



REPORT

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

Project No. G102748333

Date: February 21, 2017

REPORT NO. 102748333CHI-024

TEST OF ONE LED WALL PACK

MODEL NO. WPFC-CW70
LED MODEL NO. PHILIPS LUMILEDS L130-5080003000W21
DRIVER MODEL NO. MESTER LED MSPI-IS70A12S-1750

RENDERED TO

SUPER BRIGHT LEDES, INC.
4400 EARTH CITY EXPRESSWAY
SAINT LOUIS, MO 63045

TEST: Electrical and Photometric tests as required to the IESNA test standard.

AUTHORIZATION: The testing performed was authorized by signed quote number Qu-00723537-3.

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 WPFC-CW70. The sample was received by Intertek on February 10, 2017, in undamaged condition and one sample was tested as received. The sample designation was AH02102017050950D.

DATES OF TESTS: February 16, 2017 through February 21, 2017.

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SUMMARY

Model No.: WPFC-CW70
Description: LED Wall Pack

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	7780	7602
Total Power (W)	68.16	68.20
Luminaire Efficacy (LPW)	114.1	111.5

Criteria	Result
Power Factor at 120Vac	0.983
Power Factor at 277Vac	0.902
Current ATHD % at 120Vac	15.96
Current ATHD % at 277Vac	19.85
Correlated Color Temperature (CCT - K)	5269
Color Rendering Index (CRI - Ra)	84.4
Color Rendering Index (CRI - R9)	15.3
DUV	0.000
Chromaticity Coordinate (x)	0.338
Chromaticity Coordinate (y)	0.347
Chromaticity Coordinate (u')	0.208
Chromaticity Coordinate (v')	0.481
BUG Rating	B3-U2-G1
IES Classification	Type I
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	02/21/17
Omega Newport Thermometer	DPI8-C24	146920	10/07/16	10/07/17	02/21/17
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	02/21/17
Newport Thermohygrometer	iServer	146956	01/06/17	01/06/18	02/21/17
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU	02/21/17
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	02/16/17
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	02/16/17
Elgar AC Power Supply	CW1251M	146112	VBU	VBU	02/16/17
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	02/16/17
Newport Humidity Recorder	iTHX-SD	146382	06/27/16	06/27/17	02/16/17
Yokogawa Power Meter	WT1600	146768	01/10/17	01/10/18	02/16/17
Fluke J/K Temperature Meter	52	146004	01/10/17	01/10/18	02/16/17



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

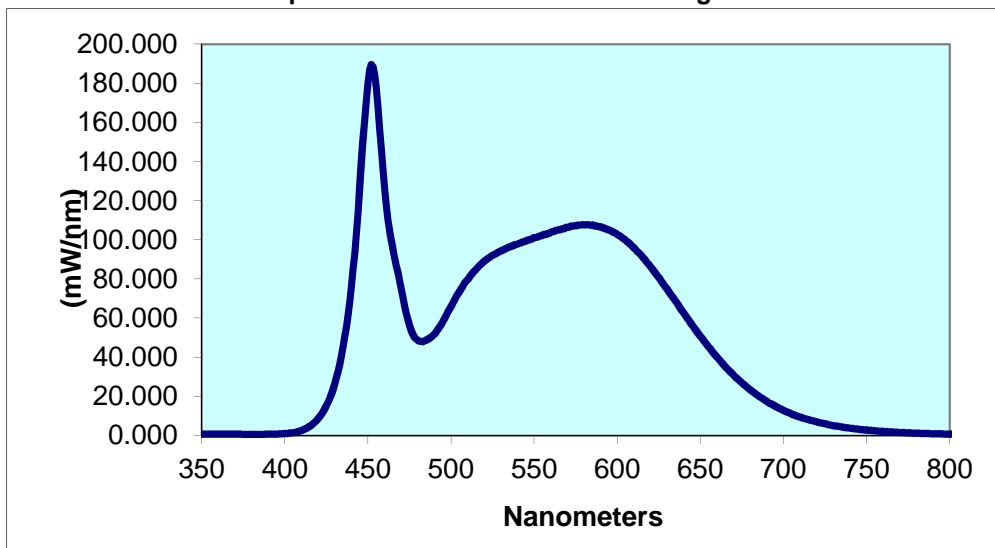
Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) - Integrating Sphere Method

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)
AH02102017050950D	Horizontal	120.0 277.0	577.5 276.6	68.16 69.14	0.983 0.902	15.96 19.85	7780	114.1
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')	
5269	84.4	15.3	0.000	0.338	0.347	0.208	0.481	

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.704	440	76.20	530	94.43	620	86.29	710	9.442
355	0.712	445	125.9	535	96.37	625	80.65	715	8.114
360	0.705	450	180.6	540	97.80	630	74.69	720	6.991
365	0.648	455	177.3	545	99.48	635	68.68	725	6.006
370	0.596	460	126.0	550	101.0	640	62.54	730	5.140
375	0.568	465	94.95	555	102.4	645	56.53	735	4.394
380	0.567	470	74.75	560	103.8	650	50.76	740	3.753
385	0.539	475	56.14	565	105.1	655	45.27	745	3.222
390	0.597	480	48.53	570	106.3	660	40.12	750	2.769
395	0.723	485	48.68	575	107.2	665	35.25	755	2.385
400	0.958	490	51.94	580	107.7	670	30.86	760	2.075
405	1.496	495	58.37	585	107.6	675	26.95	765	1.790
410	2.635	500	66.14	590	106.7	680	23.39	770	1.534
415	4.802	505	73.69	595	105.0	685	20.28	775	1.331
420	8.593	510	79.83	600	102.7	690	17.47	780	1.149
425	15.32	515	85.04	605	99.83	695	15.04		
430	26.53	520	89.08	610	95.94	700	12.87		
435	45.48	525	92.10	615	91.43	705	11.03		

Spectral Data Over Visible Wavelengths



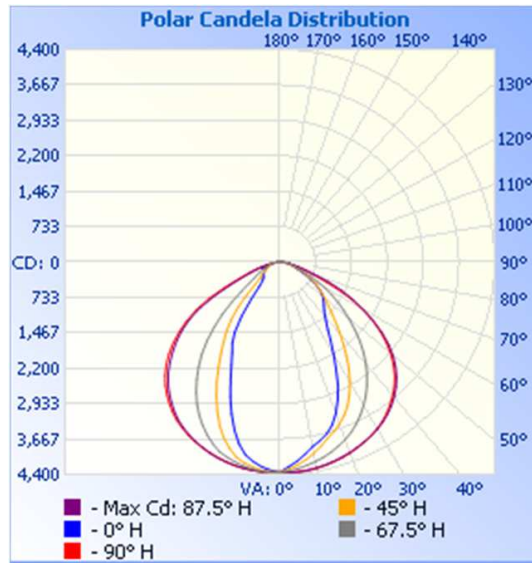
RESULTS OF TEST (cont'd)

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)
AH02102017050950D	Horizontal	120.1	577.5	68.20	0.983	7602	111.5

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	25	45	67.5	90
0	4352	4352	4352	4352	4352
5	4134	4148	4214	4292	4359
10	3878	3888	4022	4196	4334
15	3691	3677	3780	4071	4280
20	3344	3387	3567	3910	4205
25	2818	2929	3280	3700	4106
30	2196	2366	2871	3431	3983
35	1713	1848	2371	3109	3816
40	1430	1489	1903	2738	3598
45	1272	1268	1507	2318	3328
50	1157	1127	1225	1870	2968
55	993	983	997	1454	2518
60	732	779	787	1061	1979
65	503	528	558	681	1259
70	344	338	360	412	689
75	251	231	227	264	386
80	214	189	150	158	181
85	106	92	79	73	71
90	42	37	29	18	10
95	30	24	17	9	6
100	13	10	7	5	4

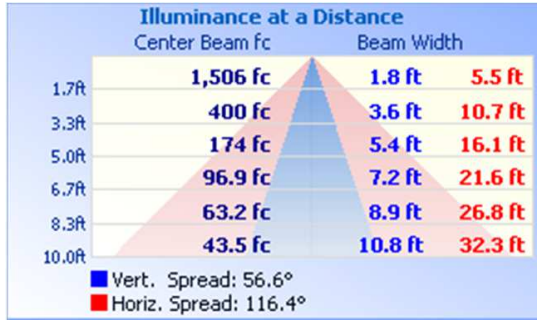


RESULTS OF TEST (cont'd)

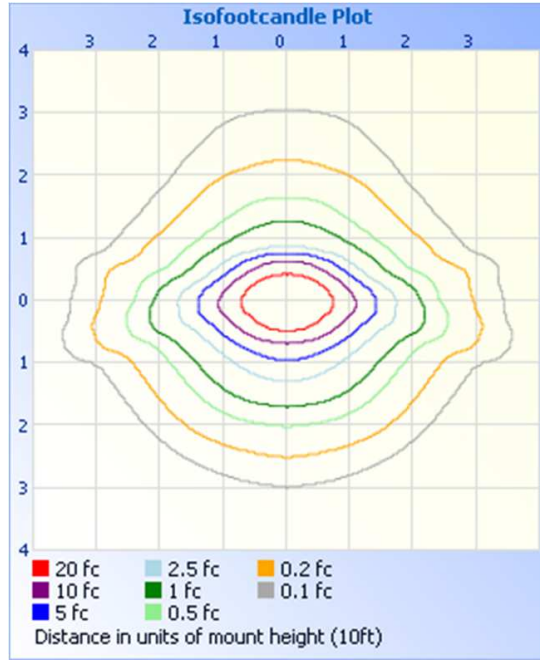
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	2989	39.3
0-40	4491	59.1
0-60	6649	87.5
60-90	936.4	12.3
0-90	7586	99.8
90-180	16.2	0.2
0-180	7602	100.0

Luminaire Classification System (LCS)

LCS	Zone	Lumens	% Luminaire
FL	(0-30)	1503.6	19.8
FM	(30-60)	2103.7	27.7
FH	(60-80)	504.7	6.6
FVH	(80-90)	49.9	0.7
BL	(0-30)	1487.7	19.6
BM	(30-60)	1558.4	20.5
BH	(60-80)	342.9	4.5
BVH	(80-90)	39.2	0.5
UL	(90-100)	14.5	0.2
UH	(100-180)	1.7	0.0
Total		7606.3	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	403.2	5.3
10-20	1100	14.5
20-30	1486	19.5
30-40	1502	19.8
40-50	1234	16.2
50-60	924.2	12.2
60-70	562.4	7.4
70-80	284.9	3.7
80-90	89.1	1.2
90-100	14.5	0.2
100-110	1.7	0.0

BUG Rating: B3-U2-G1
 IES Classification: Type I
 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:

Report Reviewed By:



Hector Huitron
Associate Engineer
Lighting Division

Timothy Quigley
Engineer
Lighting Division

Attachment: None