



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

Report No: L061803502R01



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Issue Date: 6/15/2018

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

Model Number: eLLHB1DP24050K7

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

Manufacturer:	eLuminaire LLC
Model Number:	eLLHB1DP24050K7
Driver Model Number:	MOONS' MU200H105AQ_0-10V
Total Lumens:	23949.39
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	1.62
Input Power (W):	193.50
Input Power Factor:	0.99
Current ATHD @ 120V(%):	6%
Current ATHD @ 277V(%):	10% (0.71A, 187.59W, 0.96PF)
Efficacy:	123.77
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:35
Total Operating Time (Hours):	1:00



FIG. 1 LUMINAIRE



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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*

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



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Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L061803502R01.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L061803502R01
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 6/15/2018
[MANUFAC] eLuminaire LLC
[LUMCAT] eLLHB1DP24050K7
[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, 193.50W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	23949
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	124
Total Luminaire Watts	193.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.14
Spacing Criterion (Diagonal)	1.28
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	248612	251231	255477
55	186914	175144	184883
65	146384	139527	135145
75	118416	147847	95564
85	175483	203245	180624

IES INDOOR REPORT
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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>
0.0	10944	10944	10944	10944	10944	10944	10944	10944	10944	10944
1.0	10908	10927	10956	10970	10964	10953	10937	10924	10913	10902
3.0	10805	10822	10841	10843	10828	10809	10780	10755	10731	10709
5.0	10578	10590	10590	10575	10547	10508	10465	10427	10390	10357
7.0	10420	10422	10387	10340	10276	10200	10113	10033	9963	9904
9.0	10310	10257	10188	10102	10009	9879	9729	9575	9494	9404
11.0	10180	10147	10048	9904	9759	9601	9439	9292	9149	9021
13.0	10086	10037	9902	9709	9514	9300	9076	8877	8721	8622
15.0	9914	9862	9692	9476	9246	9002	8740	8545	8394	8306
17.0	9812	9731	9529	9262	8983	8684	8434	8273	8151	8077
19.5	9803	9714	9477	9160	8797	8478	8227	8030	7906	7864
22.5	9724	9638	9396	9043	8677	8379	8119	7919	7804	7803
25.5	9380	9304	9066	8758	8445	8193	8016	7947	8003	8118
29.0	8738	8670	8470	8224	7984	7836	7847	8033	8277	8421
33.0	7959	7895	7757	7553	7389	7389	7581	7819	7966	8000
37.5	7399	7387	7313	7191	7139	7173	7196	7187	7161	7160
42.5	6402	6444	6487	6447	6388	6384	6411	6430	6459	6495
47.5	5368	5406	5469	5444	5336	5277	5282	5318	5369	5399
55.0	3589	3580	3572	3580	3593	3581	3497	3394	3375	3363
65.0	2071	2067	2077	2109	2104	2050	2018	2054	2021	1974
75.0	1026	1025	1044	1115	1266	1309	1257	1252	1271	1281
85.0	512	513	518	560	597	620	630	651	636	593
90.0	239	244	255	268	278	283	288	292	291	294
95.0	0	0	0	0	0	0	0	0	0	0
100.0	0	0	0	0	0	0	0	0	0	0
105.0	0	0	0	0	0	0	0	0	0	0
110.0	0	0	0	0	0	0	0	0	0	0
115.0	0	0	0	0	0	0	0	0	0	0
120.0	0	0	0	0	0	0	0	0	0	0
125.0	0	0	0	0	0	0	0	0	0	0
130.0	0	0	0	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles **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>
0.0	10944	10944	10944	10944	10944	10944	10944	10944	10944
1.0	10891	10884	10870	10852	10847	10822	10834	10827	10861
3.0	10684	10661	10636	10602	10582	10546	10554	10540	10564
5.0	10325	10298	10269	10233	10198	10145	10144	10121	10137
7.0	9856	9817	9788	9755	9718	9669	9659	9632	9638
9.0	9335	9310	9248	9226	9195	9147	9183	9215	9179
11.0	8907	8848	8829	8848	8875	8899	8930	8922	8910
13.0	8568	8546	8540	8576	8628	8685	8741	8756	8744
15.0	8278	8290	8318	8363	8428	8510	8606	8636	8626

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CANDELA TABULATION - (Cont.)

17.0	8044	8066	8144	8232	8326	8428	8551	8622	8613
19.5	7876	7947	8072	8238	8415	8580	8751	8878	8898
22.5	7897	8089	8320	8548	8742	8926	9064	9174	9216
25.5	8243	8362	8487	8636	8759	8878	8959	9024	9050
29.0	8463	8378	8258	8203	8203	8231	8263	8301	8312
33.0	7950	7853	7684	7575	7548	7627	7707	7775	7775
37.5	7195	7280	7365	7408	7420	7447	7503	7516	7520
42.5	6538	6555	6553	6541	6546	6597	6634	6619	6601
47.5	5387	5382	5379	5387	5436	5522	5556	5521	5494
55.0	3355	3371	3457	3542	3550	3526	3519	3533	3550
65.0	1984	2007	1957	1925	1969	1968	1911	1889	1912
75.0	1239	1196	1174	1200	1140	975	868	832	828
85.0	637	652	644	644	628	584	536	524	527
90.0	306	321	336	348	352	340	314	290	277
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

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	3294.08	N.A.	13.80
0-30	6934.06	N.A.	29.00
0-40	10877.03	N.A.	45.40
0-60	18470.36	N.A.	77.10
0-80	22693.31	N.A.	94.80
0-90	23867.89	N.A.	99.70
10-90	23082.25	N.A.	96.40
20-40	7582.95	N.A.	31.70
20-50	12322.92	N.A.	51.50
40-70	10202.57	N.A.	42.60
60-80	4222.95	N.A.	17.60
70-80	1613.71	N.A.	6.70
80-90	1174.57	N.A.	4.90
90-110	81.50	N.A.	0.30
90-120	81.50	N.A.	0.30
90-130	81.50	N.A.	0.30
90-150	81.50	N.A.	0.30
90-180	81.50	N.A.	0.30
110-180	0.00	N.A.	0.00
0-180	23949.39	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	785.63
10-20	2508.45
20-30	3639.98
30-40	3942.97
40-50	4739.97
50-60	2853.36
60-70	2609.24
70-80	1613.71
80-90	1174.57
90-100	81.50
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

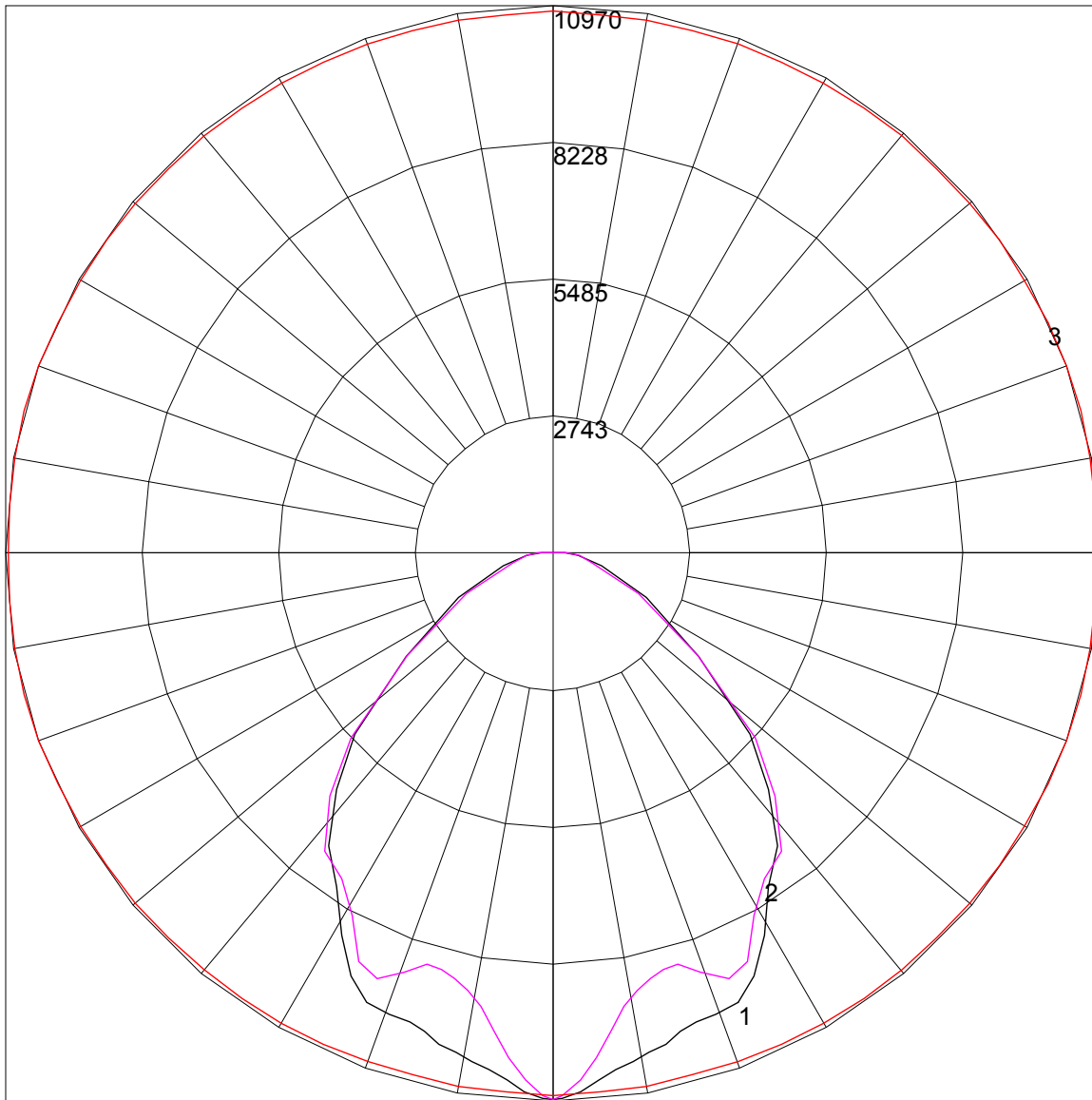
IES INDOOR REPORT
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	82
2	98	90	83	77	95	88	81	76	84	79	74	81	76	72	78	74	70	68
3	90	79	71	64	87	77	70	64	74	68	62	72	66	61	69	64	60	58
4	82	70	62	55	80	69	61	54	66	59	54	64	58	53	62	56	52	50
5	76	63	54	47	74	62	54	47	60	52	47	58	51	46	56	50	46	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	64	51	43	37	49	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	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 = 10970 Located At Horizontal Angle = 15, Vertical Angle = 1

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

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

3 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)