



FOR THE SCOPE OF
ACCREDITATION UNDER NVLAP LAB
CODE 100402-0.

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100346803

Date: June 1, 2011

REPORT NO. 100346803CRT-014

TEST OF ONE LED PAR38 LAMP

MODEL NO. LP15566FL4

RENDERED TO

LITETRONICS INTERNATIONAL INC.
4101 WEST 123RD STREET
ALSIP, IL 60803

TEST: Electrical and Photometric tests as required to the IESNA test standard.

LABORATORY NOTE: The laboratory that conducted the testing detailed in this report has been Qualified, Verified, and Recognized for LM-79 Testing for ENERGY STAR for SSL by US DOE's CALiPER program.

STATEMENT OF LIMITATION: This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

AUTHORIZATION: The testing performed was authorized by signed quote number 500287913.

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 Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2008 Specifications of the Chromaticity of Solid State Lighting Products

DESCRIPTION OF SAMPLE: The client submitted one sample of model number LP15566FL4. The sample was received by Intertek on May 2, 2011, in undamaged condition, and one sample was tested as received. The sample designation was L11602L.

DATES OF TESTS: May 23, 2011 through May 25, 2011.

SUMMARY

Model No.: LP15566FL4
Description: 15W PAR38 MED 100-240V FL 3000K 50,000H

Criteria	Result	
	Sphere	Distribution
Total Lumen Output (lm)	894.0	824.1
Total Power (W)	14.83	14.71
Luminaire Efficacy (lm/W)	60.28	56.03
Power Factor	0.997	0.997
Current ATHD (%)	6.50	
Color Rendering Index (CRI) -Ra	82.1	
Duv	0.001	
Correlated Color Temperature (CCT)	3020 K	
Chromaticity Coordinate (x)	0.434	
Chromaticity Coordinate (y)	0.401	
Chromaticity Coordinate (u')	0.250	
Chromaticity Coordinate (v')	0.520	

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Calibration Date	Calibration Due Date
Leeds & Northup Standard Resistor	Manganin	Y089	02/17/11	02/17/12
Data Precision Digital Voltmeter	3600	V124	02/17/11	02/17/12
Fluke Multimeter	45	M133	02/17/11	02/17/12
Fluke Temperature Meter	52	T801	06/11/10	06/11/11
Kikusui DC Power Supply	35-10L	E160	---	---
Sorenson DC Power Supply	DLM150-20E	--	---	---
NIST Spectral Flux Standard Source	RF1024	---	09/18/10	100 hours of use
Elgar AC Power Supply	CW1251	--	--	--
Yokogawa Power Meter	WT210	E464	04/19/11	04/19/12
LSI High Speed Mirror Goniometer	6440	--	w/use	w/use
Cole Parmer Hygro Thermometer	445703	T1357	10/12/10	10/12/11
Xitron Power Analyzer	2503AH	E235	04/20/11	04/20/12
ITS 2 Meter Sphere	W/ CDS 600	N308	w/use	w/use
Fluke Temp Meter	53 II	N1324	03/11/11	03/11/12
Elgar Power Supply	CW1251	NA	NA	NA



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 Xitron or Yokogawa Power Analyzer.

Some graphics were created with Photometrics Plus software.

Photometric and Electrical Measurements – Integrating Sphere Method

A Labsphere Model DAS 1100 Diode Array Spectroradiometer and Two Meter or Ten Foot Sphere was used to measure correlated color temperature, chromaticity coordinates, and the color rendering index for each SSL unit.

Ambient temperature was measured at a position inside the sphere. Each SSL unit was operated on the client provided driver at the rated input voltage in its designated orientation. Each SSL unit was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

The calibration of the sphere photometer-spectroradiometer system is traceable to the National Institute of Standards and Technology.

Estimated Total Operating Time

<u>Model No.</u>	<u>Total Hours</u>
LP15566FL4	3

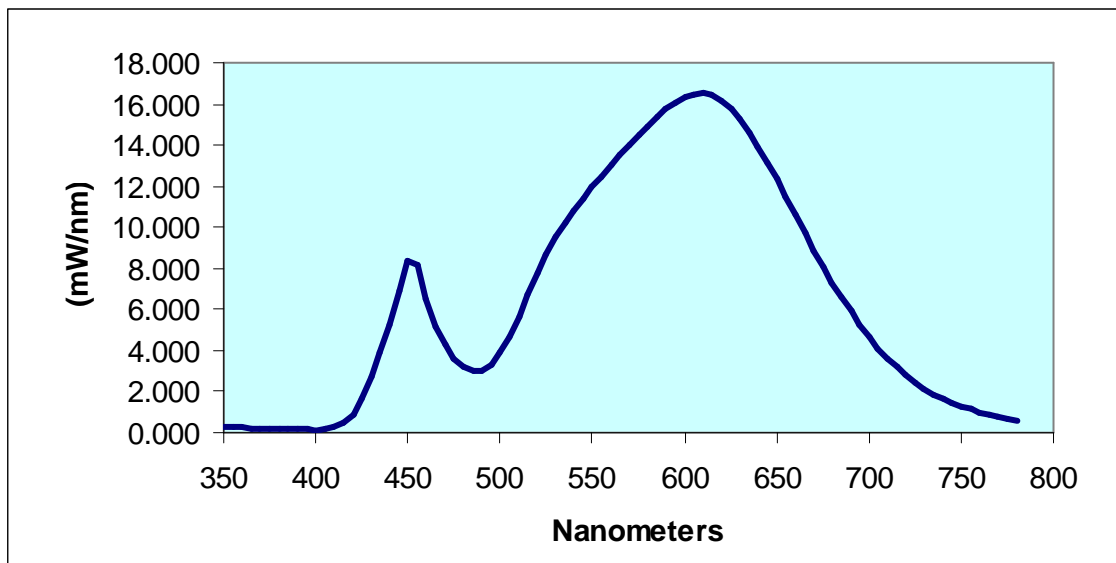


RESULTS OF TESTS

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
LP15566FL4							
350	0.310	460	6.551	570	13.970	680	7.317
355	0.264	465	5.154	575	14.467	685	6.582
360	0.247	470	4.300	580	14.907	690	5.904
365	0.241	475	3.639	585	15.343	695	5.258
370	0.231	480	3.187	590	15.790	700	4.650
375	0.211	485	2.991	595	16.085	705	4.133
380	0.179	490	3.025	600	16.390	710	3.642
385	0.209	495	3.285	605	16.457	715	3.195
390	0.159	500	3.886	610	16.512	720	2.817
395	0.197	505	4.689	615	16.410	725	2.469
400	0.130	510	5.682	620	16.192	730	2.164
405	0.166	515	6.734	625	15.785	735	1.896
410	0.244	520	7.775	630	15.285	740	1.655
415	0.451	525	8.704	635	14.624	745	1.467
420	0.893	530	9.521	640	13.906	750	1.291
425	1.646	535	10.226	645	13.161	755	1.146
430	2.699	540	10.834	650	12.366	760	1.008
435	3.910	545	11.401	655	11.480	765	0.883
440	5.224	550	11.927	660	10.648	770	0.776
445	6.914	555	12.500	665	9.773	775	0.698
450	8.375	560	12.997	670	8.889	780	0.631
455	8.172	565	13.485	675	8.082		

LITETRONICS
Sample No. L11602L
Model No. LP15566FL4
Spectral Data Over Visible Wavelengths



RESULTS OF TESTS (cont'd)

Photometric and Electrical Measurements at 25°C – Integrating Sphere Method

Intertek Sample No.	Correlated Color Temperature (K)	CRI - Ra	CRI - R9	DUV	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
LP15566FL4								
L11602L	3020	82.1	23.1	0.001	0.434	0.401	0.250	0.520

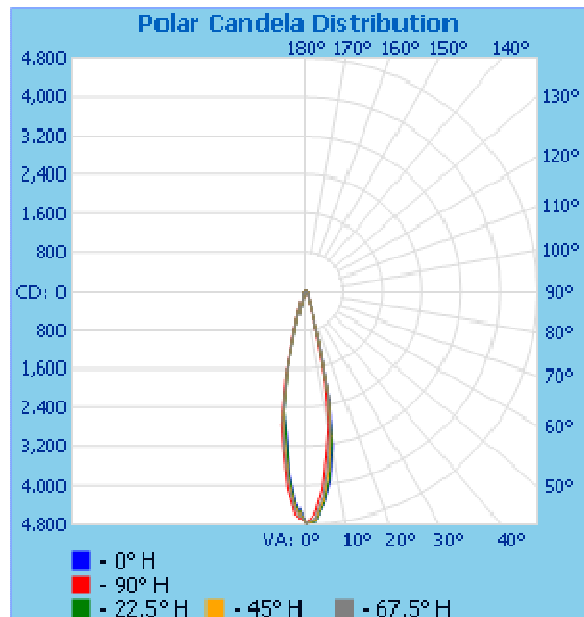
Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
LP15566FL4								
L11602L	UP	120.0	124.0	14.83	0.997	6.50	894.0	60.28

Photometric and Electrical Measurements – 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)
LP15566FL4							
L11602L	UP	120.0	122.9	14.71	0.997	824.1	56.03

Intensity (Candlepower) Summary at 25°C - Candelas

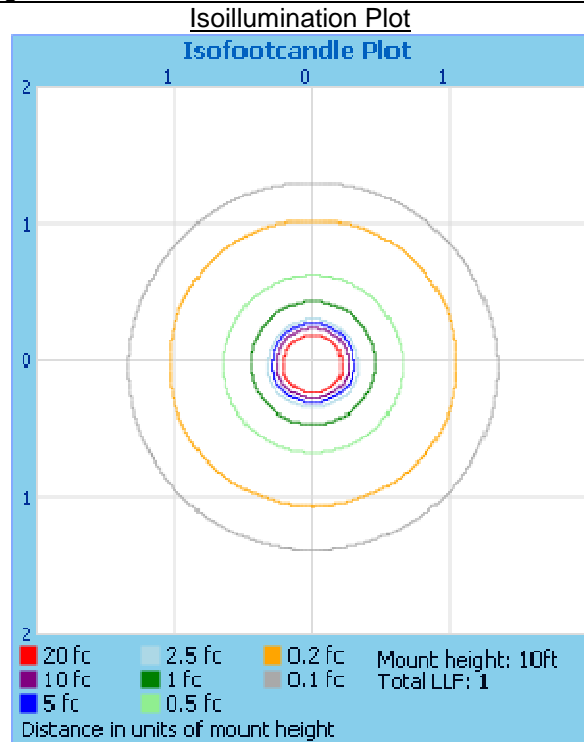
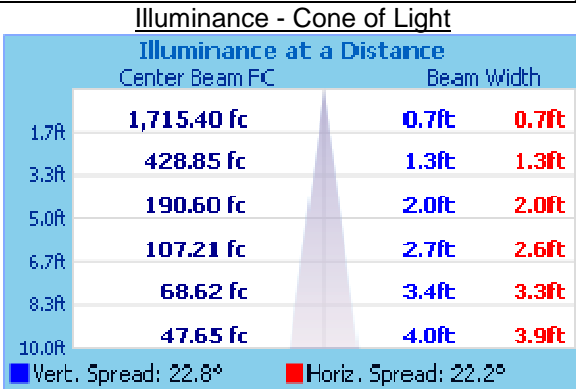
Angle	0	22.5	45	67.5	90
L11602L					
0	4765	4765	4765	4765	4765
5	4410	4404	4339	4258	4078
10	3253	3164	3037	2920	2786
15	1141	1087	1106	1120	856
20	190	190	194	199	181
25	130	130	129	129	128
30	106	107	107	106	104
35	78	76	79	76	74
40	76	76	76	75	73
45	65	64	65	64	62
50	56	55	58	55	52
55	46	44	43	39	32
60	10	10	9	9	8
65	4	4	5	4	4
70	2	1	1	1	1
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 TESTS (cont'd)

Illumination Plots

Model No.: LP1556FL4
Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
LP1556FL4		
0-30	691.7	83.9
0-40	742.8	90.1
0-60	820.0	99.5
60-90	4.1	0.5
0-90	824.1	100.0
90-180	0.0	0.0
0-180	824.1	100.0

Reflector Summary

	Efficiency (%)	Lumens	Horizontal Spread (°)	Vertical Spread (°)
LP1556FL4				
Field (10%):	73.3	603.8	33.6	33.5
Beam (50%):	47.4	390.3	22.2	22.8
Total:	100.4	827.2		

Pictures (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:

Kenda Branch
Engineer
Lighting Division

Attachment: None

Report Reviewed By:

Jeffrey Davis
Associate Engineer
Lighting Division