



LED Technical Data



# LED High Bay

High efficiency LED High Bays. Use anywhere you need exceptional light distribution for mounting heights up to 40 feet.

## **LIMITLESS OPTIONS for the following applications:**

- Warehouses
- Commercial Facilities
- Manufacturing Facilities
- Aisles (Open and Stack)



## Great Features/Benefits

- Energy efficient – Up to 56% energy savings compared to HID
- Smooth, uniform dimming
- Instant on
- Long life: 50,000 hours
- Replaces traditional metal halide and linear fluorescent high bay systems
- Excellent color rendering
- Heavy duty 20 gauge housing is code grade steel

# LED High Bay

## Features/Benefits

Up to 56% less energy than HID alternatives.	Instant energy savings.
Long 50,000 hour rated life.	Minimizes replacements & maintenance costs.
Very low heat generation.	Less energy wasted as heat.
Excellent color consistency & CRI.	Enhances color of focal point while maintaining uniformity throughout lighting installation.
UL approved for damp location.	Can be used outdoors when protected from elements. Withstands humidity indoors/outdoors.



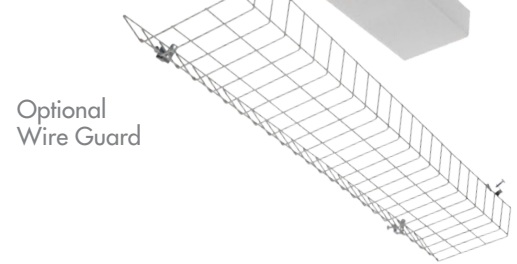
## Specifications

Input Line Voltage	120-277 / 347 / 480 VAC
Input Power	129.6W (137W for 347V & 480V)
Input Line Frequency	50/60HZ
Luminaire Life (Rated)	50,000 hours
Minimum Starting Temperature	-30°C
Maximum Operating Temperature	50°C
CRI	83
Power Factor	>90%
THD	<20% (>20% for 480V)



## Warranty

Five year limited warranty against defects in manufacturing.



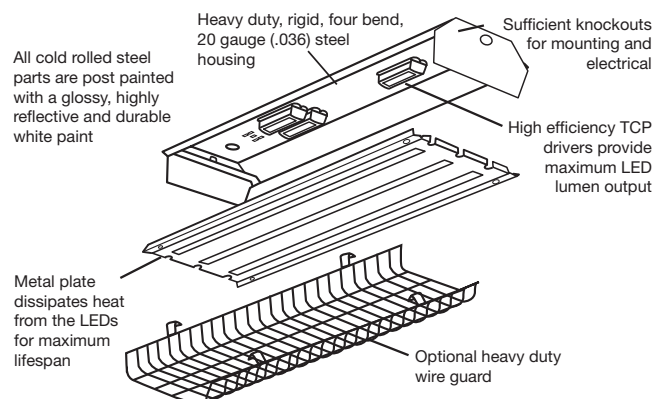
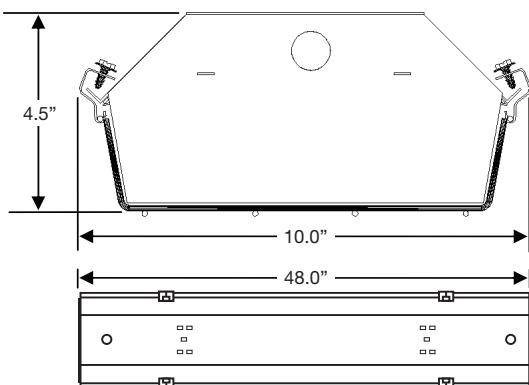
## Replacement Comparison

TYPE	WATTAGE	ENERGY SAVINGS (%)
<b>TCP LED High Bay</b>	<b>130W</b>	—
250W Metal Halide	295W	56%
6 Lamp T8 HBF	220W	41%
4 Lamp T5 HO	249W	48%



5 YEAR WARRANTY

## Dimensions and Mounting Data



Not all versions of this product are qualified on the DLC QPL. To view our DLC qualified products, please consult the DLC Qualified Products List at [www.designlights.org/qpl](http://www.designlights.org/qpl).

# LED High Bay

## Applications

The TCP LED High Bay's superior lumen package is ideal for replacing traditional metal halide and linear fluorescent low bay systems. Benefits include high efficiency, excellent color rendering, long life, instant on, and improved uniformity. Suggested mounting heights from 20' - 40' with primary applications including warehousing, commercial facilities, manufacturing facilities, open and stack aisle applications.

## Construction

The full body assembly features TCP high efficiency drivers and high output LEDs. The LED High Bay's heavy duty 20 gauge housing and 8 gauge wire guard is code gauge steel and all components, excluding the wire guard, have a baked white enamel finish that is electrostatically applied and post painted with a glossy, highly reflective and durable white paint.

## Electrical

TCP high efficiency drivers are Class 2 rated, UL/cUL listed, and provide consistent power to ensure even lighting from the long life LEDs. Each driver is matched to a light engine to deliver 50,000 hours life. Our drivers are tightly secured by mounting bolts. Full range dimming is optional.

## Optics

The optional impact resistant acrylic diffuser comes in two styles. The prismatic insert lens is for use with the wire guard, while the prismatic wraparound lens is used on its own without the wire guard.



Catalog Number	
Notes	Type
<p><b>Installation</b> Suspension by chain, cable, or hook with appropriate accessories.</p> <p><b>Warranty</b> Five year limited warranty against defects in manufacturing.</p>	
<p><b>Listings</b> UL/cUL Listed – damp location rated Design Lights Consortium Qualified Products List (DLC QPL) RoHS Compliant</p>	

## Lumen Maintenance

Lumen Maintenance Factor (LMF)			
36,000 hours <sup>1</sup>	50,000 hours <sup>2</sup>	100,000 hours <sup>2</sup>	L <sub>70</sub> (hours) <sup>2</sup>
93.67%	91.64%	84.73%	222,000

<sup>1</sup> IESNA TM-21-11 projected value based on 6X IESNA LM-80-08 total test duration of 6,000 hours.  
<sup>2</sup> IESNA TM-21-11 calculated value exceeds 6X IESNA LM-80-08 total test duration of 6,000 hours.

## Catalog Ordering Matrix Example: TCPHB4UNI1241K

TCP	HB4			12		
BRAND	FAMILY	VOLTAGE	CONTROLS/DIMMING	LUMEN PACKAGE (Power) <sup>23</sup>	COLOR TEMPERATURE	OPTIONS
TCP	HB4 – 4' LED High Bay	UNI – 120V-277V 347 – 347V <sup>1</sup> 480 – 480V <sup>1</sup>	(blank) – Non Dimming ZD – 0-10V Dimming	12 – 12,000 Lumens (130W)	41K – 4100K 50K – 5000K	(see below)

<sup>1</sup> Not listed on the DLC QPL.  
<sup>2</sup> Approximate lumen output. Actual performance may vary based on CCT, options selected and end user application.  
<sup>3</sup> 130W for 120-277V and 137W for 347V & 480V. Actual performance may vary based on options selected and end user application.

### OPTIONS (Add to catalog number in order shown)

#### 1 POWER CORDS

- 6C - 6' PCord 300V 16/3 SJTOOW NO PLUG
- 6C4 - 6' PCord 300V 18/4 SJTOW NO PLUG
- 6W - 6' WHIP PCord 600V 16/3 NO PLUG
- 10C - 10' PCord 277V SJTOOW NO PLUG
- 10C6 - 10' PCord 600V 15A 16/3 STOW NO PLUG
- 20C - 20' PCord 277V 20A 16/3 SJTOOW NO PLUG
- 20C4 - 20' PCord 300V 18/4 SJTOW NO PLUG

#### 2 OCCUPANCY SENSORS

- TS1 - TCP Occupancy Sensor w/bracket and interchangeable lenses, 40' or less, 120V, 277V, or 347V.
- TS1C - TCP Cold Storage Occupancy Sensor w/bracket and interchangeable lenses, 40' or less, 120V, 277V, or 347V.
- TS4 - TCP Occupancy Sensor w/bracket and interchangeable lenses, 40' or less, 480V.
- TS4C - TCP Cold Storage Occupancy Sensor w/bracket and interchangeable lenses, 40' or less, 480V.

#### 3 WIRE GUARD / LENS

- WG - Wire Guard
- PIL - Prismatic Insert Lens, to be used with Wire Guard
- PWL - Prismatic Wrap Lens, not to be used with Wire Guard

#### 4 SPECIAL MOUNTING

- HCB - Hub Connector Box - 3/4" Threaded Hub Mount

#### 5 SPECIAL PACKAGING

- SP - Single Packed

#### AVAILABLE HANGING KITS (ordered separately)

EZHANGER - 15' adjustable aircraft cable hanging kit

#### AVAILABLE ACCESSORIES (ordered separately)

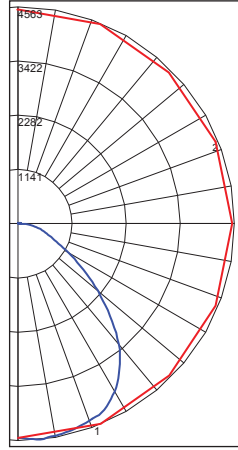
- PCWG - Wire Guard kit complete with Wire Guard and hardware
- PCINSERTLENS - Prismatic Insert Lens, to be used with Wire Guard
- PCWRAPLENS - Prismatic Wrap Lens, not to be used with Wire Guard

## Photometric Reports

### TCP LED High Bay with Prismatic Wraparound Lens

LED High Bay Luminaire with lumen rating of 12000 lumens and three high efficiency drivers operating at 120-277 VAC and 129.6 watts.

TCPHB4UNI1241KPWL



Maximum Candela = 4563.15  
 Located At Horizontal Angle = 292.5,  
 Vertical Angle = 7  
 # 1 - Vertical Plane Through  
 Horizontal Angles (292.5 - 112.5)  
 (Through Max. Cd.)  
 # 2 - Horizontal Cone Through  
 Vertical Angle (7) (Through Max. Cd.)

#### Zonal Lumen Summary

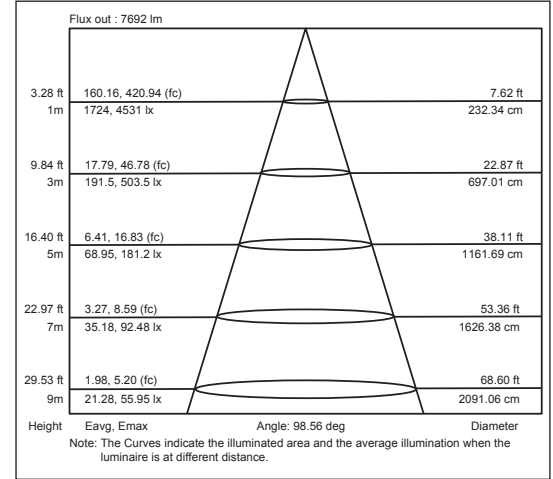
Zone	Lumens	% Lamp	% Fixture
0-30	3488.83	N.A.	29.40
0-40	5640.92	N.A.	47.50
0-60	9302.33	N.A.	78.40
0-90	11385.23	N.A.	96.00
90-120	365.12	N.A.	3.10
90-130	419.07	N.A.	3.50
90-150	468.40	N.A.	3.90
90-180	479.22	N.A.	4.00
0-180	11864.45	N.A.	100.00
Total Luminaire Efficiency = N.A.%			

#### Average Luminance

(Candelas / Square Meter)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10168	9832	11289
55	8882	8639	8686
65	8493	7322	5896
75	8564	8173	5416
85	4690	5933	5973

#### AAI Figure



#### Photometric Report

Efficiency (total) N.A.  
 Spacing Criterion (0-180) 1.16  
 Spacing Criterion (90-270) 1.34

#### Coefficient of Utilization Table

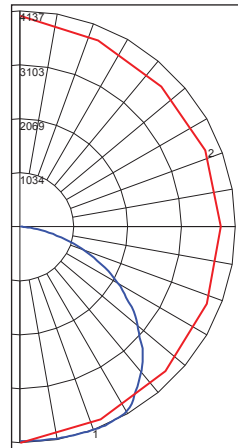
Effective Floor Cavity Reflectance = 20%

RC RW	70				80				50				30				10				0			
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	0	0	0
0	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96	96	96	96	96	96	96
1	108	104	99	96	105	101	97	94	96	93	90	91	89	87	87	85	83	81	81	81	81	81	81	81
2	99	91	84	79	96	89	83	78	85	80	75	81	77	73	77	74	71	68	68	68	68	68	68	68
3	90	80	73	66	88	78	71	65	75	69	64	72	67	62	69	64	61	58	58	58	58	58	58	58
4	83	72	63	57	81	70	62	56	67	60	55	64	58	54	62	57	53	50	50	50	50	50	50	50
5	77	64	56	49	74	63	55	49	60	53	48	58	52	47	56	50	46	44	44	44	44	44	44	44
6	71	58	49	43	69	57	49	43	55	48	42	53	46	42	51	45	41	39	39	39	39	39	39	39
7	66	53	44	38	64	52	44	38	50	43	38	48	42	37	47	41	36	34	34	34	34	34	34	34
8	61	48	40	34	60	47	40	34	46	39	34	44	38	33	43	37	33	31	31	31	31	31	31	31
9	57	44	36	31	56	44	36	31	42	35	30	41	35	30	40	34	30	28	28	28	28	28	28	28
10	54	41	33	28	52	40	33	28	39	32	28	38	32	27	37	31	27	25	25	25	25	25	25	25

### TCP LED High Bay

LED High Bay Luminaire with lumen rating of 12000 lumens and three high efficiency drivers operating at 120-277 VAC and 129.6 watts.

TCPHB4UNI1241K



Maximum Candela = 4137.26  
 Located At Horizontal Angle = 270,  
 Vertical Angle = 21

# 1 - Vertical Plane Through  
 Horizontal Angles (270 - 90)  
 (Through Max. Cd.)  
 # 2 - Horizontal Cone Through  
 Vertical Angle (21) (Through Max. Cd.)

#### Zonal Lumen Summary

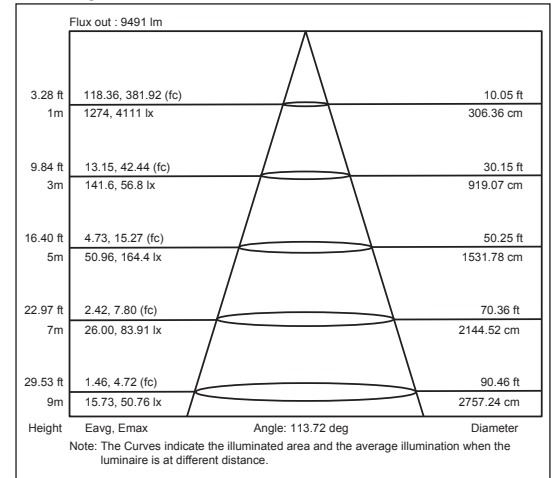
Zone	Lumens	% Lamp	% Fixture
0-30	3301.98	N.A.	25.80
0-40	5524.45	N.A.	43.20
0-60	10110.37	N.A.	79.10
0-90	12739.09	N.A.	99.70
90-120	19.84	N.A.	0.20
90-130	24.07	N.A.	0.20
90-150	31.46	N.A.	0.20
90-180	35.88	N.A.	0.30
0-180	12774.97	N.A.	100.00
Total Luminaire Efficiency = N.A.%			

#### Average Luminance

(Candelas / Square Meter)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10958	11547	12656
55	10780	11473	12208
65	10204	11062	11268
75	8743	9601	8934
85	75	603	3527

#### AAI Figure



#### Photometric Report

Efficiency (total) N.A.  
 Spacing Criterion (0-180) 1.30  
 Spacing Criterion (90-270) 1.40

#### Coefficient of Utilization Table

Effective Floor Cavity Reflectance = 20%

RC RW	70				80				50				30				10				0			
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	0	0	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84	84	84	84	84	84	84
2	99	91	84	78	96	89	83	77	85	80	75	82	77	74	79	75	72	70	70	70	70	70	70	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58	58	58	58	58	58	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50	50	50	50	50	50	50
5	75	62	53	47	73	61	53	46	59	52	46	57	50	45	55	49	45	43	43	43	43	43	43	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	37	37	37	37	37	37	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	33	33	33	33	33	33	33
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29	29	29	29	29	29	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26	26	26	26	26	26	26
10	52	39	31	26	51	38	31	25	37	30	25	36	30	25	35	29	25	23	23	23	23	23	23	23