

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: P227020

Luminaire Tested: **ISW-AF-450-LED-E1-SL4-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227020
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35947)-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-SL4-ULG
Description: IMPACT ELITE LED WEDGE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV W/SPILL CONTROL, WITH UPLIGHT
GLOW
Light Source: (16) 4000K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4646.5 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B0 - U5 - G1

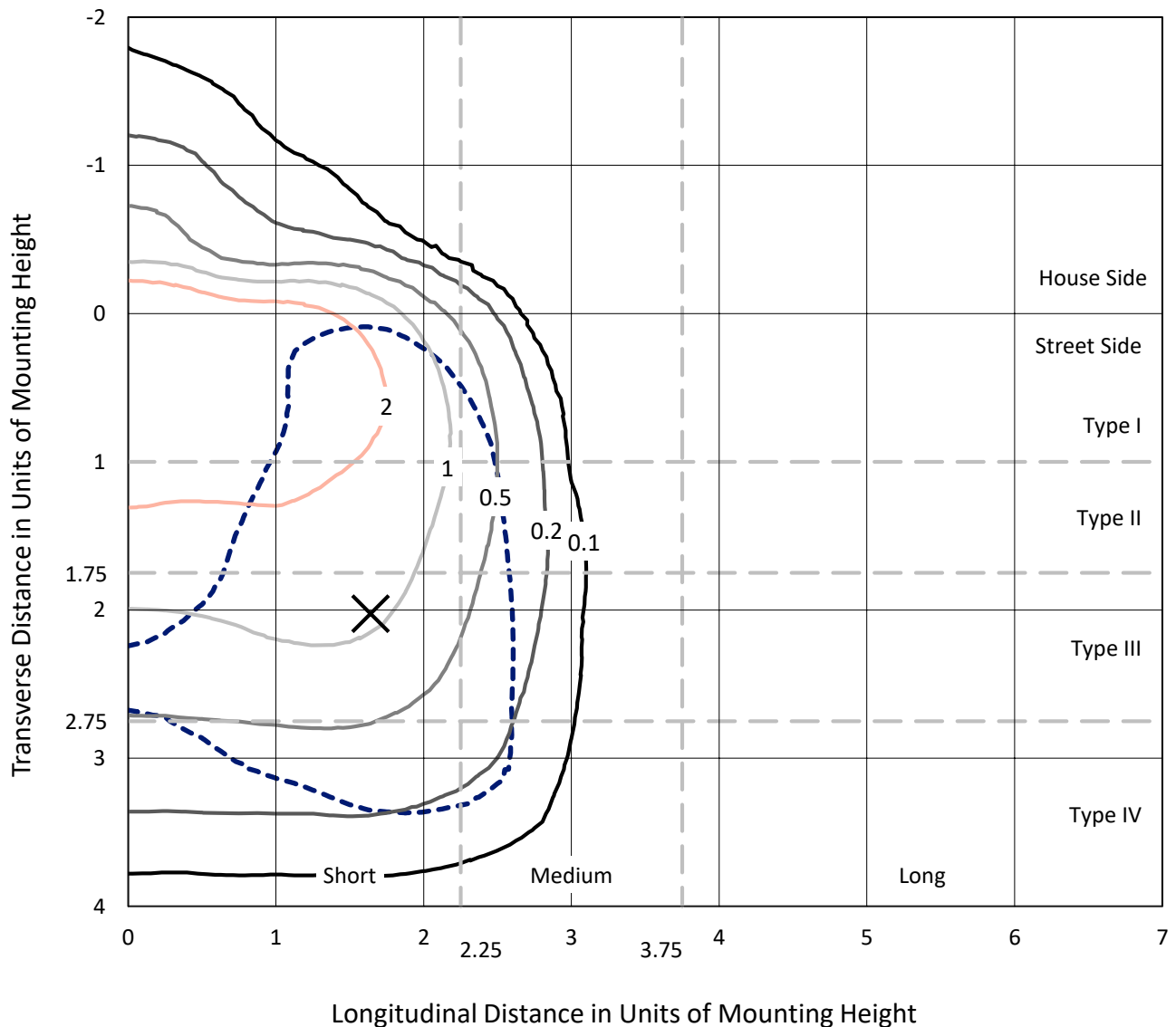
Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

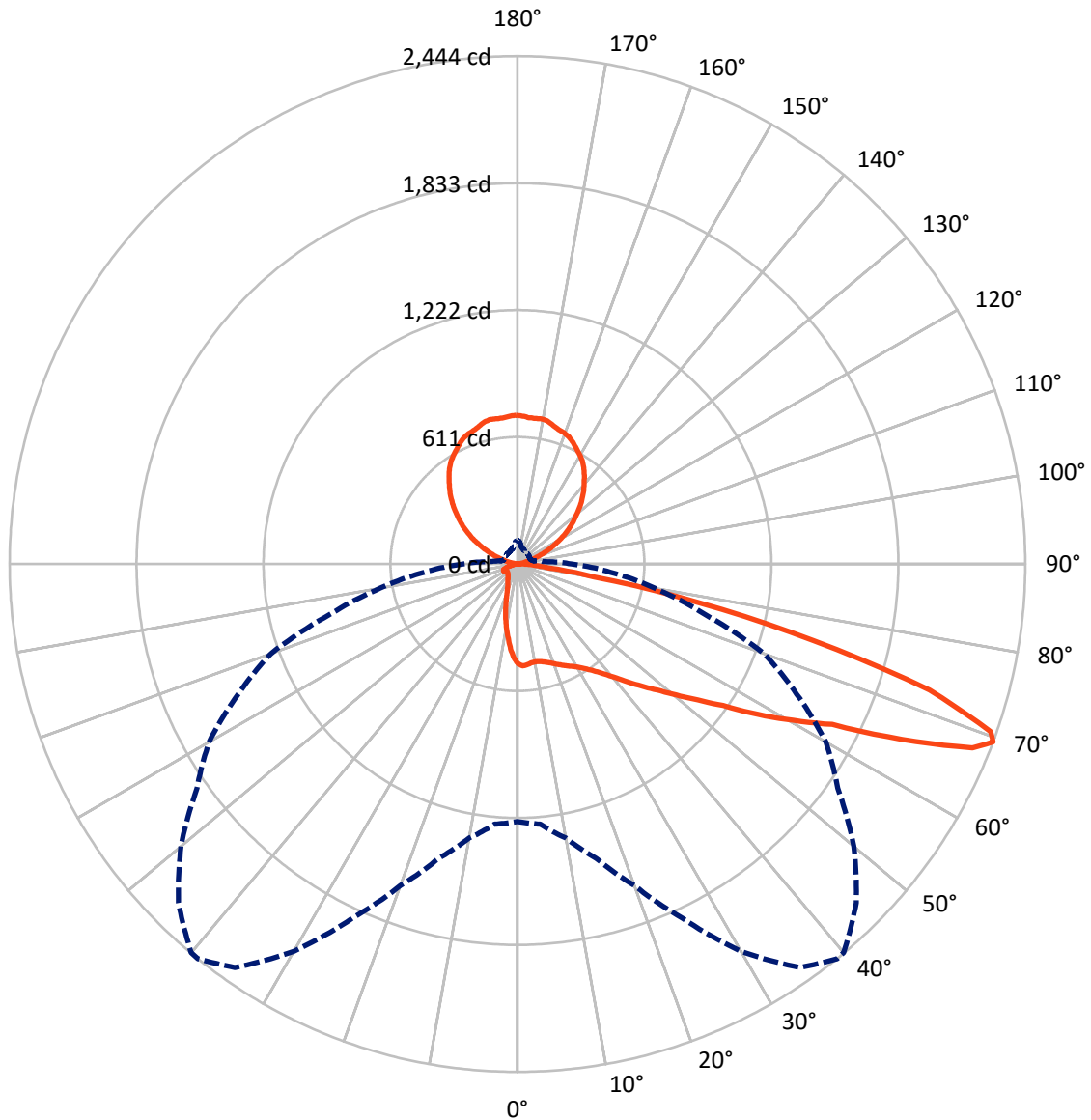
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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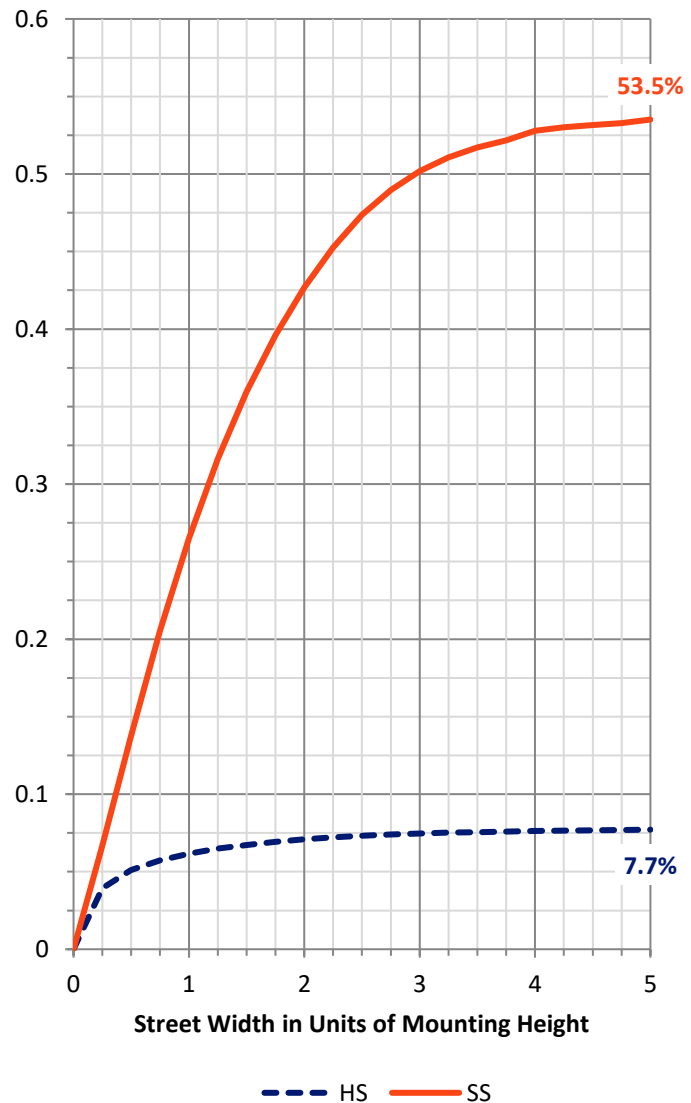
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	363.7	887.6	1251.3
	% Fixture	7.8	19.1	26.9
Street Side	Lumens	2507.0	888.2	3395.2
	% Fixture	54.0	19.1	73.1
Total	Lumens	2870.7	1775.7	4646.5
	% Fixture	61.8	38.2	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.5	0.9
10°-20°	104.6	2.3
20°-30°	162.9	3.5
30°-40°	246.2	5.3
40°-50°	393.9	8.5
50°-60°	619.1	13.3
60°-70°	833.6	17.9
70°-80°	413.5	8.9
80°-90°	55.4	1.2
90°-100°	10.3	0.2
100°-110°	58.7	1.3
110°-120°	169.9	3.7
120°-130°	279.4	6.0
130°-140°	344.6	7.4
140°-150°	352.5	7.6
150°-160°	297.0	6.4
160°-170°	195.5	4.2
170°-180°	67.8	1.5
0°-90°	2870.7	61.8
0°-180°	4646.5	100.0



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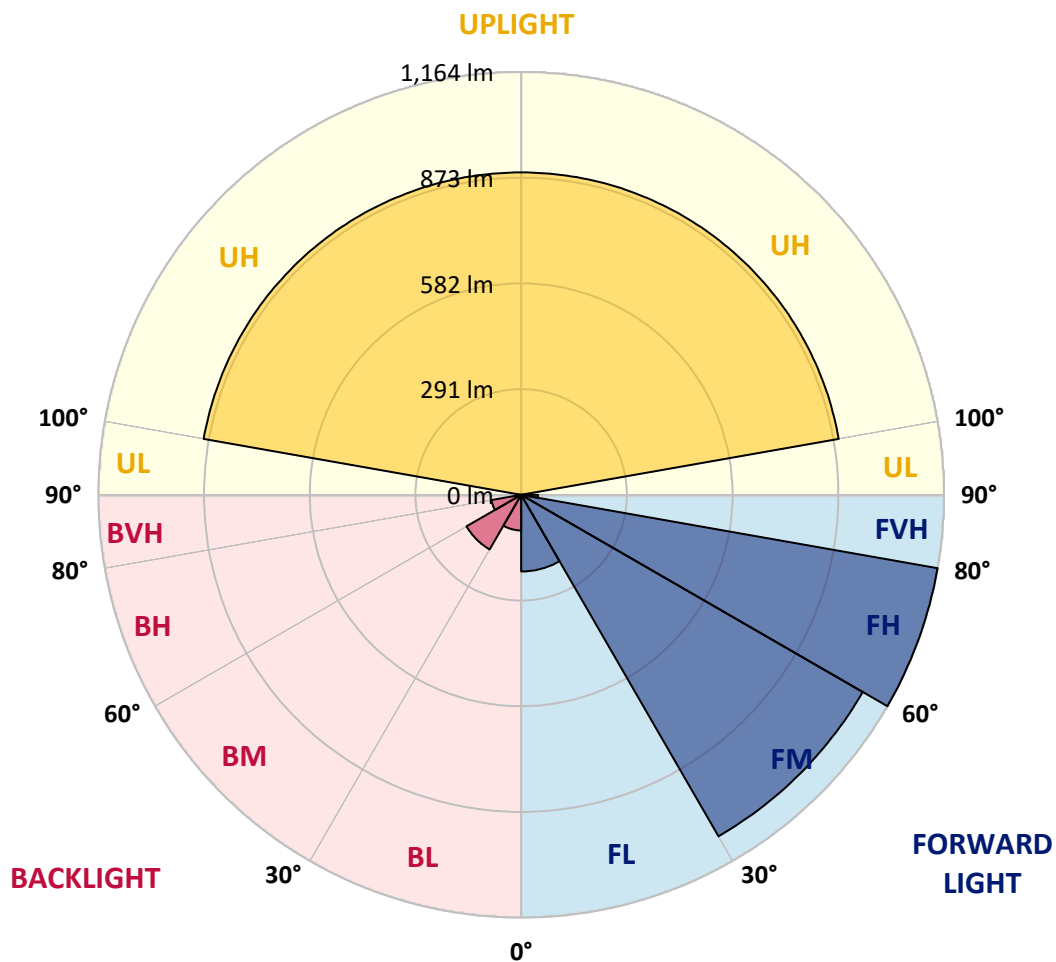
CATALOG NUMBER: ISW-AF-450-LED-E1-SL4-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	211.0	4.5			
FM	(30°-60°)	1085.7	23.4			
FH	(60°-80°)	1164.0	25.1			G1/1800
FVH	(80°-90°)	46.3	1.0			G1/100
BL	(0°-30°)	98.0	2.1	B0/110		
BM	(30°-60°)	173.5	3.7	B0/220		
BH	(60°-80°)	83.1	1.8	B0/110		G0/110
BVH	(80°-90°)	9.1	0.2			G0/10
UL	(90°-100°)	10.3	0.2		U2/50	
UH	(100°-180°)	887.6	19.1		U4/1000	

BUG Rating: B0-U5-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	39°	40°	45°
0°	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8
2.5°	492.4	492.9	492.9	493.4	491.5	491.5	491.9	490.1	491.0	490.6	488.3
5°	493.4	493.8	493.4	493.8	491.5	490.6	488.7	486.4	487.3	486.8	483.5
7.5°	491.0	491.5	490.6	491.0	488.3	486.4	483.5	481.7	480.3	479.9	475.7
10°	485.9	487.3	485.4	486.8	484.5	482.6	481.2	479.4	478.4	478.0	473.3
12.5°	478.4	479.4	479.9	481.7	481.7	482.2	482.2	480.8	481.2	480.8	477.0
15°	471.5	474.8	478.0	479.9	483.5	485.9	487.7	487.3	488.7	488.3	485.9
17.5°	471.5	474.2	479.9	485.9	492.9	496.1	499.0	499.0	499.4	498.5	494.8
20°	473.3	478.4	487.7	498.0	506.4	512.9	514.7	514.3	512.5	512.5	506.0
22.5°	488.7	491.9	502.2	513.4	525.1	531.5	532.0	530.6	526.9	526.0	518.0
25°	510.6	514.3	523.6	538.1	547.0	552.1	550.7	545.9	542.3	539.0	530.6
27.5°	544.6	547.4	556.7	566.5	571.6	573.5	567.9	561.4	557.2	555.8	544.6
30°	579.5	583.3	590.8	596.8	601.0	595.4	586.6	579.1	575.3	574.4	564.2
32.5°	622.4	622.9	628.0	629.4	629.8	620.5	608.5	601.4	600.1	598.2	590.2
35°	661.5	663.9	663.0	662.5	658.3	646.6	636.4	632.2	630.8	630.3	623.8
37.5°	696.4	700.2	697.9	693.7	688.5	679.2	668.5	663.9	668.5	665.7	667.2
40°	730.5	730.5	727.7	725.4	719.3	710.4	706.8	707.2	714.6	716.5	718.4
42.5°	759.8	759.3	756.6	754.7	753.8	751.9	750.0	758.9	773.4	776.1	780.3
45°	792.0	791.6	780.8	784.5	791.0	792.5	798.9	819.5	837.2	838.6	847.4
47.5°	823.2	819.5	809.3	812.9	831.6	841.4	852.1	881.0	905.6	910.7	935.5
50°	855.8	852.1	840.9	847.9	874.0	892.1	917.3	957.4	991.3	998.4	1030.5
52.5°	889.8	889.4	880.5	891.2	923.3	960.1	999.7	1044.9	1086.4	1095.3	1142.7
55°	930.8	928.4	924.7	937.8	983.5	1032.9	1094.8	1156.2	1201.5	1217.3	1265.3
57.5°	976.9	976.0	976.5	1003.5	1058.4	1133.4	1209.4	1292.3	1366.9	1378.0	1422.7
60°	1017.0	1018.9	1029.6	1072.0	1140.9	1242.5	1349.2	1461.4	1527.6	1539.2	1583.0
62.5°	1065.9	1076.7	1100.4	1154.0	1235.0	1358.0	1496.4	1615.1	1700.5	1724.2	1807.1
65°	1183.3	1191.7	1235.9	1300.7	1404.1	1561.6	1720.5	1893.3	2034.0	2055.4	2126.7
67.5°	1269.1	1290.5	1359.9	1465.6	1615.1	1816.5	2034.4	2243.6	2362.4	2372.2	2322.4
69°	1239.2	1256.9	1338.9	1466.6	1646.8	1881.2	2152.3	2370.8	2443.9	2442.1	2306.5
70°	1193.6	1209.8	1300.3	1424.2	1620.3	1873.7	2154.2	2371.7	2416.0	2399.2	2244.0
72.5°	999.7	1014.2	1099.0	1228.5	1418.5	1670.2	1934.3	2082.9	2073.6	2059.6	1803.4
75°	624.3	623.3	697.4	772.4	920.1	1174.4	1371.1	1490.3	1471.2	1460.5	1157.7
77.5°	233.4	249.7	276.7	357.3	425.3	562.7	721.6	854.4	891.2	844.1	623.3
80°	121.6	130.4	148.1	176.6	203.2	232.5	279.6	359.7	372.3	347.1	251.5
82.5°	96.0	106.7	124.4	148.6	167.3	156.1	147.2	152.3	151.4	144.4	128.1
85°	72.6	85.2	114.2	138.8	165.4	139.7	111.3	97.4	86.6	87.2	92.7
87.5°	36.3	47.1	89.9	121.1	143.9	92.7	72.6	56.4	47.1	45.2	60.6
90°	16.3	16.3	24.3	30.9	40.3	24.4	24.0	20.3	16.7	16.6	21.2
92.5°	4.1	4.1	4.6	5.1	5.6	6.1	6.1	6.1	6.1	6.1	6.1
95°	5.1	5.1	5.6	6.1	6.6	7.2	7.2	7.2	7.2	7.2	7.2
97.5°	7.2	7.2	7.7	8.2	8.2	8.2	8.7	9.2	9.2	9.2	9.2
100°	8.2	8.2	8.7	9.2	9.7	10.2	11.3	12.3	16.0	16.9	21.5
102.5°	11.3	11.3	12.3	13.3	15.9	18.4	23.0	27.6	32.9	34.3	40.9
105°	21.5	22.5	25.1	27.6	32.2	36.8	43.0	49.1	55.2	56.8	64.4
107.5°	41.9	43.0	46.5	50.1	54.7	59.3	67.0	74.7	80.8	82.3	90.0



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CATALOG NUMBER: ISW-AF-450-LED-E1-SL4-ULG

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	39°	40°	45°
110°	67.5	69.6	72.6	75.7	82.3	89.0	96.7	104.3	109.3	110.5	116.6
112.5°	101.3	101.3	104.9	108.4	116.1	123.8	130.4	137.1	140.8	141.7	146.3
115°	143.2	142.2	146.3	150.4	156.5	162.6	167.3	171.9	174.3	174.9	178.0
117.5°	188.2	188.2	190.8	193.3	197.4	201.5	204.1	206.6	207.9	208.2	209.7
120°	230.2	228.1	229.7	231.2	234.8	238.3	240.4	242.4	244.9	245.5	248.6
122.5°	269.0	266.0	266.5	267.0	270.1	273.1	275.2	277.2	279.7	280.3	283.4
125°	304.8	300.7	301.8	302.8	304.3	305.9	308.9	312.0	314.0	314.6	317.1
127.5°	337.6	336.6	336.6	336.6	338.6	340.6	343.7	346.8	347.2	347.3	347.8
130°	371.3	369.3	369.8	370.3	372.4	374.4	376.4	378.5	379.3	379.5	380.5
132.5°	405.1	403.0	402.5	402.0	406.1	410.2	411.7	413.3	413.7	413.8	414.3
135°	438.8	435.8	435.8	435.8	438.8	441.9	443.4	445.0	445.8	446.0	447.0
137.5°	470.6	467.5	468.5	469.5	470.0	470.6	472.6	474.6	476.3	476.7	478.7
140°	499.2	496.1	497.2	498.2	499.2	500.2	501.2	502.3	504.7	505.3	508.4
142.5°	529.9	526.8	527.8	528.9	529.4	529.9	531.4	533.0	534.6	535.0	537.0
145°	562.6	558.5	557.5	556.5	558.0	559.6	561.1	562.6	563.0	563.1	563.6
147.5°	588.2	585.1	584.6	584.1	585.6	587.2	587.2	587.2	587.6	587.7	588.2
150°	608.7	605.6	606.1	606.6	606.6	606.6	606.6	606.6	606.6	606.6	606.6
152.5°	625.0	622.0	622.0	622.0	622.5	623.0	623.5	624.0	624.0	624.0	624.0
155°	643.4	639.3	639.3	639.3	640.4	641.4	642.9	644.5	643.6	643.4	642.4
157.5°	660.8	657.8	657.8	657.8	658.3	658.8	659.8	660.8	660.4	660.3	659.8
160°	678.2	675.1	674.6	674.1	672.6	671.1	670.5	670.0	670.0	670.0	670.0
162.5°	688.4	684.4	684.4	684.4	682.3	680.3	678.2	676.2	677.0	677.2	678.2
165°	696.6	693.6	692.5	691.5	691.5	691.5	690.0	688.4	688.4	688.4	688.4
167.5°	705.8	702.8	701.2	699.7	700.7	701.7	702.8	703.8	702.6	702.3	700.7
170°	714.0	711.0	709.4	707.9	707.9	707.9	708.4	708.9	708.1	707.9	706.9
172.5°	715.0	713.0	712.0	711.0	709.9	708.9	707.4	705.8	705.8	705.8	705.8
175°	716.1	714.0	713.5	713.0	712.0	711.0	708.9	706.9	706.4	706.3	705.8
177.5°	723.2	721.2	718.6	716.1	715.6	715.0	714.0	713.0	712.2	712.0	711.0
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8
2.5°	486.4	486.4	485.4	485.0	483.5	481.7	480.3	478.0	476.6	474.2	471.5
5°	480.3	478.4	477.5	475.7	472.8	470.6	467.7	464.5	460.7	456.1	450.9
7.5°	472.4	469.6	466.4	465.4	462.2	459.3	456.1	451.4	446.3	437.9	431.4
10°	469.1	466.4	463.5	461.7	457.5	454.2	450.5	444.5	437.9	426.8	414.6
12.5°	472.4	469.6	466.8	463.5	459.8	456.1	450.9	443.6	434.7	420.2	405.3
15°	480.3	477.5	472.8	469.6	464.5	461.2	454.2	445.8	432.8	415.1	395.5
17.5°	489.2	485.0	480.8	475.7	471.0	466.8	459.3	448.7	432.3	411.3	386.2
20°	497.6	492.9	486.4	482.6	478.0	471.9	464.0	450.9	431.4	403.9	376.4
22.5°	507.4	501.2	494.3	490.1	486.4	481.2	471.9	455.1	431.4	399.7	365.2
25°	519.9	512.0	505.0	500.8	498.5	494.8	483.5	464.9	434.7	397.4	355.9
27.5°	534.8	524.6	518.5	515.7	515.3	512.5	501.2	478.0	442.1	397.4	347.1
30°	552.5	543.7	535.7	535.7	541.3	539.5	526.9	498.0	453.8	398.7	340.5
32.5°	577.3	568.4	563.7	568.4	574.4	576.3	561.8	526.4	472.8	405.3	334.0
35°	613.6	607.9	604.7	611.7	623.8	628.5	610.8	568.9	500.8	417.9	330.3
37.5°	661.5	657.3	653.2	665.2	688.1	697.4	671.8	617.8	540.8	438.8	328.5
40°	716.5	717.0	721.6	745.8	767.7	787.4	758.4	691.8	595.9	468.7	330.3
42.5°	781.7	786.9	802.7	836.3	878.6	894.0	866.0	781.2	664.3	504.5	334.9
45°	862.8	876.3	903.4	953.2	1004.4	1028.2	988.6	894.0	750.5	561.8	348.0
47.5°	949.0	978.8	1024.5	1085.0	1144.7	1160.0	1111.1	996.0	834.8	612.6	368.1
50°	1059.4	1095.7	1141.4	1214.0	1277.5	1286.8	1222.0	1090.6	908.5	656.8	387.2
52.5°	1162.4	1211.7	1270.0	1354.3	1418.5	1407.0	1323.1	1175.0	966.7	687.1	397.8
55°	1303.0	1354.3	1420.0	1493.6	1557.4	1529.4	1414.8	1246.7	1013.2	709.5	401.1
57.5°	1463.7	1502.9	1567.2	1642.7	1684.6	1636.6	1505.3	1316.5	1057.5	710.0	375.5
60°	1621.7	1667.3	1738.2	1812.3	1835.5	1752.6	1568.1	1327.3	1013.7	633.6	300.4
62.5°	1855.5	1901.7	1937.6	1949.6	1907.7	1741.0	1494.9	1214.0	874.0	499.9	212.9
65°	2116.9	2064.7	1995.4	1930.1	1815.9	1562.6	1289.0	997.4	678.3	334.0	146.8
67.5°	2185.4	2026.6	1875.6	1730.2	1517.3	1244.3	972.3	701.6	435.2	190.1	99.7
69°	2114.1	1882.1	1714.0	1483.4	1263.4	931.3	669.9	449.6	259.9	132.3	83.4
70°	1983.7	1742.4	1514.6	1267.6	978.8	711.4	445.4	294.4	169.6	96.5	75.0
72.5°	1496.9	1196.9	922.4	599.1	365.2	202.6	142.6	102.0	80.6	70.8	64.2
75°	865.6	576.3	377.4	201.2	119.3	88.5	77.3	68.9	63.8	61.5	56.0
77.5°	365.2	228.3	154.7	113.2	80.1	68.4	59.6	54.9	54.5	53.1	48.0
80°	166.3	142.6	121.6	85.2	61.1	52.2	45.6	44.7	45.6	44.3	39.2
82.5°	123.5	121.6	101.6	65.7	46.5	35.0	28.4	29.8	33.6	36.3	31.7
85°	102.9	102.9	85.2	48.9	30.8	22.4	21.9	24.7	27.9	30.3	25.6
87.5°	94.5	90.8	48.9	25.2	17.7	14.4	13.5	12.1	12.1	21.0	17.7
90°	16.5	11.4	10.5	11.0	11.6	11.0	10.9	9.5	9.5	9.5	10.5
92.5°	6.6	7.2	7.2	7.2	6.6	6.1	6.1	6.1	6.1	6.1	6.1
95°	7.2	7.2	7.7	8.2	7.7	7.2	7.2	7.2	7.2	7.2	7.2
97.5°	10.7	12.3	11.3	10.2	9.7	9.2	8.7	8.2	8.2	8.2	8.7
100°	25.6	29.7	28.1	26.6	25.1	23.5	21.5	19.4	19.4	19.4	21.5
102.5°	46.0	51.1	49.6	48.1	45.5	43.0	41.4	39.9	38.9	39.9	41.4
105°	69.0	73.7	72.6	71.6	69.0	66.5	64.4	62.4	62.4	62.4	64.4
107.5°	93.6	97.2	96.7	96.2	94.1	92.1	90.5	89.0	88.0	89.0	90.5



REPORT NUMBER: P227020

CATALOG NUMBER: ISW-AF-450-LED-E1-SL4-ULG

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
110°	119.7	122.8	123.3	123.8	122.8	121.7	120.2	118.7	119.7	118.7	120.2
112.5°	148.8	151.4	152.4	153.4	152.9	152.4	151.4	150.4	150.4	150.4	151.4
115°	180.6	183.1	184.6	186.2	184.6	183.1	182.1	181.1	182.1	181.1	182.1
117.5°	212.8	215.8	217.9	219.9	217.4	214.8	213.8	212.8	213.8	212.8	213.8
120°	250.1	251.6	253.7	255.7	253.2	250.6	249.6	248.6	248.6	248.6	249.6
122.5°	284.4	285.4	287.4	289.5	286.9	284.4	283.4	282.3	283.4	282.3	283.4
125°	318.6	320.2	321.2	322.2	319.7	317.1	317.1	317.1	317.1	317.1	317.1
127.5°	350.4	352.9	353.4	353.9	353.9	353.9	353.4	352.9	355.0	352.9	353.4
130°	383.1	385.7	387.7	389.7	389.7	389.7	388.7	387.7	388.7	387.7	388.7
132.5°	417.4	420.4	423.0	425.5	424.5	423.5	423.5	423.5	424.5	423.5	423.5
135°	450.1	453.2	455.7	458.3	457.8	457.3	458.8	460.3	461.4	460.3	458.8
137.5°	481.3	483.9	484.9	485.9	486.4	486.9	489.5	492.0	493.1	492.0	489.5
140°	509.9	511.5	512.5	513.5	514.5	515.6	518.1	520.7	522.7	520.7	518.1
142.5°	538.1	539.1	542.2	545.2	545.2	545.2	545.7	546.3	548.3	546.3	545.7
145°	566.2	568.8	571.8	574.9	574.4	573.9	572.3	570.8	572.9	570.8	572.3
147.5°	590.8	593.3	595.9	598.4	598.9	599.4	597.9	596.4	598.4	596.4	597.9
150°	608.7	610.7	612.2	613.8	615.3	616.8	618.4	619.9	624.0	619.9	618.4
152.5°	624.5	625.0	626.6	628.1	630.1	632.2	634.7	637.3	642.4	637.3	634.7
155°	641.4	640.4	642.9	645.5	648.0	650.6	651.6	652.6	655.7	652.6	651.6
157.5°	659.3	658.8	660.8	662.9	663.9	664.9	664.9	664.9	670.0	664.9	664.9
160°	671.6	673.1	676.2	679.2	677.7	676.2	675.7	675.1	681.3	675.1	675.7
162.5°	680.3	682.3	684.4	686.4	685.9	685.4	684.4	683.3	689.5	683.3	684.4
165°	687.9	687.4	690.0	692.5	694.1	695.6	694.6	693.6	697.7	693.6	694.6
167.5°	697.1	693.6	696.6	699.7	701.7	703.8	703.8	703.8	709.9	703.8	703.8
170°	704.3	701.7	703.3	704.8	707.4	709.9	711.0	712.0	717.1	712.0	711.0
172.5°	705.3	704.8	706.3	707.9	708.9	709.9	711.0	712.0	717.1	712.0	711.0
175°	705.8	705.8	708.4	711.0	711.5	712.0	711.0	709.9	715.0	709.9	711.0
177.5°	710.4	709.9	712.5	715.0	716.1	717.1	715.6	714.0	718.1	714.0	715.6
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1



REPORT NUMBER: P227020

CATALOG NUMBER: ISW-AF-450-LED-E1-SL4-ULG

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8
2.5°	469.1	467.3	462.6	461.7	460.3	458.4	458.0	455.6	450.9	450.0	450.5
5°	447.7	440.3	435.2	431.0	427.7	419.3	416.0	412.2	405.8	403.9	401.1
7.5°	422.6	413.7	403.5	396.0	387.2	378.3	371.3	362.4	355.5	351.3	343.8
10°	402.9	390.9	377.4	362.4	350.8	337.3	328.5	318.2	307.0	296.8	289.3
12.5°	388.1	371.3	351.7	334.0	317.2	302.8	286.9	272.5	258.6	244.6	232.5
15°	375.9	355.0	330.3	307.9	287.4	266.0	248.3	228.3	210.5	198.5	183.1
17.5°	362.9	335.9	306.6	280.5	253.9	231.5	209.2	188.2	171.4	155.6	143.0
20°	347.1	314.5	282.7	252.5	222.2	196.6	173.8	153.7	137.4	124.9	115.5
22.5°	329.4	291.1	254.4	221.3	191.0	165.8	144.4	129.5	117.4	110.4	107.6
25°	312.1	268.3	226.9	190.6	160.3	138.8	124.4	111.8	105.8	102.9	102.9
27.5°	296.2	245.0	199.0	163.6	134.2	117.4	106.2	101.1	98.3	98.3	99.7
30°	281.4	221.8	172.4	136.5	113.2	100.7	94.5	92.7	93.2	95.0	96.9
32.5°	264.1	199.4	149.6	117.4	98.3	89.9	85.2	85.7	88.1	91.3	94.5
35°	246.0	175.6	129.5	102.9	88.1	81.5	78.8	79.2	82.4	86.6	89.9
37.5°	229.7	156.5	114.2	91.8	80.6	76.4	74.1	74.6	76.8	82.0	86.2
40°	213.4	140.2	101.6	85.2	76.4	72.2	70.8	70.4	72.2	76.8	82.0
42.5°	199.4	126.2	94.1	80.6	73.7	69.9	68.0	68.0	68.9	72.6	77.8
45°	191.0	117.8	89.0	77.3	71.3	68.0	66.2	65.3	66.6	68.9	73.7
47.5°	191.0	113.6	85.7	75.0	69.5	66.6	64.2	63.8	64.2	66.6	71.3
50°	197.5	114.6	85.2	74.1	68.4	64.8	62.4	62.4	63.3	66.6	70.4
52.5°	203.2	116.5	86.6	75.0	68.4	63.8	61.1	60.6	62.0	65.3	68.4
55°	202.2	116.5	88.1	76.4	69.9	64.2	60.6	60.0	61.1	64.2	67.5
57.5°	180.8	109.5	86.6	77.3	71.7	66.6	62.9	61.5	62.4	65.3	68.0
60°	146.3	97.4	83.0	77.3	74.6	70.8	67.1	66.2	66.6	69.5	72.6
62.5°	114.6	86.6	78.3	76.8	75.9	74.1	72.6	71.7	71.7	74.1	76.8
65°	93.2	78.3	74.6	75.0	75.9	75.5	75.0	74.6	74.6	75.9	78.8
67.5°	77.8	70.4	69.5	70.8	71.7	72.2	72.6	72.2	72.6	74.1	77.3
69°	70.8	66.2	65.3	66.2	68.0	68.4	69.5	68.9	69.5	70.8	74.1
70°	66.6	62.9	62.0	63.3	64.8	65.3	66.2	65.7	66.2	67.5	70.8
72.5°	57.8	53.6	52.2	53.1	54.5	54.5	56.0	56.4	55.4	56.0	58.2
75°	49.4	44.7	42.4	42.9	42.9	42.9	43.8	43.8	42.9	42.4	42.9
77.5°	41.4	36.3	33.6	33.6	33.6	33.0	31.7	32.1	32.6	32.1	32.6
80°	32.6	28.4	25.6	25.6	25.6	24.7	24.2	24.2	25.2	26.1	25.6
82.5°	25.2	21.0	19.5	19.1	19.1	18.2	18.2	19.1	18.6	19.1	20.0
85°	18.2	14.9	13.5	14.0	13.5	12.6	13.1	14.4	14.4	14.0	14.9
87.5°	11.2	9.3	8.9	9.3	8.4	7.0	6.5	7.0	7.9	7.5	8.4
90°	10.6	10.1	10.1	9.1	8.6	8.1	8.1	8.6	9.6	9.6	9.1
92.5°	6.1	6.6	7.2	7.2	7.2	6.6	6.1	6.1	6.1	6.1	6.1
95°	7.2	7.7	8.2	7.7	7.2	7.2	7.2	7.2	7.2	7.2	7.2
97.5°	9.2	9.7	10.2	11.3	12.3	10.7	9.2	9.2	9.2	8.7	8.2
100°	23.5	25.1	26.6	28.1	29.7	25.6	21.5	16.9	12.3	11.3	10.2
102.5°	43.0	45.5	48.1	49.6	51.1	46.0	40.9	34.3	27.6	23.0	18.4
105°	66.5	69.0	71.6	72.6	73.7	69.0	64.4	56.8	49.1	43.0	36.8
107.5°	92.1	94.1	96.2	96.7	97.2	93.6	90.0	82.3	74.7	67.0	59.3



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	
110°	121.7	122.8	123.8	123.3	122.8	119.7	116.6	110.5	104.3	96.7	89.0	0°
112.5°	152.4	152.9	153.4	152.4	151.4	148.8	146.3	141.7	137.1	130.4	123.8	2.5°
115°	183.1	184.6	186.2	184.6	183.1	180.6	178.0	174.9	171.9	167.3	162.6	5°
117.5°	214.8	217.4	219.9	217.9	215.8	212.8	209.7	208.2	206.6	204.1	201.5	7.5°
120°	250.6	253.2	255.7	253.7	251.6	250.1	248.6	245.5	242.4	240.4	238.3	10°
122.5°	284.4	286.9	289.5	287.4	285.4	284.4	283.4	280.3	277.2	275.2	273.1	12.5°
125°	317.1	319.7	322.2	321.2	320.2	318.6	317.1	314.6	312.0	308.9	305.9	15°
127.5°	353.9	353.9	353.9	353.4	352.9	350.4	347.8	347.3	346.8	343.7	340.6	17.5°
130°	389.7	389.7	389.7	387.7	385.7	383.1	380.5	379.5	378.5	376.4	374.4	20°
132.5°	423.5	424.5	425.5	423.0	420.4	417.4	414.3	413.8	413.3	411.7	410.2	22.5°
135°	457.3	457.8	458.3	455.7	453.2	450.1	447.0	446.0	445.0	443.4	441.9	25°
137.5°	486.9	486.4	485.9	484.9	483.9	481.3	478.7	476.7	474.6	472.6	470.6	27.5°
140°	515.6	514.5	513.5	512.5	511.5	509.9	508.4	505.3	502.3	501.2	500.2	30°
142.5°	545.2	545.2	545.2	542.2	539.1	538.1	537.0	535.0	533.0	531.4	529.9	32.5°
145°	573.9	574.4	574.9	571.8	568.8	566.2	563.6	563.1	562.6	561.1	559.6	35°
147.5°	599.4	598.9	598.4	595.9	593.3	590.8	588.2	587.7	587.2	587.2	587.2	37.5°
150°	616.8	615.3	613.8	612.2	610.7	608.7	606.6	606.6	606.6	606.6	606.6	40°
152.5°	632.2	630.1	628.1	626.6	625.0	624.5	624.0	624.0	624.0	623.5	623.0	42.5°
155°	650.6	648.0	645.5	642.9	640.4	641.4	642.4	643.4	644.5	642.9	641.4	45°
157.5°	664.9	663.9	662.9	660.8	658.8	659.3	659.8	660.3	660.8	659.8	658.8	47.5°
160°	676.2	677.7	679.2	676.2	673.1	671.6	670.0	670.0	670.0	670.5	671.1	50°
162.5°	685.4	685.9	686.4	684.4	682.3	680.3	678.2	677.2	676.2	678.2	680.3	52.5°
165°	695.6	694.1	692.5	690.0	687.4	687.9	688.4	688.4	688.4	690.0	691.5	55°
167.5°	703.8	701.7	699.7	696.6	693.6	697.1	700.7	702.3	703.8	702.8	701.7	57.5°
170°	709.9	707.4	704.8	703.3	701.7	704.3	706.9	707.9	708.9	708.4	707.9	60°
172.5°	709.9	708.9	707.9	706.3	704.8	705.3	705.8	705.8	705.8	707.4	708.9	62.5°
175°	712.0	711.5	711.0	708.4	705.8	705.8	705.8	706.3	706.9	708.9	711.0	65°
177.5°	717.1	716.1	715.0	712.5	709.9	710.4	711.0	712.0	713.0	714.0	715.0	67.5°
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	69°
												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-SL4-ULG

REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

160°	165°	170°	175°	180°
480.8	480.8	480.8	480.8	480.8
447.2	448.7	442.5	445.4	443.6
398.3	396.0	395.5	394.1	391.4
341.1	339.1	333.6	335.4	331.2
281.8	281.4	271.2	271.6	266.5
227.3	218.9	214.7	208.7	212.0
176.0	169.1	160.3	157.9	161.2
132.8	125.8	121.6	117.8	116.5
110.0	105.8	103.4	102.0	101.1
106.2	105.3	104.9	103.9	103.4
103.9	104.9	104.9	104.9	103.9
101.6	103.4	103.9	103.4	102.5
99.2	100.7	100.7	100.1	98.7
96.0	97.4	97.4	96.9	96.0
92.3	93.2	93.6	93.6	94.1
89.4	90.4	91.3	92.3	93.6
86.2	87.6	88.1	89.9	91.8
82.0	83.9	84.8	86.2	88.1
77.8	80.1	80.6	82.4	84.3
75.9	77.8	77.8	79.2	80.6
73.7	74.6	74.1	75.0	75.5
71.3	72.2	71.7	72.6	73.1
69.5	70.4	71.3	72.2	72.6
70.4	71.7	72.2	73.7	74.1
74.6	76.4	78.3	80.1	81.5
78.8	81.0	85.2	93.6	96.9
81.0	84.3	94.1	108.5	112.7
79.7	83.9	95.5	110.9	116.0
76.8	80.1	92.7	108.5	113.2
73.1	76.4	89.0	106.2	110.4
59.1	61.1	75.0	91.3	94.1
43.4	44.7	55.4	62.0	61.5
33.6	35.4	39.2	39.6	39.2
26.6	27.5	29.4	29.4	29.8
20.5	21.0	21.9	21.0	20.5
15.3	14.9	14.4	14.0	13.5
8.9	8.9	7.5	6.5	6.0
8.6	8.6	7.6	6.0	5.1
5.6	5.1	4.6	4.1	4.1
6.6	6.1	5.6	5.1	5.1
8.2	8.2	7.7	7.2	7.2
9.7	9.2	8.7	8.2	8.2
15.9	13.3	12.3	11.3	11.3
32.2	27.6	25.1	22.5	21.5
54.7	50.1	46.5	43.0	41.9

CANDELA DISTRIBUTION:

	160°
110°	82.3
112.5°	116.1
115°	156.5
117.5°	197.4
120°	234.8
122.5°	270.1
125°	304.3
127.5°	338.6
130°	372.4
132.5°	406.1
135°	438.8
137.5°	470.0
140°	499.2
142.5°	529.4
145°	558.0
147.5°	585.6
150°	606.6
152.5°	622.5
155°	640.4
157.5°	658.3
160°	672.6
162.5°	682.3
165°	691.5
167.5°	700.7
170°	707.9
172.5°	709.9
175°	712.0
177.5°	715.6
180°	716.1

'227020

ISW-AF-450-LED-E1-SL4-ULG

TION (continued):

165°	170°	175°	180°
75.7	72.6	69.6	67.5
108.4	104.9	101.3	101.3
150.4	146.3	142.2	143.2
193.3	190.8	188.2	188.2
231.2	229.7	228.1	230.2
267.0	266.5	266.0	269.0
302.8	301.8	300.7	304.8
336.6	336.6	336.6	337.6
370.3	369.8	369.3	371.3
402.0	402.5	403.0	405.1
435.8	435.8	435.8	438.8
469.5	468.5	467.5	470.6
498.2	497.2	496.1	499.2
528.9	527.8	526.8	529.9
556.5	557.5	558.5	562.6
584.1	584.6	585.1	588.2
606.6	606.1	605.6	608.7
622.0	622.0	622.0	625.0
639.3	639.3	639.3	643.4
657.8	657.8	657.8	660.8
674.1	674.6	675.1	678.2
684.4	684.4	684.4	688.4
691.5	692.5	693.6	696.6
699.7	701.2	702.8	705.8
707.9	709.4	711.0	714.0
711.0	712.0	713.0	715.0
713.0	713.5	714.0	716.1
716.1	718.6	721.2	723.2
716.1	716.1	716.1	716.1

(END OF REPORT)