



FOR THE SCOPE OF  
ACCREDITATION UNDER A2LA  
TO ISO/IEC 17025:2005.

# REPORT

25800 COMMERCENTRE DRIVE, LAKE FOREST, CA 92630

Project No. G101607677

Date: April 29, 2014

REPORT NO. 101607677LAX-004

TEST OF ONE OUTDOOR 6 IN 1 LED PAR

MODEL NO. SIXPAR 100IP

RENDERED TO

ELATION PROFESSIONAL  
6122 S. EASTERN AVENUE  
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 SIXPAR 100IP. The sample was received by Intertek on April 25, 2014, in undamaged condition and one sample was tested as received. The sample designation was LAN1404250928-004.

DATES OF TESTS: April 28, 2014

---

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.



SUMMARY

Model No.:	SIXPAR 100IP
Description:	Outdoor 6 In 1 LED PAR

Criteria	Result
Total Lumen Output (Lumens)	1449.8
Total Power (W)	60.07
Luminaire Efficacy (LPW)	24.14
Power Factor	0.953

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date
LSI High Speed Mirror Goniometer	6440T	000943	VBU	VBU
Elgar Power Supply	CW1251	000944	VBU	VBU
Yokogawa Power Analyzer	WT210	000945	11/14/13	11/14/14
Omega Environmental Monitor	iBTHX-W	000886	09/09/13	09/09/14
Tape Measure	33-428	000684	12/09/13	12/09/14
Stopwatch	365510	001380	11/05/13	11/05/14

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**

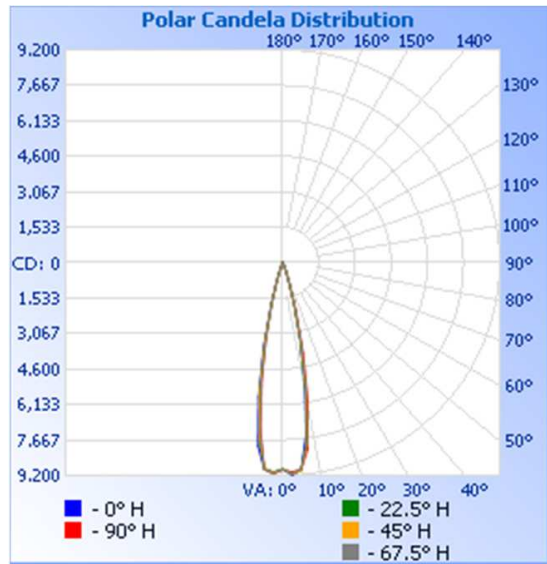
**Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method**

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)
LAN1404250928-004	UP	120.0	526.6	60.07	0.953	1449.8	24.14

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

Maximum Candela Value            9183

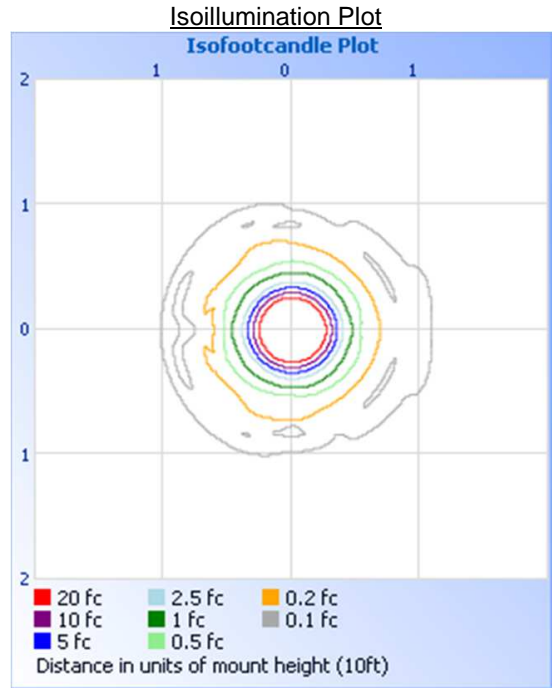
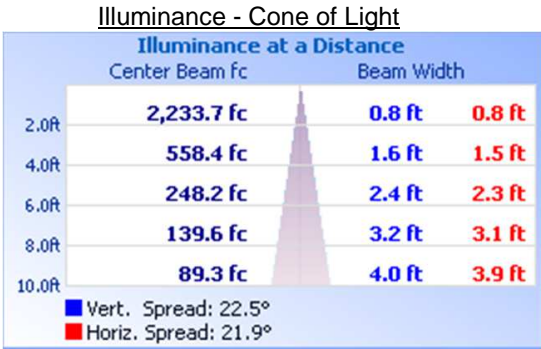
Angle	0	22.5	45	67.5	90
0	8935	8910	8931	8934	8949
5	9005	8982	9029	8944	8977
10	5441	5537	5661	5815	6123
15	1834	1806	1866	2006	2147
20	414	387	384	406	466
25	122	132	123	113	140
30	57	50	62	66	62
35	45	28	18	31	35
40	17	35	20	20	26
45	19	24	37	29	32
50	23	7	30	21	8
55	7	13	6	16	19
60	8	8	3	5	19
65	5	6	14	7	0
70	10	0	0	0	0
75	0	0	0	7	3
80	0	9	0	0	1
85	0	0	0	0	0
90	0	0	4	0	1



RESULTS OF TEST (cont'd)

Illumination Plots

Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	1381	95.2%
0-40	1402	96.7%
0-60	1435	99.0%
60-90	14.2	1.0%
0-90	1449.6	0.4%
90-180	0.1	0.0%
0-180	1449.8	100.0%

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	737.6	50.9%
10-20	573.3	39.5%
20-30	69.9	4.8%
30-40	21.7	1.5%
40-50	20.6	1.4%
50-60	12.4	0.9%
60-70	8.0	0.6%
70-80	3.3	0.2%
80-90	2.9	0.2%
90-100	0.1	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