

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: P228515

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228515
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-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) 4000K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4014.2 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U5 - G1

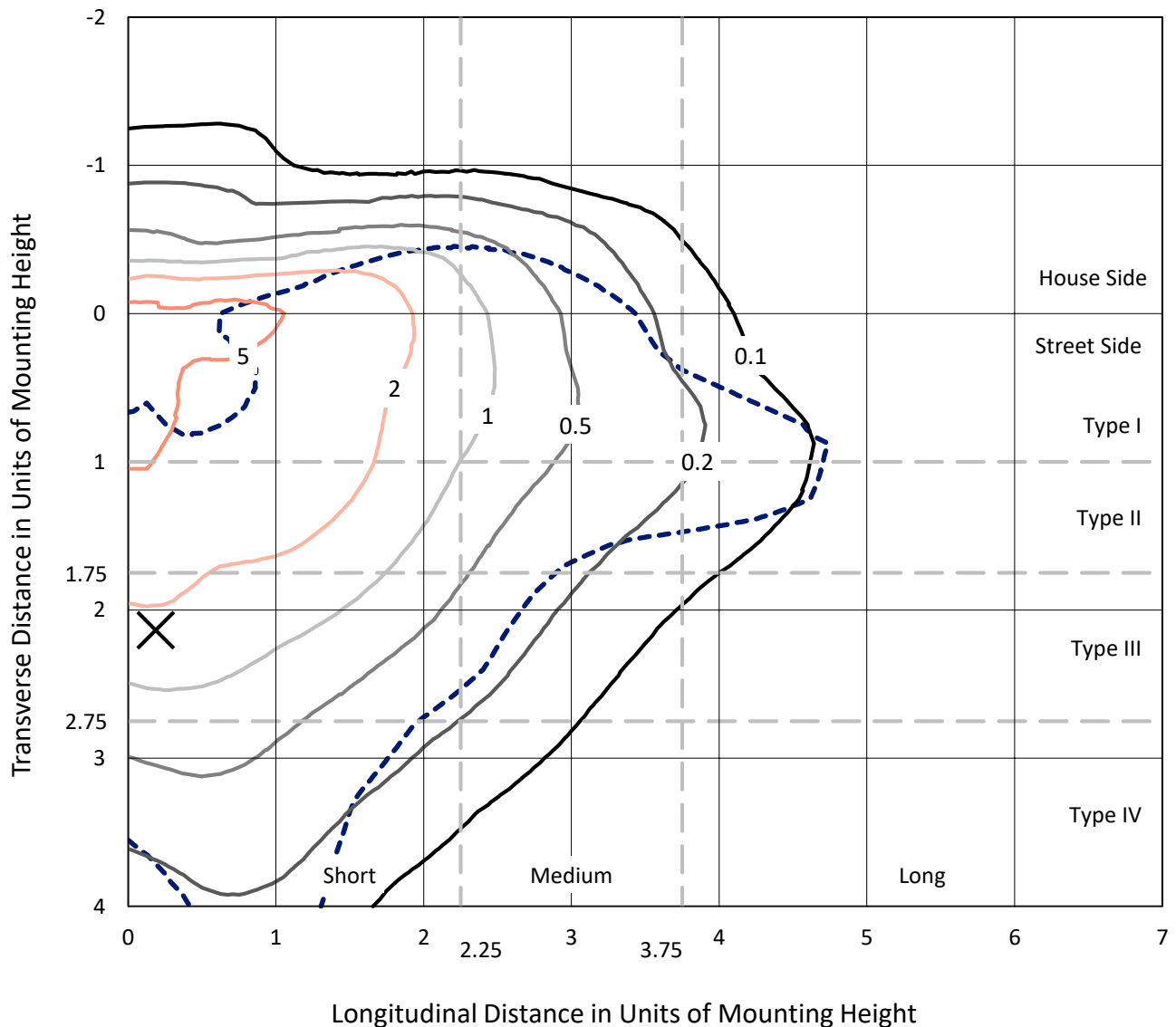
Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

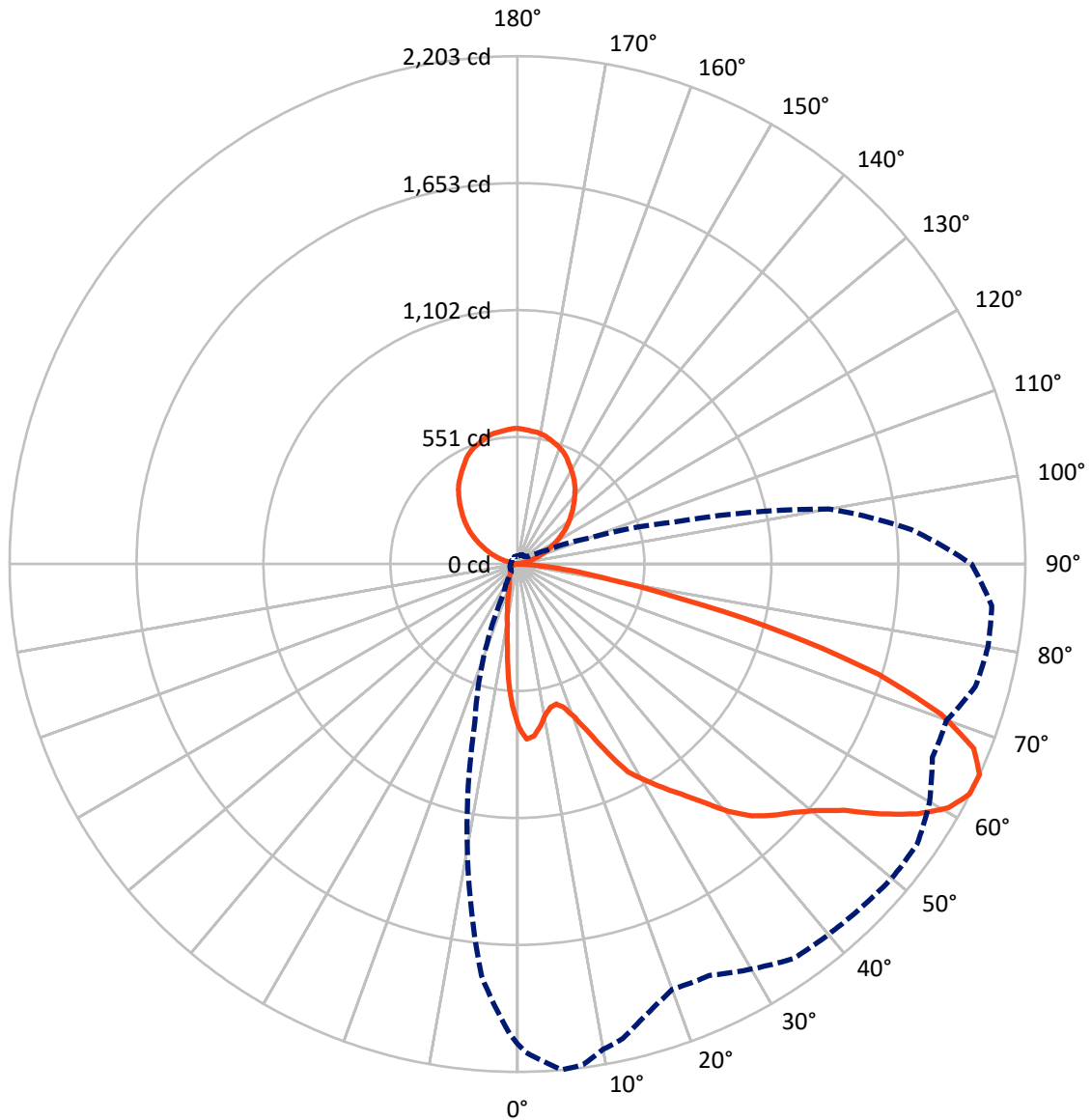
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.6 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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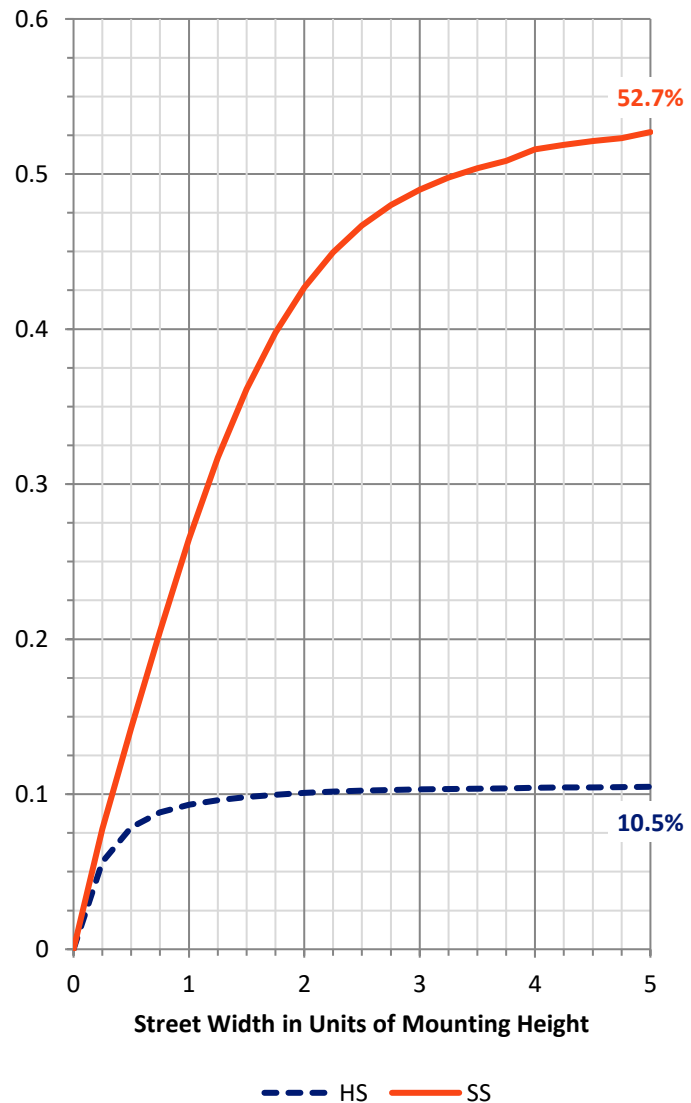
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	424.9	729.4	1154.3
	% Fixture	10.6	18.2	28.8
Street Side	Lumens	2130.4	729.4	2859.9
	% Fixture	53.1	18.2	71.2
Total	Lumens	2555.3	1458.9	4014.2
	% Fixture	63.7	36.3	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.3	1.4
10°-20°	111.9	2.8
20°-30°	162.7	4.1
30°-40°	240.6	6.0
40°-50°	350.5	8.7
50°-60°	525.4	13.1
60°-70°	654.7	16.3
70°-80°	383.5	9.6
80°-90°	71.7	1.8
90°-100°	4.8	0.1
100°-110°	70.6	1.8
110°-120°	156.6	3.9
120°-130°	229.0	5.7
130°-140°	271.7	6.8
140°-150°	275.5	6.9
150°-160°	236.4	5.9
160°-170°	158.7	4.0
170°-180°	55.6	1.4
0°-90°	2555.3	63.7
0°-180°	4014.2	100.0



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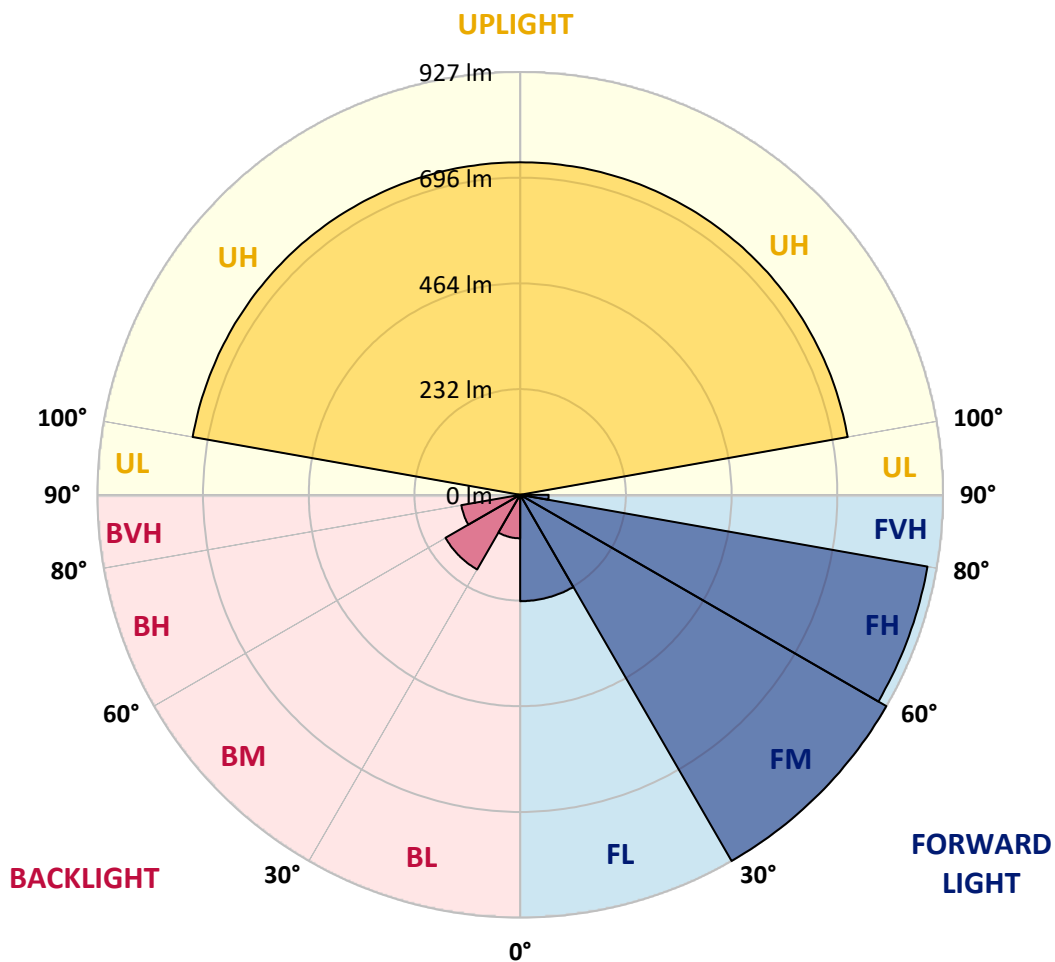
CATALOG NUMBER: ISC-AF-450-LED-E1-SLL-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	233.4	5.8			
FM (30°-60°)	927.4	23.1			
FH (60°-80°)	907.1	22.6			G1/1800
FVH (80°-90°)	62.5	1.6			G1/100
BL (0°-30°)	95.4	2.4	B0/110		
BM (30°-60°)	189.1	4.7	B0/220		
BH (60°-80°)	131.1	3.3	B1/500		G1/500
BVH (80°-90°)	9.2	0.2			G0/10
UL (90°-100°)	4.8	0.1		U1/10	
UH (100°-180°)	729.4	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°	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2
2.5°	750.6	748.6	760.8	762.8	770.9	770.9	780.0	788.1	791.2	798.2	816.4
5°	726.4	732.4	749.6	766.8	779.0	791.2	804.2	820.5	833.6	855.9	902.4
7.5°	672.8	681.9	711.3	728.4	747.7	768.8	785.0	804.2	824.5	861.9	944.9
10°	620.1	627.3	664.7	685.9	713.2	735.5	758.7	780.0	802.3	848.8	944.9
12.5°	586.8	595.9	638.3	658.6	690.0	713.2	741.5	766.8	793.2	842.7	935.8
15°	579.7	589.8	630.2	655.6	682.9	705.1	730.4	756.8	783.1	831.6	914.5
17.5°	598.9	611.0	654.6	682.9	704.1	729.5	747.7	772.9	790.1	828.6	868.0
20°	644.5	658.6	710.2	737.5	754.7	770.9	785.0	800.3	807.3	816.4	809.4
22.5°	717.3	734.5	793.2	824.5	836.7	848.8	849.8	851.8	846.8	822.5	767.8
25°	821.4	838.7	905.4	935.8	935.8	935.8	924.6	916.6	893.3	847.8	756.8
27.5°	918.6	940.8	1020.8	1040.0	1033.9	1024.8	1003.6	983.4	949.9	874.1	755.8
30°	991.4	1013.7	1087.6	1102.7	1087.6	1065.3	1032.0	1002.6	963.1	887.2	762.8
32.5°	1058.2	1084.5	1155.3	1157.4	1130.1	1104.8	1067.3	1033.9	992.5	911.6	784.1
35°	1129.0	1155.3	1227.1	1213.0	1173.5	1139.2	1100.7	1071.3	1029.9	942.9	818.5
37.5°	1227.1	1250.5	1311.1	1277.8	1227.1	1182.6	1141.2	1102.7	1061.2	985.4	876.2
40°	1322.3	1355.6	1411.3	1357.7	1296.0	1236.2	1190.7	1150.3	1104.8	1043.0	949.9
42.5°	1411.3	1442.7	1494.2	1425.5	1353.7	1293.9	1246.4	1202.9	1159.4	1108.8	1039.0
45°	1479.1	1511.4	1555.0	1482.2	1400.1	1338.4	1286.9	1248.4	1209.9	1175.6	1151.3
47.5°	1544.9	1577.2	1610.6	1531.7	1450.7	1388.0	1327.3	1291.9	1261.6	1243.4	1272.7
50°	1629.8	1652.1	1680.4	1595.4	1509.5	1437.6	1376.9	1349.6	1321.2	1327.3	1425.5
52.5°	1745.2	1764.4	1774.5	1691.6	1595.4	1513.5	1446.7	1409.2	1386.0	1421.4	1587.3
55°	1908.0	1935.3	1913.1	1831.1	1709.8	1616.7	1534.7	1490.2	1476.0	1523.6	1749.1
57.5°	2048.7	2060.7	2044.6	1963.7	1839.3	1735.0	1648.0	1601.5	1585.3	1648.0	1896.9
60°	2110.3	2125.5	2147.8	2078.0	1961.6	1858.5	1783.6	1738.1	1710.8	1783.6	2015.2
62.5°	2120.5	2145.7	2200.4	2165.0	2072.9	1996.1	1928.3	1865.6	1844.3	1899.9	2093.2
65°	2081.0	2119.5	2203.4	2190.2	2138.7	2109.3	2052.7	2004.2	1963.7	1969.7	2089.1
67.5°	1992.0	2036.5	2134.6	2128.6	2134.6	2134.6	2085.1	2044.6	1992.0	1917.1	1935.3
70°	1777.5	1836.2	1949.5	1978.8	2030.5	2030.5	1987.0	1925.2	1864.5	1710.8	1617.7
72.5°	1424.5	1463.9	1637.9	1780.5	1846.3	1820.0	1777.5	1674.4	1540.8	1371.9	1245.3
75°	964.1	987.4	1200.8	1461.9	1581.3	1559.0	1489.2	1360.7	1223.1	1034.9	875.1
77.5°	537.2	567.5	727.4	931.7	1092.6	1089.5	1080.4	998.5	889.3	733.5	650.5
80°	315.7	325.8	409.7	558.4	697.0	663.7	640.4	575.6	520.0	449.2	512.9
82.5°	193.2	183.1	232.7	339.9	411.7	397.6	358.1	333.9	307.5	288.4	340.9
85°	52.6	47.6	95.1	142.6	175.0	189.1	189.1	187.2	168.0	126.4	151.7
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	2.3	2.6	3.1	4.1
100°	8.2	8.2	8.2	8.7	9.2	9.7	10.2	11.3	12.3	14.3	22.5
102.5°	28.6	28.6	28.6	29.7	30.7	31.7	32.7	34.3	35.8	38.9	46.0
105°	55.2	55.2	55.2	55.8	56.3	56.8	57.3	58.5	59.8	62.4	67.5
107.5°	79.8	79.6	78.8	79.6	80.3	81.0	81.8	82.9	83.9	85.9	90.0
110°	103.3	103.5	104.3	104.5	104.9	105.2	105.4	106.2	106.9	108.4	112.5



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

CANDELA DISTRIBUTION (continued):

	0°	1°	5°	7.5°	10°	12.5°	15°	17.5°	20°	25°	35°
112.5°	126.8	126.8	126.8	127.4	127.9	128.4	128.9	129.7	130.4	132.0	135.0
115°	149.4	149.6	150.4	150.9	151.4	151.9	152.4	152.9	153.4	154.5	157.5
117.5°	172.9	173.1	173.9	174.4	174.9	175.4	175.9	176.5	177.0	178.0	181.1
120°	197.4	197.8	199.5	199.7	200.0	200.3	200.5	201.0	201.5	202.5	205.6
122.5°	224.0	224.2	225.0	225.3	225.6	225.9	226.1	226.6	227.1	228.1	231.2
125°	249.6	250.0	251.6	251.9	252.2	252.5	252.7	252.9	253.2	253.7	256.8
127.5°	273.1	273.5	275.2	275.4	275.7	276.0	276.2	276.7	277.2	278.2	280.3
130°	296.7	297.1	298.7	298.9	299.2	299.5	299.7	299.9	300.2	300.7	304.8
132.5°	320.2	320.4	321.2	322.0	322.7	323.5	324.3	324.5	324.8	325.3	328.4
135°	343.7	343.9	344.7	345.2	345.8	346.3	346.8	347.3	347.8	348.8	352.9
137.5°	367.2	367.4	368.3	369.1	369.8	370.5	371.3	371.5	371.8	372.4	375.4
140°	390.8	391.0	391.8	392.3	392.8	393.3	393.8	394.0	394.3	394.9	396.9
142.5°	413.3	413.7	415.3	415.8	416.3	416.9	417.4	417.2	416.9	416.3	419.4
145°	434.8	435.0	435.8	436.3	436.8	437.3	437.8	437.8	437.8	437.8	440.9
147.5°	454.2	454.2	454.2	455.0	455.7	456.4	457.3	457.5	457.8	458.3	462.4
150°	471.6	471.8	472.6	473.1	473.6	474.1	474.6	474.9	475.2	475.7	479.8
152.5°	490.0	490.2	491.0	491.8	492.6	493.3	494.1	493.9	493.6	493.1	496.1
155°	510.5	510.7	511.5	512.0	512.5	513.0	513.5	513.3	513.0	512.5	514.5
157.5°	524.8	525.2	526.8	527.3	527.8	528.4	528.9	528.7	528.4	527.8	530.9
160°	537.0	537.5	539.1	539.6	540.1	540.6	541.1	541.1	541.1	541.1	544.2
162.5°	547.3	547.5	548.3	549.1	549.8	550.6	551.4	551.2	550.9	550.3	553.4
165°	558.5	558.7	559.6	560.1	560.6	561.1	561.6	561.4	561.1	560.6	564.7
167.5°	567.7	567.9	568.8	569.6	570.3	571.0	571.8	571.6	571.3	570.8	573.9
170°	574.9	575.1	575.9	576.7	577.5	578.2	579.0	578.8	578.5	578.0	580.0
172.5°	578.0	578.2	579.0	579.8	580.5	581.2	582.1	581.5	581.0	580.0	582.1
175°	580.0	580.4	582.1	582.3	582.6	582.9	583.1	582.9	582.6	582.1	585.1
177.5°	585.1	585.3	586.2	586.7	587.2	587.7	588.2	588.0	587.7	587.2	591.3
180°	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2



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CANDELA DISTRIBUTION (continued):

	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
0°	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2
2.5°	823.5	824.5	821.4	828.6	820.5	816.4	804.2	804.2	794.1	786.0	776.9
5°	919.6	925.7	920.7	921.7	905.4	889.3	865.0	850.8	825.5	798.2	769.9
7.5°	984.4	994.5	990.4	973.2	948.0	913.5	873.1	834.6	793.2	748.6	707.2
10°	1001.6	1012.7	1003.6	971.2	929.8	881.2	832.6	781.0	730.4	682.9	638.3
12.5°	977.3	985.4	966.2	930.8	890.3	841.7	791.2	746.7	686.9	636.4	584.7
15°	915.5	910.5	908.5	883.2	854.9	815.4	767.8	722.3	666.7	615.1	560.5
17.5°	848.8	842.7	844.8	834.6	830.6	812.3	776.9	738.6	689.0	626.3	567.5
20°	790.1	784.1	787.1	792.2	807.3	808.3	802.3	776.9	740.5	674.7	602.9
22.5°	739.5	740.5	750.6	764.9	790.1	822.5	847.8	852.8	827.6	750.6	660.6
25°	724.4	719.3	730.4	753.7	796.2	858.9	915.5	943.9	929.8	852.8	742.6
27.5°	719.3	712.2	724.4	754.7	822.5	910.5	991.4	1033.9	1039.0	960.0	830.6
30°	719.3	716.3	728.4	767.8	839.7	927.7	1017.7	1081.5	1101.7	1035.9	907.5
32.5°	728.4	730.4	751.7	802.3	876.2	966.2	1059.3	1128.0	1164.4	1114.9	969.1
35°	748.6	752.7	783.1	841.7	921.7	1012.7	1097.6	1167.5	1226.1	1199.8	1026.8
37.5°	792.2	798.2	835.6	895.3	968.2	1050.2	1133.1	1207.9	1292.9	1281.8	1087.6
40°	869.0	869.0	906.4	958.1	1017.7	1080.4	1162.4	1250.5	1354.6	1369.8	1162.4
42.5°	966.2	962.1	986.4	1023.8	1065.3	1117.9	1191.7	1289.8	1412.3	1445.6	1219.1
45°	1099.7	1079.4	1092.6	1101.7	1122.0	1154.3	1220.1	1327.3	1458.8	1502.3	1261.6
47.5°	1256.5	1228.2	1217.0	1199.8	1192.8	1204.9	1261.6	1356.6	1503.3	1550.9	1330.3
50°	1429.5	1402.2	1372.8	1326.3	1285.8	1273.7	1308.0	1396.1	1550.9	1611.6	1406.3
52.5°	1609.6	1590.4	1551.9	1479.1	1402.2	1358.7	1374.8	1461.9	1626.8	1705.7	1496.3
55°	1774.5	1780.5	1734.0	1649.0	1538.7	1472.0	1491.3	1578.2	1764.4	1857.5	1647.1
57.5°	1951.5	1935.3	1898.9	1810.9	1690.5	1618.7	1626.8	1732.0	1918.1	1988.9	1796.7
60°	2068.9	2068.9	2029.4	1962.6	1848.4	1781.6	1793.7	1890.8	2041.6	2048.7	1863.5
62.5°	2144.7	2155.9	2124.6	2077.0	1965.7	1910.1	1951.5	2020.3	2102.3	2043.5	1830.2
65°	2108.3	2120.5	2117.4	2064.8	1986.0	1981.9	2056.7	2072.9	2065.8	1969.7	1714.8
67.5°	1943.4	1919.2	1918.1	1890.8	1874.7	1958.6	2053.7	2058.8	1939.4	1825.0	1532.7
70°	1629.8	1588.3	1572.2	1580.3	1654.1	1810.9	1946.5	1908.0	1717.8	1619.7	1305.1
72.5°	1256.5	1207.0	1196.9	1228.2	1342.5	1563.1	1748.2	1694.5	1412.3	1298.0	1010.7
75°	891.3	870.0	871.0	932.7	1056.2	1268.7	1484.1	1479.1	1046.1	895.3	696.0
77.5°	648.4	652.5	670.7	695.0	801.3	1006.6	1208.9	1195.8	744.6	615.1	486.6
80°	535.2	541.2	541.2	528.0	555.4	664.7	821.4	877.1	498.8	413.8	339.9
82.5°	384.4	414.8	432.0	410.7	400.6	438.0	515.0	551.4	310.6	261.1	237.7
85°	183.1	209.4	215.5	210.4	241.8	276.2	294.4	301.5	169.9	121.4	155.8
87.5°	0.0	0.0	1.0	8.1	22.3	38.5	38.5	58.7	9.1	3.1	7.1
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°	9.2	11.3	13.3	10.2	7.2	6.1	5.1	4.6	4.1	4.1	4.1
100°	30.7	31.7	32.7	31.7	30.7	29.2	27.6	27.1	26.6	25.6	26.6
102.5°	51.1	51.7	52.2	51.7	51.1	50.1	49.1	49.6	50.1	49.1	50.1
105°	71.6	72.1	72.6	72.6	72.6	71.6	70.6	71.6	72.6	70.6	72.6
107.5°	93.1	94.1	95.1	94.6	94.1	93.6	93.1	93.6	94.1	93.1	94.1
110°	114.6	115.6	116.6	116.6	116.6	116.1	115.6	116.1	116.6	115.6	116.6



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CANDELA DISTRIBUTION (continued):

	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
112.5°	137.1	138.1	139.1	139.1	139.1	138.6	138.1	139.1	140.1	138.1	140.1
115°	159.6	160.6	161.6	161.6	161.6	161.6	161.6	162.6	163.7	162.6	163.7
117.5°	183.1	183.6	184.1	184.6	185.2	184.6	184.1	185.2	186.2	184.1	186.2
120°	206.6	207.7	208.7	208.7	208.7	208.7	208.7	209.7	210.7	208.7	210.7
122.5°	232.2	232.7	233.2	233.2	233.2	233.7	234.3	236.3	238.3	237.3	238.3
125°	257.8	258.3	258.8	259.3	259.8	259.8	259.8	261.4	262.9	261.9	262.9
127.5°	282.3	283.4	284.4	283.9	283.4	283.9	284.4	285.9	287.4	284.4	287.4
130°	305.9	306.9	307.9	307.9	307.9	308.4	308.9	310.5	312.0	310.0	312.0
132.5°	329.4	330.9	332.5	332.5	332.5	333.0	333.5	335.0	336.6	334.5	336.6
135°	352.9	354.5	356.0	356.0	356.0	356.5	357.0	358.0	359.1	358.0	359.1
137.5°	375.4	376.4	377.5	377.5	377.5	378.0	378.5	380.5	382.6	380.5	382.6
140°	397.9	398.4	399.0	399.0	399.0	400.0	401.0	403.0	405.1	403.0	405.1
142.5°	419.4	420.4	421.5	421.5	421.5	422.0	422.5	424.0	425.5	424.5	425.5
145°	441.9	442.9	444.0	443.4	442.9	443.4	444.0	445.5	447.0	445.0	447.0
147.5°	463.4	463.9	464.4	463.4	462.4	462.9	463.4	464.9	466.5	463.4	466.5
150°	480.8	481.3	481.8	480.8	479.8	479.8	479.8	481.8	483.9	480.8	483.9
152.5°	497.2	497.7	498.2	497.7	497.2	497.2	497.2	498.7	500.2	497.2	500.2
155°	514.5	515.1	515.6	515.1	514.5	515.1	515.6	517.1	518.6	516.6	518.6
157.5°	530.9	530.9	530.9	529.9	528.9	529.4	529.9	532.4	535.0	531.9	535.0
160°	544.2	544.2	544.2	543.2	542.2	542.2	542.2	543.7	545.2	543.2	545.2
162.5°	553.4	553.9	554.4	553.4	552.4	551.4	550.3	551.4	552.4	549.3	552.4
165°	564.7	565.2	565.7	564.2	562.6	561.6	560.6	561.6	562.6	560.6	562.6
167.5°	572.9	572.9	572.9	571.8	570.8	571.3	571.8	573.9	575.9	573.9	575.9
170°	579.0	578.5	578.0	577.5	576.9	578.0	579.0	581.5	584.1	582.1	584.1
172.5°	581.0	581.5	582.1	581.0	580.0	580.5	581.0	582.6	584.1	581.0	584.1
175°	585.1	585.6	586.2	584.6	583.1	582.1	581.0	582.6	584.1	581.0	584.1
177.5°	590.2	590.2	590.2	588.7	587.2	587.2	587.2	588.7	590.2	587.2	590.2
180°	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2



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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	115°	120°	125°	130°	135°	145°	155°	165°
0°	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2
2.5°	764.9	751.7	741.5	729.5	719.3	709.2	702.2	686.9	674.7	647.4	640.4
5°	746.7	718.3	699.1	680.9	657.6	641.4	624.2	602.9	579.7	540.2	528.0
7.5°	674.7	639.3	613.1	586.8	556.4	529.1	503.8	475.5	435.1	392.5	376.3
10°	596.9	559.5	523.0	491.6	455.2	424.9	402.6	382.4	350.1	317.6	296.5
12.5°	533.2	490.7	449.2	417.8	398.6	383.4	367.2	351.1	316.6	280.2	254.9
15°	503.8	454.3	417.8	391.5	374.3	356.1	336.9	318.6	278.2	235.7	205.4
17.5°	507.9	451.2	404.7	369.3	346.0	320.7	298.4	275.2	230.7	180.0	152.7
20°	530.1	454.3	390.5	349.0	315.7	283.3	254.9	225.6	170.9	131.6	112.3
22.5°	558.4	464.3	382.4	328.8	287.3	246.8	210.4	176.0	126.4	103.2	94.1
25°	607.0	487.6	380.4	310.6	260.0	211.4	174.0	137.6	102.2	91.0	86.0
27.5°	667.7	513.9	382.4	297.5	236.7	183.1	141.7	114.4	92.1	86.0	81.9
30°	728.4	541.2	373.3	277.2	209.4	156.8	121.4	104.2	91.0	84.0	76.9
32.5°	782.0	561.5	358.1	255.9	185.2	133.5	103.2	89.0	79.9	71.8	69.8
35°	820.5	570.6	340.9	242.8	169.0	119.4	91.0	79.9	70.8	62.7	58.7
37.5°	856.9	571.6	322.7	230.7	162.9	113.3	84.0	73.9	65.8	58.7	54.6
40°	894.4	567.5	312.6	218.5	153.7	110.3	80.9	68.8	63.7	55.6	51.6
42.5°	921.7	560.5	308.5	211.4	145.7	102.2	78.9	67.8	60.7	54.6	49.6
45°	946.9	553.4	308.5	205.4	139.6	97.1	74.9	68.8	58.7	53.6	47.6
47.5°	977.3	556.4	309.5	200.3	134.5	92.1	70.8	66.8	59.6	52.6	46.5
50°	1028.9	590.9	314.7	197.3	130.5	88.0	67.8	63.7	65.8	51.6	45.5
52.5°	1117.9	645.5	322.7	195.3	126.4	85.0	63.7	61.7	66.8	51.6	44.5
55°	1234.3	701.1	330.8	190.2	120.4	78.9	61.7	57.7	61.7	51.6	43.5
57.5°	1347.5	742.6	337.9	183.1	110.3	72.8	58.7	54.6	56.7	50.5	41.4
60°	1413.3	775.0	344.9	170.9	98.1	65.8	55.6	51.6	50.5	50.5	40.5
62.5°	1431.5	762.8	340.9	155.8	88.0	60.7	52.6	48.6	45.5	51.6	40.5
65°	1373.8	699.1	325.8	142.6	80.9	58.7	49.6	46.5	43.5	44.5	38.5
67.5°	1196.9	587.8	284.3	130.5	79.9	57.7	47.6	44.5	40.5	39.5	36.4
70°	976.3	461.4	235.7	121.4	78.9	57.7	45.5	41.4	38.5	35.4	33.3
72.5°	750.6	344.9	198.2	117.3	79.9	56.7	42.5	37.4	34.4	32.3	30.4
75°	528.0	243.8	164.9	105.3	74.9	53.6	39.5	33.3	30.4	28.3	26.3
77.5°	382.4	165.9	122.4	85.0	63.7	46.5	34.4	28.3	25.3	24.2	22.3
80°	243.8	102.2	81.9	62.7	46.5	36.4	26.3	22.3	20.3	18.2	17.2
82.5°	140.7	59.6	49.6	42.5	30.4	24.2	19.2	17.2	13.2	12.2	11.2
85°	86.0	37.4	27.3	22.3	19.2	15.1	11.2	10.1	7.1	6.0	5.0
87.5°	19.2	8.1	7.1	5.0	6.0	5.0	3.1	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°	4.6	5.1	6.1	7.2	10.2	13.3	11.3	9.2	4.1	3.1	2.0
100°	27.1	27.6	29.2	30.7	31.7	32.7	31.7	30.7	22.5	14.3	10.2
102.5°	49.6	49.1	50.1	51.1	51.7	52.2	51.7	51.1	46.0	38.9	32.7
105°	71.6	70.6	71.6	72.6	72.6	72.6	72.1	71.6	67.5	62.4	57.3
107.5°	93.6	93.1	93.6	94.1	94.6	95.1	94.1	93.1	90.0	85.9	81.8
110°	116.1	115.6	116.1	116.6	116.6	116.6	115.6	114.6	112.5	108.4	105.4



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	100°	105°	110°	115°	120°	125°	130°	135°	145°	155°	165°	
112.5°	139.1	138.1	138.6	139.1	139.1	139.1	138.1	137.1	135.0	132.0	128.9	0°
115°	162.6	161.6	161.6	161.6	161.6	161.6	160.6	159.6	157.5	154.5	152.4	2.5°
117.5°	185.2	184.1	184.6	185.2	184.6	184.1	183.6	183.1	181.1	178.0	175.9	5°
120°	209.7	208.7	208.7	208.7	208.7	208.7	207.7	206.6	205.6	202.5	200.5	7.5°
122.5°	236.3	234.3	233.7	233.2	233.2	233.2	232.7	232.2	231.2	228.1	226.1	10°
125°	261.4	259.8	259.8	259.8	259.3	258.8	258.3	257.8	256.8	253.7	252.7	12.5°
127.5°	285.9	284.4	283.9	283.4	283.9	284.4	283.4	282.3	280.3	278.2	276.2	15°
130°	310.5	308.9	308.4	307.9	307.9	307.9	306.9	305.9	304.8	300.7	299.7	17.5°
132.5°	335.0	333.5	333.0	332.5	332.5	332.5	330.9	329.4	328.4	325.3	324.3	20°
135°	358.0	357.0	356.5	356.0	356.0	356.0	354.5	352.9	352.9	348.8	346.8	22.5°
137.5°	380.5	378.5	378.0	377.5	377.5	377.5	376.4	375.4	375.4	372.4	371.3	25°
140°	403.0	401.0	400.0	399.0	399.0	399.0	398.4	397.9	396.9	394.9	393.8	27.5°
142.5°	424.0	422.5	422.0	421.5	421.5	421.5	420.4	419.4	419.4	416.3	417.4	30°
145°	445.5	444.0	443.4	442.9	443.4	444.0	442.9	441.9	440.9	437.8	437.8	32.5°
147.5°	464.9	463.4	462.9	462.4	463.4	464.4	463.9	463.4	462.4	458.3	457.3	35°
150°	481.8	479.8	479.8	479.8	480.8	481.8	481.3	480.8	479.8	475.7	474.6	37.5°
152.5°	498.7	497.2	497.2	497.2	497.7	498.2	497.7	497.2	496.1	493.1	494.1	40°
155°	517.1	515.6	515.1	514.5	515.1	515.6	515.1	514.5	514.5	512.5	513.5	42.5°
157.5°	532.4	529.9	529.4	528.9	529.9	530.9	530.9	530.9	530.9	527.8	528.9	45°
160°	543.7	542.2	542.2	542.2	543.2	544.2	544.2	544.2	544.2	541.1	541.1	47.5°
162.5°	551.4	550.3	551.4	552.4	553.4	554.4	553.9	553.4	553.4	550.3	551.4	50°
165°	561.6	560.6	561.6	562.6	564.2	565.7	565.2	564.7	564.7	560.6	561.6	52.5°
167.5°	573.9	571.8	571.3	570.8	571.8	572.9	572.9	572.9	573.9	570.8	571.8	55°
170°	581.5	579.0	578.0	576.9	577.5	578.0	578.5	579.0	580.0	578.0	579.0	57.5°
172.5°	582.6	581.0	580.5	580.0	581.0	582.1	581.5	581.0	582.1	580.0	582.1	60°
175°	582.6	581.0	582.1	583.1	584.6	586.2	585.6	585.1	585.1	582.1	583.1	62.5°
177.5°	588.7	587.2	587.2	587.2	588.7	590.2	590.2	590.2	591.3	587.2	588.2	65°
180°	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	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°
707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	112.5°	126.8
629.2	614.1	615.1	612.0	604.0	590.9	586.8	579.7	580.7	584.7	580.7	115°	150.4
513.9	495.7	497.8	496.7	488.7	479.6	472.5	463.4	460.3	463.4	458.3	117.5°	173.9
364.2	352.1	356.1	365.2	364.2	359.2	353.1	343.0	340.9	342.0	332.9	120°	199.5
278.2	266.1	263.0	262.0	260.0	257.0	248.9	240.8	237.7	238.8	232.7	122.5°	225.0
232.7	222.6	210.4	199.3	189.1	185.2	175.0	169.9	169.0	169.0	165.9	125°	251.6
184.1	176.0	169.0	157.8	149.8	143.6	136.6	132.6	131.6	132.6	132.6	127.5°	275.2
137.6	133.5	130.5	129.5	125.4	121.4	117.3	115.3	114.4	114.4	115.3	130°	298.7
105.3	104.2	104.2	104.2	109.3	113.3	114.4	111.3	110.3	109.3	108.2	132.5°	321.2
91.0	90.0	91.0	97.1	94.1	91.0	91.0	91.0	91.0	91.0	92.1	135°	344.7
84.0	85.0	86.0	83.0	79.9	77.9	76.9	76.9	75.9	75.9	76.9	137.5°	368.3
79.9	78.9	77.9	75.9	73.9	70.8	69.8	68.8	68.8	68.8	68.8	140°	391.8
74.9	73.9	72.8	70.8	67.8	63.7	62.7	62.7	61.7	62.7	62.7	142.5°	415.3
68.8	67.8	66.8	64.8	61.7	59.6	58.7	56.7	56.7	56.7	57.7	145°	435.8
55.6	54.6	54.6	55.6	55.6	54.6	54.6	52.6	52.6	52.6	52.6	147.5°	454.2
51.6	50.5	50.5	49.6	50.5	51.6	50.5	49.6	49.6	48.6	48.6	150°	472.6
48.6	48.6	47.6	46.5	46.5	48.6	47.6	46.5	45.5	45.5	45.5	152.5°	491.0
46.5	45.5	45.5	44.5	44.5	44.5	43.5	42.5	41.4	41.4	41.4	155°	511.5
44.5	44.5	43.5	42.5	41.4	41.4	39.5	38.5	38.5	38.5	39.5	157.5°	526.8
43.5	42.5	42.5	41.4	40.5	38.5	37.4	36.4	36.4	36.4	36.4	160°	539.1
42.5	41.4	40.5	40.5	38.5	37.4	36.4	35.4	35.4	35.4	35.4	162.5°	548.3
41.4	40.5	39.5	38.5	37.4	36.4	35.4	34.4	34.4	34.4	34.4	165°	559.6
39.5	38.5	38.5	37.4	37.4	36.4	35.4	34.4	34.4	34.4	33.3	167.5°	568.8
38.5	37.4	36.4	36.4	36.4	35.4	34.4	33.3	33.3	33.3	33.3	170°	575.9
37.4	36.4	36.4	35.4	35.4	34.4	34.4	33.3	32.3	32.3	31.4	172.5°	579.0
36.4	35.4	35.4	34.4	35.4	34.4	33.3	32.3	31.4	31.4	30.4	175°	582.1
35.4	34.4	34.4	34.4	33.3	33.3	32.3	30.4	30.4	30.4	29.4	177.5°	586.2
33.3	32.3	32.3	33.3	32.3	31.4	31.4	29.4	29.4	28.3	28.3	180°	589.2
30.4	30.4	30.4	31.4	30.4	29.4	29.4	28.3	27.3	26.3	26.3		
28.3	27.3	28.3	28.3	28.3	27.3	28.3	26.3	25.3	24.2	24.2		
24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2	23.2	22.3	21.3		
19.2	20.3	20.3	20.3	20.3	21.3	20.3	20.3	20.3	19.2	18.2		
14.1	14.1	15.1	16.2	15.1	16.2	15.1	16.2	15.1	15.1	15.1		
8.1	8.1	9.1	10.1	10.1	11.2	9.1	10.1	10.1	11.2	10.1		
3.1	3.1	3.1	3.1	4.1	4.1	3.1	4.1	4.1	5.0	5.0		
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	0.0		
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	3.1	4.1	9.2	11.3	12.3	13.3	11.8		
8.2	8.2	8.2	10.2	14.3	22.5	30.7	31.7	32.2	32.7	32.2		
28.6	28.6	28.6	32.7	38.9	46.0	51.1	51.7	52.0	52.2	52.0		
55.2	55.2	55.2	57.3	62.4	67.5	71.6	72.1	72.4	72.6	72.6		
78.8	79.8	78.8	81.8	85.9	90.0	93.1	94.1	94.6	95.1	94.9		
104.3	103.3	104.3	105.4	108.4	112.5	114.6	115.6	116.1	116.6	116.6		

'228515
 ISC-AF-450-LED-E1-SLL-ULG

REPORT NUMBER: P228515
 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°
126.8	126.8	128.9	132.0	135.0	137.1	138.1	138.6	139.1	139.1	0°	707.2	707.2
149.4	150.4	152.4	154.5	157.5	159.6	160.6	161.1	161.6	161.6	2.5°	588.8	588.8
172.9	173.9	175.9	178.0	181.1	183.1	183.6	183.9	184.1	184.3	5°	462.4	461.4
197.4	199.5	200.5	202.5	205.6	206.6	207.7	208.2	208.7	208.7	7.5°	335.8	332.9
224.0	225.0	226.1	228.1	231.2	232.2	232.7	233.0	233.2	233.2	10°	234.7	226.6
249.6	251.6	252.7	253.7	256.8	257.8	258.3	258.6	258.8	259.0	12.5°	169.9	166.9
273.1	275.2	276.2	278.2	280.3	282.3	283.4	283.9	284.4	284.2	15°	134.5	134.5
296.7	298.7	299.7	300.7	304.8	305.9	306.9	307.4	307.9	307.9	17.5°	116.3	116.3
320.2	321.2	324.3	325.3	328.4	329.4	330.9	331.6	332.5	332.5	20°	107.2	106.2
343.7	344.7	346.8	348.8	352.9	352.9	354.5	355.2	356.0	356.0	22.5°	92.1	91.0
367.2	368.3	371.3	372.4	375.4	375.4	376.4	377.0	377.5	377.5	25°	75.9	75.9
390.8	391.8	393.8	394.9	396.9	397.9	398.4	398.7	399.0	399.0	27.5°	68.8	68.8
413.3	415.3	417.4	416.3	419.4	419.4	420.4	420.9	421.5	421.5	30°	62.7	63.7
434.8	435.8	437.8	437.8	440.9	441.9	442.9	443.4	444.0	443.8	32.5°	57.7	57.7
454.2	454.2	457.3	458.3	462.4	463.4	463.9	464.2	464.4	463.9	35°	51.6	51.6
471.6	472.6	474.6	475.7	479.8	480.8	481.3	481.6	481.8	481.3	37.5°	47.6	46.5
490.0	491.0	494.1	493.1	496.1	497.2	497.7	498.0	498.2	498.0	40°	43.5	43.5
510.5	511.5	513.5	512.5	514.5	514.5	515.1	515.4	515.6	515.4	42.5°	40.5	40.5
524.8	526.8	528.9	527.8	530.9	530.9	530.9	530.9	530.9	530.4	45°	38.5	38.5
537.0	539.1	541.1	541.1	544.2	544.2	544.2	544.2	544.2	543.7	47.5°	37.4	37.4
547.3	548.3	551.4	550.3	553.4	553.4	553.9	554.2	554.4	553.9	50°	35.4	35.4
558.5	559.6	561.6	560.6	564.7	564.7	565.2	565.5	565.7	564.9	52.5°	34.4	34.4
567.7	568.8	571.8	570.8	573.9	572.9	572.9	572.9	572.9	572.3	55°	33.3	34.4
574.9	575.9	579.0	578.0	580.0	579.0	578.5	578.2	578.0	577.8	57.5°	32.3	32.3
578.0	579.0	582.1	580.0	582.1	581.0	581.5	581.9	582.1	581.5	60°	31.4	31.4
580.0	582.1	583.1	582.1	585.1	585.1	585.6	585.9	586.2	585.3	62.5°	30.4	30.4
585.1	586.2	588.2	587.2	591.3	590.2	590.2	590.2	590.2	589.4	65°	29.4	29.4
589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	67.5°	27.3	27.3
										70°	25.3	25.3
										72.5°	23.2	23.2
										75°	21.3	20.3
										77.5°	18.2	17.2
										80°	15.1	14.1
										82.5°	11.2	10.1
										85°	5.0	5.0
										87.5°	0.0	0.0
										90°	0.0	0.0
										92.5°	0.0	0.0
										95°	1.0	1.0
										97.5°	10.2	8.7
										100°	31.7	31.2
										102.5°	51.7	51.4
										105°	72.6	72.6
										107.5°	94.6	94.3
										110°	116.6	116.6



REPORT NUMBER: P228515

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

0-LED-E1-SLL-ULG

tinued):

CANDELA DISTRIBUTION (continued):

245°	247.5°	250°	252.5°	255°	257.5°	260°	265°	270°		240°	242.5°	245°
707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	112.5°	139.1	139.1	139.1
576.6	578.7	580.7	584.7	582.8	581.8	580.7	586.8	589.8	115°	161.6	161.6	161.6
446.1	445.2	448.2	449.2	446.1	441.1	438.0	439.1	442.1	117.5°	184.6	184.9	185.2
318.6	316.6	315.7	316.6	313.6	308.5	304.5	305.6	308.5	120°	208.7	208.7	208.7
224.6	225.6	227.6	229.7	229.7	229.7	230.7	236.7	243.8	122.5°	233.2	233.2	233.2
169.0	170.9	175.0	178.1	181.1	182.1	183.1	191.2	197.3	125°	259.3	259.6	259.8
136.6	137.6	139.6	141.7	143.6	143.6	144.6	147.7	152.7	127.5°	283.9	283.6	283.4
116.3	116.3	116.3	115.3	114.4	112.3	111.3	110.3	111.3	130°	307.9	307.9	307.9
104.2	103.2	101.2	99.1	98.1	95.1	94.1	91.0	90.0	132.5°	332.5	332.5	332.5
91.0	91.0	91.0	90.0	89.0	88.0	86.0	83.0	80.9	135°	356.0	356.0	356.0
75.9	76.9	76.9	77.9	79.9	79.9	79.9	79.9	76.9	137.5°	377.5	377.5	377.5
68.8	68.8	69.8	69.8	70.8	70.8	70.8	71.8	72.8	140°	399.0	399.0	399.0
63.7	64.8	64.8	65.8	65.8	66.8	66.8	67.8	67.8	142.5°	421.5	421.5	421.5
58.7	59.6	59.6	59.6	61.7	61.7	60.7	61.7	61.7	145°	443.4	443.1	442.9
51.6	51.6	51.6	51.6	51.6	51.6	49.6	48.6	49.6	147.5°	463.4	462.9	462.4
46.5	45.5	44.5	44.5	44.5	45.5	44.5	45.5	45.5	150°	480.8	480.3	479.8
42.5	42.5	42.5	42.5	42.5	42.5	42.5	43.5	44.5	152.5°	497.7	497.4	497.2
40.5	40.5	40.5	40.5	40.5	40.5	40.5	41.4	41.4	155°	515.1	514.7	514.5
38.5	38.5	39.5	39.5	39.5	39.5	39.5	39.5	40.5	157.5°	529.9	529.4	528.9
37.4	37.4	37.4	37.4	37.4	37.4	37.4	38.5	39.5	160°	543.2	542.7	542.2
36.4	36.4	36.4	36.4	36.4	36.4	36.4	37.4	38.5	162.5°	553.4	552.9	552.4
34.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	36.4	165°	564.2	563.4	562.6
34.4	34.4	34.4	34.4	33.3	33.3	33.3	33.3	34.4	167.5°	571.8	571.3	570.8
33.3	33.3	33.3	32.3	32.3	31.4	31.4	31.4	33.3	170°	577.5	577.1	576.9
31.4	31.4	31.4	30.4	30.4	30.4	30.4	31.4	31.4	172.5°	581.0	580.5	580.0
29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	175°	584.6	583.9	583.1
28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3	177.5°	588.7	588.0	587.2
27.3	26.3	26.3	26.3	26.3	27.3	26.3	26.3	26.3	180°	589.2	589.2	589.2
25.3	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2				
23.2	23.2	22.3	22.3	22.3	22.3	22.3	22.3	22.3				
20.3	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2				
17.2	17.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2				
14.1	13.2	13.2	13.2	13.2	13.2	13.2	12.2	12.2				
10.1	10.1	10.1	9.1	9.1	9.1	9.1	8.1	7.1				
4.1	5.0	5.0	6.0	5.0	5.0	5.0	4.1	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				
7.2	6.6	6.1	5.6	5.1	4.9	4.6	4.1	4.1				
30.7	29.9	29.2	28.4	27.6	27.4	27.1	26.6	25.6				
51.1	50.6	50.1	49.6	49.1	49.3	49.6	50.1	49.1				
72.6	72.1	71.6	71.1	70.6	71.1	71.6	72.6	70.6				
94.1	93.9	93.6	93.3	93.1	93.3	93.6	94.1	93.1				
116.6	116.4	116.1	115.8	115.6	115.8	116.1	116.6	115.6				



REPORT NUMBER: P228515

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

SLL-ULG

CANDELA DISTRIBUTION (continued):

247.5°	250°	252.5°	255°	257.5°	260°	265°	270°		275°	280°	282.5°	285°
138.9	138.6	138.3	138.1	138.6	139.1	140.1	138.1	0°	707.2	707.2	707.2	707.2
161.6	161.6	161.6	161.6	162.1	162.6	163.7	162.6	2.5°	587.8	597.9	598.9	592.8
184.9	184.6	184.3	184.1	184.6	185.2	186.2	184.1	5°	438.0	451.2	450.2	442.1
208.7	208.7	208.7	208.7	209.2	209.7	210.7	208.7	7.5°	309.5	320.7	319.7	318.6
233.4	233.7	234.1	234.3	235.3	236.3	238.3	237.3	10°	250.9	261.1	264.0	271.1
259.8	259.8	259.8	259.8	260.6	261.4	262.9	261.9	12.5°	203.4	215.5	218.5	226.6
283.6	283.9	284.2	284.4	285.2	285.9	287.4	284.4	15°	156.8	166.9	169.9	176.0
308.1	308.4	308.7	308.9	309.7	310.5	312.0	310.0	17.5°	115.3	121.4	123.5	127.5
332.7	333.0	333.3	333.5	334.3	335.0	336.6	334.5	20°	90.0	92.1	93.1	94.1
356.2	356.5	356.8	357.0	357.5	358.0	359.1	358.0	22.5°	80.9	81.9	81.9	83.0
377.7	378.0	378.3	378.5	379.5	380.5	382.6	380.5	25°	74.9	75.9	75.9	76.9
399.5	400.0	400.5	401.0	402.0	403.0	405.1	403.0	27.5°	71.8	71.8	71.8	71.8
421.7	422.0	422.3	422.5	423.3	424.0	425.5	424.5	30°	68.8	68.8	68.8	69.8
443.1	443.4	443.8	444.0	444.8	445.5	447.0	445.0	32.5°	63.7	61.7	63.7	62.7
462.6	462.9	463.2	463.4	464.2	464.9	466.5	463.4	35°	49.6	49.6	50.5	51.6
479.8	479.8	479.8	479.8	480.8	481.8	483.9	480.8	37.5°	46.5	47.6	47.6	48.6
497.2	497.2	497.2	497.2	498.0	498.7	500.2	497.2	40°	44.5	45.5	46.5	47.6
514.7	515.1	515.4	515.6	516.4	517.1	518.6	516.6	42.5°	42.5	44.5	44.5	45.5
529.1	529.4	529.7	529.9	531.1	532.4	535.0	531.9	45°	41.4	42.5	43.5	44.5
542.2	542.2	542.2	542.2	543.0	543.7	545.2	543.2	47.5°	40.5	41.4	42.5	43.5
551.9	551.4	550.9	550.3	550.9	551.4	552.4	549.3	50°	38.5	40.5	41.4	42.5
562.1	561.6	561.1	560.6	561.1	561.6	562.6	560.6	52.5°	37.4	39.5	39.5	41.4
571.0	571.3	571.6	571.8	572.9	573.9	575.9	573.9	55°	35.4	37.4	37.4	39.5
577.5	578.0	578.5	579.0	580.2	581.5	584.1	582.1	57.5°	33.3	35.4	36.4	37.4
580.2	580.5	580.8	581.0	581.9	582.6	584.1	581.0	60°	32.3	33.3	34.4	35.4
582.6	582.1	581.5	581.0	581.9	582.6	584.1	581.0	62.5°	30.4	32.3	33.3	34.4
587.2	587.2	587.2	587.2	588.0	588.7	590.2	587.2	65°	29.4	31.4	31.4	33.3
589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	67.5°	27.3	29.4	29.4	30.4
								70°	25.3	26.3	27.3	28.3
								72.5°	23.2	24.2	24.2	25.3
								75°	19.2	20.3	21.3	22.3
								77.5°	16.2	16.2	18.2	18.2
								80°	12.2	12.2	13.2	14.1
								82.5°	7.1	7.1	8.1	8.1
								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°	4.1	4.6	4.9	5.1
								100°	26.6	27.1	27.4	27.6
								102.5°	50.1	49.6	49.3	49.1
								105°	72.6	71.6	71.1	70.6
								107.5°	94.1	93.6	93.3	93.1
								110°	116.6	116.1	115.8	115.6



REPORT NUMBER: P228515

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

CANDELA DISTRIBUTION (continued):

287.5°	290°	292.5°	295°	297.5°	300°	302.5°		275°	280°	282.5°	285°	287.5°
707.2	707.2	707.2	707.2	707.2	707.2	707.2	112.5°	140.1	139.1	138.6	138.1	138.3
605.0	607.0	604.0	604.0	606.0	614.1	614.1	115°	163.7	162.6	162.1	161.6	161.6
458.3	463.4	460.3	461.4	465.3	474.4	479.6	117.5°	186.2	185.2	184.6	184.1	184.3
328.8	332.9	334.9	337.9	350.1	351.1	357.1	120°	210.7	209.7	209.2	208.7	208.7
274.2	280.2	284.3	289.3	299.4	304.5	311.6	122.5°	238.3	236.3	235.3	234.3	234.1
230.7	237.7	241.8	252.0	258.0	264.0	273.1	125°	262.9	261.4	260.6	259.8	259.8
180.0	188.1	192.2	198.2	210.4	216.5	228.6	127.5°	287.4	285.9	285.2	284.4	284.2
130.5	133.5	141.7	151.7	158.9	169.0	175.0	130°	312.0	310.5	309.7	308.9	308.7
96.2	98.1	102.2	109.3	113.3	121.4	127.5	132.5°	336.6	335.0	334.3	333.5	333.3
83.0	84.0	86.0	88.0	90.0	93.1	96.2	135°	359.1	358.0	357.5	357.0	356.8
76.9	77.9	78.9	79.9	81.9	83.0	84.0	137.5°	382.6	380.5	379.5	378.5	378.3
72.8	72.8	73.9	75.9	75.9	77.9	78.9	140°	405.1	403.0	402.0	401.0	400.5
70.8	72.8	74.9	77.9	78.9	80.9	81.9	142.5°	425.5	424.0	423.3	422.5	422.3
60.7	60.7	61.7	63.7	63.7	64.8	65.8	145°	447.0	445.5	444.8	444.0	443.8
51.6	52.6	53.6	54.6	55.6	57.7	58.7	147.5°	466.5	464.9	464.2	463.4	463.2
49.6	49.6	50.5	52.6	53.6	54.6	55.6	150°	483.9	481.8	480.8	479.8	479.8
47.6	48.6	49.6	50.5	51.6	53.6	54.6	152.5°	500.2	498.7	498.0	497.2	497.2
46.5	47.6	48.6	49.6	51.6	52.6	53.6	155°	518.6	517.1	516.4	515.6	515.4
45.5	46.5	47.6	49.6	50.5	52.6	53.6	157.5°	535.0	532.4	531.1	529.9	529.7
44.5	45.5	46.5	48.6	50.5	52.6	54.6	160°	545.2	543.7	543.0	542.2	542.2
43.5	44.5	46.5	48.6	50.5	53.6	58.7	162.5°	552.4	551.4	550.9	550.3	550.9
42.5	44.5	46.5	48.6	51.6	55.6	60.7	165°	562.6	561.6	561.1	560.6	561.1
41.4	43.5	44.5	47.6	50.5	54.6	55.6	167.5°	575.9	573.9	572.9	571.8	571.6
39.5	41.4	42.5	45.5	49.6	50.5	49.6	170°	584.1	581.5	580.2	579.0	578.5
37.4	38.5	41.4	47.6	51.6	47.6	42.5	172.5°	584.1	582.6	581.9	581.0	580.8
36.4	37.4	39.5	43.5	44.5	39.5	38.5	175°	584.1	582.6	581.9	581.0	581.5
34.4	34.4	35.4	35.4	35.4	35.4	35.4	177.5°	590.2	588.7	588.0	587.2	587.2
31.4	31.4	32.3	32.3	32.3	32.3	32.3	180°	589.2	589.2	589.2	589.2	589.2
28.3	28.3	29.4	29.4	29.4	30.4	30.4						
25.3	26.3	26.3	27.3	27.3	27.3	28.3						
22.3	23.2	23.2	23.2	23.2	24.2	24.2						
19.2	19.2	20.3	20.3	20.3	20.3	20.3						
15.1	15.1	15.1	15.1	15.1	15.1	15.1						
9.1	9.1	10.1	9.1	9.1	8.1	8.1						
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						
5.6	6.1	6.6	7.2	8.7	10.2	11.8						
28.4	29.2	29.9	30.7	31.2	31.7	32.2						
49.6	50.1	50.6	51.1	51.4	51.7	52.0						
71.1	71.6	72.1	72.6	72.6	72.6	72.6						
93.3	93.6	93.9	94.1	94.3	94.6	94.9						
115.8	116.1	116.4	116.6	116.6	116.6	116.6						



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

CANDELA DISTRIBUTION (continued):

290°	292.5°	295°	297.5°	300°	302.5°		305°	307.5°	310°	312.5°	315°	317.5°
138.6	138.9	139.1	139.1	139.1	139.1	0°	707.2	707.2	707.2	707.2	707.2	707.2
161.6	161.6	161.6	161.6	161.6	161.6	2.5°	629.2	629.2	631.3	639.3	641.4	646.5
184.6	184.9	185.2	184.9	184.6	184.3	5°	497.8	501.8	507.9	518.0	524.1	535.2
208.7	208.7	208.7	208.7	208.7	208.7	7.5°	371.3	377.4	382.4	393.5	402.6	413.8
233.7	233.4	233.2	233.2	233.2	233.2	10°	321.7	326.7	333.9	340.9	350.1	355.1
259.8	259.8	259.8	259.6	259.3	259.0	12.5°	286.3	293.4	300.4	310.6	319.7	328.8
283.9	283.6	283.4	283.6	283.9	284.2	15°	242.8	250.9	259.0	270.2	283.3	292.4
308.4	308.1	307.9	307.9	307.9	307.9	17.5°	188.1	197.3	208.4	223.6	237.7	248.9
333.0	332.7	332.5	332.5	332.5	332.5	20°	138.6	146.7	156.8	169.9	180.0	199.3
356.5	356.2	356.0	356.0	356.0	356.0	22.5°	102.2	107.2	115.3	125.4	136.6	153.7
378.0	377.7	377.5	377.5	377.5	377.5	25°	86.0	88.0	91.0	97.1	104.2	116.3
400.0	399.5	399.0	399.0	399.0	399.0	27.5°	79.9	80.9	83.0	86.0	90.0	96.2
422.0	421.7	421.5	421.5	421.5	421.5	30°	84.0	84.0	84.0	85.0	87.1	90.0
443.4	443.1	442.9	443.1	443.4	443.8	32.5°	67.8	68.8	68.8	70.8	71.8	75.9
462.9	462.6	462.4	462.9	463.4	463.9	35°	60.7	61.7	62.7	63.7	65.8	66.8
479.8	479.8	479.8	480.3	480.8	481.3	37.5°	57.7	58.7	59.6	59.6	60.7	62.7
497.2	497.2	497.2	497.4	497.7	498.0	40°	56.7	56.7	56.7	56.7	58.7	60.7
515.1	514.7	514.5	514.7	515.1	515.4	42.5°	54.6	54.6	54.6	55.6	58.7	62.7
529.4	529.1	528.9	529.4	529.9	530.4	45°	54.6	54.6	55.6	59.6	60.7	60.7
542.2	542.2	542.2	542.7	543.2	543.7	47.5°	56.7	58.7	59.6	58.7	57.7	57.7
551.4	551.9	552.4	552.9	553.4	553.9	50°	61.7	60.7	56.7	55.6	55.6	53.6
561.6	562.1	562.6	563.4	564.2	564.9	52.5°	60.7	56.7	55.6	53.6	51.6	50.5
571.3	571.0	570.8	571.3	571.8	572.3	55°	54.6	53.6	50.5	48.6	47.6	48.6
578.0	577.5	576.9	577.1	577.5	577.8	57.5°	47.6	46.5	44.5	44.5	45.5	46.5
580.5	580.2	580.0	580.5	581.0	581.5	60°	41.4	41.4	41.4	42.5	43.5	44.5
582.1	582.6	583.1	583.9	584.6	585.3	62.5°	37.4	38.5	38.5	40.5	41.4	42.5
587.2	587.2	587.2	588.0	588.7	589.4	65°	35.4	36.4	37.4	37.4	38.5	39.5
589.2	589.2	589.2	589.2	589.2	589.2	67.5°	33.3	33.3	34.4	35.4	36.4	37.4
						70°	30.4	31.4	32.3	33.3	33.3	34.4
						72.5°	28.3	28.3	29.4	30.4	30.4	32.3
						75°	24.2	25.3	25.3	25.3	26.3	28.3
						77.5°	21.3	20.3	21.3	21.3	22.3	23.2
						80°	15.1	14.1	14.1	15.1	15.1	15.1
						82.5°	8.1	7.1	8.1	7.1	7.1	8.1
						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°	13.3	12.3	11.3	10.2	9.2	8.0
						100°	32.7	32.2	31.7	31.2	30.7	28.6
						102.5°	52.2	52.0	51.7	51.4	51.1	49.9
						105°	72.6	72.4	72.1	71.8	71.6	70.6
						107.5°	95.1	94.6	94.1	93.6	93.1	92.3
						110°	116.6	116.1	115.6	115.1	114.6	114.1

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CANDELA DISTRIBUTION (continued):

320°	322.5°	325°	335°	345°		305°	307.5°	310°	312.5°	315°	317.5°	320°
707.2	707.2	707.2	707.2	707.2	112.5°	139.1	138.6	138.1	137.6	137.1	136.6	136.1
645.5	654.6	658.6	682.9	708.2	115°	161.6	161.1	160.6	160.1	159.6	159.1	158.6
533.2	551.4	554.4	598.9	642.4	117.5°	184.1	183.9	183.6	183.3	183.1	182.6	182.1
416.9	438.0	444.2	502.8	563.5	120°	208.7	208.2	207.7	207.1	206.6	206.4	206.1
363.1	373.3	380.4	423.9	493.7	122.5°	233.2	233.0	232.7	232.4	232.2	232.0	231.7
336.9	347.0	356.1	391.5	446.1	125°	258.8	258.6	258.3	258.0	257.8	257.6	257.3
301.5	312.6	323.8	367.2	431.0	127.5°	284.4	283.9	283.4	282.8	282.3	281.8	281.3
258.0	273.1	287.3	339.9	423.9	130°	307.9	307.4	306.9	306.4	305.9	305.7	305.4
209.4	227.6	244.8	310.6	413.8	132.5°	332.5	331.6	330.9	330.2	329.4	329.2	328.9
164.9	181.1	200.3	283.3	413.8	135°	356.0	355.2	354.5	353.7	352.9	352.9	352.9
127.5	143.6	162.9	259.0	424.9	137.5°	377.5	377.0	376.4	375.9	375.4	375.4	375.4
104.2	117.3	136.6	239.8	441.1	140°	399.0	398.7	398.4	398.1	397.9	397.7	397.4
94.1	102.2	114.4	211.4	452.2	142.5°	421.5	420.9	420.4	419.9	419.4	419.4	419.4
79.9	86.0	97.1	194.3	459.3	145°	444.0	443.4	442.9	442.4	441.9	441.7	441.4
70.8	77.9	89.0	183.1	458.3	147.5°	464.4	464.2	463.9	463.6	463.4	463.2	462.9
65.8	72.8	86.0	179.0	458.3	150°	481.8	481.6	481.3	481.0	480.8	480.6	480.3
65.8	72.8	84.0	175.0	461.4	152.5°	498.2	498.0	497.7	497.4	497.2	496.9	496.6
64.8	68.8	77.9	173.0	466.4	155°	515.6	515.4	515.1	514.7	514.5	514.5	514.5
61.7	64.8	73.9	173.0	476.5	157.5°	530.9	530.9	530.9	530.9	530.9	530.9	530.9
57.7	61.7	70.8	176.0	495.7	160°	544.2	544.2	544.2	544.2	544.2	544.2	544.2
54.6	58.7	69.8	176.0	535.2	162.5°	554.4	554.2	553.9	553.6	553.4	553.4	553.4
51.6	57.7	68.8	174.0	591.9	165°	565.7	565.5	565.2	564.9	564.7	564.7	564.7
50.5	55.6	66.8	172.0	661.6	167.5°	572.9	572.9	572.9	572.9	572.9	573.1	573.4
49.6	53.6	61.7	166.9	717.3	170°	578.0	578.2	578.5	578.8	579.0	579.2	579.5
47.6	50.5	56.7	157.8	754.7	172.5°	582.1	581.9	581.5	581.2	581.0	581.2	581.5
44.5	47.6	51.6	147.7	762.8	175°	586.2	585.9	585.6	585.3	585.1	585.1	585.1
42.5	45.5	51.6	139.6	713.2	177.5°	590.2	590.2	590.2	590.2	590.2	590.4	590.8
39.5	44.5	52.6	132.6	605.0	180°	589.2	589.2	589.2	589.2	589.2	589.2	589.2
37.4	44.5	53.6	129.5	480.6								
35.4	43.5	54.6	124.4	362.2								
32.3	39.5	47.6	103.2	244.8								
26.3	30.4	35.4	65.8	129.5								
17.2	18.2	20.3	40.5	71.8								
8.1	10.1	10.1	19.2	32.3								
0.0	0.0	0.0	2.0	7.1								
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								
1.0	1.0	1.0	1.0	1.0								
6.6	5.3	4.1	3.1	2.0								
26.6	24.6	22.5	14.3	10.2								
48.6	47.3	46.0	38.9	32.7								
69.6	68.5	67.5	62.4	57.3								
91.6	90.8	90.0	85.9	81.8								
113.5	113.0	112.5	108.4	105.4								

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CANDELA DISTRIBUTION (continued):

322.5°	325°	335°	345°		355°	359°	360°
135.5	135.0	132.0	128.9	0°	707.2	707.2	707.2
158.0	157.5	154.5	152.4	2.5°	732.4	744.6	750.6
181.6	181.1	178.0	175.9	5°	692.9	718.3	726.4
205.8	205.6	202.5	200.5	7.5°	633.3	661.6	672.8
231.4	231.2	228.1	226.1	10°	573.7	609.1	620.1
257.0	256.8	253.7	252.7	12.5°	538.2	580.7	586.8
280.8	280.3	278.2	276.2	15°	524.1	567.5	579.7
305.0	304.8	300.7	299.7	17.5°	538.2	586.8	598.9
328.6	328.4	325.3	324.3	20°	565.5	625.2	644.5
352.9	352.9	348.8	346.8	22.5°	612.0	692.9	717.3
375.4	375.4	372.4	371.3	25°	687.9	800.3	821.4
397.1	396.9	394.9	393.8	27.5°	768.8	885.3	918.6
419.4	419.4	416.3	417.4	30°	839.7	964.1	991.4
441.1	440.9	437.8	437.8	32.5°	890.3	1026.8	1058.2
462.6	462.4	458.3	457.3	35°	949.9	1098.6	1129.0
480.0	479.8	475.7	474.6	37.5°	1018.8	1185.7	1227.1
496.3	496.1	493.1	494.1	40°	1094.7	1275.7	1322.3
514.5	514.5	512.5	513.5	42.5°	1163.4	1359.7	1411.3
530.9	530.9	527.8	528.9	45°	1217.0	1438.6	1479.1
544.2	544.2	541.1	541.1	47.5°	1278.8	1499.3	1544.9
553.4	553.4	550.3	551.4	50°	1363.7	1576.2	1629.8
564.7	564.7	560.6	561.6	52.5°	1488.2	1706.7	1745.2
573.7	573.9	570.8	571.8	55°	1638.9	1864.5	1908.0
579.8	580.0	578.0	579.0	57.5°	1777.5	2011.2	2048.7
581.9	582.1	580.0	582.1	60°	1866.6	2078.9	2110.3
585.1	585.1	582.1	583.1	62.5°	1867.6	2081.0	2120.5
591.1	591.3	587.2	588.2	65°	1793.7	2036.5	2081.0
589.2	589.2	589.2	589.2	67.5°	1606.5	1923.1	1992.0
				70°	1356.6	1700.7	1777.5
				72.5°	1058.2	1336.4	1424.5
				75°	717.3	887.2	964.1
				77.5°	456.2	511.9	537.2
				80°	269.1	302.5	315.7
				82.5°	166.9	180.0	193.2
				85°	67.8	48.6	52.6
				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°	8.2	8.2	8.2
				102.5°	28.6	28.6	28.6
				105°	55.2	55.2	55.2
				107.5°	78.8	79.6	79.8
				110°	104.3	103.5	103.3

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CANDELA DISTRIBUTION (continued):

	355°	359°	360°
112.5°	126.8	126.8	126.8
115°	150.4	149.6	149.4
117.5°	173.9	173.1	172.9
120°	199.5	197.8	197.4
122.5°	225.0	224.2	224.0
125°	251.6	250.0	249.6
127.5°	275.2	273.5	273.1
130°	298.7	297.1	296.7
132.5°	321.2	320.4	320.2
135°	344.7	343.9	343.7
137.5°	368.3	367.4	367.2
140°	391.8	391.0	390.8
142.5°	415.3	413.7	413.3
145°	435.8	435.0	434.8
147.5°	454.2	454.2	454.2
150°	472.6	471.8	471.6
152.5°	491.0	490.2	490.0
155°	511.5	510.7	510.5
157.5°	526.8	525.2	524.8
160°	539.1	537.5	537.0
162.5°	548.3	547.5	547.3
165°	559.6	558.7	558.5
167.5°	568.8	567.9	567.7
170°	575.9	575.1	574.9
172.5°	579.0	578.2	578.0
175°	582.1	580.4	580.0
177.5°	586.2	585.3	585.1
180°	589.2	589.2	589.2

(END OF REPORT)