## **SUBJECT LED PHB HIGH BAY CUSTOMER PROJECT** Type: Cat. No.:

SPECIFICATION SHEET





Telephone: 905 415 8878 Fax Number: 905 415 8872 Toll Free Telephone: 855 415 8878 Toll Free Fax: 855 415 8872

#### **DESCRIPTION**

The High Performance LED High-Bay is the lighting solution for a wide variety of applications and mounting heights. Precision-designed optics, multiple distributions and a choice of lumen outputs makes the LED High-Bay the ideal solution for industrial, commercial and recreational applications. About 25% less number of fixtures would be required when replacing the conventional lamps with PHBs; thus saving energy and

### **HIGH PERFORMANCE LED HIGH BAY**

(To be replaced by 2.0)

#### **SPECIFICATION FEATURES**

#### Construction

Qty:

Date:

EEL Rep:

22 Gauge post-painted steel housing with a frosted acrylic lens

10 ft cord and "V" Hooks are included Clear lens is optional

#### **Electrical**

LED High-Bay has a High Performance Long Life LED System completes with electrical drivers for optimal performance

LED's standard is 5000K, optional is 4000K, with a typical CRI:80

Ambient temperature -40°C to 40°C

Electronic Drivers available in 120-277 and 347Volt 347V PHBs are protected against surges and transients per ANSI C62.41-2002 category C low (6KV, 1.2/50µS & 3KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave

PHB 320: 326W equivalent to 482W 8 T5HO lamps PHB 220: 216W equivalent to 362W 6 T5HO lamps or 400W Metal Halide

PHB 160: 160W equivalent to 241W 4 T5HO lamps PHB 110: 108W equivalent to 241W 4 T5HO lamps L70 > 180,000h

 $L_{36000} = 93.3\%$ 

#### **Driver and Module Access**

Drivers can be accessed by removing 2 screws on the driver box located at the back of the fixture

#### **Finish**

22 gauge galvanized steel and high gloss enamel paint finish ensures maximum bonding and rust inhibition

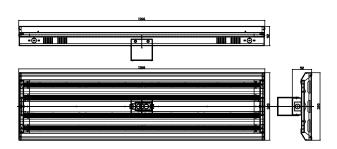
#### Shielding

Frosted white acrylic lens

Compliance cULus, DLC

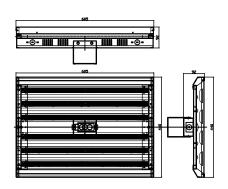
#### Warranty

5 years



#### PHB-4FT-6-320 / PHB-4FT-4-220 Dimensions

mm | 1166(L) x 440(W) x 92(D) inch | 46(L) x 17.3(W) x 3.6(D)



PHB-2FT-6-160 / PHB-2FT-4-110

Dimensions mm | 605(L) x 440(W) x 92(D) inch | 24(L) x 17.3(W) x 3.6(D)





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#### ORDERING CODE, ENERGY AND PERFORMANCE DATA

Model No.	Delivered Lumens (Im)	Input Watts	Voltage (V)	Colour Temp. (K)	Efficacy (Im/W)	Certification	Туре
PHB-4FT-6-320	44044 41700	326 326	120-277 or 347 120-277 or 347	5000K 4000K	135 127	c Wus III i	Standard MTO
PHB-4FT-4-220	29123 27940	216 220	120-277 or 347 120-277 or 347	5000K 4000K	135 127	c UL us III c	Standard MTO
PHB-2FT-6-160	20740 20325	160 160	120-277 or 347 120-277 or 347	5000K 4000K	131 126	c UL us DEc	Standard MTO
PHB-2FT-4-110	14199 14100	110 110	120-277 or 347 120-277 or 347	5000K 4000K	133 127	c (UL) us (IL)	Standard MTO

#### NOTE:

- Lumens are estimated
- DLC qualified may not apply to all versions within a model. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

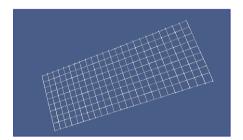
#### **OPTIONAL ACCESSORIES**

PHB-4CL | Clear Lens for 4ft PHB

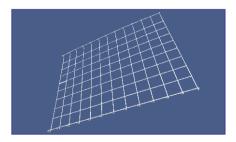
ULT - HC419V | Tri-level Dimming Control | 120-277V ULT - HC419S | On/Off Sensor Control | 120-277V 0-10V Dimming Driver (-D) | 120-277 or 347V YM2502 | High Bay Occupancy Sensor HB-PH | High Bay Pendant Hanger PHB-2WG | Wire Guard with screws and clips for 2ft PHB PHB-4WG | Wire Guard with screws and clips for 4ft PHB PHB-2CL | Clear Lens for 2ft PHB

#### **EMERGENCY BACK-UP (OPTIONAL)**

EMAC1150S50D64 | LED Emergency Driver 120-277V DIM EMLEDS10155564 | LED Emergency Pack 120-277V (except PHB-2FT-6-120M)



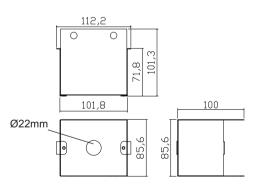
PHB-4WG



PHB-2WG



HB-PH



#### Note:

Pendant hanger attaches to 3/4" threaded conduit (conduit and required conduit fixing hardware not included)





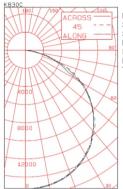
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#### **PHOTOMETRICS**

Note: Photometric data result was obtained under white interior conditions.



# PHB-4FT-6-320-120M Candlepower S/MH = 1.3 ANGLE ALONG 2 O 15284 15 15293 15

Lumens: 44044 Input Watts: 325.60 Efficacy: 135.3 lm/W Test Report: K830C

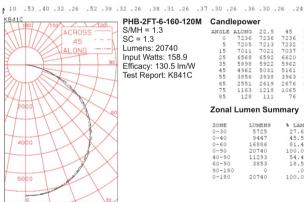
ANGLE	ALONG	22.5	45	67.5	ACROSS	
0	15284	15284	15284	15284	15284	
5	15232	15207	15240	15263	15279	1472
15	14804	14804	14848	14871	14897	4185
25	13894	13905	13961	13988	14011	6422
35	12502	12540	12589	12669	12666	7854
45	10667	10776	10868	10687	10671	8257
55	8339	8490	8485	8474	8477	7541
65	5472	5721	5804	4872	4836	5395
75	2592	2738	2353	2375	2362	2580
85	356	300	86	71	67	338

#### **Zonal Lumen Summary**

ZONE	LUMENS	% LAMP	%LUMINAIR
0-30	12078	27.42	27.42
0-40	19933	45.26	45.26
0-60	35731	81.13	81.13
0-90	44044	100.00	100.00
40-90	24111	54.74	54.74
60-90	8313	18.87	18.87
90-180	0	.00	.00
0-180	44044	100.00	100.00

#### Coefficient of Utilization Effective floor cavity reflectance = 20%

			J. UC	,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			•									
CC WAL			80				70			50			30			10		0
WAL		50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	1.191	.19	1.19	1.19	1.161	.16	1.16	1.16	1.111	.11	.11	1.061	.061	.06	1.021	.02	1.02	1.00
1	1.101	.06	1.02	.99	1.07	.04	1.00	.97	.99	.97	.94	.95	.93	.91	.92	.90	.88	.86
2	1.01	.94	.88	.82	.99	.92	.86	.82	.88	.84	.80	.85	.81	.78	.82	.79	.76	.74
3	.93	.83	.75	.70	.90	.81	.75	.69	.79	.73	.68	.76	.71	.67	. 73	.69	.65	.63
4	.85	.74	.66	.60	.83	.73	.66	.59	.71	.64	.59	.68	.63	.58	.66	.61	.57	.55
5	. 79	.66	.58	.51	. 76	.65	.57	.51	.63	.56	.51	.61	.55	.50	.59	.54	.50	.48
6	.72	.59	.51	.45	.70	.58	.50	. 44	.57	.49	.44	.55	.48	.44	.53	.48	.43	.41
7	.66	.53	.45	.39	.65	.52	.44	.38	.51	.43	.38	.49	.43	.38	.48	.42	.37	.35
8	.61	.48	.40	.34	.60	.47	.39	.34	.46	.39	.34	.45	.38	.33	. 44	.38	.33	.31



### PHB-2FT-6-160-120M Candlepower S/MH = 1.3 SC = 1.3

Lumens: 20740 Input Watts: 158.9 Efficacy: 130.5 lm/W Test Report: K841C

9 .57 .44 .35 .30 .55 .43 .35 .30 .42 .35 .30 .41 .34 .29 .40 .34 .29 .27

ANGLE	ALONG	22.5	45	67.5	ACROSS	
0	7236	7236	7236	7236	7236	
5	7205	7213	7232	7237	7234	69
15	7011	7021	7037	7045	7050	198
25	6568	6592	6620	6637	6642	304
35	5898	5922	5962	6012	6025	372
45	4962	5031	5161	5063	5066	389
55	3856	3938	3963	4044	4034	354
65	2551	2619	2676	2340	2314	251
75	1163	1218	1065	1101	1044	117
85	128	111	76	41	32	16

#### **Zonal Lumen Summary**

ZONE	LUMENS	% LAMP	%LUMINAIRE
0-30	5725	27.61	27.61
0-40	9447	45.55	45.55
0-60	16886	81.42	81.42
0-90	20740	100.00	100.00
40-90	11293	54.45	54.45
60-90	3853	18.58	18.58
90-180	0	.00	.00
0-180	20740	100.00	100.00

## Coefficient of Utilization

Effective floor cavity reflectance = 20%

CC			80				70			50			30			10		0
WAI	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCE	R																	
0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.16	1.111	1.11	1.11	1.06	1.061	1.06	1.021	.02	1.02	1.00
1	1.10	1.06	1.02	.99	1.07	1.04	1.00	.97	.99	.97	.94	.95	.93	.91	.92	.90	.88	.86
2	1.01	.94	.88	.83	.99	.92	.86	.82	.88	.84	.80	.85	.82	.78	.82	.79	.76	.74
3	.93	.83	.76	.70	.90	.82	.75	.69	.79	.73	.68	.76	.71	.67	.74	.69	.66	.64
4	.86	.74	.66	.60	.83	.73	.66	.60	.71	.64	.59	.68	.63	.58	.66	.62	.57	.55
5	.79	.67	.58	.52	.76	.65	.57	.51	.63	.56	.51	.61	.55	.50	.60	.54	.50	.48
6	.72	.60	.51	.45	.70	.59	.50	.45	.57	.50	.44	.55	.49	.44	.54	.48	.43	.41
7	.66	.53	.45	.39	.65	.52	.44	.38	.51	.43	.38	.49	.43	.38	.48	.42	.38	.36
8	.62	.48	.40	.34	.60	.47	.40	.34	.46	.39	.34	.45	.38	.33	.44	.38	.33	.31
9	.57	.44	.36	.30	.56	.43	.35	.30	.42	.35	.30	.41	.34	.29	.40	.34	.29	.27
10	.53	.40	.32	.27	.52	.39	.32	.26	.38	.31	.26	.37	.31	.26	.36	.30	.26	.24

Note: Photometric data result was obtained under white interior conditions.



	Can	dlepov	/er
PHD-4F1-4-220-120W	ANGLE 0	ALONG 9947	22
S/MH = 1.3	5	9896	99
SC = 1.3	15	9614	96
Lumens: 29123	25	9027	90
Input Watts: 215.6	35 45	8139 6955	81
	55	5452	70 54
Efficacy: 135.1 lm/W	65	3589	37
Test Report: K831C	75	1708	18

ANGLE	ALONG	22.5	45	67.5	ACROSS	
0	9947	9947	9947	9947	9947	
5	9896	9911	9917	9938	9954	95
15	9614	9655	9659	9682	9707	272
25	9027	9067	9086	9096	9110	417
35	8139	8181	8158	8148	8149	509
45	6955	7026	6989	7011	6993	538
55	5452	5481	5559	5556	5541	492
65	3589	3754	3803	3867	3853	372
75	1708	1803	1868	1881	1866	189
85	231	209	35	15	9	23

	umen Sun		
ZONE	LUMENS	% LAMP	%LUMINAIRE
0-30	7861	26.99	26.99
0-40	12958	44.50	44.50
0-60	23265	79.89	79.89
0-90	29123	100.00	100.00
40-90	16164	55.50	55.50
60-90	5857	20.11	20.11
90-180	0	.00	.00
0-180	29123	100.00	100.00

#### Coefficient of Utilization Effective floor cavity reflectance = 20%

cc			8	30			7	10			50			30			10		0
WAI		70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCI	2																		
0	1.	191	.191	1.19	1.19	1.161	.161	.16	1.16	1.111	.111	.11	1.061	.061	.06	1.021	.021	.02	1.00
1	1.	101	.061	1.02	.98	1.071	.041	.00	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86
2	1.	01	.93	.87	.82	.98	.91	.86	.81	.88	.83	.79	.85	.81	.77	.82	.79	.76	.74
3		92	.82	.75	.69	.90	.81	.74	.68	.78	.72	.67	.75	.70	.66	.73	.69	.65	.63
4		.85	.74	.66	.59	.83	.72	.65	.59	.70	.63	.58	.68	.62	.57	.66	.61	.57	.54
5		.78	.66	.57	.51	.76	.65	.56	.51	.63	.55	.50	.61	.54	.49	.59	.53	.49	.47
6		72	.59	.50	.44	.70	.58	.50	.44	.56	.49	.43	.54	.48	.43	.53	.47	.43	.41
7		.66	.53	.44	.38	.64	.52	.44	.38	.50	.43	.38	.49	.42	.37	.48	.41	.37	.35
8		61	.48	.39	.33	.60	.47	.39	.33	.46	.38	.33	.44	.38	.33	.43	.37	.33	.31
9		57	.43	.35	.29	.55	.43	.35	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27
10		.52	.39	.31	.26	.51	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.25	.24



#### PHB-2FT-4-110-120M Candlepower S/MH = 1.3 SC = 1.3 Lumens: 14199 Input Watts: 107.1 Efficacy: 132.6 lm/W Test Report: K842C

ANGLE	ALONG	22.5	45	67.5	ACROSS							
0	4899	4899	4899	4899	4899							
5	4875	4882	4894	4906	4912	473						
15	4745	4754	4762	4773	4778	1343						
25	4444	4461	4484	4491	4486	2059						
35	3994	4009	4019	4025	4023	2509						
45	3360	3396	3440	3457	3447	2638						
55	2607	2632	2687	2744	2742	2396						
65	1705	1776	1817	1903	1895	1794						
75	780	822	852	862	811	880						
85	86	76	35	12	5	10						

#### Zonal Lumen Summary

ZONE	LUMENS	% LAMP	%LUMINAIRE
0-30	3874	27.29	27.29
0-40	6384	44.96	44.96
0-60	11418	80.42	80.42
0-90	14199	100.00	100.00
40-90	7814	55.04	55.04
60-90	2780	19.58	19.58
90-180	0	.00	.00
0-180	14199	100.00	100.00
	0-30 0-40 0-60 0-90 40-90 60-90 90-180	0-30 3874 0-40 6384 0-60 11418 0-90 14199 40-90 7814 60-90 2780 90-180 0	0-30 3874 27.29 0-40 6384 44.96 0-60 11418 80.42 0-90 14199 100.00 40-90 2780 19.58 90-180 0.00

#### Coefficient of Utilization

Effective floor cavity reflectance = 20%

CC			80		70				50			30			10		0			
WA	ьь	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCI	R																			
0	1.	191	.19	1.19	1.19	1.16	1.16	1.16	1.16	1.111	.11	1.11	1.061	.061	.06	1.021	.021	.02	1.00	
1	1.	101	.06	1.02	.98	1.07	1.04	1.00	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86	
2	1.	01	.94	.88	.82	.99	.92	.86	.81	.88	.84	.79	.85	.81	.78	.82	. 79	.76	.74	
3		92	.83	.75	.69	.90	.81	.74	.69	.78	.72	.67	.76	.71	.66	. 73	.69	.65	.63	
4		85	.74	.66	.60	.83	.73	.65	. 59	.70	.64	.58	.68	.62	.58	.66	.61	.57	.55	
5		78	.66	.58	.51	.76	.65	.57	.51	.63	.56	.50	.61	.55	.50	.59	.54	.49	.47	
6		72	.59	.51	.44	.70	.58	.50	. 44	.56	.49	.44	.55	.48	.43	.53	. 47	. 43	.41	
7		66	.53	. 44	.39	.65	.52	. 44	.38	.50	.43	.38	.49	.42	.37	.48	. 42	.37	.35	
8		61	.48	.40	.34	.60	.47	.39	.34	.46	.39	.33	.45	.38	.33	. 43	.37	.33	.31	
9		57	. 44	.35	.30	.55	.43	.35	.30	.42	.34	.29	.41	.34	.29	.40	.33	.29	.27	
Vio Si		53	.40	.31	.26	.51	.39	.31	. 26	.38	.31	.26	.37	.30	.26	.36	.30	.26	.24	

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