Industra
by TCP

LED HBM Series Modular High Bay
Product Specifications

The LED HBM Series Modular High Bay features a lightweight, customizable design that provides exceptional light distribution for mounting heights up to 60 feet. This durable, 70° C rated fixture efficiently delivers over 150 LPW of bright, white, uniform light to maximize energy savings and take advantage of utility rebates where applicable. The long 50,000-hour rated life significantly decreases maintenance, labor and material costs over the life of the fixture. A 0-10V dimming driver comes standard, enabling easy integration with a variety of control options.

Reasons to choose the LED HBM Series High Bay from TCP

- Built for extreme temperatures: 70°C Rated
- Modular design allows for limitless customization
- Energy efficient: Up to 67% energy savings compared to HID equivalents

- Smooth, uniform dimming (0-10V) standard
- Instant on - no warm up time for full light
- Long life: 50,000 hours
- Durable, lightweight aluminum housing

Ideal Applications

- Steel Mills
- Paper Mills
- Heavy Industrial Plants

- Commercial Facilities
- Field Houses & Gymnasiums

- Open Ceiling Designs
- Warehouse and Distribution Centers

WET LOCATION   FC   RoHS COMPLIANT   c(UL)us LISTED   IP66 RATED   5 YEAR WARRANTY

Specifications

Input Line Voltage .... 120-277 VAC or 347-480 VAC
Input Line Frequency (Hz) 50/60Hz
Wattage (W)..200W
Lumens (L).. 30,000L
Lumens per Watt(LPW)..>150LPW
Rated Life.. 50,000 hours
Minimum Starting Temperature ....-40°C (-40°F)
Maximum Operating Temperature...............................70°C(158°F)*
CRI .... >82
Power Factor .... >0.90
THD...<20%
Ratings .... cULus wet location rated, IP66
Controls... 0-10V dimming (standard)

*Maximum Operating Temperature decreases to 55°C
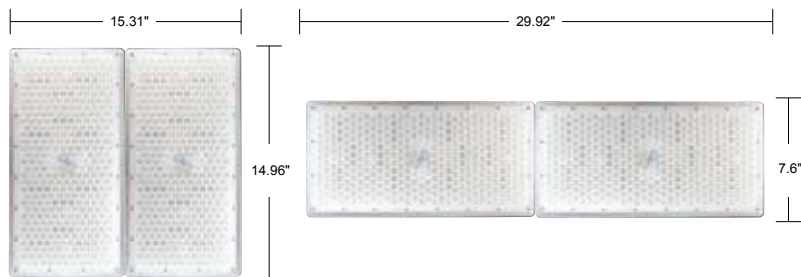when additional units are assembled together
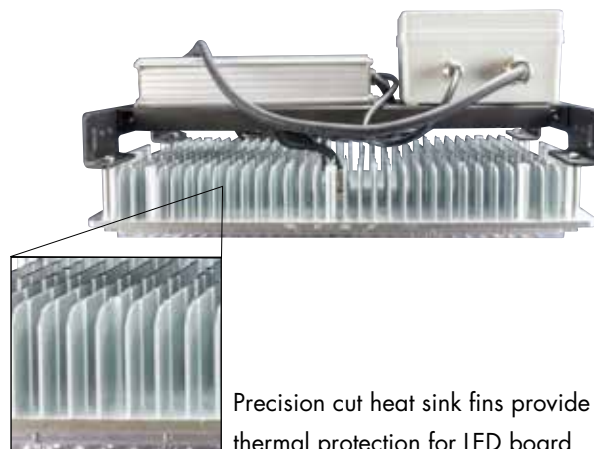
Precision cut heat sink fins provide
thermal protection for LED board

Unlimited customization due to modular design

Side by side assembly resulting in
a 400W Luminaire

End to end assembly resulting in a
400W Luminaire

15.31"

29.92"

14.96"

7.6"

Order consists of:
- (2) HBMUZDA450K90D
- (1) HBMPTBAG
- (2) EXPYHANGKIT10FT

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TCP LED Technology

The HBM Series Modular High Bay has been packaged with
premium TCP chips. A glass dome on each diode results in a
high foot candle at the working plane.

Replacement Strategy

SYSTEM	FIXTURE CONFIGURATION	TOTAL FIXTURE WATTAGE	LED ENERGY SAVINGS
TCP HBM Series - 30,000 lumens	(1) 200W Luminaire	200	—
400W Metal Halide		458	56%
TCP HBM Series - 60,000 lumens	(2) 200W Luminaires	400	—
1000W Metal Halide		1081	63%

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Applications

The TCP LED HBM Series Modular High Bay is ideal for replacing traditional metal halide high bay systems in high temperature environments. Primary applications include steel mills and other heavy industrial plants, commercial facilities, manufacturing facilities, field houses and other applications with a suggested mounting height up to 60 feet. Benefits include high efficiency, excellent color rendering, long life, instant on, and a modular design that will satisfy the most complex of lighting applications.

Construction

- Durable, lightweight aluminum body
- Finish: powder coated, post-painted black
- Modular design: unlimited lighting design solutions
- Lightweight, low-profile design
- 6FT power cord comes standard

Electrical

- cULus wet location rated
- 0-10V dimming driver (standard)
- Easy-to-access wiring compartment
- System rated for long 50,000 hour life
- Efficiently delivers >150 LPW

Optics

- High impact, clear acrylic lens comes standard to protect the LEDs and minimize glare
- Delivers bright, white light and excellent uniformity
- 90 degree optics designed for high ceiling applications
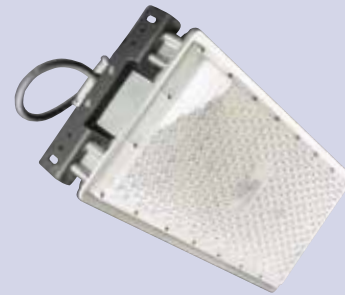
Listings
UL/cUL Wet Location Listed
RoHS Compliant

Warranty
Five year limited warranty against defects in manufacturing.*

*Warranty is valid when operating in ambient temperatures below 167°F/70°C for one single fixture. Warrantied maximum operating temp drops to 131°F/55°C when 2 or 3 three fixtures are assembled together.

Lumen Maintenance Factor (LMF)

Lumen Package	36,000 hours[1]	50,000 hours[1]	100,000 hours[2]	Reported L_{70} (hours)
A4	98.59%	98.04%	96.10%	>54,000

[1] IESNA TM-21-11 projected value based on 6X IESNA LM-80-08 total test duration.
[2] IESNA TM-21-11 calculated value exceeds 6X IESNA LM-80-08 total test duration.

Catalog Ordering Matrix   Example: HBMUZDA450K90D

FAMILY	VOLTAGE	CONTROLS/DIMMING	LUMEN PACKAGE (Power)[12]	CCT	OPTIONS
HBM – LED High Temp Modular High Bay	**U** – 120V - 277V **H** – 347-480V	**ZD** – 0-10V Dimming	**A4** – 30,000 Lumens (200W)	**50K** – 5000K	**90D** – 90° Beam Angle

[1] Approximate lumen output. Actual performance may vary based on CCT, options selected and end user application.
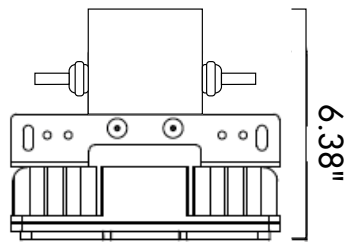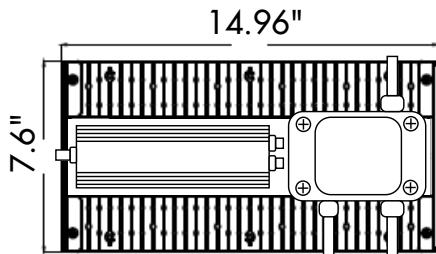[2] Actual wattage may differ by +/- 10%.

Accessories:

Item Number	Description
HBMPTBAG	Parts bag for modular assembly
EXPYHANGKIT10FT	100lb rated cable Y-hook hanging kit (1 kit needed per fixture)

For the most up-to-date specs and warranty information, please visit www.tcpi.com

WET LOCATION | FC | RoHS COMPLIANT | c(UL)us LISTED | IP66 RATED | 5 YEAR WARRANTY

Dimensions and Mounting Data

Product Dimensions:

14.96"

7.6"

Weight: 9.8lbs

6.38"

Mounting Details

1. Fasten EXPYHANGKIT10FT cable-hanging accessory through the slotted holes shown below.

2. Hook up the cable on the ceiling anchor.

Hanging Angle(Θ) must be less than 60°

Θ<60°   Θ<60°

Modular Assembly

Side-by-side assembly

Θ<60°   Θ<60°

Linear assembly

Θ<60°   Θ<60°   Θ<60°
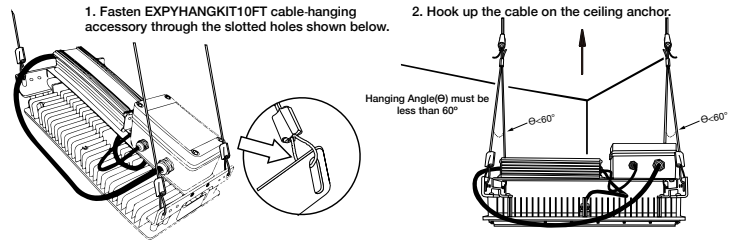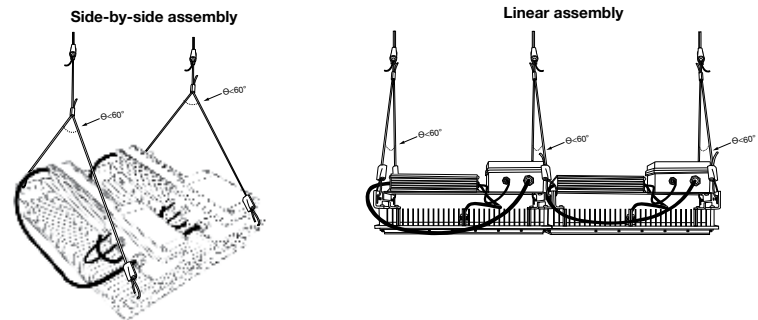
Photometric Report

Based on photometric data for
TCP Item #HBMUZDA450K90D

Polar Graph

18264
13698
9132
4566
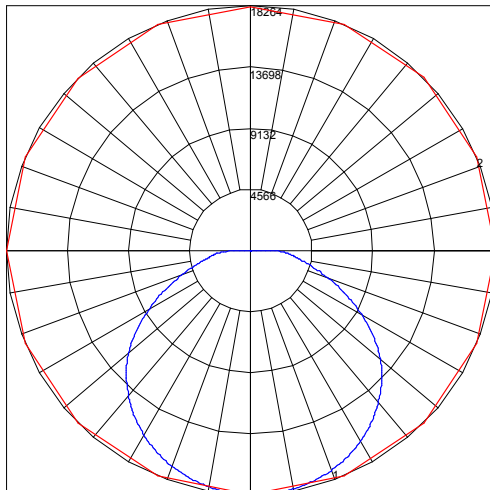
Maximum Candela = 18264   Located At Horizontal Angle = 337.5, Vertical Angle = 1.5
1 - Vertical Plane Through Horizontal Angles (337.5 - 157.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (1.5) (Through Max. Cd.)

Specifications and dimensions subject to change without notice.
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Coefficients of Utilization – Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	101	109	106	103	100	101	99	97	98	96	94	94	93	91	89
2	103	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	80	79
3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	62
5	83	72	64	59	81	71	64	58	69	63	58	67	62	57	65	61	57	55
6	77	66	58	53	76	65	58	52	63	57	52	62	56	52	60	55	51	49
7	72	60	53	47	71	60	52	47	58	52	47	57	51	47	56	50	46	45
8	68	56	48	43	66	55	48	43	54	47	43	53	47	43	52	46	42	41
9	64	52	44	39	62	51	44	39	50	44	39	49	43	39	48	43	39	37
10	60	48	41	36	59	48	41	36	47	40	36	46	40	36	45	40	36	34

Zonal Lumen Summary

Zone	Lumens	%Luminaire
0-20	6039.6	20.8
0-30	12019.4	41.3
0-40	18384.7	63.2
0-50	23779.2	81.8
0-60	26984.6	92.8
0-70	28447.9	97.9
0-80	28971.8	99.7
0-90	29072.5	100

Total Luminaire Efficiency = N.A.%

Spacing Criterion

(0-180): 1.1, (90-270): 1.02

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TECHNOLOGY CAST IN A BEAUTIFUL LIGHT

For over 20 years, TCP has been designing, developing and delivering energy-efficient lighting into the market. Thanks to our cutting-edge technology and manufacturing expertise, we have shipped billions of high quality lighting products. With TCP, you can count on a lighting product that is designed to meet the needs of the market - that transforms your surroundings and envelopes you in warmth - lighting that generates beauty with every flip of the switch.

Sales:	Catalog Number:
Date:	Type:
Model:	Notes:
Project:	
Rep:	**TCP**® we know light.™