



REPORT

25800 COMMERCE DRIVE, LAKE FOREST, CA 92630

Project No. G102328456

Date: August 2, 2016

REPORT NO. 102328456LAX-079

TEST OF ONE LED MOVING HEAD BEAM

MODEL NO. ZW37 RED

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 RED. 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

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SUMMARY

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

Criteria	Result
Total Lumen Output (Lumens)	1281
Total Power (W)	165.1
Luminaire Efficacy (LPW)	7.76

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	--	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)

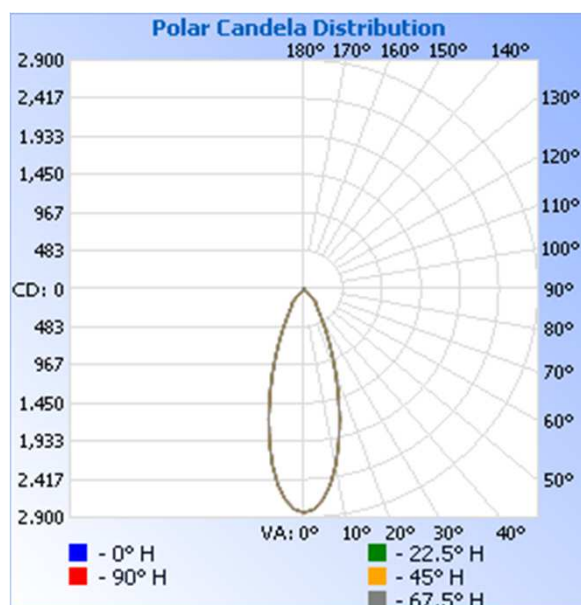
Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

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	120.1	1515	165.1	0.907	1281	7.76

Intensity (Candlepower) Summary at 25°C - Candelas

Maximum Candela Value: 2,837.2

Angle	0	22.5	45	67.5	90
0	2837	2837	2837	2837	2837
5	2683	2683	2683	2683	2683
10	2264	2264	2264	2264	2264
15	1699	1699	1699	1699	1699
20	1152	1152	1152	1152	1152
25	723	723	723	723	723
30	432	432	432	432	432
35	275	275	275	275	275
40	219	219	219	219	219
45	21	21	21	21	21
50	7	7	7	7	7
55	4	4	4	4	4
60	3	3	3	3	3
65	2	2	2	2	2
70	1	1	1	1	1
75	1	1	1	1	1
80	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0

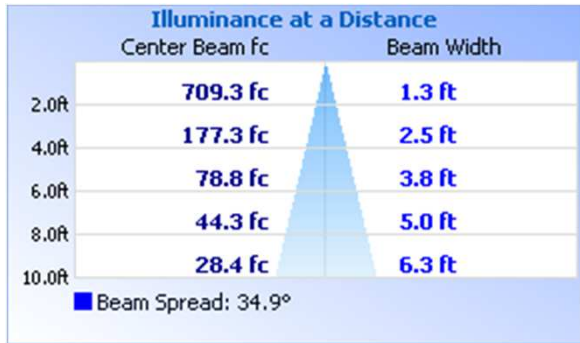


RESULTS OF TEST (cont'd)

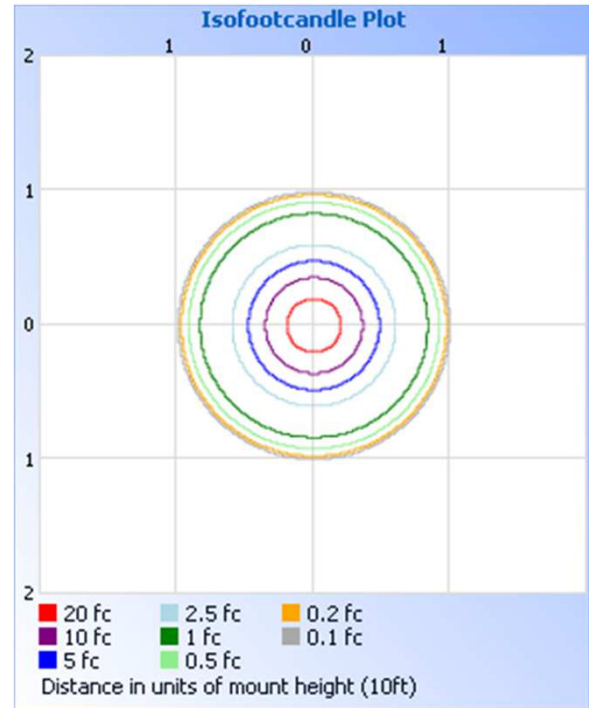
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	1042	81.4
0-40	1225	95.6
0-60	1278	99.8
60-90	2.7	0.2
0-90	1281	100.0
90-180	0.0	0.0
0-180	1281	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	241.8	18.9
10-20	464.8	36.3
20-30	335.8	26.2
30-40	182.3	14.2
40-50	49.6	3.9
50-60	3.8	0.3
60-70	1.7	0.1
70-80	0.7	0.1
80-90	0.2	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:



Melanie Brittain
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Lighting Division