

Project:		Catalog #:		Type:	
Preparer:		Notes:		Date:	



HBL Series

EZ Install Linear High Bay
12,713 - 24,660 Lumens | 175-400W HID Equivalent

Project Applications

Retrofit, New Construction, Commercial, Industrial, Warehouse,
Manufacturing, Big Box Retail, General Open Spaces



PRODUCT OVERVIEW

ETi SSL's HBL EZ Install Linear High Bay Series with its shallow low-profile, center driver access design and excellent performance (12,713 - 24,660 lumen packages available) makes for a great design solution for many new construction or retrofit commercial and industrial applications. Our products are engineered using the latest innovative LED technologies to provide the perfect mix of modern design, performance, world class quality and reliability. All at a superior value to the designer, specifier, contractor and end-user.

The HBL series combines an array of LEDs with a diffuse optical lens system that delivers a universal light distribution optimized for most general open space applications. At the same time, the frosted diffusing lens significantly reduces direct view visual glare, brightness and LED pixelation for superior visual comfort within the space without sacrificing performance.

ETi's innovation design teams specially engineered the center driver housing and thermal management to help maximize the total system life of the HBL series of luminaires. We take great pride in our world class manufacturing and overall dedication to product reliability and quality that you can depend on. Even in demanding high ambient applications thanks to a standard 45-50° C high ambient temperature rating (wattage dependent).

In-stock base HBL SKUs typically ship in 2-3 days. Rapid Ship SKUs (w/ installed occupancy sensors, BBUs or both) typically ship in 2-weeks or less.

KEY PRODUCT FEATURES, DETAILS & SPECS

- All configurations are DLC Premium qualified for max energy savings & rebates
- Up to 137 LPW provides 60+% in energy savings vs. legacy HID, T5 & T8 luminaires
- 94W @ 12,713 lumens, 137W @ 18,428 lumens, 181W @ 24,660 lumens
- 80+ CRI standard for true accurate color rendering & visual performance
- Formed steel housing w/ frosted diffuse lens for reduced glare & visual comfort
- Center driver housing for max thermal protection & ease of installation
- Standard 45-50° C high ambient temp rating standard (113-122° F, wattage dependent)
- Robust 4kV LED driver surge protection is standard for added protection
- Reported L91/54,000, Projected L70 @ 204,800 hours (min shown per IES TM21)
- Low-profile (2.1") & light weight design (7.0-9.5lbs) = quick & easy installation
- Designed for suspension mounting = maximum installation flexibility
- Optional tandem mount bracket quickly & easily links two fixtures together
- 120-277V drivers w/ 0-10V dimming capability as standard
- End-mount occupancy sensors for added energy savings & code compliance
- EM battery backup options for safety & code compliance (CA Title 20 MAEDBS)
- Residential & light commercial applications (retrofit, remodel, new construction)

STOCK ORDERING INFORMATION (typical 2-3 day shipment lead time)^{1,2,3}

Catalog Logic/PT#	Model #	Size	Lumens	Wattage	LPW	CCT	CRI	Voltage	Dimming	DLC ³
HBL-2FT-12000LM-8-50K-MV-LVD	50240161	2'	12,713	94.2	135.0	5000K	80 (min)	120-277	0-10V	Premium
HBL-2FT-18000LM-8-50K-MV-LVD	50240261	2'	18,428	137.3	134.2					
HBL-2.75FT-24000LM-8-50K-MV-LVD	50241161	2.75'	24,660	180.6	136.5					

Notes:

- See next page for additional available rapid ship product configurations and stock accessories.
- Stock SKUs typically ship in 24-48 hours upon receipt of an approved released order.
- Search first 6-digits of the model # followed by "##" on the DLC QPL...Ex. '502401##' to view DLC qualified SKUs.

2-WEEK RAPID SHIP PROGRAM DETAILS (typical 2-week shipment lead time)^{1,2,3}

OCCUPANCY SENSOR INSTALLED - RAPID SHIP ORDERING INFORMATION^{1,2,3}

Catalog Logic/PT#	Model #	Rapid Ship Option	Sensor Model # ²	DLC ³
HBL-2FT-12000LM-8-50K-MV-LVD-EOS	50240161-I	OC Sensor	70201101-2	PENDING
HBL-2FT-18000LM-8-50K-MV-LVD-EOS	50240261-I			
HBL-2.75FT-24000LM-8-50K-MV-LVD-EOS	50241161-I			

BATTERY BACKUP UNIT (BBU) INSTALLED - RAPID SHIP ORDERING INFORMATION^{1,2,3,4}

Catalog Logic/PT#	Model #	Rapid Ship Option	BBU Model # ^{2,4}	DLC ³
HBL-2FT-12000LM-8-50K-MV-LVD-EM-S	50240161-EM-S	BBU Square	70112202-2 (25W)	PENDING
HBL-2FT-12000LM-8-50K-MV-LVD-EM-R	50240161-EM-R	BBU Round	70112201-2 (25W)	
HBL-2FT-18000LM-8-50K-MV-LVD-EM-S	50240261-EM-S	BBU Square	70114402-2 (40W)	PENDING
HBL-2FT-18000LM-8-50K-MV-LVD-EM-R	50240261-EM-R	BBU Round	70114401-2 (40W)	
HBL-2.75FT-24000LM-8-50K-MV-LVD-EM-S	50241161-EM-S	BBU Square	70114402-2 (40W)	PENDING
HBL-2.75FT-24000LM-8-50K-MV-LVD-EM-R	50241161-EM-R	BBU Round	70114401-2 (40W)	

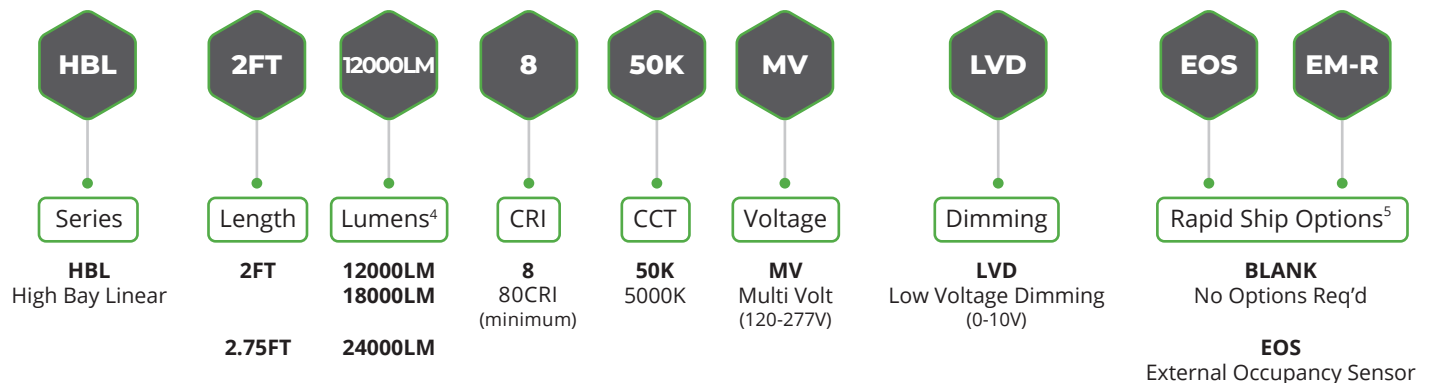
OCCUPANCY SENSOR & BATTERY BACKUP UNIT (BBU) INSTALLED - RAPID SHIP ORDERING INFORMATION^{1,2,3,4}

Catalog Logic/PT#	Model #	Rapid Ship Options	Sensor Model # ²	BBU Model # ^{2,4}	DLC ³
HBL-2FT-12000LM-8-50K-MV-LVD-EOS-EM-S	50240161-I-EM-S	OC Sensor & BBU Square	70201101-2	70112202-2 (25W)	PENDING
HBL-2FT-12000LM-8-50K-MV-LVD-EOS-EM-R	50240161-I-EM-R	OC Sensor & BBU Round		70112201-2 (25W)	
HBL-2FT-18000LM-8-50K-MV-LVD-EOS-EM-S	50240261-I-EM-S	OC Sensor & BBU Square	70201101-2	70114402-2 (40W)	PENDING
HBL-2FT-18000LM-8-50K-MV-LVD-EOS-EM-R	50240261-I-EM-R	OC Sensor & BBU Round		70114401-2 (40W)	
HBL-2.75FT-24000LM-8-50K-MV-LVD-EOS-EM-S	50241161-I-EM-S	OC Sensor & BBU Square	70201101-2	70114402-2 (40W)	PENDING
HBL-2.75FT-24000LM-8-50K-MV-LVD-EOS-EM-R	50241161-I-EM-R	OC Sensor & BBU Round		70114401-2 (40W)	

- Notes:
1. Rapid Ship SKUs typically ship in 2-weeks or less, direct from ETi with the available options pre-installed (lead times can be quantity dependent, always contact factory to confirm).
 2. Sensor and BBU Model #'s are also in-stock as accessory items that can be ordered separately for field install, maintenance or warranty replacement (see below for additional item details).
 3. Search first 6-digits of the model # followed by '##' on the DLC QPL...Ex. '502401##' to view DLC qualified SKUs ('Rapid Ship' SKUs are currently DLC PENDING, always check QPL to confirm).
 4. BBU's are certified in CA Title 20 MAEDBS (search by standalone BBU catalog logic/PT#).

CATALOG LOGIC | PART # DECODER^{1, 2, 3}

Example SKU: HBL-2FT-12000LM-8-50K-MV-LVD-OS-EM-R
(Model # 50240161-I-EM-R)



- Notes:
1. This product is not configurable, only designated 'Stock' & 'Rapid Ship' SKUs are available.
 2. Decoder is to help clarify Catalog Logic | Part # configurations only (see Stock & Rapid Ship Ordering Information for available SKUs).
 3. Additional configurations may be available for special order (contact factory for details, extended lead times may apply).
 4. Lumen values shown are nominal (see Stock Ordering Information or Photometric Details sections for additional performance details).
 5. Sensor and BBU Model #'s are also in-stock as accessory items that can be ordered separately for field install, maintenance or warranty replacement.
 6. BBU's are certified in CA Title 20 MAEDBS (search by standalone BBU catalog logic/PT#).

HBL Series

EZ Install Linear High Bay

12,713 - 24,660 Lumens | 175-400W HID Equivalent | DLC Premium | 5-yr Warranty

AVAILABLE STOCK ACCESSORIES (must be ordered separately)



Additional Mounting Accessories¹ (field installed)

Model #	Description
95024016102	Tandem fixture mounting bracket (connect (2) HBL's together)
95024016101	Surface mount bracket and end cover plates
95024016103 ²	Pendant/stem bracket kit (1/2" conduit or 7mm threaded pipe)
95457326101	Set of (2) 10' long air craft cables

Notes:

- All additional mounting accessories requires field installation.
- Actual pendant stem/downrod by others (95024016103 is for the bracket kit only).



Emergency LED Driver/BBU^{1,2} (BBU only field installed, no dimming)

Catalog Logic/PT#	Model #	Description
EMA25FY-170 ³	(G2)	70112202 Square, 25W, IP rated, 90 minutes
EMUFO-25170-YY ³	(G2)	70112201 Round, 25W, IP rated, 90 minutes
EMUFO-40170-YY ³	(G2)	70114401 Round, 40W, IP rated, 90 minutes
EM-R-TEST-REMOTE ⁴	70203101	Round BBU handheld test remote

Notes:

- BBUs are certified in CA Title 20 MAEDBS. (search by standalone BBU catalog logic/PT#, Ex. 'EMA25FY-170')
- Multiply the LPW of specified SKU by BBU wattage for the approximate delivered lumens. (Ex. 120 LPW x 25-watts = approximately 3,000 lumens)
- Round BBU's are ideal for pendant/suspension installations & Square BBU's are ideal for surface and on-fixture installations.
- BBU handheld test remote compatible w/ Round BBU's only (70112201, 70114401 & '-2' models) & max handheld test remote operating distance of 98' (29.9m).



Occupancy Sensor^{1,2} (field installed)

Catalog Logic/PT#	Model #	Description
MC054V-RC2-D	70201101-2	External mount step-dim microwave OC sensor
MH10 ^{1,2}	70205101	OC sensor handheld remote programmer

Notes:

- Factory OC sensor settings can be changed w/ (70205101) handheld remote programmer accessory.
- Max handheld remote programmer operating distance of 49.2' (15m) (see Instruction Manual for settings & details)

Emergency LED Driver/BBU^{1,2} (BBU field installed w/ OC sensor or dimming)

Catalog Logic/PT#	Model #	Description
EMA25FY-170 ³	(G3)	70112202-2 Square, 25W, IP rated, 90 minutes
EMUFO-25170-YY ³	(G3)	70112201-2 Round, 25W, IP rated, 90 minutes
EMA40FY-170 ³	(G3)	70114402-2 Square, 40W, IP rated, 90 minutes
EMUFO-40170-YY ³	(G3)	70114401-2 Round, 40W, IP rated, 90 minutes
EM-R-TEST-REMOTE ⁴	70203101	Round BBU handheld test remote

OCCUPANCY SENSOR FACTORY SETTINGS DETAILS

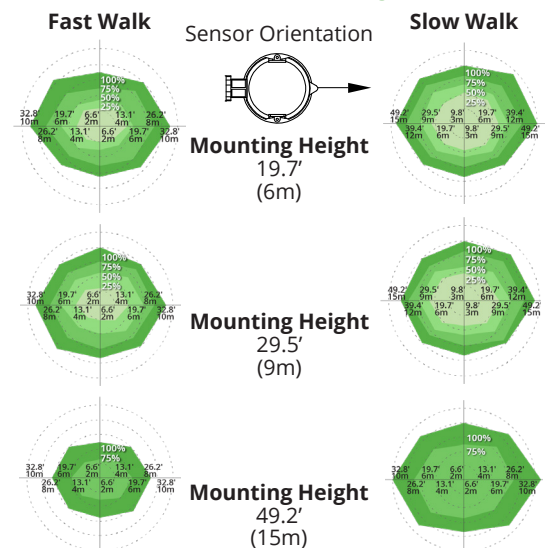
Additional Factory Sensor Settings^{1,2}

Function	Factory Settings
Detection Area	100% (sensor range)
Sensitivity Level	HS - High Sensitivity
Daylight Sensor	Disabled

Notes:

- Settings can be changed using the (70205101) remote programmer. (Max handheld remote programmer operating distance of 49.2' (15m))
- See Instruction Manual for operation and additional setting details.

Sensor Detection Pattern & Range



PHOTOMETRIC DETAILS

HBL-2FT-12000LM-8-50K-MV-LVD

Luminaire Data

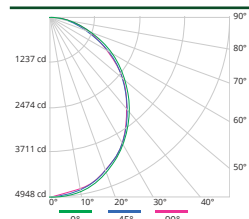
IES File Name	50240161.IES
CCT & CRI	5000K, 80CRI minimum
Initial Delivered Lumens	12,713
Wattage	94.2W
Efficacy	135.0
Beam Angle	50% = 102° 10% = 159°
Spacing	0° = 1.22 90° = 1.20

Photometric values based on tests performed in compliance with LM-63 & LM-79

Coefficients of Utilization

		Effective Floor Cavity Reflectance 20%															
		80%				70%				50%				30%			
rc	rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30
RCR																	
0		119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102
1		109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88
2		99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76
3		91	80	72	66	88	79	71	65	76	70	64	73	68	63	71	66
4		83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58
5		77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51
6		71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46
7		66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41
8		61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38
9		57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34
10		54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	31

Indoor Candela Plot



Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	3733	29.4%
0-40	6012	47.3%
0-60	10234	80.5%
0-90	12702	99.9%
0-180	12713	100.0%

Candlepower

Angle	0°	90°
0	4916	4916
5	4907	4870
10	4835	4785
15	4693	4630
20	4490	4441
25	4271	4213
30	3983	3926
35	3669	3609
40	3316	3269
45	2958	2864
50	2588	2535
55	2204	2157
60	1835	1789
65	1471	1425
70	1125	1071
75	802	740
80	497	426
85	211	142
90	0	0

HBL-2FT-18000LM-8-50K-MV-LVD

Luminaire Data

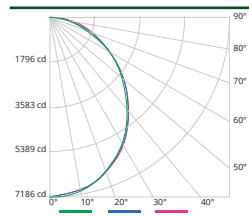
IES File Name	50240261.IES
CCT & CRI	5000K, 80CRI minimum
Initial Delivered Lumens	18,428
Wattage	137.3W
Efficacy	134.2
Beam Angle	50% = 102° 10% = 159°
Spacing	0° = 1.20 90° = 1.22

Photometric values based on tests performed in compliance with LM-63 & LM-79

Coefficients of Utilization

		Effective Floor Cavity Reflectance 20%															
		80%				70%				50%				30%			
rc	rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30
RCR																	
0		119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102
1		109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88
2		99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76
3		91	80	72	66	88	79	71	66	76	70	64	73	68	63	71	66
4		83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58
5		77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51
6		71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46
7		66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41
8		61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38
9		57	44	36	30	56	44	36	30	42	35	30	41	35	30	40	34
10		54	41	33	28	53	40	33	28	39	32	28	38	32	27	37	32

Indoor Candela Plot



Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	5426	29.4%
0-40	8733	47.4%
0-60	14851	80.6%
0-90	18412	99.9%
0-180	18428	100.0%

Candlepower

Angle	0°	90°
0	7152	7152
5	7105	7125
10	6998	6987
15	6776	6788
20	6509	6543
25	6145	6178
30	5735	5762
35	5266	5322
40	4769	4827
45	4247	4286
50	3705	3735
55	3166	3171
60	2631	2618
65	2110	2088
70	1610	1577
75	1141	1090
80	699	629
85	274	213
90	0	1

HBL-2.75FT-24000LM-8-50K-MV-LVD

Luminaire Data

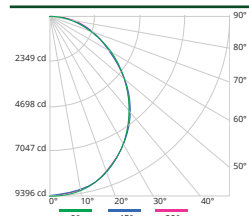
IES File Name	50241161.IES
CCT & CRI	5000K, 80CRI minimum
Initial Delivered Lumens	24,660
Wattage	180.6W
Efficacy	136.5
Beam Angle	50% = 103° 10% = 160°
Spacing	0° = 1.22 90° = 1.22

Photometric values based on tests performed in compliance with LM-63 & LM-79

Coefficients of Utilization

		Effective Floor Cavity Reflectance 20%															
		80%				70%				50%				30%			
rc	rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30
RCR																	
0		119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102
1		109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88
2		99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76
3		91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66
4		83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58
5		76	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51
6		71	58	49	42	69	57	48	42	55	48	42	53	46	41	51	46
7		66	52	44	37	64	51	43	37	50	42	37	48	42	37	47	41
8		61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37
9		57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34
10		54	41	33	27	52	40	32	27	39	32	27	38	32	27	37	31

Indoor Candela Plot



Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	7149	29.0%
0-40	11545	46.8%
0-60	19759	80.1%
0-90	24638	99.9%
0-180	24660	100.0%

Candlepower

Angle	0°	90°
0	9378	9378
5	9344	9328
10	9203	9176
15	8962	8929
20	8613	8588
25	8163	8169
30	7651	7661
35	7048	7076
40	6398	6437
45	5714	5756
50	4995	5035
55	4278	4306
60	3569	3570
65	2879	2851
70	2214	2160
75	1588	1503
80	996	886
85	425	328
90	0	1

HBL Series

EZ Install Linear High Bay

12,713 - 24,660 Lumens | 175-400W HID Equivalent | DLC Premium | 5-yr Warranty

PRODUCT SPECIFICATIONS

Construction

Low-profile 2.1" high formed steel primary housing with a full-length center driver compartment that is accessed from below via two phillips head screws. Additional removable top wiring access cover plate via a single phillips head screw with a 1/2" and 3/4" knockout for wire entry. Each housing end cap includes a single 1/2" knockout for thru-wire and tandem installation. Specially engineered thermal management helps to promote cooling to help reduce operating temperatures in order to maximize the life of all electrical components. Fixture is designed for use in damp locations.

Optics & LED Platform

LEDs are surface mounted to a metal printed circuit board (MCPCB) and is coupled with a semi-diffuse, frosted, 1mm thick secondary polymer lens. Diffusing lens provides a uniform and soft visual appearance when in direct view with minimal LED pixelation and provides excellent visual comfort. Designed to generate an extremely uniform all-purpose beam distribution. Available in 5000K CCT, with a minimum CRI of 80.

Electrical

UL recognized drivers are rated for 50,000 hours to deliver optimal performance over the extended system life of the luminaire. Universal 120-277V with 0-10V dimming capability (dimming range of 100% to 10%) for use with secondary controls by others. Drivers shall have a power factor greater than 0.90 and less than 20% total harmonic distortion. 4kV surge protection is standard. Drivers are rated for FCC part 15 Class B use in commercial applications. 91.2% LED lumen maintenance at 54,000 hours (L91/54,000) per IES TM21. Projected L70 @ 204,800 hours. (137W unit LM shown, see LM table for details)

Mounting & Installation

Luminaire is designed for easy and flexible suspension mount installation via supplied metal chain, V-clip and S-hook system. Other aircraft cable or suitable suspension mounting systems can be used as required per application (supplied by others). Optional tandem mounting bracket accessory allows you to connect multiple fixtures for continuous run and thru-wire if needed for added design flexibility (max number of fixtures can be dependent on local electrical codes). Optional surface mount bracket and pendant stem/downrod accessories are also available (see mounting options for more detail). Installer must ensure installation compatibility in any application and overall compliance to all applicable local and national building and electrical codes.

Compliance & Certification

All luminaires are cETLus listed and are built for damp location use. 94W, 137W shall be suitable for use in -40° C (-40° F) to 50° C (122° F) and 181W in -40° C (-40° F) to 45° C (113° F) high ambient environments. Complies to FCC part 15 Class B. Adheres to LM79, LM80 and TM21 industry standards for performance and lifetime calculations. DesignLights Consortium® (DLC) Premium qualified product. Always refer to DLC website at www.designlights.org/QPL to confirm specific product configurations that are qualified. (Search first 6-digits of the model # followed by '##' on the DLC QPL...Ex. '502401##' to view DLC qualified products)

Standard Available Control Options

Optional external end mounted microwave occupancy sensors are available. Factory sensor settings can be changed using an optional handheld remote programmer accessory (15m | 49.2' max distance, see instruction manual for details). Standard factory default settings: 100% high, 10% low, hold time @ 5 minutes (no motion detected, dim to low), standby time @ 5 minutes (time after hold time w/ no motion detected fixture turns off), daylight sensor is disabled.

Standard Available Emergency BBU Options

Optional remote/external emergency battery backup units are available in approximately 25 or 40-watts for 120-277V use to meet required life-safety requirements (50° C/122° F max ambient). The battery system provides 90-minutes of continuous power to the LED system for code compliance. BBUs are certified in CA Title 20 MAEDBS. Test switch/indicator light is located on the exterior housing of the round BBU housings and via a remote test switch/indicator light for the rectangular BBU housings. Optional handheld test remote available for round BBU SKUs only. Multiply the lumens per watt of the specified SKU by the BBU wattage for the approximate delivered lumens. (Ex. 135 LPW x 25-watts = approximately 3,375 lumens)

Warranty

The HBL series of high bay luminaires ships with ETi SSL's 5-year standard warranty. (Terms & Conditions apply)

Load Information

Power Factor	> 0.90
THD	< 20%
Frequency	50/60 Hz
Sound Rating	< 20 Dba
Low Temp Start	-40° C (-40° F)
Max Temp (94W, 137W)	50° C (122° F)
Max Temp (181W)	45° C (113° F)
Unit Weight (94W)	7.0 lbs
Unit Weight (137W)	7.3 lbs
Unit Weight (181W)	9.5 lbs

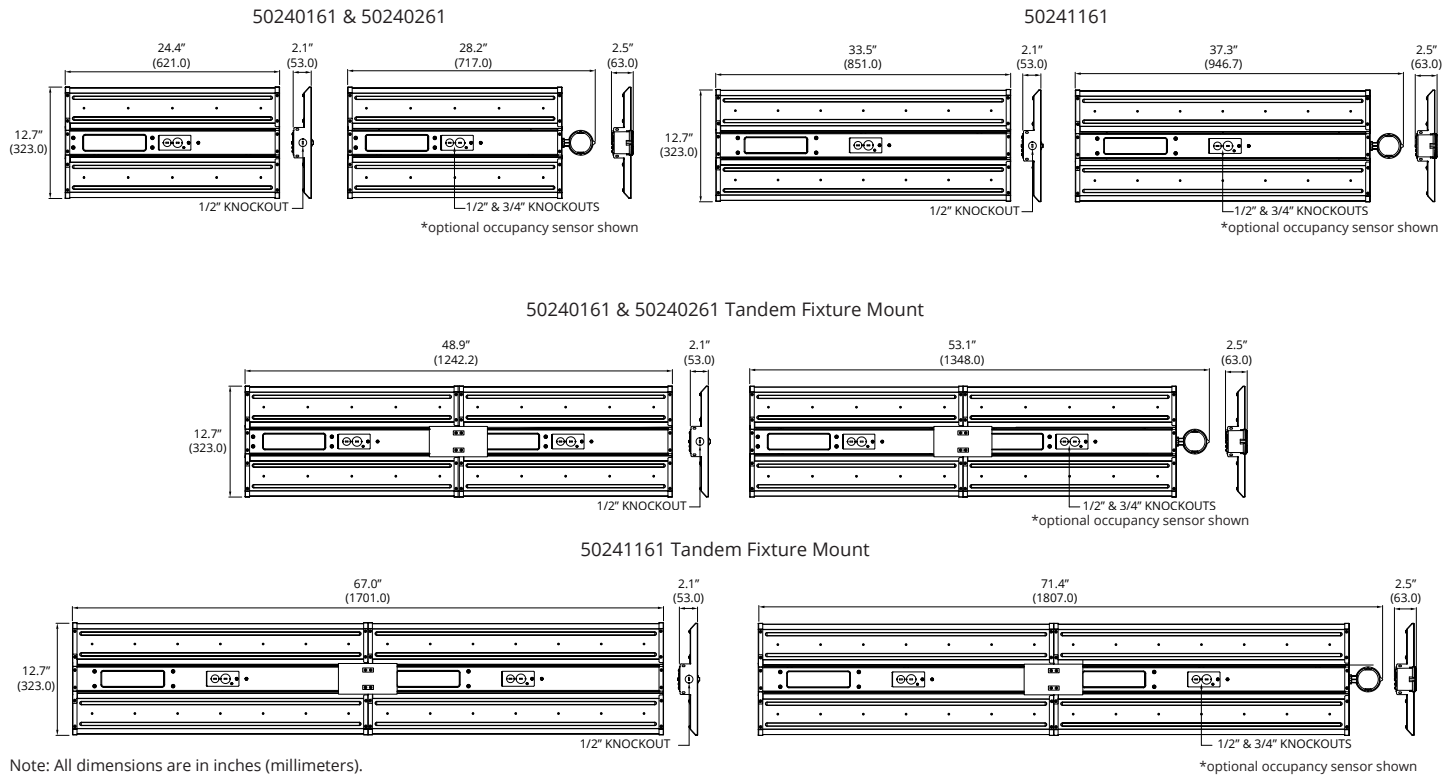
Shipping Information

Size	Unit Weight	Pallet (48"l x 40"w x 51"h)
94W	8.5 lbs	36 units per
137W	8.8 lbs	36 units per
181W	11.6 lbs	30 units per

Lumen Maintenance

Ambient Temperature	TM-21 Lumen Maintenance (54,000 hours)
25° C (77° F)	> 91.69% (94W unit)
	> 91.15% (137W unit)
	> 91.28% (181W unit)
Ambient Temperature	TM-21 Theoretical L70 (hours)
25° C (77° F)	218,500 (94W unit)
	204,800 (137W unit)
	207,900 (181W unit)

KEY DIMENSIONAL INFORMATION



PROJECT NOTES