

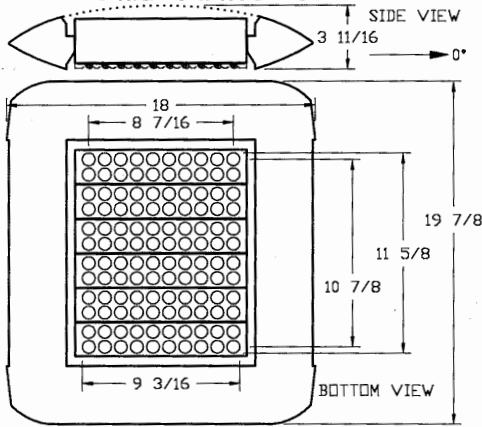
**itl boulder**  
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

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

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

**ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION**

Values based on 20 foot mounting height.



REPORT NUMBER: ITL63810  
DATE: 12/09/09  
PREPARED FOR: BETA LIGHTING, INC.  
CATALOG NUMBER: BXAL1412C-UT (350mA)  
LUMINAIRE: EXTRUDED BLACK PAINTED METAL HOUSING, FABRICATED BLACK PAINTED METAL BALLAST MOUNTING PLATE, CAST BLACK PAINTED METAL END CAPS, FORMED PERFORATED METAL TOP, SIX EXTRUDED FINNED METAL HEAT SINKS, EACH HEAT SINK CONTAINS ONE CIRCUIT BOARD WITH 20 LEDS, CAST BLACK PAINTED METAL TRIM PLATE, ONE CLEAR PLASTIC NON-INTEGRAL LENS BELOW EACH LED.

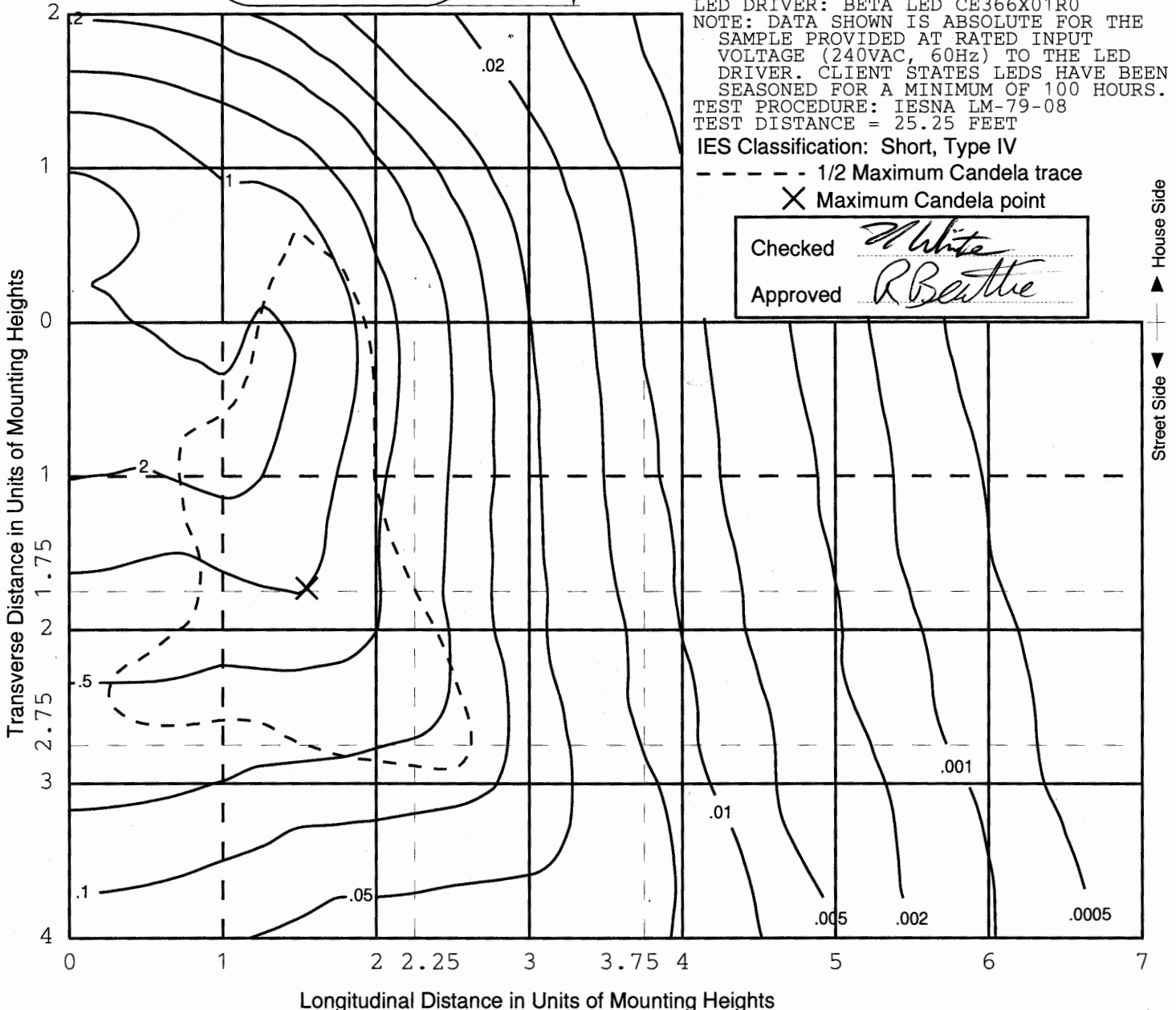
LAMP: ONE HUNDRED TWENTY WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION.  
TOTAL INPUT WATTS = 143.6 AT 240.0 VOLTS  
LED DRIVER: BETA LED CE366X01R0  
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (240VAC, 60Hz) TO THE LED DRIVER. CLIENT STATES LEDS HAVE BEEN SEASONED FOR A MINIMUM OF 100 HOURS.  
TEST PROCEDURE: IESNA LM-79-08  
TEST DISTANCE = 25.25 FEET

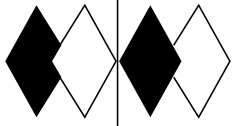
IES Classification: Short, Type IV

--- 1/2 Maximum Candela trace

X Maximum Candela point

Checked *White*  
Approved *R. Beattie*





REPORT NUMBER: ITL63810

DATE: 12/09/09

PREPARED FOR: BetaLED a Division of Ruud Lighting

CATALOG NUMBER: BXAL1412C-U(350mA)/ARE-EDG-4M-DA-12-C-UL

LUMINAIRE: EXTRUDED BLACK PAINTED

METAL HOUSING, FABRICATED BLACK  
 PAINTED METAL BALLAST MOUNTING PLATE,  
 CAST BLACK PAINTED METAL END CAPS,  
 FORMED PERFORATED METAL TOP, SIX  
 EXTRUDED FINNED METAL HEAT SINKS,  
 EACH HEAT SINK CONTAINS ONE CIRCUIT  
 BOARD WITH 20 LEDS, CAST BLACK  
 PAINTED METAL TRIM PLATE, ONE CLEAR  
 PLASTIC NON-INTEGRAL LENS BELOW EACH  
 LED.

LAMP: ONE HUNDRED TWENTY WHITE LIGHT  
 EMITTING DIODES (LEDS), VERTICAL  
 BASE-UP POSITION.

TOTAL INPUT WATTS = 143.6 AT 240.0  
 VOLTS

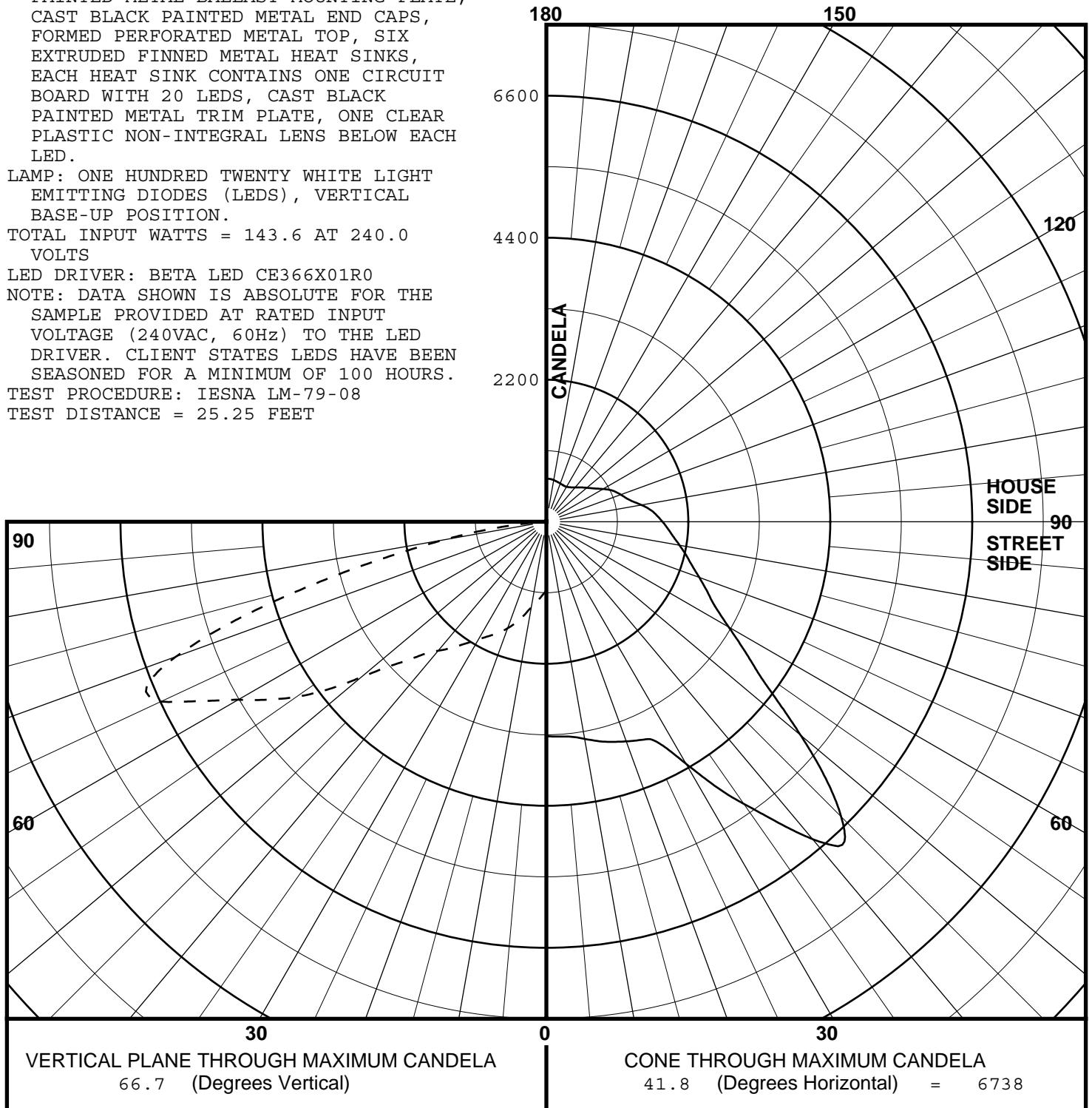
LED DRIVER: BETA LED CE366X01R0

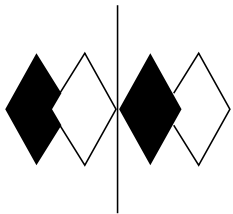
NOTE: DATA SHOWN IS ABSOLUTE FOR THE  
 SAMPLE PROVIDED AT RATED INPUT  
 VOLTAGE (240VAC, 60Hz) TO THE LED  
 DRIVER. CLIENT STATES LEDS HAVE BEEN  
 SEASONED FOR A MINIMUM OF 100 HOURS.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 25.25 FEET

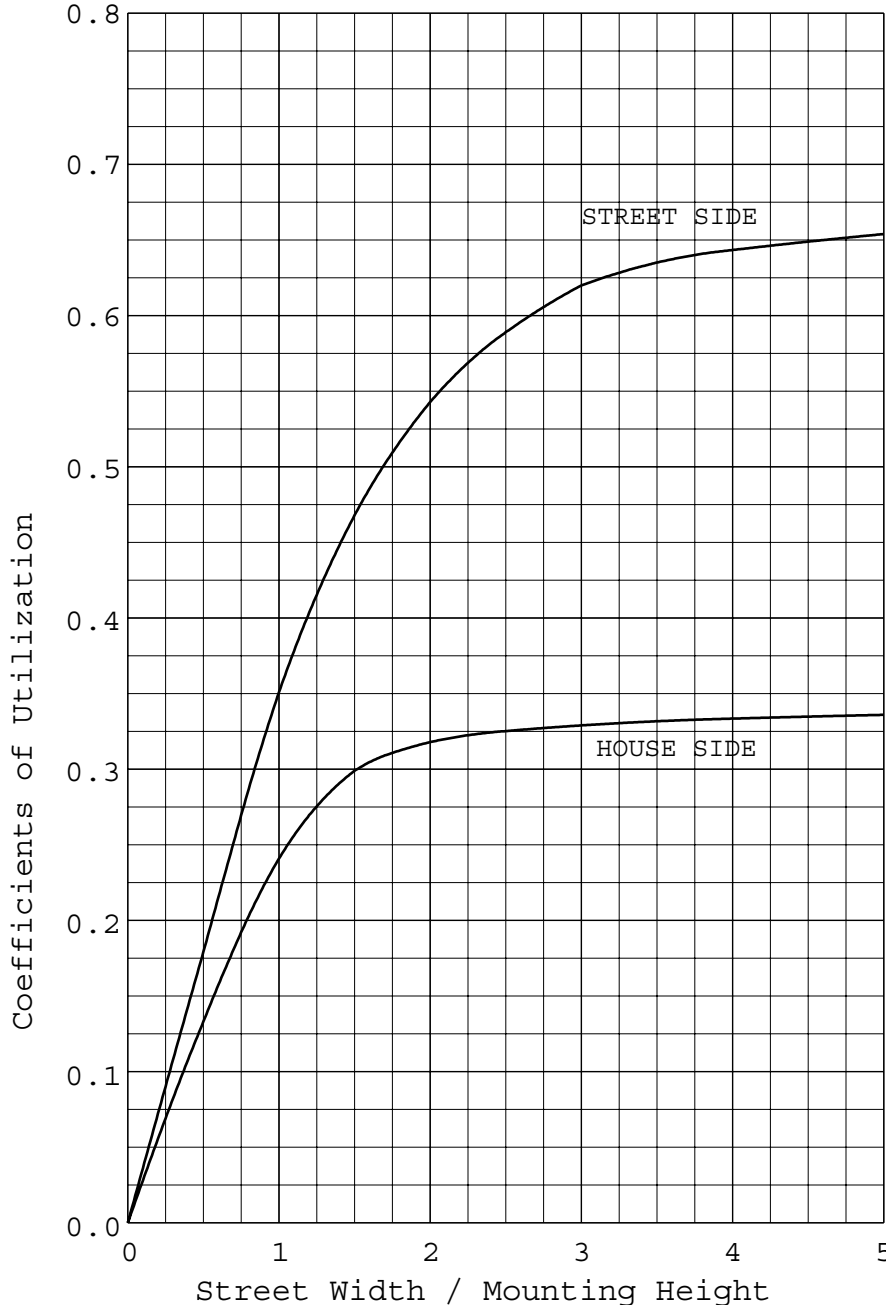
MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA





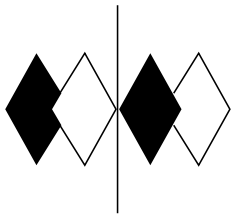
REPORT NUMBER: ITL63810  
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COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	6938.	66.3
DOWNWARD HOUSE SIDE	3526.	33.7
DOWNWARD TOTAL	10464.	100.0
UPWARD STREET SIDE	0.	0.0
UPWARD HOUSE SIDE	0.	0.0
UPWARD TOTAL	0.	0.0
TOTAL FLUX	10464.	100.0
EFFICACY = 72.9 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: ITL63810

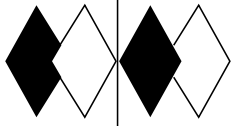
DATE: 12/09/09

PREPARED FOR: BetaLED a Division of Ruud Lighting

FLUX DISTRIBUTION BY SOLID ANGLE

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

	LUMENS	PERCENT OF FIXTURE
FORWARD LIGHT	6938.	66.3
FL ( 0- 30)		6.3
FM ( 30- 60)		31.9
FH ( 60- 80)		27.0
FVH( 80- 90)		1.1
BACK LIGHT	3526.	33.7
BL ( 0- 30)		4.1
BM ( 30- 60)		21.5
BH ( 60- 80)		8.0
BVH( 80- 90)		0.1
UPLIGHT	0.	0.0
UL ( 90-100)		0.0
UH (100-180)		0.0
TRAPPED LIGHT	0.	0.0
TOTAL FLUX	10464.	100.0



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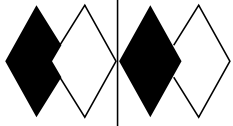
PREPARED FOR: BetaLED a Division of Ruud Lighting

CANDELA TABULATION

	STREET SIDE						LATERAL ANGLE					
	0.0	5.0	15.0	25.0	35.0	41.8	45.0	55.0	65.0	75.0	85.0	
	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	42.	41.	41.	43.	30.	32.	24.	2.	2.	3.	
	85.0	267.	263.	247.	227.	229.	317.	269.	34.	7.	4.	
V	82.5	548.	536.	490.	446.	601.	913.	746.	143.	48.	23.	
E	80.0	931.	908.	805.	738.	1081.	1616.	1388.	354.	129.	65.	
R	77.5	1490.	1457.	1296.	1197.	1795.	2526.	2200.	684.	301.	160.	
T	75.0	2243.	2202.	2034.	1908.	2825.	3719.	3270.	1196.	585.	338.	
I	72.5	2931.	2908.	2854.	2806.	4081.	5018.	4536.	1933.	1073.	688.	
C	70.0	3308.	3305.	3401.	3474.	5036.	6110.	5705.	2850.	1775.	1282.	
A	67.5	3354.	3369.	3543.	3719.	5307.	6707.	6425.	3802.	2628.	2102.	
L	66.7<<	3323.	3340.	3528.	3714.	5335.	6738.	6461.	3950.	2810.	2287.	
	65.0	3149.	3168.	3316.	3499.	4914.	6592.	6546.	4669.	3519.	3034.	
A	62.5	2910.	2920.	2972.	3073.	4333.	6014.	6208.	5291.	4393.	3991.	
N	60.0	2758.	2760.	2733.	2827.	4064.	5514.	5788.	5564.	4991.	4731.	
G	57.5	2760.	2758.	2690.	2762.	3940.	5132.	5384.	5358.	5038.	4983.	
L	55.0	2703.	2705.	2643.	2725.	3751.	4730.	4940.	4881.	4576.	4629.	
E	52.5	2594.	2599.	2560.	2664.	3462.	4265.	4453.	4324.	3874.	3925.	
	50.0	2493.	2497.	2469.	2565.	3081.	3750.	3932.	3792.	3214.	3182.	
	47.5	2378.	2385.	2366.	2448.	2762.	3322.	3501.	3359.	2686.	2547.	
	45.0	2303.	2311.	2300.	2345.	2544.	3030.	3201.	3069.	2374.	2127.	
	42.5	2304.	2304.	2287.	2292.	2392.	2772.	2918.	2806.	2162.	1855.	
	40.0	2300.	2293.	2254.	2259.	2336.	2610.	2722.	2595.	2004.	1642.	
	37.5	2259.	2246.	2206.	2210.	2284.	2474.	2553.	2441.	1915.	1532.	
	35.0	2236.	2217.	2147.	2150.	2219.	2337.	2381.	2294.	1845.	1474.	
	30.0	2023.	2008.	1971.	2034.	2100.	2105.	2099.	2003.	1710.	1400.	
	25.0	1854.	1855.	1888.	1959.	1978.	1927.	1896.	1742.	1554.	1336.	
	20.0	1793.	1794.	1820.	1848.	1828.	1757.	1718.	1554.	1396.	1250.	
	15.0	1680.	1680.	1678.	1665.	1623.	1560.	1528.	1397.	1274.	1171.	
	10.0	1439.	1440.	1433.	1415.	1380.	1343.	1325.	1258.	1194.	1126.	
	5.0	1246.	1245.	1239.	1227.	1209.	1194.	1187.	1158.	1129.	1096.	
	0.0	1058.	1058.	1058.	1058.	1058.	1058.	1058.	1058.	1058.	1058.	

||  
 PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



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REPORT NUMBER: ITL63810

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PREPARED FOR: BetaLED a Division of Ruud Lighting

CANDELA TABULATION

	HOUSE SIDE		LATERAL ANGLE								
	90.0	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.	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	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87.5	2.	2.	2.	2.	2.	2.	2.	3.	5.	8.	9.
85.0	3.	3.	4.	6.	5.	5.	6.	9.	11.	15.	17.
V 82.5	14.	12.	14.	14.	14.	13.	14.	16.	19.	24.	25.
E 80.0	39.	37.	42.	42.	53.	60.	74.	82.	61.	57.	58.
R 77.5	100.	96.	105.	110.	151.	271.	371.	418.	395.	365.	363.
T 75.0	225.	218.	220.	210.	230.	342.	466.	537.	553.	546.	545.
I 72.5	470.	448.	419.	362.	297.	332.	430.	520.	565.	582.	583.
C 70.0	939.	871.	770.	620.	448.	406.	453.	531.	589.	618.	621.
A 67.5	1626.	1506.	1284.	1028.	788.	670.	601.	596.	629.	656.	660.
L 66.7<<	1800.	1670.	1324.	1137.	900.	753.	651.	622.	642.	665.	669.
65.0	2481.	2299.	1931.	1652.	1433.	1109.	864.	752.	703.	704.	706.
A 62.5	3419.	3197.	2765.	2568.	2179.	1581.	1240.	1035.	911.	850.	847.
N 60.0	4213.	3984.	3511.	3127.	2556.	1943.	1612.	1390.	1211.	1120.	1109.
G 57.5	4563.	4326.	3763.	3158.	2547.	2067.	1859.	1707.	1549.	1452.	1434.
L 55.0	4377.	4155.	3575.	2929.	2322.	1953.	1943.	1920.	1837.	1778.	1769.
E 52.5	3771.	3601.	3123.	2559.	2031.	1778.	1887.	2001.	2025.	2018.	2014.
50.0	3042.	2918.	2553.	2154.	1817.	1684.	1821.	2003.	2111.	2150.	2154.
47.5	2405.	2317.	2085.	1851.	1692.	1654.	1786.	1981.	2129.	2205.	2212.
45.0	1963.	1901.	1765.	1656.	1608.	1633.	1765.	1951.	2109.	2197.	2204.
42.5	1674.	1633.	1555.	1518.	1531.	1598.	1739.	1914.	2054.	2126.	2134.
40.0	1445.	1418.	1382.	1389.	1445.	1543.	1691.	1854.	1972.	2026.	2034.
37.5	1284.	1263.	1238.	1259.	1339.	1465.	1623.	1776.	1881.	1928.	1937.
35.0	1181.	1157.	1131.	1153.	1237.	1372.	1536.	1687.	1790.	1833.	1845.
30.0	1057.	1008.	977.	986.	1053.	1175.	1325.	1467.	1566.	1613.	1623.
25.0	1028.	946.	882.	881.	921.	1009.	1122.	1232.	1315.	1358.	1364.
20.0	1036.	966.	855.	828.	855.	909.	975.	1043.	1097.	1126.	1133.
15.0	1030.	984.	903.	848.	834.	849.	884.	922.	948.	963.	967.
10.0	1030.	999.	944.	900.	873.	859.	858.	864.	870.	876.	878.
5.0	1047.	1030.	1001.	974.	952.	933.	922.	915.	909.	907.	909.
0.0	1058.	1058.	1058.	1058.	1058.	1058.	1058.	1058.	1058.	1058.	1058.

CONE OF MAXIMUM CANDELA