

COOPER LIGHTING - METALUX®

DESCRIPTION

The HBI series is an outstanding solution for high mounting height industrial or retail applications. The HBI optic has been optimized to provide maximum performance from T5 lamps. Optional uplight component is provided to enable excellent ceiling uniformity. HBI's high lumen package allows the benefits of fluorescent to be applied at high mounting heights that were traditionally exclusive to HID. 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 retail, shopping malls, light industrial, gymnasiums and recreational environments.

SPECIFICATION FEATURES

Construction

Full bodied steel housing with integral ballast channel adds strength, rigidity and structural protection for optical assembly.

Electrical

The HBI comes standard with a high ambient Class P electronic ballast and twistlock lampholders. UL/cUL listed for high ambient environments up to 65°C (149°F) for all lamps and ballast combinations when used in open upright configurations. Suitable for damp locations. 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.

Finish

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

Downlight/Uplight Optics

Die-formed, segmented optical design optimizes performance across three distributions. Optical choices include a narrow distribution for aisles, medium distribution for assembly and loading areas, or wide distribution for general, open area lighting. An uplight option is offered to permit ceiling uniformity and allow for ample lamp and luminaire heat dissipation. Gasketed door frame & lens assembly is optional for more demanding environments.

Catalog #		Type	
Project		Date	
Comments		Prepared by	

Options

Integral Occupancy Sensor available and provides from 600 sq. ft. (MS) up to 1250 sq. ft. (MSO) of coverage at a maximum mounting height of 40' using interchangeable lens caps provided.

Mounting

The HBI series is suited for suspension mounting with optional wire hook and chain set or cable mounting. Single monopoint mounting is available with SPM Tong Hanger. Includes V Hangers for rapid installation.

Warranty

When operated in high ambient conditions, the HBI is supported by a 5 yr/55°C and 3 yr/65°C ballast warranty when used with a high ambient ballast in open, upright configurations (T5HO lamping only).



HBI SERIES

ULTRA 47
4, 5 OR 6 T5HO LAMPS

High-Bay Industrial
Fluorescent Luminaire

F-BAY^{ULTRA}47



ENERGY DATA

Input Watts:
EHT Ballast
647=310W

Luminaire Efficacy Rating
LER = 81
Catalog Number: HBI-647T5-N-UPL

Yearly Cost of 1000 lumens,
3000 hrs at .08 KWH = \$2.96

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

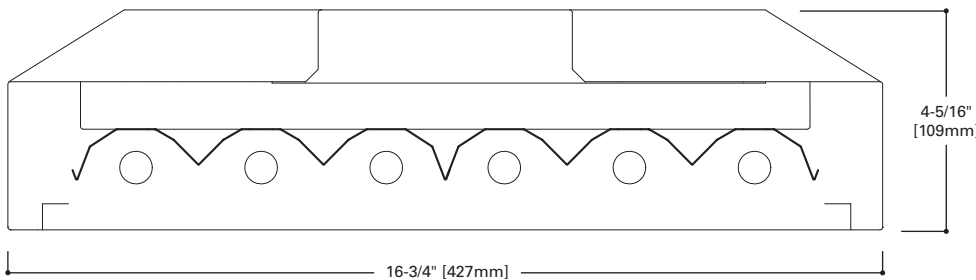
**Consult Pre Sales Technical Support.

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

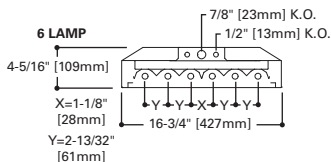
LINEAR DISCONNECT

Safe and convenient means of disconnecting power.

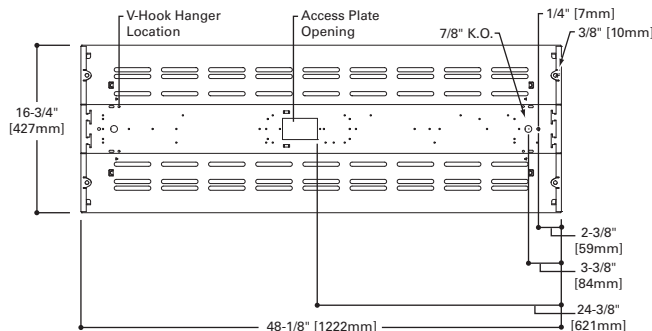
ADF110940 pc
2012-01-30 14:08:00



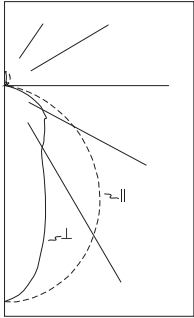
LAMP CONFIGURATIONS



DIMENSION TOP VIEW



PHOTOMETRICS



HBI-447T5-UNV-UPL
 (1) Electronic Ballast
 (4) F54T5-47W Lamps
 4285 lumens
 Spacing criterion:
 (H) 1.2 x mounting
 height, (L) 0.7 x
 mounting height
 Efficiency 92.8%
 Test Report:
 HBI447-UPL.IES
 LER=77
 Yearly Cost of 1000
 lumens, 3000 hrs at
 .08 KWH = \$3.11

Candela				
Angle	Along H	45°	Across L	
0	9407	9407	9407	
5	9392	9251	9016	
10	9228	8758	8140	
15	8969	7866	6715	
20	8641	6751	5197	
25	8202	5530	3992	
30	7678	4387	3240	
35	7107	3456	2990	
40	6465	2849	2708	
45	5776	2512	2473	
50	5001	2219	2270	
55	4211	1945	2113	
60	3405	1691	1831	
65	2583	1409	1362	
70	1839	1053	924	
75	1127	626	485	
80	509	235	141	
85	94	47	47	
90	0	4	3	

Coefficients of Utilization

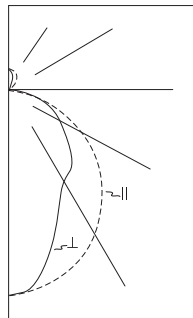
rc	Effective floor cavity reflectance															
	80%			70%			50%			30%			10%			0%
rw	70	50	30	70	50	30	70	50	30	70	50	30	70	50	30	0
RCR																
0	110	110	110	107	107	107	107	101	101	101	96	96	96	91	91	89
1	101	98	94	91	99	95	92	89	90	88	86	86	84	82	81	79
2	93	87	81	76	91	84	79	75	81	76	73	77	74	70	74	68
3	86	77	70	65	83	75	69	64	72	67	63	69	65	61	66	59
4	79	69	62	56	77	68	61	56	65	59	55	62	57	53	60	52
5	74	63	55	49	71	61	54	49	59	53	48	57	52	47	55	46
6	68	57	49	44	66	56	49	44	54	48	43	52	47	42	50	42
7	64	52	45	40	62	51	44	39	50	43	39	48	42	38	46	38
8	60	48	41	36	58	47	40	36	46	40	35	44	39	35	43	34
9	56	45	38	33	55	44	37	33	43	36	32	41	36	32	40	32
10	53	41	35	30	52	41	34	30	40	34	30	39	33	29	38	28

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	5761	33.6	36.2
0-40	8439	49.2	53.0
0-60	12951	75.6	81.4
0-90	15227	88.8	95.7
0-180	15913	92.8	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	17040	7411	7296
55	15315	7074	7685
65	12750	6955	6723
75	9084	5046	3909
85	2250	1125	1125



HBI-647T5-UNV-UPL
 (2) Electronic Ballasts
 (6) F54T5-47W Lamps
 4285 lumens
 Spacing criterion:
 (H) 1.2 x mounting
 height, (L) 0.8 x
 mounting height
 Efficiency 97.2%
 Test Report:
 HBI647-UPL.IES
 LER=81
 Yearly Cost of 1000
 lumens, 3000 hrs at
 .08 KWH = \$2.96

Candela				
Angle	Along H	45°	Across L	
0	11297	11297	11297	
5	11176	11220	11180	
10	10987	10762	10296	
15	10714	9871	8982	
20	10345	8771	7767	
25	9889	7694	6807	
30	9351	6762	6049	
35	8730	5891	5841	
40	8041	5245	5347	
45	7286	4908	4757	
50	6465	4346	4242	
55	5583	3714	3611	
60	4638	3152	3107	
65	3654	2509	2789	
70	2627	2036	2190	
75	1655	1560	1490	
80	789	877	772	
85	178	291	93	
90	4	3	9	

Coefficients of Utilization

rc	Effective floor cavity reflectance															
	80%			70%			50%			30%			10%			0%
rw	70	50	30	70	50	30	70	50	30	70	50	30	70	50	30	0
RCR																
0	115	115	115	115	111	111	111	111	105	105	105	100	100	100	95	95
1	105	101	97	93	102	98	95	91	93	90	88	89	86	84	84	83
2	96	88	82	77	93	86	80	75	82	77	73	78	74	71	75	71
3	88	78	70	64	85	76	69	63	73	67	62	69	64	60	66	59
4	81	69	61	55	78	68	60	54	65	58	53	62	57	52	60	55
5	74	62	54	48	72	61	53	47	59	52	46	56	50	45	54	49
6	69	56	48	42	67	55	47	42	53	46	41	51	45	40	49	44
7	64	51	43	37	62	50	43	37	49	42	37	47	41	36	45	40
8	60	47	39	34	58	46	39	33	45	38	33	43	37	32	42	36
9	56	43	36	30	54	43	35	30	41	35	30	40	34	29	39	33
10	53	40	33	28	51	40	32	28	38	32	27	37	31	27	36	27

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	7543	29.3	30.2
0-40	11643	45.3	46.6
0-60	19248	74.9	77.0
0-90	23832	92.7	95.4
0-180	24988	97.2	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	22550	15190	14723
55	21302	14171	13778
65	18922	12993	14442
75	13994	13191	12599
85	4470	7307	2335

Modular F-Bay Power Supply Option

Cooper Lighting's F-Bay Modular Power Supply option is available for use with all F-Bay products. The modular power supply 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 fixture's 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/dust cap

ORDERING INFORMATION

SAMPLE NUMBER: HBI-647T5-N-UNV-EHT2-MP-UPL-U

<p>Series HBI=High Bay Industrial</p> <p>No. of Lamps 4=4 Lamps 5=5 Lamps 6=6 Lamps</p> <p>Lamp Type 47T5= 47W T5HO Lamps (48")</p> <p>Distribution N=Narrow Beam (Standard) M=Medium Beam W=Wide Beam</p>	<p>Voltage² UNV=Universal 120/277V 120V=120 Volt 277V=277 Volt</p> <p>Options Lamps Installed⁵ L5841=T5 Lamp, 85CRI 4100K L5850=T5 Lamp, 85CRI 5000K GL=Single Element Fuse GM=Double Element Fuse EL=Emergency Installed²</p>	<p>Ballast Type EHT=T5HO Linear Electronic Rapid Program Start High Ambient.⁴ Total Harmonic Distortion < 10% No. of Ballast 2 or 3</p> <p>Options MP=Modular Power Receptacle (Used for all Cord or Cord and Plug options)¹ NUA=No upright apertures in housing.⁷ UPL=Uplight Apertures on Reflector MWS=Modular Wiring System MS=360° or 180° Motion Sensor, 120 through 277³ G2=Gasketed Door (Requires Selection of Lensed Doorframe) SDF=Slotted Doorframe (Requires Selection of Lensed Doorframe)</p>	<p>Accessories (order separately) 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 Cable⁶ (Specify 10' or 30', requires 2 per fixture) HBAYC-CHAIN/SET/U=(2) V-Hook Hangers, 36" Chain Sets w/S-Hooks MC3=3' Modular Power Cord MPC3=3' Modular Power Cord & Plug (Specify Voltage) MC6=6' Modular Power Cord MPC6=6' Modular Power Cord & Plug (Specify Voltage) MMS=360° or 180° Aisle Motion Sensor with Modular Power Receptacle (120-277V)¹ MDS6=6' Modular Power Cord with MWS 27DS18/2G06MP Connector⁸ SWG=Heavy Duty Wireguard for Field Installation</p> <p>Packaging U=Unit Pack PALC=Palletized In Carton PAL=Job Pack Out of Carton</p>
--	--	---	---

NOTES:

- 1 Requires use of MC or MPC cord accessories, specify voltage for plugs.
- 2 Voltage must be specified when ordered with plugs or emergency ballasts.
- 3 When ordering MS option, specify voltage as UNV (for 120 or 277V).
- 4 EHT/HT5/HCT5 ballast systems suitable for ambient environments not to exceed 149°F. (65°C) in open upright configurations and less lens option.
- 5 Must specify lamps when ordering.
- 6 Two required.
- 7 Not compatible with UPL option.
- 8 For MWS with MP, choose MP in the fixture logic and then choose MWS accessory such as MDS6.

SHIPPING DATA

Catalog No.	Wt.
HBI-647T5-N-UPL	16 lbs.