



REPORT

25800 COMMERCENTRE DRIVE, LAKE FOREST, CA 92630

Project No. G101607677

Date: June 9, 2014

REPORT NO. 101607677LAX-021

TEST OF ONE FULL ON AT 13 BEAM ANGLE

MODEL NO. RAZOR Q12 ZOOM

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 RAZOR Q12 ZOOM. The sample was received by Intertek on May 29, 2014, in undamaged condition and one sample was tested as received. The sample designation was LAN1405291025-004.

DATES OF TESTS: June 3, 2014

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SUMMARY

Model No.:	RAZOR Q12 ZOOM
Description:	Full On at 13 Beam Angle

Criteria	Result
Total Lumen Output (Lumens)	1816.5
Total Power (W)	89.14
Luminaire Efficacy (LPW)	20.38
Power Factor	0.937

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date
LSI High Speed Mirror Goniometer	6440T	000943	05/12/14	06/12/14
Elgar Power Supply	CW1251	000944	N/A	N/A
Yokogawa Power Analyzer	WT210	000945	11/14/13	11/14/14
Omega Environmental Monitor	iBTHX-W	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 – 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

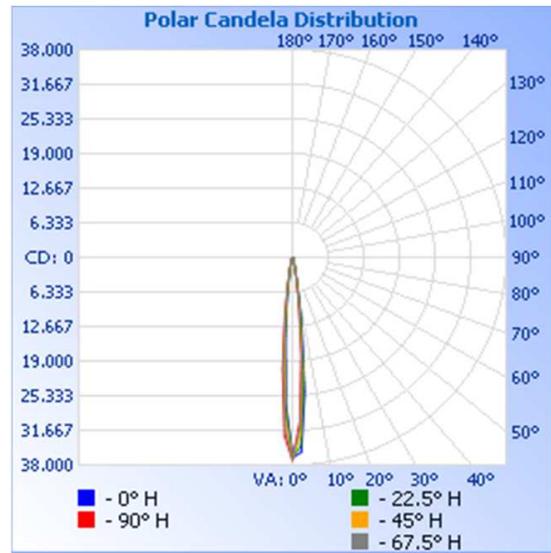
Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

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)
LAN1405291025-004	UP	120.1	792.2	89.14	0.937	1816.5	20.38

Intensity (Candlepower) Summary at 25°C - Candelas

Maximum Candela Value 37137

Angle	0	22.5	45	67.5	90
0	36612	36683	36826	36887	37137
5	24657	23190	20752	19210	17898
10	5138	4909	4316	4032	3712
15	1174	1169	1075	974	977
20	426	407	398	376	367
25	187	186	171	158	157
30	84	69	69	76	69
35	35	37	34	34	29
40	16	12	24	9	18
45	0	0	4	3	0
50	5	3	6	10	4
55	3	0	1	0	11
60	1	3	0	1	0
65	9	0	0	0	0
70	0	0	0	0	0
75	0	0	0	0	0
80	4	0	3	0	5
85	0	1	0	5	0
90	5	0	0	6	0

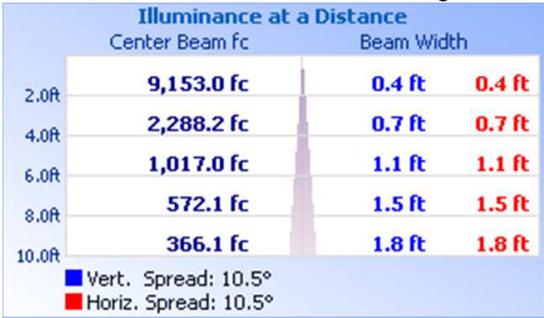


RESULTS OF TEST (cont'd)

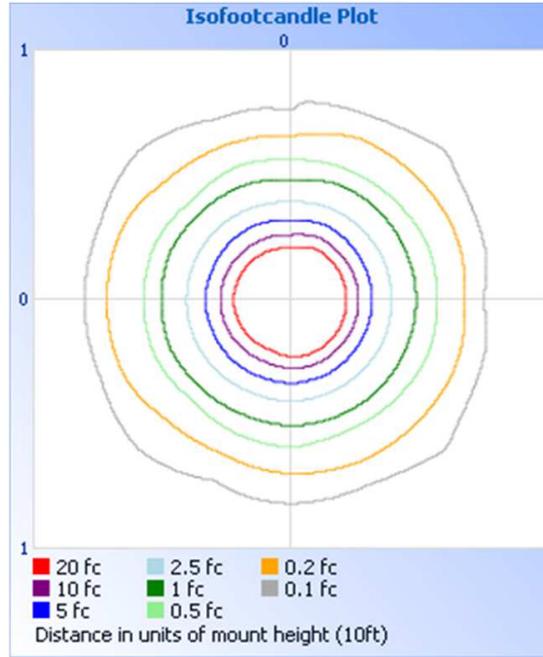
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	1781	98.1%
0-40	1805	99.4%
0-60	1812	99.8%
60-90	4.1	0.2%
0-90	1816.3	0.2%
90-180	0.2	0.0%
0-180	1816.5	100.0%

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	1314	72.3%
10-20	379.2	20.9%
20-30	88.3	4.9%
30-40	23.7	1.3%
40-50	5.2	0.3%
50-60	2.0	0.1%
60-70	1.5	0.1%
70-80	0.6	0.0%
80-90	2.0	0.1%
90-100	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:



Erik Linares
Technician
Lighting Division

Attachment: None

Report Reviewed By:



Kenda Branch
Engineer
Lighting Division