

AREA & ROADWAY LIGHTING

LAES SERIES - LED

SPECIFICATIONS

Luminaire

One piece high impact clear acrylic linear prismatic diffusing globe provided with durable corrosion resistant cast aluminum fitter. Standard fitter has 3" I.D. opening for 2.88" OD tenon. All hardware is stainless steel. Luminaire is UL® Listed for Wet Location.

LED POWER ARRAY™ 2

Three-dimensional 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 diffusing globe only.

General Diffused Lighting: Acrylic Tube Lense provides duffusion of the raw LED distributions. Tubes are combined to produce uniform luminance of the outer globe. Used in conjunction with an opal patterned diffusing globe 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 Neutral White (4000K), Cool White (5000K), or Warm White (2700K & 3000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 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 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

Finish

Polyester powder coat incorporates four step iron phosphate process to pretreat metal surface for maximum adhesion. Top coat is baked at 400°F for maximum hardness and exterior durability.

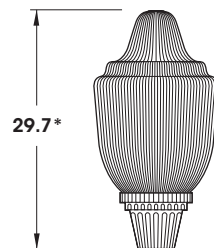
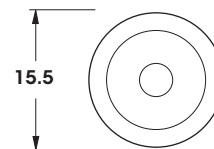
PROJECT NAME: _____

PROJECT TYPE: _____



LAES

SHOWN WITH -YC FITTER



*Height Varies With Fitter. See Page 3.

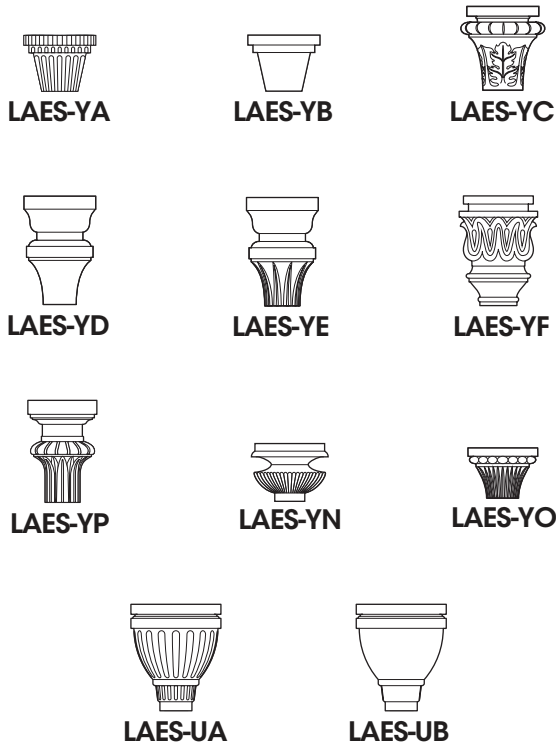


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LAES SERIES - LED

SPECIFICATIONS

FITTER OPTIONS



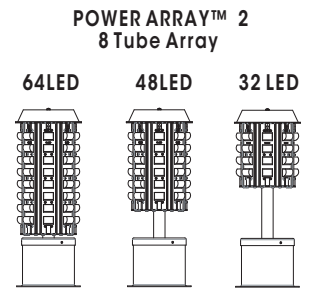
All Fitters Available with Mini-Button Photocells.
YD, YE, UA, & UB Available with Twist-Lock Photocells.

EPA & WEIGHT



LAES
Max Weight = 33 lbs
Max EPA = 2.10
64 LED Max

POWER ARRAY™ 2 MODULES



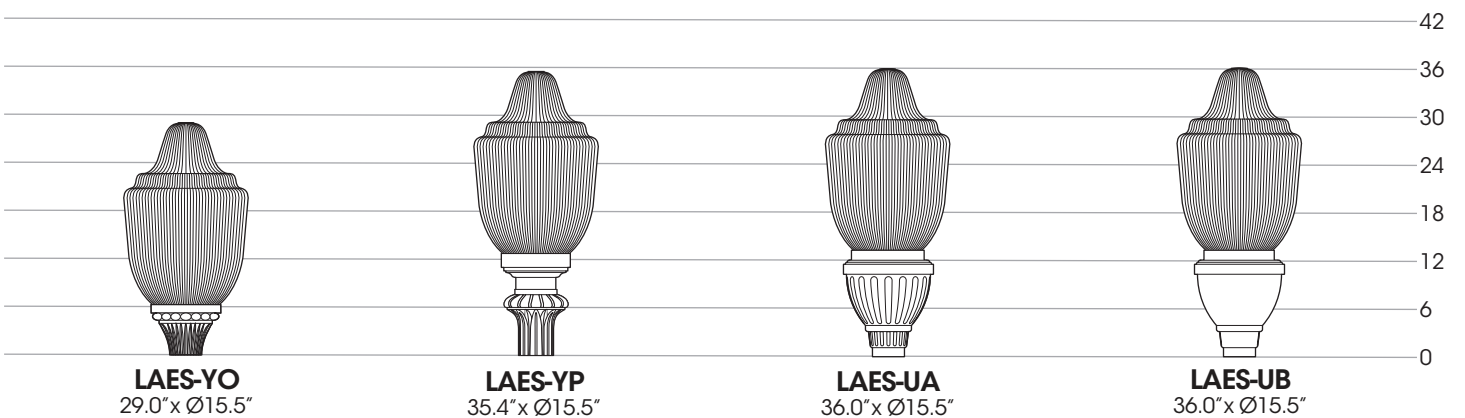
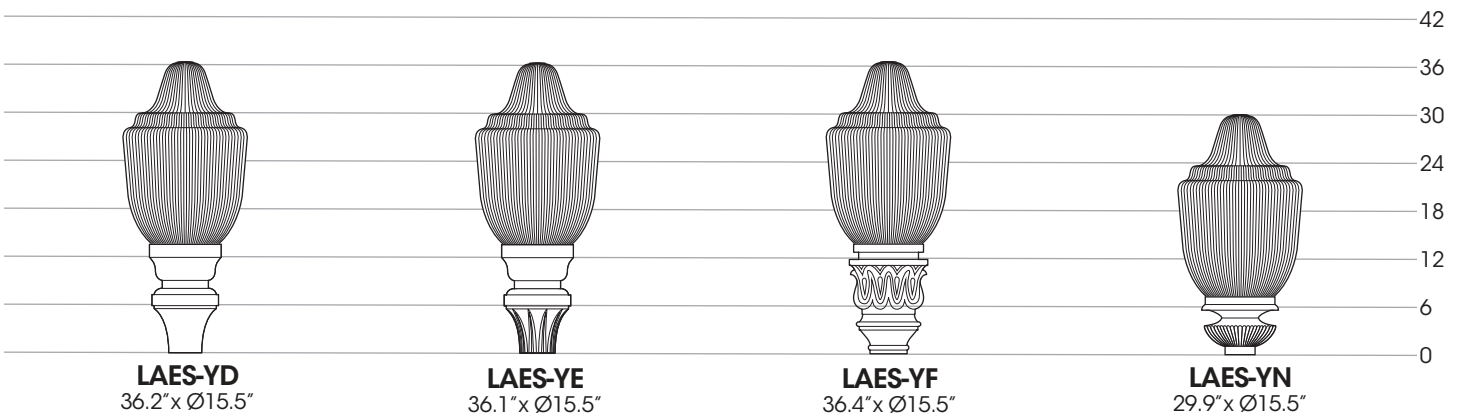
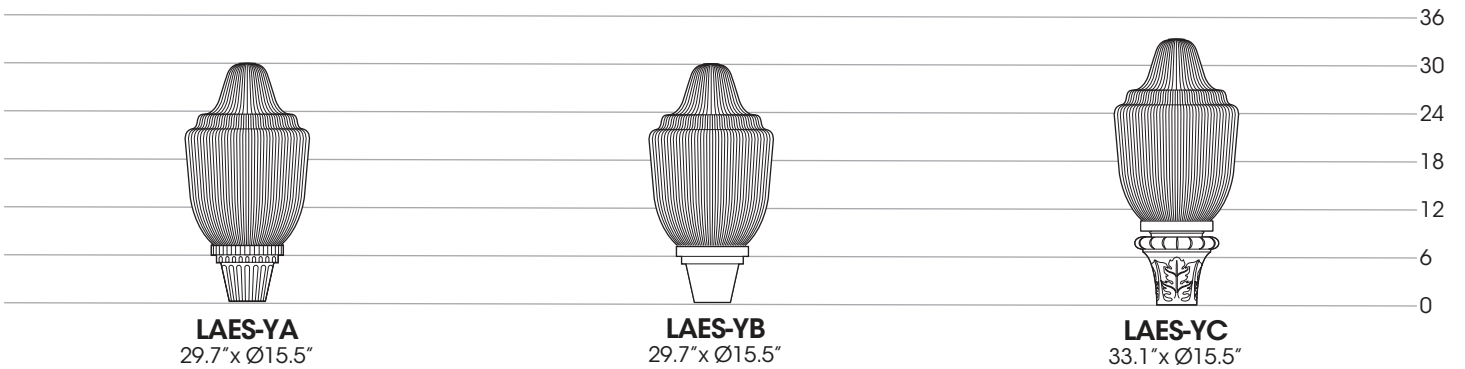
ORDERING INFORMATION

Spec/Order Example: LAES-YP/PA2-IV/60LED/525mA/30K/347/PT/RAL-7005-S/CPA/OF

LUMINAIRE-FITTER	OPTICS	# of LED's	DRIVE CURRENT	CCT	VOLTAGE	MOUNTING	FINISH	OPTIONS
Luminaire	Optics	LED			Voltage	Mounting	Finish	Options
<input type="checkbox"/> LAES-YA <input type="checkbox"/> LAES-YB <input type="checkbox"/> LAES-YC <input type="checkbox"/> LAES-YD <input type="checkbox"/> LAES-YE <input type="checkbox"/> LAES-YF <input type="checkbox"/> LAES-YN <input type="checkbox"/> LAES-YO <input type="checkbox"/> LAES-YP <input type="checkbox"/> LAES-UA <input type="checkbox"/> LAES-UB	Area & Roadway (Acrylic Retractive Globe) <input type="checkbox"/> PA2 - II <input type="checkbox"/> PA2 - III <input type="checkbox"/> PA2 - IV <input type="checkbox"/> PA2 - V General Diffuse (OPAL PATTERNED LENS) <input type="checkbox"/> PA2- SYM	# of LED's <input type="checkbox"/> 64LED <input type="checkbox"/> 48LED <input type="checkbox"/> 32LED Drive Current <input type="checkbox"/> 350mA <input type="checkbox"/> 525mA <input type="checkbox"/> 700mA Color Temp-CCT <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* Consult Factory for Other LED Color, CCT, & CRI Options *TRA Available only in 350mA and 525mA Drive Currents Consult Factory for Other Drive Currents	<input type="checkbox"/> 120 <input type="checkbox"/> 208 <input type="checkbox"/> 240 <input type="checkbox"/> 277 <input type="checkbox"/> 347 <input type="checkbox"/> 480	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 Wall Mount <input type="checkbox"/> WM Post Top <input type="checkbox"/> PT	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 Factory for Custom Colors	Lens Options: <input type="checkbox"/> Clear Prismatic Acrylic (STANDARD GLOBE) CPA <input type="checkbox"/> Brass Finial BF <input type="checkbox"/> Ornamental Finial OF <input type="checkbox"/> Decorative Aluminum Top DAT <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		

LAES SERIES - LED

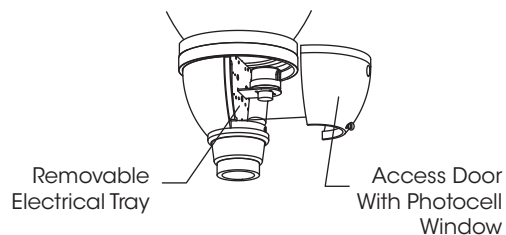
GLOBE AND FITTER CONFIGURATIONS



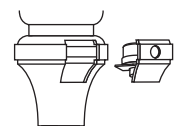
Notes:

All Fitters Have 3" ID Opening for 2.88" OD Tenon.
Standard Tenon Length is 3.0".
Stainless Steel Set Screws Provided for Mounting.
All Fitters Can Accept Mini-Button Photo Cells.
YD, YE, UA, & UB Fitters Can Accept Standard
Twist Lock Photo Cells (See Detail).
UA & UB Fitters Have a Removable Electrical Tray.

UA & UB Utility Fitters



Twist Lock Photocell Fitters



LAES SERIES - LED

SAMPLE ASSEMBLIES

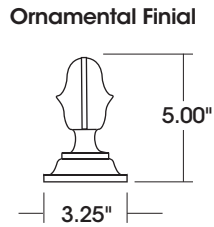
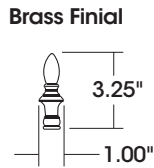


- A. 47-1460-10'-PT/LAES1-UA-CPA-PF/LED/ACCESSORIES/FINISH
- B. 45-1090-11'/XBX-2-180/LAES-YD-CPA-BF/LED/ACCESSORIES/FINISH
- C. 52-1070-11'/PT/LAES1-YP-CPA-BF/LED/ACCESSORIES/FINISH
- D. 44-1075C-13'/XAV-2-180/LAES1-UB-CPA/LED/ACCESSORIES/FINISH
- E. WM-XAA/LAES-YC-CPA/LED/ACCESSORIES/FINISH

Sample Assemblies show a small offering of the Sun Valley Line of Poles, Bases, Shafts, Arms, & Luminaires. Please visit usaltg.com for the full product offering.

LAES SERIES - LED

OPTIONS



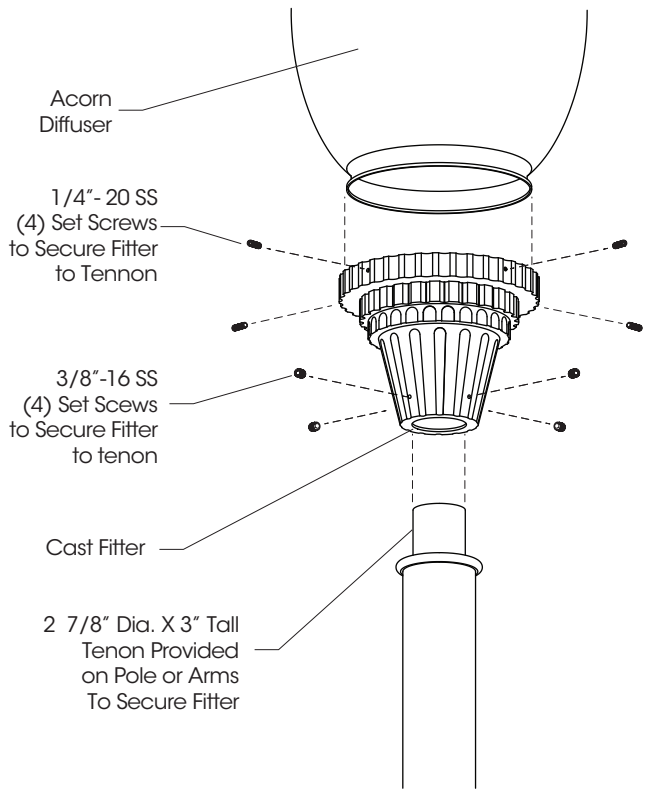
POLE MOUNTED MFS-311 BLUETOOTH PHOTO/MOTION SENSOR

Factory Settings:
No Motion - 50%
Motion - 100%
Delay - 15 min.
Photocell - 75fc

Sensors can be Field
Programmed With
Bluetooth App

Coupling Provided
on Pole to Secure
Motion Sensor.

INSTALLATION DETAIL



High Low Dimming For Switches (HLSW)

The HLSW is a Small Electronic Switch which Provides High Low Dimming Control Through the LED Driver's 0-10V Control. Switching is Done by Adding a Secondary AC Switched Hot Trigger Line to the HLSW in Addition to the Normal AC Power Line. When the Secondary Trigger Line is Powered, the Fixture will go to 100% Dimming. With no Power to the Trigger, the Fixture will operate at 50% or 25% Dimming. Switches for the Trigger Line can be a Normal AC Switch/Breaker or Timed Switch/Breaker.

Wireless and Other Fixture Controls

Contact Factory for Wireless and Other Fixture Controls and Recommendations. Most Controls Can be Integrated and Factory Installed.

ELECTRICAL DATA GUIDE - AMPERAGE CHARTS

# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
32	350	34	0.28	0.16	0.12	0.10	0.07
32	525	52	0.43	0.25	0.19	0.15	0.11
32	700	69	0.58	0.33	0.25	0.20	0.14
48	350	51	0.43	0.25	0.18	0.15	0.11
48	525	78	0.65	0.38	0.28	0.22	0.16
48	700	104	0.87	0.50	0.38	0.30	0.22
64	350	68	0.57	0.33	0.25	0.20	0.14
64	525	103	0.86	0.50	0.37	0.30	0.21
64	700	138	1.15	0.66	0.50	0.40	0.29

Electrical Amperage Loads are for High Power White LED's in All Color Temperatures.

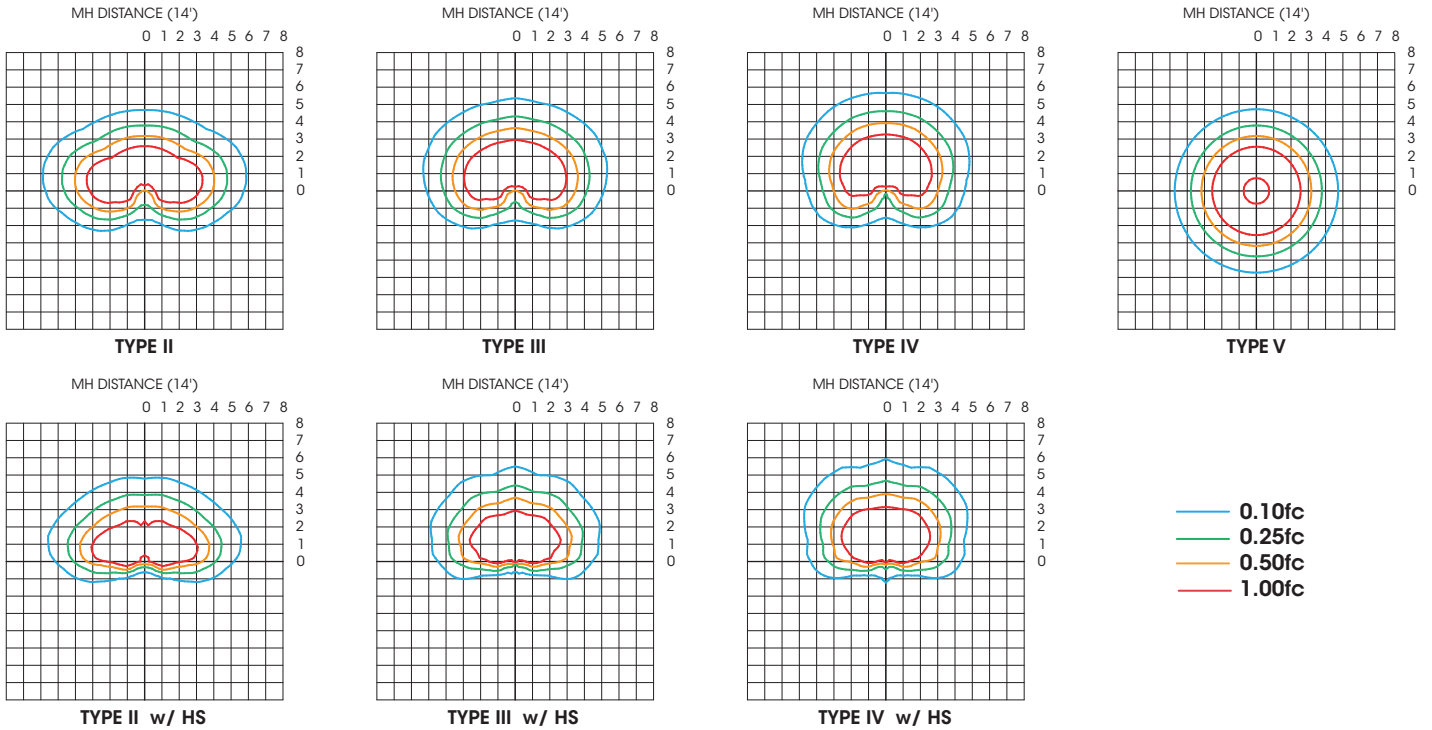
Wattages are System Watts or Total Input Watts and include all Electrical Components.

Use 0.80 Scale factor for TRA LED's.

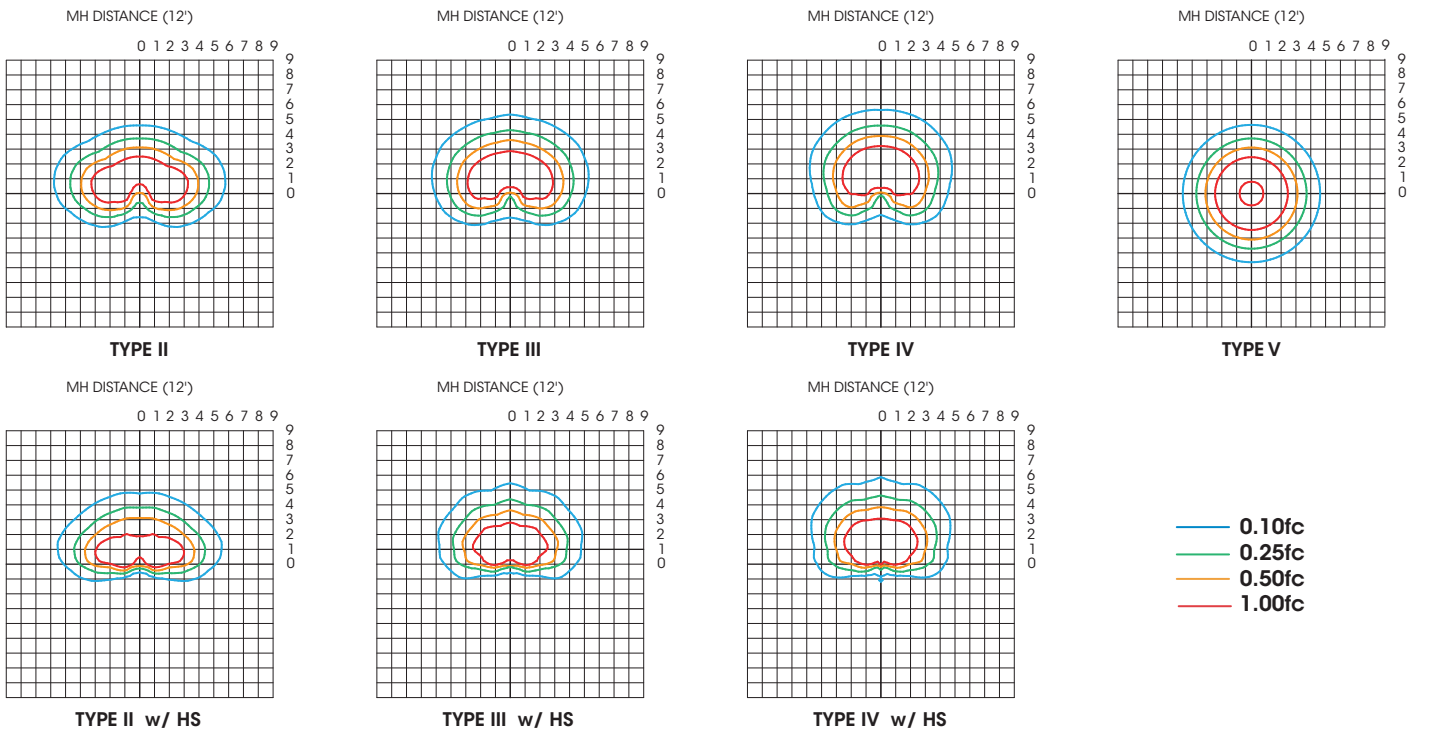
LAES SERIES - LED

PHOTOMETRIC DATA GUIDE - ISOFOOTCANDLE PLOTS

LAES-PA2-CPA-48LED-700mA-4000K - 14' Pole Height



LAES-PA2-CPA-32LED-700mA-4000K - 12' Pole Height



LAES SERIES - LED

PHOTOMETRIC DATA GUIDE - LUMEN TABLES (LAES & LAES2 8 TUBE PA2)

LAES-PA2-CPA																			
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	350	34.0	II	4066	120	B2-U3-G3	4389	129	B2-U3-G3	4621	136	B2-U3-G3	4851	143	B2-U3-G3	27.0	1386	51	B1-U3-G2
			III	4043	119	B1-U3-G3	4364	128	B1-U3-G3	4595	135	B1-U3-G3	4824	142	B1-U3-G3		1379	51	B1-U3-G2
			IV	4036	119	B1-U3-G3	4357	128	B1-U3-G3	4587	135	B1-U3-G3	4816	142	B1-U3-G3		1376	51	B1-U3-G2
			V	4125	121	B3-U3-G2	4453	131	B3-U3-G2	4688	138	B3-U3-G2	4922	145	B3-U3-G2		1407	52	B1-U3-G1
			II-HS	3257	96	B1-U3-G3	3515	103	B1-U3-G3	3701	109	B1-U3-G3	3886	114	B1-U3-G3		1111	41	B0-U3-G1
			III-HS	3184	94	B1-U3-G3	3437	101	B1-U3-G3	3619	106	B1-U3-G3	3799	112	B1-U3-G3		1086	40	B0-U3-G1
			IV-HS	3745	110	B1-U3-G3	4043	119	B1-U3-G3	4256	125	B1-U3-G3	4469	131	B1-U3-G3		1277	47	B0-U3-G2
32	525	52.0	II	5610	108	B2-U3-G3	6055	116	B2-U3-G3	6375	123	B2-U4-G3	6693	129	B2-U4-G3	41.0	1785	44	B1-U3-G2
			III	5578	107	B2-U3-G3	6021	116	B2-U4-G3	6338	122	B2-U4-G3	6655	128	B2-U4-G3		1775	43	B1-U3-G2
			IV	5569	107	B1-U3-G3	6011	116	B1-U3-G3	6328	122	B2-U4-G3	6644	128	B2-U4-G4		1772	43	B1-U3-G2
			V	5692	109	B3-U3-G3	6145	118	B3-U3-G3	6468	124	B3-U3-G3	6792	131	B3-U4-G4		1811	44	B2-U3-G1
			II-HS	4493	86	B1-U3-G3	4850	93	B1-U3-G3	5105	98	B1-U3-G3	5360	103	B1-U3-G3		1429	35	B0-U3-G2
			III-HS	4392	84	B1-U3-G3	4741	91	B1-U3-G3	4991	96	B1-U3-G3	5240	101	B1-U3-G3		1398	34	B0-U3-G2
			IV-HS	5166	99	B1-U3-G3	5577	107	B1-U3-G3	5871	113	B1-U3-G4	6164	119	B1-U3-G4		1644	40	B0-U3-G2
32	700	69.0	II	7047	102	B2-U4-G4	7608	110	B2-U4-G4	8008	116	B3-U4-G4	8408	122	B3-U4-G4	N/A	N/A		
			III	7007	102	B2-U4-G4	7564	110	B2-U4-G4	7963	115	B2-U4-G4	8360	121	B2-U4-G4		N/A		
			IV	6996	101	B2-U4-G4	7552	109	B2-U4-G4	7950	115	B2-U4-G4	8347	121	B2-U4-G4		N/A		
			V	7152	104	B3-U4-G3	7720	112	B3-U4-G3	8127	118	B3-U4-G3	8533	124	B3-U4-G3		N/A		
			II-HS	5645	82	B1-U3-G3	6093	88	B1-U3-G4	6414	93	B1-U3-G4	6734	98	B1-U3-G4		N/A		
			III-HS	5519	80	B1-U3-G3	5957	86	B1-U3-G3	6271	91	B1-U3-G4	6584	95	B1-U3-G4		N/A		
			IV-HS	6490	94	B1-U3-G4	7006	102	B1-U4-G4	7376	107	B1-U4-G4	7744	112	B1-U4-G4		N/A		
48	350	51.0	II	6100	120	B2-U3-G3	6584	129	B2-U4-G3	6931	136	B2-U4-G4	7278	143	B2-U4-G4	40.0	2080	52	B1-U3-G2
			III	6065	119	B2-U4-G3	6547	128	B2-U4-G3	6892	135	B2-U4-G4	7236	142	B2-U4-G4		2068	52	B1-U3-G2
			IV	6055	119	B1-U3-G3	6536	128	B2-U4-G3	6881	135	B2-U4-G4	7224	142	B2-U4-G4		2065	52	B1-U3-G2
			V	6190	121	B3-U3-G3	6682	131	B3-U4-G3	7034	138	B3-U4-G3	7384	145	B3-U4-G3		2110	53	B2-U3-G1
			II-HS	4885	96	B1-U3-G3	5274	103	B1-U3-G3	5552	109	B1-U3-G3	5829	114	B1-U3-G3		1666	42	B0-U3-G2
			III-HS	4776	94	B1-U3-G3	5156	101	B1-U3-G3	5428	106	B1-U3-G3	5699	112	B1-U3-G3		1629	41	B0-U3-G2
			IV-HS	5617	110	B1-U3-G3	6064	119	B1-U3-G4	6383	125	B1-U3-G4	6702	131	B1-U3-G4		1916	48	B0-U3-G2
48	525	78.0	II	8414	108	B3-U4-G4	9083	116	B3-U4-G4	9562	123	B3-U4-G4	10039	129	B3-U4-G4	61.0	2677	44	B1-U3-G2
			III	8367	107	B2-U4-G4	9032	116	B2-U4-G4	9508	122	B2-U4-G4	9982	128	B3-U4-G4		2662	44	B1-U3-G2
			IV	8353	107	B2-U4-G4	9017	116	B2-U4-G4	9492	122	B2-U4-G4	9966	128	B2-U4-G5		2658	44	B1-U3-G2
			V	8539	109	B3-U4-G3	9216	118	B4-U4-G3	9702	124	B4-U4-G3	10188	131	B4-U4-G3		2717	45	B2-U3-G2
			II-HS	6739	86	B1-U3-G4	7275	93	B1-U4-G4	7658	98	B1-U4-G4	8041	103	B1-U4-G4		2144	35	B1-U3-G2
			III-HS	6589	84	B1-U3-G4	7113	91	B1-U3-G4	7487	96	B1-U4-G4	7861	101	B1-U4-G4		2096	34	B0-U3-G2
			IV-HS	7749	99	B1-U4-G4	8366	107	B1-U4-G4	8806	113	B1-U4-G5	9246	119	B1-U4-G5		2466	40	B0-U3-G2
48	700	104.0	II	10571	102	B3-U4-G5	11412	110	B3-U4-G5	12012	116	B3-U4-G5	12613	121	B3-U5-G5	N/A	N/A		
			III	10511	101	B3-U4-G5	11346	109	B3-U4-G5	11944	115	B3-U4-G5	12541	121	B3-U5-G5		N/A		
			IV	10493	101	B2-U4-G5	11328	109	B2-U4-G5	11924	115	B2-U4-G5	12520	120	B3-U4-G5		N/A		
			V	10725	103	B4-U4-G3	11578	111	B4-U4-G4	12188	117	B4-U4-G4	12797	123	B4-U4-G4		N/A		
			II-HS	8467	81	B1-U4-G4	9140	88	B1-U4-G5	9622	93	B1-U4-G5	10102	97	B2-U4-G5		N/A		
			III-HS	8278	80	B1-U4-G4	8936	86	B1-U4-G4	9406	90	B1-U4-G5	9876	95	B1-U4-G5		N/A		
			IV-HS	9736	94	B1-U4-G5	10510	101	B1-U4-G5	11063	106	B1-U4-G5	11616	112	B1-U4-G5		N/A		
64	350	68.0	II	8132	120	B3-U4-G4	8779	129	B3-U4-G4	9241	136	B3-U4-G4	9703	143	B3-U4-G4	53.0	2773	52	B1-U3-G2
			III	8086	119	B2-U4-G4	8729	128	B2-U4-G4	9189	135	B2-U4-G4	9648	142	B2-U4-G4		2757	52	B1-U3-G2
			IV	8073	119	B2-U4-G4	8715	128	B2-U4-G4	9174	135	B2-U4-G4	9632	142	B2-U4-G4		2753	52	B1-U3-G2
			V	8251	121	B3-U4-G3	8908	131	B4-U4-G3	9377	138	B4-U4-G3	9845	145	B4-U4-G3		2814	53	B2-U3-G2
			II-HS	6514	96	B1-U3-G4	7032	103	B1-U4-G4	7402	109	B1-U4-G4	7772	114	B1-U4-G4		2221	42	B1-U3-G2
			III-HS	6368	94	B1-U3-G4	6874	101	B1-U3-G4	7237	106	B1-U3-G4	7598	112	B1-U4-G4		2171	41	B0-U3-G2
			IV-HS	7490	110	B1-U4-G4	8085	119	B1-U4-G4	8511	125	B1-U4-G4	8937	131	B1-U4-G5		2554	48	B0-U3-G2
64	525	103.0	II	11219	109	B3-U4-G5	12111	118	B3-U4-G5	12749	124	B3-U5-G5	13386	130	B3-U5-G5	81.0	3570	44	B1-U3-G3
			III	11155	108	B3-U4-G5	12042	117	B3-U5-G5	12677	123	B3-U5-G5	13310	129	B3-U5-G5		3549	44	B1-U3-G3
			IV	11137	108	B2-U4-G5	12023	117	B2-U4-G5	12656	123	B3-U5-G5	13288	129	B3-U5-G5		3544	44	B1-U3-G3
			V	11384	111	B4-U4-G4	12290	119	B4-U4-G4	12937	126	B4-U4-G4	13583	132	B4-U5-G4		3623	45	B3-U3-G2
			II-HS	8986	87	B1-U4-G4	9700	94	B2-U4-G5	10211	99	B2-U4-G5	10722	104	B2-U4-G5		2859	35	B1-U3-G3
			III-HS	8785	85	B1-U4-G4	9483	92	B1-U4-G5	9983	97	B1-U4-G5	10482	102	B1-U4-G5		2795	35	B0-U3-G3
			IV-HS	10333	100	B1-U4-G5	11154	108	B1-U4-G5	11742	114	B1-U4-G5	12329	120	B1-U4-G5		3288	41	B0-U3-G3
64	700	138.0	II	14095	102	B3-U5-G5	15216	110	B3-U5-G5	16016	116	B3-U5-G5	16817	122	B3-U5-G5	N/A	N/A		
			III	14014	102	B3-U5-G5	15129	110	B3-U5-G5	15925	115	B3-U5-G5	16722	121	B3-U5-G5		N/A		
			IV	13991	101	B3-U5-G5	15104	109	B3-U5-G5	15899	115	B3-U5-G5	16694	121	B3-U5-G5		N/A		
			V	14301	104	B4-U5-G4	15438	112	B4-U5-G4	16251	118	B4-U5-G4	17065	124	B4-U5-G5		N/A		
			II-HS	11289	82	B2-U4-G5	12187	88	B2-U4-G5	12828	93	B2-U4-G5	13470	98	B2-U4-G5		N/A		
			III-HS	11037	80	B1-U4-G5	11914	86	B1-U4-G5	12542	91	B1-U4-G5	13169	95	B1-U4-G5		N/A		
			IV-HS	12981	94	B1-U4-G5	14013	102	B1-U5-G5	14751	107	B1-U5-G5	15488	112	B1-U5-G5		N/A		

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000 (10x Test Time Calculated)	L94	0.94x
100,000 (Theoretical Calculated)	L92	0.92x
150,000 (Theoretical Calculated)	L89	0.89x

Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)
TM-21 6x Test Time Dictates that L94 > 60,000 Hours.