

itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

PHONE: (303) 442-1255

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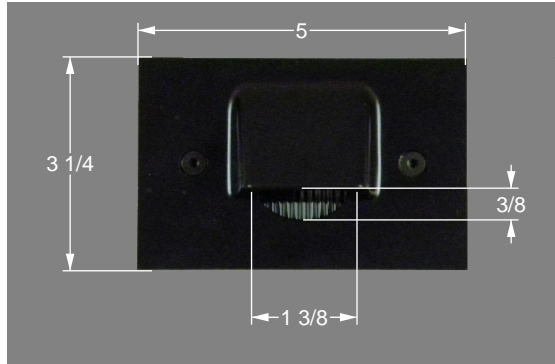
NVLAP
NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.

4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 1 foot mounting height.



REPORT NUMBER: ITL86656

ISSUE DATE: 03/03/16

PAGE: 1 OF 8

PREPARED FOR: B-K LIGHTING, INC.

CATALOG NUMBER: BQ-LED-e102-20-DEGREES, SQ-LED-e102-20-DEGREES, VB-LED-e102-20-DEGREES

LUMINAIRE: CAST METAL WALL MOUNTING HOUSING, ONE ADJUSTABLE LED MODULE CONSISTING OF: MACHINED BLACK FINISHED METAL HEAT SINK, ONE BLACK CIRCUIT BOARD WITH 3 LEDS, ONE CLEAR CONICAL PLASTIC OPTIC PER LED WITH FROSTED SURFACE OPPOSITE LED, MOLDED BLACK PLASTIC OPTIC MOUNTING FRAME. FABRICATED DIFFUSE METAL LED MODULE MOUNTING BRACKETS, MACHINED BLACK FINISHED METAL OPTIC ASSEMBLY MOUNTING COLLAR, CLEAR FLAT LINEAR PRISMATIC GLASS LENS, CAST BLACK PAINTED METAL FACEPLATE, LENS PRISMS OUT AND VERTICAL. LED MODULE TILTED 20-DEGREES BELOW THE HORIZON.

LAMPS: THREE WHITE LIGHT EMITTING DIODES (LEDs), TILTED 20-DEGREES BELOW THE HORIZON. INPUT ELECTRICAL: 12.0 VOLTS, 4.93 WATTS, 0.460 AMPS

LED DRIVER: B-K LIGHTING 524439/400188-L-L, DRIVER HAS MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST.

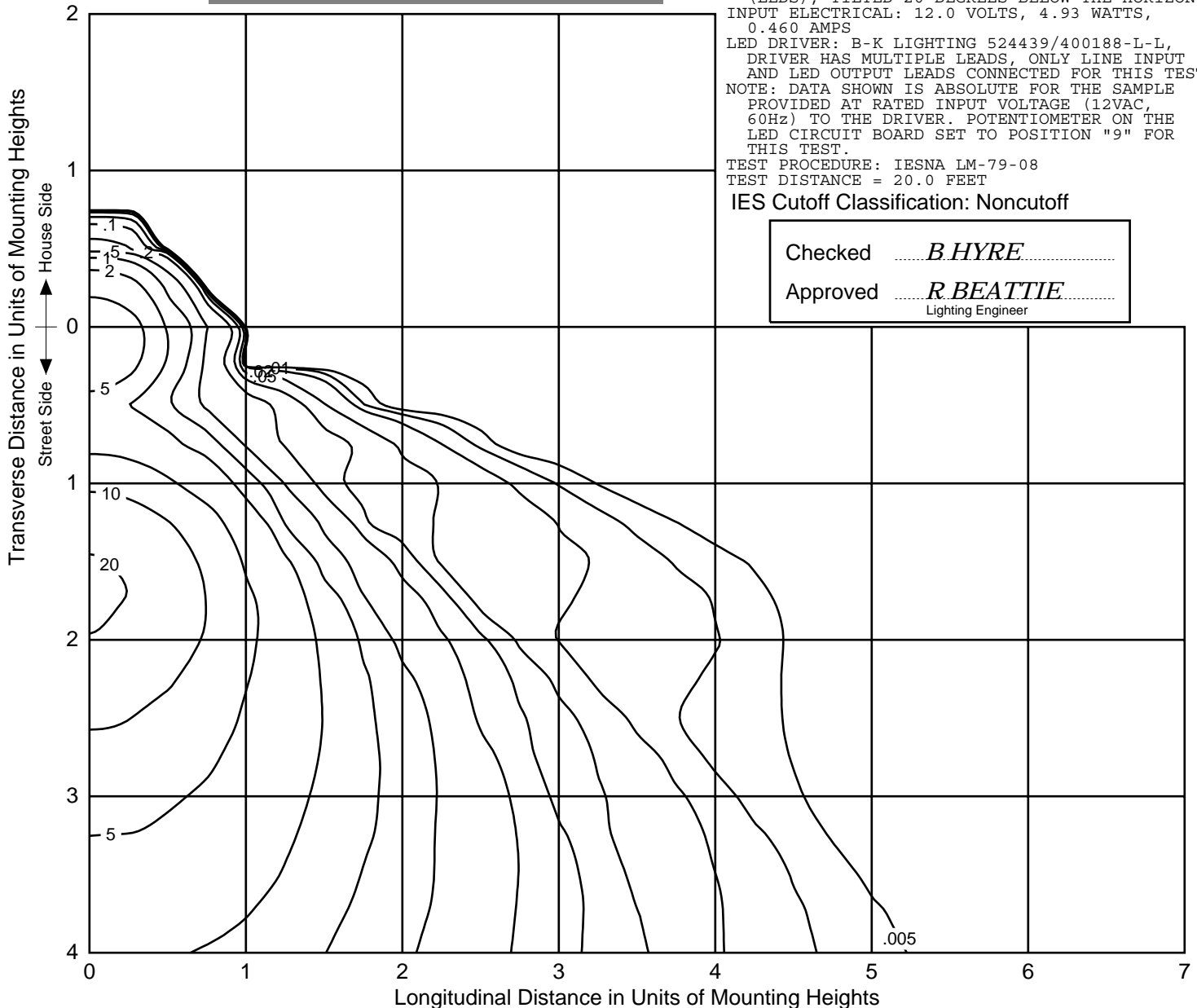
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (12VAC, 60Hz) TO THE DRIVER. POTENTIOMETER ON THE LED CIRCUIT BOARD SET TO POSITION "9" FOR THIS TEST.

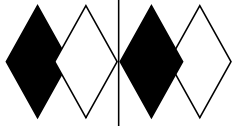
TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

IES Cutoff Classification: Noncutoff

Checked *B. HYRE*
Approved *R. BEATTIE*
Lighting Engineer





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PREPARED FOR: B-K LIGHTING, INC.
CATALOG NUMBER: BQ-LED-e102-20-DEGREES,
SQ-LED-e102-20-DEGREES, VB-LED-e102-
20-DEGREES

LUMINAIRE: CAST METAL WALL MOUNTING
HOUSING, ONE ADJUSTABLE LED MODULE
CONSISTING OF: MACHINED BLACK FINISHED
METAL HEAT SINK, ONE BLACK CIRCUIT
BOARD WITH 3 LEDS, ONE CLEAR CONICAL
PLASTIC OPTIC PER LED WITH FROSTED
SURFACE OPPOSITE LED, MOLDED BLACK
PLASTIC OPTIC MOUNTING FRAME.
FABRICATED DIFFUSE METAL LED MODULE
MOUNTING BRACKETS, MACHINED BLACK
FINISHED METAL OPTIC ASSEMBLY MOUNTING
COLLAR, CLEAR FLAT LINEAR PRISMATIC
GLASS LENS, CAST BLACK PAINTED METAL
FACEPLATE, LENS PRISMS OUT AND
VERTICAL. LED MODULE TILTED 20-DEGREES
BELOW THE HORIZON.

LAMPS: THREE WHITE LIGHT EMITTING DIODES
(LEDS), TILTED 20-DEGREES BELOW THE
HORIZON.

INPUT ELECTRICAL: 12.0 VOLTS, 4.93
WATTS, 0.460 AMPS

LED DRIVER: B-K LIGHTING 524439/400188-
L-L, DRIVER HAS MULTIPLE LEADS, ONLY
LINE INPUT AND LED OUTPUT LEADS
CONNECTED FOR THIS TEST.

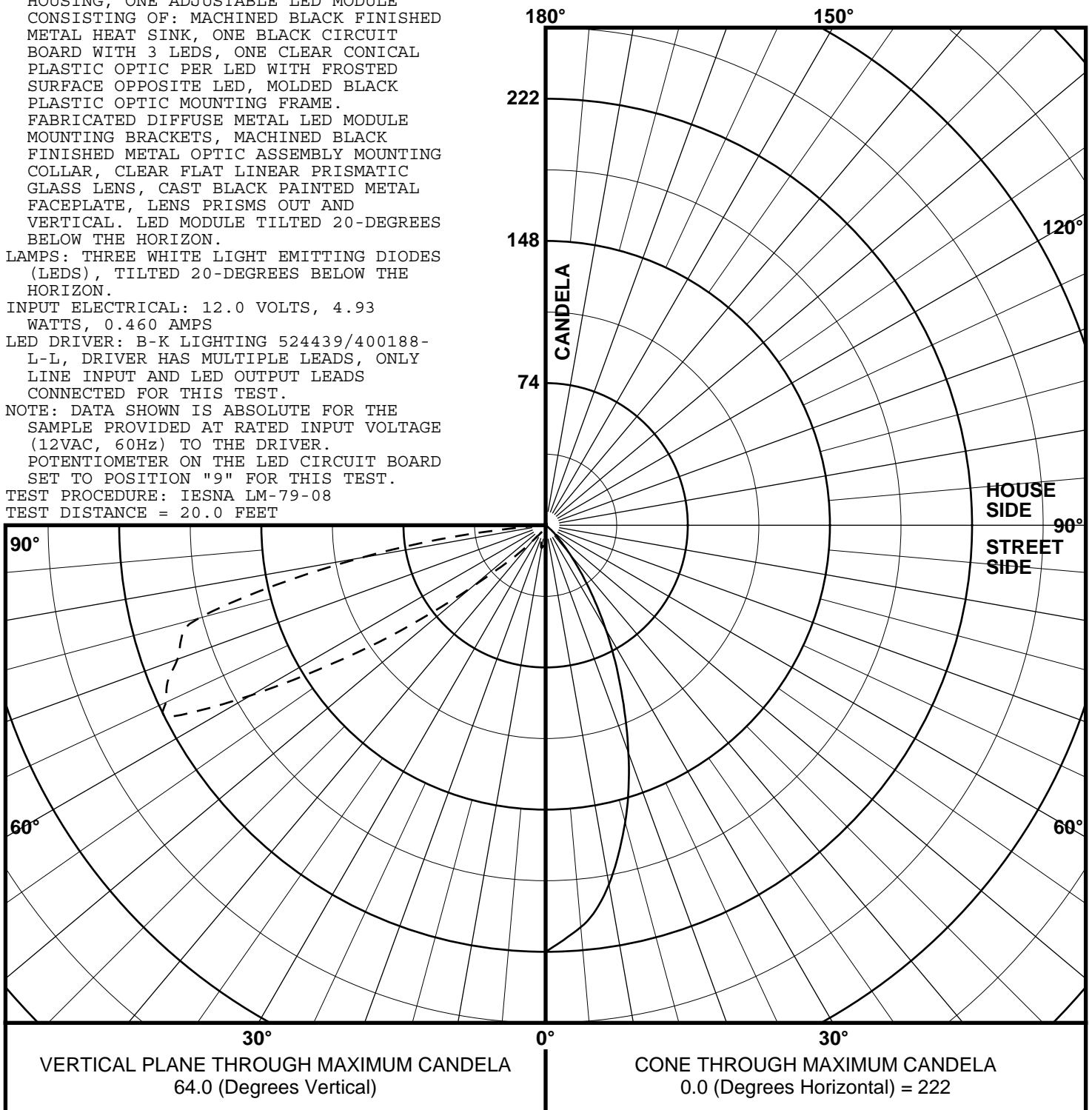
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED AT RATED INPUT VOLTAGE
(12VAC, 60Hz) TO THE DRIVER.

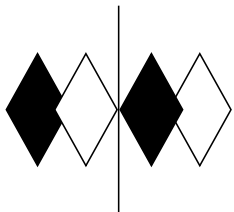
POTENTIOMETER ON THE LED CIRCUIT BOARD
SET TO POSITION "9" FOR THIS TEST.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

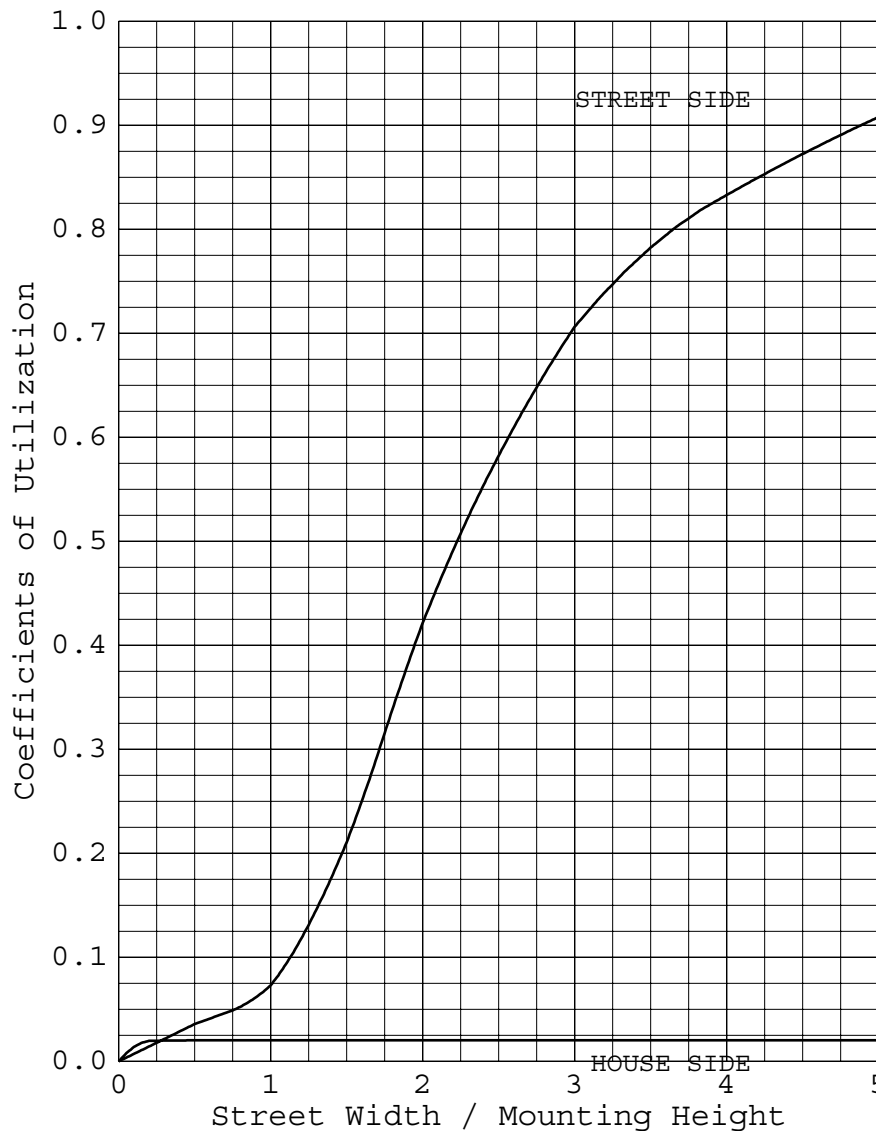




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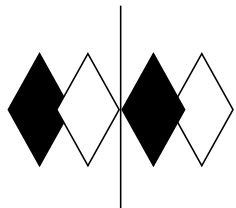
COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	75.3	97.8
DOWNWARD HOUSE SIDE	1.6	2.0
DOWNWARD TOTAL	76.9	99.8
UPWARD STREET SIDE	0.2	0.2
UPWARD HOUSE SIDE	0.0	0.0
UPWARD TOTAL	0.2	0.2
TOTAL FLUX	77.0	100.0

EFFICACY = 15.6 lm/W

ALL CANDELA AND LUMENS 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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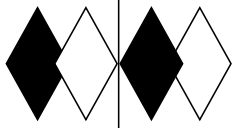
FLUX DISTRIBUTION BY SOLID ANGLE

(PER IESNA TM-15-11, LUMINAIRE CLASSIFICATION
SYSTEM FOR OUTDOOR LUMINAIRES)

	LUMENS	PERCENT OF FIXTURE	BUG ZONE RATINGS
FORWARD LIGHT	75.3	97.8	
FL (0- 30)	2.6	3.4	
FM (30- 60)	17.7	23.0	
FH (60- 80)	50.8	65.9	G0
FVH(80- 90)	4.2	5.5	G0
BACK LIGHT	1.6	2.0	
BL (0- 30)	1.5	1.9	B0
BM (30- 60)	0.1	0.1	B0
BH (60- 80)	0.0	0.0	B0 G0
BVH(80- 90)	0.0	0.0	G0
UPLIGHT	0.2	0.2	
UL (90-100)	0.2	0.2	U1
UH (100-180)	0.0	0.0	U0
TRAPPED LIGHT	0.0	0.0	
TOTAL FLUX	77.0	100.0	

BACKLIGHT, UPLIGHT, AND GLARE (BUG) RATINGS
(PER ADDENDUM A FOR IESNA TM-15-11)

BUG RATING: B0 U1 G0



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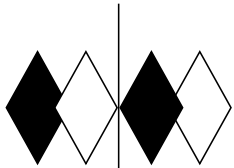
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CANDELA TABULATION

	STREET SIDE	LATERAL ANGLE										
		0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0	90.0
	180.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	155.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	145.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	135.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	125.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	115.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	105.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	95.0	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	0.
	92.5	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.
	90.0	2.	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.
	87.5	5.	5.	5.	3.	2.	1.	0.	0.	0.	0.	0.
	85.0	14.	13.	12.	7.	3.	1.	1.	0.	0.	0.	0.
V	82.5	55.	50.	38.	18.	7.	2.	1.	0.	0.	0.	0.
E	80.0	98.	90.	69.	35.	13.	4.	1.	0.	0.	0.	0.
R	77.5	144.	135.	105.	58.	24.	6.	1.	1.	0.	0.	0.
T	75.0	187.	183.	139.	75.	32.	8.	1.	1.	0.	0.	0.
I	72.5	199.	198.	152.	83.	37.	10.	1.	1.	0.	0.	0.
C	70.0	204.	200.	154.	88.	38.	10.	1.	1.	0.	0.	0.
A	67.5	213.	205.	156.	91.	38.	10.	1.	1.	0.	0.	0.
L	65.0	218.	207.	158.	93.	38.	9.	1.	1.	0.	0.	0.
	64.0<<	222.	210.	160.	92.	38.	9.	1.	1.	0.	0.	0.
A	62.5	214.	206.	154.	87.	37.	8.	1.	1.	0.	0.	0.
N	60.0	177.	172.	129.	75.	32.	8.	1.	1.	0.	0.	0.
G	57.5	139.	136.	104.	62.	28.	7.	1.	1.	0.	0.	0.
L	55.0	106.	103.	80.	49.	23.	7.	1.	1.	0.	0.	0.
E	52.5	75.	73.	58.	35.	18.	6.	1.	1.	0.	0.	0.
	50.0	50.	49.	40.	25.	14.	5.	1.	1.	0.	0.	0.
	47.5	34.	33.	27.	18.	10.	4.	1.	1.	0.	0.	0.
	45.0	24.	23.	19.	13.	8.	4.	1.	1.	0.	0.	0.
	42.5	16.	16.	13.	9.	6.	3.	1.	1.	0.	0.	0.
	40.0	11.	11.	10.	7.	4.	2.	1.	1.	0.	0.	0.
	37.5	8.	8.	7.	5.	4.	2.	1.	1.	1.	1.	1.
	35.0	6.	6.	5.	4.	3.	2.	1.	1.	1.	1.	1.
	30.0	4.	4.	4.	3.	3.	3.	2.	2.	2.	2.	2.
	25.0	4.	4.	4.	4.	4.	4.	4.	4.	3.	3.	3.
	20.0	6.	6.	6.	6.	7.	7.	7.	6.	5.	5.	5.
	15.0	9.	10.	10.	10.	10.	9.	9.	8.	7.	7.	7.
	10.0	12.	12.	12.	11.	11.	10.	10.	9.	9.	8.	8.
	5.0	11.	11.	11.	11.	11.	10.	10.	10.	10.	10.	10.
	0.0	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.
		PLANE OF MAXIMUM CANDELA										
		CONE OF MAXIMUM CANDELA										



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CANDELA TABULATION

	HOUSE SIDE					LATERAL ANGLE				
	95.0	105.0	115.0	125.0	135.0	145.0	155.0	165.0	175.0	180.0
180.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
135.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
125.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
115.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
105.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
V 82.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E 80.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
R 77.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T 75.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
I 72.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
C 70.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
A 67.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
L 65.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
64.0<<	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
A 62.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
N 60.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
G 57.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
L 55.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E 52.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37.5	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35.0	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.
30.0	2.	1.	1.	1.	1.	0.	0.	0.	0.	0.
25.0	3.	3.	2.	2.	1.	1.	1.	1.	1.	1.
20.0	5.	4.	4.	3.	3.	2.	2.	2.	2.	2.
15.0	7.	6.	6.	5.	5.	4.	4.	4.	3.	3.
10.0	8.	8.	8.	8.	7.	7.	6.	6.	6.	6.
5.0	10.	9.	9.	9.	9.	9.	9.	9.	9.	9.
0.0	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.

CONE OF MAXIMUM CANDELA



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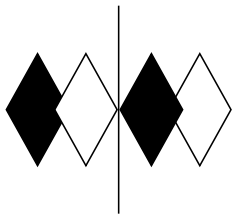
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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	0.2
5- 10	0.7
10- 15	0.9
15- 20	0.9
20- 25	0.7
25- 30	0.5
30- 35	0.5
35- 40	0.6
40- 45	1.0
45- 50	2.2
50- 55	4.8
55- 60	8.8
60- 65	13.0
65- 70	14.1
70- 75	13.8
75- 80	9.8
80- 85	3.7
85- 90	0.6
90- 95	0.1
95-100	0.0
100-105	0.0
105-110	0.0
110-115	0.0
115-120	0.0
120-125	0.0
125-130	0.0
130-135	0.0
135-140	0.0
140-145	0.0
145-150	0.0
150-155	0.0
155-160	0.0
160-165	0.0
165-170	0.0
170-175	0.0
175-180	0.0

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	0.9
0- 20	2.8
0- 30	4.0
0- 40	5.1
0- 50	8.4
0- 60	21.9
0- 70	49.1
0- 80	72.6
0- 90	76.9
0-100	77.0
0-110	77.0
0-120	77.0
0-130	77.0
0-140	77.0
0-150	77.0
0-160	77.0
0-170	77.0
0-180	77.0



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