



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: ITL62871

DATE: 08/06/09

PREPARED FOR: NEXXUS LIGHTING, INC.

CATALOG NUMBER: ADCMR16WW25

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 = 3.13 AT 12.0 VOLTS DC

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

TEST PROCEDURE: IESNA LM-79-08

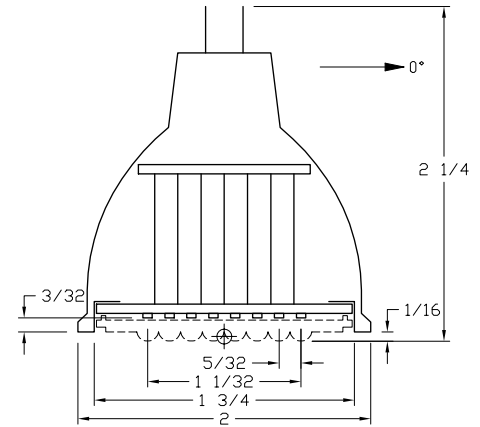
TEST DISTANCE = 25.25 FEET

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	290	290	290	290	290
5	263	265	267	270	270
15	117	123	137	151	156
25	42	44	52	61	64
35	32	31	33	35	36
45	30	29	31	32	32
55	24	23	25	27	21
65	15	15	15	16	12
75	8	7	7	7	7
85	3	3	3	3	3
90	1	1	1	1	1

FLUX

23
37
25
21
23
21
14
7
3



ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	86	48.3
0- 40	107	60.1
0- 60	153	85.6
0- 90	178	100.0
90-180	0	0.0
0-180	178	100.0

EFFICACY = 56.9 Lm/W

CIE TYPE - DIRECT

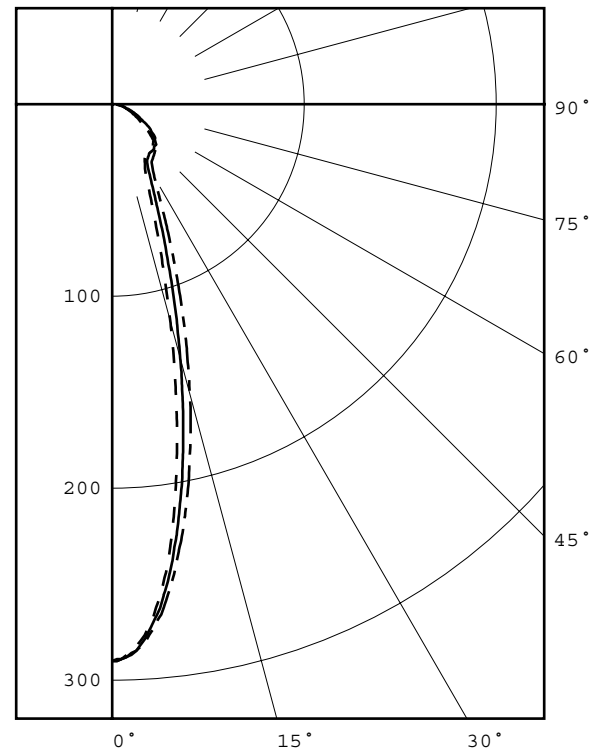
PLANE : 0-DEG 90-DEG

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	27341.	28252.	29163.
55	26965.	28088.	23594.
65	22873.	22873.	18298.
75	19919.	17429.	17429.
85	22182.	22182.	22182.



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	290	290	290	290	290
0.5	289	290	290	290	290
1.0	289	289	289	289	289
1.5	287	288	288	288	288
2.0	285	286	286	287	287
2.5	283	284	285	285	285
3.0	280	281	282	283	283
3.5	277	278	279	280	281
4.0	273	274	275	277	277
4.5	269	270	271	273	274
5.0	263	265	267	270	270
5.5	258	260	263	265	267
6.0	252	254	257	261	262
6.5	246	248	252	256	257
7.0	240	241	246	251	252
7.5	232	235	240	245	247
8.0	225	228	233	239	241
8.5	217	220	227	233	235
9.0	209	213	220	227	230
9.5	201	205	213	221	224
10.0	193	197	206	215	218
10.5	185	190	200	209	212
11.0	177	182	192	202	206
11.5	169	174	185	196	200
12.0	161	166	178	189	193
12.5	153	159	171	183	187
13.0	145	151	164	177	181
13.5	138	144	157	170	175
14.0	131	136	150	164	169
14.5	124	130	144	158	163
15.0	117	123	137	151	156
15.5	110	116	131	145	150
16.0	104	110	124	139	144
16.5	98	104	119	133	138
17.0	93	98	113	128	133
17.5	87	93	107	122	127
18.0	83	88	102	117	122
18.5	78	83	97	111	116
19.0	74	79	92	106	111
19.5	70	74	87	101	106
20.0	66	70	83	97	101
22.5	52	55	65	76	80
25.0	42	44	52	61	64
27.5	37	38	43	49	52
30.0	34	34	37	42	44
32.5	32	32	34	37	39
35.0	32	31	33	35	36
37.5	31	30	32	33	35
40.0	31	30	32	33	34
42.5	31	30	32	33	33
45.0	30	29	31	32	32
47.5	29	28	31	32	30
50.0	28	27	29	31	27
52.5	26	25	28	29	24
55.0	24	23	25	27	21
57.5	22	21	23	24	18
60.0	20	19	20	21	16
62.5	17	17	17	19	14
65.0	15	15	15	16	12
67.5	13	13	12	13	11
70.0	11	11	10	11	9
72.5	9	9	8	9	8
75.0	8	7	7	7	7
77.5	6	6	6	6	6
80.0	5	5	5	5	5



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CANDELA DISTRIBUTION LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
82.5	4	4	4	4	4
85.0	3	3	3	3	3
87.5	2	2	2	2	2
90.0	1	1	1	1	1



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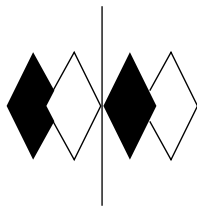
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	118	118	118	118	112	112	112	108	108	108	103	103	103	101
1	112	108	104	101	109	106	102	99	101	99	96	97	95	93	94	92	90	88
2	104	97	91	86	101	95	90	85	91	87	83	88	85	81	85	82	80	78
3	96	88	81	75	94	86	80	75	83	78	73	81	76	72	78	74	71	69
4	90	80	73	67	88	79	72	66	76	70	66	74	69	65	72	68	64	62
5	84	74	66	60	83	73	65	60	71	64	59	69	63	59	67	62	58	56
6	80	68	61	55	78	67	60	55	66	59	54	64	58	54	63	58	54	52
7	75	64	56	51	74	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	56	50	47	45
9	68	56	49	44	66	56	49	44	55	48	44	54	48	44	53	47	44	42
10	64	53	46	42	63	53	46	42	52	46	42	51	45	41	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: ITL62882 Page 1 of 1
DATE: 8/07/09
PREPARED FOR: NEXXUS LIGHTING, INC.

CATALOG NUMBER: ADCMR16WW25

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 (12VDC) TO THE LAMP.

INSTRUMENTATION: BK Precision 1745A DC Power Supply
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 VDC 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 VDC 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)	3047
Chromaticity Ordinate x	0.4367
Chromaticity Ordinate y	0.4094
Color Rendering Index (CRI)	76
ANSI C78.377-2008 Duv	0.002
ELECTRICAL	
Input Voltage (Volts DC)	12.0
Input Current (mA DC)	258
Input Power (Watts)	3.10

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