



REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100227684

Original Issue Date: October 7, 2010

Revision Date: October 12, 2010

REPORT NO. 100227684CRT-004

TEST OF ONE LED PAR38

MODEL NO. AE26PAR38183060

RENDERED TO

NEXXUS LIGHTING INC.
124 FLOYD SMITH DRIVE
SUITE 300
CHARLOTTE, NC 28262

Revision Note October 12, 2010: This report was revised to correct the lamp model number.

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.

AUTHORIZATION: The testing performed was authorized by signed quote number 500257430.

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 lamp model number AE26PAR38183060. The sample was received by Intertek on September 27, 2010, in undamaged condition, and one sample was tested as received. The sample designation was N7422L.

DATES OF TESTS: October 5, 2010 through October 6, 2010.

SUMMARY

Model No.: AE26PAR38183060
Description: LED PAR 38

Criteria	Result
Total Lumen Output	783.9 Lumens
Total Power	15.93 W
Luminaire Efficacy	49.21
Power Factor	0.973
Color Rendering Index (CRI)	83.2
Correlated Color Temperature (CCT)	3003 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
Xitron Power Analyzer	2503H	E235	04/09/10	04/09/11
Elgar AC Power Supply	CW1251	--	--	--
Yokogawa Power Analyzer	WT1600	E462	06/11/10	06/11/11
Labsphere Diode Array	DAS 1100	N714	Before Use	Before Use
Yokogawa Power Analyzer	WT210	E464	04/19/10	04/19/11
Leeds & Northup Standard Resistor	Manganin	Y089	02/10/10	02/10/11
Data Precision Digital Voltmeter	3600	V124	02/10/10	02/10/11
Fluke Multimeter	45	M133	02/10/10	02/10/11
Fluke Temperature Meter	52	T801	06/11/10	06/11/11
Kikusui DC Power Supply	35-10L	E160	---	---
Sorenson DC Power Supply	DLM150-20E	--	---	---
UDT Optometer	S370	N301	Before Use	Before Use
ITS Two Meter Diameter Integrating Sphere	---	N308	Before Use	Before Use
ITS Ten Foot Diameter Integrating Sphere	---	N307	Before Use	Before Use
NIST Luminous Flux Standard Sources	---	150-14, 8043, 8830	03/17/2010	03/17/11
NIST Spectral Flux Standard Source	RF0605	---	11/29/06	100 hours of use
LSI High Speed Mirror Goniophotometer	6440	--	Before Use	Before Use
Labsphere CDS 1100 CCD Spectroradiometer	CDS1100	--	Before Use	Before Use
Optronics Spectroradiometer	EL750D	E288	Before Use	Before Use



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>
AE26PAR38183060	4

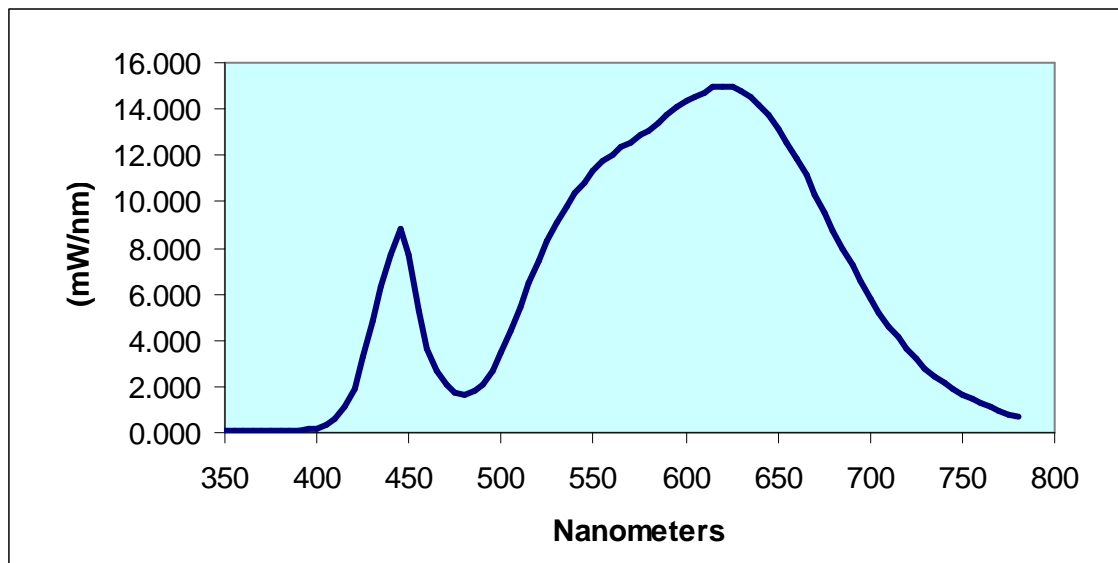


RESULTS OF TESTS

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
AE26PAR38183060							
350	0.103	460	3.612	570	12.583	680	8.774
355	0.103	465	2.706	575	12.852	685	7.975
360	0.098	470	2.065	580	13.078	690	7.252
365	0.107	475	1.730	585	13.406	695	6.537
370	0.085	480	1.655	590	13.731	700	5.832
375	0.078	485	1.785	595	14.064	705	5.193
380	0.090	490	2.104	600	14.352	710	4.622
385	0.088	495	2.685	605	14.565	715	4.109
390	0.091	500	3.469	610	14.715	720	3.611
395	0.132	505	4.424	615	14.924	725	3.193
400	0.176	510	5.464	620	14.993	730	2.802
405	0.304	515	6.487	625	14.927	735	2.448
410	0.563	520	7.471	630	14.820	740	2.150
415	1.081	525	8.331	635	14.493	745	1.882
420	1.937	530	9.124	640	14.161	750	1.637
425	3.255	535	9.804	645	13.766	755	1.429
430	4.808	540	10.377	650	13.180	760	1.260
435	6.271	545	10.837	655	12.560	765	1.085
440	7.717	550	11.354	660	11.836	770	0.945
445	8.805	555	11.729	665	11.120	775	0.819
450	7.681	560	12.051	670	10.308	780	0.723
455	5.288	565	12.370	675	9.511		

NEXXUS
Sample No. N7422L
Model No. AE26PAR38183060
Spectral Data Over Visible Wavelengths



RESULTS OF TESTS (cont'd)

Photometric Measurements at 25°C – Integrating Sphere Method

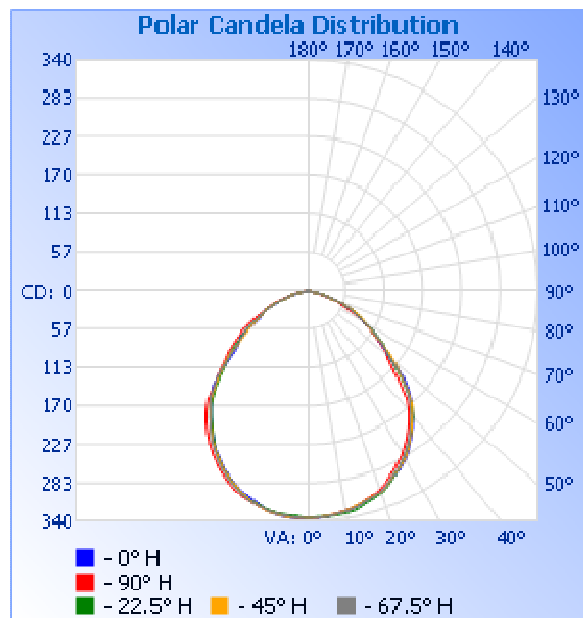
Intertek Sample No.	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
AE26PAR38183060						
N7422L	3003	83.2	0.434	0.398	0.251	0.518

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)
AE26PAR38183060							
N7422L	UP	120.0	136.5	15.93	0.973	783.9	49.21

Intensity (Candlepower) Summary at 25°C - Candelas

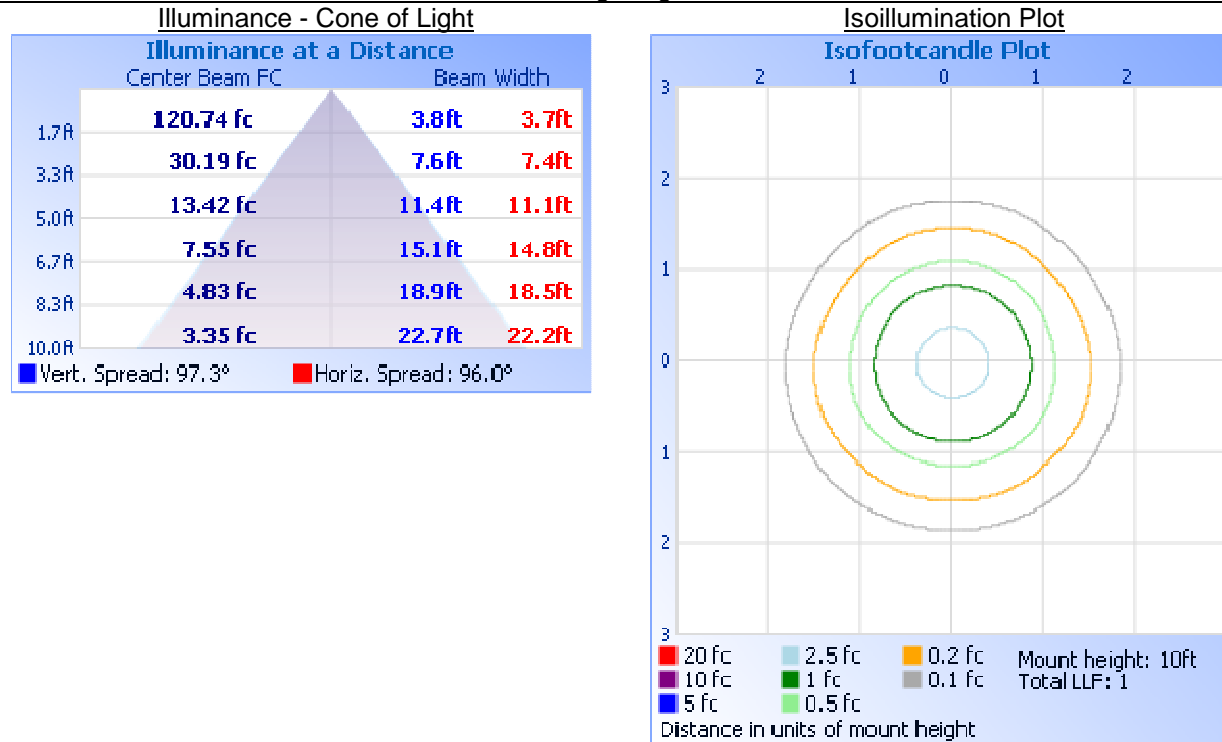
Angle	0	22.5	45	67.5	90
AE26PAR38183060					
0	335	335	335	335	335
5	333	334	333	333	333
10	330	332	329	330	329
15	322	326	322	323	321
20	315	317	316	315	312
25	302	303	301	301	296
30	287	284	286	283	278
35	266	264	265	261	256
40	242	242	241	237	232
45	214	208	210	208	192
50	168	167	171	168	156
55	130	136	133	134	128
60	101	103	102	103	101
65	77	77	80	74	68
70	54	54	56	56	48
75	29	30	32	30	23
80	13	14	13	14	10
85	3	3	3	3	2
90	0	0	0	0	0



RESULTS OF TESTS (cont'd)

Illumination Plots

Model No.: AE26PAR38183060
Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
AE26PAR38183060		
0-30	258.8	33.0
0-40	418.5	53.4
0-60	681.6	87.0
60-90	101.5	13.0
0-90	783.2	99.9
90-180	0.8	0.1
0-180	783.9	100.0

Reflector Summary

	Efficiency (%)	Lumens	Horizontal Spread (°)	Vertical Spread (°)
AE26PAR38183060				
Field (10%):	97.3	762.8	145.4	145.1
Beam (50%):	70.4	552.1	96.0	97.3
Total:	100.0	783.7		

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:

A handwritten signature in black ink, appearing to read "S Mosier".

Steven Mosier
Technician I
Lighting Division

Attachment: None

Report Reviewed By:

A handwritten signature in black ink, appearing to read "Jacki Swiernik".

Jacki Swiernik
Project Engineer
Lighting Division