

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P226634

Luminaire Tested: **ISW-AF-450-LED-E1-T4W-7030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P226634
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35944)-DOWNLIGHT AND
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISW-AF-450-LED-E1-T4W-7030-ULG
Description: IMPACT ELITE LED WEDGE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV WIDE, WITH UPLIGHT GLOW
Light Source: (16) 3000K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4516.5 lumens
Efficiency: N/A
Efficacy: 107.5 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type IV - Medium - Non-Cutoff
BUG Rating: B1 - U5 - G1

Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

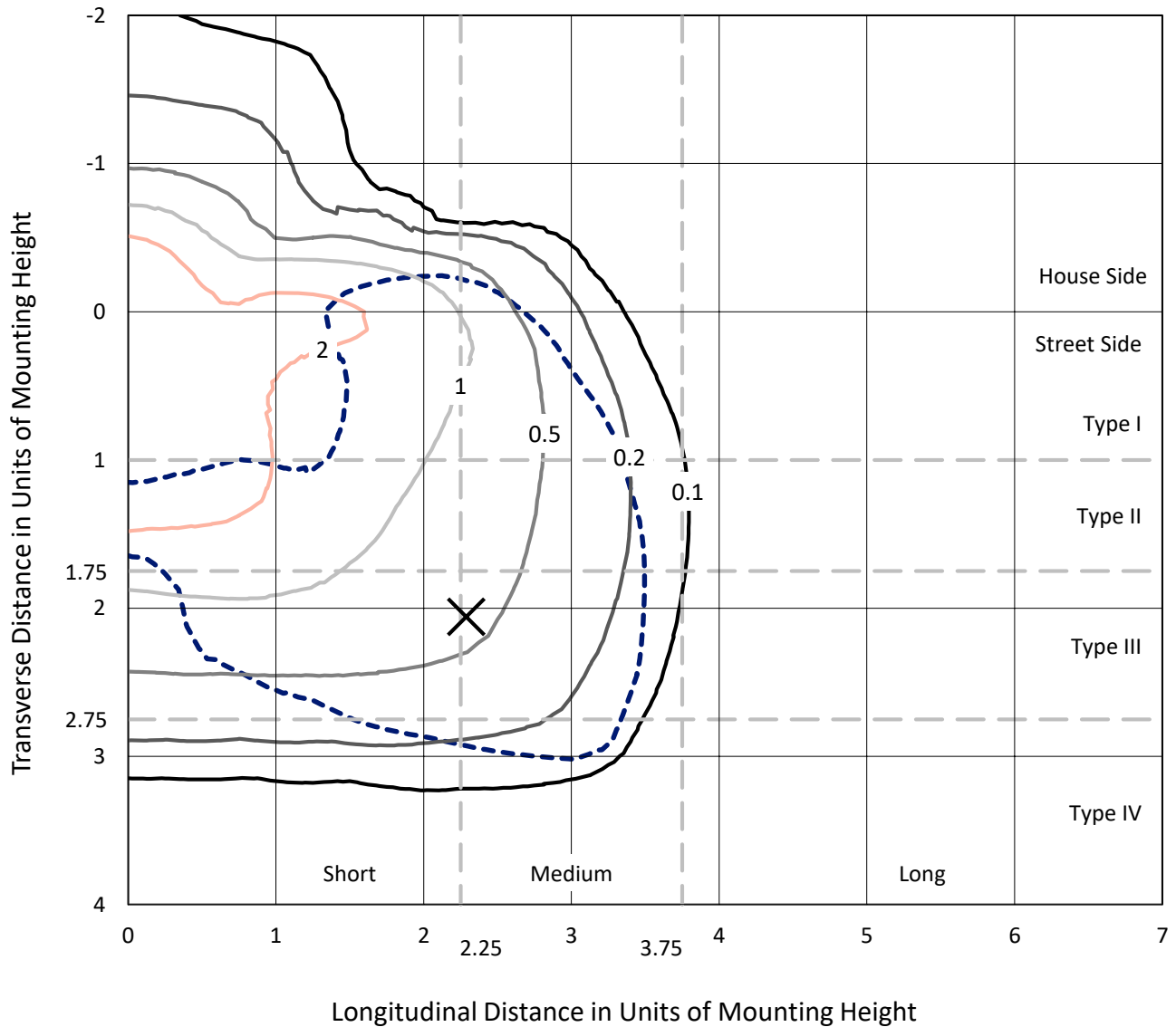


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Iso-Footcandle Lines of Horizontal Illumination

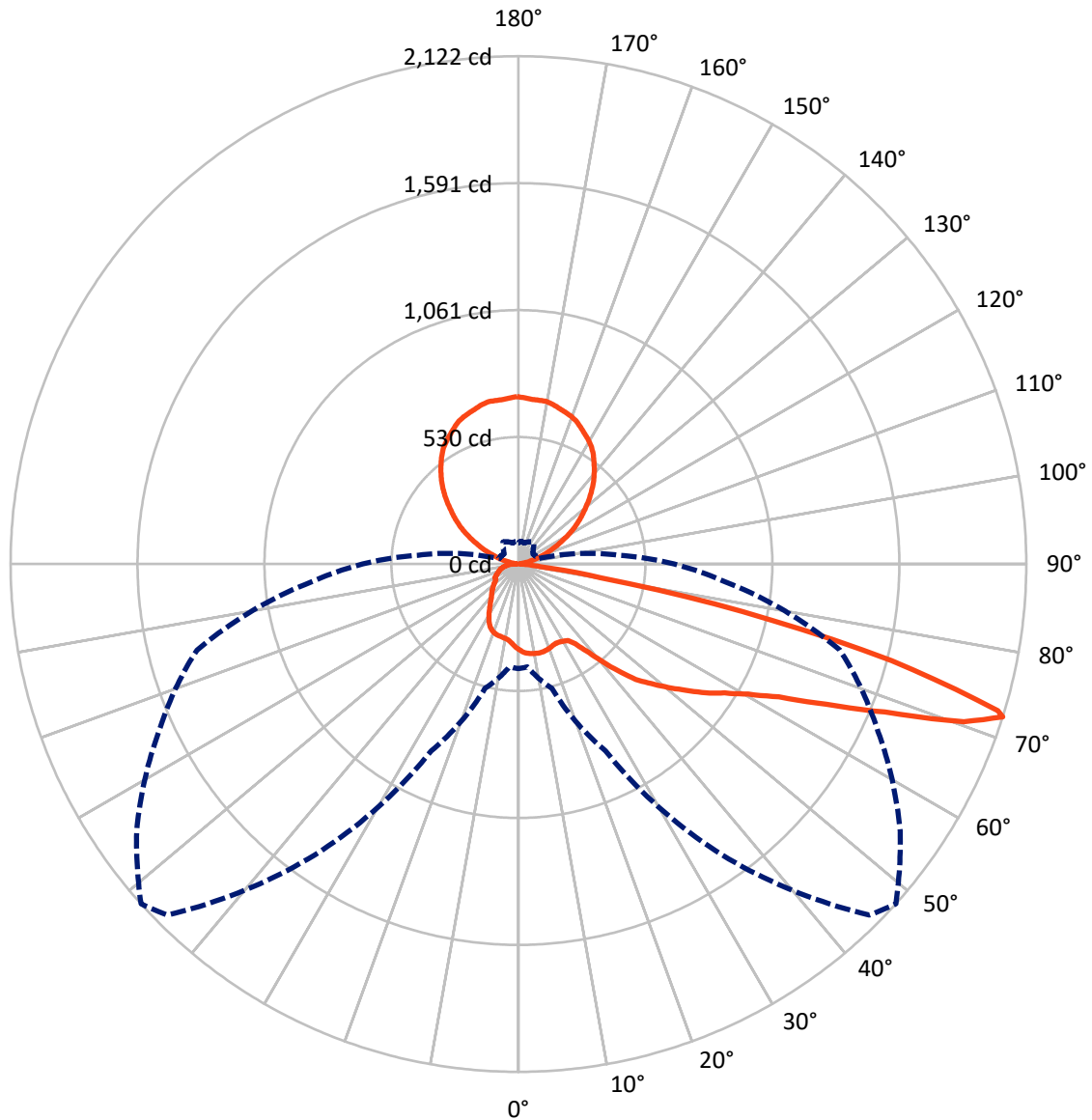
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4 fc
 Type IV - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 48-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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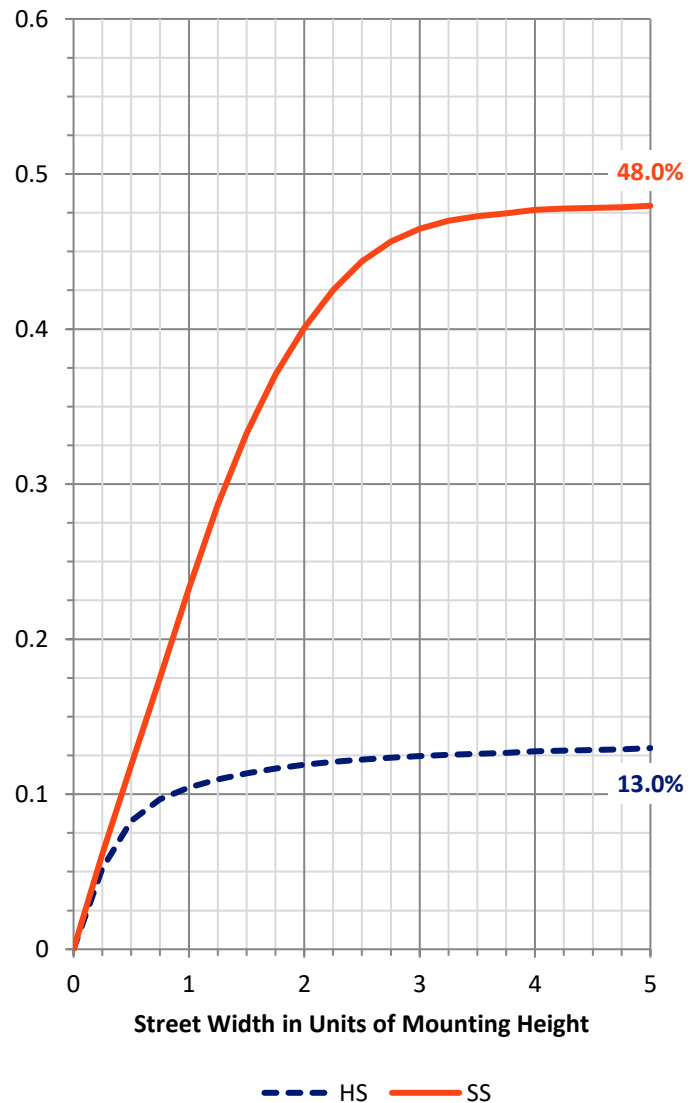
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	604.4	868.8	1473.2
	% Fixture	13.4	19.2	32.6
Street Side	Lumens	2175.3	868.0	3043.3
	% Fixture	48.2	19.2	67.4
Total	Lumens	2779.7	1736.8	4516.5
	% Fixture	61.5	38.5	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.8	0.7
10°-20°	98.8	2.2
20°-30°	152.3	3.4
30°-40°	228.3	5.1
40°-50°	380.2	8.4
50°-60°	594.2	13.2
60°-70°	784.9	17.4
70°-80°	454.0	10.1
80°-90°	53.1	1.2
90°-100°	11.0	0.2
100°-110°	57.4	1.3
110°-120°	166.1	3.7
120°-130°	273.2	6.0
130°-140°	336.8	7.5
140°-150°	344.6	7.6
150°-160°	290.3	6.4
160°-170°	191.2	4.2
170°-180°	66.3	1.5
0°-90°	2779.7	61.5
0°-180°	4516.5	100.0

Coefficient of Utilization



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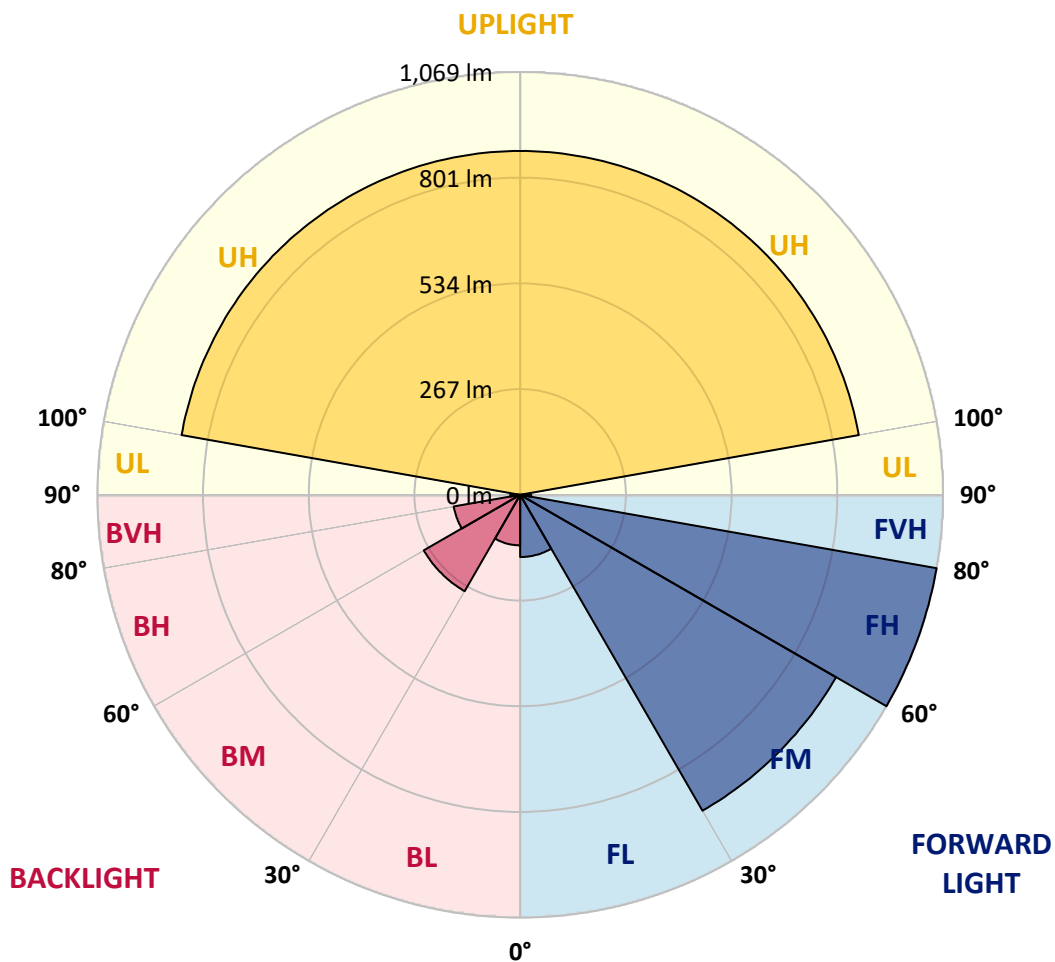
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	157.2	3.5			
FM	(30°-60°)	921.8	20.4			
FH	(60°-80°)	1068.5	23.7			G1/1800
FVH	(80°-90°)	27.8	0.6			G1/100
BL	(0°-30°)	127.7	2.8	B1/500		
BM	(30°-60°)	281.0	6.2	B1/1000		
BH	(60°-80°)	170.4	3.8	B1/500		G1/500
BVH	(80°-90°)	25.2	0.6			G1/100
UL	(90°-100°)	11.0	0.2		U2/50	
UH	(100°-180°)	868.8	19.2		U4/1000	

BUG Rating: B1-U5-G1

Type IV Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	48°	55°	65°	75°	85°
0°	357.7	357.7	357.7	357.7	357.7	357.7	357.7	357.7	357.7	357.7	357.7
2.5°	376.6	376.2	376.2	373.0	371.8	369.8	368.2	365.7	363.3	360.5	356.9
5°	394.8	396.0	394.4	389.5	383.5	377.0	374.6	369.0	361.3	354.5	348.0
7.5°	412.1	412.5	408.1	400.0	390.7	380.7	377.4	369.8	361.3	352.0	342.8
10°	424.6	425.0	418.6	407.3	394.8	383.5	379.9	372.2	361.7	351.6	339.9
12.5°	431.9	432.3	422.6	410.9	396.0	384.7	381.5	373.4	362.5	349.6	336.7
15°	430.7	431.9	423.8	410.9	395.2	385.1	381.1	374.2	360.5	347.6	333.9
17.5°	422.6	424.2	417.8	403.6	391.1	383.1	378.6	371.8	358.5	344.8	329.9
20°	406.9	408.9	406.1	392.4	383.9	377.4	374.6	368.2	355.7	341.5	326.2
22.5°	389.1	391.1	390.3	379.0	375.0	371.8	369.0	364.1	353.2	339.1	324.6
25°	376.2	377.8	376.6	367.0	368.2	368.2	366.5	362.9	352.8	339.9	324.6
27.5°	397.6	397.6	387.1	367.4	365.3	369.0	368.2	366.1	358.1	344.0	327.8
30°	475.8	469.8	450.8	401.2	375.8	374.2	373.8	372.6	365.3	352.8	337.9
32.5°	563.3	557.3	534.7	472.6	419.8	385.1	381.5	381.9	379.9	368.2	353.2
35°	641.2	640.4	622.6	555.3	487.9	423.4	408.9	399.2	398.4	393.6	381.9
37.5°	704.1	704.1	705.7	629.1	561.7	484.3	459.7	429.1	429.1	426.2	419.0
40°	775.8	779.1	782.7	696.0	640.8	556.9	529.1	482.7	468.6	473.0	474.6
42.5°	870.2	874.2	871.8	778.7	712.9	643.6	609.3	553.3	518.6	525.8	542.8
45°	933.9	935.5	952.9	865.0	803.7	717.0	687.9	610.9	576.6	591.6	621.4
47.5°	1006.1	1010.1	1012.9	962.9	910.1	800.0	746.8	667.0	644.8	667.4	714.5
50°	1076.7	1071.4	1079.1	1077.1	1010.9	873.8	810.5	719.4	721.0	751.6	829.1
52.5°	1138.0	1120.2	1138.0	1160.1	1140.8	949.6	875.8	781.1	804.5	842.0	964.2
55°	1185.1	1142.4	1172.2	1235.1	1230.7	1016.6	950.4	863.3	902.5	953.7	1128.3
57.5°	1088.8	1094.0	1176.3	1285.5	1283.5	1084.3	1015.8	966.2	1014.2	1071.4	1322.6
60°	998.8	1022.2	1149.2	1293.6	1320.2	1158.1	1103.7	1083.1	1127.5	1197.2	1508.9
62.5°	951.3	973.4	1105.3	1278.7	1378.7	1267.4	1221.8	1206.1	1266.6	1344.8	1675.1
65°	966.2	979.9	1102.5	1301.3	1446.0	1432.7	1413.0	1386.8	1417.0	1490.4	1750.1
67.5°	924.2	946.8	1079.1	1341.2	1569.0	1634.3	1650.9	1622.7	1597.2	1587.2	1640.8
70°	687.9	709.7	848.4	1176.3	1669.8	1984.4	1974.3	1879.9	1708.9	1566.2	1281.9
72°	437.1	431.1	537.1	861.7	1484.3	2074.3	2121.9	1947.3	1658.1	1390.8	870.6
72.5°	317.8	346.4	445.6	766.2	1410.1	2025.1	2094.4	1925.5	1591.6	1313.8	765.8
75°	77.4	81.9	106.9	274.6	825.8	1523.9	1611.0	1487.6	1161.7	779.9	339.5
77.5°	52.4	54.4	70.6	96.8	242.8	869.0	956.1	821.4	519.8	265.3	151.2
80°	39.1	40.3	51.2	68.6	100.8	296.4	349.6	277.8	129.4	147.2	107.7
82.5°	27.4	28.2	38.7	50.4	66.9	69.4	92.3	102.0	83.9	96.4	62.9
85°	19.0	19.0	28.2	34.7	42.3	34.3	36.7	51.2	56.9	57.3	38.3
87.5°	10.1	11.3	16.5	22.2	22.2	15.7	17.3	26.2	31.9	34.3	23.0
90°	8.6	8.6	13.9	16.5	13.2	11.0	10.6	12.2	16.7	19.9	14.3
92.5°	4.0	4.0	5.0	6.0	6.0	6.0	6.3	7.0	7.0	6.0	6.0
95°	5.0	5.0	6.0	7.0	7.0	7.0	7.0	7.0	8.0	7.0	7.0
97.5°	7.0	7.0	8.0	8.0	9.0	9.0	9.9	12.0	10.0	9.0	8.0
100°	8.0	8.0	9.0	10.0	12.0	21.0	23.4	29.0	26.0	23.0	19.0
102.5°	11.0	11.0	13.0	18.0	27.0	40.0	43.0	50.0	47.0	42.0	39.0
105°	21.0	22.0	27.0	36.0	48.0	63.0	65.7	72.0	70.0	65.0	61.0
107.5°	41.0	42.0	49.0	58.0	73.0	88.0	90.1	95.0	94.0	90.0	87.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	48°	55°	65°	75°	85°
110°	66.0	68.0	74.0	87.0	102.0	114.0	115.8	120.0	121.0	119.0	116.0
112.5°	99.0	99.0	106.0	121.0	134.0	143.0	144.5	148.0	150.0	149.0	147.0
115°	140.0	139.0	147.0	159.0	168.0	174.0	175.5	179.0	182.0	179.0	177.0
117.5°	184.0	184.0	189.0	197.0	202.0	205.0	206.8	211.0	215.0	210.0	208.0
120°	225.0	223.0	226.0	233.0	237.0	243.0	243.9	246.0	250.0	245.0	243.0
122.5°	263.0	260.0	261.0	267.0	271.0	277.0	277.6	279.0	283.0	278.0	276.0
125°	298.0	294.0	296.0	299.0	305.0	310.0	310.9	313.0	315.0	310.0	310.0
127.5°	330.0	329.0	329.0	333.0	339.0	340.0	341.5	345.0	346.0	346.0	345.0
130°	363.0	361.0	362.0	366.0	370.0	372.0	373.5	377.0	381.0	381.0	379.0
132.5°	396.0	394.0	393.0	401.0	404.0	405.0	406.8	411.0	416.0	414.0	414.0
135°	429.0	426.0	426.0	432.0	435.0	437.0	438.8	443.0	448.0	447.0	450.0
137.5°	460.0	457.0	459.0	460.0	464.0	468.0	469.5	473.0	475.0	476.0	481.0
140°	488.0	485.0	487.0	489.0	491.0	497.0	497.9	500.0	502.0	504.0	509.0
142.5°	518.0	515.0	517.0	518.0	521.0	525.0	525.6	527.0	533.0	533.0	534.0
145°	550.0	546.0	544.0	547.0	550.0	551.0	552.5	556.0	562.0	561.0	558.0
147.5°	575.0	572.0	571.0	574.0	574.0	575.0	576.5	580.0	585.0	586.0	583.0
150°	595.0	592.0	593.0	593.0	593.0	593.0	594.2	597.0	600.0	603.0	606.0
152.5°	611.0	608.0	608.0	609.0	610.0	610.0	610.3	611.0	614.0	618.0	623.0
155°	629.0	625.0	625.0	627.0	630.0	628.0	627.4	626.0	631.0	636.0	638.0
157.5°	646.0	643.0	643.0	644.0	646.0	645.0	644.7	644.0	648.0	650.0	650.0
160°	663.0	660.0	659.0	656.0	655.0	655.0	655.9	658.0	664.0	661.0	660.0
162.5°	673.0	669.0	669.0	665.0	661.0	663.0	664.2	667.0	671.0	670.0	668.0
165°	681.0	678.0	676.0	676.0	673.0	673.0	672.7	672.0	677.0	680.0	678.0
167.5°	690.0	687.0	684.0	686.0	688.0	685.0	682.9	678.0	684.0	688.0	688.0
170°	698.0	695.0	692.0	692.0	693.0	691.0	689.5	686.0	689.0	694.0	696.0
172.5°	699.0	697.0	695.0	693.0	690.0	690.0	689.7	689.0	692.0	694.0	696.0
175°	700.0	698.0	697.0	695.0	691.0	690.0	690.0	690.0	695.0	696.0	694.0
177.5°	707.0	705.0	700.0	699.0	697.0	695.0	694.7	694.0	699.0	701.0	698.0
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	357.7	357.7	357.7	357.7	357.7	357.7	357.7	357.7	357.7	357.7	357.7
2.5°	356.1	353.6	350.4	348.8	348.0	346.4	344.8	344.0	344.0	342.4	342.8
5°	344.8	341.1	336.7	333.5	333.1	333.1	333.9	333.9	334.3	333.1	334.7
7.5°	339.1	335.1	328.6	325.0	322.2	321.8	323.4	326.6	328.2	327.0	328.6
10°	335.1	330.7	323.4	319.0	316.9	316.1	317.4	320.6	325.8	325.8	327.4
12.5°	331.1	325.4	318.2	314.9	313.3	313.7	315.3	317.8	323.4	325.4	326.2
15°	327.0	320.6	314.5	310.1	310.1	311.3	313.3	316.1	321.4	325.0	325.8
17.5°	323.0	316.5	311.3	307.7	307.7	309.3	311.3	314.9	318.6	323.8	323.8
20°	319.4	314.1	307.3	304.0	303.6	304.9	307.3	310.9	313.7	319.0	319.4
22.5°	317.4	310.9	304.4	299.6	297.6	296.8	299.2	302.8	305.7	310.9	311.7
25°	316.5	309.3	301.2	292.4	287.1	285.5	286.7	291.1	293.6	297.6	298.8
27.5°	319.4	312.5	300.0	283.9	273.0	268.6	269.8	272.6	273.4	277.8	279.9
30°	329.0	321.0	302.4	275.0	255.3	247.2	247.2	247.6	248.8	252.4	252.8
32.5°	344.8	337.1	309.7	265.7	237.1	225.8	223.0	221.0	221.0	220.6	221.0
35°	373.8	367.4	322.2	255.3	217.3	204.8	198.0	194.4	190.7	189.1	188.7
37.5°	415.7	410.1	339.9	243.2	200.0	187.5	179.0	171.8	167.7	167.3	169.4
40°	478.2	472.6	359.7	229.4	183.5	174.2	165.3	157.7	153.2	153.6	155.7
42.5°	555.3	537.9	381.1	210.9	170.2	165.3	155.7	149.2	144.8	142.3	141.9
45°	645.2	616.2	401.2	193.6	155.7	157.7	148.4	141.1	135.5	129.0	128.2
47.5°	757.3	694.4	419.0	176.2	139.9	149.6	140.7	133.9	125.4	117.7	116.5
50°	874.2	784.3	434.3	157.7	125.8	140.7	133.1	123.8	112.1	105.2	105.2
52.5°	1009.3	892.4	454.1	137.1	114.9	131.1	123.4	111.3	101.6	100.8	100.8
55°	1159.7	1005.7	467.8	121.0	106.5	120.6	116.9	113.3	110.1	110.9	111.3
57.5°	1317.0	1123.8	455.7	109.7	99.6	118.2	128.6	123.8	113.7	113.3	112.9
60°	1452.5	1215.8	388.7	102.4	94.4	122.2	137.9	123.8	113.7	119.0	119.4
62.5°	1541.2	1259.3	258.9	93.1	86.7	115.3	134.7	120.2	114.1	129.0	130.2
65°	1529.1	1210.5	148.8	86.7	81.9	106.1	130.2	115.7	106.5	114.9	112.5
67.5°	1348.9	1014.6	107.7	83.9	78.2	99.6	122.2	109.3	99.2	109.7	105.2
70°	969.4	690.8	92.7	81.5	75.8	91.9	116.5	105.2	95.2	102.4	95.6
72°	650.4	420.2	85.1	79.4	73.4	87.1	112.5	102.0	91.5	95.6	87.9
72.5°	553.7	331.5	83.1	78.6	72.6	85.9	111.3	101.2	90.7	94.8	87.5
75°	206.9	129.8	73.8	72.6	66.9	79.8	106.5	97.6	86.7	85.5	82.3
77.5°	106.5	82.3	62.9	64.1	60.1	73.0	101.2	91.9	79.8	75.4	73.8
80°	77.4	59.7	50.8	54.4	51.2	65.7	94.0	83.5	72.6	67.7	65.7
82.5°	48.8	37.1	38.7	43.1	43.6	58.1	85.5	75.0	64.5	60.5	57.3
85°	23.4	22.2	27.4	31.9	35.1	49.2	78.2	66.5	56.5	48.4	48.8
87.5°	12.5	16.9	16.5	21.4	27.0	40.3	69.4	54.4	45.2	36.3	36.7
90°	9.8	11.4	13.8	17.5	17.9	24.3	52.8	39.0	37.2	17.9	16.3
92.5°	6.0	6.0	6.0	7.0	7.0	6.0	6.0	6.0	5.0	4.0	4.0
95°	7.0	7.0	7.0	8.0	7.0	7.0	7.0	7.0	6.0	5.0	5.0
97.5°	8.0	8.0	9.0	10.0	12.0	9.0	9.0	8.0	8.0	7.0	7.0
100°	19.0	19.0	23.0	26.0	29.0	21.0	12.0	10.0	9.0	8.0	8.0
102.5°	38.0	39.0	42.0	47.0	50.0	40.0	27.0	18.0	13.0	11.0	11.0
105°	61.0	61.0	65.0	70.0	72.0	63.0	48.0	36.0	27.0	22.0	21.0
107.5°	86.0	87.0	90.0	94.0	95.0	88.0	73.0	58.0	49.0	42.0	41.0



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CATALOG NUMBER: ISW-AF-450-LED-E1-T4W-7030-ULG

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	117.0	116.0	119.0	121.0	120.0	114.0	102.0	87.0	74.0	68.0	66.0
112.5°	147.0	147.0	149.0	150.0	148.0	143.0	134.0	121.0	106.0	99.0	99.0
115°	178.0	177.0	179.0	182.0	179.0	174.0	168.0	159.0	147.0	139.0	140.0
117.5°	209.0	208.0	210.0	215.0	211.0	205.0	202.0	197.0	189.0	184.0	184.0
120°	243.0	243.0	245.0	250.0	246.0	243.0	237.0	233.0	226.0	223.0	225.0
122.5°	277.0	276.0	278.0	283.0	279.0	277.0	271.0	267.0	261.0	260.0	263.0
125°	310.0	310.0	310.0	315.0	313.0	310.0	305.0	299.0	296.0	294.0	298.0
127.5°	347.0	345.0	346.0	346.0	345.0	340.0	339.0	333.0	329.0	329.0	330.0
130°	380.0	379.0	381.0	381.0	377.0	372.0	370.0	366.0	362.0	361.0	363.0
132.5°	415.0	414.0	414.0	416.0	411.0	405.0	404.0	401.0	393.0	394.0	396.0
135°	451.0	450.0	447.0	448.0	443.0	437.0	435.0	432.0	426.0	426.0	429.0
137.5°	482.0	481.0	476.0	475.0	473.0	468.0	464.0	460.0	459.0	457.0	460.0
140°	511.0	509.0	504.0	502.0	500.0	497.0	491.0	489.0	487.0	485.0	488.0
142.5°	536.0	534.0	533.0	533.0	527.0	525.0	521.0	518.0	517.0	515.0	518.0
145°	560.0	558.0	561.0	562.0	556.0	551.0	550.0	547.0	544.0	546.0	550.0
147.5°	585.0	583.0	586.0	585.0	580.0	575.0	574.0	574.0	571.0	572.0	575.0
150°	610.0	606.0	603.0	600.0	597.0	593.0	593.0	593.0	593.0	592.0	595.0
152.5°	628.0	623.0	618.0	614.0	611.0	610.0	610.0	609.0	608.0	608.0	611.0
155°	641.0	638.0	636.0	631.0	626.0	628.0	630.0	627.0	625.0	625.0	629.0
157.5°	655.0	650.0	650.0	648.0	644.0	645.0	646.0	644.0	643.0	643.0	646.0
160°	666.0	660.0	661.0	664.0	658.0	655.0	655.0	656.0	659.0	660.0	663.0
162.5°	674.0	668.0	670.0	671.0	667.0	663.0	661.0	665.0	669.0	669.0	673.0
165°	682.0	678.0	680.0	677.0	672.0	673.0	673.0	676.0	676.0	678.0	681.0
167.5°	694.0	688.0	688.0	684.0	678.0	685.0	688.0	686.0	684.0	687.0	690.0
170°	701.0	696.0	694.0	689.0	686.0	691.0	693.0	692.0	692.0	695.0	698.0
172.5°	701.0	696.0	694.0	692.0	689.0	690.0	690.0	693.0	695.0	697.0	699.0
175°	699.0	694.0	696.0	695.0	690.0	690.0	691.0	695.0	697.0	698.0	700.0
177.5°	702.0	698.0	701.0	699.0	694.0	695.0	697.0	699.0	700.0	705.0	707.0
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0

(END OF REPORT)