

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: P95364

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

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P95364  
REPORT SCALED FROM IESNA LM79-08 TEST DATA (P22803)  
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  
Description: ARCHITECTURAL FLOOD LUMINAIRE  
MEDIUM SYMMETRIC ROUND DISTRIBUTION  
WITH 20 LED'S, 350mA DRIVE CURRENT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp:	N/A	NEMA Type:	4H x 4V
Luminaire Lumens:	2183 lumens	Max Intensity:	3382.3 candela
Efficiency:	N/A	Max Intensity Angle:	0°H x 0°V
Efficacy:	91.3 lumens/watt		
Luminous Opening:	(L: 0.83 ' x W: 0 ' x H: 0.5 ')		
Beam Angle (50%):	56°H x 56°V	Field Angle (10%):	66.2°H x 64.7°V
Beam Lumens:	1834.7 lumens	Field Lumens:	2092 lumens
Beam Efficiency:	84.0%	Field Efficiency:	95.8%

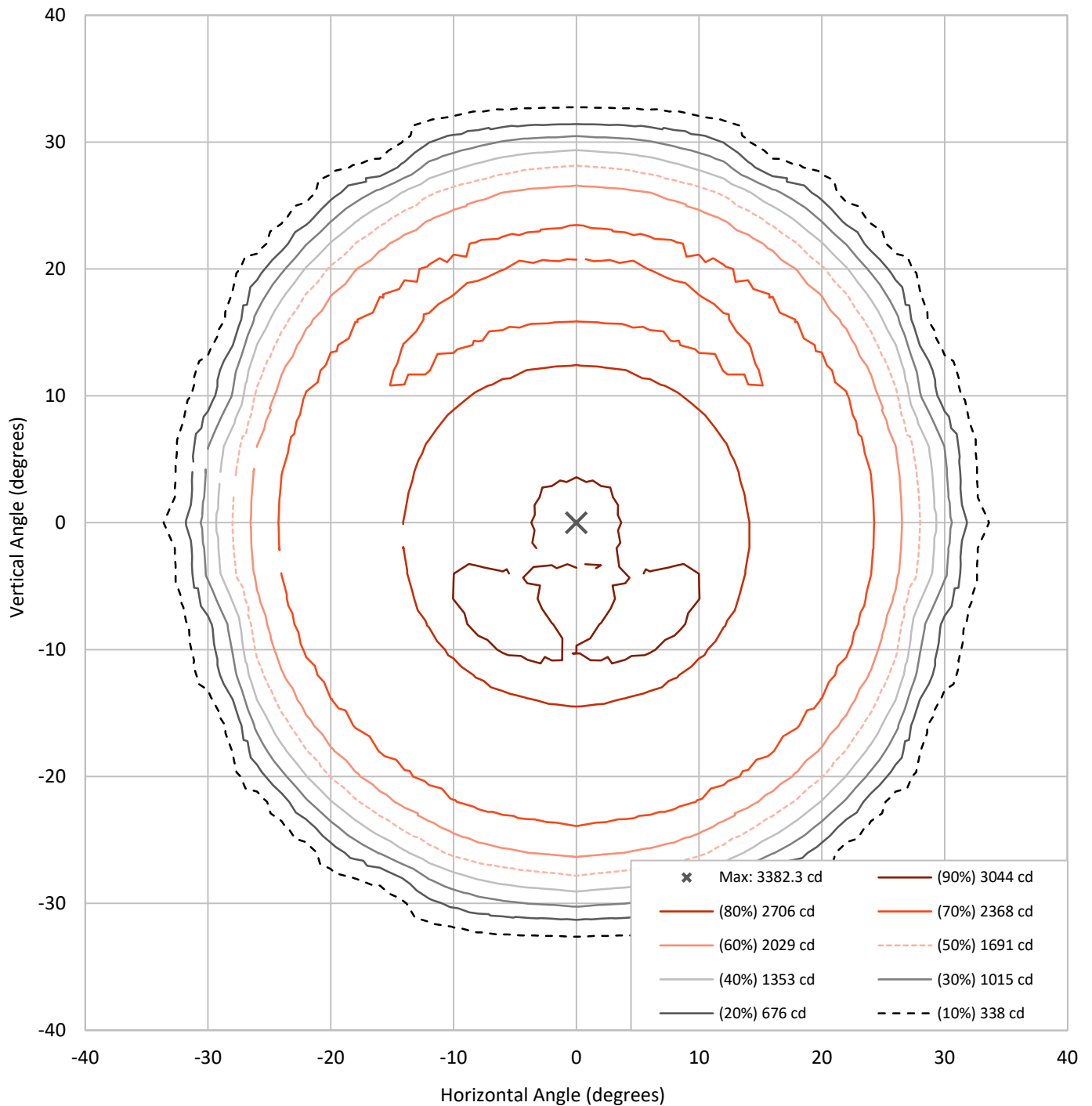
Input Watts (W): 23.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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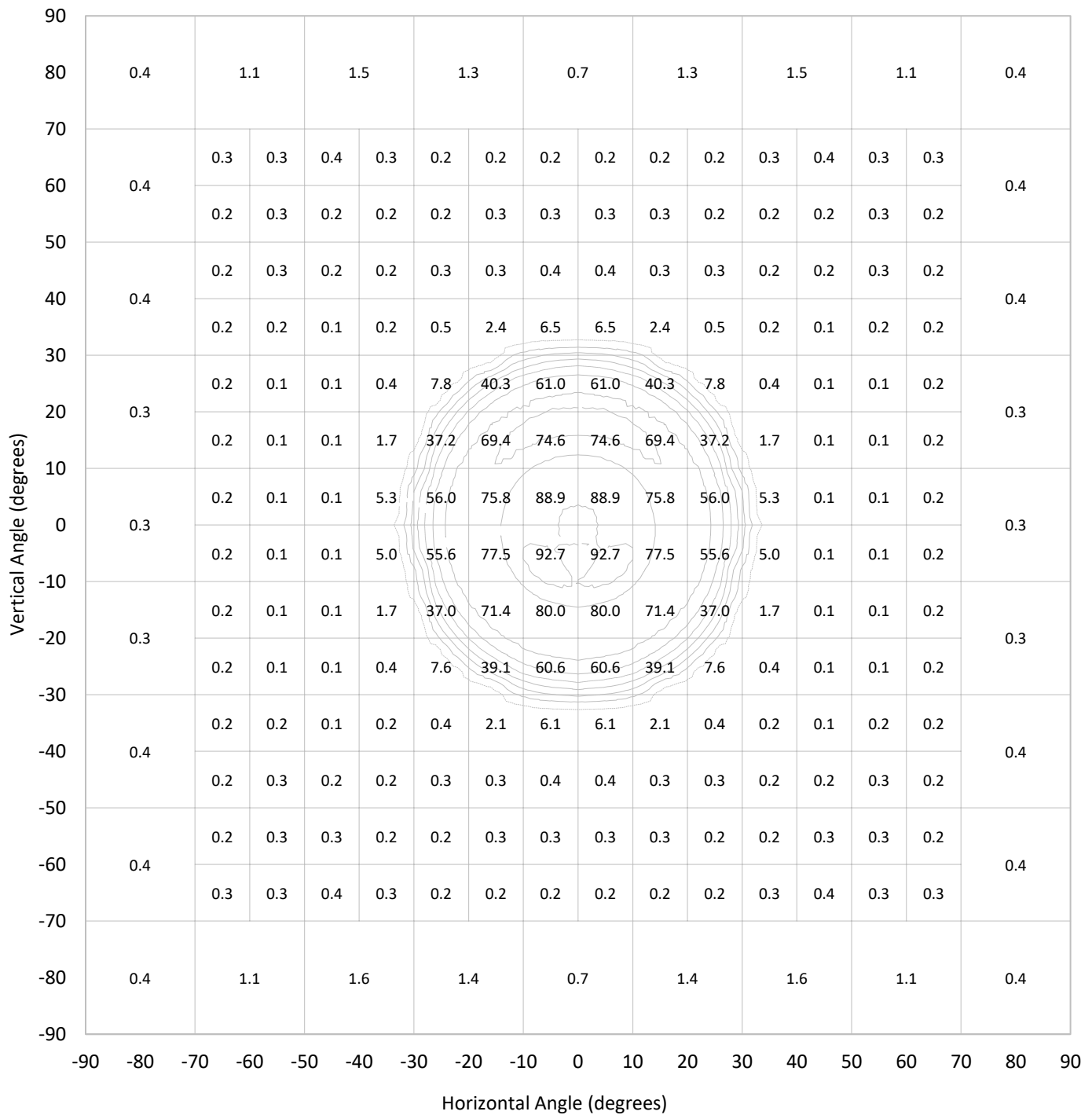
### Iso-Candela Plot





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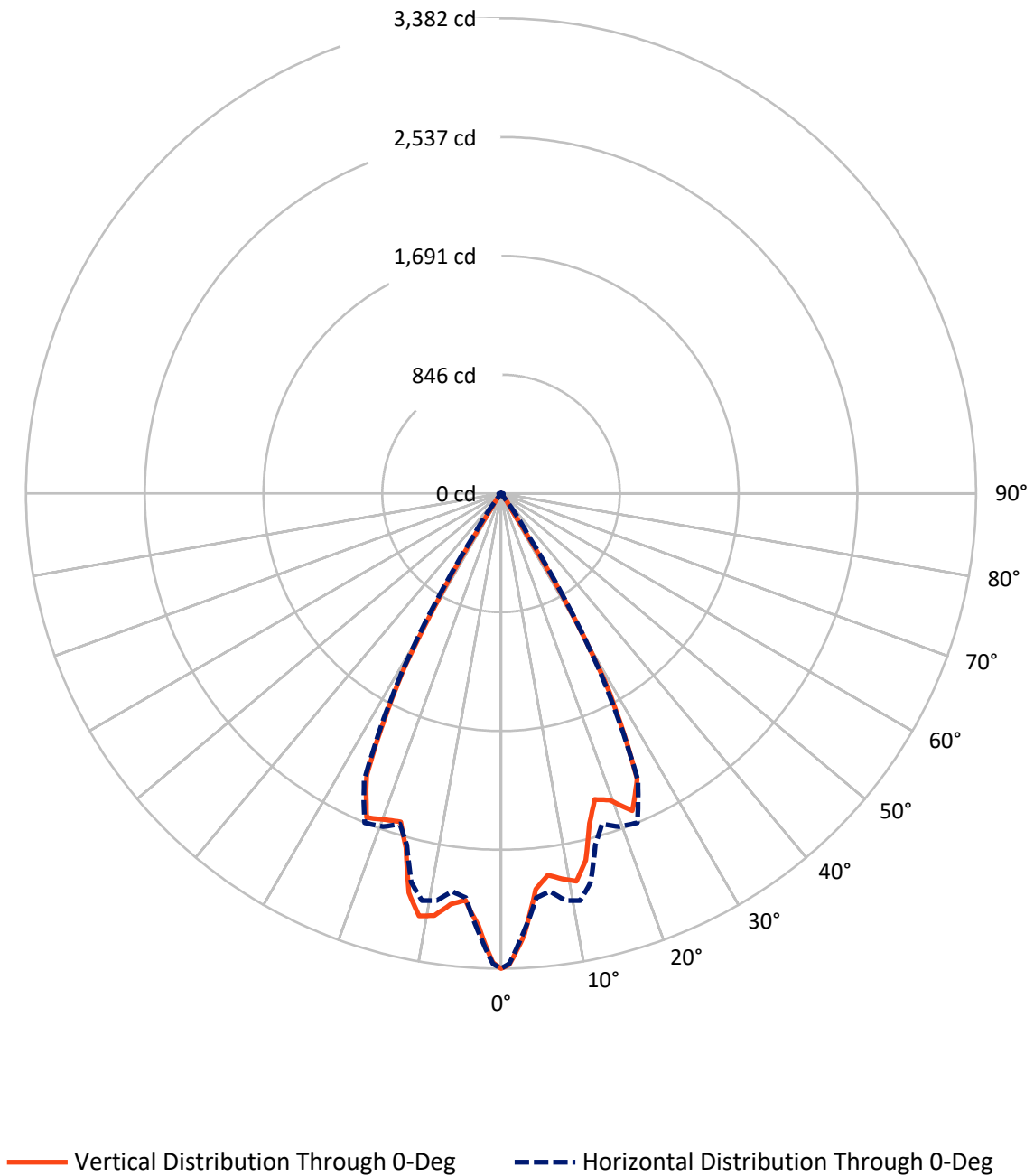
### Lumen Table



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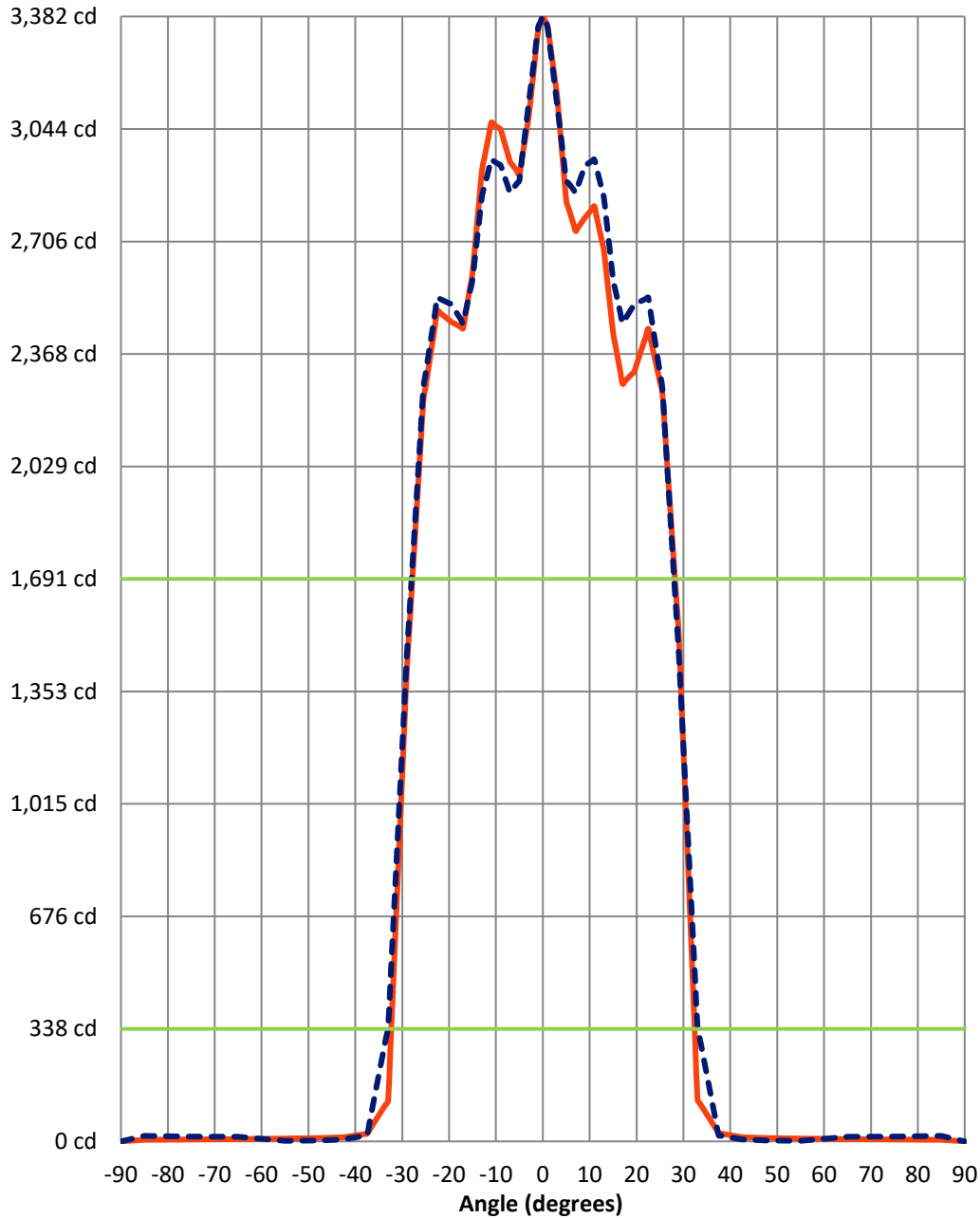
### Luminous Intensity Polar Plot



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### Luminous Intensity Plot



**Beam:**  
 H Angle: 56°  
 V Angle: 56°  
 Lumens: 1834.7  
 Efficiency: 84.0%

**Field:**  
 H Angle: 66.2°  
 V Angle: 64.7°  
 Lumens: 2092  
 Efficiency: 95.8%

**Spill:**  
 Lumens: 91  
 Efficiency: 4.2%

— 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°	4.8	4.8	7.0	6.4	4.8	12.4	18.3	18.8	18.8	18.8	18.8
75°	5.9	5.9	5.9	5.9	6.4	7.0	7.5	7.0	6.4	5.9	5.4
65°	7.0	7.0	7.0	7.0	7.0	7.5	7.5	8.1	8.1	8.1	8.1
55°	8.6	8.6	8.6	8.6	8.1	8.6	8.6	8.6	8.6	8.6	8.6
47.5°	10.2	10.2	10.2	10.2	10.2	10.2	9.7	9.7	9.7	9.7	9.1
42.5°	12.4	12.4	12.4	12.4	12.4	11.8	11.8	11.3	11.3	10.7	10.2
37.5°	25.2	24.7	24.7	24.7	23.1	22.0	20.4	18.3	16.6	15.0	13.4
33°	125.7	125.1	125.1	127.3	130.5	137.5	97.7	73.0	62.3	44.0	26.9
29°	1525.7	1496.7	1461.3	1402.7	1268.5	1113.8	955.4	768.0	138.6	135.9	110.6
25.5°	2250.7	2237.8	2220.1	2184.1	2115.9	2017.6	1879.1	1679.3	1407.0	1111.7	741.6
22.5°	2443.5	2441.9	2432.2	2418.8	2400.0	2359.2	2287.8	2180.9	2012.8	1770.6	1373.7
19.5°	2314.6	2321.6	2328.6	2344.7	2378.5	2414.5	2426.3	2412.4	2352.8	2213.7	1922.1
17°	2278.1	2277.0	2280.3	2285.1	2287.8	2309.8	2358.7	2412.9	2436.5	2390.9	2209.4
15°	2431.2	2419.3	2402.7	2368.3	2323.2	2299.6	2302.3	2352.8	2417.7	2444.6	2350.1
13°	2680.9	2666.9	2646.5	2585.8	2491.8	2398.4	2328.6	2315.7	2372.6	2439.2	2436.5
11°	2811.4	2807.6	2813.0	2792.1	2715.3	2598.7	2458.6	2355.4	2346.8	2412.9	2473.6
9°	2777.6	2784.5	2843.1	2904.3	2886.6	2778.6	2625.6	2463.9	2369.9	2396.3	2474.7
7°	2737.3	2746.4	2823.2	2966.6	3054.7	2934.9	2777.0	2580.5	2423.1	2394.6	2468.2
5°	2828.0	2830.7	2847.4	2945.6	3056.3	3040.2	2904.3	2694.8	2483.3	2408.1	2467.7
3°	3149.7	3107.8	2967.1	2883.9	2915.6	2978.4	2949.9	2778.6	2538.0	2428.5	2471.4
1°	3355.4	3327.5	3108.4	2881.2	2856.0	2936.0	2947.3	2825.9	2581.0	2454.8	2512.3
0°	3382.3	3350.0	3122.9	2889.8	2853.3	2934.4	2952.1	2840.4	2591.2	2460.2	2516.6
-1°	3341.4	3310.8	3107.3	2901.1	2874.2	2952.1	2962.8	2851.1	2592.3	2460.2	2502.1
-3°	3081.5	3098.2	3007.4	2960.1	2987.0	3032.1	2998.3	2842.0	2572.4	2462.8	2497.8
-5°	2907.0	2916.1	2984.8	3105.7	3164.2	3130.4	3011.7	2771.6	2530.5	2469.8	2511.7
-7°	2946.2	2954.8	3060.0	3215.2	3273.8	3132.5	2914.0	2664.2	2494.0	2473.6	2525.1
-9°	3042.8	3052.0	3120.2	3183.5	3139.0	2955.8	2757.1	2552.0	2468.2	2479.0	2530.0
-11°	3063.3	3076.1	3082.0	3042.8	2922.0	2766.8	2587.4	2467.1	2453.2	2502.6	2519.2
-13°	2918.3	2930.6	2879.6	2785.6	2686.8	2556.3	2459.6	2437.1	2478.4	2516.6	2469.8
-15°	2611.6	2586.4	2559.5	2516.0	2480.6	2438.7	2433.8	2470.4	2508.5	2494.5	2359.2
-17°	2444.6	2445.1	2444.6	2440.3	2436.0	2447.3	2477.9	2503.1	2488.1	2405.4	2200.8
-19.5°	2463.9	2469.3	2475.2	2485.9	2495.1	2504.2	2491.3	2443.0	2344.7	2190.6	1887.7
-22.5°	2497.8	2494.0	2488.1	2471.4	2442.4	2380.7	2281.3	2143.3	1961.3	1721.2	1332.4
-25.5°	2224.4	2199.2	2175.5	2120.2	2076.2	1980.6	1815.7	1590.7	1328.6	1046.7	689.0
-29°	1421.0	1375.3	1343.7	1285.7	1192.2	1060.1	872.7	663.8	135.3	134.8	99.9
-33°	122.4	121.4	122.4	125.7	130.0	123.5	76.3	61.2	54.2	38.1	25.2
-37.5°	23.1	22.6	22.6	23.1	22.0	20.9	19.3	17.7	16.1	15.0	13.4
-42.5°	12.4	12.4	12.4	12.4	12.4	11.8	11.8	11.3	11.3	10.7	10.2
-47.5°	10.2	10.2	10.2	10.2	10.2	10.2	10.2	9.7	9.7	9.7	9.7
-55°	8.6	8.6	8.1	8.6	8.1	8.6	8.6	8.6	8.6	8.6	8.6
-65°	7.0	7.0	7.0	7.0	7.0	7.0	7.5	8.1	8.1	8.1	8.1
-75°	5.9	5.9	5.9	5.9	6.4	7.0	7.5	7.0	6.4	5.9	5.4
-85°	4.8	5.4	7.0	6.4	4.8	12.4	18.3	19.3	19.3	18.8	19.3
-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	20.4	20.4	20.4	19.9	19.9	19.9	20.4	21.5	22.0	22.6
75°	8.6	12.9	18.3	18.8	18.8	18.3	19.3	20.4	19.9	20.4	22.0
65°	7.0	6.4	5.9	7.5	12.4	18.3	18.8	18.8	20.4	19.9	21.5
55°	8.6	8.1	7.5	6.4	5.9	8.6	14.0	18.8	18.3	20.4	20.9
47.5°	9.1	9.1	8.6	7.5	6.4	5.9	9.1	17.7	18.8	20.4	20.4
42.5°	10.2	9.7	9.1	8.1	7.0	5.9	6.4	14.5	18.8	19.9	20.4
37.5°	11.8	10.7	9.7	8.6	7.0	5.9	4.8	11.8	18.3	19.3	19.9
33°	18.3	14.5	11.3	9.1	7.5	5.9	4.8	9.7	17.7	18.8	19.3
29°	53.7	26.3	15.0	10.7	8.1	5.9	4.8	8.1	17.2	17.7	18.8
25.5°	123.5	69.8	29.5	13.4	8.6	5.9	4.3	6.4	16.6	17.2	18.3
22.5°	807.7	117.1	66.1	17.7	9.7	5.9	4.3	5.4	16.6	16.6	18.3
19.5°	1382.9	729.3	98.3	25.8	10.7	5.9	3.8	4.3	16.1	16.1	17.7
17°	1777.6	1117.6	111.2	39.2	11.3	5.9	3.8	3.8	15.6	16.1	17.7
15°	2015.0	1410.3	121.4	60.7	12.4	5.4	3.2	3.2	15.0	15.6	17.2
13°	2194.3	1657.3	523.6	84.9	13.4	5.4	3.2	2.7	14.5	15.6	17.2
11°	2322.7	1852.8	627.3	99.4	14.5	5.4	3.2	2.1	14.5	15.0	17.2
9°	2407.0	2005.3	719.1	117.6	15.6	5.4	2.7	1.6	14.5	15.0	16.6
7°	2465.5	2119.7	1247.5	130.5	16.6	5.4	2.7	1.6	14.0	15.0	16.6
5°	2504.7	2192.2	1353.9	133.2	17.2	5.9	2.7	1.6	14.0	15.0	16.6
3°	2524.1	2238.4	1424.2	134.8	18.3	5.9	2.7	1.6	14.0	15.0	16.6
1°	2534.8	2262.0	1460.7	135.3	18.3	5.9	2.7	1.6	14.0	14.5	16.6
0°	2537.0	2264.1	1464.5	344.8	18.3	5.9	2.7	1.6	14.0	14.5	16.6
-1°	2538.0	2261.5	1460.2	135.3	18.3	5.9	2.7	1.6	14.0	14.5	16.6
-3°	2534.8	2237.8	1425.3	134.8	18.3	5.9	2.7	1.6	14.0	15.0	16.6
-5°	2523.5	2185.7	1352.3	133.2	17.7	5.9	2.7	1.6	14.0	15.0	16.6
-7°	2491.8	2114.8	792.1	130.5	16.6	5.4	2.7	1.6	14.0	15.0	16.6
-9°	2424.7	2005.8	715.3	115.5	15.6	5.4	2.7	1.6	14.0	15.0	16.6
-11°	2322.7	1850.1	625.1	99.4	14.0	5.4	3.2	2.1	14.5	15.0	16.6
-13°	2186.3	1648.7	522.0	85.9	12.9	5.4	3.2	2.1	14.5	15.0	17.2
-15°	1998.3	1396.3	120.8	60.7	11.8	5.4	3.2	2.7	15.0	15.6	17.2
-17°	1758.8	1104.7	110.6	39.2	11.3	5.4	3.2	3.2	15.0	15.6	17.2
-19.5°	1344.2	718.6	97.2	24.7	10.2	5.4	3.8	4.3	15.6	16.1	17.7
-22.5°	784.1	116.0	64.4	16.6	9.1	5.9	3.8	5.4	16.1	16.6	17.7
-25.5°	121.4	67.7	28.5	12.9	8.6	5.9	4.3	6.4	16.6	17.2	18.3
-29°	49.4	24.7	15.0	10.7	8.1	5.9	4.8	8.1	17.2	17.7	18.3
-33°	17.7	14.0	11.3	9.1	7.5	5.9	4.8	9.7	17.7	18.3	18.8
-37.5°	11.8	10.7	9.7	8.6	7.5	5.9	5.4	11.8	18.3	19.3	19.3
-42.5°	10.2	9.7	9.1	8.1	7.0	5.9	6.4	15.0	18.8	19.9	19.9
-47.5°	9.1	9.1	8.6	8.1	7.0	5.9	9.1	17.7	18.8	20.4	20.4
-55°	8.6	8.6	7.5	7.0	5.9	9.1	14.5	18.8	18.8	20.4	20.9
-65°	7.5	6.4	5.9	7.5	12.9	18.3	19.3	18.8	20.4	19.9	21.5
-75°	8.6	13.4	18.3	18.8	19.3	18.8	19.3	20.9	20.4	20.4	22.0
-85°	20.4	20.9	20.9	20.4	20.4	19.9	20.4	20.9	21.5	22.0	22.6
-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)