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-005

TEST OF ONE LED PAR38

MODEL NO. AE26PAR38182725

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 AE26PAR38182725. The sample was received by Intertek on September 27, 2010, in undamaged condition, and one sample was tested as received. The sample designation was N7424L.

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

SUMMARY

Model No.:	AE26PAR38182725
Description:	LED PAR 38

Criteria	Result
Total Lumen Output	780.3 Lumens
Total Power	15.72 W
Luminaire Efficacy	49.64
Power Factor	0.972
Color Rendering Index (CRI)	83.9
Correlated Color Temperature (CCT)	2738 K
Chromaticity Coordinate (x)	0.456
Chromaticity Coordinate (y)	0.409
Chromaticity Coordinate (u')	0.261
Chromaticity Coordinate (v')	0.526

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 Spectroradiomter	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

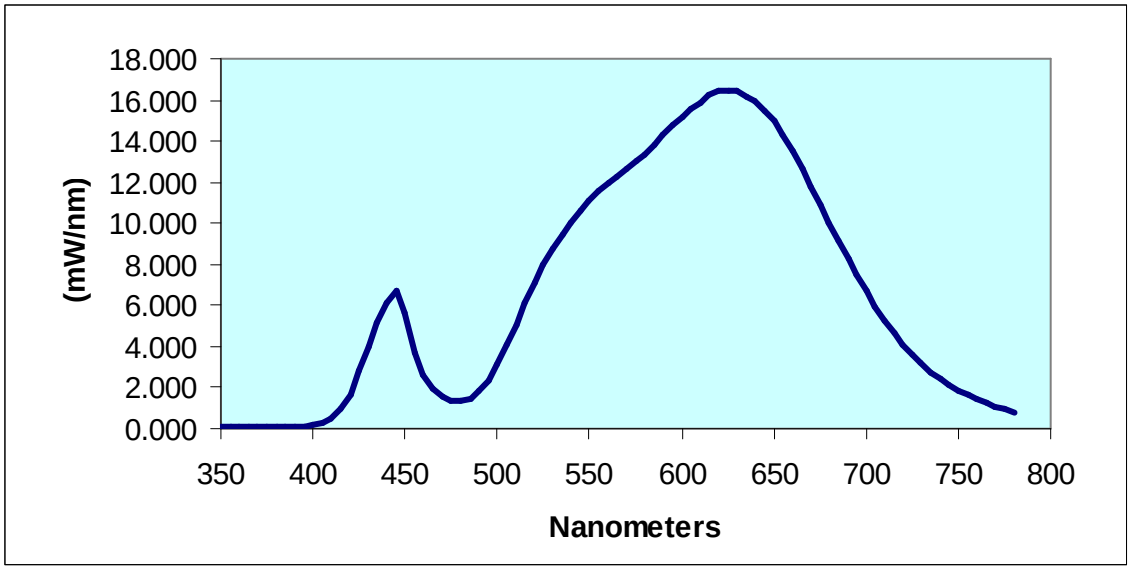
Model No.	Total Hours
AE26PAR38182725	5

RESULTS OF TESTS

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
AE26PAR38182725							
350	0.100	460	2.608	570	12.624	680	10.051
355	0.092	465	1.970	575	13.022	685	9.161
360	0.116	470	1.538	580	13.347	690	8.288
365	0.092	475	1.342	585	13.801	695	7.465
370	0.077	480	1.334	590	14.267	700	6.690
375	0.086	485	1.491	595	14.774	705	5.975
380	0.090	490	1.822	600	15.206	710	5.282
385	0.060	495	2.369	605	15.571	715	4.684
390	0.093	500	3.153	610	15.892	720	4.129
395	0.112	505	4.067	615	16.220	725	3.630
400	0.150	510	5.060	620	16.406	730	3.180
405	0.261	515	6.084	625	16.422	735	2.770
410	0.492	520	7.067	630	16.399	740	2.431
415	0.938	525	7.947	635	16.178	745	2.124
420	1.692	530	8.734	640	15.930	750	1.870
425	2.799	535	9.448	645	15.509	755	1.630
430	4.017	540	10.032	650	14.948	760	1.424
435	5.122	545	10.567	655	14.279	765	1.238
440	6.175	550	11.122	660	13.504	770	1.079
445	6.750	555	11.559	665	12.696	775	0.930
450	5.613	560	11.947	670	11.758	780	0.818
455	3.732	565	12.289	675	10.909		

NEXXUS
Sample No. N7424L
Model No. AE26PAR38182725
Spectral Data Over Visible Wavelengths



RESULTS OF TESTS (cont'd)

Photometric Measurements at 25℃ – Integrating Sphe re Method

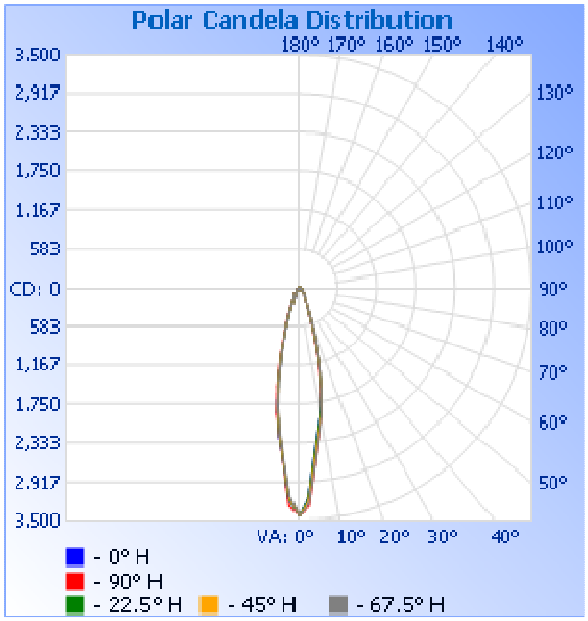
Intertek Sample No.	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
AE26PAR38182725						
N7424L	2738	83.9	0.456	0.409	0.261	0.526

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)
AE26PAR38182725							
N7424L	UP	120.0	134.8	15.72	0.972	780.3	49.64

Intensity (Candlepower) Summary at 25℃ - Candelas

Angle	0	22.5	45	67.5	90
AE26PAR38182725					
0	3433	3433	3433	3433	3433
5	2545	2553	2613	2687	2670
10	1892	1892	1937	1959	1920
15	1168	1159	1163	1178	1094
20	494	488	497	522	458
25	186	188	195	206	186
30	146	148	147	149	145
35	121	122	124	126	122
40	74	73	76	77	75
45	43	44	44	46	44
50	34	33	34	34	33
55	26	27	27	27	26
60	20	20	20	20	19
65	15	15	15	15	14
70	12	13	12	12	12
75	7	8	8	8	7
80	3	3	3	3	4
85	0	0	1	1	0
90	0	0	0	0	0

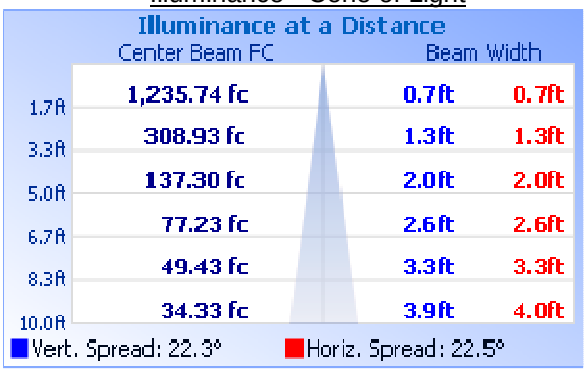


RESULTS OF TESTS (cont'd)

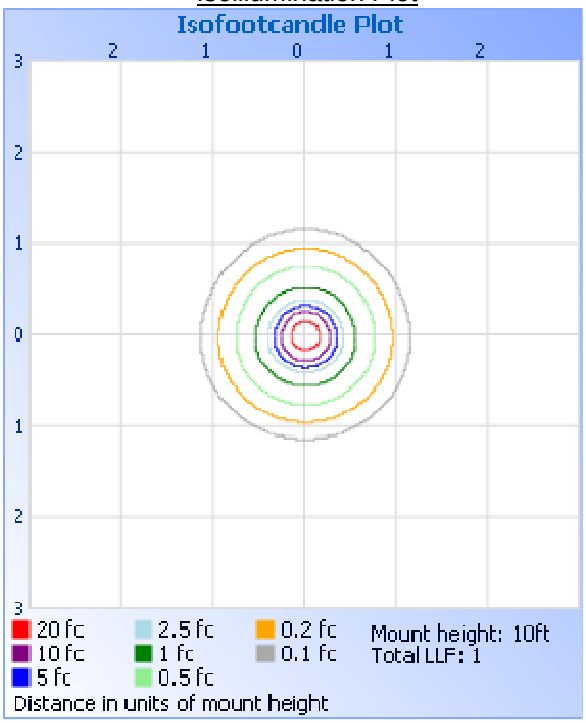
Illumination Plots

Model No.: AE26PAR38182725
Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25℃

Zone	Lumens	% Luminaire
AE26PAR38182725		
0-30	624.2	80.0
0-40	696.9	89.3
0-60	757.1	97.0
60-90	23.2	3.0
0-90	780.2	100.0
90-180	0.0	0.0
0-180	780.3	100.0

Reflector Summary

	Efficiency (%)	Lumens	Horizontal Spread (°)	Vertical Spread (°)
AE26PAR38182725				
Field (10%):	70.2	547.4	43.3	42.8
Beam (50%):	32.5	253.3	22.5	22.3
Total:	100.1	781.0		

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:

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Lighting Division

Report Reviewed By:

Jacki Swiernik
Project Engineer
Lighting Division

Attachment: None