



INDEPENDENT TESTING LABORATORIES, INC.
3386 LONGHORN ROAD, BOULDER, CO 80302 USA

PHONE: (303)442-1255 • FAX: (303)449-5274 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL66554

DATE: 11/08/10

PREPARED FOR: NEXXUS LIGHTING, INC.

CATALOG NUMBER: AACMMR163025

LAMP: ONE MR-16 STYLE BI-PIN BASE LED LAMP, MOLDED WHITE PLASTIC BODY, FABRICATED FINNED METAL HEAT SINK, ONE CIRCUIT BOARD WITH 8 WHITE LIGHT EMITTING DIODES (LEDS), CLEAR PLASTIC LENS WITH ONE OPTIC BELOW EACH LED. VERTICAL BASE-UP POSITION. LAMP NOT DISASSEMBLED FOR INSPECTION.

TOTAL INPUT WATTS = 6.19 AT 12.0 VOLTS AC

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (12VAC, 60Hz) TO THE LAMP.

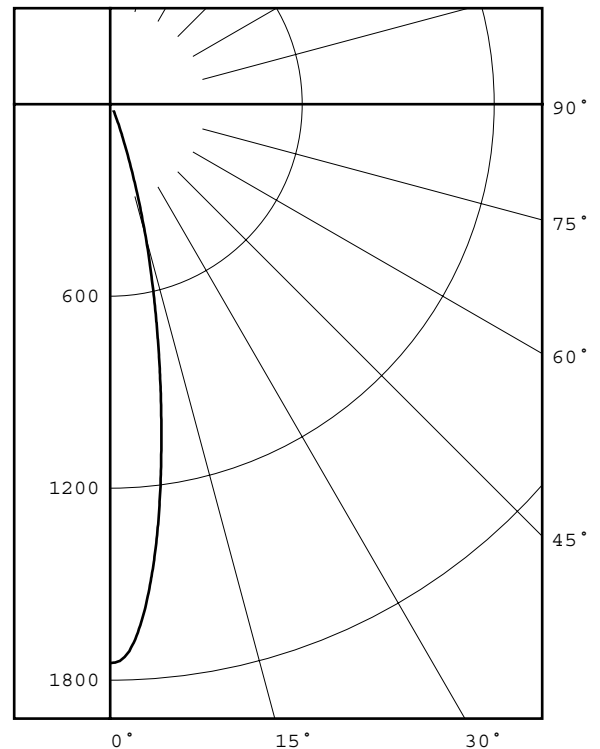
TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 25.25 FEET

DEG	CANDELA	LUMENS
0	1747	
5	1482	122
15	427	117
25	36	22
35	20	12
45	15	12
55	10	9
65	8	8
75	5	5
85	2	3
90	2	
95	1	1
105	1	1
115	0	0
125	0	0
135	0	0
145	0	0
155	0	0
165	0	0
175	0	0
180	0	0

ZONAL LUMEN ZONE	SUMMARY LUMENS	%FIXT
0- 30	262	83.6
0- 40	274	87.5
0- 60	295	94.2
0- 90	311	99.3
90-120	2	0.7
90-130	2	0.7
90-150	2	0.7
90-180	2	0.7
0-180	313	100.0

EFFICACY = 50.6 Lm/W
CIE TYPE - DIRECT



Checked*M.KLOPF*.....
Approved*R.BEATTIE*.....



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LUMINAIRE SPACING CRITERION = 0.4
BEAM ANGLE (50%) : 20.6 DEGREES
FIELD ANGLE (10%) : 37.7 DEGREES



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CANDELA DISTRIBUTION

0.0	1747	107.5	1
0.5	1745	110.0	0
1.0	1740	115.0	0
1.5	1728	120.0	0
2.0	1710	125.0	0
2.5	1685	130.0	0
3.0	1653	135.0	0
3.5	1617	140.0	0
4.0	1576	145.0	0
4.5	1531	150.0	0
5.0	1482	155.0	0
5.5	1432	160.0	0
6.0	1378	165.0	0
6.5	1322	170.0	0
7.0	1263	175.0	0
7.5	1204	180.0	0
8.0	1142		
8.5	1082		
9.0	1022		
9.5	965		
10.0	908		
11.0	798		
12.0	695		
13.0	599		
14.0	510		
15.0	427		
16.0	349		
17.0	280		
18.0	218		
19.0	168		
20.0	130		
22.5	69		
25.0	36		
27.5	24		
30.0	21		
32.5	20		
35.0	20		
37.5	19		
40.0	18		
42.5	17		
45.0	15		
47.5	14		
50.0	12		
52.5	11		
55.0	10		
57.5	9		
60.0	9		
62.5	8		
65.0	8		
67.5	8		
70.0	7		
72.5	6		
75.0	5		
77.5	4		
80.0	4		
82.5	3		
85.0	2		
87.5	2		
90.0	2		
92.5	1		
95.0	1		
97.5	1		
100.0	1		
102.5	1		
105.0	1		



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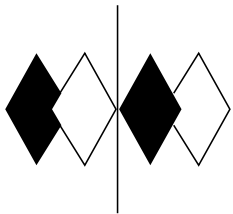
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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	39.
5- 10	84.
10- 15	76.
15- 20	42.
20- 25	16.
25- 30	7.
30- 35	6.
35- 40	6.
40- 45	6.
45- 50	6.
50- 55	5.
55- 60	4.
60- 65	4.
65- 70	4.
70- 75	3.
75- 80	2.
80- 85	2.
85- 90	1.
90- 95	1.
95-100	1.
100-105	1.
105-110	0.
110-115	0.
115-120	0.
120-125	0.
125-130	0.
130-135	0.
135-140	0.
140-145	0.
145-150	0.
150-155	0.
155-160	0.
160-165	0.
165-170	0.
170-175	0.
175-180	0.

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	122.
0- 20	240.
0- 30	262.
0- 40	274.
0- 50	286.
0- 60	295.
0- 70	303.
0- 80	308.
0- 90	311.
0-100	312.
0-110	313.
0-120	313.
0-130	313.
0-140	313.
0-150	313.
0-160	313.
0-170	313.
0-180	313.



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REPORT NUMBER: ITL66558
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Page 1 of 2

PREPARED FOR: NEXXUS LIGHTING, INC.
CATALOG NUMBER: AACMMR163025

LAMP: ONE MR-16 STYLE BI-PIN BASE LED LAMP, MOLDED WHITE PLASTIC BODY, FABRICATED FINNED METAL HEAT SINK, ONE CIRCUIT BOARD WITH 8 WHITE LIGHT EMITTING DIODES (LEDs), CLEAR PLASTIC LENS WITH ONE OPTIC BELOW EACH LED. VERTICAL BASE-UP POSITION. LAMP NOT DISASSEMBLED FOR INSPECTION.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (12VAC, 60Hz) TO THE LAMP.

INSTRUMENTS: Kikusui PCR500L AC Power Source
Yokogawa WT210 Digital Power Meter
Optronic Laboratories OL770 Spectroradiometer
ITL 1.5 Meter Diameter Integrating Sphere, 4π Geometry

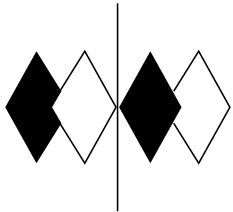
OBJECT OF TEST: Measure the Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Index (CRI), Chromaticity Coordinates (x,y), ANSI C78.377 Duv, and electrical data to the lamp.

PROCEDURE: The lamp was provided by the customer and had an unknown number of burn hours. The lamp was mounted inside the integrating sphere in a vertical base-up position (LEDs facing down). The lamp was allowed to stabilize at 12 VAC input. After stabilization occurred, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Index (CRI), Chromaticity Coordinates (x,y), ANSI C78.377 Duv, and electrical data were measured with the lamp operating in the integrating sphere. In order to measure mean performance, multiple data sets were recorded and averaged. Readings were taken with the luminaire operating at 12 VAC input in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. All data are traceable to the National Institute of Standards and Technology.

RESULTS:

SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4510
Chromaticity Ordinate y	0.4132
Correlated Color Temp CCT (K)	2848
Color Rendering Index (CRI)	84
ANSI C78.377-2008 Duv	0.002
ELECTRICAL	
Input Voltage (Volts AC)	12.0
Input Current (mA AC)	757
Input Power (Watts)	6.35

Checked	<i>N. Gully</i>
Approved	<i>R. Bergin</i>



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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.053	515	2.365	650	5.398
385	0.051	520	2.739	655	5.158
390	0.055	525	3.109	660	4.885
395	0.060	530	3.441	665	4.574
400	0.070	535	3.709	670	4.265
405	0.093	540	3.963	675	3.926
410	0.144	545	4.188	680	3.614
415	0.242	550	4.381	685	3.300
420	0.407	555	4.553	690	3.002
425	0.661	560	4.704	695	2.726
430	0.984	565	4.839	700	2.457
435	1.332	570	4.968	705	2.202
440	1.661	575	5.093	710	1.965
445	2.061	580	5.224	715	1.738
450	2.368	585	5.351	720	1.532
455	2.181	590	5.491	725	1.353
460	1.655	595	5.622	730	1.189
465	1.253	600	5.752	735	1.043
470	1.017	605	5.865	740	0.915
475	0.851	610	5.960	745	0.803
480	0.766	615	6.028	750	0.706
485	0.774	620	6.061	755	0.620
490	0.854	625	6.054	760	0.543
495	1.018	630	6.009	765	0.475
500	1.273	635	5.925	770	0.416
505	1.596	640	5.795	775	0.363
510	1.963	645	5.606	780	0.318

