

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: P226761

Luminaire Tested: **ISW-AF-450-LED-E1-SL2-8030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P226761
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35945)-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-SL2-8030-ULG
Description: IMPACT ELITE LED WEDGE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE II W/SPILL CONTROL, WITH UPLIGHT
GLOW
Light Source: (16) 3000K CCT, 80 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4209.7 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B1 - U5 - G1

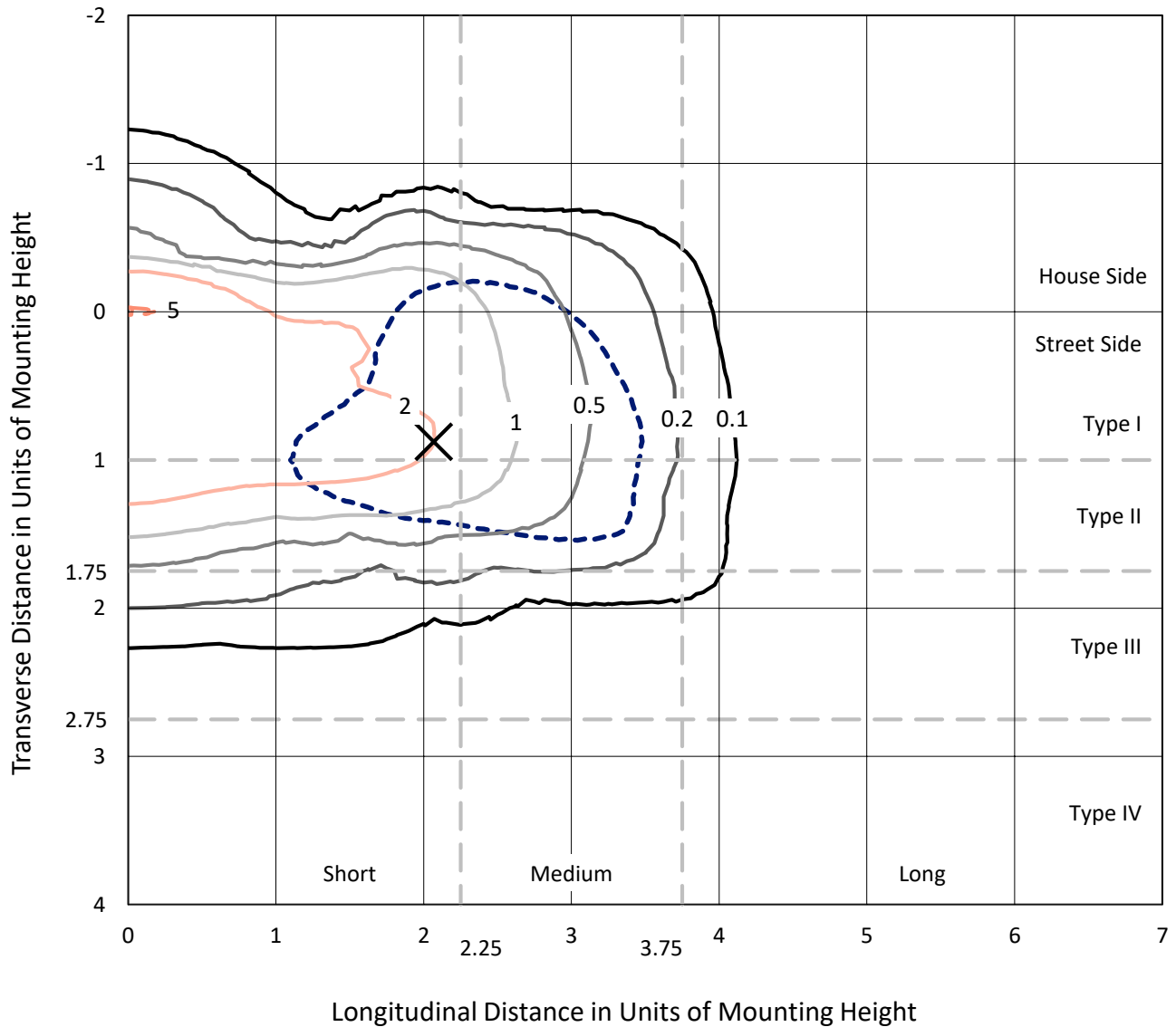
Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

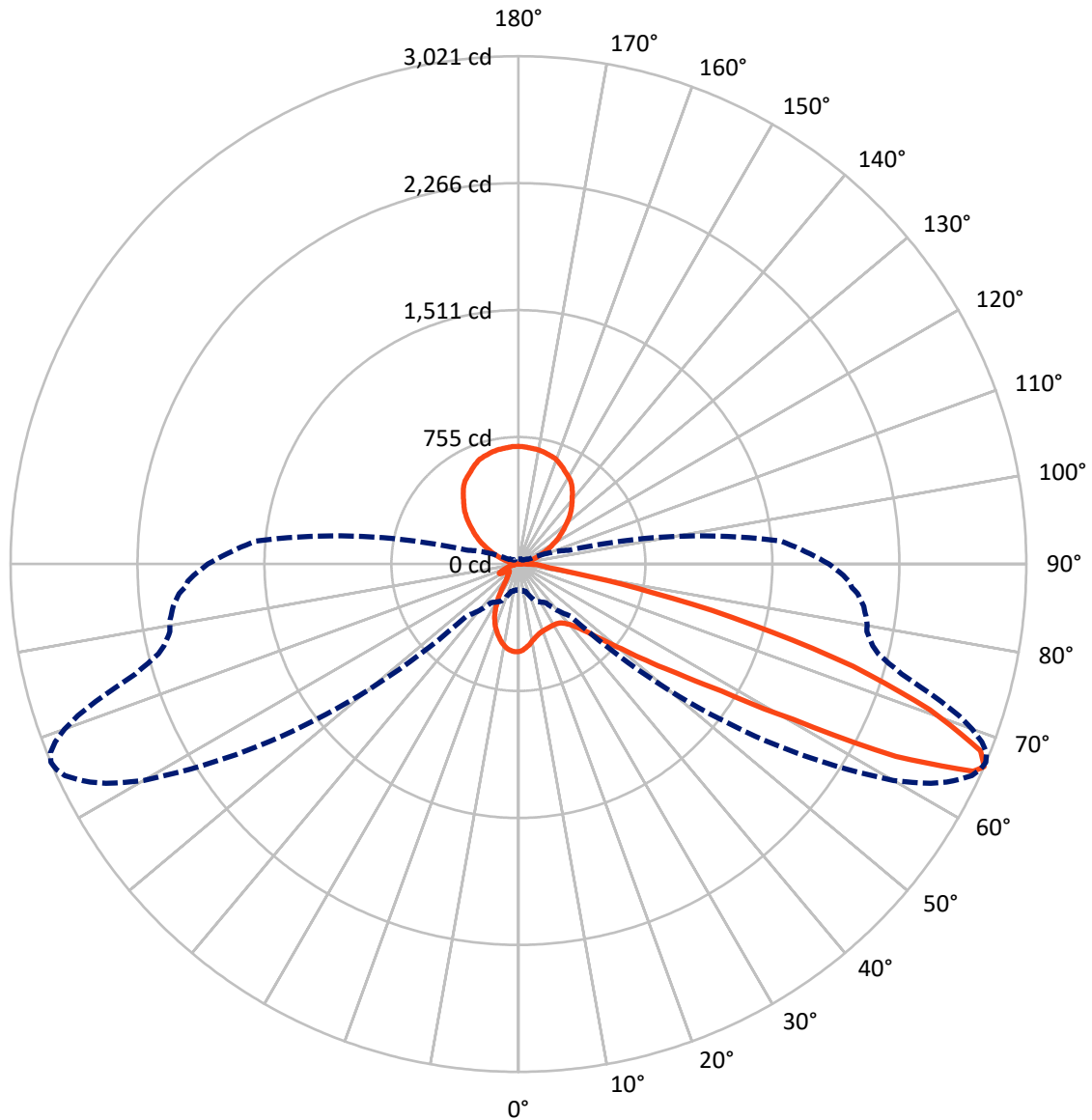


Based on 10 foot mounting height. Maximum calculated value = 5.2 fc
 Type II - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 66-Deg Vertical

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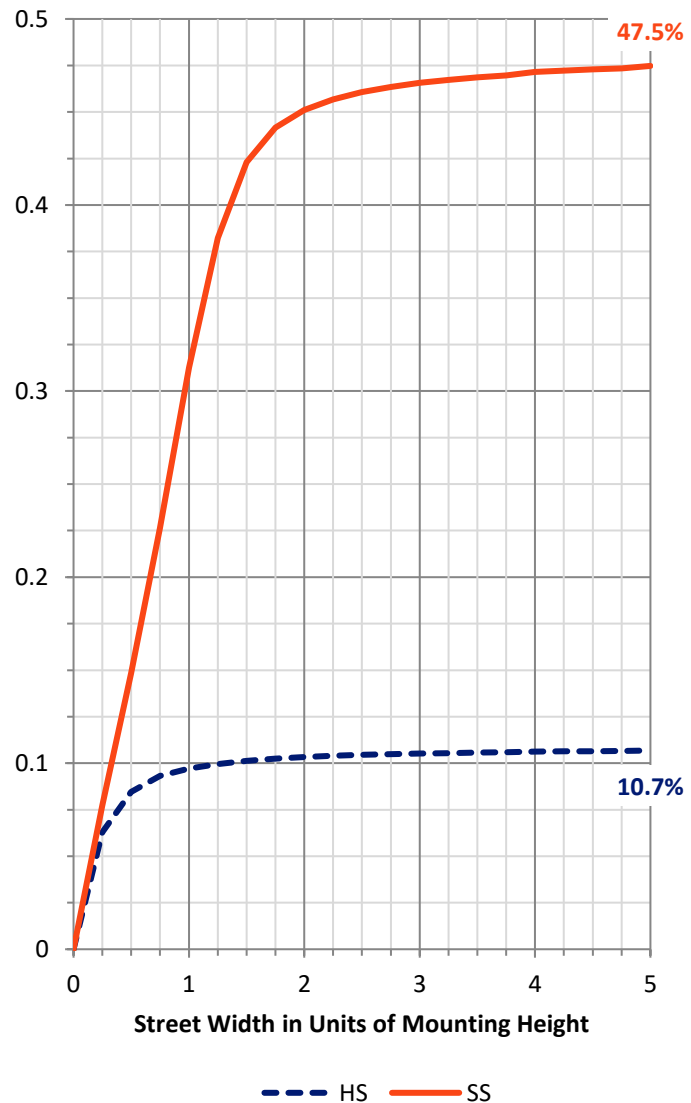
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	457.2	867.8	1325.0
	% Fixture	10.9	20.6	31.5
Street Side	Lumens	2016.4	868.3	2884.7
	% Fixture	47.9	20.6	68.5
Total	Lumens	2473.7	1736.0	4209.7
	% Fixture	58.8	41.2	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.1	1.1
10°-20°	107.5	2.6
20°-30°	147.4	3.5
30°-40°	210.5	5.0
40°-50°	341.3	8.1
50°-60°	540.8	12.8
60°-70°	685.3	16.3
70°-80°	340.7	8.1
80°-90°	55.0	1.3
90°-100°	10.2	0.2
100°-110°	57.4	1.4
110°-120°	166.1	3.9
120°-130°	273.2	6.5
130°-140°	336.8	8.0
140°-150°	344.6	8.2
150°-160°	290.3	6.9
160°-170°	191.2	4.5
170°-180°	66.3	1.6
0°-90°	2473.7	58.8
0°-180°	4209.7	100.0



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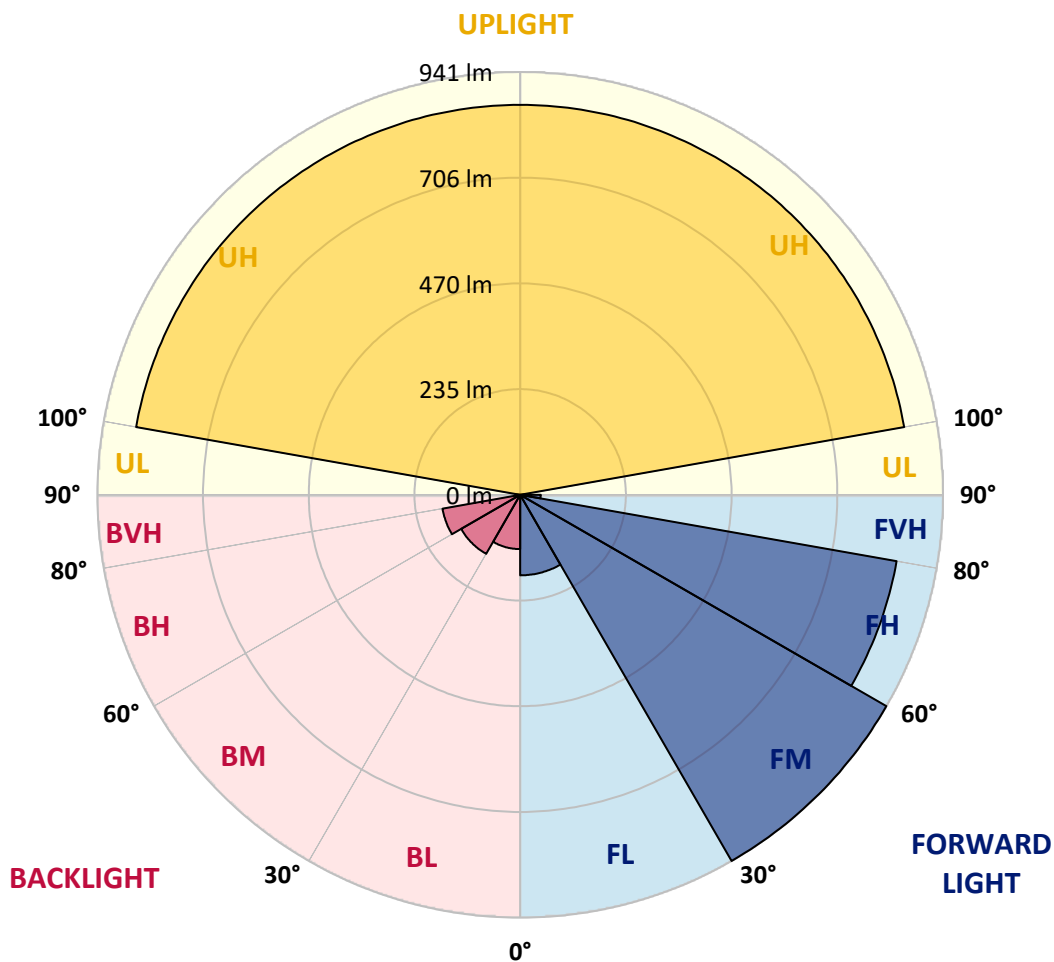
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	179.2	4.3			
FM (30°-60°)	940.9	22.4			
FH (60°-80°)	850.5	20.2			G1/1800
FVH (80°-90°)	45.8	1.1			G1/100
BL (0°-30°)	120.8	2.9	B1/500		
BM (30°-60°)	151.7	3.6	B0/220		
BH (60°-80°)	175.5	4.2	B1/500		G1/500
BVH (80°-90°)	9.2	0.2			G0/10
UL (90°-100°)	10.2	0.2		U2/50	
UH (100°-180°)	867.8	20.6		U4/1000	

BUG Rating: B1-U5-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	63°
0°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6
2.5°	483.9	485.0	491.3	494.6	499.5	501.0	506.5	508.8	510.6	510.2	510.2
5°	440.4	443.7	446.7	453.4	460.4	469.0	479.8	487.9	489.4	491.3	492.4
7.5°	407.3	409.5	414.7	419.6	428.5	440.4	455.6	466.0	468.3	469.0	471.6
10°	383.9	385.4	389.8	396.2	406.6	418.1	434.1	444.8	448.2	449.7	451.9
12.5°	365.7	367.9	372.0	378.7	389.8	401.7	418.5	429.2	431.5	433.3	436.7
15°	354.2	355.6	359.4	366.8	376.8	388.7	405.1	418.1	419.6	421.4	424.4
17.5°	351.9	353.0	355.3	360.8	368.7	380.2	396.9	407.7	410.3	412.9	415.9
20°	360.8	361.6	362.3	363.1	367.5	375.0	391.3	402.8	405.1	407.3	411.0
22.5°	380.2	381.3	379.4	376.8	373.5	375.0	388.7	400.6	402.1	404.3	407.3
25°	413.6	412.5	406.9	402.8	391.0	381.3	389.5	399.5	401.4	403.6	406.9
27.5°	453.0	451.5	448.2	437.0	417.3	397.6	393.9	401.4	402.5	404.3	407.3
30°	495.4	495.8	492.8	480.5	455.2	422.2	404.0	405.8	406.6	408.0	409.9
32.5°	533.7	539.2	538.9	538.1	502.1	455.2	423.3	415.9	414.7	415.9	416.6
35°	577.9	579.0	589.4	594.6	565.2	503.6	451.5	435.2	430.7	431.1	430.3
37.5°	625.4	626.9	644.8	653.7	631.0	558.6	489.1	463.8	459.7	455.6	452.6
40°	694.6	700.5	709.8	719.8	708.7	632.5	538.5	504.3	493.9	493.1	487.2
42.5°	797.9	796.0	791.6	799.7	786.4	715.4	598.3	561.5	553.7	543.3	535.1
45°	899.3	903.4	884.1	887.8	888.6	811.3	684.9	633.3	629.2	616.9	608.0
47.5°	967.7	963.3	937.2	956.2	1002.6	923.1	785.2	731.0	722.4	716.1	710.6
50°	971.4	967.7	951.0	984.4	1083.7	1121.9	925.0	861.8	849.5	838.4	835.0
52.5°	880.8	875.6	881.1	949.1	1113.0	1288.4	1122.3	1024.2	1014.2	1004.9	991.9
55°	719.1	725.0	751.4	849.2	1068.1	1406.6	1510.7	1275.1	1231.9	1231.6	1199.6
57.5°	537.0	531.1	550.8	642.5	954.3	1448.6	1867.4	1809.1	1712.8	1647.8	1569.4
60°	362.3	363.8	382.0	429.2	664.1	1402.9	2106.4	2309.7	2275.8	2262.1	2240.9
62.5°	251.2	253.4	270.2	314.4	388.4	1128.6	2176.2	2590.2	2650.8	2701.0	2688.7
65°	175.8	176.2	192.9	261.3	291.0	579.7	2022.0	2627.4	2717.7	2803.9	2881.2
66°	155.0	155.3	169.1	243.0	279.1	437.4	1888.2	2575.7	2678.7	2779.0	2858.9
67.5°	132.7	134.9	145.7	206.6	267.6	337.4	1559.7	2421.5	2529.3	2639.7	2745.2
70°	91.0	91.8	101.5	167.6	250.5	296.2	888.9	1890.5	2039.5	2233.5	2345.7
72.5°	65.0	64.3	65.4	103.7	257.2	294.3	467.1	1244.2	1452.7	1622.9	1744.4
75°	58.0	56.1	51.3	64.3	187.7	321.5	312.9	732.5	891.2	1046.1	1170.6
77.5°	51.7	48.7	46.1	49.4	92.9	302.9	281.0	419.6	500.6	616.2	712.0
80°	39.4	37.5	39.0	42.7	55.7	278.7	279.1	279.1	301.0	338.9	376.8
82.5°	26.0	23.8	27.1	35.3	42.0	210.0	288.4	246.4	242.3	240.8	243.4
85°	16.4	14.1	19.0	26.4	32.3	109.6	295.8	260.1	241.2	223.0	204.8
87.5°	5.9	6.7	9.7	15.2	21.2	47.6	259.4	229.3	216.3	193.6	172.4
90°	6.5	6.1	8.9	12.5	12.8	15.9	46.8	71.5	46.1	27.4	23.8
92.5°	4.0	4.0	5.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0
95°	5.0	5.0	6.0	7.0	7.0	7.0	7.0	7.5	7.6	7.7	7.8
97.5°	7.0	7.0	8.0	8.0	9.0	9.0	12.0	11.0	10.8	10.6	10.4
100°	8.0	8.0	9.0	10.0	12.0	21.0	29.0	27.5	27.2	26.9	26.6
102.5°	11.0	11.0	13.0	18.0	27.0	40.0	50.0	48.5	48.2	47.9	47.6
105°	21.0	22.0	27.0	36.0	48.0	63.0	72.0	71.0	70.8	70.6	70.4
107.5°	41.0	42.0	49.0	58.0	73.0	88.0	95.0	94.5	94.4	94.3	94.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	63°
110°	66.0	68.0	74.0	87.0	102.0	114.0	120.0	120.5	120.6	120.7	120.8
112.5°	99.0	99.0	106.0	121.0	134.0	143.0	148.0	149.0	149.2	149.4	149.6
115°	140.0	139.0	147.0	159.0	168.0	174.0	179.0	180.5	180.8	181.1	181.4
117.5°	184.0	184.0	189.0	197.0	202.0	205.0	211.0	213.0	213.4	213.8	214.2
120°	225.0	223.0	226.0	233.0	237.0	243.0	246.0	248.0	248.4	248.8	249.2
122.5°	263.0	260.0	261.0	267.0	271.0	277.0	279.0	281.0	281.4	281.8	282.2
125°	298.0	294.0	296.0	299.0	305.0	310.0	313.0	314.0	314.2	314.4	314.6
127.5°	330.0	329.0	329.0	333.0	339.0	340.0	345.0	345.5	345.6	345.7	345.8
130°	363.0	361.0	362.0	366.0	370.0	372.0	377.0	379.0	379.4	379.8	380.2
132.5°	396.0	394.0	393.0	401.0	404.0	405.0	411.0	413.5	414.0	414.5	415.0
135°	429.0	426.0	426.0	432.0	435.0	437.0	443.0	445.5	446.0	446.5	447.0
137.5°	460.0	457.0	459.0	460.0	464.0	468.0	473.0	474.0	474.2	474.4	474.6
140°	488.0	485.0	487.0	489.0	491.0	497.0	500.0	501.0	501.2	501.4	501.6
142.5°	518.0	515.0	517.0	518.0	521.0	525.0	527.0	530.0	530.6	531.2	531.8
145°	550.0	546.0	544.0	547.0	550.0	551.0	556.0	559.0	559.6	560.2	560.8
147.5°	575.0	572.0	571.0	574.0	574.0	575.0	580.0	582.5	583.0	583.5	584.0
150°	595.0	592.0	593.0	593.0	593.0	593.0	597.0	598.5	598.8	599.1	599.4
152.5°	611.0	608.0	608.0	609.0	610.0	610.0	611.0	612.5	612.8	613.1	613.4
155°	629.0	625.0	625.0	627.0	630.0	628.0	626.0	628.5	629.0	629.5	630.0
157.5°	646.0	643.0	643.0	644.0	646.0	645.0	644.0	646.0	646.4	646.8	647.2
160°	663.0	660.0	659.0	656.0	655.0	655.0	658.0	661.0	661.6	662.2	662.8
162.5°	673.0	669.0	669.0	665.0	661.0	663.0	667.0	669.0	669.4	669.8	670.2
165°	681.0	678.0	676.0	676.0	673.0	673.0	672.0	674.5	675.0	675.5	676.0
167.5°	690.0	687.0	684.0	686.0	688.0	685.0	678.0	681.0	681.6	682.2	682.8
170°	698.0	695.0	692.0	692.0	693.0	691.0	686.0	687.5	687.8	688.1	688.4
172.5°	699.0	697.0	695.0	693.0	690.0	690.0	689.0	690.5	690.8	691.1	691.4
175°	700.0	698.0	697.0	695.0	691.0	690.0	690.0	692.5	693.0	693.5	694.0
177.5°	707.0	705.0	700.0	699.0	697.0	695.0	694.0	696.5	697.0	697.5	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):

	64°	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°
0°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6
2.5°	510.6	512.5	513.2	512.5	512.8	515.1	514.3	515.4	515.4	516.2	516.2
5°	493.9	495.4	498.4	498.0	501.0	502.1	503.2	504.7	506.5	507.6	509.9
7.5°	474.2	477.2	479.8	481.3	483.1	486.8	487.9	491.3	494.3	497.2	499.5
10°	455.2	459.3	462.3	463.4	467.5	469.4	473.5	476.1	479.8	483.5	486.8
12.5°	439.3	443.0	444.5	448.2	451.9	455.6	457.5	462.3	466.0	470.9	475.3
15°	427.4	431.1	434.1	436.7	440.4	444.1	447.1	451.9	456.4	461.2	465.3
17.5°	419.9	422.2	425.9	428.1	432.6	437.0	440.4	446.0	450.8	454.9	460.4
20°	414.4	417.0	420.3	423.7	427.7	433.3	436.3	442.2	447.4	452.3	457.5
22.5°	411.4	414.0	417.3	420.7	425.1	429.6	434.4	439.6	445.2	450.4	455.6
25°	410.3	412.5	415.5	418.8	423.7	428.5	432.6	438.5	443.4	448.9	455.2
27.5°	410.6	412.1	415.5	418.5	423.3	427.7	431.8	437.8	443.4	448.6	454.9
30°	412.1	413.2	416.6	419.2	423.3	427.7	431.5	437.8	442.6	448.2	454.9
32.5°	417.3	418.8	420.3	422.2	425.9	429.2	433.7	439.3	443.7	449.3	454.9
35°	429.6	428.5	429.6	430.3	432.9	436.3	439.6	444.5	448.6	453.4	459.3
37.5°	448.9	446.7	447.4	447.1	449.3	449.3	452.6	456.0	459.3	464.2	470.1
40°	484.6	479.0	477.5	473.5	472.3	474.2	476.4	476.8	480.9	487.2	489.8
42.5°	530.7	523.3	524.4	517.7	515.8	513.6	516.6	514.7	517.3	521.4	527.0
45°	603.5	596.5	589.0	578.3	580.5	572.3	570.1	570.8	570.4	571.9	578.6
47.5°	690.5	681.2	676.4	672.3	664.5	659.6	653.3	644.0	646.3	649.2	655.2
50°	817.6	814.6	805.3	791.9	790.1	783.0	781.2	773.0	770.0	769.6	769.3
52.5°	987.4	968.1	964.4	951.7	942.1	935.4	933.2	921.6	910.1	916.8	916.1
55°	1194.4	1178.4	1158.0	1146.8	1139.0	1123.1	1119.0	1104.5	1097.8	1094.1	1084.8
57.5°	1542.3	1486.1	1444.1	1423.3	1394.0	1364.2	1353.8	1324.1	1301.1	1284.7	1285.8
60°	2148.7	2048.8	1931.0	1878.2	1755.9	1738.1	1654.1	1633.7	1583.1	1549.7	1530.4
62.5°	2680.2	2653.0	2596.6	2519.6	2397.0	2255.8	2192.2	2065.9	1967.0	1923.9	1864.1
65°	2934.0	2972.3	2987.9	2973.4	2924.3	2838.1	2762.3	2638.9	2473.2	2379.5	2263.2
66°	2921.0	2977.8	3006.5	3021.3	3003.5	2952.6	2873.0	2771.6	2643.4	2500.7	2370.2
67.5°	2825.9	2881.2	2921.0	2966.3	2966.3	2950.3	2918.0	2850.4	2759.7	2635.2	2518.1
70°	2437.1	2512.2	2582.4	2596.2	2634.8	2622.9	2648.6	2605.5	2583.9	2531.9	2469.1
72.5°	1898.6	1961.4	2021.7	2081.9	2071.8	2058.8	2056.2	2065.1	2021.3	2036.9	2020.5
75°	1262.8	1370.9	1432.6	1426.7	1430.8	1434.1	1406.6	1345.3	1392.9	1332.7	1352.7
77.5°	767.4	817.6	834.3	815.7	791.6	760.3	710.2	680.8	638.8	642.2	614.3
80°	402.5	408.8	395.4	357.9	337.4	318.9	261.6	236.0	212.2	203.3	183.2
82.5°	230.8	215.5	199.2	186.6	162.4	146.0	123.8	109.6	94.4	81.0	76.2
85°	186.9	166.5	151.3	137.1	120.8	106.3	87.7	73.2	62.1	53.9	52.0
87.5°	154.2	140.1	124.5	111.1	95.1	80.3	62.1	48.3	38.3	30.8	28.6
90°	22.6	27.6	22.4	16.4	20.1	14.9	12.3	12.7	12.0	12.0	12.3
92.5°	7.0	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1
95°	7.9	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.1
97.5°	10.2	10.0	9.9	9.8	9.7	9.6	9.5	9.4	9.3	9.2	9.1
100°	26.3	26.0	25.7	25.4	25.1	24.8	24.5	24.2	23.9	23.6	23.3
102.5°	47.3	47.0	46.5	46.0	45.5	45.0	44.5	44.0	43.5	43.0	42.5
105°	70.2	70.0	69.5	69.0	68.5	68.0	67.5	67.0	66.5	66.0	65.5
107.5°	94.1	94.0	93.6	93.2	92.8	92.4	92.0	91.6	91.2	90.8	90.4



REPORT NUMBER: P226761

CATALOG NUMBER: ISW-AF-450-LED-E1-SL2-8030-ULG

CANDELA DISTRIBUTION (continued):

	64°	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°
110°	120.9	121.0	120.8	120.6	120.4	120.2	120.0	119.8	119.6	119.4	119.2
112.5°	149.8	150.0	149.9	149.8	149.7	149.6	149.5	149.4	149.3	149.2	149.1
115°	181.7	182.0	181.7	181.4	181.1	180.8	180.5	180.2	179.9	179.6	179.3
117.5°	214.6	215.0	214.5	214.0	213.5	213.0	212.5	212.0	211.5	211.0	210.5
120°	249.6	250.0	249.5	249.0	248.5	248.0	247.5	247.0	246.5	246.0	245.5
122.5°	282.6	283.0	282.5	282.0	281.5	281.0	280.5	280.0	279.5	279.0	278.5
125°	314.8	315.0	314.5	314.0	313.5	313.0	312.5	312.0	311.5	311.0	310.5
127.5°	345.9	346.0	346.0	346.0	346.0	346.0	346.0	346.0	346.0	346.0	346.0
130°	380.6	381.0	381.0	381.0	381.0	381.0	381.0	381.0	381.0	381.0	381.0
132.5°	415.5	416.0	415.8	415.6	415.4	415.2	415.0	414.8	414.6	414.4	414.2
135°	447.5	448.0	447.9	447.8	447.7	447.6	447.5	447.4	447.3	447.2	447.1
137.5°	474.8	475.0	475.1	475.2	475.3	475.4	475.5	475.6	475.7	475.8	475.9
140°	501.8	502.0	502.2	502.4	502.6	502.8	503.0	503.2	503.4	503.6	503.8
142.5°	532.4	533.0	533.0	533.0	533.0	533.0	533.0	533.0	533.0	533.0	533.0
145°	561.4	562.0	561.9	561.8	561.7	561.6	561.5	561.4	561.3	561.2	561.1
147.5°	584.5	585.0	585.1	585.2	585.3	585.4	585.5	585.6	585.7	585.8	585.9
150°	599.7	600.0	600.3	600.6	600.9	601.2	601.5	601.8	602.1	602.4	602.7
152.5°	613.7	614.0	614.4	614.8	615.2	615.6	616.0	616.4	616.8	617.2	617.6
155°	630.5	631.0	631.5	632.0	632.5	633.0	633.5	634.0	634.5	635.0	635.5
157.5°	647.6	648.0	648.2	648.4	648.6	648.8	649.0	649.2	649.4	649.6	649.8
160°	663.4	664.0	663.7	663.4	663.1	662.8	662.5	662.2	661.9	661.6	661.3
162.5°	670.6	671.0	670.9	670.8	670.7	670.6	670.5	670.4	670.3	670.2	670.1
165°	676.5	677.0	677.3	677.6	677.9	678.2	678.5	678.8	679.1	679.4	679.7
167.5°	683.4	684.0	684.4	684.8	685.2	685.6	686.0	686.4	686.8	687.2	687.6
170°	688.7	689.0	689.5	690.0	690.5	691.0	691.5	692.0	692.5	693.0	693.5
172.5°	691.7	692.0	692.2	692.4	692.6	692.8	693.0	693.2	693.4	693.6	693.8
175°	694.5	695.0	695.1	695.2	695.3	695.4	695.5	695.6	695.7	695.8	695.9
177.5°	698.5	699.0	699.2	699.4	699.6	699.8	700.0	700.2	700.4	700.6	700.8
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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CATALOG NUMBER: ISW-AF-450-LED-E1-SL2-8030-ULG

CANDELA DISTRIBUTION (continued):

	75°	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°
0°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6
2.5°	517.3	517.3	518.0	518.8	519.2	519.2	519.2	519.9	520.3	519.2	520.3
5°	511.0	512.8	514.3	515.4	515.8	516.9	518.0	518.8	519.9	519.9	520.6
7.5°	502.4	505.8	507.6	509.5	511.4	513.2	515.4	516.9	517.7	519.2	520.3
10°	491.7	495.8	499.5	502.4	505.0	508.8	511.7	514.0	517.3	517.7	520.3
12.5°	480.1	486.1	489.1	494.6	498.4	503.9	506.9	510.2	514.0	515.8	518.8
15°	472.0	477.2	482.7	487.9	493.9	500.6	504.3	508.8	514.0	518.0	521.8
17.5°	465.6	472.7	479.0	485.7	493.1	500.2	505.8	510.6	517.3	519.5	523.3
20°	463.8	471.6	477.9	485.0	492.8	502.1	508.8	514.0	520.6	524.4	527.7
22.5°	463.0	470.5	477.9	486.5	495.0	504.7	511.7	518.4	525.1	528.5	531.1
25°	462.3	470.1	478.3	487.9	497.2	507.3	515.4	521.8	528.1	531.4	533.7
27.5°	462.3	470.5	479.4	489.1	499.1	510.2	518.0	524.0	529.6	532.5	533.3
30°	461.9	470.5	479.0	489.8	500.6	512.1	520.6	526.2	531.1	532.9	532.2
32.5°	462.7	471.6	480.9	491.7	502.8	514.0	522.9	529.2	531.8	531.4	531.1
35°	466.4	474.6	485.3	496.1	507.6	518.0	526.6	531.1	533.3	532.5	530.7
37.5°	476.4	484.6	495.4	507.3	516.2	528.1	535.9	539.2	539.6	537.4	532.9
40°	497.2	505.4	515.1	528.1	538.9	547.0	554.5	558.2	556.0	551.9	547.0
42.5°	530.3	540.7	552.2	562.6	575.3	586.4	588.3	590.5	586.8	579.0	573.0
45°	583.5	589.8	604.6	612.4	628.8	634.4	638.5	639.6	631.4	625.1	614.7
47.5°	660.0	672.3	682.7	690.1	702.0	709.4	717.6	713.9	707.6	696.8	683.1
50°	780.4	788.2	801.6	815.0	827.6	832.8	832.8	829.1	825.0	804.2	787.5
52.5°	928.3	929.1	948.4	964.4	975.1	967.3	976.6	967.3	964.7	950.3	936.5
55°	1099.6	1092.6	1116.0	1130.1	1139.8	1149.1	1147.2	1146.1	1136.4	1120.1	1103.4
57.5°	1262.4	1282.9	1294.0	1314.8	1319.6	1326.0	1323.4	1319.6	1314.1	1304.8	1297.4
60°	1497.3	1511.0	1521.1	1525.2	1538.9	1540.8	1550.1	1534.8	1538.5	1527.8	1504.3
62.5°	1816.9	1802.0	1809.8	1809.8	1805.7	1791.2	1799.0	1805.0	1795.0	1786.0	1782.3
65°	2174.8	2126.8	2080.7	2072.9	2051.8	2046.9	2041.0	2026.1	2019.8	2004.2	1991.5
66°	2281.8	2207.5	2164.0	2137.2	2111.6	2106.0	2097.8	2082.2	2069.6	2047.7	2026.5
67.5°	2401.8	2305.9	2240.5	2202.6	2171.0	2150.2	2133.9	2111.6	2091.5	2058.8	2025.0
70°	2394.0	2314.9	2236.1	2178.5	2130.9	2088.2	2062.9	2015.0	1974.1	1927.3	1888.6
72.5°	2011.6	1997.5	1951.8	1919.5	1861.1	1838.4	1771.5	1741.1	1684.6	1624.0	1605.4
75°	1398.4	1343.1	1319.6	1306.6	1281.0	1210.4	1164.3	1174.3	1108.2	1049.1	1015.3
77.5°	611.3	622.5	557.8	528.8	506.5	468.3	432.6	408.0	393.9	384.6	342.6
80°	169.1	147.5	145.7	135.3	133.0	118.5	120.4	110.0	102.9	101.5	98.1
82.5°	74.0	72.5	70.2	69.1	68.0	66.5	64.7	64.3	62.1	60.2	60.6
85°	49.1	48.7	47.6	46.5	44.6	42.0	40.1	38.6	39.0	37.2	36.8
87.5°	28.6	27.9	27.5	26.0	25.6	23.4	23.8	21.9	21.6	21.2	20.1
90°	13.1	13.3	14.2	13.6	11.9	15.1	13.7	12.8	13.0	11.7	11.5
92.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
95°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0
100°	23.0	22.6	22.2	21.8	21.4	21.0	20.6	20.2	19.8	19.4	19.0
102.5°	42.0	41.7	41.4	41.1	40.8	40.5	40.2	39.9	39.6	39.3	39.0
105°	65.0	64.6	64.2	63.8	63.4	63.0	62.6	62.2	61.8	61.4	61.0
107.5°	90.0	89.7	89.4	89.1	88.8	88.5	88.2	87.9	87.6	87.3	87.0



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	75°	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	
110°	119.0	118.7	118.4	118.1	117.8	117.5	117.2	116.9	116.6	116.3	116.0	0°
112.5°	149.0	148.8	148.6	148.4	148.2	148.0	147.8	147.6	147.4	147.2	147.0	2.5°
115°	179.0	178.8	178.6	178.4	178.2	178.0	177.8	177.6	177.4	177.2	177.0	5°
117.5°	210.0	209.8	209.6	209.4	209.2	209.0	208.8	208.6	208.4	208.2	208.0	7.5°
120°	245.0	244.8	244.6	244.4	244.2	244.0	243.8	243.6	243.4	243.2	243.0	10°
122.5°	278.0	277.8	277.6	277.4	277.2	277.0	276.8	276.6	276.4	276.2	276.0	12.5°
125°	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0	15°
127.5°	346.0	345.9	345.8	345.7	345.6	345.5	345.4	345.3	345.2	345.1	345.0	17.5°
130°	381.0	380.8	380.6	380.4	380.2	380.0	379.8	379.6	379.4	379.2	379.0	20°
132.5°	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	22.5°
135°	447.0	447.3	447.6	447.9	448.2	448.5	448.8	449.1	449.4	449.7	450.0	25°
137.5°	476.0	476.5	477.0	477.5	478.0	478.5	479.0	479.5	480.0	480.5	481.0	27.5°
140°	504.0	504.5	505.0	505.5	506.0	506.5	507.0	507.5	508.0	508.5	509.0	30°
142.5°	533.0	533.1	533.2	533.3	533.4	533.5	533.6	533.7	533.8	533.9	534.0	32.5°
145°	561.0	560.7	560.4	560.1	559.8	559.5	559.2	558.9	558.6	558.3	558.0	35°
147.5°	586.0	585.7	585.4	585.1	584.8	584.5	584.2	583.9	583.6	583.3	583.0	37.5°
150°	603.0	603.3	603.6	603.9	604.2	604.5	604.8	605.1	605.4	605.7	606.0	40°
152.5°	618.0	618.5	619.0	619.5	620.0	620.5	621.0	621.5	622.0	622.5	623.0	42.5°
155°	636.0	636.2	636.4	636.6	636.8	637.0	637.2	637.4	637.6	637.8	638.0	45°
157.5°	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	47.5°
160°	661.0	660.9	660.8	660.7	660.6	660.5	660.4	660.3	660.2	660.1	660.0	50°
162.5°	670.0	669.8	669.6	669.4	669.2	669.0	668.8	668.6	668.4	668.2	668.0	52.5°
165°	680.0	679.8	679.6	679.4	679.2	679.0	678.8	678.6	678.4	678.2	678.0	55°
167.5°	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	57.5°
170°	694.0	694.2	694.4	694.6	694.8	695.0	695.2	695.4	695.6	695.8	696.0	60°
172.5°	694.0	694.2	694.4	694.6	694.8	695.0	695.2	695.4	695.6	695.8	696.0	62.5°
175°	696.0	695.8	695.6	695.4	695.2	695.0	694.8	694.6	694.4	694.2	694.0	65°
177.5°	701.0	700.7	700.4	700.1	699.8	699.5	699.2	698.9	698.6	698.3	698.0	66°
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°
												70°
												72.5°
												75°
												77.5°
												80°
												82.5°
												85°
												87.5°
												90°
												92.5°
												95°
												97.5°
												100°
												102.5°
												105°
												107.5°

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 NUMBER: ISW-AF-450-LED-E1-SL2-8030-ULG

REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

CANDELA DISTRIBUTION

86°	87°	88°	89°	90°	95°	105°	115°	125°	135°	145°	86°	
520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	110°	116.2
521.4	522.1	522.5	522.1	522.9	522.5	522.9	522.5	520.6	520.3	519.9	112.5°	147.0
522.1	523.6	524.0	524.4	523.6	524.4	522.9	516.9	510.2	502.8	496.9	115°	177.2
522.9	524.7	525.9	525.9	526.2	525.5	519.9	506.9	491.3	475.7	463.8	117.5°	208.2
522.5	525.1	526.2	526.6	526.6	525.1	511.7	490.9	467.1	443.4	419.2	120°	243.0
521.4	523.6	525.5	525.5	525.9	520.6	499.8	470.1	436.3	400.6	368.3	122.5°	276.2
523.6	525.9	525.9	525.9	525.5	516.6	487.2	444.1	398.8	350.4	302.5	125°	310.0
527.0	528.1	527.3	527.3	525.9	512.5	473.1	418.5	359.0	295.1	228.2	127.5°	345.4
529.9	530.7	530.3	528.5	526.6	508.0	458.6	391.3	311.4	228.2	161.7	130°	379.2
532.9	533.7	531.8	528.8	526.2	502.1	441.1	356.8	257.5	156.1	107.0	132.5°	414.2
533.3	534.0	530.7	526.6	522.9	493.1	419.9	320.0	198.4	101.1	83.6	135°	450.2
532.9	532.2	526.6	521.4	517.3	482.4	396.5	274.3	132.3	76.2	72.8	137.5°	481.2
530.3	527.0	522.5	516.6	510.6	470.5	373.1	223.3	83.6	66.1	66.1	140°	509.4
526.6	523.3	517.7	509.9	503.2	459.0	346.4	171.3	66.9	60.9	61.7	142.5°	534.4
525.1	521.4	513.2	505.0	496.5	448.6	318.1	115.2	60.2	57.6	58.0	145°	558.4
528.1	521.8	513.6	504.3	494.3	439.6	288.8	80.3	56.9	53.9	54.6	147.5°	583.4
538.1	532.2	522.5	510.6	499.8	434.4	257.5	66.5	53.5	50.9	50.9	150°	606.8
562.3	554.5	541.5	527.3	514.3	437.8	229.7	60.6	50.9	48.3	48.3	152.5°	624.0
601.3	592.0	576.8	560.8	543.7	454.1	198.1	58.3	49.1	45.3	44.6	155°	638.6
668.2	655.9	635.9	616.9	596.5	482.4	166.1	56.9	46.8	43.5	42.0	157.5°	651.0
773.4	755.1	731.4	706.5	681.6	534.0	140.8	55.4	45.3	42.0	40.5	160°	661.2
908.6	896.4	866.6	833.9	804.2	637.0	126.4	54.3	44.2	40.1	39.0	162.5°	669.2
1081.1	1061.0	1037.6	1008.2	972.9	770.4	124.9	53.9	43.1	38.6	37.9	165°	678.8
1263.2	1255.4	1215.6	1197.4	1159.1	948.0	152.0	54.6	42.4	37.5	36.4	167.5°	689.2
1470.9	1473.9	1436.7	1416.6	1385.1	1173.2	241.9	56.9	42.4	36.4	35.3	170°	697.0
1742.6	1747.4	1703.5	1679.8	1653.0	1425.6	380.2	60.6	43.5	35.3	34.2	172.5°	697.0
1965.2	1939.2	1910.9	1869.3	1835.5	1566.4	366.1	67.3	45.0	34.2	33.1	175°	695.0
1988.2	1969.6	1933.9	1889.0	1847.7	1567.2	319.6	69.5	45.3	33.8	32.7	177.5°	698.8
1985.2	1952.2	1911.6	1873.7	1833.2	1527.0	247.1	72.5	46.5	33.1	32.0	180°	700.0
1847.7	1801.3	1761.9	1709.5	1667.1	1366.5	152.0	72.1	45.0	30.8	30.1		
1523.7	1499.9	1453.1	1411.1	1366.8	1106.0	104.1	64.3	39.8	27.9	28.2		
985.6	958.4	910.9	887.1	862.2	707.6	81.0	52.4	33.8	24.9	26.0		
328.9	318.1	300.6	310.3	295.8	275.7	59.5	39.8	27.1	21.6	23.0		
98.5	96.3	99.6	93.7	99.2	84.0	39.0	27.9	20.8	18.6	20.4		
58.3	57.6	57.6	57.6	56.1	52.4	25.6	19.3	16.0	15.6	17.1		
35.7	34.9	35.3	34.9	35.7	32.0	17.5	13.4	11.9	11.5	13.8		
20.4	20.4	20.8	20.1	20.4	19.7	12.3	8.5	7.8	7.4	10.0		
11.8	11.8	10.7	10.3	10.7	12.2	12.3	11.6	9.2	8.9	11.3		
6.0	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	6.0	6.0		
7.0	7.0	7.0	7.0	7.0	7.0	7.0	8.0	7.0	7.0	7.0		
8.0	8.0	8.0	8.0	8.0	8.0	9.0	10.0	12.0	9.0	9.0		
19.0	19.0	19.0	19.0	19.0	19.0	23.0	26.0	29.0	21.0	12.0		
38.8	38.6	38.4	38.2	38.0	39.0	42.0	47.0	50.0	40.0	27.0		
61.0	61.0	61.0	61.0	61.0	61.0	65.0	70.0	72.0	63.0	48.0		
86.8	86.6	86.4	86.2	86.0	87.0	90.0	94.0	95.0	88.0	73.0		

'226761
 ISW-AF-450-LED-E1-SL2-8030-ULG

REPORT NUMBER: P226761
 CATALOG NUMBER: ISW-AF-4!

TION (continued):

CANDELA DISTRIBUTION (con

87°	88°	89°	90°	95°	105°	115°	125°	135°	145°		155°	165°
116.4	116.6	116.8	117.0	116.0	119.0	121.0	120.0	114.0	102.0	0°	520.6	520.6
147.0	147.0	147.0	147.0	147.0	149.0	150.0	148.0	143.0	134.0	2.5°	516.9	514.3
177.4	177.6	177.8	178.0	177.0	179.0	182.0	179.0	174.0	168.0	5°	487.6	480.5
208.4	208.6	208.8	209.0	208.0	210.0	215.0	211.0	205.0	202.0	7.5°	445.2	437.0
243.0	243.0	243.0	243.0	243.0	245.0	250.0	246.0	243.0	237.0	10°	396.9	384.6
276.4	276.6	276.8	277.0	276.0	278.0	283.0	279.0	277.0	271.0	12.5°	335.2	311.1
310.0	310.0	310.0	310.0	310.0	310.0	315.0	313.0	310.0	305.0	15°	263.9	231.5
345.8	346.2	346.6	347.0	345.0	346.0	346.0	345.0	340.0	339.0	17.5°	181.7	155.7
379.4	379.6	379.8	380.0	379.0	381.0	381.0	377.0	372.0	370.0	20°	127.5	117.8
414.4	414.6	414.8	415.0	414.0	414.0	416.0	411.0	405.0	404.0	22.5°	98.5	98.9
450.4	450.6	450.8	451.0	450.0	447.0	448.0	443.0	437.0	435.0	25°	81.8	85.5
481.4	481.6	481.8	482.0	481.0	476.0	475.0	473.0	468.0	464.0	27.5°	72.1	75.8
509.8	510.2	510.6	511.0	509.0	504.0	502.0	500.0	497.0	491.0	30°	66.1	69.5
534.8	535.2	535.6	536.0	534.0	533.0	533.0	527.0	525.0	521.0	32.5°	62.1	63.5
558.8	559.2	559.6	560.0	558.0	561.0	562.0	556.0	551.0	550.0	35°	57.2	58.0
583.8	584.2	584.6	585.0	583.0	586.0	585.0	580.0	575.0	574.0	37.5°	53.1	53.1
607.6	608.4	609.2	610.0	606.0	603.0	600.0	597.0	593.0	593.0	40°	49.4	49.1
625.0	626.0	627.0	628.0	623.0	618.0	614.0	611.0	610.0	610.0	42.5°	46.1	45.7
639.2	639.8	640.4	641.0	638.0	636.0	631.0	626.0	628.0	630.0	45°	42.7	43.1
652.0	653.0	654.0	655.0	650.0	650.0	648.0	644.0	645.0	646.0	47.5°	40.9	41.3
662.4	663.6	664.8	666.0	660.0	661.0	664.0	658.0	655.0	655.0	50°	39.0	39.4
670.4	671.6	672.8	674.0	668.0	670.0	671.0	667.0	663.0	661.0	52.5°	37.5	37.5
679.6	680.4	681.2	682.0	678.0	680.0	677.0	672.0	673.0	673.0	55°	36.0	35.7
690.4	691.6	692.8	694.0	688.0	688.0	684.0	678.0	685.0	688.0	57.5°	34.9	34.2
698.0	699.0	700.0	701.0	696.0	694.0	689.0	686.0	691.0	693.0	60°	33.8	33.1
698.0	699.0	700.0	701.0	696.0	694.0	692.0	689.0	690.0	690.0	62.5°	33.1	32.0
696.0	697.0	698.0	699.0	694.0	696.0	695.0	690.0	690.0	691.0	65°	32.3	31.6
699.6	700.4	701.2	702.0	698.0	701.0	699.0	694.0	695.0	697.0	66°	32.0	31.2
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	31.6	30.8
										70°	30.1	29.4
										72.5°	27.9	27.5
										75°	25.6	24.9
										77.5°	22.7	22.3
										80°	19.3	19.0
										82.5°	16.4	15.6
										85°	13.0	12.3
										87.5°	8.9	8.2
										90°	10.2	9.6
										92.5°	6.0	5.0
										95°	7.0	6.0
										97.5°	8.0	8.0
										100°	10.0	9.0
										102.5°	18.0	13.0
										105°	36.0	27.0
										107.5°	58.0	49.0

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REPORT NUMBER: P226761

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tinued):

175°	180°
520.6	520.6
512.1	515.4
478.3	477.2
430.3	430.7
372.4	373.1
297.3	292.8
212.9	214.8
148.3	147.9
118.9	119.7
101.8	101.8
90.7	90.7
79.9	80.3
72.5	73.2
65.8	66.1
59.1	59.5
53.5	53.5
49.8	50.2
47.2	47.2
44.6	44.6
42.4	43.1
40.1	40.5
37.9	38.3
35.7	35.7
33.8	33.8
32.3	32.0
31.2	30.5
30.1	29.7
29.7	29.4
29.4	29.0
28.6	28.2
27.5	27.1
25.3	24.5
23.0	22.3
21.2	20.1
17.8	17.1
13.0	12.3
7.8	7.8
6.9	6.9
4.0	4.0
5.0	5.0
7.0	7.0
8.0	8.0
11.0	11.0
22.0	21.0
42.0	41.0

CANDELA DISTRIBUTION (continued):

	155°	165°	175°
110°	87.0	74.0	68.0
112.5°	121.0	106.0	99.0
115°	159.0	147.0	139.0
117.5°	197.0	189.0	184.0
120°	233.0	226.0	223.0
122.5°	267.0	261.0	260.0
125°	299.0	296.0	294.0
127.5°	333.0	329.0	329.0
130°	366.0	362.0	361.0
132.5°	401.0	393.0	394.0
135°	432.0	426.0	426.0
137.5°	460.0	459.0	457.0
140°	489.0	487.0	485.0
142.5°	518.0	517.0	515.0
145°	547.0	544.0	546.0
147.5°	574.0	571.0	572.0
150°	593.0	593.0	592.0
152.5°	609.0	608.0	608.0
155°	627.0	625.0	625.0
157.5°	644.0	643.0	643.0
160°	656.0	659.0	660.0
162.5°	665.0	669.0	669.0
165°	676.0	676.0	678.0
167.5°	686.0	684.0	687.0
170°	692.0	692.0	695.0
172.5°	693.0	695.0	697.0
175°	695.0	697.0	698.0
177.5°	699.0	700.0	705.0
180°	700.0	700.0	700.0



-SL2-8030-ULG

180°
66.0
99.0
140.0
184.0
225.0
263.0
298.0
330.0
363.0
396.0
429.0
460.0
488.0
518.0
550.0
575.0
595.0
611.0
629.0
646.0
663.0
673.0
681.0
690.0
698.0
699.0
700.0
707.0
700.0

(END OF REPORT)