

PROJECT NAME		DATE	
CAT. NUMBER			
NOTES			

SPEC SHEET

# High Bay Retrofit (HBR)

## HIGH BAY RETROFIT KIT

\*U.S. PATENT NO. 9,752,735<sup>4</sup>

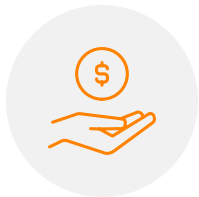


\*Optional adapter plate shown



### KEY FEATURES

- 10,000 to 24,000 lumens
- Up to 141 LPW
- Up to 55°C ambient
- Optically engineered parabolic shape
- FCC CFR 47 Part 15



### Reduce Operating Costs

When existing high bay fixtures are in good shape but the fluorescent tubes are costing too much to maintain, retrofitting may be the best option.



### Quick & Easy Retrofit

Replaces fluorescent tubes, reflectors, and ballasts with Linmore LED's patented ParaBar™ Light Bars, LED drivers, and an adapter plate.



### Quality Components

Comprised of the highest efficacy LEDs mechanically bonded to an extruded aluminum light bar with parabolic, ultra-reflective sides.



## TECHNICAL SPECS

# OF BARS	LUMEN OUTPUT	EFFICACY	WATTS	PART NUMBER
2	10,171	138	74	LL-HBR-2-50K-72W
2	12,072	135	90	LL-HBR-2-50K-88W
3	15,100	137	110	LL-HBR-3-50K-110W
3	17,820	135	132	LL-HBR-3-50K-132W
4	23,760	135	176	LL-HBR-4-50K-176W

Typical lumen output ( $\pm 10\%$ ) at 120V (LV) under 25°C ambient temperature at 5000K.

## ORDERING

MODEL	# OF BARS	CCT	WATTAGE		OPTIONS
LL-HBR	2 3 4	50K 5000K  *Other CCT available upon request (extended lead time)	72W  88W  110W	132W  176W	DF  Diffuser: 94% Transmission, Glare Reduction

## ORDERING EXAMPLES

**Standard:** LL-HBR-4-50K-144W

**With Options:** LL-HBR-4-50K-144W-DF

# FEATURES & SPECIFICATIONS

## CONSTRUCTION

- **Heat Sinks:** Made of 6063 T5 extruded aluminum with multiple fins and large surface area for superior heat dissipation.
- **Light Engine:** ParaBars™ Light Bars U.S. Patent No. 9,752,735. Known for their high performance and superior heat dissipation. 120 surface mount light emitting diodes per ParaBar™.
- **LED Boards:** Made of aluminum core and mechanically bonded to the aluminum extrusion heat sink.
- **LEDs:** Only high quality LEDs are used to deliver maximum light output and longevity.
- **Adaptive Design:** Add or remove ParaBars™ as area needs change over time.
- **Assembled in the USA.**

## ELECTRICAL

- **Power Input:** 120-277V standard. 347-480V optional.
- **Power Factor:** >0.9 (0.99 typical).
- **Total Harmonic Distortion:** <9%.

## OPERATION

- **Environment:** Dry/Damp, for interior applications.
- **Ambient Range Operation:** -40°C up to 55°C (-40°F up to 135°F).
- **CCT:** 5000K standard, other CCT available (extended lead time).
- **CRI:** >80 standard.
- **Lenses:** Parabolic shape with clear polycarbonate end caps for maximum light output.

## MOUNTING

- **Mounting:** Retrofit kit for existing fluorescent high bay fixtures. Kit includes ParaBar™ Light Bars and LED drivers. Optional adapter plate available.

## CONTROLS

- **Dimming:** 0-10V standard. Dim to OFF.
- **Sensors:** Compatible with Wattstopper and McWong sensors, and Enocean switches.
- **Networked Control Options<sup>2,5</sup>:** Compatible with Avi-on networked controls and UltraLink SIG Bluetooth® with Mesh Networked Controls<sup>3</sup>.

## WARRANTY

- **Standard:** 14-year warranty on the light bar. 5-year warranty on the LED driver.

## LISTINGS & CERTIFICATIONS

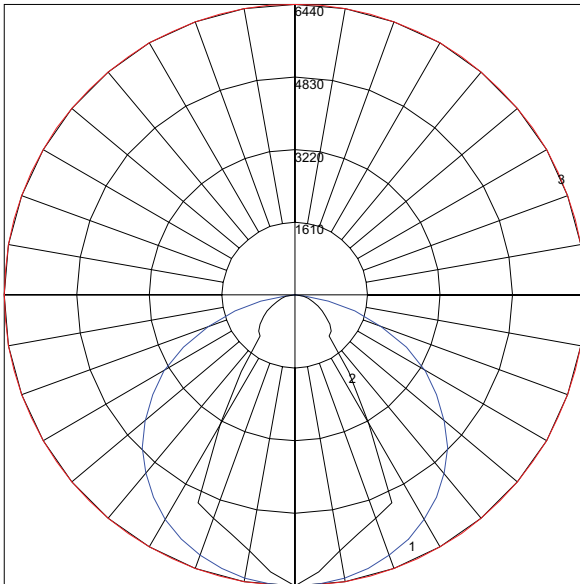
- UL 1598.
- RoHS compliant.
- DesignLights™ Consortium Premium.<sup>1</sup>
- FCC CFR 47 Part 15.
- cUL.



# LIGHT DISTRIBUTION

## 2-BAR MODEL

**Polar Graph**  
LL-HBR-2-50K-88W-XX



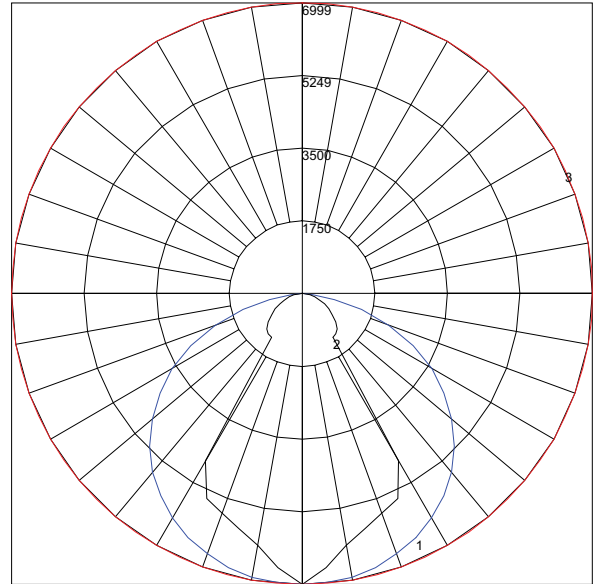
Maximum Candela: 6440

Located at horizontal angle: 0, Vertical angle : 0

- #1: Vertical plane through horizontal angles (0-180)(through max Cd.)
- #2: Vertical plane through horizontal angles (90-270)
- #3: Horizontal cone through vertical angle (0)(through max Cd.)

## 3-BAR MODEL

**Polar Graph**  
LL-HBR-3-50K-88W-XX



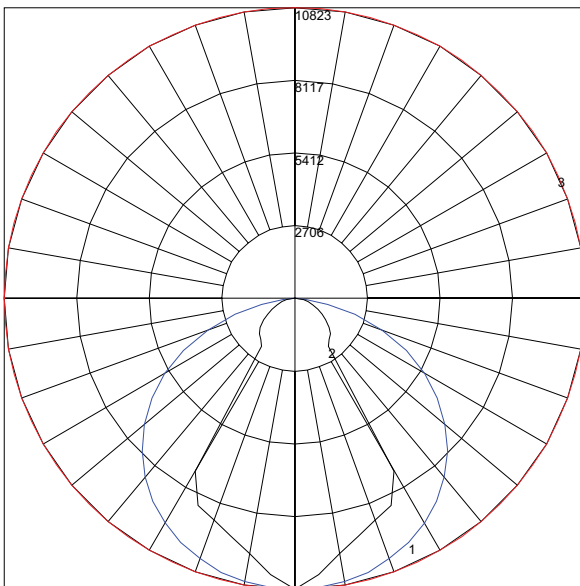
Maximum Candela: 6999

Located at horizontal angle: 0, Vertical angle : 0

- #1: Vertical plane through horizontal angles (0-180)(through max Cd.)
- #2: Vertical plane through horizontal angles (90-270)
- #3: Horizontal cone through vertical angle (0)(through max Cd.)

## 4-BAR MODEL

**Polar Graph**  
LL-HBR-4-50K-144W-XX



Maximum Candela: 10823

Located at horizontal angle: 0, Vertical angle : 0

- #1: Vertical plane through horizontal angles (0-180)(through max Cd.)
- #2: Vertical plane through horizontal angles (90-270)
- #3: Horizontal cone through vertical angle (0)(through max Cd.)

# ACCESSORIES

Must be ordered separately. Packaged separately.

## FIXTURE ACCESSORIES

Part Number	Description
HBA46	High Bay Adapter Plate. Can be used on any. Necessary for Orion. Dimensions: 11.5"W x 46.15"L.

## SWITCHES

EO-ESRPB	Enocean switch. Single rocker with Bluetooth®.
EO-EDRPB	Enocean switch. Double rocker with Bluetooth®.

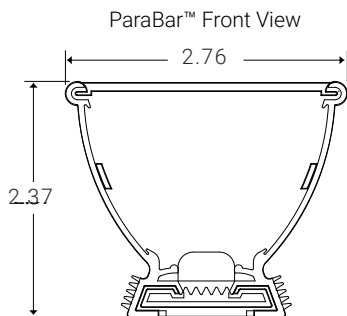
## CONTROLS

LL-QBM	Linmore LED UltraLink.
LEDD	Enocean Wireless Module.

## BACKUP BATTERY

LL-BBU-25W-001	25W battery backup. Input 120-277V. Output 18-48VDC.
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# DIMENSIONS & DRAWINGS



## PARABAR™ DIMENSIONS

Width (in)	Height (in)	Length (in)
2.76	2.37	45.25

## FOOTNOTES

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1. Check QPL for up-to-date listings.
2. Synapse, Daintree and Enlighted are available with extended lead time. Electrical changes and additional components required to make fixture compatible.
3. Requires Enocan switch, McWong sensor or a gateway for complete functionality.
4. Patent is on internal ParaBar™ only.
5. Contact your Regional Sales Director for more information.

### Linmore LED Labs, Inc.

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