



# REPORT

25800 COMMERCENTRE DRIVE, LAKE FOREST, CA 92630

Project No. G102697884

Date: August 25, 2016

REPORT NO. 102697884LAX-021

TEST OF ONE LED MOVING HEAD BEAM

MODEL NO. FUZE PAR Z120 FULL ON ZOOM OUT

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 production sample of model number FUZE PAR Z120 FULL ON ZOOM OUT. The sample was received by Intertek on August 11, 2016, in undamaged condition and one sample was tested as received. The sample designation was LAN1608110839-004.

DATES OF TESTS: August 20, 2016

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## SUMMARY

Model No.:	FUZE PAR Z120 FULL ON ZOOM OUT
Description:	LED Moving Head Beam

Criteria	Result
Total Lumen Output (Lumens)	2422
Total Power (W)	156.9
Luminaire Efficacy (LPW)	15.44

## EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date
LSI High Speed Mirror Goniometer	6440T	000943	08/15/16	09/15/16
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)

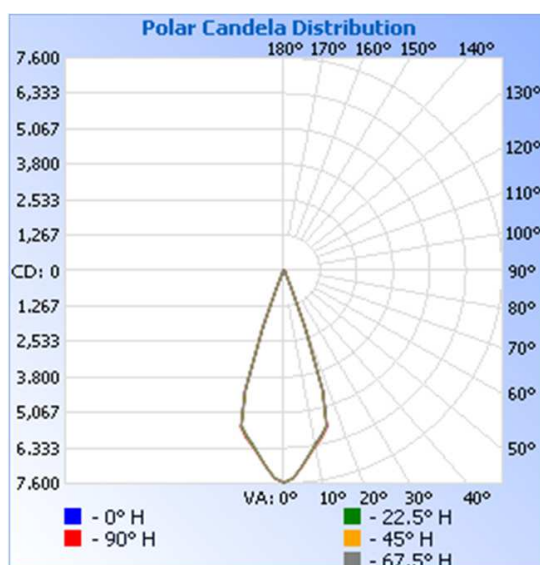
### Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

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)
LAN1608110839-004	UP	120.0	1339	156.9	0.975	2422	15.44

### Intensity (Candlepower) Summary at 25°C - Candelas

Maximum Candela Value: 7,566.8

Angle	0	22.5	45	67.5	90
0	7567	7567	7567	7567	7567
5	7034	7029	7042	7043	7040
10	6288	6292	6312	6346	6351
15	5740	5696	5724	5758	5781
20	2112	2156	2170	2187	2155
25	276	303	311	316	308
30	142	146	147	155	157
35	96	109	101	107	108
40	68	78	82	82	81
45	60	55	56	60	58
50	37	35	43	42	37
55	22	19	29	28	21
60	2	1	4	5	2
65	0	0	0	0	0
70	0	0	0	0	0
75	0	0	0	0	0
80	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0

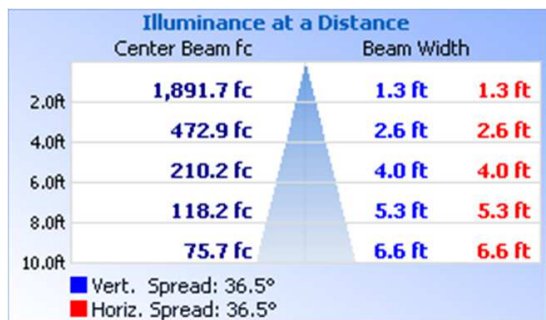


# RESULTS OF TEST (cont'd)

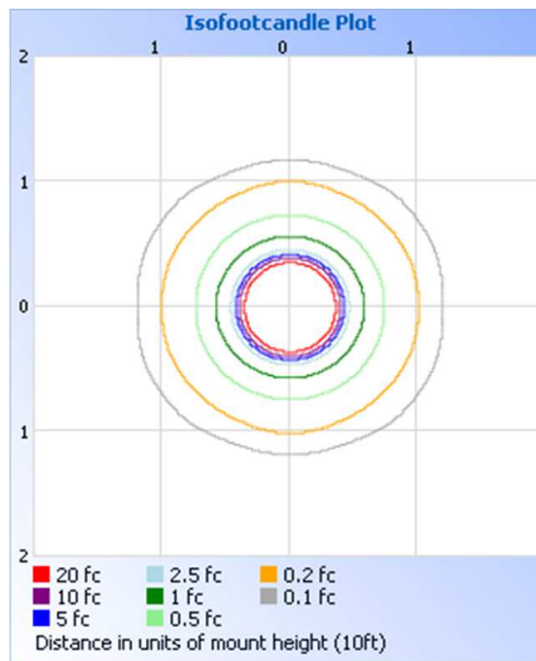
## Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	2291	94.6
0-40	2357	97.3
0-60	2422	100.0
60-90	0.4	0.0
0-90	2422	100.0
90-180	0.0	0.0
0-180	2422	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	647.3	26.7
10-20	1393	57.5
20-30	250.0	10.3
30-40	66.7	2.8
40-50	44.9	1.9
50-60	19.6	0.8
60-70	0.4	0.0
70-80	0.0	0.0
80-90	0.0	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  
Lighting Performance Team Lead  
Lighting Division