

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: P227153

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P227153  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35948)-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-SLL-7050-ULG  
Description: IMPACT ELITE LED WEDGE LUMINAIRE WITH UPLIGHT  
LIGHT SQUARE WITH ACCULED OPTICS-90° SPILL LIGHT ELIMINATOR LEFT, 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: 4441.4 lumens  
Efficiency: N/A  
Efficacy: 105.7 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: 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

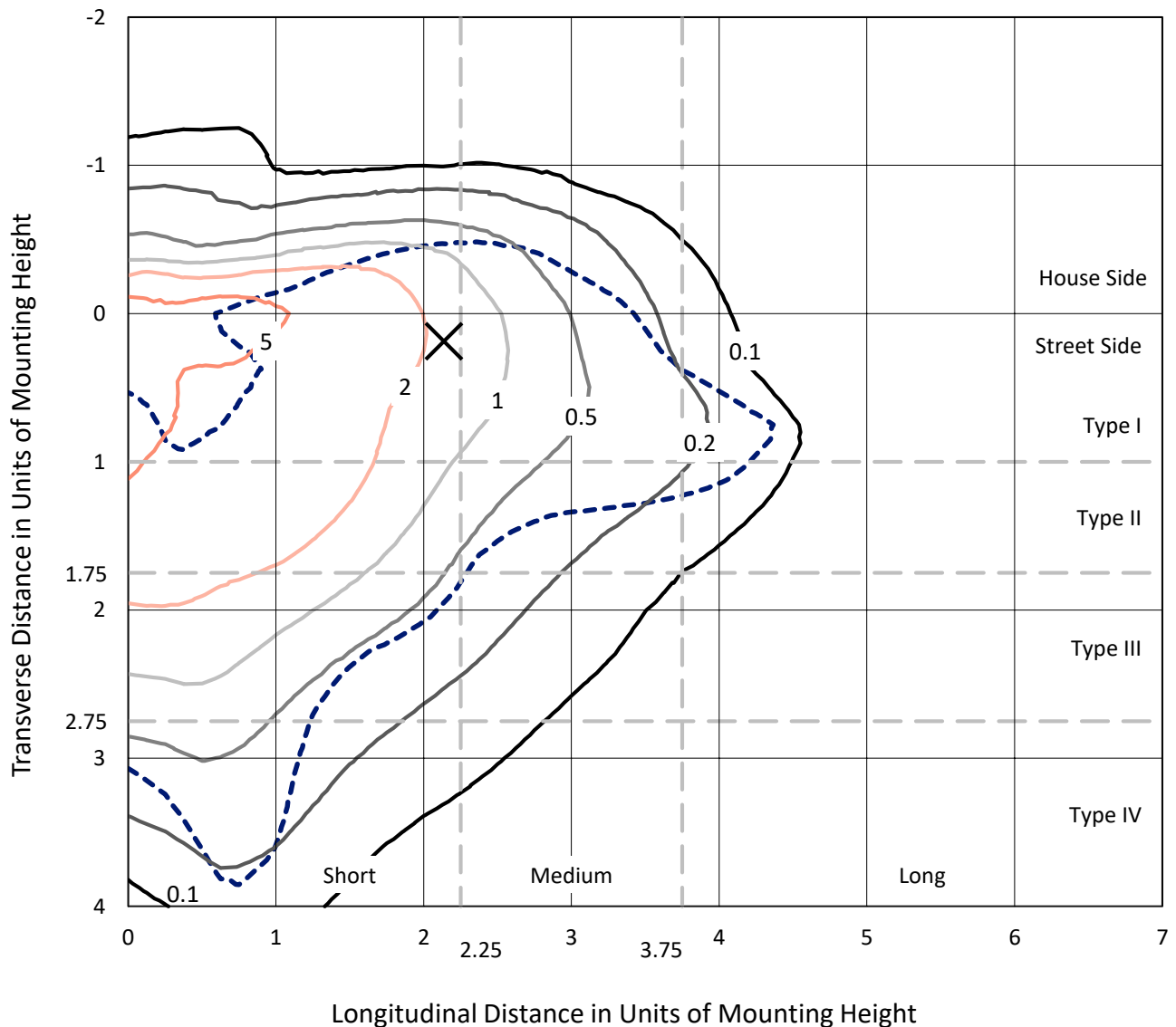


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### Iso-Footcandle Lines of Horizontal Illumination

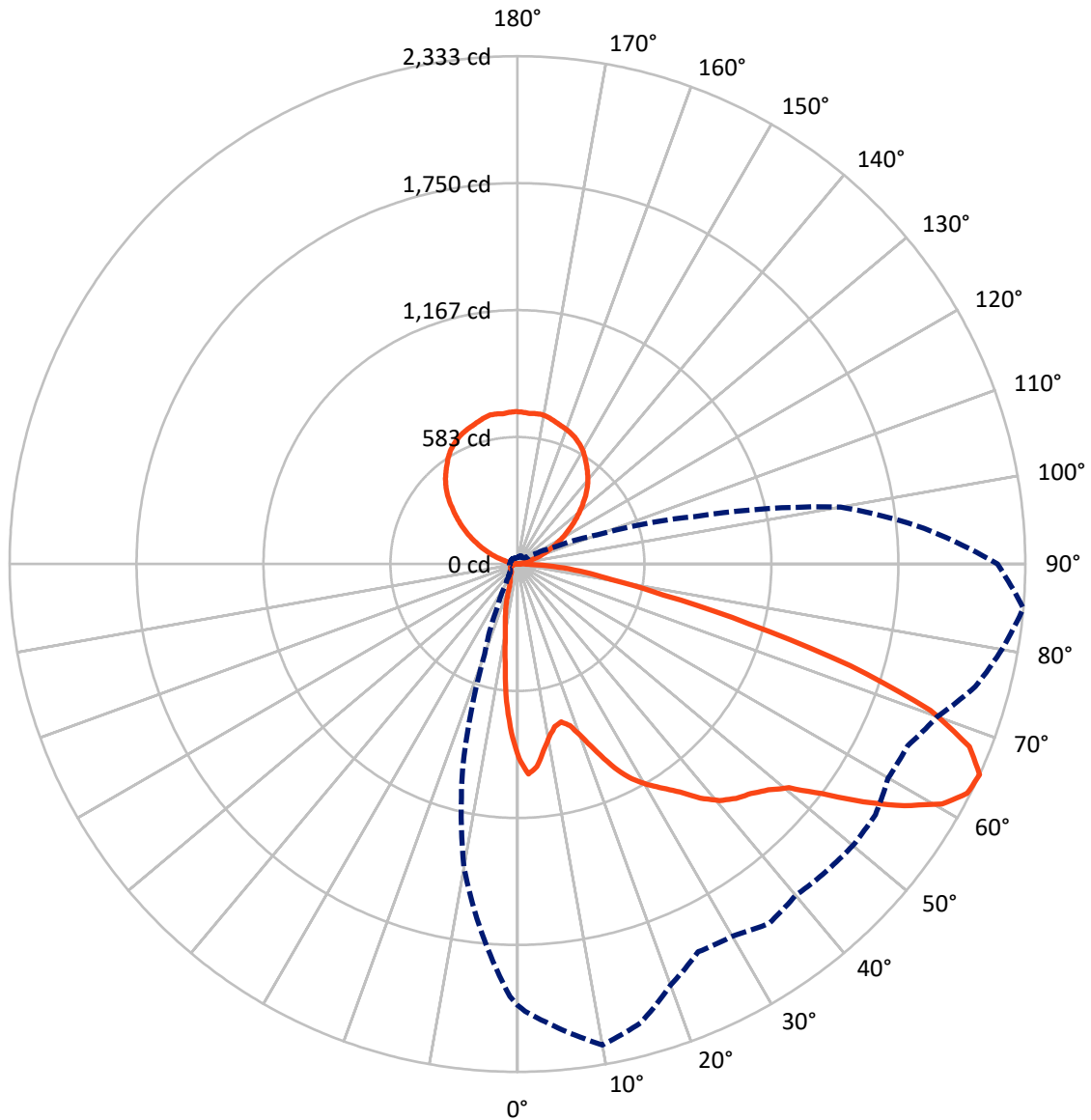
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.8 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 85-Deg Lateral      - - - Horizontal Cone Through 65-Deg Vertical

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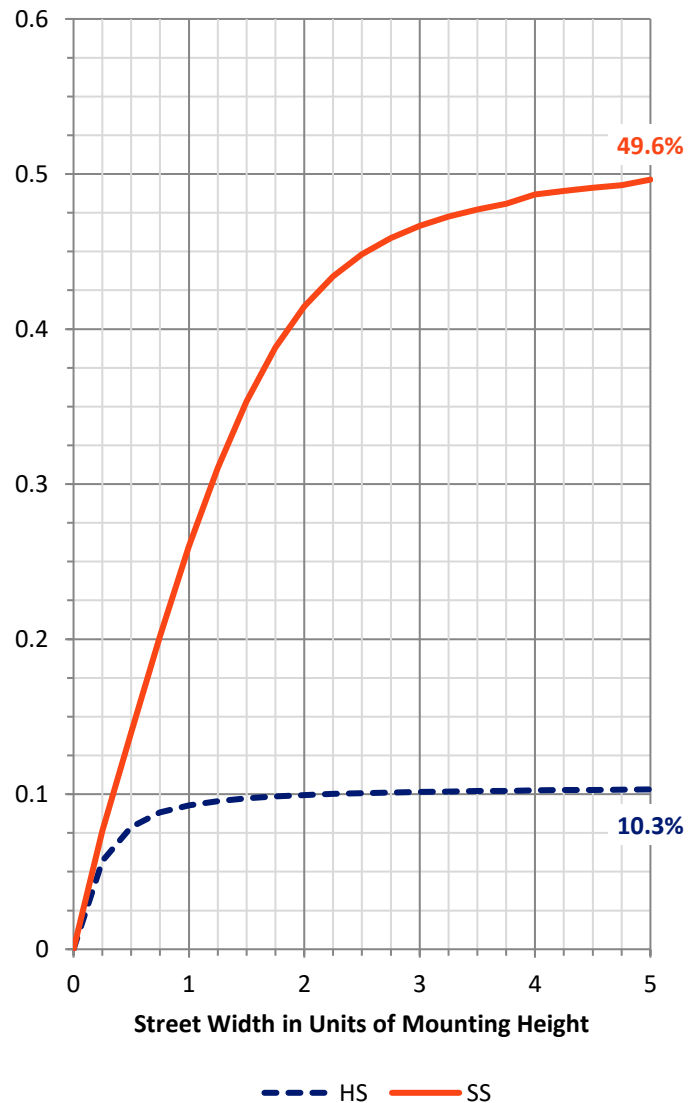
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	464.5	867.6	1332.1
	% Fixture	10.5	19.5	30.0
<b>Street Side</b>	Lumens	2241.6	867.7	3109.3
	% Fixture	50.5	19.5	70.0
<b>Total</b>	Lumens	2706.2	1735.3	4441.4
	% Fixture	60.9	39.1	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.2	1.5
10°-20°	127.4	2.9
20°-30°	181.7	4.1
30°-40°	263.5	5.9
40°-50°	377.0	8.5
50°-60°	578.9	13.0
60°-70°	670.0	15.1
70°-80°	341.8	7.7
80°-90°	99.7	2.2
90°-100°	9.4	0.2
100°-110°	57.4	1.3
110°-120°	166.1	3.7
120°-130°	273.2	6.2
130°-140°	336.8	7.6
140°-150°	344.6	7.8
150°-160°	290.3	6.5
160°-170°	191.2	4.3
170°-180°	66.3	1.5
0°-90°	2706.2	60.9
0°-180°	4441.4	100.0



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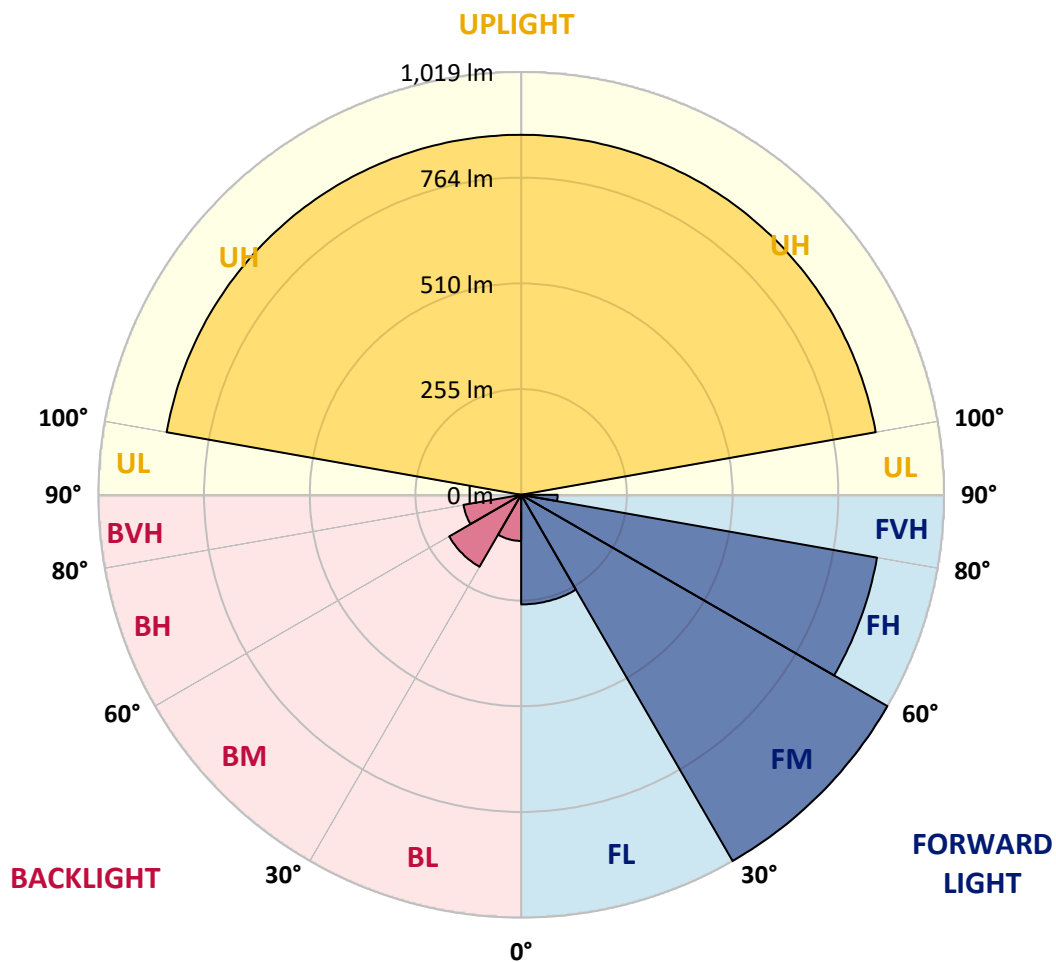
CATALOG NUMBER: ISW-AF-450-LED-E1-SLL-7050-ULG

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	264.2	5.9			
FM	(30°-60°)	1019.0	22.9			
FH	(60°-80°)	870.7	19.6			G1/1800
FVH	(80°-90°)	87.7	2.0			G1/100
BL	(0°-30°)	111.1	2.5	B1/500		
BM	(30°-60°)	200.4	4.5	B0/220		
BH	(60°-80°)	141.1	3.2	B1/500		G1/500
BVH	(80°-90°)	12.0	0.3			G1/100
UL	(90°-100°)	9.4	0.2		U1/10	
UH	(100°-180°)	867.6	19.5		U4/1000	

**BUG Rating: B1-U5-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	10°	15°	20°	25°	30°	35°	40°	45°
0°	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7
2.5°	925.1	926.0	938.8	951.1	966.6	964.3	977.0	986.6	995.2	996.6	1003.0
5°	868.7	877.8	906.5	931.0	962.0	986.1	1012.1	1032.6	1047.6	1061.7	1063.5
7.5°	789.4	796.3	829.5	868.2	912.8	944.7	983.9	1018.0	1042.1	1064.9	1069.9
10°	721.6	728.0	764.9	814.9	854.1	895.5	936.0	963.8	995.2	1014.8	1024.4
12.5°	688.8	696.6	731.6	777.2	817.2	857.3	887.8	911.9	929.7	933.3	936.0
15°	701.6	705.7	744.4	784.9	816.8	836.8	845.0	859.6	858.2	865.5	866.8
17.5°	753.0	751.2	792.2	820.4	835.9	833.6	820.9	813.1	799.5	795.4	807.2
20°	841.4	847.7	874.1	891.4	875.5	838.6	803.6	779.4	760.3	753.9	752.6
22.5°	944.7	952.9	981.6	972.5	932.0	864.6	800.8	762.1	738.5	731.6	728.9
25°	1053.1	1058.5	1073.1	1042.1	985.2	897.8	820.0	765.8	734.4	724.3	723.0
27.5°	1140.5	1145.9	1139.1	1103.6	1021.2	935.1	846.4	782.2	741.2	731.2	726.6
30°	1211.9	1214.7	1191.9	1147.8	1065.8	976.6	881.0	810.8	763.0	740.3	737.1
32.5°	1292.1	1290.3	1246.1	1185.1	1103.6	1013.9	920.6	843.2	784.0	756.2	751.2
35°	1379.9	1364.0	1286.2	1222.0	1129.5	1042.6	956.5	877.3	817.7	780.8	774.4
37.5°	1458.3	1441.9	1337.6	1251.1	1155.5	1064.9	984.8	921.5	869.1	835.4	832.7
40°	1519.3	1499.2	1376.8	1270.7	1168.2	1081.3	1018.0	977.0	942.4	915.1	915.1
42.5°	1568.4	1546.6	1415.0	1293.4	1179.6	1106.3	1073.5	1059.4	1052.1	1037.1	1042.6
45°	1615.8	1593.5	1446.4	1308.0	1205.1	1155.0	1159.6	1171.9	1193.7	1185.1	1192.8
47.5°	1660.8	1639.0	1481.9	1331.2	1254.3	1242.5	1266.1	1315.3	1358.1	1391.8	1415.5
50°	1736.4	1710.5	1545.7	1399.5	1331.7	1337.6	1405.9	1502.4	1572.1	1603.0	1601.2
52.5°	1879.8	1843.0	1682.7	1527.0	1442.3	1475.1	1555.7	1677.2	1768.3	1792.4	1802.0
55°	2055.1	2026.0	1880.7	1695.9	1634.4	1645.8	1746.0	1883.5	1953.6	1978.6	1986.8
57.5°	2158.0	2150.3	2059.2	1876.7	1817.0	1812.5	1943.1	2055.6	2116.1	2139.8	2132.5
59°	2182.1	2184.4	2132.5	2004.6	1922.6	1912.6	2045.6	2149.8	2200.4	2207.6	2204.0
60°	2179.9	2192.6	2186.2	2074.7	1989.6	1976.8	2088.8	2188.1	2230.4	2241.8	2229.0
62.5°	2133.0	2154.8	2215.4	2203.5	2141.2	2076.1	2128.9	2200.8	2228.1	2217.2	2207.6
65°	2026.4	2055.1	2139.3	2244.1	2184.0	2058.3	1965.9	1974.1	2015.5	1988.2	2001.4
67.5°	1842.5	1875.3	1919.9	2157.6	2070.1	1859.4	1700.5	1622.6	1603.0	1629.4	1671.3
70°	1498.8	1520.2	1633.1	1969.1	1817.9	1528.4	1329.0	1225.1	1190.5	1251.6	1294.4
72.5°	1057.2	1089.0	1237.9	1629.4	1495.6	1224.2	1005.7	910.1	875.5	878.2	915.6
75°	643.3	686.6	865.0	1288.4	1178.7	937.9	766.2	697.5	687.0	681.1	674.7
77.5°	424.3	440.7	568.6	889.2	794.9	667.0	575.0	603.2	634.7	641.5	649.7
80°	287.7	292.7	368.8	623.7	523.6	492.6	464.8	531.3	590.9	601.9	596.0
82.5°	177.1	192.1	257.2	420.7	417.5	402.9	367.4	419.3	458.9	465.7	478.0
85°	61.5	64.2	158.0	371.5	424.3	428.9	302.8	239.0	268.6	263.6	189.4
87.5°	26.4	29.6	49.2	248.6	287.3	237.7	138.4	122.9	94.7	53.3	51.4
90°	6.8	6.8	6.4	8.3	13.8	12.1	12.1	9.4	8.0	7.5	7.0
92.5°	4.0	4.0	4.0	4.5	5.0	5.5	6.0	6.0	6.0	6.0	6.0
95°	5.0	5.0	5.0	5.5	6.0	6.5	7.0	7.0	7.0	7.0	7.0
97.5°	7.0	7.0	7.0	7.5	8.0	8.0	8.0	8.5	9.0	9.0	9.0
100°	8.0	8.0	8.0	8.5	9.0	9.5	10.0	11.0	12.0	16.5	21.0
102.5°	11.0	11.0	11.0	12.0	13.0	15.5	18.0	22.5	27.0	33.5	40.0
105°	21.0	21.2	22.0	24.5	27.0	31.5	36.0	42.0	48.0	55.5	63.0
107.5°	41.0	41.2	42.0	45.5	49.0	53.5	58.0	65.5	73.0	80.5	88.0



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**CANDELA DISTRIBUTION (continued):**

	0°	1°	5°	10°	15°	20°	25°	30°	35°	40°	45°
110°	66.0	66.4	68.0	71.0	74.0	80.5	87.0	94.5	102.0	108.0	114.0
112.5°	99.0	99.0	99.0	102.5	106.0	113.5	121.0	127.5	134.0	138.5	143.0
115°	140.0	139.8	139.0	143.0	147.0	153.0	159.0	163.5	168.0	171.0	174.0
117.5°	184.0	184.0	184.0	186.5	189.0	193.0	197.0	199.5	202.0	203.5	205.0
120°	225.0	224.6	223.0	224.5	226.0	229.5	233.0	235.0	237.0	240.0	243.0
122.5°	263.0	262.4	260.0	260.5	261.0	264.0	267.0	269.0	271.0	274.0	277.0
125°	298.0	297.2	294.0	295.0	296.0	297.5	299.0	302.0	305.0	307.5	310.0
127.5°	330.0	329.8	329.0	329.0	329.0	331.0	333.0	336.0	339.0	339.5	340.0
130°	363.0	362.6	361.0	361.5	362.0	364.0	366.0	368.0	370.0	371.0	372.0
132.5°	396.0	395.6	394.0	393.5	393.0	397.0	401.0	402.5	404.0	404.5	405.0
135°	429.0	428.4	426.0	426.0	426.0	429.0	432.0	433.5	435.0	436.0	437.0
137.5°	460.0	459.4	457.0	458.0	459.0	459.5	460.0	462.0	464.0	466.0	468.0
140°	488.0	487.4	485.0	486.0	487.0	488.0	489.0	490.0	491.0	494.0	497.0
142.5°	518.0	517.4	515.0	516.0	517.0	517.5	518.0	519.5	521.0	523.0	525.0
145°	550.0	549.2	546.0	545.0	544.0	545.5	547.0	548.5	550.0	550.5	551.0
147.5°	575.0	574.4	572.0	571.5	571.0	572.5	574.0	574.0	574.0	574.5	575.0
150°	595.0	594.4	592.0	592.5	593.0	593.0	593.0	593.0	593.0	593.0	593.0
152.5°	611.0	610.4	608.0	608.0	608.0	608.5	609.0	609.5	610.0	610.0	610.0
155°	629.0	628.2	625.0	625.0	625.0	626.0	627.0	628.5	630.0	629.0	628.0
157.5°	646.0	645.4	643.0	643.0	643.0	643.5	644.0	645.0	646.0	645.5	645.0
160°	663.0	662.4	660.0	659.5	659.0	657.5	656.0	655.5	655.0	655.0	655.0
162.5°	673.0	672.2	669.0	669.0	669.0	667.0	665.0	663.0	661.0	662.0	663.0
165°	681.0	680.4	678.0	677.0	676.0	676.0	676.0	674.5	673.0	673.0	673.0
167.5°	690.0	689.4	687.0	685.5	684.0	685.0	686.0	687.0	688.0	686.5	685.0
170°	698.0	697.4	695.0	693.5	692.0	692.0	692.0	692.5	693.0	692.0	691.0
172.5°	699.0	698.6	697.0	696.0	695.0	694.0	693.0	691.5	690.0	690.0	690.0
175°	700.0	699.6	698.0	697.5	697.0	696.0	695.0	693.0	691.0	690.5	690.0
177.5°	707.0	706.6	705.0	702.5	700.0	699.5	699.0	698.0	697.0	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°	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7
2.5°	1001.6	995.7	999.3	994.3	986.1	980.7	974.3	966.1	956.5	943.8	931.0
5°	1059.4	1054.9	1043.5	1027.1	1004.3	985.2	962.5	935.6	913.3	884.6	857.7
7.5°	1064.4	1057.2	1036.2	1005.7	970.7	935.1	908.3	864.6	836.3	790.8	760.3
10°	1018.9	1019.4	998.4	969.7	933.3	891.4	852.7	804.9	763.5	717.1	666.1
12.5°	952.0	958.4	959.3	933.8	898.3	854.1	810.8	765.3	713.9	664.2	617.4
15°	876.0	894.2	895.5	889.2	870.5	833.2	793.5	752.6	700.2	646.0	593.2
17.5°	808.1	825.4	841.4	855.9	856.8	839.1	814.9	779.9	727.5	663.8	601.9
20°	756.7	775.3	802.7	829.5	859.1	868.2	870.0	847.7	791.7	713.9	630.1
22.5°	735.3	757.1	784.9	835.4	887.8	920.1	938.3	938.3	879.6	788.5	676.5
25°	730.7	748.5	790.8	853.6	923.8	980.2	1014.8	1038.0	995.7	884.6	733.9
27.5°	733.9	758.0	810.4	874.6	947.9	1020.3	1077.2	1117.7	1078.1	950.2	787.2
30°	746.7	782.6	836.8	903.3	978.8	1055.3	1124.1	1175.5	1146.4	1009.8	837.7
32.5°	769.0	812.7	874.1	934.2	1009.3	1092.2	1160.0	1227.9	1206.5	1051.2	864.6
35°	802.2	853.6	909.6	970.2	1042.1	1125.0	1197.4	1286.2	1278.4	1103.1	891.4
37.5°	855.9	908.7	960.2	1012.1	1080.4	1161.0	1251.1	1364.5	1358.1	1180.1	934.7
40°	950.6	981.6	1019.8	1053.1	1117.2	1194.2	1290.7	1429.1	1451.9	1246.1	972.9
42.5°	1068.1	1086.3	1097.2	1106.3	1139.1	1211.5	1319.4	1472.4	1509.7	1295.3	1002.5
45°	1217.9	1212.4	1190.5	1169.6	1166.0	1221.5	1332.6	1504.2	1555.2	1343.1	1032.6
47.5°	1395.0	1383.1	1323.5	1254.7	1216.5	1239.7	1355.8	1551.1	1611.2	1405.9	1069.9
50°	1599.4	1571.6	1474.2	1358.1	1287.5	1291.2	1414.5	1616.2	1685.0	1487.8	1139.6
52.5°	1788.8	1739.2	1623.1	1469.6	1368.6	1380.9	1520.2	1751.0	1836.1	1623.5	1256.6
55°	1955.9	1892.1	1766.9	1598.9	1507.4	1528.8	1689.1	1929.5	2010.0	1785.1	1374.9
57.5°	2097.9	2030.1	1906.7	1758.7	1644.9	1662.7	1839.8	2095.2	2149.4	1930.4	1488.3
59°	2162.6	2095.6	1981.8	1845.2	1738.7	1776.0	1946.3	2177.6	2200.8	1986.4	1531.6
60°	2194.0	2127.1	2026.9	1893.5	1796.1	1845.2	2002.8	2240.0	2219.9	1994.6	1547.9
62.5°	2191.7	2144.8	2078.8	1987.7	1970.0	2051.9	2186.2	2320.1	2233.1	1970.9	1558.4
65°	2011.9	2007.8	1966.8	1977.3	2051.5	2178.0	2260.4	2333.3	2205.8	1876.7	1507.9
67.5°	1678.2	1695.0	1700.5	1764.7	1938.1	2153.0	2225.4	2239.5	2087.0	1675.0	1350.8
70°	1295.7	1258.4	1319.8	1433.2	1683.2	1960.0	2062.9	2013.7	1843.9	1402.7	1103.1
72.5°	917.4	928.3	1016.6	1163.7	1418.2	1705.0	1866.2	1598.0	1387.2	1049.9	782.2
75°	690.2	741.6	784.4	913.3	1151.9	1460.5	1593.5	1098.6	903.7	723.9	511.7
77.5°	661.5	657.4	624.6	652.0	830.4	1023.0	1136.8	685.6	565.9	473.5	309.1
80°	611.4	576.4	516.7	490.3	523.1	657.0	721.6	440.7	376.5	331.0	174.4
82.5°	474.4	450.7	387.9	386.1	436.2	466.7	496.3	312.3	283.2	268.2	107.0
85°	300.9	309.1	316.9	386.5	484.0	489.4	386.1	190.3	149.3	210.3	68.3
87.5°	89.2	145.2	176.2	299.1	436.2	437.5	290.5	62.4	56.0	65.6	39.6
90°	7.0	7.0	8.0	9.0	9.0	9.0	8.5	7.0	7.0	7.0	8.0
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



REPORT NUMBER: P227153

CATALOG NUMBER: ISW-AF-450-LED-E1-SLL-7050-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: P227153

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

**CANDELA DISTRIBUTION (continued):**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7
2.5°	917.8	916.0	903.3	881.9	883.7	873.7	860.9	840.4	836.3	825.0	823.1
5°	835.0	813.6	785.8	752.1	739.4	722.1	704.3	691.6	675.6	661.1	680.6
7.5°	724.3	692.9	660.6	625.1	604.6	576.4	561.4	532.2	510.8	506.7	489.9
10°	631.9	592.3	555.4	523.6	485.3	458.9	439.8	423.9	409.3	391.5	380.6
12.5°	570.5	525.8	486.7	447.1	428.9	407.0	395.2	380.2	359.2	344.2	329.6
15°	542.7	494.4	451.6	417.0	390.6	370.1	349.2	331.0	308.2	291.4	274.5
17.5°	539.0	476.2	422.0	383.3	354.7	332.4	304.6	280.5	252.7	234.0	219.9
20°	543.1	462.6	394.7	344.2	315.1	275.9	249.9	220.4	193.0	168.5	146.1
22.5°	559.5	455.3	367.9	312.3	269.1	224.5	196.7	158.9	135.7	112.0	103.3
25°	581.8	450.7	344.6	277.3	222.6	178.5	140.7	109.3	98.8	92.9	89.7
27.5°	605.5	442.5	318.7	244.9	185.3	131.6	105.2	92.0	87.9	84.7	82.4
30°	623.3	426.6	286.8	210.3	147.5	112.5	93.8	85.1	82.4	78.8	76.5
32.5°	631.0	402.0	258.1	177.6	124.3	96.5	81.9	76.9	74.2	71.0	69.7
35°	629.6	374.2	243.6	164.8	113.8	85.6	71.9	68.7	65.1	61.9	58.7
37.5°	631.0	348.7	232.2	161.6	109.3	77.4	65.6	63.3	60.6	57.4	54.6
40°	636.5	334.6	226.7	154.8	105.6	74.2	60.6	58.3	57.8	54.2	51.9
42.5°	638.8	336.0	224.0	145.2	96.5	73.3	60.6	55.5	55.5	52.8	50.1
45°	636.0	346.0	225.8	139.8	89.7	68.7	63.7	55.5	54.2	51.9	49.2
47.5°	644.2	353.3	225.8	138.9	85.1	64.2	60.6	61.0	55.1	52.4	48.3
50°	677.9	360.1	221.3	137.5	83.8	59.6	57.4	60.1	61.9	53.3	48.7
52.5°	737.5	368.8	216.3	135.2	81.9	56.0	53.3	56.5	63.3	56.0	48.7
55°	798.6	384.3	213.1	131.6	79.2	53.7	48.3	54.2	57.8	55.5	48.3
57.5°	863.7	401.1	209.9	122.9	72.8	51.4	46.4	47.3	51.9	53.7	46.9
59°	883.2	409.3	207.2	116.6	67.4	49.6	45.1	43.7	46.4	51.4	46.0
60°	897.4	409.7	204.0	111.1	64.2	48.7	44.2	42.3	43.3	52.8	46.4
62.5°	898.7	409.3	193.9	99.7	57.8	46.9	42.8	40.5	39.6	44.2	47.3
65°	842.3	390.2	175.7	93.8	58.3	45.1	40.5	38.7	36.9	37.8	41.0
67.5°	736.6	341.0	156.6	95.2	61.5	43.7	38.7	36.9	35.5	34.6	36.0
70°	557.3	283.2	151.2	98.3	64.2	42.8	36.0	34.1	33.2	32.8	32.8
72.5°	386.1	233.1	145.2	100.6	66.5	42.3	33.2	31.4	31.0	30.5	30.5
75°	248.6	169.4	120.2	85.6	60.6	38.7	30.0	28.2	27.8	27.3	27.8
77.5°	147.1	118.4	88.3	60.1	44.2	31.0	26.0	24.6	24.6	24.6	25.0
80°	81.5	70.1	58.7	38.7	31.4	23.2	21.4	20.0	20.0	20.5	21.4
82.5°	48.7	38.7	33.2	24.6	21.4	16.4	15.9	15.0	15.5	15.9	16.8
85°	31.9	24.6	20.0	16.4	14.6	10.5	9.1	9.6	10.0	10.9	11.4
87.5°	17.8	13.7	10.9	9.6	8.7	4.6	3.6	3.6	4.6	5.5	6.4
90°	9.0	9.0	9.0	8.0	7.0	7.0	7.0	7.5	8.0	8.0	8.0
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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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	59°
172.5°	694.0	693.0	692.0	690.5	689.0	689.5	690.0	690.0	690.0	691.5	693.0	60°
175°	696.0	695.5	695.0	692.5	690.0	690.0	690.0	690.5	691.0	693.0	695.0	62.5°
177.5°	701.0	700.0	699.0	696.5	694.0	694.5	695.0	696.0	697.0	698.0	699.0	65°
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-SLL-7050-ULG

REPORT NUMBER: P  
 CATALOG NUMBER:

**DISTRIBUTION (continued):**

**CANDELA DISTRIBUTION**

160°	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	110°	160°
893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	110°	80.5
829.5	816.3	802.2	791.7	796.3	781.3	782.6	778.5	776.7	775.8	766.2	112.5°	113.5
657.0	662.0	641.0	643.3	649.7	634.2	623.7	641.0	638.8	623.3	631.9	115°	153.0
473.5	474.9	465.3	443.9	443.9	455.3	459.4	467.6	473.0	492.2	480.3	117.5°	193.0
361.9	349.2	339.6	330.1	324.6	313.2	316.0	326.0	332.4	343.3	351.9	120°	229.5
314.6	300.5	283.6	269.1	261.3	250.9	244.0	241.8	244.0	237.2	237.7	122.5°	264.0
261.3	248.6	229.9	222.2	207.6	199.4	194.9	188.9	184.4	174.8	170.7	125°	297.5
202.6	185.8	166.6	166.6	156.2	149.3	147.5	146.1	143.4	138.4	133.4	127.5°	331.0
134.8	123.8	112.9	107.4	108.4	107.4	104.7	109.3	109.3	111.1	110.2	130°	364.0
98.3	96.5	92.4	89.2	87.4	87.0	87.4	88.8	91.5	93.8	96.1	132.5°	397.0
88.3	87.4	83.8	80.6	80.1	79.2	79.2	80.6	81.0	81.5	81.0	135°	429.0
81.9	80.1	76.9	74.7	73.8	73.3	73.8	72.4	71.5	71.9	71.5	137.5°	459.5
74.2	72.8	69.7	67.8	67.4	67.4	66.0	65.6	64.6	65.1	64.6	140°	488.0
68.3	66.5	63.3	61.0	61.0	60.6	61.0	60.6	60.1	59.6	59.6	142.5°	517.5
57.4	56.9	53.7	52.8	53.3	54.6	54.6	54.6	55.1	54.6	54.6	145°	545.5
53.3	52.8	49.6	47.3	46.9	46.9	46.9	47.8	49.2	49.6	50.5	147.5°	572.5
50.5	50.1	46.9	45.1	44.2	43.7	43.3	43.3	43.7	45.5	46.9	150°	593.0
48.7	47.8	44.6	42.3	41.9	41.4	41.0	41.0	41.0	41.4	42.8	152.5°	608.5
47.8	46.4	42.8	40.5	39.6	39.2	39.2	39.6	39.2	39.2	39.2	155°	626.0
46.4	45.5	41.9	39.2	38.2	38.2	37.8	37.8	37.8	36.9	36.9	157.5°	643.5
46.0	44.6	41.0	38.2	37.3	36.9	36.4	36.9	36.0	35.5	35.1	160°	657.5
45.1	43.3	39.2	36.9	36.4	35.5	35.1	35.1	35.1	34.1	34.1	162.5°	667.0
44.6	42.3	38.2	36.0	35.1	34.1	33.7	33.7	34.6	33.7	33.7	165°	676.0
44.2	41.0	36.9	34.1	33.7	32.8	32.3	32.8	34.1	33.2	32.8	167.5°	685.0
42.3	40.1	36.0	33.7	32.8	31.9	31.4	31.9	32.8	32.8	32.8	170°	692.0
41.4	39.2	35.1	32.8	32.3	31.4	31.0	31.0	32.3	32.3	31.9	172.5°	694.0
40.1	38.2	34.1	31.4	30.5	30.5	30.0	30.0	30.5	30.5	31.0	175°	696.0
38.2	37.3	33.2	30.0	29.6	29.1	29.1	29.1	29.1	30.0	30.0	177.5°	699.5
36.4	36.0	31.9	29.1	28.2	28.2	28.2	28.2	28.2	28.7	29.1	180°	700.0
33.7	33.7	30.0	27.3	26.9	26.4	26.4	26.4	26.4	26.9	27.3		
31.0	31.4	27.8	25.0	24.6	24.6	24.6	24.6	25.0	25.0	25.5		
28.2	28.7	25.0	22.3	22.3	22.3	22.3	22.3	22.3	22.3	23.2		
25.5	25.5	21.4	18.7	19.1	19.6	20.0	19.6	19.6	20.0	21.4		
21.9	21.4	17.8	15.5	15.5	16.4	16.8	16.4	16.8	16.8	18.7		
17.3	17.3	13.7	11.4	11.4	13.2	13.2	13.2	13.7	14.1	15.5		
13.2	12.7	9.6	7.7	7.7	9.1	9.6	10.0	10.5	10.9	11.8		
7.7	7.7	5.0	3.2	3.6	4.1	5.5	5.5	5.5	6.4	7.7		
7.5	7.5	6.0	5.0	5.0	5.0	6.0	7.0	7.5	8.0	8.0		
5.5	5.0	4.5	4.0	4.0	4.0	4.5	5.0	5.5	6.0	6.0		
6.5	6.0	5.5	5.0	5.0	5.0	5.5	6.0	6.5	7.0	7.0		
8.0	8.0	7.5	7.0	7.0	7.0	7.5	8.0	8.0	8.0	8.5		
9.5	9.0	8.5	8.0	8.0	8.0	8.5	9.0	9.5	10.0	11.0		
15.5	13.0	12.0	11.0	11.0	11.0	12.0	13.0	15.5	18.0	22.5		
31.5	27.0	24.5	22.0	21.0	22.0	24.5	27.0	31.5	36.0	42.0		
53.5	49.0	45.5	42.0	41.0	42.0	45.5	49.0	53.5	58.0	65.5		

'227153  
 ISW-AF-450-LED-E1-SLL-7050-ULG

REPORT NUMBER: P227153  
 CATALOG NUMBER: ISW-AF-4!

**TION (continued):**

**CANDELA DISTRIBUTION (con**

165°	170°	175°	180°	185°	190°	195°	200°	205°	210°		215°	220°
74.0	71.0	68.0	66.0	68.0	71.0	74.0	80.5	87.0	94.5	0°	893.7	893.7
106.0	102.5	99.0	99.0	99.0	102.5	106.0	113.5	121.0	127.5	2.5°	774.4	774.0
147.0	143.0	139.0	140.0	139.0	143.0	147.0	153.0	159.0	163.5	5°	635.6	631.5
189.0	186.5	184.0	184.0	184.0	186.5	189.0	193.0	197.0	199.5	7.5°	492.6	507.6
226.0	224.5	223.0	225.0	223.0	224.5	226.0	229.5	233.0	235.0	10°	355.1	365.6
261.0	260.5	260.0	263.0	260.0	260.5	261.0	264.0	267.0	269.0	12.5°	247.2	252.7
296.0	295.0	294.0	298.0	294.0	295.0	296.0	297.5	299.0	302.0	15°	170.3	181.2
329.0	329.0	329.0	330.0	329.0	329.0	329.0	331.0	333.0	336.0	17.5°	132.5	133.9
362.0	361.5	361.0	363.0	361.0	361.5	362.0	364.0	366.0	368.0	20°	109.3	110.2
393.0	393.5	394.0	396.0	394.0	393.5	393.0	397.0	401.0	402.5	22.5°	97.0	98.8
426.0	426.0	426.0	429.0	426.0	426.0	426.0	429.0	432.0	433.5	25°	81.5	83.3
459.0	458.0	457.0	460.0	457.0	458.0	459.0	459.5	460.0	462.0	27.5°	71.9	73.8
487.0	486.0	485.0	488.0	485.0	486.0	487.0	488.0	489.0	490.0	30°	66.0	66.9
517.0	516.0	515.0	518.0	515.0	516.0	517.0	517.5	518.0	519.5	32.5°	60.1	60.1
544.0	545.0	546.0	550.0	546.0	545.0	544.0	545.5	547.0	548.5	35°	55.1	55.5
571.0	571.5	572.0	575.0	572.0	571.5	571.0	572.5	574.0	574.0	37.5°	51.4	52.4
593.0	592.5	592.0	595.0	592.0	592.5	593.0	593.0	593.0	593.0	40°	48.3	48.7
608.0	608.0	608.0	611.0	608.0	608.0	608.0	608.5	609.0	609.5	42.5°	43.7	44.6
625.0	625.0	625.0	629.0	625.0	625.0	625.0	626.0	627.0	628.5	45°	39.6	40.1
643.0	643.0	643.0	646.0	643.0	643.0	643.0	643.5	644.0	645.0	47.5°	36.9	36.9
659.0	659.5	660.0	663.0	660.0	659.5	659.0	657.5	656.0	655.5	50°	35.1	35.5
669.0	669.0	669.0	673.0	669.0	669.0	669.0	667.0	665.0	663.0	52.5°	34.1	34.6
676.0	677.0	678.0	681.0	678.0	677.0	676.0	676.0	676.0	674.5	55°	33.7	34.6
684.0	685.5	687.0	690.0	687.0	685.5	684.0	685.0	686.0	687.0	57.5°	33.7	34.1
692.0	693.5	695.0	698.0	695.0	693.5	692.0	692.0	692.0	692.5	59°	33.2	33.7
695.0	696.0	697.0	699.0	697.0	696.0	695.0	694.0	693.0	691.5	60°	33.2	34.1
697.0	697.5	698.0	700.0	698.0	697.5	697.0	696.0	695.0	693.0	62.5°	31.9	32.8
700.0	702.5	705.0	707.0	705.0	702.5	700.0	699.5	699.0	698.0	65°	31.0	31.9
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	29.6	31.0
										70°	28.2	29.6
										72.5°	26.4	28.2
										75°	24.6	26.0
										77.5°	22.3	23.7
										80°	19.6	20.0
										82.5°	16.4	16.4
										85°	12.3	10.9
										87.5°	6.8	7.3
										90°	8.0	7.5
										92.5°	6.0	6.0
										95°	7.0	7.0
										97.5°	9.0	9.0
										100°	12.0	16.5
										102.5°	27.0	33.5
										105°	48.0	55.5
										107.5°	73.0	80.5



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

50-LED-E1-SLL-7050-ULG

**tinued):**

**CANDELA DISTRIBUTION (continued):**

225°	230°	235°	240°	245°	250°	255°	260°	265°		215°	220°	225°
893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	110°	102.0	108.0	114.0
764.4	764.4	778.1	779.4	763.5	767.6	775.3	766.2	776.2	112.5°	134.0	138.5	143.0
641.5	636.0	636.5	632.8	639.2	631.9	639.7	636.9	634.7	115°	168.0	171.0	174.0
498.1	507.6	500.8	487.6	498.1	489.9	474.4	475.8	458.5	117.5°	202.0	203.5	205.0
374.2	367.4	363.8	357.4	340.5	343.7	326.4	329.2	335.1	120°	237.0	240.0	243.0
258.1	253.1	259.1	255.0	248.1	249.5	253.1	256.8	266.3	122.5°	271.0	274.0	277.0
181.2	178.9	177.6	180.3	188.0	192.1	198.0	209.0	214.4	125°	305.0	307.5	310.0
136.1	136.6	135.2	139.3	145.7	148.9	150.2	151.2	157.5	127.5°	339.0	339.5	340.0
112.5	114.3	113.8	115.2	113.4	111.5	112.9	110.2	107.9	130°	370.0	371.0	372.0
98.3	98.8	96.5	96.1	93.3	91.1	89.2	89.2	88.3	132.5°	404.0	404.5	405.0
83.3	83.8	81.5	81.5	81.0	82.4	81.5	79.7	79.2	135°	435.0	436.0	437.0
74.7	73.8	72.4	72.4	71.5	71.5	71.9	72.4	71.9	137.5°	464.0	466.0	468.0
66.9	66.0	65.6	66.0	65.6	66.0	66.5	66.0	66.5	140°	491.0	494.0	497.0
61.5	60.6	60.6	61.0	60.6	61.0	61.0	61.0	60.6	142.5°	521.0	523.0	525.0
56.9	56.0	56.0	56.0	55.5	54.6	53.7	52.4	51.0	145°	550.0	550.5	551.0
53.3	52.8	51.9	51.4	50.1	47.3	46.4	46.4	46.4	147.5°	574.0	574.5	575.0
50.1	49.2	48.7	46.9	45.1	44.2	44.2	44.2	44.2	150°	593.0	593.0	593.0
46.0	44.6	43.7	43.3	42.8	42.8	42.3	42.3	42.3	152.5°	610.0	610.0	610.0
41.0	40.5	40.5	41.0	41.0	41.0	41.0	40.5	41.0	155°	630.0	629.0	628.0
37.8	37.8	38.2	38.7	39.2	39.6	40.1	39.6	40.1	157.5°	646.0	645.5	645.0
36.4	36.4	36.4	37.3	37.8	38.2	39.2	39.2	39.2	160°	655.0	655.0	655.0
35.5	35.5	36.0	36.4	36.9	37.3	37.8	38.2	38.7	162.5°	661.0	662.0	663.0
35.1	35.5	35.1	35.5	36.0	36.9	37.3	37.3	37.8	165°	673.0	673.0	673.0
35.1	35.1	35.1	35.1	36.0	36.4	36.0	36.4	36.9	167.5°	688.0	686.5	685.0
35.1	35.1	34.6	35.1	35.5	36.0	35.5	35.5	36.4	170°	693.0	692.0	691.0
34.6	35.1	34.6	34.6	35.1	35.5	35.1	35.5	36.0	172.5°	690.0	690.0	690.0
33.7	34.1	33.7	34.1	34.1	34.6	34.6	34.6	35.1	175°	691.0	690.5	690.0
32.8	32.8	32.8	33.2	33.2	33.7	33.7	34.1	33.7	177.5°	697.0	696.0	695.0
31.9	31.9	31.9	32.3	32.3	32.8	33.2	32.8	32.8	180°	700.0	700.0	700.0
31.0	30.5	30.0	30.5	31.0	31.0	31.4	31.0	31.4				
29.6	29.1	28.7	28.7	29.1	29.1	29.6	29.1	29.1				
27.3	27.3	26.4	26.4	26.4	26.4	26.9	26.4	26.0				
24.6	24.6	23.7	23.7	23.7	23.7	23.2	23.2	23.2				
20.5	20.9	20.9	20.5	20.5	20.0	20.0	19.6	19.1				
15.5	16.4	16.8	16.8	16.8	16.8	16.8	15.9	15.0				
10.9	12.3	13.7	13.7	13.2	13.2	13.2	11.8	10.5				
6.8	8.2	8.7	9.6	8.2	7.7	7.7	6.8	6.4				
7.0	7.0	7.9	8.5	10.4	10.4	10.8	8.9	7.5				
6.0	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0				
7.0	7.0	7.0	7.5	8.0	7.5	7.0	7.0	7.0				
9.0	10.5	12.0	11.0	10.0	9.5	9.0	8.5	8.0				
21.0	25.0	29.0	27.5	26.0	24.5	23.0	21.0	19.0				
40.0	45.0	50.0	48.5	47.0	44.5	42.0	40.5	39.0				
63.0	67.5	72.0	71.0	70.0	67.5	65.0	63.0	61.0				
88.0	91.5	95.0	94.5	94.0	92.0	90.0	88.5	87.0				



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CATALOG NUMBER: ISW-AF-450-LED-E1-SLL-7050-

SLL-7050-ULG

**CANDELA DISTRIBUTION (continued):**

230°	235°	240°	245°	250°	255°	260°	265°		270°	275°	280°	285°
117.0	120.0	120.5	121.0	120.0	119.0	117.5	116.0	0°	893.7	893.7	893.7	893.7
145.5	148.0	149.0	150.0	149.5	149.0	148.0	147.0	2.5°	767.6	784.4	786.7	789.0
176.5	179.0	180.5	182.0	180.5	179.0	178.0	177.0	5°	631.0	647.9	638.3	642.4
208.0	211.0	213.0	215.0	212.5	210.0	209.0	208.0	7.5°	460.7	449.8	463.9	472.6
244.5	246.0	248.0	250.0	247.5	245.0	244.0	243.0	10°	336.4	349.2	354.7	364.7
278.0	279.0	281.0	283.0	280.5	278.0	277.0	276.0	12.5°	279.1	287.3	297.3	313.2
311.5	313.0	314.0	315.0	312.5	310.0	310.0	310.0	15°	226.3	232.2	244.9	260.4
342.5	345.0	345.5	346.0	346.0	346.0	345.5	345.0	17.5°	164.8	173.5	181.7	194.4
374.5	377.0	379.0	381.0	381.0	381.0	380.0	379.0	20°	110.6	114.3	124.3	130.2
408.0	411.0	413.5	416.0	415.0	414.0	414.0	414.0	22.5°	88.8	90.1	92.0	97.0
440.0	443.0	445.5	448.0	447.5	447.0	448.5	450.0	25°	79.7	80.6	81.9	83.8
470.5	473.0	474.0	475.0	475.5	476.0	478.5	481.0	27.5°	72.4	72.8	74.2	75.1
498.5	500.0	501.0	502.0	503.0	504.0	506.5	509.0	30°	66.0	65.6	66.0	67.4
526.0	527.0	530.0	533.0	533.0	533.0	533.5	534.0	32.5°	59.2	59.2	60.1	60.1
553.5	556.0	559.0	562.0	561.5	561.0	559.5	558.0	35°	51.0	50.5	51.4	52.8
577.5	580.0	582.5	585.0	585.5	586.0	584.5	583.0	37.5°	46.9	47.3	48.3	49.2
595.0	597.0	598.5	600.0	601.5	603.0	604.5	606.0	40°	44.6	45.1	46.0	46.9
610.5	611.0	612.5	614.0	616.0	618.0	620.5	623.0	42.5°	42.3	43.3	44.2	45.5
627.0	626.0	628.5	631.0	633.5	636.0	637.0	638.0	45°	41.0	41.9	43.3	44.6
644.5	644.0	646.0	648.0	649.0	650.0	650.0	650.0	47.5°	40.5	41.4	42.8	44.6
656.5	658.0	661.0	664.0	662.5	661.0	660.5	660.0	50°	39.6	41.0	42.3	44.2
665.0	667.0	669.0	671.0	670.5	670.0	669.0	668.0	52.5°	39.6	40.5	41.9	44.2
672.5	672.0	674.5	677.0	678.5	680.0	679.0	678.0	55°	38.2	39.6	41.0	43.3
681.5	678.0	681.0	684.0	686.0	688.0	688.0	688.0	57.5°	37.3	38.2	40.1	42.8
688.5	686.0	687.5	689.0	691.5	694.0	695.0	696.0	59°	36.9	37.8	39.6	42.3
689.5	689.0	690.5	692.0	693.0	694.0	695.0	696.0	60°	36.0	37.3	39.2	41.9
690.0	690.0	692.5	695.0	695.5	696.0	695.0	694.0	62.5°	35.1	36.4	38.2	41.0
694.5	694.0	696.5	699.0	700.0	701.0	699.5	698.0	65°	33.7	35.5	37.3	39.2
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	32.8	33.7	35.5	37.3
								70°	31.0	31.9	33.2	34.6
								72.5°	28.7	29.1	30.0	31.4
								75°	25.5	26.0	26.4	27.8
								77.5°	22.3	22.3	22.8	24.6
								80°	18.7	18.7	19.1	20.0
								82.5°	14.1	14.1	15.0	16.4
								85°	10.0	9.6	10.9	11.8
								87.5°	5.9	5.5	5.9	5.9
								90°	7.5	8.4	8.9	9.9
								92.5°	6.0	6.0	6.0	6.0
								95°	7.0	7.0	7.0	7.0
								97.5°	8.0	8.0	8.5	9.0
								100°	19.0	19.0	21.0	23.0
								102.5°	38.0	39.0	40.5	42.0
								105°	61.0	61.0	63.0	65.0
								107.5°	86.0	87.0	88.5	90.0





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

ULG

**CANDELA DISTRIBUTION (continued):**

290°	295°	300°	305°	310°	315°	320°		270°	275°	280°	285°	290°
893.7	893.7	893.7	893.7	893.7	893.7	893.7	110°	117.0	116.0	117.5	119.0	120.0
798.1	793.5	797.2	811.3	816.3	822.7	844.1	112.5°	147.0	147.0	148.0	149.0	149.5
652.4	658.3	652.4	681.1	682.5	701.6	709.3	115°	178.0	177.0	178.0	179.0	180.5
479.4	487.1	499.9	519.0	524.5	551.8	575.0	117.5°	209.0	208.0	209.0	210.0	212.5
374.2	384.3	402.0	413.8	425.7	441.6	460.3	120°	243.0	243.0	244.0	245.0	247.5
332.4	342.8	358.3	373.3	390.2	402.5	417.9	122.5°	277.0	276.0	277.0	278.0	280.5
277.7	294.1	309.1	328.7	342.8	365.1	383.3	125°	310.0	310.0	310.0	310.0	312.5
212.2	234.9	249.9	273.6	295.0	314.6	339.2	127.5°	347.0	345.0	345.5	346.0	346.0
147.5	165.3	184.4	209.9	237.7	264.5	297.3	130°	380.0	379.0	380.0	381.0	381.0
101.5	111.1	125.7	152.1	180.7	219.4	255.0	132.5°	415.0	414.0	414.0	414.0	415.0
86.5	90.1	95.6	108.4	132.5	174.8	214.0	135°	451.0	450.0	448.5	447.0	447.5
76.9	79.7	83.3	89.7	102.4	131.6	174.8	137.5°	482.0	481.0	478.5	476.0	475.5
70.6	73.8	77.4	81.9	88.8	108.8	141.1	140°	511.0	509.0	506.5	504.0	503.0
61.9	64.2	67.4	72.4	77.4	93.3	124.7	142.5°	536.0	534.0	533.5	533.0	533.0
54.6	57.4	61.5	65.1	70.1	82.9	113.4	145°	560.0	558.0	559.5	561.0	561.5
51.0	53.7	57.4	60.6	64.2	74.7	105.2	147.5°	585.0	583.0	584.5	586.0	585.5
48.7	51.4	55.1	57.8	60.1	71.9	102.0	150°	610.0	606.0	604.5	603.0	601.5
47.3	50.5	53.7	55.5	60.1	73.3	94.2	152.5°	628.0	623.0	620.5	618.0	616.0
46.9	50.1	53.7	56.9	66.0	69.2	89.2	155°	641.0	638.0	637.0	636.0	633.5
47.3	50.1	54.6	63.7	64.2	65.6	83.8	157.5°	655.0	650.0	650.0	650.0	649.0
47.3	51.4	61.0	66.5	61.0	61.9	78.8	160°	666.0	660.0	660.5	661.0	662.5
47.8	53.3	63.3	61.9	59.2	57.8	73.3	162.5°	674.0	668.0	669.0	670.0	670.5
47.8	52.4	60.6	58.3	54.6	55.1	66.9	165°	682.0	678.0	679.0	680.0	678.5
46.4	52.4	58.3	52.8	50.1	52.4	61.5	167.5°	694.0	688.0	688.0	688.0	686.0
45.5	53.7	51.9	48.7	48.7	51.0	58.7	170°	701.0	696.0	695.0	694.0	691.5
45.1	55.1	49.2	47.3	47.3	50.5	57.4	172.5°	701.0	696.0	695.0	694.0	693.0
43.7	51.4	45.1	44.2	45.5	47.8	55.5	175°	699.0	694.0	695.0	696.0	695.5
41.0	42.8	41.4	41.4	43.3	46.0	54.6	177.5°	702.0	698.0	699.5	701.0	700.0
37.8	38.7	38.7	39.2	41.0	43.3	55.5	180°	700.0	700.0	700.0	700.0	700.0
35.1	35.1	36.0	36.4	37.8	41.0	53.3						
31.9	32.3	32.3	33.2	34.1	37.3	51.4						
28.2	28.2	29.1	29.1	30.5	33.7	46.0						
24.6	24.6	24.6	25.0	26.0	29.1	37.8						
20.5	20.5	20.5	20.9	21.4	24.1	28.7						
16.4	15.9	15.5	15.5	16.4	18.7	22.3						
11.4	11.4	10.9	10.9	10.9	12.3	15.0						
6.4	5.5	5.9	6.4	5.9	6.8	8.2						
9.5	9.9	9.4	8.8	8.8	8.8	10.2						
6.5	7.0	7.0	7.0	6.5	6.0	6.0						
7.5	8.0	7.5	7.0	7.0	7.0	7.0						
9.5	10.0	11.0	12.0	10.5	9.0	9.0						
24.5	26.0	27.5	29.0	25.0	21.0	16.5						
44.5	47.0	48.5	50.0	45.0	40.0	33.5						
67.5	70.0	71.0	72.0	67.5	63.0	55.5						
92.0	94.0	94.5	95.0	91.5	88.0	80.5						



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**CANDELA DISTRIBUTION (continued):**

295°	300°	305°	310°	315°	320°		325°	330°	335°	340°	345°	350°
121.0	120.5	120.0	117.0	114.0	108.0	0°	893.7	893.7	893.7	893.7	893.7	893.7
150.0	149.0	148.0	145.5	143.0	138.5	2.5°	841.4	853.2	871.9	875.5	890.5	901.0
182.0	180.5	179.0	176.5	174.0	171.0	5°	713.0	741.2	751.2	770.8	804.9	822.2
215.0	213.0	211.0	208.0	205.0	203.5	7.5°	588.2	609.6	633.7	665.2	690.2	719.8
250.0	248.0	246.0	244.5	243.0	240.0	10°	484.0	514.5	545.9	571.4	606.4	641.9
283.0	281.0	279.0	278.0	277.0	274.0	12.5°	429.8	446.6	477.6	513.6	557.3	596.9
315.0	314.0	313.0	311.5	310.0	307.5	15°	401.6	421.6	454.8	493.1	539.5	588.7
346.0	345.5	345.0	342.5	340.0	339.5	17.5°	366.5	398.4	436.2	490.8	550.9	619.2
381.0	379.0	377.0	374.5	372.0	371.0	20°	331.9	370.6	420.2	492.2	575.5	664.2
416.0	413.5	411.0	408.0	405.0	404.5	22.5°	301.4	347.4	410.2	500.3	606.9	725.3
448.0	445.5	443.0	440.0	437.0	436.0	25°	265.4	326.9	402.5	517.2	655.1	807.2
475.0	474.0	473.0	470.5	468.0	466.0	27.5°	236.7	307.3	391.1	531.8	699.3	886.0
502.0	501.0	500.0	498.5	497.0	494.0	30°	204.9	284.5	375.1	536.8	753.0	950.6
533.0	530.0	527.0	526.0	525.0	523.0	32.5°	179.4	263.1	356.9	532.2	777.2	995.7
562.0	559.0	556.0	553.5	551.0	550.5	35°	167.1	247.7	341.5	516.3	797.2	1044.4
585.0	582.5	580.0	577.5	575.0	574.5	37.5°	158.9	230.8	326.4	489.9	820.0	1092.7
600.0	598.5	597.0	595.0	593.0	593.0	40°	148.4	217.6	314.1	470.8	837.7	1132.7
614.0	612.5	611.0	610.5	610.0	610.0	42.5°	138.9	205.8	304.6	453.9	842.3	1168.7
631.0	628.5	626.0	627.0	628.0	629.0	45°	130.7	198.5	297.3	454.8	845.4	1218.8
648.0	646.0	644.0	644.5	645.0	645.5	47.5°	124.3	191.7	294.6	470.3	879.1	1288.4
664.0	661.0	658.0	656.5	655.0	655.0	50°	118.4	185.8	290.0	500.3	933.3	1382.7
671.0	669.0	667.0	665.0	663.0	662.0	52.5°	111.5	177.6	284.1	531.3	992.5	1508.8
677.0	674.5	672.0	672.5	673.0	673.0	55°	102.4	166.6	277.7	557.3	1073.1	1662.2
684.0	681.0	678.0	681.5	685.0	686.5	57.5°	88.3	153.9	273.6	570.5	1122.7	1750.5
689.0	687.5	686.0	688.5	691.0	692.0	59°	81.0	141.6	271.3	564.1	1135.9	1765.6
692.0	690.5	689.0	689.5	690.0	690.0	60°	76.9	134.3	267.7	556.3	1139.6	1756.0
695.0	692.5	690.0	690.0	690.0	690.5	62.5°	71.5	117.0	252.7	517.6	1088.6	1640.4
699.0	696.5	694.0	694.5	695.0	696.0	65°	72.8	110.6	218.5	440.7	971.6	1414.5
700.0	700.0	700.0	700.0	700.0	700.0	67.5°	74.7	107.9	188.9	356.0	774.4	1170.5
						70°	73.3	106.5	171.6	283.2	580.0	876.4
						72.5°	71.5	100.6	148.9	227.6	367.9	613.7
						75°	63.3	84.7	117.0	156.2	232.2	447.1
						77.5°	49.6	65.1	82.9	97.0	117.9	315.5
						80°	36.4	47.3	54.2	58.3	65.6	215.3
						82.5°	26.0	31.9	34.6	36.9	43.7	161.2
						85°	19.6	22.3	24.1	24.1	29.6	113.8
						87.5°	10.9	11.4	11.4	12.3	14.6	31.0
						90°	11.2	11.2	10.7	10.7	9.3	7.8
						92.5°	6.0	6.0	6.0	5.5	5.0	4.5
						95°	7.0	7.0	7.0	6.5	6.0	5.5
						97.5°	9.0	8.5	8.0	8.0	8.0	7.5
						100°	12.0	11.0	10.0	9.5	9.0	8.5
						102.5°	27.0	22.5	18.0	15.5	13.0	12.0
						105°	48.0	42.0	36.0	31.5	27.0	24.5
						107.5°	73.0	65.5	58.0	53.5	49.0	45.5



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**CANDELA DISTRIBUTION (continued):**

355°	359°	360°		325°	330°	335°	340°	345°	350°	355°
893.7	893.7	893.7	110°	102.0	94.5	87.0	80.5	74.0	71.0	68.0
912.8	919.7	925.1	112.5°	134.0	127.5	121.0	113.5	106.0	102.5	99.0
848.6	865.5	868.7	115°	168.0	163.5	159.0	153.0	147.0	143.0	139.0
752.6	779.9	789.4	117.5°	202.0	199.5	197.0	193.0	189.0	186.5	184.0
682.0	711.6	721.6	120°	237.0	235.0	233.0	229.5	226.0	224.5	223.0
643.3	677.9	688.8	122.5°	271.0	269.0	267.0	264.0	261.0	260.5	260.0
644.2	685.6	701.6	125°	305.0	302.0	299.0	297.5	296.0	295.0	294.0
686.1	733.5	753.0	127.5°	339.0	336.0	333.0	331.0	329.0	329.0	329.0
758.0	826.8	841.4	130°	370.0	368.0	366.0	364.0	362.0	361.5	361.0
855.5	922.8	944.7	132.5°	404.0	402.5	401.0	397.0	393.0	393.5	394.0
947.0	1036.2	1053.1	135°	435.0	433.5	432.0	429.0	426.0	426.0	426.0
1037.1	1125.4	1140.5	137.5°	464.0	462.0	460.0	459.5	459.0	458.0	457.0
1106.8	1199.2	1211.9	140°	491.0	490.0	489.0	488.0	487.0	486.0	485.0
1173.7	1278.0	1292.1	142.5°	521.0	519.5	518.0	517.5	517.0	516.0	515.0
1248.4	1363.6	1379.9	145°	550.0	548.5	547.0	545.5	544.0	545.0	546.0
1315.7	1447.8	1458.3	147.5°	574.0	574.0	574.0	572.5	571.0	571.5	572.0
1390.4	1516.5	1519.3	150°	593.0	593.0	593.0	593.0	593.0	592.5	592.0
1451.4	1567.5	1568.4	152.5°	610.0	609.5	609.0	608.5	608.0	608.0	608.0
1510.6	1615.3	1615.8	155°	630.0	628.5	627.0	626.0	625.0	625.0	625.0
1572.5	1667.7	1660.8	157.5°	646.0	645.0	644.0	643.5	643.0	643.0	643.0
1670.4	1729.6	1736.4	160°	655.0	655.5	656.0	657.5	659.0	659.5	660.0
1819.3	1872.1	1879.8	162.5°	661.0	663.0	665.0	667.0	669.0	669.0	669.0
1992.3	2065.6	2055.1	165°	673.0	674.5	676.0	676.0	676.0	677.0	678.0
2065.6	2149.4	2158.0	167.5°	688.0	687.0	686.0	685.0	684.0	685.5	687.0
2053.3	2167.6	2182.1	170°	693.0	692.5	692.0	692.0	692.0	693.5	695.0
2033.7	2162.1	2179.9	172.5°	690.0	691.5	693.0	694.0	695.0	696.0	697.0
1922.6	2105.2	2133.0	175°	691.0	693.0	695.0	696.0	697.0	697.5	698.0
1736.0	1987.3	2026.4	177.5°	697.0	698.0	699.0	699.5	700.0	702.5	705.0
1496.0	1811.1	1842.5	180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0
1167.3	1471.9	1498.8								
775.8	1010.7	1057.2								
493.1	652.0	643.3								
363.8	423.9	424.3								
264.1	290.9	287.7								
204.4	177.6	177.1								
71.5	62.8	61.5								
31.0	26.0	26.4								
6.4	6.4	6.8								
4.0	4.0	4.0								
5.0	5.0	5.0								
7.0	7.0	7.0								
8.0	8.0	8.0								
11.0	11.0	11.0								
22.0	21.2	21.0								
42.0	41.2	41.0								



359°	360°
66.4	66.0
99.0	99.0
139.8	140.0
184.0	184.0
224.6	225.0
262.4	263.0
297.2	298.0
329.8	330.0
362.6	363.0
395.6	396.0
428.4	429.0
459.4	460.0
487.4	488.0
517.4	518.0
549.2	550.0
574.4	575.0
594.4	595.0
610.4	611.0
628.2	629.0
645.4	646.0
662.4	663.0
672.2	673.0
680.4	681.0
689.4	690.0
697.4	698.0
698.6	699.0
699.6	700.0
706.6	707.0
700.0	700.0

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