



8165 E Kaiser Blvd. Anaheim, CA 92808  
www.lightlaboratory.com

Report No: L061803501R01



**Report No:** L061803501R01

**Issue Date:** 6/15/2018

**Report Prepared For:** eLuminaire LLC  
180 E. Selandia Lane Carson, CA 90746

**Model Number:** eLLHB1DP24030K8

**Test:** Photometric/Electrical Test

**Standards Used:** Appropriate part or all test guidelines were used for test performed:  
*IESNA LM79: 2008* Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products  
*ANSI NEMA ANSLG C78.377: 2008* Specification of the Chromaticity of Solid State Lighting Products  
*ANSI C82.77:2002:* Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

**Description of Sample:** Client submitted the sample. Received in working and undamaged condition. No modifications were necessary.

**Testing Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 5/12/18

**Date of Tests:** 6/13/18 - 6/15/18

**Seasoning of Sample:** No seasoning was performed in accordance with IESNA LM-79.

#### Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S4	1/9/19
BK PRECISION	1747	PS-DC04	1/10/19
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/19
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

\*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

### Test Summary

<b>Manufacturer:</b>	eLuminaire LLC
<b>Model Number:</b>	eLLHB1DP24030K8
<b>Driver Model Number:</b>	MOONS' MU200H105AQ_0-10V
<b>Total Lumens:</b>	20298.72
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	1.65
<b>Input Power (W):</b>	196.52
<b>Input Power Factor:</b>	0.99
<b>Current ATHD @ 120V(%):</b>	6%
<b>Current ATHD @ 277V(%):</b>	9% (0.72A, 190.55W, 0.96PF)
<b>Efficacy:</b>	103.29
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:40
<b>Total Operating Time (Hours):</b>	1:00



FIG. 1 LUMINAIRE

## Test Methods

### Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

### Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

### Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Joseph Shin

Test Report Released by:



Jeff Ahn  
Engineering Manager

Test Report Reviewed by:



Steve Kang  
Quality Assurance

*\*Attached are photometric data reports. Total number of pages: 9*



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## Photometric Test Report

### IES INDOOR REPORT

PHOTOMETRIC FILENAME : L061803501R01.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L061803501R01  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 6/15/2018  
[MANUFAC] eLuminaire LLC  
[LUMCAT] eLLHB1DP24030K8  
[LUMINAIRE] LINEAR HIGHBAY1  
[BALLASTCAT] MOONS' MU200H105AQ\_0-10V  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 120VAC, 196.52W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	20299
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	103
Total Luminaire Watts	196.52
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.36
Spacing Criterion (90-270)	1.40
Spacing Criterion (Diagonal)	1.42
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.60 ft
Luminous Width (90-270)	0.60 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	210423	210169	213021
55	161812	147750	156708
65	123836	118040	113587
75	102374	127419	82638
85	147378	181652	164858

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**CANDELA TABULATION**

	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
<b>0.0</b>	7005	7005	7005	7005	7005	7005	7005	7005	7005	7005
<b>1.0</b>	7064	7064	7051	7041	7035	7031	7031	7032	7027	7024
<b>3.0</b>	7151	7149	7140	7136	7130	7130	7129	7132	7130	7127
<b>5.0</b>	7200	7200	7200	7205	7211	7221	7232	7247	7252	7253
<b>7.0</b>	7243	7245	7248	7262	7278	7296	7309	7330	7354	7390
<b>9.0</b>	7322	7508	7511	7531	7546	7551	7565	7608	7673	7762
<b>11.0</b>	7386	7393	7419	7462	7505	7552	7621	7737	7842	7933
<b>13.0</b>	7337	7352	7395	7469	7562	7681	7836	8005	8138	8227
<b>15.0</b>	7249	7264	7322	7423	7568	7757	7969	8179	8328	8415
<b>17.0</b>	7131	7152	7236	7391	7591	7837	8061	8248	8365	8440
<b>19.5</b>	6927	6956	7073	7278	7543	7818	8057	8217	8300	8329
<b>22.5</b>	6655	6702	6870	7141	7446	7696	7890	7985	8013	7984
<b>25.5</b>	6454	6513	6728	7004	7253	7436	7538	7556	7522	7428
<b>29.0</b>	6398	6497	6757	6985	7114	7144	7072	6978	6888	6832
<b>33.0</b>	6295	6421	6679	6843	6880	6794	6672	6561	6485	6438
<b>37.5</b>	5781	5884	6043	6103	6112	6118	6158	6200	6221	6205
<b>42.5</b>	5364	5357	5354	5374	5416	5464	5482	5490	5496	5471
<b>47.5</b>	4598	4545	4480	4479	4509	4528	4534	4517	4485	4479
<b>55.0</b>	3107	3069	2997	3000	3070	3089	2995	2880	2855	2837
<b>65.0</b>	1752	1753	1773	1788	1788	1760	1735	1761	1716	1670
<b>75.0</b>	887	883	900	959	1082	1126	1086	1082	1090	1104
<b>85.0</b>	430	430	439	482	518	537	551	571	568	530
<b>90.0</b>	200	205	216	229	241	248	255	262	265	268
<b>95.0</b>	0	0	0	0	0	0	0	0	0	0
<b>100.0</b>	0	0	0	0	0	0	0	0	0	0
<b>105.0</b>	0	0	0	0	0	0	0	0	0	0
<b>110.0</b>	0	0	0	0	0	0	0	0	0	0
<b>115.0</b>	0	0	0	0	0	0	0	0	0	0
<b>120.0</b>	0	0	0	0	0	0	0	0	0	0
<b>125.0</b>	0	0	0	0	0	0	0	0	0	0
<b>130.0</b>	0	0	0	0	0	0	0	0	0	0
<b>135.0</b>	0	0	0	0	0	0	0	0	0	0
<b>140.0</b>	0	0	0	0	0	0	0	0	0	0
<b>145.0</b>	0	0	0	0	0	0	0	0	0	0
<b>150.0</b>	0	0	0	0	0	0	0	0	0	0
<b>155.0</b>	0	0	0	0	0	0	0	0	0	0
<b>160.0</b>	0	0	0	0	0	0	0	0	0	0
<b>165.0</b>	0	0	0	0	0	0	0	0	0	0
<b>170.0</b>	0	0	0	0	0	0	0	0	0	0
<b>175.0</b>	0	0	0	0	0	0	0	0	0	0
<b>180.0</b>	0	0	0	0	0	0	0	0	0	0

**Vert. Horizontal Angles**

	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>
<b>0.0</b>	7005	7005	7005	7005	7005	7005	7005	7005	7005
<b>1.0</b>	7023	7019	7014	7007	7006	7014	7007	7011	7021
<b>3.0</b>	7127	7122	7116	7110	7103	7109	7101	7103	7110
<b>5.0</b>	7253	7250	7249	7252	7247	7255	7250	7262	7269
<b>7.0</b>	7434	7476	7517	7555	7568	7588	7590	7609	7614
<b>9.0</b>	7837	7888	7925	7948	7949	7933	7929	7949	7975
<b>11.0</b>	8015	8083	8142	8197	8205	8220	8211	8227	8221
<b>13.0</b>	8278	8305	8324	8344	8320	8321	8303	8310	8303
<b>15.0</b>	8439	8419	8394	8371	8316	8287	8251	8245	8234

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**CANDELA TABULATION - (Cont.)**

17.0	8464	8431	8369	8286	8170	8101	8034	8012	8000
19.5	8310	8240	8150	8015	7851	7727	7626	7583	7567
22.5	7914	7794	7670	7519	7362	7227	7123	7083	7086
25.5	7353	7306	7249	7162	7060	6927	6796	6756	6757
29.0	6824	6840	6863	6855	6851	6832	6758	6730	6739
33.0	6459	6548	6662	6764	6773	6737	6630	6558	6532
37.5	6147	6070	6019	5988	5978	5969	5924	5877	5846
42.5	5425	5397	5399	5433	5456	5448	5433	5434	5413
47.5	4512	4533	4528	4530	4563	4591	4616	4654	4672
55.0	2833	2839	2932	3027	3020	2964	2946	2986	3009
65.0	1681	1705	1636	1630	1683	1671	1613	1597	1607
75.0	1065	1033	1002	1034	993	837	745	719	716
85.0	566	593	587	589	566	529	485	478	481
90.0	284	306	323	336	341	321	291	267	256
95.0	0	0	0	0	0	0	0	0	0
100.0	0	0	0	0	0	0	0	0	0
105.0	0	0	0	0	0	0	0	0	0
110.0	0	0	0	0	0	0	0	0	0
115.0	0	0	0	0	0	0	0	0	0
120.0	0	0	0	0	0	0	0	0	0
125.0	0	0	0	0	0	0	0	0	0
130.0	0	0	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	2815.91	N.A.	13.90
0-30	5918.62	N.A.	29.20
0-40	9245.92	N.A.	45.50
0-60	15604.99	N.A.	76.90
0-80	19196.53	N.A.	94.60
0-90	20224.4	N.A.	99.60
10-90	19654.49	N.A.	96.80
20-40	6430.01	N.A.	31.70
20-50	10383.39	N.A.	51.20
40-70	8573.19	N.A.	42.20
60-80	3591.54	N.A.	17.70
70-80	1377.42	N.A.	6.80
80-90	1027.87	N.A.	5.10
90-110	74.32	N.A.	0.40
90-120	74.32	N.A.	0.40
90-130	74.32	N.A.	0.40
90-150	74.32	N.A.	0.40
90-180	74.32	N.A.	0.40
110-180	0.00	N.A.	0.00
0-180	20298.72	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	569.91
10-20	2246.00
20-30	3102.7
30-40	3327.31
40-50	3953.38
50-60	2405.69
60-70	2214.12
70-80	1377.42
80-90	1027.87
90-100	74.32
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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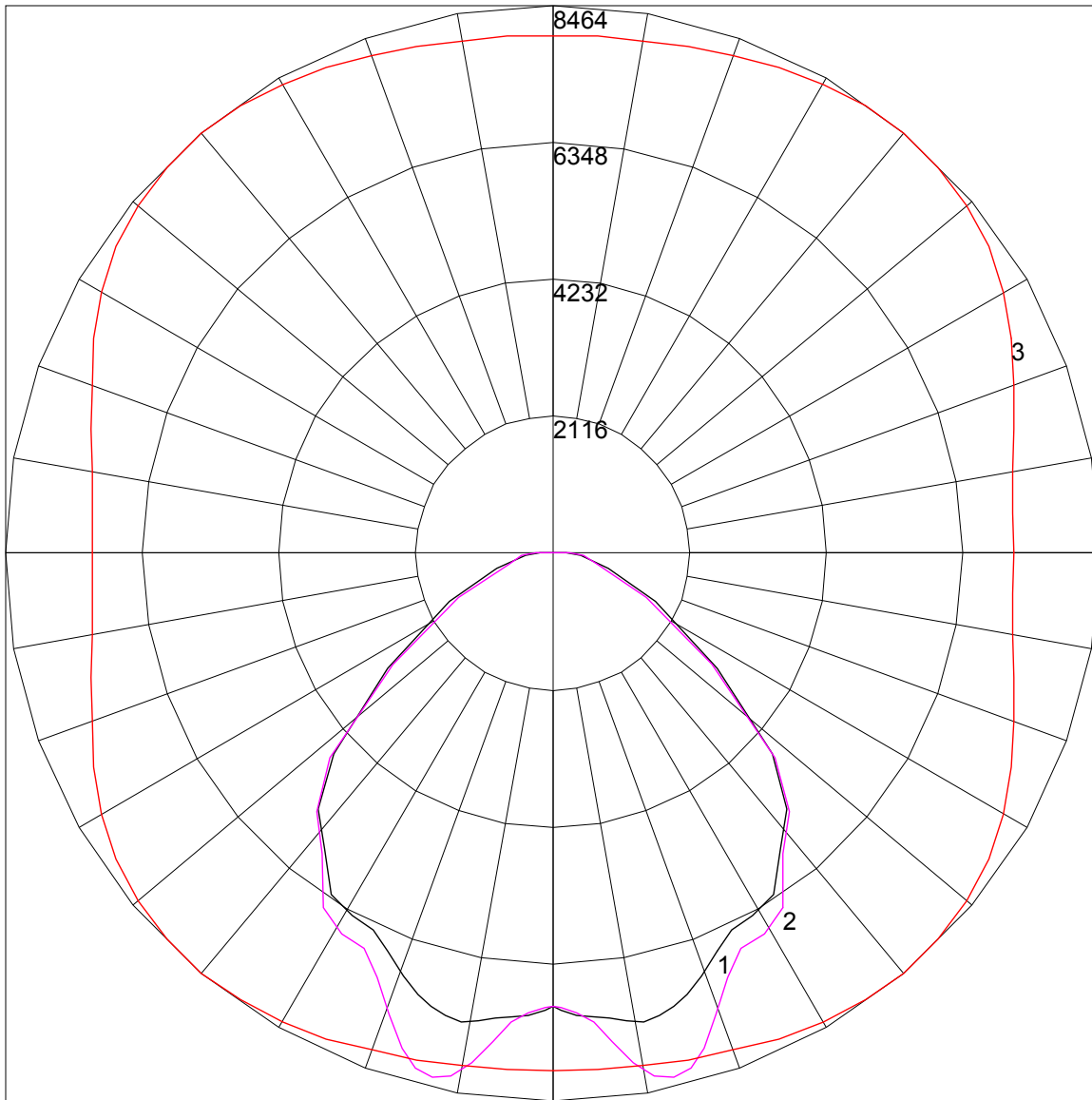
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

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
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
2	98	90	82	77	95	88	81	76	84	78	74	81	76	72	77	74	70	68
3	90	79	71	64	87	77	70	63	74	68	62	71	66	61	69	64	60	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	60	52	47	58	51	46	56	50	45	43
6	70	57	48	42	68	56	48	41	54	47	41	52	46	41	51	45	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25



POLAR GRAPH



Maximum Candela = 8464 Located At Horizontal Angle = 50, Vertical Angle = 17

# 1 - Vertical Plane Through Horizontal Angles (0 - 180)

# 2 - Vertical Plane Through Horizontal Angles (90 - 270)

# 3 - Horizontal Cone Through Vertical Angle (17) (Through Max. Cd.)