

REPORT NUMBER: ITL85752

ISSUE DATE: 10/05/15

PAGE: 1 OF 9

PREPARED FOR: LED ROADWAY LIGHTING LTD.

CATALOG NUMBER: NXT 24S 0 X 2ES 3 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, 27.8 WATTS, 0.237 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 350mA 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: 3277

COLOR TEMPERATURE AS MEASURED IN INTEGRATING SPHERE TEST # ITL85767: 3744K

COLOR RENDERING INDEX AS MEASURED IN INTEGRATING SPHERE TEST # ITL85767: 73

LED DC DRIVE CURRENT (mA): 350 (PROVIDED BY CLIENT)

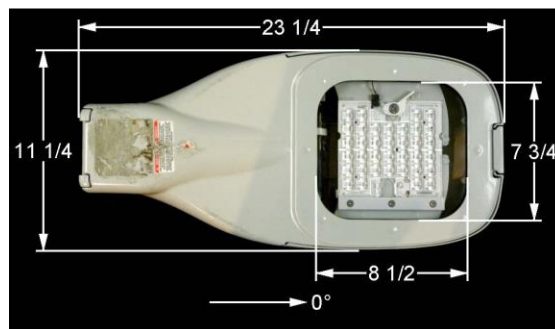
POWER FACTOR: 97.7 %

BUG RATING: B1 U0 G1

LUMINAIRE EFFICACY: 117.9 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	1064	0	1064
STREET SIDE	2213	0	2213
TOTALS	3277	0	3277

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.



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

PHONE: (303) 442-1255

FAX: (970) 535-3114

E-MAIL: itl@itlboulder.com

WEBSITE: www.itlboulder.com

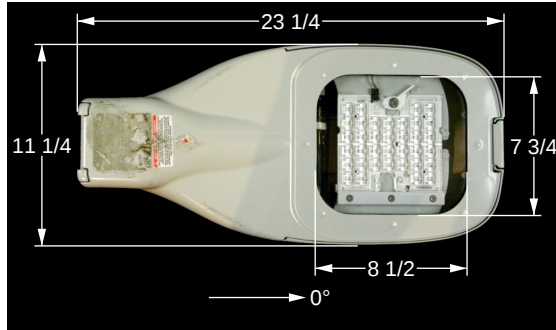
NVLAP
NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.

4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 30 foot mounting height.



REPORT NUMBER: ITL85752

ISSUE DATE: 10/05/15

PAGE: 2 OF 9

PREPARED FOR: LED ROADWAY LIGHTING LTD.

CATALOG NUMBER: NXT 24S 0 X 2ES 3 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, 27.8 WATTS, 0.237 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 350mA 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

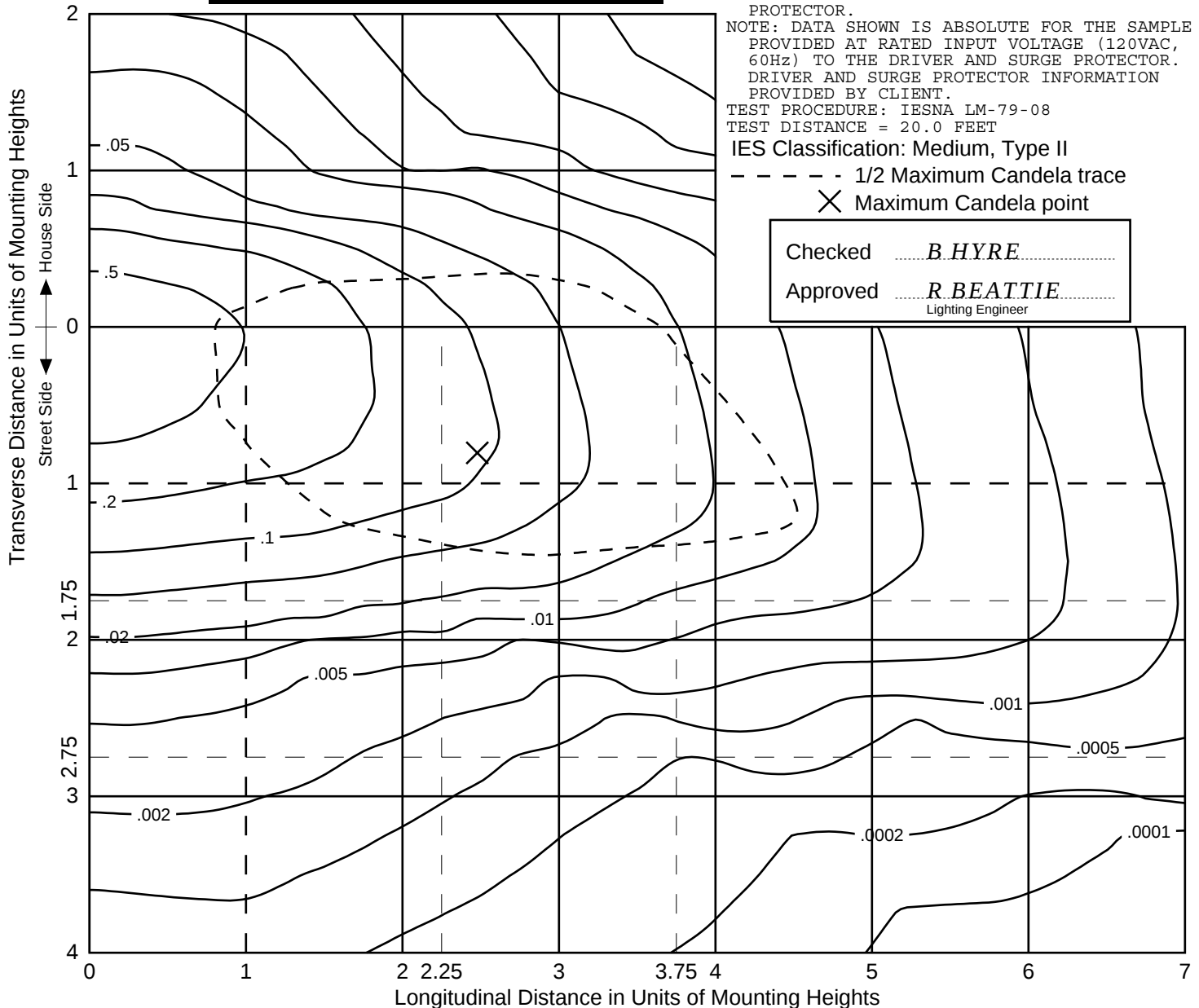
IES Classification: Medium, Type II

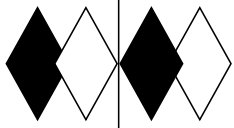
--- 1/2 Maximum Candela trace

X Maximum Candela point

Checked *B. HYRE*

Approved *R. BEATTIE*
Lighting Engineer





itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

NVLAP
NVLAP LAB CODE: 200925-0

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: ITL85752

ISSUE DATE: 10/05/15

PAGE: 3 OF 9

PREPARED FOR: LED ROADWAY LIGHTING LTD.

CATALOG NUMBER: NXT 24S 0 X 2ES 3 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, 27.8
WATTS, 0.237 AMPS

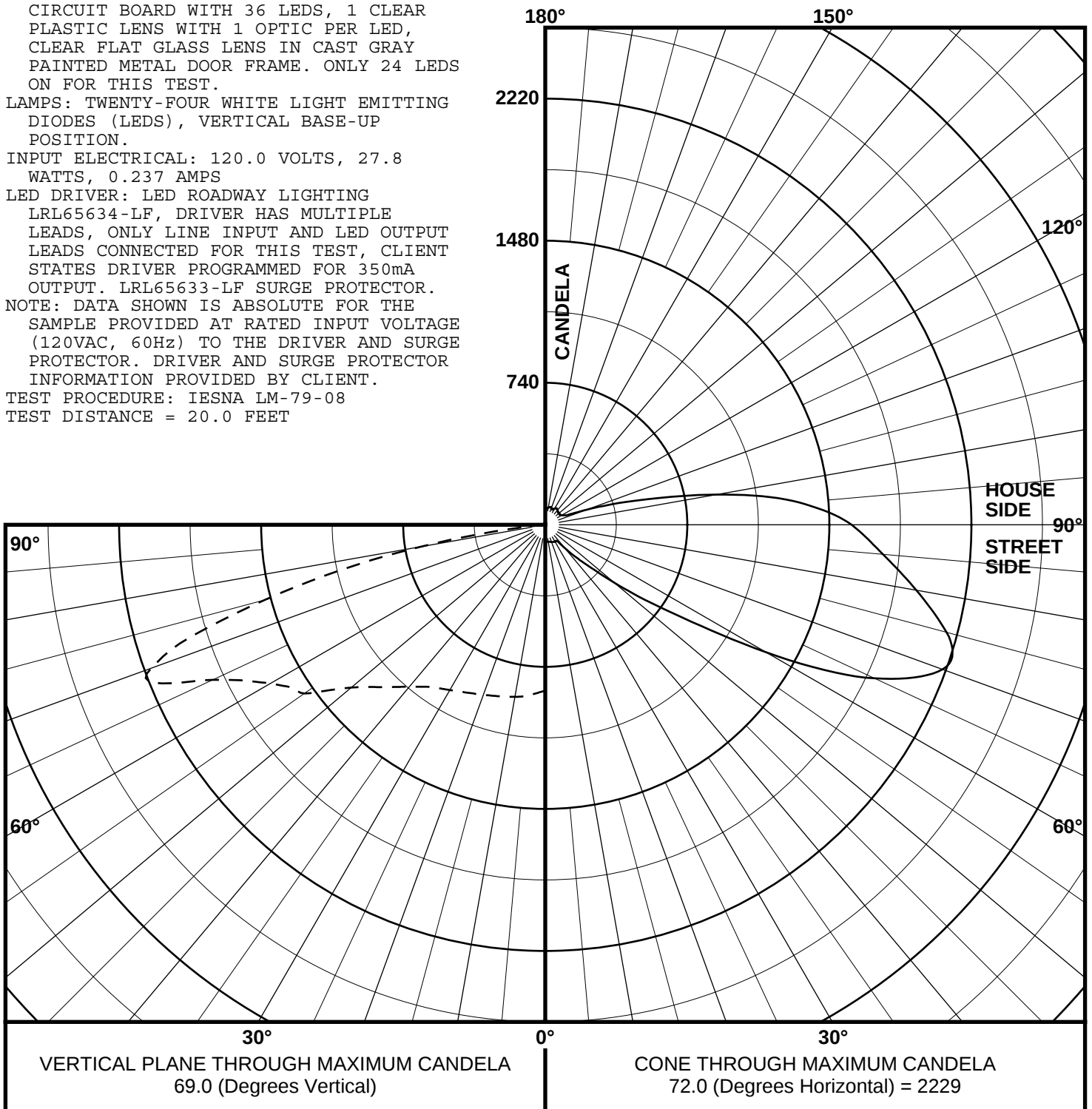
LED DRIVER: LED ROADWAY LIGHTING
LRL65634-LF, DRIVER HAS MULTIPLE
LEADS, ONLY LINE INPUT AND LED OUTPUT
LEADS CONNECTED FOR THIS TEST, CLIENT
STATES DRIVER PROGRAMMED FOR 350mA
OUTPUT. LRL65633-LF SURGE PROTECTOR.

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

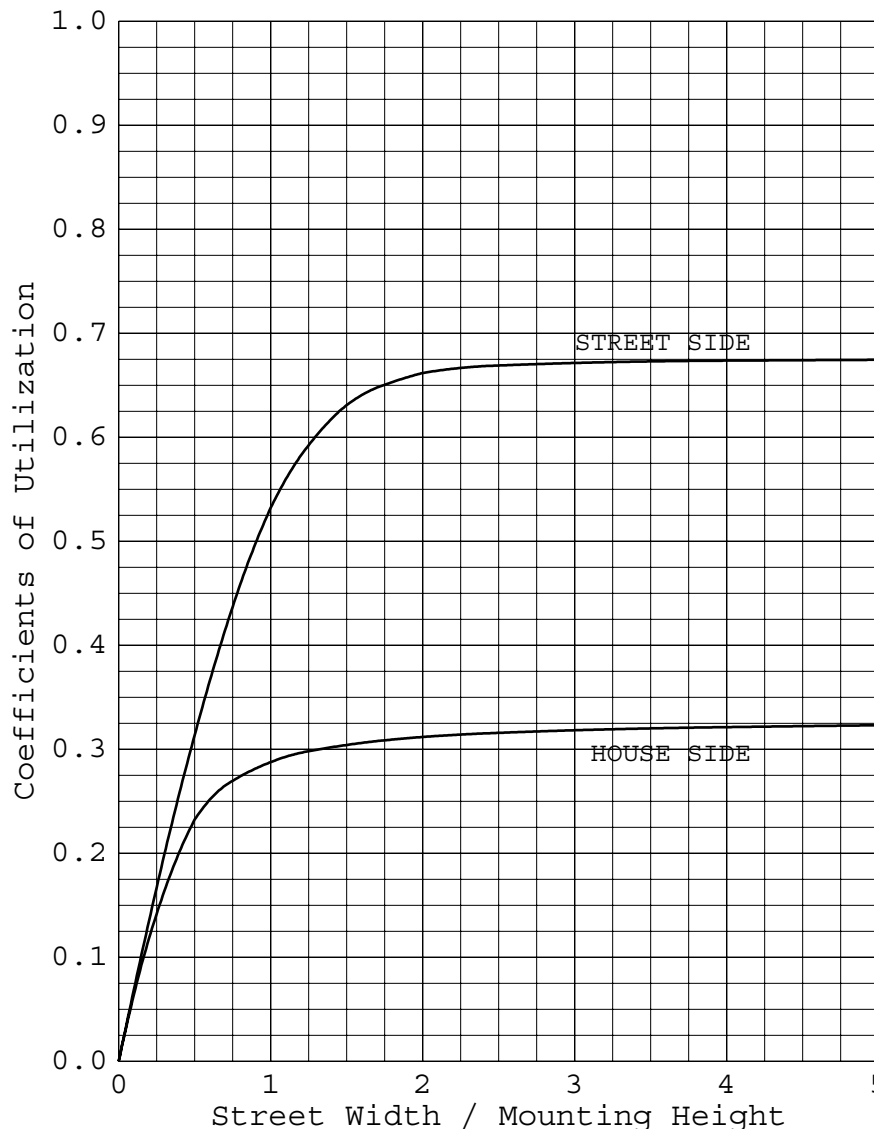




REPORT NUMBER: ITL85752
ISSUE DATE: 10/05/15
PREPARED FOR: LED ROADWAY LIGHTING LTD.

PAGE: 4 OF 9

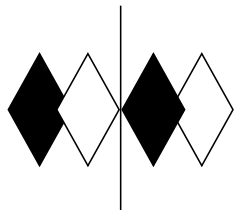
COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	2213	67.5
DOWNWARD HOUSE SIDE	1064	32.5
DOWNWARD TOTAL	3277	100.0
UPWARD STREET SIDE	0	0.0
UPWARD HOUSE SIDE	0	0.0
UPWARD TOTAL	0	0.0
TOTAL FLUX	3277	100.0

EFFICACY = 117.9 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.



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

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



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

REPORT NUMBER: ITL85752
ISSUE DATE: 10/05/15
PREPARED FOR: LED ROADWAY LIGHTING LTD.

PAGE: 5 OF 9

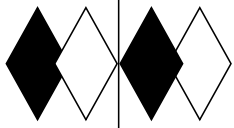
FLUX DISTRIBUTION BY SOLID ANGLE

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

	LUMENS	PERCENT OF FIXTURE	BUG ZONE RATINGS
FORWARD LIGHT	2213.	67.5	
FL (0- 30)	394.2	12.0	
FM (30- 60)	1113.7	34.0	
FH (60- 80)	682.8	20.8	G1
FVH(80- 90)	22.3	0.7	G1
BACK LIGHT	1064.	32.5	
BL (0- 30)	279.8	8.5	B1
BM (30- 60)	521.2	15.9	B1
BH (60- 80)	253.1	7.7	B1 G1
BVH(80- 90)	9.7	0.3	G0
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	3277.	100.0	

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

BUG RATING: B1 U0 G1



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

NVLAP
NVLAP LAB CODE: 200925-0

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: ITL85752
ISSUE DATE: 10/05/15
PREPARED FOR: LED ROADWAY LIGHTING LTD.

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	72.0	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	4.	4.	5.	5.	5.	6.	7.	9.	40.	31.	19.
V	82.5	12.	12.	16.	16.	13.	17.	16.	33.	263.	267.	167.
E	80.0	23.	25.	34.	26.	25.	30.	30.	104.	662.	744.	499.
R	77.5	36.	38.	48.	37.	40.	41.	54.	343.	1096.	1208.	906.
T	75.0	43.	45.	54.	53.	54.	61.	102.	851.	1513.	1599.	1212.
I	72.5	58.	60.	67.	71.	71.	98.	297.	1368.	1929.	1962.	1505.
C	70.0	78.	80.	85.	90.	90.	196.	648.	1780.	2183.	2133.	1716.
A	69.0<<	86.	88.	92.	99.	102.	271.	787.	1893.	2229.	2164.	1766.
L	67.5	98.	102.	105.	115.	147.	421.	984.	1934.	2160.	2112.	1790.
	65.0	128.	133.	142.	183.	318.	703.	1210.	1794.	1911.	1894.	1699.
A	62.5	214.	223.	249.	328.	508.	859.	1257.	1661.	1759.	1735.	1594.
N	60.0	335.	345.	372.	458.	604.	895.	1230.	1580.	1654.	1636.	1541.
G	57.5	425.	429.	451.	523.	650.	903.	1211.	1525.	1575.	1554.	1500.
L	55.0	479.	481.	502.	565.	691.	907.	1194.	1495.	1532.	1503.	1458.
E	52.5	525.	526.	543.	610.	734.	913.	1161.	1376.	1415.	1404.	1404.
	50.0	564.	566.	585.	652.	775.	932.	1139.	1289.	1319.	1321.	1347.
	47.5	601.	605.	627.	693.	816.	952.	1114.	1224.	1250.	1261.	1295.
	45.0	638.	643.	673.	739.	850.	968.	1081.	1161.	1196.	1211.	1245.
	42.5	683.	688.	725.	799.	889.	983.	1063.	1108.	1146.	1163.	1200.
	40.0	753.	759.	803.	864.	930.	997.	1037.	1063.	1100.	1121.	1150.
	37.5	850.	855.	884.	920.	964.	1002.	1007.	1029.	1064.	1083.	1105.
	35.0	921.	928.	945.	965.	989.	994.	973.	998.	1032.	1049.	1062.
	30.0	1005.	1006.	1007.	1001.	979.	936.	931.	965.	994.	1003.	995.
	25.0	995.	993.	977.	952.	914.	903.	920.	949.	965.	967.	943.
	20.0	917.	917.	909.	905.	905.	916.	930.	945.	943.	936.	905.
	15.0	925.	924.	922.	928.	931.	936.	943.	937.	925.	919.	885.
	10.0	950.	949.	945.	948.	949.	945.	937.	923.	910.	903.	875.
	5.0	942.	939.	933.	930.	926.	918.	911.	900.	890.	884.	868.
	0.0	864.	864.	864.	864.	864.	864.	864.	864.	864.	864.	864.
										PLANE OF MAXIMUM CANDELA		
										CONE OF MAXIMUM CANDELA		

PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

NVLAP
NVLAP LAB CODE: 200925-0

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: ITL85752
ISSUE DATE: 10/05/15
PREPARED FOR: LED ROADWAY LIGHTING LTD.

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.	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.	1.	1.	1.	0.	0.	0.	0.	0.	0.
	85.0	18.	16.	6.	6.	5.	5.	5.	3.	1.	0.	0.
V	82.5	169.	119.	15.	15.	13.	16.	20.	22.	24.	7.	2.
E	80.0	436.	318.	34.	27.	25.	32.	42.	45.	54.	56.	49.
R	77.5	785.	589.	77.	44.	41.	48.	62.	75.	96.	106.	102.
T	75.0	1076.	846.	153.	64.	59.	63.	75.	79.	116.	133.	128.
I	72.5	1364.	1120.	282.	86.	75.	76.	85.	78.	108.	117.	125.
C	70.0	1556.	1297.	434.	109.	88.	88.	99.	84.	96.	91.	93.
A	69.0<<	1596.	1329.	485.	117.	93.	94.	104.	89.	96.	86.	86.
L	67.5	1608.	1348.	563.	127.	102.	100.	111.	97.	99.	86.	84.
	65.0	1558.	1342.	678.	147.	115.	112.	121.	111.	106.	93.	91.
A	62.5	1512.	1344.	775.	175.	125.	124.	129.	128.	117.	104.	101.
N	60.0	1494.	1357.	864.	227.	136.	136.	131.	139.	132.	118.	114.
G	57.5	1479.	1376.	936.	306.	150.	147.	136.	144.	144.	131.	127.
L	55.0	1443.	1356.	996.	401.	167.	159.	145.	146.	152.	141.	136.
E	52.5	1390.	1306.	981.	494.	195.	169.	154.	154.	161.	149.	144.
	50.0	1339.	1267.	988.	578.	244.	180.	165.	164.	166.	157.	154.
	47.5	1288.	1232.	990.	638.	304.	193.	176.	173.	171.	164.	161.
	45.0	1236.	1195.	979.	677.	364.	219.	188.	182.	178.	173.	172.
	42.5	1187.	1148.	965.	702.	419.	259.	203.	191.	186.	182.	182.
	40.0	1138.	1101.	947.	718.	468.	303.	231.	203.	195.	191.	190.
	37.5	1091.	1056.	925.	728.	510.	345.	267.	230.	212.	203.	203.
	35.0	1044.	1013.	901.	733.	545.	386.	303.	261.	243.	231.	230.
	30.0	971.	941.	856.	738.	606.	483.	390.	336.	307.	294.	291.
	25.0	916.	889.	823.	747.	661.	574.	501.	441.	406.	384.	385.
	20.0	880.	859.	810.	761.	709.	655.	603.	560.	531.	517.	513.
	15.0	864.	848.	812.	778.	748.	716.	689.	663.	645.	635.	632.
	10.0	860.	847.	825.	802.	784.	766.	752.	740.	733.	728.	726.
	5.0	860.	855.	843.	832.	823.	812.	805.	799.	797.	794.	792.
	0.0	864.	864.	864.	864.	864.	864.	864.	864.	864.	864.	864.

CONE OF MAXIMUM CANDELA



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: ITL85752
ISSUE DATE: 10/05/15
PREPARED FOR: LED ROADWAY LIGHTING LTD.

PAGE: 8 OF 9

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	21
5- 10	61
10- 15	100
15- 20	133
20- 25	164
25- 30	195
30- 35	223
35- 40	247
40- 45	265
45- 50	284
50- 55	302
55- 60	314
60- 65	309
65- 70	289
70- 75	220
75- 80	117
80- 85	31
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	82
0- 20	315
0- 30	674
0- 40	1144
0- 50	1693
0- 60	2309
0- 70	2908
0- 80	3245
0- 90	3277
0-100	3277
0-110	3277
0-120	3277
0-130	3277
0-140	3277
0-150	3277
0-160	3277
0-170	3277
0-180	3277



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: ITL85752
ISSUE DATE: 10/05/15
PREPARED FOR: LED ROADWAY LIGHTING LTD.

PAGE: 9 OF 9

ADDRESS: 115 CHAIN LAKE DRIVE
SUITE 201
HALIFAX, NOVA SCOTIA, CANADA B3S 1B3

THIS ITL REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.