

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: INVUE

Report Number: P95370

Luminaire Tested: **VFS-K-B20-3-LED-E1-MSR-SG**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P95370  
REPORT SCALED FROM IESNA LM79-08 TEST DATA (P22804)  
Test Lab: INNOVATION CENTER  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: VFS-K-B20-3-LED-E1-MSR-SG  
Description: ARCHITECTURAL FLOOD LUMINAIRE  
MEDIUM SYMMETRIC ROUND WITH SOFTENING GLASS DISTRIBUTION  
WITH 20 LED'S, 350mA DRIVE CURRENT  
Light Source: -  
Ballast/Driver: -

**Summary**

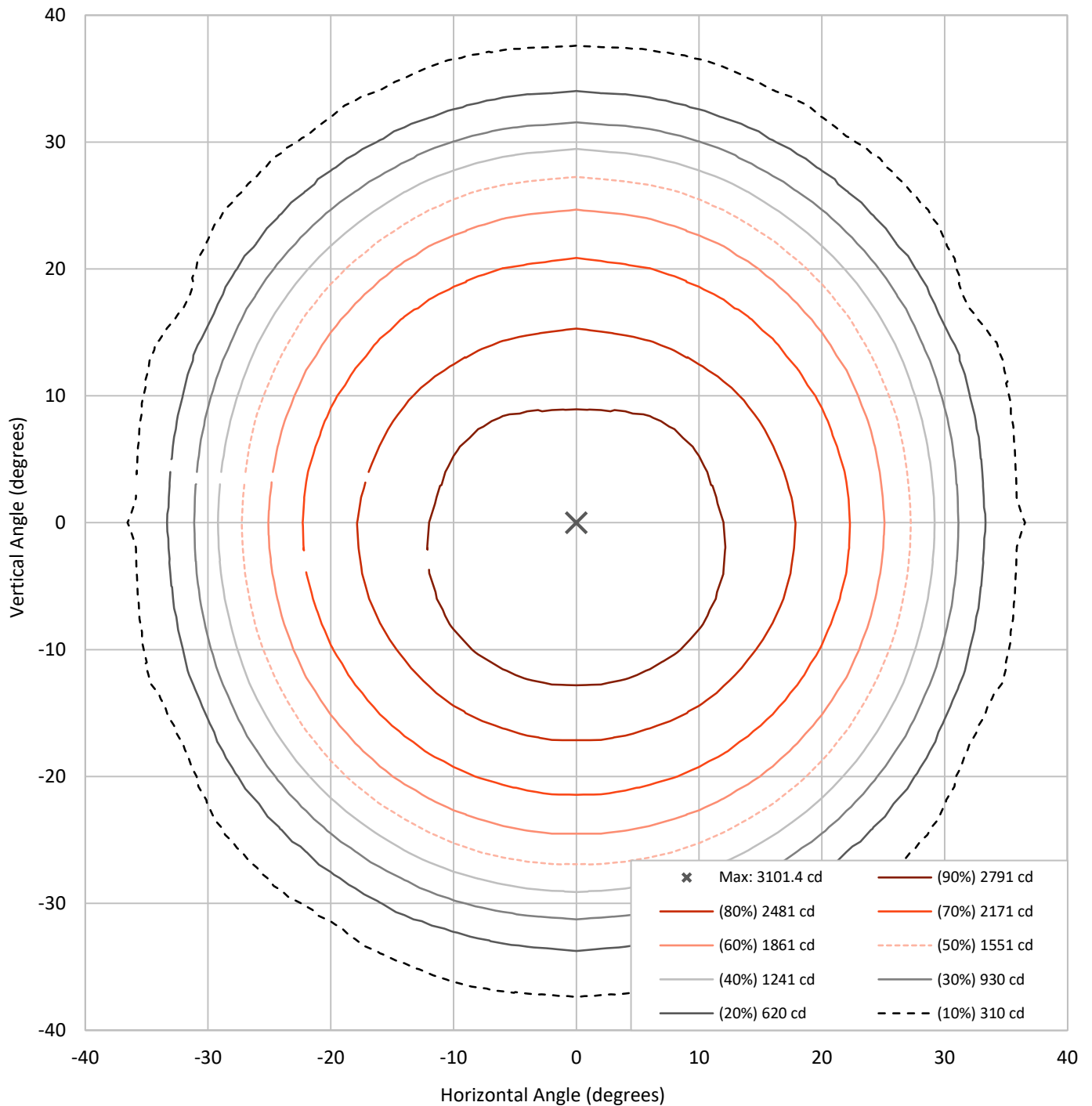
Lumens per Lamp:	N/A	NEMA Type:	5H x 5V
Luminaire Lumens:	2247.9 lumens	Max Intensity:	3101.4 candela
Efficiency:	N/A	Max Intensity Angle:	0°H x 0°V
Efficacy:	94.1 lumens/watt		
Luminous Opening:	(L: 0.83 ' x W: 0 ' x H: 0.5 ')		
Beam Angle (50%):	54.5°H x 54.2°V	Field Angle (10%):	73°H x 74.6°V
Beam Lumens:	1576.6 lumens	Field Lumens:	2091.8 lumens
Beam Efficiency:	70.1%	Field Efficiency:	93.1%

Input Watts (W): 23.9  
Input Voltage (V): NR  
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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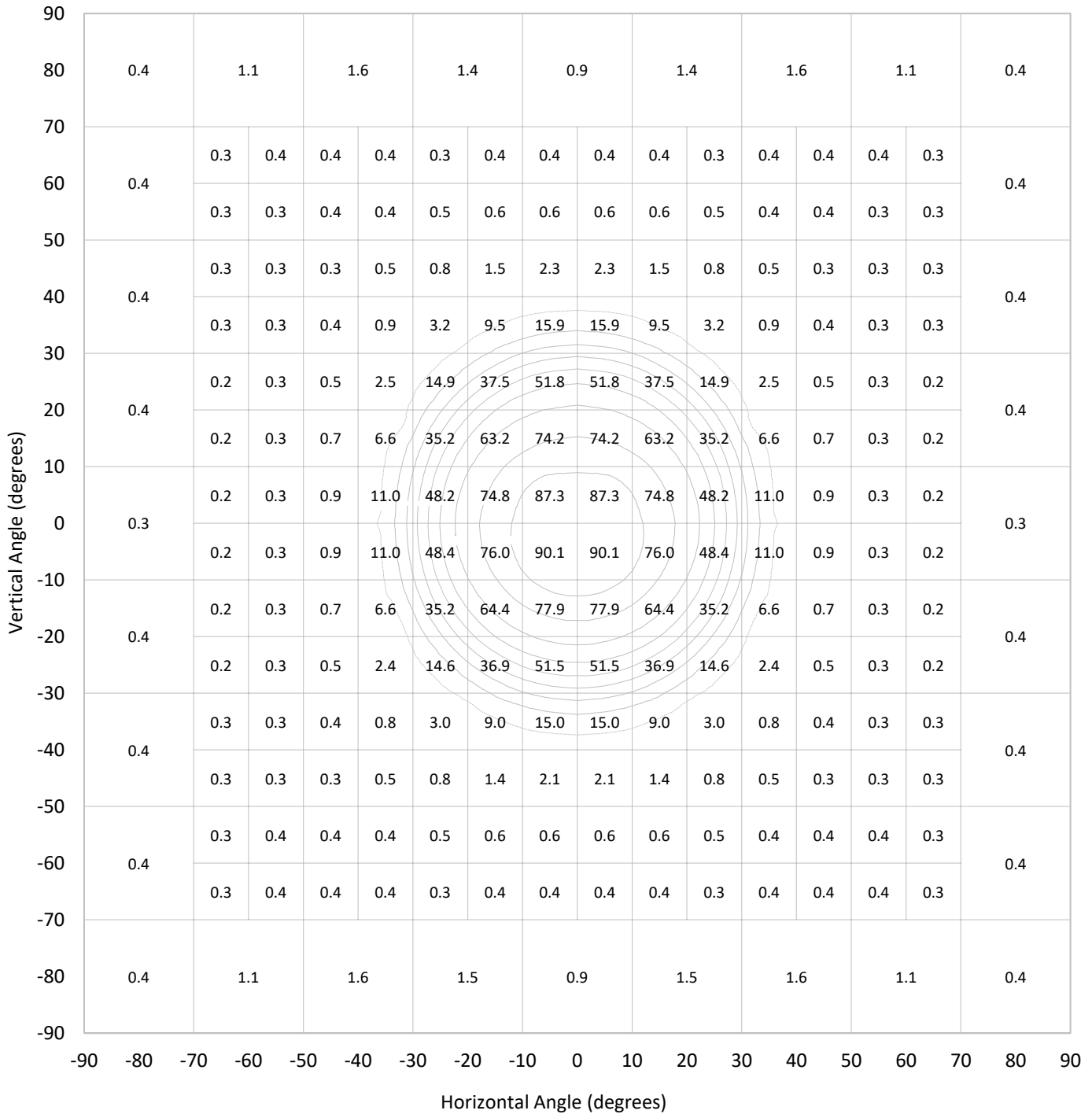
### Iso-Candela Plot





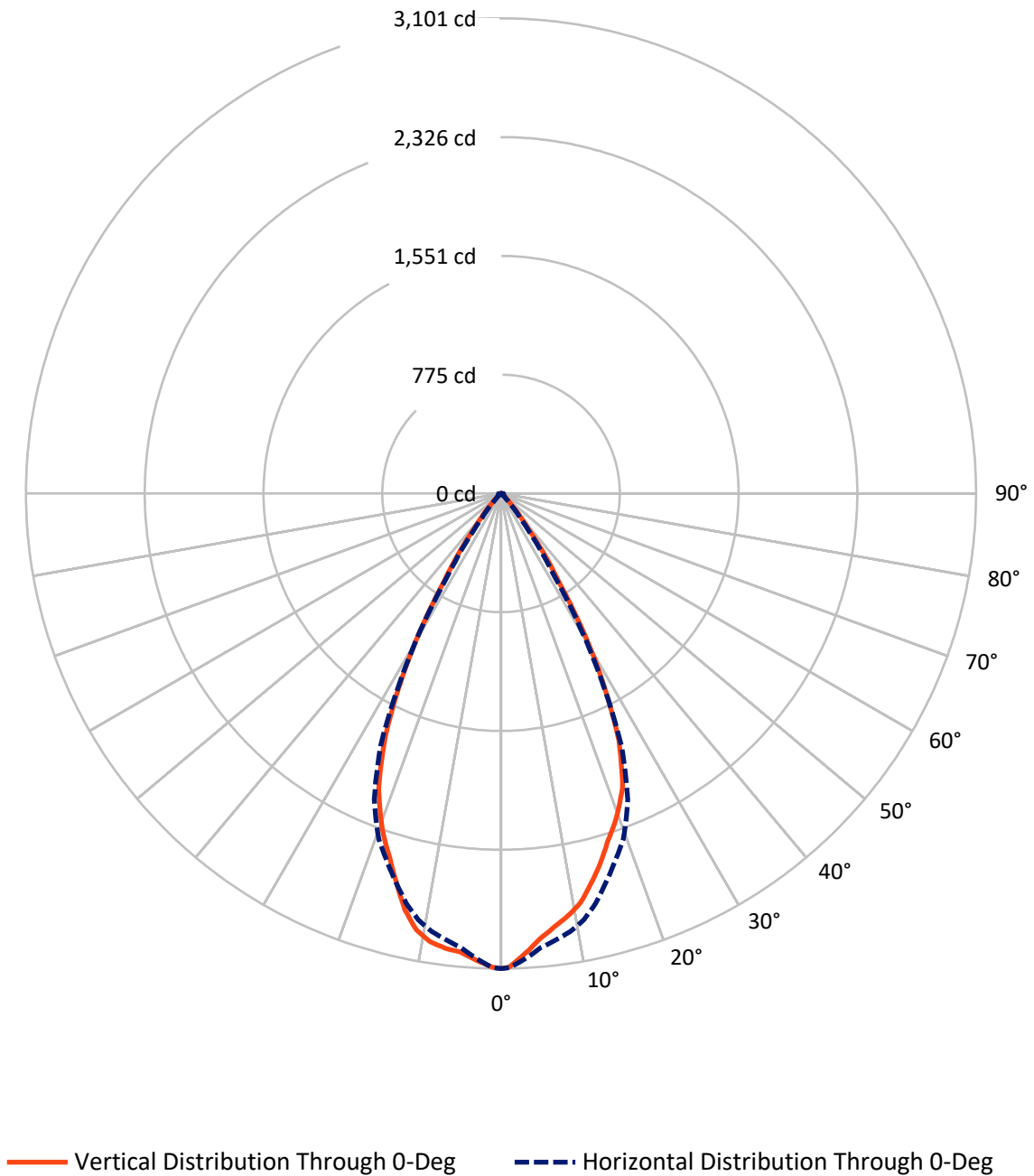
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### Lumen Table



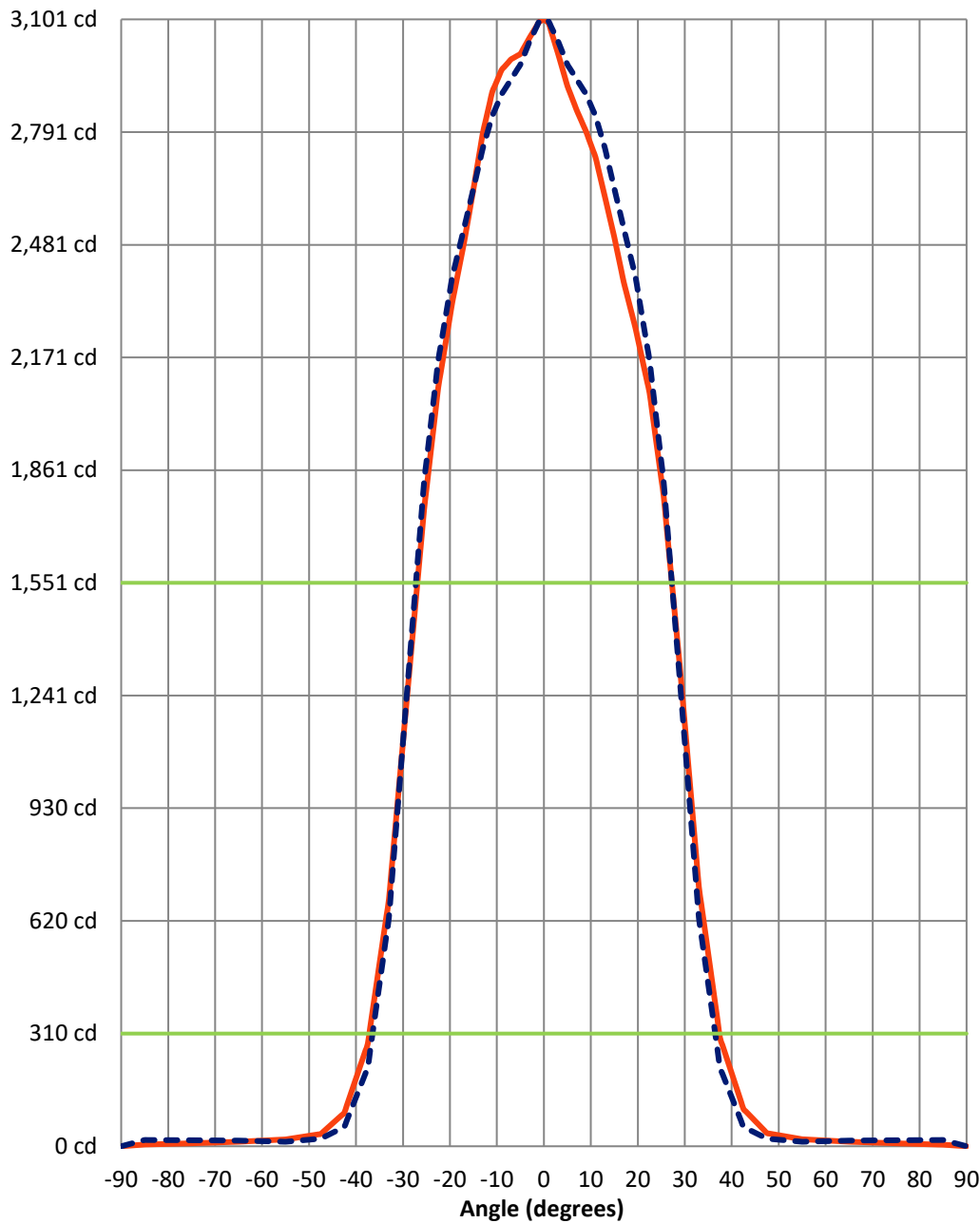
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### Luminous Intensity Polar Plot



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### Luminous Intensity Plot



**Beam:**  
H Angle: 54.5°  
V Angle: 54.2°  
Lumens: 1576.6  
Efficiency: 70.1%

**Field:**  
H Angle: 73°  
V Angle: 74.6°  
Lumens: 2091.8  
Efficiency: 93.1%

**Spill:**  
Lumens: 156.1  
Efficiency: 6.9%

— Vertical Distribution through 0-Deg  
- - Horizontal Distribution through 0-Deg



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FIELD  
BEAM

**CANDELA DISTRIBUTION:**

	0°	1°	3°	5°	7°	9°	11°	13°	15°	17°	19.5°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	4.3	4.3	6.4	5.9	6.4	11.3	15.6	17.7	18.3	18.8	19.3
75°	8.1	8.1	8.1	8.6	9.1	9.1	9.1	9.1	8.6	8.6	9.1
65°	12.4	12.4	12.4	12.4	12.4	12.4	12.9	12.9	12.9	12.9	12.4
55°	19.3	19.3	19.3	19.3	18.8	18.8	18.8	18.3	18.3	18.3	17.7
47.5°	36.0	35.4	35.4	35.4	34.9	33.3	31.7	30.1	28.5	26.9	25.2
42.5°	102.6	100.4	96.7	95.6	90.8	87.0	78.4	69.8	60.7	52.1	44.0
37.5°	298.6	294.3	285.7	286.2	264.2	250.8	227.7	198.2	132.6	128.4	114.4
33°	714.3	697.1	686.9	673.4	622.4	574.1	523.6	459.2	397.9	338.9	266.9
29°	1312.5	1295.3	1277.6	1245.4	1193.8	1107.4	1024.1	908.7	783.5	659.5	525.8
25.5°	1789.9	1775.4	1762.0	1726.0	1684.1	1604.7	1519.3	1390.9	1240.6	1080.5	873.8
22.5°	2073.5	2063.3	2051.5	2025.2	1988.6	1923.1	1851.7	1747.0	1611.1	1448.9	1217.5
19.5°	2251.8	2244.8	2233.0	2217.4	2198.1	2151.4	2098.2	2019.3	1909.7	1767.4	1545.1
17°	2378.5	2373.2	2359.7	2340.9	2321.6	2282.4	2240.0	2177.1	2088.5	1969.8	1770.6
15°	2501.5	2492.4	2477.3	2454.3	2427.9	2378.5	2329.1	2276.0	2201.3	2098.7	1916.7
13°	2612.7	2607.3	2603.0	2574.6	2540.7	2480.6	2424.2	2365.1	2293.1	2199.7	2036.4
11°	2721.7	2717.4	2715.8	2690.0	2657.3	2592.8	2523.5	2453.7	2371.6	2279.7	2137.9
9°	2792.1	2788.8	2791.5	2782.4	2760.9	2696.5	2621.8	2534.8	2446.7	2360.3	2219.6
7°	2851.1	2847.4	2856.0	2853.8	2837.7	2783.5	2704.0	2605.7	2503.1	2415.6	2275.4
5°	2918.3	2911.3	2907.5	2901.1	2889.3	2844.7	2765.7	2665.3	2557.4	2459.6	2328.1
3°	3007.9	3001.5	2974.6	2939.7	2917.2	2871.0	2799.0	2706.1	2599.3	2495.6	2363.5
1°	3091.7	3082.6	3032.1	2971.4	2929.5	2887.6	2826.4	2738.3	2628.8	2523.0	2389.8
0°	3101.4	3096.0	3041.8	2977.3	2936.0	2895.2	2835.0	2746.9	2635.8	2526.8	2393.0
-1°	3094.4	3090.6	3042.8	2984.3	2944.6	2904.8	2840.9	2750.2	2633.6	2527.3	2390.3
-3°	3052.0	3052.5	3035.3	3003.6	2968.7	2928.5	2853.8	2749.1	2629.3	2517.6	2376.4
-5°	3006.3	3011.7	3019.2	3014.4	2991.3	2926.3	2833.4	2723.8	2608.9	2496.1	2350.1
-7°	2991.3	2995.6	3007.9	3003.1	2972.0	2898.9	2794.7	2678.2	2566.0	2455.3	2307.1
-9°	2962.3	2968.2	2969.8	2954.2	2903.2	2824.8	2717.4	2603.6	2498.3	2393.0	2238.9
-11°	2901.6	2907.0	2895.2	2860.8	2799.6	2725.5	2625.0	2519.2	2429.0	2329.1	2163.7
-13°	2788.8	2794.2	2772.7	2730.8	2669.1	2603.6	2522.5	2430.6	2344.7	2236.2	2060.1
-15°	2634.2	2641.7	2620.7	2584.2	2536.4	2484.9	2412.9	2330.7	2244.8	2124.0	1928.5
-17°	2487.0	2493.5	2479.0	2448.9	2408.1	2364.0	2299.6	2215.3	2117.0	1986.0	1773.8
-19.5°	2322.7	2328.6	2313.6	2287.8	2245.3	2195.9	2127.2	2035.9	1918.8	1770.6	1539.1
-22.5°	2087.5	2096.1	2075.1	2044.0	1994.0	1937.6	1842.6	1729.8	1597.1	1434.4	1201.3
-25.5°	1752.9	1766.8	1746.4	1711.0	1648.7	1577.3	1480.1	1356.0	1214.2	1055.3	852.8
-29°	1256.1	1250.2	1232.5	1196.5	1133.7	1071.4	977.4	870.0	758.8	638.5	505.9
-33°	679.4	663.2	648.7	625.6	585.9	540.3	493.5	438.2	384.5	327.6	210.0
-37.5°	281.9	274.4	270.1	261.0	250.8	233.6	213.7	165.4	130.0	122.4	105.8
-42.5°	91.8	88.6	88.1	85.4	83.2	78.4	70.4	63.4	56.4	48.3	41.4
-47.5°	33.8	33.3	33.3	33.3	32.8	31.7	30.1	29.0	27.4	26.3	25.2
-55°	18.8	18.8	18.8	18.8	18.8	18.8	18.3	18.3	18.3	18.3	17.7
-65°	12.4	12.4	12.4	12.4	12.4	12.4	12.9	12.9	12.9	12.9	12.4
-75°	8.1	8.1	8.1	8.6	8.6	9.1	9.1	9.1	8.6	8.6	9.1
-85°	4.8	4.8	6.4	6.4	7.0	11.8	16.1	18.3	18.8	19.3	19.9
-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):**

	22.5°	25.5°	29°	33°	37.5°	42.5°	47.5°	55°	65°	75°	85°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	19.9	19.9	20.4	20.4	20.4	20.4	20.4	20.4	20.9	20.9	20.9
75°	11.3	14.0	17.2	18.8	19.9	20.4	20.4	20.9	20.9	20.9	20.9
65°	11.8	11.3	11.3	12.9	15.6	18.8	20.4	20.9	20.9	20.9	20.9
55°	17.2	16.1	15.0	14.0	13.4	15.0	17.7	20.4	20.9	20.9	20.9
47.5°	23.6	21.5	19.9	17.2	15.6	14.5	15.6	19.3	20.9	20.9	20.9
42.5°	36.0	29.5	25.2	20.9	17.7	15.6	15.0	18.3	20.9	20.9	20.4
37.5°	83.8	60.1	40.8	28.5	21.5	17.2	15.0	17.2	20.9	20.9	20.4
33°	134.8	118.7	76.3	41.4	25.2	18.8	16.1	16.1	19.9	20.4	19.9
29°	372.7	247.6	126.7	71.4	37.1	22.0	16.6	15.6	19.3	19.9	19.3
25.5°	631.6	421.6	246.0	98.8	52.1	25.2	17.2	15.0	18.8	19.3	19.3
22.5°	916.2	624.6	362.0	116.0	70.4	28.5	17.7	14.5	18.8	19.3	18.8
19.5°	1221.8	873.2	511.8	128.4	92.9	32.8	18.3	14.5	18.3	18.8	18.3
17°	1459.1	1079.4	649.8	134.8	112.8	36.5	18.8	14.0	17.7	18.8	18.3
15°	1621.3	1241.6	764.2	361.4	118.1	39.2	19.3	13.4	17.2	18.3	18.3
13°	1758.3	1381.3	875.4	415.7	123.0	41.9	19.9	13.4	17.2	17.7	17.7
11°	1879.6	1502.6	980.6	468.8	126.7	45.1	19.9	13.4	16.6	17.7	17.7
9°	1979.0	1613.8	1074.6	518.2	129.4	47.8	20.4	12.9	16.6	17.2	17.7
7°	2049.9	1698.1	1150.3	561.2	131.6	49.4	20.4	12.9	16.1	17.2	17.7
5°	2102.5	1758.3	1208.9	595.0	133.2	51.0	20.9	12.9	16.1	17.2	17.7
3°	2143.3	1796.9	1250.8	613.3	134.3	52.1	20.9	12.4	16.1	17.2	17.2
1°	2157.3	1823.8	1271.7	625.6	134.8	53.2	20.9	12.4	15.6	16.6	17.2
0°	2162.1	1829.1	1273.3	628.9	216.4	53.2	20.9	12.4	15.6	16.6	17.2
-1°	2161.6	1828.1	1269.6	629.4	134.8	53.2	20.9	12.4	16.1	17.2	17.2
-3°	2149.8	1807.1	1252.9	614.4	134.3	52.1	20.9	12.4	16.1	17.2	17.2
-5°	2112.7	1758.8	1212.6	593.4	133.2	50.5	20.4	12.9	16.1	17.2	17.2
-7°	2062.2	1692.2	1151.4	556.9	131.6	48.9	20.4	12.9	16.1	17.2	17.7
-9°	1987.0	1612.7	1073.0	512.9	129.4	46.7	20.4	12.9	16.1	17.2	17.7
-11°	1888.2	1509.6	983.3	467.8	126.2	44.0	19.9	12.9	16.6	17.7	17.7
-13°	1765.2	1379.1	875.9	413.5	122.4	40.8	19.3	13.4	16.6	17.7	17.7
-15°	1618.6	1230.3	763.7	268.0	117.6	38.1	18.8	13.4	17.2	17.7	17.7
-17°	1451.1	1070.8	648.2	235.8	107.4	34.9	18.8	14.0	17.2	18.3	17.7
-19.5°	1206.2	857.6	507.5	127.3	91.3	31.7	18.3	14.0	17.7	18.3	18.3
-22.5°	900.1	618.1	359.3	114.4	68.7	27.9	17.7	14.5	18.3	18.8	18.3
-25.5°	613.8	414.6	240.6	96.7	50.5	24.7	17.2	15.0	18.8	19.3	18.8
-29°	359.3	243.3	121.9	68.7	36.0	21.5	16.6	15.6	19.3	19.9	19.3
-33°	133.2	116.0	72.5	39.7	25.2	18.8	16.1	16.1	19.9	20.4	19.9
-37.5°	78.9	56.9	39.2	27.9	21.5	17.2	15.6	17.2	20.9	20.4	19.9
-42.5°	34.9	29.0	25.2	21.5	18.3	15.6	15.0	18.3	20.9	20.9	20.4
-47.5°	23.6	22.0	19.9	17.7	15.6	14.5	15.6	19.9	21.5	20.9	20.9
-55°	17.2	16.1	15.0	14.0	13.4	15.0	17.7	20.9	21.5	20.9	20.9
-65°	11.8	11.3	11.8	12.9	15.6	18.8	20.4	21.5	21.5	20.9	20.9
-75°	11.8	14.5	17.7	19.3	20.4	20.9	20.9	21.5	20.9	20.9	20.9
-85°	20.4	20.4	20.4	20.4	20.9	20.9	20.9	20.9	20.9	20.9	20.9
-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):**

	90°
90°	0.0
85°	0.0
75°	0.0
65°	0.0
55°	0.0
47.5°	0.0
42.5°	0.0
37.5°	0.0
33°	0.0
29°	0.0
25.5°	0.0
22.5°	0.0
19.5°	0.0
17°	0.0
15°	0.0
13°	0.0
11°	0.0
9°	0.0
7°	0.0
5°	0.0
3°	0.0
1°	0.0
0°	0.0
-1°	0.0
-3°	0.0
-5°	0.0
-7°	0.0
-9°	0.0
-11°	0.0
-13°	0.0
-15°	0.0
-17°	0.0
-19.5°	0.0
-22.5°	0.0
-25.5°	0.0
-29°	0.0
-33°	0.0
-37.5°	0.0
-42.5°	0.0
-47.5°	0.0
-55°	0.0
-65°	0.0
-75°	0.0
-85°	0.0
-90°	0.0

(END OF REPORT)