

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: P226343

Luminaire Tested: **ISW-AF-450-LED-E1-T2-7050-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P226343
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35937)-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-T2-7050-ULG
Description: IMPACT ELITE LED WEDGE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE II, WITH UPLIGHT GLOW
Light Source: (16) 5000K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4874 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type II - 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

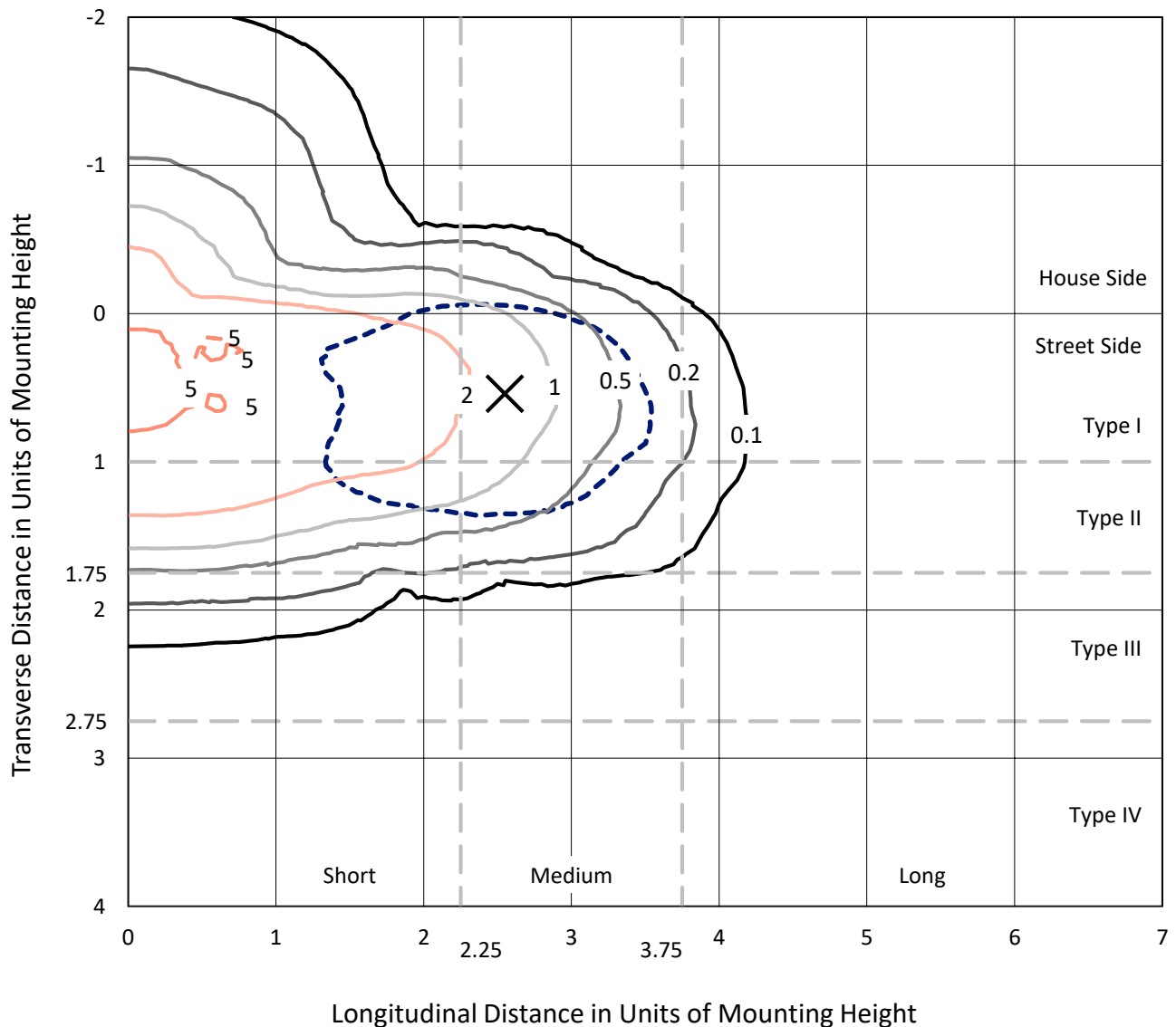


REPORT NUMBER: P226343

CATALOG NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

Iso-Footcandle Lines of Horizontal Illumination

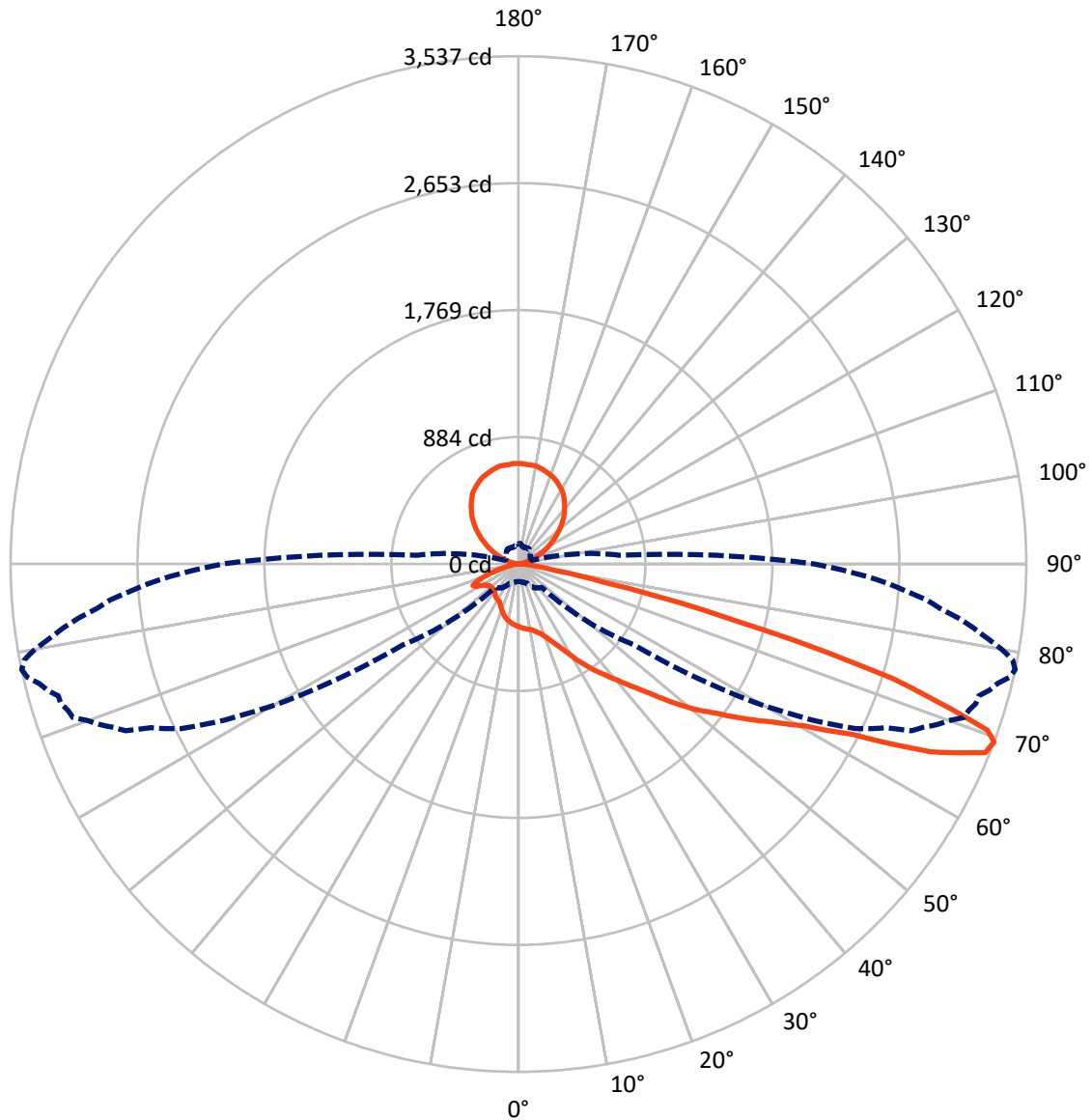
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.6 fc
 Type II - Medium - Non-Cutoff

REPORT NUMBER: P226343
CATALOG NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

REPORT NUMBER: P226343

CATALOG NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

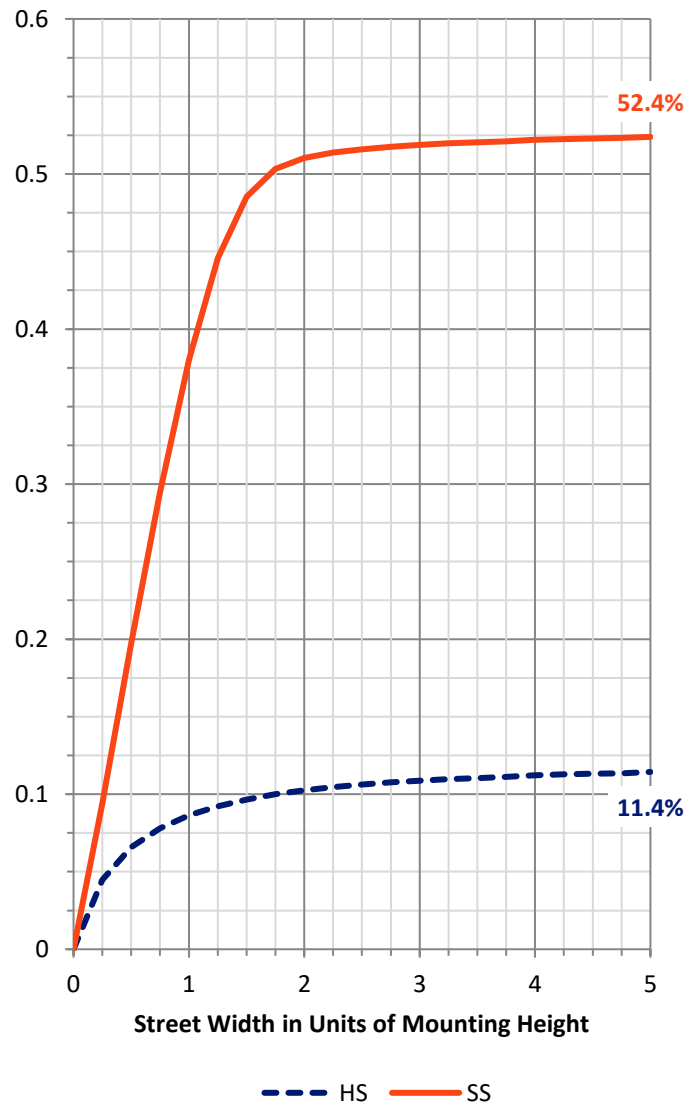
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	574.2	868.7	1442.9
	% Fixture	11.8	17.8	29.6
Street Side	Lumens	2563.1	868.1	3431.1
	% Fixture	52.6	17.8	70.4
Total	Lumens	3137.3	1736.7	4874.0
	% Fixture	64.4	35.6	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	0.8
10°-20°	122.4	2.5
20°-30°	219.4	4.5
30°-40°	358.1	7.3
40°-50°	529.6	10.9
50°-60°	691.6	14.2
60°-70°	773.4	15.9
70°-80°	347.2	7.1
80°-90°	55.2	1.1
90°-100°	10.9	0.2
100°-110°	57.4	1.2
110°-120°	166.1	3.4
120°-130°	273.2	5.6
130°-140°	336.8	6.9
140°-150°	344.6	7.1
150°-160°	290.3	6.0
160°-170°	191.2	3.9
170°-180°	66.3	1.4
0°-90°	3137.3	64.4
0°-180°	4874.0	100.0



REPORT NUMBER: P226343

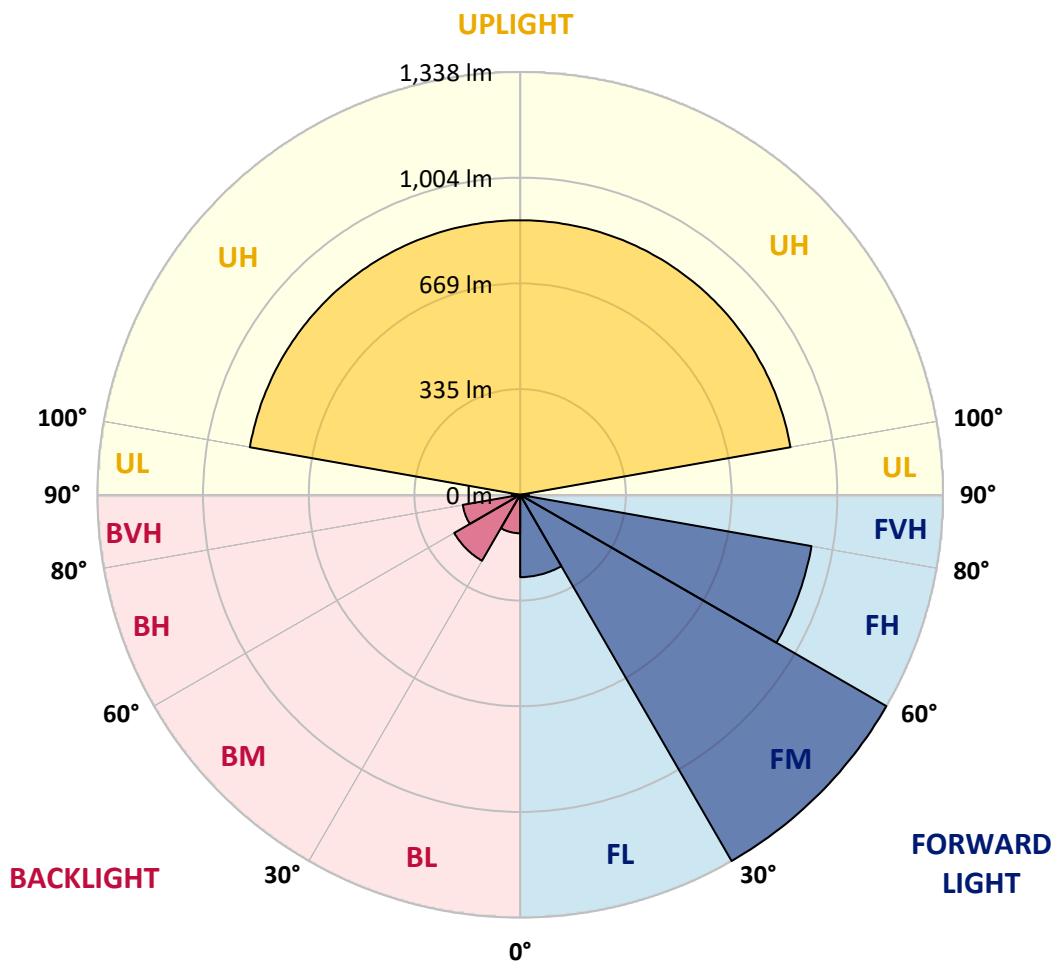
CATALOG NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	260.5	5.3			
FM	(30°-60°)	1338.2	27.5			
FH	(60°-80°)	936.3	19.2			G1/1800
FVH	(80°-90°)	28.2	0.6			G1/100
BL	(0°-30°)	121.8	2.5	B1/500		
BM	(30°-60°)	241.1	4.9	B1/1000		
BH	(60°-80°)	184.4	3.8	B1/500		G1/500
BVH	(80°-90°)	27.0	0.6			G1/100
UL	(90°-100°)	10.9	0.2		U2/50	
UH	(100°-180°)	868.7	17.8		U4/1000	

BUG Rating: B1-U5-G1

Type II Medium





REPORT NUMBER: P226343

CATALOG NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4
2.5°	467.4	467.4	466.0	465.1	463.7	460.1	454.6	453.7	453.2	452.3	451.4
5°	501.5	497.9	498.8	496.5	491.5	485.1	475.1	470.1	467.4	466.9	465.1
7.5°	529.3	529.8	528.4	523.8	517.0	509.3	495.6	487.9	485.6	484.2	481.0
10°	549.4	548.0	547.1	546.2	540.7	534.3	517.0	507.5	505.6	502.0	498.3
12.5°	563.9	563.9	563.9	563.0	559.8	554.8	541.2	531.6	529.3	524.3	521.1
15°	579.9	578.1	576.2	574.9	575.3	575.3	565.3	558.0	554.4	551.6	545.3
17.5°	614.0	609.9	605.8	600.4	591.7	589.4	589.0	588.5	583.5	583.1	576.7
20°	643.2	639.6	635.9	630.4	618.1	604.9	611.8	618.1	617.2	617.7	614.5
22.5°	679.2	676.4	669.2	662.8	646.8	630.9	631.8	645.5	647.3	649.1	650.0
25°	728.4	727.0	715.2	702.9	684.6	669.6	655.5	672.3	676.0	680.1	688.3
27.5°	778.0	774.8	762.1	751.2	728.4	712.4	692.8	702.0	707.4	715.2	727.9
30°	842.3	833.6	829.0	804.4	783.5	760.3	743.4	746.1	745.2	754.3	773.9
32.5°	935.2	921.5	898.7	874.1	849.5	818.6	804.4	804.0	801.7	812.2	823.1
35°	985.3	982.1	968.0	943.4	916.5	887.4	878.2	869.6	871.0	876.4	880.5
37.5°	1039.5	1036.8	1025.8	1012.2	991.7	1007.6	957.0	944.3	938.4	935.6	937.0
40°	1063.2	1065.5	1071.4	1073.7	1061.8	1138.3	1038.6	996.7	994.9	990.8	986.7
42.5°	1068.2	1074.1	1086.0	1111.9	1123.3	1290.0	1106.0	1055.4	1048.2	1045.0	1045.4
45°	1086.4	1095.5	1097.8	1121.5	1175.2	1297.8	1182.1	1107.4	1101.9	1101.4	1098.7
47.5°	1130.6	1142.9	1142.9	1153.4	1204.4	1312.8	1208.0	1159.3	1155.7	1153.8	1161.1
50°	1137.0	1153.4	1186.2	1219.9	1256.8	1325.1	1237.6	1215.8	1217.2	1221.3	1242.7
52.5°	1029.0	1045.4	1132.0	1231.3	1351.5	1358.8	1282.3	1290.9	1300.1	1320.1	1359.3
55°	882.3	894.2	996.7	1155.7	1355.2	1486.8	1394.3	1418.5	1437.6	1443.5	1505.0
57.5°	694.7	711.1	815.4	1021.7	1265.4	1523.3	1652.2	1663.1	1641.7	1661.3	1683.6
60°	376.3	374.4	519.7	738.9	1076.9	1455.8	1900.9	2088.6	2093.1	2123.2	2087.2
62.5°	210.5	210.5	252.4	379.4	692.8	1231.7	2020.2	2456.6	2513.6	2561.4	2666.6
65°	159.0	160.3	175.4	228.7	389.0	777.6	1932.8	2582.3	2691.7	2801.5	2985.9
67.5°	132.1	132.1	143.0	170.4	243.2	353.0	1423.0	2330.0	2466.6	2597.8	2852.9
69°	122.5	123.0	131.2	149.9	203.6	229.6	983.0	1975.6	2131.8	2313.6	2614.2
70°	118.0	116.6	124.4	139.8	184.5	181.3	720.2	1717.8	1838.9	2002.0	2347.8
72.5°	104.8	103.4	107.5	119.3	145.3	129.4	293.8	924.3	1106.9	1289.6	1565.2
75°	93.4	92.0	95.2	100.7	113.0	98.8	147.6	387.2	468.7	605.8	835.9
77.5°	82.4	79.7	82.4	86.1	88.8	73.8	100.2	179.0	219.6	269.7	380.8
80°	74.7	72.0	75.2	73.3	69.7	56.9	66.5	104.3	115.7	138.5	181.3
82.5°	53.3	52.8	71.5	73.8	55.6	41.5	47.4	67.0	74.7	78.8	95.7
85°	32.8	31.4	41.5	52.8	56.5	26.0	30.5	39.6	41.5	45.1	53.3
87.5°	16.9	17.3	22.3	27.3	36.9	15.5	18.2	23.2	23.2	23.2	26.4
90°	9.1	10.0	13.8	17.6	15.7	11.1	13.8	13.5	14.6	13.9	15.2
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	7.9
97.5°	7.0	7.0	8.0	8.0	9.0	9.0	12.0	11.0	10.8	10.6	10.2
100°	8.0	8.0	9.0	10.0	12.0	21.0	29.0	27.5	27.2	26.9	26.3
102.5°	11.0	11.0	13.0	18.0	27.0	40.0	50.0	48.5	48.2	47.9	47.3
105°	21.0	22.0	27.0	36.0	48.0	63.0	72.0	71.0	70.8	70.6	70.2
107.5°	41.0	42.0	49.0	58.0	73.0	88.0	95.0	94.5	94.4	94.3	94.1



REPORT NUMBER: P226343

CATALOG NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
110°	66.0	68.0	74.0	87.0	102.0	114.0	120.0	120.5	120.6	120.7	120.9
112.5°	99.0	99.0	106.0	121.0	134.0	143.0	148.0	149.0	149.2	149.4	149.8
115°	140.0	139.0	147.0	159.0	168.0	174.0	179.0	180.5	180.8	181.1	181.7
117.5°	184.0	184.0	189.0	197.0	202.0	205.0	211.0	213.0	213.4	213.8	214.6
120°	225.0	223.0	226.0	233.0	237.0	243.0	246.0	248.0	248.4	248.8	249.6
122.5°	263.0	260.0	261.0	267.0	271.0	277.0	279.0	281.0	281.4	281.8	282.6
125°	298.0	294.0	296.0	299.0	305.0	310.0	313.0	314.0	314.2	314.4	314.8
127.5°	330.0	329.0	329.0	333.0	339.0	340.0	345.0	345.5	345.6	345.7	345.9
130°	363.0	361.0	362.0	366.0	370.0	372.0	377.0	379.0	379.4	379.8	380.6
132.5°	396.0	394.0	393.0	401.0	404.0	405.0	411.0	413.5	414.0	414.5	415.5
135°	429.0	426.0	426.0	432.0	435.0	437.0	443.0	445.5	446.0	446.5	447.5
137.5°	460.0	457.0	459.0	460.0	464.0	468.0	473.0	474.0	474.2	474.4	474.8
140°	488.0	485.0	487.0	489.0	491.0	497.0	500.0	501.0	501.2	501.4	501.8
142.5°	518.0	515.0	517.0	518.0	521.0	525.0	527.0	530.0	530.6	531.2	532.4
145°	550.0	546.0	544.0	547.0	550.0	551.0	556.0	559.0	559.6	560.2	561.4
147.5°	575.0	572.0	571.0	574.0	574.0	575.0	580.0	582.5	583.0	583.5	584.5
150°	595.0	592.0	593.0	593.0	593.0	593.0	597.0	598.5	598.8	599.1	599.7
152.5°	611.0	608.0	608.0	609.0	610.0	610.0	611.0	612.5	612.8	613.1	613.7
155°	629.0	625.0	625.0	627.0	630.0	628.0	626.0	628.5	629.0	629.5	630.5
157.5°	646.0	643.0	643.0	644.0	646.0	645.0	644.0	646.0	646.4	646.8	647.6
160°	663.0	660.0	659.0	656.0	655.0	655.0	658.0	661.0	661.6	662.2	663.4
162.5°	673.0	669.0	669.0	665.0	661.0	663.0	667.0	669.0	669.4	669.8	670.6
165°	681.0	678.0	676.0	676.0	673.0	673.0	672.0	674.5	675.0	675.5	676.5
167.5°	690.0	687.0	684.0	686.0	688.0	685.0	678.0	681.0	681.6	682.2	683.4
170°	698.0	695.0	692.0	692.0	693.0	691.0	686.0	687.5	687.8	688.1	688.7
172.5°	699.0	697.0	695.0	693.0	690.0	690.0	689.0	690.5	690.8	691.1	691.7
175°	700.0	698.0	697.0	695.0	691.0	690.0	690.0	692.5	693.0	693.5	694.5
177.5°	707.0	705.0	700.0	699.0	697.0	695.0	694.0	696.5	697.0	697.5	698.5
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: P226343

CATALOG NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

CANDELA DISTRIBUTION (continued):

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
0°	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4
2.5°	451.9	450.5	448.7	449.1	448.2	446.9	447.3	446.9	447.3	446.4	445.5
5°	465.1	464.2	461.4	461.0	460.1	459.2	457.8	456.4	456.0	455.1	453.2
7.5°	480.1	477.4	476.0	474.2	471.9	468.3	467.8	466.0	464.6	463.7	461.4
10°	495.6	492.4	490.6	488.3	486.0	483.8	481.5	478.3	475.1	474.2	471.5
12.5°	518.8	514.7	511.1	507.5	505.2	501.1	497.9	493.8	490.6	489.2	484.7
15°	544.3	538.9	535.2	532.5	528.9	525.2	521.1	517.5	512.5	508.4	504.3
17.5°	574.4	569.4	566.7	561.7	557.1	553.0	549.8	545.3	541.2	533.9	530.2
20°	614.0	609.9	606.8	601.3	596.3	592.2	589.4	579.9	574.4	568.0	562.1
22.5°	650.9	651.4	648.2	644.6	641.4	635.9	631.4	624.5	617.7	609.9	601.7
25°	691.0	694.7	695.1	694.2	692.4	686.0	683.7	676.9	671.4	658.7	655.0
27.5°	735.7	739.8	744.8	751.2	752.5	745.7	748.9	742.0	732.5	727.0	715.2
30°	778.9	790.3	800.8	808.1	812.6	815.8	813.6	811.3	804.9	795.8	785.3
32.5°	834.5	846.4	856.8	872.8	881.0	891.0	889.2	890.1	887.8	878.7	866.4
35°	890.5	901.0	914.7	925.2	945.2	956.1	965.2	964.8	964.8	959.3	947.5
37.5°	940.2	946.1	957.5	974.8	988.0	1005.3	1019.9	1025.8	1035.4	1035.9	1023.1
40°	992.1	998.0	1006.7	1019.5	1034.0	1054.5	1074.1	1093.2	1102.4	1111.9	1106.9
42.5°	1048.2	1054.5	1060.9	1069.1	1090.1	1106.0	1132.4	1158.4	1177.1	1196.7	1194.4
45°	1103.7	1111.0	1120.1	1132.4	1151.1	1177.1	1202.6	1231.7	1274.5	1297.8	1313.7
47.5°	1166.6	1178.4	1195.3	1214.9	1229.9	1256.8	1289.1	1334.2	1377.5	1417.6	1442.6
50°	1261.3	1265.9	1293.2	1312.4	1341.1	1368.4	1400.7	1440.4	1496.4	1537.4	1577.5
52.5°	1372.9	1390.2	1417.6	1439.4	1462.2	1489.6	1522.8	1558.3	1613.9	1659.9	1711.8
55°	1516.9	1541.5	1565.2	1577.0	1608.9	1633.5	1660.4	1695.4	1755.1	1805.2	1866.3
57.5°	1688.6	1713.2	1724.6	1741.9	1755.6	1782.9	1819.3	1843.0	1895.9	1947.8	2012.5
60°	2041.2	2025.7	2039.4	2012.5	2008.4	2010.7	2018.4	2036.6	2066.2	2114.5	2182.9
62.5°	2677.6	2655.2	2596.0	2574.6	2533.2	2477.1	2424.3	2417.0	2401.5	2437.9	2480.8
65°	3049.3	3130.3	3139.0	3161.8	3145.4	3101.6	3039.7	3019.6	2969.5	2934.5	2932.2
67.5°	2960.0	3081.6	3157.7	3253.8	3307.1	3359.0	3372.7	3390.4	3358.1	3342.2	3346.7
69°	2711.7	2801.9	2972.3	3037.9	3122.1	3191.4	3282.5	3298.4	3329.9	3334.4	3395.0
70°	2465.7	2598.3	2695.8	2794.2	2910.8	2986.8	3027.8	3095.3	3173.2	3211.4	3277.0
72.5°	1772.9	1816.2	1885.4	2012.9	2045.3	2124.1	2204.7	2262.1	2353.7	2418.4	2572.8
75°	956.6	982.6	1091.4	1163.9	1183.0	1209.0	1268.2	1282.3	1316.5	1337.4	1485.9
77.5°	436.8	476.5	490.6	530.2	507.9	518.8	533.0	529.8	539.3	584.9	636.8
80°	201.3	209.1	214.6	230.9	231.9	228.2	229.6	227.3	225.5	232.8	238.2
82.5°	97.9	109.8	109.8	119.8	124.8	123.4	126.2	125.3	127.1	125.3	131.2
85°	57.4	57.4	62.0	67.4	66.5	68.3	68.3	72.0	72.4	73.3	73.3
87.5°	26.9	29.6	31.0	33.3	34.2	35.5	36.4	36.4	36.9	36.0	36.9
90°	15.8	15.8	20.4	20.4	21.3	22.7	20.8	21.8	24.9	20.8	24.0
92.5°	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1	6.0
95°	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.1	7.0
97.5°	10.0	9.9	9.8	9.7	9.6	9.5	9.4	9.3	9.2	9.1	9.0
100°	26.0	25.7	25.4	25.1	24.8	24.5	24.2	23.9	23.6	23.3	23.0
102.5°	47.0	46.5	46.0	45.5	45.0	44.5	44.0	43.5	43.0	42.5	42.0
105°	70.0	69.5	69.0	68.5	68.0	67.5	67.0	66.5	66.0	65.5	65.0
107.5°	94.0	93.6	93.2	92.8	92.4	92.0	91.6	91.2	90.8	90.4	90.0



REPORT NUMBER: P226343

CATALOG NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

CANDELA DISTRIBUTION (continued):

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
110°	121.0	120.8	120.6	120.4	120.2	120.0	119.8	119.6	119.4	119.2	119.0
112.5°	150.0	149.9	149.8	149.7	149.6	149.5	149.4	149.3	149.2	149.1	149.0
115°	182.0	181.7	181.4	181.1	180.8	180.5	180.2	179.9	179.6	179.3	179.0
117.5°	215.0	214.5	214.0	213.5	213.0	212.5	212.0	211.5	211.0	210.5	210.0
120°	250.0	249.5	249.0	248.5	248.0	247.5	247.0	246.5	246.0	245.5	245.0
122.5°	283.0	282.5	282.0	281.5	281.0	280.5	280.0	279.5	279.0	278.5	278.0
125°	315.0	314.5	314.0	313.5	313.0	312.5	312.0	311.5	311.0	310.5	310.0
127.5°	346.0	346.0	346.0	346.0	346.0	346.0	346.0	346.0	346.0	346.0	346.0
130°	381.0	381.0	381.0	381.0	381.0	381.0	381.0	381.0	381.0	381.0	381.0
132.5°	416.0	415.8	415.6	415.4	415.2	415.0	414.8	414.6	414.4	414.2	414.0
135°	448.0	447.9	447.8	447.7	447.6	447.5	447.4	447.3	447.2	447.1	447.0
137.5°	475.0	475.1	475.2	475.3	475.4	475.5	475.6	475.7	475.8	475.9	476.0
140°	502.0	502.2	502.4	502.6	502.8	503.0	503.2	503.4	503.6	503.8	504.0
142.5°	533.0	533.0	533.0	533.0	533.0	533.0	533.0	533.0	533.0	533.0	533.0
145°	562.0	561.9	561.8	561.7	561.6	561.5	561.4	561.3	561.2	561.1	561.0
147.5°	585.0	585.1	585.2	585.3	585.4	585.5	585.6	585.7	585.8	585.9	586.0
150°	600.0	600.3	600.6	600.9	601.2	601.5	601.8	602.1	602.4	602.7	603.0
152.5°	614.0	614.4	614.8	615.2	615.6	616.0	616.4	616.8	617.2	617.6	618.0
155°	631.0	631.5	632.0	632.5	633.0	633.5	634.0	634.5	635.0	635.5	636.0
157.5°	648.0	648.2	648.4	648.6	648.8	649.0	649.2	649.4	649.6	649.8	650.0
160°	664.0	663.7	663.4	663.1	662.8	662.5	662.2	661.9	661.6	661.3	661.0
162.5°	671.0	670.9	670.8	670.7	670.6	670.5	670.4	670.3	670.2	670.1	670.0
165°	677.0	677.3	677.6	677.9	678.2	678.5	678.8	679.1	679.4	679.7	680.0
167.5°	684.0	684.4	684.8	685.2	685.6	686.0	686.4	686.8	687.2	687.6	688.0
170°	689.0	689.5	690.0	690.5	691.0	691.5	692.0	692.5	693.0	693.5	694.0
172.5°	692.0	692.2	692.4	692.6	692.8	693.0	693.2	693.4	693.6	693.8	694.0
175°	695.0	695.1	695.2	695.3	695.4	695.5	695.6	695.7	695.8	695.9	696.0
177.5°	699.0	699.2	699.4	699.6	699.8	700.0	700.2	700.4	700.6	700.8	701.0
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: P226343

CATALOG NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

CANDELA DISTRIBUTION (continued):

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4
2.5°	444.6	445.5	445.0	443.2	442.8	442.8	441.9	441.4	440.5	440.0	440.9
5°	452.8	452.8	451.4	449.6	447.8	447.3	446.9	444.6	443.7	442.8	441.9
7.5°	460.5	459.6	457.8	454.6	452.8	452.3	450.5	448.2	446.0	444.1	443.2
10°	468.7	467.8	464.2	461.9	458.3	457.8	454.6	451.9	449.6	447.3	445.5
12.5°	480.6	479.7	475.6	470.1	467.4	465.5	461.4	458.3	455.1	452.3	449.1
15°	498.8	495.2	492.4	487.0	482.9	479.2	474.2	469.6	465.1	460.5	457.8
17.5°	524.3	519.3	512.0	508.8	503.4	497.4	490.6	487.4	481.5	476.0	470.6
20°	557.6	552.5	541.2	537.1	529.3	520.7	515.2	508.4	503.4	494.7	488.8
22.5°	594.5	589.9	579.0	568.0	560.7	553.9	545.3	536.6	527.0	518.8	512.5
25°	642.3	635.5	625.9	615.0	604.0	594.5	582.6	570.3	562.1	550.7	541.6
27.5°	707.4	695.6	679.6	667.8	659.1	644.6	630.0	619.1	606.3	591.3	581.2
30°	778.0	764.8	753.0	739.3	724.7	710.6	690.6	674.6	661.0	645.0	628.6
32.5°	856.4	845.0	828.1	810.4	794.4	776.7	762.1	745.2	721.5	704.7	687.4
35°	935.2	922.0	904.7	889.6	871.4	853.2	836.8	814.5	793.1	768.9	744.8
37.5°	1011.3	999.9	980.7	958.0	942.0	922.4	905.6	881.9	856.4	829.5	811.3
40°	1096.0	1077.8	1064.6	1038.1	1021.7	999.9	975.7	957.5	932.9	903.8	877.8
42.5°	1193.0	1180.3	1166.1	1144.7	1127.4	1101.4	1070.9	1047.7	1024.9	990.3	954.3
45°	1316.0	1307.8	1284.6	1267.3	1244.0	1216.7	1190.3	1162.0	1126.0	1086.0	1053.2
47.5°	1463.6	1457.2	1436.3	1411.7	1381.1	1344.2	1319.6	1280.9	1250.4	1200.3	1161.1
50°	1597.5	1600.7	1589.3	1551.5	1524.2	1487.3	1448.6	1414.8	1367.9	1316.0	1265.9
52.5°	1757.4	1754.2	1725.5	1704.6	1672.2	1627.6	1585.2	1541.9	1490.5	1436.7	1374.3
55°	1910.5	1920.0	1900.0	1870.4	1831.2	1768.8	1726.0	1669.9	1615.7	1556.5	1484.5
57.5°	2059.0	2089.5	2074.0	2038.9	1998.8	1953.7	1897.2	1834.4	1778.4	1700.9	1619.8
60°	2243.9	2284.4	2290.8	2268.0	2224.3	2171.9	2097.7	2048.5	1971.5	1900.0	1837.6
62.5°	2528.6	2620.6	2615.1	2626.1	2595.1	2562.8	2475.8	2422.9	2322.7	2271.2	2184.2
65°	3004.2	3072.0	3153.6	3150.8	3129.4	3052.0	2961.8	2873.4	2807.4	2705.8	2615.1
67.5°	3403.2	3459.2	3507.5	3482.5	3433.3	3346.3	3240.6	3117.6	3016.9	2904.9	2786.0
69°	3440.5	3508.9	3537.1	3506.1	3417.8	3304.3	3200.9	3086.6	2948.1	2852.0	2707.2
70°	3340.3	3407.8	3464.7	3385.0	3303.9	3193.2	3080.2	2961.3	2837.4	2734.0	2587.8
72.5°	2653.4	2729.5	2721.7	2713.1	2648.4	2537.7	2433.8	2370.1	2283.1	2158.3	2052.6
75°	1542.8	1577.9	1516.4	1581.1	1503.7	1392.1	1406.6	1334.7	1270.9	1198.9	1143.4
77.5°	605.8	636.8	604.5	594.0	559.4	551.6	493.8	500.6	471.9	415.4	389.5
80°	229.6	233.7	228.2	216.8	214.6	201.3	197.7	184.9	179.0	160.3	153.5
82.5°	123.4	125.7	122.1	118.4	115.7	108.0	102.9	93.4	87.9	82.0	81.5
85°	71.1	69.2	67.4	65.6	61.5	56.9	53.3	49.7	45.6	42.4	39.2
87.5°	37.4	37.8	38.3	36.4	33.7	30.1	27.8	26.4	23.2	21.9	20.5
90°	21.1	17.7	18.9	21.4	20.3	17.8	17.2	15.6	14.0	13.8	12.5
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°	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	8.0
100°	22.6	22.2	21.8	21.4	21.0	20.6	20.2	19.8	19.4	19.0	19.0
102.5°	41.7	41.4	41.1	40.8	40.5	40.2	39.9	39.6	39.3	39.0	38.8
105°	64.6	64.2	63.8	63.4	63.0	62.6	62.2	61.8	61.4	61.0	61.0
107.5°	89.7	89.4	89.1	88.8	88.5	88.2	87.9	87.6	87.3	87.0	86.8



REPORT NUMBER: P226343
 CATALOG NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°	
110°	118.7	118.4	118.1	117.8	117.5	117.2	116.9	116.6	116.3	116.0	116.2	0°
112.5°	148.8	148.6	148.4	148.2	148.0	147.8	147.6	147.4	147.2	147.0	147.0	2.5°
115°	178.8	178.6	178.4	178.2	178.0	177.8	177.6	177.4	177.2	177.0	177.2	5°
117.5°	209.8	209.6	209.4	209.2	209.0	208.8	208.6	208.4	208.2	208.0	208.2	7.5°
120°	244.8	244.6	244.4	244.2	244.0	243.8	243.6	243.4	243.2	243.0	243.0	10°
122.5°	277.8	277.6	277.4	277.2	277.0	276.8	276.6	276.4	276.2	276.0	276.2	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°	345.9	345.8	345.7	345.6	345.5	345.4	345.3	345.2	345.1	345.0	345.4	17.5°
130°	380.8	380.6	380.4	380.2	380.0	379.8	379.6	379.4	379.2	379.0	379.2	20°
132.5°	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.2	22.5°
135°	447.3	447.6	447.9	448.2	448.5	448.8	449.1	449.4	449.7	450.0	450.2	25°
137.5°	476.5	477.0	477.5	478.0	478.5	479.0	479.5	480.0	480.5	481.0	481.2	27.5°
140°	504.5	505.0	505.5	506.0	506.5	507.0	507.5	508.0	508.5	509.0	509.4	30°
142.5°	533.1	533.2	533.3	533.4	533.5	533.6	533.7	533.8	533.9	534.0	534.4	32.5°
145°	560.7	560.4	560.1	559.8	559.5	559.2	558.9	558.6	558.3	558.0	558.4	35°
147.5°	585.7	585.4	585.1	584.8	584.5	584.2	583.9	583.6	583.3	583.0	583.4	37.5°
150°	603.3	603.6	603.9	604.2	604.5	604.8	605.1	605.4	605.7	606.0	606.8	40°
152.5°	618.5	619.0	619.5	620.0	620.5	621.0	621.5	622.0	622.5	623.0	624.0	42.5°
155°	636.2	636.4	636.6	636.8	637.0	637.2	637.4	637.6	637.8	638.0	638.6	45°
157.5°	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	651.0	47.5°
160°	660.9	660.8	660.7	660.6	660.5	660.4	660.3	660.2	660.1	660.0	661.2	50°
162.5°	669.8	669.6	669.4	669.2	669.0	668.8	668.6	668.4	668.2	668.0	669.2	52.5°
165°	679.8	679.6	679.4	679.2	679.0	678.8	678.6	678.4	678.2	678.0	678.8	55°
167.5°	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	689.2	57.5°
170°	694.2	694.4	694.6	694.8	695.0	695.2	695.4	695.6	695.8	696.0	697.0	60°
172.5°	694.2	694.4	694.6	694.8	695.0	695.2	695.4	695.6	695.8	696.0	697.0	62.5°
175°	695.8	695.6	695.4	695.2	695.0	694.8	694.6	694.4	694.2	694.0	695.0	65°
177.5°	700.7	700.4	700.1	699.8	699.5	699.2	698.9	698.6	698.3	698.0	698.8	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: P226343
 NUMBER: ISW-AF-450-LED-E1-T2-7050-ULG

REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

CANDELA DISTRIBUTION

87°	88°	89°	90°	95°	105°	115°	125°	135°	145°	155°	110°	87°
436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	436.4	110°	116.4
439.6	439.6	438.2	437.3	434.1	428.6	423.2	418.2	411.3	408.6	405.0	112.5°	147.0
440.9	440.0	438.7	436.8	430.5	417.7	404.5	390.4	375.8	362.6	347.1	115°	177.4
441.9	440.0	438.2	435.9	426.8	407.2	380.8	353.0	327.1	307.5	299.3	117.5°	208.4
442.3	440.9	438.7	435.5	422.7	393.6	351.2	311.1	288.3	280.6	279.2	120°	243.0
447.3	445.0	441.4	437.8	420.9	378.5	318.0	279.7	270.6	274.2	280.6	122.5°	276.4
453.7	451.0	446.4	442.8	420.0	359.0	285.6	261.9	265.1	275.1	285.6	125°	310.0
465.1	460.5	455.5	451.9	421.8	334.8	259.6	252.8	262.4	275.1	289.3	127.5°	345.8
481.9	475.6	469.6	463.3	424.5	304.7	244.2	246.9	258.3	271.9	287.4	130°	379.4
502.9	495.6	487.4	477.8	427.7	278.8	235.5	240.5	251.0	262.8	275.6	132.5°	414.4
531.1	521.1	510.6	498.8	432.3	250.5	227.8	233.2	239.6	246.4	252.8	135°	450.4
566.7	553.0	541.6	525.7	436.8	231.4	221.4	223.2	224.6	225.5	225.0	137.5°	481.4
614.0	593.1	579.9	560.3	441.9	221.4	214.1	211.8	209.5	206.4	202.7	140°	509.8
664.1	646.8	625.9	600.8	445.0	214.6	207.3	200.0	193.6	190.4	190.4	142.5°	534.8
722.5	701.0	674.6	643.2	440.9	207.3	198.2	188.6	184.9	189.0	187.7	145°	558.8
780.8	751.2	722.0	686.0	430.9	199.1	188.1	183.1	185.9	180.4	177.2	147.5°	583.8
845.0	812.2	771.7	729.7	416.3	190.4	183.1	185.9	176.3	169.9	172.6	150°	607.6
917.0	878.2	834.5	777.6	406.8	184.9	175.4	177.7	169.5	164.9	163.5	152.5°	625.0
1014.9	959.8	906.5	839.5	414.1	176.3	160.3	169.5	164.9	160.8	157.2	155°	639.2
1111.0	1052.3	989.4	910.6	426.8	169.9	148.5	160.8	164.0	157.2	150.3	157.5°	652.0
1207.6	1145.2	1071.8	983.9	442.3	165.8	139.4	150.3	161.7	153.5	148.0	160°	662.4
1309.2	1230.4	1155.2	1060.5	462.4	161.7	132.1	141.2	157.6	153.5	145.3	162.5°	670.4
1415.8	1322.8	1247.7	1145.2	497.4	155.8	123.0	133.9	153.5	153.1	142.6	165°	679.6
1539.7	1456.8	1360.2	1255.9	546.2	149.0	114.8	128.5	149.9	151.2	139.4	167.5°	690.4
1750.6	1664.9	1548.3	1449.0	642.7	139.8	109.8	123.0	143.9	147.6	136.7	170°	698.0
2092.7	1976.0	1869.0	1776.1	808.1	127.1	106.1	117.1	137.6	143.0	134.4	172.5°	698.0
2484.9	2371.0	2241.6	2085.4	900.1	115.2	101.1	109.8	131.2	138.5	132.1	175°	696.0
2651.6	2502.6	2345.5	2160.1	812.2	105.7	95.7	102.9	123.9	132.1	128.9	177.5°	699.6
2575.1	2424.3	2241.6	2059.9	706.5	100.7	92.5	99.3	118.4	128.0	125.7	180°	700.0
2442.0	2290.4	2127.3	1909.1	630.9	97.9	90.2	97.0	116.2	125.7	123.9		
1931.4	1796.1	1645.8	1479.5	430.0	88.8	82.9	90.2	107.0	117.5	117.1		
1023.6	983.9	872.8	775.3	222.7	79.3	75.2	82.4	98.8	109.8	109.8		
368.5	334.4	319.8	265.6	118.4	69.2	67.4	72.9	89.7	100.2	99.8		
139.4	135.7	121.6	113.9	75.2	56.5	56.9	62.4	78.8	88.8	88.4		
78.8	71.5	69.2	67.0	47.8	44.6	46.9	52.4	67.4	76.1	77.4		
37.8	35.1	34.2	31.9	31.4	34.2	36.9	41.5	53.8	64.2	62.9		
18.2	17.3	16.9	16.4	22.3	21.9	26.9	28.7	36.0	51.0	46.0		
12.9	12.9	12.5	11.6	13.4	16.3	17.7	19.3	22.0	37.6	32.1		
6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	6.0	6.0	6.0		
7.0	7.0	7.0	7.0	7.0	7.0	8.0	7.0	7.0	7.0	7.0		
8.0	8.0	8.0	8.0	8.0	9.0	10.0	12.0	9.0	9.0	8.0		
19.0	19.0	19.0	19.0	19.0	23.0	26.0	29.0	21.0	12.0	10.0		
38.6	38.4	38.2	38.0	39.0	42.0	47.0	50.0	40.0	27.0	18.0		
61.0	61.0	61.0	61.0	61.0	65.0	70.0	72.0	63.0	48.0	36.0		
86.6	86.4	86.2	86.0	87.0	90.0	94.0	95.0	88.0	73.0	58.0		

'226343
 ISW-AF-450-LED-E1-T2-7050-ULG

REPORT NUMBER: P226343
 CATALOG NUMBER: ISW-AF-4!

TION (continued):

CANDELA DISTRIBUTION (con

88°	89°	90°	95°	105°	115°	125°	135°	145°	155°		165°	175°
116.6	116.8	117.0	116.0	119.0	121.0	120.0	114.0	102.0	87.0	0°	436.4	436.4
147.0	147.0	147.0	147.0	149.0	150.0	148.0	143.0	134.0	121.0	2.5°	401.8	395.4
177.6	177.8	178.0	177.0	179.0	182.0	179.0	174.0	168.0	159.0	5°	335.7	334.8
208.6	208.8	209.0	208.0	210.0	215.0	211.0	205.0	202.0	197.0	7.5°	294.3	288.3
243.0	243.0	243.0	243.0	245.0	250.0	246.0	243.0	237.0	233.0	10°	280.6	280.1
276.6	276.8	277.0	276.0	278.0	283.0	279.0	277.0	271.0	267.0	12.5°	286.5	287.9
310.0	310.0	310.0	310.0	310.0	315.0	313.0	310.0	305.0	299.0	15°	294.3	297.0
346.2	346.6	347.0	345.0	346.0	346.0	345.0	340.0	339.0	333.0	17.5°	299.3	304.3
379.6	379.8	380.0	379.0	381.0	381.0	377.0	372.0	370.0	366.0	20°	297.9	303.8
414.6	414.8	415.0	414.0	414.0	416.0	411.0	405.0	404.0	401.0	22.5°	282.9	285.6
450.6	450.8	451.0	450.0	447.0	448.0	443.0	437.0	435.0	432.0	25°	256.0	256.9
481.6	481.8	482.0	481.0	476.0	475.0	473.0	468.0	464.0	460.0	27.5°	223.7	222.7
510.2	510.6	511.0	509.0	504.0	502.0	500.0	497.0	491.0	489.0	30°	200.9	195.0
535.2	535.6	536.0	534.0	533.0	533.0	527.0	525.0	521.0	518.0	32.5°	190.4	186.8
559.2	559.6	560.0	558.0	561.0	562.0	556.0	551.0	550.0	547.0	35°	183.1	177.2
584.2	584.6	585.0	583.0	586.0	585.0	580.0	575.0	574.0	574.0	37.5°	190.0	189.5
608.4	609.2	610.0	606.0	603.0	600.0	597.0	593.0	593.0	593.0	40°	196.3	195.4
626.0	627.0	628.0	623.0	618.0	614.0	611.0	610.0	610.0	609.0	42.5°	185.4	177.2
639.8	640.4	641.0	638.0	636.0	631.0	626.0	628.0	630.0	627.0	45°	165.4	155.8
653.0	654.0	655.0	650.0	650.0	648.0	644.0	645.0	646.0	644.0	47.5°	151.7	146.2
663.6	664.8	666.0	660.0	661.0	664.0	658.0	655.0	655.0	656.0	50°	145.3	143.5
671.6	672.8	674.0	668.0	670.0	671.0	667.0	663.0	661.0	665.0	52.5°	143.5	148.0
680.4	681.2	682.0	678.0	680.0	677.0	672.0	673.0	673.0	676.0	55°	142.6	147.6
691.6	692.8	694.0	688.0	688.0	684.0	678.0	685.0	688.0	686.0	57.5°	136.2	144.9
699.0	700.0	701.0	696.0	694.0	689.0	686.0	691.0	693.0	692.0	60°	131.6	142.1
699.0	700.0	701.0	696.0	694.0	692.0	689.0	690.0	690.0	693.0	62.5°	128.9	140.8
697.0	698.0	699.0	694.0	696.0	695.0	690.0	690.0	691.0	695.0	65°	126.6	141.7
700.4	701.2	702.0	698.0	701.0	699.0	694.0	695.0	697.0	699.0	67.5°	123.0	144.4
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	69°	121.2	143.9
										70°	119.3	142.6
										72.5°	113.0	131.6
										75°	105.2	116.2
										77.5°	95.2	99.8
										80°	84.3	87.0
										82.5°	73.3	83.8
										85°	57.4	71.1
										87.5°	42.4	39.2
										90°	31.1	22.8
										92.5°	5.0	4.0
										95°	6.0	5.0
										97.5°	8.0	7.0
										100°	9.0	8.0
										102.5°	13.0	11.0
										105°	27.0	22.0
										107.5°	49.0	42.0

50-LED-E1-T2-7050-ULG

REPORT NUMBER: P226343

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

tinued):

180°
436.4
396.8
332.1
288.8
281.5
287.0
297.9
306.1
305.2
287.9
257.8
226.4
199.5
190.9
179.9
191.8
197.2
179.0
155.8
145.3
142.6
149.4
147.1
145.3
142.6
140.3
139.8
140.8
138.9
136.7
123.0
110.7
99.8
87.9
74.2
55.6
42.4
20.0
4.0
5.0
7.0
8.0
11.0
21.0
41.0

CANDELA DISTRIBUTION (continued):

	165°	175°	180°
110°	74.0	68.0	66.0
112.5°	106.0	99.0	99.0
115°	147.0	139.0	140.0
117.5°	189.0	184.0	184.0
120°	226.0	223.0	225.0
122.5°	261.0	260.0	263.0
125°	296.0	294.0	298.0
127.5°	329.0	329.0	330.0
130°	362.0	361.0	363.0
132.5°	393.0	394.0	396.0
135°	426.0	426.0	429.0
137.5°	459.0	457.0	460.0
140°	487.0	485.0	488.0
142.5°	517.0	515.0	518.0
145°	544.0	546.0	550.0
147.5°	571.0	572.0	575.0
150°	593.0	592.0	595.0
152.5°	608.0	608.0	611.0
155°	625.0	625.0	629.0
157.5°	643.0	643.0	646.0
160°	659.0	660.0	663.0
162.5°	669.0	669.0	673.0
165°	676.0	678.0	681.0
167.5°	684.0	687.0	690.0
170°	692.0	695.0	698.0
172.5°	695.0	697.0	699.0
175°	697.0	698.0	700.0
177.5°	700.0	705.0	707.0
180°	700.0	700.0	700.0

(END OF F

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

