



REPORT

25800 COMMERCE DRIVE, LAKE FOREST, CA 92630

Project No. G102328456

Date: August 2, 2016

REPORT NO. 102328456LAX-082

TEST OF ONE LED MOVING HEAD BEAM

MODEL NO. ZW37 WHITE

RENDERED TO

ELATION LIGHTING
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 Qu-00648726.

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 prototype sample of model number ZW37 WHITE. The sample was received by Intertek on July 27, 2016, in undamaged condition and one sample was tested as received. The sample designation was LAN1607271107-003.

DATES OF TESTS: July 29, 2016



SUMMARY

Model No.:	ZW37 WHITE
Description:	LED Moving Head Beam

Criteria	Result
Total Lumen Output (Lumens)	3284
Total Power (W)	187.5
Luminaire Efficacy (LPW)	17.51

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date
LSI High Speed Mirror Goniometer	6440T	000943	07/13/16	08/13/16
Elgar Power Supply	CW1251	000944	VBU	VBU
Yokogawa Power Analyzer	WT210	000945	12/04/15	12/04/16
Temp. & RH Meter	971	001178	12/18/15	12/18/16
Extech Instruments Stop Watch	365510	001379	11/19/15	11/19/16
Tape Measure	C1-25	000915	12/04/15	12/04/16
Empire Magnetic Level	581-9	001610	VBU	VBU

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 (cont'd)

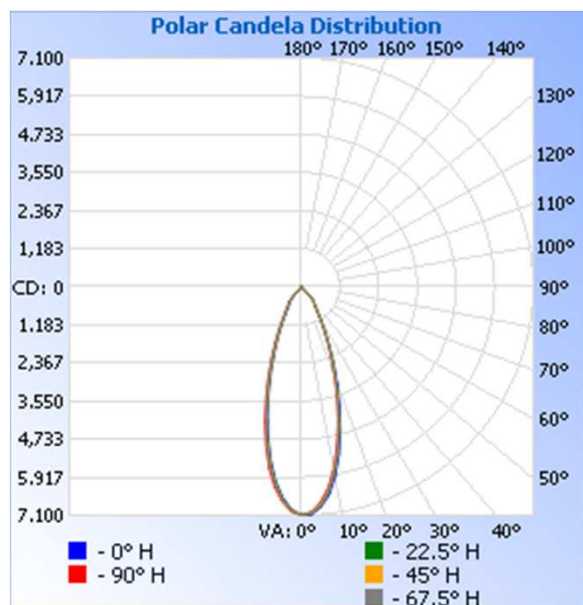
Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

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)
LAN1607271107-003	UP	120.0	1696	187.5	0.921	3284	17.51

Intensity (Candlepower) Summary at 25°C - Candelas

Maximum Candela Value: 7,081.3

Angle	0	22.5	45	67.5	90
0	7081	7081	7081	7081	7081
5	6863	6805	6794	6736	6706
10	5952	5847	5815	5765	5709
15	4601	4492	4456	4405	4319
20	3198	3121	3072	3039	2963
25	2044	1971	1965	1947	1905
30	1205	1183	1181	1177	1167
35	764	740	750	746	737
40	606	586	591	592	586
45	132	112	100	75	57
50	25	14	17	14	16
55	6	8	12	13	10
60	6	6	13	9	6
65	6	5	3	8	4
70	1	4	7	12	0
75	6	1	11	4	6
80	0	7	4	2	6
85	7	7	2	0	4
90	0	0	0	0	0

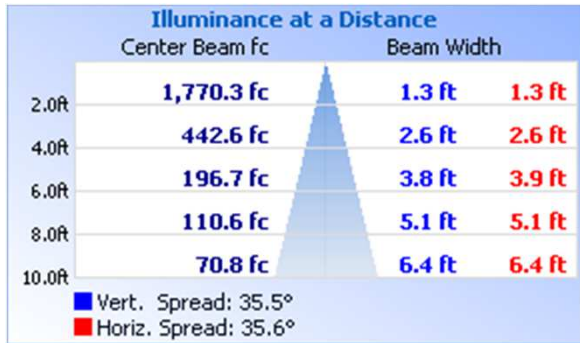


RESULTS OF TEST (cont'd)

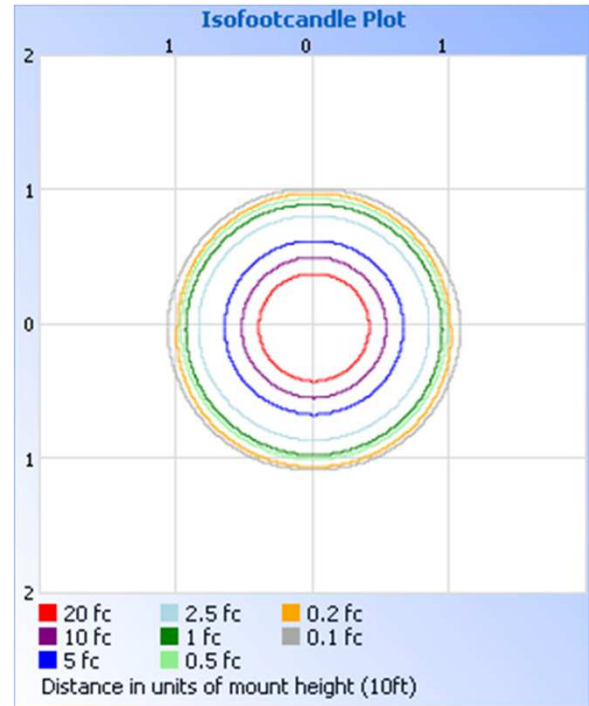
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	2653	80.8
0-40	3130	95.3
0-60	3272	99.6
60-90	12.0	0.4
0-90	3284	100.0
90-180	0.0	0.0
0-180	3284	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	605.9	18.5
10-20	1179	35.9
20-30	868.5	26.4
30-40	477.0	14.5
40-50	130.5	4.0
50-60	11.1	0.3
60-70	4.9	0.1
70-80	4.2	0.1
80-90	3.0	0.1

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:



Melanie Brittain
Associate Engineer
Lighting Division