



REPORT

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

Project No. G103017649

Date: January 27, 2018

REPORT NO. 103017649CHI-056

TEST OF ONE LED WALL SCONCE

MODEL NO. 700OWASHL93010DBUNV
LED MODEL NO. (CITIZEN) CLU038-1206C4-303H5K2
DRIVER MODEL NO. LTF DS8W200C2040UDMB1

RENDERED TO

GENERATION BRANDS
7400 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 Qu-00779063-2.

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 700OWASHL93010DBUNV. The sample was received by Intertek on January 22, 2018, in undamaged condition and one sample was tested as received. The sample designation was AH01222018114900-056.

DATES OF TESTS: January 25, 2018 through January 27, 2018.

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SUMMARY

Model No.: 700OWASHL93010DBUNV
Description: LED Wall Sconce

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	380.6	371.0
Total Power (W)	8.123	8.138
Luminaire Efficacy (LPW)	46.85	45.59

Criteria	Result
Power Factor	0.959
Current ATHD %	14.15
Correlated Color Temperature (CCT - K)	3027
Color Rendering Index (CRI - Ra)	93.3
Color Rendering Index (CRI - R9)	68.1
DUV	0.000
Chromaticity Coordinate (x)	0.434
Chromaticity Coordinate (y)	0.402
Chromaticity Coordinate (u')	0.250
Chromaticity Coordinate (v')	0.520
BUG Rating	B1-U0-G0
IES Classification	Not Applicable
Longitudinal Classification	Not Applicable

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date	Date Used
Yokogawa Power Meter	WT210	146919	07/10/17	07/10/18	01/27/18
Omega Newport Thermometer	DPI8-C24	146920	10/04/17	10/04/18	01/27/18
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV	01/27/18
Newport Thermohygrometer	iServer	146382	03/22/17	03/22/18	01/27/18
Pacific, AC power supply	118-ACX	CHI0358	VBV	VBV	01/27/18
Labsphere Spectroradiometer	CDS1100	CHI0091	VBV	VBV	01/25/18
3 Meter Sphere	SPR600	CHI0088	VBV	VBV	01/25/18
Elgar AC Power Supply	CW1251	146112	VBV	VBV	01/25/18
Sorenson DC Power Supply	XFR150-8	146846	VBV	VBV	01/25/18
Newport Humidity Recorder	iTHX-SD	146961	07/14/17	07/14/18	01/25/18
Yokogawa Power Meter	WT1600	146768	10/03/17	10/03/18	01/25/18
Extech K Temperature Meter	SD200	CHI0207	04/05/17	04/05/18	01/25/18



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

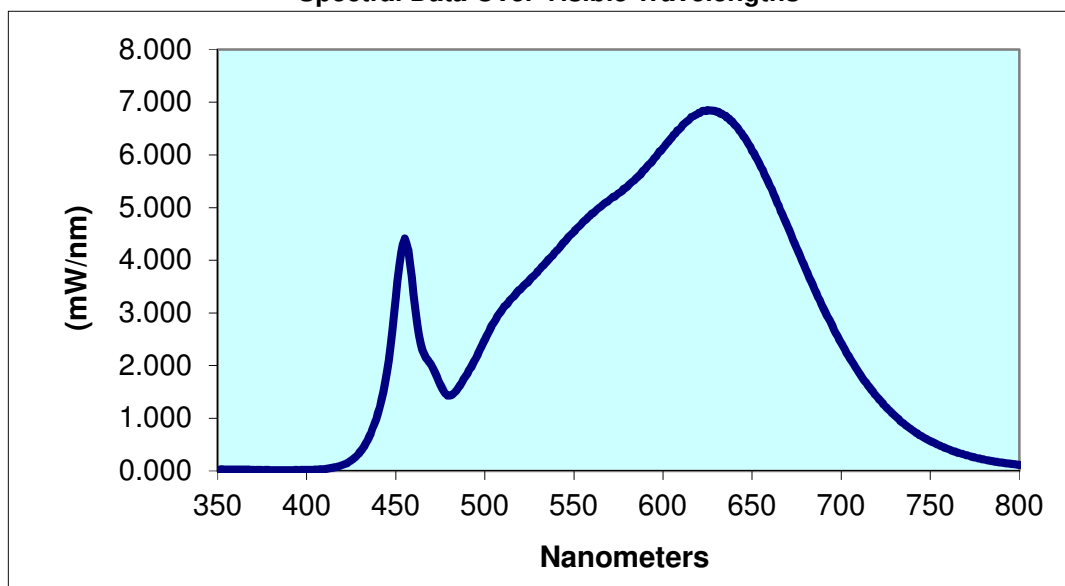
Intertek Sample No.	Base Orientation	Input Voltage {VAC}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH01222018114900-056	UP	120.0	70.56	8.123	0.959	14.15	380.6	46.85

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')
3027	93.3	68.1	0.000	0.434	0.402	0.250	0.520

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.025	440	1.099	530	3.798	620	6.793	710	1.866
355	0.022	445	1.871	535	3.982	625	6.851	715	1.627
360	0.028	450	3.299	540	4.172	630	6.822	720	1.412
365	0.025	455	4.414	545	4.359	635	6.749	725	1.221
370	0.022	460	3.362	550	4.541	640	6.584	730	1.056
375	0.017	465	2.296	555	4.719	645	6.365	735	0.901
380	0.018	470	2.009	560	4.880	650	6.081	740	0.776
385	0.017	475	1.641	565	5.014	655	5.768	745	0.664
390	0.018	480	1.433	570	5.147	660	5.411	750	0.572
395	0.018	485	1.576	575	5.271	665	5.033	755	0.489
400	0.023	490	1.841	580	5.399	670	4.633	760	0.417
405	0.026	495	2.135	585	5.553	675	4.237	765	0.352
410	0.037	500	2.488	590	5.725	680	3.841	770	0.303
415	0.063	505	2.810	595	5.935	685	3.455	775	0.258
420	0.113	510	3.076	600	6.134	690	3.091	780	0.221
425	0.203	515	3.278	605	6.332	695	2.763		
430	0.361	520	3.450	610	6.518	700	2.430		
435	0.642	525	3.617	615	6.677	705	2.139		

Spectral Data Over Visible Wavelengths



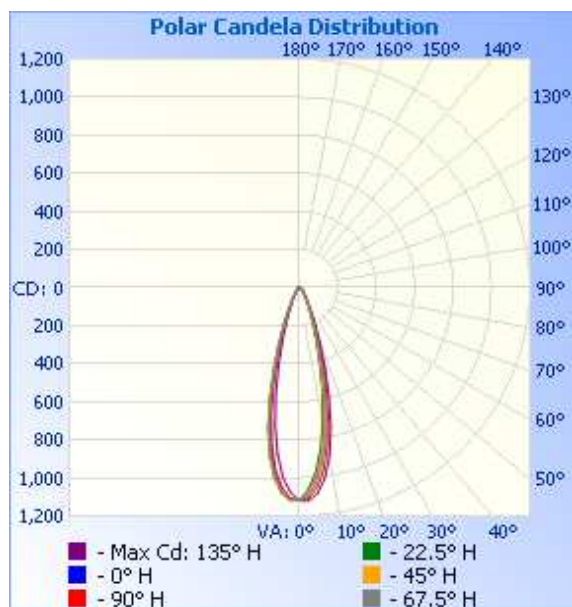
RESULTS OF TEST (cont'd)

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)
AH01222018114900-056	UP	120.0	70.75	8.138	0.958	371.0	45.59

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	25	45	67.5	90
0	1117	1117	1117	1117	1117
5	999	1058	1077	1093	1107
10	737	971	999	1026	1053
15	428	846	881	922	963
20	220	697	733	785	834
25	116	541	573	625	680
30	66	398	425	471	520
35	42	285	305	339	377
40	29	203	215	240	268
45	22	146	153	169	189
50	18	107	111	121	134
55	15	80	82	89	97
60	12	62	63	68	73
65	9	49	50	53	56
70	8	40	40	43	45
75	4	33	34	35	37
80	0	28	29	30	31
85	0	24	25	26	27
90	0	22	22	23	24
95	0	19	20	21	22
100	0	18	18	19	19
105	0	16	17	17	18
110	0	15	15	16	16
115	0	13	14	14	14
120	0	12	12	13	13
125	0	11	11	11	12
130	0	10	10	10	10
135	0	8	9	9	9
140	0	8	8	8	8
145	0	6	5	4	4
150	0	3	3	2	2
155	0	1	1	0	0

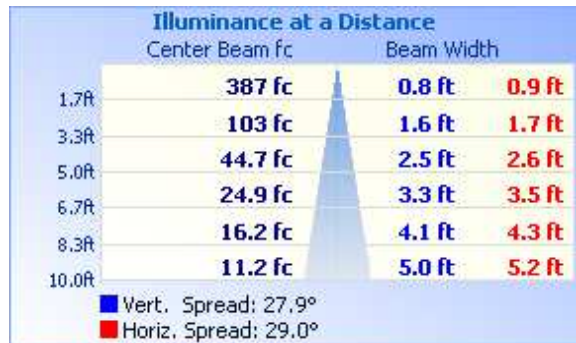


RESULTS OF TEST (cont'd)

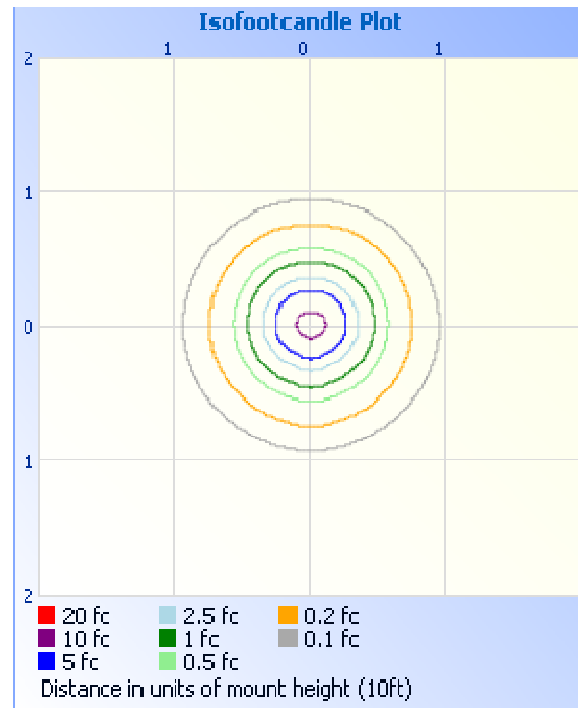
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	295.8	79.7
0-40	325.2	87.7
0-60	357.6	96.4
60-90	13.3	3.6
0-90	371.0	100.0
90-180	0.0	0.0
0-180	371.0	100.0

Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	133.6	35.9
FM	(30-60)	29.2	7.8
FH	(60-80)	6.5	1.8
FVH	(80-90)	0.0	0.0
BL	(0-30)	163.7	43.9
BM	(30-60)	32.7	8.8
BH	(60-80)	6.8	1.8
BVH	(80-90)	0.0	0.0
UL	(90-100)	0.0	0.0
UH	(100-180)	0.0	0.0
Total		372.5	100.0

Zonal Lumens and Percentages at 25°C

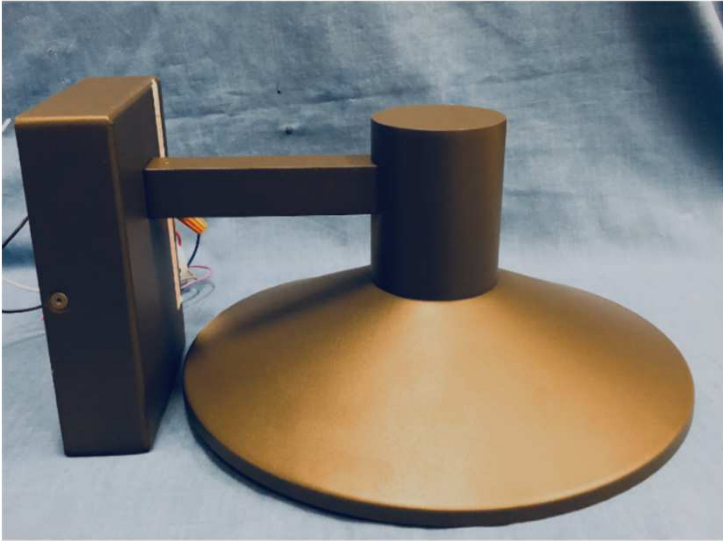
Zone	Lumens	% Luminaire
0-10	91.7	24.7
10-20	138.8	37.4
20-30	65.3	17.6
30-40	29.4	7.9
40-50	18.4	5.0
50-60	14.0	3.8
60-70	10.1	2.7
70-80	3.2	0.9
80-90	0.0	0.0

BUG Rating: B1-U0-G0

IES Classification: Not Applicable

Longitudinal Classification: Not Applicable

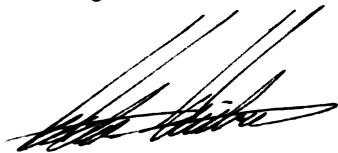
PICTURES (not to scale)



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.

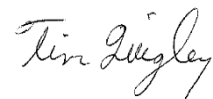
In Charge Of Tests:



Hector Huitron
Associate Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Timothy Quigley
Engineer
Lighting Division