



REPORT

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

Project No. G102171228

Date: December 5, 2016

REPORT NO. 102171228CHI-073

TEST OF ONE LED WALL-MOUNT LUMINAIRE

MODEL NO. 700OWTAG83010C3UNVS
LED MODEL NO. (LUXEON) DS207 3030 2D
DRIVER MODEL NO. YG LY75W-56-C1330-RD

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 500606081.

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 700OWTAG83010C3UNVS. The sample was received by Intertek on November 30, 2016, in undamaged condition and one sample was tested as received. The sample designation was AH11302016053311.

DATES OF TESTS: December 5, 2016

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SUMMARY

Model No.: 700OWTAG83010C3UNVS
Description: LED Wall-Mount Luminaire

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	8889	8691
Total Power (W)	76.77	75.94
Luminaire Efficacy (LPW)	115.8	114.4

Criteria	Result
Power Factor at 120Vac	0.996
Power Factor at 277Vac	0.941
Current ATHD % at 120Vac	6.03
Current ATHD % at 277Vac	13.79
Correlated Color Temperature (CCT - K)	4106
Color Rendering Index (CRI - Ra)	82.7
Color Rendering Index (CRI - R9)	7.4
DUV	0.001
Chromaticity Coordinate (x)	0.376
Chromaticity Coordinate (y)	0.377
Chromaticity Coordinate (u')	0.223
Chromaticity Coordinate (v')	0.501
BUG Rating	B2-U1-G1
IES Classification	Type II
Longitudinal Classification	Short

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	12/05/16
Omega Newport Thermometer	DPI8-C24	146920	10/07/16	10/07/17	12/05/16
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	12/05/16
Newport Thermohygrometer	iServer	146956	01/04/16	01/04/17	12/05/16
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU	12/05/16
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	12/05/16
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	12/05/16
Elgar AC Power Supply	CW1251M	146112	VBU	VBU	12/05/16
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	12/05/16
Newport Humidity Recorder	iTHX-SD	146382	06/27/16	06/27/17	12/05/16
Yokogawa Power Meter	WT1600	146768	01/14/16	01/14/17	12/05/16
Omega Temperature Meter	MDSi8	146139	03/21/16	03/21/17	12/05/16

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

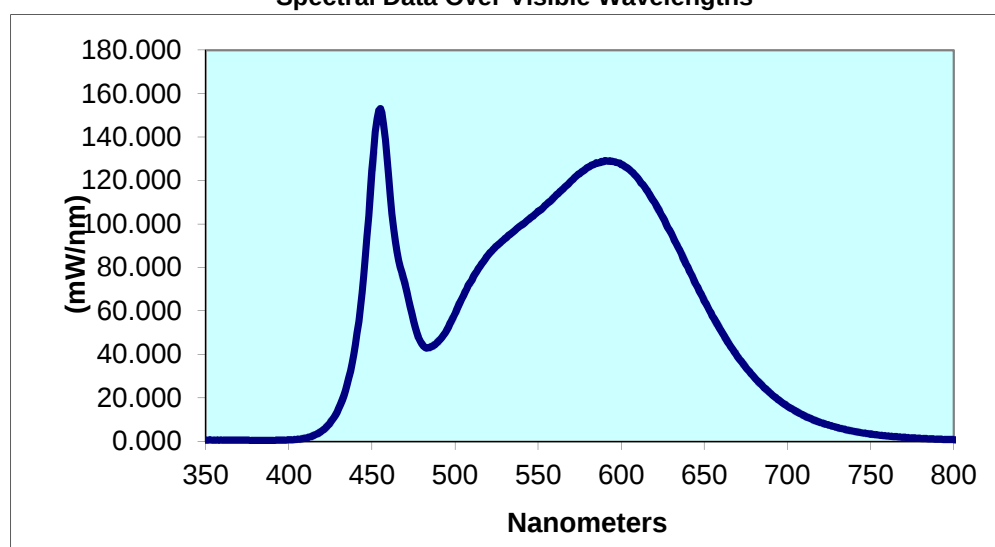
Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) - Integrating Sphere Method

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)
AH11302016053311	UP	120.0	642.5	76.77	0.996	6.03	8889	115.8
		277.0	293.4	76.47	0.941	13.79		
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')	
4106	82.7	7.4	0.001	0.376	0.377	0.223	0.501	

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.595	440	44.64	530	93.38	620	109.9	710	11.91
355	0.623	445	76.22	535	96.43	625	103.0	715	10.23
360	0.658	450	124.6	540	99.47	630	95.74	720	8.756
365	0.599	455	153.1	545	102.7	635	88.02	725	7.525
370	0.548	460	121.8	550	105.8	640	80.10	730	6.431
375	0.521	465	87.31	555	109.1	645	72.33	735	5.496
380	0.483	470	71.82	560	112.7	650	64.78	740	4.678
385	0.467	475	55.40	565	116.2	655	57.63	745	4.018
390	0.487	480	44.84	570	120.0	660	51.05	750	3.451
395	0.562	485	43.38	575	123.2	665	44.70	755	2.976
400	0.700	490	46.18	580	126.1	670	39.04	760	2.571
405	1.002	495	51.41	585	128.2	675	34.05	765	2.208
410	1.618	500	59.08	590	129.1	680	29.58	770	1.892
415	2.835	505	67.19	595	128.8	685	25.58	775	1.643
420	5.009	510	74.26	600	127.4	690	22.06	780	1.411
425	8.821	515	80.65	605	125.0	695	18.94		
430	15.19	520	85.87	610	121.0	700	16.25		
435	26.19	525	89.99	615	115.8	705	13.93		

Spectral Data Over Visible Wavelengths



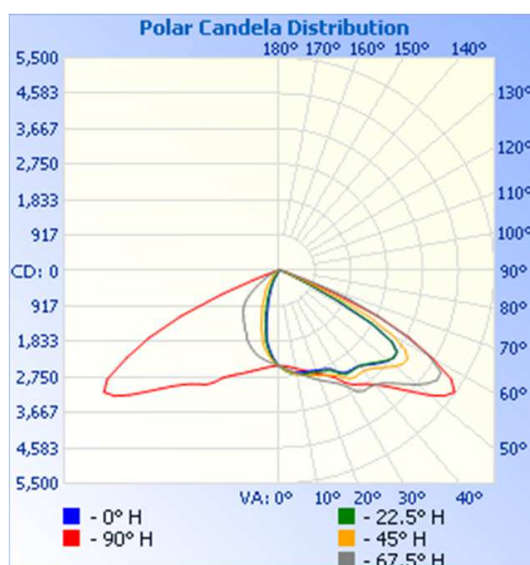
RESULTS OF TEST (cont'd)

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)
AH11302016053311	Select One	120.1	634.6	75.94	0.996	8691	114.4

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	2462	2462	2462	2462	2462
5	2607	2631	2609	2559	2487
10	2671	2709	2719	2690	2572
15	2696	2745	2803	2838	2685
20	2743	2781	2884	3006	2827
25	2804	2849	2976	3183	3003
30	3029	3052	3158	3458	3333
35	3153	3190	3364	3787	3581
40	3209	3208	3371	3836	3847
45	3410	3373	3550	4116	4317
50	3623	3604	3850	4578	5002
55	3672	3676	3999	4927	5471
60	2677	2747	3358	4437	4508
65	902	904	1731	2821	2766
70	304	298	394	1159	711
75	188	218	172	283	194
80	109	130	107	101	79
85	25	30	30	27	13
90	11	9	7	4	1
95	8	7	6	3	0
100	6	6	5	3	0
105	5	5	4	3	0
110	4	4	3	0	0
115	3	3	3	0	0
120	2	2	2	0	0
125	1	2	2	0	0
130	1	1	2	0	0
135	0	1	2	0	0

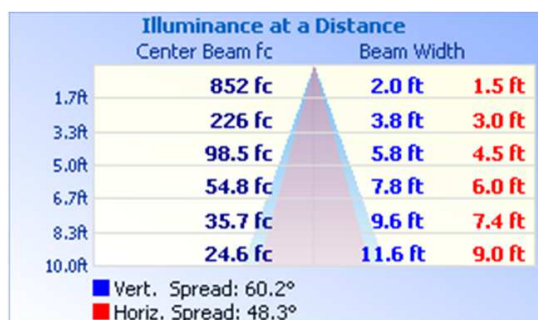


RESULTS OF TEST (cont'd)

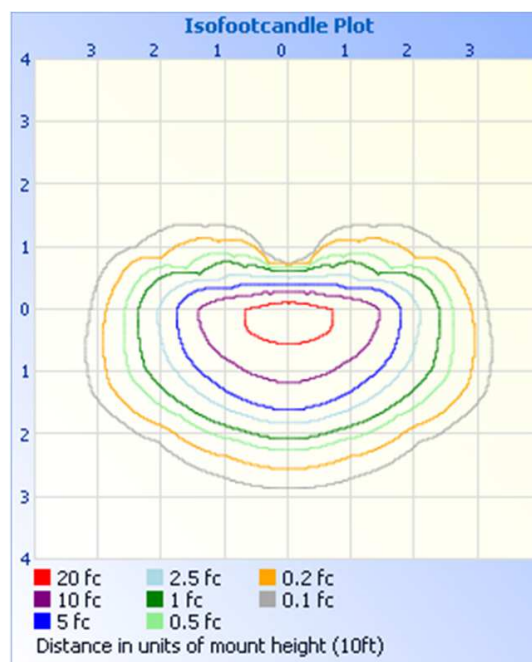
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	1882	21.7
0-40	3277	37.7
0-60	7325	84.3
60-90	1359	15.6
0-90	8685	99.9
90-180	6.4	0.1
0-180	8691	100.0

Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	1214.9	14.0
FM	(30-60)	4366.6	50.2
FH	(60-80)	1076.0	12.4
FVH	(80-90)	21.3	0.2
BL	(0-30)	667.4	7.7
BM	(30-60)	1076.7	12.4
BH	(60-80)	257.6	3.0
BVH	(80-90)	5.4	0.1
UL	(90-100)	3.0	0.0
UH	(100-180)	3.4	0.0
Total		8692.3	100.0

Zonal Lumens and Percentages at 25°C

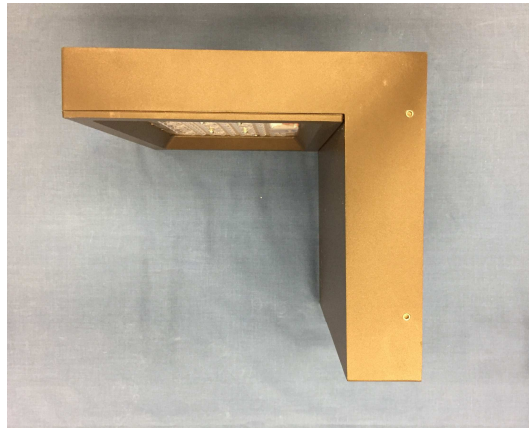
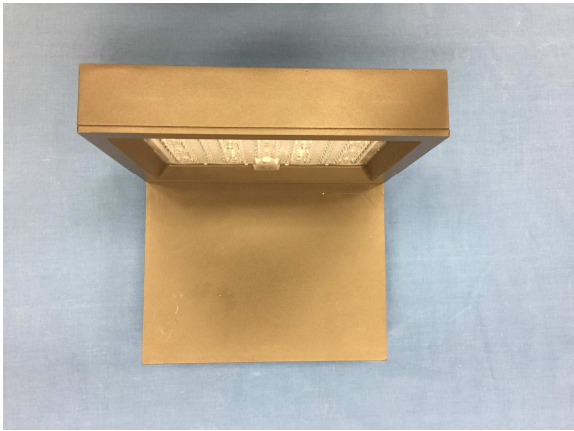
Zone	Lumens	% Luminaire
0-10	232.3	2.7
10-20	647.9	7.5
20-30	1002	11.5
30-40	1395	16.0
40-50	1818	20.9
50-60	2231	25.7
60-70	1151	13.2
70-80	181.2	2.1
80-90	26.6	0.3
90-100	3.0	0.0
100-110	1.9	0.0
110-120	0.9	0.0
120-130	0.5	0.0
130-140	0.2	0.0

BUG Rating: B2-U1-G1

IES Classification: Type II

Longitudinal Classification: Short

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:



Jehue Williams
Associate Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Timothy Quigley
Engineer
Lighting Division