



**itl boulder**  
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

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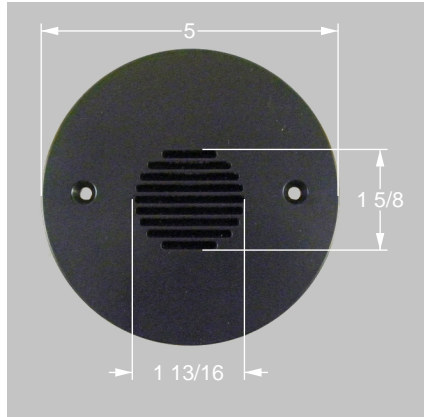
**NVLAP**  
NVLAP LAB CODE: 200925-0

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: ITL87089-GONIOPHOTOMETRY

ISSUE DATE: 03/28/16 PAGE: 1 OF 8

PREPARED FOR: B-K LIGHTING, INC.

CATALOG NUMBER: CD-SSL-LED-e66-C

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 LOUVERED METAL

FACEPLATE, LENS PRISMS OUT AND

VERTICAL.

LAMPS: THREE WHITE LIGHT EMITTING DIODES

(LEDs), AIMED AT THE HORIZON.

INPUT ELECTRICAL: 12.0 VOLTS, 6.41

WATTS, 0.593 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

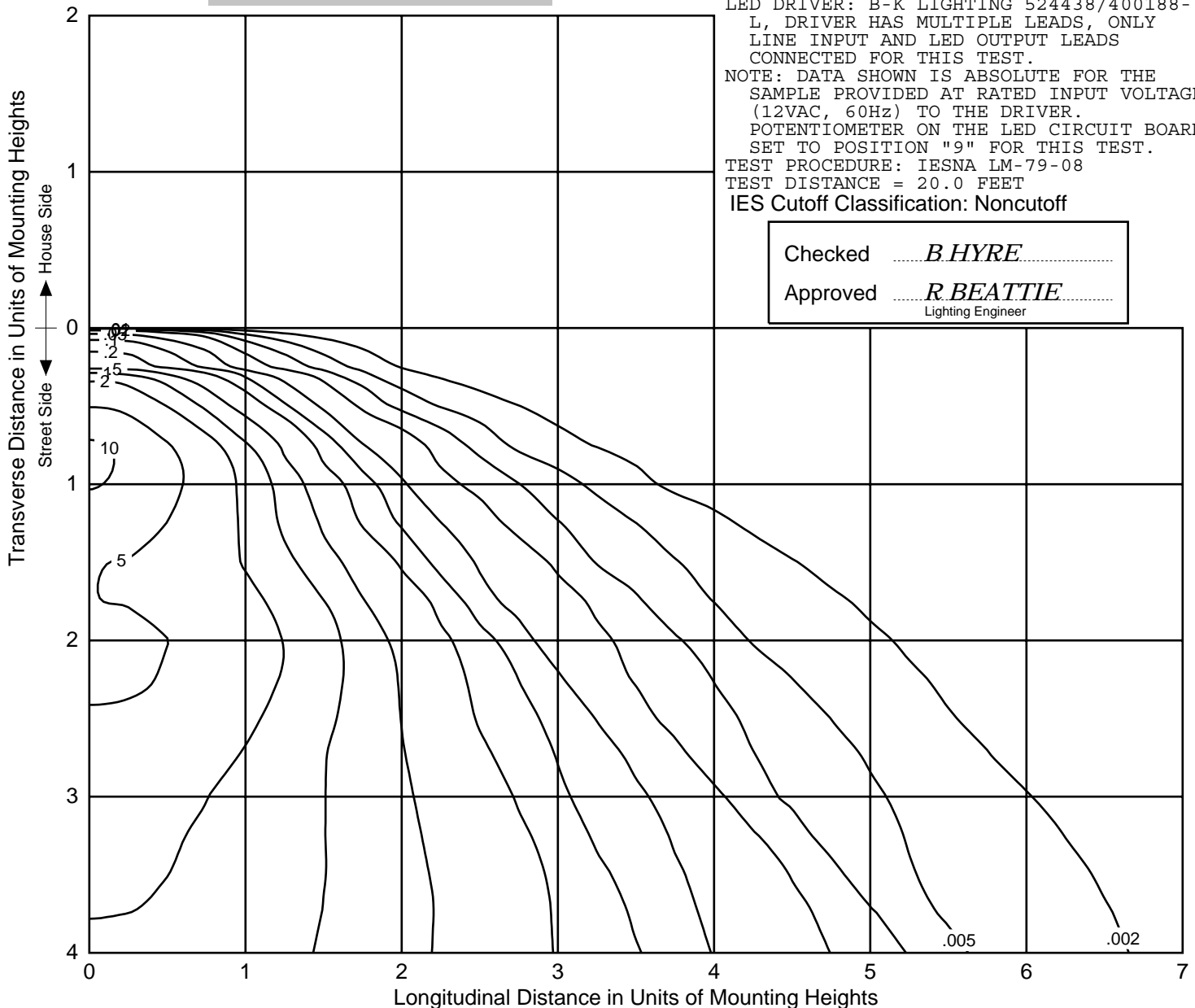
TEST DISTANCE = 20.0 FEET

IES Cutoff Classification: Noncutoff

Checked B. HYRE

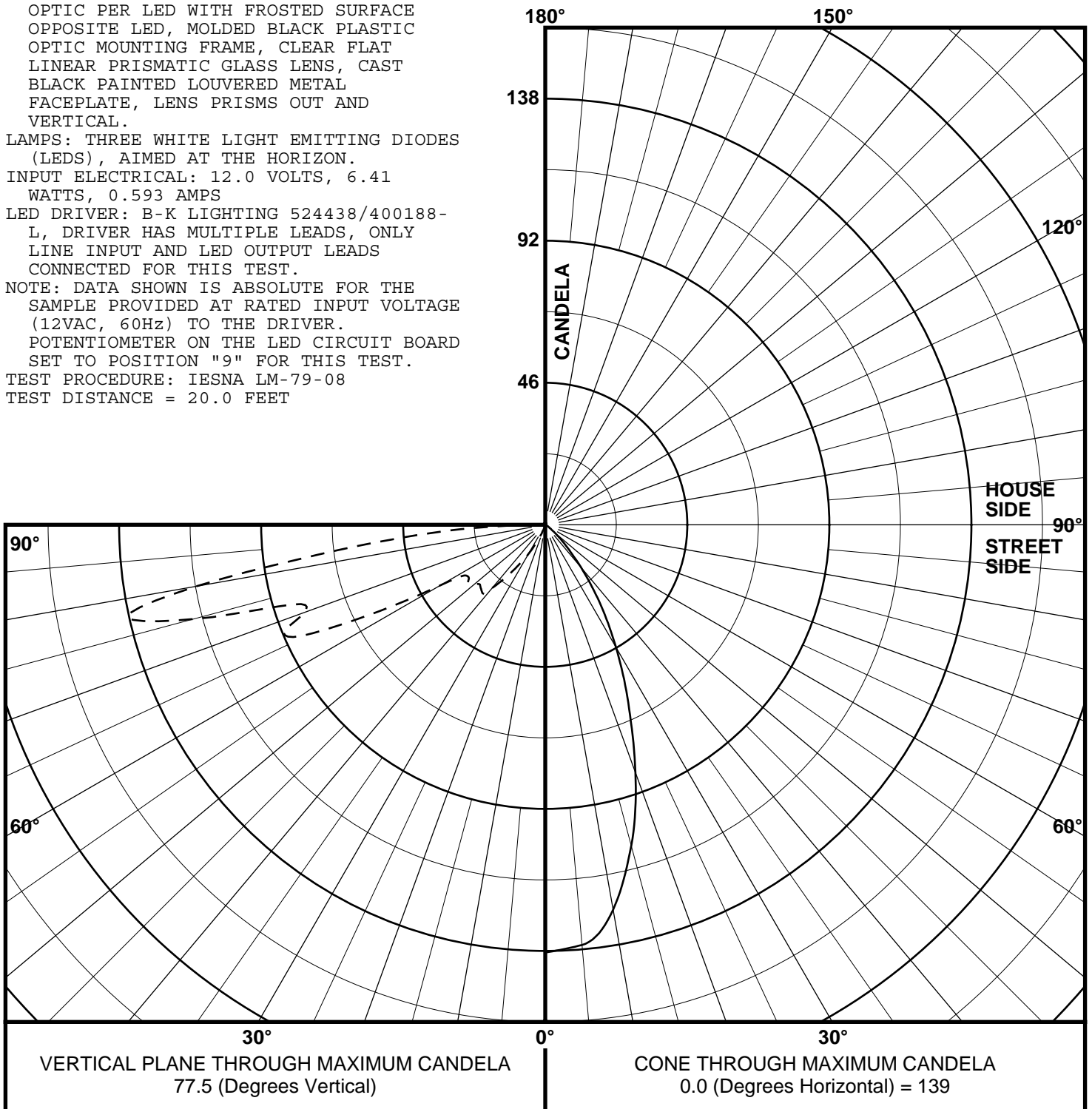
Approved R. BEATTIE

Lighting Engineer



REPORT NUMBER: ITL87089-GONIOPHOTOMETRY  
ISSUE DATE: 03/28/16 PAGE: 2 OF 8  
PREPARED FOR: B-K LIGHTING, INC.  
CATALOG NUMBER: CD-SSL-LED-e66-C  
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 LOUVERED METAL FACEPLATE, LENS PRISMS OUT AND VERTICAL.  
LAMPS: THREE WHITE LIGHT EMITTING DIODES (LEDs), AIMED AT THE HORIZON.  
INPUT ELECTRICAL: 12.0 VOLTS, 6.41 WATTS, 0.593 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

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA





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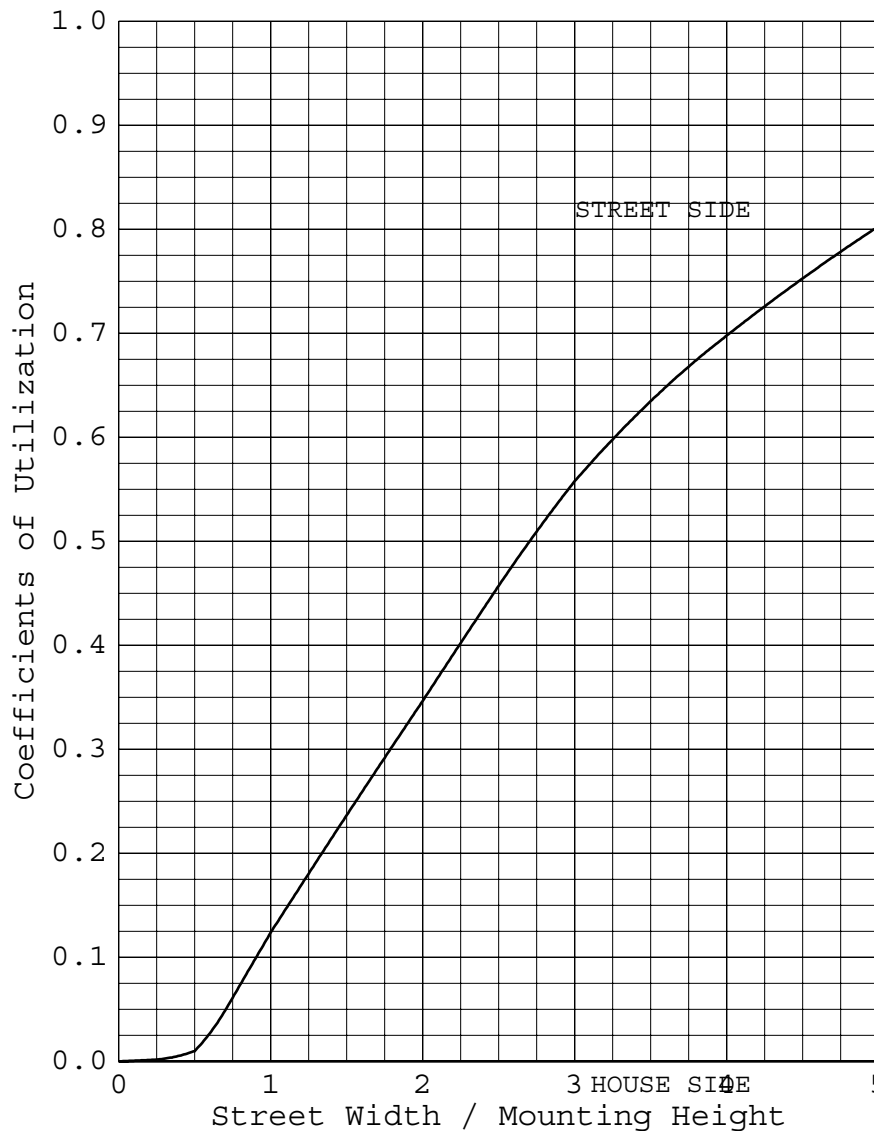
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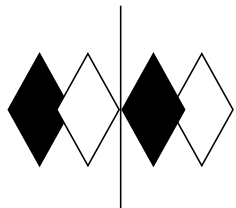
## COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	48.3	99.0
DOWNWARD HOUSE SIDE	0.0	0.0
DOWNWARD TOTAL	48.3	99.0
UPWARD STREET SIDE	0.5	1.0
UPWARD HOUSE SIDE	0.0	0.0
UPWARD TOTAL	0.5	1.0
TOTAL FLUX	48.9	100.0

EFFICACY = 7.6 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	48.3	99.0	
FL ( 0- 30)	0.5	1.0	
FM ( 30- 60)	11.8	24.1	
FH ( 60- 80)	28.2	57.8	G0
FVH( 80- 90)	7.9	16.2	G0
BACK LIGHT	0.0	0.0	
BL ( 0- 30)	0.0	0.0	B0
BM ( 30- 60)	0.0	0.0	B0
BH ( 60- 80)	0.0	0.0	B0 G0
BVH( 80- 90)	0.0	0.0	G0
UPLIGHT	0.5	1.0	
UL ( 90-100)	0.3	0.6	U1
UH (100-180)	0.2	0.4	U1
TRAPPED LIGHT	0.0	0.0	
TOTAL FLUX	48.9	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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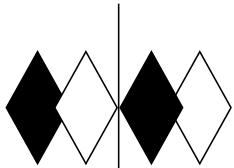
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# CANDELA TABULATION

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	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.
	95.0	2.	2.	1.	1.	1.	0.	0.	0.	0.	0.	0.
	92.5	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.
	90.0	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.
	87.5	23.	24.	18.	12.	6.	2.	0.	0.	0.	0.	0.
	85.0	45.	45.	35.	21.	11.	4.	1.	0.	0.	0.	0.
V	82.5	74.	73.	57.	35.	18.	7.	1.	1.	0.	0.	0.
E	80.0	115.	114.	90.	55.	28.	9.	2.	1.	0.	0.	0.
R	77.5<<	139.	137.	108.	64.	31.	9.	2.	1.	0.	0.	0.
T	75.0	118.	116.	93.	54.	26.	9.	2.	1.	0.	0.	0.
I	72.5	86.	85.	68.	43.	24.	10.	2.	1.	0.	0.	0.
C	70.0	83.	83.	66.	46.	27.	11.	2.	1.	0.	0.	0.
A	67.5	92.	92.	74.	50.	27.	10.	2.	1.	0.	0.	0.
L	65.0	83.	82.	66.	42.	22.	8.	2.	1.	0.	0.	0.
	62.5	61.	58.	47.	30.	16.	7.	3.	1.	0.	0.	0.
A	60.0	39.	39.	33.	23.	14.	7.	3.	1.	0.	0.	0.
N	57.5	31.	31.	27.	21.	14.	8.	3.	1.	0.	0.	0.
G	55.0	30.	30.	28.	21.	14.	8.	3.	1.	0.	0.	0.
L	52.5	31.	31.	28.	21.	14.	9.	3.	1.	0.	0.	0.
E	50.0	30.	30.	27.	21.	15.	9.	3.	1.	0.	0.	0.
	47.5	29.	29.	27.	22.	15.	8.	3.	1.	0.	0.	0.
	45.0	29.	30.	28.	22.	14.	7.	3.	1.	0.	0.	0.
	42.5	30.	30.	27.	20.	12.	6.	2.	1.	0.	0.	0.
	40.0	27.	27.	23.	17.	11.	5.	2.	0.	0.	0.	0.
	37.5	22.	22.	19.	14.	9.	4.	2.	0.	0.	0.	0.
	35.0	18.	18.	16.	12.	7.	4.	1.	0.	0.	0.	0.
	32.5	14.	14.	12.	9.	6.	3.	1.	0.	0.	0.	0.
	30.0	11.	11.	9.	7.	4.	2.	1.	0.	0.	0.	0.
	25.0	5.	5.	4.	3.	2.	1.	0.	0.	0.	0.	0.
	20.0	2.	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.
	15.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	10.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	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.
		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.
	62.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
A	60.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
N	57.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
G	55.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
L	52.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	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	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	35.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	32.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	30.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	25.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	20.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	15.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	10.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	5.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	0.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

CONE OF MAXIMUM CANDELA



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5-DEGREE  
ZONAL LUMEN SUMMARY

0- 5	0.0
5- 10	0.0
10- 15	0.0
15- 20	0.0
20- 25	0.1
25- 30	0.3
30- 35	0.7
35- 40	1.3
40- 45	2.0
45- 50	2.3
50- 55	2.6
55- 60	2.8
60- 65	4.5
65- 70	6.8
70- 75	7.3
75- 80	9.6
80- 85	6.0
85- 90	1.9
90- 95	0.2
95-100	0.1
100-105	0.1
105-110	0.1
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	0.0
0- 20	0.0
0- 30	0.5
0- 40	2.5
0- 50	6.9
0- 60	12.2
0- 70	23.6
0- 80	40.5
0- 90	48.3
0-100	48.7
0-110	48.8
0-120	48.8
0-130	48.9
0-140	48.9
0-150	48.9
0-160	48.9
0-170	48.9
0-180	48.9



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