Metalux

DESCRIPTION

The HBLED is an outstanding value for a wide variety of applications and mounting heights. Precision designed optics, multiple distributions, lumen outputs and color temperatures make the HBLED ideal for industrial, commercial, manufacturing, gymnasium and other applications that utilize traditional HID and linear fluorescent high bays. The proprietary low-power, low-brightness LED module assembly offers exceptional optical performance with the enhanced benefits of LED lighting, including energy savings, extended system life, a reduced carbon footprint.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction
Full body construction is achieved with channel and end plates, along w/stiffening brackets and side rails to help create a strong, clean finished frame for this luminaire. Side rails are standard on all HBLED products.

Electrical
Long-life LED system coupled with electrical driver to deliver optimal performance. LED's available in 4000k and 5000k with a CRI ≥ 80. cULus listed. Electronic drivers are available for 120-277V, 347V and 480V applications. An optional 0-10V dimming driver is available.

Emergency Battery Pack Option
Optional 120V-277V integral emergency battery pack is available in 7-watts or 14-watts to meet critical life-safety lighting requirements. The 90-minute batteries provide constant power to the LED system, ensuring code-compliance. A test switch/indicator button can be tested safely from the ground using a laser pointer, while the patented EZ Key prevents accidental discharge of the battery during construction. See ordering information for details.

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

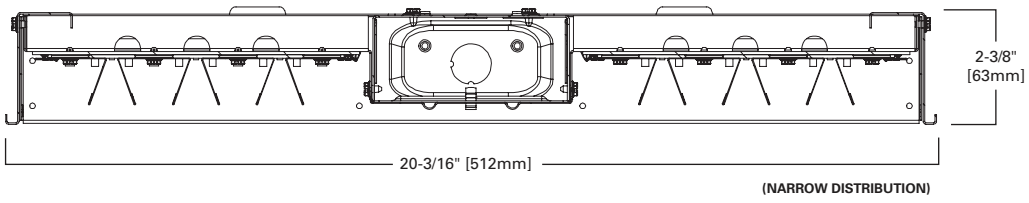
Optics
Precision designed optics deliver even illumination. General and aisle distribution ensures superior performance to key areas within an application.

Shielding
Door frame and lens assembly is optional for more demanding environments.

Options
Integral Occupancy Sensor available and provides from 600 sq. ft. up to 1250 sq. ft. of coverage in a maximum mounting height of 40' using interchangeable lens caps provided. Optional integral sensor system provides occupancy and daylight harvesting.

Mounting
The HBLED series is ideally suited for suspension mounting with optional wire hook and chain set, or cable mounting. Single monopoint mounting is also available with SPM tong hanger.

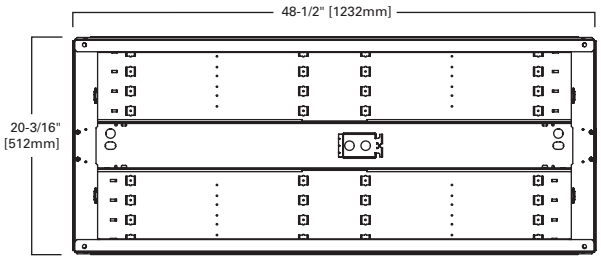
Compliance
Luminaires are cULus listed for damp locations -20°C - 55°C ambient environments in open configurations with fixed output (ED option) drivers and 40°C with dimming drivers. Refer to ambient chart for complete list. RoHS compliant, and LED modules comply with IESNA LM-79 and LM-80 standards. DesignLights Consortium™ Qualified and classified for DLC Standard (some models are not DLC qualified), refer to www.designlights.org for details.



(NARROW DISTRIBUTION)

DIMENSION TOP VIEW

4' HOUSING



HB
LED

20" X 48"

LED High Bay Efficiency Luminaire

ENERGY DATA

Input Watts:
12 (12,000 lumens)=104W
18 (18,000 lumens)=152W
24 (24,000 lumens)=203W
30 (30,000 lumens)=228W
36 (36,000 lumens)=307W
48 (48,000 lumens)=401W

LINEAR DISCONNECT
Safe and convenient means of disconnecting power

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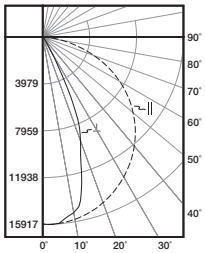
PHOTOMETRICS



HBLED-LD4-18-N-UNV-L850-ED2-U

Dimming Driver
Linear LED 5000K
Spacing criterion: (II) 1.28 x mounting height, (⊥) 0.72 x mounting height
Lumens: 18818
Input Watts: 151.9W
Efficacy: 123.9 lm/W
Test Report: HBLED-LD4-18-N-UNV-L850-ED2-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	15873	15873	15873
5	15880	15814	15872
10	15717	15297	15140
15	15408	14740	12779
20	14954	12820	9358
25	14400	9726	5673
30	13740	7682	1438
35	12964	3637	394
40	12077	1084	162
45	11111	317	144
50	10003	148	144
55	8842	149	83
60	7533	131	53
65	6151	96	46
70	4648	62	24
75	3105	19	21
80	1651	16	30
85	441	16	22
90	0	0	0

Coefficients of Utilization

Effective floor cavity reflectance 20%

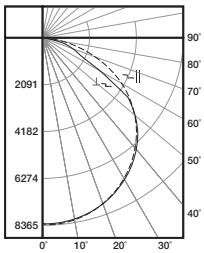
rc	80%				70%				50%			30%			10%			0%
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90
2	105	98	93	89	102	97	92	88	93	89	86	90	87	84	87	85	82	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74	72
4	92	82	76	70	90	81	75	70	79	73	69	77	72	68	75	71	67	66
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	69	65	61	60
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	56	55
7	76	65	58	53	75	64	58	53	63	57	53	62	56	52	61	56	52	50
8	72	61	54	49	71	60	54	49	59	53	49	58	52	48	57	52	48	47
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43
10	64	53	47	42	63	53	47	42	52	46	42	51	46	42	50	45	42	40

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	10076	53.5
0-40	13520	71.8
0-60	17434	92.6
0-90	18818	100.0
0-180	18818	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	25371	713	321
55	24890	411	227
65	23502	353	168
75	19371	111	123
85	8172	256	321



HBLED-LD4-24-W-UNV-L850-ED2-U

Dimming Driver
Linear LED 5000K
Spacing criterion: (II) 1.3 x mounting height, (⊥) 1.31 x mounting height
Lumens: 24002
Input Watts: 203.0W
Efficacy: 118.2 lm/W
Test Report: HBLED-LD4-24-W-UNV-L850-ED2-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	8323	8323	8323
5	8353	8295	8312
10	8274	8210	8233
15	8115	8068	8098
20	7890	7860	7905
25	7616	7594	7647
30	7275	7270	7329
35	6891	6900	6959
40	6432	6465	6520
45	5941	5979	6027
50	5379	5443	5404
55	4769	4827	4669
60	4093	4104	3015
65	3326	3228	1868
70	2503	1580	1441
75	1701	1042	998
80	912	583	241
85	265	146	155
90	0	0	0

Coefficients of Utilization

Effective floor cavity reflectance 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
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	29	42	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	27	37	31	26	37	31	26	25

Zonal Lumen Summary

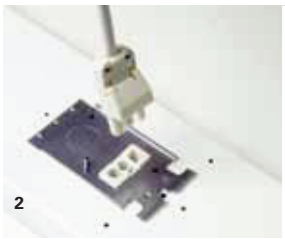
Zone	Lumens	% Fixture
0-30	6577	27.4
0-40	10894	45.4
0-60	19698	82.1
0-90	24002	100.0
0-180	24002	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	14061	13902	13912
55	13914	13733	13150
65	13171	12311	7019
75	11003	6317	5902
85	5094	2342	2315

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

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (Hours)
55°C	> 84%	> 142,000

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

Catalog Number	Delivered Lumens	Watts	Efficacy (lm/W)
HBLED-LD4-12-W-UNV-L850-ED1-U	12,505	104	120
HBLED-LD4-12-N-UNV-L850-ED1-U	12,156	104	117
HBLED-LD4-18-W-UNV-L850-ED2-U	19,358	152	127
HBLED-LD4-18-N-UNV-L850-ED2-U	18,818	152	124
HBLED-LD4-24-W-UNV-L850-ED2-U	24,002	203	118
HBLED-LD4-24-N-UNV-L850-ED2-U	23,332	203	115
HBLED-LD4-30-W-UNV-L850-ED3-U	29,302	228	129
HBLED-LD4-30-N-UNV-L850-ED3-U	28,483	228	125
HBLED-LD4-36-W-UNV-L850-ED3-U	35,944	307	117
HBLED-LD4-36-N-UNV-L850-ED3-U	34,941	307	114
HBLED-LD4-48-N-UNV-L850-ED4-U	46,312	401	115
HBLED-LD4-48-W-UNV-L850-ED4-U	48,108	402	120

AMBIENT RATINGS

Lumen Package	Ambient Rating	CD or 5LTD Driver	Lensed	EM Battery	HT Option
12,000	55°C	40°C	40°C	40°C	NA
18,000	55°C	40°C	40°C	40°C	NA
24,000	55°C	40°C	40°C	40°C	NA
30,000	55°C	40°C	40°C	40°C	NA
36,000	40°C	40°C	35°C*	35°C	NA
48,000	40°C	35°C	35°C*	35°C	50°C (17)

*Lens inserts only

ORDERING INFORMATION

SAMPLE NUMBER: HBLED-LD4-18-W-UNV-L850-ED2-U **Includes V Hangers for rapid installation**

Series [14]
HBLED=LED High Bay Linear

Lamp Type
LD4=LED 4.0

LED Lumen Output
12=12,000 Lumens
18=18,000 Lumens
24=24,000 Lumens
30=30,000 Lumens
36=36,000 Lumens
48=48,000 Lumens [15]
48HT=48,000 Lumens, 50° C Ambient [17]

Distribution
N=Narrow (Aisle)
W=Wide (General)

Shielding
[Blank]=None
WG=Wireguard [12]
A=Prismatic Acrylic Lens & Doorframe [8], [9], [11]
CL=Clear Acrylic Lens & Doorframe [8], [11]
A/WG=Acrylic Lens, Wireguard & Doorframe [8], [9], [11]
CL/WG=Clear Lens, Wireguard & Doorframe [8], [11]
AI=Prismatic Acrylic Lens Insert [8], [9]
CLI=Clear Acrylic Lens Insert [8]
FLI=Frosted Lens Insert [8], [9]
POLY125/WG=Polycarbonate Lens, Wireguard and Doorframe [8], [11]
POLY125=Polycarbonate Lens and Doorframe [8], [11]

Voltage [1]
120V=120 Volt
277V=277 Volt
347V=347 Volt [6], [10]
480V=480 Volt [6], [10], [18], [21]
UNV=Universal Voltage 120-277
UNC=Universal Voltage 347/480 [6]

Lamps Installed
L835=3500K
L840=4000K
L850=5000K

Options [5]
Emergency
EL7W=7-watt, 120V-277V emergency battery pack installed [4]
EL14W=14-watt 120V-277V emergency battery pack installed [4]
GTD2=Bodine Generator Transfer Device [19]
ETS2=IOTA Emergency Transfer Switch [19]

Driver Type
CD=0-10V Dimming Driver [7], [8]
ED=Electronic Fixed Output Driver [7]
5LTD=Fifth Light DALI [7], [8], [13]

Number of Drivers
1=1 Driver (12,000 lumen version)
2=2 Drivers (18,000 and 24,000 lumen version)
3=3 Drivers (30,000 and 36,000 lumen versions)
4=4 Drivers (48,000 lumen version)

Options
MP=Modular Power Receptacle (used for all Cord or Cord and Plug options) [3]

Motion Sensors
MS=360° or 180° Motion Sensor Installed, (specify voltage) [2]
SVPD3=Integrated occupancy and daylight dimming sensor, 1200 sq. ft. coverage [16], [20]

Packaging
U=Unit Pack
PALC=Job Pack In Carton

Accessories (order separately)
HBL-SPM=Single Monopoint Hanger w/Hub
FH-1=Fixture Hook
FL-1=Fixture Loop
Y-TOGGLE=Y Mounting Toggle, #2 Cable (Specify 10' or 30")
HBAYC-CHAIN/SET/U=(2) V-Hook Hangers, 36" Chain Sets w/S-Hooks
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)
WG/HBL6-4FT-B=Field Installable, Wireguard for HBLED [12]
ISHH-01=Programming Remote for Integrated Sensor
ISHH-02=Personal Control Remote for Integrated Sensor

NOTES: [1] Voltage must be specified when ordered with plugs or emergency drivers . [2] When ordering MS option, specify as UNV (for 120 or 277V), 347 or 480V. [3] Requires use of MC or MPC cord accessories, specify voltage for plugs (MP). [4] With integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. [5] EM options available in 0°C - 40°C ambient. [6] Not available with dual switching. [7] Lumen output will vary depending on dimming or fixed output drivers. Refer to IES files for deliveried lumens. [8] Rated for 40°C ambient. [9] Not available with narrow distribution. [10] EM options not available with 30,000, 36,000 or 48,000 lumen configuration at 347V or 480V. [11] Not available with 36,000 or 48,000 lumen configuration. [12] Not available with lens insert options AI, CLI and FLI or doorframe options A and CL. [13] 5LTD available with 12,000, 18,000 and 30,000 lumen packages only. [14] DesignLights Consortium™ Qualified and classified for DLC Standard (some models are not DLC qualified), refer to www.designlights.org for details. [15] 40°C max. ambient rating. [16] Integrated sensor limited to 36,000 lumens. [17] HT lumen package not available with 347 or 480V, emergency, dimming, or lensed options. [18] 480V not for use with impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems). [19] Used to transfer fixture to secondary power source for life-safety operation. When used with a dimming fixture, two devices are required to ensure control is disabled while operating under emergency power. [20] I ntegrated sensor not compatible with door frame. [21] Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).

Specifications & dimensions subject to change without notice. Consult your Eaton Representative for availability and ordering information.

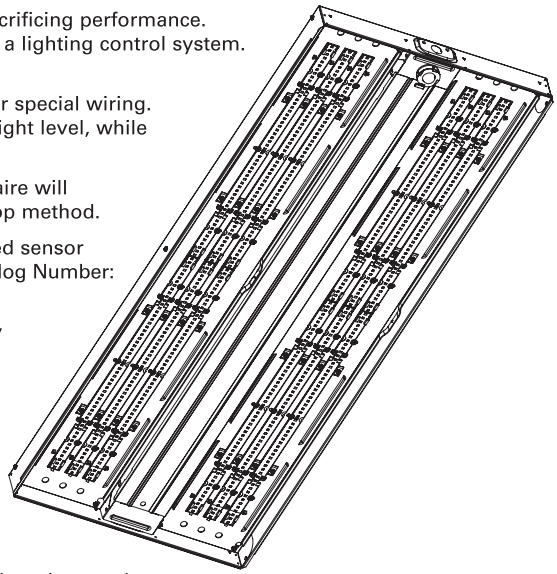
SHIPPING DATA

Catalog No.	Wt.
HBLED-LD4-12	19 lbs.
HBLED-LD4-18	22 lbs.
HBLED-LD4-24	22 lbs.
HBLED-LD4-30	24 lbs.
HBLED-LD4-36	24 lbs.

Powering Business Worldwide

Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

INTEGRATED SENSOR



The HBLED with Integrated Sensor technology provides automatic energy savings without sacrificing performance. Traditionally, these types of energy savings required coordination between the luminaire and a lighting control system. The HBLED delivers superior lighting with integrated occupancy and daylighting controls.

Capture the benefits of traditional lighting controls, without complicated coverage planning or special wiring. Ideal for new construction or retrofit, the HBLED delivers automatic ON to an energy saving light level, while ensuring lighting is turned OFF when the space is unoccupied.

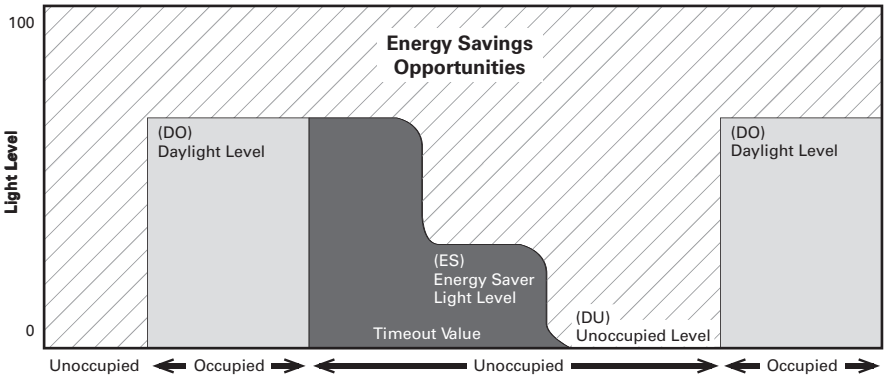
The integral daylight sensor reduces the need for special daylight zone planning. Each luminaire will automatically adjust the light level based on reflected light beneath the sensor in a closed loop method.

Occupied daylight light levels and unoccupied light levels can be adjusted using the integrated sensor programming remote (Catalog Number: ISHH-01). The integrated sensor personal remote (Catalog Number: ISHH-02) provides code compliant manual raise, lower, ON, OFF control.

The HBLED with Integrated Sensor is easy to install with no special wiring and ensures energy savings out-of-the-box with default control settings.

How it works:

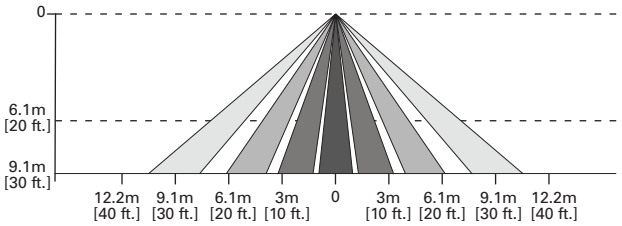
- As the user enters the space controlled by the integral sensor, the lighting turns ON to the default daylight level.
- Lighting will remain at that the daylight level until the space is unoccupied. This will start the occupancy timeout period (default 20 minutes).
- If the space remains unoccupied for half of the timeout period, the lighting will automatically reduce to the Energy Saver light level. This adjustable light level is typically half of the occupied daylight level.
- At the end of the timeout period the lighting will go to the unoccupied light level. This adjustable light level uses the OFF default setting.



Default daylight harvesting set using 36,000 lumen unit at 30 ft. mounting height, 20 ft. spacing for 50 footcandles.

SVPD3 Coverage Pattern

Side View



Optional Remote Controls

ISHH-01 Remote

ISHH-02 Remote

Metalux

DESCRIPTION

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Catalog #		Type
Project		
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Prepared by		

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Shielding
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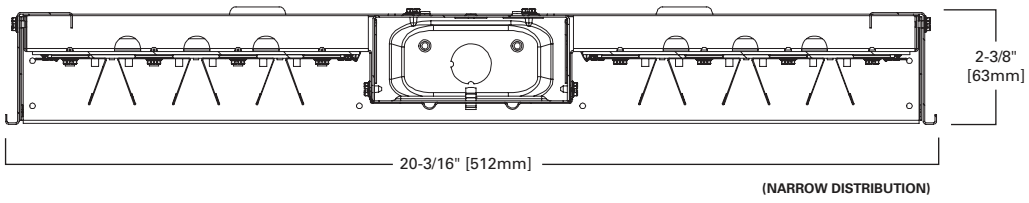
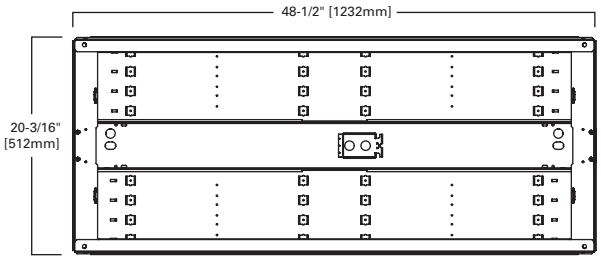


(NARROW DISTRIBUTION)

DIMENSION TOP VIEW

4' HOUSING



HB
LED

20" X 48"

LED High Bay Efficiency Luminaire

ENERGY DATA

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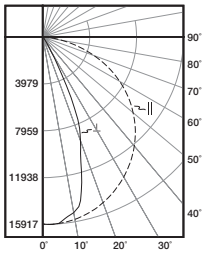
LINEAR DISCONNECT
Safe and convenient means of disconnecting power

Powering Business Worldwide

PHOTOMETRICS



HBLED-LD4-18-N-UNV-L850-ED2-U

Dimming Driver
Linear LED 5000K
Spacing criterion: (II) 1.28 x mounting height, (⊥) 0.72 x mounting height
Lumens: 18818
Input Watts: 151.9W
Efficacy: 123.9 lm/W
Test Report: HBLED-LD4-18-N-UNV-L850-ED2-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	15873	15873	15873
5	15880	15814	15872
10	15717	15297	15140
15	15408	14740	12779
20	14954	12820	9358
25	14400	9726	5673
30	13740	7682	1438
35	12964	3637	394
40	12077	1084	162
45	11111	317	144
50	10003	148	144
55	8842	149	83
60	7533	131	53
65	6151	96	46
70	4648	62	24
75	3105	19	21
80	1651	16	30
85	441	16	22
90	0	0	0

Coefficients of Utilization

Effective floor cavity reflectance 20%

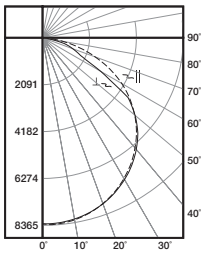
rc	80%				70%				50%			30%			10%			0%
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90
2	105	98	93	89	102	97	92	88	93	89	86	90	87	84	87	85	82	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74	72
4	92	82	76	70	90	81	75	70	79	73	69	77	72	68	75	71	67	66
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	69	65	61	60
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	56	55
7	76	65	58	53	75	64	58	53	63	57	53	62	56	52	61	56	52	50
8	72	61	54	49	71	60	54	49	59	53	49	58	52	48	57	52	48	47
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43
10	64	53	47	42	63	53	47	42	52	46	42	51	46	42	50	45	42	40

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	10076	53.5
0-40	13520	71.8
0-60	17434	92.6
0-90	18818	100.0
0-180	18818	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	25371	713	321
55	24890	411	227
65	23502	353	168
75	19371	111	123
85	8172	256	321



HBLED-LD4-24-W-UNV-L850-ED2-U

Dimming Driver
Linear LED 5000K
Spacing criterion: (II) 1.3 x mounting height, (⊥) 1.31 x mounting height
Lumens: 24002
Input Watts: 203.0W
Efficacy: 118.2 lm/W
Test Report: HBLED-LD4-24-W-UNV-L850-ED2-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	8323	8323	8323
5	8353	8295	8312
10	8274	8210	8233
15	8115	8068	8098
20	7890	7860	7905
25	7616	7594	7647
30	7275	7270	7329
35	6891	6900	6959
40	6432	6465	6520
45	5941	5979	6027
50	5379	5443	5404
55	4769	4827	4669
60	4093	4104	3015
65	3326	3228	1868
70	2503	1580	1441
75	1701	1042	998
80	912	583	241
85	265	146	155
90	0	0	0

Coefficients of Utilization

Effective floor cavity reflectance 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
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	29	42	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	27	37	31	26	37	31	26	25

Zonal Lumen Summary

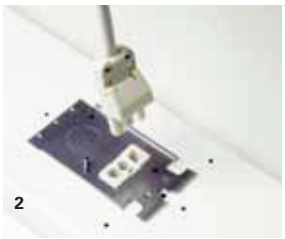
Zone	Lumens	% Fixture
0-30	6577	27.4
0-40	10894	45.4
0-60	19698	82.1
0-90	24002	100.0
0-180	24002	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	14061	13902	13912
55	13914	13733	13150
65	13171	12311	7019
75	11003	6317	5902
85	5094	2342	2315

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

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (Hours)
55°C	> 84%	> 142,000

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

Catalog Number	Delivered Lumens	Watts	Efficacy (lm/W)
HBLED-LD4-12-W-UNV-L850-ED1-U	12,505	104	120
HBLED-LD4-12-N-UNV-L850-ED1-U	12,156	104	117
HBLED-LD4-18-W-UNV-L850-ED2-U	19,358	152	127
HBLED-LD4-18-N-UNV-L850-ED2-U	18,818	152	124
HBLED-LD4-24-W-UNV-L850-ED2-U	24,002	203	118
HBLED-LD4-24-N-UNV-L850-ED2-U	23,332	203	115
HBLED-LD4-30-W-UNV-L850-ED3-U	29,302	228	129
HBLED-LD4-30-N-UNV-L850-ED3-U	28,483	228	125
HBLED-LD4-36-W-UNV-L850-ED3-U	35,944	307	117
HBLED-LD4-36-N-UNV-L850-ED3-U	34,941	307	114
HBLED-LD4-48-N-UNV-L850-ED4-U	46,312	401	115
HBLED-LD4-48-W-UNV-L850-ED4-U	48,108	402	120

AMBIENT RATINGS

Lumen Package	Ambient Rating	CD or 5LTD Driver	Lensed	EM Battery	HT Option
12,000	55°C	40°C	40°C	40°C	NA
18,000	55°C	40°C	40°C	40°C	NA
24,000	55°C	40°C	40°C	40°C	NA
30,000	55°C	40°C	40°C	40°C	NA
36,000	40°C	40°C	35°C*	35°C	NA
48,000	40°C	35°C	35°C*	35°C	50°C (17)

*Lens inserts only

ORDERING INFORMATION

SAMPLE NUMBER: HBLED-LD4-18-W-UNV-L850-ED2-U **Includes V Hangers for rapid installation**

Series [14]
HBLED=LED High Bay Linear

Lamp Type
LD4=LED 4.0

LED Lumen Output
12=12,000 Lumens
18=18,000 Lumens
24=24,000 Lumens
30=30,000 Lumens
36=36,000 Lumens
48=48,000 Lumens [15]
48HT=48,000 Lumens, 50° C Ambient [17]

Distribution
N=Narrow (Aisle)
W=Wide (General)

Shielding
[Blank]=None
WG=Wireguard [12]
A=Prismatic Acrylic Lens & Doorframe [8], [9], [11]
CL=Clear Acrylic Lens & Doorframe [8], [11]
A/WG=Acrylic Lens, Wireguard & Doorframe [8], [9], [11]
CL/WG=Clear Lens, Wireguard & Doorframe [8], [11]
AI=Prismatic Acrylic Lens Insert [8], [9]
CLI=Clear Acrylic Lens Insert [8]
FLI=Frosted Lens Insert [8], [9]
POLY125/WG=Polycarbonate Lens, Wireguard and Doorframe [8], [11]
POLY125=Polycarbonate Lens and Doorframe [8], [11]

Voltage [1]
120V=120 Volt
277V=277 Volt
347V=347 Volt [6], [10]
480V=480 Volt [6], [10], [18], [21]
UNV=Universal Voltage 120-277
UNC=Universal Voltage 347/480 [6]

Lamps Installed
L835=3500K
L840=4000K
L850=5000K

Options [5]
Emergency
EL7W=7-watt, 120V-277V emergency battery pack installed [4]
EL14W=14-watt 120V-277V emergency battery pack installed [4]
GTD2=Bodine Generator Transfer Device [19]
ETS2=IOTA Emergency Transfer Switch [19]

Driver Type
CD=0-10V Dimming Driver [7], [8]
ED=Electronic Fixed Output Driver [7]
5LTD=Fifth Light DALI [7], [8], [13]

Number of Drivers
1=1 Driver (12,000 lumen version)
2=2 Drivers (18,000 and 24,000 lumen version)
3=3 Drivers (30,000 and 36,000 lumen versions)
4=4 Drivers (48,000 lumen version)

Options
MP=Modular Power Receptacle (used for all Cord or Cord and Plug options) [3]

Motion Sensors
MS=360° or 180° Motion Sensor Installed, (specify voltage) [2]
SVPD3=Integrated occupancy and daylight dimming sensor, 1200 sq. ft. coverage [16], [20]

Packaging
U=Unit Pack
PALC=Job Pack In Carton

Accessories (order separately)
HBL-SPM=Single Monopoint Hanger w/Hub
FH-1=Fixture Hook
FL-1=Fixture Loop
Y-TOGGLE=Y Mounting Toggle, #2 Cable (Specify 10' or 30")
HBAYC-CHAIN/SET/U=(2) V-Hook Hangers, 36" Chain Sets w/S-Hooks
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)
WG/HBL6-4FT-B=Field Installable, Wireguard for HBLED [12]
ISHH-01=Programming Remote for Integrated Sensor
ISHH-02=Personal Control Remote for Integrated Sensor

NOTES: [1] Voltage must be specified when ordered with plugs or emergency drivers . [2] When ordering MS option, specify as UNV (for 120 or 277V), 347 or 480V. [3] Requires use of MC or MPC cord accessories, specify voltage for plugs (MP). [4] With integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. [5] EM options available in 0°C - 40°C ambient. [6] Not available with dual switching. [7] Lumen output will vary depending on dimming or fixed output drivers. Refer to IES files for deliveried lumens. [8] Rated for 40°C ambient. [9] Not available with narrow distribution. [10] EM options not available with 30,000, 36,000 or 48,000 lumen configuration at 347V or 480V. [11] Not available with 36,000 or 48,000 lumen configuration. [12] Not available with lens insert options AI, CLI and FLI or doorframe options A and CL. [13] 5LTD available with 12,000, 18,000 and 30,000 lumen packages only. [14] DesignLights Consortium™ Qualified and classified for DLC Standard (some models are not DLC qualified), refer to www.designlights.org for details. [15] 40°C max. ambient rating. [16] Integrated sensor limited to 36,000 lumens. [17] HT lumen package not available with 347 or 480V, emergency, dimming, or lensed options. [18] 480V not for use with impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems). [19] Used to transfer fixture to secondary power source for life-safety operation. When used with a dimming fixture, two devices are required to ensure control is disabled while operating under emergency power. [20] I ntegrated sensor not compatible with door frame. [21] Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).

Specifications & dimensions subject to change without notice. Consult your Eaton Representative for availability and ordering information.

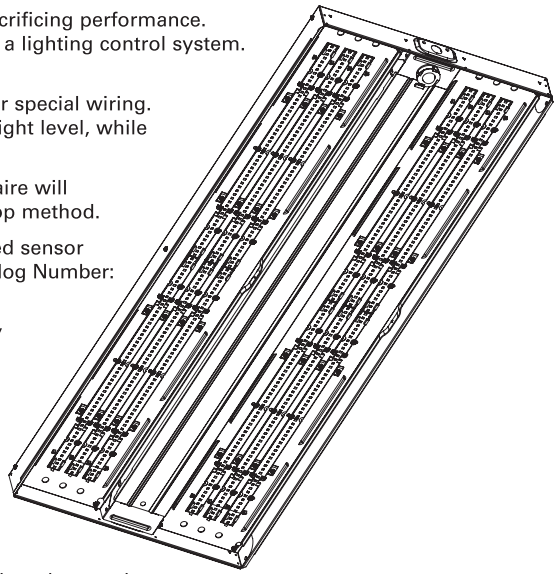
SHIPPING DATA

Catalog No.	Wt.
HBLED-LD4-12	19 lbs.
HBLED-LD4-18	22 lbs.
HBLED-LD4-24	22 lbs.
HBLED-LD4-30	24 lbs.
HBLED-LD4-36	24 lbs.

Powering Business Worldwide

Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

INTEGRATED SENSOR



The HBLED with Integrated Sensor technology provides automatic energy savings without sacrificing performance. Traditionally, these types of energy savings required coordination between the luminaire and a lighting control system. The HBLED delivers superior lighting with integrated occupancy and daylighting controls.

Capture the benefits of traditional lighting controls, without complicated coverage planning or special wiring. Ideal for new construction or retrofit, the HBLED delivers automatic ON to an energy saving light level, while ensuring lighting is turned OFF when the space is unoccupied.

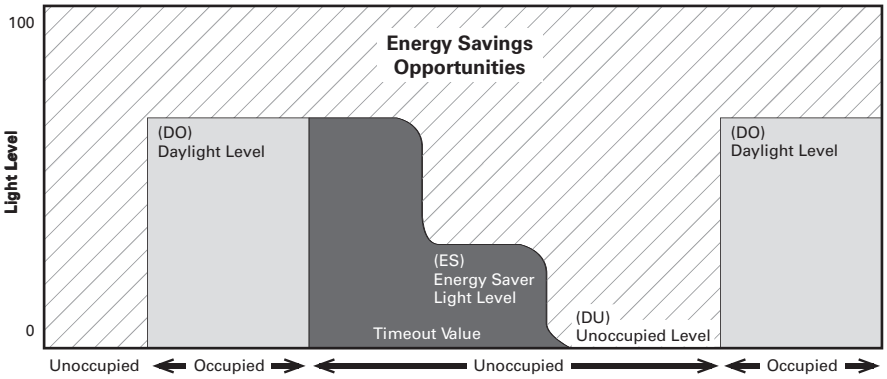
The integral daylight sensor reduces the need for special daylight zone planning. Each luminaire will automatically adjust the light level based on reflected light beneath the sensor in a closed loop method.

Occupied daylight light levels and unoccupied light levels can be adjusted using the integrated sensor programming remote (Catalog Number: ISHH-01). The integrated sensor personal remote (Catalog Number: ISHH-02) provides code compliant manual raise, lower, ON, OFF control.

The HBLED with Integrated Sensor is easy to install with no special wiring and ensures energy savings out-of-the-box with default control settings.

How it works:

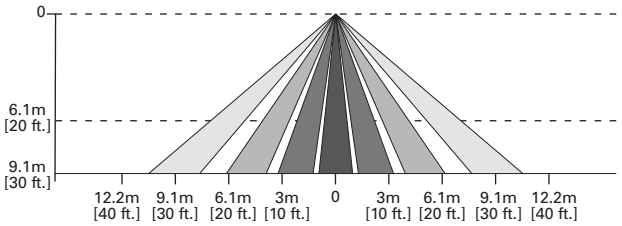
- As the user enters the space controlled by the integral sensor, the lighting turns ON to the default daylight level.
- Lighting will remain at that the daylight level until the space is unoccupied. This will start the occupancy timeout period (default 20 minutes).
- If the space remains unoccupied for half of the timeout period, the lighting will automatically reduce to the Energy Saver light level. This adjustable light level is typically half of the occupied daylight level.
- At the end of the timeout period the lighting will go to the unoccupied light level. This adjustable light level uses the OFF default setting.



Default daylight harvesting set using 36,000 lumen unit at 30 ft. mounting height, 20 ft. spacing for 50 footcandles.

SVPD3 Coverage Pattern

Side View



Optional Remote Controls

ISHH-01 Remote

ISHH-02 Remote