



REPORT

25800 COMMERCE DRIVE, LAKE FOREST, CA 92630

Project No. G101607677

Date: June 9, 2014

REPORT NO. 101607677LAX-019

TEST OF ONE FULL ON 27 BEAM ANGLE

MODEL NO. DW PROFILE

RENDERED TO

ELATION PROFESSIONAL
6122 S. EASTERN AVE.
COMMERCE, CA, 90040

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

STATEMENT OF LIMITATION: This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the federal government.

AUTHORIZATION: The testing performed was authorized by signed quote number 500519256.

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

DESCRIPTION OF SAMPLE: The client submitted one production sample of model number DW PROFILE. The sample was received by Intertek on May 29, 2014, in undamaged condition and one sample was tested as received. The sample designation was LAN1405291025-003.

DATES OF TESTS: June 5, 2014

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SUMMARY

Model No.:	DW PROFILE
Description:	FULL ON 27 BEAM ANGLE

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	6975	7032
Total Power (W)	251.7	245.7
Luminaire Efficacy (LPW)	27.71	28.62

Criteria	Result
Power Factor	0.989
Current ATHD %	6.69
Correlated Color Temperature (CCT - K)	4788
Color Rendering Index (CRI - Ra)	94.8
Color Rendering Index (CRI - R9)	94.0
DUV	0.008
Chromaticity Coordinate (x)	0.349
Chromaticity Coordinate (y)	0.339
Chromaticity Coordinate (u')	0.219
Chromaticity Coordinate (v')	0.479

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date
LabSphere Power Supply	LPS-100-0833	000832	05/12/14	06/12/14
LapSphere 3M Integrating Sphere	CA-11821-LRT	000830	05/12/14	06/12/14
LabSphere Spectrometer	CDS-3020	000834	05/12/14	06/12/14
California Instruments Power Supply	CSW5550	001338	VBU	VBU
Power Meter, Digital	WT210	000912	03/14/14	03/14/15
Extech Instruments Stop Watch	N/A	001380	11/05/13	11/05/14
Omega Environmental Monitor	N/A	000886	09/10/13	09/10/14
LSI High Speed Mirror Goniometer	6440T	000943	05/12/14	06/12/14
Elgar Power Supply	CW1251	000944	VBU	VBU
Yokogawa Power Analyzer	WT210	000945	11/14/13	11/14/14
Omega Environmental Monitor	N/A	000882	09/09/13	09/09/14
Extech Instruments Stop Watch	365510	001380	11/05/13	11/05/14
Tape measure	33-428	000678	12/09/13	12/09/14

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 CDS 3020 Spectrometer and Three Meter 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 Yokogawa Power Analyzer.

The calibration of the sphere spectrometer 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 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

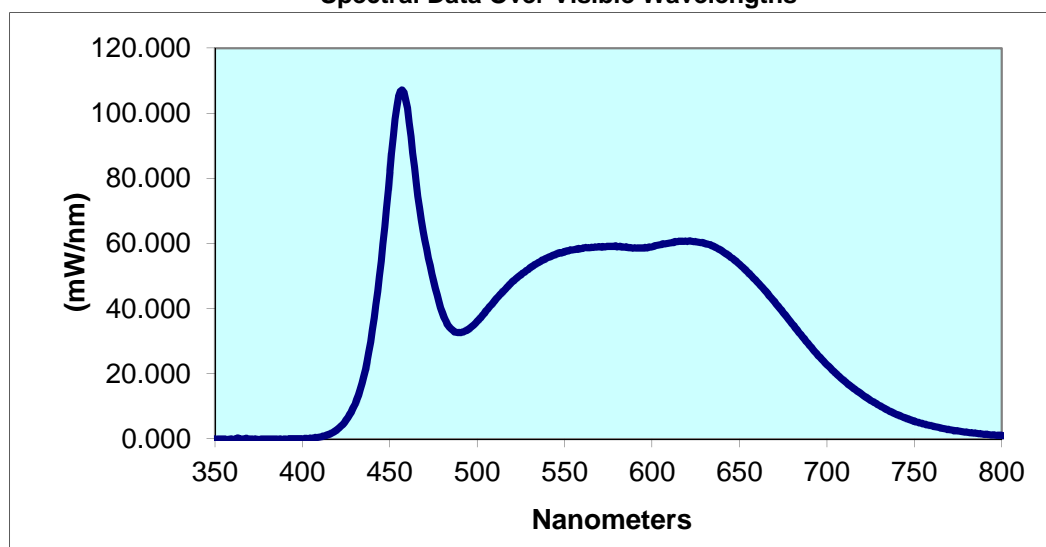
Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
LAN1405291025-003	LINEAR	120.0	2119	251.7	0.989	6.69	6975	27.71

Correlated Color Temperature (K)	CRI -Ra	CRI -R9	DUV	CIE 31' Chromaticity Coordinate	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
4788	94.8	94.0	0.008	0.349	0.339	0.219	0.479

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.019	440	33.400	530	52.550	620	60.650	710	17.790
355	-0.130	445	54.540	535	54.150	625	60.600	715	15.580
360	-0.145	450	82.080	540	55.630	630	60.060	720	13.650
365	-0.121	455	105.100	545	56.730	635	59.150	725	11.830
370	-0.103	460	101.500	550	57.500	640	57.760	730	10.220
375	-0.149	465	78.800	555	58.130	645	55.790	735	8.768
380	-0.079	470	61.010	560	58.520	650	53.590	740	7.506
385	-0.053	475	48.240	565	58.820	655	51.040	745	6.412
390	-0.058	480	38.750	570	58.980	660	48.230	750	5.426
395	0.006	485	33.860	575	59.040	665	45.240	755	4.654
400	0.057	490	32.670	580	59.000	670	42.080	760	4.030
405	0.221	495	33.760	585	58.980	675	38.750	765	3.370
410	0.632	500	36.180	590	58.700	680	35.390	770	2.847
415	1.378	505	39.320	595	58.550	685	32.030	775	2.430
420	2.928	510	42.430	600	59.030	690	28.710	780	2.033
425	5.794	515	45.450	605	59.660	695	25.610		
430	10.660	520	48.250	610	60.150	700	22.760		
435	19.110	525	50.440	615	60.670	705	20.190		

Spectral Data Over Visible Wavelengths



RESULTS OF TEST (cont'd)

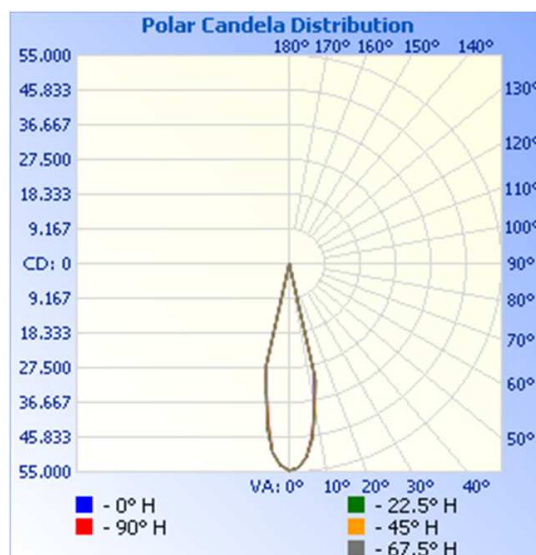
Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
LAN1405291025-003	UP	120.1	2068	245.7	0.989	7032	28.62

Intensity (Candlepower) Summary at 25°C - Candelas

Maximum Candela Value: 54552

Angle	0	22.5	45	67.5	90
0	54600	54610	54558	54583	54552
5	51268	51229	51243	51301	51302
10	38048	38256	38412	37390	37696
15	81	81	98	80	83
20	59	40	43	57	63
25	45	47	32	51	52
30	3	4	21	0	0
35	0	0	0	26	0
40	0	0	0	0	0
45	0	0	0	0	0
50	0	6	1	0	0
55	0	6	0	1	17
60	0	16	22	15	0
65	0	0	0	1	1
70	0	0	0	20	0
75	0	0	0	0	0
80	0	3	17	0	5
85	0	4	0	0	0
90	10	0	0	9	0

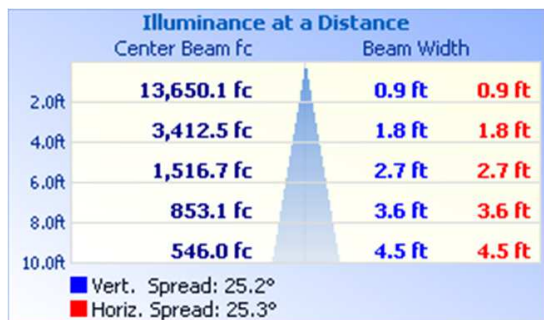


RESULTS OF TEST (cont'd)

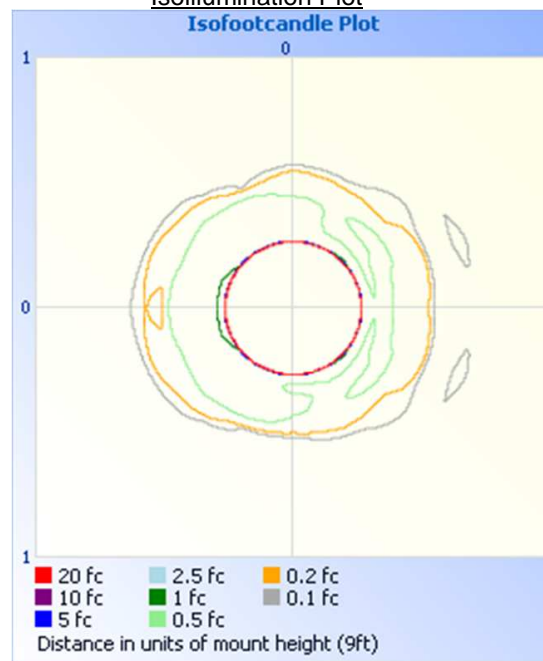
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	7018	99.8
0-40	7020	99.8
0-60	7025	99.9
60-90	6.9	0.1
0-90	7032	100.0
90-180	0.3	0.0
0-180	7032	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	4334	61.6
10-20	2664	37.9
20-30	20.0	0.3
30-40	2.4	0.0
40-50	1.1	0.0
50-60	3.8	0.1
60-70	2.5	0.0
70-80	1.8	0.0
80-90	2.7	0.0
90-100	0.3	0.0

PICTURE (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:



Erik Linares
Technician
Lighting Division

Report Reviewed By:



Kenda Branch
Engineer
Lighting Division

Attachment: None