

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: ITL84885

PAGE: 1 OF 9

ISSUE DATE: 06/08/15

PREPARED FOR: LED ROADWAY LIGHTING LTD.

CATALOG NUMBER: NXT 12C 0 X 4AH 7 XX 3 XX XX X

LUMINAIRE: CAST METAL HOUSING WITH GRAY PAINTED INTERIOR FINISH, 1 WHITE CIRCUIT BOARD WITH 12 LEDS, 1 CLEAR PLASTIC LENS WITH 1 OPTIC PER LED, CLEAR FLAT GLASS LENS IN CAST GRAY PAINTED METAL DOOR FRAME.

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

INPUT ELECTRICAL: 230.0 VOLTS, 27.9 WATTS, 0.128 AMPS

LED DRIVER: LED ROADWAY LIGHTING LRL65642-LF, DRIVER HAS MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST, CLIENT STATES DRIVER PROGRAMMED FOR 700mA OUTPUT. LRLM-WH91/92-OU1 SURGE PROTECTOR.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (230VAC, 50Hz) TO THE DRIVER AND SURGE PROTECTOR. LED DRIVER AND SURGE

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

TOTAL LUMEN OUTPUT: 2714

COLOR TEMPERATURE AS MEASURED IN INTEGRATING SPHERE TEST # ITL84886: 4066K

COLOR RENDERING INDEX AS MEASURED IN INTEGRATING SPHERE TEST # ITL84886: 71

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

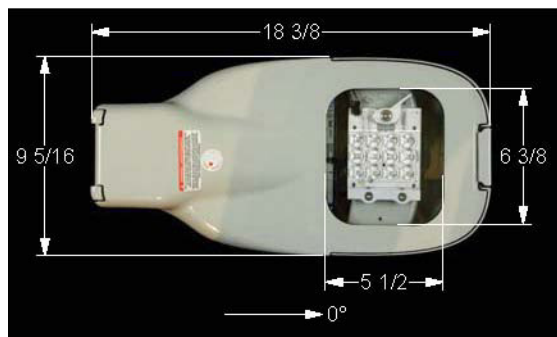
POWER FACTOR: 94.8

BUG RATING: B1 U0 G1

LUMINAIRE EFFICACY: 97.3

IES CLASSIFICATION: Medium, Type IV

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

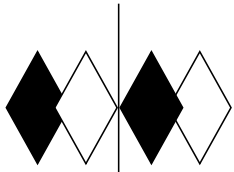


FLUX DISTRIBUTION

LUMENS	DOWNWARD	UPWARD	TOTALS
HOUSE SIDE	1141	0	1141
STREET SIDE	1573	0	1573
TOTALS	2714	0	2714

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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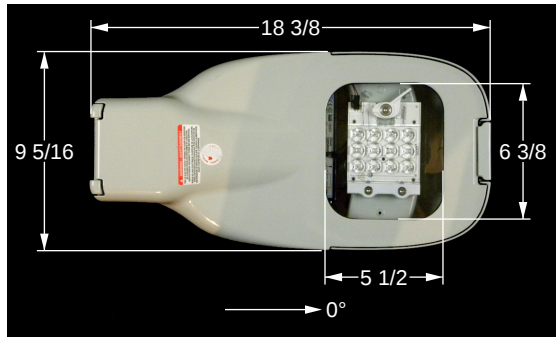
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ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 30 foot mounting height.



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PREPARED FOR: LED ROADWAY LIGHTING LTD.

CATALOG NUMBER: NXT 12C 0 X 4AH 7 XX 3
XX XX X

LUMINAIRE: CAST METAL HOUSING WITH GRAY
PAINTED INTERIOR FINISH, 1 WHITE
CIRCUIT BOARD WITH 12 LEDS, 1 CLEAR
PLASTIC LENS WITH 1 OPTIC PER LED,
CLEAR FLAT GLASS LENS IN CAST GRAY
PAINTED METAL DOOR FRAME.

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

INPUT ELECTRICAL: 230.0 VOLTS, 27.9
WATTS, 0.128 AMPS

LED DRIVER: LED ROADWAY LIGHTING

LRL65642-LF, DRIVER HAS MULTIPLE LEADS,
ONLY LINE INPUT AND LED OUTPUT LEADS
CONNECTED FOR THIS TEST, CLIENT STATES
DRIVER PROGRAMMED FOR 700mA OUTPUT.
LRLM-WH91/92-OUI SURGE PROTECTOR.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED AT RATED INPUT VOLTAGE
(230VAC, 50Hz) TO THE DRIVER AND SURGE
PROTECTOR. LED DRIVER AND SURGE
PROTECTOR INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

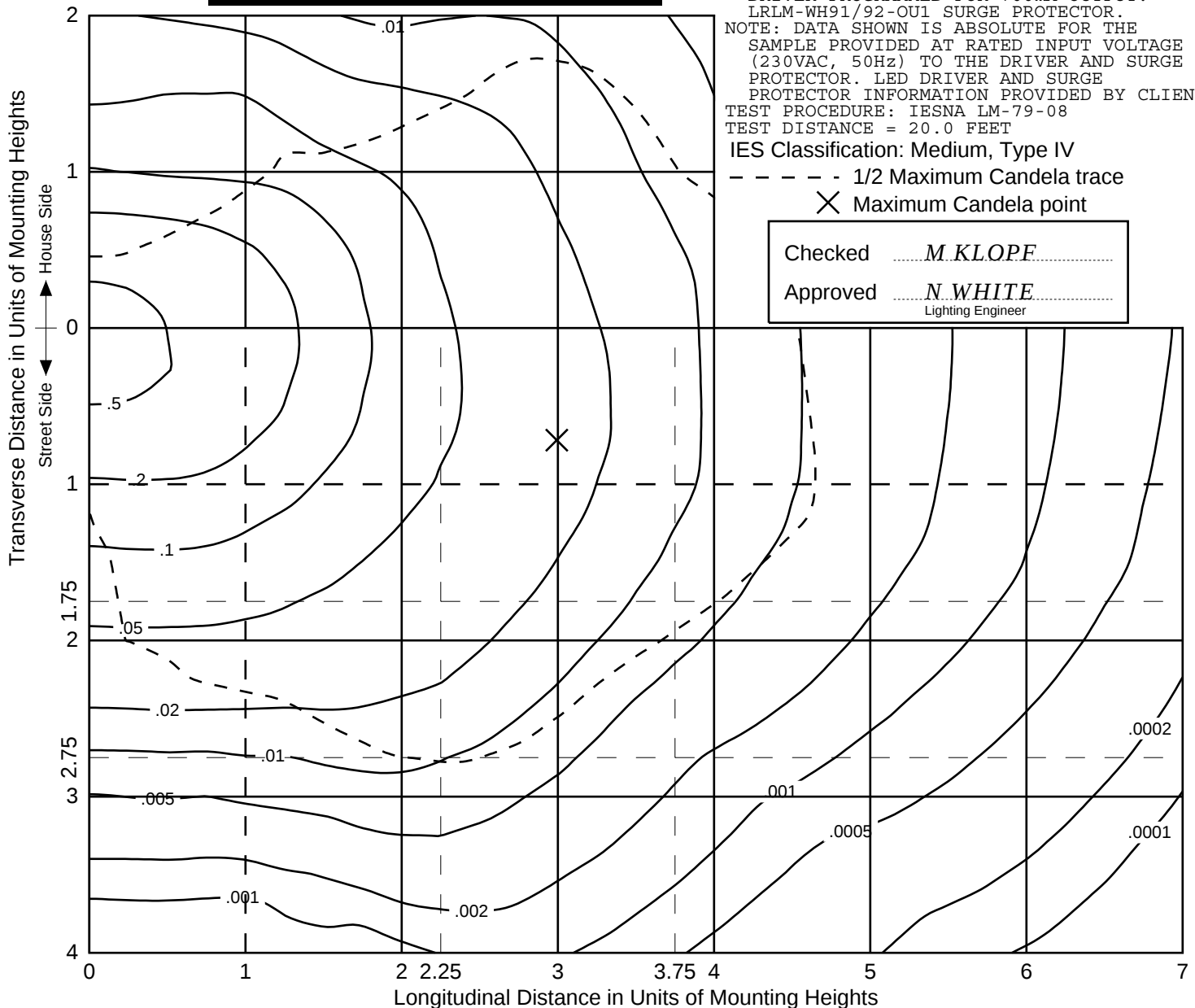
IES Classification: Medium, Type IV

--- 1/2 Maximum Candela trace

X Maximum Candela point

Checked *M. KLOPF*

Approved *N. WHITE*
Lighting Engineer



REPORT NUMBER: ITL84885
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PREPARED FOR: LED ROADWAY LIGHTING LTD.
CATALOG NUMBER: NXT 12C 0 X 4AH 7 XX 3
XX XX X

LUMINAIRE: CAST METAL HOUSING WITH GRAY
PAINTED INTERIOR FINISH, 1 WHITE
CIRCUIT BOARD WITH 12 LEDS, 1 CLEAR
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LAMPS: TWELVE WHITE LIGHT EMITTING
DIODES (LEDs), VERTICAL BASE-UP
POSITION.

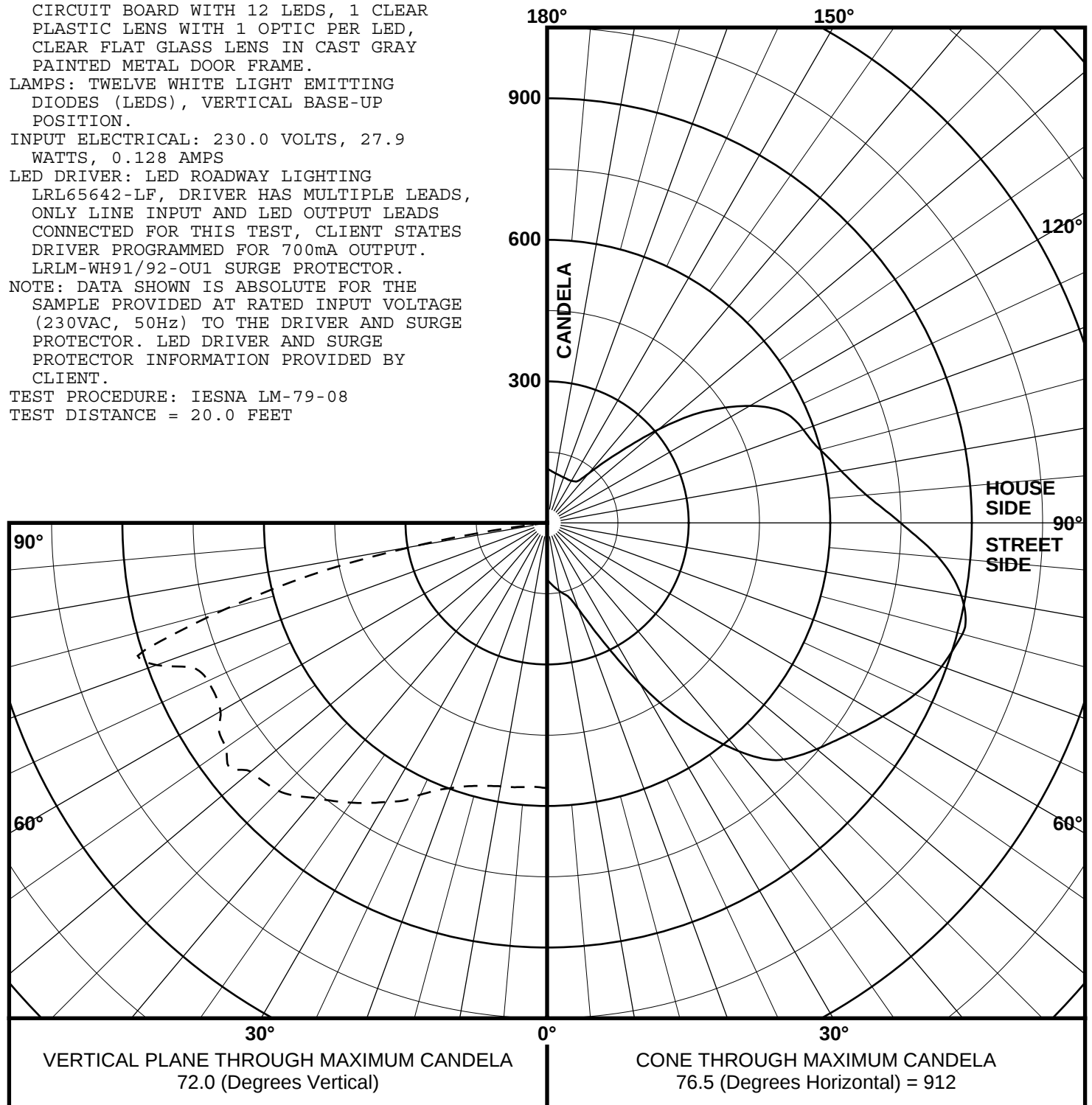
INPUT ELECTRICAL: 230.0 VOLTS, 27.9
WATTS, 0.128 AMPS

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CLIENT.

TEST PROCEDURE: IESNA LM-79-08
TEST DISTANCE = 20.0 FEET

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA





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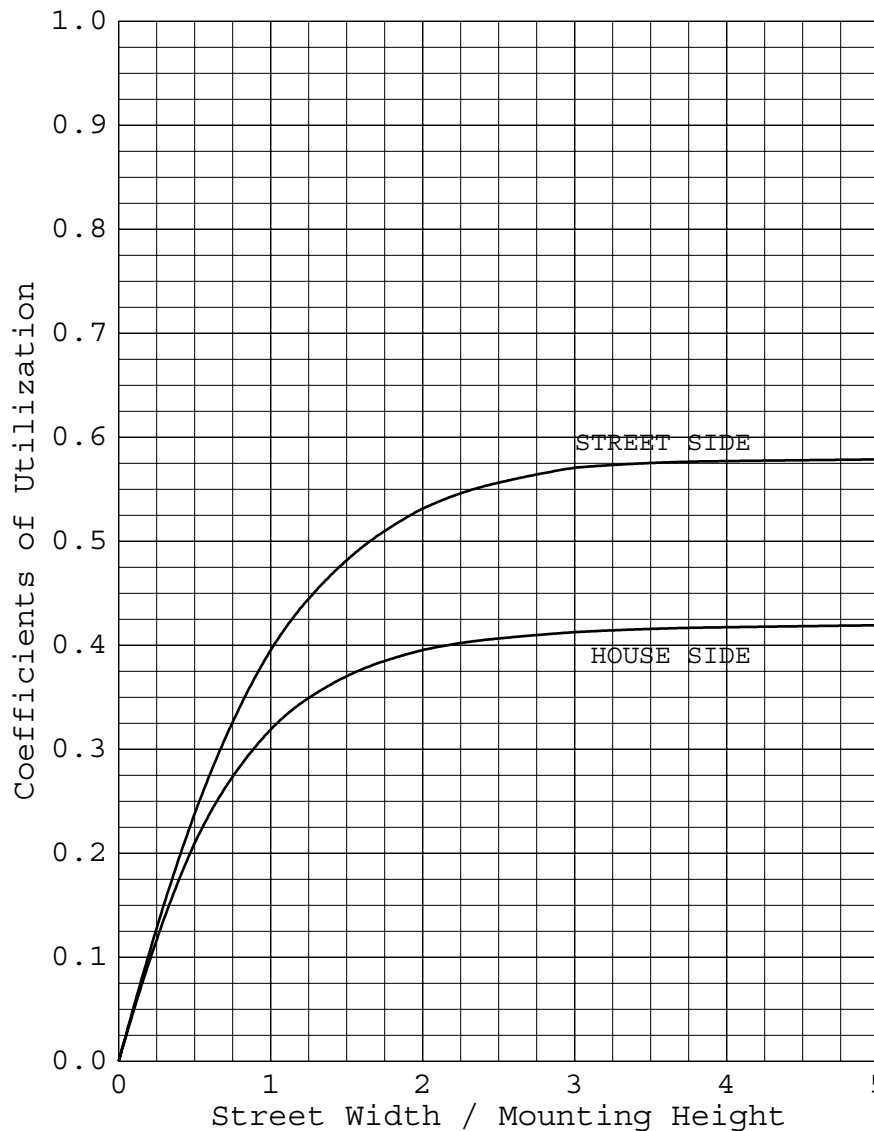
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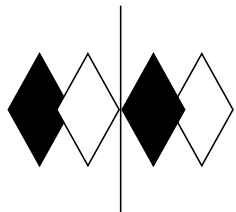
COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	1573	57.9
DOWNWARD HOUSE SIDE	1141	42.1
DOWNWARD TOTAL	2714	100.0
UPWARD STREET SIDE	0	0.0
UPWARD HOUSE SIDE	0	0.0
UPWARD TOTAL	0	0.0
TOTAL FLUX	2714	100.0

EFFICACY = 97.3 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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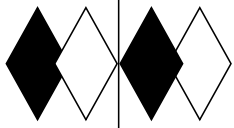
FLUX DISTRIBUTION BY SOLID ANGLE

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

	LUMENS	PERCENT OF FIXTURE	BUG ZONE RATINGS
FORWARD LIGHT	1573.	57.9	
FL (0- 30)	264.2	9.7	
FM (30- 60)	773.2	28.5	
FH (60- 80)	523.2	19.3	G0
FVH(80- 90)	12.1	0.4	G1
BACK LIGHT	1141.	42.1	
BL (0- 30)	225.2	8.3	B1
BM (30- 60)	567.3	20.9	B1
BH (60- 80)	334.8	12.3	B1 G1
BVH(80- 90)	14.2	0.5	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	2714.	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	75.0	76.5	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	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
	85.0	3.	3.	3.	3.	3.	4.	4.	5.	5.	5.
V	82.5	5.	5.	5.	6.	10.	16.	17.	35.	60.	73.
E	80.0	12.	13.	13.	15.	49.	66.	89.	181.	283.	290.
R	77.5	32.	32.	24.	36.	190.	232.	251.	410.	512.	516.
T	75.0	37.	40.	45.	141.	370.	483.	563.	644.	707.	706.
I	72.5	109.	111.	140.	247.	492.	690.	763.	836.	891.	892.
C	72.0<<	120.	133.	159.	272.	521.	709.	781.	860.	911.	912.
A	70.0	192.	197.	240.	380.	622.	711.	780.	848.	884.	881.
L	67.5	328.	339.	423.	538.	629.	689.	743.	796.	811.	807.
	65.0	435.	442.	484.	548.	621.	679.	726.	777.	795.	793.
A	62.5	449.	455.	487.	546.	618.	676.	723.	773.	793.	792.
N	60.0	443.	449.	481.	544.	618.	677.	731.	785.	799.	799.
G	57.5	438.	444.	484.	550.	623.	686.	752.	809.	827.	824.
L	55.0	448.	456.	499.	572.	651.	752.	808.	837.	833.	831.
E	52.5	454.	461.	504.	572.	644.	710.	774.	837.	852.	850.
	50.0	451.	457.	494.	554.	628.	693.	751.	803.	820.	820.
	47.5	457.	465.	502.	558.	628.	699.	754.	802.	813.	813.
	45.0	466.	472.	506.	561.	630.	703.	761.	804.	807.	804.
	42.5	475.	479.	513.	566.	635.	709.	766.	803.	789.	785.
	40.0	487.	491.	521.	575.	643.	717.	768.	796.	767.	762.
	37.5	499.	504.	535.	587.	656.	721.	763.	782.	746.	743.
	35.0	523.	527.	553.	608.	668.	722.	755.	757.	727.	724.
	30.0	583.	585.	606.	643.	689.	713.	710.	698.	684.	683.
	25.0	637.	640.	649.	665.	681.	674.	660.	652.	642.	636.
	20.0	641.	640.	641.	639.	639.	634.	628.	624.	601.	598.
	15.0	619.	619.	618.	617.	617.	619.	608.	593.	578.	577.
	10.0	609.	608.	608.	602.	598.	588.	579.	573.	568.	567.
	5.0	572.	571.	571.	569.	569.	567.	565.	564.	562.	562.
	0.0	562.	562.	562.	562.	562.	562.	562.	562.	562.	562.
										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.	
	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	2.	2.	2.	2.	3.	3.	3.	2.	1.	0.	0.
	85.0	5.	5.	5.	6.	6.	6.	5.	5.	4.	1.	0.
V	82.5	95.	94.	58.	52.	68.	24.	17.	16.	13.	4.	4.
E	80.0	302.	294.	214.	197.	188.	71.	34.	33.	32.	12.	8.
R	77.5	460.	458.	349.	343.	296.	129.	58.	58.	62.	63.	66.
T	75.0	622.	610.	491.	450.	400.	192.	78.	75.	82.	84.	84.
I	72.5	743.	674.	585.	547.	422.	205.	99.	97.	99.	109.	115.
C	72.0<<	749.	679.	599.	554.	414.	204.	107.	102.	104.	110.	115.
A	70.0	748.	692.	630.	573.	397.	209.	139.	120.	126.	127.	129.
L	67.5	732.	697.	650.	605.	407.	239.	189.	152.	155.	152.	152.
	65.0	745.	715.	679.	638.	432.	308.	267.	208.	186.	185.	187.
A	62.5	765.	742.	700.	649.	456.	381.	355.	263.	234.	228.	232.
N	60.0	786.	769.	722.	654.	486.	426.	423.	309.	258.	242.	241.
G	57.5	818.	800.	749.	667.	519.	444.	427.	338.	272.	240.	237.
L	55.0	827.	812.	767.	692.	542.	405.	375.	320.	266.	229.	226.
E	52.5	839.	822.	774.	680.	536.	384.	322.	289.	255.	238.	238.
	50.0	815.	801.	751.	671.	550.	399.	297.	266.	250.	249.	249.
	47.5	807.	792.	745.	668.	564.	429.	316.	269.	256.	256.	256.
	45.0	795.	779.	738.	663.	572.	459.	350.	290.	269.	265.	264.
	42.5	776.	758.	724.	655.	575.	478.	386.	321.	290.	281.	280.
	40.0	755.	738.	708.	649.	575.	489.	410.	351.	319.	306.	305.
	37.5	729.	716.	687.	636.	571.	496.	429.	380.	346.	336.	332.
	35.0	704.	692.	666.	622.	565.	500.	444.	402.	375.	362.	362.
	30.0	653.	645.	622.	593.	554.	512.	471.	439.	419.	411.	409.
	25.0	614.	608.	589.	571.	551.	526.	499.	476.	462.	456.	455.
	20.0	588.	584.	571.	560.	551.	538.	522.	508.	499.	494.	495.
	15.0	574.	572.	563.	556.	550.	544.	538.	530.	524.	524.	523.
	10.0	566.	564.	559.	555.	551.	547.	544.	540.	539.	540.	540.
	5.0	563.	561.	559.	558.	555.	552.	551.	549.	549.	551.	552.
	0.0	562.	562.	562.	562.	562.	562.	562.	562.	562.	562.	562.

CONE OF MAXIMUM CANDELA



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	13
5- 10	40
10- 15	68
15- 20	95
20- 25	123
25- 30	150
30- 35	174
35- 40	197
40- 45	216
45- 50	232
50- 55	253
55- 60	268
60- 65	266
65- 70	252
70- 75	220
75- 80	120
80- 85	25
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	54
0- 20	217
0- 30	489
0- 40	861
0- 50	1309
0- 60	1830
0- 70	2348
0- 80	2688
0- 90	2714
0-100	2714
0-110	2714
0-120	2714
0-130	2714
0-140	2714
0-150	2714
0-160	2714
0-170	2714
0-180	2714



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