



FOR THE SCOPE OF
ACCREDITATION UNDER A2LA
TO ISO/IEC 17025:2005.

REPORT

25800 COMMERCENTRE DRIVE, LAKE FOREST, CA 92630

Project No. G101607677

Date: April 7, 2014

REPORT NO. 101607677LAX-004

TEST OF ONE ARENA PAR ZOOM ---ZOOM OUT

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 . The sample was received by Intertek on April 2, 2014, in undamaged condition and one sample was tested as received. The sample designation was LAN1404020912-001.

DATES OF TESTS: April 2, 2014

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SUMMARY

Description: ARENA PAR ZOOM ---ZOOM OUT

Criteria	Result
Total Lumen Output (Lumens)	3336.4
Total Power (W)	198.80
Luminaire Efficacy (LPW)	16.78
Power Factor	0.994

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date
LSI High Speed Mirror Goniometer	6440T	000943	VBU	VBU
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	N/A	001380	04/22/13	04/22/14
Tape Measure	33-428	000684	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 – 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

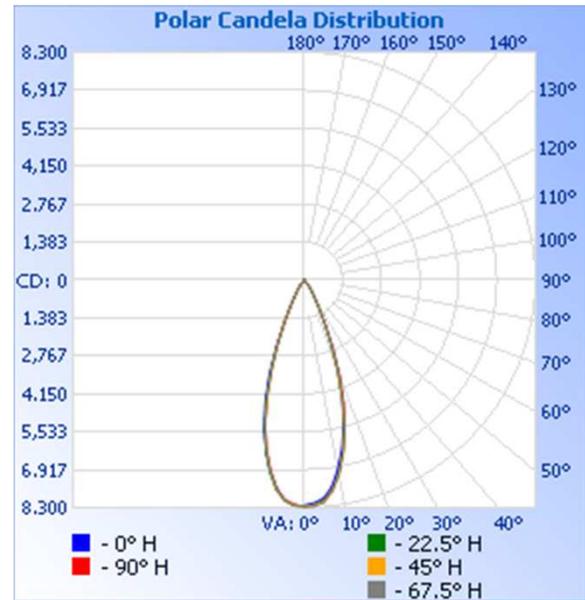
Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

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)
LAN1404020912-001	UP	120.0	1668	198.8	0.994	3336.4	16.78

Intensity (Candlepower) Summary at 25°C - Candelas

Maximum Candela Value: 8255

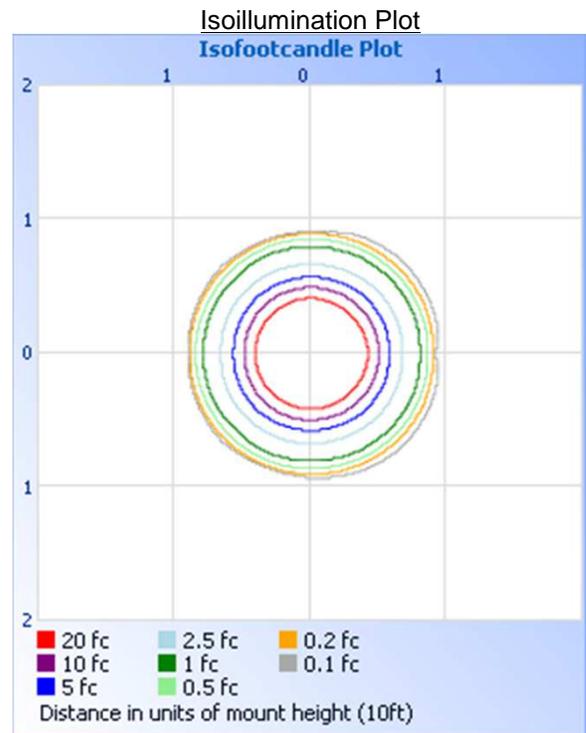
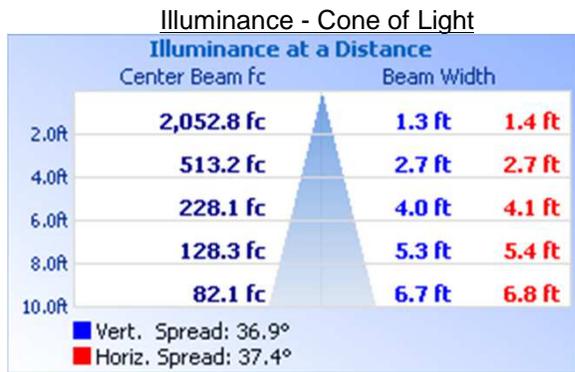
Angle	0	22.5	45	67.5	90
0	8211	8249	8252	8255	8247
5	7973	8071	8119	8135	8070
10	6974	7144	7165	7185	7114
15	5427	5541	5549	5635	5612
20	3524	3455	3429	3545	3709
25	1728	1691	1749	1770	1802
30	742	747	791	785	777
35	367	381	387	404	371
40	142	150	160	162	149
45	8	17	19	14	25
50	8	18	9	7	12
55	10	8	11	6	11
60	8	7	8	2	5
65	2	0	6	6	9
70	4	5	7	9	7
75	12	5	0	5	9
80	5	0	3	7	13
85	7	0	8	6	1
90	6	1	4	11	0



RESULTS OF TEST (cont'd)

Illumination Plots

Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	3046	91.3%
0-40	3294	98.7%
0-60	3324	99.6%
60-90	12.1	0.4%
0-90	3335.9	0.3%
90-180	0.5	0.0%
0-180	3336.4	100.0%

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	737.4	22.1%
10-20	1481	44.4%
20-30	827.5	24.8%
30-40	247.7	7.4%
40-50	24.2	0.7%
50-60	6.1	0.2%
60-70	4.1	0.1%
70-80	3.7	0.1%
80-90	4.3	0.1%
90-100	0.5	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:



Ameet Alawi
Technician
Lighting Division

Attachment: None

Report Reviewed By:



Kenda Branch
Engineer
Lighting Division