

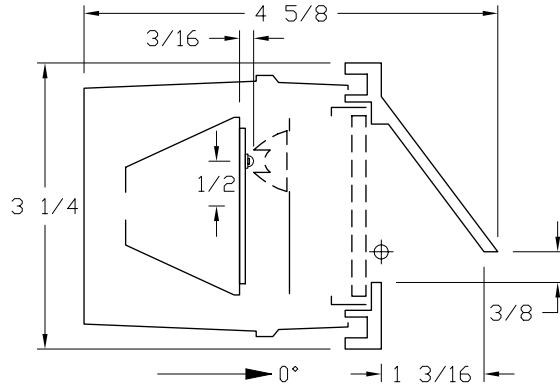
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THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.  
3386 LONGHORN ROAD, BOULDER, CO 80302 USA

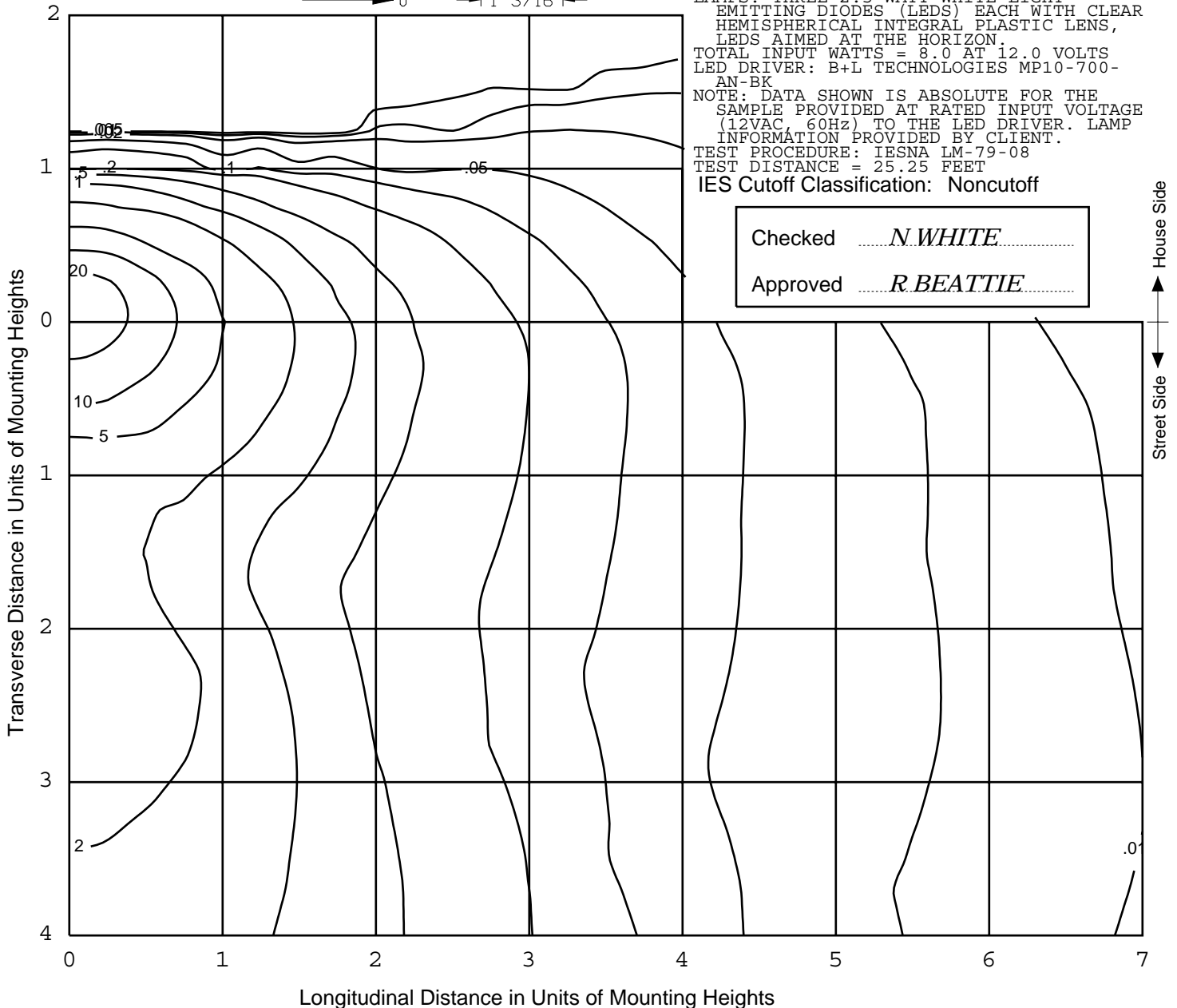
PHONE: (303)442-1255 • FAX: (303)449-5274 • E-MAIL: [itl@itlboulder.com](mailto:itl@itlboulder.com) • WEBSITE: [www.itlboulder.com](http://www.itlboulder.com)

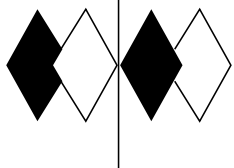
## ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 1 foot mounting height.



REPORT NUMBER: ITL63773  
DATE: 01/06/10  
REVISED: 02/03/10  
PREPARED FOR: B-K LIGHTING, INC.  
CATALOG NUMBER: BQ-LED-e23-0-DEGREES;  
SQ-LED-e23-0-DEGREES; VB-LED-e23-0-DEGREES  
LUMINAIRE: CAST METAL WALL MOUNTING HOUSING, ONE ADJUSTABLE OPTICAL ASSEMBLY CONSISTING OF: MACHINED DIFFUSE METAL HEAT SINK, ONE 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, CAST BLACK PAINTED METAL OPTIC ASSEMBLY MOUNTING COLLAR, CLEAR FLAT LINEAR PRISMATIC GLASS LENS, CAST WHITE PAINTED METAL FACEPLATE, LENS PRISMS OUT AND VERTICAL.  
LAMPS: THREE 2.5-WATT WHITE LIGHT EMITTING DIODES (LEDs) EACH WITH CLEAR HEMISPHERICAL INTEGRAL PLASTIC LENS, LEDS AIMED AT THE HORIZON.  
TOTAL INPUT WATTS = 8.0 AT 12.0 VOLTS  
LED DRIVER: B+L TECHNOLOGIES MP10-700-AN-BK  
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (12VAC, 60Hz) TO THE LED DRIVER. LAMP INFORMATION PROVIDED BY CLIENT.  
TEST PROCEDURE: IESNA LM-79-08  
TEST DISTANCE = 25.25 FEET  
IES Cutoff Classification: Noncutoff





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DATE: 01/06/10

REVISED: 02/03/10

PREPARED FOR: B-K LIGHTING, INC.

CATALOG NUMBER: BQ-LED-e23-0-DEGREES;

SQ-LED-e23-0-DEGREES; VB-LED-e23-0-DEGREES

LUMINAIRE: CAST METAL WALL MOUNTING

HOUSING, ONE ADJUSTABLE OPTICAL ASSEMBLY CONSISTING OF: MACHINED DIFFUSE METAL HEAT SINK, ONE 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, CAST BLACK PAINTED METAL OPTIC ASSEMBLY MOUNTING COLLAR, CLEAR FLAT LINEAR PRISMATIC GLASS LENS, CAST WHITE PAINTED METAL FACEPLATE, LENS PRISMS OUT AND VERTICAL.

LAMPS: THREE 2.5-WATT WHITE LIGHT EMITTING DIODES (LEDs) EACH WITH CLEAR HEMISPHERICAL INTEGRAL PLASTIC LENS, LEDS AIMED AT THE HORIZON.

TOTAL INPUT WATTS = 8.0 AT 12.0 VOLTS

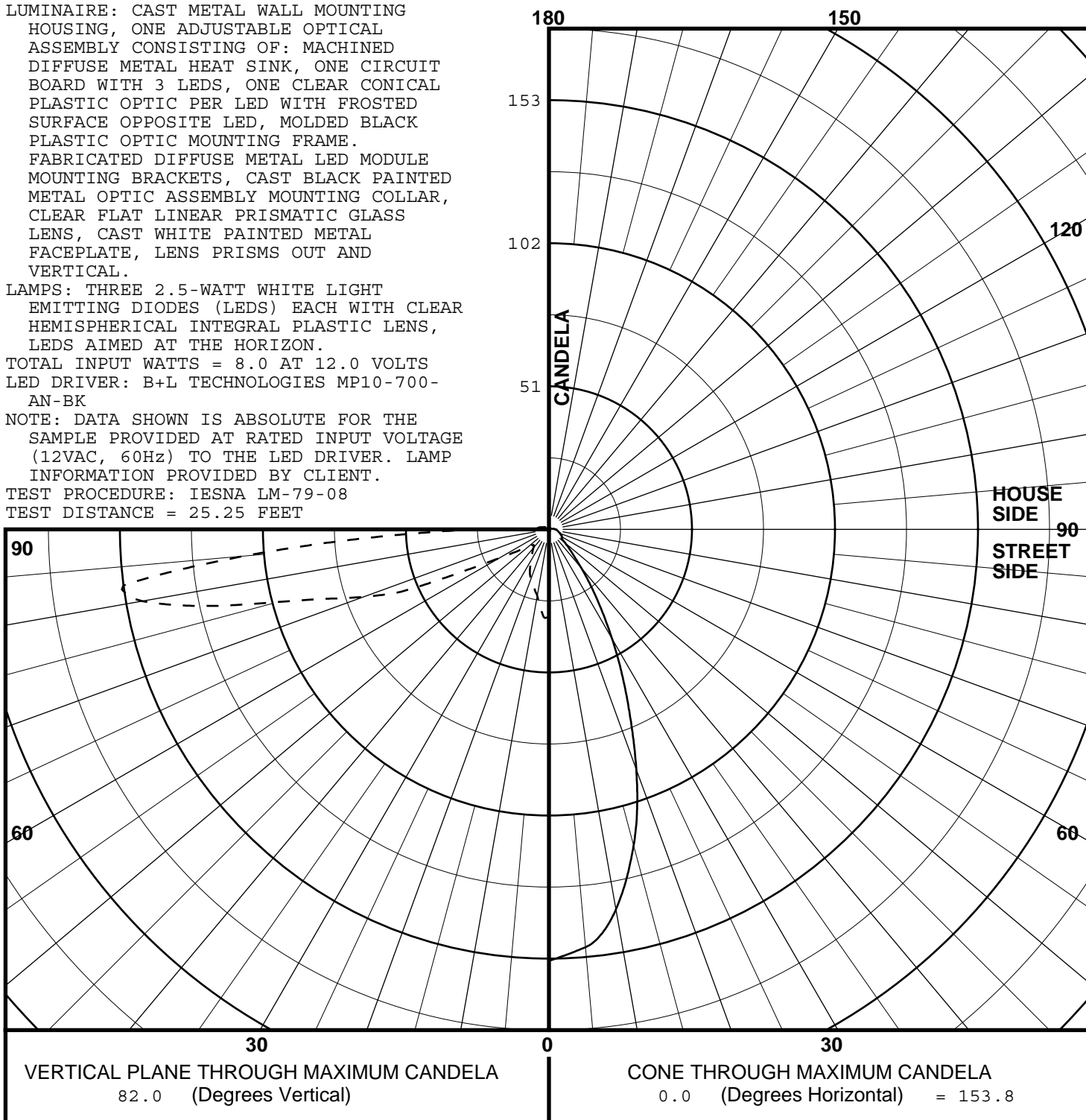
LED DRIVER: B+L TECHNOLOGIES MP10-700-AN-BK

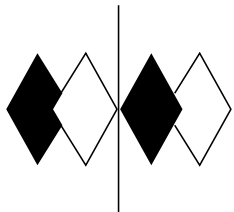
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (12VAC, 60Hz) TO THE LED DRIVER. LAMP INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 25.25 FEET

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA





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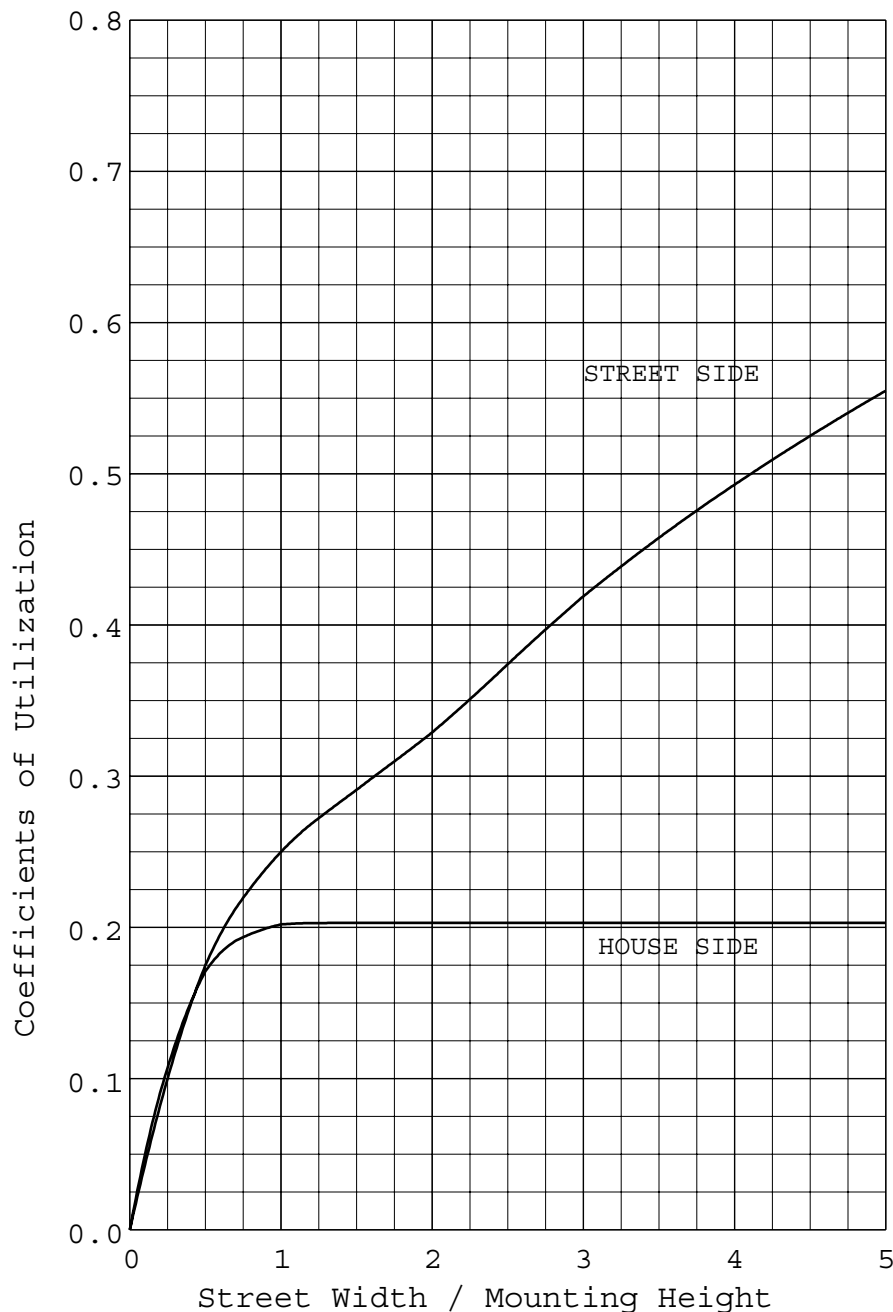
REPORT NUMBER: ITL63773

DATE: 01/06/10

PREPARED FOR: B-K LIGHTING, INC.

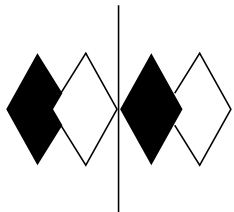
REVISED: 02/03/10

# COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	65.	75.4
DOWNWARD HOUSE SIDE	18.	20.4
DOWNWARD TOTAL	83.	95.7
UPWARD STREET SIDE	4.	4.3
UPWARD HOUSE SIDE	0.	0.0
UPWARD TOTAL	4.	4.3
TOTAL FLUX	86.	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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REPORT NUMBER: ITL63773

DATE: 01/06/10

PREPARED FOR: B-K LIGHTING, INC.

REVISED: 02/03/10

### FLUX DISTRIBUTION BY SOLID ANGLE

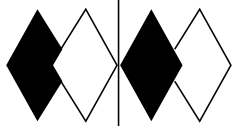
(PER IESNA TM-15-07, LUMINAIRE CLASSIFICATION  
SYSTEM FOR OUTDOOR LUMINAIRES)

	LUMENS	PERCENT OF FIXTURE
FORWARD LIGHT	65.	75.4
FL ( 0- 30)		10.4
FM ( 30- 60)		15.9
FH ( 60- 80)		30.3
FVH( 80- 90)		18.8
BACK LIGHT	18.	20.4
BL ( 0- 30)		10.9
BM ( 30- 60)		8.1
BH ( 60- 80)		1.2
BVH( 80- 90)		0.1
UPLIGHT	4.	4.3
UL ( 90-100)		2.1
UH (100-180)		2.2
TRAPPED LIGHT	0.	0.0
TOTAL FLUX	86.	100.0

### BACKLIGHT, UPLIGHT, AND GLARE (BUG) RATINGS (PER ADDENDUM A FOR IESNA TM-15-07)

BUG RATING: B0 U1 G1	FIRST DETERMINING SECONDARY SOLID ANGLE*	LUMENS
BACKLIGHT RATING: B0	BH	1.0
UPLIGHT RATING : U1	UH	0.9
GLARE RATING : G1	FVH	16.2

\* NOTE: OTHER DETERMINING SOLID ANGLES MAY FALL INTO THIS SAME CATEGORY. ONLY THE FIRST DETERMINING ANGLES FROM THE TABLES A1-A3 IN THE ADDENDUM ARE SHOWN.



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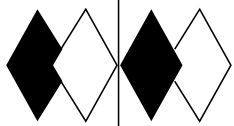
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PREPARED FOR: B-K LIGHTING, INC.

DATE: 01/06/10  
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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	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.
	115.0	2.	2.	2.	2.	1.	1.	1.	1.	0.	0.	0.
	105.0	3.	3.	3.	3.	2.	2.	2.	1.	1.	0.	0.
	95.0	4.	4.	4.	4.	3.	3.	2.	2.	1.	0.	0.
	92.5	5.	5.	5.	4.	4.	3.	3.	2.	1.	0.	0.
	90.0	25.	24.	20.	12.	6.	4.	3.	2.	1.	0.	0.
	87.5	61.	58.	48.	29.	13.	6.	4.	3.	2.	1.	1.
	85.0	109.	105.	85.	50.	22.	8.	5.	4.	3.	2.	1.
V	82.5	153.	150.	118.	67.	29.	11.	6.	5.	4.	3.	2.
E	82.0<<	154.	150.	117.	66.	29.	11.	6.	5.	4.	3.	2.
R	80.0	147.	145.	115.	69.	31.	13.	7.	6.	4.	4.	3.
T	77.5	126.	125.	100.	62.	29.	13.	7.	6.	5.	5.	4.
I	75.0	100.	99.	80.	51.	26.	13.	8.	7.	6.	5.	5.
C	72.5	82.	80.	66.	43.	21.	11.	8.	7.	7.	6.	5.
A	70.0	70.	68.	55.	36.	17.	10.	8.	8.	7.	7.	6.
L	67.5	59.	58.	45.	28.	15.	10.	8.	8.	8.	8.	7.
	65.0	41.	40.	31.	20.	12.	9.	9.	9.	9.	9.	8.
A	62.5	28.	27.	22.	15.	11.	9.	9.	9.	9.	9.	9.
N	60.0	21.	20.	17.	13.	10.	9.	9.	10.	10.	10.	9.
G	57.5	16.	16.	14.	11.	10.	9.	10.	10.	11.	11.	10.
L	55.0	13.	13.	11.	10.	10.	9.	10.	11.	11.	12.	11.
E	52.5	11.	11.	10.	9.	10.	9.	11.	11.	12.	12.	12.
	50.0	10.	9.	9.	9.	10.	10.	11.	12.	13.	13.	13.
	47.5	8.	8.	8.	9.	10.	10.	12.	12.	13.	14.	14.
	45.0	8.	8.	8.	9.	11.	11.	12.	13.	14.	15.	15.
	42.5	8.	8.	8.	10.	11.	12.	13.	14.	15.	16.	15.
	40.0	9.	9.	9.	11.	12.	12.	13.	14.	15.	16.	16.
	37.5	10.	10.	10.	12.	13.	13.	14.	15.	16.	17.	17.
	35.0	10.	11.	11.	13.	14.	14.	15.	16.	17.	18.	18.
	30.0	13.	13.	14.	15.	16.	16.	17.	18.	19.	20.	20.
	25.0	16.	16.	17.	17.	18.	18.	19.	20.	21.	22.	22.
	20.0	19.	19.	19.	19.	19.	20.	21.	22.	24.	25.	25.
	15.0	21.	21.	21.	21.	22.	23.	24.	25.	27.	27.	27.
	10.0	24.	24.	24.	25.	26.	27.	28.	29.	29.	29.	29.
	5.0	30.	30.	30.	30.	30.	31.	31.	31.	31.	31.	31.
	0.0	31.	31.	31.	31.	31.	31.	31.	31.	31.	31.	31.
	PLANE OF MAXIMUM CANDELA											
	CONE OF MAXIMUM CANDELA											



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REPORT NUMBER: ITL63773

PREPARED FOR: B-K LIGHTING, INC.

DATE: 01/06/10

REVISED: 02/03/10

### 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	1.	0.	0.	0.	0.	0.	0.	0.	0.
V	82.5	2.	1.	0.	0.	0.	0.	0.	0.	0.
E	82.0<<	2.	1.	0.	0.	0.	0.	0.	0.	0.
R	80.0	2.	1.	0.	0.	0.	0.	0.	0.	0.
T	77.5	3.	2.	0.	0.	0.	0.	0.	0.	0.
I	75.0	4.	2.	0.	0.	0.	0.	0.	0.	0.
C	72.5	4.	2.	0.	0.	0.	0.	0.	0.	0.
A	70.0	5.	3.	0.	0.	0.	0.	0.	0.	0.
L	67.5	6.	3.	1.	0.	0.	0.	0.	0.	0.
	65.0	7.	4.	1.	0.	0.	0.	0.	0.	0.
A	62.5	8.	5.	2.	0.	0.	0.	0.	0.	0.
N	60.0	8.	6.	3.	0.	0.	0.	0.	0.	0.
G	57.5	9.	7.	4.	1.	0.	0.	0.	0.	0.
L	55.0	10.	8.	5.	2.	0.	0.	0.	0.	0.
E	52.5	11.	9.	6.	3.	1.	0.	0.	0.	0.
	50.0	12.	10.	7.	4.	2.	1.	0.	0.	0.
	47.5	13.	11.	8.	6.	3.	2.	1.	0.	0.
	45.0	14.	12.	9.	7.	5.	3.	2.	1.	1.
	42.5	15.	13.	11.	8.	6.	4.	3.	2.	2.
	40.0	16.	14.	12.	9.	7.	5.	4.	3.	3.
	37.5	17.	16.	13.	11.	8.	7.	5.	4.	4.
	35.0	18.	17.	15.	12.	10.	8.	7.	6.	5.
	30.0	19.	19.	19.	16.	13.	11.	10.	9.	8.
	25.0	22.	22.	22.	21.	19.	16.	14.	13.	12.
	20.0	24.	24.	25.	26.	25.	24.	22.	20.	19.
	15.0	27.	27.	27.	28.	29.	29.	29.	28.	28.
	10.0	29.	29.	29.	29.	30.	31.	32.	32.	32.
	5.0	31.	31.	31.	31.	31.	31.	31.	31.	31.
	0.0	31.	31.	31.	31.	31.	31.	31.	31.	31.

CONE OF MAXIMUM CANDELA