

SOLID STATE AREA LIGHTING

SIGMA SERIES-VLED

PROJECT NAME: _____

FIXTURE TYPE: _____

FEATURES

Luminaire

Extruded Aluminum Struts and cast Housing from heavy cast low copper aluminum (A356 alloy, <0.2% copper). Housing top is heavy wall aluminum spinning. Traditional styling of the housing provided with housing top hinges for easy access.

VLED™ Optical Module

Low copper (A356 Alloy; <0.2% Cu) cast aluminum housing. Integrated clear tempered glass lens sealed with a continuous silicone gasket protects emitters (LED's), Reflector-Prism optics, and seals the module from water intrusion and environmental contaminants. Module is sealed to meet an IP67 rating. Each emitter is optically controlled by a Reflector-Prism injection molded from H12 acrylic (3 types per module; one from 0° - 50°; one from 50° - 65°; one from 65° - 72°). Each Reflector-Prism is secured to an optical plate made of matte black anodized aluminum has indexing pins for precise aiming. The optical plate locates every Reflector-Prism over an emitter, are inserted to the optical plate from above and are secured with a UV curing adhesive. The Reflector-Prisms are arrayed to produce IES Type II, III, IV, and V-SQ distributions. The entire Optical Module is field rotatable in 90° increments. Both module and drivers are factory wired using water resistant, insulated cord.

LED Emitters

High output LED's are utilized with drive currents ranging from 350mA to 525mA. 70CRI Minimum. LED's are available in standard Neutral White (4000K), or optional Cool White (5000K) or Warm White (3000K). Consult Factory for other LED options.

LED Driver

Constant current programmable electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50,60Hz. (0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field installation.)

Amber LED's

PCA (Phosphor Converted Amber) LED's utilize phosphors to create color output similar to LPS lamps and have a slight output in the blue spectral bandwidth. TRA (True Amber) LED's utilize material that emits light in the amber spectral bandwidth only without the use of phosphors.

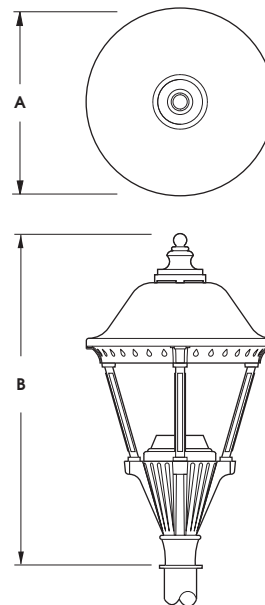
Finish

Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability.



SIG

SIG23 shown



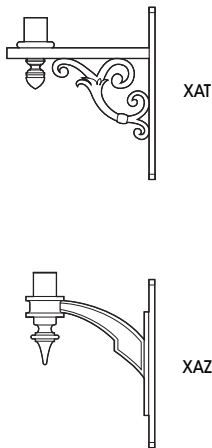
Fitter supplied to fit over 2 7/8" X 3"
(73mm X 76mm) tennon.

Fixture	A	B
SIG23	23.5" 597mm	41.75" 1060mm
SIG18	18.5" 470mm	32" 813mm

Sigma SERIES - VLED

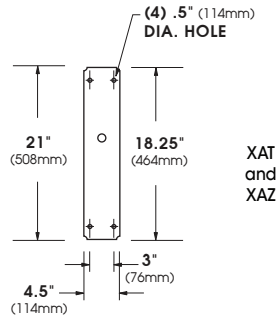
SPECIFICATIONS

Wall Mount Options



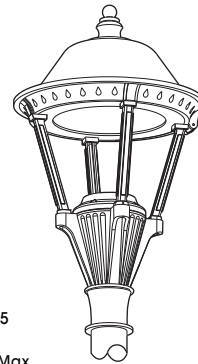
Extruded aluminum arm and cast aluminum wall bracket assembly provided with built in gasketed wire access for fixture/supply wire connection. Mounting hardware by others.

Wall Plate

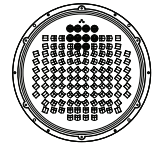


Mounting hardware by others.

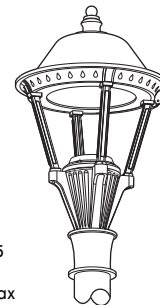
VLED™ Modules



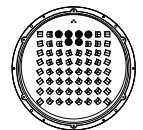
SIG23 E.P.A.= 1.65
Available in:
100LED Module Max



100 LED Module



SIG18 E.P.A. = 1.05
Available in:
64LED Module Max



64 LED Module

ORDERING INFORMATION

Spec/Order Example: SIG18/VLED-II/48LED-350mA/NW/347/WM-XAT/RAL-7005-S

Luminaire	Optics	LED Mode	Voltage	Mounting	Finish	Options	
Luminaire	Optics	LED	Voltage	Mounting	Finish	Options	
<input type="checkbox"/> SIG23-VLED <input type="checkbox"/> SIG18-VLED	VLED™ Distribution Type <input type="checkbox"/> Type II VLED-II <input type="checkbox"/> Type III Med. VLED-III-M <input type="checkbox"/> Type IV VLED-IV <input type="checkbox"/> Type V Med. VLED-V-SQ-M	# of LEDs SIG23 <input type="checkbox"/> 100LED <input type="checkbox"/> 80LED <input type="checkbox"/> 64LED SIG18 <input type="checkbox"/> 64LED <input type="checkbox"/> 48LED NOTES: 1 - Narrow band Ambers have no definable CCT equivalent	Drive Current <input type="checkbox"/> 525mA <input type="checkbox"/> 350mA Color Temp - CCT <input type="checkbox"/> NW (4000K)* *Standard <input type="checkbox"/> CW (5000K) <input type="checkbox"/> WW (3000K) Other LED Colors Available Consult Factory <input type="checkbox"/> Amber ¹ <input type="checkbox"/> Phosphor Converted Amber PCA <input type="checkbox"/> True Amber TRA	<input type="checkbox"/> 120 <input type="checkbox"/> 208 <input type="checkbox"/> 240 <input type="checkbox"/> 277 <input type="checkbox"/> 347 <input type="checkbox"/> 480	Post Top <input type="checkbox"/> FM Expansion Filter Flush Mount <input type="checkbox"/> PT Pole Tenon Arm Mount <input type="checkbox"/> 1 <input type="checkbox"/> 2-180 <input type="checkbox"/> 2-90 <input type="checkbox"/> 3-90 <input type="checkbox"/> 3-120 <input type="checkbox"/> 4-90 Wallmount <input type="checkbox"/> XAT-WM <input type="checkbox"/> XAZ-WM See USALTG.COM for additional arm styles	Standard Textured Finish <input type="checkbox"/> Black RAL-9005-T <input type="checkbox"/> White RAL-9003-T <input type="checkbox"/> Grey RAL-7004-T <input type="checkbox"/> Dark Bronze RAL-8019-T <input type="checkbox"/> Green RAL-6005-T For smooth finish replace suffix "T" with suffix "S" (Example: RAL-9500-S) Consult factor for custom colors	<input type="checkbox"/> Internal House Side Shield incl. LED Count (Example: HS-PLD/48) HS-VLED <input type="checkbox"/> Twist Lock Receptable Only TPR <input type="checkbox"/> 7-Pin Twist Lock Receptable Only TPR7 <input type="checkbox"/> High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) HLSW <input type="checkbox"/> Twist Lock Photocell + Voltage (Example: TPC347V) TPC+V <input type="checkbox"/> Photocell + Voltage (Example: PC120V) PC+V <input type="checkbox"/> Single Fuse (120V, 277V) SF <input type="checkbox"/> Double Fuse (208V, 240V) DF <input type="checkbox"/> Blue-Tooth Programmable Photo/Motion Sensor (Factory - Motion 50/100; Photo 75fc) MS-F211 <input type="checkbox"/> Remote Motion Sensor Configurator MS-FC10

A Note on B-U-G Ratings for Open Frame Luminaires

U.S. Architectural/Sun Valley Lighting practices full disclosure in photometric testing/reporting. To this end we address the Uplight component of the B-U-G Rating System as it applies to Open Frame luminaires.

All U.S. Architectural/Sun Valley VLED and PLED Optical Systems have a U0 B-U-G rating, however the luminaire model in which they are used impacts the overall Uplight rating. In no unit does the Uplight component exceed .3% and this is due to the light bouncing off the arm structure of post top mounted luminaires. This is so in ANY manufacturer's product, however the test protocol allows a manufacturer/test lab to subjectively ignore this "bounce" illumination and report the Uplight as U0. We refer to this as our Applied B-U-G Rating. In addition, the U0 rating in combination with the use of 3000K CCT LED's meets the intent of Dark Skies applications.

For questions, please contact Applications Engineering at Lucasp@usaltg.com or call 661-233-2051.

Excerpt from article written by a software developer of a popular Photometric Applications program regarding B-U-G ratings:

"...If any luminaire has a U0 rating, it can only be because the photometric laboratory technician made a decision to either not measure the upper hemisphere or simply ignore the measurements. Somewhat surprisingly, this is explicitly permitted by TM-15-11, which reads in Appendix A:

To determine BUG ratings, the photometric test data must include data in the upper hemisphere unless no light is emitted above 90 degrees vertical (for example if the luminaire has a flat lens and opaque sides) per the IES Testing Procedures Committee recommendations.

Simply put, U0 ratings are not based on the measured photometric data. Rather, they are achieved by fiat.

The problem is that it is possible for the same luminaire to be measured by two independent photometric laboratories and as a result be assigned two completely different BUG ratings. Given that there are no IESNA or CIE requirements to subtract stray light from the photometric measurements, the same luminaire could be assigned an uplight rating of U0, U1, or even U2, and a glare rating of G0 or G1."

LED Count	Applied B-U-G Rating	Source	Initial Lumens - 4000K CCT	Initial Lumens - 3000K CCT	Initial Lumens - 5000K CCT	L70 greater than (HR)	Starting Temp.	System Watts	Volts	Max Input Amps
SIG18										
48	III B1-U0-G2 VSQ B3-U0-G1	48 VLED® Optical Module - 350mA	4264 -	4050 -	4477 -	90,000+	-40°C	52	120	0.43
			4954	4706	5201				277	0.19
									347	0.15
48	III B1-U0-G2 VSQ B3-U0-G1	48 VLED® Optical Module - 525mA	5837 -	5543 -	6182 -	90,000+	-40°C	75	120	0.63
			6783	6443	7121				277	0.27
									347	0.22
64	III B1-U0-G2 VSQ B3-U0-G1	64 VLED® Optical Module - 350mA	5590 -	5309 -	5869 -	90,000+	-40°C	71	120	0.59
			6497	6171	6821				277	0.26
									347	0.20
64	III B2-U0-G2 VSQ B3-U0-G2	64 VLED® Optical Module - 525mA	7660 -	7275 -	8042 -	90,000+	-40°C	103	120	0.86
			8903	8457	9349				277	0.37
									347	0.30
SIG23										
64	III B1-U0-G2 VSQ B3-U0-G1	64 VLED® Optical Module - 350mA	6738 -	6399 -	7075 -	90,000+	-40°C	69	120	0.58
			7302	6936	7666				277	0.25
									347	0.20
64	III B2-U0-G2 VSQ B3-U0-G2	64 VLED® Optical Module - 525mA	9176 -	8715 -	9634 -	90,000+	-40°C	100	120	0.83
			9944	9446	10442				277	0.36
									347	0.29
80	III B2-U0-G2 VSQ B3-U0-G2	80 VLED® Optical Module - 350mA	8421 -	7999 -	9583 -	90,000+	-40°C	87	120	0.73
			9127	8760	8842				277	0.31
									347	0.25
80	III B2-U0-G3 VSQ B4-U0-G2	80 VLED® Optical Module - 525mA	11470 -	10895 -	12043 -	90,000+	-40°C	130	120	1.08
			12431	11809	13052				277	0.47
									347	0.37

Sigma SERIES - VLED

LED/ Electrical Guide

LED Count	Applied B-U-G Rating	Source	Initial Lumens - 4000K CCT	Initial Lumens - 3000K CCT	Initial Lumens - 5000K CCT	L70 greater than (HR)	Starting Temp.	System Watts	Volts	Max Input Amps
SIG23										
100	III B2-U0-G2 VSQ B4-U0-G2	100 VLED® Optical Module - 350mA	9598 -	9116 -	10077 -	90,000+	-40°C	108	120	0.90
			10403	9881	10922				277	0.39
									347	0.31
100	III B2-U0-G3 VSQ B4-U0-G2	100 VLED® Optical Module - 525mA	13352 -	12684 -	14019 -	90,000+	-40°C	160	120	1.33
			14472	13747	15195				277	0.58
									347	0.46

Phosphor Converted Amber LED

SIG18										
48	III B1-U0-G1 VSQ B2-U0-G1	48 VLED® Optical Module - 350mA	2219 -			51,000+	-40°C	58.2	120	0.49
			2578						277	0.21
									347	0.17
48	III B1-U0-G1 VSQ B2-U0-G1	48 VLED® Optical Module - 525mA	3037 -			51,000+	-40°C	84	120	0.70
			3592						277	0.30
									347	0.24
64	III B1-U0-G1 VSQ B2-U0-G1	64 VLED® Optical Module - 350mA	2909 -			51,000+	-40°C	79.5	120	0.66
			3380						277	0.29
									347	0.23
64	III B1-U0-G2 VSQ B3-U0-G1	64 VLED® Optical Module - 525mA	3984 -			51,000+	-40°C	115.4	120	0.96
			4631						277	0.42
									347	0.33

SIG23										
64	III B1-U0-G1 VSQ B2-U0-G1	64 VLED® Optical Module - 350mA	3506 -			51,000+	-40°C	77.3	120	0.64
			3799						277	0.28
									347	0.22
64	III B1-U0-G2 VSQ B3-U0-G1	64 VLED® Optical Module - 525mA	4773 -			51,000+	-40°C	112	120	0.93
			5172						277	0.40
									347	0.32
80	III B1-U0-G2 VSQ B3-U0-G1	80 VLED® Optical Module - 350mA	4380 -			51,000+	-40°C	97.4	120	0.81
			4747						277	0.35
									347	0.28
80	III B2-U0-G2 VSQ B3-U0-G1	80 VLED® Optical Module - 525mA	5965 -			51,000+	-40°C	145.6	120	1.21
			6465						277	0.53
									347	0.42
100	III B1-U0-G2 VSQ B3-U0-G1	100 VLED® Optical Module - 350mA	4992 -			51,000+	-40°C	121	120	1.01
			5410						277	0.44
									347	0.35
100	III B1-U0-G2 VSQ B3-U0-G2	100 VLED® Optical Module - 525mA	6944 -			51,000+	-40°C	179.2	120	1.49
			7526						277	0.65
									347	0.52

Sigma SERIES - VLED

LED/ Electrical Guide

LED Count	Applied B-U-G Rating	Source	Initial Lumens - 4000K CCT	Initial Lumens - 3000K CCT	Initial Lumens - 5000K CCT	L70 greater than (HR)	Starting Temp.	System Watts	Volts	Max Input Amps
True Amber LED - 590nm										
SIG18										
48	III B0-U0-G1 VSQ B1-U0-G0	48 VLED® Optical Module - 350mA	1272 - 1478			51,000+	-40°C	40	120	0.33
									277	0.14
									347	0.12
48	III B0-U0-G1 VSQ B1-U0-G0	48 VLED® Optical Module - 525mA	1742 - 2024			51,000+	-40°C	57.8	120	0.48
									277	0.21
									347	0.17
64	III B0-U0-G1 VSQ B1-U0-G1	64 VLED® Optical Module - 350mA	1668 - 1939			51,000+	-40°C	54.7	120	0.46
									277	0.20
									347	0.16
64	III B1-U0-G1 VSQ B2-U0-G1	64 VLED® Optical Module - 525mA	2286 - 2657			51,000+	-40°C	79.3	120	0.66
									277	0.29
									347	0.23
SIG23										
64	III B1-U0-G1 VSQ B2-U0-G1	64 VLED® Optical Module - 350mA	2011 - 2179			51,000+	-40°C	53.1	120	0.44
									277	0.19
									347	0.15
64	III B1-U0-G1 VSQ B2-U0-G1	64 VLED® Optical Module - 525mA	2738 - 2967			51,000+	-40°C	77	120	0.64
									277	0.28
									347	0.22
80	III B1-U0-G1 VSQ B2-U0-G1	80 VLED® Optical Module - 350mA	2513 - 2724			51,000+	-40°C	67	120	0.56
									277	0.24
									347	0.19
80	III B1-U0-G1 VSQ B2-U0-G1	80 VLED® Optical Module - 525mA	3423 - 3710			51,000+	-40°C	100.1	120	0.83
									277	0.36
									347	0.29
100	III B1-U0-G1 VSQ B2-U0-G1	100 VLED® Optical Module - 350mA	2864 - 3104			51,000+	-40°C	83.2	120	0.69
									277	0.30
									347	0.24
100	III B1-U0-G2 VSQ B3-U0-G1	100 VLED® Optical Module - 525mA	3984 - 4319			51,000+	-40°C	123.2	120	1.03
									277	0.44
									347	0.36

NOTES:

1. Max Input Amps is the highest of starting, operating, or open circuit currents.
2. Lumen values for LED Modules vary according to the distribution type.
3. System Watts includes the source watts and all driver components.
4. Fuse value should be sufficient to protect all wiring components. For electronic driver and LED component protection, use 10KV - 20KV surge suppressors.
5. L70(14K) - TM-21 6x rule applied.
6. Applied B-U-G Rating reflects adjustment for bounce illumination from the luminaire housing pre TM-15-11. Actual values are in the IES file.

WARNING: All fixtures must be installed in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.