

itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

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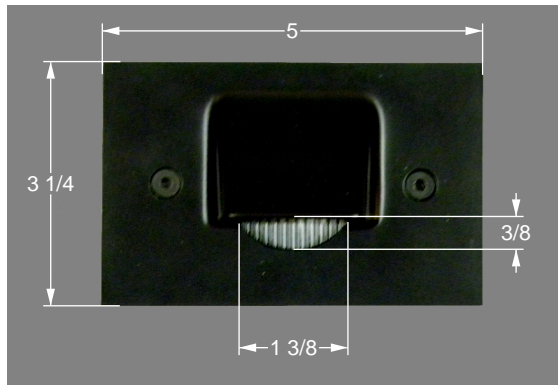
NVLAP
NVLAP LAB CODE: 200925-0

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: ITL86655

ISSUE DATE: 02/24/16 PAGE: 1 OF 8

PREPARED FOR: B-K LIGHTING, INC.

CATALOG NUMBER: BQ-LED-e102-0-DEGREES, SQ-LED-e102-0-DEGREES, VB-LED-e102-0-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 AIMED AT THE HORIZON.

LAMPS: THREE WHITE LIGHT EMITTING DIODES (LEDs), AIMED AT THE HORIZON.

INPUT ELECTRICAL: 12.0 VOLTS, 4.94 WATTS, 0.461 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.

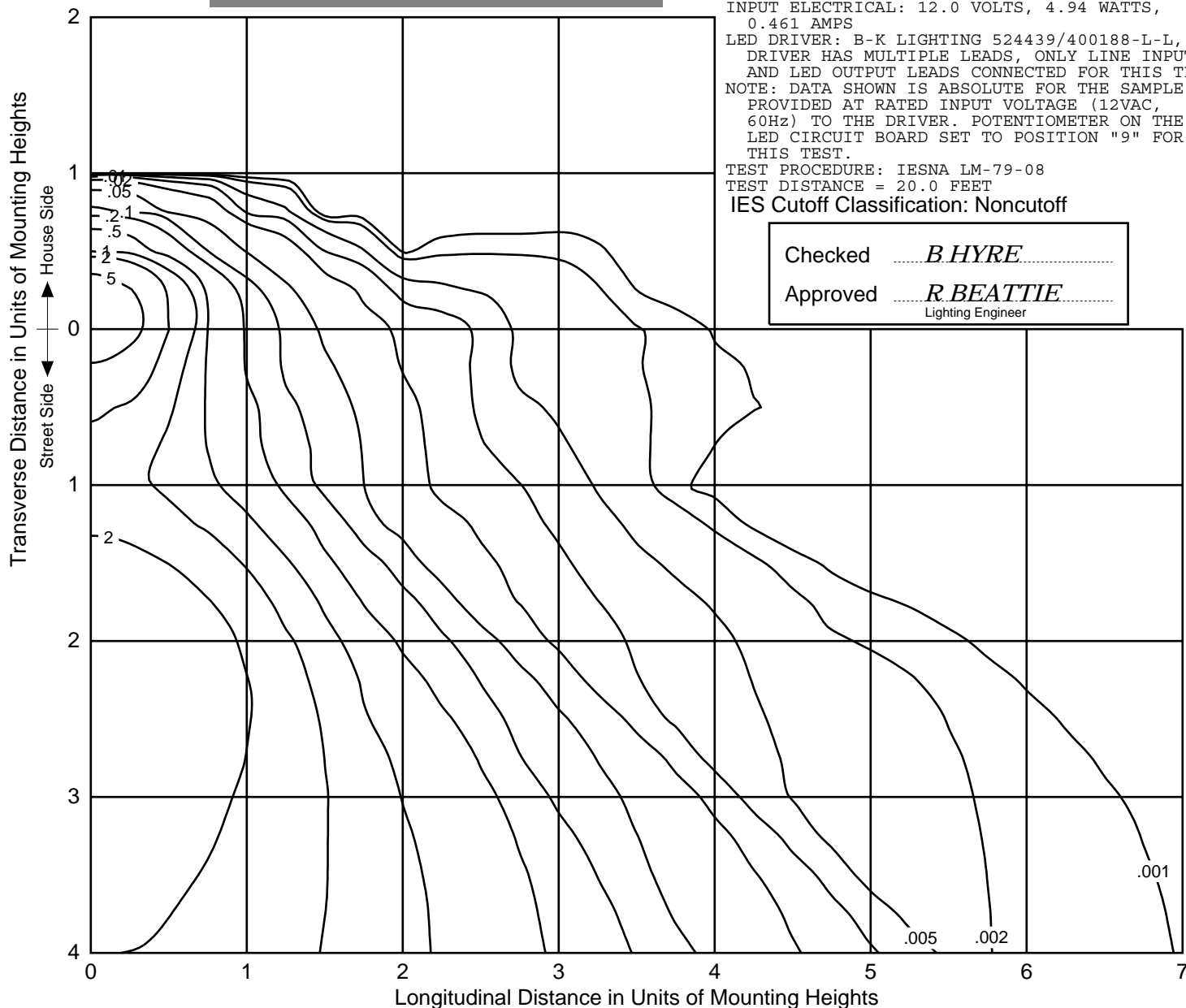
TEST PROCEDURE: IESNA LM-79-08

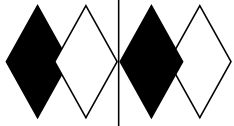
TEST DISTANCE = 20.0 FEET

IES Cutoff Classification: Noncutoff

Checked B. HYRE

Approved R. BEATTIE
Lighting Engineer





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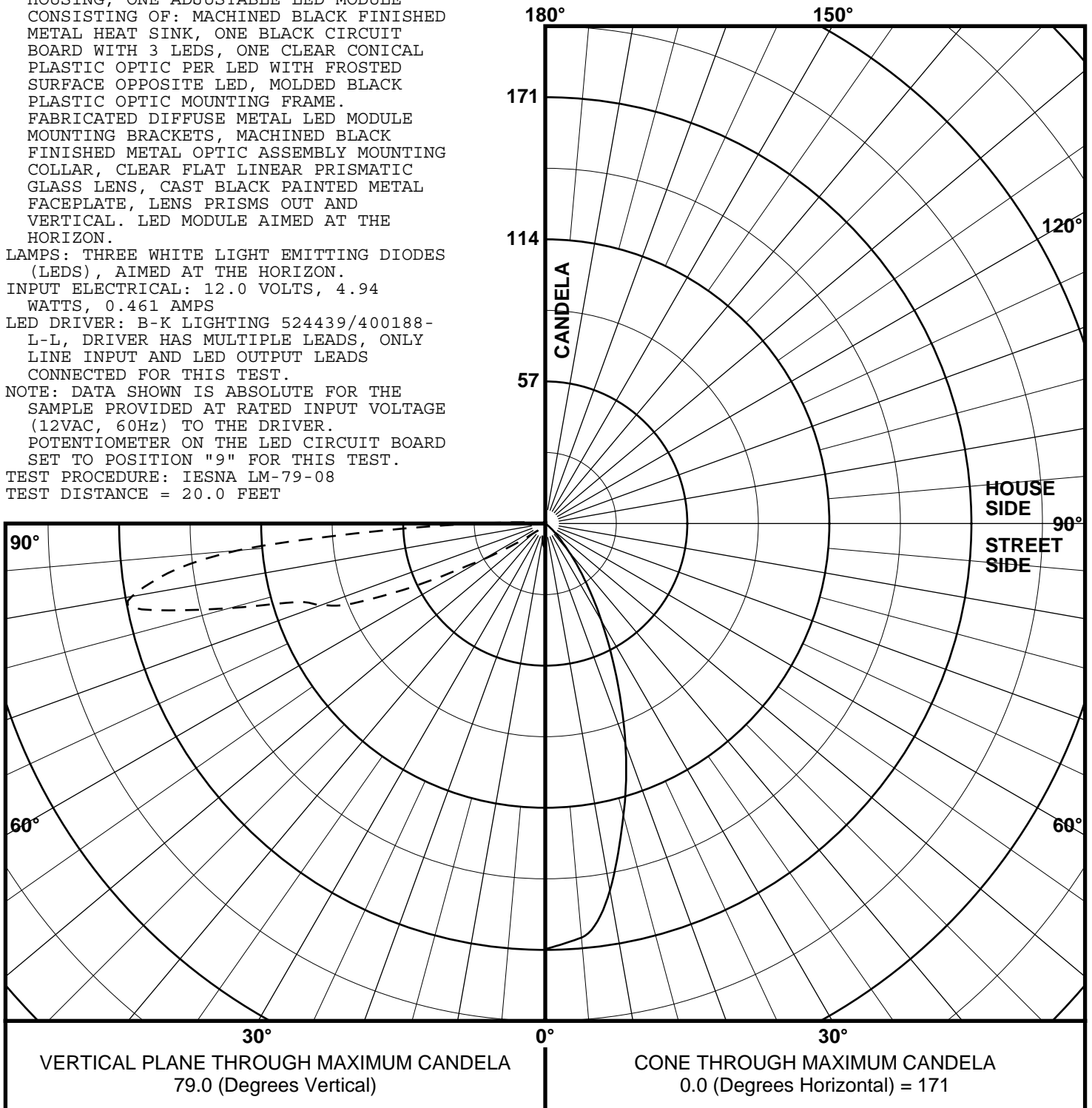
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PREPARED FOR: B-K LIGHTING, INC.
CATALOG NUMBER: BQ-LED-e102-0-DEGREES,
SQ-LED-e102-0-DEGREES, VB-LED-e102-0-
DEGREES
LUMINAIRE: CAST METAL WALL MOUNTING
HOUSING, ONE ADJUSTABLE LED MODULE
CONSISTING OF: MACHINED BLACK FINISHED
METAL HEAT SINK, ONE 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 AIMED AT THE
HORIZON.
LAMPS: THREE WHITE LIGHT EMITTING DIODES
(LEDs), AIMED AT THE HORIZON.
INPUT ELECTRICAL: 12.0 VOLTS, 4.94
WATTS, 0.461 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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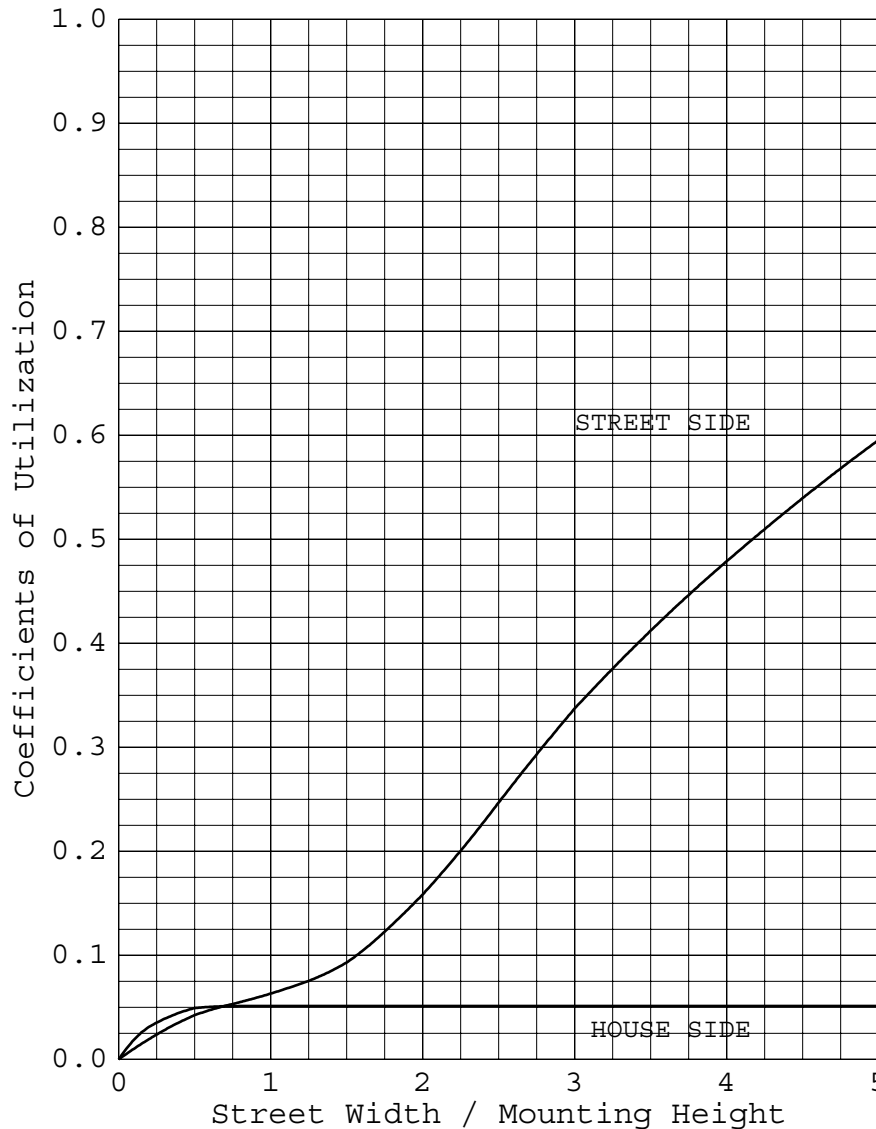
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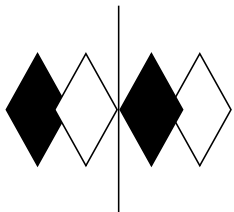
COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	46.7	92.8
DOWNWARD HOUSE SIDE	2.6	5.1
DOWNWARD TOTAL	49.3	97.9
UPWARD STREET SIDE	1.0	2.1
UPWARD HOUSE SIDE	0.0	0.0
UPWARD TOTAL	1.0	2.1
TOTAL FLUX	50.3	100.0

EFFICACY = 10.2 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	46.7	92.8	
FL (0- 30)	1.8	3.6	
FM (30- 60)	3.3	6.6	
FH (60- 80)	26.6	52.8	G0
FVH(80- 90)	15.0	29.7	G1
BACK LIGHT	2.6	5.1	
BL (0- 30)	2.2	4.4	B0
BM (30- 60)	0.3	0.7	B0
BH (60- 80)	0.0	0.0	B0 G0
BVH(80- 90)	0.0	0.0	G0
UPLIGHT	1.0	2.1	
UL (90-100)	1.0	2.0	U1
UH (100-180)	0.0	0.1	U1
TRAPPED LIGHT	0.0	0.0	
TOTAL FLUX	50.3	100.0	

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

BUG RATING: B0 U1 G1



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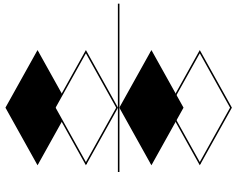
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CANDELA TABULATION

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	2.	2.	2.	1.	0.	0.	0.	0.	0.	0.	0.
	92.5	11.	11.	8.	5.	2.	1.	0.	0.	0.	0.	0.
	90.0	28.	28.	20.	12.	5.	1.	0.	0.	0.	0.	0.
	87.5	66.	65.	47.	25.	9.	2.	0.	0.	0.	0.	0.
	85.0	124.	118.	84.	45.	18.	4.	1.	0.	0.	0.	0.
V	82.5	153.	145.	106.	58.	24.	6.	1.	0.	0.	0.	0.
E	80.0	168.	163.	120.	67.	28.	7.	1.	1.	0.	0.	0.
R	79.0<<	171.	167.	121.	67.	28.	7.	1.	0.	0.	0.	0.
T	77.5	161.	158.	114.	64.	27.	7.	1.	1.	0.	0.	0.
I	75.0	131.	127.	94.	53.	23.	6.	1.	0.	0.	0.	0.
C	72.5	105.	101.	78.	46.	18.	5.	1.	0.	0.	0.	0.
A	70.0	96.	92.	71.	40.	15.	4.	1.	0.	0.	0.	0.
L	67.5	84.	82.	62.	34.	13.	3.	1.	0.	0.	0.	0.
	65.0	63.	61.	45.	26.	11.	3.	1.	0.	0.	0.	0.
A	62.5	42.	42.	31.	19.	8.	3.	1.	1.	0.	0.	0.
N	60.0	29.	28.	21.	13.	6.	2.	1.	1.	0.	0.	0.
G	57.5	19.	19.	14.	9.	5.	2.	1.	1.	0.	0.	0.
L	55.0	12.	12.	10.	6.	4.	2.	1.	1.	0.	0.	0.
E	52.5	8.	8.	7.	4.	3.	2.	1.	1.	0.	0.	0.
	50.0	6.	6.	5.	3.	2.	2.	1.	1.	1.	0.	0.
	47.5	5.	4.	4.	3.	2.	2.	1.	1.	1.	0.	0.
	45.0	4.	4.	3.	3.	2.	2.	1.	1.	1.	1.	1.
	42.5	3.	3.	3.	3.	2.	2.	1.	1.	1.	1.	1.
	40.0	3.	3.	3.	3.	2.	2.	1.	1.	1.	1.	1.
	37.5	3.	3.	3.	3.	2.	2.	1.	1.	1.	1.	1.
	35.0	3.	3.	3.	3.	2.	2.	2.	1.	1.	1.	1.
	30.0	3.	3.	3.	3.	3.	2.	2.	2.	2.	2.	2.
	25.0	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
	20.0	4.	4.	4.	4.	4.	4.	4.	4.	5.	5.	5.
	15.0	5.	5.	5.	5.	5.	5.	6.	6.	6.	7.	7.
	10.0	6.	6.	6.	7.	7.	7.	8.	8.	8.	8.	8.
	5.0	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
	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.
	175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	155.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	145.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	135.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	125.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	115.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	105.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	95.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	92.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
	90.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	87.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
	85.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
V	82.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	80.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
R	79.0<<	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	77.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
I	75.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
C	72.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
A	70.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
L	67.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
	65.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
A	62.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
N	60.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
G	57.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
L	55.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	52.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
	50.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	47.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
	45.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	42.5	1.	1.	0.	0.	0.	0.	0.	0.	0.
	40.0	1.	1.	1.	0.	0.	0.	0.	0.	0.
	37.5	1.	1.	1.	1.	0.	0.	0.	0.	0.
	35.0	1.	1.	1.	1.	1.	0.	0.	0.	0.
	30.0	2.	2.	2.	2.	2.	1.	1.	1.	1.
	25.0	3.	4.	4.	4.	4.	3.	3.	2.	2.
	20.0	5.	5.	6.	6.	6.	6.	5.	5.	5.
	15.0	7.	7.	7.	8.	8.	8.	8.	8.	8.
	10.0	8.	8.	9.	9.	9.	9.	10.	10.	10.
	5.0	9.	9.	9.	9.	10.	10.	10.	10.	10.
	0.0	10.	10.	10.	10.	10.	10.	10.	10.	10.

CONE OF MAXIMUM CANDELA



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	0.2
5- 10	0.6
10- 15	0.9
15- 20	0.9
20- 25	0.8
25- 30	0.6
30- 35	0.5
35- 40	0.4
40- 45	0.4
45- 50	0.4
50- 55	0.7
55- 60	1.4
60- 65	2.9
65- 70	5.4
70- 75	7.5
75- 80	10.8
80- 85	10.1
85- 90	4.8
90- 95	0.9
95-100	0.1
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	0.8
0- 20	2.6
0- 30	4.1
0- 40	4.9
0- 50	5.7
0- 60	7.7
0- 70	16.1
0- 80	34.3
0- 90	49.3
0-100	50.3
0-110	50.3
0-120	50.3
0-130	50.3
0-140	50.3
0-150	50.3
0-160	50.3
0-170	50.3
0-180	50.3



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