



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-017

TEST OF ONE LED PAR30 LAMP

MODEL NO. LP10562FL4D

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 LP10562FL4D. The sample was received by Intertek on May 2, 2011, in undamaged condition, and one sample was tested as received. The sample designation was L11874L.

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

SUMMARY

Model No.: LP10562FL4D
Description: 10W PAR30 MED 120V FL 3000K 50,000H DIM

Criteria	Result	
	Sphere	Distribution
Total Lumen Output (lm)	564.7	518.7
Total Power (W)	10.21	10.24
Luminaire Efficacy (lm/W)	55.31	50.65
Power Factor	0.964	0.966
Current ATHD (%)	20.80	
Color Rendering Index (CRI) -Ra	82.2	
Duv	0.003	
Correlated Color Temperature (CCT)	2993 K	
Chromaticity Coordinate (x)	0.433	
Chromaticity Coordinate (y)	0.396	
Chromaticity Coordinate (u')	0.252	
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

<u>Model No.</u>	<u>Total Hours</u>
LP10562FL4D	3

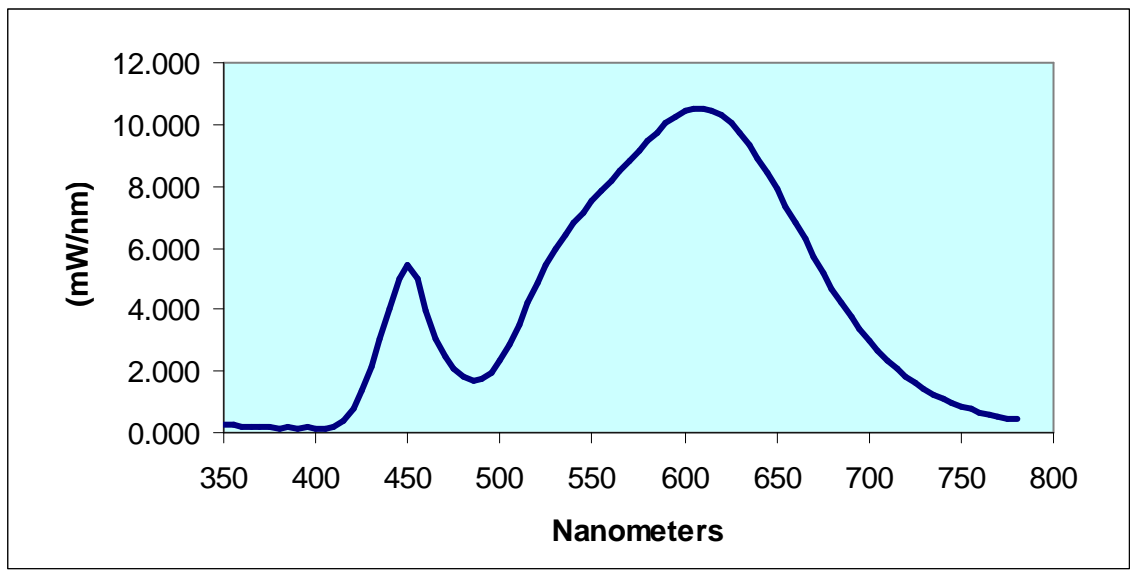


RESULTS OF TESTS

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
LP10562FL4D							
350	0.245	460	3.969	570	8.821	680	4.693
355	0.228	465	3.068	575	9.149	685	4.217
360	0.221	470	2.482	580	9.440	690	3.793
365	0.198	475	2.076	585	9.731	695	3.371
370	0.184	480	1.808	590	10.030	700	2.994
375	0.184	485	1.701	595	10.229	705	2.662
380	0.146	490	1.749	600	10.417	710	2.346
385	0.181	495	1.946	605	10.484	715	2.058
390	0.124	500	2.351	610	10.517	720	1.819
395	0.169	505	2.877	615	10.459	725	1.596
400	0.115	510	3.512	620	10.333	730	1.414
405	0.135	515	4.188	625	10.086	735	1.234
410	0.205	520	4.850	630	9.760	740	1.082
415	0.384	525	5.442	635	9.354	745	0.958
420	0.748	530	5.962	640	8.888	750	0.851
425	1.359	535	6.404	645	8.415	755	0.749
430	2.164	540	6.799	650	7.895	760	0.666
435	3.058	545	7.160	655	7.350	765	0.576
440	4.017	550	7.494	660	6.822	770	0.512
445	5.001	555	7.860	665	6.267	775	0.469
450	5.460	560	8.193	670	5.701	780	0.424
455	5.012	565	8.512	675	5.185		

LITETRONICS
Sample No. L11874L
Model No. LP10562FL4D
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')
LP10562FL4D								
L11874L	2993	82.2	25.6	0.003	0.433	0.396	0.252	0.518

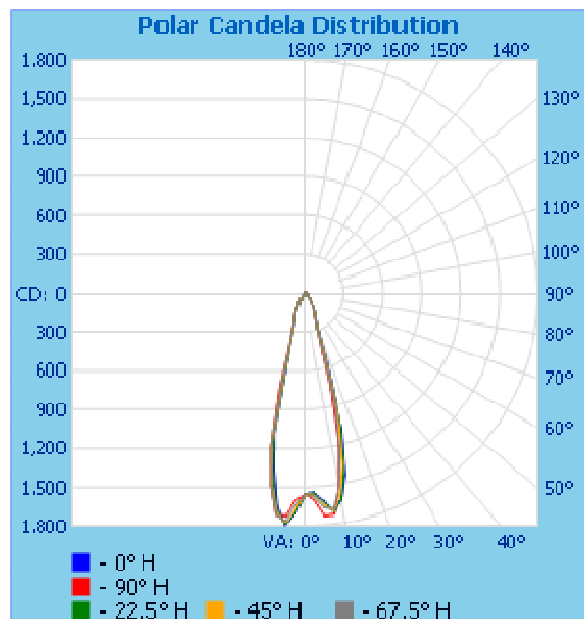
Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
LP10562FL4D								
L11874L	UP	120.0	88.3	10.21	0.964	20.80	564.7	55.31

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)
LP10562FL4D							
L11874L	UP	120.0	88.26	10.24	0.966	518.7	50.65

Intensity (Candlepower) Summary at 25°C - Candelas

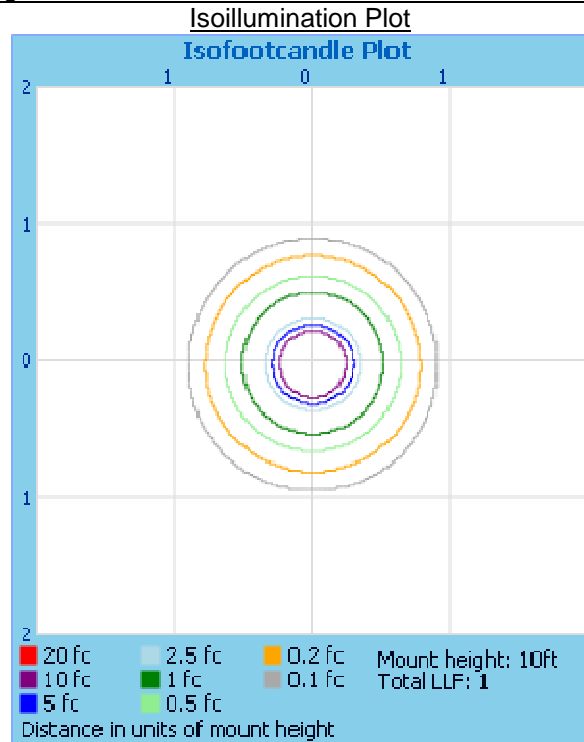
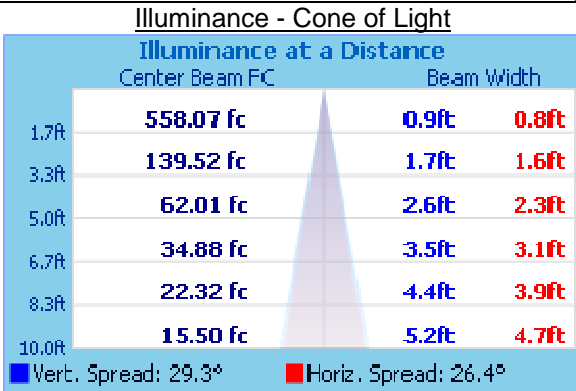
Angle	0	22.5	45	67.5	90
L11874L					
0	1550	1550	1550	1550	1550
5	1610	1624	1643	1665	1726
10	1624	1628	1577	1515	1507
15	1100	1074	1001	875	772
20	277	272	264	256	251
25	183	181	180	174	172
30	114	114	113	111	108
35	69	67	66	64	62
40	37	36	35	35	33
45	22	21	21	20	19
50	16	15	15	15	14
55	8	8	8	8	8
60	7	6	7	6	6
65	5	5	5	5	5
70	3	3	3	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.: LP10562FL4D
Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
LP10562FL4D		
0-30	449.8	86.7
0-40	489.6	94.4
0-60	513.6	99.0
60-90	5.2	1.0
0-90	518.7	100.0
90-180	0.0	0.0
0-180	518.7	100.0

Reflector Summary

	Efficiency (%)	Lumens	Horizontal Spread (°)	Vertical Spread (°)
LP10562FL4D				
Field (10%):	78.7	408.1	47.3	48.9
Beam (50%):	54.9	285.0	26.4	29.3
Total:	100.1	519.0		

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