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 12, 2011
Revision Date: May 24, 2011

REPORT NO. 100346803CRT-009

TEST OF ONE LED PAR38 LAMP

MODEL NO. LP10566SP4

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 LP10566SP4. The sample was received by Intertek on April 12, 2011, in undamaged condition, and one sample was tested as received. The sample designation was L11319L.

DATES OF TESTS: April 29, 2011 through May 5, 2011.

SUMMARY

Model No.:	LP10566SP4
Description:	10W PAR38 MED 100-240V SP 3000K 50,000H

Criteria	Result Sphere	Result Distribution
Total Lumen Output (lm)	605.7	556.2
Total Power (W)	9.80	9.74
Luminaire Efficacy (lm/W)	61.80	57.10
Power Factor	0.994	0.995
Current ATHD (%)	9.00	
Color Rendering Index (CRI) -Ra	82.7	
Duv	0.002	
Correlated Color Temperature (CCT)	3005 K	
Chromaticity Coordinate (x)	0.434	
Chromaticity Coordinate (y)	0.398	
Chromaticity Coordinate (u')	0.251	
Chromaticity Coordinate (v')	0.518	

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

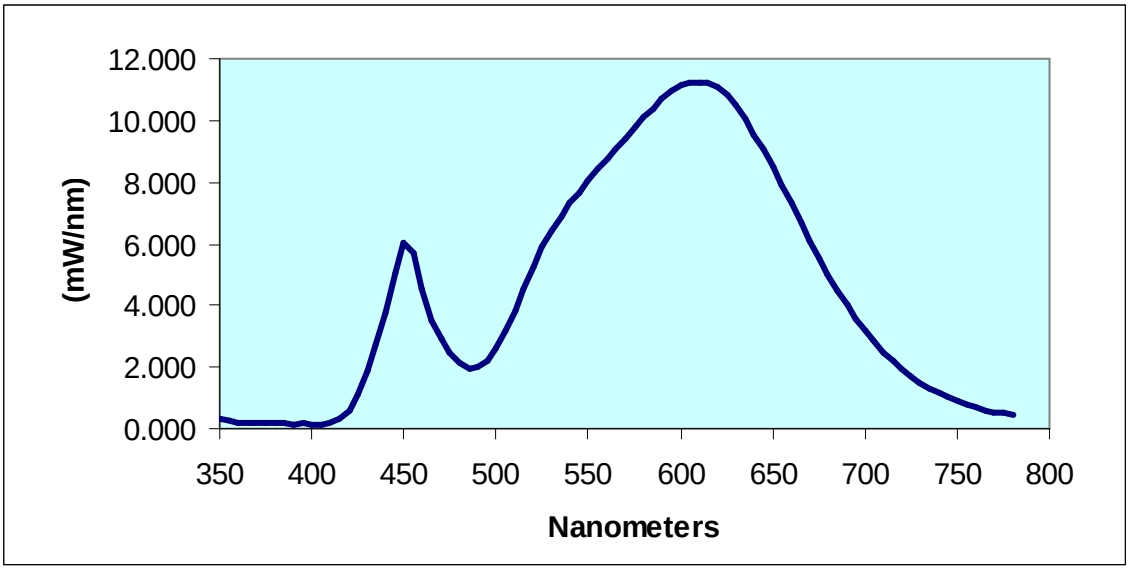
Model No.	Total Hours
LP10566SP4	3

RESULTS OF TESTS

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
			LP10566SP4				
350	0.297	460	4.534	570	9.423	680	5.015
355	0.248	465	3.520	575	9.767	685	4.501
360	0.222	470	2.906	580	10.097	690	4.032
365	0.200	475	2.445	585	10.398	695	3.600
370	0.187	480	2.120	590	10.710	700	3.187
375	0.179	485	1.973	595	10.935	705	2.822
380	0.175	490	2.000	600	11.160	710	2.488
385	0.189	495	2.184	605	11.218	715	2.181
390	0.128	500	2.596	610	11.248	720	1.928
395	0.178	505	3.156	615	11.200	725	1.686
400	0.112	510	3.828	620	11.093	730	1.489
405	0.122	515	4.551	625	10.846	735	1.291
410	0.168	520	5.249	630	10.495	740	1.139
415	0.302	525	5.877	635	10.057	745	1.006
420	0.598	530	6.432	640	9.561	750	0.894
425	1.116	535	6.902	645	9.059	755	0.783
430	1.864	540	7.314	650	8.502	760	0.692
435	2.747	545	7.686	655	7.902	765	0.605
440	3.762	550	8.041	660	7.318	770	0.537
445	5.028	555	8.430	665	6.708	775	0.494
450	6.004	560	8.766	670	6.105	780	0.439
455	5.716	565	9.098	675	5.540		

LITETRONICS
Sample No. L11319L
Model No. LP10566SP4
Spectral Data Over Visible Wavelengths



RESULTS OF TESTS (cont'd)

Photometric and Electrical Measurements at 25℃ – 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')
				LP10566SP4				
L11319L	3005	82.7	26.3	0.002	0.434	0.398	0.251	0.518

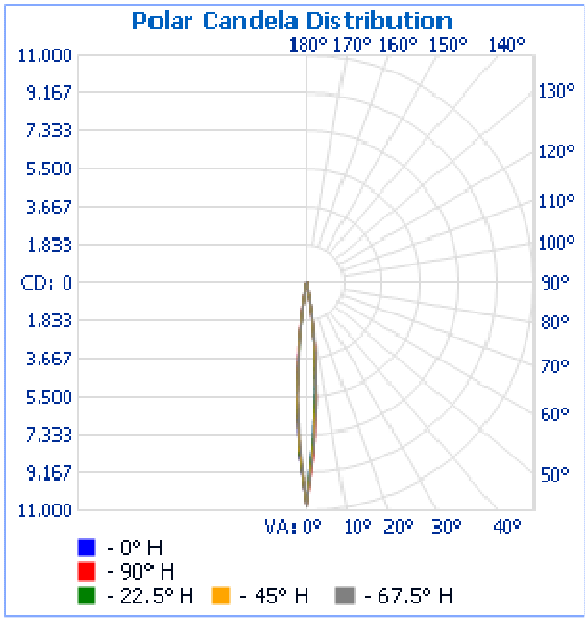
Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
				LP10566SP4				
L11319L	UP	120.0	82.2	9.80	0.994	9.00	605.7	61.80

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)
			LP10566SP4				
L11319L	UP	120.0	81.61	9.74	0.995	556.2	57.10

Intensity (Candlepower) Summary at 25℃ - Candelas

Angle	0	22.5	45	67.5	90
			LP10566SP4		
0	10795	10795	10795	10795	10795
5	5086	5104	5395	5750	5572
10	1420	1432	1458	1585	1359
15	316	312	317	328	320
20	124	120	122	125	122
25	43	42	43	45	46
30	24	24	25	26	26
35	19	18	19	19	19
40	15	14	15	14	14
45	11	11	11	11	11
50	10	9	10	9	10
55	9	9	10	9	9
60	8	8	8	8	8
65	9	8	9	8	8
70	12	12	13	12	11
75	4	4	4	5	4
80	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0

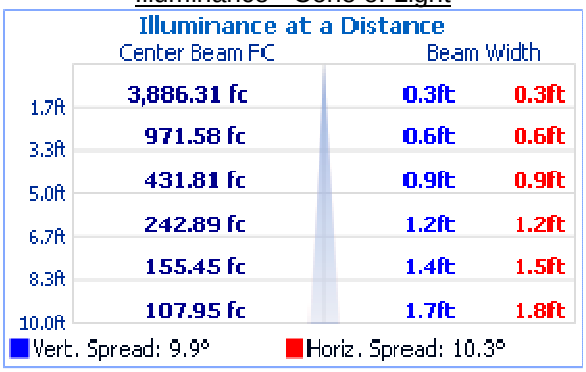


RESULTS OF TESTS (cont'd)

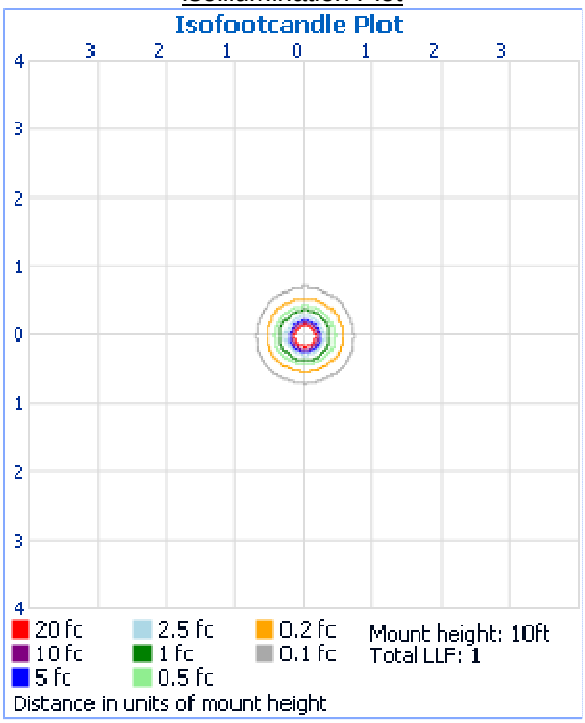
Illumination Plots

Model No.: LP10566SP4
Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25℃

Zone	Lumens	% Luminaire
	LP10566SP4	
0-30	514.5	92.5
0-40	526.2	94.6
0-60	542.2	97.5
60-90	13.9	2.5
0-90	556.2	100.0
90-180	0.0	0.0
0-180	556.2	100.0

Reflector Summary

	Efficiency (%)	Lumens	Horizontal Spread (°)	Vertical Spread (°)
		LP10566SP4		
Field (10%):	71.4	397.2	21.9	21.6
Beam (50%):	30.8	171.2	10.3	9.9
Total:	101.9	566.5		

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:

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Report Reviewed By:

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Lighting Division

Attachment: None