

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: P228518

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P228518  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29764)-DOWNLIGHT AND  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: ISC-AF-450-LED-E1-SLL-7050-ULG  
Description: IMPACT ELITE LED CYLINDER 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: 3924.2 lumens  
Efficiency: N/A  
Efficacy: 93.4 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

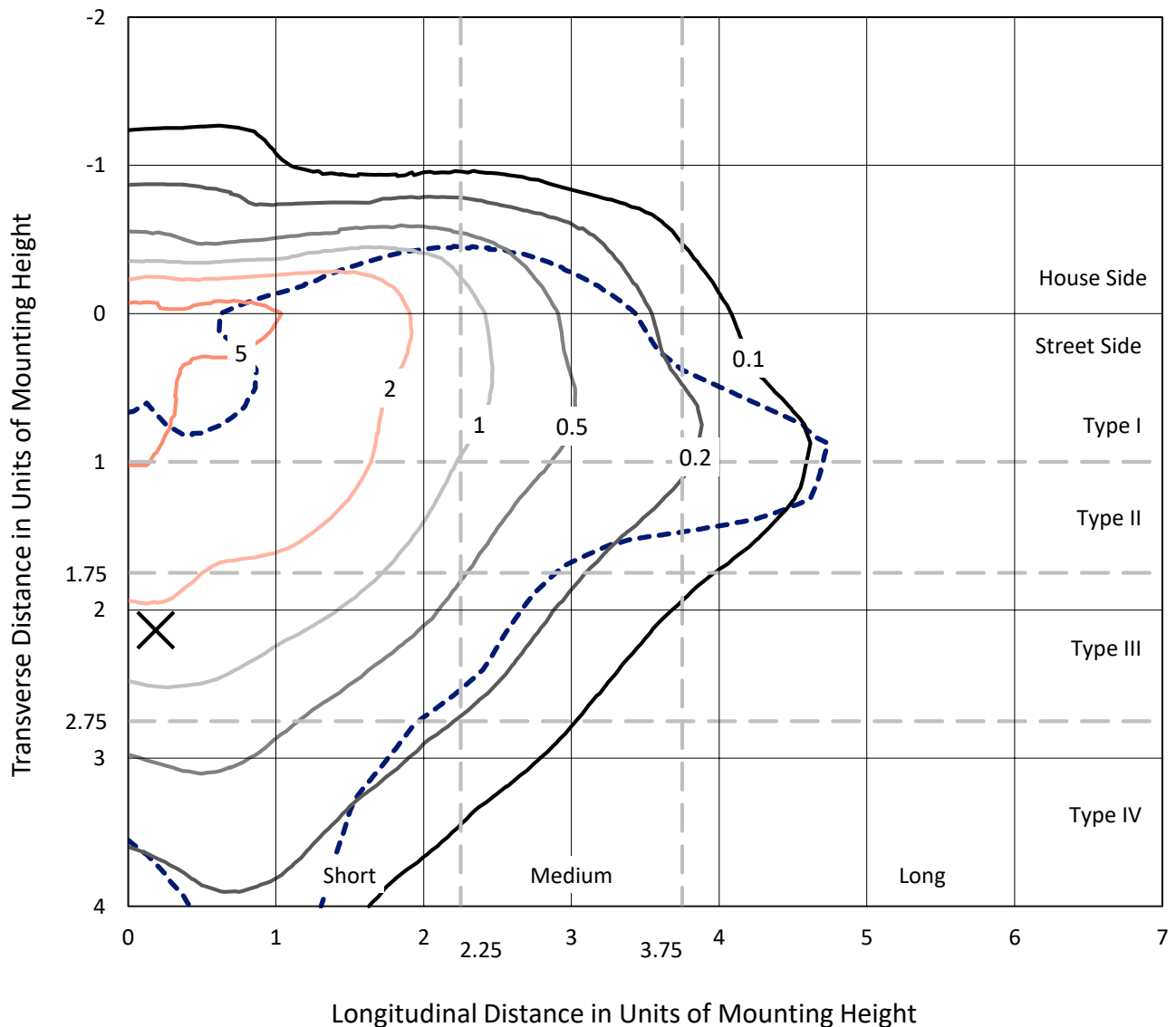


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

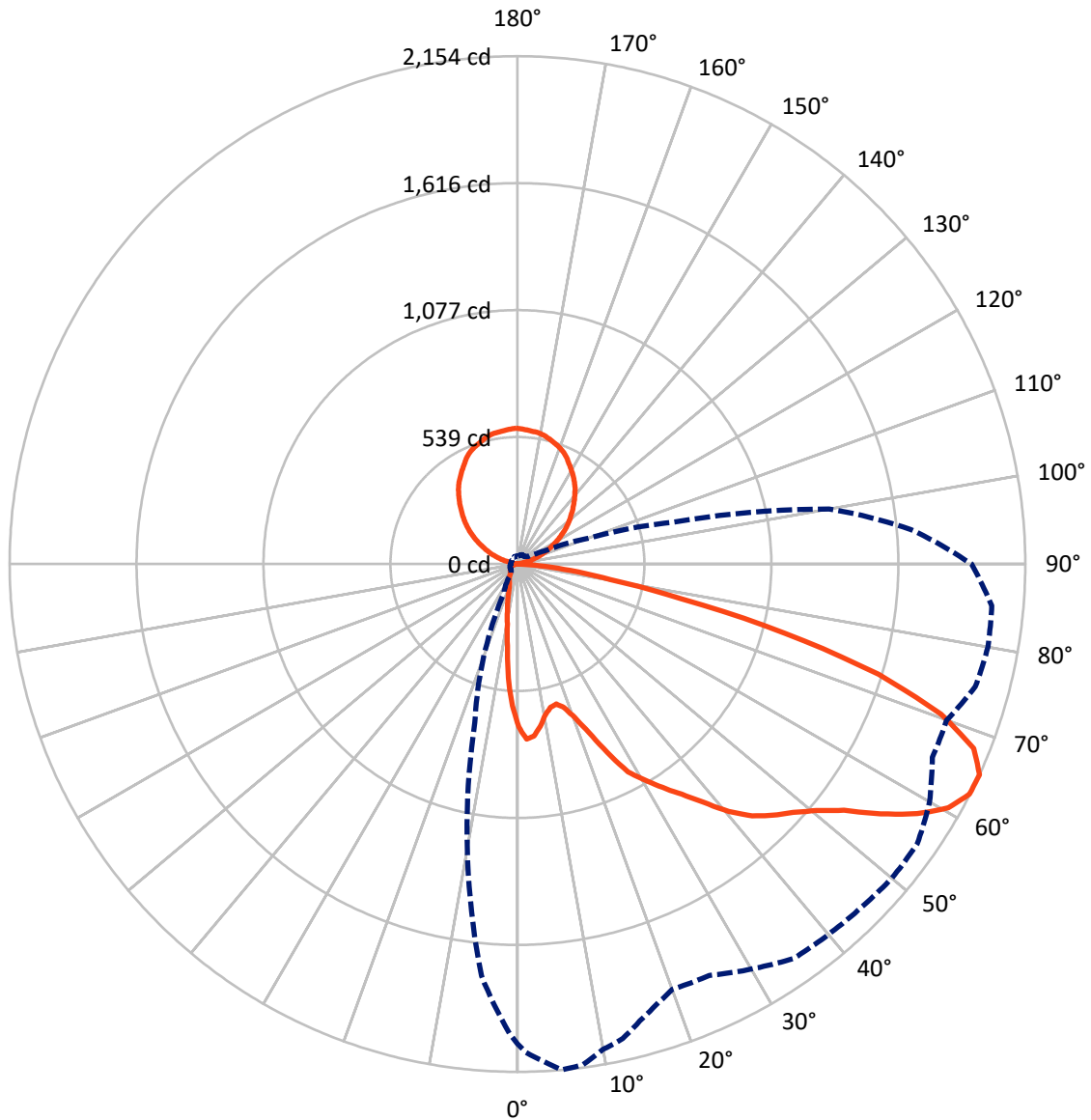


Based on 10 foot mounting height. Maximum calculated value = 9.3 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral      - - - Horizontal Cone Through 65-Deg Vertical

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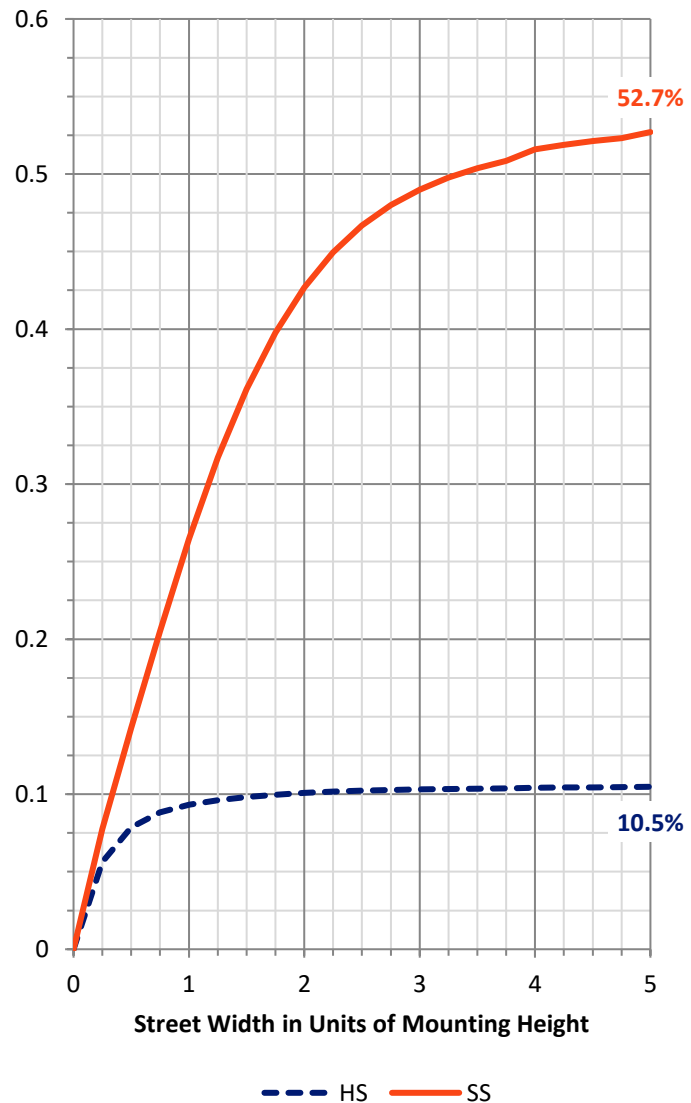
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	415.4	713.1	1128.4
	% Fixture	10.6	18.2	28.8
<b>Street Side</b>	Lumens	2082.6	713.1	2795.7
	% Fixture	53.1	18.2	71.2
<b>Total</b>	Lumens	2498.0	1426.2	3924.2
	% Fixture	63.7	36.3	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.1	1.4
10°-20°	109.4	2.8
20°-30°	159.0	4.1
30°-40°	235.2	6.0
40°-50°	342.6	8.7
50°-60°	513.6	13.1
60°-70°	640.1	16.3
70°-80°	374.9	9.6
80°-90°	70.1	1.8
90°-100°	4.7	0.1
100°-110°	69.0	1.8
110°-120°	153.0	3.9
120°-130°	223.9	5.7
130°-140°	265.6	6.8
140°-150°	269.3	6.9
150°-160°	231.1	5.9
160°-170°	155.1	4.0
170°-180°	54.3	1.4
0°-90°	2498.0	63.7
0°-180°	3924.2	100.0



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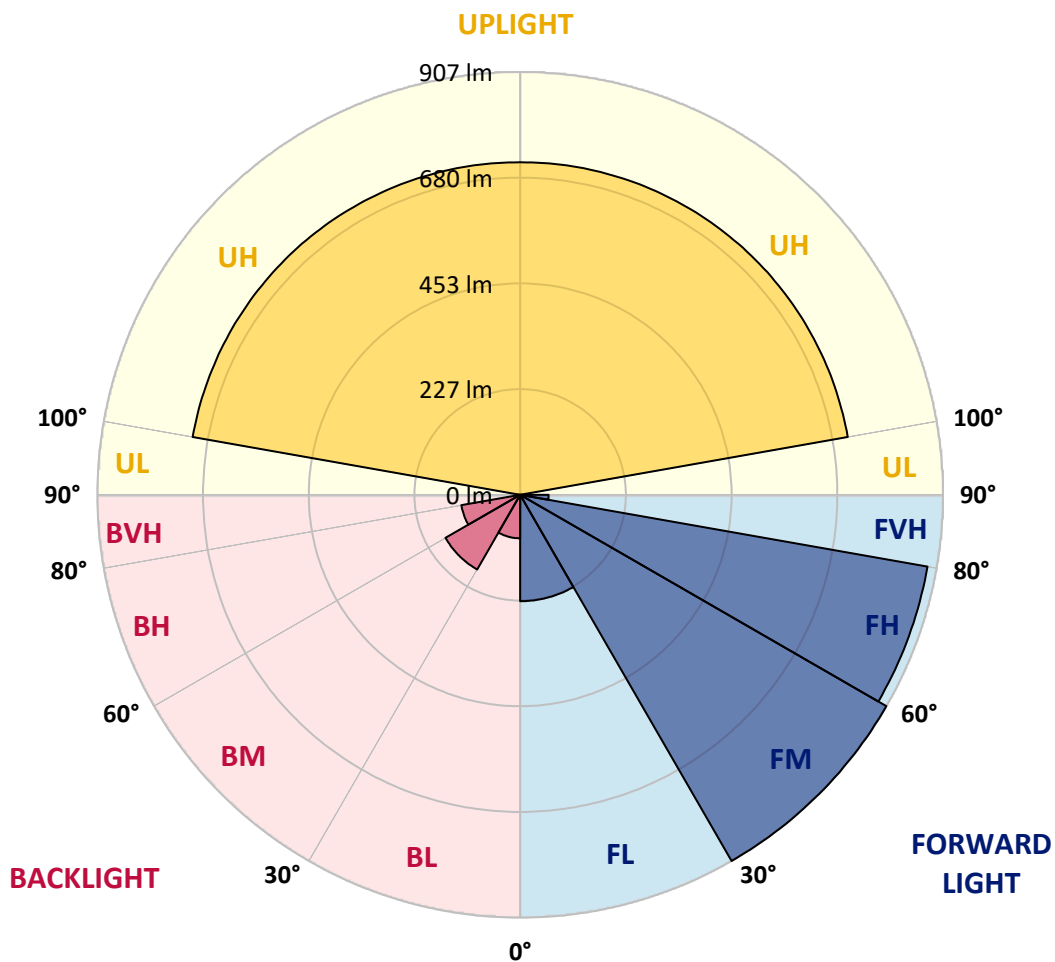
CATALOG NUMBER: ISC-AF-450-LED-E1-SLL-7050-ULG

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	228.2	5.8			
FM	(30°-60°)	906.6	23.1			
FH	(60°-80°)	886.8	22.6			G1/1800
FVH	(80°-90°)	61.1	1.6			G1/100
BL	(0°-30°)	93.3	2.4	B0/110		
BM	(30°-60°)	184.9	4.7	B0/220		
BH	(60°-80°)	128.2	3.3	B1/500		G1/500
BVH	(80°-90°)	9.0	0.2			G0/10
UL	(90°-100°)	4.7	0.1		U1/10	
UH	(100°-180°)	713.1	18.2		U4/1000	

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

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	7.5°	10°	12.5°	15°	17.5°	20°	25°	35°
0°	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3
2.5°	733.8	731.8	743.7	745.7	753.6	753.6	762.5	770.4	773.4	780.3	798.1
5°	710.1	716.0	732.8	749.6	761.5	773.4	786.2	802.1	814.9	836.7	882.2
7.5°	657.7	666.6	695.3	712.1	730.9	751.6	767.4	786.2	806.0	842.6	923.7
10°	606.2	613.2	649.8	670.5	697.2	719.0	741.7	762.5	784.3	829.8	923.7
12.5°	573.6	582.5	624.0	643.8	674.5	697.2	724.9	749.6	775.4	823.8	914.8
15°	566.7	576.6	616.1	640.9	667.6	689.3	714.0	739.8	765.5	812.9	894.0
17.5°	585.5	597.3	639.9	667.6	688.3	713.1	730.9	755.6	772.4	810.0	848.5
20°	630.0	643.8	694.3	721.0	737.8	753.6	767.4	782.3	789.2	798.1	791.2
22.5°	701.2	718.0	775.4	806.0	817.9	829.8	830.7	832.7	827.8	804.0	750.6
25°	803.0	819.9	885.1	914.8	914.8	914.8	903.9	896.0	873.3	828.8	739.8
27.5°	898.0	919.7	997.9	1016.7	1010.7	1001.8	981.1	961.3	928.6	854.5	738.8
30°	969.2	991.0	1063.2	1078.0	1063.2	1041.4	1008.8	980.1	941.5	867.3	745.7
32.5°	1034.5	1060.2	1129.4	1131.4	1104.7	1080.0	1043.4	1010.7	970.2	891.1	766.5
35°	1103.7	1129.4	1199.6	1185.8	1147.2	1113.6	1076.0	1047.3	1006.8	921.7	800.1
37.5°	1199.6	1222.4	1281.7	1249.1	1199.6	1156.1	1115.6	1078.0	1037.4	963.3	856.5
40°	1292.6	1325.2	1379.6	1327.2	1266.9	1208.5	1164.0	1124.5	1080.0	1019.6	928.6
42.5°	1379.6	1410.3	1460.7	1393.5	1323.3	1264.9	1218.4	1175.9	1133.4	1083.9	1015.7
45°	1445.9	1477.5	1520.1	1448.9	1368.7	1308.4	1258.0	1220.4	1182.8	1149.2	1125.5
47.5°	1510.2	1541.8	1574.5	1497.3	1418.2	1356.9	1297.5	1262.9	1233.3	1215.5	1244.1
50°	1593.2	1615.0	1642.7	1559.6	1475.6	1405.3	1346.0	1319.3	1291.6	1297.5	1393.5
52.5°	1706.0	1724.8	1734.7	1653.6	1559.6	1479.5	1414.2	1377.6	1354.9	1389.5	1551.7
55°	1865.2	1891.9	1870.2	1790.0	1671.4	1580.4	1500.3	1456.8	1442.9	1489.4	1709.9
57.5°	2002.7	2014.5	1998.7	1919.6	1798.0	1696.1	1611.0	1565.6	1549.7	1611.0	1854.3
60°	2063.0	2077.8	2099.6	2031.4	1917.6	1816.8	1743.6	1699.1	1672.4	1743.6	1970.0
62.5°	2072.9	2097.6	2151.0	2116.4	2026.4	1951.3	1885.0	1823.7	1802.9	1857.3	2046.2
65°	2034.3	2071.9	2154.0	2141.1	2090.7	2062.0	2006.6	1959.2	1919.6	1925.5	2042.2
67.5°	1947.3	1990.8	2086.7	2080.8	2086.7	2086.7	2038.3	1998.7	1947.3	1874.1	1891.9
70°	1737.6	1795.0	1905.8	1934.4	1984.9	1984.9	1942.4	1882.0	1822.7	1672.4	1581.4
72.5°	1392.5	1431.1	1601.2	1740.6	1804.9	1779.2	1737.6	1636.8	1506.2	1341.1	1217.4
75°	942.5	965.2	1173.9	1429.1	1545.8	1524.0	1455.8	1330.2	1195.7	1011.7	855.5
77.5°	525.1	554.8	711.1	910.8	1068.1	1065.1	1056.2	976.1	869.3	717.0	635.9
80°	308.6	318.5	400.5	545.9	681.4	648.8	626.0	562.7	508.3	439.1	501.4
82.5°	188.9	179.0	227.5	332.3	402.5	388.7	350.1	326.4	300.6	281.9	333.3
85°	51.4	46.5	93.0	139.4	171.1	184.9	184.9	183.0	164.2	123.6	148.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.5	3.0	4.0
100°	8.0	8.0	8.0	8.5	9.0	9.5	10.0	11.0	12.0	14.0	22.0
102.5°	28.0	28.0	28.0	29.0	30.0	31.0	32.0	33.5	35.0	38.0	45.0
105°	54.0	54.0	54.0	54.5	55.0	55.5	56.0	57.2	58.5	61.0	66.0
107.5°	78.0	77.8	77.0	77.8	78.5	79.2	80.0	81.0	82.0	84.0	88.0
110°	101.0	101.2	102.0	102.2	102.5	102.8	103.0	103.8	104.5	106.0	110.0



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

**CANDELA DISTRIBUTION (continued):**

	0°	1°	5°	7.5°	10°	12.5°	15°	17.5°	20°	25°	35°
112.5°	124.0	124.0	124.0	124.5	125.0	125.5	126.0	126.8	127.5	129.0	132.0
115°	146.0	146.2	147.0	147.5	148.0	148.5	149.0	149.5	150.0	151.0	154.0
117.5°	169.0	169.2	170.0	170.5	171.0	171.5	172.0	172.5	173.0	174.0	177.0
120°	193.0	193.4	195.0	195.2	195.5	195.8	196.0	196.5	197.0	198.0	201.0
122.5°	219.0	219.2	220.0	220.2	220.5	220.8	221.0	221.5	222.0	223.0	226.0
125°	244.0	244.4	246.0	246.2	246.5	246.8	247.0	247.2	247.5	248.0	251.0
127.5°	267.0	267.4	269.0	269.2	269.5	269.8	270.0	270.5	271.0	272.0	274.0
130°	290.0	290.4	292.0	292.2	292.5	292.8	293.0	293.2	293.5	294.0	298.0
132.5°	313.0	313.2	314.0	314.8	315.5	316.2	317.0	317.2	317.5	318.0	321.0
135°	336.0	336.2	337.0	337.5	338.0	338.5	339.0	339.5	340.0	341.0	345.0
137.5°	359.0	359.2	360.0	360.8	361.5	362.2	363.0	363.2	363.5	364.0	367.0
140°	382.0	382.2	383.0	383.5	384.0	384.5	385.0	385.2	385.5	386.0	388.0
142.5°	404.0	404.4	406.0	406.5	407.0	407.5	408.0	407.8	407.5	407.0	410.0
145°	425.0	425.2	426.0	426.5	427.0	427.5	428.0	428.0	428.0	428.0	431.0
147.5°	444.0	444.0	444.0	444.8	445.5	446.2	447.0	447.2	447.5	448.0	452.0
150°	461.0	461.2	462.0	462.5	463.0	463.5	464.0	464.2	464.5	465.0	469.0
152.5°	479.0	479.2	480.0	480.8	481.5	482.2	483.0	482.8	482.5	482.0	485.0
155°	499.0	499.2	500.0	500.5	501.0	501.5	502.0	501.8	501.5	501.0	503.0
157.5°	513.0	513.4	515.0	515.5	516.0	516.5	517.0	516.8	516.5	516.0	519.0
160°	525.0	525.4	527.0	527.5	528.0	528.5	529.0	529.0	529.0	529.0	532.0
162.5°	535.0	535.2	536.0	536.8	537.5	538.2	539.0	538.8	538.5	538.0	541.0
165°	546.0	546.2	547.0	547.5	548.0	548.5	549.0	548.8	548.5	548.0	552.0
167.5°	555.0	555.2	556.0	556.8	557.5	558.2	559.0	558.8	558.5	558.0	561.0
170°	562.0	562.2	563.0	563.8	564.5	565.2	566.0	565.8	565.5	565.0	567.0
172.5°	565.0	565.2	566.0	566.8	567.5	568.2	569.0	568.5	568.0	567.0	569.0
175°	567.0	567.4	569.0	569.2	569.5	569.8	570.0	569.8	569.5	569.0	572.0
177.5°	572.0	572.2	573.0	573.5	574.0	574.5	575.0	574.8	574.5	574.0	578.0
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0





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**CANDELA DISTRIBUTION (continued):**

	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
0°	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3
2.5°	805.0	806.0	803.0	810.0	802.1	798.1	786.2	786.2	776.3	768.4	759.5
5°	899.0	904.9	900.0	901.0	885.1	869.3	845.6	831.7	807.0	780.3	752.6
7.5°	962.3	972.2	968.2	951.4	926.7	893.0	853.5	815.9	775.4	731.8	691.3
10°	979.1	990.0	981.1	949.4	908.9	861.4	813.9	763.5	714.0	667.6	624.0
12.5°	955.4	963.3	944.5	909.9	870.3	822.8	773.4	729.9	671.5	622.1	571.6
15°	895.0	890.1	888.1	863.4	835.7	797.1	750.6	706.1	651.7	601.3	547.9
17.5°	829.8	823.8	825.8	815.9	812.0	794.1	759.5	722.0	673.5	612.2	554.8
20°	772.4	766.5	769.4	774.4	789.2	790.2	784.3	759.5	723.9	659.6	589.4
22.5°	722.9	723.9	733.8	747.7	772.4	804.0	828.8	833.7	809.0	733.8	645.8
25°	708.1	703.2	714.0	736.8	778.3	839.6	895.0	922.7	908.9	833.7	725.9
27.5°	703.2	696.2	708.1	737.8	804.0	890.1	969.2	1010.7	1015.7	938.5	812.0
30°	703.2	700.2	712.1	750.6	820.9	906.9	994.9	1057.2	1077.0	1012.7	887.1
32.5°	712.1	714.0	734.8	784.3	856.5	944.5	1035.5	1102.7	1138.3	1089.9	947.4
35°	731.8	735.8	765.5	822.8	901.0	990.0	1073.0	1141.3	1198.6	1172.9	1003.8
37.5°	774.4	780.3	816.9	875.2	946.5	1026.6	1107.7	1180.8	1263.9	1253.0	1063.2
40°	849.5	849.5	886.1	936.6	994.9	1056.2	1136.3	1222.4	1324.2	1339.1	1136.3
42.5°	944.5	940.5	964.3	1000.8	1041.4	1092.8	1165.0	1260.9	1380.6	1413.2	1191.7
45°	1075.0	1055.2	1068.1	1077.0	1096.8	1128.4	1192.7	1297.5	1426.1	1468.6	1233.3
47.5°	1228.3	1200.6	1189.7	1172.9	1166.0	1177.9	1233.3	1326.2	1469.6	1516.1	1300.5
50°	1397.4	1370.7	1342.0	1296.5	1257.0	1245.1	1278.7	1364.8	1516.1	1575.4	1374.7
52.5°	1573.5	1554.7	1517.1	1445.9	1370.7	1328.2	1344.0	1429.1	1590.3	1667.4	1462.7
55°	1734.7	1740.6	1695.1	1612.0	1504.2	1439.0	1457.8	1542.8	1724.8	1815.8	1610.1
57.5°	1907.7	1891.9	1856.3	1770.3	1652.6	1582.4	1590.3	1693.1	1875.1	1944.3	1756.4
60°	2022.5	2022.5	1983.9	1918.6	1806.9	1741.6	1753.5	1848.4	1995.8	2002.7	1821.7
62.5°	2096.6	2107.5	2076.9	2030.4	1921.6	1867.2	1907.7	1975.0	2055.1	1997.7	1789.1
65°	2061.0	2072.9	2069.9	2018.5	1941.4	1937.4	2010.6	2026.4	2019.5	1925.5	1676.3
67.5°	1899.8	1876.1	1875.1	1848.4	1832.6	1914.7	2007.6	2012.6	1895.9	1784.1	1498.3
70°	1593.2	1552.7	1536.9	1544.8	1617.0	1770.3	1902.8	1865.2	1679.3	1583.4	1275.8
72.5°	1228.3	1179.9	1170.0	1200.6	1312.4	1528.0	1709.0	1656.5	1380.6	1268.9	988.0
75°	871.3	850.5	851.5	911.8	1032.5	1240.2	1450.8	1445.9	1022.6	875.2	680.4
77.5°	633.9	637.9	655.7	679.4	783.3	984.0	1181.8	1169.0	727.9	601.3	475.7
80°	523.2	529.1	529.1	516.2	542.9	649.8	803.0	857.4	487.6	404.5	332.3
82.5°	375.8	405.5	422.3	401.5	391.6	428.2	503.4	539.0	303.6	255.2	232.4
85°	179.0	204.7	210.7	205.7	236.4	270.0	287.8	294.7	166.1	118.7	152.3
87.5°	0.0	0.0	1.0	7.9	21.8	37.6	37.6	57.4	8.9	3.0	6.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	9.0	11.0	13.0	10.0	7.0	6.0	5.0	4.5	4.0	4.0	4.0
100°	30.0	31.0	32.0	31.0	30.0	28.5	27.0	26.5	26.0	25.0	26.0
102.5°	50.0	50.5	51.0	50.5	50.0	49.0	48.0	48.5	49.0	48.0	49.0
105°	70.0	70.5	71.0	71.0	71.0	70.0	69.0	70.0	71.0	69.0	71.0
107.5°	91.0	92.0	93.0	92.5	92.0	91.5	91.0	91.5	92.0	91.0	92.0
110°	112.0	113.0	114.0	114.0	114.0	113.5	113.0	113.5	114.0	113.0	114.0



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**CANDELA DISTRIBUTION (continued):**

	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
112.5°	134.0	135.0	136.0	136.0	136.0	135.5	135.0	136.0	137.0	135.0	137.0
115°	156.0	157.0	158.0	158.0	158.0	158.0	158.0	159.0	160.0	159.0	160.0
117.5°	179.0	179.5	180.0	180.5	181.0	180.5	180.0	181.0	182.0	180.0	182.0
120°	202.0	203.0	204.0	204.0	204.0	204.0	204.0	205.0	206.0	204.0	206.0
122.5°	227.0	227.5	228.0	228.0	228.0	228.5	229.0	231.0	233.0	232.0	233.0
125°	252.0	252.5	253.0	253.5	254.0	254.0	254.0	255.5	257.0	256.0	257.0
127.5°	276.0	277.0	278.0	277.5	277.0	277.5	278.0	279.5	281.0	278.0	281.0
130°	299.0	300.0	301.0	301.0	301.0	301.5	302.0	303.5	305.0	303.0	305.0
132.5°	322.0	323.5	325.0	325.0	325.0	325.5	326.0	327.5	329.0	327.0	329.0
135°	345.0	346.5	348.0	348.0	348.0	348.5	349.0	350.0	351.0	350.0	351.0
137.5°	367.0	368.0	369.0	369.0	369.0	369.5	370.0	372.0	374.0	372.0	374.0
140°	389.0	389.5	390.0	390.0	390.0	391.0	392.0	394.0	396.0	394.0	396.0
142.5°	410.0	411.0	412.0	412.0	412.0	412.5	413.0	414.5	416.0	415.0	416.0
145°	432.0	433.0	434.0	433.5	433.0	433.5	434.0	435.5	437.0	435.0	437.0
147.5°	453.0	453.5	454.0	453.0	452.0	452.5	453.0	454.5	456.0	453.0	456.0
150°	470.0	470.5	471.0	470.0	469.0	469.0	469.0	471.0	473.0	470.0	473.0
152.5°	486.0	486.5	487.0	486.5	486.0	486.0	486.0	487.5	489.0	486.0	489.0
155°	503.0	503.5	504.0	503.5	503.0	503.5	504.0	505.5	507.0	505.0	507.0
157.5°	519.0	519.0	519.0	518.0	517.0	517.5	518.0	520.5	523.0	520.0	523.0
160°	532.0	532.0	532.0	531.0	530.0	530.0	530.0	531.5	533.0	531.0	533.0
162.5°	541.0	541.5	542.0	541.0	540.0	539.0	538.0	539.0	540.0	537.0	540.0
165°	552.0	552.5	553.0	551.5	550.0	549.0	548.0	549.0	550.0	548.0	550.0
167.5°	560.0	560.0	560.0	559.0	558.0	558.5	559.0	561.0	563.0	561.0	563.0
170°	566.0	565.5	565.0	564.5	564.0	565.0	566.0	568.5	571.0	569.0	571.0
172.5°	568.0	568.5	569.0	568.0	567.0	567.5	568.0	569.5	571.0	568.0	571.0
175°	572.0	572.5	573.0	571.5	570.0	569.0	568.0	569.5	571.0	568.0	571.0
177.5°	577.0	577.0	577.0	575.5	574.0	574.0	574.0	575.5	577.0	574.0	577.0
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0



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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	115°	120°	125°	130°	135°	145°	155°	165°
0°	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3
2.5°	747.7	734.8	724.9	713.1	703.2	693.3	686.4	671.5	659.6	632.9	626.0
5°	729.9	702.2	683.4	665.6	642.8	627.0	610.2	589.4	566.7	528.1	516.2
7.5°	659.6	625.0	599.3	573.6	543.9	517.2	492.5	464.8	425.3	383.7	367.9
10°	583.5	546.9	511.3	480.6	445.0	415.4	393.6	373.8	342.2	310.5	289.8
12.5°	521.2	479.7	439.1	408.4	389.7	374.8	359.0	343.2	309.5	273.9	249.2
15°	492.5	444.1	408.4	382.7	365.9	348.1	329.3	311.5	272.0	230.4	200.8
17.5°	496.5	441.1	395.6	361.0	338.2	313.5	291.7	269.0	225.5	176.0	149.3
20°	518.2	444.1	381.7	341.2	308.6	276.9	249.2	220.5	167.1	128.6	109.8
22.5°	545.9	453.9	373.8	321.4	280.9	241.3	205.7	172.1	123.6	100.9	92.0
25°	593.4	476.7	371.9	303.6	254.2	206.7	170.1	134.5	99.9	89.0	84.1
27.5°	652.7	502.4	373.8	290.8	231.4	179.0	138.5	111.8	90.0	84.1	80.1
30°	712.1	529.1	364.9	271.0	204.7	153.3	118.7	101.9	89.0	82.1	75.2
32.5°	764.5	548.9	350.1	250.2	181.0	130.5	100.9	87.0	78.1	70.2	68.2
35°	802.1	557.8	333.3	237.4	165.2	116.7	89.0	78.1	69.2	61.3	57.4
37.5°	837.7	558.8	315.5	225.5	159.2	110.8	82.1	72.2	64.3	57.4	53.4
40°	874.3	554.8	305.6	213.6	150.3	107.8	79.1	67.3	62.3	54.4	50.4
42.5°	901.0	547.9	301.6	206.7	142.4	99.9	77.1	66.3	59.3	53.4	48.5
45°	925.7	541.0	301.6	200.8	136.5	94.9	73.2	67.3	57.4	52.4	46.5
47.5°	955.4	543.9	302.6	195.8	131.5	90.0	69.2	65.3	58.3	51.4	45.5
50°	1005.8	577.6	307.6	192.9	127.6	86.0	66.3	62.3	64.3	50.4	44.5
52.5°	1092.8	631.0	315.5	190.9	123.6	83.1	62.3	60.3	65.3	50.4	43.5
55°	1206.6	685.4	323.4	185.9	117.7	77.1	60.3	56.4	60.3	50.4	42.5
57.5°	1317.3	725.9	330.3	179.0	107.8	71.2	57.4	53.4	55.4	49.4	40.5
60°	1381.6	757.6	337.2	167.1	95.9	64.3	54.4	50.4	49.4	49.4	39.6
62.5°	1399.4	745.7	333.3	152.3	86.0	59.3	51.4	47.5	44.5	50.4	39.6
65°	1343.0	683.4	318.5	139.4	79.1	57.4	48.5	45.5	42.5	43.5	37.6
67.5°	1170.0	574.6	277.9	127.6	78.1	56.4	46.5	43.5	39.6	38.6	35.6
70°	954.4	451.0	230.4	118.7	77.1	56.4	44.5	40.5	37.6	34.6	32.6
72.5°	733.8	337.2	193.8	114.7	78.1	55.4	41.5	36.6	33.6	31.6	29.7
75°	516.2	238.3	161.2	102.9	73.2	52.4	38.6	32.6	29.7	27.7	25.7
77.5°	373.8	162.2	119.7	83.1	62.3	45.5	33.6	27.7	24.7	23.7	21.8
80°	238.3	99.9	80.1	61.3	45.5	35.6	25.7	21.8	19.8	17.8	16.8
82.5°	137.5	58.3	48.5	41.5	29.7	23.7	18.8	16.8	12.9	11.9	10.9
85°	84.1	36.6	26.7	21.8	18.8	14.8	10.9	9.9	6.9	5.9	4.9
87.5°	18.8	7.9	6.9	4.9	5.9	4.9	3.0	2.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	4.5	5.0	6.0	7.0	10.0	13.0	11.0	9.0	4.0	3.0	2.0
100°	26.5	27.0	28.5	30.0	31.0	32.0	31.0	30.0	22.0	14.0	10.0
102.5°	48.5	48.0	49.0	50.0	50.5	51.0	50.5	50.0	45.0	38.0	32.0
105°	70.0	69.0	70.0	71.0	71.0	71.0	70.5	70.0	66.0	61.0	56.0
107.5°	91.5	91.0	91.5	92.0	92.5	93.0	92.0	91.0	88.0	84.0	80.0
110°	113.5	113.0	113.5	114.0	114.0	114.0	113.0	112.0	110.0	106.0	103.0



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REPORT N  
 CATALOG

**CANDELA DISTRIBUTION (continued):**

**CANDELA**

	100°	105°	110°	115°	120°	125°	130°	135°	145°	155°	165°	
112.5°	136.0	135.0	135.5	136.0	136.0	136.0	135.0	134.0	132.0	129.0	126.0	0°
115°	159.0	158.0	158.0	158.0	158.0	158.0	157.0	156.0	154.0	151.0	149.0	2.5°
117.5°	181.0	180.0	180.5	181.0	180.5	180.0	179.5	179.0	177.0	174.0	172.0	5°
120°	205.0	204.0	204.0	204.0	204.0	204.0	203.0	202.0	201.0	198.0	196.0	7.5°
122.5°	231.0	229.0	228.5	228.0	228.0	228.0	227.5	227.0	226.0	223.0	221.0	10°
125°	255.5	254.0	254.0	254.0	253.5	253.0	252.5	252.0	251.0	248.0	247.0	12.5°
127.5°	279.5	278.0	277.5	277.0	277.5	278.0	277.0	276.0	274.0	272.0	270.0	15°
130°	303.5	302.0	301.5	301.0	301.0	301.0	300.0	299.0	298.0	294.0	293.0	17.5°
132.5°	327.5	326.0	325.5	325.0	325.0	325.0	323.5	322.0	321.0	318.0	317.0	20°
135°	350.0	349.0	348.5	348.0	348.0	348.0	346.5	345.0	345.0	341.0	339.0	22.5°
137.5°	372.0	370.0	369.5	369.0	369.0	369.0	368.0	367.0	367.0	364.0	363.0	25°
140°	394.0	392.0	391.0	390.0	390.0	390.0	389.5	389.0	388.0	386.0	385.0	27.5°
142.5°	414.5	413.0	412.5	412.0	412.0	412.0	411.0	410.0	410.0	407.0	408.0	30°
145°	435.5	434.0	433.5	433.0	433.5	434.0	433.0	432.0	431.0	428.0	428.0	32.5°
147.5°	454.5	453.0	452.5	452.0	453.0	454.0	453.5	453.0	452.0	448.0	447.0	35°
150°	471.0	469.0	469.0	469.0	470.0	471.0	470.5	470.0	469.0	465.0	464.0	37.5°
152.5°	487.5	486.0	486.0	486.0	486.5	487.0	486.5	486.0	485.0	482.0	483.0	40°
155°	505.5	504.0	503.5	503.0	503.5	504.0	503.5	503.0	503.0	501.0	502.0	42.5°
157.5°	520.5	518.0	517.5	517.0	518.0	519.0	519.0	519.0	519.0	516.0	517.0	45°
160°	531.5	530.0	530.0	530.0	531.0	532.0	532.0	532.0	532.0	529.0	529.0	47.5°
162.5°	539.0	538.0	539.0	540.0	541.0	542.0	541.5	541.0	541.0	538.0	539.0	50°
165°	549.0	548.0	549.0	550.0	551.5	553.0	552.5	552.0	552.0	548.0	549.0	52.5°
167.5°	561.0	559.0	558.5	558.0	559.0	560.0	560.0	560.0	561.0	558.0	559.0	55°
170°	568.5	566.0	565.0	564.0	564.5	565.0	565.5	566.0	567.0	565.0	566.0	57.5°
172.5°	569.5	568.0	567.5	567.0	568.0	569.0	568.5	568.0	569.0	567.0	569.0	60°
175°	569.5	568.0	569.0	570.0	571.5	573.0	572.5	572.0	572.0	569.0	570.0	62.5°
177.5°	575.5	574.0	574.0	574.0	575.5	577.0	577.0	577.0	578.0	574.0	575.0	65°
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	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°
												110°



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REPORT NUMBER: P  
 CATALOG NUMBER:

**DISTRIBUTION (continued):**

**CANDELA DISTRIBUTION**

175°	180°	185°	195°	205°	215°	225°	230°	232.5°	235°	237.5°	175°	175°
691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	112.5°	124.0
615.1	600.3	601.3	598.3	590.4	577.6	573.6	566.7	567.7	571.6	567.7	115°	147.0
502.4	484.6	486.6	485.6	477.7	468.8	461.9	453.0	450.0	453.0	448.0	117.5°	170.0
356.0	344.2	348.1	357.0	356.0	351.1	345.2	335.3	333.3	334.3	325.4	120°	195.0
272.0	260.1	257.1	256.1	254.2	251.2	243.3	235.4	232.4	233.4	227.5	122.5°	220.0
227.5	217.6	205.7	194.8	184.9	181.0	171.1	166.1	165.2	165.2	162.2	125°	246.0
180.0	172.1	165.2	154.3	146.4	140.4	133.5	129.6	128.6	129.6	129.6	127.5°	269.0
134.5	130.5	127.6	126.6	122.6	118.7	114.7	112.7	111.8	111.8	112.7	130°	292.0
102.9	101.9	101.9	101.9	106.8	110.8	111.8	108.8	107.8	106.8	105.8	132.5°	314.0
89.0	88.0	89.0	94.9	92.0	89.0	89.0	89.0	89.0	89.0	90.0	135°	337.0
82.1	83.1	84.1	81.1	78.1	76.2	75.2	75.2	74.2	74.2	75.2	137.5°	360.0
78.1	77.1	76.2	74.2	72.2	69.2	68.2	67.3	67.3	67.3	67.3	140°	383.0
73.2	72.2	71.2	69.2	66.3	62.3	61.3	61.3	60.3	61.3	61.3	142.5°	406.0
67.3	66.3	65.3	63.3	60.3	58.3	57.4	55.4	55.4	55.4	56.4	145°	426.0
54.4	53.4	53.4	54.4	54.4	53.4	53.4	51.4	51.4	51.4	51.4	147.5°	444.0
50.4	49.4	49.4	48.5	49.4	50.4	49.4	48.5	48.5	47.5	47.5	150°	462.0
47.5	47.5	46.5	45.5	45.5	47.5	46.5	45.5	44.5	44.5	44.5	152.5°	480.0
45.5	44.5	44.5	43.5	43.5	43.5	42.5	41.5	40.5	40.5	40.5	155°	500.0
43.5	43.5	42.5	41.5	40.5	40.5	38.6	37.6	37.6	37.6	38.6	157.5°	515.0
42.5	41.5	41.5	40.5	39.6	37.6	36.6	35.6	35.6	35.6	35.6	160°	527.0
41.5	40.5	39.6	39.6	37.6	36.6	35.6	34.6	34.6	34.6	34.6	162.5°	536.0
40.5	39.6	38.6	37.6	36.6	35.6	34.6	33.6	33.6	33.6	33.6	165°	547.0
38.6	37.6	37.6	36.6	36.6	35.6	34.6	33.6	33.6	33.6	32.6	167.5°	556.0
37.6	36.6	35.6	35.6	35.6	34.6	33.6	32.6	32.6	32.6	32.6	170°	563.0
36.6	35.6	35.6	34.6	34.6	33.6	33.6	32.6	31.6	31.6	30.7	172.5°	566.0
35.6	34.6	34.6	33.6	34.6	33.6	32.6	31.6	30.7	30.7	29.7	175°	569.0
34.6	33.6	33.6	33.6	32.6	32.6	31.6	29.7	29.7	29.7	28.7	177.5°	573.0
32.6	31.6	31.6	32.6	31.6	30.7	30.7	28.7	28.7	27.7	27.7	180°	576.0
29.7	29.7	29.7	30.7	29.7	28.7	28.7	27.7	26.7	25.7	25.7		
27.7	26.7	27.7	27.7	27.7	26.7	27.7	25.7	24.7	23.7	23.7		
23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	22.7	21.8	20.8		
18.8	19.8	19.8	19.8	19.8	20.8	19.8	19.8	19.8	18.8	17.8		
13.8	13.8	14.8	15.8	14.8	15.8	14.8	15.8	14.8	14.8	14.8		
7.9	7.9	8.9	9.9	9.9	10.9	8.9	9.9	9.9	10.9	9.9		
3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0	4.9	4.9		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
2.0	2.0	2.0	2.0	3.0	4.0	9.0	11.0	12.0	13.0	11.5		
8.0	8.0	8.0	10.0	14.0	22.0	30.0	31.0	31.5	32.0	31.5		
28.0	28.0	28.0	32.0	38.0	45.0	50.0	50.5	50.8	51.0	50.8		
54.0	54.0	54.0	56.0	61.0	66.0	70.0	70.5	70.8	71.0	71.0		
77.0	78.0	77.0	80.0	84.0	88.0	91.0	92.0	92.5	93.0	92.8		
102.0	101.0	102.0	103.0	106.0	110.0	112.0	113.0	113.5	114.0	114.0		

'228518  
 ISC-AF-450-LED-E1-SLL-7050-ULG

REPORT NUMBER: P228518  
 CATALOG NUMBER: ISC-AF-45

**TION (continued):**

**CANDELA DISTRIBUTION (con**

180°	185°	195°	205°	215°	225°	230°	232.5°	235°	237.5°		240°	242.5°
124.0	124.0	126.0	129.0	132.0	134.0	135.0	135.5	136.0	136.0	0°	691.3	691.3
146.0	147.0	149.0	151.0	154.0	156.0	157.0	157.5	158.0	158.0	2.5°	575.6	575.6
169.0	170.0	172.0	174.0	177.0	179.0	179.5	179.8	180.0	180.2	5°	452.0	451.0
193.0	195.0	196.0	198.0	201.0	202.0	203.0	203.5	204.0	204.0	7.5°	328.3	325.4
219.0	220.0	221.0	223.0	226.0	227.0	227.5	227.8	228.0	228.0	10°	229.4	221.5
244.0	246.0	247.0	248.0	251.0	252.0	252.5	252.8	253.0	253.2	12.5°	166.1	163.2
267.0	269.0	270.0	272.0	274.0	276.0	277.0	277.5	278.0	277.8	15°	131.5	131.5
290.0	292.0	293.0	294.0	298.0	299.0	300.0	300.5	301.0	301.0	17.5°	113.7	113.7
313.0	314.0	317.0	318.0	321.0	322.0	323.5	324.2	325.0	325.0	20°	104.8	103.8
336.0	337.0	339.0	341.0	345.0	345.0	346.5	347.2	348.0	348.0	22.5°	90.0	89.0
359.0	360.0	363.0	364.0	367.0	367.0	368.0	368.5	369.0	369.0	25°	74.2	74.2
382.0	383.0	385.0	386.0	388.0	389.0	389.5	389.8	390.0	390.0	27.5°	67.3	67.3
404.0	406.0	408.0	407.0	410.0	410.0	411.0	411.5	412.0	412.0	30°	61.3	62.3
425.0	426.0	428.0	428.0	431.0	432.0	433.0	433.5	434.0	433.8	32.5°	56.4	56.4
444.0	444.0	447.0	448.0	452.0	453.0	453.5	453.8	454.0	453.5	35°	50.4	50.4
461.0	462.0	464.0	465.0	469.0	470.0	470.5	470.8	471.0	470.5	37.5°	46.5	45.5
479.0	480.0	483.0	482.0	485.0	486.0	486.5	486.8	487.0	486.8	40°	42.5	42.5
499.0	500.0	502.0	501.0	503.0	503.0	503.5	503.8	504.0	503.8	42.5°	39.6	39.6
513.0	515.0	517.0	516.0	519.0	519.0	519.0	519.0	519.0	518.5	45°	37.6	37.6
525.0	527.0	529.0	529.0	532.0	532.0	532.0	532.0	532.0	531.5	47.5°	36.6	36.6
535.0	536.0	539.0	538.0	541.0	541.0	541.5	541.8	542.0	541.5	50°	34.6	34.6
546.0	547.0	549.0	548.0	552.0	552.0	552.5	552.8	553.0	552.2	52.5°	33.6	33.6
555.0	556.0	559.0	558.0	561.0	560.0	560.0	560.0	560.0	559.5	55°	32.6	33.6
562.0	563.0	566.0	565.0	567.0	566.0	565.5	565.2	565.0	564.8	57.5°	31.6	31.6
565.0	566.0	569.0	567.0	569.0	568.0	568.5	568.8	569.0	568.5	60°	30.7	30.7
567.0	569.0	570.0	569.0	572.0	572.0	572.5	572.8	573.0	572.2	62.5°	29.7	29.7
572.0	573.0	575.0	574.0	578.0	577.0	577.0	577.0	577.0	576.2	65°	28.7	28.7
576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	67.5°	26.7	26.7
										70°	24.7	24.7
										72.5°	22.7	22.7
										75°	20.8	19.8
										77.5°	17.8	16.8
										80°	14.8	13.8
										82.5°	10.9	9.9
										85°	4.9	4.9
										87.5°	0.0	0.0
										90°	0.0	0.0
										92.5°	0.0	0.0
										95°	1.0	1.0
										97.5°	10.0	8.5
										100°	31.0	30.5
										102.5°	50.5	50.2
										105°	71.0	71.0
										107.5°	92.5	92.2
										110°	114.0	114.0



REPORT NUMBER: P228518

CATALOG NUMBER: ISC-AF-450-LED-E1-S

0-LED-E1-SLL-7050-ULG

**tinued):**

**CANDELA DISTRIBUTION (continued):**

245°	247.5°	250°	252.5°	255°	257.5°	260°	265°	270°		240°	242.5°	245°
691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	112.5°	136.0	136.0	136.0
563.7	565.7	567.7	571.6	569.7	568.7	567.7	573.6	576.6	115°	158.0	158.0	158.0
436.1	435.2	438.1	439.1	436.1	431.2	428.2	429.2	432.2	117.5°	180.5	180.8	181.0
311.5	309.5	308.6	309.5	306.6	301.6	297.7	298.7	301.6	120°	204.0	204.0	204.0
219.6	220.5	222.5	224.5	224.5	224.5	225.5	231.4	238.3	122.5°	228.0	228.0	228.0
165.2	167.1	171.1	174.1	177.0	178.0	179.0	186.9	192.9	125°	253.5	253.8	254.0
133.5	134.5	136.5	138.5	140.4	140.4	141.4	144.4	149.3	127.5°	277.5	277.2	277.0
113.7	113.7	113.7	112.7	111.8	109.8	108.8	107.8	108.8	130°	301.0	301.0	301.0
101.9	100.9	98.9	96.9	95.9	93.0	92.0	89.0	88.0	132.5°	325.0	325.0	325.0
89.0	89.0	89.0	88.0	87.0	86.0	84.1	81.1	79.1	135°	348.0	348.0	348.0
74.2	75.2	75.2	76.2	78.1	78.1	78.1	78.1	75.2	137.5°	369.0	369.0	369.0
67.3	67.3	68.2	68.2	69.2	69.2	69.2	70.2	71.2	140°	390.0	390.0	390.0
62.3	63.3	63.3	64.3	64.3	65.3	65.3	66.3	66.3	142.5°	412.0	412.0	412.0
57.4	58.3	58.3	58.3	60.3	60.3	59.3	60.3	60.3	145°	433.5	433.2	433.0
50.4	50.4	50.4	50.4	50.4	50.4	48.5	47.5	48.5	147.5°	453.0	452.5	452.0
45.5	44.5	43.5	43.5	43.5	44.5	43.5	44.5	44.5	150°	470.0	469.5	469.0
41.5	41.5	41.5	41.5	41.5	41.5	41.5	42.5	43.5	152.5°	486.5	486.2	486.0
39.6	39.6	39.6	39.6	39.6	39.6	39.6	40.5	40.5	155°	503.5	503.2	503.0
37.6	37.6	38.6	38.6	38.6	38.6	38.6	38.6	39.6	157.5°	518.0	517.5	517.0
36.6	36.6	36.6	36.6	36.6	36.6	36.6	37.6	38.6	160°	531.0	530.5	530.0
35.6	35.6	35.6	35.6	35.6	35.6	35.6	36.6	37.6	162.5°	541.0	540.5	540.0
33.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	35.6	165°	551.5	550.8	550.0
33.6	33.6	33.6	33.6	32.6	32.6	32.6	32.6	33.6	167.5°	559.0	558.5	558.0
32.6	32.6	32.6	31.6	31.6	30.7	30.7	30.7	32.6	170°	564.5	564.2	564.0
30.7	30.7	30.7	29.7	29.7	29.7	29.7	30.7	30.7	172.5°	568.0	567.5	567.0
28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	175°	571.5	570.8	570.0
27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	177.5°	575.5	574.8	574.0
26.7	25.7	25.7	25.7	25.7	26.7	25.7	25.7	25.7	180°	576.0	576.0	576.0
24.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7				
22.7	22.7	21.8	21.8	21.8	21.8	21.8	21.8	21.8				
19.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8				
16.8	16.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8				
13.8	12.9	12.9	12.9	12.9	12.9	12.9	11.9	11.9				
9.9	9.9	9.9	8.9	8.9	8.9	8.9	7.9	6.9				
4.0	4.9	4.9	5.9	4.9	4.9	4.9	4.0	2.0				
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
7.0	6.5	6.0	5.5	5.0	4.8	4.5	4.0	4.0				
30.0	29.2	28.5	27.8	27.0	26.8	26.5	26.0	25.0				
50.0	49.5	49.0	48.5	48.0	48.2	48.5	49.0	48.0				
71.0	70.5	70.0	69.5	69.0	69.5	70.0	71.0	69.0				
92.0	91.8	91.5	91.2	91.0	91.2	91.5	92.0	91.0				
114.0	113.8	113.5	113.2	113.0	113.2	113.5	114.0	113.0				



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SLL-7050-ULG

**CANDELA DISTRIBUTION (continued):**

247.5°	250°	252.5°	255°	257.5°	260°	265°	270°		275°	280°	282.5°	285°
135.8	135.5	135.2	135.0	135.5	136.0	137.0	135.0	0°	691.3	691.3	691.3	691.3
158.0	158.0	158.0	158.0	158.5	159.0	160.0	159.0	2.5°	574.6	584.5	585.5	579.5
180.8	180.5	180.2	180.0	180.5	181.0	182.0	180.0	5°	428.2	441.1	440.1	432.2
204.0	204.0	204.0	204.0	204.5	205.0	206.0	204.0	7.5°	302.6	313.5	312.5	311.5
228.2	228.5	228.8	229.0	230.0	231.0	233.0	232.0	10°	245.3	255.2	258.1	265.0
254.0	254.0	254.0	254.0	254.8	255.5	257.0	256.0	12.5°	198.8	210.7	213.6	221.5
277.2	277.5	277.8	278.0	278.8	279.5	281.0	278.0	15°	153.3	163.2	166.1	172.1
301.2	301.5	301.8	302.0	302.8	303.5	305.0	303.0	17.5°	112.7	118.7	120.7	124.6
325.2	325.5	325.8	326.0	326.8	327.5	329.0	327.0	20°	88.0	90.0	91.0	92.0
348.2	348.5	348.8	349.0	349.5	350.0	351.0	350.0	22.5°	79.1	80.1	80.1	81.1
369.2	369.5	369.8	370.0	371.0	372.0	374.0	372.0	25°	73.2	74.2	74.2	75.2
390.5	391.0	391.5	392.0	393.0	394.0	396.0	394.0	27.5°	70.2	70.2	70.2	70.2
412.2	412.5	412.8	413.0	413.8	414.5	416.0	415.0	30°	67.3	67.3	67.3	68.2
433.2	433.5	433.8	434.0	434.8	435.5	437.0	435.0	32.5°	62.3	60.3	62.3	61.3
452.2	452.5	452.8	453.0	453.8	454.5	456.0	453.0	35°	48.5	48.5	49.4	50.4
469.0	469.0	469.0	469.0	470.0	471.0	473.0	470.0	37.5°	45.5	46.5	46.5	47.5
486.0	486.0	486.0	486.0	486.8	487.5	489.0	486.0	40°	43.5	44.5	45.5	46.5
503.2	503.5	503.8	504.0	504.8	505.5	507.0	505.0	42.5°	41.5	43.5	43.5	44.5
517.2	517.5	517.8	518.0	519.2	520.5	523.0	520.0	45°	40.5	41.5	42.5	43.5
530.0	530.0	530.0	530.0	530.8	531.5	533.0	531.0	47.5°	39.6	40.5	41.5	42.5
539.5	539.0	538.5	538.0	538.5	539.0	540.0	537.0	50°	37.6	39.6	40.5	41.5
549.5	549.0	548.5	548.0	548.5	549.0	550.0	548.0	52.5°	36.6	38.6	38.6	40.5
558.2	558.5	558.8	559.0	560.0	561.0	563.0	561.0	55°	34.6	36.6	36.6	38.6
564.5	565.0	565.5	566.0	567.2	568.5	571.0	569.0	57.5°	32.6	34.6	35.6	36.6
567.2	567.5	567.8	568.0	568.8	569.5	571.0	568.0	60°	31.6	32.6	33.6	34.6
569.5	569.0	568.5	568.0	568.8	569.5	571.0	568.0	62.5°	29.7	31.6	32.6	33.6
574.0	574.0	574.0	574.0	574.8	575.5	577.0	574.0	65°	28.7	30.7	30.7	32.6
576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	67.5°	26.7	28.7	28.7	29.7
								70°	24.7	25.7	26.7	27.7
								72.5°	22.7	23.7	23.7	24.7
								75°	18.8	19.8	20.8	21.8
								77.5°	15.8	15.8	17.8	17.8
								80°	11.9	11.9	12.9	13.8
								82.5°	6.9	6.9	7.9	7.9
								85°	2.0	2.0	2.0	2.0
								87.5°	0.0	0.0	0.0	0.0
								90°	0.0	0.0	0.0	0.0
								92.5°	0.0	0.0	0.0	0.0
								95°	1.0	1.0	1.0	1.0
								97.5°	4.0	4.5	4.8	5.0
								100°	26.0	26.5	26.8	27.0
								102.5°	49.0	48.5	48.2	48.0
								105°	71.0	70.0	69.5	69.0
								107.5°	92.0	91.5	91.2	91.0
								110°	114.0	113.5	113.2	113.0





REPORT NUMBER: P228518

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

JLG

**CANDELA DISTRIBUTION (continued):**

287.5°	290°	292.5°	295°	297.5°	300°	302.5°		275°	280°	282.5°	285°	287.5°
691.3	691.3	691.3	691.3	691.3	691.3	691.3	112.5°	137.0	136.0	135.5	135.0	135.2
591.4	593.4	590.4	590.4	592.4	600.3	600.3	115°	160.0	159.0	158.5	158.0	158.0
448.0	453.0	450.0	451.0	454.9	463.8	468.8	117.5°	182.0	181.0	180.5	180.0	180.2
321.4	325.4	327.4	330.3	342.2	343.2	349.1	120°	206.0	205.0	204.5	204.0	204.0
268.0	273.9	277.9	282.8	292.7	297.7	304.6	122.5°	233.0	231.0	230.0	229.0	228.8
225.5	232.4	236.4	246.3	252.2	258.1	267.0	125°	257.0	255.5	254.8	254.0	254.0
176.0	183.9	187.9	193.8	205.7	211.6	223.5	127.5°	281.0	279.5	278.8	278.0	277.8
127.6	130.5	138.5	148.3	155.3	165.2	171.1	130°	305.0	303.5	302.8	302.0	301.8
94.0	95.9	99.9	106.8	110.8	118.7	124.6	132.5°	329.0	327.5	326.8	326.0	325.8
81.1	82.1	84.1	86.0	88.0	91.0	94.0	135°	351.0	350.0	349.5	349.0	348.8
75.2	76.2	77.1	78.1	80.1	81.1	82.1	137.5°	374.0	372.0	371.0	370.0	369.8
71.2	71.2	72.2	74.2	74.2	76.2	77.1	140°	396.0	394.0	393.0	392.0	391.5
69.2	71.2	73.2	76.2	77.1	79.1	80.1	142.5°	416.0	414.5	413.8	413.0	412.8
59.3	59.3	60.3	62.3	62.3	63.3	64.3	145°	437.0	435.5	434.8	434.0	433.8
50.4	51.4	52.4	53.4	54.4	56.4	57.4	147.5°	456.0	454.5	453.8	453.0	452.8
48.5	48.5	49.4	51.4	52.4	53.4	54.4	150°	473.0	471.0	470.0	469.0	469.0
46.5	47.5	48.5	49.4	50.4	52.4	53.4	152.5°	489.0	487.5	486.8	486.0	486.0
45.5	46.5	47.5	48.5	50.4	51.4	52.4	155°	507.0	505.5	504.8	504.0	503.8
44.5	45.5	46.5	48.5	49.4	51.4	52.4	157.5°	523.0	520.5	519.2	518.0	517.8
43.5	44.5	45.5	47.5	49.4	51.4	53.4	160°	533.0	531.5	530.8	530.0	530.0
42.5	43.5	45.5	47.5	49.4	52.4	57.4	162.5°	540.0	539.0	538.5	538.0	538.5
41.5	43.5	45.5	47.5	50.4	54.4	59.3	165°	550.0	549.0	548.5	548.0	548.5
40.5	42.5	43.5	46.5	49.4	53.4	54.4	167.5°	563.0	561.0	560.0	559.0	558.8
38.6	40.5	41.5	44.5	48.5	49.4	48.5	170°	571.0	568.5	567.2	566.0	565.5
36.6	37.6	40.5	46.5	50.4	46.5	41.5	172.5°	571.0	569.5	568.8	568.0	567.8
35.6	36.6	38.6	42.5	43.5	38.6	37.6	175°	571.0	569.5	568.8	568.0	568.5
33.6	33.6	34.6	34.6	34.6	34.6	34.6	177.5°	577.0	575.5	574.8	574.0	574.0
30.7	30.7	31.6	31.6	31.6	31.6	31.6	180°	576.0	576.0	576.0	576.0	576.0
27.7	27.7	28.7	28.7	28.7	29.7	29.7						
24.7	25.7	25.7	26.7	26.7	26.7	27.7						
21.8	22.7	22.7	22.7	22.7	23.7	23.7						
18.8	18.8	19.8	19.8	19.8	19.8	19.8						
14.8	14.8	14.8	14.8	14.8	14.8	14.8						
8.9	8.9	9.9	8.9	8.9	7.9	7.9						
2.0	2.0	2.0	1.0	1.0	0.0	0.0						
0.0	0.0	0.0	0.0	0.0	0.0	0.0						
0.0	0.0	0.0	0.0	0.0	0.0	0.0						
0.0	0.0	0.0	0.0	0.0	0.0	0.0						
1.0	1.0	1.0	1.0	1.0	1.0	1.0						
5.5	6.0	6.5	7.0	8.5	10.0	11.5						
27.8	28.5	29.2	30.0	30.5	31.0	31.5						
48.5	49.0	49.5	50.0	50.2	50.5	50.8						
69.5	70.0	70.5	71.0	71.0	71.0	71.0						
91.2	91.5	91.8	92.0	92.2	92.5	92.8						
113.2	113.5	113.8	114.0	114.0	114.0	114.0						



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**CANDELA DISTRIBUTION (continued):**

290°	292.5°	295°	297.5°	300°	302.5°		305°	307.5°	310°	312.5°	315°	317.5°
135.5	135.8	136.0	136.0	136.0	136.0	0°	691.3	691.3	691.3	691.3	691.3	691.3
158.0	158.0	158.0	158.0	158.0	158.0	2.5°	615.1	615.1	617.1	625.0	627.0	632.0
180.5	180.8	181.0	180.8	180.5	180.2	5°	486.6	490.5	496.5	506.4	512.3	523.2
204.0	204.0	204.0	204.0	204.0	204.0	7.5°	363.0	368.9	373.8	384.7	393.6	404.5
228.5	228.2	228.0	228.0	228.0	228.0	10°	314.5	319.4	326.4	333.3	342.2	347.1
254.0	254.0	254.0	253.8	253.5	253.2	12.5°	279.9	286.8	293.7	303.6	312.5	321.4
277.5	277.2	277.0	277.2	277.5	277.8	15°	237.4	245.3	253.2	264.1	276.9	285.8
301.5	301.2	301.0	301.0	301.0	301.0	17.5°	183.9	192.9	203.7	218.6	232.4	243.3
325.5	325.2	325.0	325.0	325.0	325.0	20°	135.5	143.4	153.3	166.1	176.0	194.8
348.5	348.2	348.0	348.0	348.0	348.0	22.5°	99.9	104.8	112.7	122.6	133.5	150.3
369.5	369.2	369.0	369.0	369.0	369.0	25°	84.1	86.0	89.0	94.9	101.9	113.7
391.0	390.5	390.0	390.0	390.0	390.0	27.5°	78.1	79.1	81.1	84.1	88.0	94.0
412.5	412.2	412.0	412.0	412.0	412.0	30°	82.1	82.1	82.1	83.1	85.1	88.0
433.5	433.2	433.0	433.2	433.5	433.8	32.5°	66.3	67.3	67.3	69.2	70.2	74.2
452.5	452.2	452.0	452.5	453.0	453.5	35°	59.3	60.3	61.3	62.3	64.3	65.3
469.0	469.0	469.0	469.5	470.0	470.5	37.5°	56.4	57.4	58.3	58.3	59.3	61.3
486.0	486.0	486.0	486.2	486.5	486.8	40°	55.4	55.4	55.4	55.4	57.4	59.3
503.5	503.2	503.0	503.2	503.5	503.8	42.5°	53.4	53.4	53.4	54.4	57.4	61.3
517.5	517.2	517.0	517.5	518.0	518.5	45°	53.4	53.4	54.4	58.3	59.3	59.3
530.0	530.0	530.0	530.5	531.0	531.5	47.5°	55.4	57.4	58.3	57.4	56.4	56.4
539.0	539.5	540.0	540.5	541.0	541.5	50°	60.3	59.3	55.4	54.4	54.4	52.4
549.0	549.5	550.0	550.8	551.5	552.2	52.5°	59.3	55.4	54.4	52.4	50.4	49.4
558.5	558.2	558.0	558.5	559.0	559.5	55°	53.4	52.4	49.4	47.5	46.5	47.5
565.0	564.5	564.0	564.2	564.5	564.8	57.5°	46.5	45.5	43.5	43.5	44.5	45.5
567.5	567.2	567.0	567.5	568.0	568.5	60°	40.5	40.5	40.5	41.5	42.5	43.5
569.0	569.5	570.0	570.8	571.5	572.2	62.5°	36.6	37.6	37.6	39.6	40.5	41.5
574.0	574.0	574.0	574.8	575.5	576.2	65°	34.6	35.6	36.6	36.6	37.6	38.6
576.0	576.0	576.0	576.0	576.0	576.0	67.5°	32.6	32.6	33.6	34.6	35.6	36.6
						70°	29.7	30.7	31.6	32.6	32.6	33.6
						72.5°	27.7	27.7	28.7	29.7	29.7	31.6
						75°	23.7	24.7	24.7	24.7	25.7	27.7
						77.5°	20.8	19.8	20.8	20.8	21.8	22.7
						80°	14.8	13.8	13.8	14.8	14.8	14.8
						82.5°	7.9	6.9	7.9	6.9	6.9	7.9
						85°	0.0	0.0	0.0	0.0	0.0	0.0
						87.5°	0.0	0.0	0.0	0.0	0.0	0.0
						90°	0.0	0.0	0.0	0.0	0.0	0.0
						92.5°	0.0	0.0	0.0	0.0	0.0	0.0
						95°	1.0	1.0	1.0	1.0	1.0	1.0
						97.5°	13.0	12.0	11.0	10.0	9.0	7.8
						100°	32.0	31.5	31.0	30.5	30.0	28.0
						102.5°	51.0	50.8	50.5	50.2	50.0	48.8
						105°	71.0	70.8	70.5	70.2	70.0	69.0
						107.5°	93.0	92.5	92.0	91.5	91.0	90.2
						110°	114.0	113.5	113.0	112.5	112.0	111.5



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**CANDELA DISTRIBUTION (continued):**

320°	322.5°	325°	335°	345°		305°	307.5°	310°	312.5°	315°	317.5°	320°
691.3	691.3	691.3	691.3	691.3	112.5°	136.0	135.5	135.0	134.5	134.0	133.5	133.0
631.0	639.9	643.8	667.6	692.3	115°	158.0	157.5	157.0	156.5	156.0	155.5	155.0
521.2	539.0	542.0	585.5	628.0	117.5°	180.0	179.8	179.5	179.2	179.0	178.5	178.0
407.5	428.2	434.2	491.5	550.9	120°	204.0	203.5	203.0	202.5	202.0	201.8	201.5
355.0	364.9	371.9	414.4	482.6	122.5°	228.0	227.8	227.5	227.2	227.0	226.8	226.5
329.3	339.2	348.1	382.7	436.1	125°	253.0	252.8	252.5	252.2	252.0	251.8	251.5
294.7	305.6	316.5	359.0	421.3	127.5°	278.0	277.5	277.0	276.5	276.0	275.5	275.0
252.2	267.0	280.9	332.3	414.4	130°	301.0	300.5	300.0	299.5	299.0	298.8	298.5
204.7	222.5	239.3	303.6	404.5	132.5°	325.0	324.2	323.5	322.8	322.0	321.8	321.5
161.2	177.0	195.8	276.9	404.5	135°	348.0	347.2	346.5	345.8	345.0	345.0	345.0
124.6	140.4	159.2	253.2	415.4	137.5°	369.0	368.5	368.0	367.5	367.0	367.0	367.0
101.9	114.7	133.5	234.4	431.2	140°	390.0	389.8	389.5	389.2	389.0	388.8	388.5
92.0	99.9	111.8	206.7	442.1	142.5°	412.0	411.5	411.0	410.5	410.0	410.0	410.0
78.1	84.1	94.9	189.9	449.0	145°	434.0	433.5	433.0	432.5	432.0	431.8	431.5
69.2	76.2	87.0	179.0	448.0	147.5°	454.0	453.8	453.5	453.2	453.0	452.8	452.5
64.3	71.2	84.1	175.0	448.0	150°	471.0	470.8	470.5	470.2	470.0	469.8	469.5
64.3	71.2	82.1	171.1	451.0	152.5°	487.0	486.8	486.5	486.2	486.0	485.8	485.5
63.3	67.3	76.2	169.1	455.9	155°	504.0	503.8	503.5	503.2	503.0	503.0	503.0
60.3	63.3	72.2	169.1	465.8	157.5°	519.0	519.0	519.0	519.0	519.0	519.0	519.0
56.4	60.3	69.2	172.1	484.6	160°	532.0	532.0	532.0	532.0	532.0	532.0	532.0
53.4	57.4	68.2	172.1	523.2	162.5°	542.0	541.8	541.5	541.2	541.0	541.0	541.0
50.4	56.4	67.3	170.1	578.6	165°	553.0	552.8	552.5	552.2	552.0	552.0	552.0
49.4	54.4	65.3	168.1	646.8	167.5°	560.0	560.0	560.0	560.0	560.0	560.2	560.5
48.5	52.4	60.3	163.2	701.2	170°	565.0	565.2	565.5	565.8	566.0	566.2	566.5
46.5	49.4	55.4	154.3	737.8	172.5°	569.0	568.8	568.5	568.2	568.0	568.2	568.5
43.5	46.5	50.4	144.4	745.7	175°	573.0	572.8	572.5	572.2	572.0	572.0	572.0
41.5	44.5	50.4	136.5	697.2	177.5°	577.0	577.0	577.0	577.0	577.0	577.2	577.5
38.6	43.5	51.4	129.6	591.4	180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0
36.6	43.5	52.4	126.6	469.8								
34.6	42.5	53.4	121.6	354.1								
31.6	38.6	46.5	100.9	239.3								
25.7	29.7	34.6	64.3	126.6								
16.8	17.8	19.8	39.6	70.2								
7.9	9.9	9.9	18.8	31.6								
0.0	0.0	0.0	2.0	6.9								
0.0	0.0	0.0	0.0	0.0								
0.0	0.0	0.0	0.0	0.0								
0.0	0.0	0.0	0.0	0.0								
1.0	1.0	1.0	1.0	1.0								
6.5	5.2	4.0	3.0	2.0								
26.0	24.0	22.0	14.0	10.0								
47.5	46.2	45.0	38.0	32.0								
68.0	67.0	66.0	61.0	56.0								
89.5	88.8	88.0	84.0	80.0								
111.0	110.5	110.0	106.0	103.0								

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**CANDELA DISTRIBUTION (continued):**

322.5°	325°	335°	345°		355°	359°	360°
132.5	132.0	129.0	126.0	0°	691.3	691.3	691.3
154.5	154.0	151.0	149.0	2.5°	716.0	727.9	733.8
177.5	177.0	174.0	172.0	5°	677.4	702.2	710.1
201.2	201.0	198.0	196.0	7.5°	619.1	646.8	657.7
226.2	226.0	223.0	221.0	10°	560.8	595.4	606.2
251.2	251.0	248.0	247.0	12.5°	526.1	567.7	573.6
274.5	274.0	272.0	270.0	15°	512.3	554.8	566.7
298.2	298.0	294.0	293.0	17.5°	526.1	573.6	585.5
321.2	321.0	318.0	317.0	20°	552.8	611.2	630.0
345.0	345.0	341.0	339.0	22.5°	598.3	677.4	701.2
367.0	367.0	364.0	363.0	25°	672.5	782.3	803.0
388.2	388.0	386.0	385.0	27.5°	751.6	865.4	898.0
410.0	410.0	407.0	408.0	30°	820.9	942.5	969.2
431.2	431.0	428.0	428.0	32.5°	870.3	1003.8	1034.5
452.2	452.0	448.0	447.0	35°	928.6	1074.0	1103.7
469.2	469.0	465.0	464.0	37.5°	995.9	1159.1	1199.6
485.2	485.0	482.0	483.0	40°	1070.1	1247.1	1292.6
503.0	503.0	501.0	502.0	42.5°	1137.3	1329.2	1379.6
519.0	519.0	516.0	517.0	45°	1189.7	1406.3	1445.9
532.0	532.0	529.0	529.0	47.5°	1250.1	1465.7	1510.2
541.0	541.0	538.0	539.0	50°	1333.1	1540.8	1593.2
552.0	552.0	548.0	549.0	52.5°	1454.8	1668.4	1706.0
560.8	561.0	558.0	559.0	55°	1602.1	1822.7	1865.2
566.8	567.0	565.0	566.0	57.5°	1737.6	1966.1	2002.7
568.8	569.0	567.0	569.0	60°	1824.7	2032.3	2063.0
572.0	572.0	569.0	570.0	62.5°	1825.7	2034.3	2072.9
577.8	578.0	574.0	575.0	65°	1753.5	1990.8	2034.3
576.0	576.0	576.0	576.0	67.5°	1570.5	1880.0	1947.3
				70°	1326.2	1662.5	1737.6
				72.5°	1034.5	1306.4	1392.5
				75°	701.2	867.3	942.5
				77.5°	446.0	500.4	525.1
				80°	263.1	295.7	308.6
				82.5°	163.2	176.0	188.9
				85°	66.3	47.5	51.4
				87.5°	0.0	0.0	0.0
				90°	0.0	0.0	0.0
				92.5°	0.0	0.0	0.0
				95°	1.0	1.0	1.0
				97.5°	2.0	2.0	2.0
				100°	8.0	8.0	8.0
				102.5°	28.0	28.0	28.0
				105°	54.0	54.0	54.0
				107.5°	77.0	77.8	78.0
				110°	102.0	101.2	101.0



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**CANDELA DISTRIBUTION (continued):**

	355°	359°	360°
112.5°	124.0	124.0	124.0
115°	147.0	146.2	146.0
117.5°	170.0	169.2	169.0
120°	195.0	193.4	193.0
122.5°	220.0	219.2	219.0
125°	246.0	244.4	244.0
127.5°	269.0	267.4	267.0
130°	292.0	290.4	290.0
132.5°	314.0	313.2	313.0
135°	337.0	336.2	336.0
137.5°	360.0	359.2	359.0
140°	383.0	382.2	382.0
142.5°	406.0	404.4	404.0
145°	426.0	425.2	425.0
147.5°	444.0	444.0	444.0
150°	462.0	461.2	461.0
152.5°	480.0	479.2	479.0
155°	500.0	499.2	499.0
157.5°	515.0	513.4	513.0
160°	527.0	525.4	525.0
162.5°	536.0	535.2	535.0
165°	547.0	546.2	546.0
167.5°	556.0	555.2	555.0
170°	563.0	562.2	562.0
172.5°	566.0	565.2	565.0
175°	569.0	567.4	567.0
177.5°	573.0	572.2	572.0
180°	576.0	576.0	576.0

(END OF REPORT)