



REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. 100105619

Date: July 2, 2010

REPORT NO. 100105619CRT-004

TEST OF ONE LED PAR38 LAMPS

MODEL NO. AE26PAR38183025

RENDERED TO

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

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 500226735.

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 15 samples of model number AE26PAR38183025. The samples were received by Intertek on June 28, 2010, in undamaged condition, and one sample was tested as received. The sample designation was N5581L.

DATES OF TESTS: June 30, 2010 through July 1, 2010.

SUMMARY

Model No.: AE26PAR38183025
Description: PAR38 LED LAMPS

Criteria	Result
Total Lumen Output	984.8
Total Power	19.90W
Luminaire Efficacy	49.49
Power Factor	0.976
Color Rendering Index (CRI)	84.81
Correlated Color Temperature (CCT)	3055K
Chromaticity Coordinate (x)	0.425
Chromaticity Coordinate (y)	0.387
Chromaticity Coordinate (u')	0.251
Chromaticity Coordinate (v')	0.512

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
NIST Luminous Flux Standard Sources	---	150-14, 8043, 8830	03/17/2010	03/17/2011
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



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>
AE26PAR38183025	3

RESULTS OF TESTS

Photometric Measurements at 25°C – Integrating Sphere Method

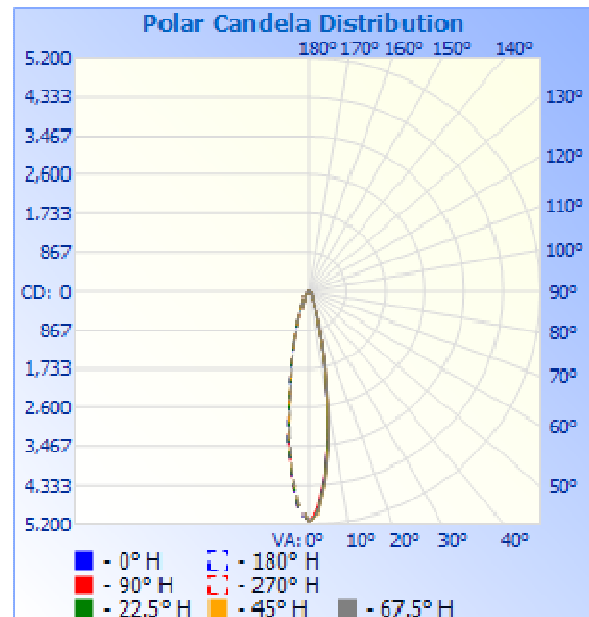
Intertek Sample No.	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
AE26PAR38183025						
N5581L	3055	84.81	0.425	0.387	0.251	0.512

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)
AE26PAR38183025							
N5581L	Up	120.0	169.9	19.90	0.976	984.8	49.49

Intensity (Candlepower) Summary at 25°C - Candelas

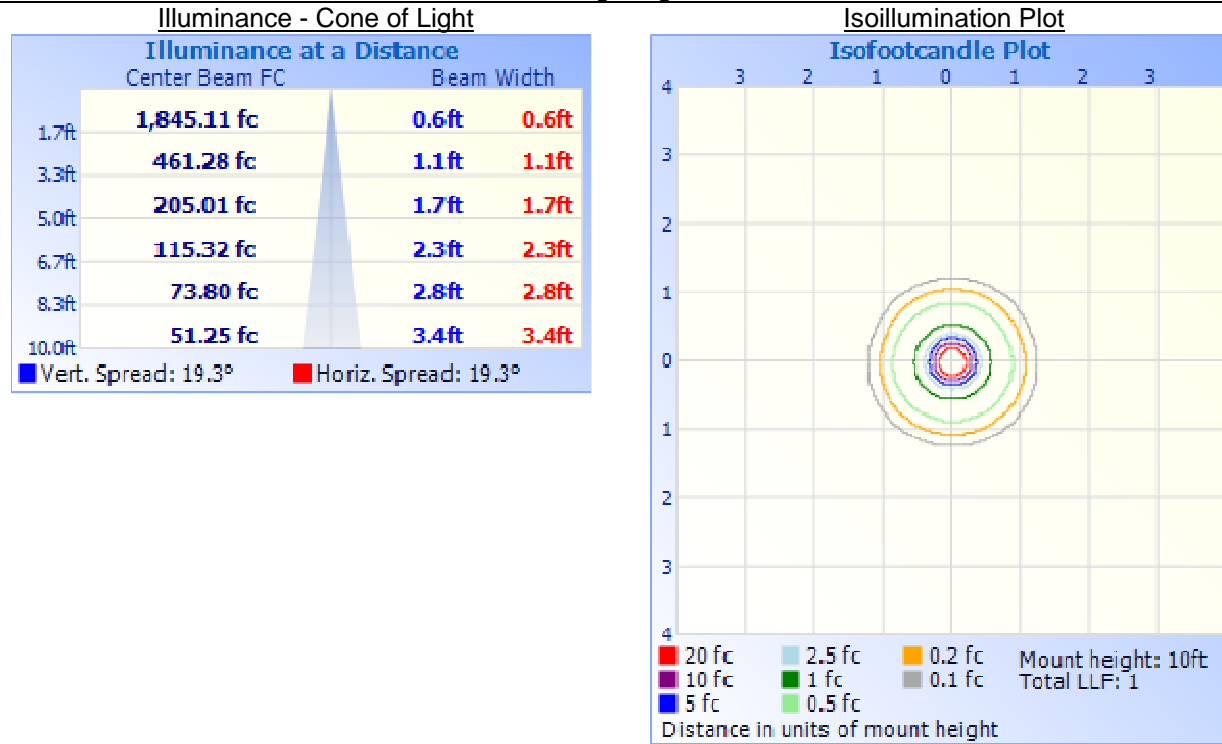
Angle	0	22.5	45	67.5	90
AE26PAR38183025					
0	5125	5125	5125	5125	5125
5	4214	4234	4289	4283	4175
10	2397	2419	2485	2566	2437
15	1127	1139	1153	1215	1156
20	426	437	452	483	452
25	192	195	201	211	198
30	146	146	145	146	146
35	167	166	162	165	162
40	130	130	131	131	124
45	75	76	79	79	74
50	42	44	45	46	42
55	29	30	31	31	30
60	23	24	24	24	23
65	19	19	19	19	19
70	15	15	14	16	15
75	9	10	10	10	10
80	5	5	5	5	5
85	1	1	1	1	1
90	0	0	0	0	0



RESULTS OF TESTS (cont'd)

Illumination Plots

Model No.: AE26PAR38183025
Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
AE26PAR38183025		
0-30	772.1	78.4
0-40	866.4	88.0
0-60	954.3	96.9
60-90	30.2	3.1
0-90	984.5	100
90-180	0.2	0
0-180	984.8	100

Reflector Summary

	Efficiency (%)	Lumens	Horizontal Spread (°)	Vertical Spread (°)
AE26PAR38183025				
Field (10%)	67.1	660.7	38.9	39.0
Beam (50%)	34.2	336.6	19.3	19.3
Total	100.1	985.7		

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:

Jeffrey Davis
Associate Engineer
Lighting Division

Attachment: None

Report Reviewed By:

Jacki Swiernik
Project Engineer
Lighting Division