Catalog # :	Project :
Prepared By :	Date :

LHB
LED Linear High Bay

The LHB is the perfect solution for a wide variety of applications and mounting heights. It's competitive pricing and multiple lumen packages make it an ideal choice as a one for one replacement of conventional fluorescent and metal halide high bay systems.

Features & Specifications

Optical System

- High transmission impact resistant clear polycarbonate lens comes standard.
- Optional diffuse polycarbonate lens eliminates bright spots from individual LED's and provides high vertical illumination and visual comfort.
- Use of closely spaced medium-power, high brightness chips provide uniform lens luminance with no dead spots.
- Choice of 4 high performance distributions; Symmetric (S), Symmetric with a diffused lens (SDFL), Aisle Lighter (AL) or Less Lens (LL).
- Available in 5000K, 4000K and 3500K color temperatures.
- Minimum CRI of 80.

Electrical

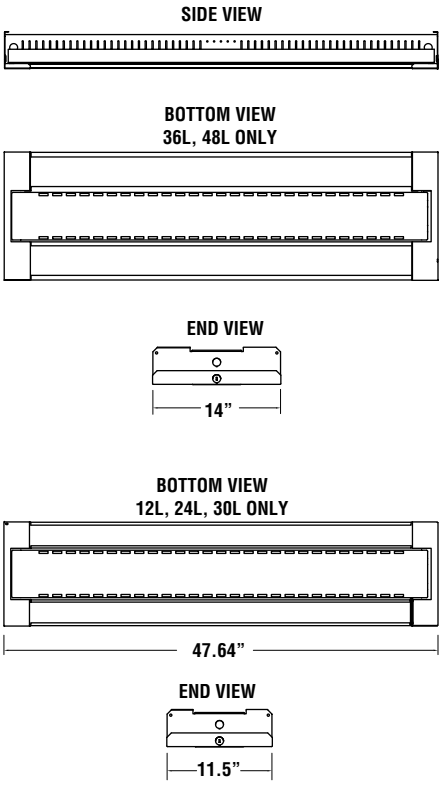
- High-performance driver features over-voltage, under voltage, short-circuit and over temperature protection.
- 0-10 volt dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L70 Calculated Life: >100k Hours (See Lumen Maintenance on Page 2)
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +40°C (-40°F to +104°F), 30°C (86°F) when equipped with EM option.
- Power factor: >.95
- Input power stays constant over life.
- Optional 120v-277v integral emergency battery pack is available to meet critical life safety lighting requirements. The 90-minute batteries provide constant power to the LED system, ensuring code compliance. A test switch/indicator button is installed on the housing for ease of maintenance.
- Field replaceable surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

Controls

- Optional integral passive infrared motion sensors and daylight sensors activate switching of luminaire light levels (see page 4 for more details).

TITLE 24 COMPLIANT · Dimmable · c UL us LISTED · RoHS COMPLIANT · ARRA · damp location

Dimensions



Features & Specifications (Cont.)

Construction

- Rigid housing is die-formed thick gauge steel and aluminum for consistency and strength.
- Vertical fins serve as a heat sink and resist accumulation of dust and debris.
- Access panel provides single screw access to wiring and driver connections.
- Luminaire is proudly assembled in the U.S.
- All metal parts are painted after fabrication following treatment with phosphate rust inhibitor. Finish coating of housing reflecting surfaces is with high-reflectance white (minimum 92%) polyester powder.
- The LHB11 makes it possible to meet ESFR fire suppression system requirements due to the fixtures 11 1/2" width.
- Shipping weight: 30lbs in carton.

Installation

- Mounting options include; Hook Cable Hangers (HCH10), Pendant Mount (PM), or Single Hub/Cable Mount (SHC).

Warranty

- LSI LED Fixtures carry a 5-year warranty.
- 1 Year warranty on optional Battery Back Up. Test regularly in accordance with local codes

Listings

- Listed to UL 1598 and UL 8750.
- RoHS Compliant.
- State of California Title 24.
- American Recovery and Reinvestment Act Funding Compliant.
- Lighting Facts Approved.
- Suitable For Damp Locations.

Performance

DELIVERED LUMENS

Output	Distribution Type	3500K Delivered Lumens	3500K Efficacy	4000K Delivered Lumens	4000K Efficacy	5000K Delivered Lumens	5000K Efficacy	Wattage
12L	AL	12,539	141	12,340	139	13,185	148	89
	LL	13,101	147	12,893	145	13,776	155	89
	S	12,333	139	12,137	136	12,969	146	89
	SDFL	11,661	131	11,476	129	12,262	138	89
24L	AL	21,377	141	21,038	138	22,480	148	152
	LL	22,335	147	21,981	145	23,487	155	152
	S	21,027	138	20,694	136	22,112	145	152
	SDFL	19,881	131	19,566	129	20,906	138	152
30L	AL	27,850	131	27,408	129	29,286	137	213
	LL	29,98	137	28,637	134	30,599	144	213
	S	27,395	129	26,960	127	28,807	135	213
	SDFL	25,900	122	25,490	120	27,236	128	213
36L	AL	36,592	132	36,012	130	38,479	138	278
	LL	38,233	138	37,626	135	40,204	145	278
	S	35,994	129	35,422	127	37,849	136	278
	SDFL	34,030	122	33,490	120	35,785	129	278
48L	AL	45,396	120	44,676	118	47,738	126	379
	LL	47,431	125	46,679	123	49,877	132	379
	S	44,654	118	43,946	116	46,957	124	379
	SDFL	42,218	111	41,548	110	44,396	117	379

*LED Chips are frequently updated therefore values may increase.

RECOMMENDED LUMEN MAINTENANCE

Ambient Temperature C	Lumen Multiplier 0 hrs.	25K hrs.	50K hrs.	75K hrs.	100K hrs.
0	1.06	1.00	0.98	0.97	0.95
10	1.04	0.98	0.97	0.95	0.94
20	1.01	0.96	0.94	0.92	0.90
25	1.00	0.95	0.93	0.90	0.88
30	0.99	0.94	0.91	0.88	0.85
40	0.97	0.92	0.90	0.87	0.84

1 - Lumen maintenance values at 25˚C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing.
2 - In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X)the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip).
3 - In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times NA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip).

ELECTRICAL DATA

Lumens	120V	208V	240V	277V	347V	480V
12L	0.75	0.43	0.38	0.32	0.26	0.19
24L	1.51	0.86	0.75	0.65	0.51	0.37
30L	1.77	1.01	0.88	0.76	0.60	0.44
36L	2.21	1.26	1.09	0.96	0.74	0.54
48L	2.94	1.68	1.45	1.27	0.99	0.72

*Electrical data at 25C (77F). Actual wattage may differ by +/-10%.

LHB
LED Linear High Bay

Luminaire Ordering Guide

TYPICAL ORDER EXAMPLE: **LHB11 LED 24L S UNV DIM 40 ELDS U**

Family / Size	LED Gen	Lumen Package	Diffuser / Distribution	Voltage	Driver	Color Temp	Wiring Location	Controls	Options	Packaging
LHB11[7] - 11" Linear High Bay - Standard Model **LHB14**[8] - 14" Linear High Bay - Standard Model	**LED**	**12L** - 12000 **24L** - 24000 **30L** - 30000[9] **36L** - 36000 **48L** - 48000	**S** - Symmetric **SDFL** - Type S Symmetric, Diffused Lens **AL** - Narrow Aisle Ligther[1] **LL** - Less Lens	**UNV** - 120-277V **HV** - 347V-480V	**DIM** - Standard 0 to 10V[4]	**35** - 3500K **40** - 4000K **50** - 5000K	**CLDS** - Center Leads[2,5] **ELDS** - End Leads **E6C** - End 6' Cord (no plug)	**OCSUE** - Occupancy Sensor 120-347V **OCSHV** - Occupancy Sensor 480V **DHSUE** - Daylight Harvesting Occupancy Sensor 120-277V **DHSHV** - Daylight Harvesting Occupancy Sensor Sensor 347-480V **IMSO** - Integral Motion Sensor (0% power)	**EM** - Emergency Battery[3] **515P** - 5-15P plug only (120V) **L515P** - 5-15P Twistlock Plug (125V) **L615P** - 6-15P Twistlock Plug only (250V) **L715P** -7-15P twistlock Plug only (277V) **L820P** - 8-20P twistlock Plug only (480V) **L2420P** - 24-20P Twistlock Plug only (347V)	**U** - Single Pack **JP** - Job Pack

Accessory Ordering Information

Description	Order Number
PM - Pendant Mount J-Box Kit[2,5]	572484
SHC - Single Hub / Chain Mount[6]	572488
HCH10 -10' Hook Cable Hanger (Pair)	460149

FOOTNOTES:
1 - AL aisle lighter distribution not available with a diffused lens.
2 - CLDS (Center leads) requires pendant mount "PM" accessory.
3 - EM will have a lower max. ambient temp. than non-EM.
4 - 0-10V Dimming provides extended leads outside of the fixture. Controls by others. Dimming function not compatible with HCP or LCP option.
5 - Pendant mount option provides wiring box with 3/4" threaded hub for housing connections and attaching stems. Stems must be ordered as a separate line item accessory.
6 - Single Hub Chain mounting provides center hub with chains extended to each corner of fixture for ease of leveling.
7 - 11 1/2" wide fixture available in 12000, 18000, 24000, and 30000 lumen packages only.
8 - 14" wide fixture available in 36000, and 48000 lumen packages only.
9 - 30L only available in 5000K color temperature

Controls

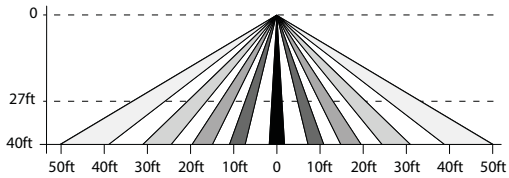
Occupancy Sensor / Daylight Sensor (IMSO)

- Optional integral passive infrared motion and daylight sensor activates switching of luminaire light levels. Standard Factory settings: High level light is activated and increased to full bright upon detection of motion. Low light level (30% maximum drive current) is activated when target zone is absent of motion activity for ~5 minutes. See coverage diagram for detection cone. Optional configurator tool allows for easy and safe programming of each luminaire from the ground level.

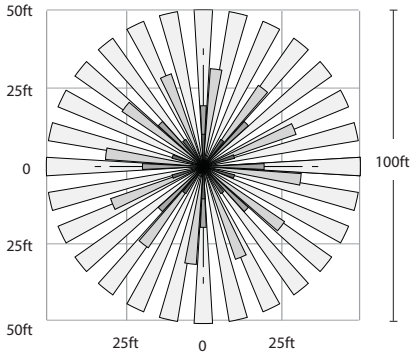
IMS/PC Remote Configurator Tool

Optional IMS Coverage Diagram

SIDE VIEW



TOP VIEW

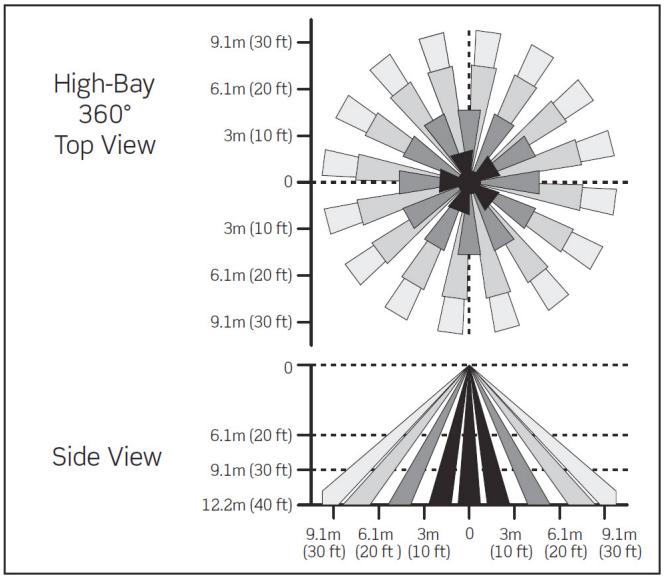


Occupancy Sensor (OCSUE/OCSHV)

- Optional integral passive infrared motion activates switching of luminaire on/off. Standard Factory settings: Luminaire is activated and increased to full bright upon detection of motion. Luminaire powers off when target zone is absent of motion activity for ~5 minutes. See coverage diagram for detection cone.

Occupancy Sensor / Daylight Sensor (DHSUE/DHSHV)

- Optional integral passive infrared motion and daylight sensor activates switching of luminaire on/off. Standard Factory settings: Luminaire is activated and increased to full bright upon detection of motion. Luminaire powers off when target zone is absent of motion activity for ~5 minutes. See coverage diagram for detection cone.

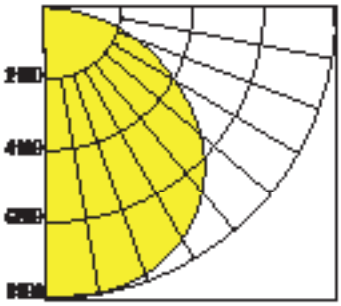


Photometry

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08.
As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

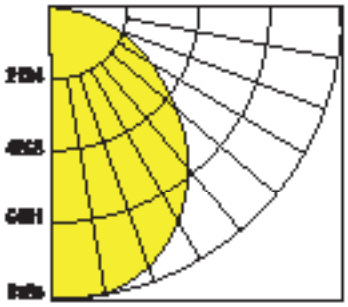
See http://www.lsi-industries.com/products/led-lighting-solutions.aspx for detailed photometric data

LHB14 LED 24L S XXX DIM 50



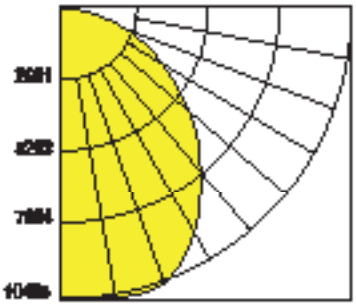
ZONAL LUMEN SUMMARY		
ZONE	LUMENS	% OF LUMINAIRE
0-20	3822.46	14.80
0-30	8036.81	31.20
0-40	12945.3	50.20
0-60	22018.85	85.40
0-80	25610.76	99.30
0-90	25780.32	100.00
10-90	24805.71	96.20
20-40	9122.84	35.40
20-50	14085.56	54.60
40-70	11679.24	45.30
60-80	3591.91	13.90
70-80	986.22	3.80
80-90	169.56	0.70
90-110	0.00	0.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
110-180	0.00	0.00
0-180	25780.32	100.00

LHB14 LED 24L SDFL XXX DIM 50



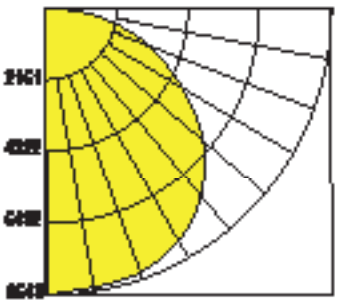
ZONAL LUMEN SUMMARY		
ZONE	LUMENS	% OF LUMINAIRE
0-20	3134.04	13.70
0-30	6648.47	29.00
0-40	10799.36	47.00
0-60	18472.63	80.50
0-80	22513.78	98.10
0-90	22959.28	100.00
10-90	22151.66	96.50
20-40	7665.32	33.40
20-50	11797.77	51.40
40-70	10245.56	44.60
60-80	4041.14	17.60
70-80	1468.86	6.40
80-90	445.50	1.90
90-110	0.00	0.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
110-180	0.00	0.00
0-180	22959.28	100.00

LHB14 LED 24L AL XXX DIM 50



ZONAL LUMEN SUMMARY		
ZONE	LUMENS	% OF LUMINAIRE
0-20	3133.32	12.70
0-30	6797.31	27.50
0-40	11379.32	46.10
0-60	20621.52	83.50
0-80	24485.91	99.10
0-90	24703.47	100.00
10-90	23906.54	96.80
20-40	8245.99	33.40
20-50	13142.85	53.20
40-70	12025.5	48.70
60-80	3864.39	15.60
70-80	1081.09	4.40
80-90	217.56	0.90
90-110	0.00	0.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
110-180	0.00	0.00
0-180	24703.47	100.00

LHB14 LED 24L LL XXX DIM 50



ZONAL LUMEN SUMMARY		
ZONE	LUMENS	% OF LUMINAIRE
0-20	3228.64	12.30
0-30	7015.9	26.80
0-40	11784.47	45.00
0-60	21657.93	82.80
0-80	25930.93	99.10
0-90	26172.23	100.00
10-90	25351.76	96.90
20-40	8555.83	32.700
20-50	13731.6	52.50
40-70	12977.74	49.60
60-80	4272.99	16.30
70-80	1168.71	4.50
80-90	241.30	0.90
90-110	0.00	0.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
110-180	0.00	0.00
0-180	26172.23	100.00

