



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

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100346803

Original Issue Date: May 11, 2011

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REPORT NO. 100346803CRT-012

TEST OF ONE LED PAR38 LAMP

MODEL NO. LP10566FL4

RENDERED TO

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

Revision Note May 24, 2011: This report was revised to correct the lamp description on page 2.

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 LP10566FL4. The sample was received by Intertek on April 12, 2011, in undamaged condition, and one sample was tested as received. The sample designation was L11322L.

DATES OF TESTS: April 29, 2011 through May 4, 2011.

SUMMARY

Model No.: LP10566FL4
Description: 10W PAR38 MED 100-240V FL 3000K 50,000H

Criteria	Result	
	Sphere	Distribution
Total Lumen Output (lm)	588.0	549.2
Total Power (W)	9.48	9.437
Luminaire Efficacy (lm/W)	62.02	58.20
Power Factor	0.993	0.994
Current ATHD (%)	9.10	
Color Rendering Index (CRI) -Ra	26.6	
Duv	0.001	
Correlated Color Temperature (CCT)	2983	
Chromaticity Coordinate (x)	0.436	
Chromaticity Coordinate (y)	0.401	
Chromaticity Coordinate (u')	0.252	
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

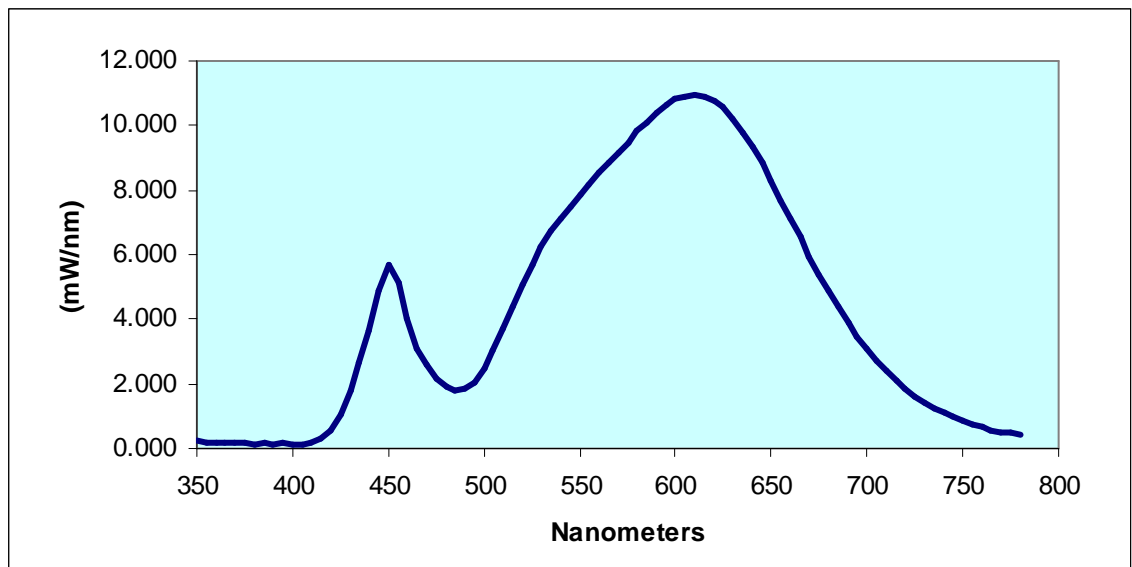
<u>Model No.</u>	<u>Total Hours</u>
LP10566FL4	5

RESULTS OF TESTS

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
LP10566FL4							
350	0.263	460	3.992	570	9.162	680	4.861
355	0.204	465	3.115	575	9.488	685	4.367
360	0.208	470	2.572	580	9.808	690	3.922
365	0.178	475	2.165	585	10.101	695	3.488
370	0.185	480	1.904	590	10.402	700	3.095
375	0.171	485	1.797	595	10.625	705	2.734
380	0.154	490	1.847	600	10.830	710	2.413
385	0.168	495	2.038	605	10.904	715	2.114
390	0.118	500	2.463	610	10.948	720	1.862
395	0.165	505	3.021	615	10.887	725	1.636
400	0.102	510	3.691	620	10.786	730	1.436
405	0.108	515	4.404	625	10.548	735	1.252
410	0.156	520	5.087	630	10.223	740	1.098
415	0.281	525	5.714	635	9.785	745	0.965
420	0.567	530	6.255	640	9.319	750	0.851
425	1.059	535	6.716	645	8.815	755	0.754
430	1.794	540	7.117	650	8.277	760	0.663
435	2.649	545	7.485	655	7.686	765	0.581
440	3.656	550	7.830	660	7.121	770	0.512
445	4.899	555	8.194	665	6.526	775	0.470
450	5.677	560	8.518	670	5.927	780	0.419
455	5.158	565	8.851	675	5.386		

LITETRONICS
Sample No. L11322L
Model No. LP10566FL4
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')
LP10566FL4								
L11322L	2983	82.5	26.6	0.001	0.436	0.401	0.252	0.520

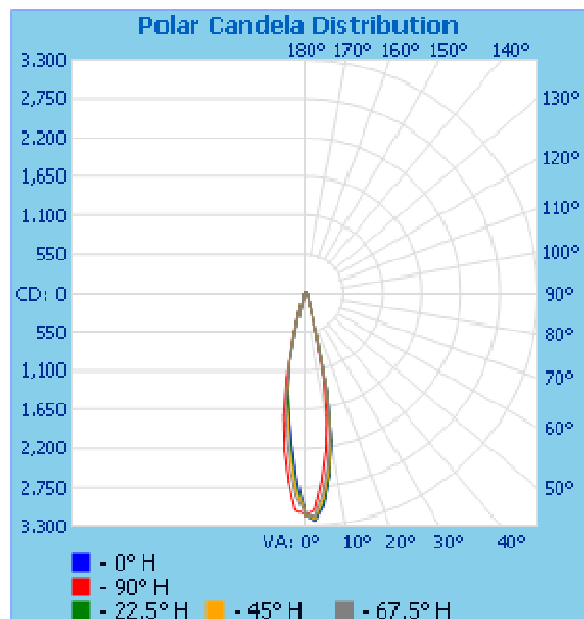
Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
LP10566FL4								
L11322L	UP	120.0	79.6	9.48	0.993	9.10	588.0	62.02

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)
LP10566FL4							
L11322L	UP	120.0	79.08	9.437	0.994	549.2	58.20

Intensity (Candlepower) Summary at 25°C - Candelas

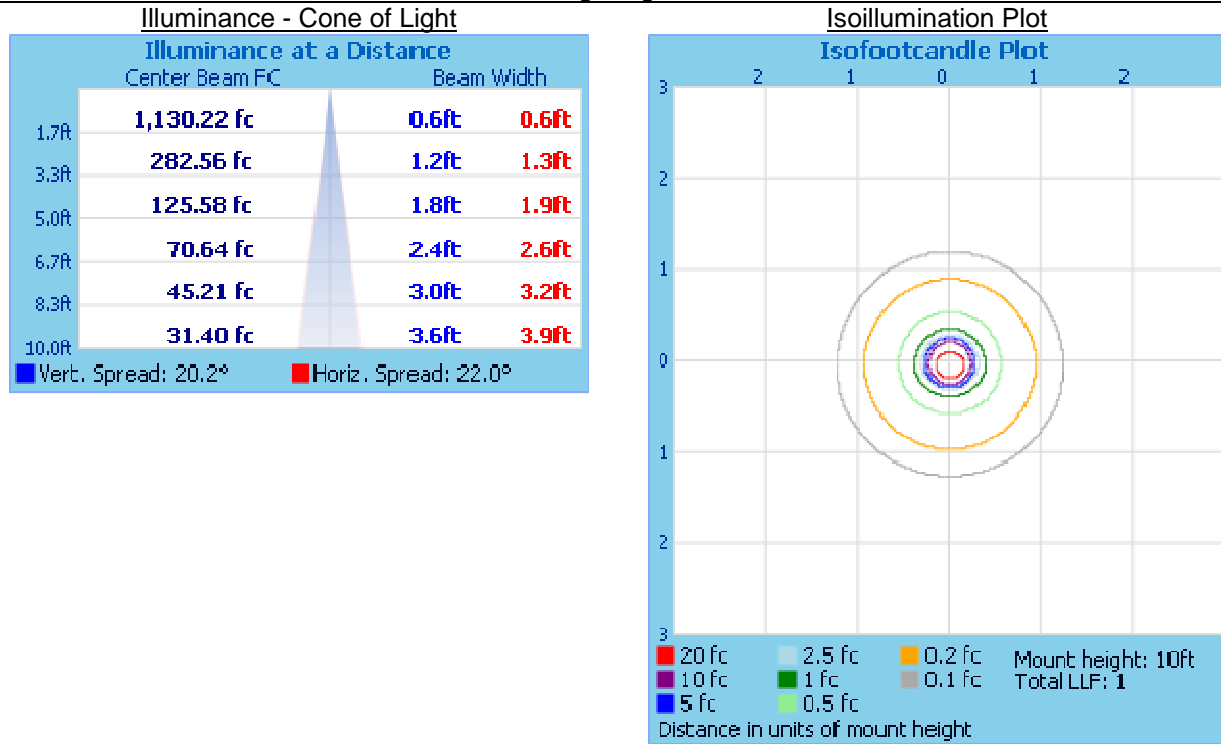
Angle	0	22.5	45	67.5	90
LP10566FL4					
0	3140	3140	3140	3140	3140
5	3032	3006	2933	2858	2681
10	2123	2113	2068	2026	1772
15	637	682	658	676	585
20	132	136	139	141	130
25	90	90	91	92	88
30	76	75	76	76	74
35	59	59	60	59	56
40	57	55	57	55	55
45	53	51	52	49	48
50	43	43	43	43	42
55	37	33	34	31	26
60	10	10	10	9	8
65	6	5	5	5	4
70	2	2	2	2	2
75	1	1	1	1	1
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.: LP10566FL4
Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
LP10566FL4		
0-30	446.6	81.3
0-40	484.1	88.2
0-60	544.0	99.0
60-90	5.2	1.0
0-90	549.2	100.0
90-180	0.0	0.0
0-180	549.2	100.0

Reflector Summary

	Efficiency (%)	Lumens	Horizontal Spread (°)	Vertical Spread (°)
LP10566FL4				
Field (10%):	70.2	385.3	33.6	33.1
Beam (50%):	43.1	236.6	22.0	20.2
Total:	100.4	551.3		

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:

Steven Mosier
Technician I
Lighting Division

Attachment: None

Report Reviewed By:

Jeffrey Davis
Senior Associate Engineer
Lighting Division