

# COOPER LIGHTING - METALUX®

## DESCRIPTION

The HB series is an outstanding solution for high mounting height industrial or retail applications. The HB optic has been optimized to provide maximum performance from either the T5 or T8 lamps. Optional uplight component is provided to enable excellent ceiling uniformity. HB's high lumen package allows the benefits of fluorescent to be applied at high mounting heights that were traditionally exclusive to H.I.D. The primary benefits include exceptional color rendering, high system efficacy, 95% lumen maintenance, long lamp life, instant on/instant re-strike, economical dimming, and uniform brightness control. Primary applications include "big box" retail, shopping malls, light industrial, gymnasiums, etc.

<b>Catalog #</b>		<b>Type</b>
<b>Project</b>		
<b>Comments</b>		<b>Date</b>
<b>Prepared by</b>		

## SPECIFICATION FEATURES

### A...Construction

Full bodied steel housing utilizes captive fasteners to protect optical assembly and assure structural integrity. The housing features an integral ballast channel that adds strength and provides numerous KO's for easy installation. Center access plate location allows for easy access to ballast leads on all new and retrofit projects regardless of mounting type.

### B...Electrical

Class "P" ballasts are positively secured by mounting bolts. Roto-lock lampholders. Optional modular power receptacle meets UL2459 and NEC 410.73 and is UL/cUL rated for make and break under load from outside the luminaire to speed maintenance. UL/CUL listed. Suitable for damp locations. Thermally optimized for environments up to 149°F (65°C) when used with high temperature ballasts in an open uplight configuration.

### C...Finish

White enamel finish preceded by a multistage cleaning cycle, iron phosphate coating with rust inhibitor to protect against contaminants and oxidation.

### D...Downlight/Uplight Optics

Die formed reflectors are faceted with two optical distributions – medium and wide. Medium beam optical modules utilize 95% specular aluminum while the wide distribution utilizes a high performance 95% reflective polyester powder coated finish. Gasketed door frame & lens assembly is optional for more demanding environments. Uplight option provided to enable ceiling uniformity.

### Mounting

The HB series is suited for surface, suspension mounting with optional wire hook and chain set or cable mounting.

### Options

Integral Occupancy Sensor available and provides from 600 sq. ft. (MS) up to 1250 sq. ft. (MSO) of coverage in a maximum mounting height of 40'.



## F-BAY HB SERIES

15" x 4' High-Bay  
3 Lamp

HIGH-BAY INDUSTRIAL  
LUMINAIRE



### ENERGY DATA

Input Watts:

**EB Ballast**  
332 (82)

**EB/Plus Ballast**  
332 (108)

**ER Ballast**  
332 (93)  
354 (182)

**ER/Plus Ballast**  
332 (120)

Luminaire Efficacy Rating

**LER = 67** (White)

**LER = 69** (Specular)

**Catalog Number:** HB-354T5-UPL

**Yearly Cost of 1000 Lumens,**  
**3000 hrs. at .08 KWH = \$3.50**

\* Reference the lamp/ballast data in the  
Technical Section for specific lamp/ballast  
requirements

\*\* Consult Pre Sales Technical Support.

**LAMPS CONTAIN MERCURY. DISPOSE ACCORDING  
TO LOCAL, STATE OR FEDERAL LAWS**

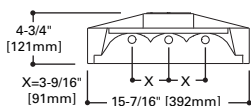
**LINEAR DISCONNECT**

Safe and convenient means of  
disconnecting power.

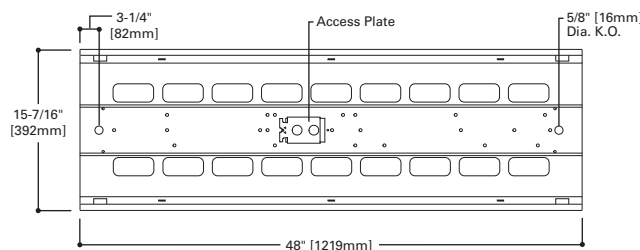


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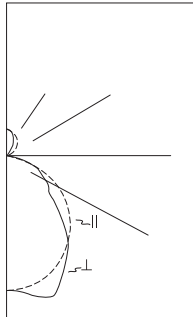
## LAMP CONFIGURATIONS



## DIMENSION TOP VIEW

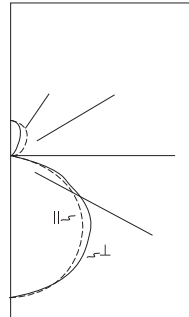


PHOTOMETRICS



**HB-354T5-UPL**  
 Electronic Ballasts  
 (3) FP54/835/HO lamps  
 4400 lumens  
 Spacing criterion:  
 (II) 1.2 x mounting height, (L) 1.3 x mounting height  
 Efficiency 92.9%  
 Test Report:  
 HB354T5UPL.IES  
 LER =69  
 Yearly Cost of 1000 lumens, 3000 hrs at .08 KWH = \$3.50

Candela				
Angle	Along II	45°	Across L	
0	4281	4281	4281	
5	4275	4304	4335	
10	4213	4366	4516	
15	4102	4443	4643	
20	3959	4449	4537	
25	3772	4385	4108	
30	3559	4031	3718	
35	3298	3558	3256	
40	3027	3172	2616	
45	2712	2725	2009	
50	2380	2116	1675	
55	2029	1543	1562	
60	1656	1226	1233	
65	1280	1059	980	
70	920	707	957	
75	582	624	425	
80	280	222	37	
85	47	25	28	
90	0	15	20	



**HB-354T5-G-UPL**  
 Universal Ballasts  
 (3) FP54/835/HO lamps  
 4400 lumens  
 Spacing criterion:  
 (II) 1.3 x mounting height, (L) 1.3 x mounting height  
 Efficiency 90.5%  
 Test Report:  
 HB354T5GUPL.IES  
 LER =67  
 Yearly Cost of 1000 lumens, 3000 hrs at .08 KWH = \$3.61

Candela				
Angle	Along II	45°	Across L	
0	3397	3397	3397	
5	3398	3371	3348	
10	3354	3321	3312	
15	3283	3260	3263	
20	3189	3183	3202	
25	3070	3087	3122	
30	2926	2970	3033	
35	2760	2833	2927	
40	2563	2683	2780	
45	2351	2517	2597	
50	2133	2310	2404	
55	1880	2060	2174	
60	1600	1812	1770	
65	1304	1508	1456	
70	988	1093	1247	
75	667	851	641	
80	353	357	166	
85	68	78	80	
90	0	19	26	

Coefficients of Utilization

rc rw RCR	Effective floor cavity reflectance 20%																									
	80%				70%				50%				30%				10%				0%					
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
0	108	108	108	108	105	105	105	105	98	98	98	92	92	92	86	86	86	84								
1	100	96	92	89	97	93	90	87	87	85	83	82	80	78	78	76	75	72								
2	92	85	79	74	88	82	77	72	77	73	69	73	70	66	69	66	64	61								
3	84	75	68	62	81	73	66	61	69	63	59	65	61	57	62	58	55	53								
4	77	67	59	53	74	65	58	53	62	56	51	58	53	49	55	51	48	45								
5	71	60	52	46	69	58	51	46	55	49	44	53	47	43	50	46	42	40								
6	66	54	46	41	64	53	46	40	50	44	39	48	42	38	46	41	37	35								
7	61	49	42	36	59	48	41	36	46	39	35	44	38	34	42	37	33	31								
8	57	45	38	32	55	44	37	32	42	36	31	40	35	31	39	34	30	28								
9	53	41	34	29	52	40	34	29	39	33	28	37	32	28	36	31	27	25								
10	50	38	31	27	48	37	31	26	36	30	26	34	29	25	33	28	25	23								

Coefficients of Utilization

rc rw RCR	Effective floor cavity reflectance 20%																									
	80%				70%				50%				30%				10%				0%					
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
0	105	105	105	105	102	102	102	102	95	95	95	89	89	89	83	83	83	80								
1	96	92	88	85	93	89	85	82	83	80	78	78	75	73	73	71	69	67								
2	87	80	73	68	84	77	71	67	72	68	64	68	64	61	63	60	58	55								
3	79	70	62	56	76	67	61	55	63	57	53	59	55	51	56	52	48	46								
4	72	61	53	47	69	59	52	46	56	50	45	52	47	43	49	45	41	39								
5	66	55	46	40	64	53	45	40	50	43	38	47	41	37	44	39	36	33								
6	61	49	41	35	59	47	40	34	45	38	33	42	37	32	40	35	31	29								
7	56	44	36	31	54	43	35	30	41	34	29	38	33	28	36	31	27	25								
8	52	40	32	27	50	39	32	27	37	31	26	35	29	25	33	28	24	23								
9	49	37	29	24	47	36	29	24	34	28	23	32	27	23	31	26	22	20								
10	46	34	27	22	44	33	26	22	31	25	21	30	24	20	28	23	20	18								

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	3567	27.0	29.1
0-40	5750	43.6	46.9
0-60	9326	70.7	76.1
0-90	11066	83.8	90.3
0-180	12260	92.9	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	8688	8730	6436
55	8013	6094	6169
65	6861	5676	5253
75	5094	5461	3720
85	1222	650	728

Zonal Lumen Summary

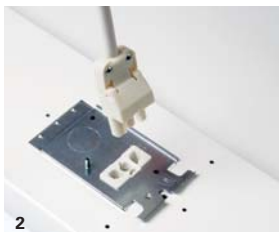
Zone	Lumens	%Lamp	%Fixture
0-30	2671	20.2	22.3
0-40	4449	33.7	37.2
0-60	8213	62.2	68.7
0-90	10566	80.0	88.4
0-180	11950	90.5	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	7532	8063	8320
55	7425	8136	8586
65	6990	8083	7804
75	5838	7448	5610
85	1767	2027	2079

Modular F-Bay Power Supply

Cooper Lighting's F-Bay Modular Power Supply option allows external fixture access for safe and easy servicing. There is no need to remove lamps or reflectors to disconnect fixture power with F-Bay Modular Power Supply. Access to the individual fixtures power supply allows servicing without turning off all the fixtures disrupting occupants. F-Bay Modular Power Supply is a time saver in installation – simply plug & power.



1. Modular Power Supply Receptacle supplied mounted into fixture Access Plate.
2. Modular Power Cord & Plugs in 120, 277, 347, & 480V configurations for easy plug & power into existing supply.



No internal fixture access required for installation or disconnecting power.



Modular Motion Sensor Option supplied with Mounting Box and Modular Power Supply Receptacle.

Code Compliance

- UL/cUL Certified for Make/Break under load (UL2549)
- Meets NEC requirements for ballast disconnect (NEC 410.73G)
- Allows for addition of Occupancy Sensor without hard connections
- Receptacles complete with insulating dustcap

**ORDERING INFORMATION**

SAMPLE NUMBER: HB-332-A-UNV-EB81-UPL-U

<p><b>Width</b> Blank=15"</p> <p><b>Series</b> HB=High Bay</p> <p><b>Mounting Arrangement</b> Blank=Stand Alone R=Continuous Row Mount</p> <p><b>No. of Lamps</b> 3=3 Lamps</p> <p><b>Lamp Type</b> 32=32WT8 Lamps (48") 28T5=28WT5 Lamps (48") 54T5=54WT5HO Lamps (48")</p> <p><b>Distribution</b> Blank=Medium (Specular Aluminum) G=Wide (High Reflectance White)</p> <p><b>Shielding</b> Blank=None A=Prismatic Acrylic Lens &amp; Door Frame WG=Wireguard &amp; Door Frame A/WG=Acrylic Lens, Wireguard &amp; Door Frame CL=Clear Acrylic Lens &amp; Door Frame CL/WG=Clear Lens, Wireguard &amp; Door Frame CL/DWG=Clear Lens, Drop Wireguard &amp; Door Frame DWG=Drop Wireguard &amp; Door Frame A/DWG=Acrylic Lens, Drop Wireguard &amp; Door Frame</p>	<p><b>Voltage</b><sup>(2)</sup> UNV=Universal 120/277 Voltage UNC=Universal 347/480 Voltage<sup>(7)</sup> 120V=120 Volt 277V=277 Volt 347V=347 Volt 480V=480 Volt</p> <p><b>Options</b> <b>Lamps Installed</b> L8830=T8 Lamp, 85CRI 3000K L8835=T8 Lamp, 85CRI 3500K L8841=T8 Lamp, 85CRI 4100K L8850=T8 Lamp, 85CRI 5000K L5830=T5 Lamp, 85CRI 3000K L5835=T5 Lamp, 85CRI 3500K L5841=T5 Lamp, 85CRI 4100K L5850=T5 Lamp, 85CRI 5000K GL=Single Element Fuse GM=Double Element Fuse EL=Emergency Installed<sup>(2)</sup></p>	<p><b>Ballast Type</b> <b>T8 Systems</b> EB8 =T8 Electronic Instant Start.<sup>(4)</sup> Total Harmonic Distortion &lt; 10% No. of Ballast 1 or 2 EB8 /PLUS=T8 Electronic Instant Start.<sup>(4)(6)</sup> High Ballast Factor &gt;1.15. Total Harmonic Distortion &lt; 10% No. of Ballast 1 or 2 EB8 =T8 Electronic Program Rapid Start.<sup>(4)</sup> Total Harmonic Distortion &lt; 10% No. of Ballast 1 or 2 EB8 /PLUS= T8 Electronic Program Start.<sup>(4)</sup> High Ballast Factor &gt;1.15. Total Harmonic Distortion &lt; 10% No. of Ballast 1 or 2 <b>T5 Systems</b> EBT =T5 or T5HO Linear Electronic Program Rapid Start.<sup>(3)</sup> Total Harmonic Distortion &lt; 10% No. of Ballast 1 or 2 EHT =T5HO Linear Electronic Start High Ambient.<sup>(6)(7)</sup> Total Harmonic Distortion &lt; 10% No. of Ballast 1 or 2 DIM=Consult Factory<sup>(9)</sup></p>	<p><b>Options</b> NUA=No Uplight Apertures In Housing (Cannot be combined w/UPL) UPL=Uplight Apertures MWS=Modular Wiring System MS=Aisle Coverage Motion Sensor<sup>(5)</sup> MSO=360° Coverage Motion Sensor<sup>(5)</sup> C3=3' Power Cord C6=6' Power Cord G2=Gasketed Door (Requires Selection of Lensed Door Frame) MP=Modular Power Receptacle<sup>(11)(2)</sup> PC3=3' Power Cord &amp; Plug (Specify Voltage) PC6=6' Power Cord &amp; Plug (Specify Voltage)</p> <p><b>Accessories</b> (order separately) HBAVC-CHAIN/SET/U=(2) V-Hook Hangers, 36" Chain Sets w/S-Hooks<sup>(8)</sup> HB-SPM=Single Monopoint Hanger w/Hub RH-1=Retrofit Hanger FH-1=Fixture Hook FL-1=Fixture Loop Y-TOGGLE=Y Mounting Toggle, #2 Cable (Specify 10' or 30') MC3=3' Modular Power Cord MPC3=3' Modular Power Cord &amp; Plug (Specify Voltage) MC6=6' Modular Power Cord MPC6=6' Modular Power Cord &amp; Plug (Specify Voltage) MMS-CPD1200H=Aisle Motion Sensor, Box, Modular Power Receptacle (120/277V) MMS-CPD500H=360° Motion Sensor, Box, Modular Power Receptacle (120/277V) SWG/HB-4FT-B=Heavy Duty Wireguard (HB)</p> <p><b>Door Frames</b> (for Field Installation) HB-FRM/LENS=Prismatic Acrylic Lens &amp; Frame (HB) HB-FRM/CL PK=Clear Acrylic Lens &amp; Frame (HB) HB-FRM/WG PK=Wireguard &amp; Frame (HB) HB-FRM/LENS/WG PK=Prismatic Acrylic Lens, Frame and Wireguard (HB) HB-FRM/DROPWG PK=Frame and Drop Wireguard for HB</p>	<p><b>Packaging</b> U=Unit Pack PAL=Palletized Out of Carton PALC=Job Pack In Carton</p>
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**NOTES:** <sup>(1)</sup>Requires use of MC\_ or MPC\_cord accessories, specify voltage for plugs. <sup>(2)</sup>Voltage must be specified when ordered with plugs, motion sensor or emergency ballasts. <sup>(3)</sup>EBT ballast systems suitable for operation in ambient environments up to 104°F (40°C) in open uplight configuration. <sup>(4)</sup>EB8 and EB8 ballast systems suitable for operation in ambient environments up to 122°F (50°C) in open uplight configuration. <sup>(5)</sup>Specify voltage. <sup>(6)</sup>2 lamp ballast configurations only for T5 UNC versions. 2/3 lamp ballast configurations in EB8/PLUS only for T8 UNC versions. <sup>(7)</sup>EHT/HT5/HCT5 ballast systems suitable for ambient environments not to exceed 149°F (65°C) in open uplight configurations and less lens option. <sup>(8)</sup>Use in high abuse applications such as gymnasiums. <sup>(9)</sup>Dimming ballast must be specified at time of order.

**SHIPPING INFORMATION**

Catalog No.	Wt.
HB-332-G-UPL	19 lbs.
HB-332-UPL	19 lbs.