



Integrating Sphere Test Report

Relevant Standards
IES LM-79-2008
ANSI C78.377-2008, ANSI C82.77
CIE 13.3-1995, CIE 15-2004

Prepared For
Nexus Lighting, Inc.
Kevin Carpenter
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124 Floyd Smith Drive
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Catalog Number
AE26PAR2083060

LTL Test Number
25303

Test Date

2011-09-08

Prepared By

Eric Gaudreau, Technician III

Approved By

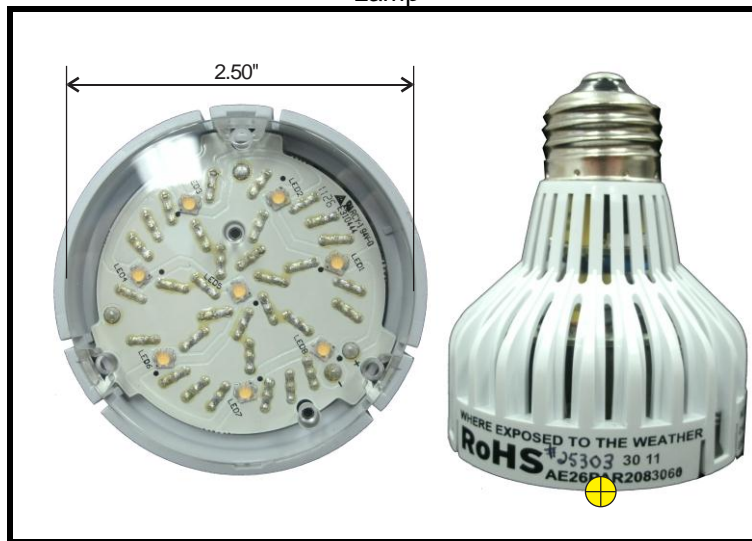
Brian Moyer, Engineer

The results contained in this report pertain only to the tested sample.
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Lamp Description: Molded plastic housing, clear plastic enclosure
Catalog Number: AE26PAR2083060
Lamp: One eight watt PAR20 LED replacement lamp with eight white LEDs
Lamp Catalog Number: Nexxus Lighting AE26PAR2083060
Mounting: VBU

Lamp



Summary of Results

Radiant Flux: 1596 mW
Luminous Flux: 484.1 Lumens
Lamp Efficacy: 72.4 Lumens/Watt
CCT: 3059 K
CRI (Ra): 85.4
Chromaticity (x): 0.4297
Chromaticity (y): 0.3963
Chromaticity (u): 0.2492
Chromaticity (v): 0.3448
Duv: -0.0021

Test Conditions

Test Temperature: 24.3 °C
Voltage: 120.0 VAC
Current: 0.05797 A
Power: 6.690 W
Power Factor: 0.962
Frequency: 60 Hz
Current THD: 23.8 %

Testing was performed in a Labsphere SLMS7650 two meter integrating sphere using the 4π geometry method, a Labsphere CDS 1100 spectrometer, and LightMtrX software.
Absorption correction was employed for this measurement.

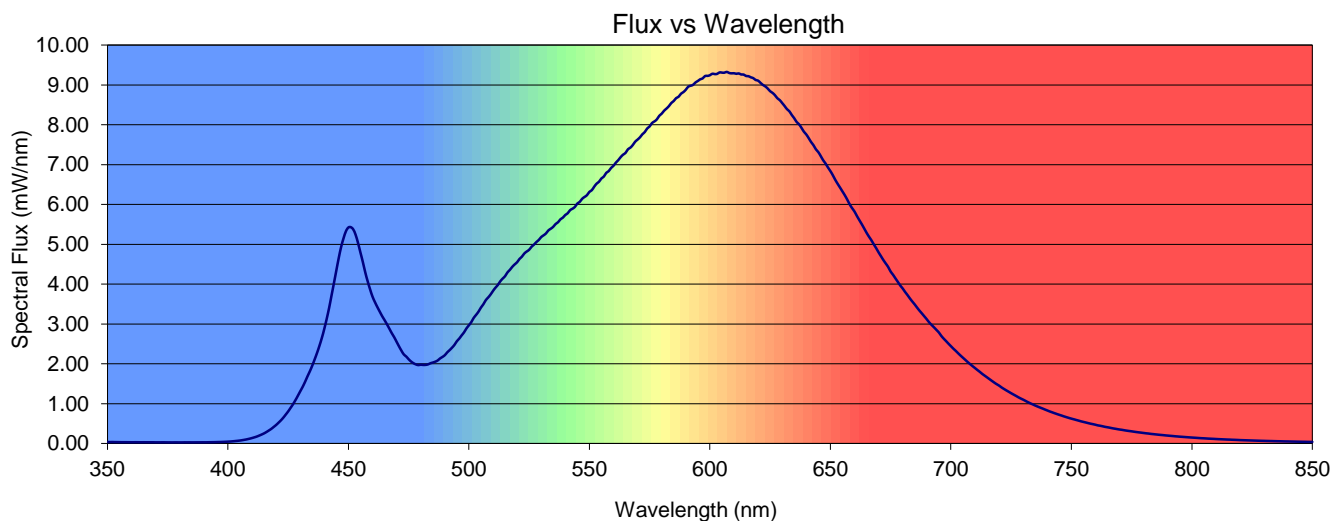
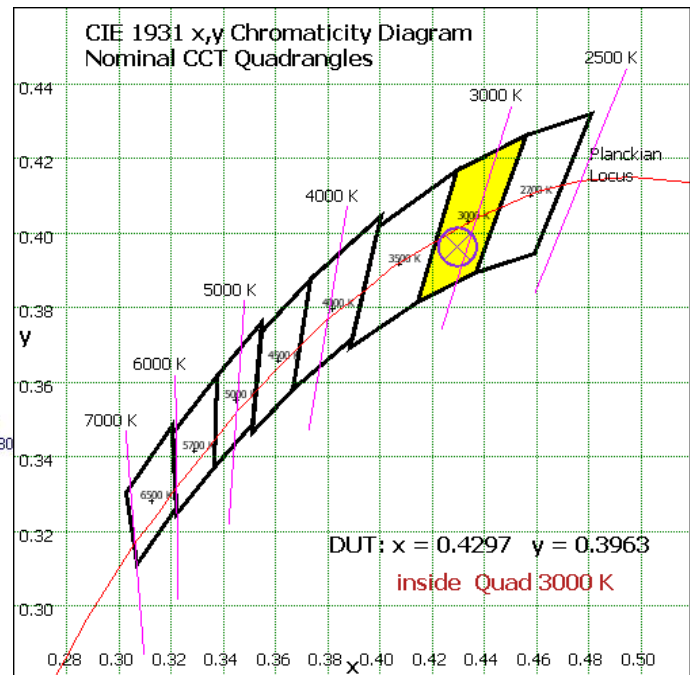
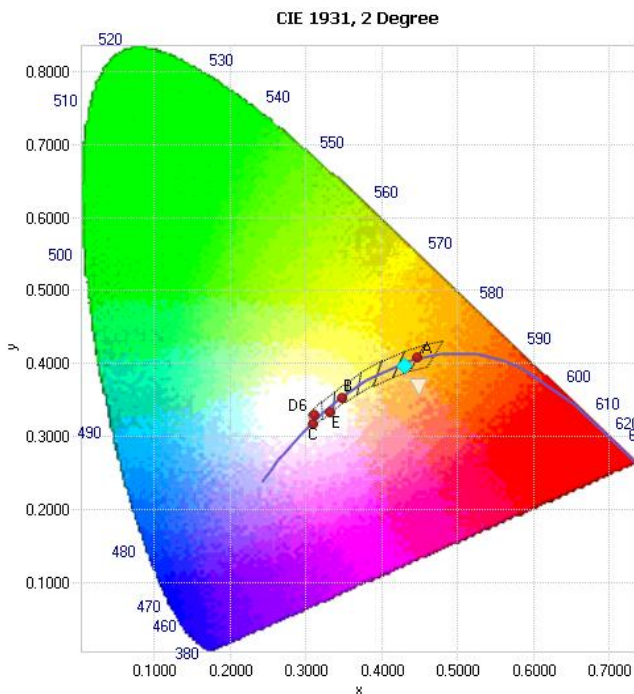


Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.4297	0.3963	0.2492	0.3448	0.2492	0.5172	-0.0021

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
85.4	84.4	91.5	96.0	83.5	83.9	88.3	86.7	69.1	29.7	79.2	81.8	72.6	85.9	97.6





Spectral Power Distribution

Table with 16 columns (λ(nm), mW/nm) and 40 rows of spectral data points.



Reflector Lamp Test Report

Relevant Standards
IES LM-79-2008, IES LM-20-1994 (Withdrawn)
ANSI C82.77

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Catalog Number
AE26PAR2083060

LTL Test Number
25677

Test Date

2011-09-21

Prepared By

Eric Gaudreau, Technician III

Approved By

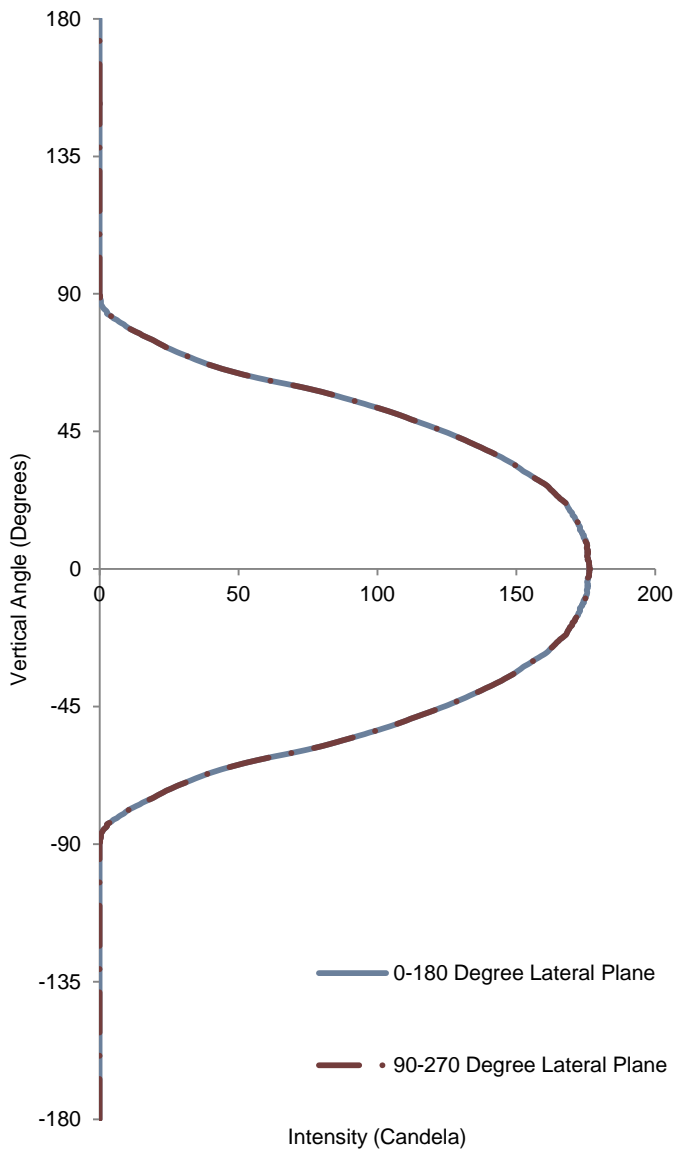
Brian Moyer, Engineer

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Lamp Description: Molded plastic housing, clear plastic enclosure
Catalog Number: AE26PAR2083060
Lamp: One eight watt PAR20 LED replacement lamp with eight white LEDs
Lamp Catalog Number: Nexxus Lighting AE26PAR2083060
Mounting: VBU

Intensity vs Vertical Angle



Lamp



Test Conditions

Test Temperature: 25.7 °C
Voltage: 120.0 VAC
Current: 0.0576 A
Power: 6.670 W
Power Factor: 0.965
Frequency: 60 Hz

Total Lumen Output: 479.4 Lumens
Luminaire Efficacy: 71.9 Lumens/Watt
CIE Type: Direct
Spacing Criterion: 1.31 All Directions

Center Beam Intensity: 176.6 Candela
Central Cone Intensity: 176 Candela
Beam Flux: 379.1 Lumens
Beam Angle 0-180: 111.7 Degrees
Beam Angle 90-270: 111.7 Degrees
Field Angle 0-180: 151.0 Degrees
Field Angle 90-270: 151.0 Degrees

Data was acquired using the calibrated photodetector method of absolute photometry. A spectral mismatch correction factor was employed based on the spectral responsivity of the photodetector and the spectral power distribution of the test subject.



Candela Tabulation Lateral Angle (Degrees)

Vertical Angle (Degrees)

Table with 17 columns (0 to 337.5) and 27 rows (0 to 180) of Candela Tabulation data.



Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **											
0	584.7	584.7	584.7	584.7	570.8	570.8	570.8	570.8	557.5	557.5	557.5	557.5
1	540.4	517.6	497.4	479.2	526.9	506.4	487.9	471.3	514.2	495.6	478.8	463.6
2	495.2	454.9	422.0	394.6	482.2	445.6	415.4	389.9	469.9	436.7	408.9	385.3
3	453.6	401.5	361.7	330.4	441.3	393.7	356.8	327.5	429.7	386.2	352.1	324.6
4	416.3	356.5	313.6	281.1	404.9	350.0	309.9	279.2	394.1	343.7	306.2	277.2
5	383.2	318.8	274.7	242.5	372.7	313.3	271.8	241.2	362.8	308.0	269.0	239.9
6	353.9	287.0	243.0	211.9	344.3	282.3	240.8	210.9	335.3	277.8	238.5	210.0
7	327.9	260.0	216.9	187.1	319.2	256.0	215.1	186.4	311.0	252.2	213.3	185.7
8	304.9	237.0	195.1	166.7	297.1	233.6	193.6	166.2	289.7	230.3	192.2	165.7
9	284.5	217.2	176.8	149.9	277.4	214.3	175.6	149.5	270.7	211.4	174.4	149.1
10	266.4	200.1	161.2	135.7	260.0	197.6	160.2	135.4	253.9	195.1	159.2	135.1

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **										
0	532.7	532.7	532.7	532.7	510.0	510.0	510.0	489.2	489.2	489.2	479.4
1	490.5	475.4	461.7	449.1	456.9	445.7	435.4	439.8	430.9	422.5	412.9
2	447.3	419.9	396.6	376.4	404.5	385.0	367.9	390.2	374.1	359.8	349.9
3	408.4	372.2	342.9	318.9	359.1	334.3	313.4	347.1	326.1	308.1	298.0
4	374.4	331.9	299.3	273.5	320.9	292.7	269.8	310.7	286.4	266.2	256.2
5	344.7	298.0	263.6	237.3	288.7	258.5	234.8	279.9	253.5	232.3	222.4
6	318.8	269.3	234.3	208.1	261.3	230.2	206.3	253.9	226.2	204.6	194.9
7	296.0	244.9	209.8	184.3	238.0	206.5	183.0	231.6	203.3	181.7	172.4
8	276.0	224.0	189.4	164.7	218.1	186.7	163.7	212.5	184.0	162.7	153.7
9	258.3	206.0	172.1	148.3	200.8	169.8	147.5	196.0	167.6	146.8	138.2
10	242.6	190.4	157.3	134.5	185.9	155.4	133.9	181.7	153.6	133.3	125.0

Average Luminance Table (cd/m²)

		Horizontal Angle (Degrees)		
		0	45	90
Vertical Angle (Degree)	0	55760	55760	55760
	45	55380	55380	55380
	55	50450	50450	50450
	65	34390	34390	34390
	75	23140	23140	23140
	85	6096	6096	6096

This test was conducted using photometry techniques according to standard IES procedures. The user must therefore use caution in the following situations: 1) This test was performed using a specific ballast/lamp combination. Extrapolation of this data for other ballast/lamp combinations may produce erroneous results. 2) This test was conducted in a controlled laboratory environment where the ambient temperature was held at 25°C ±1°C. Field performance may differ particularly in regards to change in luminous output as a result of difference in ambient temperature and method of mounting the luminaire.



Zonal Lumen Tabulation (5 degree zones)

Zone (Degrees)	Lumens	Zone (Degrees)	Lumens	Zone (Degrees)	Lumens	Zone (Degrees)	Lumens
0-5	4.21	45-50	47.08	90-95	0	135-140	0
5-10	12.55	50-55	43.76	95-100	0	140-145	0
10-15	20.55	55-60	37.65	100-105	0	145-150	0
15-20	28.09	60-65	27.82	105-110	0	150-155	0
20-25	34.90	65-70	19.07	110-115	0	155-160	0
25-30	40.55	70-75	12.72	115-120	0	160-165	0
30-35	44.73	75-80	7.13	120-125	0	165-170	0
35-40	47.50	80-85	2.54	125-130	0	170-175	0
40-45	48.31	85-90	0.30	130-135	0	175-180	0

Polar Plot (Candela)

