

REPORT NUMBER: ITL87842-GONIOPHOTOMETRY

ISSUE DATE: 07/19/16

PAGE: 1 OF 9

PREPARED FOR: LED ROADWAY LIGHTING LTD.

CATALOG NUMBER: NXT 24S 0 X 2ES 7 XX 4 XX X XX X

LUMINAIRE: CAST METAL HOUSING WITH GRAY PAINTED INTERIOR FINISH, 1 WHITE CIRCUIT BOARD WITH 36 LEDS, 1 CLEAR PLASTIC LENS WITH 1 OPTIC PER LED, CLEAR FLAT GLASS LENS IN CAST GRAY PAINTED METAL DOOR FRAME. ONLY 24 LEDS ON FOR THIS TEST.

LAMPS: TWENTY-FOUR WHITE LIGHT EMITTING DIODES (LEDs), VERTICAL BASE-UP POSITION.

INPUT ELECTRICAL: 120.0 VOLTS, 52.7 WATTS, 0.445 AMPS

LED DRIVER: LED ROADWAY LIGHTING J100UNV2, DRIVER HAS MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST, OUTPUT CURRENT ROTARY SWITCH SET TO 700mA. LRL65633-LF SURGE PROTECTOR.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE DRIVER AND SURGE PROTECTOR. SURGE PROTECTOR INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 35.0 FEET

TOTAL LUMEN OUTPUT: 5487

COLOR TEMPERATURE AS MEASURED IN INTEGRATING SPHERE TEST # ITL87842-SPHERE: 3151K

COLOR RENDERING INDEX AS MEASURED IN INTEGRATING SPHERE TEST # ITL87842-SPHERE: 71

LED DC DRIVE CURRENT (mA): 700 (PROVIDED BY CLIENT)

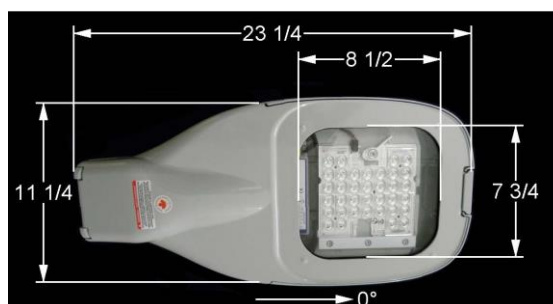
POWER FACTOR: 98.7 %

BUG RATING: B1 U0 G1

LUMINAIRE EFFICACY: 104.1 lm/W

IES CLASSIFICATION: Medium, Type II

**CUTOFF DESIGNATION IS NOT INTENDED TO BE USED WITH ABSOLUTE PHOTOMETRIC TESTS.



FLUX DISTRIBUTION

LUMENS	DOWNWARD	UPWARD	TOTALS
HOUSE SIDE	1800	0	1800
STREET SIDE	3687	0	3687
TOTALS	5487	0	5487

TESTING WAS PERFORMED IN ACCORDANCE WITH IESNA LM-79-08
TEST ANGULAR INCREMENTS AND REPORT FORMATTING WAS BASED ON IESNA LM-31-95

THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES. FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE.



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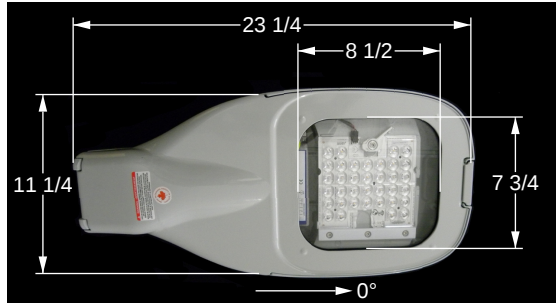
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NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.

4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 30 foot mounting height.



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CATALOG NUMBER: NXT 24S 0 X 2ES 7 XX 4
XX X XX X

LUMINAIRE: CAST METAL HOUSING WITH GRAY PAINTED INTERIOR FINISH, 1 WHITE CIRCUIT BOARD WITH 36 LEDS, 1 CLEAR PLASTIC LENS WITH 1 OPTIC PER LED, CLEAR FLAT GLASS LENS IN CAST GRAY PAINTED METAL DOOR FRAME. ONLY 24 LEDS ON FOR THIS TEST.

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NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE DRIVER AND SURGE PROTECTOR. SURGE PROTECTOR INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 35.0 FEET

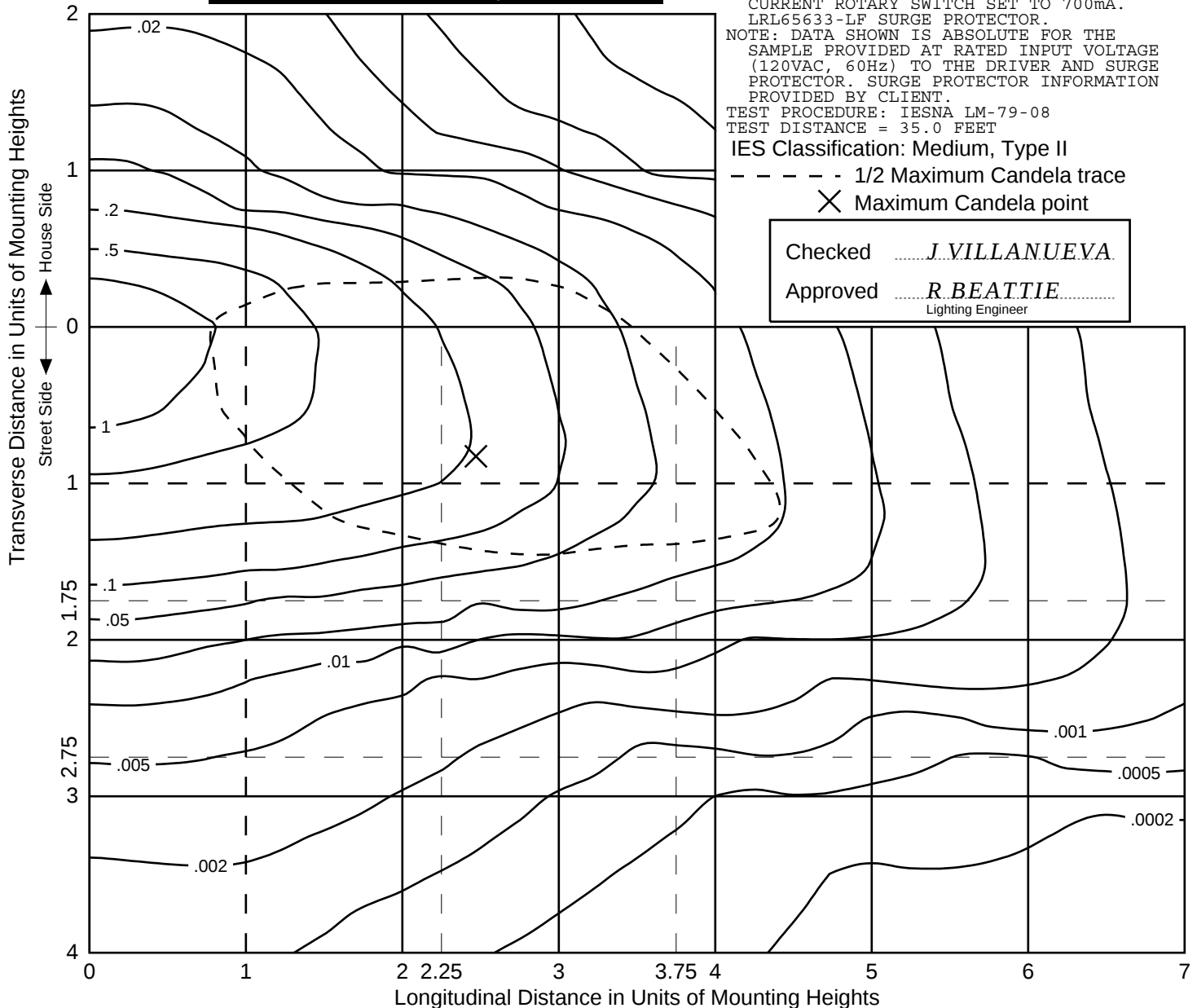
IES Classification: Medium, Type II

--- 1/2 Maximum Candela trace

X Maximum Candela point

CheckedJ.VILLANUEVA.....

ApprovedR.BEATTIE.....
Lighting Engineer



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CATALOG NUMBER: NXT 24S 0 X 2ES 7 XX 4
XX X XX X

LUMINAIRE: CAST METAL HOUSING WITH GRAY
PAINTED INTERIOR FINISH, 1 WHITE
CIRCUIT BOARD WITH 36 LEDS, 1 CLEAR
PLASTIC LENS WITH 1 OPTIC PER LED,
CLEAR FLAT GLASS LENS IN CAST GRAY
PAINTED METAL DOOR FRAME. ONLY 24 LEDS
ON FOR THIS TEST.

LAMPS: TWENTY-FOUR WHITE LIGHT EMITTING
DIODES (LEDS), VERTICAL BASE-UP
POSITION.

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WATTS, 0.445 AMPS

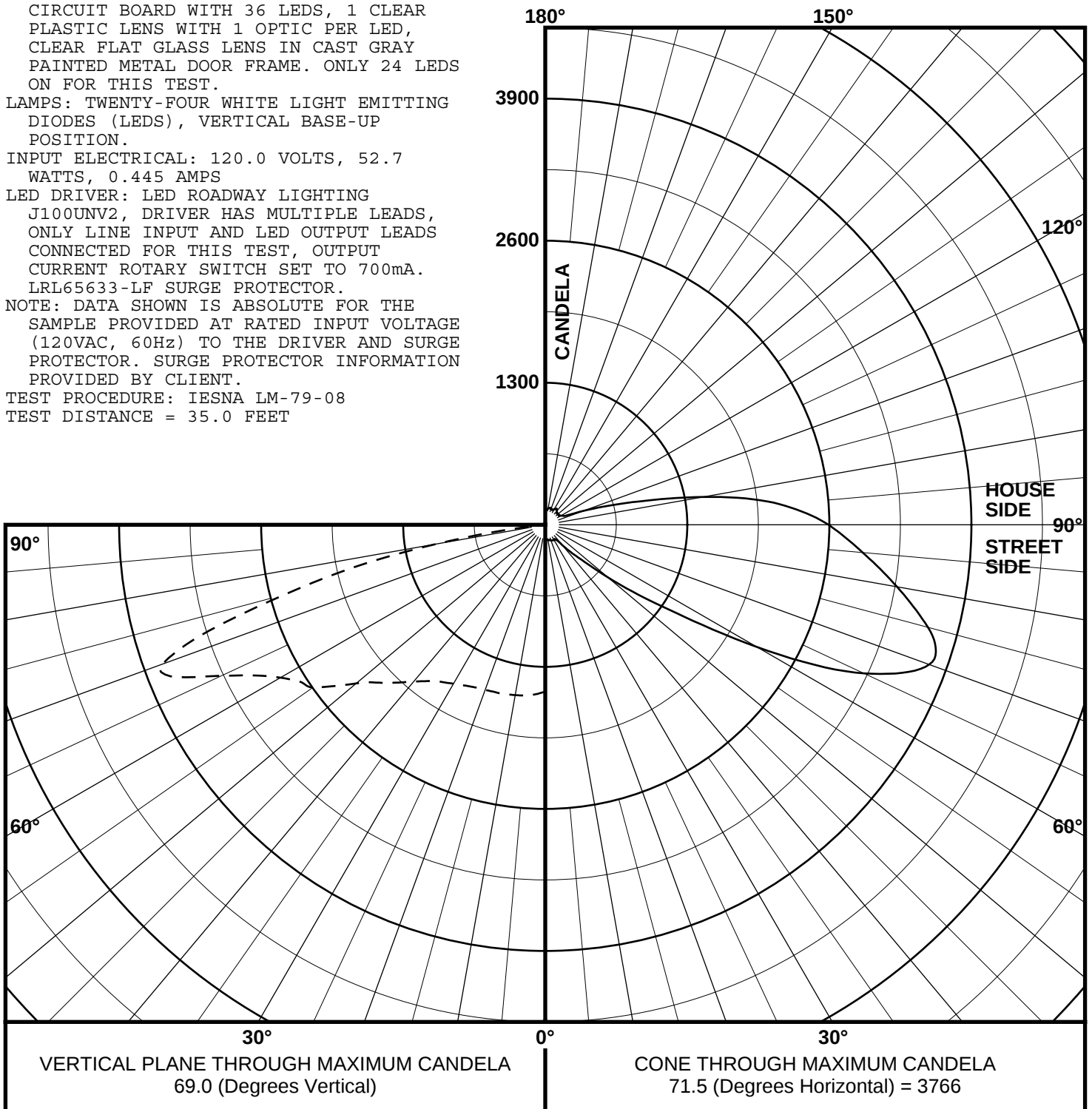
LED DRIVER: LED ROADWAY LIGHTING
J100UNV2, DRIVER HAS MULTIPLE LEADS,
ONLY LINE INPUT AND LED OUTPUT LEADS
CONNECTED FOR THIS TEST, OUTPUT
CURRENT ROTARY SWITCH SET TO 700mA.
LRL65633-LF SURGE PROTECTOR.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE
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(120VAC, 60Hz) TO THE DRIVER AND SURGE
PROTECTOR. SURGE PROTECTOR INFORMATION
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TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 35.0 FEET

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA





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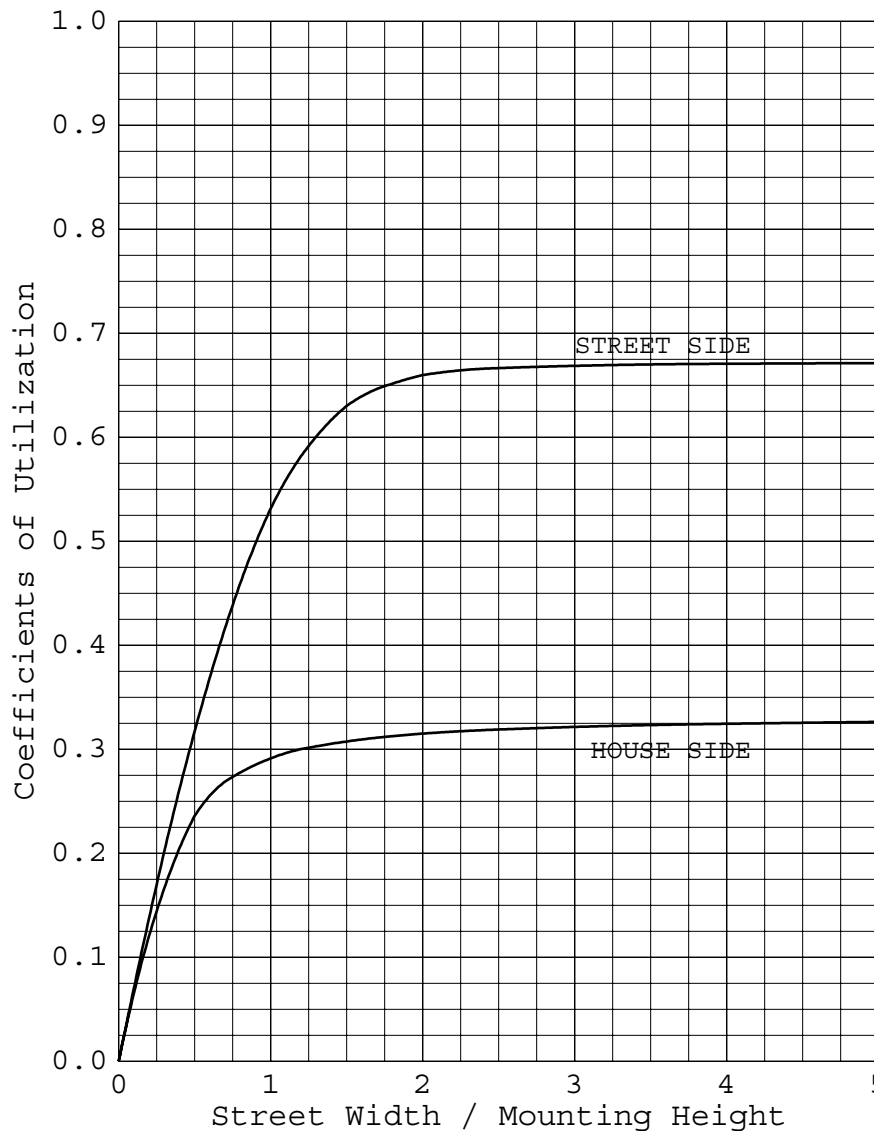
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COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	3687	67.2
DOWNWARD HOUSE SIDE	1800	32.8
DOWNWARD TOTAL	5487	100.0
UPWARD STREET SIDE	0	0.0
UPWARD HOUSE SIDE	0	0.0
UPWARD TOTAL	0	0.0
TOTAL FLUX	5487	100.0

EFFICACY = 104.1 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	3687.	67.2	
FL (0- 30)	674.0	12.3	
FM (30- 60)	1851.6	33.7	
FH (60- 80)	1130.8	20.6	G1
FVH(80- 90)	30.8	0.6	G1
BACK LIGHT	1800.	32.8	
BL (0- 30)	486.3	8.9	B1
BM (30- 60)	885.9	16.1	B1
BH (60- 80)	412.5	7.5	B1 G1
BVH(80- 90)	15.0	0.3	G1
UPLIGHT	0.	0.0	
UL (90-100)	0.0	0.0	U0
UH (100-180)	0.0	0.0	U0
TRAPPED LIGHT	0.	0.0	
TOTAL FLUX	5487.	100.0	

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

BUG RATING: B1 U0 G1



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CANDELA TABULATION

	STREET SIDE										
	0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	71.5	75.0	85.0
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	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.
85.0	3.	3.	4.	4.	5.	6.	7.	9.	30.	26.	13.
V 82.5	13.	15.	21.	19.	16.	20.	20.	47.	363.	366.	213.
E 80.0	31.	34.	48.	37.	34.	42.	41.	157.	1010.	1105.	723.
R 77.5	54.	57.	73.	54.	59.	61.	79.	545.	1792.	1980.	1422.
T 75.0	67.	70.	85.	81.	85.	92.	156.	1370.	2465.	2620.	1959.
I 72.5	87.	91.	105.	111.	110.	149.	462.	2326.	3229.	3271.	2449.
C 70.0	119.	123.	133.	143.	143.	294.	1064.	3027.	3727.	3579.	2840.
A 69.0<<	133.	137.	146.	157.	160.	417.	1298.	3216.	3766.	3627.	2917.
L 67.5	154.	159.	167.	182.	212.	679.	1623.	3313.	3643.	3560.	2945.
65.0	197.	206.	217.	276.	488.	1154.	2037.	3071.	3269.	3227.	2818.
A 62.5	325.	344.	391.	533.	829.	1450.	2115.	2811.	2986.	2935.	2656.
N 60.0	539.	561.	612.	769.	1006.	1501.	2043.	2675.	2798.	2760.	2562.
G 57.5	708.	721.	754.	878.	1076.	1512.	2020.	2580.	2668.	2631.	2498.
L 55.0	802.	804.	840.	941.	1143.	1511.	1999.	2524.	2596.	2546.	2439.
E 52.5	878.	879.	908.	1010.	1208.	1499.	1942.	2339.	2423.	2413.	2362.
50.0	943.	943.	976.	1082.	1266.	1517.	1895.	2184.	2258.	2274.	2271.
47.5	1010.	1012.	1053.	1150.	1314.	1541.	1850.	2087.	2135.	2152.	2174.
45.0	1078.	1079.	1122.	1208.	1345.	1552.	1793.	1995.	2047.	2068.	2095.
42.5	1140.	1139.	1186.	1261.	1390.	1577.	1769.	1916.	1956.	1984.	2024.
40.0	1212.	1208.	1253.	1335.	1446.	1601.	1751.	1837.	1874.	1905.	1950.
37.5	1294.	1303.	1348.	1415.	1505.	1629.	1738.	1768.	1804.	1834.	1881.
35.0	1405.	1411.	1451.	1498.	1569.	1653.	1692.	1705.	1747.	1775.	1815.
30.0	1611.	1611.	1631.	1635.	1651.	1637.	1591.	1632.	1680.	1698.	1716.
25.0	1692.	1695.	1702.	1686.	1607.	1543.	1548.	1604.	1632.	1638.	1640.
20.0	1592.	1590.	1580.	1550.	1531.	1533.	1566.	1600.	1608.	1608.	1581.
15.0	1532.	1540.	1546.	1543.	1557.	1580.	1602.	1605.	1597.	1588.	1553.
10.0	1586.	1593.	1607.	1609.	1624.	1623.	1617.	1595.	1583.	1576.	1543.
5.0	1596.	1603.	1616.	1604.	1602.	1590.	1587.	1572.	1565.	1560.	1537.
0.0	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.

||
PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



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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.	1.	1.	0.	0.	0.	0.
	85.0	15.	12.	8.	8.	7.	9.	9.	8.	4.	1.	1.
V	82.5	223.	153.	22.	23.	21.	29.	35.	37.	43.	16.	7.
E	80.0	629.	468.	52.	44.	41.	55.	74.	77.	92.	100.	94.
R	77.5	1198.	900.	121.	72.	67.	80.	105.	127.	161.	176.	167.
T	75.0	1671.	1317.	241.	103.	97.	103.	126.	138.	195.	218.	214.
I	72.5	2151.	1773.	440.	142.	124.	124.	144.	133.	184.	202.	211.
C	70.0	2521.	2098.	684.	180.	145.	144.	168.	142.	161.	156.	159.
A	69.0<<	2592.	2155.	774.	193.	154.	152.	177.	150.	160.	143.	143.
L	67.5	2631.	2193.	906.	211.	168.	163.	188.	163.	165.	142.	140.
	65.0	2572.	2196.	1119.	245.	188.	182.	204.	185.	178.	155.	150.
A	62.5	2501.	2211.	1286.	295.	206.	203.	221.	210.	196.	174.	168.
N	60.0	2469.	2235.	1431.	384.	227.	223.	219.	227.	219.	196.	189.
G	57.5	2452.	2275.	1556.	528.	249.	243.	228.	236.	236.	215.	210.
L	55.0	2411.	2263.	1685.	703.	280.	262.	243.	243.	250.	233.	224.
E	52.5	2343.	2202.	1673.	864.	330.	281.	258.	259.	269.	248.	242.
	50.0	2264.	2144.	1684.	1007.	411.	298.	274.	275.	276.	262.	255.
	47.5	2176.	2083.	1691.	1112.	522.	320.	290.	289.	284.	274.	270.
	45.0	2097.	2027.	1680.	1177.	629.	366.	310.	301.	296.	290.	288.
	42.5	2021.	1956.	1659.	1219.	724.	439.	336.	317.	310.	304.	304.
	40.0	1944.	1886.	1630.	1246.	809.	519.	384.	339.	324.	319.	317.
	37.5	1869.	1814.	1592.	1263.	881.	591.	448.	383.	353.	340.	339.
	35.0	1800.	1746.	1555.	1271.	941.	667.	515.	443.	407.	387.	390.
	30.0	1689.	1629.	1483.	1278.	1047.	838.	669.	580.	530.	505.	508.
	25.0	1601.	1548.	1431.	1290.	1140.	992.	867.	773.	707.	680.	676.
	20.0	1545.	1501.	1410.	1314.	1218.	1131.	1040.	979.	929.	911.	907.
	15.0	1522.	1487.	1417.	1353.	1286.	1233.	1182.	1153.	1121.	1109.	1111.
	10.0	1518.	1493.	1451.	1399.	1359.	1325.	1292.	1279.	1258.	1267.	1266.
	5.0	1523.	1509.	1489.	1468.	1446.	1424.	1397.	1394.	1380.	1397.	1402.
	0.0	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.

CONE OF MAXIMUM CANDELA



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	36
5- 10	107
10- 15	171
15- 20	229
20- 25	284
25- 30	334
30- 35	375
35- 40	410
40- 45	443
45- 50	476
50- 55	507
55- 60	526
60- 65	516
65- 70	480
70- 75	360
75- 80	187
80- 85	44
85- 90	1
90- 95	0
95-100	0
100-105	0
105-110	0
110-115	0
115-120	0
120-125	0
125-130	0
130-135	0
135-140	0
140-145	0
145-150	0
150-155	0
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	143
0- 20	543
0- 30	1160
0- 40	1945
0- 50	2865
0- 60	3898
0- 70	4894
0- 80	5441
0- 90	5487
0-100	5487
0-110	5487
0-120	5487
0-130	5487
0-140	5487
0-150	5487
0-160	5487
0-170	5487
0-180	5487



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