



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-015

TEST OF ONE LED PAR30 LAMP

MODEL NO. LP10564FL4

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 LP10564FL4. The sample was received by Intertek on May 23, 2011, in undamaged condition, and one sample was tested as received. The sample designation was L11872L.

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

SUMMARY

Model No.: LP10564FL4
Description: 10W PAR30LN MED 100-240V FL 3000K 50,000H

Criteria	Result	
	Sphere	Distribution
Total Lumen Output (lm)	554.9	502.6
Total Power (W)	9.34	9.107
Luminaire Efficacy (lm/W)	59.41	55.19
Power Factor	0.992	0.992
Current ATHD (%)	12.00	
Color Rendering Index (CRI) -Ra	82.2	
Duv	0.001	
Correlated Color Temperature (CCT)	3020 K	
Chromaticity Coordinate (x)	0.434	
Chromaticity Coordinate (y)	0.400	
Chromaticity Coordinate (u')	0.250	
Chromaticity Coordinate (v')	0.519	

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>
LP10564FL4	3

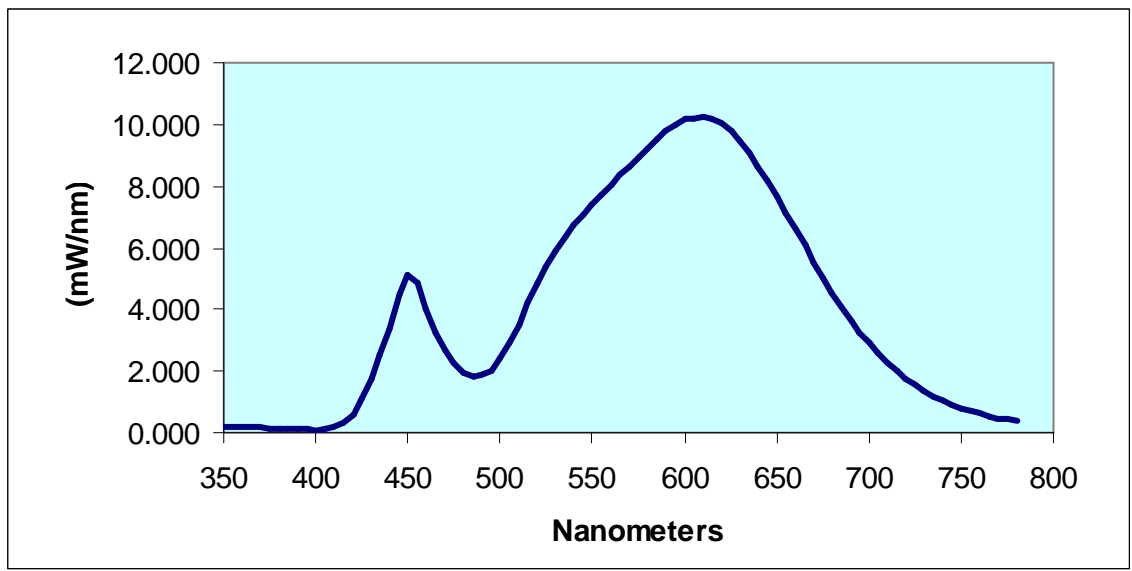


RESULTS OF TESTS

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
LP10564FL4							
350	0.206	460	4.013	570	8.645	680	4.551
355	0.187	465	3.216	575	8.962	685	4.085
360	0.185	470	2.651	580	9.238	690	3.660
365	0.165	475	2.242	585	9.512	695	3.262
370	0.176	480	1.972	590	9.785	700	2.887
375	0.152	485	1.841	595	9.977	705	2.569
380	0.133	490	1.860	600	10.165	710	2.256
385	0.151	495	2.029	605	10.212	715	1.982
390	0.104	500	2.408	610	10.233	720	1.743
395	0.146	505	2.908	615	10.177	725	1.534
400	0.096	510	3.527	620	10.051	730	1.349
405	0.109	515	4.185	625	9.810	735	1.174
410	0.166	520	4.834	630	9.486	740	1.030
415	0.304	525	5.407	635	9.092	745	0.906
420	0.598	530	5.911	640	8.634	750	0.805
425	1.096	535	6.347	645	8.180	755	0.702
430	1.779	540	6.724	650	7.684	760	0.626
435	2.543	545	7.065	655	7.134	765	0.550
440	3.389	550	7.382	660	6.620	770	0.481
445	4.443	555	7.739	665	6.072	775	0.442
450	5.133	560	8.055	670	5.523	780	0.386
455	4.875	565	8.352	675	5.019		

LITETRONICS
Sample No. L11872L
Model No. LP10564FL4
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')
LP10564FL4								
L11872L	3020	82.2	23.6	0.001	0.434	0.400	0.250	0.519

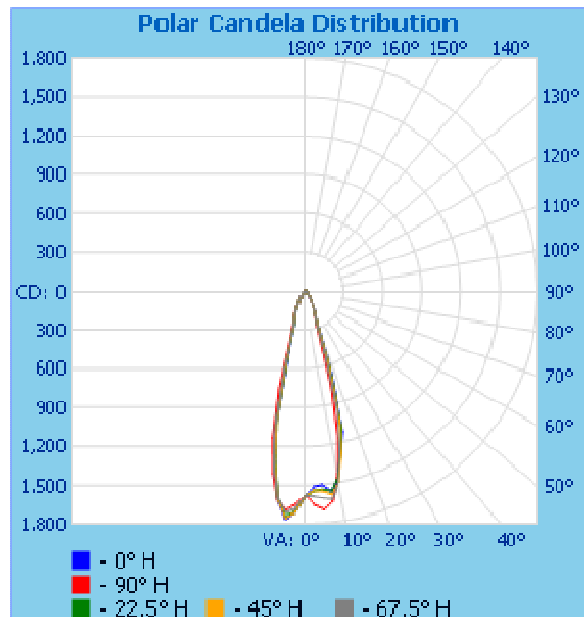
Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
LP10564FL4								
L11872L	UP	120.0	78.5	9.34	0.992	12.00	554.9	59.41

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)
LP10564FL4							
L11872L	UP	120.0	76.51	9.107	0.992	502.6	55.19

Intensity (Candlepower) Summary at 25°C - Candelas

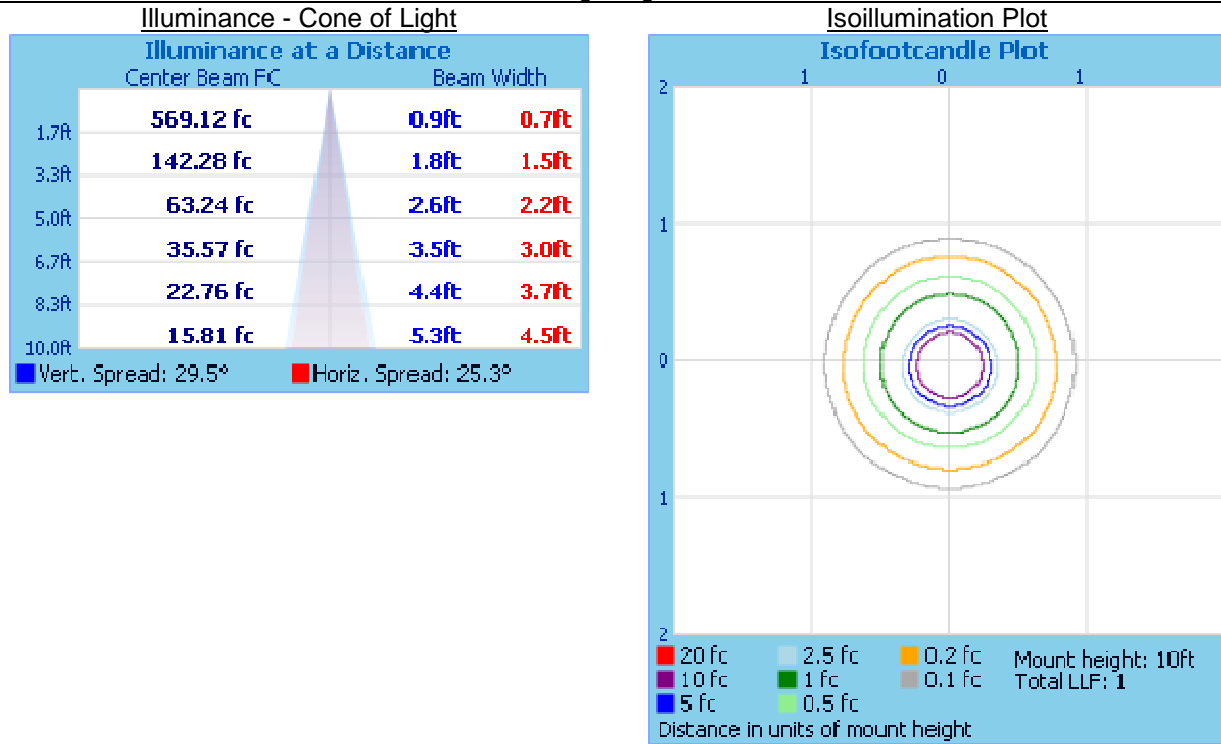
Angle	0	22.5	45	67.5	90
L11872L					
0	1581	1581	1581	1581	1581
5	1502	1537	1548	1606	1696
10	1466	1457	1498	1492	1431
15	1129	1098	1059	956	782
20	325	305	300	274	245
25	178	172	175	172	169
30	106	104	105	106	101
35	60	62	62	65	58
40	34	33	34	33	31
45	21	20	21	20	18
50	14	15	14	15	14
55	8	10	8	10	7
60	6	7	6	7	7
65	5	6	5	5	5
70	3	3	3	3	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.: LP10564FL4
Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
LP10564FL4		
0-30	435.6	86.7
0-40	473.1	94.1
0-60	497.1	98.9
60-90	5.5	1.1
0-90	502.6	100.0
90-180	0.0	0.0
0-180	502.6	100.0

Reflector Summary

	Efficiency (%)	Lumens	Horizontal Spread (°)	Vertical Spread (°)
LP10564FL4				
Field (10%):	78.9	396.3	47.1	48.6
Beam (50%):	54.7	274.9	25.3	29.5
Total:	100.1	502.9		

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