



itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

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: ITL62865

DATE: 08/03/09

PREPARED FOR: NEXXUS LIGHTING, INC.

CATALOG NUMBER: AACMR16NW25

LAMP: ONE MR-16 STYLE BI-PIN BASE LED LAMP, MOLDED FINNED WHITE PLASTIC BODY, ONE WHITE CIRCUIT BOARD WITH 39 VERTICAL BASE-UP WHITE LIGHT EMITTING DIODES (LEDS), MULTIPLE METAL POSTS BETWEEN UPPER AND LOWER HOUSING, FROSTED FLAT PLASTIC LENS WITH ONE CLEAR HEMISPHERICAL OPTIC BELOW EACH LED, VERTICAL BASE-UP POSITION.

TOTAL INPUT WATTS = 3.31 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

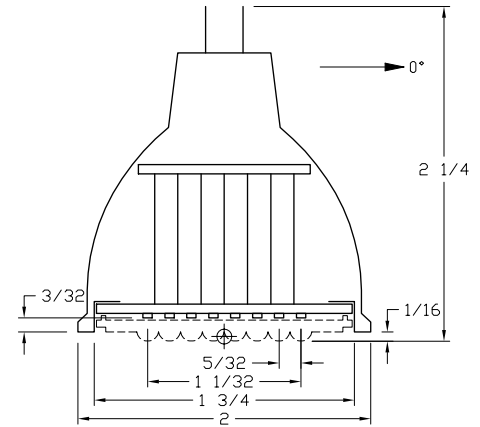
TEST DISTANCE = 25.25 FEET

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	266	266	266	266	266
5	243	244	246	249	250
15	105	111	128	145	151
25	37	40	47	57	60
35	29	29	30	32	34
45	28	27	29	30	29
55	22	21	23	24	20
65	13	13	13	14	12
75	6	6	6	6	6
85	2	2	2	2	2
90	1	1	1	1	1

FLUX

21
35
23
19
21
19
12
6
2
2



ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	80	49.0
0- 40	99	60.9
0- 60	141	86.4
0- 90	163	100.0
90-180	0	0.0
0-180	163	100.0

EFFICACY = 49.2 Lm/W

CIE TYPE - DIRECT

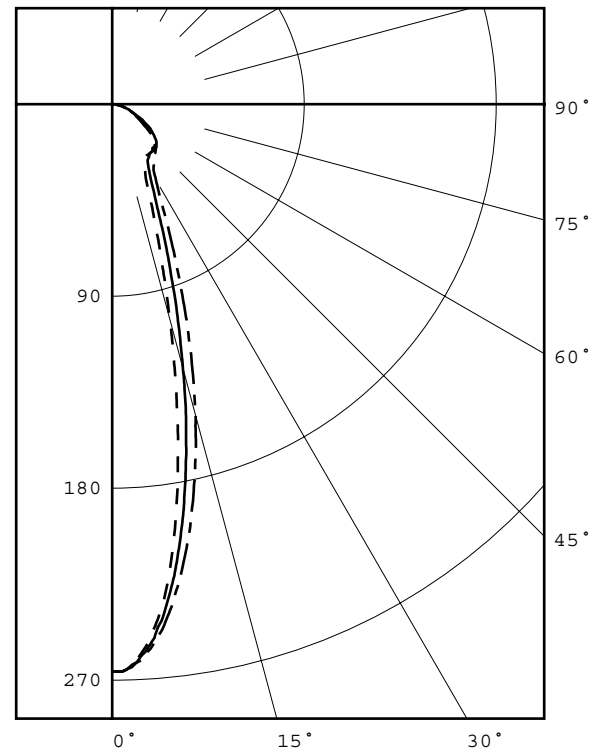
PLANE : 0-DEG 90-DEG

SPACING CRITERIA : 0.4 0.5

LUMINOUS DIAMETER: 1.750

LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	25518.	26429.	26429.
55	24718.	25841.	22470.
65	19823.	19823.	18298.
75	14939.	14939.	14939.
85	14788.	14788.	14788.

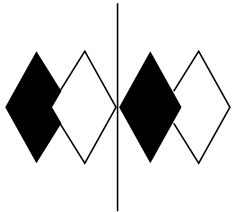


LEGEND:

0-deg: - - - - -
45-deg: _____
90-deg: - . - . - .

Checked *N.WHITE*

Approved *R.BEATTIE*



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CANDELA DISTRIBUTION LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
0.0	266	266	266	266	266
0.5	266	266	266	266	266
1.0	266	266	266	266	266
1.5	265	265	265	265	265
2.0	263	263	263	264	264
2.5	261	261	262	262	262
3.0	258	259	259	260	261
3.5	255	256	257	258	258
4.0	252	252	254	255	256
4.5	247	249	251	252	253
5.0	243	244	246	249	250
5.5	238	239	243	245	247
6.0	233	234	238	242	243
6.5	227	229	233	237	239
7.0	221	223	228	233	235
7.5	214	217	223	228	230
8.0	207	210	217	223	226
8.5	200	203	211	218	221
9.0	192	196	205	213	216
9.5	185	189	199	208	211
10.0	177	182	193	202	206
10.5	169	174	186	197	201
11.0	162	167	180	191	195
11.5	154	160	173	185	190
12.0	146	152	167	180	184
12.5	139	145	160	174	179
13.0	132	138	154	168	173
13.5	124	131	148	162	168
14.0	118	124	141	157	162
14.5	111	117	135	151	156
15.0	105	111	128	145	151
15.5	98	105	122	139	145
16.0	93	99	116	134	139
16.5	87	93	111	128	134
17.0	82	88	105	123	128
17.5	77	83	100	117	123
18.0	73	78	95	112	117
18.5	69	74	90	107	112
19.0	65	70	85	101	107
19.5	61	66	81	97	102
20.0	58	63	77	92	97
22.5	45	49	59	72	76
25.0	37	40	47	57	60
27.5	33	34	39	46	48
30.0	30	31	34	39	41
32.5	29	29	31	35	36
35.0	29	29	30	32	34
37.5	29	28	29	31	32
40.0	29	28	29	31	31
42.5	28	28	29	30	30
45.0	28	27	29	30	29
47.5	27	26	28	29	28
50.0	25	25	27	28	25
52.5	24	23	25	26	23
55.0	22	21	23	24	20
57.5	20	19	21	22	17
60.0	17	17	18	19	15
62.5	15	15	16	16	13
65.0	13	13	13	14	12
67.5	11	11	11	11	10
70.0	9	10	9	9	9
72.5	8	8	8	8	8
75.0	6	6	6	6	6
77.5	5	5	5	5	5
80.0	4	4	4	4	4



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CANDELA DISTRIBUTION
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
82.5	3	3	3	3	3
85.0	2	2	2	2	2
87.5	1	2	2	2	2
90.0	1	1	1	1	1



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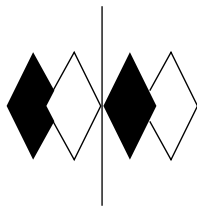
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	120	120	120	120	117	117	117	117	112	112	112	107	107	107	103	103	103	101
1	111	107	104	100	109	105	102	99	101	98	96	97	95	93	93	92	90	88
2	103	96	91	86	101	95	89	85	91	87	83	88	84	81	85	82	79	77
3	96	87	81	75	94	86	80	74	83	78	73	80	76	72	78	74	71	69
4	90	80	72	67	88	79	72	66	76	70	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	69	63	59	67	62	58	56
6	79	68	61	55	78	67	60	55	66	59	55	64	58	54	63	58	54	52
7	75	64	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48
8	71	60	52	47	70	59	52	47	58	51	47	57	51	47	55	50	47	45
9	68	56	49	44	66	56	49	44	55	48	44	54	48	44	53	48	44	42
10	64	53	46	42	63	53	46	42	52	46	42	51	45	42	50	45	41	40

ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.



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REPORT NUMBER: ITL62876 Page 1 of 1
DATE: 8/06/09
PREPARED FOR: NEXXUS LIGHTING, INC.

CATALOG NUMBER: AACMR16NW25

LAMP: ONE MR-16 STYLE BI-PIN BASE LED LAMP, MOLDED FINNED WHITE PLASTIC BODY, ONE WHITE CIRCUIT BOARD WITH 39 VERTICAL BASE-UP WHITE LIGHT EMITTING DIODES (LEDS), MULTIPLE METAL POSTS BETWEEN UPPER AND LOWER HOUSING, FROSTED FLAT PLASTIC LENS WITH ONE CLEAR HEMISPHERICAL OPTIC BELOW EACH LED, VERTICAL BASE-UP POSITION.

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

INSTRUMENTATION: Kikusui PCR500L AC Power Source
Yokogawa WT210 Digital Power Meter
Optronics OL770 Spectroradiometer
ITL 1.5 Meter Diameter Integrating Sphere

OBJECT OF TEST: Measure the Correlated Color Temperature (CCT), Color Rendering Index (CRI), Chromaticity Coordinates (x,y), ANSI C78.377 Duv, and input electrical parameters.

PROCEDURE: The lamp was provided by customer and the LEDs had an unknown number of burn hours. The lamp was mounted inside the integrating sphere with the lamp in a base up position (LEDS facing down). The lamp was allowed to stabilize at 12 VAC input. After stabilization occurred, CCT, CRI, x/y chromaticity coordinates, ANSI C78.377 Duv, and input electrical data were measured with the lamp operating in the integrating sphere. In order to measure the mean performance, twenty data sets were recorded and averaged within the OL770. Readings were taken with the lamp 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
Correlated Color Temp CCT (K)	5238
Chromaticity Ordinate x	0.3389
Chromaticity Ordinate y	0.3498
Color Rendering Index (CRI)	76
ANSI C78.377-2008 Duv	0.002
ELECTRICAL	
Input Voltage (Volts AC)	12.0
Input Current (mA AC)	289
Input Power (Watts)	3.31
Input Power Factor (%)	95.4

Checked: <u>N Gully</u>
Approved: <u>R Bergin</u>