



REPORT

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

Project No. G102171228

Date: August 23, 2016

REPORT NO. 102171228CHI-036

TEST OF ONE LED WALL-MOUNT LUMINAIRE

MODEL NO. 700OWCOS18WC830UNV
LED MODEL NO. (LUMINUS) MP-3030-1100-30-90
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-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 700OWCOS18WC830UNV. The sample was received by Intertek on August 18, 2016, in undamaged condition and one sample was tested as received. The sample designation was AH08182016094438-036.

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



SUMMARY

Model No.:	700OWCOS18WC830UNV
Description:	LED Wall-Mount Luminaire

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	1994	1958
Total Power (W)	29.22	29.25
Luminaire Efficacy (LPW)	68.24	66.94

Criteria	Result
Power Factor	0.983
Current ATHD %	10.54
Correlated Color Temperature (CCT - K)	4110
Color Rendering Index (CRI - Ra)	83.7
Color Rendering Index (CRI - R9)	11.8
DUV	0.000
Chromaticity Coordinate (x)	0.376
Chromaticity Coordinate (y)	0.375
Chromaticity Coordinate (u')	0.223
Chromaticity Coordinate (v')	0.500
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	07/11/16	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

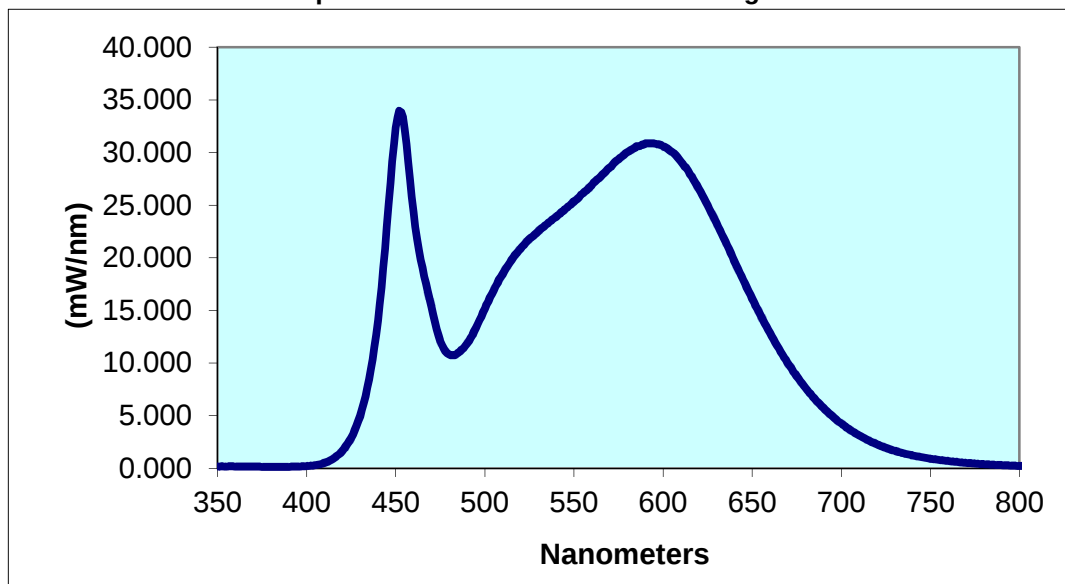
Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH08182016094438-036	Horizontal	120.0	247.7	29.22	0.983	10.54	1994	68.24

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')
4110	83.7	11.8	0.000	0.376	0.375	0.223	0.500

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.170	440	14.04	530	22.52	620	26.58	710	3.118
355	0.155	445	22.95	535	23.22	625	24.98	715	2.668
360	0.157	450	32.39	540	23.87	630	23.29	720	2.275
365	0.152	455	32.25	545	24.63	635	21.52	725	1.940
370	0.133	460	24.33	550	25.35	640	19.67	730	1.655
375	0.124	465	19.08	555	26.12	645	17.89	735	1.419
380	0.125	470	15.33	560	26.92	650	16.12	740	1.216
385	0.119	475	12.09	565	27.73	655	14.45	745	1.051
390	0.130	480	10.81	570	28.57	660	12.87	750	0.909
395	0.152	485	10.97	575	29.33	665	11.35	755	0.786
400	0.195	490	11.82	580	30.04	670	9.983	760	0.683
405	0.287	495	13.35	585	30.58	675	8.742	765	0.591
410	0.498	500	15.16	590	30.85	680	7.616	770	0.506
415	0.918	505	16.93	595	30.85	685	6.625	775	0.438
420	1.643	510	18.43	600	30.59	690	5.729	780	0.378
425	2.893	515	19.79	605	30.06	695	4.940		
430	4.962	520	20.86	610	29.17	700	4.244		
435	8.442	525	21.79	615	27.97	705	3.640		

Spectral Data Over Visible Wavelengths



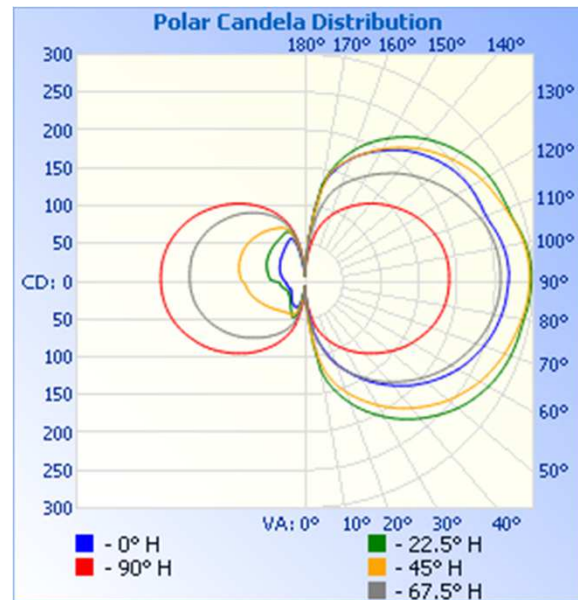
RESULTS OF TEST (cont'd)

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)
AH08182016094438-036	Horizontal	120.2	248.0	29.25	0.982	1958	66.94

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	7	7	7	7	7
5	34	50	51	37	29
10	69	120	105	69	48
15	92	149	135	96	67
20	113	170	155	116	80
25	131	189	172	131	92
30	148	206	189	146	103
35	164	222	204	160	114
40	180	237	219	174	124
45	195	249	232	187	134
50	208	261	245	199	144
55	221	271	256	211	154
60	232	278	265	222	162
65	242	284	273	231	170
70	250	288	279	239	177
75	257	290	285	246	182
80	262	292	289	252	186
85	265	296	293	255	188
90	267	298	295	257	190
95	268	297	295	257	190
100	265	294	292	255	189
105	259	288	287	251	186
110	253	284	281	245	182
115	252	282	275	237	176
120	250	279	269	229	170
125	246	274	261	220	162
130	240	266	252	209	153
135	232	257	241	198	144
140	223	246	229	187	134
145	213	233	216	174	124
150	200	219	202	161	114
155	187	202	187	148	102
160	172	184	172	134	90
165	152	161	155	116	76
170	127	130	122	87	55
175	60	58	56	48	32
180	8	8	8	8	8

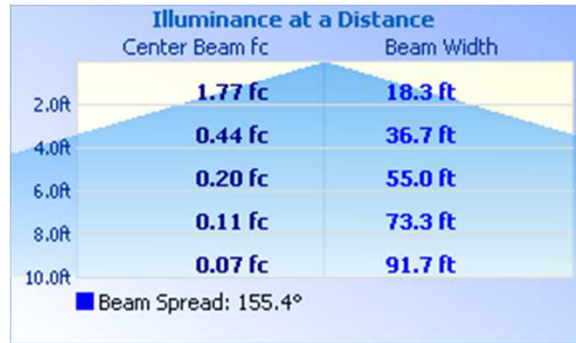


RESULTS OF TEST (cont'd)

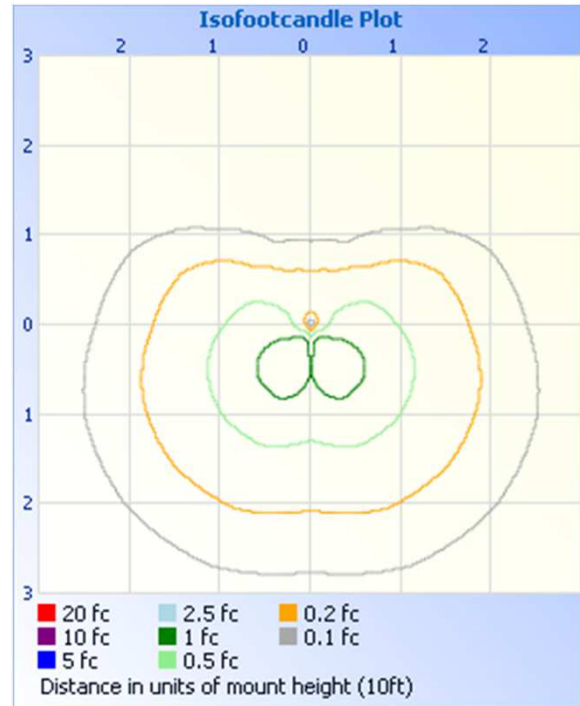
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	75.7	3.9
0-40	152.1	7.8
0-60	395.4	20.2
60-90	543.1	27.7
0-90	938.5	47.9
90-180	1020.0	52.1
0-180	1958	100.0

Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	54.3	2.8
FM	(30-60)	241.5	12.3
FH	(60-80)	260.8	13.3
FVH	(80-90)	145.9	7.5
BL	(0-30)	21.2	1.1
BM	(30-60)	78.1	4.0
BH	(60-80)	86.2	4.4
BVH	(80-90)	50.2	2.6
UL	(90-100)	200.3	10.2
UH	(100-180)	819.2	41.8
Total		1957.7	100.0

Zonal Lumens and Percentages at 25°C

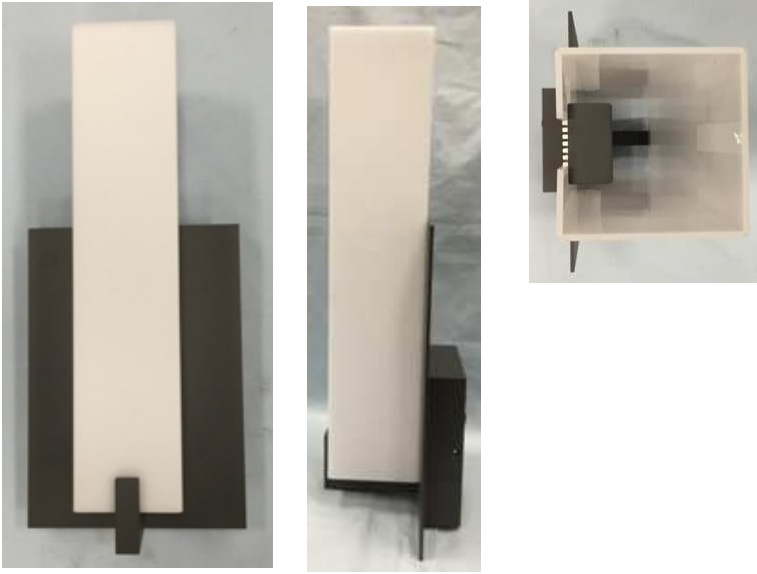
Zone	Lumens	% Luminaire
0-10	3.9	0.2
10-20	23.4	1.2
20-30	48.4	2.5
30-40	76.4	3.9
40-50	106.6	5.4
50-60	136.7	7.0
60-70	163.2	8.3
70-80	183.7	9.4
80-90	196.1	10.0
90-100	200.3	10.2
100-110	191.7	9.8
110-120	174.5	8.9
120-130	150.8	7.7
130-140	121.2	6.2
140-150	89.3	4.6
150-160	58.1	3.0
160-170	28.9	1.5
170-180	5.0	0.3

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:



Timothy Quigley
Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Vladimir Kozak
Senior Associate Engineer
Lighting Division