



# Linear Highbay

## LHA-LED



The LHA-LED series delivers versatile, high-efficiency linear highbay luminaires with adjustable wattage, selectable CCT, and electronically adjustable beam pattern, all in a compact design. Durable and contractor-friendly, it's perfect for industrial and commercial applications, replacing HID and fluorescent systems.

### IDEAL APPLICATIONS

- ✔ Warehouses
- ✔ Factories
- ✔ Gymnasiums
- ✔ Service Bays
- ✔ Retail stores
- ✔ Workshops

### SPECIFICATIONS

	LHA1-LED110A60	LHA1-LED165A100	LHA2-LED320A220		LHA1-LED110A60	LHA1-LED165A100	LHA2-LED320A220	
<b>PERFORMANCE</b>				<b>CONSTRUCTION</b>				
Light Output	16100/12700/9500lm	24500/20700/15900lm	49800/43700/35600lm	Housing	Die-cast Aluminum			
	Lumen Selectable			Paint	Glossy White, Polyester Powder Coat			
Efficacy	159 lm/W	159 lm/W	162 lm/W	Lens	Low Glare Frosted Polycarbonate			
CCT	3500/4000/5000K (CCT Selectable)			Weight	Fixture & Cable	5.29 lb	5.51 lb	
Beam Distribution	45x100/65x95/90°x90° (Beam Selectable)				2x2' T-Grid Mounting Plate	6.35 lb		
Replaces Up to	150 MH	400 MH	1000 MH		2x4' T-Grid Mounting Plate	14.45 lb	13.09 lb	
CRI	>83			<b>AMBIENT OPERATING TEMPERATURE</b>				
<b>ELECTRICAL</b>				-40°C to 50°C (-40°F to 122°F)				
Wattage	105/80/60W	160/130/100W	320/270/220W	<b>MOUNTING</b>				
Voltage	120-277V			Suspension Mount - V-Hooks & Chain (Included), Aircraft Cable, Surface Mount, Pendant Mount, T-Grid Drop Ceiling Mount				
Surge Protection	6kV (Built-in Driver) as per IEC/EN61000-4-5			<b>CERTIFICATIONS</b>				
Power Factor	>0.99			cULus Listed for Canada and USA, per UL 1598, CSA C22.2 No. 250.0, DLC 6.0 Premium				
THD	<4%			<b>CONTROLS</b>				
Cord	Pre-installed 10' Power Cable (3x18 AWG)			Dimming	0-10V Dimming (Dim to Off)			
Battery Backup	9W (Option Available)			Sensor	PIR/Microwave Motion Sensor/Dimmer with Remote Control			
<b>LUMEN MAINTENANCE</b>				<b>MAX AMPERAGE DRAW (A)</b>				
	L90	L80	L70		120V	208V	240V	277V
	60,000 Hrs	95,000 Hrs	>100,000 hrs	LHA1-LED110A60	0.97	0.56	0.49	0.42
				LHA1-LED165A100	1.48	0.86	0.74	0.64
				LHA2-LED320A220	2.96	1.71	1.48	1.28

Note: Electrical and light performance data is based on LM79 test reports, measured at maximum wattage, 4000K, and 120V.

Life hours are derived from IESNA LM-80 testing report and projected per IESNA TM-21 calculations.



**ORDERING GUIDE**



Fixture	Wattage	Voltage	Color Temp.	Beam Distribution	Finish	Dimming	Controls	Battery Backup	T-Grid Mounting
LHA1	LED110A60 LED165A100	B - 120-277V	VK - Color Selectable (3500K/ 4000K/ 5000K)	VD - Beam Selectable (45°x100°/ 65°x95°/ 90°x90°)	WHT - White	DIM - 0-10V Dimming	SR - Sensor Receptacle  AWN-R - Lutron Athena Wireless Node <sup>3</sup>	BLANK - No Battery Backup  BBK9 - 9W Battery Backup <sup>1</sup>	BLANK - Not for T-Grid Mounting
LHA2	LED320A220								2x2TGrid - T-Grid Mounting for 2x2' Drop Ceiling <sup>2</sup>  2x4TGrid - T-Grid Mounting for 2x4' Drop Ceiling



<sup>1</sup> Battery Backup is for suspension and surface mount only.

<sup>2</sup> Offered with LHA1 only.

<sup>3</sup> Lutron Athena Wireless Node with RF only (A-WN-D01-RF-BL) is installed in the fixture. Gateway and controller not included.

**Default Setting:** Maximum Wattage, 4000K, and 90°x90° Beam Distribution

STOCK CODES	
054745	LHA1-LED110A60-B-VK-VD-WHT-DIM-SR
054746	LHA1-LED165A100-B-VK-VD-WHT-DIM-SR
054747	LHA2-LED320A220-B-VK-VD-WHT-DIM-SR

INCLUDED IN THE BOX			
	PRE-INSTALLED 10 FT POWER CORD		V HOOKS & 6 FT SUSPENSION CHAIN

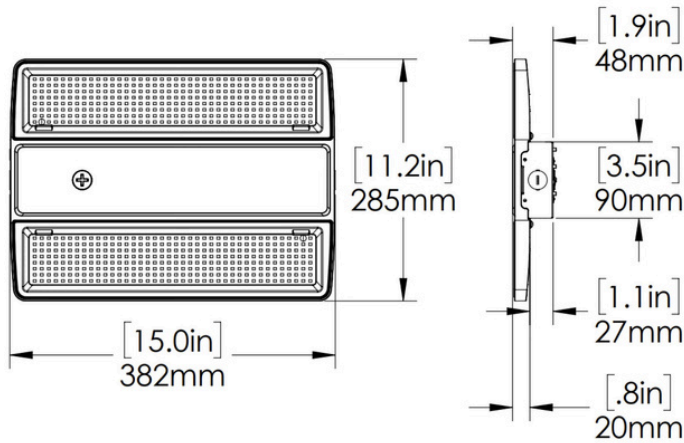
ACCESSORIES SOLD SEPARATELY					
	053172	LHA SURFACE MOUNT KIT		054782	MW40P-RCA-W1
	053173	LHA PENDANT MOUNT KIT		054783	PIR40P-RCA-W1
	053174	10FT AIRCRAFT CABLE SET W/ SNAP HOOK & THIMBLE		052267	RC-100 MOTION SENSOR REMOTE CONTROL
	054751 054781	LHA1 BEAM SELECT WIRE GUARD <sup>1</sup> LHA2 BEAM SELECT WIRE GUARD <sup>1</sup>			

<sup>1</sup> Wire Guards compatible with all sensors offered.

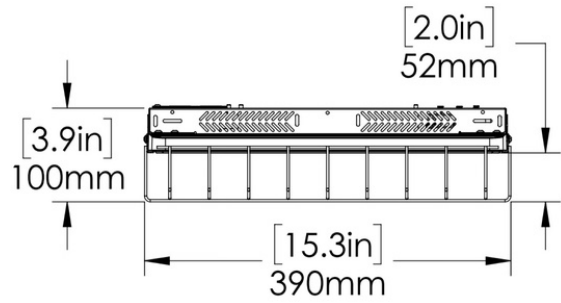
**DIMENSIONS**

**LHA1-LED**

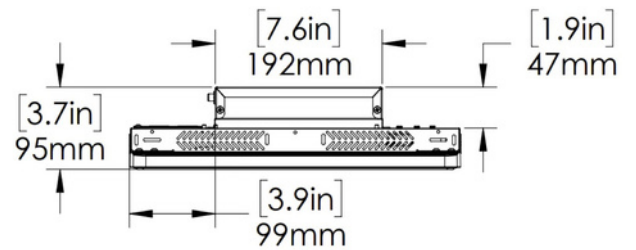
**LHA1 Fixture**



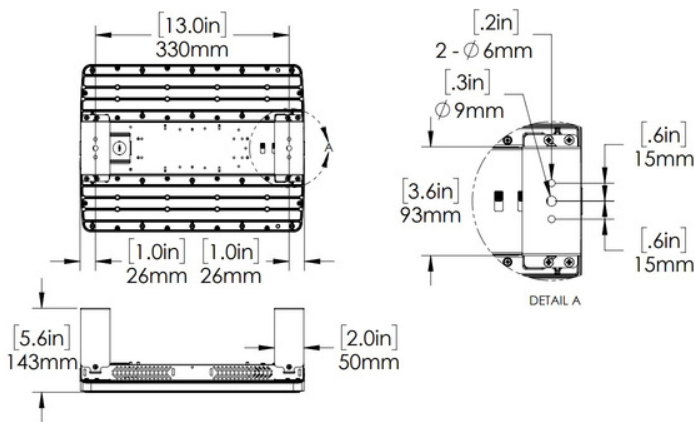
**LHA1 Wire Guard**



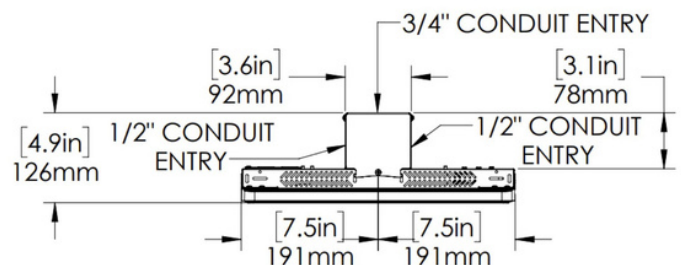
**LHA1 Battery Backup**



**LHA1 Surface Mount Kit**

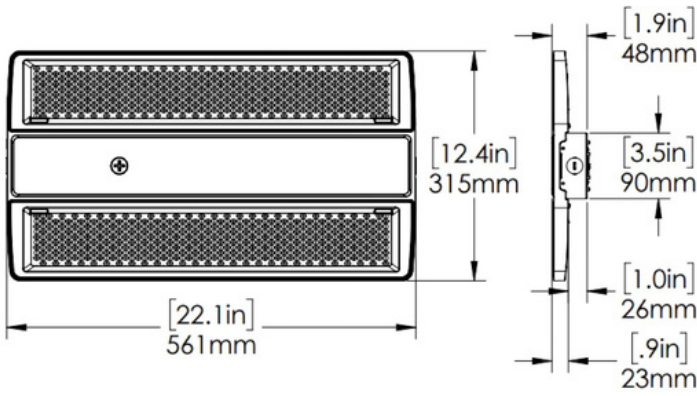


**LHA1 Pendant Mount Kit**

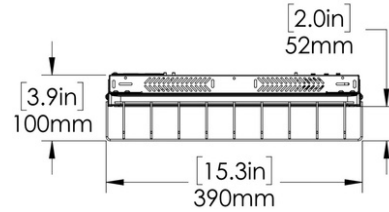


LHA2-LED

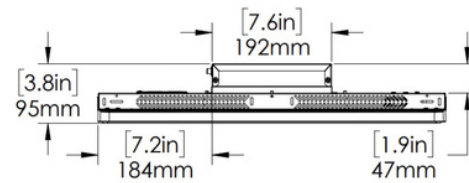
**LHA2 Fixture**



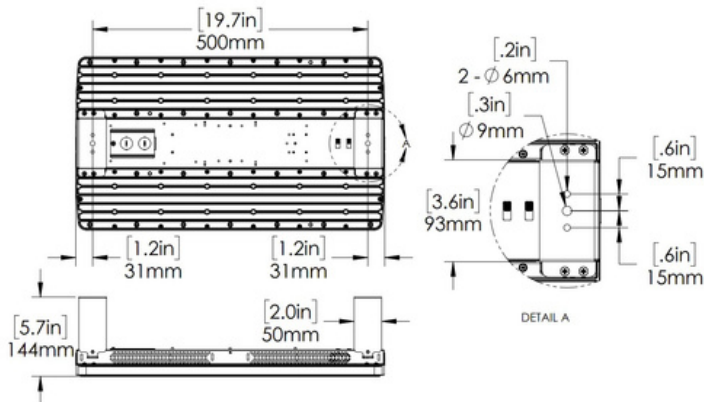
**LHA2 Wire Guard**



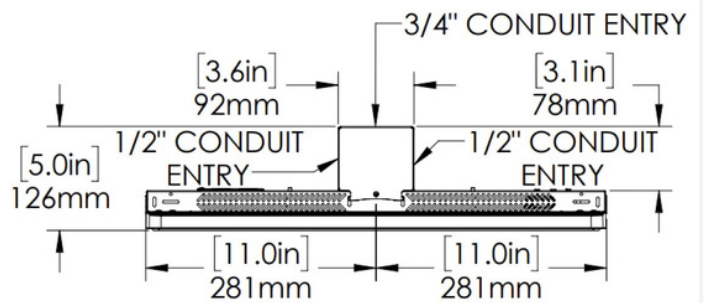
**LHA2 Battery Backup**



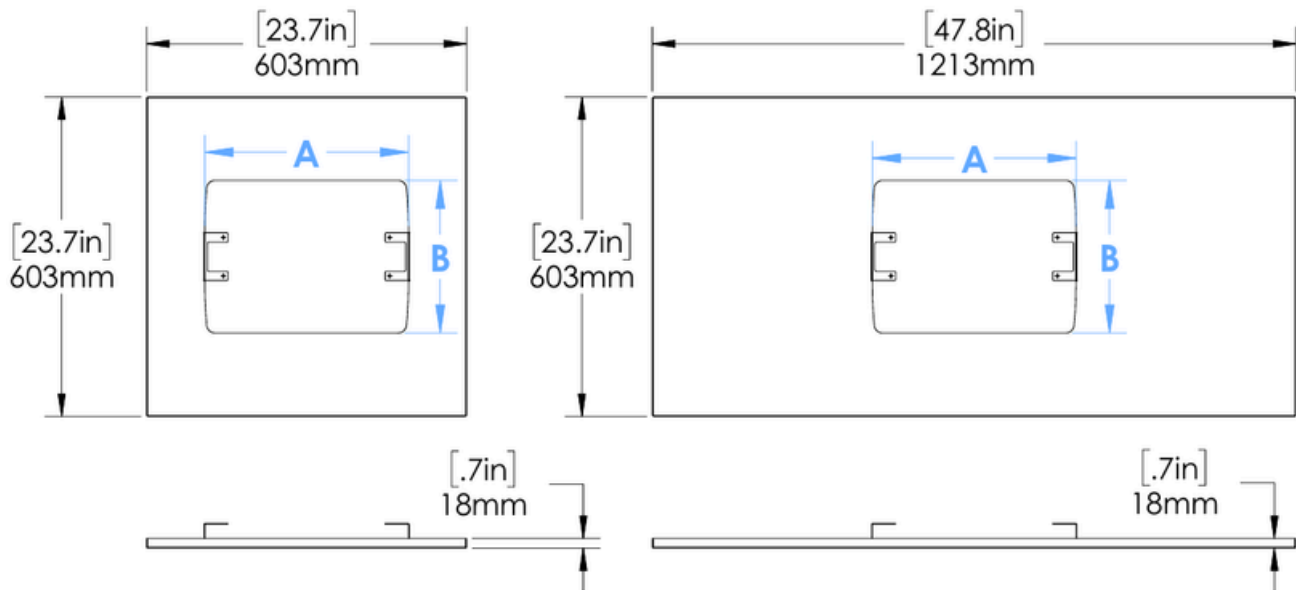
**LHA2 Surface Mount Kit**



**LHA2 Pendant Mount Kit**



FILLER PLATE FOR T-GRID DROP CEILING



Model	2'x2'		2'x4'	
	A	B	A	B
LHA1	384 mm [15.1 in]	288 mm [11.3 in]	384 mm [15.1 in]	288 mm [11.3 in]
LHA2	-	-	563 mm [22.2 in]	318 mm [12.5 in]



**Note:** Fixture and T-Grid mounting plate assembly must be supported by suspension mounting directly on the ceiling surface.

BATTERY BACKUP SPECIFICATIONS



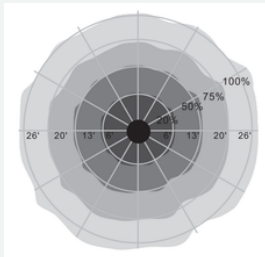
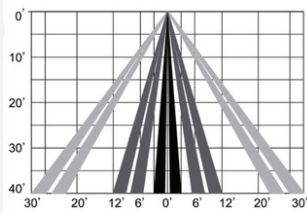
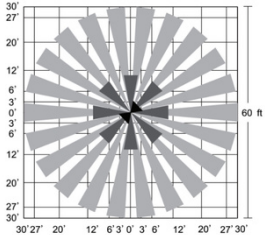
Input Power	8W
Input Voltage	120-277V
Output Power (Emergency Mode)	9W
Recharge Current	0-500mA
Recharge Time	24 to 48 Hrs
Discharge Time	90 min
Ambient Operating Temperature <sup>1</sup>	0°C to 60°C (32F to 140F)
Service Life	50,000 Hrs
IP Rating	IP20
Installation	Factory installed in a junction box that comes mounted on the fixture
Light Output <sup>2</sup>	1400 lm

<sup>1</sup>When installed in the fixture, the system's ambient operating temperature is limited by the component with the lowest allowable range.

<sup>2</sup>Lumen output with emergency battery backup can be calculated by multiplying the battery output power with the efficacy of fixture.

## HIGHBAY PLUG-IN SENSORS

### MOTION SENSOR SPECIFICATIONS - PROGRAM USING REMOTE CONTROL

<b>Sensor Type</b>	Highbay Microwave Plug-In Sensor MW40P-RCA-W1	Highbay PIR Plug-In Sensor PIR40P-RCA-W1
<b>Image</b>		
<b>Input Voltage</b>	12-24 VDC	
<b>Input Current</b>	50mA Max.	30mA Max.
<b>Output Current</b>	25mA Max. Sinking Current	
<b>Dimming</b>	Class 2, 0-10VDC	
<b>Radio Frequency</b>	5.8GHz ±75MHz	
<b>Detection Range</b>	52 ft Max.	60 ft Max.
<b>Mounting Height</b>	40ft Max.	40 ft Max.
<b>Detection Range</b>	 Top View	 Side View  Top View
<b>Ambient Operating Temperature<sup>1</sup></b>	-20°C to 60°C (-4°F to 140°F)	
<b>Indoor/Outdoor Use</b>	Indoor & Outdoor Use	
<b>IP Rating</b>	IP65	
<b>Installation</b>	Field installed - Wireless Plug & Play	

### MOTION SENSOR PROGRAMMING

<b>Programming Tool</b>	RC-100 Remote Control
<b>Brightness</b>	70%/80%/90%/100%*
<b>Sensitivity</b>	20%/50%/75%/100%*
<b>Hold Time</b>	10s/1min*/10min/30min
<b>Daylight Sensor</b>	10Lux/30Lux/50Lux/100Lux/Disabled*
<b>Standby Dim</b>	10%/20%*/30%/50%
<b>Standby Time</b>	1min*/30min/60min/+∞

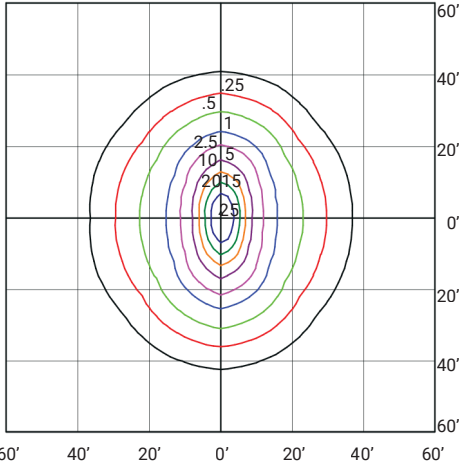
- Default settings are marked with \*
- Default Setting: Brightness: 100%, Sensitivity: 100%, Hold time: 20 min, Standby dim: 50%, Standby time: 1 min, Daylight sensor: Disabled (Sun icon)
- For instructions on programming the motion sensor remote control, please see the Installation Instructions.

<sup>1</sup>When installed in the fixture, the system's ambient operating temperature is limited by the component with the lowest allowable range.

**PHOTOMETRIC PLOTS**

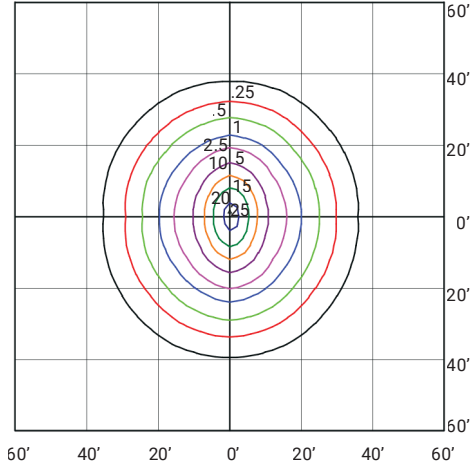
**LHA1-LED110A60-B-VK-VD-WHT-DIM (105W 5000K 45X100)  
MOUNTED AT 20 FEET**

LUMENS 15933.8      MAX CALCULATED VALUE 29.88



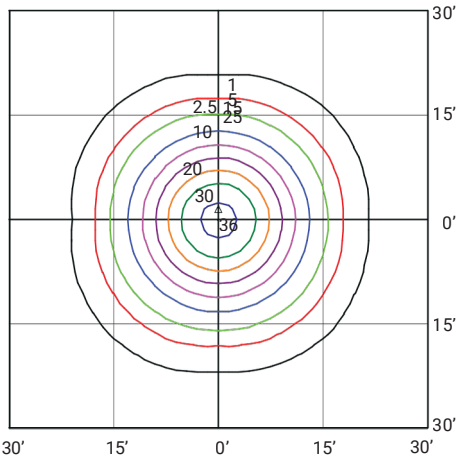
**LHA1-LED110A60-B-VK-VD-WHT-DIM (105W 5000K 65X95)  
MOUNTED AT 20 FEET**

LUMENS 16603.7      MAX CALCULATED VALUE 26.57



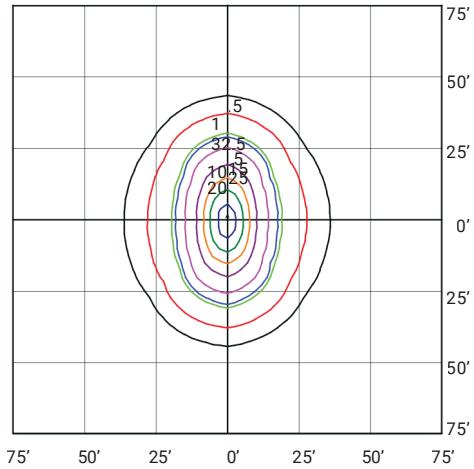
**LHA1-LED110A60-B-VK-VD-WHT-DIM (105W 5000K 90X90)  
MOUNTED AT 15 FEET**

LUMENS 16246.14      MAX CALCULATED VALUE 38.20



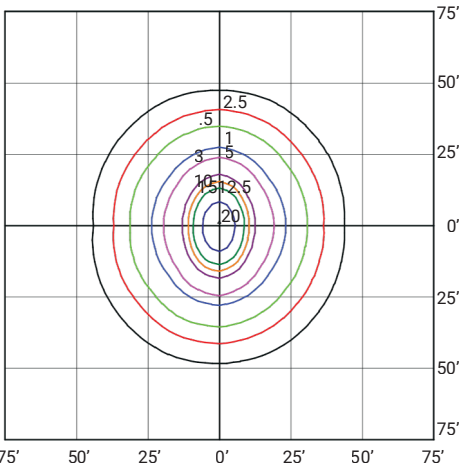
**LHA1-LED165A100-B-VK-VD-WHT-DIM (160W 5000K 45X100)  
MOUNTED AT 25 FEET**

LUMENS 23573.7      MAX CALCULATED VALUE 27.49



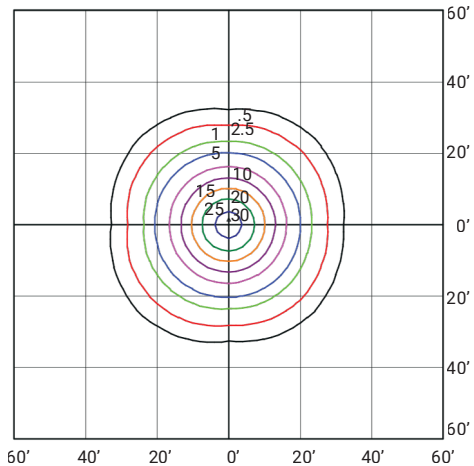
**LHA1-LED165A100-B-VK-VD-WHT-DIM (160W 5000K 65X95)  
MOUNTED AT 25 FEET**

LUMENS 24754.24      MAX CALCULATED VALUE 24.78



**LHA1-LED165A100-B-VK-VD-WHT-DIM (160W 5000K 90X90)  
MOUNTED AT 20 FEET**

LUMENS 24754.47      MAX CALCULATED VALUE 32.14

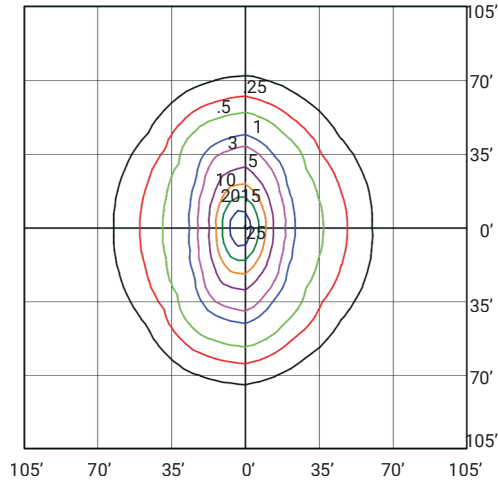


NOTE: Photometric plots are shown at the maximum lumen setting, 120V and 5000K.

### PHOTOMETRIC PLOTS

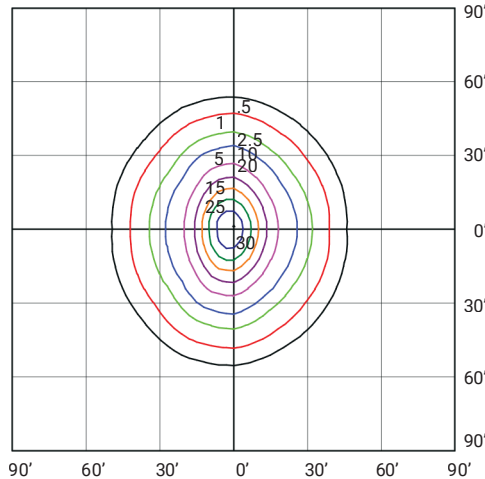
**LHA2-LED320A220-B-VK-VD-WHT-DIM (320W 5000K 45X100)  
MOUNTED AT 35 FEET**

LUMENS 48570.3      MAX CALCULATED VALUE 27.74



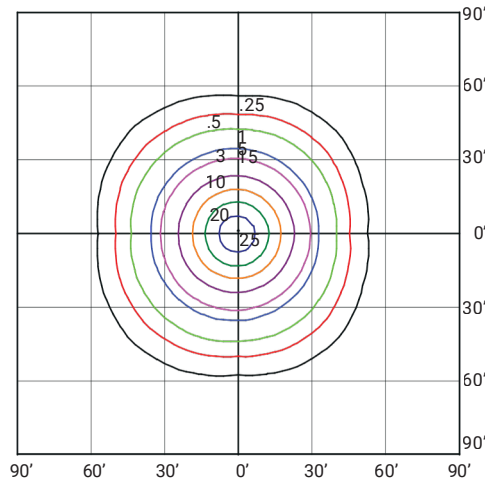
**LHA2-LED320A220-B-VK-VD-WHT-DIM (320W 5000K 65X90)  
MOUNTED AT 30 FEET**

LUMENS 51208.01      MAX CALCULATED VALUE 33.75



**LHA2-LED320A220-B-VK-VD-WHT-DIM (320W 5000K 90X90)  
MOUNTED AT 30 FEET**

LUMENS 50865.66      MAX CALCULATED VALUE 28.03



NOTE: Photometric plots are shown at the maximum lumen setting, 120V and 5000K.