



# REPORT

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

Project No. G103017649

Date: February 8, 2018

REPORT NO. 103017649CHI-059

TEST OF ONE LED WALL SCONCE

MODEL NO. 700OWASP9308DZUNVS

LED MODEL NO. (LUMINUS) MP-2016-1100-30-90

DRIVER MODEL NO. LTF DS20W700C1528LI2D010-0000

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 700OWASP9308DZUNVS. The sample was received by Intertek on January 22, 2018, in undamaged condition and one sample was tested as received. The sample designation was AH01222018114900-059.

DATES OF TESTS: February 1, 2018 through February 8, 2018.

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## SUMMARY

Model No.: 700OWASP9308DZUNVS  
Description: LED Wall Sconce

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	390.5	378.7
Total Power (W)	15.09	14.98
Luminaire Efficacy (LPW)	25.88	25.28

Criteria	Result
Power Factor	0.982
Current ATHD %	10.88
Correlated Color Temperature (CCT - K)	2940
Color Rendering Index (CRI - Ra)	91.1
Color Rendering Index (CRI - R9)	50.4
DUV	0.002
Chromaticity Coordinate (x)	0.438
Chromaticity Coordinate (y)	0.399
Chromaticity Coordinate (u')	0.253
Chromaticity Coordinate (v')	0.520
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	02/01/18
Omega Newport Thermometer	DPI8-C24	146920	10/04/17	10/04/18	02/01/18
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV	02/01/18
Newport Thermohygrometer	iServer	146382	03/22/17	03/22/18	02/01/18
Pacific, AC power supply	118-ACX	CHI0358	VBV	VBV	02/01/18
Labsphere 2M Sphere & Spectroradiometer	CDS1100	146137	VBV	VBV	02/08/18
Elgar AC Power Supply	CW1251M	146113	VBV	VBV	02/08/18
Sorenson DC Power Supply	XFR150-8	146847	VBV	VBV	02/08/18
Yokogawa Power Analyzer	WT1600	146767	04/05/17	04/05/18	02/08/18
Omega Temperature	MDSi8	146873	07/20/17	07/20/18	02/08/18
Newport Thermohygrometer	iTHX-M	146382	07/14/17	07/14/18	02/08/18



## 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

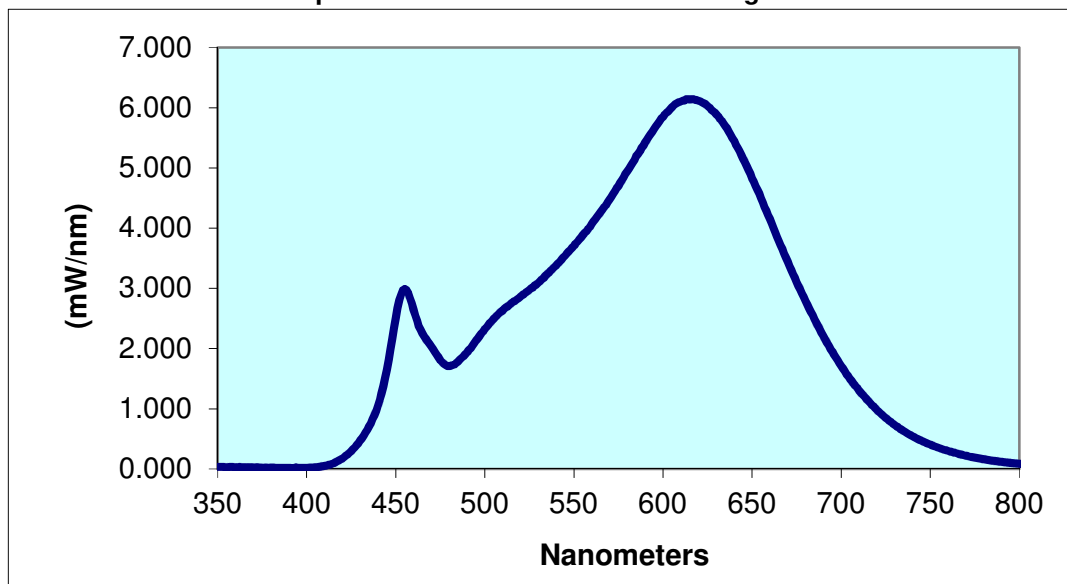
Intertek Sample No.	Base Orientation	Input Voltage {VAC}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH01222018114900-059	Horizontal	120.0	128.0	15.09	0.982	10.88	390.5	25.88

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')
2940	91.1	50.4	0.002	0.438	0.399	0.253	0.520

### Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.033	440	1.051	530	3.093	620	6.115	710	1.308
355	0.029	445	1.648	535	3.236	625	6.033	715	1.137
360	0.031	450	2.515	540	3.376	630	5.889	720	0.984
365	0.029	455	2.993	545	3.543	635	5.698	725	0.851
370	0.026	460	2.648	550	3.711	640	5.444	730	0.733
375	0.020	465	2.252	555	3.884	645	5.153	735	0.632
380	0.023	470	2.035	560	4.069	650	4.830	740	0.545
385	0.018	475	1.808	565	4.265	655	4.501	745	0.470
390	0.019	480	1.712	570	4.475	660	4.155	750	0.405
395	0.020	485	1.786	575	4.702	665	3.785	755	0.349
400	0.021	490	1.937	580	4.944	670	3.443	760	0.302
405	0.028	495	2.127	585	5.196	675	3.108	765	0.259
410	0.051	500	2.324	590	5.428	680	2.792	770	0.221
415	0.097	505	2.499	595	5.647	685	2.494	775	0.189
420	0.176	510	2.630	600	5.847	690	2.209	780	0.161
425	0.299	515	2.757	605	6.008	695	1.952		
430	0.471	520	2.864	610	6.108	700	1.712		
435	0.705	525	2.977	615	6.137	705	1.500		

Spectral Data Over Visible Wavelengths



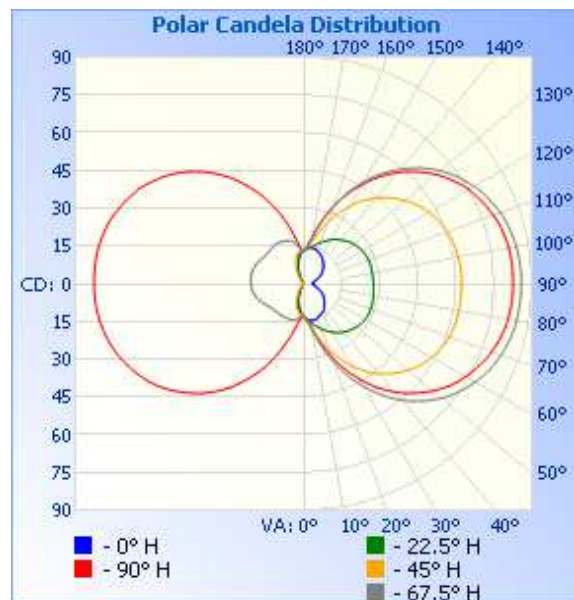
## RESULTS OF TEST (cont'd)

### 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)
AH01222018114900-059	Horizontal	119.9	127.2	14.98	0.982	378.7	25.28

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

Angle	0	25	45	67.5	90
0	13	13	13	13	13
5	14	14	14	13	13
10	15	14	15	14	14
15	15	15	16	16	16
20	15	16	18	19	18
25	14	16	20	21	20
30	14	17	22	25	23
35	14	18	24	28	26
40	13	19	27	32	30
45	12	20	30	36	33
50	11	20	32	40	37
55	10	21	35	44	40
60	9	22	38	47	44
65	8	23	40	51	47
70	6	24	42	54	50
75	5	24	45	57	53
80	4	25	47	60	56
85	4	26	49	63	59
90	4	26	50	66	62
95	4	26	52	68	64
100	4	27	54	71	66
105	5	27	55	73	68
110	6	28	56	75	71
115	7	28	57	77	72
120	8	28	58	78	74
125	9	28	59	80	75
130	10	28	60	81	77
135	11	28	61	82	78
140	12	28	61	83	79
145	13	28	62	84	80
150	13	28	62	84	81
155	14	28	62	85	81
160	14	28	62	85	82
165	15	28	62	86	82
170	15	28	62	86	82
175	14	28	62	86	83
180	13	28	62	86	83

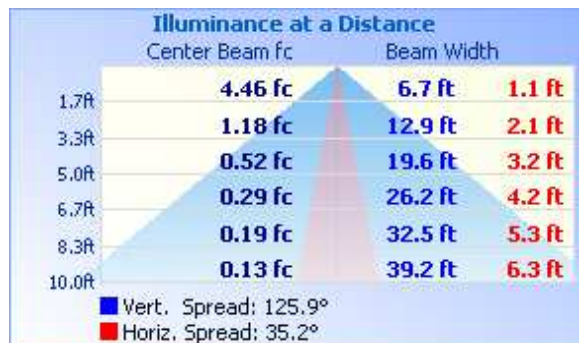


## RESULTS OF TEST (cont'd)

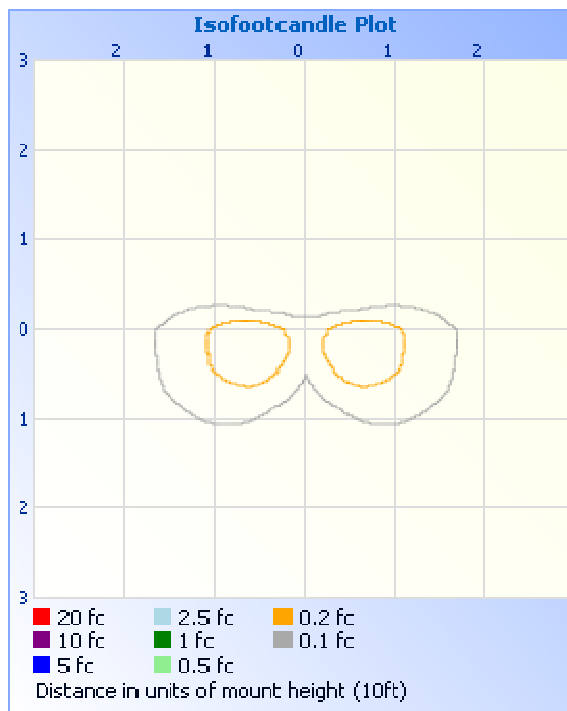
### Illumination Plots

Mounting Height: 10 ft.

#### Illuminance - Cone of Light



#### Isoillumination Plot



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

Zone	Lumens	% Luminaire
0-30	15.6	4.1
0-40	31.0	8.2
0-60	81.0	21.4
60-90	108.3	28.6
0-90	189.4	50.0
90-180	189.3	50.0
0-180	378.7	100.0

#### Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	10.6	2.8
FM	(30-60)	51.6	13.6
FH	(60-80)	54.9	14.5
FVH	(80-90)	29.8	7.9
BL	(0-30)	4.9	1.3
BM	(30-60)	13.8	3.7
BH	(60-80)	15.0	4.0
BVH	(80-90)	8.5	2.3
UL	(90-100)	38.4	10.1
UH	(100-180)	150.9	39.9
Total		378.4	100.0

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

Zone	Lumens	% Luminaire
0-10	1.3	0.3
10-20	4.7	1.2
20-30	9.5	2.5
30-40	15.4	4.1
40-50	21.9	5.8
50-60	28.1	7.4
60-70	33.2	8.8
70-80	36.7	9.7
80-90	38.3	10.1
90-100	38.4	10.1
100-110	36.7	9.7
110-120	33.2	8.8
120-130	28.1	7.4
130-140	21.8	5.8
140-150	15.4	4.1
150-160	9.6	2.5
160-170	4.8	1.3
170-180	1.3	0.4

BUG Rating: B0-U3-G1

IES Classification: Not Applicable

Longitudinal Classification: Not Applicable

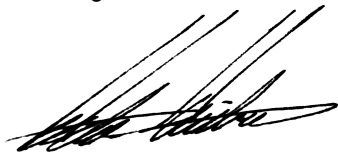
PICTURES (not to scale)



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