



REPORT

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

Project No. G102171228

Date: August 23, 2016

REPORT NO. 102171228CHI-032

TEST OF ONE LED WALL-MOUNT LUMINAIRE

MODEL NO. 700OWSPITSC-LED830
LED MODEL NO. (EVERLIGHT) EAHE5630WG13
DRIVER MODEL NO. LTF 250LED60W

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 700OWSPITSC-LED830. The sample was received by Intertek on August 18, 2016, in undamaged condition and one sample was tested as received. The sample designation was AH08182016094438-032.

DATES OF TESTS: August 19, 2016 through August 22, 2016.



SUMMARY

Model No.:	700OWSPITSC-LED830
Description:	LED Wall-Mount Luminaire

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	822.6	803.1
Total Power (W)	26.19	26.20
Luminaire Efficacy (LPW)	31.41	30.65

Criteria	Result
Power Factor	0.928
Current ATHD %	37.25
Correlated Color Temperature (CCT - K)	3107
Color Rendering Index (CRI - Ra)	81.9
Color Rendering Index (CRI - R9)	6.8
DUV	0.001
Chromaticity Coordinate (x)	0.429
Chromaticity Coordinate (y)	0.400
Chromaticity Coordinate (u')	0.247
Chromaticity Coordinate (v')	0.519
BUG Rating	B1-U0-G0
IES Classification	Type VS
Longitudinal Classification	Very 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	08/22/16
Omega Newport Thermometer	DPI8-C24	146920	10/09/15	10/09/16	08/22/16
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	08/22/16
Newport Thermohygrometer	iServer	146956	01/04/16	01/04/17	08/22/16
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU	08/22/16
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	08/19/16
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	08/19/16
Elgar AC Power Supply	CW1251M	146112	VBU	VBU	08/19/16
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	08/19/16
Newport Humidity Recorder	iTHX-SD	146382	06/27/16	06/27/17	08/19/16
Yokogawa Power Meter	WT1600	146768	01/14/16	01/14/17	08/19/16
Omega Temperature Meter	MDSi8	146139	03/21/16	03/21/17	08/19/16



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

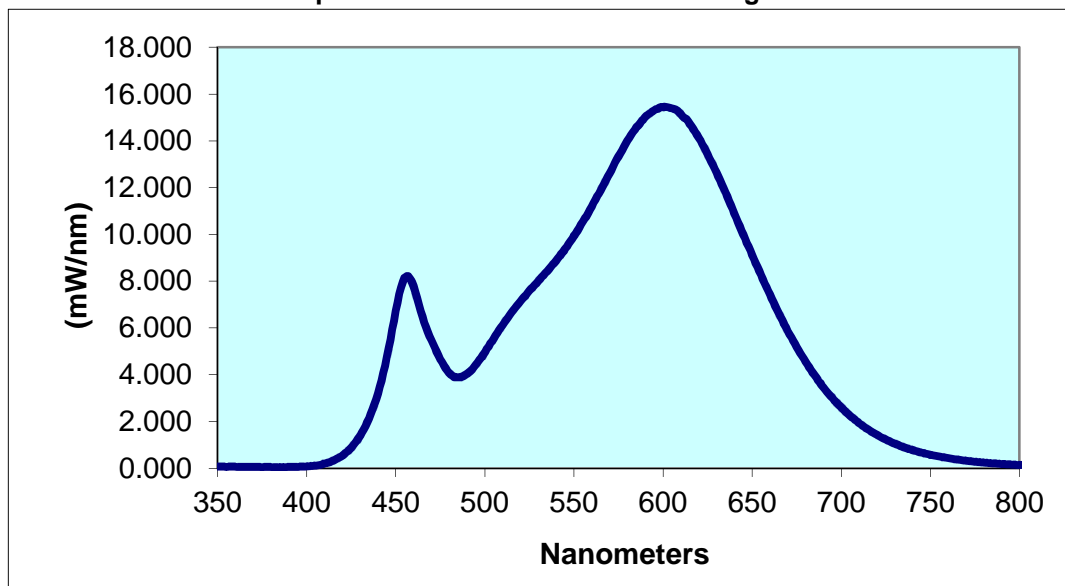
Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH08182016094438-032	Up	120.0	235.2	26.19	0.928	37.25	822.6	31.41

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')
3107	81.9	6.8	0.001	0.429	0.400	0.247	0.519

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.062	440	3.198	530	7.997	620	14.13	710	1.930
355	0.058	445	4.741	535	8.424	625	13.43	715	1.662
360	0.059	450	6.729	540	8.864	630	12.64	720	1.430
365	0.057	455	8.152	545	9.376	635	11.79	725	1.229
370	0.050	460	7.787	550	9.929	640	10.89	730	1.050
375	0.044	465	6.483	555	10.54	645	9.998	735	0.904
380	0.047	470	5.475	560	11.20	650	9.113	740	0.778
385	0.046	475	4.660	565	11.89	655	8.258	745	0.668
390	0.049	480	4.080	570	12.62	660	7.429	750	0.576
395	0.058	485	3.883	575	13.32	665	6.613	755	0.498
400	0.075	490	4.036	580	14.01	670	5.873	760	0.432
405	0.112	495	4.425	585	14.59	675	5.186	765	0.372
410	0.195	500	4.952	590	15.03	680	4.551	770	0.319
415	0.327	505	5.550	595	15.31	685	3.982	775	0.277
420	0.536	510	6.112	600	15.44	690	3.462	780	0.239
425	0.877	515	6.657	605	15.39	695	3.006		
430	1.385	520	7.142	610	15.15	700	2.594		
435	2.135	525	7.586	615	14.72	705	2.240		

Spectral Data Over Visible Wavelengths



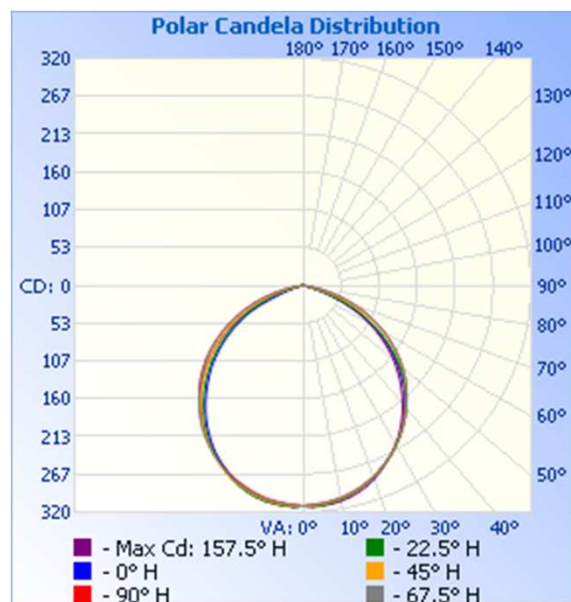
RESULTS OF TEST (cont'd)

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)
AH08182016094438-032	Up	119.9	238.6	26.20	0.915	803.1	30.65

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	311	311	311	311	311
5	311	311	310	309	308
10	306	307	306	305	304
15	298	299	298	297	297
20	288	289	288	288	287
25	275	276	275	275	275
30	260	261	261	261	261
35	243	244	244	244	244
40	223	224	225	225	225
45	200	203	204	205	205
50	173	177	182	183	183
55	144	148	157	158	158
60	112	116	129	131	131
65	76	83	96	103	102
70	40	47	62	73	73
75	9	13	27	41	43
80	2	2	3	11	14
85	1	1	1	0	0
90	0	0	0	0	0

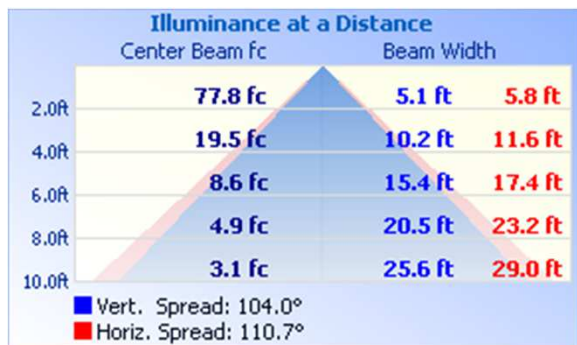


RESULTS OF TEST (cont'd)

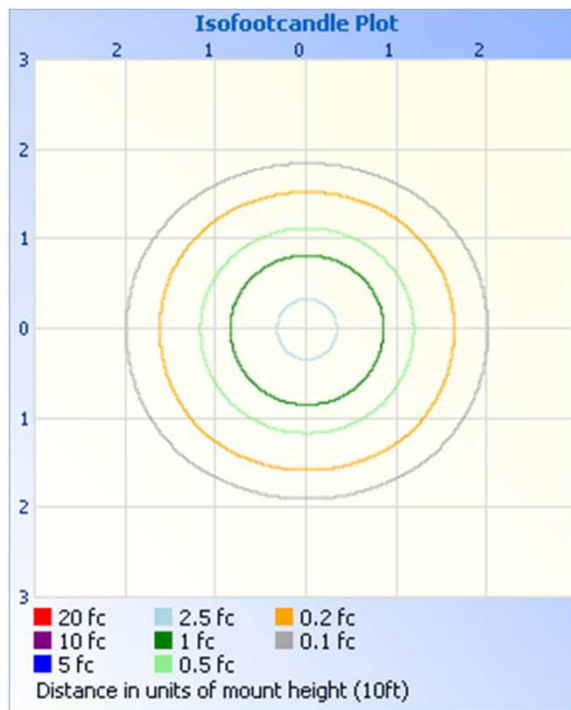
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	240.9	30.0
0-40	392.7	48.9
0-60	681.9	84.9
60-90	121.2	15.1
0-90	803.1	100.0
90-180	0.0	0.0
0-180	803.1	100.0

Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Lumens
FL	(0-30)	120.2	15.0
FM	(30-60)	223.1	27.8
FH	(60-80)	60.9	7.6
FVH	(80-90)	0.7	0.1
BL	(0-30)	120.7	15.0
BM	(30-60)	218.1	27.1
BH	(60-80)	58.9	7.3
BVH	(80-90)	0.7	0.1
UL	(90-100)	0	0.0
UH	(100-180)	0	0.0
Total		803.3	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	29.5	3.7
10-20	84.3	10.5
20-30	127.1	15.8
30-40	151.9	18.9
40-50	154.9	19.3
50-60	134.3	16.7
60-70	89.2	11.1
70-80	30.5	3.8
80-90	1.5	0.2

BUG Rating: B1-U0-G0

IES Classification: Type VS

Longitudinal Classification: Very 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:



Timothy Quigley
Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Vladimir Kozak
Senior Associate Engineer
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