



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

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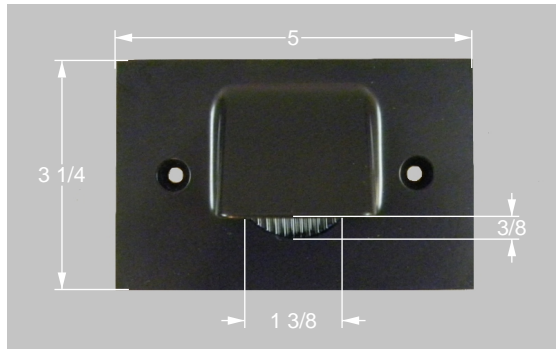
NVLAP
NVLAP LAB CODE: 200925-0

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: ITL87090-GONIOPHOTOMETRY

ISSUE DATE: 03/29/16 PAGE: 1 OF 8

PREPARED FOR: B-K LIGHTING, INC.

CATALOG NUMBER: CD-BQ-LED-e66

LUMINAIRE: MACHINED CYLINDRICAL METAL HOUSING, 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, CLEAR FLAT LINEAR PRISMATIC GLASS LENS, CAST BLACK PAINTED METAL FACEPLATE, LENS PRISMS OUT AND VERTICAL.

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

INPUT ELECTRICAL: 12.0 VOLTS, 6.43

WATTS, 0.595 AMPS

LED DRIVER: B-K LIGHTING 524438/400188-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.

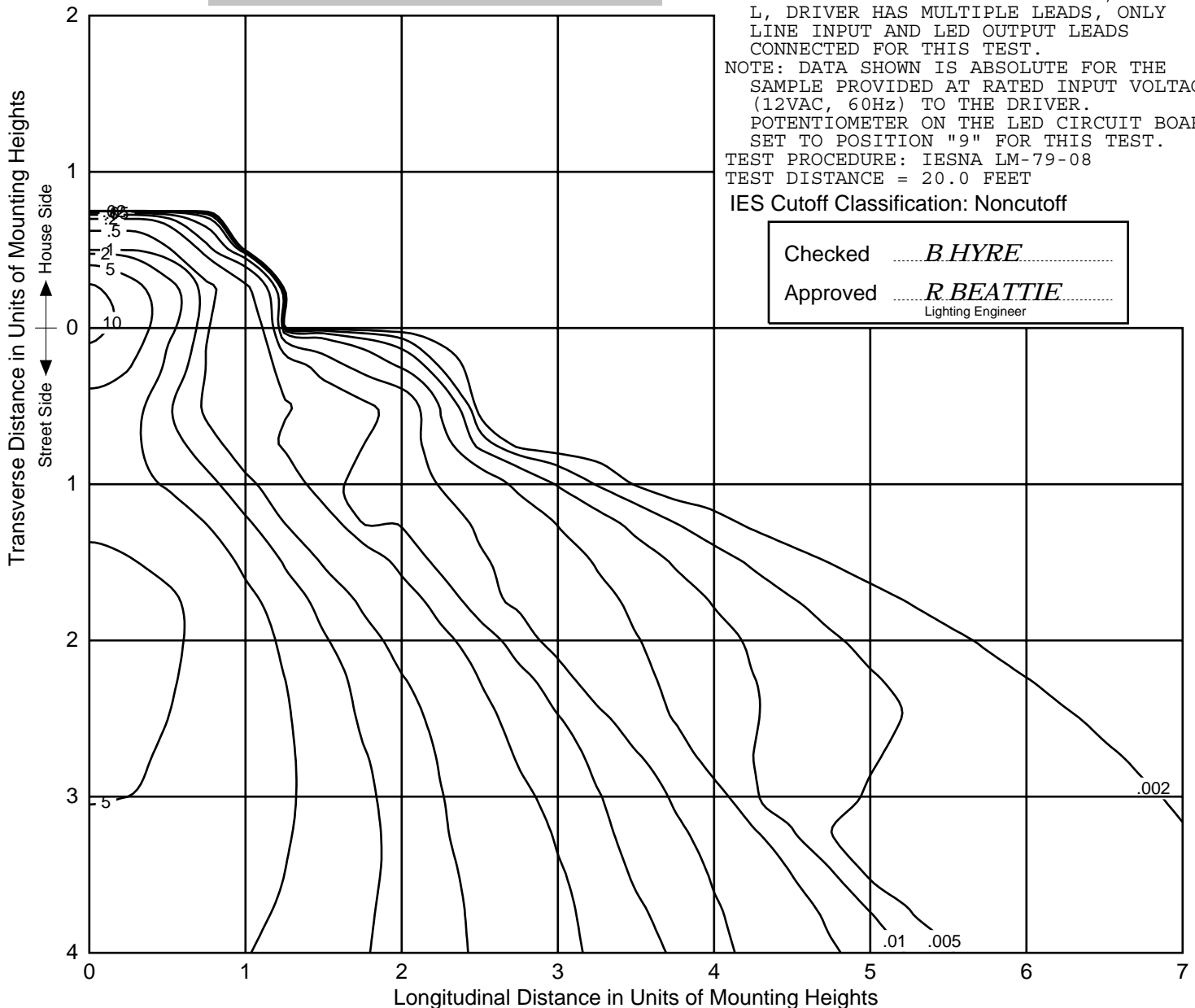
TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

IES Cutoff Classification: Noncutoff

Checked B. HYRE

Approved R. BEATTIE
Lighting Engineer



REPORT NUMBER: ITL87090-GONIOPHOTOMETRY

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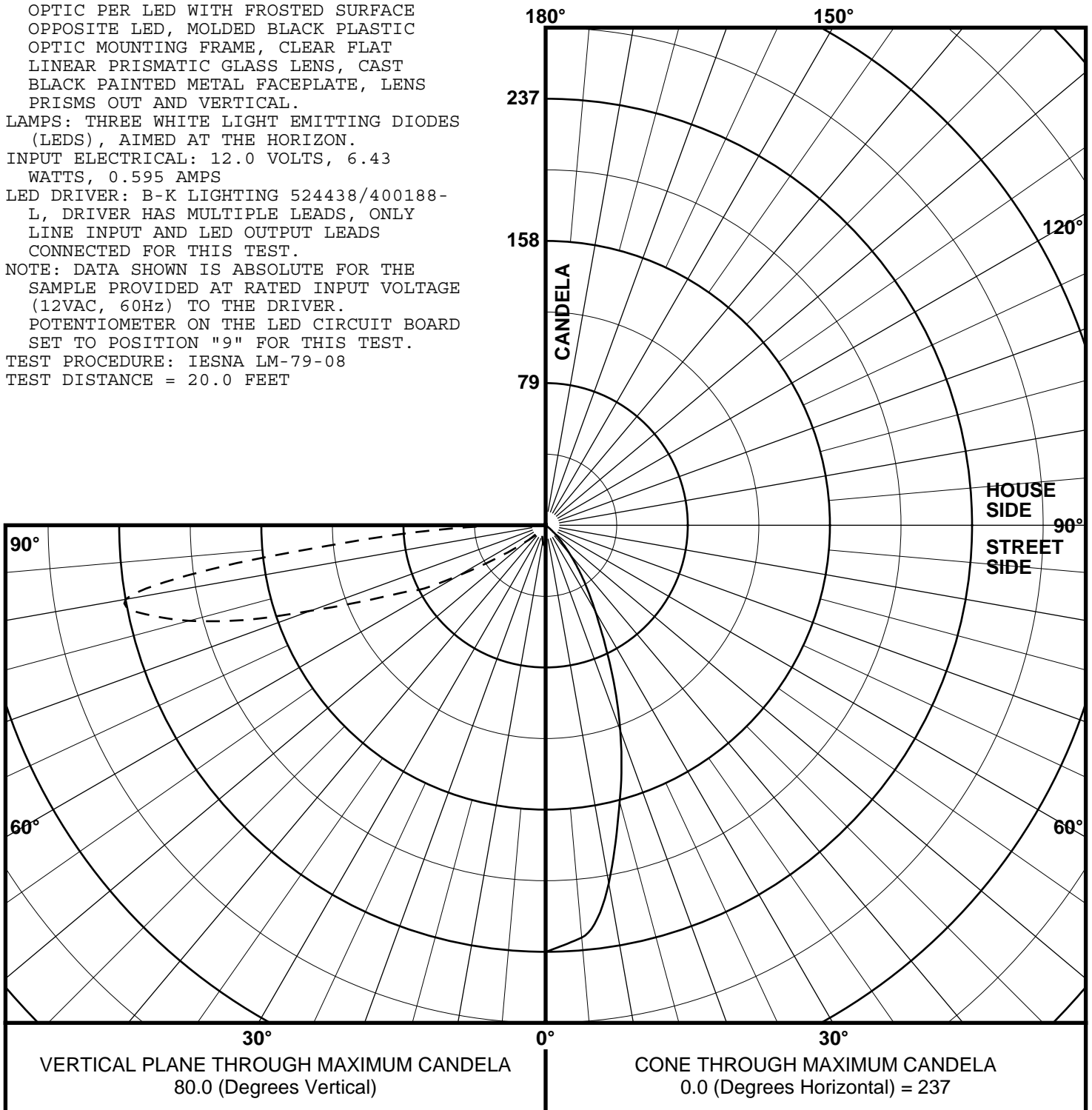
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (12VAC, 60Hz) TO THE DRIVER.

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

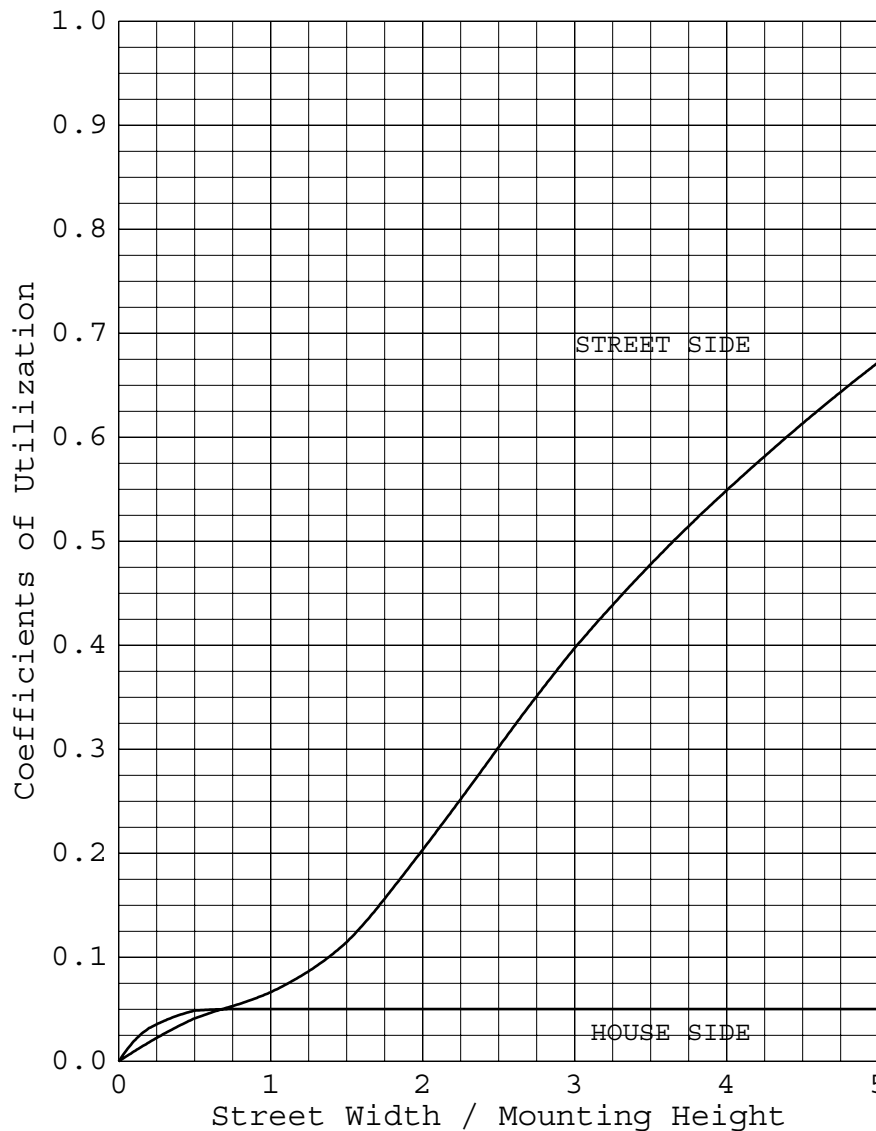




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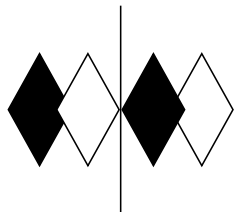
COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	65.5	94.5
DOWNWARD HOUSE SIDE	3.5	5.0
DOWNWARD TOTAL	69.0	99.5
UPWARD STREET SIDE	0.4	0.5
UPWARD HOUSE SIDE	0.0	0.0
UPWARD TOTAL	0.4	0.5
TOTAL FLUX	69.3	100.0

EFFICACY = 10.8 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	65.5	94.5	
FL (0- 30)	2.5	3.6	
FM (30- 60)	6.5	9.3	
FH (60- 80)	40.0	57.7	G0
FVH(80- 90)	16.5	23.8	G1
BACK LIGHT	3.5	5.0	
BL (0- 30)	3.0	4.4	B0
BM (30- 60)	0.4	0.6	B0
BH (60- 80)	0.0	0.0	B0 G0
BVH(80- 90)	0.0	0.0	G0
UPLIGHT	0.4	0.5	
UL (90-100)	0.4	0.5	U1
UH (100-180)	0.0	0.0	U0
TRAPPED LIGHT	0.0	0.0	
TOTAL FLUX	69.3	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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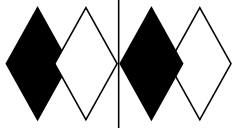
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CANDELA TABULATION

	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	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	92.5	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.
	90.0	20.	17.	12.	7.	3.	1.	0.	0.	0.	0.	0.
	87.5	62.	59.	43.	24.	9.	2.	0.	0.	0.	0.	0.
	85.0	112.	106.	77.	44.	18.	4.	1.	1.	0.	0.	0.
V	82.5	188.	180.	126.	71.	30.	7.	1.	1.	0.	0.	0.
E	80.0<<	237.	230.	159.	84.	36.	11.	1.	1.	0.	0.	0.
R	77.5	228.	223.	157.	85.	36.	12.	2.	1.	0.	0.	0.
T	75.0	205.	201.	143.	81.	34.	12.	2.	1.	0.	0.	0.
I	72.5	175.	171.	124.	71.	31.	11.	2.	1.	0.	0.	0.
C	70.0	139.	138.	102.	59.	27.	9.	2.	1.	0.	0.	0.
A	67.5	111.	110.	84.	50.	22.	8.	2.	1.	0.	0.	0.
L	65.0	89.	88.	69.	43.	18.	6.	1.	1.	1.	0.	0.
	62.5	76.	75.	60.	35.	14.	5.	1.	1.	1.	0.	0.
A	60.0	56.	55.	44.	27.	11.	4.	1.	1.	1.	0.	0.
N	57.5	40.	38.	31.	20.	9.	4.	1.	1.	1.	0.	0.
G	55.0	28.	27.	22.	15.	7.	3.	1.	1.	1.	0.	0.
L	52.5	20.	19.	16.	11.	6.	3.	1.	1.	1.	0.	0.
E	50.0	14.	14.	12.	8.	5.	2.	1.	1.	1.	0.	0.
	47.5	10.	10.	9.	6.	4.	2.	1.	1.	1.	1.	1.
	45.0	8.	8.	7.	5.	3.	2.	1.	1.	1.	1.	1.
	42.5	7.	7.	6.	5.	3.	2.	1.	1.	1.	1.	1.
	40.0	6.	6.	6.	4.	3.	2.	1.	1.	1.	1.	1.
	37.5	6.	6.	5.	4.	3.	2.	2.	1.	1.	1.	1.
	35.0	6.	5.	5.	4.	3.	2.	2.	1.	1.	1.	1.
	32.5	5.	5.	5.	4.	3.	3.	2.	2.	1.	1.	2.
	30.0	5.	5.	5.	4.	4.	3.	2.	2.	2.	2.	2.
	25.0	5.	5.	5.	5.	4.	4.	4.	4.	3.	3.	4.
	20.0	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	6.
	15.0	7.	7.	7.	7.	8.	8.	8.	8.	8.	8.	8.
	10.0	9.	9.	9.	9.	9.	10.	10.	10.	10.	10.	10.
	5.0	11.	11.	11.	11.	11.	11.	11.	11.	11.	11.	11.
	0.0	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
		PLANE OF MAXIMUM CANDELA										
		CONE OF MAXIMUM CANDELA										

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	77.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	75.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
I	72.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
C	70.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
A	67.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
L	65.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	62.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
A	60.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
N	57.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
G	55.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
L	52.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	50.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	47.5	1.	0.	0.	0.	0.	0.	0.	0.	0.
	45.0	1.	1.	0.	0.	0.	0.	0.	0.	0.
	42.5	1.	1.	1.	0.	0.	0.	0.	0.	0.
	40.0	1.	1.	1.	1.	0.	0.	0.	0.	0.
	37.5	1.	1.	2.	1.	1.	0.	0.	0.	0.
	35.0	1.	2.	2.	2.	1.	1.	1.	0.	0.
	32.5	2.	2.	3.	2.	2.	1.	1.	1.	1.
	30.0	2.	3.	4.	3.	2.	2.	1.	1.	1.
	25.0	4.	5.	5.	5.	5.	4.	3.	3.	2.
	20.0	6.	7.	8.	8.	8.	8.	8.	7.	7.
	15.0	9.	9.	10.	11.	11.	11.	11.	12.	12.
	10.0	11.	11.	12.	12.	13.	14.	14.	14.	14.
	5.0	12.	12.	12.	13.	13.	13.	13.	14.	14.
	0.0	12.	12.	12.	12.	12.	12.	12.	12.	12.

CONE OF MAXIMUM CANDELA



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	0.3
5- 10	0.8
10- 15	1.2
15- 20	1.3
20- 25	1.1
25- 30	0.9
30- 35	0.7
35- 40	0.6
40- 45	0.6
45- 50	0.8
50- 55	1.4
55- 60	2.8
60- 65	5.1
65- 70	7.9
70- 75	11.9
75- 80	15.1
80- 85	12.2
85- 90	4.3
90- 95	0.4
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	1.1
0- 20	3.6
0- 30	5.6
0- 40	6.8
0- 50	8.3
0- 60	12.5
0- 70	25.5
0- 80	52.5
0- 90	69.0
0-100	69.3
0-110	69.3
0-120	69.3
0-130	69.3
0-140	69.3
0-150	69.3
0-160	69.3
0-170	69.3
0-180	69.3



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