REPORT

25800 COMMERCENTRE DRIVE, LAKE FOREST, CA 92630

Project No. G101607677 Date: June 6, 2014

REPORT NO. 101607677LAX-020

TEST OF ONE FULL ON AT 29 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 29 BEAM ANGLE

Criteria	Result
Total Lumen Output (Lumens)	998.9
Total Power (W)	74.85
Luminaire Efficacy (LPW)	13.35
Power Factor	0.931

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

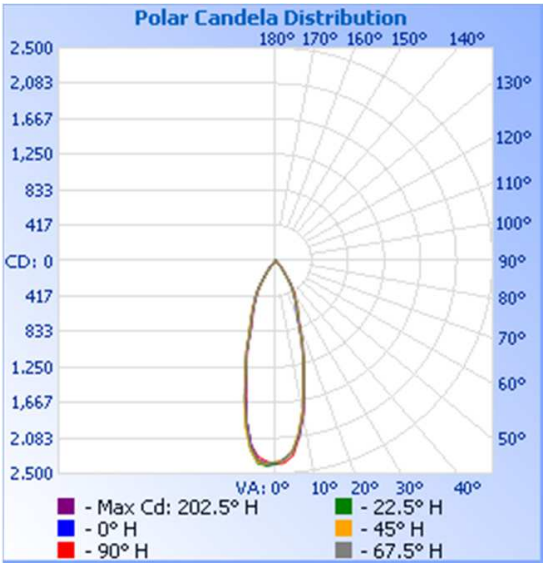
Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

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	120.0	670.0	74.85	0.931	998.9	13.35

Intensity (Candlepower) Summary at 25°C - Candelas

Maximum Candela Value 2409

Angle	0	22.5	45	67.5	90
0	2381	2389	2360	2371	2389
5	2233	2255	2235	2257	2294
10	1806	1789	1777	1812	1836
15	1223	1239	1230	1234	1255
20	759	773	771	786	805
25	552	545	558	570	589
30	393	372	372	371	422
35	189	188	171	177	182
40	94	78	54	68	101
45	20	18	15	16	20
50	10	8	9	9	11
55	6	5	5	6	7
60	2	5	4	3	3
65	2	2	2	2	2
70	1	2	0	2	2
75	1	0	2	1	1
80	0	0	0	0	1
85	1	1	1	0	1
90	0	0	0	0	0

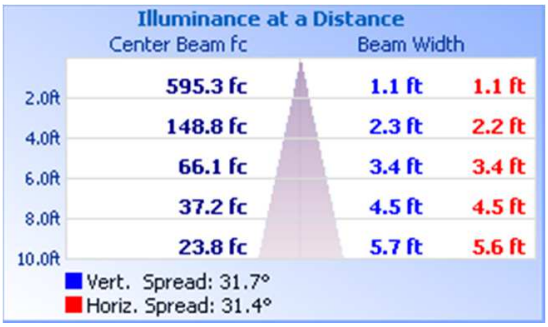


RESULTS OF TEST (cont'd)

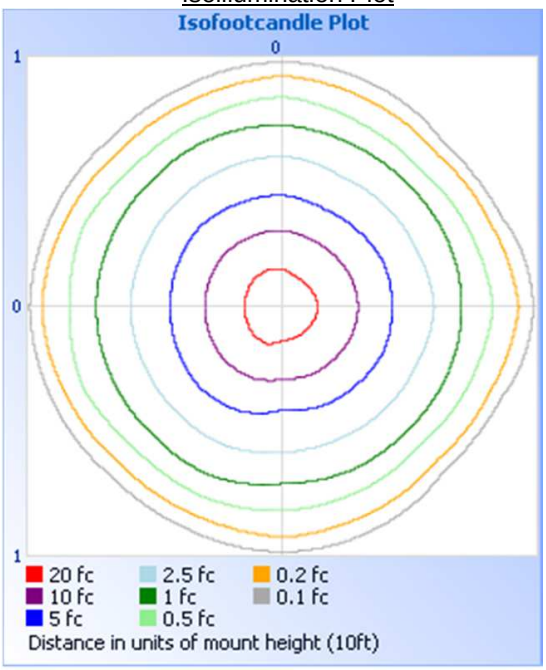
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	832.7	83.4%
0-40	967.7	96.9%
0-60	995.0	99.6%
60-90	3.8	0.4%
0-90	998.9	0.2%
90-180	0	0.0%
0-180	998.9	100.0%

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	205.2	20.5%
10-20	356.6	35.7%
20-30	270.9	27.1%
30-40	135.0	13.5%
40-50	22.3	2.2%
50-60	5.1	0.5%
60-70	2.4	0.2%
70-80	1.0	0.1%
80-90	0.4	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:

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Report Reviewed By:

Kenda Branch
Engineer
Lighting Division

Attachment: None