



REPORT

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

Project No. G102748333

Date: January 24, 2017

REPORT NO. 102748333CHI-018

TEST OF ONE LED EXPLOSION PROOF LIGHT

MODEL NO. EPL-NW200
LED MODEL NO. GENESIS PHOTONICS KXTP-3535
DRIVER MODEL NO. MEANWELL HLG-185H-42A

RENDERED TO

SUPER BRIGHT LEADS, 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 EPL-NW200. The sample was received by Intertek on January 20, 2017, in undamaged condition and one sample was tested as received. The sample designation was AH01202017035722B.

DATES OF TESTS: January 23, 2017 through January 24, 2017.

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SUMMARY

Model No.:	EPL-NW200
Description:	LED Explosion Proof Light

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	18127	17211
Total Power (W)	187.1	186.9
Luminaire Efficacy (LPW)	96.88	92.09

Criteria	Result
Power Factor at 120Vac	0.995
Power Factor at 277Vac	0.937
Current ATHD % at 120Vac	7.41
Current ATHD % at 277Vac	14.52
Correlated Color Temperature (CCT - K)	4668
Color Rendering Index (CRI - Ra)	70.3
Color Rendering Index (CRI - R9)	-40.3
DUV	0.001
Chromaticity Coordinate (x)	0.355
Chromaticity Coordinate (y)	0.362
Chromaticity Coordinate (u')	0.214
Chromaticity Coordinate (v')	0.491

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	01/24/17
Omega Newport Thermometer	DPI8-C24	146920	10/07/16	10/07/17	01/24/17
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	01/24/17
Newport Thermohygrometer	iServer	146956	01/06/17	01/06/18	01/24/17
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU	01/24/17
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	01/23/17
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	01/23/17
Elgar AC Power Supply	CW1251M	146112	VBU	VBU	01/23/17
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	01/23/17
Newport Humidity Recorder	iTHX-SD	146382	06/27/16	06/27/17	01/23/17
Yokogawa Power Meter	WT1600	146768	01/10/17	01/10/18	01/23/17
Fluke K/J Thermometer	52	146004	01/10/17	01/10/18	01/23/17



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.

RESULTS OF TEST

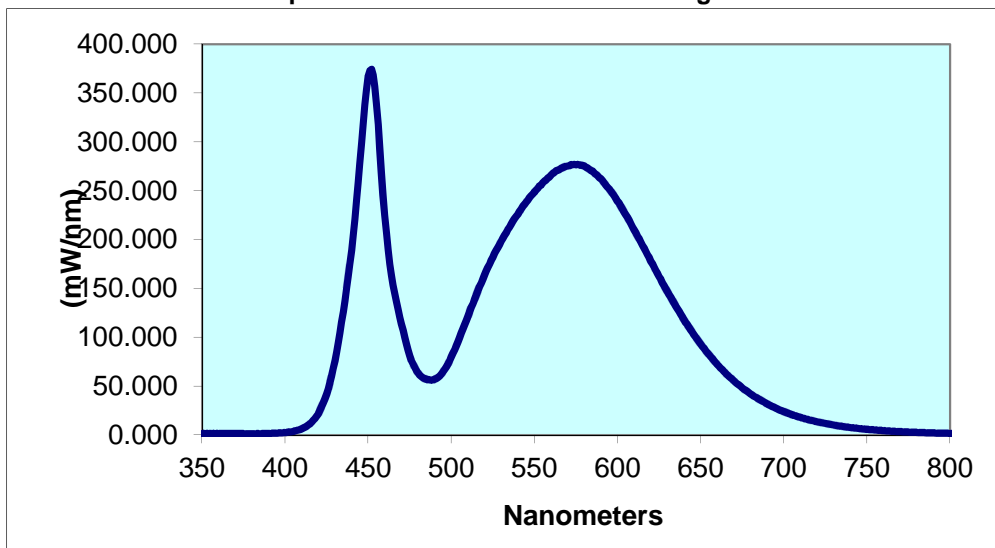
Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) - Integrating Sphere Method

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)
AH01202017035722B	Up	120.0 277.0	1568 708.0	187.1 183.7	0.995 0.937	7.41 14.52	18127	96.88
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')	
4668	70.3	-40.3	0.001	0.355	0.362	0.214	0.491	

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	1.467	440	189.2	530	198.2	620	178.1	710	17.92
355	1.433	445	277.6	535	212.7	625	162.3	715	15.56
360	1.465	450	366.6	540	225.9	630	146.9	720	13.47
365	1.442	455	339.5	545	238.1	635	132.1	725	11.70
370	1.261	460	224.7	550	248.6	640	118.1	730	10.15
375	1.214	465	153.4	555	258.1	645	105.1	735	8.795
380	1.171	470	113.7	560	266.0	650	92.98	740	7.626
385	1.175	475	81.38	565	271.6	655	82.29	745	6.604
390	1.329	480	63.49	570	275.4	660	72.28	750	5.745
395	1.721	485	56.99	575	276.6	665	63.34	755	4.995
400	2.456	490	56.98	580	275.1	670	55.44	760	4.373
405	3.795	495	64.50	585	270.1	675	48.33	765	3.792
410	6.344	500	79.63	590	262.2	680	42.14	770	3.323
415	11.54	505	99.74	595	251.7	685	36.63	775	2.874
420	21.82	510	121.2	600	239.3	690	31.84	780	2.529
425	42.00	515	143.2	605	225.5	695	27.65		
430	75.97	520	163.8	610	210.1	700	23.98		
435	126.3	525	182.0	615	194.2	705	20.78		

Spectral Data Over Visible Wavelengths



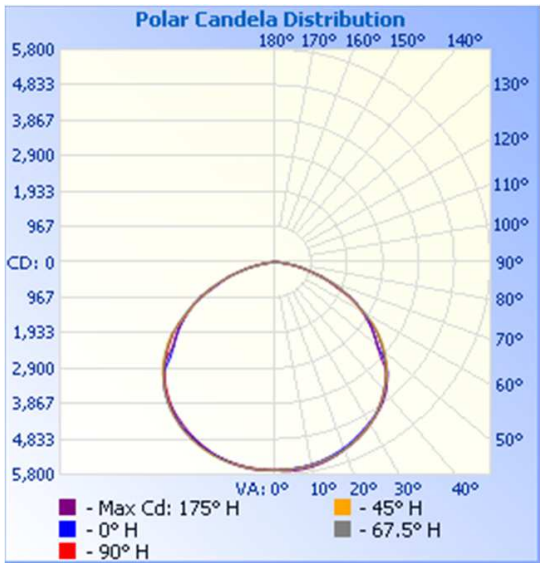
RESULTS OF TEST (cont'd)

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)
AH01202017035722B	Up	120.1	1563	186.9	0.995	17211	92.09

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	5683	5683	5683	5683	5683
5	5659	5698	5677	5667	5673
10	5611	5651	5629	5623	5631
15	5524	5559	5542	5544	5555
20	5404	5419	5425	5421	5438
25	5239	5253	5275	5275	5286
30	5067	5057	5092	5100	5104
35	4877	4853	4864	4877	4875
40	4618	4587	4599	4600	4577
45	4274	4268	4271	4255	4252
50	3626	3601	3719	3870	3873
55	3192	3185	3185	3185	3280
60	2740	2715	2728	2720	2704
65	2214	2210	2200	2206	2198
70	1568	1553	1554	1561	1629
75	1000	998	1001	1045	1033
80	559	546	542	521	526
85	130	130	134	122	118
90	0	0	0	0	0

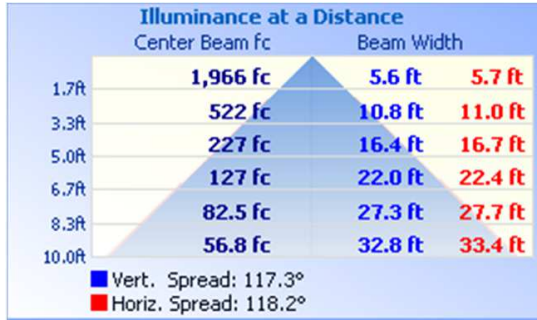


RESULTS OF TEST (cont'd)

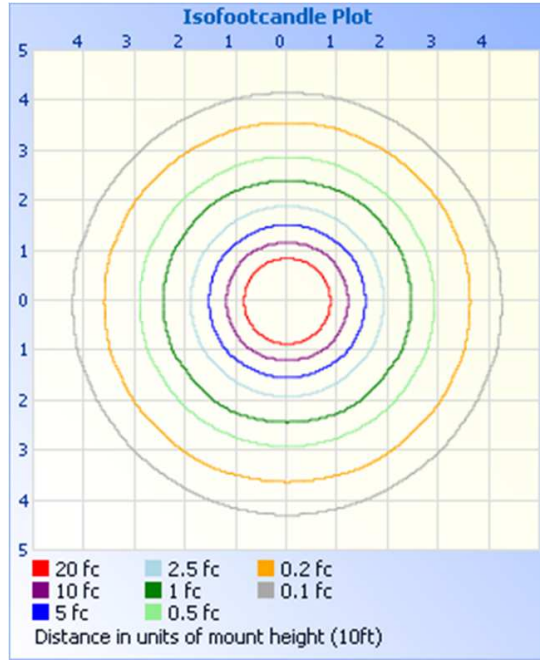
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	4563	26.5
0-40	7622	44.3
0-60	13830	80.4
60-90	3380	19.6
0-90	17211	100.0
90-180	0.0	0.0
0-180	17211	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	540.9	3.1
10-20	1573	9.1
20-30	2449	14.2
30-40	3058	17.8
40-50	3271	19.0
50-60	2938	17.1
60-70	2144	12.5
70-80	1065	6.2
80-90	171.2	1.0

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