

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: P227021

Luminaire Tested: **ISW-AF-450-LED-E1-SL4-8030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227021
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-SL4-8030-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) 3000K CCT, 80 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4025.9 lumens
Efficiency: N/A
Efficacy: 95.8 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

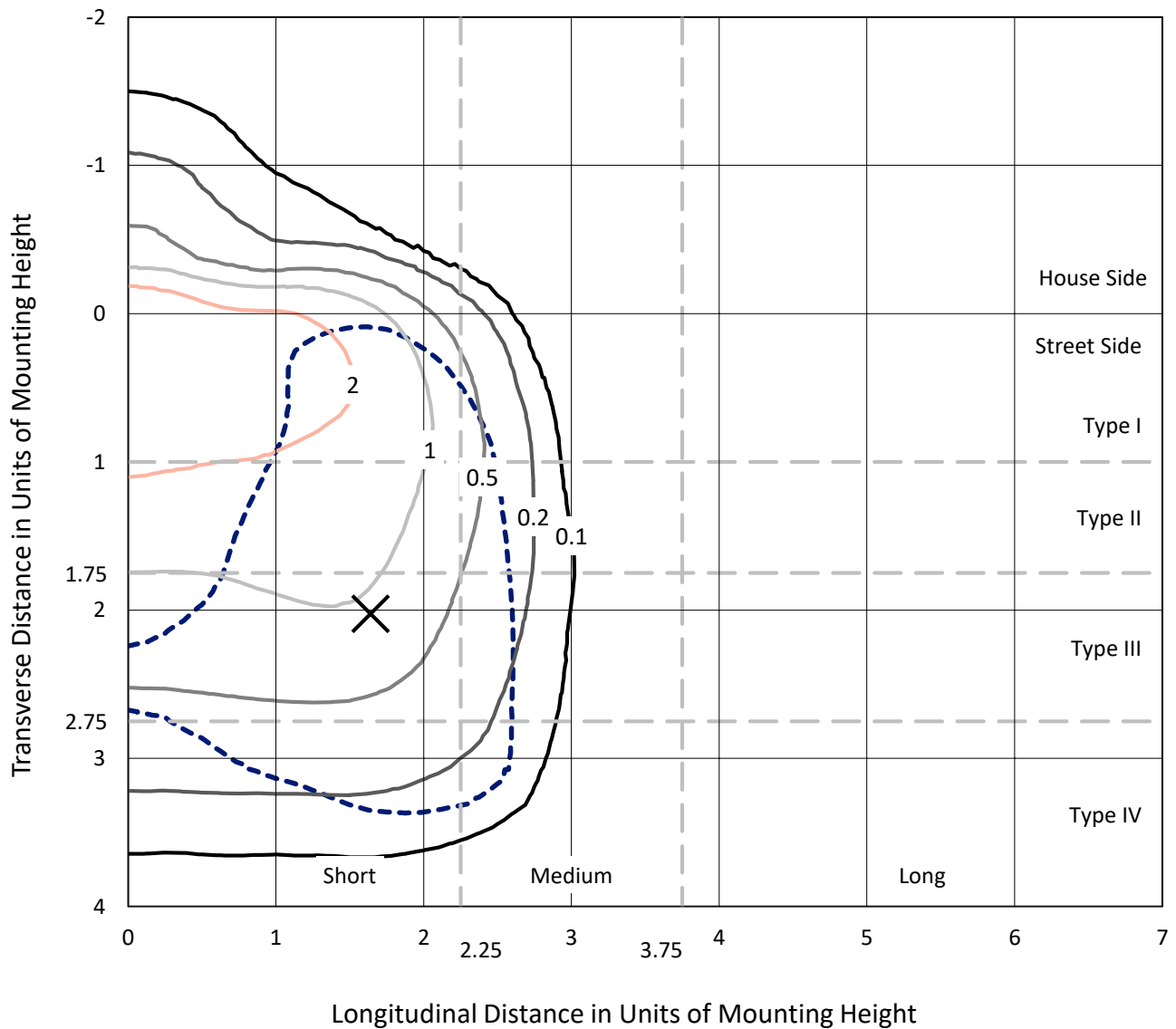
Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

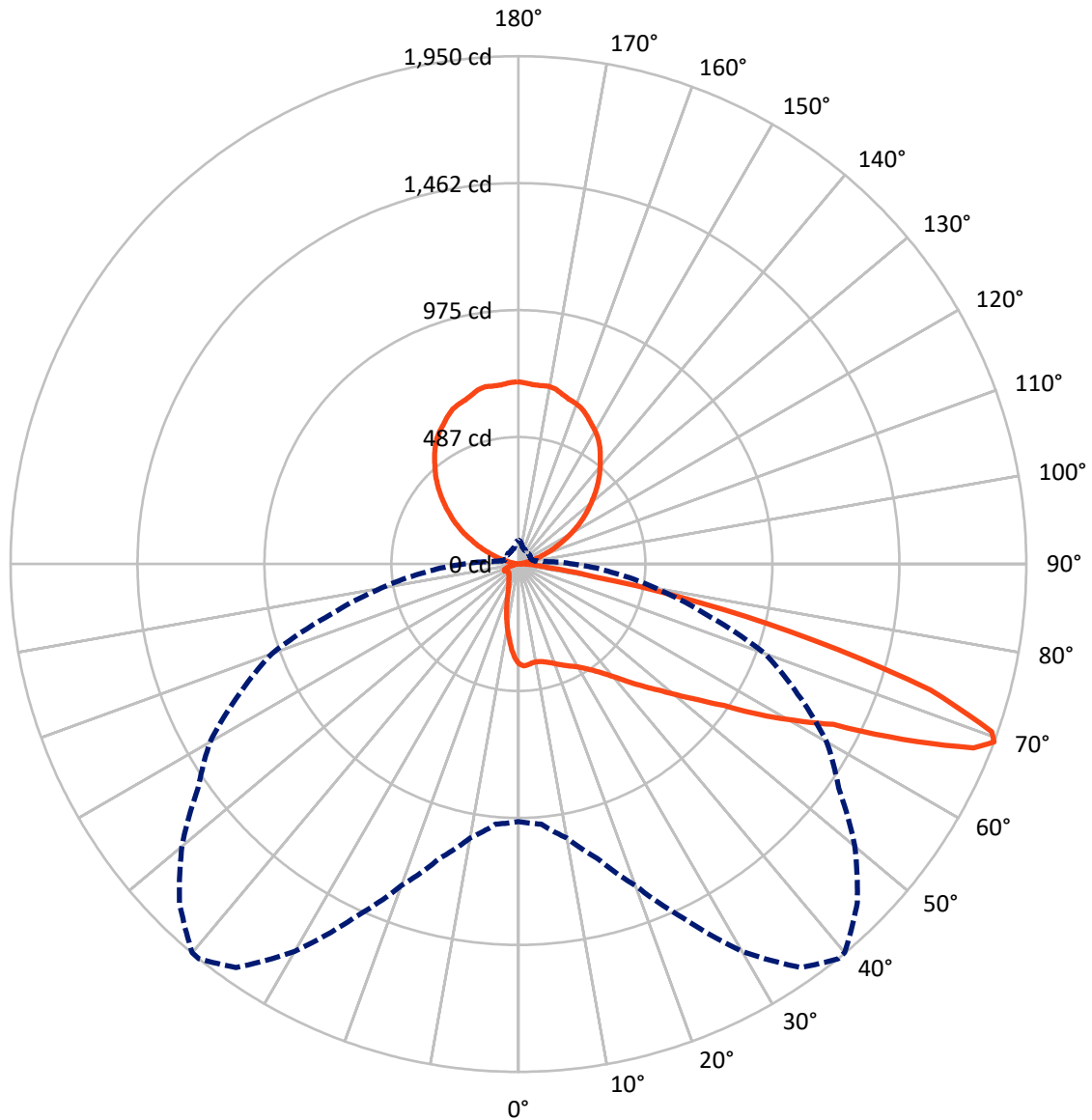
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.8 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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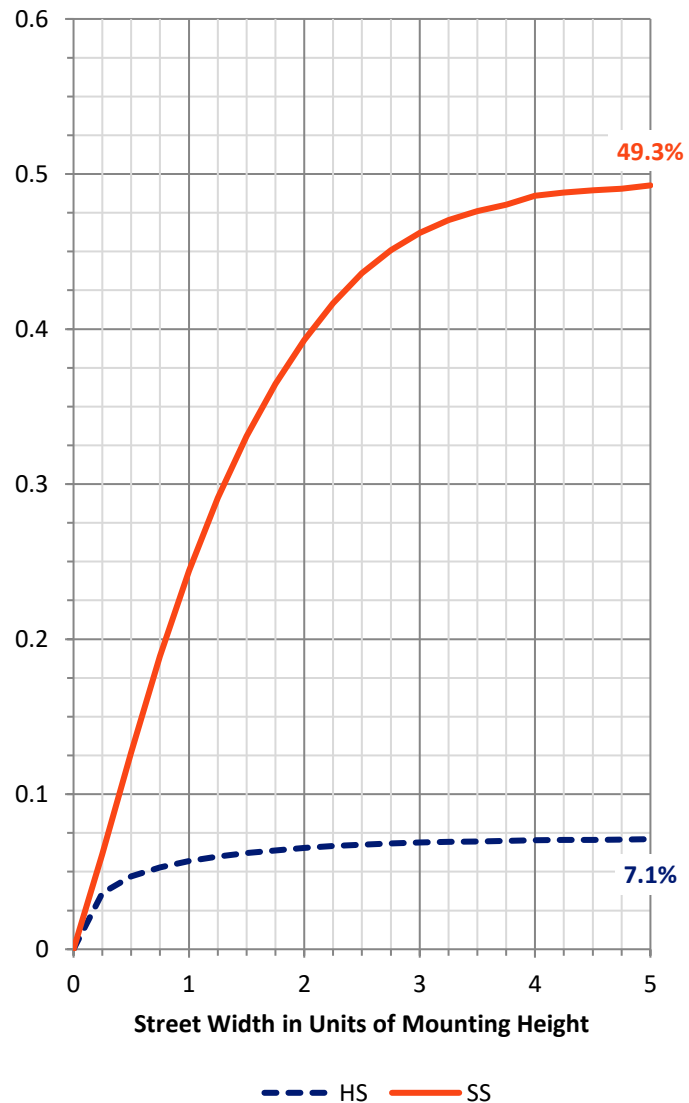
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	290.2	867.6	1157.9
	% Fixture	7.2	21.6	28.8
Street Side	Lumens	1999.9	868.1	2868.1
	% Fixture	49.7	21.6	71.2
Total	Lumens	2290.1	1735.8	4025.9
	% Fixture	56.9	43.1	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.1	0.8
10°-20°	83.5	2.1
20°-30°	129.9	3.2
30°-40°	196.4	4.9
40°-50°	314.2	7.8
50°-60°	493.9	12.3
60°-70°	665.0	16.5
70°-80°	329.9	8.2
80°-90°	44.3	1.1
90°-100°	9.9	0.2
100°-110°	57.4	1.4
110°-120°	166.1	4.1
120°-130°	273.2	6.8
130°-140°	336.8	8.4
140°-150°	344.6	8.6
150°-160°	290.3	7.2
160°-170°	191.2	4.7
170°-180°	66.3	1.6
0°-90°	2290.1	56.9
0°-180°	4025.9	100.0



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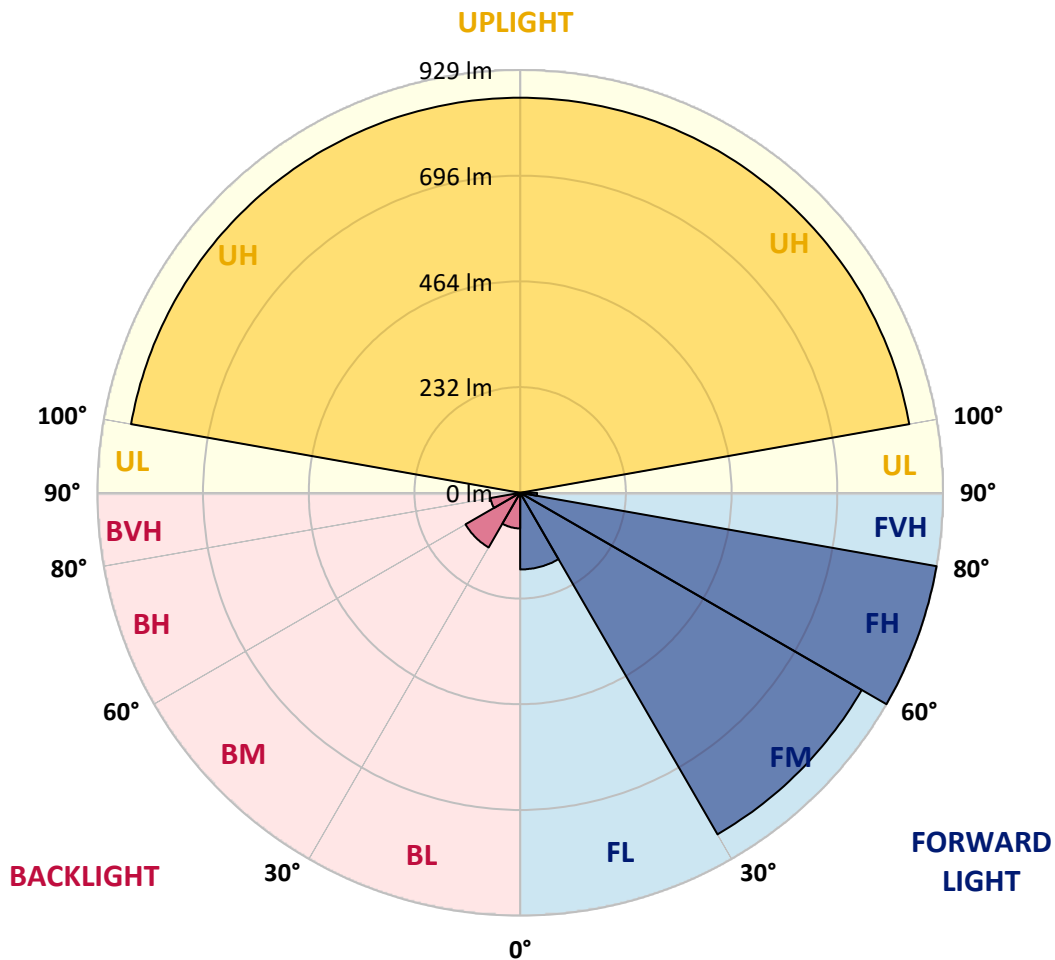
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	168.4	4.2			
FM	(30°-60°)	866.0	21.5			
FH	(60°-80°)	928.5	23.1			G1/1800
FVH	(80°-90°)	37.0	0.9			G1/100
BL	(0°-30°)	78.2	1.9	B0/110		
BM	(30°-60°)	138.4	3.4	B0/220		
BH	(60°-80°)	66.3	1.6	B0/110		G0/110
BVH	(80°-90°)	7.3	0.2			G0/10
UL	(90°-100°)	9.9	0.2		U1/10	
UH	(100°-180°)	867.6	21.6		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°	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5
2.5°	392.8	393.2	393.2	393.5	392.1	392.1	392.4	390.9	391.7	391.3	389.5
5°	393.5	393.9	393.5	393.9	392.1	391.3	389.8	388.0	388.7	388.3	385.7
7.5°	391.7	392.1	391.3	391.7	389.5	388.0	385.7	384.3	383.1	382.8	379.4
10°	387.6	388.7	387.2	388.3	386.5	385.0	383.9	382.4	381.7	381.3	377.6
12.5°	381.7	382.4	382.8	384.3	384.3	384.6	384.6	383.5	383.9	383.5	380.5
15°	376.1	378.7	381.3	382.8	385.7	387.6	389.1	388.7	389.8	389.5	387.6
17.5°	376.1	378.3	382.8	387.6	393.2	395.8	398.0	398.0	398.4	397.6	394.7
20°	377.6	381.7	389.1	397.3	404.0	409.2	410.6	410.3	408.8	408.8	403.6
22.5°	389.8	392.4	400.6	409.5	418.8	424.0	424.4	423.3	420.3	419.6	413.2
25°	407.3	410.3	417.7	429.2	436.3	440.4	439.3	435.5	432.6	430.0	423.3
27.5°	434.4	436.7	444.1	451.9	456.0	457.5	453.0	447.8	444.5	443.3	434.4
30°	462.3	465.3	471.2	476.0	479.4	474.9	467.9	461.9	459.0	458.2	450.0
32.5°	496.5	496.9	500.9	502.1	502.4	495.0	485.3	479.8	478.6	477.2	470.8
35°	527.7	529.6	528.8	528.4	525.1	515.8	507.6	504.3	503.2	502.8	497.6
37.5°	555.6	558.5	556.7	553.3	549.3	541.8	533.3	529.6	533.3	531.0	532.2
40°	582.7	582.7	580.5	578.6	573.8	566.7	563.7	564.1	570.1	571.6	573.0
42.5°	606.1	605.7	603.5	602.0	601.3	599.8	598.3	605.4	616.9	619.1	622.5
45°	631.8	631.4	622.8	625.8	631.0	632.1	637.3	653.7	667.8	668.9	676.0
47.5°	656.7	653.7	645.5	648.5	663.3	671.1	679.7	702.7	722.4	726.5	746.2
50°	682.7	679.7	670.8	676.4	697.2	711.7	731.7	763.7	790.8	796.4	822.0
52.5°	709.8	709.4	702.4	710.9	736.6	765.9	797.5	833.5	866.6	873.7	911.6
55°	742.5	740.6	737.7	748.1	784.5	823.9	873.3	922.4	958.4	971.0	1009.3
57.5°	779.3	778.5	778.9	800.5	844.3	904.2	964.7	1030.9	1090.3	1099.3	1134.9
60°	811.2	812.7	821.3	855.1	910.1	991.1	1076.2	1165.8	1218.5	1227.8	1262.8
62.5°	850.3	858.8	877.8	920.5	985.2	1083.3	1193.6	1288.4	1356.4	1375.4	1441.5
65°	943.9	950.6	985.9	1037.6	1120.1	1245.7	1372.4	1510.3	1622.5	1639.6	1696.5
67.5°	1012.3	1029.4	1084.8	1169.1	1288.4	1449.0	1622.9	1789.7	1884.5	1892.3	1852.5
69°	988.5	1002.6	1068.0	1169.9	1313.7	1500.6	1716.9	1891.2	1949.5	1948.0	1839.9
70°	952.1	965.1	1037.2	1136.0	1292.5	1494.7	1718.4	1891.9	1927.2	1913.8	1790.1
72.5°	797.5	809.0	876.7	980.0	1131.6	1332.3	1543.0	1661.5	1654.1	1642.9	1438.5
75°	498.0	497.2	556.3	616.1	734.0	936.9	1093.7	1188.8	1173.6	1165.0	923.5
77.5°	186.2	199.2	220.7	285.0	339.3	448.9	575.6	681.6	710.9	673.4	497.2
80°	97.0	104.1	118.2	140.8	162.0	185.4	223.0	286.9	296.9	276.9	200.7
82.5°	76.6	85.1	99.2	118.5	133.4	124.5	117.4	121.5	120.8	115.2	102.2
85°	58.0	68.0	91.0	110.7	131.9	111.5	88.8	77.7	69.1	69.5	74.0
87.5°	29.0	37.5	71.7	96.6	114.8	74.0	58.0	45.0	37.5	36.0	48.3
90°	13.9	13.9	20.5	26.0	33.5	21.0	20.6	17.7	14.7	14.6	18.1
92.5°	4.0	4.0	4.5	5.0	5.5	6.0	6.0	6.0	6.0	6.0	6.0
95°	5.0	5.0	5.5	6.0	6.5	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	7.0	7.0	7.5	8.0	8.0	8.0	8.5	9.0	9.0	9.0	9.0
100°	8.0	8.0	8.5	9.0	9.5	10.0	11.0	12.0	15.6	16.5	21.0
102.5°	11.0	11.0	12.0	13.0	15.5	18.0	22.5	27.0	32.2	33.5	40.0
105°	21.0	22.0	24.5	27.0	31.5	36.0	42.0	48.0	54.0	55.5	63.0
107.5°	41.0	42.0	45.5	49.0	53.5	58.0	65.5	73.0	79.0	80.5	88.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	39°	40°	45°
110°	66.0	68.0	71.0	74.0	80.5	87.0	94.5	102.0	106.8	108.0	114.0
112.5°	99.0	99.0	102.5	106.0	113.5	121.0	127.5	134.0	137.6	138.5	143.0
115°	140.0	139.0	143.0	147.0	153.0	159.0	163.5	168.0	170.4	171.0	174.0
117.5°	184.0	184.0	186.5	189.0	193.0	197.0	199.5	202.0	203.2	203.5	205.0
120°	225.0	223.0	224.5	226.0	229.5	233.0	235.0	237.0	239.4	240.0	243.0
122.5°	263.0	260.0	260.5	261.0	264.0	267.0	269.0	271.0	273.4	274.0	277.0
125°	298.0	294.0	295.0	296.0	297.5	299.0	302.0	305.0	307.0	307.5	310.0
127.5°	330.0	329.0	329.0	329.0	331.0	333.0	336.0	339.0	339.4	339.5	340.0
130°	363.0	361.0	361.5	362.0	364.0	366.0	368.0	370.0	370.8	371.0	372.0
132.5°	396.0	394.0	393.5	393.0	397.0	401.0	402.5	404.0	404.4	404.5	405.0
135°	429.0	426.0	426.0	426.0	429.0	432.0	433.5	435.0	435.8	436.0	437.0
137.5°	460.0	457.0	458.0	459.0	459.5	460.0	462.0	464.0	465.6	466.0	468.0
140°	488.0	485.0	486.0	487.0	488.0	489.0	490.0	491.0	493.4	494.0	497.0
142.5°	518.0	515.0	516.0	517.0	517.5	518.0	519.5	521.0	522.6	523.0	525.0
145°	550.0	546.0	545.0	544.0	545.5	547.0	548.5	550.0	550.4	550.5	551.0
147.5°	575.0	572.0	571.5	571.0	572.5	574.0	574.0	574.0	574.4	574.5	575.0
150°	595.0	592.0	592.5	593.0	593.0	593.0	593.0	593.0	593.0	593.0	593.0
152.5°	611.0	608.0	608.0	608.0	608.5	609.0	609.5	610.0	610.0	610.0	610.0
155°	629.0	625.0	625.0	625.0	626.0	627.0	628.5	630.0	629.2	629.0	628.0
157.5°	646.0	643.0	643.0	643.0	643.5	644.0	645.0	646.0	645.6	645.5	645.0
160°	663.0	660.0	659.5	659.0	657.5	656.0	655.5	655.0	655.0	655.0	655.0
162.5°	673.0	669.0	669.0	669.0	667.0	665.0	663.0	661.0	661.8	662.0	663.0
165°	681.0	678.0	677.0	676.0	676.0	676.0	674.5	673.0	673.0	673.0	673.0
167.5°	690.0	687.0	685.5	684.0	685.0	686.0	687.0	688.0	686.8	686.5	685.0
170°	698.0	695.0	693.5	692.0	692.0	692.0	692.5	693.0	692.2	692.0	691.0
172.5°	699.0	697.0	696.0	695.0	694.0	693.0	691.5	690.0	690.0	690.0	690.0
175°	700.0	698.0	697.5	697.0	696.0	695.0	693.0	691.0	690.6	690.5	690.0
177.5°	707.0	705.0	702.5	700.0	699.5	699.0	698.0	697.0	696.2	696.0	695.0
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5
2.5°	388.0	388.0	387.2	386.9	385.7	384.3	383.1	381.3	380.2	378.3	376.1
5°	383.1	381.7	380.9	379.4	377.2	375.3	373.1	370.5	367.5	363.8	359.7
7.5°	376.8	374.6	372.0	371.2	368.6	366.4	363.8	360.1	356.0	349.3	344.1
10°	374.2	372.0	369.8	368.3	364.9	362.3	359.4	354.5	349.3	340.4	330.7
12.5°	376.8	374.6	372.4	369.8	366.8	363.8	359.7	353.8	346.7	335.2	323.3
15°	383.1	380.9	377.2	374.6	370.5	367.9	362.3	355.6	345.2	331.1	315.5
17.5°	390.2	386.9	383.5	379.4	375.7	372.4	366.4	357.9	344.9	328.1	308.1
20°	396.9	393.2	388.0	385.0	381.3	376.5	370.1	359.7	344.1	322.2	300.3
22.5°	404.7	399.9	394.3	390.9	388.0	383.9	376.5	363.1	344.1	318.9	291.4
25°	414.7	408.4	402.8	399.5	397.6	394.7	385.7	370.9	346.7	317.0	283.9
27.5°	426.6	418.4	413.6	411.4	411.0	408.8	399.9	381.3	352.7	317.0	276.9
30°	440.7	433.7	427.4	427.4	431.8	430.3	420.3	397.3	362.0	318.1	271.7
32.5°	460.4	453.4	449.7	453.4	458.2	459.7	448.2	419.9	377.2	323.3	266.5
35°	489.4	485.0	482.4	487.9	497.6	501.3	487.2	453.7	399.5	333.3	263.5
37.5°	527.7	524.4	521.0	530.7	548.9	556.3	535.9	492.8	431.5	350.1	262.0
40°	571.6	571.9	575.6	595.0	612.4	628.0	605.0	551.9	475.3	373.9	263.5
42.5°	623.6	627.7	640.3	667.1	700.9	713.1	690.8	623.2	529.9	402.5	267.2
45°	688.2	699.0	720.6	760.3	801.2	820.2	788.6	713.1	598.7	448.2	277.6
47.5°	757.0	780.8	817.2	865.5	913.1	925.3	886.3	794.5	665.9	488.7	293.6
50°	845.1	874.1	910.5	968.4	1019.0	1026.4	974.8	870.0	724.7	524.0	308.8
52.5°	927.2	966.6	1013.0	1080.3	1131.6	1122.3	1055.4	937.2	771.1	548.1	317.4
55°	1039.4	1080.3	1132.7	1191.4	1242.3	1220.0	1128.6	994.5	808.3	566.0	320.0
57.5°	1167.6	1198.8	1250.1	1310.3	1343.8	1305.5	1200.7	1050.2	843.6	566.4	299.5
60°	1293.6	1330.0	1386.5	1445.6	1464.2	1398.0	1250.9	1058.7	808.6	505.4	239.7
62.5°	1480.2	1517.0	1545.6	1555.2	1521.8	1388.7	1192.5	968.4	697.2	398.7	169.8
65°	1688.6	1647.0	1591.7	1539.6	1448.6	1246.4	1028.3	795.6	541.1	266.5	117.1
67.5°	1743.3	1616.6	1496.1	1380.2	1210.4	992.6	775.6	559.7	347.1	151.6	79.5
69°	1686.4	1501.3	1367.2	1183.2	1007.8	742.9	534.4	358.6	207.4	105.5	66.5
70°	1582.4	1389.9	1208.1	1011.2	780.8	567.5	355.3	234.9	135.3	76.9	59.8
72.5°	1194.0	954.7	735.8	477.9	291.4	161.7	113.7	81.4	64.3	56.5	51.3
75°	690.5	459.7	301.0	160.5	95.1	70.6	61.7	55.0	50.9	49.1	44.6
77.5°	291.4	182.1	123.4	90.3	63.9	54.6	47.6	43.9	43.5	42.4	38.3
80°	132.7	113.7	97.0	68.0	48.7	41.6	36.4	35.7	36.4	35.3	31.2
82.5°	98.5	97.0	81.0	52.4	37.2	27.9	22.7	23.8	26.8	29.0	25.3
85°	82.1	82.1	68.0	39.0	24.5	17.8	17.5	19.7	22.3	24.2	20.4
87.5°	75.4	72.5	39.0	20.1	14.1	11.5	10.8	9.7	9.7	16.7	14.1
90°	14.4	10.3	9.9	10.5	10.9	10.5	10.2	8.9	8.9	8.9	9.9
92.5°	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0	6.0	6.0	6.0
95°	7.0	7.0	7.5	8.0	7.5	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	10.5	12.0	11.0	10.0	9.5	9.0	8.5	8.0	8.0	8.0	8.5
100°	25.0	29.0	27.5	26.0	24.5	23.0	21.0	19.0	19.0	19.0	21.0
102.5°	45.0	50.0	48.5	47.0	44.5	42.0	40.5	39.0	38.0	39.0	40.5
105°	67.5	72.0	71.0	70.0	67.5	65.0	63.0	61.0	61.0	61.0	63.0
107.5°	91.5	95.0	94.5	94.0	92.0	90.0	88.5	87.0	86.0	87.0	88.5



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CATALOG NUMBER: ISW-AF-450-LED-E1-SL4-8030-ULG

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
110°	117.0	120.0	120.5	121.0	120.0	119.0	117.5	116.0	117.0	116.0	117.5
112.5°	145.5	148.0	149.0	150.0	149.5	149.0	148.0	147.0	147.0	147.0	148.0
115°	176.5	179.0	180.5	182.0	180.5	179.0	178.0	177.0	178.0	177.0	178.0
117.5°	208.0	211.0	213.0	215.0	212.5	210.0	209.0	208.0	209.0	208.0	209.0
120°	244.5	246.0	248.0	250.0	247.5	245.0	244.0	243.0	243.0	243.0	244.0
122.5°	278.0	279.0	281.0	283.0	280.5	278.0	277.0	276.0	277.0	276.0	277.0
125°	311.5	313.0	314.0	315.0	312.5	310.0	310.0	310.0	310.0	310.0	310.0
127.5°	342.5	345.0	345.5	346.0	346.0	346.0	345.5	345.0	347.0	345.0	345.5
130°	374.5	377.0	379.0	381.0	381.0	381.0	380.0	379.0	380.0	379.0	380.0
132.5°	408.0	411.0	413.5	416.0	415.0	414.0	414.0	414.0	415.0	414.0	414.0
135°	440.0	443.0	445.5	448.0	447.5	447.0	448.5	450.0	451.0	450.0	448.5
137.5°	470.5	473.0	474.0	475.0	475.5	476.0	478.5	481.0	482.0	481.0	478.5
140°	498.5	500.0	501.0	502.0	503.0	504.0	506.5	509.0	511.0	509.0	506.5
142.5°	526.0	527.0	530.0	533.0	533.0	533.0	533.5	534.0	536.0	534.0	533.5
145°	553.5	556.0	559.0	562.0	561.5	561.0	559.5	558.0	560.0	558.0	559.5
147.5°	577.5	580.0	582.5	585.0	585.5	586.0	584.5	583.0	585.0	583.0	584.5
150°	595.0	597.0	598.5	600.0	601.5	603.0	604.5	606.0	610.0	606.0	604.5
152.5°	610.5	611.0	612.5	614.0	616.0	618.0	620.5	623.0	628.0	623.0	620.5
155°	627.0	626.0	628.5	631.0	633.5	636.0	637.0	638.0	641.0	638.0	637.0
157.5°	644.5	644.0	646.0	648.0	649.0	650.0	650.0	650.0	655.0	650.0	650.0
160°	656.5	658.0	661.0	664.0	662.5	661.0	660.5	660.0	666.0	660.0	660.5
162.5°	665.0	667.0	669.0	671.0	670.5	670.0	669.0	668.0	674.0	668.0	669.0
165°	672.5	672.0	674.5	677.0	678.5	680.0	679.0	678.0	682.0	678.0	679.0
167.5°	681.5	678.0	681.0	684.0	686.0	688.0	688.0	688.0	694.0	688.0	688.0
170°	688.5	686.0	687.5	689.0	691.5	694.0	695.0	696.0	701.0	696.0	695.0
172.5°	689.5	689.0	690.5	692.0	693.0	694.0	695.0	696.0	701.0	696.0	695.0
175°	690.0	690.0	692.5	695.0	695.5	696.0	695.0	694.0	699.0	694.0	695.0
177.5°	694.5	694.0	696.5	699.0	700.0	701.0	699.5	698.0	702.0	698.0	699.5
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0



REPORT NUMBER: P227021

CATALOG NUMBER: ISW-AF-450-LED-E1-SL4-8030-ULG

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5	383.5
2.5°	374.2	372.7	369.0	368.3	367.2	365.7	365.3	363.4	359.7	359.0	359.4
5°	357.1	351.2	347.1	343.7	341.1	334.5	331.9	328.9	323.7	322.2	320.0
7.5°	337.1	330.0	321.8	315.9	308.8	301.8	296.2	289.1	283.5	280.2	274.3
10°	321.5	311.8	301.0	289.1	279.8	269.1	262.0	253.8	244.9	236.7	230.8
12.5°	309.6	296.2	280.6	266.5	253.1	241.6	228.9	217.4	206.2	195.1	185.4
15°	299.9	283.2	263.5	245.6	229.3	212.2	198.1	182.1	168.0	158.3	146.0
17.5°	289.5	267.9	244.5	223.7	202.5	184.7	166.9	150.1	136.8	124.1	114.1
20°	276.9	250.8	225.6	201.4	177.3	156.8	138.6	122.6	109.6	99.6	92.2
22.5°	262.7	232.3	202.9	176.5	152.4	132.3	115.2	103.3	93.6	88.1	85.8
25°	249.0	214.1	181.0	152.0	127.8	110.7	99.2	89.2	84.4	82.1	82.1
27.5°	236.4	195.5	158.7	130.4	107.0	93.6	84.7	80.6	78.4	78.4	79.5
30°	224.5	176.9	137.5	108.9	90.3	80.3	75.4	74.0	74.3	75.8	77.3
32.5°	210.7	159.1	119.3	93.6	78.4	71.7	68.0	68.4	70.2	72.8	75.4
35°	196.2	140.1	103.3	82.1	70.2	65.0	62.8	63.2	65.8	69.1	71.7
37.5°	183.2	124.9	91.0	73.2	64.3	60.9	59.1	59.5	61.3	65.4	68.7
40°	170.2	111.9	81.0	68.0	60.9	57.6	56.5	56.1	57.6	61.3	65.4
42.5°	159.1	100.7	75.1	64.3	58.7	55.7	54.3	54.3	55.0	58.0	62.1
45°	152.4	94.0	71.0	61.7	56.9	54.3	52.8	52.0	53.1	55.0	58.7
47.5°	152.4	90.7	68.4	59.8	55.4	53.1	51.3	50.9	51.3	53.1	56.9
50°	157.6	91.4	68.0	59.1	54.6	51.7	49.8	49.8	50.5	53.1	56.1
52.5°	162.0	92.9	69.1	59.8	54.6	50.9	48.7	48.3	49.4	52.0	54.6
55°	161.3	92.9	70.2	60.9	55.7	51.3	48.3	47.9	48.7	51.3	53.9
57.5°	144.2	87.3	69.1	61.7	57.2	53.1	50.2	49.1	49.8	52.0	54.3
60°	116.7	77.7	66.1	61.7	59.5	56.5	53.5	52.8	53.1	55.4	58.0
62.5°	91.4	69.1	62.4	61.3	60.6	59.1	58.0	57.2	57.2	59.1	61.3
65°	74.3	62.4	59.5	59.8	60.6	60.2	59.8	59.5	59.5	60.6	62.8
67.5°	62.1	56.1	55.4	56.5	57.2	57.6	58.0	57.6	58.0	59.1	61.7
69°	56.5	52.8	52.0	52.8	54.3	54.6	55.4	55.0	55.4	56.5	59.1
70°	53.1	50.2	49.4	50.5	51.7	52.0	52.8	52.4	52.8	53.9	56.5
72.5°	46.1	42.7	41.6	42.4	43.5	43.5	44.6	45.0	44.2	44.6	46.5
75°	39.4	35.7	33.8	34.2	34.2	34.2	34.9	34.9	34.2	33.8	34.2
77.5°	33.1	29.0	26.8	26.8	26.8	26.4	25.3	25.6	26.0	25.6	26.0
80°	26.0	22.7	20.4	20.4	20.4	19.7	19.3	19.3	20.1	20.8	20.4
82.5°	20.1	16.7	15.6	15.2	15.2	14.5	14.5	15.2	14.9	15.2	16.0
85°	14.5	11.9	10.8	11.1	10.8	10.0	10.4	11.5	11.5	11.1	11.9
87.5°	8.9	7.4	7.1	7.4	6.7	5.6	5.2	5.6	6.3	5.9	6.7
90°	10.1	9.7	9.7	8.7	8.1	7.7	7.7	8.2	9.1	9.1	8.7
92.5°	6.0	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0	6.0	6.0
95°	7.0	7.5	8.0	7.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	9.0	9.5	10.0	11.0	12.0	10.5	9.0	9.0	9.0	8.5	8.0
100°	23.0	24.5	26.0	27.5	29.0	25.0	21.0	16.5	12.0	11.0	10.0
102.5°	42.0	44.5	47.0	48.5	50.0	45.0	40.0	33.5	27.0	22.5	18.0
105°	65.0	67.5	70.0	71.0	72.0	67.5	63.0	55.5	48.0	42.0	36.0
107.5°	90.0	92.0	94.0	94.5	95.0	91.5	88.0	80.5	73.0	65.5	58.0



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 CATALOG NUMBER: ISW-AF-450-LED-E1-SL4-8030-ULG

REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	
110°	119.0	120.0	121.0	120.5	120.0	117.0	114.0	108.0	102.0	94.5	87.0	0°
112.5°	149.0	149.5	150.0	149.0	148.0	145.5	143.0	138.5	134.0	127.5	121.0	2.5°
115°	179.0	180.5	182.0	180.5	179.0	176.5	174.0	171.0	168.0	163.5	159.0	5°
117.5°	210.0	212.5	215.0	213.0	211.0	208.0	205.0	203.5	202.0	199.5	197.0	7.5°
120°	245.0	247.5	250.0	248.0	246.0	244.5	243.0	240.0	237.0	235.0	233.0	10°
122.5°	278.0	280.5	283.0	281.0	279.0	278.0	277.0	274.0	271.0	269.0	267.0	12.5°
125°	310.0	312.5	315.0	314.0	313.0	311.5	310.0	307.5	305.0	302.0	299.0	15°
127.5°	346.0	346.0	346.0	345.5	345.0	342.5	340.0	339.5	339.0	336.0	333.0	17.5°
130°	381.0	381.0	381.0	379.0	377.0	374.5	372.0	371.0	370.0	368.0	366.0	20°
132.5°	414.0	415.0	416.0	413.5	411.0	408.0	405.0	404.5	404.0	402.5	401.0	22.5°
135°	447.0	447.5	448.0	445.5	443.0	440.0	437.0	436.0	435.0	433.5	432.0	25°
137.5°	476.0	475.5	475.0	474.0	473.0	470.5	468.0	466.0	464.0	462.0	460.0	27.5°
140°	504.0	503.0	502.0	501.0	500.0	498.5	497.0	494.0	491.0	490.0	489.0	30°
142.5°	533.0	533.0	533.0	530.0	527.0	526.0	525.0	523.0	521.0	519.5	518.0	32.5°
145°	561.0	561.5	562.0	559.0	556.0	553.5	551.0	550.5	550.0	548.5	547.0	35°
147.5°	586.0	585.5	585.0	582.5	580.0	577.5	575.0	574.5	574.0	574.0	574.0	37.5°
150°	603.0	601.5	600.0	598.5	597.0	595.0	593.0	593.0	593.0	593.0	593.0	40°
152.5°	618.0	616.0	614.0	612.5	611.0	610.5	610.0	610.0	610.0	609.5	609.0	42.5°
155°	636.0	633.5	631.0	628.5	626.0	627.0	628.0	629.0	630.0	628.5	627.0	45°
157.5°	650.0	649.0	648.0	646.0	644.0	644.5	645.0	645.5	646.0	645.0	644.0	47.5°
160°	661.0	662.5	664.0	661.0	658.0	656.5	655.0	655.0	655.0	655.5	656.0	50°
162.5°	670.0	670.5	671.0	669.0	667.0	665.0	663.0	662.0	661.0	663.0	665.0	52.5°
165°	680.0	678.5	677.0	674.5	672.0	672.5	673.0	673.0	673.0	674.5	676.0	55°
167.5°	688.0	686.0	684.0	681.0	678.0	681.5	685.0	686.5	688.0	687.0	686.0	57.5°
170°	694.0	691.5	689.0	687.5	686.0	688.5	691.0	692.0	693.0	692.5	692.0	60°
172.5°	694.0	693.0	692.0	690.5	689.0	689.5	690.0	690.0	690.0	691.5	693.0	62.5°
175°	696.0	695.5	695.0	692.5	690.0	690.0	690.0	690.5	691.0	693.0	695.0	65°
177.5°	701.0	700.0	699.0	696.5	694.0	694.5	695.0	696.0	697.0	698.0	699.0	67.5°
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	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°

NUMBER: P227021
 NUMBER: ISW-AF-450-LED-E1-SL4-8030-ULG

REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

160°	165°	170°	175°	180°
383.5	383.5	383.5	383.5	383.5
356.8	357.9	353.0	355.3	353.8
317.7	315.9	315.5	314.4	312.2
272.0	270.5	266.1	267.6	264.2
224.8	224.5	216.3	216.7	212.6
181.4	174.7	171.3	166.5	169.1
140.5	134.9	127.8	126.0	128.6
105.9	100.3	97.0	94.0	92.9
87.7	84.4	82.5	81.4	80.6
84.7	84.0	83.6	82.9	82.5
82.9	83.6	83.6	83.6	82.9
81.0	82.5	82.9	82.5	81.8
79.2	80.3	80.3	79.9	78.8
76.6	77.7	77.7	77.3	76.6
73.6	74.3	74.7	74.7	75.1
71.4	72.1	72.8	73.6	74.7
68.7	69.9	70.2	71.7	73.2
65.4	66.9	67.6	68.7	70.2
62.1	63.9	64.3	65.8	67.3
60.6	62.1	62.1	63.2	64.3
58.7	59.5	59.1	59.8	60.2
56.9	57.6	57.2	58.0	58.3
55.4	56.1	56.9	57.6	58.0
56.1	57.2	57.6	58.7	59.1
59.5	60.9	62.4	63.9	65.0
62.8	64.7	68.0	74.7	77.3
64.7	67.3	75.1	86.6	89.9
63.5	66.9	76.2	88.4	92.5
61.3	63.9	74.0	86.6	90.3
58.3	60.9	71.0	84.7	88.1
47.2	48.7	59.8	72.8	75.1
34.6	35.7	44.2	49.4	49.1
26.8	28.2	31.2	31.6	31.2
21.2	21.9	23.4	23.4	23.8
16.4	16.7	17.5	16.7	16.4
12.3	11.9	11.5	11.1	10.8
7.1	7.1	5.9	5.2	4.8
8.2	8.1	7.1	5.7	5.0
5.5	5.0	4.5	4.0	4.0
6.5	6.0	5.5	5.0	5.0
8.0	8.0	7.5	7.0	7.0
9.5	9.0	8.5	8.0	8.0
15.5	13.0	12.0	11.0	11.0
31.5	27.0	24.5	22.0	21.0
53.5	49.0	45.5	42.0	41.0

CANDELA DISTRIBUTION:

	160°
110°	80.5
112.5°	113.5
115°	153.0
117.5°	193.0
120°	229.5
122.5°	264.0
125°	297.5
127.5°	331.0
130°	364.0
132.5°	397.0
135°	429.0
137.5°	459.5
140°	488.0
142.5°	517.5
145°	545.5
147.5°	572.5
150°	593.0
152.5°	608.5
155°	626.0
157.5°	643.5
160°	657.5
162.5°	667.0
165°	676.0
167.5°	685.0
170°	692.0
172.5°	694.0
175°	696.0
177.5°	699.5
180°	700.0

'227021

ISW-AF-450-LED-E1-SL4-8030-ULG

TION (continued):

165°	170°	175°	180°
74.0	71.0	68.0	66.0
106.0	102.5	99.0	99.0
147.0	143.0	139.0	140.0
189.0	186.5	184.0	184.0
226.0	224.5	223.0	225.0
261.0	260.5	260.0	263.0
296.0	295.0	294.0	298.0
329.0	329.0	329.0	330.0
362.0	361.5	361.0	363.0
393.0	393.5	394.0	396.0
426.0	426.0	426.0	429.0
459.0	458.0	457.0	460.0
487.0	486.0	485.0	488.0
517.0	516.0	515.0	518.0
544.0	545.0	546.0	550.0
571.0	571.5	572.0	575.0
593.0	592.5	592.0	595.0
608.0	608.0	608.0	611.0
625.0	625.0	625.0	629.0
643.0	643.0	643.0	646.0
659.0	659.5	660.0	663.0
669.0	669.0	669.0	673.0
676.0	677.0	678.0	681.0
684.0	685.5	687.0	690.0
692.0	693.5	695.0	698.0
695.0	696.0	697.0	699.0
697.0	697.5	698.0	700.0
700.0	702.5	705.0	707.0
700.0	700.0	700.0	700.0

(END OF REPORT)