



# REPORT

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

Project No. G103017649

Date: February 2, 2018

REPORT NO. 103017649CHI-061

TEST OF ONE LED WALL SCONCE

MODEL NO. 700OWASPW93015DZUNVS  
LED MODEL NO. (LUMINUS) MP-2016-1100-30-90  
DRIVER MODEL NO. LTF DS30W700C2042LI2D010-0000

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 700OWASPW93015DZUNVS. The sample was received by Intertek on January 22, 2018, in undamaged condition and one sample was tested as received. The sample designation was AH01222018114900-061.

DATES OF TESTS: January 26, 2017 through February 2, 2018.

---

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.: 700OWASPW93015DZUNVS  
Description: LED Wall Sconce

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	648.3	628.7
Total Power (W)	22.17	21.94
Luminaire Efficacy (LPW)	29.24	28.66

Criteria	Result
Power Factor	0.991
Current ATHD %	7.39
Correlated Color Temperature (CCT - K)	3004
Color Rendering Index (CRI - Ra)	91.1
Color Rendering Index (CRI - R9)	50.3
DUV	0.000
Chromaticity Coordinate (x)	0.436
Chromaticity Coordinate (y)	0.403
Chromaticity Coordinate (u')	0.250
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	02/02/18
Omega Newport Thermometer	DPI8-C24	146920	10/04/17	10/04/18	02/02/18
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	02/02/18
Newport Thermohygrometer	iServer	146382	03/22/17	03/22/18	02/02/18
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU	02/02/18
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	01/26/17
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	01/26/17
Elgar AC Power Supply	CW1251	146112	VBU	VBU	01/26/17
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	01/26/17
Newport Humidity Recorder	iTHX-SD	146961	07/14/17	07/14/18	01/26/17
Yokogawa Power Meter	WT1600	146768	10/03/17	10/03/18	01/26/17
Extech K Temperature Meter	SD200	CHI0207	04/05/17	04/05/18	01/26/17



## 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

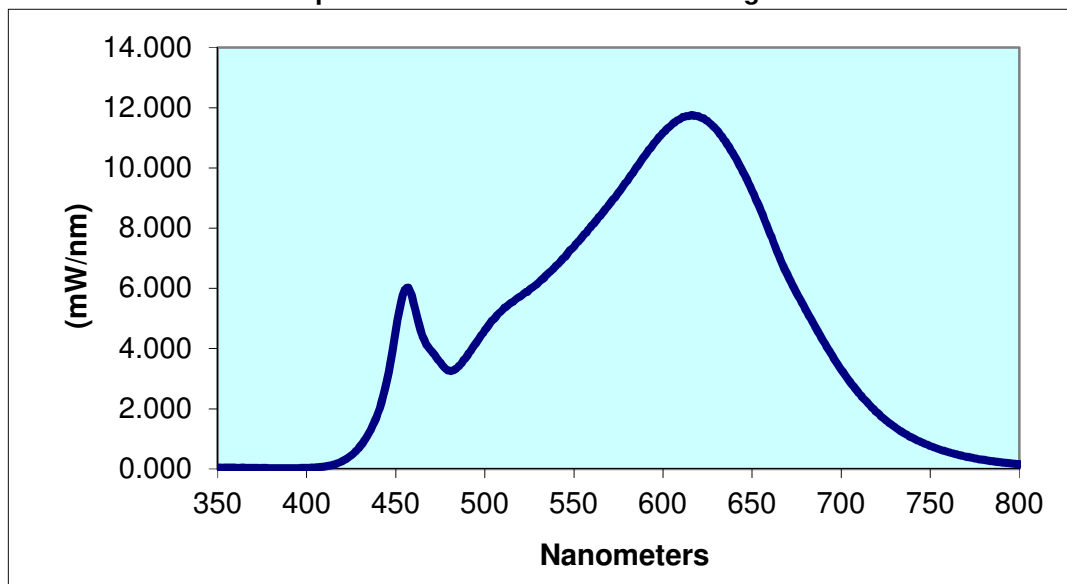
Intertek Sample No.	Base Orientation	Input Voltage {VAC}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH01222018114900-061	Horizontal	120.0	186.4	22.17	0.991	7.39	648.3	29.24

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')
3004	91.1	50.3	0.000	0.436	0.403	0.250	0.521

### Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.046	440	1.858	530	6.186	620	11.72	710	2.520
355	0.042	445	2.930	535	6.461	625	11.56	715	2.186
360	0.041	450	4.612	540	6.754	630	11.27	720	1.885
365	0.042	455	5.955	545	7.045	635	10.89	725	1.626
370	0.038	460	5.527	550	7.388	640	10.41	730	1.398
375	0.039	465	4.423	555	7.729	645	9.859	735	1.198
380	0.032	470	3.920	560	8.089	650	9.244	740	1.034
385	0.031	475	3.545	565	8.421	655	8.573	745	0.892
390	0.028	480	3.266	570	8.796	660	7.820	750	0.766
395	0.032	485	3.394	575	9.186	665	7.097	755	0.656
400	0.039	490	3.754	580	9.579	670	6.425	760	0.565
405	0.054	495	4.172	585	10.01	675	5.854	765	0.482
410	0.085	500	4.606	590	10.42	680	5.305	770	0.412
415	0.146	505	4.975	595	10.83	685	4.776	775	0.353
420	0.259	510	5.287	600	11.17	690	4.251	780	0.303
425	0.450	515	5.535	605	11.45	695	3.768		
430	0.753	520	5.732	610	11.64	700	3.307		
435	1.201	525	5.947	615	11.74	705	2.898		

Spectral Data Over Visible Wavelengths



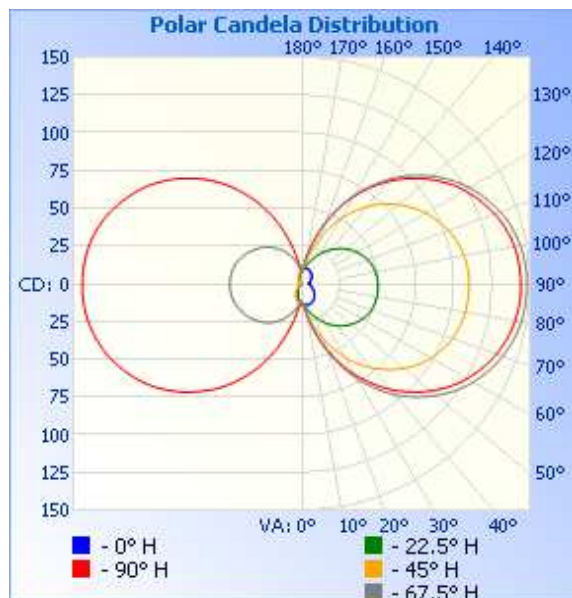
## RESULTS OF TEST (cont'd)

### 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)
AH01222018114900-061	Horizontal	120.0	184.6	21.94	0.991	628.7	28.66

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

Angle	0	25	45	67.5	90
0	12	12	12	12	12
5	14	13	13	13	13
10	14	14	15	15	14
15	14	15	17	18	17
20	15	16	20	22	22
25	14	18	23	28	26
30	14	19	28	33	32
35	14	21	32	40	38
40	13	22	37	46	44
45	12	24	41	53	50
50	11	26	46	60	57
55	10	28	51	66	63
60	9	30	56	73	69
65	8	31	60	79	75
70	7	33	65	85	81
75	6	35	69	91	86
80	6	36	73	96	92
85	5	38	77	101	97
90	5	39	80	106	102
95	5	41	84	111	106
100	5	42	87	115	111
105	6	43	90	119	115
110	6	44	93	123	119
115	7	46	96	127	122
120	8	46	98	130	126
125	8	47	100	133	129
130	9	48	102	136	132
135	9	49	104	138	134
140	10	49	106	141	136
145	10	50	107	143	138
150	10	50	108	144	140
155	10	50	109	146	141
160	11	50	109	147	142
165	10	50	110	147	143
170	10	50	110	148	144
175	9	50	110	148	144
180	8	50	110	148	144

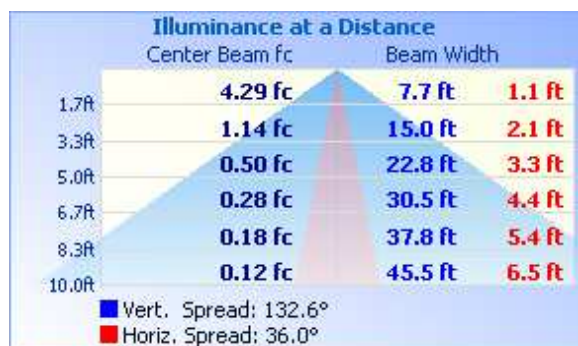


## RESULTS OF TEST (cont'd)

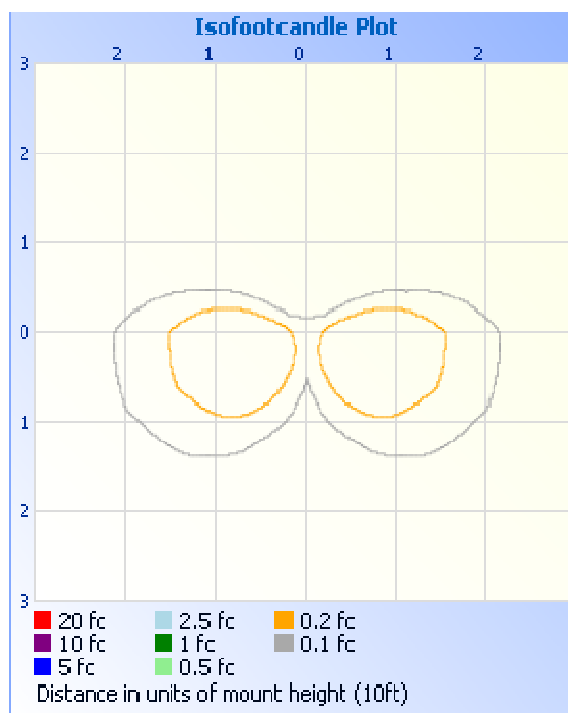
### Illumination Plots

Mounting Height: 10 ft.

#### Illuminance - Cone of Light



#### Isoillumination Plot



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

Zone	Lumens	% Luminaire
0-30	21.3	3.4
0-40	46.0	7.3
0-60	130.1	20.7
60-90	191.6	30.5
0-90	321.8	51.2
90-180	307.0	48.8
0-180	628.7	100.0

#### Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	14.3	2.3
FM	(30-60)	82.0	13.0
FH	(60-80)	93.8	14.9
FVH	(80-90)	52.1	8.3
BL	(0-30)	7.0	1.1
BM	(30-60)	26.8	4.3
BH	(60-80)	29.3	4.7
BVH	(80-90)	16.4	2.6
UL	(90-100)	68.4	10.9
UH	(100-180)	238.5	37.9
Total		628.6	100.0

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

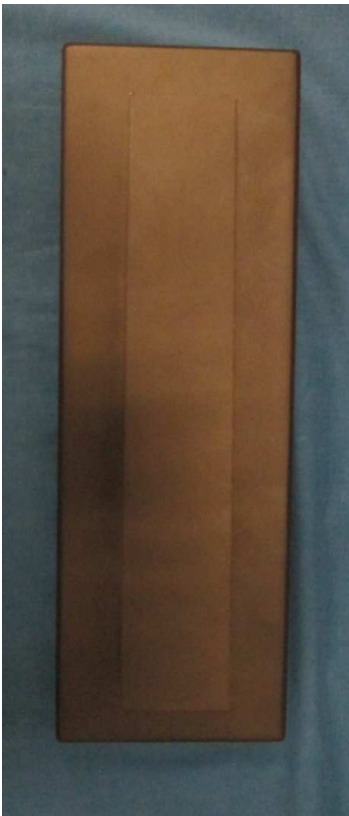
Zone	Lumens	% Luminaire
0-10	1.4	0.2
10-20	6.0	0.9
20-30	14.0	2.2
30-40	24.6	3.9
40-50	36.3	5.8
50-60	47.9	7.6
60-70	57.9	9.2
70-80	65.1	10.4
80-90	68.6	10.9
90-100	68.4	10.9
100-110	64.3	10.2
110-120	56.3	9.0
120-130	45.7	7.3
130-140	33.6	5.3
140-150	21.7	3.5
150-160	11.6	1.8
160-170	4.5	0.7
170-180	0.9	0.1

BUG Rating: B0-U3-G1

IES Classification: Not Applicable

Longitudinal Classification: Not Applicable

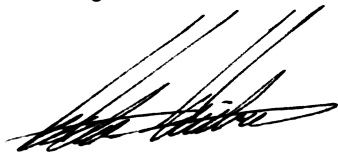
PICTURES (not to scale)



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