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Report No: L091401801

Date: 9/16/2014



NVLAP LAB CODE 200927-0

Report No: L091401801

Report Prepared For: Olympia Lighting, inc.
50 Delford Ave., Bergenfield NJ 07621

Model Number: B-130-E26

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. Catalog number is CL-20W8-55K-E26. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 9/1/14

Date of Tests: 9/10/14 - 9/10/14

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-AC 02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S1	01/04/15
Xitron Power Analysis System	2503AH	MT-EL01	01/09/15
BK Precision DC Power Supply	1747	PSDC-04	01/08/15
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/04/15
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-S N03-S 2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

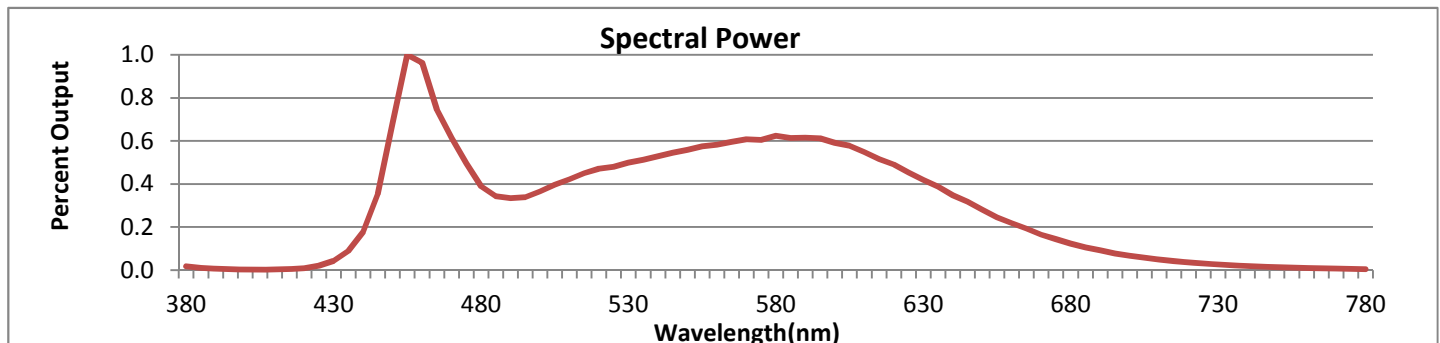
*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Summary

Manufacturer:	Olympia Lighting, inc.	
Model Number:	B-130-E26	
Driver Model Number:	CUSTOM DRIVER	
Total Lumens:	2175.88	
Input Voltage (VAC/60Hz):	120.00	
Input Current (Amp):	0.18	
Input Power (W):	21.38	
Input Power Factor:	0.99	
Current ATHD @ 120V(%):	13%	
Current ATHD @ 277V(%):	19%	(0.09A, 22.8W, 0.88PF)
Efficacy:	102	
Color Rendering Index (CRI):	83	
Correlated Color Temperature (K):	5046	
Chromaticity Coordinate x:	0.3444	
Chromaticity Coordinate y:	0.3574	
Ambient Temperature (°F):	77.0	
Stabilization Time (Hours):	0:35	
Total Operating Time (Hours):	1:10	
Off State Power(W):	0.00	



FIG. 1 LUMINAIRE



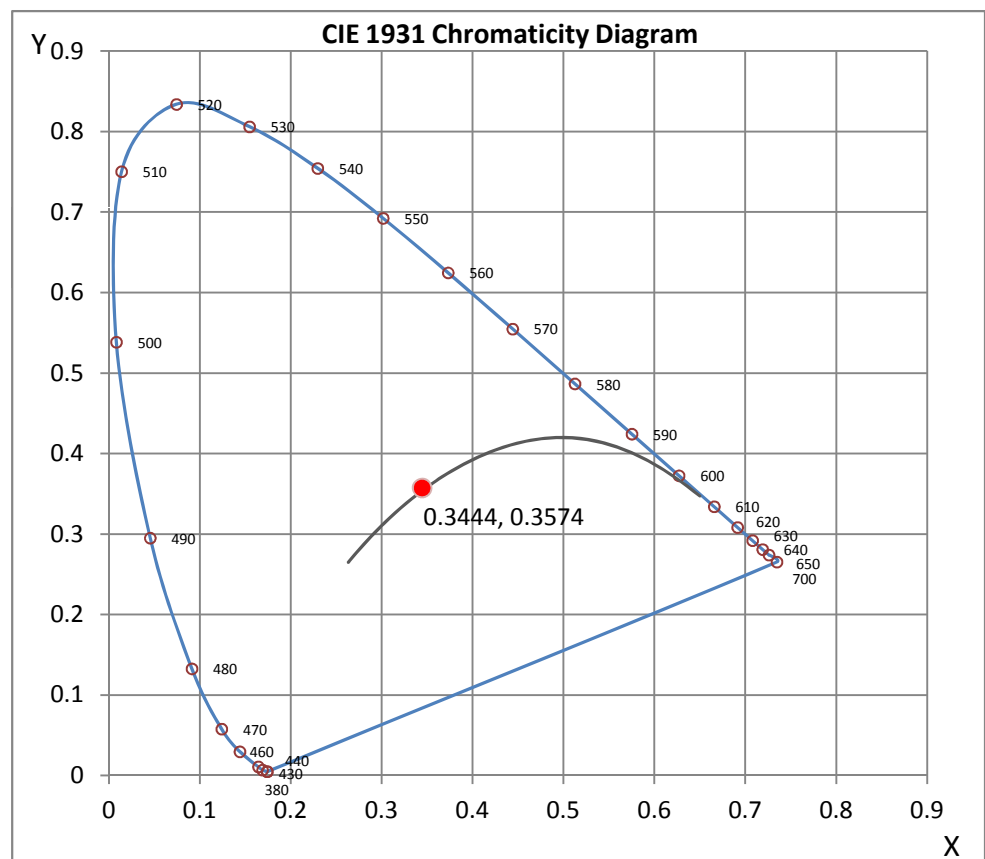
Wavelength	W/m ² nm	440	0.0290	510	0.0690	580	0.1021	650	0.0460	720	0.0059
380	0.0029	450	0.1115	520	0.0771	590	0.1006	660	0.0357	730	0.0043
390	0.0009	460	0.1576	530	0.0817	600	0.0969	670	0.0270	740	0.0031
400	0.0004	470	0.1005	540	0.0867	610	0.0896	680	0.0202	750	0.0022
410	0.0004	480	0.0637	550	0.0914	620	0.0802	690	0.0149	760	0.0016
420	0.0015	490	0.0548	560	0.0954	630	0.0686	700	0.0110	770	0.0011
430	0.0070	500	0.0599	570	0.0994	640	0.0570	710	0.0080	780	0.0008

CRI & CCT

x	0.3444
y	0.3574
u'	0.2087
v'	0.4874
CRI	83.20
CCT	5046
Duv	0.00318

R Values

R1	82.65
R2	94.10
R3	93.68
R4	77.39
R5	81.61
R6	88.93
R7	83.22
R8	64.20
R9	8.88
R10	84.04
R11	76.32
R12	60.82
R13	87.24
R14	97.12





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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 : Randy Chau

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: 10*

**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 : L091401801.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L091401801
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 9/16/2014
[MANUFAC] OLYMPIA LIGHTING, INC.
[LUMCAT] CL-20W8-55K-E26
[LUMINAIRE] 29"DIA. X 31"H. LED LUMINAIRE
[MORE] PRISMATIC LENS
[BALLASTCAT] CUSTOM DRIVER
[BALLAST] INPUT: 120VAC, 60Hz.
[LAMPPOSITION] 0,0
[LAMPCAT] N/A
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[_INPUT] 120VAC, 21.38W
[_TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2176
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
Total Luminaire Watts	21.38
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.18
Spacing Criterion (90-270)	2.18
Spacing Criterion (Diagonal)	1.98
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	2.33 ft (Diameter)
Luminous Width (90-270)	2.33 ft (Diameter)
Luminous Height	0.33 ft

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L091401801.IES

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1975	1683	1975
55	2078	1858	2078
65	1269	1261	1269
75	837	834	837
85	439	450	439

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L091401801.IES

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	427.30	427.30	427.30	427.30	427.30
5	425.34	436.99	429.63	436.99	425.34
10	383.18	393.19	380.24	393.19	383.18
15	368.13	381.47	375.12	381.47	368.13
20	384.20	399.00	393.08	399.00	384.20
25	413.40	427.35	418.65	427.35	413.40
30	445.54	461.84	451.95	461.84	445.54
35	469.26	486.51	478.18	486.51	469.26
40	540.66	524.64	513.16	524.64	540.66
45	653.45	592.29	557.06	592.29	653.45
50	728.73	641.19	611.28	641.19	728.73
55	594.37	558.22	531.29	558.22	594.37
60	412.89	413.93	399.12	413.93	412.89
65	294.79	302.43	293.09	302.43	294.79
70	210.66	215.40	208.91	215.40	210.66
75	143.66	147.51	143.24	147.51	143.66
80	89.64	92.18	89.20	92.18	89.64
85	46.49	48.14	47.62	48.14	46.49
90	32.72	28.82	23.16	28.82	32.72
95	17.76	19.28	19.16	19.28	17.76
100	15.29	17.06	16.74	17.06	15.29
105	13.90	15.54	15.44	15.54	13.90
110	12.33	13.51	14.05	13.51	12.33
115	9.93	10.87	11.72	10.87	9.93
120	7.42	8.65	9.02	8.65	7.42
125	5.40	6.38	6.23	6.38	5.40
130	3.53	3.97	3.72	3.97	3.53
135	2.11	2.50	2.42	2.50	2.11
140	1.09	1.09	1.12	1.09	1.09
145	1.18	1.18	1.12	1.18	1.18
150	1.13	1.18	1.12	1.18	1.13
155	1.09	1.18	1.02	1.18	1.09
160	0.96	0.99	0.93	0.99	0.96
165	0.86	0.95	0.93	0.95	0.86
170	0.86	0.99	0.84	0.99	0.86
175	0.87	0.90	0.74	0.90	0.87
180	0.00	0.00	0.00	0.00	0.00

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L091401801.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	148.41	N.A.	6.80
0-30	344.92	N.A.	15.90
0-40	650.49	N.A.	29.90
0-60	1600.93	N.A.	73.60
0-80	2059.23	N.A.	94.60
0-90	2117.64	N.A.	97.30
10-90	2078.04	N.A.	95.50
20-40	502.08	N.A.	23.10
20-50	963.77	N.A.	44.30
40-70	1251.92	N.A.	57.50
60-80	458.30	N.A.	21.10
70-80	156.82	N.A.	7.20
80-90	58.41	N.A.	2.70
90-110	38.46	N.A.	1.80
90-120	49.28	N.A.	2.30
90-130	54.79	N.A.	2.50
90-150	57.40	N.A.	2.60
90-180	58.24	N.A.	2.70
110-180	19.78	N.A.	0.90
0-180	2175.88	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	39.60
10-20	108.81
20-30	196.51
30-40	305.57
40-50	461.68
50-60	488.75
60-70	301.49
70-80	156.82
80-90	58.41
90-100	22.56
100-110	15.90
110-120	10.81
120-130	5.51
130-140	1.89
140-150	0.72
150-160	0.51
160-170	0.27
170-180	0.07

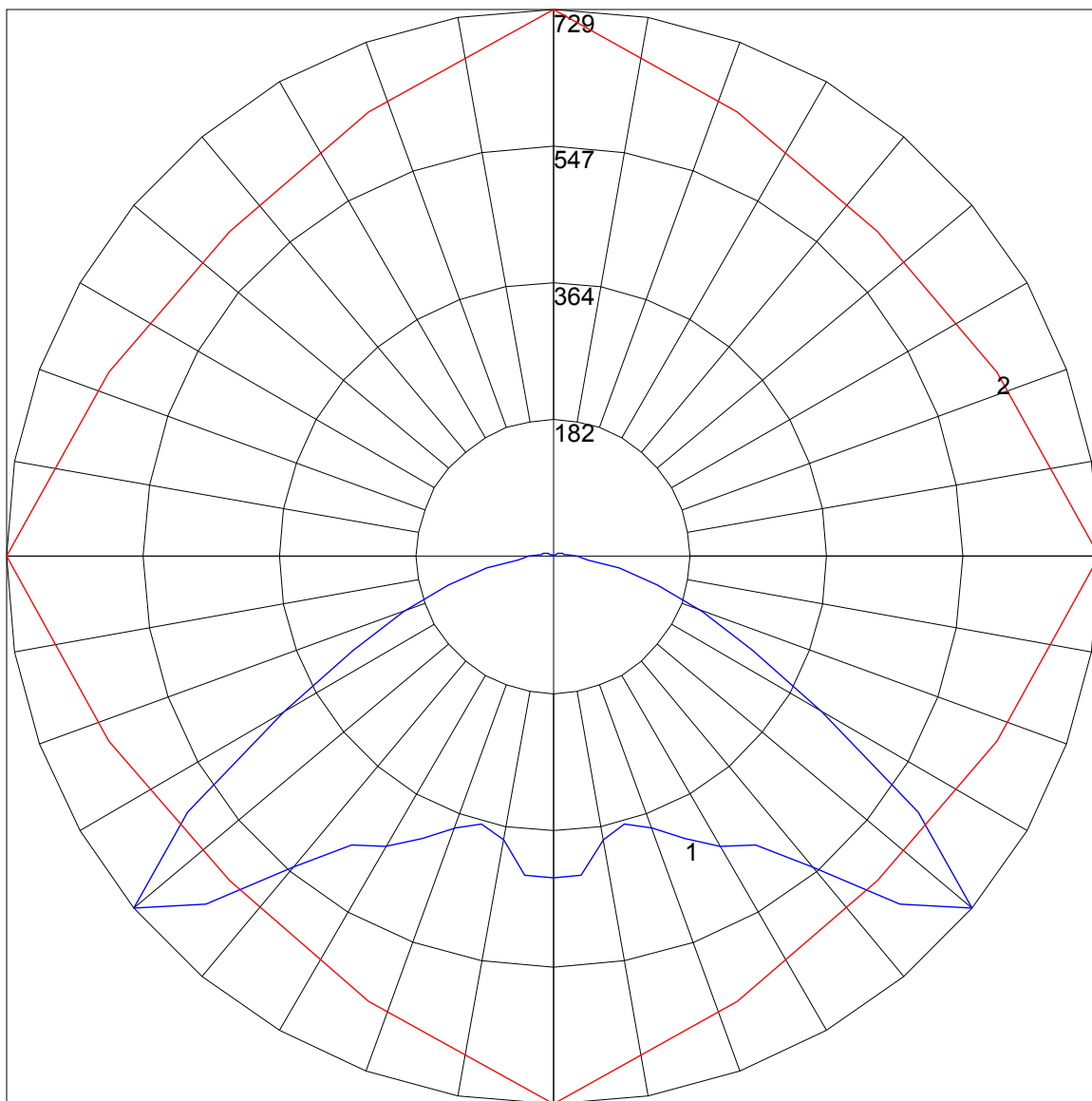
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	118	118	118	118	115	115	115	115	110	110	110	104	104	104	100	100	100	97
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	84	81	79
2	96	87	80	73	93	85	78	72	81	75	70	77	72	68	74	70	66	64
3	87	75	66	59	84	73	65	58	70	63	57	67	61	55	64	59	54	52
4	78	65	56	48	76	64	55	48	61	53	47	58	51	46	55	50	45	42
5	71	57	47	40	69	56	47	40	53	45	39	51	44	38	49	43	38	35
6	65	51	41	34	63	50	40	34	47	39	33	45	38	33	43	37	32	30
7	60	45	36	29	58	44	35	29	42	34	28	41	33	28	39	33	28	25
8	55	41	32	25	53	40	31	25	38	30	25	37	30	24	35	29	24	22
9	51	37	28	22	50	36	28	22	35	27	22	33	26	21	32	26	21	19
10	48	34	25	20	46	33	25	19	32	24	19	31	24	19	30	23	19	17

POLAR GRAPH



Maximum Candela = 728.73 Located At Horizontal Angle = 0, Vertical Angle = 50
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (50) (Through Max. Cd.)