



REPORT

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

Project No. G102171228

Date: August 23, 2016

REPORT NO. 102171228CHI-035

TEST OF ONE LED WALL-MOUNT LUMINAIRE

MODEL NO. 700OWCOS12WC830UNV
LED MODEL NO. (LUMINUS) MP-3030-1100-30-90
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-00718855-0.

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 700OWCOS12WC830UNV. The sample was received by Intertek on August 18, 2016, in undamaged condition and one sample was tested as received. The sample designation was AH08182016094438-035.

DATES OF TESTS: August 22, 2016 through August 23, 2016.

SUMMARY

Model No.:	700OWCOS12WC830UNV
Description:	LED Wall-Mount Luminaire

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	1047	1034
Total Power (W)	17.07	17.12
Luminaire Efficacy (LPW)	61.34	60.40

Criteria	Result
Power Factor	0.971
Current ATHD %	11.28
Correlated Color Temperature (CCT - K)	3989
Color Rendering Index (CRI - Ra)	84.0
Color Rendering Index (CRI - R9)	17.4
DUV	0.001
Chromaticity Coordinate (x)	0.381
Chromaticity Coordinate (y)	0.379
Chromaticity Coordinate (u')	0.225
Chromaticity Coordinate (v')	0.503
BUG Rating	B0-U3-G1
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	07/11/16	07/11/17	08/23/16
Omega Newport Thermometer	DPI8-C24	146920	10/09/15	10/09/16	08/23/16
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	08/23/16
Newport Thermohygrometer	iServer	146956	01/04/16	01/04/17	08/23/16
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU	08/23/16
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	08/22/16
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	08/22/16
Elgar AC Power Supply	CW1251M	146112	VBU	VBU	08/22/16
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	08/22/16
Newport Humidity Recorder	iTHX-SD	146382	06/27/16	06/27/17	08/22/16
Yokogawa Power Meter	WT1600	146768	01/14/16	01/14/17	08/22/16
Omega Temperature Meter	MDSi8	146139	03/21/16	03/21/17	08/22/16



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

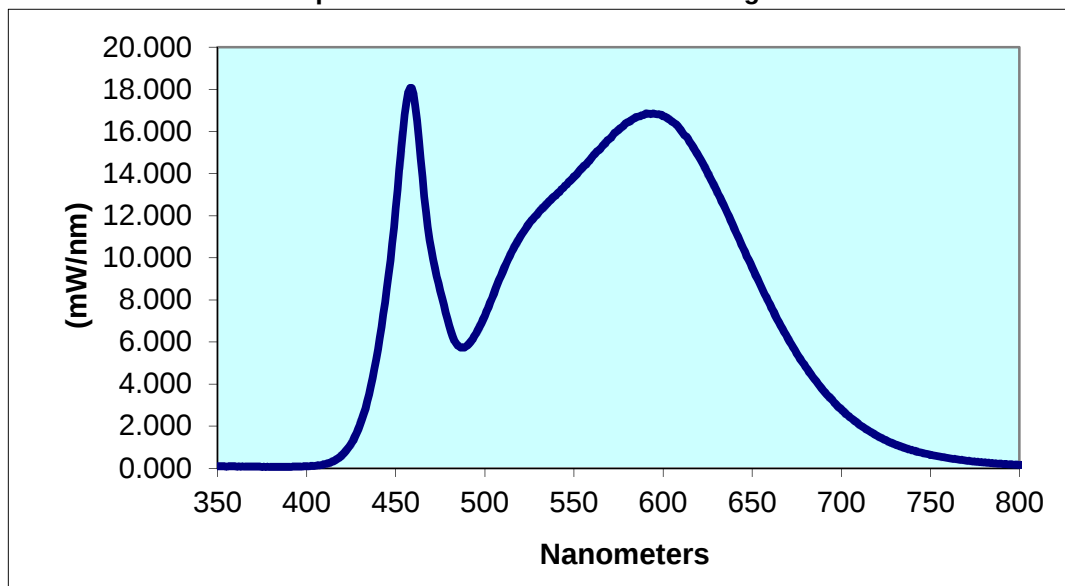
Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH08182016094438-035	Horizontal	120.0	146.4	17.07	0.971	11.28	1047	61.34

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')
3989	84.0	17.4	0.001	0.381	0.379	0.225	0.503

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.091	440	5.649	530	12.13	620	14.82	710	2.083
355	0.078	445	8.516	535	12.58	625	14.04	715	1.799
360	0.084	450	12.35	540	12.97	630	13.20	720	1.547
365	0.080	455	16.80	545	13.43	635	12.31	725	1.332
370	0.071	460	17.76	550	13.85	640	11.39	730	1.140
375	0.065	465	13.83	555	14.30	645	10.46	735	0.983
380	0.063	470	10.34	560	14.76	650	9.536	740	0.849
385	0.061	475	8.431	565	15.21	655	8.640	745	0.737
390	0.061	480	6.797	570	15.66	660	7.781	750	0.639
395	0.072	485	5.819	575	16.07	665	6.933	755	0.556
400	0.086	490	5.827	580	16.43	670	6.182	760	0.484
405	0.116	495	6.400	585	16.70	675	5.461	765	0.418
410	0.187	500	7.253	590	16.83	680	4.812	770	0.361
415	0.333	505	8.303	595	16.84	685	4.233	775	0.312
420	0.628	510	9.325	600	16.73	690	3.695	780	0.271
425	1.170	515	10.26	605	16.48	695	3.228		
430	2.065	520	11.02	610	16.07	700	2.791		
435	3.513	525	11.64	615	15.49	705	2.418		

Spectral Data Over Visible Wavelengths



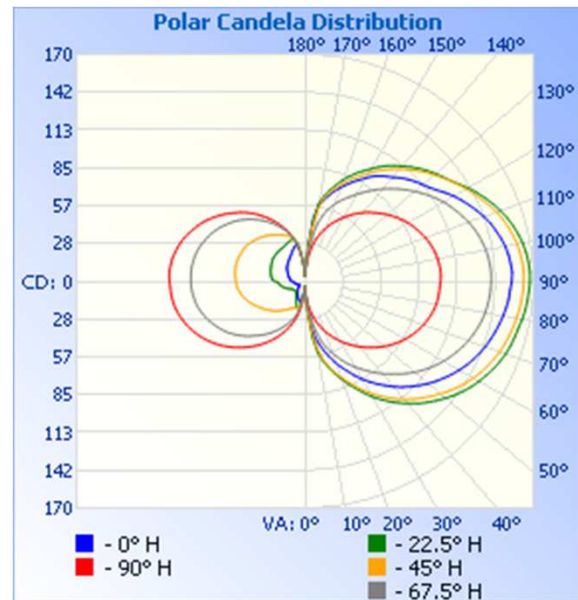
RESULTS OF TEST (cont'd)

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)
AH08182016094438-035	Horizontal	120.1	147.8	17.12	0.965	1034	60.40

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	4	4	4	4	4
5	21	26	23	15	13
10	42	54	50	31	22
15	53	67	65	46	31
20	64	77	75	56	38
25	74	88	86	65	45
30	84	100	96	74	51
35	94	110	106	82	58
40	103	120	115	90	64
45	111	128	123	98	70
50	119	136	131	106	76
55	126	144	139	113	81
60	133	150	145	119	86
65	138	155	150	125	91
70	143	159	154	130	94
75	147	162	157	133	97
80	150	164	160	136	99
85	152	166	162	138	100
90	154	168	163	139	101
95	154	167	163	138	101
100	151	165	160	137	100
105	147	161	157	134	98
110	142	155	152	130	96
115	135	148	145	125	92
120	128	140	139	119	88
125	119	132	132	112	83
130	113	126	125	105	78
135	108	120	117	98	73
140	102	113	110	90	67
145	97	106	102	83	61
150	89	97	93	75	55
155	82	89	85	68	48
160	74	80	77	61	41
165	66	71	68	51	33
170	57	60	55	37	24
175	28	25	24	17	14
180	4	4	4	4	4



RESULTS OF TEST (cont'd)

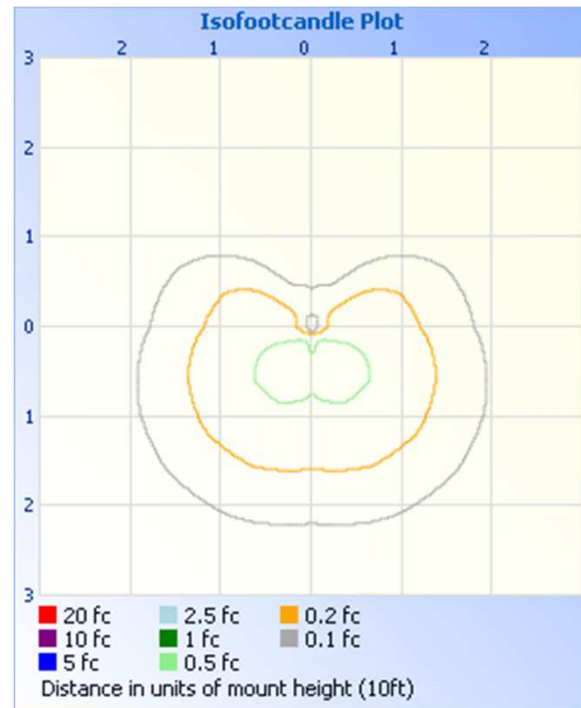
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	36.5	3.5
0-40	75.4	7.3
0-60	205.2	19.8
60-90	300.7	29.1
0-90	505.9	48.9
90-180	527.9	51.1
0-180	1034	100.0

Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	26.6	2.6
FM	(30-60)	128.1	12.4
FH	(60-80)	143.3	13.9
FVH	(80-90)	80.7	7.8
BL	(0-30)	9.8	0.9
BM	(30-60)	40.5	3.9
BH	(60-80)	48.2	4.7
BVH	(80-90)	28.5	2.8
UL	(90-100)	110.7	10.7
UH	(100-180)	417.1	40.4
Total		1033.5	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	1.9	0.2
10-20	11.1	1.1
20-30	23.5	2.3
30-40	38.9	3.8
40-50	56.1	5.4
50-60	73.7	7.1
60-70	89.6	8.7
70-80	101.9	9.9
80-90	109.1	10.6
90-100	110.7	10.7
100-110	104.6	10.1
110-120	92.3	8.9
120-130	76.4	7.4
130-140	59.4	5.7
140-150	42.3	4.1
150-160	26.6	2.6
160-170	13.2	1.3
170-180	2.4	0.2

BUG Rating: B0-U3-G1

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:



Timothy Quigley
Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Vladimir Kozak
Senior Associate Engineer
Lighting Division