

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: P228098

Luminaire Tested: **ISS-AF-450-LED-E1-SL2-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P228098  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29761)  
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-SL2-7050  
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE II W/SPILL CONTROL  
Light Source: (16) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

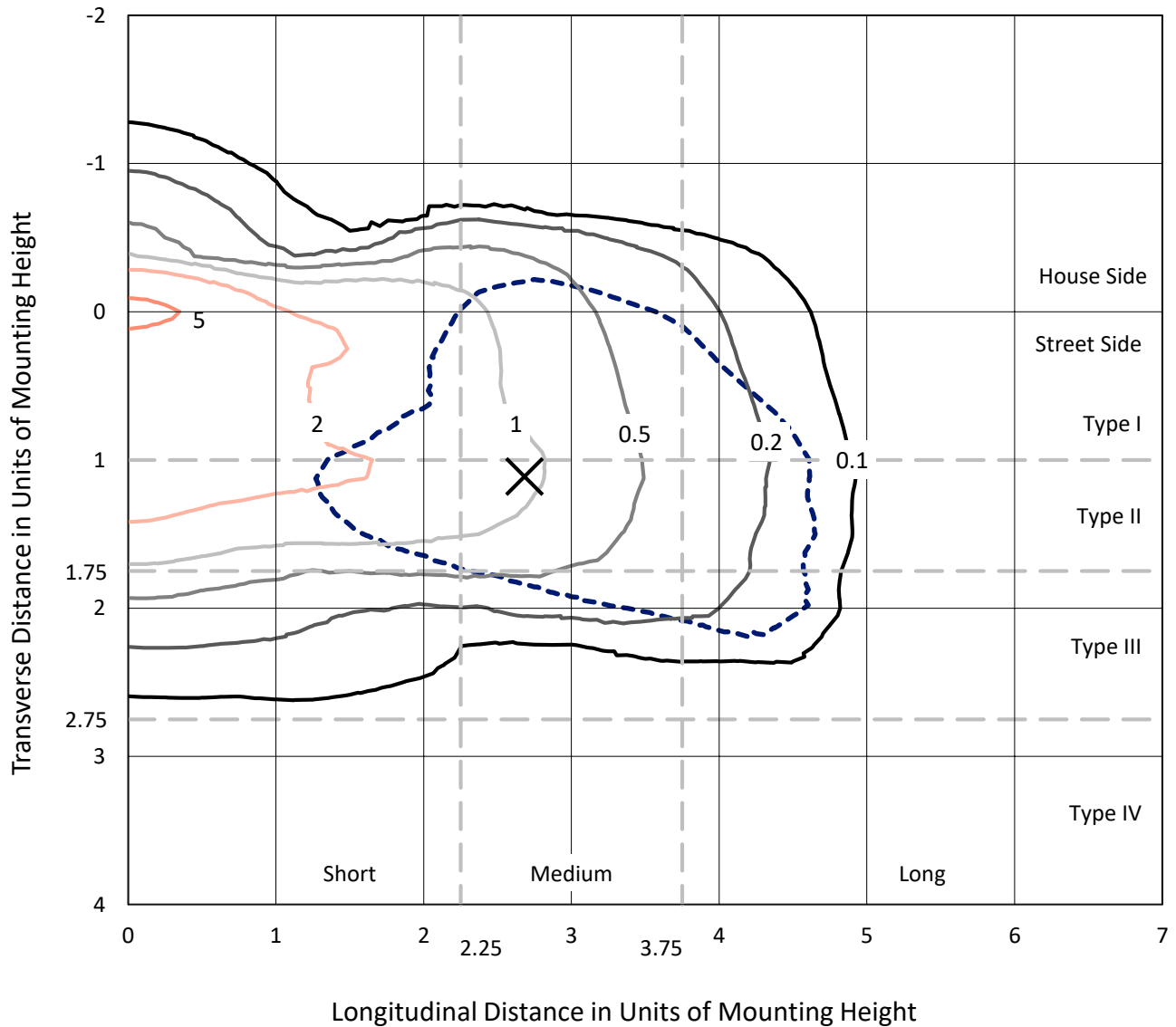
Lumens per Lamp: N/A  
Luminaire Lumens: 2834 lumens  
Efficiency: N/A  
Efficacy: 112.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 25.31  
Input Voltage (V): 120  
Input 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

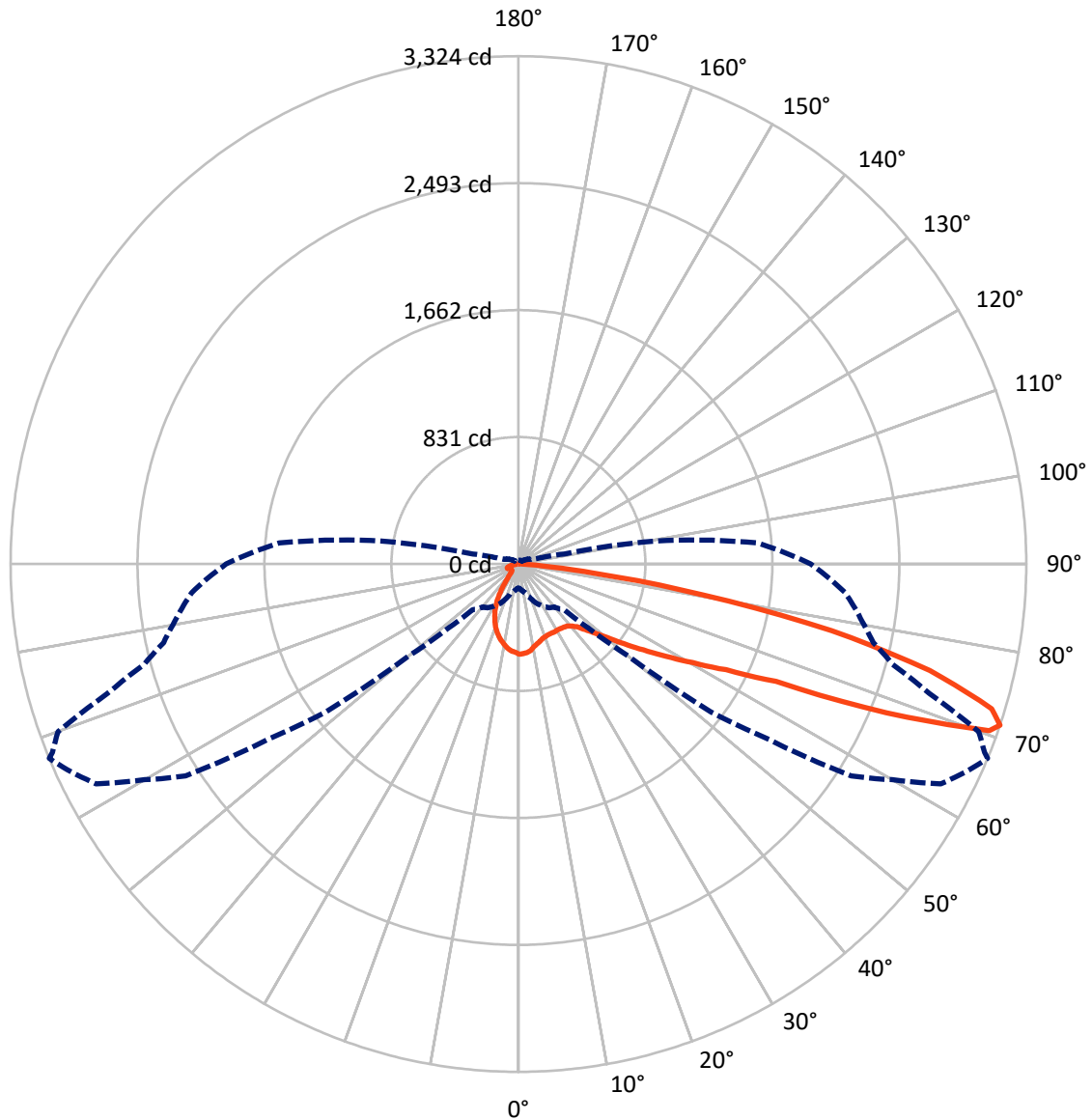
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.9 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral    - - - Horizontal Cone Through 71-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	477.6	0.0	477.6
	% Fixture	16.9	0.0	16.9
<b>Street Side</b>	Lumens	2356.4	0.0	2356.4
	% Fixture	83.1	0.0	83.1
<b>Total</b>	Lumens	2834.0	0.0	2834.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.5	1.8
10°-20°	123.3	4.4
20°-30°	167.7	5.9
30°-40°	229.1	8.1
40°-50°	345.3	12.2
50°-60°	547.2	19.3
60°-70°	724.4	25.6
70°-80°	577.1	20.4
80°-90°	68.4	2.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	2834.0	100.0
0°-180°	2834.0	100.0



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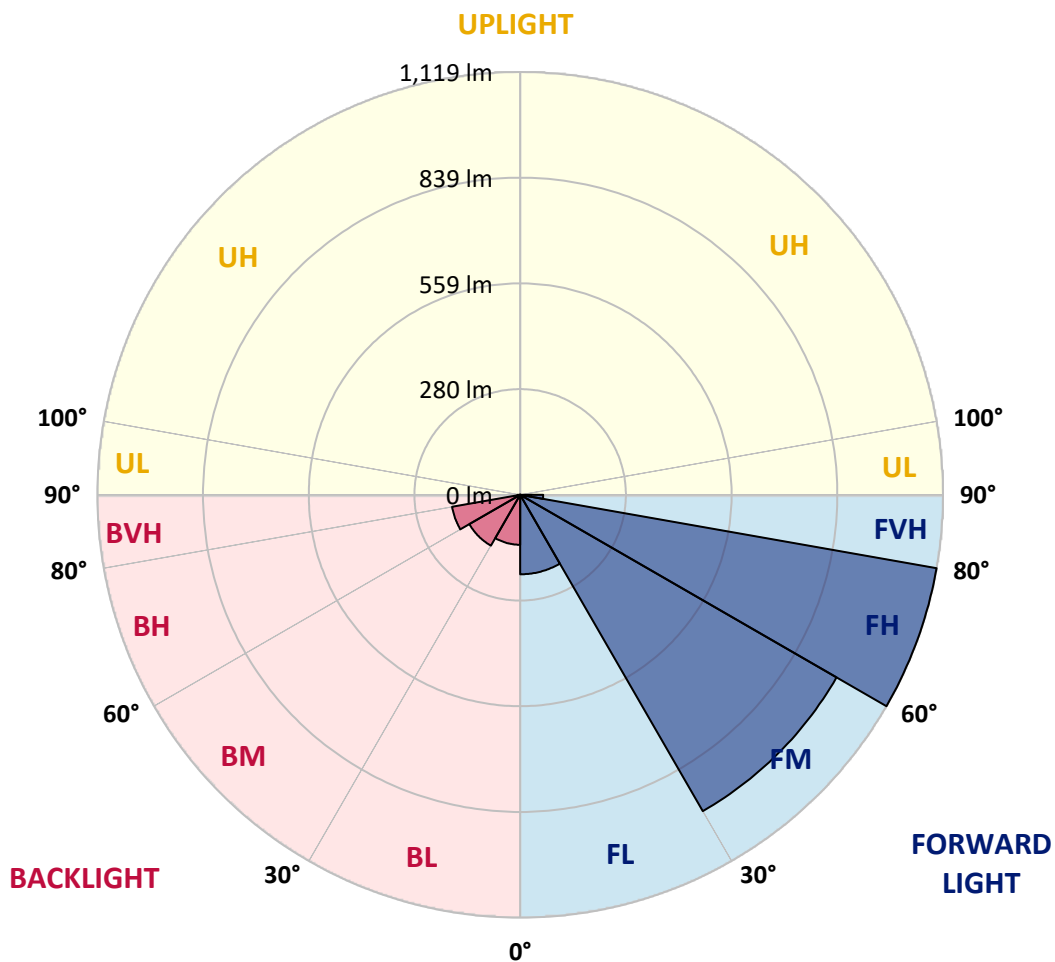
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	210.3	7.4			
FM (30°-60°)	966.4	34.1			
FH (60°-80°)	1118.7	39.5			G1/1800
FVH (80°-90°)	61.0	2.2			G1/100
BL (0°-30°)	132.2	4.7	B1/500		
BM (30°-60°)	155.2	5.5	B0/220		
BH (60°-80°)	182.8	6.4	B1/500		G1/500
BVH (80°-90°)	7.4	0.3			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-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°	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6
2.5°	579.7	577.7	577.7	580.7	585.6	581.7	584.6	584.6	585.6	588.6	589.6
5°	537.2	533.2	537.2	541.1	552.0	550.0	553.0	555.9	561.9	562.9	570.8
7.5°	498.6	496.6	499.6	507.5	521.3	517.4	521.3	525.3	532.2	535.2	543.1
10°	468.9	465.9	469.9	475.8	489.7	488.7	490.7	495.6	503.5	505.5	515.4
12.5°	447.1	447.1	449.1	457.0	468.9	467.9	473.8	476.8	483.7	485.7	496.6
15°	436.3	433.3	437.2	444.2	456.0	456.0	460.0	463.0	472.9	473.8	483.7
17.5°	426.4	427.3	428.3	436.3	447.1	445.2	450.1	452.1	463.0	461.0	472.9
20°	426.4	428.3	427.3	432.3	440.2	436.3	442.2	443.2	455.0	452.1	464.9
22.5°	438.2	440.2	437.2	436.3	439.2	436.3	439.2	441.2	450.1	448.1	460.0
25°	459.0	463.0	459.0	452.1	449.1	441.2	443.2	446.1	453.1	448.1	459.0
27.5°	491.6	494.6	487.7	480.8	466.9	458.0	455.0	454.1	462.0	454.1	463.0
30°	529.2	533.2	527.3	514.4	494.6	479.8	473.8	470.9	475.8	464.0	472.9
32.5°	569.8	573.8	569.8	559.9	533.2	511.4	503.5	496.6	500.6	484.7	488.7
35°	611.3	615.3	619.3	613.3	578.7	554.0	541.1	535.2	534.2	514.4	515.4
37.5°	647.9	651.9	664.8	670.7	639.0	605.4	593.5	580.7	581.7	554.0	554.0
40°	692.5	697.4	714.2	728.1	707.3	666.7	652.9	639.0	639.0	602.4	603.4
42.5°	752.8	758.7	769.6	788.4	781.5	739.9	725.1	706.3	708.3	664.8	663.8
45°	837.9	841.8	841.8	853.7	854.7	815.1	805.2	786.4	790.4	735.0	738.0
47.5°	948.7	943.7	923.9	930.9	938.8	897.2	888.3	876.5	881.4	822.1	828.0
50°	1051.6	1047.6	1007.0	1009.0	1037.7	995.2	992.2	977.4	984.3	924.9	933.8
52.5°	1090.1	1083.2	1042.7	1064.4	1144.5	1120.8	1125.7	1118.8	1122.8	1059.5	1057.5
55°	1046.6	1046.6	1021.9	1061.4	1224.7	1237.5	1278.1	1293.9	1310.7	1247.4	1233.6
57.5°	925.9	933.8	937.8	1008.0	1211.8	1267.2	1344.4	1411.6	1497.7	1493.7	1514.5
60°	726.1	739.9	762.7	877.5	1156.4	1247.4	1347.3	1448.2	1566.9	1643.1	1755.9
62.5°	509.5	521.3	540.1	619.3	995.2	1151.5	1295.9	1451.2	1602.6	1722.3	1870.6
65°	346.2	358.1	397.7	441.2	600.5	828.0	1048.6	1305.8	1536.3	1758.9	1958.7
67.5°	249.3	256.2	286.9	360.1	399.7	441.2	523.3	826.0	1109.9	1558.0	1849.9
70°	187.0	193.9	221.6	302.7	351.2	362.1	381.8	435.3	507.5	875.5	1258.3
71°	156.3	166.2	199.8	284.9	349.2	358.1	367.0	398.7	422.4	619.3	933.8
72.5°	109.8	116.7	148.4	263.1	335.4	356.1	376.9	375.9	373.9	422.4	564.9
75°	70.2	70.2	70.2	148.4	358.1	345.2	353.2	395.7	373.9	355.1	372.0
77.5°	55.4	54.4	51.4	74.2	280.0	350.2	371.0	381.8	402.6	371.0	354.1
80°	41.5	40.6	40.6	46.5	129.6	226.5	313.6	348.2	363.0	394.7	360.1
82.5°	21.8	21.8	23.7	27.7	48.5	79.1	162.2	267.1	298.7	300.7	303.7
85°	6.9	5.9	7.9	12.9	20.8	25.7	45.5	107.8	160.3	193.9	204.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	4.0	6.9	8.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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**CANDELA DISTRIBUTION (continued):**

	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	68°	70°	72.5°	75°
0°	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6
2.5°	586.6	590.6	587.6	591.6	586.6	592.6	587.6	590.6	591.6	587.6	592.6
5°	565.8	577.7	573.8	582.7	578.7	586.6	582.7	590.6	590.6	587.6	594.5
7.5°	540.1	552.0	553.0	561.9	561.9	571.8	571.8	579.7	583.6	583.6	593.5
10°	514.4	525.3	527.3	537.2	539.1	551.0	551.0	561.9	569.8	572.8	584.6
12.5°	494.6	508.5	508.5	519.3	517.4	535.2	537.2	547.0	555.0	561.9	577.7
15°	482.7	495.6	495.6	506.5	504.5	522.3	525.3	535.2	547.0	551.0	572.8
17.5°	470.9	483.7	480.8	495.6	494.6	514.4	512.4	527.3	537.2	543.1	567.8
20°	461.0	475.8	473.8	488.7	484.7	506.5	506.5	521.3	531.2	536.2	564.9
22.5°	456.0	471.9	467.9	482.7	479.8	501.5	501.5	516.4	527.3	535.2	563.9
25°	456.0	469.9	465.9	482.7	477.8	501.5	500.6	515.4	526.3	533.2	564.9
27.5°	458.0	471.9	468.9	484.7	480.8	501.5	503.5	516.4	527.3	535.2	566.8
30°	464.9	477.8	470.9	485.7	482.7	502.5	501.5	515.4	526.3	536.2	566.8
32.5°	479.8	486.7	477.8	490.7	484.7	504.5	504.5	514.4	527.3	539.1	566.8
35°	500.6	505.5	491.6	500.6	489.7	509.5	508.5	519.3	529.2	539.1	568.8
37.5°	530.2	536.2	514.4	522.3	504.5	520.3	516.4	529.2	539.1	545.1	578.7
40°	574.7	576.7	548.0	554.0	529.2	543.1	533.2	551.0	555.9	559.9	593.5
42.5°	629.2	631.1	594.5	598.5	566.8	578.7	561.9	580.7	587.6	586.6	623.2
45°	696.4	697.4	655.9	658.8	622.2	632.1	611.3	627.2	632.1	629.2	666.7
47.5°	769.6	777.5	731.0	735.0	696.4	701.4	675.6	693.5	693.5	690.5	729.1
50°	866.6	878.4	824.0	830.0	785.5	789.4	759.7	778.5	776.5	768.6	812.2
52.5°	987.3	998.1	940.8	948.7	901.2	903.2	866.6	888.3	882.4	869.5	920.0
55°	1134.7	1135.6	1082.2	1089.1	1041.7	1038.7	993.2	1019.9	1011.0	993.2	1039.7
57.5°	1371.1	1342.4	1254.3	1252.4	1200.9	1197.0	1138.6	1171.3	1156.4	1118.8	1180.2
60°	1751.9	1760.8	1536.3	1501.7	1405.7	1387.9	1310.7	1348.3	1330.5	1269.2	1329.5
62.5°	1966.6	2108.1	2094.2	1969.6	1722.3	1655.0	1524.4	1568.9	1522.4	1432.4	1488.8
65°	2125.9	2317.8	2428.6	2548.3	2437.5	2162.5	1853.8	1916.1	1802.4	1631.2	1685.7
67.5°	2185.2	2416.7	2650.2	2820.3	2936.0	2956.8	2599.7	2616.5	2336.6	1994.3	2001.2
70°	1874.6	2215.9	2672.9	2888.6	3118.1	3230.8	3268.4	3250.6	3069.6	2584.9	2399.9
71°	1588.7	2002.2	2581.9	2822.3	3116.1	3224.9	3323.8	3290.2	3206.1	2819.3	2535.4
72.5°	1076.3	1595.6	2315.8	2620.5	3012.2	3091.4	3239.7	3180.4	3162.6	2994.4	2662.0
75°	506.5	795.3	1506.6	1967.6	2549.3	2625.4	2780.7	2707.5	2661.0	2718.4	2532.4
77.5°	372.9	434.3	827.0	1222.7	1853.8	1961.7	2095.2	2005.2	1945.8	2003.2	1873.6
80°	339.3	341.3	428.3	645.0	1106.0	1170.3	1220.7	1147.5	1057.5	1053.5	933.8
82.5°	312.6	295.8	278.0	341.3	566.8	539.1	498.6	462.0	359.1	287.9	207.7
85°	198.8	217.6	197.8	187.0	225.5	186.0	147.4	141.5	99.9	67.3	62.3
87.5°	13.8	15.8	18.8	21.8	26.7	21.8	13.8	16.8	9.9	0.0	4.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





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**CANDELA DISTRIBUTION (continued):**

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6
2.5°	585.6	590.6	592.6	591.6	589.6	587.6	580.7	585.6	578.7	583.6	577.7
5°	588.6	595.5	596.5	594.5	592.6	588.6	576.7	583.6	575.7	579.7	570.8
7.5°	587.6	598.5	599.5	597.5	593.5	586.6	574.7	579.7	566.8	569.8	557.9
10°	582.7	598.5	599.5	594.5	588.6	577.7	563.9	565.8	553.0	553.0	537.2
12.5°	577.7	596.5	601.5	594.5	584.6	569.8	554.0	552.0	537.2	536.2	518.4
15°	577.7	598.5	605.4	596.5	581.7	560.9	542.1	538.1	521.3	516.4	496.6
17.5°	576.7	598.5	608.4	596.5	578.7	552.0	528.3	524.3	502.5	494.6	471.9
20°	575.7	600.5	610.4	594.5	569.8	541.1	514.4	506.5	482.7	469.9	443.2
22.5°	574.7	604.4	612.3	592.6	563.9	527.3	499.6	485.7	458.0	441.2	409.5
25°	579.7	609.4	613.3	590.6	555.0	512.4	482.7	464.0	433.3	411.5	373.9
27.5°	581.7	614.3	615.3	586.6	544.1	496.6	464.9	439.2	404.6	377.9	335.4
30°	587.6	615.3	612.3	578.7	531.2	476.8	444.2	412.5	373.9	339.3	288.9
32.5°	589.6	618.3	610.4	569.8	518.4	457.0	420.4	383.8	337.3	296.8	235.4
35°	593.5	620.2	608.4	564.9	504.5	436.3	395.7	354.1	300.7	249.3	179.1
37.5°	599.5	629.2	613.3	562.9	497.6	418.4	368.0	323.5	257.2	196.9	118.7
40°	614.3	647.0	622.2	565.8	492.6	403.6	341.3	291.8	207.7	145.4	82.1
42.5°	644.0	677.6	645.0	580.7	495.6	390.7	313.6	258.2	157.3	103.9	68.3
45°	688.5	717.2	682.6	605.4	507.5	383.8	287.9	223.6	112.8	83.1	62.3
47.5°	753.8	781.5	738.0	645.0	528.3	380.9	261.2	187.0	87.1	75.2	60.3
50°	839.9	872.5	818.1	707.3	566.8	383.8	232.5	152.3	76.2	73.2	59.4
52.5°	945.7	977.4	923.0	799.3	630.1	400.6	201.8	132.6	72.2	72.2	58.4
55°	1065.4	1109.9	1056.5	926.9	728.1	437.2	183.0	125.6	72.2	73.2	57.4
57.5°	1206.9	1244.5	1197.0	1049.6	845.8	497.6	185.0	132.6	72.2	73.2	56.4
60°	1345.4	1391.9	1337.4	1205.9	980.3	588.6	225.5	168.2	75.2	76.2	56.4
62.5°	1489.8	1525.4	1480.9	1342.4	1132.7	701.4	306.7	243.4	87.1	90.0	60.3
65°	1648.1	1706.4	1659.9	1546.2	1348.3	881.4	461.0	365.0	128.6	104.9	66.3
67.5°	1922.1	1945.8	1923.1	1819.2	1600.6	1029.8	549.0	371.0	128.6	101.9	74.2
70°	2293.0	2239.6	2137.7	1943.8	1627.3	923.9	393.7	226.5	109.8	96.9	78.1
71°	2379.1	2297.0	2146.6	1913.2	1571.9	833.9	305.7	179.1	102.9	95.0	78.1
72.5°	2431.5	2308.9	2081.3	1823.2	1463.1	656.9	201.8	140.5	94.0	90.0	75.2
75°	2363.3	2136.7	1838.0	1577.8	1198.0	341.3	126.6	106.8	80.1	78.1	65.3
77.5°	1876.6	1677.7	1356.2	1146.5	770.6	151.4	91.0	81.1	63.3	61.3	50.5
80°	875.5	702.4	411.5	353.2	242.4	89.0	62.3	55.4	45.5	43.5	35.6
82.5°	159.3	119.7	93.0	90.0	81.1	52.4	36.6	33.6	28.7	27.7	22.8
85°	54.4	52.4	39.6	39.6	40.6	27.7	20.8	19.8	14.8	14.8	9.9
87.5°	1.0	4.9	4.9	6.9	5.9	4.9	2.0	3.0	1.0	3.0	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



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**CANDELA DISTRIBUTION (continued):**

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6	590.6
2.5°	582.7	574.7	581.7	574.7	578.7	570.8	575.7	572.8	572.8	569.8	567.8
5°	573.8	563.9	568.8	560.9	564.9	553.0	555.9	551.0	541.1	535.2	527.3
7.5°	560.9	546.1	550.0	538.1	541.1	525.3	528.3	519.3	500.6	488.7	476.8
10°	538.1	524.3	525.3	510.4	509.5	493.6	490.7	478.8	451.1	431.3	415.5
12.5°	515.4	499.6	497.6	479.8	476.8	458.0	454.1	435.3	394.7	356.1	331.4
15°	491.6	471.9	465.9	447.1	436.3	420.4	409.5	381.8	323.5	273.0	240.4
17.5°	464.9	439.2	430.3	408.6	392.7	369.0	353.2	315.6	240.4	186.0	163.2
20°	430.3	402.6	386.8	359.1	338.3	309.6	289.8	241.4	160.3	132.6	129.6
22.5°	391.7	359.1	339.3	304.7	279.0	248.3	216.6	163.2	113.8	107.8	111.8
25°	351.2	310.6	284.9	242.4	207.7	172.1	142.4	108.8	93.0	92.0	97.9
27.5°	302.7	256.2	219.6	169.2	137.5	109.8	96.9	86.1	79.1	80.1	86.1
30°	249.3	188.9	150.4	105.8	92.0	80.1	78.1	74.2	71.2	73.2	77.2
32.5°	186.0	120.7	96.9	76.2	75.2	68.3	70.2	68.3	67.3	68.3	71.2
35°	125.6	80.1	76.2	65.3	67.3	62.3	65.3	64.3	63.3	63.3	65.3
37.5°	87.1	66.3	68.3	60.3	63.3	59.4	62.3	61.3	60.3	59.4	60.3
40°	72.2	60.3	63.3	57.4	60.3	56.4	59.4	58.4	57.4	55.4	55.4
42.5°	66.3	57.4	60.3	54.4	58.4	53.4	57.4	55.4	53.4	51.4	52.4
45°	64.3	55.4	58.4	52.4	56.4	51.4	54.4	53.4	49.5	48.5	49.5
47.5°	62.3	54.4	57.4	51.4	54.4	49.5	52.4	50.5	46.5	45.5	46.5
50°	61.3	52.4	55.4	49.5	52.4	48.5	50.5	48.5	44.5	43.5	43.5
52.5°	60.3	51.4	54.4	47.5	50.5	44.5	47.5	45.5	41.5	40.6	40.6
55°	60.3	50.5	52.4	45.5	48.5	42.5	44.5	42.5	40.6	38.6	38.6
57.5°	59.4	48.5	51.4	43.5	45.5	40.6	42.5	40.6	37.6	36.6	36.6
60°	59.4	47.5	50.5	42.5	44.5	38.6	40.6	38.6	35.6	34.6	34.6
62.5°	62.3	49.5	51.4	43.5	44.5	38.6	39.6	36.6	33.6	33.6	32.6
65°	68.3	55.4	55.4	45.5	45.5	38.6	39.6	35.6	31.7	31.7	31.7
67.5°	74.2	61.3	60.3	48.5	47.5	38.6	38.6	33.6	29.7	29.7	29.7
70°	78.1	64.3	62.3	49.5	47.5	37.6	36.6	31.7	27.7	27.7	27.7
71°	77.2	64.3	61.3	48.5	45.5	35.6	35.6	30.7	26.7	26.7	25.7
72.5°	73.2	60.3	57.4	45.5	43.5	33.6	33.6	28.7	24.7	24.7	23.7
75°	62.3	51.4	48.5	38.6	36.6	29.7	28.7	23.7	21.8	20.8	20.8
77.5°	48.5	40.6	37.6	30.7	29.7	23.7	22.8	19.8	17.8	17.8	16.8
80°	34.6	28.7	26.7	20.8	18.8	15.8	16.8	14.8	13.8	13.8	12.9
82.5°	20.8	14.8	14.8	11.9	12.9	9.9	10.9	10.9	9.9	7.9	7.9
85°	10.9	6.9	8.9	4.9	6.9	3.0	4.9	4.0	4.0	3.0	3.0
87.5°	2.0	0.0	1.0	0.0	1.0	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

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**CANDELA DISTRIBUTION (continued):**

	175°	180°
0°	590.6	590.6
2.5°	561.9	562.9
5°	523.3	525.3
7.5°	467.9	470.9
10°	401.6	403.6
12.5°	316.6	316.6
15°	221.6	223.6
17.5°	155.3	156.3
20°	130.6	131.6
22.5°	116.7	117.7
25°	103.9	104.9
27.5°	90.0	91.0
30°	81.1	82.1
32.5°	73.2	74.2
35°	66.3	66.3
37.5°	61.3	61.3
40°	56.4	56.4
42.5°	53.4	53.4
45°	50.5	50.5
47.5°	47.5	47.5
50°	44.5	45.5
52.5°	41.5	41.5
55°	38.6	38.6
57.5°	35.6	36.6
60°	33.6	33.6
62.5°	31.7	31.7
65°	30.7	30.7
67.5°	28.7	28.7
70°	26.7	26.7
71°	25.7	25.7
72.5°	23.7	23.7
75°	20.8	19.8
77.5°	16.8	16.8
80°	12.9	11.9
82.5°	7.9	6.9
85°	3.0	2.0
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)