

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: P271578

Luminaire Tested: **ISS-AF-450-LED-E1-T3-7027-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P271578
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29759)-DOWNLIGHT AND
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISS-AF-450-LED-E1-T3-7027-ULG
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III, WITH UPLIGHT GLOW
Light Source: (16) 2700K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4000.7 lumens
Efficiency: N/A
Efficacy: 95.2 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U5 - G1

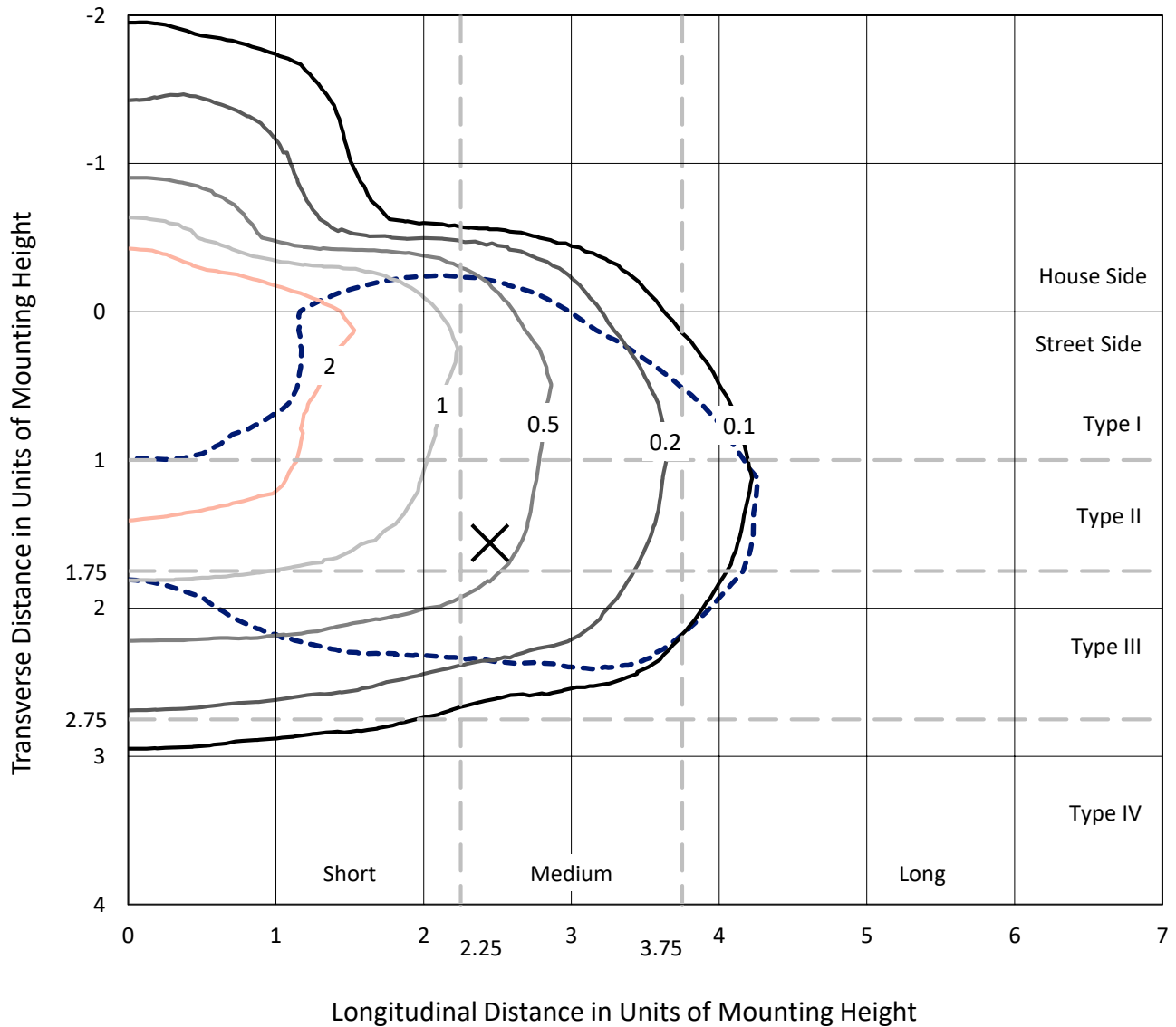
Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

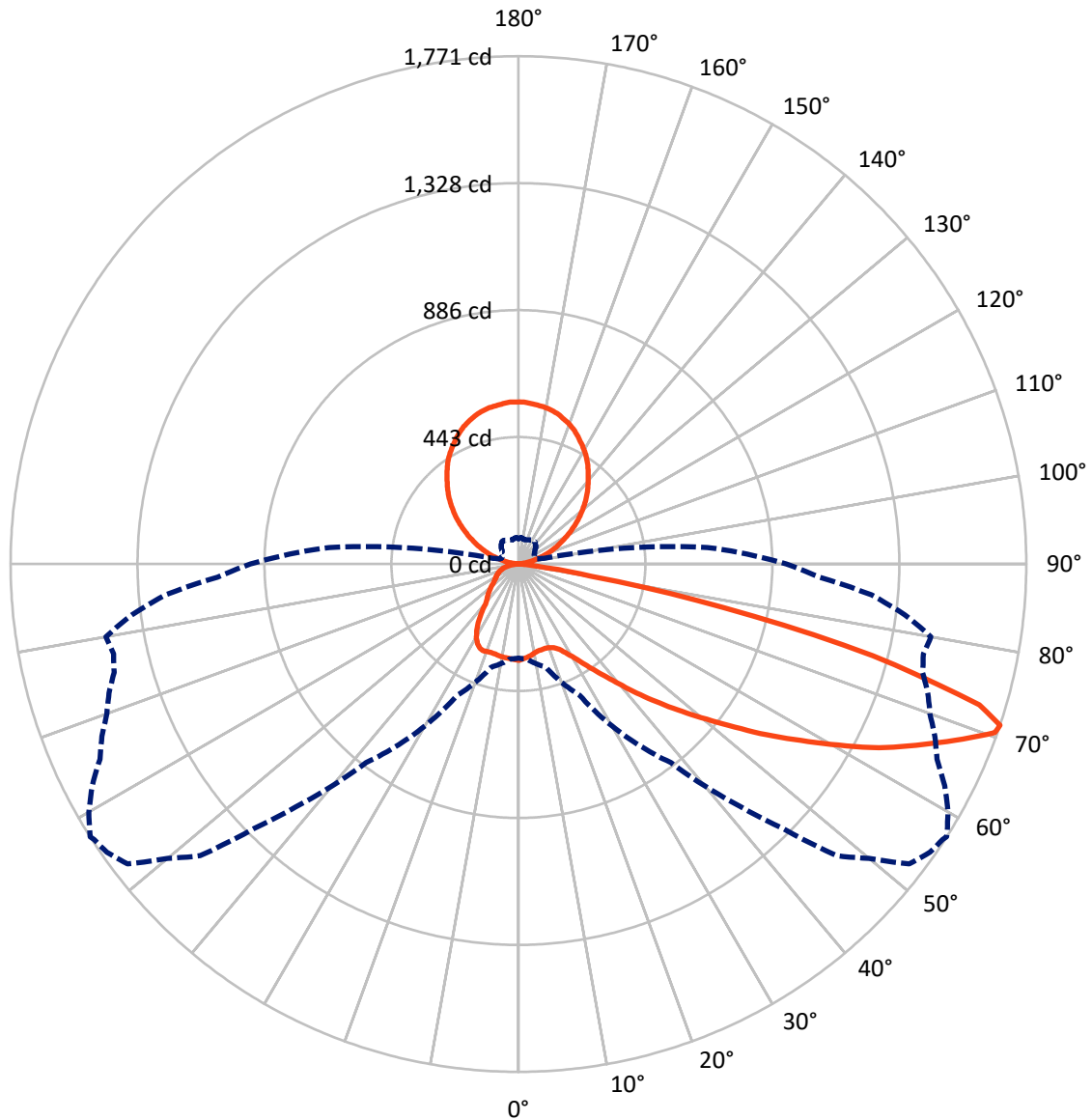
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.4 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57.5-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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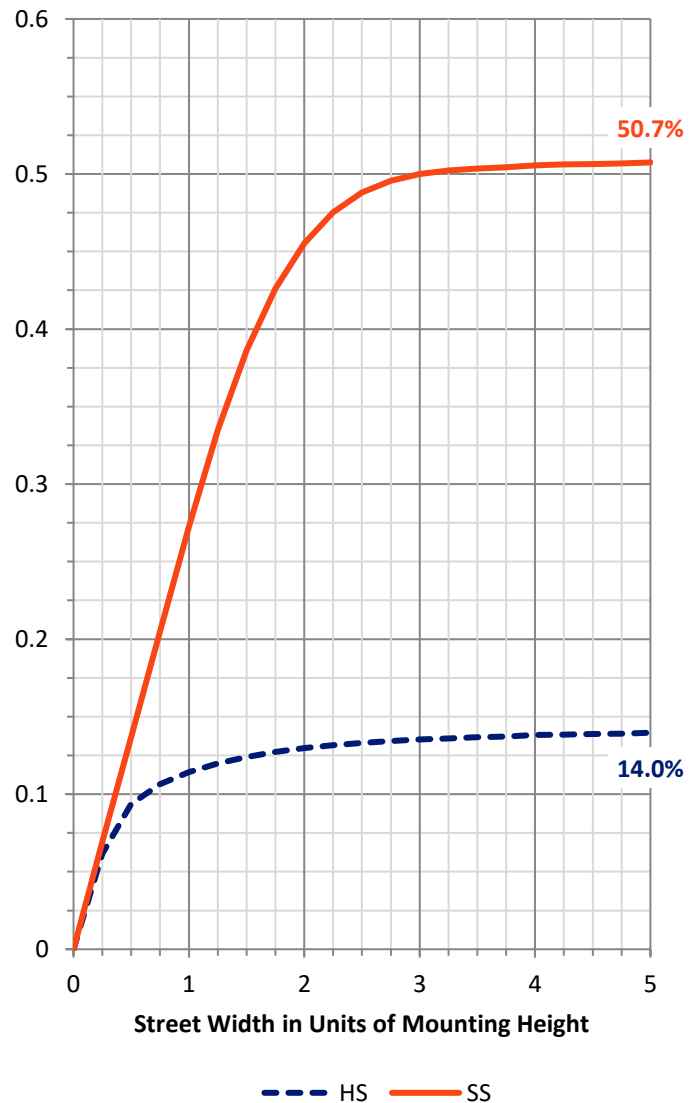
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	566.2	699.9	1266.1
	% Fixture	14.2	17.5	31.6
Street Side	Lumens	2034.7	699.9	2734.6
	% Fixture	50.9	17.5	68.4
Total	Lumens	2600.9	1399.8	4000.7
	% Fixture	65.0	35.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.6	0.8
10°-20°	91.1	2.3
20°-30°	151.3	3.8
30°-40°	240.8	6.0
40°-50°	391.2	9.8
50°-60°	586.5	14.7
60°-70°	699.7	17.5
70°-80°	377.9	9.4
80°-90°	30.8	0.8
90°-100°	4.7	0.1
100°-110°	67.7	1.7
110°-120°	150.2	3.8
120°-130°	219.7	5.5
130°-140°	260.7	6.5
140°-150°	264.3	6.6
150°-160°	226.8	5.7
160°-170°	152.2	3.8
170°-180°	53.3	1.3
0°-90°	2600.9	65.0
0°-180°	4000.7	100.0



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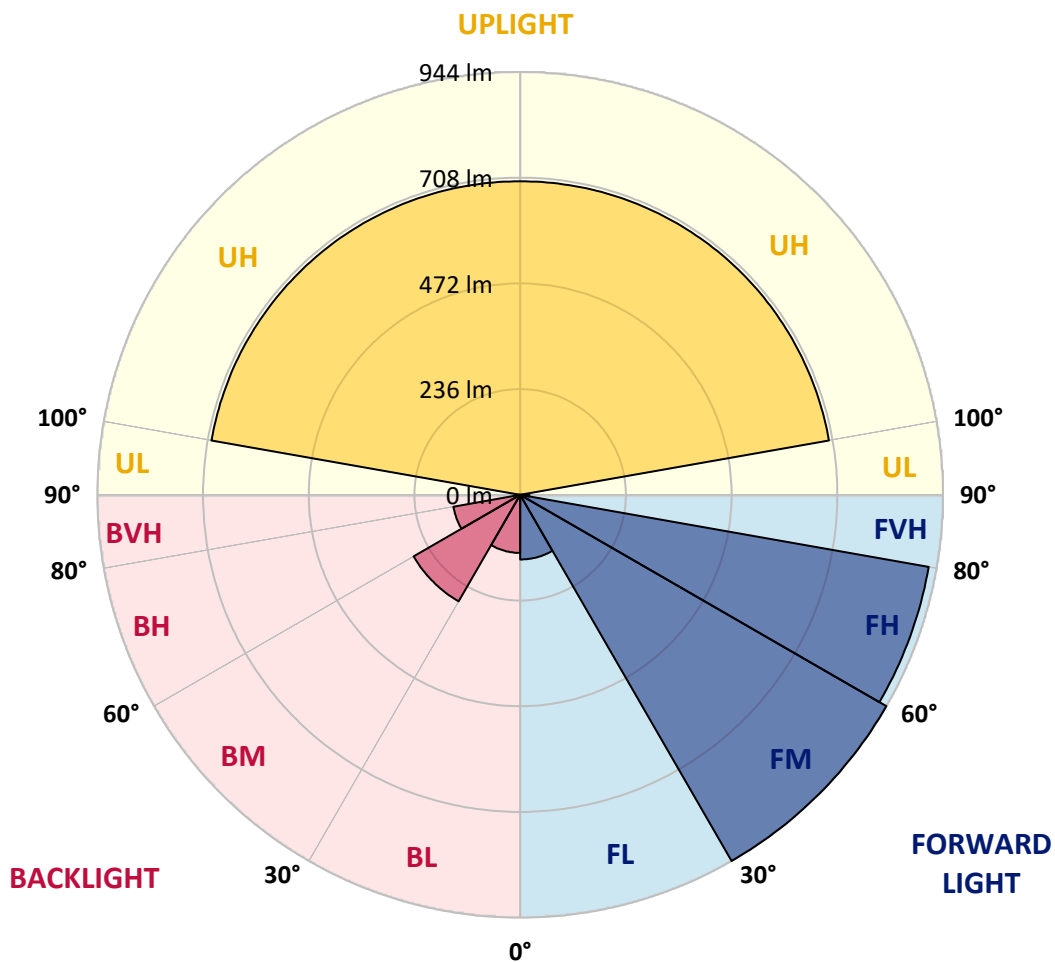
CATALOG NUMBER: ISS-AF-450-LED-E1-T3-7027-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	144.3	3.6			
FM	(30°-60°)	944.0	23.6			
FH	(60°-80°)	926.2	23.2			G1/1800
FVH	(80°-90°)	20.3	0.5			G1/100
BL	(0°-30°)	129.7	3.2	B1/500		
BM	(30°-60°)	274.6	6.9	B1/1000		
BH	(60°-80°)	151.5	3.8	B1/500		G1/500
BVH	(80°-90°)	10.5	0.3			G1/100
UL	(90°-100°)	4.7	0.1		U1/10	
UH	(100°-180°)	699.9	17.5		U4/1000	

BUG Rating: B1-U5-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0
2.5°	336.0	335.2	334.3	334.3	334.3	333.5	330.8	331.7	334.3	332.6	335.2
5°	335.2	333.5	332.6	332.6	332.6	329.9	329.0	328.3	333.5	329.0	332.6
7.5°	325.6	325.6	324.0	325.6	327.4	324.8	323.1	324.0	328.3	324.0	328.3
10°	318.8	317.1	316.2	316.2	318.0	314.6	312.8	314.6	319.7	314.6	320.5
12.5°	316.2	317.1	314.6	314.6	313.7	309.4	309.4	309.4	313.7	309.4	314.6
15°	320.5	319.7	317.1	315.3	312.8	309.4	308.5	309.4	312.8	307.6	313.7
17.5°	326.5	326.5	322.2	318.0	315.3	311.9	311.9	310.3	312.8	309.4	313.7
20°	342.1	339.4	333.5	326.5	319.7	318.0	314.6	314.6	316.2	312.8	315.3
22.5°	368.7	366.1	355.8	342.8	331.7	327.4	325.6	324.8	323.1	321.4	321.4
25°	403.9	399.6	387.6	372.1	353.2	349.7	346.3	343.7	337.8	337.8	333.5
27.5°	441.7	437.5	424.4	407.3	384.1	378.9	374.6	371.2	360.8	360.8	353.2
30°	484.6	479.5	464.1	445.1	418.5	416.7	410.7	405.7	391.9	391.0	380.7
32.5°	534.5	527.7	512.1	487.2	458.9	459.8	450.3	446.9	428.9	429.7	415.9
35°	591.3	583.4	568.0	535.4	506.1	508.7	500.2	494.1	471.8	471.8	457.1
37.5°	651.5	651.5	631.6	593.8	558.6	564.6	554.3	548.2	525.9	529.3	506.1
40°	718.5	722.7	701.1	658.3	622.2	624.7	617.0	610.1	583.4	589.5	564.6
42.5°	788.9	796.5	777.8	732.9	692.6	701.1	688.3	681.5	653.1	666.0	636.8
45°	891.1	892.8	857.6	814.7	781.2	788.9	770.8	768.2	732.9	746.9	717.6
47.5°	955.5	951.2	925.5	899.7	880.0	895.4	879.1	874.8	834.4	843.9	802.6
50°	999.5	1002.0	982.3	979.6	983.0	1012.3	1009.8	1001.1	953.0	946.2	894.5
52.5°	1038.9	1027.8	1024.3	1048.4	1085.3	1119.6	1133.4	1122.3	1069.9	1050.9	1001.1
55°	1032.1	1015.7	1033.8	1092.2	1165.2	1218.6	1220.3	1212.5	1165.2	1157.6	1103.4
57.5°	985.7	989.1	1026.0	1109.4	1233.1	1288.1	1297.6	1288.1	1249.5	1256.4	1211.6
60°	921.2	928.1	986.5	1094.0	1287.3	1334.5	1338.8	1350.1	1324.2	1342.2	1311.3
62.5°	824.9	834.4	909.2	1055.3	1249.5	1319.9	1359.5	1385.3	1380.1	1421.4	1404.9
65°	757.9	757.9	831.0	1010.5	1212.5	1305.3	1364.6	1412.8	1419.6	1484.9	1478.9
67.5°	633.3	637.7	700.4	886.0	1167.9	1272.7	1362.0	1443.7	1484.9	1588.0	1593.2
70°	438.2	441.7	483.0	632.5	943.6	1032.9	1164.5	1297.6	1421.4	1576.9	1657.6
71°	328.3	332.6	373.0	504.4	799.2	873.2	1009.8	1148.0	1303.6	1505.6	1596.6
72.5°	160.7	163.3	202.7	324.0	556.1	650.6	729.5	861.9	1026.9	1258.1	1386.9
75°	74.8	75.5	84.2	116.9	212.3	252.6	287.9	373.0	475.2	678.0	834.4
77.5°	55.0	55.0	60.2	76.4	110.0	111.7	110.0	112.6	135.7	194.2	292.2
80°	40.4	40.4	43.8	51.6	73.0	73.0	70.4	71.3	68.7	71.3	80.8
82.5°	26.6	26.6	28.4	30.9	44.6	44.6	43.0	43.0	41.2	40.4	43.8
85°	15.5	16.3	17.2	14.6	19.0	18.1	16.3	18.1	17.2	15.5	19.0
87.5°	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.9
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°	2.0	2.0	2.0	3.0	4.0	5.1	6.4	7.6	8.8	9.8	10.8
100°	7.8	7.8	9.8	13.7	21.6	23.5	25.5	27.5	29.5	29.9	30.5
102.5°	27.5	27.5	31.4	37.3	44.2	45.4	46.6	47.9	49.0	49.2	49.6
105°	53.0	53.0	55.0	59.8	64.8	65.8	66.7	67.7	68.7	68.9	69.2
107.5°	76.5	75.5	78.5	82.5	86.3	87.1	87.9	88.6	89.3	89.8	90.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
110°	99.2	100.1	101.1	104.0	108.0	108.4	109.0	109.4	110.0	110.4	110.9
112.5°	121.7	121.7	123.7	126.6	129.5	130.1	130.5	131.1	131.5	132.1	132.5
115°	143.3	144.3	146.2	148.2	151.2	151.6	152.2	152.6	153.1	153.6	154.1
117.5°	165.8	166.8	168.8	170.8	173.7	174.2	174.7	175.2	175.7	175.9	176.2
120°	189.5	191.4	192.3	194.3	197.3	197.4	197.8	198.1	198.3	198.7	199.2
122.5°	215.0	216.0	216.9	218.8	221.8	222.0	222.3	222.6	222.8	223.0	223.3
125°	239.5	241.5	242.5	243.4	246.3	246.6	246.9	247.1	247.3	247.6	247.8
127.5°	262.0	264.0	265.0	267.0	269.0	269.4	269.9	270.4	270.9	271.4	271.8
130°	284.7	286.6	287.5	288.5	292.5	292.7	292.9	293.3	293.5	293.9	294.5
132.5°	307.2	308.2	311.2	312.1	315.0	315.2	315.6	315.8	316.0	316.8	317.6
135°	329.8	330.8	332.7	334.7	338.6	338.6	338.6	338.6	338.6	339.4	340.1
137.5°	352.3	353.3	356.3	357.3	360.2	360.2	360.2	360.2	360.2	360.7	361.2
140°	375.0	375.9	377.8	378.8	380.8	381.0	381.3	381.6	381.8	382.0	382.3
142.5°	396.5	398.5	400.5	399.5	402.4	402.4	402.4	402.4	402.4	402.9	403.4
145°	417.2	418.1	420.0	420.0	423.0	423.2	423.6	423.8	424.0	424.4	425.0
147.5°	435.8	435.8	438.7	439.7	443.7	443.9	444.1	444.4	444.6	444.8	445.1
150°	452.5	453.5	455.4	456.4	460.3	460.5	460.8	461.1	461.3	461.5	461.8
152.5°	470.2	471.1	474.0	473.0	476.0	476.2	476.6	476.8	477.0	477.2	477.4
155°	489.8	490.7	492.7	491.7	493.7	493.7	493.7	493.7	493.7	493.9	494.2
157.5°	503.5	505.5	507.5	506.5	509.4	509.4	509.4	509.4	509.4	509.4	509.4
160°	515.3	517.2	519.2	519.2	522.2	522.2	522.2	522.2	522.2	522.2	522.2
162.5°	525.1	526.0	529.0	528.0	531.0	531.0	531.0	531.0	531.0	531.2	531.4
165°	535.9	536.8	538.8	537.8	541.8	541.8	541.8	541.8	541.8	541.9	542.3
167.5°	544.7	545.7	548.7	547.7	550.6	550.4	550.1	549.9	549.7	549.7	549.7
170°	551.6	552.5	555.5	554.5	556.5	556.3	556.1	555.7	555.5	555.3	555.1
172.5°	554.5	555.5	558.5	556.5	558.5	558.3	557.9	557.7	557.5	557.7	557.9
175°	556.5	558.5	559.5	558.5	561.4	561.4	561.4	561.4	561.4	561.6	561.9
177.5°	561.4	562.4	564.3	563.3	567.3	567.1	566.8	566.5	566.3	566.3	566.3
180°	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3



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CANDELA DISTRIBUTION (continued):

	52.5°	55°	57°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0
2.5°	331.7	334.3	334.3	330.8	333.5	330.8	332.6	329.9	332.6	328.3	333.5
5°	329.0	331.7	331.7	326.5	331.7	326.5	330.8	324.8	330.8	324.0	330.8
7.5°	322.2	328.3	328.3	321.4	327.4	322.2	327.4	321.4	326.5	318.8	327.4
10°	314.6	320.5	321.4	314.6	321.4	315.3	323.1	315.3	323.1	314.6	324.0
12.5°	309.4	316.2	318.0	310.3	318.8	311.0	320.5	311.9	320.5	311.0	322.2
15°	308.5	314.6	316.2	309.4	317.1	308.5	319.7	309.4	320.5	310.3	323.1
17.5°	309.4	314.6	316.2	308.5	316.2	309.4	318.8	310.3	320.5	311.0	323.1
20°	311.9	315.3	315.3	311.0	317.1	311.0	318.8	310.3	321.4	312.8	324.0
22.5°	319.7	320.5	320.5	317.1	320.5	316.2	322.2	316.2	324.0	317.1	327.4
25°	332.6	331.7	329.9	329.0	329.9	327.4	330.8	326.5	334.3	328.3	338.6
27.5°	354.9	351.5	349.7	349.7	348.9	349.7	349.7	348.0	351.5	349.7	356.6
30°	382.4	376.4	373.9	376.4	373.0	376.4	375.5	374.6	378.1	376.4	382.4
32.5°	418.5	408.2	406.4	411.6	404.8	410.7	405.7	408.2	410.7	412.5	415.9
35°	460.7	448.5	446.9	451.9	444.3	452.8	446.9	450.3	451.9	456.2	458.9
37.5°	510.5	495.9	493.3	500.2	489.8	499.3	490.7	501.0	498.4	504.4	507.0
40°	570.6	553.4	547.3	556.9	544.8	552.5	543.9	555.2	552.5	564.6	567.2
42.5°	644.5	619.7	613.5	623.1	605.0	607.5	600.7	613.5	611.8	628.2	630.8
45°	721.0	690.9	682.4	691.8	671.1	676.3	666.0	679.7	678.8	691.8	702.0
47.5°	806.0	769.1	757.9	768.2	743.3	749.4	739.0	753.7	754.5	769.1	779.4
50°	894.5	855.8	841.4	850.8	827.6	831.8	821.5	839.6	838.7	858.5	866.2
52.5°	990.8	951.2	940.2	944.4	916.9	922.1	913.5	935.9	930.6	942.7	958.1
55°	1097.4	1051.8	1038.9	1051.8	1019.1	1026.0	1014.8	1035.5	1026.9	1042.3	1046.6
57.5°	1206.5	1161.8	1151.4	1161.0	1130.0	1135.2	1120.5	1137.7	1130.9	1141.2	1148.0
60°	1322.6	1282.2	1271.8	1282.2	1252.1	1253.0	1228.1	1245.9	1235.7	1248.6	1245.9
62.5°	1433.3	1399.0	1396.4	1411.1	1373.1	1368.9	1338.8	1351.7	1337.1	1345.8	1335.4
65°	1527.8	1508.2	1511.6	1523.5	1490.1	1479.8	1445.5	1452.3	1430.8	1430.8	1418.0
67.5°	1651.6	1630.2	1630.2	1640.5	1598.4	1571.8	1524.4	1518.5	1483.2	1476.4	1446.3
70°	1754.7	1760.8	1753.9	1762.6	1712.7	1658.5	1595.7	1565.7	1519.3	1496.9	1461.7
71°	1717.8	1752.1	1764.2	1771.1	1729.9	1675.7	1610.4	1571.8	1527.1	1496.9	1459.2
72.5°	1550.3	1633.6	1680.9	1680.9	1686.0	1651.6	1588.9	1546.8	1496.0	1456.6	1421.4
75°	1086.2	1222.0	1283.0	1276.1	1320.8	1336.3	1341.3	1323.3	1295.1	1238.3	1213.4
77.5°	483.7	637.7	729.5	730.4	778.5	820.6	854.2	889.4	876.6	849.0	847.3
80°	110.0	199.3	255.2	257.8	301.7	340.3	363.5	398.8	403.0	363.5	341.2
82.5°	47.3	55.9	63.6	62.7	77.3	92.9	110.0	119.5	115.2	95.4	90.2
85°	19.8	25.8	27.5	25.8	31.8	35.2	41.2	42.1	49.0	43.8	46.4
87.5°	0.0	0.9	0.9	0.0	1.8	0.0	1.8	0.9	4.3	1.8	5.2
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°	11.8	12.8	11.6	11.3	9.8	8.4	6.8	6.4	5.9	5.4	4.9
100°	30.9	31.4	31.0	30.9	30.5	29.9	29.5	28.7	27.9	27.3	26.5
102.5°	49.9	50.0	49.9	49.9	49.6	49.2	49.0	48.6	48.1	47.6	47.1
105°	69.5	69.7	69.7	69.7	69.7	69.7	69.7	69.2	68.7	68.2	67.7
107.5°	90.8	91.3	91.1	91.1	90.8	90.5	90.3	90.1	89.8	89.5	89.3



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CANDELA DISTRIBUTION (continued):

	52.5°	55°	57°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
110°	111.4	111.9	111.9	111.9	111.9	111.9	111.9	111.7	111.4	111.1	110.9
112.5°	132.9	133.5	133.5	133.5	133.5	133.5	133.5	133.3	132.9	132.7	132.5
115°	154.6	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0
117.5°	176.4	176.7	176.9	176.9	177.1	177.4	177.7	177.4	177.1	176.9	176.7
120°	199.7	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2
122.5°	223.6	223.8	223.8	223.8	223.8	223.8	223.8	223.9	224.3	224.6	224.8
125°	248.1	248.3	248.5	248.5	248.8	249.1	249.3	249.3	249.3	249.3	249.3
127.5°	272.4	272.8	272.6	272.6	272.4	272.1	271.8	272.1	272.4	272.6	272.8
130°	294.9	295.5	295.5	295.5	295.5	295.5	295.5	295.6	295.9	296.2	296.4
132.5°	318.2	319.0	319.0	319.0	319.0	319.0	319.0	319.2	319.4	319.8	320.0
135°	340.7	341.5	341.5	341.5	341.5	341.5	341.5	341.7	342.1	342.3	342.5
137.5°	361.7	362.2	362.2	362.2	362.2	362.2	362.2	362.4	362.6	362.9	363.2
140°	382.6	382.8	382.8	382.8	382.8	382.8	382.8	383.3	383.8	384.3	384.7
142.5°	403.9	404.3	404.3	404.3	404.3	404.3	404.3	404.6	404.9	405.1	405.3
145°	425.4	426.0	425.8	425.8	425.4	425.2	425.0	425.2	425.4	425.8	426.0
147.5°	445.4	445.6	445.2	445.1	444.6	444.1	443.7	443.9	444.1	444.4	444.6
150°	462.1	462.3	461.9	461.8	461.3	460.8	460.3	460.3	460.3	460.3	460.3
152.5°	477.8	478.0	477.8	477.8	477.4	477.2	477.0	477.0	477.0	477.0	477.0
155°	494.4	494.7	494.4	494.4	494.2	493.9	493.7	493.9	494.2	494.4	494.7
157.5°	509.4	509.4	509.0	508.9	508.4	507.9	507.5	507.6	507.9	508.2	508.4
160°	522.2	522.2	521.7	521.6	521.2	520.7	520.2	520.2	520.2	520.2	520.2
162.5°	531.8	532.0	531.5	531.4	531.0	530.4	530.0	529.6	529.0	528.6	528.0
165°	542.6	542.8	542.1	541.9	541.3	540.6	539.8	539.3	538.8	538.4	537.8
167.5°	549.7	549.7	549.2	549.1	548.7	548.1	547.7	547.9	548.1	548.4	548.7
170°	554.7	554.5	554.3	554.3	554.1	553.7	553.5	554.1	554.5	555.1	555.5
172.5°	558.3	558.5	558.0	557.9	557.5	556.9	556.5	556.7	556.9	557.3	557.5
175°	562.2	562.4	561.8	561.6	560.9	560.3	559.5	558.9	558.5	557.9	557.5
177.5°	566.3	566.3	565.8	565.6	564.9	564.1	563.3	563.3	563.3	563.3	563.3
180°	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3



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CANDELA DISTRIBUTION (continued):

	77.5°	80°	82.5°	85°	87.5°	90°	95°	100°	102.5°	105°	107.5°
0°	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0
2.5°	329.9	334.3	329.9	334.3	331.7	334.3	333.5	334.3	329.9	334.3	329.0
5°	324.0	330.8	324.8	329.9	324.8	330.8	330.8	330.8	324.8	331.7	325.6
7.5°	318.8	326.5	318.8	326.5	321.4	327.4	327.4	329.9	323.1	330.8	322.2
10°	313.7	323.1	313.7	324.8	316.2	325.6	326.5	328.3	318.8	329.0	320.5
12.5°	311.0	323.1	311.9	323.1	312.8	325.6	326.5	328.3	318.0	330.8	319.7
15°	311.0	324.0	311.9	324.0	312.8	325.6	327.4	329.0	318.0	331.7	319.7
17.5°	311.0	324.0	313.7	324.8	314.6	326.5	328.3	329.9	319.7	331.7	321.4
20°	313.7	325.6	315.3	327.4	317.1	329.0	329.9	332.6	321.4	332.6	323.1
22.5°	319.7	329.9	321.4	332.6	324.8	334.3	335.2	337.8	329.0	338.6	330.8
25°	329.9	341.2	334.3	342.8	338.6	346.3	348.0	348.0	344.6	350.6	348.0
27.5°	351.5	360.1	354.9	362.6	360.1	366.1	366.1	367.0	369.6	371.2	373.9
30°	378.9	384.9	383.3	387.6	388.3	391.9	391.9	397.1	407.3	397.1	396.2
32.5°	415.9	419.4	420.1	421.9	425.3	428.0	431.4	437.5	446.0	421.9	414.2
35°	461.5	462.3	465.0	467.5	473.5	475.2	486.4	482.1	482.1	444.3	428.0
37.5°	511.3	511.3	518.2	518.2	532.8	533.6	544.8	522.5	509.6	460.7	436.6
40°	574.1	573.2	580.9	582.6	602.4	603.2	601.5	552.5	525.1	465.0	432.3
42.5°	640.2	642.7	653.1	656.5	671.1	676.3	654.9	573.2	532.0	462.3	417.6
45°	712.4	717.6	730.4	739.8	755.4	749.4	697.7	582.6	524.3	446.9	389.2
47.5°	791.5	796.5	806.9	824.9	831.8	824.9	732.9	586.1	512.1	422.8	348.0
50°	871.4	880.0	894.5	920.3	923.7	906.6	776.0	599.0	502.7	397.9	300.8
52.5°	961.5	970.2	987.3	1030.4	1021.7	986.5	826.7	623.1	505.3	382.4	260.4
55°	1056.9	1069.1	1102.5	1144.6	1125.8	1070.7	882.6	658.3	515.5	366.1	215.8
57.5°	1157.6	1170.4	1214.3	1264.1	1227.2	1153.2	939.3	685.8	520.7	332.6	166.7
60°	1257.2	1275.2	1332.0	1373.1	1315.7	1223.7	989.9	703.8	507.0	269.0	128.9
62.5°	1348.3	1377.6	1441.2	1463.5	1371.5	1268.4	1017.5	690.9	451.2	185.6	103.9
65°	1412.8	1450.5	1491.8	1489.2	1361.2	1253.8	996.8	631.6	336.0	122.9	88.6
67.5°	1440.3	1475.5	1484.9	1441.2	1287.3	1189.4	922.9	508.7	193.3	92.0	77.3
70°	1450.5	1480.7	1427.4	1321.7	1142.9	1031.3	754.5	324.0	105.7	74.8	67.0
71°	1446.3	1460.8	1359.5	1235.7	1050.9	934.1	661.7	246.7	90.2	69.6	63.6
72.5°	1387.8	1367.2	1210.7	1073.4	891.1	772.5	514.8	155.6	73.9	62.7	59.3
75°	1134.3	1041.6	891.1	761.3	606.6	485.5	279.4	79.9	59.3	54.2	51.6
77.5°	741.6	660.8	537.1	436.6	331.7	251.7	114.3	55.0	47.3	45.5	44.6
80°	264.7	212.3	160.7	140.9	106.6	87.7	55.9	42.1	36.9	37.8	36.9
82.5°	74.8	68.7	59.3	55.0	48.1	47.3	36.1	31.8	29.3	30.9	30.0
85°	36.9	31.8	23.2	22.4	17.2	19.8	18.1	21.5	19.0	19.8	18.1
87.5°	2.5	3.4	0.9	2.5	0.0	2.5	3.4	4.3	0.9	3.4	2.5
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°	4.7	4.4	4.1	4.0	4.0	4.0	4.0	4.4	4.7	4.9	5.4
100°	26.3	26.1	25.7	25.5	25.1	24.5	25.5	26.1	26.3	26.5	27.3
102.5°	47.3	47.6	47.9	48.1	47.6	47.1	48.1	47.6	47.3	47.1	47.6
105°	68.2	68.7	69.2	69.7	68.7	67.7	69.7	68.7	68.2	67.7	68.2
107.5°	89.5	89.8	90.1	90.3	89.8	89.3	90.3	89.8	89.5	89.3	89.5



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	77.5°	80°	82.5°	85°	87.5°	90°	95°	100°	102.5°	105°	107.5°	
110°	111.1	111.4	111.7	111.9	111.4	110.9	111.9	111.4	111.1	110.9	111.1	0°
112.5°	132.9	133.5	133.9	134.5	133.5	132.5	134.5	133.5	132.9	132.5	132.7	2.5°
115°	155.6	156.0	156.6	157.0	156.6	156.0	157.0	156.0	155.6	155.0	155.0	5°
117.5°	177.1	177.7	178.1	178.7	177.7	176.7	178.7	177.7	177.1	176.7	176.9	7.5°
120°	200.7	201.2	201.7	202.2	201.2	200.2	202.2	201.2	200.7	200.2	200.2	10°
122.5°	225.7	226.7	227.7	228.7	228.2	227.7	228.7	226.7	225.7	224.8	224.6	12.5°
125°	250.1	250.8	251.4	252.2	251.7	251.3	252.2	250.8	250.1	249.3	249.3	15°
127.5°	273.6	274.3	275.0	275.8	274.3	272.8	275.8	274.3	273.6	272.8	272.6	17.5°
130°	297.2	297.9	298.6	299.3	298.3	297.4	299.3	297.9	297.2	296.4	296.2	20°
132.5°	320.8	321.4	322.1	322.9	322.0	321.0	322.9	321.4	320.8	320.0	319.8	22.5°
135°	343.1	343.5	344.1	344.5	344.1	343.5	344.5	343.5	343.1	342.5	342.3	25°
137.5°	364.2	365.1	366.1	367.0	366.1	365.1	367.0	365.1	364.2	363.2	362.9	27.5°
140°	385.7	386.7	387.7	388.7	387.7	386.7	388.7	386.7	385.7	384.7	384.3	30°
142.5°	406.1	406.8	407.5	408.3	407.8	407.3	408.3	406.8	406.1	405.3	405.1	32.5°
145°	426.8	427.4	428.1	428.9	428.0	427.0	428.9	427.4	426.8	426.0	425.8	35°
147.5°	445.4	446.1	446.7	447.5	446.1	444.6	447.5	446.1	445.4	444.6	444.4	37.5°
150°	461.3	462.3	463.3	464.2	462.8	461.3	464.2	462.3	461.3	460.3	460.3	40°
152.5°	477.8	478.4	479.2	480.0	478.4	477.0	480.0	478.4	477.8	477.0	477.0	42.5°
155°	495.4	496.1	496.9	497.6	496.7	495.7	497.6	496.1	495.4	494.7	494.4	45°
157.5°	509.6	510.9	512.1	513.3	511.9	510.3	513.3	510.9	509.6	508.4	508.2	47.5°
160°	520.9	521.6	522.4	523.2	522.2	521.2	523.2	521.6	520.9	520.2	520.2	50°
162.5°	528.6	529.0	529.6	530.0	528.6	527.0	530.0	529.0	528.6	528.0	528.6	52.5°
165°	538.4	538.8	539.3	539.8	538.8	537.8	539.8	538.8	538.4	537.8	538.4	55°
167.5°	549.7	550.6	551.6	552.5	551.6	550.6	552.5	550.6	549.7	548.7	548.4	57.5°
170°	556.7	557.9	559.3	560.5	559.5	558.5	560.5	557.9	556.7	555.5	555.1	60°
172.5°	558.3	558.9	559.6	560.5	558.9	557.5	560.5	558.9	558.3	557.5	557.3	62.5°
175°	558.3	558.9	559.6	560.5	558.9	557.5	560.5	558.9	558.3	557.5	557.9	65°
177.5°	564.1	564.9	565.6	566.3	564.9	563.3	566.3	564.9	564.1	563.3	563.3	67.5°
180°	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	70°
												71°
												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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DISTRIBUTION (continued):

CANDELA DISTRIBUTION

110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	110°	110°
336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	110°	111.4
335.2	331.7	336.0	331.7	336.0	333.5	336.0	333.5	336.0	337.8	337.8	112.5°	132.9
333.5	327.4	335.2	330.8	336.0	331.7	335.2	332.6	336.9	338.6	340.3	115°	155.0
332.6	326.5	334.3	328.3	336.0	329.9	335.2	331.7	336.9	338.6	342.1	117.5°	177.1
331.7	324.0	334.3	325.6	335.2	329.0	335.2	329.9	336.0	337.8	338.6	120°	200.2
331.7	323.1	334.3	324.8	335.2	326.5	334.3	326.5	335.2	334.3	331.7	122.5°	224.3
332.6	321.4	334.3	323.1	334.3	324.0	333.5	323.1	331.7	329.0	327.4	125°	249.3
332.6	321.4	333.5	322.2	332.6	323.1	330.8	321.4	329.0	328.3	325.6	127.5°	272.4
334.3	323.1	333.5	325.6	333.5	324.0	329.9	321.4	327.4	322.2	311.9	130°	295.9
339.4	331.7	339.4	331.7	335.2	326.5	329.0	318.8	318.0	309.4	293.0	132.5°	319.4
351.5	348.0	346.3	336.9	334.3	323.1	319.7	307.6	303.4	290.4	268.1	135°	342.1
367.0	359.2	348.9	337.8	326.5	312.8	303.4	293.8	284.4	268.1	239.8	137.5°	362.6
377.3	366.1	344.6	329.0	308.5	297.2	281.0	270.7	256.9	236.3	208.9	140°	383.8
384.1	367.0	334.3	316.2	288.7	274.2	252.6	241.5	221.7	202.0	182.2	142.5°	404.9
385.8	363.5	320.5	300.8	264.7	248.3	219.9	208.0	189.0	175.3	167.5	145°	425.4
378.9	351.5	299.0	273.3	233.6	214.9	188.1	179.6	168.4	163.3	159.9	147.5°	444.1
365.3	328.3	265.4	235.4	195.0	180.5	166.7	166.7	160.7	158.1	152.2	150°	460.3
340.3	293.8	222.6	193.3	165.8	163.3	155.6	159.0	154.7	152.9	144.4	152.5°	477.0
301.7	244.9	179.6	162.4	149.5	151.3	146.1	149.5	147.0	146.1	135.7	155°	494.2
251.7	195.0	151.3	145.3	136.6	139.1	134.9	139.1	136.6	137.5	129.7	157.5°	507.9
201.1	158.1	134.0	130.6	124.7	126.3	123.8	128.1	127.2	130.6	126.3	160°	520.2
160.7	134.9	119.5	116.9	113.5	114.3	113.5	117.8	118.6	125.4	125.4	162.5°	529.0
133.2	116.0	107.3	106.6	103.1	103.9	104.8	109.1	112.6	121.2	125.4	165°	538.8
114.3	103.9	97.9	97.1	95.4	96.3	97.9	103.1	106.6	117.8	127.2	167.5°	548.1
100.5	94.5	90.2	90.2	88.6	90.2	92.0	97.1	101.4	114.3	123.8	170°	554.5
90.2	86.0	83.4	84.2	83.4	85.1	86.8	92.0	97.1	109.1	118.6	172.5°	556.9
80.8	78.2	76.4	77.3	77.3	79.9	81.7	86.8	91.1	102.2	114.3	175°	558.5
73.0	71.3	70.4	71.3	72.1	74.8	77.3	80.8	84.2	94.5	108.2	177.5°	563.3
67.0	65.3	65.3	65.3	66.1	68.7	72.1	73.9	77.3	88.6	101.4	180°	565.3
63.6	62.7	62.7	62.7	63.6	66.1	69.6	71.3	74.8	86.0	97.9		
59.3	59.3	60.2	59.3	61.1	61.8	65.3	67.0	71.3	82.6	93.6		
52.4	52.4	53.3	53.3	55.0	55.0	57.6	59.3	64.5	73.9	84.2		
46.4	46.4	48.1	47.3	47.3	45.5	49.0	50.8	55.0	64.5	74.8		
39.5	38.6	40.4	37.8	36.9	35.2	37.8	40.4	47.3	53.3	55.0		
30.9	28.4	29.3	26.6	26.6	25.0	27.5	28.4	32.7	38.6	42.1		
19.0	15.5	17.2	14.6	16.3	14.6	15.5	16.3	19.8	24.1	23.2		
4.3	2.5	3.4	0.9	2.5	0.0	2.5	0.9	2.5	0.9	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		
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
5.9	6.4	6.8	8.4	9.8	11.3	12.8	11.8	10.8	8.8	4.0		
27.9	28.7	29.5	29.9	30.5	30.9	31.4	30.9	30.5	29.5	21.6		
48.1	48.6	49.0	49.2	49.6	49.9	50.0	49.9	49.6	49.0	44.2		
68.7	69.2	69.7	69.7	69.7	69.7	69.7	69.5	69.2	68.7	64.8		
89.8	90.1	90.3	90.5	90.8	91.1	91.3	90.8	90.3	89.3	86.3		

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REPORT NUMBER: P271578
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TION (continued):

CANDELA DISTRIBUTION (con

112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°		155°	165°
111.7	111.9	111.9	111.9	111.9	111.9	111.4	110.9	110.0	108.0	0°	336.0	336.0
133.3	133.5	133.5	133.5	133.5	133.5	132.9	132.5	131.5	129.5	2.5°	339.4	338.6
155.0	155.0	155.0	155.0	155.0	155.0	154.6	154.1	153.1	151.2	5°	343.7	343.7
177.4	177.7	177.4	177.1	176.9	176.7	176.4	176.2	175.7	173.7	7.5°	344.6	346.3
200.2	200.2	200.2	200.2	200.2	200.2	199.7	199.2	198.3	197.3	10°	338.6	336.9
223.9	223.8	223.8	223.8	223.8	223.8	223.6	223.3	222.8	221.8	12.5°	329.0	327.4
249.3	249.3	249.1	248.8	248.5	248.3	248.1	247.8	247.3	246.3	15°	328.3	327.4
272.1	271.8	272.1	272.4	272.6	272.8	272.4	271.8	270.9	269.0	17.5°	322.2	318.0
295.6	295.5	295.5	295.5	295.5	295.5	294.9	294.5	293.5	292.5	20°	305.1	297.2
319.2	319.0	319.0	319.0	319.0	319.0	318.2	317.6	316.0	315.0	22.5°	281.0	269.9
341.7	341.5	341.5	341.5	341.5	341.5	340.7	340.1	338.6	338.6	25°	251.7	236.3
362.4	362.2	362.2	362.2	362.2	362.2	361.7	361.2	360.2	360.2	27.5°	219.9	204.5
383.3	382.8	382.8	382.8	382.8	382.8	382.6	382.3	381.8	380.8	30°	195.0	183.1
404.6	404.3	404.3	404.3	404.3	404.3	403.9	403.4	402.4	402.4	32.5°	177.1	170.2
425.2	425.0	425.2	425.4	425.8	426.0	425.4	425.0	424.0	423.0	35°	162.4	158.1
443.9	443.7	444.1	444.6	445.1	445.6	445.4	445.1	444.6	443.7	37.5°	152.9	146.1
460.3	460.3	460.8	461.3	461.8	462.3	462.1	461.8	461.3	460.3	40°	143.5	134.9
477.0	477.0	477.2	477.4	477.8	478.0	477.8	477.4	477.0	476.0	42.5°	134.9	126.3
493.9	493.7	493.9	494.2	494.4	494.7	494.4	494.2	493.7	493.7	45°	126.3	120.4
507.6	507.5	507.9	508.4	508.9	509.4	509.4	509.4	509.4	509.4	47.5°	122.0	116.9
520.2	520.2	520.7	521.2	521.6	522.2	522.2	522.2	522.2	522.2	50°	120.4	115.2
529.6	530.0	530.4	531.0	531.4	532.0	531.8	531.4	531.0	531.0	52.5°	122.0	117.8
539.3	539.8	540.6	541.3	541.9	542.8	542.6	542.3	541.8	541.8	55°	125.4	122.9
547.9	547.7	548.1	548.7	549.1	549.7	549.7	549.7	549.7	550.6	57.5°	122.0	117.8
554.1	553.5	553.7	554.1	554.3	554.5	554.7	555.1	555.5	556.5	60°	114.3	107.3
556.7	556.5	556.9	557.5	557.9	558.5	558.3	557.9	557.5	558.5	62.5°	109.1	102.2
558.9	559.5	560.3	560.9	561.6	562.4	562.2	561.9	561.4	561.4	65°	104.8	99.7
563.3	563.3	564.1	564.9	565.6	566.3	566.3	566.3	566.3	567.3	67.5°	100.5	95.4
565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	70°	95.4	90.2
										71°	92.9	86.8
										72.5°	88.6	81.7
										75°	79.9	73.0
										77.5°	66.1	58.4
										80°	50.8	45.5
										82.5°	37.8	33.5
										85°	19.8	15.5
										87.5°	0.0	0.0
										90°	0.0	0.0
										92.5°	0.0	0.0
										95°	1.0	1.0
										97.5°	3.0	2.0
										100°	13.7	9.8
										102.5°	37.3	31.4
										105°	59.8	55.0
										107.5°	82.5	78.5



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175°	180°
336.0	336.0
339.4	338.6
344.6	345.5
348.0	347.1
338.6	336.9
329.0	329.0
328.3	328.3
316.2	315.3
295.6	293.0
266.3	263.8
230.2	226.8
198.5	198.5
177.1	177.1
165.8	166.7
155.6	156.5
140.0	140.0
127.2	127.2
121.2	120.4
116.0	115.2
112.6	111.7
109.1	109.1
106.6	106.6
106.6	104.8
107.3	104.8
105.7	103.9
105.7	104.8
107.3	105.7
107.3	103.9
97.9	92.0
92.9	87.7
83.4	79.9
71.3	70.4
55.9	55.0
45.5	43.0
32.7	28.4
12.8	12.8
0.0	0.0
0.0	0.0
0.0	0.0
1.0	1.0
2.0	2.0
7.8	7.8
27.5	27.5
53.0	53.0
75.5	76.5

CANDELA DISTRIBUTION (continued):

	155°	165°	175°
110°	104.0	101.1	100.1
112.5°	126.6	123.7	121.7
115°	148.2	146.2	144.3
117.5°	170.8	168.8	166.8
120°	194.3	192.3	191.4
122.5°	218.8	216.9	216.0
125°	243.4	242.5	241.5
127.5°	267.0	265.0	264.0
130°	288.5	287.5	286.6
132.5°	312.1	311.2	308.2
135°	334.7	332.7	330.8
137.5°	357.3	356.3	353.3
140°	378.8	377.8	375.9
142.5°	399.5	400.5	398.5
145°	420.0	420.0	418.1
147.5°	439.7	438.7	435.8
150°	456.4	455.4	453.5
152.5°	473.0	474.0	471.1
155°	491.7	492.7	490.7
157.5°	506.5	507.5	505.5
160°	519.2	519.2	517.2
162.5°	528.0	529.0	526.0
165°	537.8	538.8	536.8
167.5°	547.7	548.7	545.7
170°	554.5	555.5	552.5
172.5°	556.5	558.5	555.5
175°	558.5	559.5	558.5
177.5°	563.3	564.3	562.4
180°	565.3	565.3	565.3



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180°
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99.2
121.7
143.3
165.8
189.5
215.0
239.5
262.0
284.7
307.2
329.8
352.3
375.0
396.5
417.2
435.8
452.5
470.2
489.8
503.5
515.3
525.1
535.9
544.7
551.6
554.5
556.5
561.4
565.3

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