



REPORT

545 E. Algonquin Rd., Arlington Heights, IL 60005

Project No. G102171228

Date: March 1, 2017

REPORT NO. 102171228CHI-079B

TEST OF ONE LED WALL SCONCE

MODEL NO. 700OWVEX9304XUNV
LED MODEL NO. LUMINUS CXM-6-30-90-18-AA00-F2-3
DRIVER MODEL NO. ERP ESS020W-0450-42

RENDERED TO

GENERATION BRANDS LLC
7400 N. LINDER AVE.
SKOKIE, IL 60077

TEST: Electrical and Photometric tests as required to the IESNA test standard.

AUTHORIZATION: The testing performed was authorized by signed quote number 500606081.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

ANSI NEMA ANSLG C78.377: 2012: Specifications of the Chromaticity of Solid State Lighting Products

DESCRIPTION OF SAMPLE: The client submitted one production sample of model number 700OWVEX9304XUNV. The sample was received by Intertek on February 22, 2017, in undamaged condition and one sample was tested as received. The sample designation was AH02222017041912.

DATES OF TESTS: February 28, 2017 through March 1, 2017.

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SUMMARY

Model No.: 700OWVEX9304XUNV
Description: LED Wall Sconce

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	554.3	536.7
Total Power (W)	18.70	18.70
Luminaire Efficacy (LPW)	29.64	28.70

Criteria	Result
Power Factor	0.990
Current ATHD %	12.55
Correlated Color Temperature (CCT - K)	3071
Color Rendering Index (CRI - Ra)	90.7
Color Rendering Index (CRI - R9)	67.8
DUV	0.002
Chromaticity Coordinate (x)	0.429
Chromaticity Coordinate (y)	0.396
Chromaticity Coordinate (u')	0.249
Chromaticity Coordinate (v')	0.517
BUG Rating	B0-U3-G0
IES Classification	Type I
Longitudinal Classification	Very Short

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date	Date Used
Yokogawa Power Meter	WT210	146919	07/11/16	07/11/17	03/01/17
Omega Newport Thermometer	DPI8-C24	146920	10/07/16	10/07/17	03/01/17
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	03/01/17
Newport Thermohygrometer	iServer	146956	01/06/17	01/06/18	03/01/17
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU	03/01/17
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	02/28/17
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	02/28/17
Elgar AC Power Supply	CW1251M	146112	VBU	VBU	02/28/17
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	02/28/17
Newport Humidity Recorder	iTHX-SD	146382	06/27/16	06/27/17	02/28/17
Yokogawa Power Meter	WT1600	146768	01/10/17	01/10/18	02/28/17
Fluke J/K Temperature Meter	52	146004	01/10/17	01/10/18	02/28/17

TEST METHODS

Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IESNA LM-79.

Photometric and Electrical Measurements – Integrating Sphere Method

A Labsphere Model CDS 1100 CCD Array Spectroradiometer and Two Meter or Ten Foot Sphere was used to measure correlated color temperature, chromaticity coordinates, and the color rendering index for each SSL unit.

Ambient temperature was measured at a position inside the sphere. Each SSL unit was operated on the client provided driver at the rated input voltage in its designated orientation. Each SSL unit was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

The calibration of the sphere photometer-spectroradiometer system is traceable to the National Institute of Standards and Technology.

Photometric and Electrical Measurements – Distribution Method

A LSI Type C High Speed Model 6440 Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for each sample.

Ambient temperature was measured equal to the height of the sample mounted on the Goniometer equipment. Each sample was operated at input rated voltage in its designated orientation. Each sample was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

Some graphics were created with Photometrics Plus software.

BUG Ratings (Backlight, Uplight, Glare) – for Outdoor Fixtures Only

Zonal Lumens were calculated and grouped using the formula in IESNA TM-15-11 for each zone as defined in the BUG addendum. The maximum lumen rating in each zone was compared against the BUG zonal requirements of Energy Star. Photometric Toolbox software was used to calculate results.

RESULTS OF TEST

Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) - Integrating Sphere Method

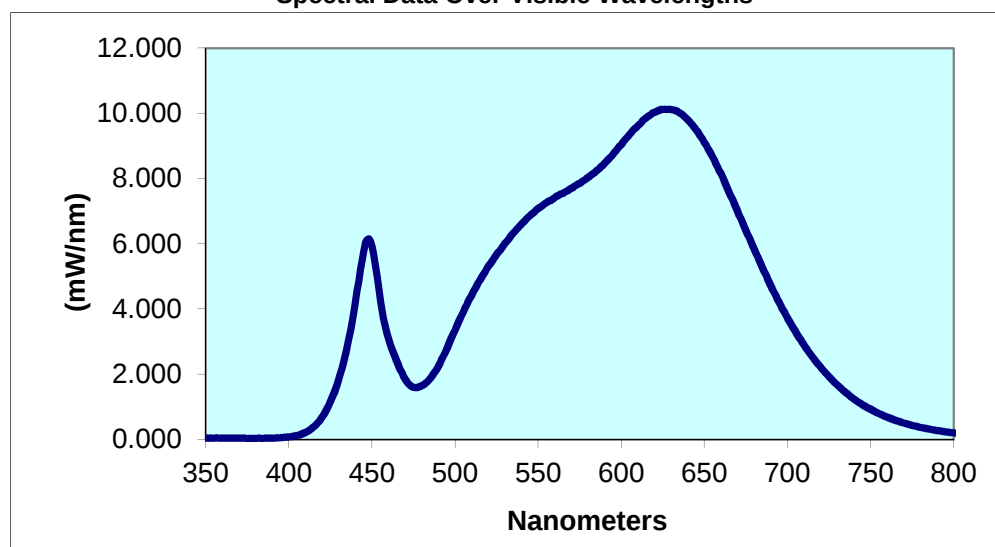
Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH02222017041912	Horizontal	120.0	157.5	18.70	0.990	12.55	554.3	29.64

Correlated Color Temperature (K)	CRI -Ra	CRI -R9	DUV	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
3071	90.7	67.8	0.002	0.429	0.396	0.249	0.517

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.043	440	4.216	530	6.013	620	10.03	710	2.894
355	0.040	445	5.773	535	6.329	625	10.12	715	2.533
360	0.039	450	5.924	540	6.604	630	10.12	720	2.214
365	0.042	455	4.291	545	6.865	635	10.02	725	1.928
370	0.036	460	3.082	550	7.086	640	9.807	730	1.670
375	0.034	465	2.386	555	7.262	645	9.504	735	1.445
380	0.034	470	1.845	560	7.419	650	9.113	740	1.241
385	0.037	475	1.602	565	7.548	655	8.663	745	1.071
390	0.041	480	1.656	570	7.702	660	8.163	750	0.928
395	0.055	485	1.878	575	7.851	665	7.578	755	0.800
400	0.078	490	2.258	580	8.041	670	6.998	760	0.688
405	0.127	495	2.792	585	8.250	675	6.414	765	0.594
410	0.220	500	3.365	590	8.482	680	5.837	770	0.509
415	0.392	505	3.931	595	8.748	685	5.272	775	0.436
420	0.688	510	4.429	600	9.040	690	4.720	780	0.374
425	1.166	515	4.900	605	9.361	695	4.206		
430	1.858	520	5.306	610	9.625	700	3.734		
435	2.837	525	5.674	615	9.866	705	3.294		

Spectral Data Over Visible Wavelengths



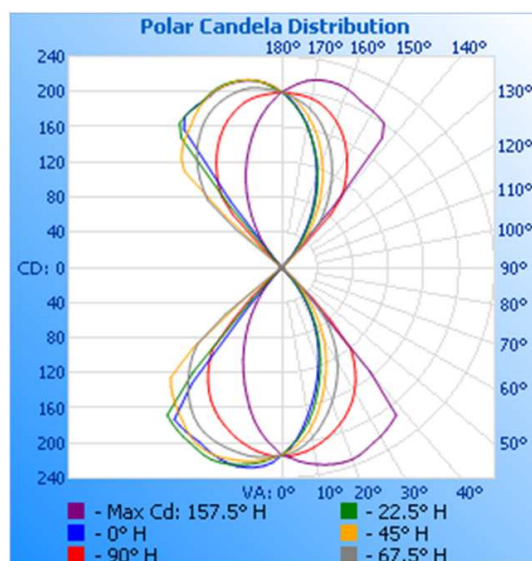
RESULTS OF TEST (cont'd)

Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH02222017041912	Horizontal	120.0	157.6	18.70	0.990	536.7	28.70

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	214	214	214	214	214
5	196	197	203	208	213
10	171	177	186	197	208
15	145	152	164	182	200
20	121	126	142	165	190
25	97	101	118	146	179
30	72	76	95	126	164
35	46	50	70	103	145
40	22	26	44	77	121
45	4	4	22	42	48
50	3	3	6	7	1
55	2	2	1	1	1
60	2	2	1	1	1
65	1	1	1	1	1
70	1	1	0	0	0
75	1	1	0	0	0
80	1	0	0	0	0
85	1	0	0	0	0
90	1	0	0	0	0
95	1	0	0	0	0
100	1	0	0	0	0
105	1	1	0	0	0
110	1	1	0	0	0
115	1	1	1	0	0
120	2	1	1	1	1
125	2	2	1	1	1
130	3	2	4	2	1
135	3	3	16	8	29
140	17	22	37	65	105
145	39	44	60	89	127
150	63	68	84	112	147
155	89	93	109	133	164
160	116	118	132	153	178
165	141	142	155	170	188
170	164	164	174	183	195
175	185	184	190	192	198
180	200	200	200	200	200

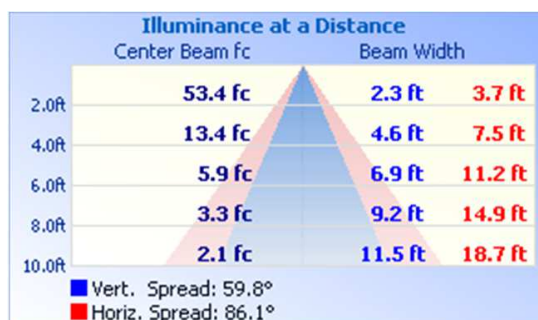


RESULTS OF TEST (cont'd)

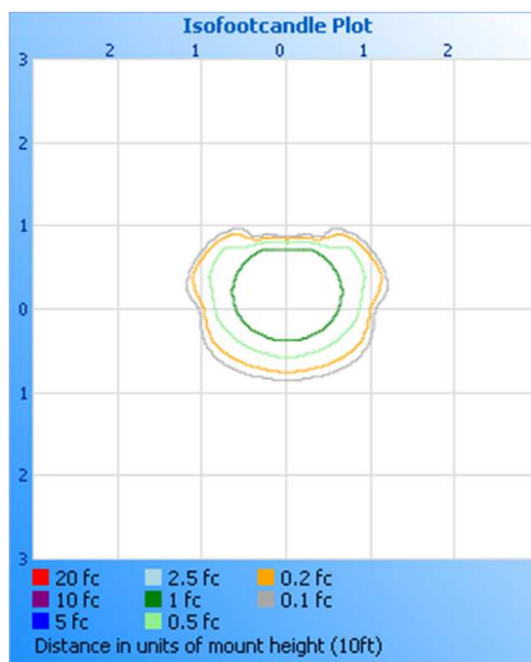
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	153.0	28.5
0-40	236.6	44.1
0-60	282.8	52.7
60-90	1.1	0.2
0-90	283.9	52.9
90-180	252.8	47.1
0-180	536.7	100.0

Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	61.7	11.5
FM	(30-60)	35.1	6.5
FH	(60-80)	0.6	0.1
FVH	(80-90)	0.2	0.0
BL	(0-30)	91.3	17.0
BM	(30-60)	94.9	17.7
BH	(60-80)	0.2	0.0
BVH	(80-90)	0.1	0.0
UL	(90-100)	0.3	0.0
UH	(100-180)	252.8	47.1
Total		537.2	100.0

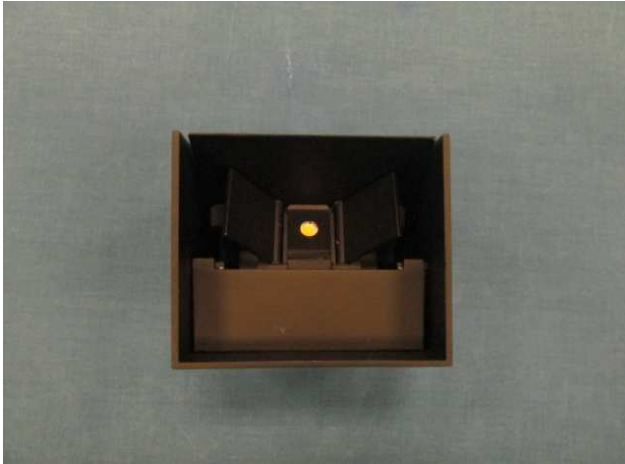
Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	20.0	3.7
10-20	54.9	10.2
20-30	78.1	14.6
30-40	83.6	15.6
40-50	43.1	8.0
50-60	3.1	0.6
60-70	0.5	0.1
70-80	0.3	0.1
80-90	0.2	0.0
90-100	0.3	0.0
100-110	0.3	0.1
110-120	0.5	0.1
120-130	2.0	0.4
130-140	33.1	6.2
140-150	73.8	13.7
150-160	72.3	13.5
160-170	51.8	9.6
170-180	18.8	3.5

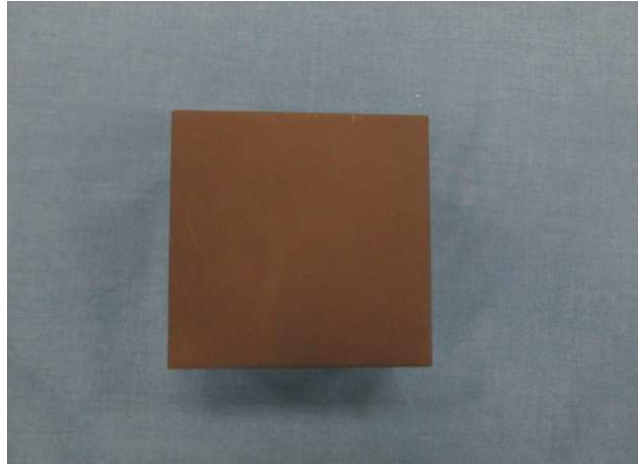
BUG Rating: B0-U3-G0
 IES Classification: Type I
 Longitudinal Classification: Very Short

PICTURES (not to scale)

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Front



CONCLUSION

The results tabulated in this report are representative of the actual test samples submitted for this report only. The data is provided to the client for further evaluation. Compliance to the referenced specification requirements was not determined in this report.

In Charge Of Tests:



Hector Huitron
Associate Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Timothy Quigley
Engineer
Lighting Division