

## AREA &amp; ROADWAY LIGHTING

# LCH SERIES - LED

**Luminaire**

High Impact clear polycarbonate diffusing lenses provided with durable corrosion resistant cast aluminum housing. Top is hinged for access. Luminaire base has 3" I.D. opening for tenon. All hardware is stainless steel.

**LED Power Array**

Array of individual LED Tubes fastened to retaining plates. Each LED Tube consists of circuit board populated with a multiple of LED's covered with a gasketed acrylic lens and mechanically fastened to an extruded aluminum heatsink. Tubes are sealed to a an IP65 Standard.

**Area and Roadway Distributions:** Acrylic Tube Lenses have individual molded-in refractive optics for each LED and provides concisely tailored beam patterns. LED Tubes are uniquely aimed horizontally and beam patterns combine to produce wide throw, highly efficient IES Distribution Types II, III, IV and V with minimal uplight. Used in conjunction with a clear patterned lenses only.

**General Diffused Lighting:** Acrylic Tube Lense provides diffusion of the raw LED distributions. Tubes are combined to produce uniform luminance of the outer globe. Used in conjunction with opal lenses only.

**Glass Refractor - GRV**

LED Tubes are aligned vertically and arranged radially to produce an even raw light distribution that simulates standard light sources. Array is secured within a 6" Prismatic Glass Refractor which provides the optical control. Used in conjunction with clear or clear patterned lenses only.

**LED Emitters**

High Power White LED's are driven between 350mA and 700mA for a maximum output of 2 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K) . All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L93 at 100,000 hours (TM-21 calculated at 6x Test Time).

**LED Driver**

Constant current electronic with a power factor of >0.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. 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.

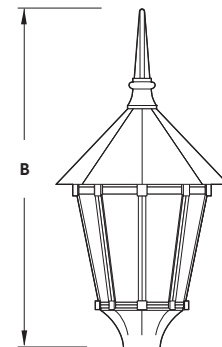
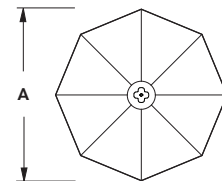
**True Amber LED's:** TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-595nm. True Amber has negligible blue light and is suitable for wildlife.

**Finish**

Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.


**LCH**

(LCH1 shown)



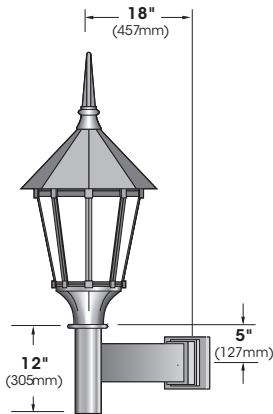
FIXTURE	A	B
LCH1	21.5" 546mm	42.5" 1080mm
LCH2	18" 457mm	36.5" 927mm



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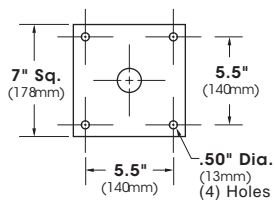
## SPECIFICATIONS

### WALL MOUNT

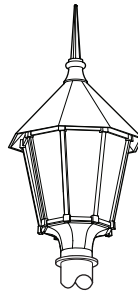


Extruded aluminum arm bracket and cast aluminum wall bracket.

### WALL PLATE



### EPA & WEIGHT



#### LCH1

Max Weight = 43 lbs  
Max EPA = 2.00  
64 LED Max

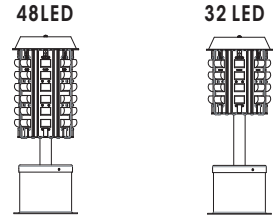


#### LCH2

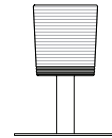
Max Weight = 31 lbs  
Max EPA = 1.40  
64 LED Max

### POWER ARRAY™ MODULES

#### POWER ARRAY™ 8 Tube Array



#### GRV - Glass Refractor



## ORDERING INFORMATION

Spec/Order Example: LCH/PA-IV/32LED/350mA/30K/UNV/2-180/RAL-7004-T/CPA/BF/TPR

Luminaire	Optics	# of LED's	Drive Current	CCT	Voltage	Mounting	Finish	Options
Luminaire	Optics	LED			Voltage	Mounting	Finish	Options
<input type="checkbox"/> LCH1	<b>Area &amp; Roadway</b> (Clear Patterned Lenses) <input type="checkbox"/> PA - II <input type="checkbox"/> PA - III <input type="checkbox"/> PA - IV <input type="checkbox"/> PA - V  <b>General Diffuse</b> (White-Opal Lenses) <input type="checkbox"/> PA - SYM  <b>GLASS REFRACTOR</b> (Clear Patterned/Clear Lenses) <input type="checkbox"/> GRV - III <input type="checkbox"/> GRV - V	<input type="checkbox"/> 48LED <sup>1</sup> <input type="checkbox"/> 32LED <sup>2</sup>	<input type="checkbox"/> 175mA <input type="checkbox"/> 350mA <input type="checkbox"/> 525mA <input type="checkbox"/> 700mA	<input type="checkbox"/> 27K (2700K) <input type="checkbox"/> 30K (3000K) <input type="checkbox"/> 40K (4000K) <input type="checkbox"/> 50K (5000K) <input type="checkbox"/> TRA True Amber* *TRA Available only in 350mA and 525mA Drive Currents	<input type="checkbox"/> UNV (120-277) <input type="checkbox"/> 347 <input type="checkbox"/> 480	<b>Arm Mount</b> <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  <b>Wall Mount</b> <input type="checkbox"/> WM  <b>Post Top</b> <input type="checkbox"/> PT	<b>Standard Textured Finish</b> <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  <b>Premium Finishes</b> <input type="checkbox"/> Rust <input type="checkbox"/> Patina Copper PC  For smooth finish replace suffix "T" with suffix "S" (Example: RAL-9500-S) Consult factor for custom colors	<b>Lens Options:</b> <input type="checkbox"/> Clear Patterned Acrylic CPA <input type="checkbox"/> Clear Smooth Acrylic CA <input type="checkbox"/> Opal Acrylic WA <hr/> <input type="checkbox"/> House Side Shield HS <input type="checkbox"/> High-Low Dimming for Switch (BY OTHERS) Select 25/100 Or 50/100 (EX HLSW25) HLSW** <input type="checkbox"/> Pole Mounted Bluetooth Photo/Motion Sensor. (Factory 50/100 Motion Photo 75 fc) MS-F311 <input type="checkbox"/> Mini-Button Photocell + Voltage PC+V <input type="checkbox"/> Std. Twist Lock Photocell Receptacle TPR <input type="checkbox"/> 7 Pin Twist Lock Photocell Receptacle TPR7 <input type="checkbox"/> Single Fuse SF <input type="checkbox"/> Double Fuse DF
		<b>Notes:</b> 1- LCH1 is 48LED PA Max 2- LCH2 is 32LED PA Max						

**ELECTRICAL DATA GUIDE - AMPERAGE CHART**

# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
32	175	18.0	0.15	0.09	0.06	0.05	0.04
32	350	35.0	0.29	0.17	0.13	0.10	0.07
32	525	52.0	0.43	0.25	0.19	0.15	0.11
32	700	69.0	0.58	0.33	0.25	0.20	0.14
36	175	21.0	0.18	0.10	0.08	0.06	0.04
36	350	40.0	0.33	0.19	0.14	0.12	0.08
48	175	27.0	0.23	0.13	0.10	0.08	0.06
48	350	52.0	0.43	0.25	0.19	0.15	0.11
48	525	78.0	0.65	0.38	0.28	0.22	0.16
48	700	104.0	0.87	0.50	0.38	0.30	0.22

**PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE**

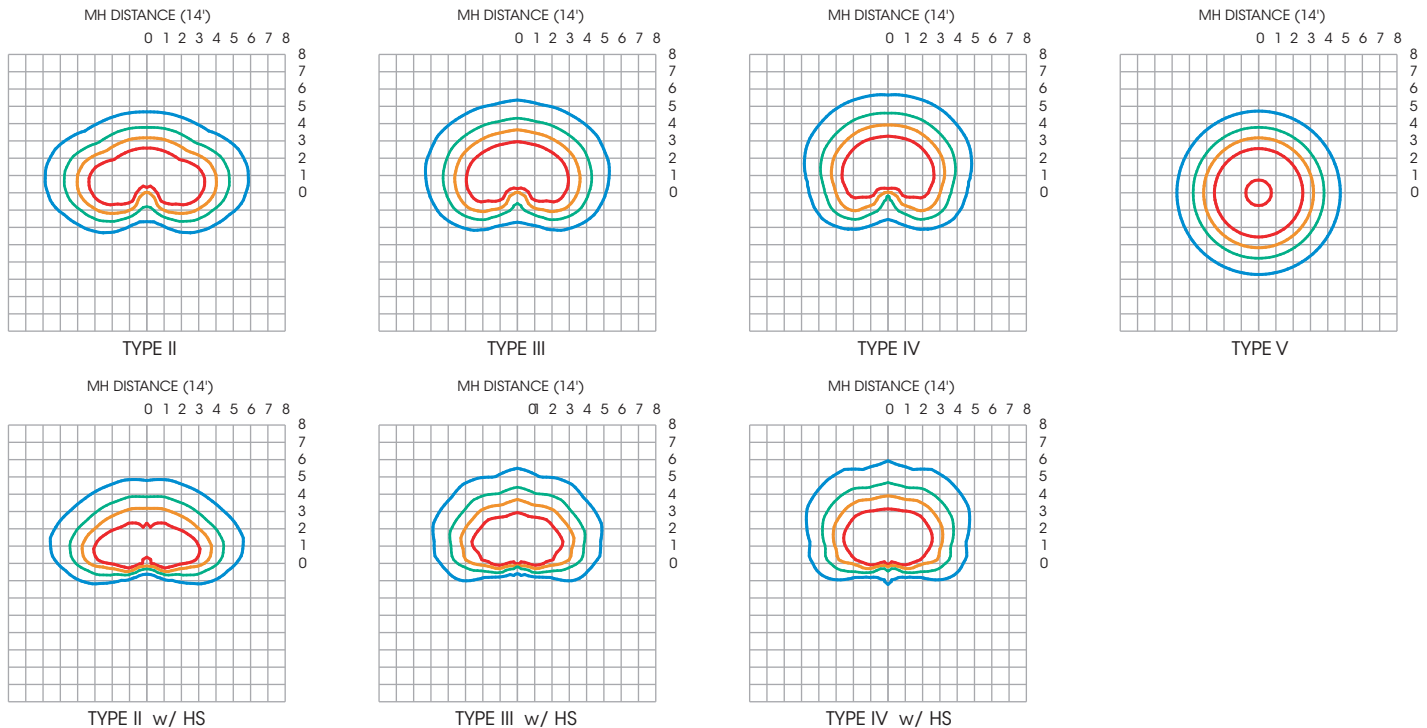
LED LUMEN MAINTENANCE		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dictates that L93 > 100,000 Hours.

Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

**PHOTOMETRIC DATA GUIDE - ISOFOOTCANDLE TEMPLATES**

LAA1-PA2-CPA-48LED-700mA-4000K - 14' Mounting Height



IES File downloads for this product can be found at [www.usaltg.com/downloads/asr.html](http://www.usaltg.com/downloads/asr.html)

**PHOTOMETRIC DATA GUIDE - LUMEN TABLES**

PA-CPA (Area & Roadway)																			
LED Count	Drive Current (mA)	System Watts	Dist'n Type	27K (2700K - 70CRI)			30K (3000K - 70CRI)			40K (4000K - 70CRI)			50K (5000K - 70CRI)			System Watts	TRA (590nm)		
				Lumens	LPW	BUG Rating	Lumens	LPW	BUG Rating	Lumens	LPW	BUG Rating	Lumens	LPW	BUG Rating		Lumens	LPW	BUG Rating

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**PHOTOMETRIC DATA GUIDE - LUMEN TABLES**
**PA-SYM-WA (General Diffuse)**

LED Count	Drive Current (mA)	System Watts	Dist'n Type	27K (2700K - 70CRI)			30K (3000K - 70CRI)			40K (4000K - 70CRI)			50K (5000K - 70CRI)			System Watts	TRA (590nm)		
				LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING		LUMENS	LPW	BUG RATING
32	175	18.0	SYM	1988	110	B1-U4-G2	2073	115	B1-U4-G2	2160	120	B1-U4-G2	2243	125	B1-U4-G2	14.0	721	51	B0-U3-G1
	350	35.0	SYM	3520	101	B1-U5-G2	3673	105	B1-U5-G2	3826	109	B1-U5-G2	3980	114	B1-U5-G2	27.0	1148	43	B1-U3-G1
	525	52.0	SYM	4855	93	B1-U5-G3	5067	97	B1-U5-G3	5277	101	B2-U5-G3	5487	106	B2-U5-G3	41.0	1479	36	B1-U4-G1
	700	69.0	SYM	6099	88	B2-U5-G3	6364	92	B2-U5-G3	6630	96	B2-U5-G3	6896	100	B2-U5-G3	N/A	#N/A		
48	175	27.0	SYM	2980	110	B1-U5-G2	3107	115	B1-U5-G2	3238	120	B1-U5-G2	3370	125	B1-U5-G2	21.0	1080	51	B0-U3-G1
	350	52.0	SYM	5278	102	B2-U5-G3	5509	106	B2-U5-G3	5739	110	B2-U5-G3	5968	115	B2-U5-G3	40.0	1723	43	B1-U4-G1
	525	78.0	SYM	7282	93	B2-U5-G3	7598	97	B2-U5-G3	7914	101	B2-U5-G3	8230	106	B2-U5-G3	61.0	2215	36	B1-U4-G2
	700	104.0	SYM	9147	88	B2-U5-G3	9546	92	B2-U5-G4	9943	96	B2-U5-G4	10341	99	B3-U5-G4	N/A	#N/A		
64	175	36.0	SYM	3972	110	B1-U5-G2	4145	115	B1-U5-G3	4317	120	B1-U5-G3	4493	125	B1-U5-G3	27.0	1439	53	B1-U4-G1
	350	70.0	SYM	7041	101	B2-U5-G3	7346	105	B2-U5-G3	7653	109	B2-U5-G3	7959	114	B2-U5-G3	53.0	2297	43	B1-U4-G2
	525	103.0	SYM	9710	94	B2-U5-G4	10131	98	B2-U5-G4	10554	102	B3-U5-G4	10976	107	B3-U5-G4	81.0	2955	36	B1-U5-G2
	700	138.0	SYM	12200	88	B3-U5-G4	12729	92	B3-U5-G4	13260	96	B3-U5-G4	13791	100	B3-U5-G4	N/A	#N/A		

**GRV (Glass Refractor)**

LED Count	Drive Current (mA)	System Watts	Dist'n Type	27K (2700K - 70CRI)			30K (3000K - 70CRI)			40K (4000K - 70CRI)			50K (5000K - 70CRI)			System Watts	TRA (590nm)		
				LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING		LUMENS	LPW	BUG RATING
36	175	21.0	III	1986	95	B1-U4-G2	2072	99	B1-U4-G2	2159	103	B1-U4-G2	2245	107	B1-U4-G2	16.0	701	44	B0-U3-G1
		21.0	V	1941	92	B1-U4-G2	2025	96	B1-U4-G2	2110	100	B1-U4-G2	2194	104	B1-U4-G2	16.0	686	43	B0-U3-G1
	350	40.0	III	3546	89	B1-U5-G3	3701	93	B1-U5-G3	3855	96	B1-U5-G3	4009	100	B1-U5-G3	31.0	1157	37	B1-U3-G1
		40.0	V	3465	87	B1-U5-G3	3614	90	B1-U5-G3	3766	94	B1-U5-G3	3918	98	B1-U5-G3	31.0	1131	36	B1-U3-G1

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