



Reflector Lamp Test Report

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

Prepared For
Nexus Lighting, Inc.
Geoffrey Gibbs Jr.
124 Floyd Smith Drive
Suite 300
Charlotte, NC 28262

Catalog Number
ADCVMR163025

LTL Test Number
22443

Test Date

2011-02-18

Prepared By

Zachary Mooney, Technician III

Approved By

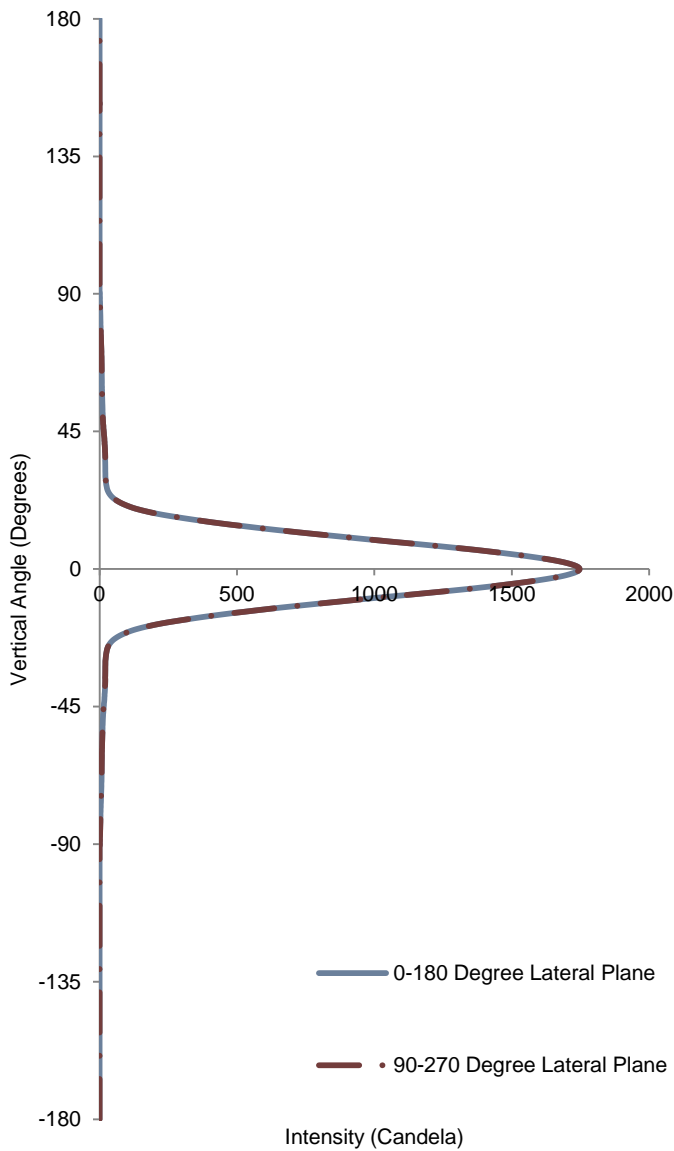
Michael Grather, PDE

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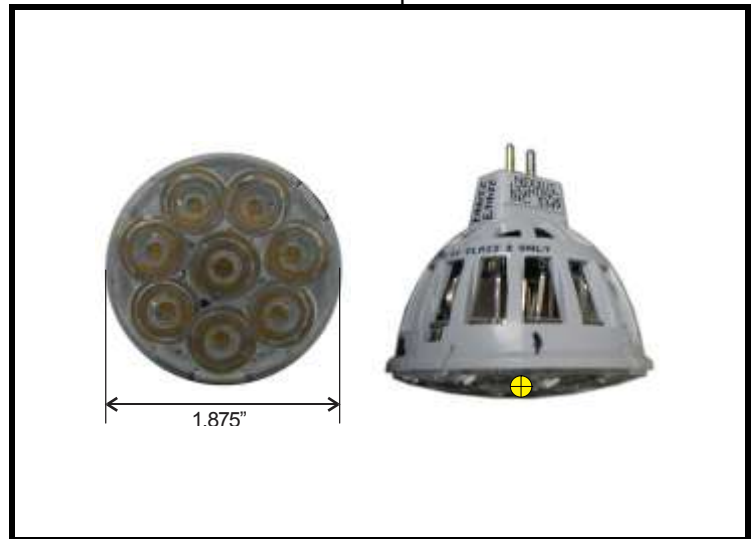


Lamp Description: Molded plastic housing, clear plastic optic / enclosure
Catalog Number: ADCVMR163025
Lamp: One 6.5 watt MR16 LED replacement lamp with eight white LEDs
Mounting: VBU

Intensity vs Vertical Angle



Lamp



Test Conditions

Test Temperature: 24.1 °C
Voltage: 12.00 VDC
Current: 0.5079 A
Power: 6.095 W

Total Lumen Output: 312.8 Lumens
Luminaire Efficacy: 51.3 Lumens/Watt
CIE Type: Direct
Spacing Criterion: 0.36 All Directions

Center Beam Intensity: 1747 Candela
Central Cone Intensity: 1651 Candela
Beam Flux: 135.6 Lumens
Beam Angle 0-180: 21.3 Degrees
Beam Angle 90-270: 21.3 Degrees
Field Angle 0-180: 37.5 Degrees
Field Angle 90-270: 37.5 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, 22.5, 45, 67.5, 90, 112.5, 135, 157.5, 180, 202.5, 225, 247.5, 270, 292.5, 315, 337.5) and 37 rows (0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180). Values range from 1747 down to 0.



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	381.4	381.4	381.4	381.4	372.3	372.3	372.3	372.3	363.7	363.7	363.7	363.7
1	364.5	355.5	347.5	340.3	356.5	348.5	341.3	334.8	348.9	341.8	335.3	329.5
2	349.4	334.4	322.2	312.0	342.3	328.9	317.8	308.5	335.6	323.6	313.6	305.0
3	335.9	317.1	302.7	291.4	329.6	312.7	299.5	289.1	323.8	308.5	296.4	286.8
4	323.8	302.5	287.2	275.7	318.3	299.0	284.9	274.1	313.1	295.6	282.6	272.5
5	312.9	290.2	274.6	263.2	308.1	287.3	272.8	262.1	303.5	284.6	271.1	261.0
6	303.0	279.5	264.0	253.0	298.8	277.1	262.6	252.2	294.8	274.9	261.3	251.4
7	294.0	270.1	254.9	244.4	290.3	268.2	253.8	243.8	286.7	266.3	252.8	243.2
8	285.8	261.8	247.0	237.0	282.5	260.2	246.2	236.5	279.3	258.6	245.3	236.1
9	278.2	254.3	240.0	230.4	275.3	253.0	239.3	230.1	272.5	251.6	238.6	229.7
10	271.3	247.6	233.7	224.6	268.6	246.4	233.2	224.3	266.1	245.3	232.6	224.1

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	347.5	347.5	347.5	347.5	332.7	332.7	332.7	319.1	319.1	319.1	312.7
1	334.7	329.2	324.1	319.4	317.6	313.6	309.9	306.9	303.8	300.9	295.5
2	323.3	313.7	305.5	298.4	304.5	297.9	292.1	296.0	290.7	286.0	281.2
3	312.9	300.5	290.5	282.3	293.2	284.9	277.9	286.4	279.6	273.7	269.3
4	303.7	289.2	278.1	269.4	283.3	273.9	266.3	277.8	269.9	263.4	259.3
5	295.2	279.4	267.7	258.7	274.5	264.5	256.6	270.0	261.4	254.4	250.6
6	287.4	270.6	258.7	249.8	266.6	256.2	248.2	262.8	253.7	246.6	243.0
7	280.2	262.7	250.7	242.0	259.4	248.8	240.8	256.2	246.8	239.7	236.2
8	273.5	255.6	243.7	235.2	252.8	242.1	234.3	250.1	240.6	233.4	230.1
9	267.3	249.1	237.3	229.1	246.7	236.0	228.4	244.4	234.8	227.7	224.6
10	261.4	243.1	231.5	223.5	241.1	230.5	223.0	239.1	229.5	222.5	219.5

Average Luminance Table (cd/m²)

		Horizontal Angle (Degrees)		
		0	45	90
Vertical Angle (Degree)	0	980600	980600	980600
	45	12030	12030	12030
	55	9674	9674	9674
	65	10320	10320	10320
	75	11390	11390	11390
	85	14730	14730	14730

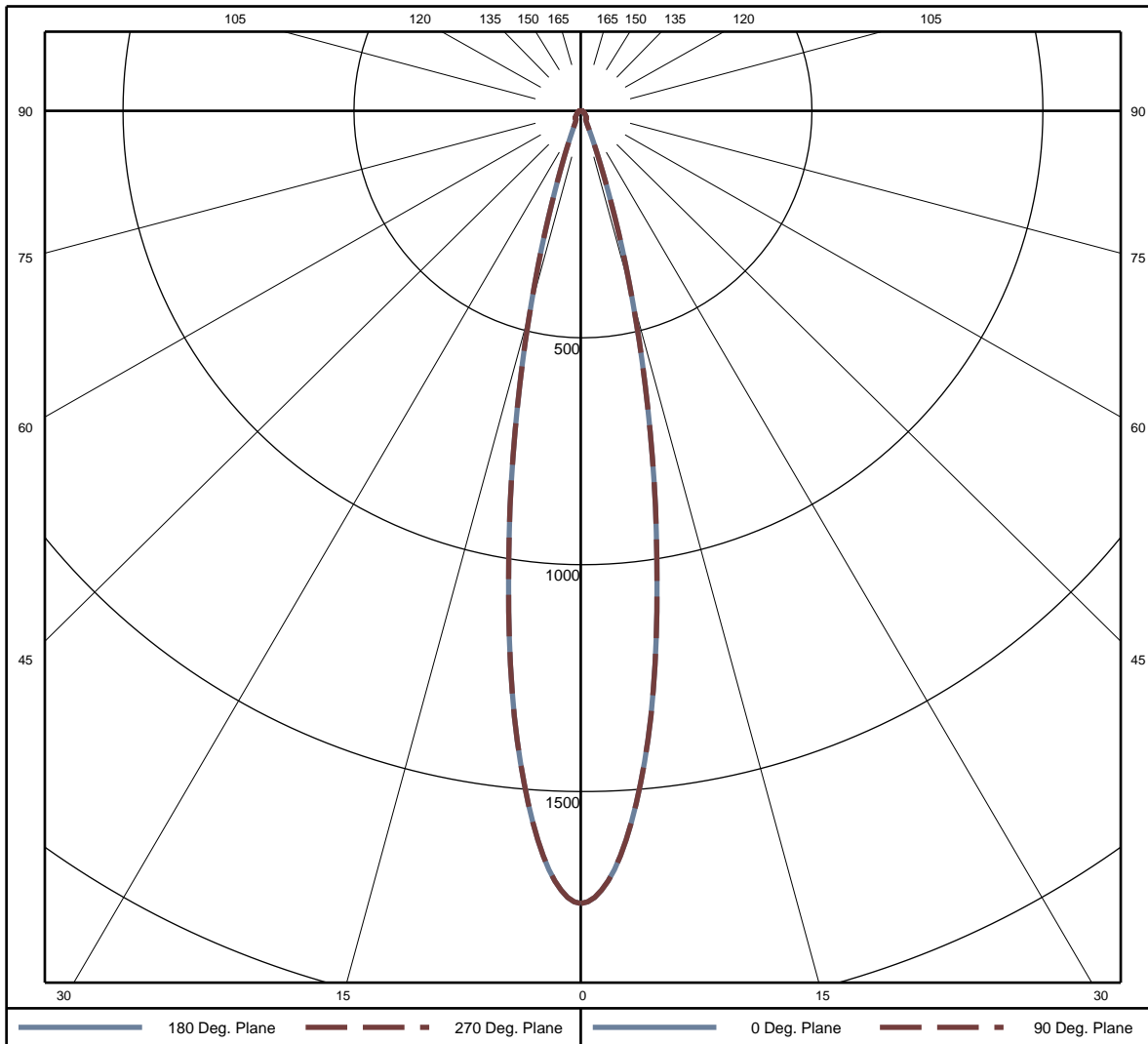
This test was conducted using photometry techniques according to standard IES procedures. The user must therefore use caution in the following situations: 1) This test was performed using a specific ballast/lamp combination. Extrapolation of this data for other ballast/lamp combinations may produce erroneous 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)

Table with 8 columns: Zone (Degrees), Lumens, Zone (Degrees), Lumens, Zone (Degrees), Lumens, Zone (Degrees), Lumens. It lists lumen values for various 5-degree zones from 0-5 to 175-180.

Polar Plot (Candela)





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
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Catalog Number
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LTL Test Number
22444

Test Date

2011-02-17

Prepared By

Brian Moyer, Engineer

Approved By

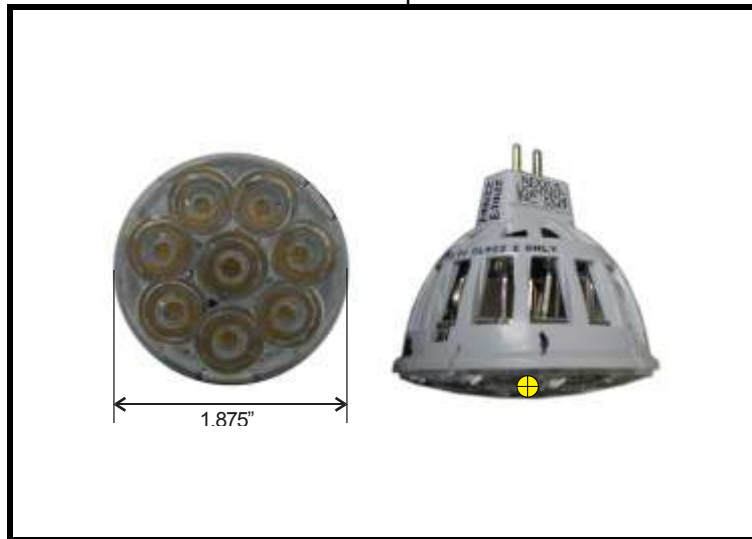
Michael Grather, PDE

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Lamp Description: Molded plastic housing, clear plastic optic / enclosure
Catalog Number: ADCVMR163025
Lamp: One 6.5 watt MR16 LED replacement lamp with eight white LEDs
Mounting: VBU

Lamp



Summary of Results

Radiant Flux: 1087 mW
Luminous Flux: 304.9 Lumens
Lamp Efficacy: 50.4 Lumens/Watt
CCT: 2829 K
CRI (Ra): 82.8
Chromaticity (x): 0.4470
Chromaticity (y): 0.4034
Chromaticity (u): 0.2574
Chromaticity (v): 0.3484
Duv: -0.0015

Test Conditions

Test Temperature: 24.4 °C
Voltage: 12.00 VDC
Current: 0.5044 A
Power: 6.053 W

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.

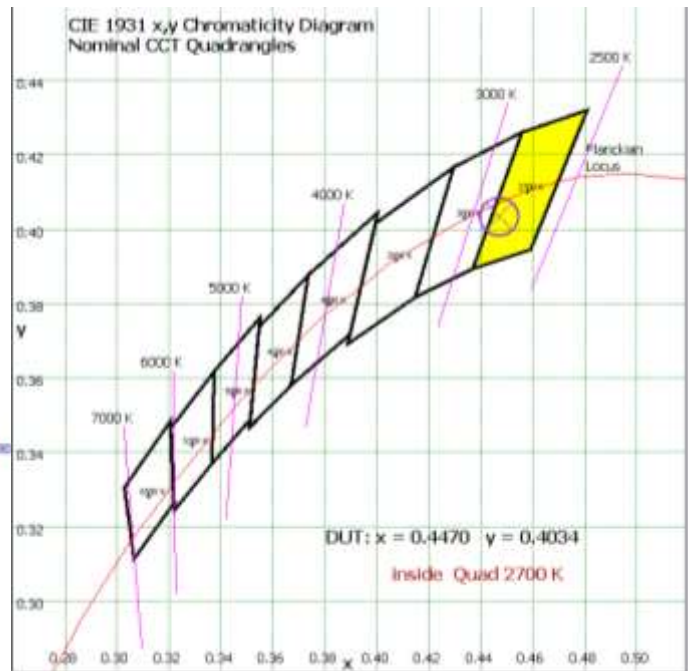
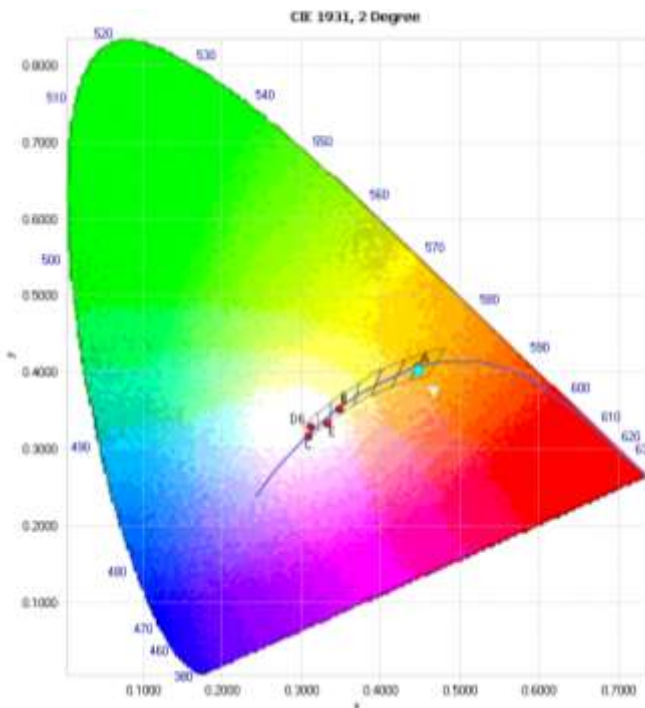


Chromaticity Coordinates

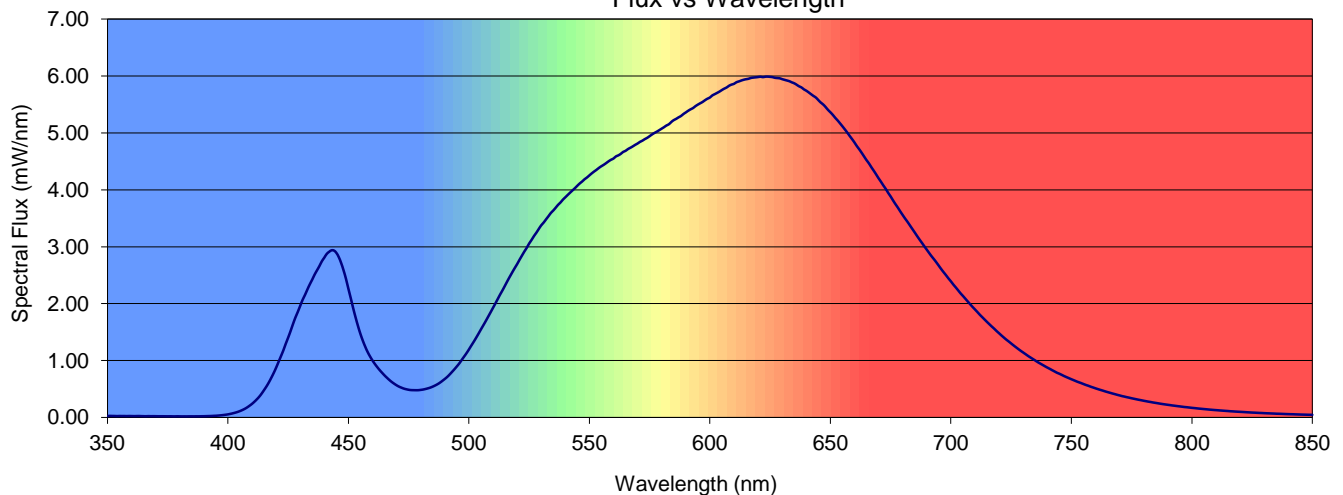
x	y	u	v	u'	v'	Duv
0.4470	0.4034	0.2574	0.3484	0.2574	0.5226	-0.0015

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82.8	84.0	85.6	84.2	84.1	81.3	78.2	87.8	77.5	44.8	64.1	81.9	58.3	83.3	90.0



Flux vs Wavelength





Spectral Power Distribution

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