



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

Report No: L081709502



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Issue Date: 9/5/2017

Report Prepared For: HI-LITE MFG. CO.
13450 MONTE VISTA, CHINO, CA 91710

Model Number: H-23650-XX-RIB/CB8-91/13W/LED2/30/E/BCM-M

Test: Electrical and Photometric tests

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: 8/28/17

Date of Tests: 8/31/17 - 9/5/2017

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-S1	11/28/17
ITECH	IT6122	PS-DC03-S1	11/28/17
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/28/17
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:	HI-LITE MFG. CO.
Model Number:	H-23650-XX-RIB/CB8-91/13W/LED2/30/E/BCM-M
Driver Model Number:	ERP ESS015W-0440-34
Total Lumens:	1294.82
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.14
Input Power (W):	16.16
Input Power Factor:	0.99
Current ATHD @ 120V(%):	12%
Current ATHD @ 277V(%):	N/A
Efficacy:	80
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:15



FIG. 1 LUMINAIRE

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

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: 8*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081709502.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081709502
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 9/5/2017
[MANUFAC] HI-LITE MFG. CO.
[LUMCAT] H-23650-XX-RIB/CB8-91/13W/LED2/30/E/BCM-M
[LUMINAIRE] 12" DIA. CLEAR RIB ACRYLIC LOWBAY FIXTURE WITHOUT FROSTED FLAT BOTTOM LENS
[MORE] CORD MOUNTED WITH A 13W LED MODULE
[MORE] 3000K, THAT HAS FROSTED ACRYLIC DOMED LENS
[BALLASTCAT] ERP ESS015W-0440-34
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120VAC, 16.16W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1295
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	80
Total Luminaire Watts	16.16
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.78
Spacing Criterion (90-270)	0.78
Spacing Criterion (Diagonal)	0.86
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.44 ft (Diameter)
Luminous Width (90-270)	0.44 ft (Diameter)
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7001	7001	7001
55	5179	5179	5179
65	4518	4518	4518
75	4919	4919	4919
85	10549	10549	10549

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081709502.IES

CANDELA TABULATION

	<u>0</u>
0	1535
5	1470
10	1336
15	1136
20	974
25	799
30	644
35	448
40	182
45	70
50	48
55	42
60	33
65	27
70	22
75	18
80	15
85	13
90	10
95	8
100	6
105	5
110	5
115	5
120	5
125	6
130	6
135	6
140	6
145	5
150	5
155	5
160	4
165	4
170	3
175	3
180	1

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081709502.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	456.83	N.A.	35.30
0-30	825.40	N.A.	63.70
0-40	1091.32	N.A.	84.30
0-60	1198.73	N.A.	92.60
0-80	1245.00	N.A.	96.20
0-90	1258.91	N.A.	97.20
10-90	1122.61	N.A.	86.70
20-40	634.48	N.A.	49.00
20-50	704.99	N.A.	54.40
40-70	134.40	N.A.	10.40
60-80	46.28	N.A.	3.60
70-80	19.29	N.A.	1.50
80-90	13.91	N.A.	1.10
90-110	14.29	N.A.	1.10
90-120	19.25	N.A.	1.50
90-130	24.40	N.A.	1.90
90-150	32.36	N.A.	2.50
90-180	35.91	N.A.	2.80
110-180	21.62	N.A.	1.70
0-180	1294.82	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	136.30
10-20	320.53
20-30	368.57
30-40	265.92
40-50	70.50
50-60	36.91
60-70	26.99
70-80	19.29
80-90	13.91
90-100	8.73
100-110	5.56
110-120	4.96
120-130	5.15
130-140	4.65
140-150	3.31
150-160	2.21
160-170	1.07
170-180	0.26

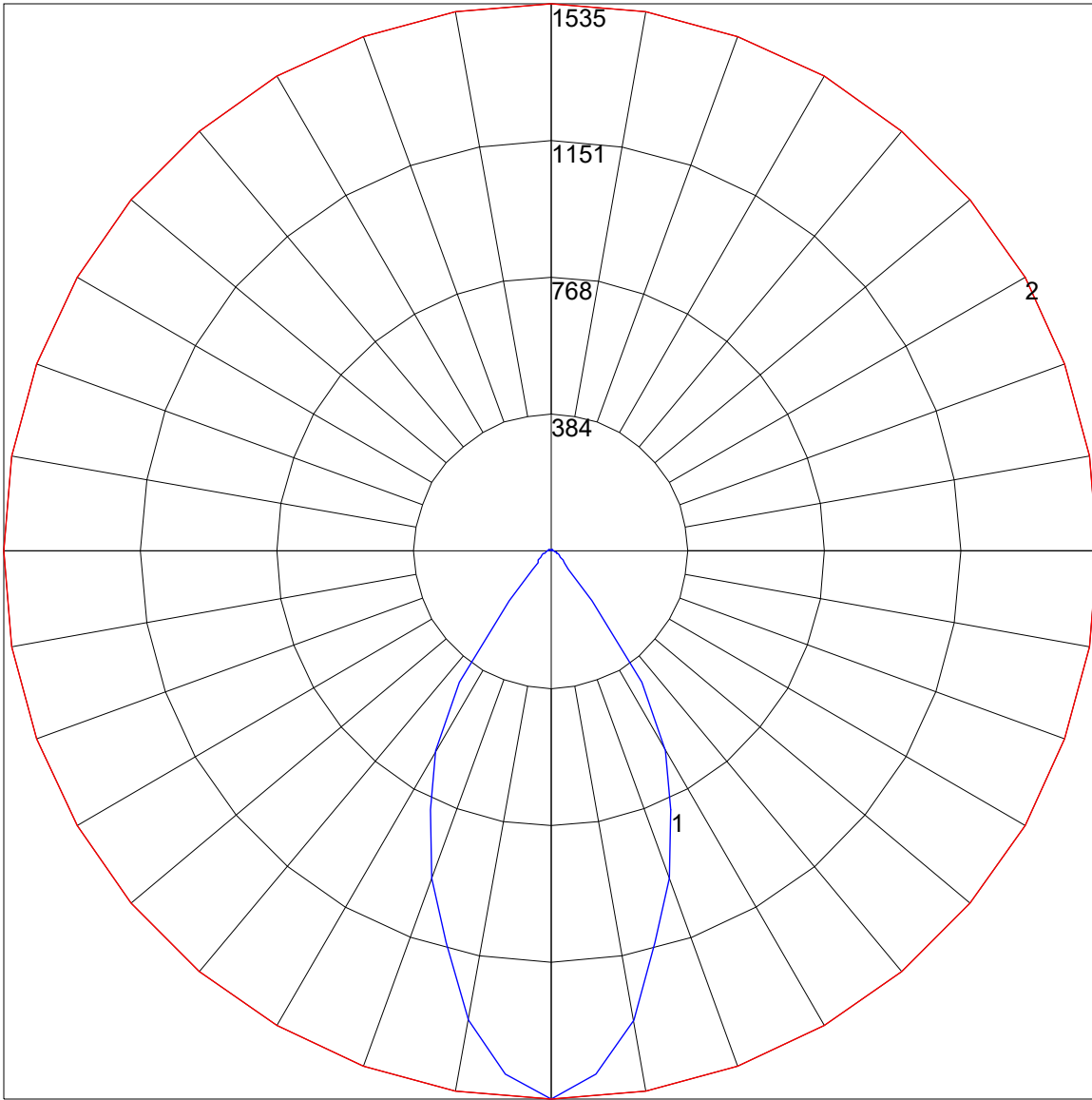
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	118	118	118	118	115	115	115	115	110	110	110	104	104	104	99	99	99	97
1	112	109	106	103	109	106	104	101	102	99	98	97	96	94	93	92	91	89
2	106	100	96	92	103	98	94	90	94	91	88	91	88	86	88	86	84	82
3	100	93	87	83	97	91	86	82	88	84	80	85	82	79	82	80	77	75
4	94	86	80	75	92	85	79	75	82	77	74	80	76	72	78	74	71	70
5	89	80	74	69	87	79	73	69	77	72	68	75	71	67	73	69	66	65
6	85	75	69	64	83	74	68	64	72	67	63	71	66	62	69	65	62	60
7	80	70	64	60	79	70	64	59	68	63	59	67	62	58	65	61	58	56
8	76	66	60	56	75	65	60	55	64	59	55	63	58	55	62	57	54	53
9	73	62	56	52	71	62	56	52	61	55	52	60	55	51	58	54	51	49
10	69	59	53	49	68	58	53	49	57	52	48	56	52	48	56	51	48	47

POLAR GRAPH



Maximum Candela = 1535 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)