

Report No: L081709501**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/SFL-FR/13W/LED2/30/E/D/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/SFL-FR/13W/LED2/30/E/D/BCM-M
Driver Model Number:	ERP ESS015W-0440-34
Total Lumens:	1126.87
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:	70
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	1:30



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.

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Test Report Released by:



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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 : L081709501.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L081709501
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 9/5/2017
[MANUFAC] HI-LITE MFG. CO.
[LUMCAT] H-23650-XX-RIB/CB8/SFL-FR/13W/LED2/30/E/D/BCM-M
[LUMINAIRE] 12" DIA. CLEAR RIB ACRYLIC LOWBAY FIXTURE WITH A 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	1127
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	70
Total Luminaire Watts	16.16
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	0.92
Spacing Criterion (90-270)	0.92
Spacing Criterion (Diagonal)	0.98
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	0.98 ft (Diameter)
Luminous Width (90-270)	0.98 ft (Diameter)
Luminous Height	0.65 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2211	2211	2211
55	1334	1334	1334
65	824	824	824
75	491	491	491
85	252	252	252

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081709501.IES

CANDELA TABULATION

	<u>0</u>
0	649.1
5	636.0
10	601.9
15	550.5
20	487.5
25	419.6
30	352.2
35	286.8
40	242.4
45	202.3
50	158.3
55	118.4
60	90.4
65	68.7
70	51.2
75	37.0
80	25.3
85	16.4
90	14.4
95	17.1
100	20.0
105	23.3
110	26.4
115	28.6
120	29.4
125	28.8
130	27.3
135	25.3
140	23.5
145	21.7
150	20.3
155	19.2
160	18.5
165	18.1
170	17.5
175	15.3
180	14.4

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L081709501.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	213.55	N.A.	19.00
0-30	406.36	N.A.	36.10
0-40	588.75	N.A.	52.20
0-60	852.38	N.A.	75.60
0-80	961.14	N.A.	85.30
0-90	980.91	N.A.	87.00
10-90	921.26	N.A.	81.80
20-40	375.20	N.A.	33.30
20-50	530.40	N.A.	47.10
40-70	332.67	N.A.	29.50
60-80	108.76	N.A.	9.70
70-80	39.72	N.A.	3.50
80-90	19.76	N.A.	1.80
90-110	43.28	N.A.	3.80
90-120	71.31	N.A.	6.30
90-130	96.96	N.A.	8.60
90-150	130.35	N.A.	11.60
90-180	145.96	N.A.	13.00
110-180	102.68	N.A.	9.10
0-180	1126.87	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

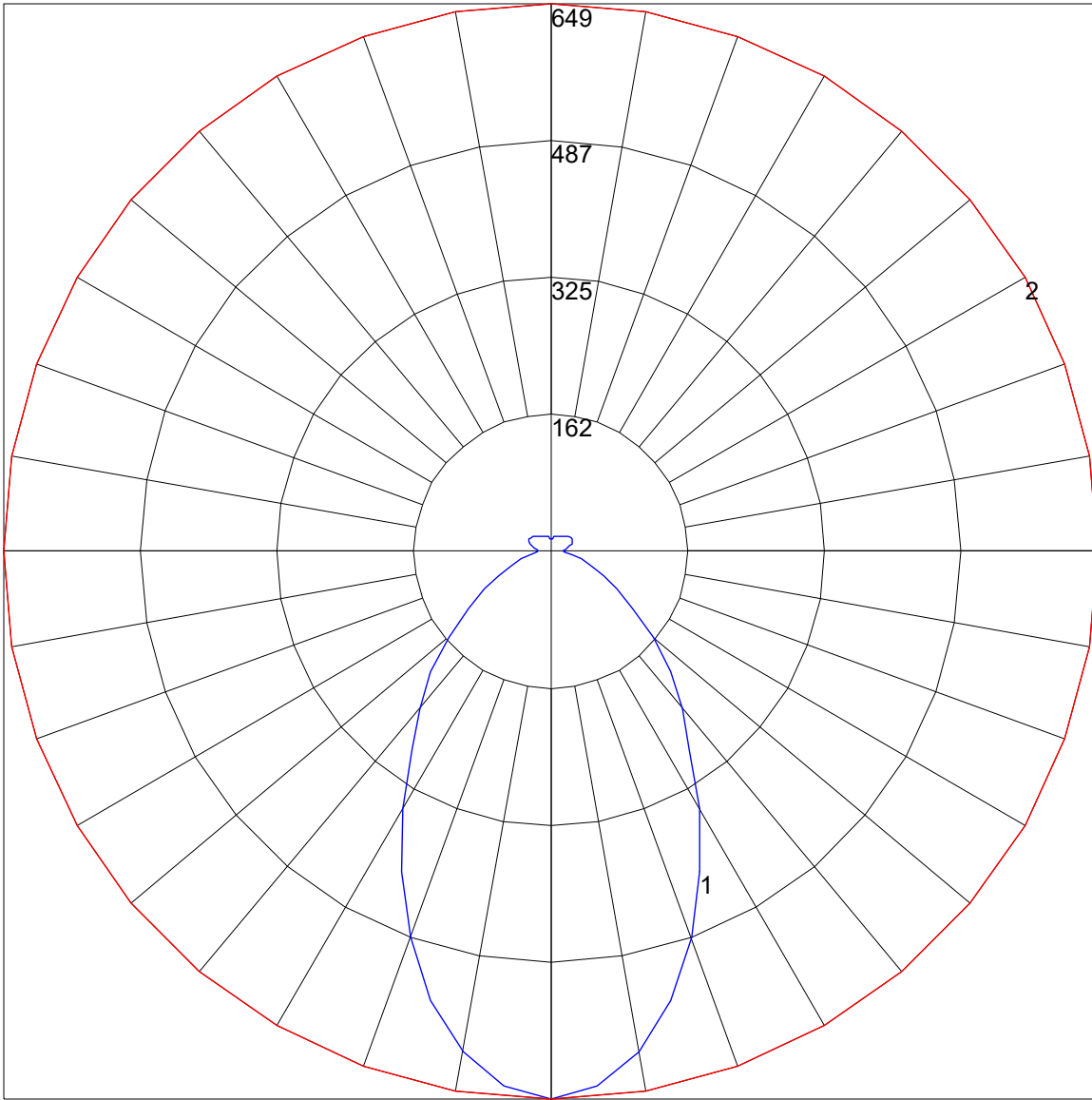
Zone	Lumens
0-10	59.65
10-20	153.91
20-30	192.81
30-40	182.39
40-50	155.20
50-60	108.43
60-70	69.04
70-80	39.72
80-90	19.76
90-100	18.71
100-110	24.58
110-120	28.03
120-130	25.65
130-140	19.66
140-150	13.73
150-160	8.95
160-170	5.13
170-180	1.53

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	116	116	116	116	116	112	112	112	112	104	104	104	97	97	97	90	90	90	87
1	107	103	99	96	96	103	100	96	93	93	90	88	87	85	83	81	80	78	76
2	99	92	86	81	81	95	89	84	79	83	79	75	78	75	72	74	71	68	66
3	91	82	75	70	70	88	80	73	68	75	70	65	71	66	63	67	63	60	58
4	85	74	67	61	61	82	72	65	60	68	62	58	64	59	55	61	57	53	51
5	79	67	60	54	54	76	66	58	53	62	56	51	59	54	50	56	51	48	46
6	73	62	54	48	48	71	60	53	47	57	51	46	54	49	45	52	47	43	41
7	68	57	49	43	43	66	55	48	43	53	46	42	50	45	40	48	43	39	37
8	64	52	45	39	39	62	51	44	39	49	42	38	46	41	37	44	40	36	34
9	60	48	41	36	36	58	47	40	36	45	39	35	43	38	34	41	37	33	31
10	57	45	38	33	33	55	44	37	33	42	36	32	40	35	31	39	34	31	29

POLAR GRAPH



Maximum Candela = 649.1 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.)