

REPORT NUMBER: ITL84345

PAGE: 1 OF 8

ISSUE DATE: 03/11/15

PREPARED FOR: BEGHELLI

CATALOG NUMBER: PLM-2

LUMINAIRE: MOLDED WHITE PLASTIC HOUSING, 1 WHITE CIRCUIT BOARD WITH 6 LEDS, CLEAR FLAT PLASTIC LENS, 2-PIECE MOLDED WHITE PLASTIC FACEPLATE WITH INTEGRAL WHITE PLASTIC REFLECTOR.

LAMPS: SIX WHITE LIGHT EMITTING DIODES (LEDs), VERTICAL BASE-UP POSITION.

INPUT ELECTRICAL: 3.60 VOLTS, 1.17 WATTS, 0.326 AMPS

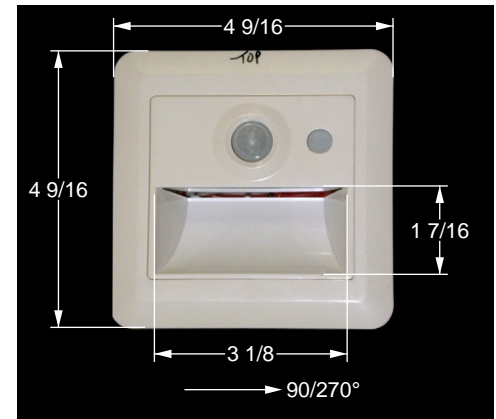
MOUNTING: RECESSED WALL

LED DRIVER: BEGHELLI PROPRIETARY

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (3.60VDC) TO THE DRIVER. LED DRIVER INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET



# CANDELA DISTRIBUTION

## FLUX

	0.0	45.0	90.0	135.0	180.0	
0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.7	0.5	0.0	0.0	0.0	0.0
15	2.7	1.7	0.0	0.0	0.0	0.4
25	44.8	10.0	0.0	0.0	0.0	4.6
35	44.6	35.8	0.0	0.0	0.0	8.2
45	43.5	33.0	0.0	0.0	0.0	10.9
55	40.0	30.6	0.0	0.0	0.0	12.1
65	39.2	26.0	0.0	0.0	0.0	11.9
75	31.9	23.7	0.0	0.0	0.0	10.5
85	23.3	16.0	0.0	0.0	0.0	8.0
90	23.6	15.8	0.0	0.0	0.0	
95	23.4	15.4	0.0	0.0	0.0	7.5
105	20.6	12.6	0.0	0.0	0.0	6.2
115	16.2	10.0	0.0	0.0	0.0	4.7
125	13.1	8.2	0.0	0.0	0.0	3.4
135	10.1	6.5	0.0	0.0	0.0	2.3
145	7.6	4.9	0.0	0.0	0.0	1.4
155	5.2	3.5	0.0	0.0	0.0	0.7
165	2.9	1.7	0.0	0.0	0.0	0.2
175	0.4	0.3	0.0	0.0	0.0	0.0
180	0.0	0.0	0.0	0.0	0.0	

# ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	5.0	5.4
0- 40	13.2	14.2
0- 60	36.2	38.8
0- 90	66.7	71.5
90-120	18.4	19.7
90-130	21.8	23.4
90-150	25.6	27.4
90-180	26.6	28.5
0-180	93.2	100.0

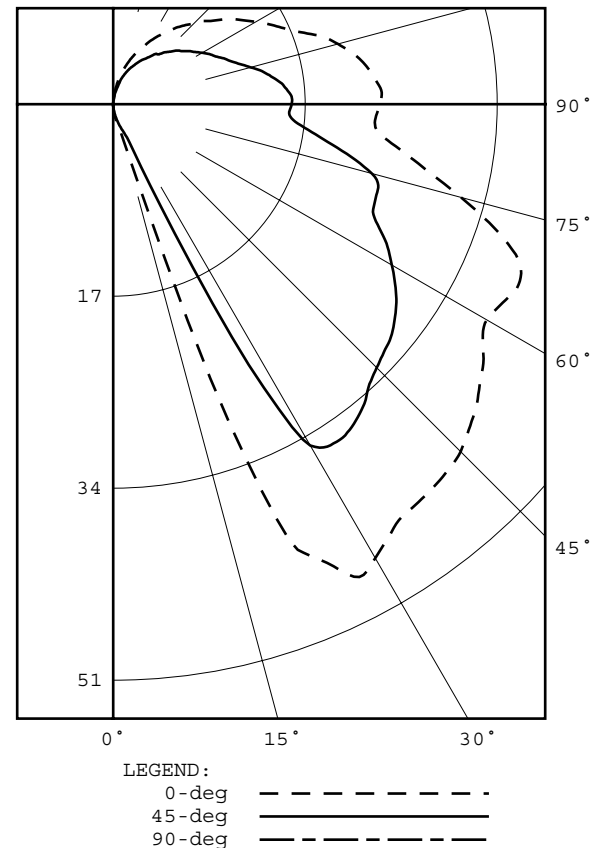
EFFICACY = 79.7 lm/W

CIE TYPE - SEMI-DIRECT

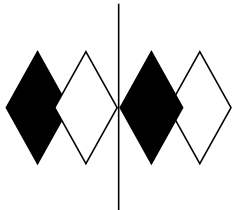
PLANE : 0-DEG 90-DEG

BEAM ANGLE (50%) : 65.1 X N/A DEGREES

FIELD ANGLE (10%) : 140.7 X N/A DEGREES



Checked B. HYRE  
Approved R. BEATTIE  
Lighting Engineer



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**NVLAP**  
NVLAP LAB CODE: 200925-0

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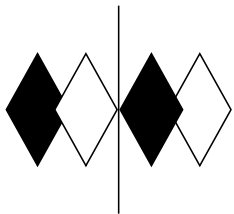
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CANDELA DISTRIBUTION  
LATERAL ANGLE

	0.0	5.0	10.0	15.0	20.0	22.5	30.0	40.0	45.0	67.5	90.0	112.5	135.0	157.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0
5.0	0.7	0.6	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.2	0.0	0.0	0.0	0.0
7.5	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.7	0.7	0.3	0.0	0.0	0.0	0.0
10.0	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.1	1.0	0.4	0.0	0.0	0.0	0.0
12.5	2.1	2.0	2.0	1.9	1.9	1.8	1.7	1.4	1.3	0.6	0.0	0.0	0.0	0.0
15.0	2.7	2.7	2.6	2.6	2.5	2.5	2.2	1.9	1.7	0.7	0.0	0.0	0.0	0.0
17.5	6.7	5.9	5.3	4.2	3.5	3.2	2.8	2.3	2.1	0.9	0.0	0.0	0.0	0.0
20.0	30.0	28.1	26.2	21.9	16.7	13.5	6.3	2.9	2.5	1.1	0.0	0.0	0.0	0.0
22.5	42.7	42.5	42.0	40.6	38.0	35.8	26.0	6.7	3.2	1.2	0.0	0.0	0.0	0.0
25.0	44.8	44.3	43.6	43.2	43.0	42.8	40.8	24.0	10.0	1.5	0.0	0.0	0.0	0.0
27.5	47.2	46.3	44.8	44.0	43.6	43.4	42.4	37.7	26.0	1.6	0.0	0.0	0.0	0.0
30.0	46.4	45.8	44.4	43.8	43.6	43.4	42.6	40.0	34.9	1.8	0.0	0.0	0.0	0.0
32.5	45.4	45.0	43.7	43.2	43.0	42.8	42.3	40.1	35.8	2.1	0.0	0.0	0.0	0.0
35.0	44.6	44.2	43.1	42.4	42.0	41.9	41.6	39.7	35.8	2.3	0.0	0.0	0.0	0.0
37.5	44.4	44.0	43.3	42.9	42.1	41.6	40.7	39.0	35.3	2.6	0.0	0.0	0.0	0.0
40.0	44.2	43.9	43.2	43.0	42.1	41.7	40.5	38.0	34.6	4.9	0.0	0.0	0.0	0.0
42.5	43.9	43.6	42.9	42.6	41.9	41.5	40.3	37.4	33.6	11.2	0.0	0.0	0.0	0.0
45.0	43.5	43.2	42.6	42.2	41.6	41.1	40.0	37.1	33.0	17.7	0.0	0.0	0.0	0.0
47.5	42.7	42.4	41.9	41.4	41.1	40.7	39.4	36.4	32.5	19.9	0.0	0.0	0.0	0.0
50.0	41.9	41.6	41.1	40.7	40.3	40.0	38.8	35.9	32.1	19.8	0.0	0.0	0.0	0.0
52.5	40.9	40.7	40.1	39.7	39.2	39.0	37.8	35.1	31.4	19.2	0.0	0.0	0.0	0.0
55.0	40.0	39.7	39.2	38.7	38.2	38.0	36.9	34.2	30.6	18.4	0.0	0.0	0.0	0.0
57.5	38.8	38.6	38.1	37.5	37.1	36.8	35.7	33.0	29.6	17.5	0.0	0.0	0.0	0.0
60.0	38.2	37.9	37.2	36.4	35.9	35.5	34.4	31.7	28.5	16.4	0.0	0.0	0.0	0.0
62.5	38.6	38.3	37.4	36.5	35.6	35.1	33.4	30.2	27.4	15.5	0.0	0.0	0.0	0.0
65.0	39.2	38.6	37.4	36.5	35.6	35.1	33.2	28.9	26.0	14.5	0.0	0.0	0.0	0.0
67.5	39.1	38.6	37.5	36.7	35.8	35.3	33.3	28.5	24.9	13.4	0.0	0.0	0.0	0.0
70.0	37.6	37.0	36.0	35.5	34.9	34.5	33.4	28.4	24.7	12.4	0.0	0.0	0.0	0.0
72.5	34.9	34.7	33.7	33.3	32.6	32.4	31.7	28.2	24.6	11.3	0.0	0.0	0.0	0.0
75.0	31.9	31.7	30.7	30.4	29.8	29.7	28.9	26.3	23.7	10.1	0.0	0.0	0.0	0.0
77.5	29.0	28.9	28.1	27.7	27.1	26.9	25.8	23.6	21.6	9.1	0.0	0.0	0.0	0.0
80.0	26.6	26.5	26.1	25.5	24.9	24.5	23.3	21.2	19.3	8.3	0.0	0.0	0.0	0.0
82.5	24.5	24.6	24.3	23.7	23.2	22.8	21.4	19.0	17.4	7.5	0.0	0.0	0.0	0.0
85.0	23.3	23.3	23.2	22.5	21.8	21.6	20.2	17.7	16.0	6.9	0.0	0.0	0.0	0.0
87.5	23.3	23.3	23.2	22.4	21.8	21.4	20.0	17.3	15.6	6.6	0.0	0.0	0.0	0.0
90.0	23.6	23.6	23.4	22.6	22.0	21.7	20.2	17.5	15.8	6.6	0.0	0.0	0.0	0.0
92.5	23.8	23.7	23.5	22.8	22.1	21.8	20.3	17.5	15.8	6.6	0.0	0.0	0.0	0.0
95.0	23.4	23.4	23.1	22.5	21.8	21.4	19.8	17.1	15.4	6.2	0.0	0.0	0.0	0.0
97.5	22.9	22.9	22.5	22.0	21.3	20.9	19.4	16.6	14.9	5.9	0.0	0.0	0.0	0.0
100.0	22.3	22.2	21.9	21.4	20.7	20.3	18.7	16.0	14.2	5.5	0.0	0.0	0.0	0.0
102.5	21.5	21.4	21.1	20.7	19.8	19.4	18.0	15.2	13.5	5.3	0.0	0.0	0.0	0.0
105.0	20.6	20.5	20.2	19.8	19.0	18.7	17.1	14.2	12.6	5.0	0.0	0.0	0.0	0.0
107.5	19.7	19.6	19.3	18.7	18.0	17.5	16.0	13.3	11.8	4.8	0.0	0.0	0.0	0.0
110.0	18.3	18.2	17.9	17.5	16.8	16.4	14.9	12.5	11.1	4.6	0.0	0.0	0.0	0.0
112.5	17.1	17.1	16.8	16.4	15.8	15.4	14.1	11.8	10.6	4.4	0.0	0.0	0.0	0.0
115.0	16.2	16.1	15.9	15.5	14.9	14.7	13.3	11.2	10.0	4.2	0.0	0.0	0.0	0.0
117.5	15.4	15.4	15.1	14.7	14.3	13.9	12.7	10.7	9.6	4.1	0.0	0.0	0.0	0.0
120.0	14.6	14.5	14.2	13.9	13.4	13.1	12.0	10.1	9.1	3.9	0.0	0.0	0.0	0.0
122.5	13.8	13.7	13.5	13.2	12.8	12.5	11.4	9.6	8.6	3.9	0.0	0.0	0.0	0.0
125.0	13.1	12.9	12.8	12.4	12.0	11.8	10.8	9.1	8.2	3.6	0.0	0.0	0.0	0.0
127.5	12.3	12.2	12.0	11.7	11.3	11.0	10.2	8.6	7.7	3.5	0.0	0.0	0.0	0.0
130.0	11.5	11.5	11.4	11.1	10.7	10.4	9.6	8.2	7.4	3.4	0.0	0.0	0.0	0.0
132.5	10.9	10.8	10.6	10.3	10.0	9.7	9.0	7.6	6.9	3.2	0.0	0.0	0.0	0.0
135.0	10.1	10.1	10.0	9.8	9.4	9.2	8.5	7.2	6.5	3.1	0.0	0.0	0.0	0.0
137.5	9.5	9.4	9.3	9.0	8.8	8.5	7.9	6.7	6.0	2.9	0.0	0.0	0.0	0.0
140.0	8.9	8.8	8.7	8.5	8.3	8.0	7.4	6.4	5.8	2.7	0.0	0.0	0.0	0.0
142.5	8.2	8.1	8.0	7.8	7.6	7.4	6.9	5.9	5.3	2.6	0.0	0.0	0.0	0.0
145.0	7.6	7.5	7.4	7.2	7.0	6.9	6.4	5.5	4.9	2.4	0.0	0.0	0.0	0.0
147.5	7.0	6.9	6.8	6.6	6.4	6.3	5.9	5.0	4.6	2.2	0.0	0.0	0.0	0.0
150.0	6.4	6.3	6.2	6.1	5.9	5.7	5.3	4.6	4.2	2.0	0.0	0.0	0.0	0.0
152.5	5.7	5.7	5.6	5.5	5.3	5.2	4.8	4.2	3.8	1.8	0.0	0.0	0.0	0.0
155.0	5.2	5.2	5.1	5.0	4.8	4.7	4.4	3.8	3.5	1.6	0.0	0.0	0.0	0.0
157.5	4.6	4.6	4.4	4.4	4.3	4.2	3.9	3.4	3.1	1.3	0.0	0.0	0.0	0.0



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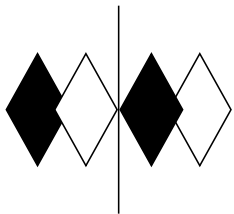
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PREPARED FOR: BEGHELLI

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CANDELA DISTRIBUTION  
LATERAL ANGLE

	0.0	5.0	10.0	15.0	20.0	22.5	30.0	40.0	45.0	67.5	90.0	112.5	135.0	157.5
160.0	4.0	4.0	3.9	3.9	3.7	3.7	3.5	3.0	2.7	1.1	0.0	0.0	0.0	0.0
162.5	3.4	3.5	3.4	3.3	3.2	3.2	2.9	2.5	2.3	0.8	0.0	0.0	0.0	0.0
165.0	2.9	2.9	2.8	2.8	2.6	2.6	2.4	2.0	1.7	0.6	0.0	0.0	0.0	0.0
167.5	2.2	2.2	2.2	2.1	2.0	2.0	1.8	1.5	1.3	0.5	0.0	0.0	0.0	0.0
170.0	1.7	1.6	1.6	1.6	1.5	1.5	1.4	1.1	1.0	0.4	0.0	0.0	0.0	0.0
172.5	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.6	0.5	0.2	0.0	0.0	0.0	0.0
175.0	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.3	0.1	0.0	0.0	0.0	0.0
177.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
180.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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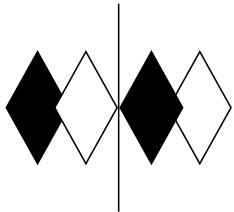
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CANDELA DISTRIBUTION  
LATERAL ANGLE

	180.0
0.0	0.0
2.5	0.0
5.0	0.0
7.5	0.0
10.0	0.0
12.5	0.0
15.0	0.0
17.5	0.0
20.0	0.0
22.5	0.0
25.0	0.0
27.5	0.0
30.0	0.0
32.5	0.0
35.0	0.0
37.5	0.0
40.0	0.0
42.5	0.0
45.0	0.0
47.5	0.0
50.0	0.0
52.5	0.0
55.0	0.0
57.5	0.0
60.0	0.0
62.5	0.0
65.0	0.0
67.5	0.0
70.0	0.0
72.5	0.0
75.0	0.0
77.5	0.0
80.0	0.0
82.5	0.0
85.0	0.0
87.5	0.0
90.0	0.0
92.5	0.0
95.0	0.0
97.5	0.0
100.0	0.0
102.5	0.0
105.0	0.0
107.5	0.0
110.0	0.0
112.5	0.0
115.0	0.0
117.5	0.0
120.0	0.0
122.5	0.0
125.0	0.0
127.5	0.0
130.0	0.0
132.5	0.0
135.0	0.0
137.5	0.0
140.0	0.0
142.5	0.0
145.0	0.0
147.5	0.0
150.0	0.0
152.5	0.0
155.0	0.0
157.5	0.0



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CANDELA DISTRIBUTION  
LATERAL ANGLE

	180.0
160.0	0.0
162.5	0.0
165.0	0.0
167.5	0.0
170.0	0.0
172.5	0.0
175.0	0.0
177.5	0.0
180.0	0.0



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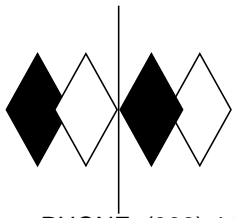
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5-DEGREE  
ZONAL LUMEN SUMMARY

0- 5	0.0
5- 10	0.0
10- 15	0.1
15- 20	0.3
20- 25	1.6
25- 30	3.0
30- 35	3.8
35- 40	4.3
40- 45	5.1
45- 50	5.8
50- 55	6.0
55- 60	6.0
60- 65	6.0
65- 70	6.0
70- 75	5.7
75- 80	4.9
80- 85	4.1
85- 90	3.9
90- 95	3.9
95-100	3.6
100-105	3.3
105-110	2.9
110-115	2.5
115-120	2.2
120-125	1.9
125-130	1.6
130-135	1.3
135-140	1.0
140-145	0.8
145-150	0.6
150-155	0.4
155-160	0.3
160-165	0.2
165-170	0.1
170-175	0.0
175-180	0.0

10-DEGREE  
ZONAL LUMEN SUMMARY

0- 10	0.0
0- 20	0.4
0- 30	5.0
0- 40	13.2
0- 50	24.1
0- 60	36.2
0- 70	48.1
0- 80	58.7
0- 90	66.7
0-100	74.2
0-110	80.4
0-120	85.0
0-130	88.5
0-140	90.8
0-150	92.2
0-160	93.0
0-170	93.2
0-180	93.2



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INDEPENDENT TESTING LABORATORIES, INC.  
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: [itl@itlboulder.com](mailto:itl@itlboulder.com) • WEBSITE: [www.itlboulder.com](http://www.itlboulder.com)

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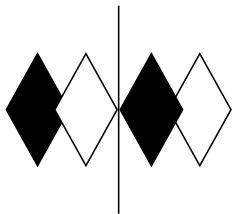
# COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	76	76	76	71
1	98	91	85	80	92	86	81	76	76	72	68	68	64	61	59	57	54	50
2	87	76	68	61	81	72	64	58	64	57	52	56	51	47	49	45	41	37
3	77	65	55	47	72	61	52	45	54	47	41	47	41	36	41	36	32	29
4	70	56	46	38	65	53	43	36	46	39	33	41	34	29	35	30	26	22
5	63	49	39	31	59	46	37	30	40	33	27	35	29	24	31	25	21	18
6	58	43	33	26	54	40	31	25	36	28	22	31	25	20	27	22	17	14
7	53	38	29	22	49	36	27	21	32	24	19	28	21	17	24	19	15	12
8	49	34	25	19	45	32	24	18	28	21	16	25	19	14	22	16	12	10
9	45	31	22	16	42	29	21	15	26	19	14	23	16	12	20	14	11	8
10	42	28	19	14	39	26	18	13	23	17	12	21	15	10	18	13	9	7

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 TEST SAMPLE.

NOTE: THE ZONAL CAVITY CALCULATION TECHNIQUE IS ACCURATE WHEN LUMINAIRES WITH SYMMETRIC CANDELA DISTRIBUTIONS ARE EMPLOYED AND WHEN THE LUMINAIRES ARE LOCATED SYMMETRICALLY THROUGHOUT THE ROOM. THIS UNIT HAS SPECIAL CHARACTERISTICS AND THEREFORE THESE COEFFICIENTS SHOULD BE USED WITH CAUTION.



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ADDRESS: 3250 CORPORATE WAY  
MIRAMAR, FL 33025

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