■	■															
		3			■	■														
		4				■	■													
		5					■	■												
		6						■	■											
		7							■	■										
		8								■	■									

**TABLE 6. BLADE EFFECTS MACROS**

DMX	FX	STEP	BLADE																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
10	Blade chase (Paired blades) Start 1	1	■		■														
		2		■		■													
		3			■		■												
		4				■		■											
		5					■		■										
		6						■		■									
		7							■		■								
		8								■		■							
		9									■		■						
		10										■		■					
		11											■		■				
		12												■		■			
		13													■		■		
		14														■		■	
15															■		■		
16																■			
11	Blade chase (1/4 blades ) Start 1	1	■	■	■	■													
		2		■	■	■	■												
		3			■	■	■	■											
		4				■	■	■	■										
12	Blade chase (1/2 blades ) Start 1	1	■	■	■	■	■	■	■										
		2		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
13	Blade chase (opposing blades Single ) Start 1	1	■								■								
		2		■								■							
		3			■								■						
		4				■								■					
		5					■								■				
		6						■								■			
		7							■								■		
		8								■								■	
14	Blade chase (opposing blades pairs ) Start 1	1	■	■							■	■							
		2		■	■							■	■						
		3			■	■							■	■					
		4				■	■							■	■				
		5					■	■							■	■			
		6						■	■							■	■		
		7							■	■							■	■	
		8								■	■							■	■
15	Blade chase (opposing blades pairs ) Start 1	1	■		■						■		■						
		2		■		■						■			■				
		3			■		■						■			■			
		4				■		■						■			■		
		5					■		■						■			■	
		6						■		■						■			

**TABLE 6. BLADE EFFECTS MACROS**

DMX	FX	STEP	BLADE																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
16	Blade chase (opposing blades pairs ) Start 1	1	■				■					■			■				
		2		■				■				■			■				
		3			■				■				■			■			
		4				■				■				■			■		
		5					■				■				■			■	
17	Blade chase (opposing blades 1/4 ) Start 1	1	■	■	■	■	■				■	■	■	■	■				
		2	■				■	■	■	■	■			■	■	■	■	■	
18	Blade chase (opposing 4 Pixel Rotating) Start 1	1	■				■				■			■					
		2		■				■			■			■			■		
		3			■				■			■			■			■	
		4				■				■			■			■			■
19	Blade chase (3 Pixel Rotation) Start 1	1	■						■					■					
		2		■					■					■					
		3			■					■				■					
		4				■					■				■				
		5					■					■				■			
20	Blade chase TBC																		
21	Blade chase TBC																		
22	Blade chase TBC																		
23	Blade chase TBC																		
24	Blade chase TBC																		
25	Blade chase TBC																		
26	Blade chase TBC																		
27	Blade chase TBC																		
28	Blade chase TBC																		
29	Blade chase TBC																		
30	Blade chase TBC																		



**TABLE 7. PROGRAMMERS CHANNEL**

DMX	ITEMS	DESCRIPTION	POWER CYCLE RULES	RECAL RULES	REST TO DEFAULT FIXTURE	RESET TO DEFAULT UI	FUNCTION SELECTION VIA UI
0-255		Functions do not require 3 second DMX rule. mode will change once DMX level is reached					
0-40	Idle	Default channel level	N/A	N/A			N/A
41-45	Dimming Curve Linear	Selects Linear Dimming Curve	Hold setting	Hold setting	Resets to default	Resets to default	Yes
46 - 50	Dimming Curve S-Curve	Selects S-Law Dimming Curve	Hold setting	Hold setting	Resets to default	Resets to default	Yes
51 - 55	Dimming Curve Square Curve (Default)**	Selects Square -Law Dimming Curve	Hold setting	Hold setting	Resets to default	Resets to default	Yes
56 - 60	Reserved Values						
61 - 65	Dimmer Snap On	Allows for fastest output changes between levels but reduces smoothness dimming LED	Hold setting	Hold setting	Resets to default	Resets to default	Yes
66 - 70	Dimmer Snap Off (Default)	Ensures all fades between output levels remain smooth and flicker free limits fast instant snaps between levels	Hold setting	Hold setting	Resets to default	Resets to default	Yes
71 - 75	Reserved Values		N/A	N/A	N/A	N/A	N/A
76 - 80	Reserved Values		N/A	N/A	N/A	N/A	N/A
81 - 85	Reserved Values		N/A	N/A	N/A	N/A	N/A
86 - 90	Reserved Values		N/A	N/A	N/A	N/A	N/A
91 - 95	Color Snap off (Default)	Color Timing active user definable smoothing to color - see color timing channel for specific timing values)	Hold setting	Hold setting	Resets to default	Resets to default	Yes
96 - 100	Color Snap On	Increases speed of color changing; removes all smoothing between LED color changes	Hold setting	Hold setting	Resets to default	Resets to default	Yes
101 - 105	Reserved Values						
106 - 110	Movement fast (Default)	Fixture runs at fastest movement speed movements and changes in direction (Focus timing is still active - see timing channel for specific timing values)	Hold setting	Hold setting	Resets to default	Resets to default	Yes

**TABLE 7. PROGRAMMERS CHANNEL**

DMX	ITEMS	DESCRIPTION	POWER CYCLE RULES	RECAL RULES	REST TO DEFAULT FIXTURE	RESET TO DEFAULT UI	FUNCTION SELECTION VIA UI
111 - 115	Movement smooth	Reduces movement speed to reduce risk of fixture stalling during movement chases (Recommended use when side hanging fixture) (Focus timing is still active - see timing channel for specific timing values)	Hold setting	Hold setting	Resets to default	Resets to default	Yes
116 - 120	Reserved Values						
121 - 125	Tungsten Dimming On	Remote switches Tungsten Dimming color shift on	Hold setting	Hold setting	Resets to default	Resets to default	Yes
126 - 130	Tungsten Dimming Off (Default)	Remote switches Tungsten Dimming color shift off	Hold setting	Hold setting	Resets to default	Resets to default	Yes
131 - 135	Reserved Values						
136 - 140	Reserved Values						
141 - 145	Reserved Values						
146 - 150	Reserved Values						
151 - 155	Reserved Values						
156 - 160	Reserved Values						
161 - 165	Reserved Values						
166 - 170	Reserved Values						
171 - 175	Reserved Values						
176 - 255	Reserved Values						

**TABLE 8. PROGRAMMERS CHANNEL**

DMX	Items	DESCRIPTION	POWER CYCLE RULES	RECAL RULES	REST TO DEFAULT FIXTURE	RESET TO DEFAULT UI	FUNCTION SELECTION VIA UI
0 - 255		Control Channel used for full fixture settings lamp controls and miscellaneous modes. Set discrete value of desired effect wait >3 seconds then set value to 0 (Idle).		N/A			
0 - 5	Idle (Default)	Default value used as return point to activate all control functions	N/A				
6 - 10	Full Luminaire ReCal	Recalibrates all mechanical functions and sensor with in the fixture; also Used to Wake fixture up from shutdown	N/A				
11 - 15	Fixture Shutdown	Shuts down all fixture output and turns off all fans - fixture is activated by power cycle or ReCal command	Fixture wakes	Fixture wakes	Fixture wakes	Fixture wakes	N/A
16 - 20	Reserved Values		N/A				
21 - 25	Reserved Values		N/A	N/A	N/A	N/A	N/A

**TABLE 8. PROGRAMMERS CHANNEL**

DMX	Items	DESCRIPTION	POWER CYCLE RULES	RECAL RULES	REST TO DEFAULT FIXTURE	RESET TO DEFAULT UI	FUNCTION SELECTION VIA UI
26 - 30	Reserved Values		N/A	N/A	N/A	N/A	N/A
31 - 35	Reserved Values		N/A	N/A	N/A	N/A	N/A
36 - 40	Reserved Values		N/A	N/A	N/A	N/A	N/A
41 - 45	Reserved Values		N/A	N/A	N/A	N/A	N/A
46 - 50	Reserved Values		N/A	N/A	N/A	N/A	N/A
51 - 55	Reserved Values		N/A	N/A	N/A	N/A	N/A
56 - 60	Reserved Values		N/A	N/A	N/A	N/A	N/A
61 - 65	Reserved Values		N/A	N/A	N/A	N/A	N/A
66 - 70	Pixel Sync On (only usable in 16 pixel group modes)	Pixel Sync on (only works in 16 pixel modes - blades pixels now work like pixel group 1 regardless of patch - without changing DMX footprint) Blade light Pixel Sync off(Default) (only works in 16 pixel mode deactivates pixel Sync)	Hold Settings	N/A	N/A	N/A	N/A
71 - 75	Pixel Sync off (Default)(only usable in 16 pixel group modes)	Blade light Pixel Sync off(Default) (only works in 16 pixel mode deactivates pixel Sync)	Hold Settings	N/A	N/A	N/A	N/A
76 - 80	Display On	Remote activation of User interface display back light - on for 10 mins	N/A	N/A	N/A	N/A	N/A
81 - 85	Display Off	Display off switches off display before time out	N/A	N/A	N/A	N/A	N/A
86 - 90	Status Check	Activates status check - Green activates and show green for 5 mins if no errors present Show red if fixture is reporting and error	N/A	N/A	N/A	N/A	N/A
91 - 95	Color Calibration on (Default)	Turns Color calibration on for fixture to fixture color matching on all mixed and preset colors between fixtures limits highest output and max saturation on some colors	Hold Setting	Hold Setting	Resets to Default	Resets to Default	Yes
96 - 100	Color Calibration off	Turns Color calibration off fixtures may not match fixture to fixture offers highest output and deepest saturation of color	Hold Setting	Hold Setting	Resets to Default	Resets to Default	Yes
101 - 105	Reserved Values		N/A				
106 - 110	Reserved Values		N/A	N/A	N/A	N/A	N/A
111 - 115	Standard Mode - Fixture operates at maximum output (Default)	Standard mode - Full LED Output + Full Continuous Fan Spin at top speed (loudest setting) (Fan remain at a constant speed and do not ramp up and down) NC40 *Fans can be switched between Continuous (136-140) or Auto (141-145)	Hold Setting	Hold Setting	Resets to Default	Resets to Default	Yes

**TABLE 8. PROGRAMMERS CHANNEL**

DMX	Items	DESCRIPTION	POWER CYCLE RULES	RECAL RULES	REST TO DEFAULT FIXTURE	RESET TO DEFAULT UI	FUNCTION SELECTION VIA UI
116 - 120	Studio Mode - Reduced output with lower fan settings	Studio Mode - Fan speed reduced to appropriate amount to reduce dB levels >10% of full speed + LED @ max output approximately 80% of Standard output at appropriate level to ensure LED work at optimum temperature and output efficiency *Fans can be switched between Continuous (136-140) or Auto (141-145)	Hold Setting	Hold Setting	Resets to Default	Resets to Default	Yes
121 - 125	Whisper Mode - Reduced output with lower fan settings	Whisper mode - Fan speed reduced to appropriate amount to reduce dB levels to >30% of the full speed + LED Max output approximately 60% of Standard output at appropriate level to ensure LED work at optimum temperature and output efficiency *Fans can be switched between Continuous (136-140) or Auto (141-145)	Hold Setting	Hold Setting	Resets to Default	Resets to Default	Yes
126 - 130	Reserved Values		N/A	N/A	N/A	N/A	N/A
131 - 135	Record User Color Preset	Takes Current Color mixing values and stores to next available blank User color preset - if preset listing are full preset will not record. User will need to clear preset via fixture UI	N/A	N/A	N/A	N/A	N/A
136 - 140	Fan On (Default)	Fans run at continuous speed in isolation to the LED operating temperature	Hold Setting	Hold Setting	Resets to Default	Resets to Default	Yes
141 - 145	Fan Auto	Fans will reduce / increase speed on demand based on LED operating temperature	Hold Setting	Hold Setting	Resets to Default	Resets to Default	Yes
146 - 150	Reserved Values		N/A	Hold Setting	Resets to Default	Resets to Default	Yes
151 - 155	ReCal Position	Recalibration of Positions	N/A	Hold Setting	Resets to Default	Resets to Default	Yes
156 - 160	Reserved Values		N/A	Hold Setting	Resets to Default	Resets to Default	Yes
161 - 165	ReCal Beam	Recalibration of all Beam function	N/A	Hold Setting	Resets to Default	Resets to Default	Yes
166 - 170	Reserved Values		N/A	Hold Setting	Resets to Default	Resets to Default	Yes
171 - 175	Reset fixture to default	Will reset all parameters to default with the exception of the DMX address fixture mode	N/A	N/A	N/A	N/A	Yes
176 - 255	Reserved Values		N/A	Hold Setting	Resets to Default	Resets to Default	Yes



**To use control channel functions:**

- Step 1. Select an action to be sent.
- Step 2. Set control channel value for desired action (for example, 6 for ReCal). Hold value for 3 seconds.
- Step 3. Set control channel value to zero. (This must occur without any scaling values. Action will be voided if other values are detected between action value and zero.)

**NOTE:** A numerical keypad is suggested for sending values. An encoder or fader does not allow for a quick value change, which is required to effect the control functions.

**TABLE 9. CTO**

CTO LEVEL	LED OUTPUT LEVEL %						CIE 1931 COORDINATES	
	R	G	B	A	L	C	X	Y
1800k	100.00%	0.00%	1.95%	100.00%	23.35%	0.00%	0.5464	0.404
2700K	100.00%	0.00%	11.07%	100.00%	63.35%	0.00%	0.4566	0.4055
3000K	100.00%	0.00%	17.56%	100.00%	79.71%	0.00%	0.4321	0.3942
3200K (Default)	100.00%	0.00%	19.75%	100.00%	86.74%	0.00%	0.4224	0.3958
4000K	100.00%	36.05%	37.27%	100.00%	100.00%	0.00%	0.3776	0.3671
4500K	99.99%	69.86%	43.15%	100.00%	100.00%	0.00%	0.361	0.3654
5000K	100.00%	100.00%	50.39%	100.00%	100.00%	6.08%	0.3456	0.3596
5600K	100.00%	100.00%	58.76%	100.00%	100.00%	52.98%	0.3304	0.3483
6500K	100.00%	100.00%	72.49%	100.00%	100.00%	99.13%	0.3126	0.3298
8000K	82.78%	100.00%	92.09%	100.00%	100.00%	100.00%	0.2945	0.3058
10000K	81.66%	100.00%	99.99%	27.94%	100.00%	100.00%	0.2783	0.293

**COLOR MIXING**

The color mixing mechanism is made up of six graduated color flags: red, green, blue, amber, lime and cyan. These flags provide full-spectrum color cross fades from pastel to saturated color.

**TABLE 10. DMX MAP FOR RED, GREEN, BLUE, AMBER, LIME, AND CYAN**

DMX LED GROUP		PARAMETER	DEFAULT	RANGE	DESCRIPTION
1	16				
8	8	Red (High)	0	0-65535	0 - 100% linear control of Red LED output
9	9	Red (Low)			
10	10	Green (High)	0	0-65535	0 - 100% linear control of Green LED output
11	11	Green (Low)			
12	12	Blue (High)	0	0-65535	0 - 100% linear control of Blue LED output
13	13	Blue (Low)			
14	14	Amber (High)	0	0-65535	0 - 100% linear control of Amber LED output
15	15	Amber (Low)			
16	16	Lime (High)	0	0-65535	0 - 100% linear control of Lime LED output
17	17	Lime (Low)			
18	18	Cyan (High)	0	0-65535	0 - 100% linear control of Cyan LED output
19	19	Cyan (Low)			

**TABLE 11. DMX MAP FOR STROBE**

DMX LED GROUP		PARAMETER	DEFAULT	RANGE	DESCRIPTION
1	16				
22	22	Strobe / Shutter	33	0 - 5 6 - 11 12 - 87 88 - 93 94 - 169 170 - 245 246 - 251 252 - 255	Shutter Closed Shutter Open (Default 33) Strobe Slow>>>>>>>Fast Strobe Open Strobe Random Slow>>>>>>>Fast Strobe Random Sync Slow>>>>>>>Fast Shutter Open Reserved

**TABLE 12. BEAM CONTROL**

DMX LED GROUP		PARAMETER	DEFAULT	RANGE	DESCRIPTION
1	16				
27	27	Beam Timing	255	0-255	See timing table

## TIMING

### TIMING CHANNEL INFORMATION

Timing channel control improves the timed moves of certain groups of parameters. We provide up to three timing channels - Focus (pan and tilt), Color Time (color parameters), and Beam Time (beam parameters).

Types of timing control:

- Timing Control Channel: the luminaire uses its timing channel value to calculate a smooth continuous movement for a given time and transition.
- Console Timing: the console calculates the time duration between the DMX increments to be sent for a given time and transition.

### GUIDELINES:

- Timing channels support time values of up to six minutes.
- To use a timing channel instead of console timing, it is necessary to set the timing channel to the desired value and set cue and/or parameter time to zero. A combination of time controls can produce unexpected results.
- The default value setting in the profile should be 255 (proportional control) to allow smooth movement when using console timing.
- The timing channel data should change as a snap. A zero value will give the fastest move, however, without any smoothing this can appear “steppy” in console timed moves.

**NOTE:** Some parameters have been excluded from the timing channels. Wheel spin and gobo rotation rate changes are not affected by timing channels.

**TABLE 13. CHANNEL FUNCTION / TIMING CHANNEL RELATIONSHIP**

DMX LED GROUP		PARAMETER	DEFAULT	RANGE	DESCRIPTION
1	16				
25	25	Focus Timing	255	0 - 255	See timing table
26	26	Color Timing	255	0 - 255	See timing table
27	27	Beam Timing	255	0 - 255	See timing table

A timing value of zero is full speed. A time value of 100% (or DMX 255) enables the associated parameter(s) to follow cue fade time (console time) rather than the timing channel.

---

**NOTE:** The particular storing syntax for your console, as well as instructions on how to write part cues, can be found in the operation manual for that console.

---

**To use these channels, you must:**

- Step 1. Create the cue, including color and frost as required.
- Step 2. Decide which fixtures and which parameter groups will use timing channels.
- Step 3. Assign a value to the particular timing channel(s) you wish to use (for timing information, see chart on next page).
- Step 4. Set console timing (or cue fade time) for parameters and timing channels to zero seconds.
- Step 5. Store cue.

---

**NOTE:** Avoid changing timing channel values in a fading cue. This can cause unexpected behavior in the luminaire as the timing channel value is updated over time. Timing channel values and the final destination of the parameters affected by the timing channel should always be sent in a zero count.

---

Timing channels can be set in either % or 0-255(DMX) modes, with the following values assigned:

TABLE 14. TIMING CHANNEL

DMX	% VALUES	TIME (S)	DMX	% VALUES	TIME (S)	DMX	% VALUES	TIME (S)
0		Full Speed	48	19	9.6	96		28
1		0.2	49		9.8	97	38	28
2		0.4	50		10	98		29
3	1	0.6	51	20	10.2	99	39	29
4		0.8	52		10.4	100		29
5	2	1	53		10.6	101		30
6		1.2	54	21	11	102	40	30
7		1.4	55		11	103		30
8	3	1.6	56	22	12	104		31
9		1.8	57		12	105	41	31
10	4	2	58		13	106		32
11		2.2	59	23	13	107	42	32
12		2.4	60		14	108		32
13	5	2.6	61	24	14	109		33
14		2.8	62		14	110	43	33
15	6	3	63		15	111		34
16		3.2	64	25	15	112	44	34
17		3.4	65		16	113		34
18	7	3.6	66	26	16	114		35
19		3.8	67		16	115	45	35
20	8	4	68		17	116		36
21		4.2	69	27	17	117	46	36
22		4.4	70		18	118		36
23	9	4.6	71	28	18	119		37
24		4.8	72		18	120	47	37
25	10	5	73		19	121		38
26		5.2	74	29	19	122	48	38
27		5.4	75		20	123		38
28	11	5.6	76	30	20	124		39
29		5.8	77		20	125	49	39
30		6	78		21	126		39
31	12	6.2	79	31	21	127		40
32		6.4	80		21	128	50	40
33	13	6.6	81		22	129		41
34		6.8	82	32	22	130	51	41
35		7	83		23	131		41
36	14	7.2	84	33	23	132		42
37		7.4	85		23	133	52	42
38	15	7.6	86		24	134		43
39		7.8	87	34	24	135	53	43
40		8	88		25	136		43
41	16	8.2	89	35	25	137		44
42		8.4	90		25	138	54	44
43	17	8.6	91		26	139		45
44		8.8	92	36	26	140	55	45
45		9	93		27	141		45
46	18	9.2	94	37	27	142		46
47		9.4	95		27	143	56	46

TABLE 14. TIMING CHANNEL

DMX	% VALUES	TIME (S)	DMX	% VALUES	TIME (S)	DMX	% VALUES	TIME (S)
144		47	191	75	85	238		250
145	57	47	192		85	239		260
146		47	193		90	240	94	260
147		48	194	76	90	241		270
148	58	48	195		95	242	95	270
149		49	196	77	95	243		270
150	59	49	197		95	244		280
151		49	198		100	245	96	280
152		50	199	78	100	246		290
153	60	50	200		110	247	97	290
154		50	201	79	110	248		290
155		51	202		110	249		300
156	61	51	203		120	250	98	300
157		52	204	80	120	251		310
158	62	52	205		120	252	99	310
159		52	206	81	130	253		310
160		53	207		130	254		310
161	63	53	208		140	255	100	Follows Cue Data
162		54	209	82	140			
163	64	54	210		140			
164		54	211		150			
165		55	212	83	150			
166	65	55	213		160			
167		56	214	84	160			
168	66	56	215		160			
169		56	216		170			
170		57	217	85	170			
171	67	57	218		180			
172		58	219	86	180			
173	68	58	220		180			
174		58	221		190			
175		59	222	87	190			
176	69	59	223		200			
177		59	224	88	200			
178		60	225		200			
179	70	60	226		210			
180		65	227	89	210			
181	71	65	228		210			
182		65	229		220			
183		70	230	90	220			
184	72	70	231		230			
185		75	232	91	230			
186	73	75	233		230			
187		75	234		240			
188		80	235	92	240			
189	74	80	236		250			
190		85	237	93	250			

# 4 OPERATION

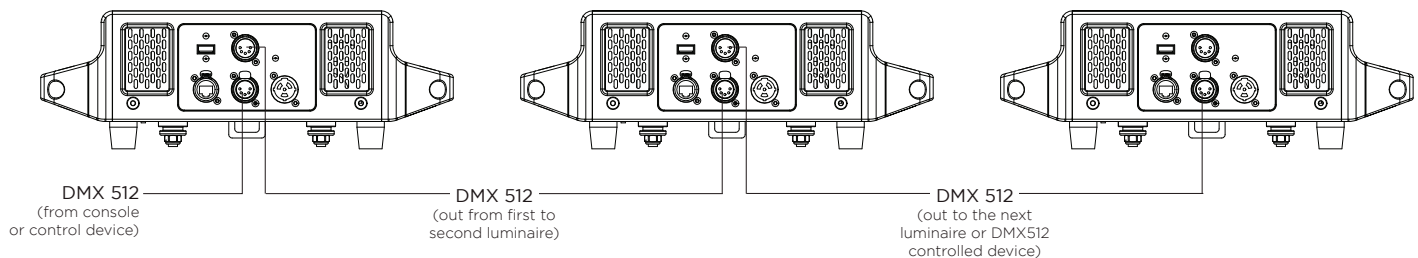
## UPDATING SOFTWARE

### TRANSFERRING SOFTWARE BETWEEN LUMINAIRES

It is possible to transfer specific software versions between luminaires. As in the case of installing new software versions, multiple luminaires can be programmed at the same time if they are data linked together (refer to [Connecting power on page 4](#)), however a maximum of 16 luminaires can be updated at once.

#### HARDWARE REQUIREMENTS

A DMX termination connector is used in this process. Refer to page 16 for more information regarding the construction of this connector.



#### To transfer software versions between luminaires:

- Step 1. At last luminaire, install DMX termination connector into DATA THRU XLR connector.
- Step 2. At master luminaire (first in chain) Menu Display, press [ESC].
- Step 3. Press ▲▼◀▶ arrows until Fixture appears.
- Step 4. Press ▲▼◀▶ arrows until Crossload appears. Press [OK].
- Step 5. Unplug DMX From Console? will be displayed. Press [OK] to accept.
- Step 6. Once download is complete, luminaire automatically recalibrates. Once recalibration is complete, recalibrate luminaire one additional time.

#### To Verify software version at luminaire:

- Step 1. At Menu Display, press [ESC].
- Step 2. Press ▲▼◀▶ arrows until Fixture appears. Press [OK].
- Step 3. Press ▲▼◀▶ arrows until Version appears. Press [OK].
  - Part 1 of the version displays as VXXX.
  - Press to display part 2 of version. This displays as a date (MM/DD/YY). For example, 12/25/ 19 (December 25, 2019). Press to display part 3 of version. This will be displayed as a time (HH:MM). For example, 16.36 (4:36 pm).

# 5 MENU SYSTEM

## MENU OPERATION

### WHAT IS THE MENU SYSTEM?

The menu system is a programmable set of commands used to configure, address, operate, and test the luminaire. The menu system is controlled at the Menu Display available at the enclosure input panel.

### CONTROLS OPERATION

The menu system is controlled by [ESC], [OK], and four ▲▼◀▶ Arrow buttons.

The arrows will have opposite functions if the luminaire is hung upside down in a hanging orientation due to the automatic orientation feature. In other words, the arrow pointing downward always functions as down/decrease and the arrow pointing upward always functions as up/increase regardless of the luminaire orientation.

### DEFAULT STATE

The menu display's default state during normal operation is to display the DMX address. After 40 seconds of inactivity at the display, it will change to the default state.

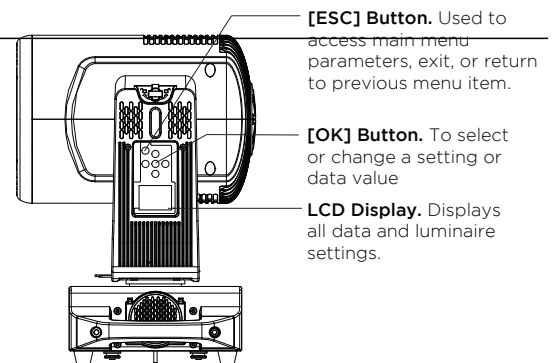
After longer periods of inactivity, the menu display will switch to its off state. The default state for this feature is 30 seconds, however, different time lengths can also be programmed.

#### To program a different time length for menu off feature:

- Step 1. Press [ESC] access the main menu.
- Step 2. Once enabled, the menu will function as normal with only the following sub-menu sections active:
  - Address
  - Configure
  - DMX
  - Fixture
  - Manual Control
  - Test
- Step 3. Press ▲▼◀▶ choose the "Configure", and press [OK].
- Step 4. Press ▲▼◀▶ choose the "Display", and press [OK].
- Step 5. Press ▲▼◀▶ choose the "On Time", and press [OK].
- Step 6. Press ▲▼◀▶ choose "30 Sec", "5 Min", "10 Min", "On" when you need.

## MENU FUNCTIONS

For easy reference, each possible menu item is listed alphabetically in the first column by its display abbreviation. The second column follows with a definition of the abbreviation and then a third column provides an explanation of its purpose and function.



**TABLE 15. VL5LED WASH MENU SYSTEM CHART**

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	DEFAULT	
Address	001-512					(Default 001)	
Configure	LED	LED Hours	XXXXXX h				
		Reset Lamp Hour	Are you sure?				
		Dimming Curve	Square Law Curve			(Default)	
			S Law Curve				
			Linear Law Curve				
		Tungsten Fade	On				
			Off			(Default)	
		Dimming Snap / Speed	On (Fast)				
			Off (Slow)				
		Output Mode	Boost				
			Standard				
			Studio				
			Whisper				
		Fan Mode	On			(Default)	
			Auto				
				900Hz			
				910Hz			
				920Hz			
				930Hz			
				940Hz			
				950Hz			
				960Hz			
				980Hz			
				990Hz			
				1000Hz			
				1500Hz			(Default)
				2500Hz			
				4000Hz			
				5000Hz			
				10000Hz			
				15000Hz			
				20000Hz			
		25000Hz					
	White Balance	Red		125 - 255	Default 255		
		Green Default 256		125 - 255	Default 256		
		Blue 125 - 255 Default 257		125 - 255	Default 257		
		Amber		125 - 255	Default 258		
		Lime		125 - 255	Default 259		
		Cyan		125 - 255	Default 260		
		Reset to default		Are you sure?			



**TABLE 15. VL5LED WASH MENU SYSTEM CHART**

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	DEFAULT		
Configure continued	Color	Color Snap / Speed	On (Fast)					
			Off (Slow)			(Default)		
		Color Calibration	On					
			Off			(Default)		
	Movement	Tilt Motor	Enable				(Default)	
			Disable					
		Pan Motor	Enable				(Default)	
			Disable					
		Movement Mode	Fast Movement				(Default)	
			Smooth Movement					
	Display	Orientation	Auto				(Default)	
			Up					
			Down					
On Time		30 s						
		5 min						
	10 min							
Reset Defaults	Are you sure?							
DMX	Address	001-512						
	DMX Mode	Smart Color Control					(Default)	
		Open source color control						
	Blade LED Group	1					(Default)	
		16						
	Select Signal	DMX only					(Default)	
		Art-Net On IP2	On					
			Off					
		Art-Net On IP10	On					
			Off					
		SACN	On					
	Off							
	Set Artnet	Set Universe	000 ~ 255				(Default 000)	
		Ethernet IP	XXX. XXX. XXX. XXX					
		Ether Mask IP	XXX. XXX. XXX. XXX					
	SACN	Set Universe	000 ~ 255				(Default 000)	
		Ethernet IP	XXX. XXX. XXX. XXX					
		Ether Mask IP	XXX. XXX. XXX. XXX					
	Pan / Tilt	Swap Pan/Tilt	On					
			Off					(Default)
		Invert Pan	On					
			Off					(Default)
		Invert Tilt	On					
Off					(Default)			
Data	Ch 1 - Intensity XXX (Value)							
	Ch 2 - Intensity Fine XXX (Value)							
	.....All functions							

**TABLE 15. VL5LED WASH MENU SYSTEM CHART**

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	DEFAULT
Fixture	Status	(No Errors... or displays a list of errors)				
	Recalibrate Fixture	Are you sure?				
	Reboot Fixture	Are you sure?				
	Version	VXXX	MM/D/YY	HH:MM		
	Fixture Hours	XXXXXX h				
Fixture (cont'd)	Cross load (Software)	Send				
	Service	Service Settings	Set Position Cal		Pan	
					Tilt	
				Re. Pos. Offset		
				ReCal Position		
		Beam Offset		Zoom		
	Diagnostics			Frost		
				Fan Check		
				Board Check		
				Sensor Check		
		Debug				
Test	All Test	(Run 'ALL TEST')				
	Pan/Tilt Test	(Run 'PAN/TILT TEST')				
	Test Channel	Intensity				
		Pan				
		.....All functions				
	Encoder Pan	XXXXXXXX - Displays Pan Encoder				
Encoder Tilt	XXXXXXXX - Displays Tilt Encoder					
Manual Mode Color Preset	Preset Playback	Select preset	1 to 33			
		Select user preset	1 to 20			
		Intensity	0 - 255			
	User Preset Setting			Intensity*	0 - 255	
				Red	0 - 255	
				Green	0 - 255	
				Blue	0 - 255	
				White	0 - 255	
				Amber	0 - 255	
				Lime	0 - 255	
				Cyan	0 - 255	
				Pan	1 - 255	
				Tilt	2 - 255	
				Zoom	3 - 255	
				Frost	4 - 255	
		Store (user prest)	1 >>>> 20	Are you sure?		
		Clear	1 >>>> 20	Are you sure?		

# APPENDIX A

# CARE AND MAINTENANCE

## SERVICE MENU ITEMS

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### To Set Position Cal (Tilt example)

- Step 1. Step 1. Press [ESC] access the main menu.
- Step 2. Press choose the “Fixture”, and press
- Step 3. Press choose the “Service”, and press .
- Step 4. Press choose the “Service Setting”, and press
- Step 5. Press choose the “Set Position Cal”, and press
- Step 6. Press choose the “Tilt”, and press .

### Set Manual Mode Color Preset:

- Step 1. Press access the main menu.
- Step 2. Press choose the “Manual Mode Color Preset”, and press
- Step 3. Press choose the “User Preset Setting”, and press . Step 4. Press choose “Intensity\*”, “Red”, “Green”, “Blue”, “Amber”, “Lime”, “Cyan”, “Pan”, “Tilt”, “Zoom”, “Frost”, “Store (User Preset)”, “Clear”
- Step 4. Press to accept and store the gobo offset setting or to cancel the gobo offset.

## SELF-TESTS

### RUNNING PARAMETER TESTS

The luminaire is capable of running self-tests by using the Test menu functions.

When running tests on multiple luminaires, a DMX termination connector is required at the last luminaire in the link. Refer to “Connecting Data and Power” on page 14 for more information regarding the construction of this connector.

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**NOTE:** After 10 seconds of inactivity, the menu display will change to the default state showing the address.

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**WARNING:** All maintenance procedures are to be performed with power removed from the luminaire. Never remove covers or back cap while LAMP is in operation.

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## EQUIPMENT HANDLING

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Below are some basic tips and information on handling luminaires and their associated components.

### LOCATIONS/USE

Vari-Lite luminaires are designed for dry locations only. Exposure to rain or moisture (including, but not limited to, fog machines, misters, etc.) may damage luminaire.

### SOLID STATE ELECTRONICS

#### Electrostatic Discharge (ESD)

Electrostatic discharge (ESD) presents a significant danger to solid state electronic components (semiconductor devices and PC board assemblies). Static electricity can build on a variety of common objects (including people) simply by handling or moving. ESD rarely results in immediate failure of a component, but shows up later as an intermittent problem or severely reduces the life of the component. All Vari-Lite equipment uses solid state electronics and appropriate precautions to protect them should be observed when servicing.

#### Printed Circuit Boards (PCBs)

All PC boards should be shipped in electrostatic shielding bags. When handling PC boards or components, devices such as conductive mats and conductive wrist straps should be used whenever possible. If these precautionary devices are not available, handling of PC boards and components should be avoided.

**CAUTION:** Black foam (used to package solid state electronics) should never be used for packing batteries or put in contact with PC boards which contain batteries.

## TROUBLESHOOTING

### ERROR MESSAGES

If a problem occurs during luminaire calibration, at the end of the calibration sequence the Menu Display will cycle through any applicable error message(s) until the end of the list is reached. To review the error messages again, it will be necessary to access them using the Status function.

**To access error messages:**

- Step 1. Press
- Step 2. Press arrows until Fixture appears. Press
- Step 3. Press arrows to access Status. Press . (Display will now scroll through any error messages or display OK if no errors.)

**TABLE 16. ERROR MESSAGES**

DISPLAY	MESSAGE	TYPE
No Errors	No Errors Found	Recalibrate fail
Pan	Pan motor recalibrate fail	
Tilt	Pan motor recalibrate fail	
Zoom	Zoom motor recalibrate fail	
Frost	Frost motor recalibrate fail	

Visit the product page of our website at [www.vari-lite.com](http://www.vari-lite.com) for the latest technical specifications.

## HOW TO OBTAIN WARRANTY SERVICE

A copy of the Vari-Lite Limited Warranty was included in the shipping package for this Vari-Lite product.

To obtain warranty service, please contact customer service at 1-214-647-7880, or [entertainment.service@signify.com](mailto:entertainment.service@signify.com) and request a Return Material Authorization (RMA) for warranty service. You will need to provide the model and serial number of the item being returned, a description of the problem or failure and the name of the registered user or organization. If available, you should have your sales invoice to establish the date of sale as the beginning of the warranty period. Once you obtain the RMA, pack the unit in a secure shipping container or in its original packing box. Be sure to clearly indicate the RMA number on all packing lists, correspondence, and shipping labels. If available, please include a copy of your invoice (as proof of purchase) in the shipping container.

With the RMA number written legibly on or near the shipping address label, return the unit, freight prepaid, to:

Vari-Lite  
Attention: Warranty Service (RMA# \_\_\_\_\_)  
10911 Petal Street  
Dallas, Texas 75238  
USA

As stated in the warranty, it is required that the shipment be insured and FOB our service center.

---

**IMPORTANT!** When returning products to Vari-Lite for repairs (warranty or out-of--warranty) from a country other than the USA, "Strand Lighting LLC", must appear in the address block as the Importer of Record (IOR) on all shipping documentation, Commercial Invoices, etc. This must be done in order to clear customs in a timely manner and prevent returns.

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## COMPLIANCE

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with Vari-Lite system, service, and safety guidelines, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

## DECLARATION OF CONFORMITY

We declare, under our sole responsibility, that this product complies with the relevant clauses of the following standards and harmonized documents:

### SAFETY

EN 60598-1:2015 + A1:2018;  
EN 60598-2-17:2018;  
EN 60598-2-4:2018;  
EN 62493:2015;  
EN 62471:2008;  
EN 62031: 2008 + A1: 2013 + A2: 2015;  
EN 61347-2-11:2001;  
EN 61347-1:2015 Low Voltage Directive 2014/35/EU

### EMC

EN 55032:2015  
EN 55103-2: 2009  
EN 61000-3-2:2014  
EN 61000-3-3:2013  
EN 55015:2013+A1:2015  
EN 61547:2009  
EMC Directive 2014/30/EU

### ROHS

EN 62321:2012  
We certify that the product conforms to the protection requirements of council directives: Low Voltage Directive 2014/35/EU, 2014/30/EU (EMC), and Restriction of the use of certain Hazardous Substances in electrical and electronic equipment Directive (RoHS), 2015/863. Equipment referred to in this declaration of conformity was first manufactured in 2017 in compliance with these standards.

## CUSTOMER SERVICE

If you have any questions regarding this product, please contact Customer Service at +1-214-647-7880 or via e-mail at [entertainment.service@signify](mailto:entertainment.service@signify).

## LIMITED 2-YEAR WARRANTY

Vari-Lite offers a two-year limited warranty on its control products against defects in materials or workmanship from the date of delivery. A copy of Vari-Lite two-year limited warranty containing specific terms and conditions can be obtained from the Vari-Lite website at [www.vari-lite.com](http://www.vari-lite.com) or by contacting your local Vari-Lite office.

## SAFETY WARNINGS AND NOTICES

When using electrical equipment, basic safety precautions should always be followed including the following:

### READ AND FOLLOW ALL SAFETY INSTRUCTIONS.

- For indoor, dry locations use only. Do not use outdoors.
- Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- Not for residential use. Do not use this equipment for other than intended use.
- Refer service to qualified personnel.
- The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- Not for residential use. Do not use this equipment for other than intended use.
- Refer service to qualified personnel. This fixture contains no user serviceable parts.
- Prior to first use, carefully inspect unit for damage from shipping.
- Installation and operation to be performed by qualified personnel only.
- Use safety tether when mounting.
- Install only in locations with adequate ventilation of at least 50cm clearance from adjacent surfaces.
- Ensure sure that ventilation slots are not blocked.
- Ensure that the voltage and frequency of the power supply match the power requirements of the fixture.
- The fixture must be earthed/grounded to the appropriate conductor.
- Do not operate fixture outside the ambient temperature range of 0-40°C.
- Do not connect the fixture to any dimmer pack.
- New fixtures may emit a chemical odor due to the manufacturing process. This odor will dissipate over time.
- Note distance requirement(s) from combustible materials or illuminated objects. Do not mount near gas or electric heaters.
- Prior to each use, carefully inspect power cables and replace any damaged cables.
- Exterior surfaces of the luminaire will be hot during operation. Take appropriate precautions.
- Continuous use of the fixture may shorten the lifespan. Power down the fixture when not in use.
- Clean fixtures regularly, particularly when working in a dusty environment.
- Never touch power cables or wires while the fixture is powered on.
- Avoid entangling power wires with other cables.
- In the event of a serious operating problem, immediately discontinue using the fixture.
- Never turn on and off the unit time after time.
- The housing, lenses, and/or the ultraviolet filter must be replaced if they are damaged.
- Disconnect mains power if the fixture is not used for a long time.
- Original packing materials can be reused for transporting the fixture.
- This fixture is designed for dry locations only. Exposure to rain or moisture may damage fixture unless it is suitably IP rated.
- Do not look directly at the LED light beam while the fixture is on.
- Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.

### SAVE THESE INSTRUCTIONS.

**WARNING:** Refer to National Electrical Code® and local codes for cable specifications. Failure to use proper cable can result in damage to equipment or danger to



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# TECHNICAL SUPPORT

## GLOBAL 24HR TECHNICAL SUPPORT:

Call: +1 214 647 7880

[entertainment.service@signify.com](mailto:entertainment.service@signify.com)

## NORTH AMERICA SUPPORT:

Call: 877-VARI-LITE (877-827-4583)

[entertainment.service@signify.com](mailto:entertainment.service@signify.com)

## EUROPEAN CUSTOMER SERVICE CENTER:

Call: +31 (0) 543 542 531

[entertainment.europe@signify.com](mailto:entertainment.europe@signify.com)

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VL5LED WASH USER MANUAL

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