



# REPORT

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

Project No. G103017649

Date: February 2, 2018

REPORT NO. 103017649CHI-062

TEST OF ONE LED WALL SCONCE

MODEL NO. 700OWASPW93036DZUNVS  
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 700OWASPW93036DZUNVS. The sample was received by Intertek on January 22, 2018, in undamaged condition and one sample was tested as received. The sample designation was AH01222018114900-062.

DATES OF TESTS: January 26, 2018 through February 2, 2018.

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## SUMMARY

Model No.: 700OWASPW93036DZUNVS  
Description: LED Wall Sconce

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	1508	1435
Total Power (W)	48.08	48.04
Luminaire Efficacy (LPW)	31.36	29.87

Criteria	Result
Power Factor	0.996
Current ATHD %	4.00
Correlated Color Temperature (CCT - K)	2964
Color Rendering Index (CRI - Ra)	92.6
Color Rendering Index (CRI - R9)	64.6
DUV	0.002
Chromaticity Coordinate (x)	0.436
Chromaticity Coordinate (y)	0.398
Chromaticity Coordinate (u')	0.252
Chromaticity Coordinate (v')	0.519
BUG Rating	B0-U4-G2
IES Classification	Type IV
Longitudinal Classification	Very Long

## 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	02/02/18
Omega Newport Thermometer	DPI8-C24	146920	10/04/17	10/04/18	02/02/18
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV	02/02/18
Newport Thermohygrometer	iServer	146382	03/22/17	03/22/18	02/02/18
Pacific, AC power supply	118-ACX	CHI0358	VBV	VBV	02/02/18
Labsphere Spectroradiometer	CDS1100	CHI0091	VBV	VBV	01/26/18
3 Meter Sphere	SPR600	CHI0088	VBV	VBV	01/26/18
Elgar AC Power Supply	CW1251	146112	VBV	VBV	01/26/18
Sorenson DC Power Supply	XFR150-8	146846	VBV	VBV	01/26/18
Newport Humidity Recorder	iTHX-SD	146961	07/14/17	07/14/18	01/26/18
Yokogawa Power Meter	WT1600	146768	10/03/17	10/03/18	01/26/18
Extech K Temperature Meter	SD200	CHI0207	04/05/17	04/05/18	01/26/18



## 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

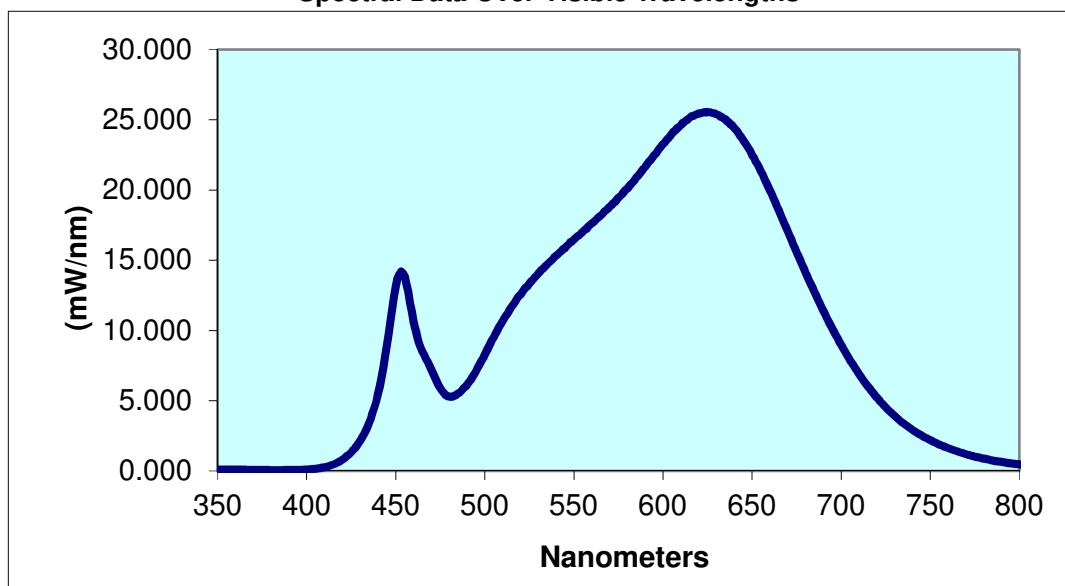
Intertek Sample No.	Base Orientation	Input Voltage {VAC}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH01222018114900-062	Horizontal	120.0	402.4	48.08	0.996	4.00	1508	31.36

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')
2964	92.6	64.6	0.002	0.436	0.398	0.252	0.519

### Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.097	440	5.492	530	14.06	620	25.45	710	6.919
355	0.106	445	8.950	535	14.71	625	25.57	715	6.026
360	0.098	450	13.17	540	15.33	630	25.39	720	5.235
365	0.097	455	13.86	545	15.88	635	25.04	725	4.534
370	0.092	460	10.67	550	16.48	640	24.40	730	3.925
375	0.076	465	8.498	555	17.04	645	23.56	735	3.389
380	0.073	470	7.218	560	17.62	650	22.50	740	2.933
385	0.073	475	5.900	565	18.17	655	21.31	745	2.543
390	0.079	480	5.301	570	18.81	660	19.96	750	2.200
395	0.085	485	5.524	575	19.46	665	18.56	755	1.895
400	0.106	490	6.139	580	20.10	670	17.06	760	1.640
405	0.158	495	7.085	585	20.87	675	15.60	765	1.406
410	0.262	500	8.296	590	21.62	680	14.13	770	1.204
415	0.466	505	9.508	595	22.48	685	12.75	775	1.030
420	0.811	510	10.67	600	23.27	690	11.42	780	0.883
425	1.336	515	11.69	605	23.99	695	10.16		
430	2.143	520	12.55	610	24.61	700	8.973		
435	3.410	525	13.35	615	25.13	705	7.904		

Spectral Data Over Visible Wavelengths



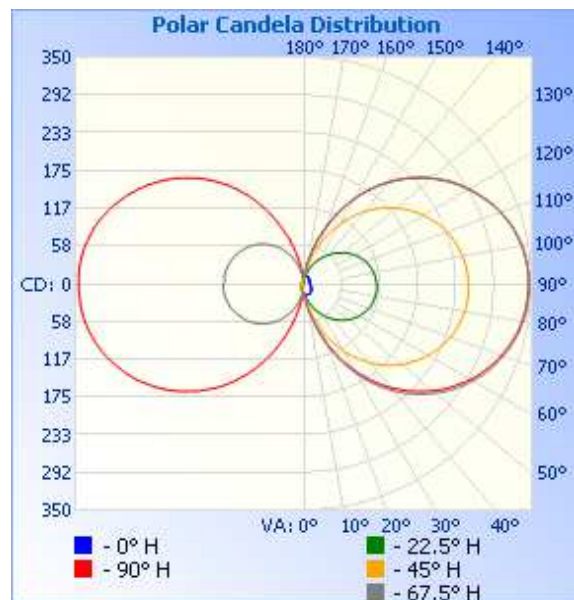
## RESULTS OF TEST (cont'd)

### 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)
AH01222018114900-062	Horizontal	120.1	401.2	48.04	0.997	1435	29.87

### Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	25	45	67.5	90
0	14	14	14	14	14
5	16	16	16	15	14
10	17	17	19	20	19
15	18	20	24	28	26
20	18	22	32	38	37
25	18	26	40	50	49
30	18	29	50	64	62
35	18	33	61	79	76
40	17	37	72	95	92
45	16	42	83	111	107
50	16	46	95	128	123
55	15	51	106	144	138
60	14	55	118	160	154
65	13	60	129	174	169
70	12	64	139	189	183
75	11	68	150	203	197
80	10	72	160	216	210
85	10	76	169	230	223
90	10	80	178	241	235
95	10	84	186	252	246
100	10	87	194	263	258
105	10	90	202	274	268
110	10	94	209	283	278
115	10	96	215	292	287
120	11	99	221	300	296
125	11	102	227	308	304
130	11	104	232	315	311
135	12	106	236	321	318
140	12	108	240	326	324
145	12	109	244	331	329
150	12	110	246	335	333
155	12	111	248	339	337
160	12	112	251	342	340
165	11	112	252	344	343
170	11	113	253	345	344
175	10	113	254	346	345
180	8	112	253	346	345

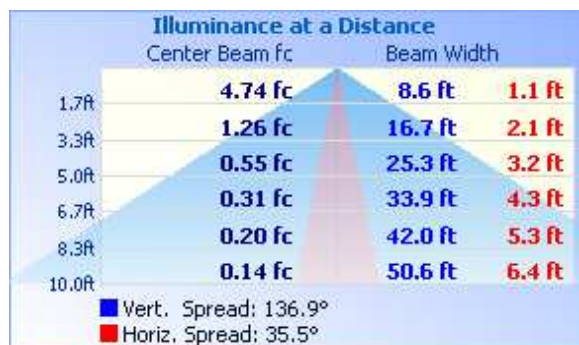


## RESULTS OF TEST (cont'd)

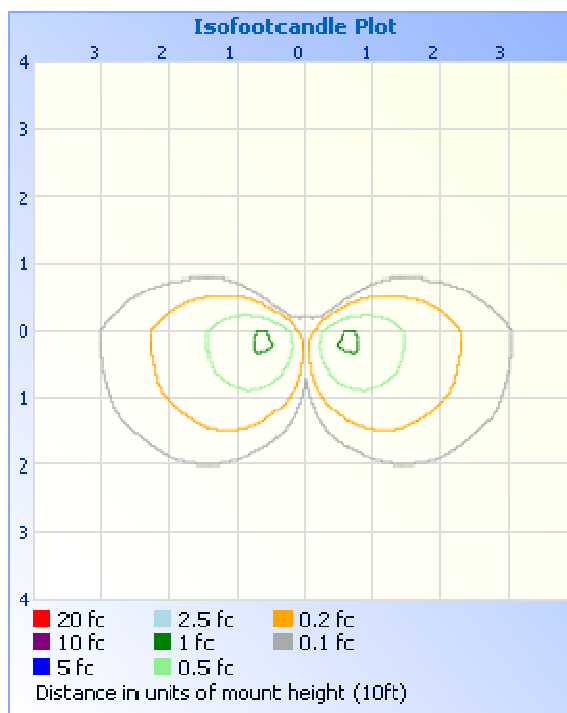
### Illumination Plots

Mounting Height: 10 ft.

#### Illuminance - Cone of Light



#### Isoillumination Plot



#### Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	39.4	2.7
0-40	91.9	6.4
0-60	282.2	19.7
60-90	448.2	31.2
0-90	730.4	50.9
90-180	704.8	49.1
0-180	1435	100.0

#### Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	27.7	1.9
FM	(30-60)	181.4	12.6
FH	(60-80)	214.7	15.0
FVH	(80-90)	121.0	8.4
BL	(0-30)	11.6	0.8
BM	(30-60)	61.3	4.3
BH	(60-80)	71.8	5.0
BVH	(80-90)	40.7	2.8
UL	(90-100)	160.8	11.2
UH	(100-180)	543.9	37.9
Total		1434.9	100.0

#### Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	1.8	0.1
10-20	10.0	0.7
20-30	27.5	1.9
30-40	52.5	3.7
40-50	80.9	5.6
50-60	109.4	7.6
60-70	134.2	9.4
70-80	152.4	10.6
80-90	161.7	11.3
90-100	160.8	11.2
100-110	150.4	10.5
110-120	131.0	9.1
120-130	105.3	7.3
130-140	76.5	5.3
140-150	48.0	3.3
150-160	23.9	1.7
160-170	7.8	0.5
170-180	1.2	0.1

BUG Rating: B0-U4-G2

IES Classification: Type IV

Longitudinal Classification: Very Long

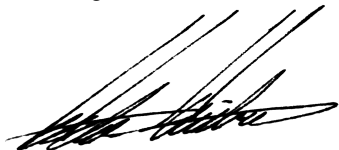
PICTURES (not to scale)



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