



REPORT

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

Project No. G103017649

Date: February 3, 2018

REPORT NO. 103017649CHI-060

TEST OF ONE LED WALL SCONCE

MODEL NO. 700OWASP93026DHUNVS
LED MODEL NO. (LUMINUS) MP-2016-1100-30-90
DRIVER MODEL NO. LTF DS50W-42-C1190

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 700OWASP93026DHUNVS. The sample was received by Intertek on January 22, 2018, in undamaged condition and one sample was tested as received. The sample designation was AH01222018114900-060.

DATES OF TESTS: January 25, 2018 through February 3, 2018.

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SUMMARY

Model No.: 700OWASP93026DHUNVS
Description: LED Wall Sconce

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	1060	1034
Total Power (W)	37.93	37.82
Luminaire Efficacy (LPW)	27.95	27.34

Criteria	Result
Power Factor	0.993
Current ATHD %	5.45
Correlated Color Temperature (CCT - K)	2989
Color Rendering Index (CRI - Ra)	91.4
Color Rendering Index (CRI - R9)	51.3
DUV	0.000
Chromaticity Coordinate (x)	0.437
Chromaticity Coordinate (y)	0.404
Chromaticity Coordinate (u')	0.251
Chromaticity Coordinate (v')	0.521
BUG Rating	B0-U3-G1
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	02/03/18
Omega Newport Thermometer	DPI8-C24	146920	10/04/17	10/04/18	02/03/18
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV	02/03/18
Newport Thermohygrometer	iServer	146382	03/22/17	03/22/18	02/03/18
Pacific, AC power supply	118-ACX	CHI0358	VBV	VBV	02/03/18
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

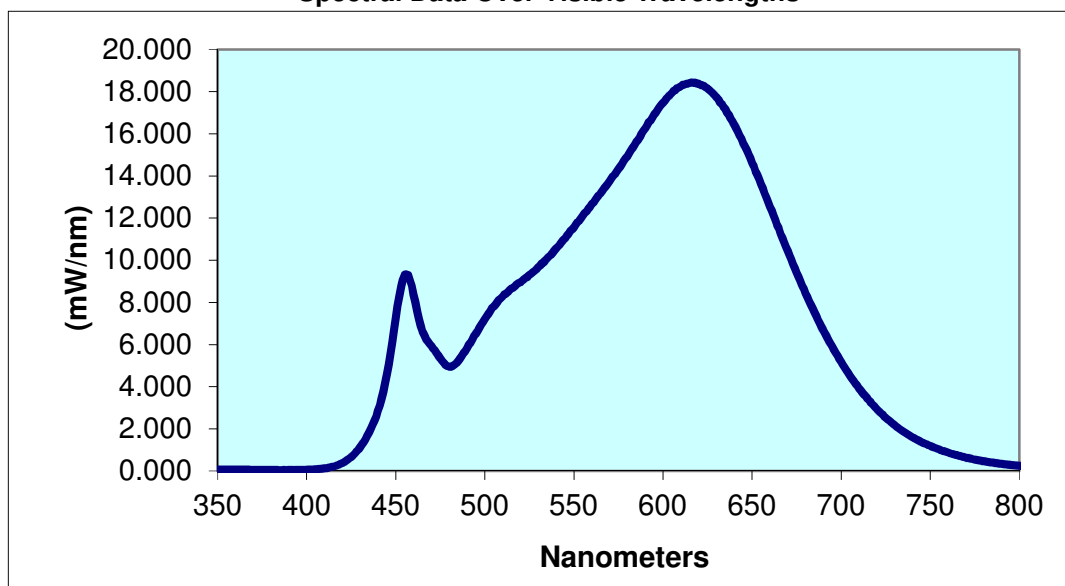
Intertek Sample No.	Base Orientation	Input Voltage {VAC}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH01222018114900-06C	Horizontal	120.0	318.0	37.93	0.993	5.45	1060	27.95

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')
2989	91.4	51.3	0.000	0.437	0.404	0.251	0.521

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.073	440	2.853	530	9.670	620	18.38	710	3.932
355	0.073	445	4.584	535	10.09	625	18.16	715	3.409
360	0.071	450	7.283	540	10.56	630	17.73	720	2.943
365	0.066	455	9.325	545	11.04	635	17.17	725	2.530
370	0.061	460	8.379	550	11.57	640	16.43	730	2.183
375	0.053	465	6.638	555	12.11	645	15.57	735	1.869
380	0.051	470	5.939	560	12.66	650	14.63	740	1.613
385	0.048	475	5.353	565	13.17	655	13.61	745	1.385
390	0.050	480	4.950	570	13.76	660	12.55	750	1.191
395	0.054	485	5.226	575	14.34	665	11.50	755	1.022
400	0.063	490	5.839	580	14.94	670	10.44	760	0.878
405	0.085	495	6.511	585	15.61	675	9.427	765	0.748
410	0.127	500	7.203	590	16.24	680	8.446	770	0.639
415	0.214	505	7.802	595	16.92	685	7.542	775	0.545
420	0.383	510	8.291	600	17.48	690	6.683	780	0.466
425	0.670	515	8.662	605	17.94	695	5.899		
430	1.125	520	8.962	610	18.26	700	5.171		
435	1.816	525	9.299	615	18.41	705	4.525		

Spectral Data Over Visible Wavelengths



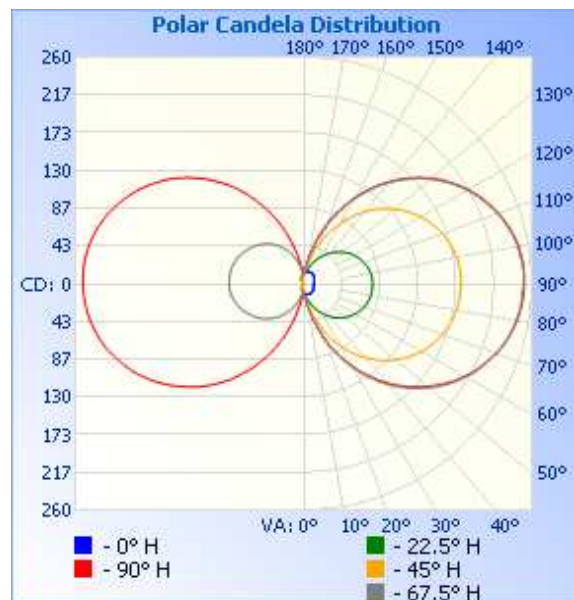
RESULTS OF TEST (cont'd)

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)
AH01222018114900-060	Horizontal	119.9	316.8	37.82	0.996	1034	27.34

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	25	45	67.5	90
0	8	8	8	8	8
5	10	10	10	10	9
10	11	11	12	13	12
15	12	13	16	18	18
20	13	15	21	26	25
25	13	17	27	34	33
30	14	20	34	44	43
35	14	22	42	55	54
40	14	25	49	66	65
45	14	28	57	77	75
50	13	32	65	88	86
55	13	35	73	99	98
60	13	38	82	110	108
65	13	41	89	121	119
70	12	44	97	132	129
75	12	47	104	142	139
80	12	50	111	151	149
85	12	53	118	160	158
90	12	55	124	169	167
95	12	58	130	178	176
100	12	60	136	186	183
105	12	63	141	194	192
110	13	65	146	201	199
115	13	67	151	208	206
120	14	69	155	214	212
125	14	70	159	220	219
130	15	72	163	225	224
135	15	73	166	229	229
140	15	74	169	234	234
145	16	76	171	238	238
150	15	76	173	241	241
155	15	77	175	244	244
160	15	78	177	246	247
165	14	78	178	248	249
170	13	78	178	249	250
175	12	78	179	250	251
180	10	79	180	251	252

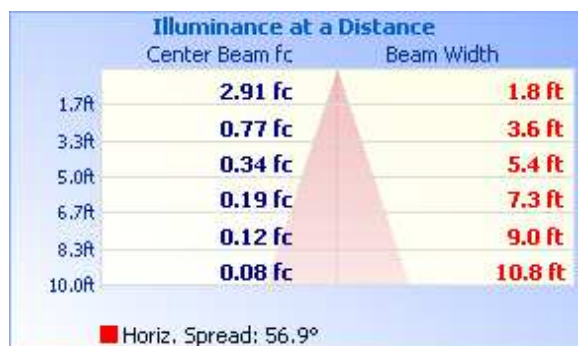


RESULTS OF TEST (cont'd)

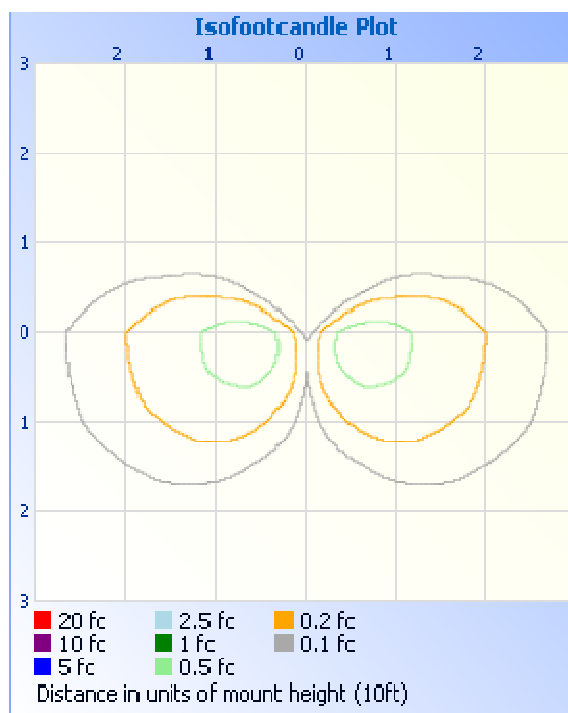
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	26.8	2.6
0-40	63.0	6.1
0-60	196.1	19.0
60-90	318.4	30.8
0-90	514.5	49.8
90-180	519.1	50.2
0-180	1034	100.0

Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	19.1	1.9
FM	(30-60)	127.8	12.4
FH	(60-80)	153.1	14.8
FVH	(80-90)	86.7	8.4
BL	(0-30)	7.6	0.7
BM	(30-60)	41.5	4.0
BH	(60-80)	49.9	4.8
BVH	(80-90)	28.6	2.8
UL	(90-100)	115.8	11.2
UH	(100-180)	403.2	39.0
Total		1033.3	100.0

Zonal Lumens and Percentages at 25°C

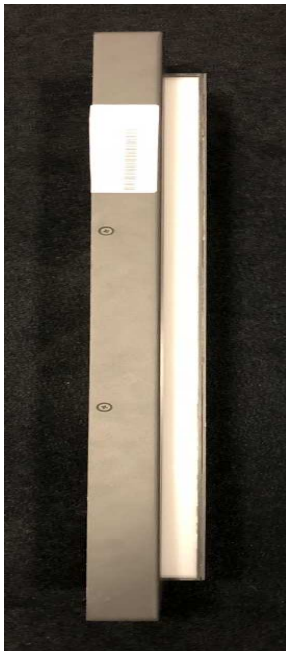
Zone	Lumens	% Luminaire
0-10	1.2	0.1
10-20	6.8	0.7
20-30	18.8	1.8
30-40	36.2	3.5
40-50	56.3	5.4
50-60	76.8	7.4
60-70	94.8	9.2
70-80	108.3	10.5
80-90	115.3	11.2
90-100	115.8	11.2
100-110	108.9	10.5
110-120	95.6	9.2
120-130	77.6	7.5
130-140	56.9	5.5
140-150	36.7	3.6
150-160	19.2	1.9
160-170	7.1	0.7
170-180	1.3	0.1

BUG Rating: B0-U3-G1

IES Classification: Not Applicable

Longitudinal Classification: Not Applicable

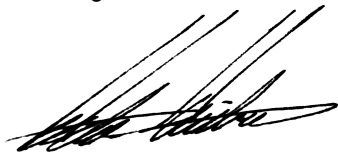
PICTURES (not to scale)



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