

itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL85754

ISSUE DATE: 10/12/15

PAGE: 1 OF 9

PREPARED FOR: LED ROADWAY LIGHTING LTD.

CATALOG NUMBER: NXT 24S 0 X 2ES 5 XX 3 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, 40.4 WATTS, 0.342 AMPS

LED DRIVER: LED ROADWAY LIGHTING LRL65634-LF, DRIVER HAS MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST, CLIENT STATES DRIVER PROGRAMMED FOR 525mA OUTPUT. 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. DRIVER AND SURGE PROTECTOR INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

TOTAL LUMEN OUTPUT: 4676

COLOR TEMPERATURE AS MEASURED IN INTEGRATING SPHERE TEST # ITL85769: 3759K

COLOR RENDERING INDEX AS MEASURED IN INTEGRATING SPHERE TEST # ITL85769: 73

LED DC DRIVE CURRENT (mA): 525 (PROVIDED BY CLIENT)

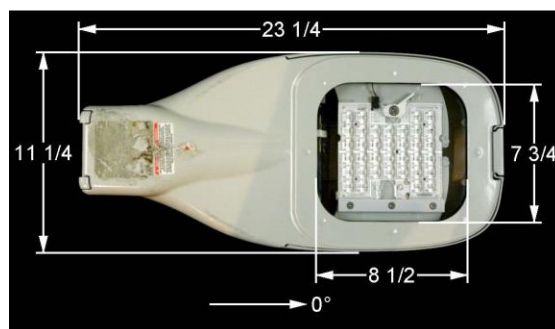
POWER FACTOR: 98.4 %

BUG RATING: B1 U0 G1

LUMINAIRE EFFICACY: 115.7 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	1519	0	1519
STREET SIDE	3157	0	3157
TOTALS	4676	0	4676

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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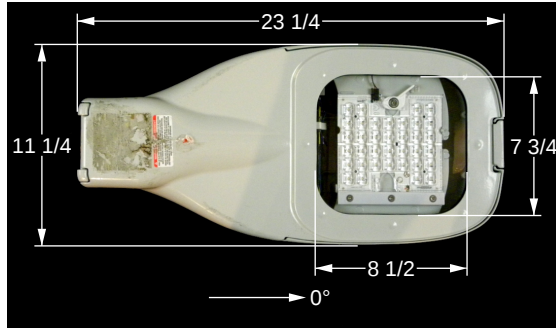
NVLAP
NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.

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ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 30 foot mounting height.



REPORT NUMBER: ITL85754

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PAGE: 2 OF 9

PREPARED FOR: LED ROADWAY LIGHTING LTD.

CATALOG NUMBER: NXT 24S 0 X 2ES 5 XX 3 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, 40.4 WATTS, 0.342 AMPS. LED DRIVER: LED ROADWAY LIGHTING LRL65634-LF, DRIVER HAS MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST, CLIENT STATES DRIVER PROGRAMMED FOR 525mA OUTPUT. 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. DRIVER AND SURGE PROTECTOR INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

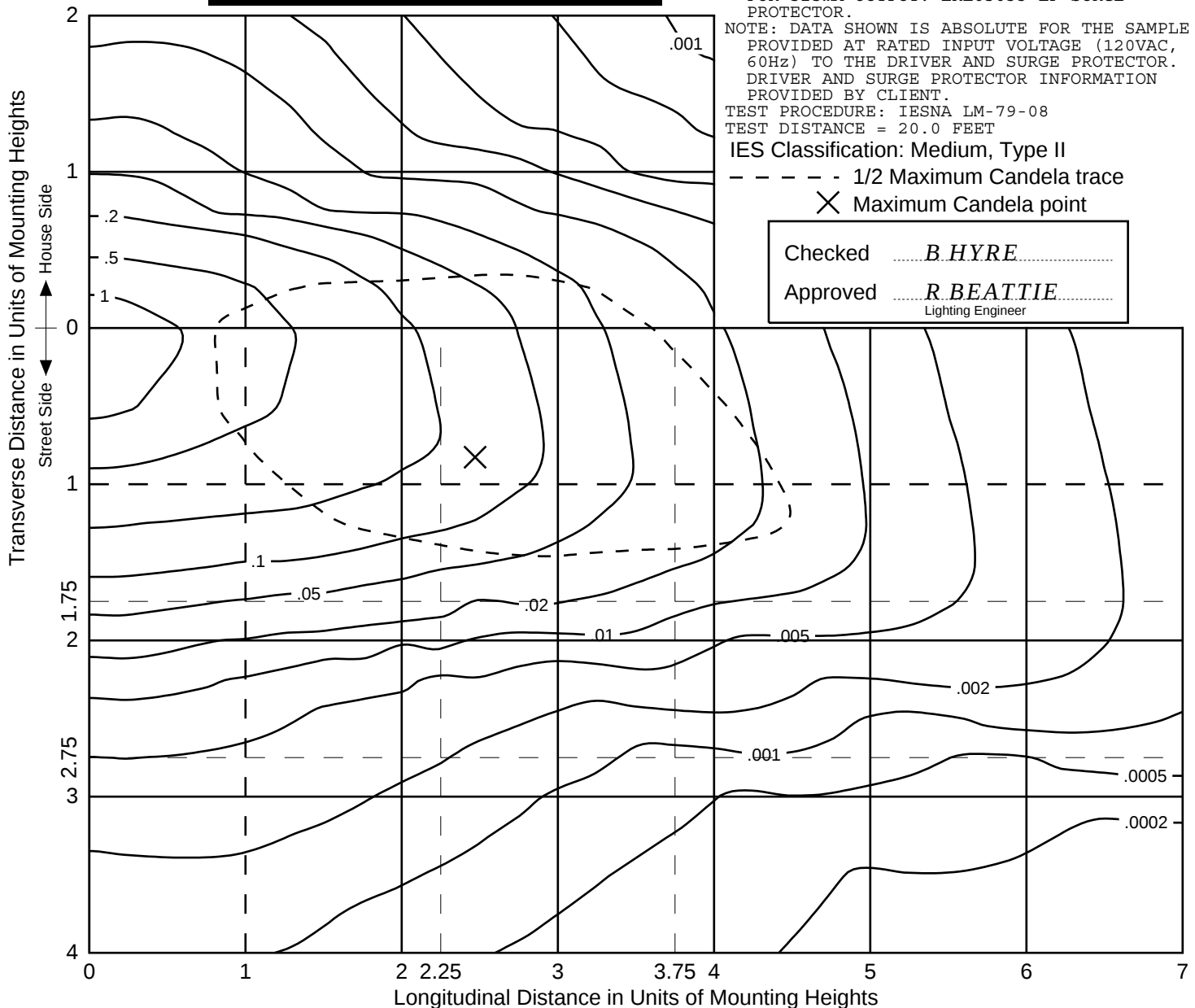
IES Classification: Medium, Type II

--- 1/2 Maximum Candela trace

X Maximum Candela point

Checked *B. HYRE*

Approved *R. BEATTIE*
Lighting Engineer



REPORT NUMBER: ITL85754
ISSUE DATE: 10/12/15 PAGE: 3 OF 9
PREPARED FOR: LED ROADWAY LIGHTING LTD.
CATALOG NUMBER: NXT 24S 0 X 2ES 5 XX 3
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, 40.4
WATTS, 0.342 AMPS

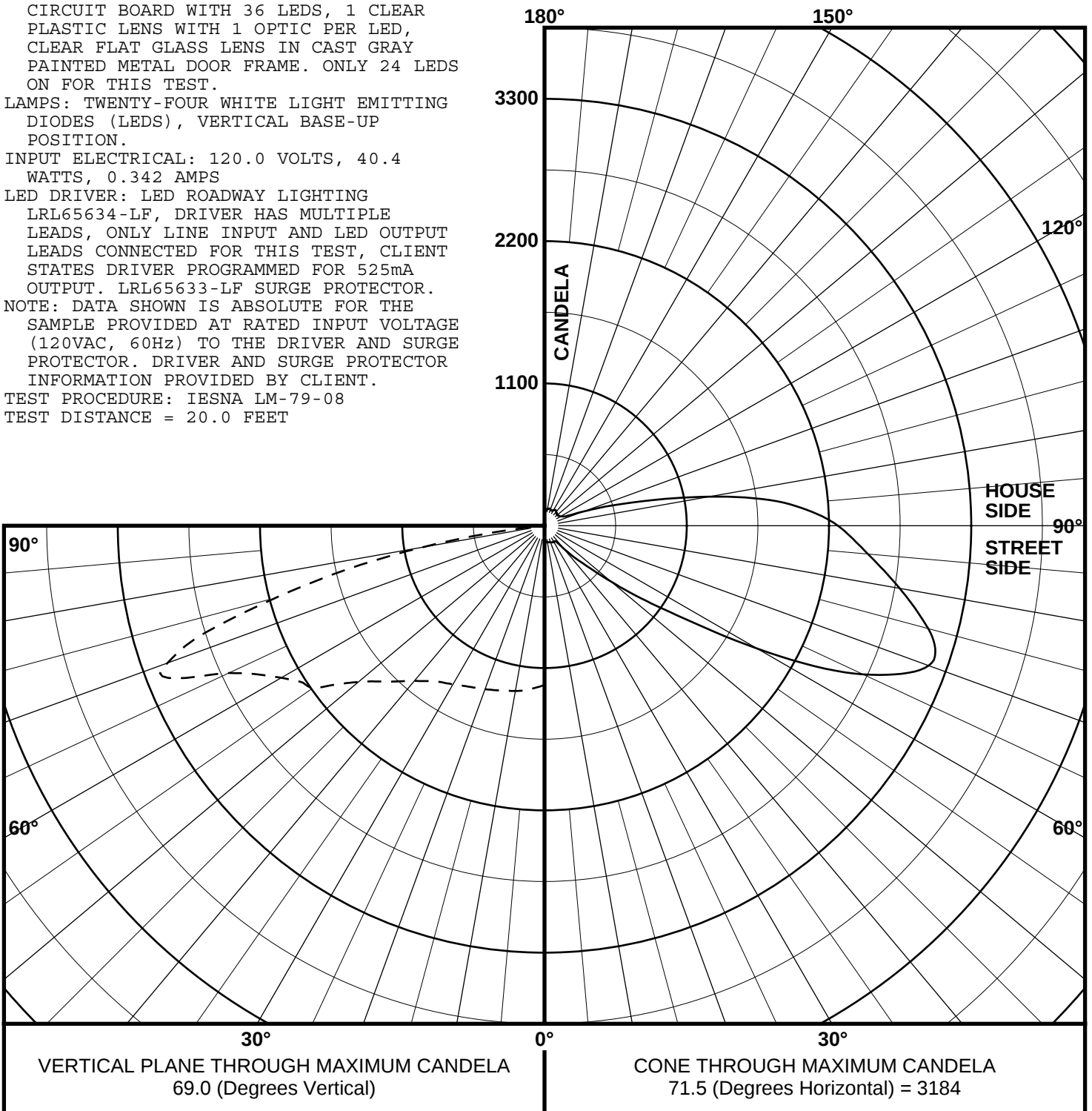
LED DRIVER: LED ROADWAY LIGHTING
LRL65634-LF, DRIVER HAS MULTIPLE
LEADS, ONLY LINE INPUT AND LED OUTPUT
LEADS CONNECTED FOR THIS TEST, CLIENT
STATES DRIVER PROGRAMMED FOR 525mA
OUTPUT. LRL65633-LF SURGE PROTECTOR.

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

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

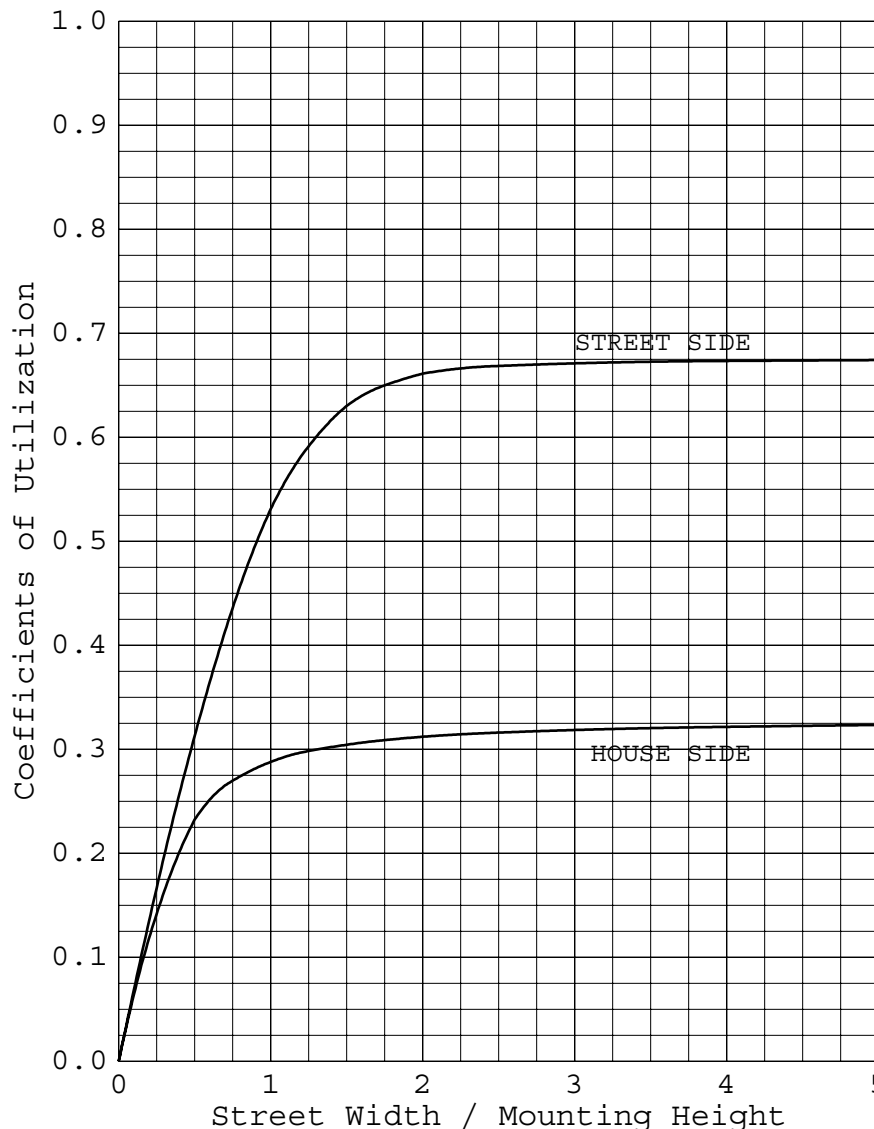




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PAGE: 4 OF 9

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	3157	67.5
DOWNWARD HOUSE SIDE	1519	32.5
DOWNWARD TOTAL	4676	100.0
UPWARD STREET SIDE	0	0.0
UPWARD HOUSE SIDE	0	0.0
UPWARD TOTAL	0	0.0
TOTAL FLUX	4676	100.0

EFFICACY = 115.7 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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PAGE: 5 OF 9

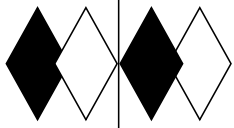
FLUX DISTRIBUTION BY SOLID ANGLE

(PER IESNA TM-15-11, LUMINAIRE CLASSIFICATION
SYSTEM FOR OUTDOOR LUMINAIRES)

	LUMENS	PERCENT OF FIXTURE	BUG ZONE RATINGS
FORWARD LIGHT	3157.	67.5	
FL (0- 30)	561.1	12.0	
FM (30- 60)	1588.4	34.0	
FH (60- 80)	974.7	20.8	G1
FVH(80- 90)	32.7	0.7	G1
BACK LIGHT	1519.	32.5	
BL (0- 30)	399.5	8.5	B1
BM (30- 60)	744.5	15.9	B1
BH (60- 80)	361.4	7.7	B1 G1
BVH(80- 90)	13.9	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	4676.	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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PAGE: 6 OF 9

CANDELA TABULATION

	STREET SIDE					LATERAL ANGLE						
	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.	
	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	1.	1.	1.	2.	2.	2.	3.	3.	4.	3.	3.
	85.0	5.	6.	7.	8.	8.	9.	10.	13.	69.	57.	29.
V	82.5	17.	18.	24.	23.	19.	24.	23.	50.	391.	388.	240.
E	80.0	34.	36.	49.	37.	36.	43.	44.	155.	964.	1036.	715.
R	77.5	52.	55.	70.	53.	59.	60.	80.	502.	1570.	1702.	1301.
T	75.0	62.	65.	79.	77.	80.	89.	152.	1229.	2150.	2240.	1726.
I	72.5	83.	88.	97.	102.	102.	143.	430.	1959.	2751.	2768.	2151.
C	70.0	112.	116.	121.	129.	129.	286.	926.	2546.	3104.	3021.	2439.
A	69.0<<	123.	127.	132.	142.	146.	394.	1124.	2718.	3184.	3072.	2511.
L	67.5	139.	146.	151.	165.	210.	609.	1427.	2748.	3082.	3033.	2555.
	65.0	183.	191.	203.	265.	447.	1010.	1730.	2554.	2694.	2662.	2403.
A	62.5	304.	322.	357.	471.	719.	1229.	1793.	2363.	2490.	2453.	2265.
N	60.0	478.	495.	531.	654.	863.	1284.	1755.	2252.	2351.	2315.	2192.
G	57.5	606.	614.	644.	747.	929.	1295.	1729.	2172.	2243.	2204.	2135.
L	55.0	685.	692.	718.	809.	986.	1299.	1701.	2142.	2186.	2135.	2084.
E	52.5	750.	754.	776.	875.	1048.	1305.	1654.	1960.	2010.	1993.	2002.
	50.0	805.	810.	835.	935.	1107.	1333.	1623.	1844.	1879.	1881.	1922.
	47.5	864.	867.	896.	994.	1162.	1359.	1588.	1750.	1781.	1796.	1845.
	45.0	917.	922.	962.	1058.	1208.	1380.	1540.	1661.	1704.	1726.	1776.
	42.5	975.	988.	1034.	1142.	1261.	1401.	1515.	1585.	1630.	1660.	1711.
	40.0	1070.	1091.	1143.	1229.	1323.	1420.	1477.	1520.	1566.	1597.	1640.
	37.5	1208.	1225.	1257.	1309.	1370.	1428.	1433.	1468.	1514.	1542.	1577.
	35.0	1317.	1328.	1348.	1376.	1405.	1416.	1384.	1424.	1467.	1495.	1513.
	30.0	1432.	1435.	1434.	1426.	1392.	1330.	1322.	1378.	1415.	1428.	1418.
	25.0	1415.	1414.	1391.	1355.	1299.	1285.	1307.	1353.	1374.	1376.	1343.
	20.0	1303.	1303.	1292.	1288.	1287.	1304.	1321.	1347.	1344.	1334.	1288.
	15.0	1315.	1315.	1313.	1320.	1325.	1332.	1339.	1336.	1318.	1308.	1258.
	10.0	1351.	1351.	1345.	1349.	1350.	1345.	1332.	1314.	1297.	1287.	1245.
	5.0	1339.	1338.	1328.	1324.	1317.	1307.	1295.	1281.	1269.	1260.	1237.
	0.0	1231.	1231.	1231.	1231.	1231.	1231.	1231.	1231.	1231.	1231.	1231.

||
PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



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PAGE: 7 OF 9

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.
	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	3.	3.	2.	1.	1.	0.	0.	0.	0.	0.
	85.0	24.	21.	9.	8.	7.	7.	6.	6.	2.	0.
V	82.5	224.	166.	23.	21.	19.	24.	28.	32.	35.	11.
E	80.0	602.	455.	51.	40.	37.	47.	60.	64.	79.	82.
R	77.5	1090.	854.	112.	64.	59.	69.	89.	107.	139.	153.
T	75.0	1502.	1215.	212.	92.	85.	90.	106.	112.	167.	189.
I	72.5	1923.	1612.	404.	125.	108.	109.	122.	110.	154.	167.
C	70.0	2212.	1855.	610.	157.	127.	127.	141.	122.	137.	131.
A	69.0<<	2269.	1903.	685.	169.	134.	133.	148.	128.	138.	123.
L	67.5	2299.	1928.	802.	184.	146.	143.	158.	139.	142.	123.
	65.0	2212.	1913.	961.	214.	164.	159.	172.	159.	152.	133.
A	62.5	2151.	1916.	1103.	256.	178.	177.	183.	183.	167.	149.
N	60.0	2126.	1939.	1228.	334.	195.	194.	186.	197.	189.	170.
G	57.5	2102.	1958.	1338.	447.	215.	210.	194.	205.	205.	187.
L	55.0	2057.	1940.	1411.	581.	242.	227.	207.	209.	217.	202.
E	52.5	1977.	1863.	1397.	714.	282.	241.	220.	220.	230.	213.
	50.0	1905.	1809.	1408.	832.	351.	257.	236.	235.	236.	224.
	47.5	1830.	1757.	1411.	919.	435.	276.	250.	247.	244.	233.
	45.0	1759.	1703.	1396.	975.	521.	315.	267.	260.	253.	247.
	42.5	1689.	1637.	1376.	1009.	601.	373.	288.	272.	265.	260.
	40.0	1619.	1572.	1348.	1032.	670.	435.	328.	292.	278.	272.
	37.5	1551.	1509.	1316.	1045.	728.	493.	379.	329.	301.	291.
	35.0	1487.	1447.	1282.	1050.	779.	553.	430.	375.	346.	332.
	30.0	1384.	1345.	1218.	1056.	866.	692.	554.	482.	439.	419.
	25.0	1305.	1268.	1172.	1069.	945.	822.	714.	633.	581.	556.
	20.0	1254.	1224.	1154.	1087.	1013.	935.	862.	802.	759.	737.
	15.0	1232.	1208.	1157.	1111.	1067.	1023.	983.	946.	923.	903.
	10.0	1224.	1208.	1175.	1146.	1118.	1093.	1075.	1056.	1048.	1035.
	5.0	1226.	1219.	1202.	1187.	1174.	1159.	1150.	1141.	1139.	1131.
	0.0	1231.	1231.	1231.	1231.	1231.	1231.	1231.	1231.	1231.	1231.

CONE OF MAXIMUM CANDELA



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PAGE: 8 OF 9

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	29
5- 10	88
10- 15	142
15- 20	190
20- 25	234
25- 30	278
30- 35	319
35- 40	352
40- 45	379
45- 50	405
50- 55	431
55- 60	448
60- 65	441
65- 70	413
70- 75	314
75- 80	168
80- 85	44
85- 90	2
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	117
0- 20	449
0- 30	961
0- 40	1631
0- 50	2415
0- 60	3293
0- 70	4147
0- 80	4630
0- 90	4676
0-100	4676
0-110	4676
0-120	4676
0-130	4676
0-140	4676
0-150	4676
0-160	4676
0-170	4676
0-180	4676



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PAGE: 9 OF 9

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