



REPORT

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

Project No. 102171228

Date: February 14, 2017

REPORT NO. 102171228CHI-079

TEST OF ONE LED WALL SCONCE

MODEL NO. ADJUSTABLE WALL
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 Adjustable Wall. The sample was received by Intertek on February 10, 2017, in undamaged condition and one sample was tested as received. The sample designation was AH02102017052539.

DATES OF TESTS: February 14, 2017

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

SUMMARY

Model No.: Adjustable Wall
Description: LED Wall Sconce

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	291.2	304.2
Total Power (W)	9.166	9.171
Luminaire Efficacy (LPW)	31.77	33.17

Criteria	Result
Power Factor	0.969
Current ATHD %	12.64
Correlated Color Temperature (CCT - K)	3083
Color Rendering Index (CRI - Ra)	91.0
Color Rendering Index (CRI - R9)	70.1
DUV	0.001
Chromaticity Coordinate (x)	0.430
Chromaticity Coordinate (y)	0.400
Chromaticity Coordinate (u')	0.248
Chromaticity Coordinate (v')	0.518
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	02/14/17
Omega Newport Thermometer	DPI8-C24	146920	10/07/16	10/07/17	02/14/17
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	02/14/17
Newport Thermohygrometer	iServer	146956	01/06/17	01/06/18	02/14/17
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU	02/14/17
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	02/14/17
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	02/14/17
Elgar AC Power Supply	CW1251M	146112	VBU	VBU	02/14/17
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	02/14/17
Newport Humidity Recorder	iTHX-SD	146382	06/27/16	06/27/17	02/14/17
Yokogawa Power Meter	WT1600	146768	01/10/17	01/10/18	02/14/17
Fluke J/K Temperature Meter	52	146004	01/10/17	01/10/18	02/14/17

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

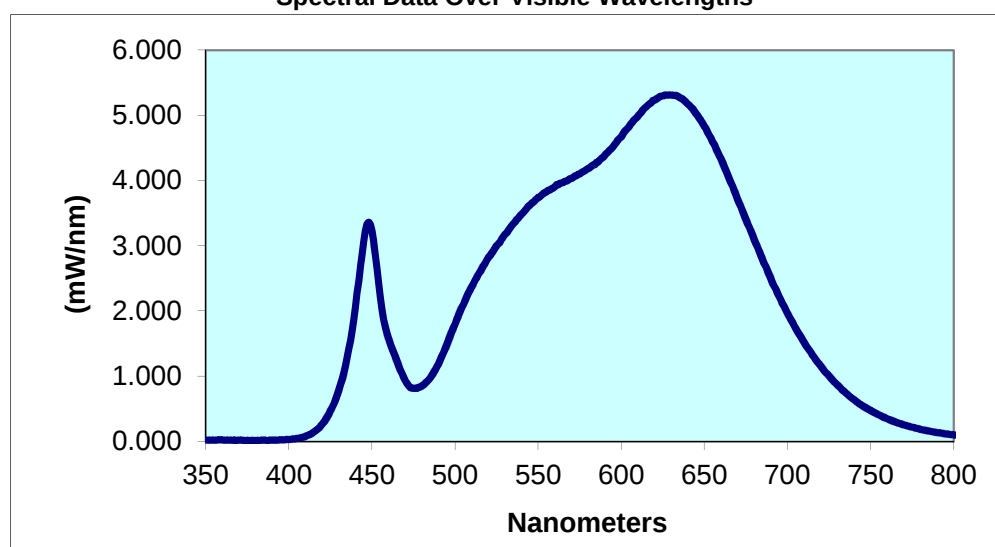
Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH02102017052539	Horizontal	120.0	78.83	9.166	0.969	12.64	291.2	31.77

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')
3083	91.0	70.1	0.001	0.430	0.400	0.248	0.518

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.026	440	2.058	530	3.175	620	5.236	710	1.521
355	0.019	445	3.065	535	3.336	625	5.301	715	1.328
360	0.024	450	3.225	540	3.483	630	5.313	720	1.159
365	0.022	455	2.208	545	3.624	635	5.275	725	1.006
370	0.019	460	1.577	550	3.742	640	5.173	730	0.870
375	0.019	465	1.231	555	3.830	645	5.028	735	0.747
380	0.016	470	0.932	560	3.907	650	4.834	740	0.644
385	0.018	475	0.814	565	3.970	655	4.599	745	0.551
390	0.019	480	0.855	570	4.036	660	4.337	750	0.476
395	0.023	485	0.978	575	4.102	665	4.030	755	0.409
400	0.032	490	1.192	580	4.187	670	3.715	760	0.351
405	0.048	495	1.494	585	4.279	675	3.408	765	0.301
410	0.080	500	1.806	590	4.388	680	3.098	770	0.257
415	0.145	505	2.107	595	4.522	685	2.798	775	0.220
420	0.263	510	2.375	600	4.673	690	2.498	780	0.187
425	0.471	515	2.606	605	4.843	695	2.225		
430	0.788	520	2.816	610	4.991	700	1.969		
435	1.284	525	3.002	615	5.132	705	1.732		

Spectral Data Over Visible Wavelengths



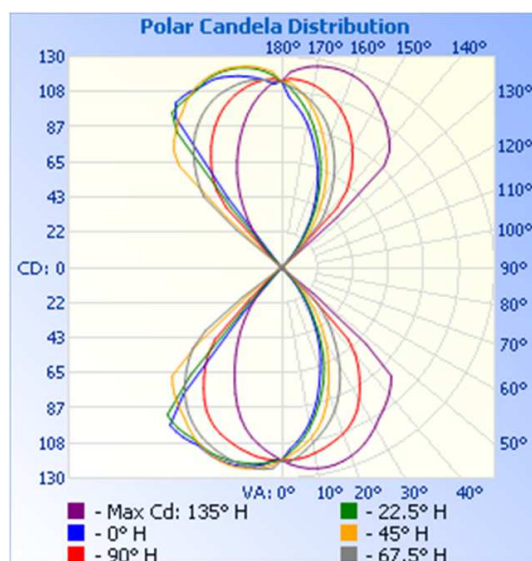
RESULTS OF TEST (cont'd)

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)
AH02102017052539	Horizontal	120.1	78.79	9.171	0.969	304.2	33.17

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	119	119	119	119	119
5	108	110	113	117	118
10	97	100	106	110	116
15	84	87	96	103	113
20	69	74	83	94	109
25	55	60	68	83	103
30	39	43	54	71	94
35	25	28	40	57	83
40	12	15	25	44	70
45	2	2	13	27	28
50	1	1	4	3	1
55	1	1	1	0	0
60	1	1	0	0	0
65	0	0	0	0	0
70	0	0	0	0	0
75	0	0	0	0	0
80	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0
95	0	0	0	0	0
100	0	0	0	0	0
105	0	0	0	0	0
110	0	0	0	0	0
115	0	0	0	0	0
120	1	1	0	0	0
125	1	1	1	0	0
130	1	1	2	1	1
135	2	2	10	3	9
140	10	13	22	37	62
145	23	25	36	51	75
150	36	40	50	64	86
155	50	55	65	76	96
160	64	69	78	87	104
165	77	83	91	97	110
170	90	96	102	104	114
175	100	106	111	110	116
180	115	115	115	115	115



RESULTS OF TEST (cont'd)

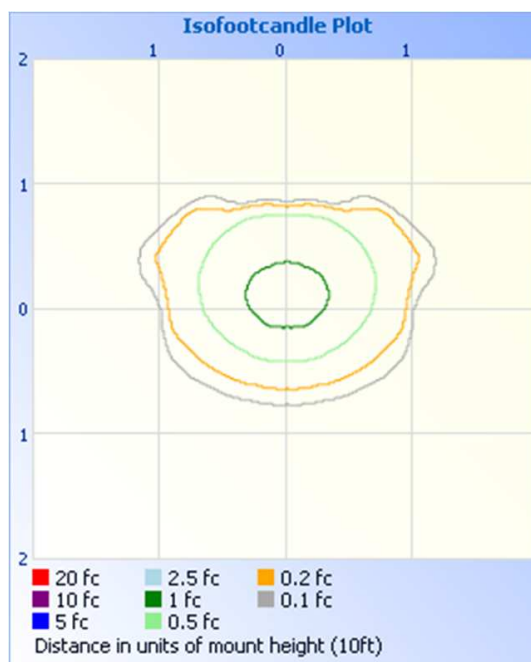
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	85.4	28.1
0-40	131.7	43.3
0-60	158.7	52.2
60-90	0.4	0.1
0-90	159.1	52.3
90-180	145.2	47.7
0-180	304.2	100.0

Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	35.3	11.6
FM	(30-60)	20.0	6.6
FH	(60-80)	0.2	0.1
FVH	(80-90)	0.1	0.0
BL	(0-30)	50.1	16.5
BM	(30-60)	53.3	17.5
BH	(60-80)	0.1	0.0
BVH	(80-90)	< 0.05	0.0
UL	(90-100)	0.1	0.0
UH	(100-180)	145.2	47.7
Total		304.4	100.0

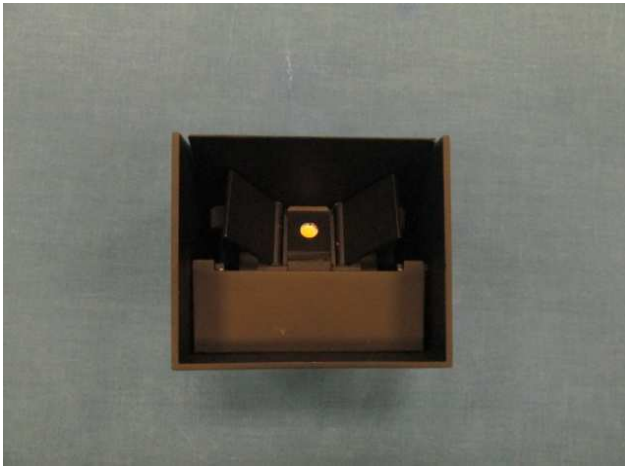
Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	11.1	3.7
10-20	30.8	10.1
20-30	43.5	14.3
30-40	46.4	15.2
40-50	24.5	8.0
50-60	2.5	0.8
60-70	0.2	0.1
70-80	0.1	0.0
80-90	0.1	0.0
90-100	0.1	0.0
100-110	0.1	0.0
110-120	0.2	0.1
120-130	1.0	0.3
130-140	18.5	6.1
140-150	42.8	14.1
150-160	41.9	13.8
160-170	29.8	9.8
170-180	10.8	3.5

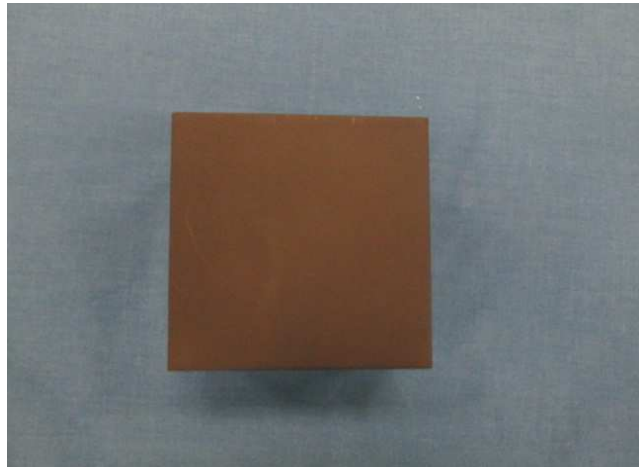
BUG Rating: B0-U3-G0
IES Classification: Type I
Longitudinal Classification: Very Short

PICTURES (not to scale)

Top



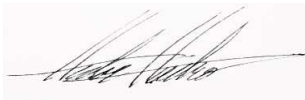
Front



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