

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: FAIL-SAFE

Report Number: 29682

Luminaire Tested: **FMV5LCY/UNV1 76**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 29682
Test Lab: LUMINAIRE TESTING LABORATORY, INC.
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMV5LCY/UNV1 76
Description: CAST GRAY ENAMEL ALUMINUM HEATSINK HOUSING, MOLDED SPECULAR PLASTIC REFLECTORS, CLEAR GLASS ENCLOSURE.
Light Source: FOUR WHITE LEDS

Ballast/Driver: LED POWER SUPPLIES: TWO THOMAS RESEARCH PRODUCTS TRC-050S110SC

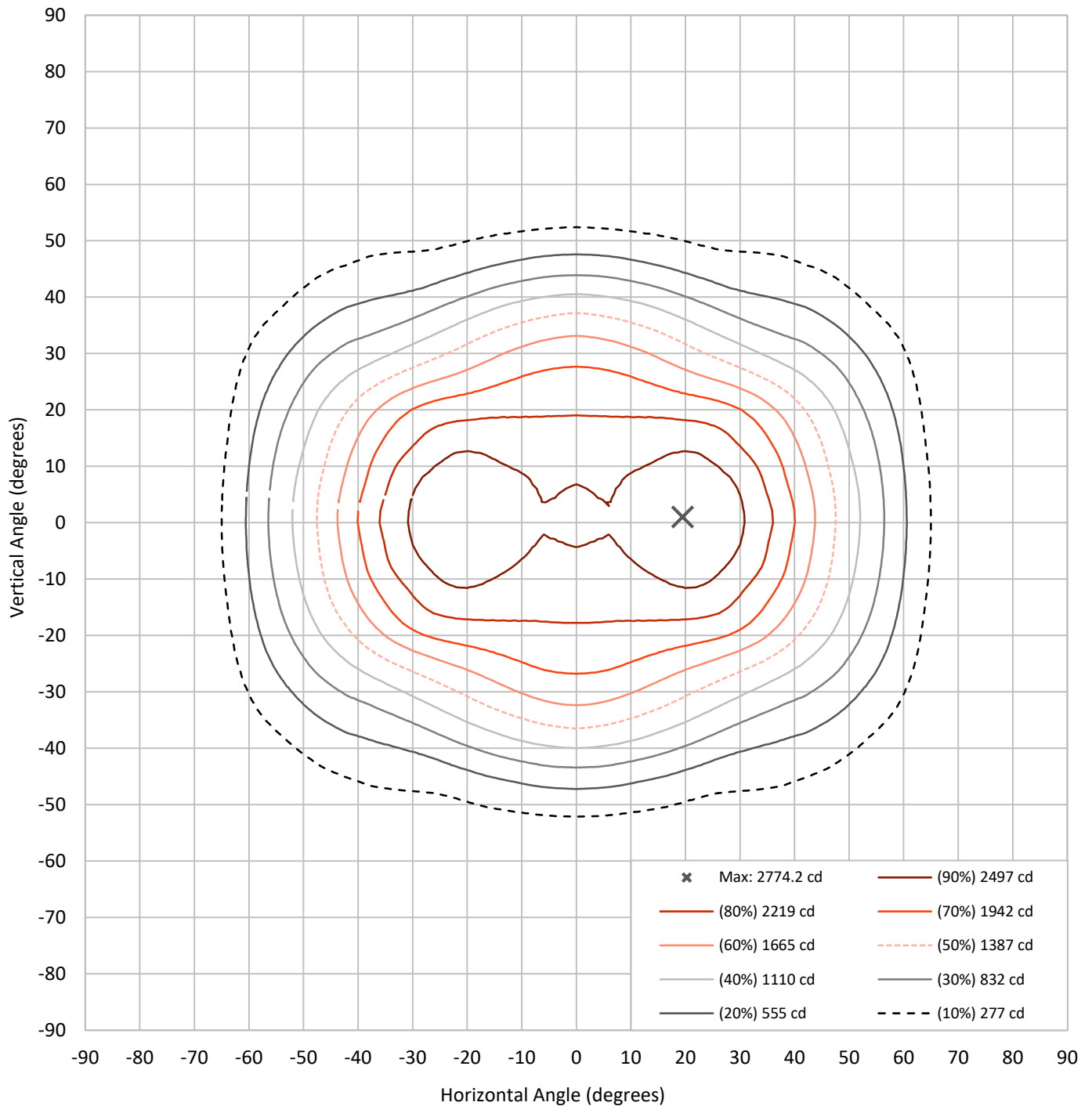
Summary

Lumens per Lamp:	N/A	NEMA Type:	6H x 5V
Luminaire Lumens:	4386.4 lumens	Max Intensity:	2774.2 candela
Efficiency:	N/A	Max Intensity Angle:	19.5°H x 1°V
Efficacy:	68.2 lumens/watt		
Luminous Opening:	Rectangular (W 1.29' x L: 0.83' x H: 0')		
Beam Angle (50%):	95°H x 62.9°V	Field Angle (10%):	129.4°H x 99.6°V
Beam Lumens:	3171.1 lumens	Field Lumens:	4254.4 lumens
Beam Efficiency:	72.3%	Field Efficiency:	97.0%

Input Watts (W): 64.3
Input Voltage (V): NR
Input Current (A_{in}): 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

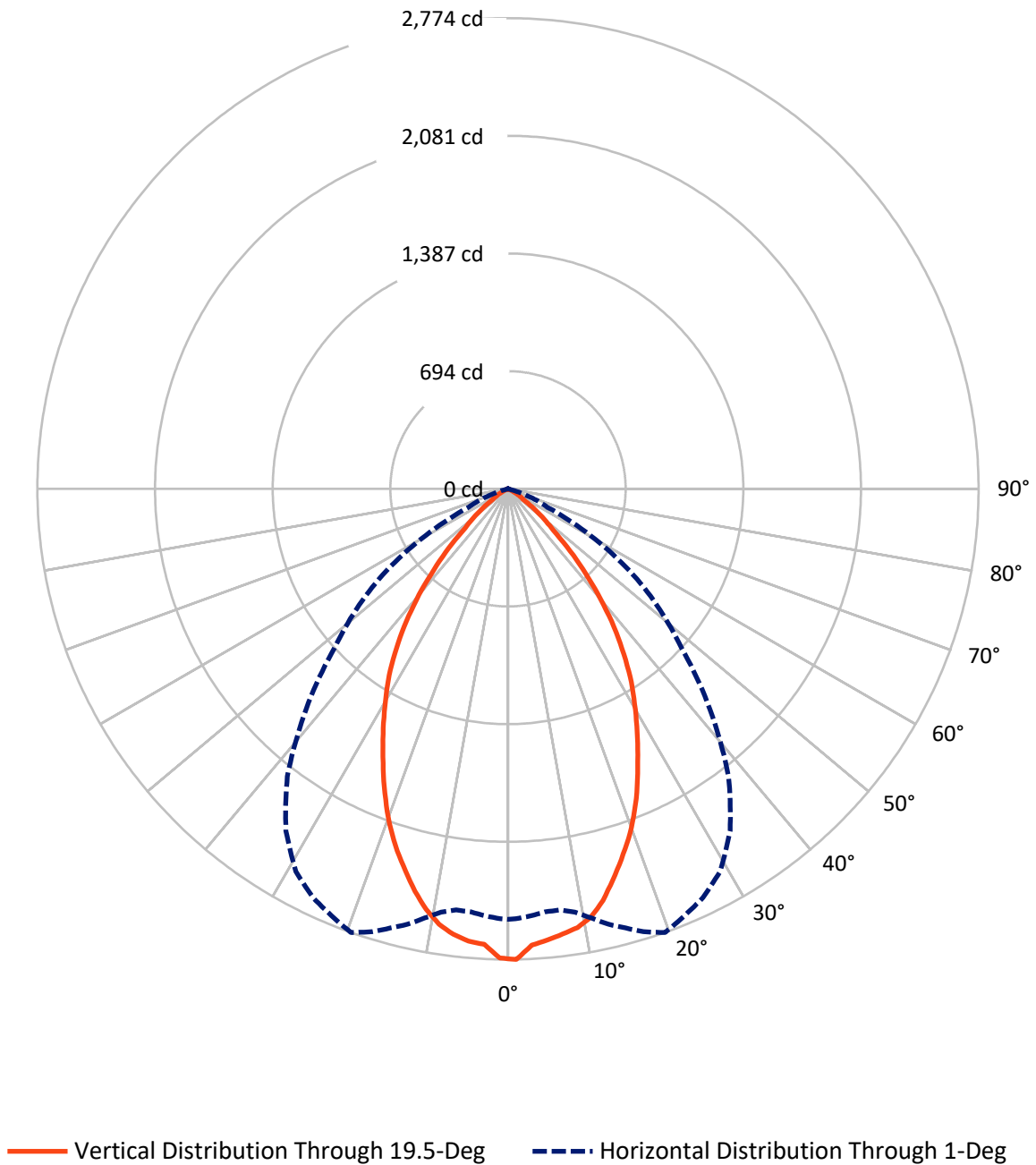
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Iso-Candela Plot



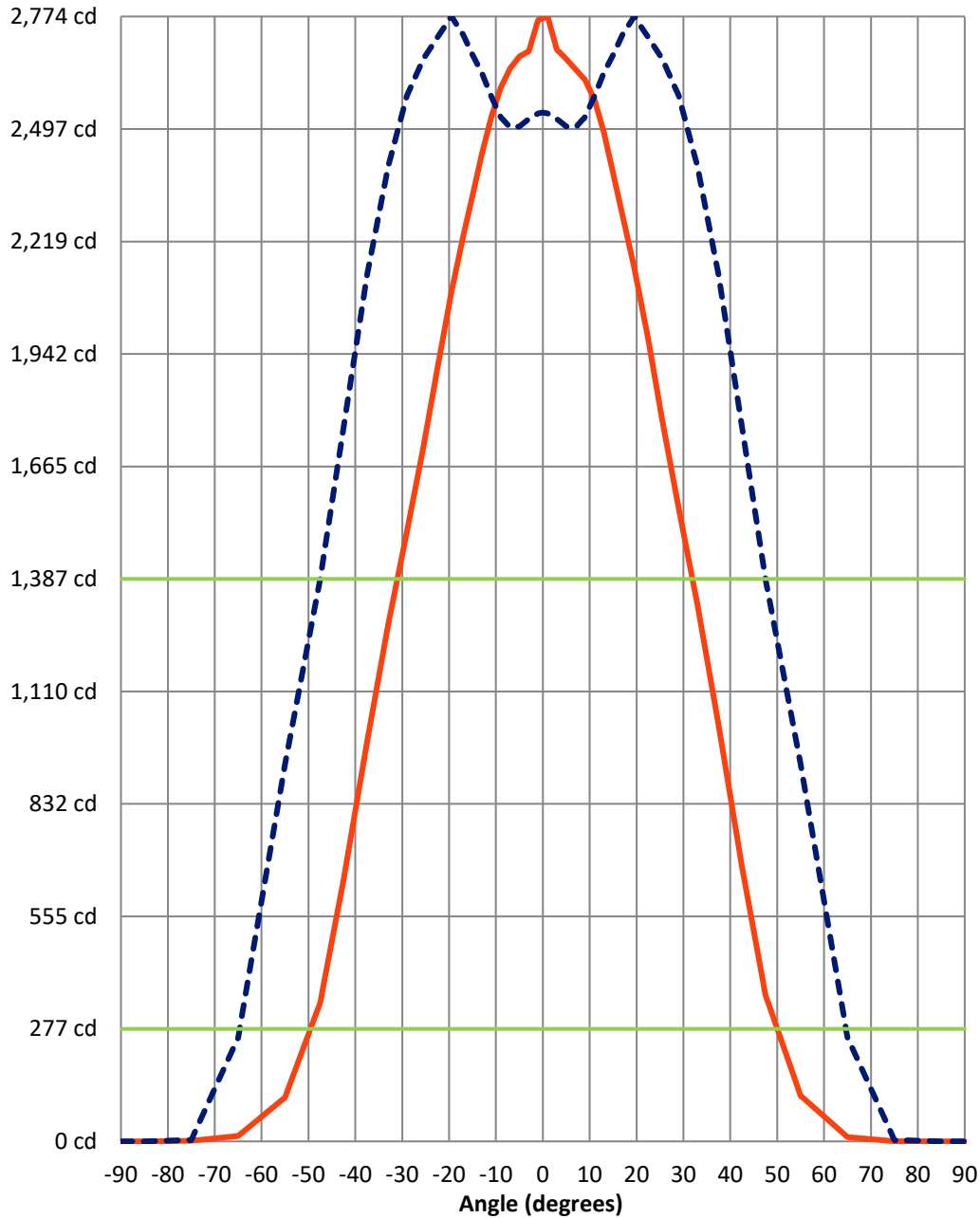
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Luminous Intensity Polar Plot



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Luminous Intensity Plot



Beam:
 H Angle: 95°
 V Angle: 62.9°
 Lumens: 3171.1
 Efficiency: 72.3%

Field:
 H Angle: 129.4°
 V Angle: 99.6°
 Lumens: 4254.4
 Efficiency: 97.0%

Spill:
 Lumens: 132
 Efficiency: 3.0%

— Vertical Distribution through 19.5-Deg
 - - - Horizontal Distribution through 1-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°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	2.2	2.5	2.6	3.0	3.1	2.9	2.4	1.7	1.3	1.0	0.4
65°	13.2	13.2	13.0	13.3	13.5	13.2	13.2	12.9	12.4	11.5	10.6
55°	131.3	130.7	127.5	121.3	115.2	110.8	107.4	106.6	107.6	109.9	112.6
47.5°	552.8	552.3	547.4	536.0	520.8	502.3	476.7	450.2	423.4	396.2	361.3
42.5°	938.0	939.1	933.7	922.0	901.8	872.9	843.1	811.3	774.9	735.4	676.5
37.5°	1370.1	1368.4	1351.0	1326.5	1300.1	1268.7	1234.9	1193.1	1143.1	1091.4	1026.3
33°	1682.5	1680.0	1667.6	1645.3	1614.5	1575.1	1535.0	1494.6	1446.9	1395.4	1322.8
29°	1888.8	1886.9	1880.4	1866.8	1846.9	1817.1	1779.0	1733.3	1680.1	1625.2	1560.7
25.5°	2029.9	2030.1	2025.5	2013.7	1997.6	1976.3	1948.6	1916.9	1878.6	1833.1	1777.1
22.5°	2128.1	2127.0	2122.2	2114.9	2104.8	2092.1	2075.6	2056.7	2035.2	2009.3	1977.3
19.5°	2207.9	2207.2	2206.1	2204.0	2200.4	2197.5	2193.2	2188.4	2180.9	2169.4	2154.4
17°	2270.0	2269.1	2269.1	2268.9	2270.6	2273.5	2279.7	2289.1	2297.1	2294.6	2283.9
15°	2318.4	2316.7	2316.3	2318.7	2324.8	2332.6	2343.7	2358.9	2376.3	2386.9	2387.5
13°	2362.7	2360.2	2359.0	2364.4	2376.0	2388.4	2403.4	2422.9	2447.0	2469.7	2489.6
11°	2411.1	2406.9	2401.6	2405.9	2420.5	2438.4	2455.4	2475.5	2503.6	2535.9	2569.9
9°	2462.3	2458.2	2447.1	2444.6	2458.9	2482.1	2505.5	2527.4	2553.2	2585.9	2618.0
7°	2497.3	2493.5	2479.4	2472.4	2482.6	2514.2	2549.6	2577.9	2601.3	2625.2	2643.7
5°	2520.5	2514.6	2498.7	2485.2	2494.7	2527.3	2572.3	2611.7	2641.7	2661.2	2669.3
3°	2536.8	2532.0	2517.0	2496.0	2498.6	2527.4	2577.6	2634.2	2669.1	2689.5	2692.9
1°	2537.3	2535.1	2521.2	2503.2	2500.9	2526.4	2577.4	2634.7	2679.8	2729.3	2774.2
0°	2533.1	2532.0	2519.8	2502.2	2501.8	2523.5	2573.6	2630.8	2677.4	2732.8	2769.9
-1°	2530.1	2526.6	2516.6	2500.3	2499.8	2523.7	2570.3	2622.8	2671.7	2728.9	2765.1
-3°	2515.8	2510.4	2504.0	2492.9	2496.7	2518.3	2557.0	2602.4	2646.8	2680.3	2688.8
-5°	2487.5	2483.7	2480.0	2474.2	2482.2	2503.3	2534.7	2568.4	2607.8	2643.1	2675.4
-7°	2451.1	2451.4	2449.8	2445.6	2455.7	2475.5	2503.2	2532.9	2563.0	2600.2	2645.7
-9°	2411.6	2410.6	2411.6	2414.1	2419.9	2438.5	2465.1	2491.4	2517.1	2552.4	2598.1
-11°	2374.4	2371.7	2373.7	2372.7	2377.0	2391.9	2417.6	2440.7	2463.5	2489.3	2525.6
-13°	2333.0	2331.5	2332.0	2332.1	2333.7	2344.7	2363.9	2381.6	2399.8	2417.5	2435.2
-15°	2285.7	2284.6	2285.5	2284.9	2284.7	2290.3	2303.0	2313.3	2323.1	2329.9	2332.4
-17°	2239.5	2239.7	2239.3	2235.9	2233.7	2232.1	2234.8	2235.3	2234.9	2234.3	2231.5
-19.5°	2174.9	2175.7	2173.9	2169.4	2162.5	2153.2	2142.6	2132.4	2121.6	2109.0	2094.5
-22.5°	2090.9	2089.5	2087.4	2080.3	2066.1	2047.1	2024.1	2000.4	1973.6	1943.5	1905.3
-25.5°	1995.2	1993.5	1989.0	1977.2	1957.9	1929.8	1894.5	1854.5	1813.0	1767.4	1711.3
-29°	1850.7	1849.6	1843.3	1827.4	1801.5	1763.3	1717.3	1668.5	1617.8	1567.5	1503.3
-33°	1634.4	1632.5	1620.4	1595.1	1560.6	1520.5	1480.4	1438.6	1391.8	1340.8	1273.8
-37.5°	1318.1	1313.6	1297.5	1277.0	1252.7	1221.1	1182.3	1137.3	1091.1	1044.9	985.0
-42.5°	899.3	897.0	893.0	881.9	859.7	831.5	803.3	773.8	739.1	700.0	645.5
-47.5°	527.1	525.1	520.2	511.9	497.2	476.4	452.0	426.7	403.5	377.1	342.0
-55°	123.2	122.9	121.3	117.2	111.4	107.2	105.7	105.2	105.2	106.5	108.4
-65°	13.2	12.9	13.3	13.6	14.4	14.7	15.1	15.4	14.8	14.3	13.4
-75°	3.1	3.0	3.2	3.6	3.9	3.8	3.4	2.8	2.5	2.0	1.5
-85°	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



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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°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.3	0.5	0.0	0.1	0.6	0.2	0.0	0.1	0.2	0.0	0.0
65°	9.6	8.7	7.9	6.6	5.9	4.1	3.6	1.7	0.5	0.2	0.0
55°	115.7	115.0	111.9	98.6	69.3	60.9	47.8	14.4	1.0	0.7	0.0
47.5°	325.7	303.2	291.9	288.1	272.1	212.5	176.2	49.8	25.1	1.0	0.0
42.5°	611.2	552.1	489.3	458.3	437.7	381.1	301.7	150.8	45.3	1.3	0.0
37.5°	946.8	865.1	773.8	693.5	635.0	578.2	464.1	266.8	69.5	1.5	0.0
33°	1231.9	1146.8	1050.1	944.0	848.3	773.9	635.4	392.2	96.0	1.8	0.0
29°	1482.0	1402.3	1307.0	1191.5	1064.6	946.3	792.2	499.0	123.3	2.0	0.0
25.5°	1711.9	1648.6	1563.3	1440.8	1284.9	1110.2	922.8	586.4	147.4	2.3	0.0
22.5°	1936.2	1887.6	1806.4	1670.3	1479.0	1248.1	1024.0	658.0	167.1	2.4	0.0
19.5°	2137.4	2107.0	2027.9	1871.2	1647.1	1370.8	1110.9	723.3	186.3	2.7	0.0
17°	2269.1	2232.6	2144.7	1987.0	1757.4	1458.0	1172.2	771.2	201.3	2.8	0.0
15°	2368.7	2310.4	2208.0	2053.2	1825.3	1517.5	1212.2	805.0	212.6	2.9	0.0
13°	2471.7	2390.1	2274.9	2122.3	1886.8	1571.1	1247.5	835.3	222.9	3.1	0.0
11°	2558.2	2474.4	2358.8	2198.4	1942.7	1615.5	1281.6	861.4	232.1	3.2	0.0
9°	2610.8	2547.4	2444.6	2262.0	1983.2	1653.8	1315.5	884.0	240.0	3.3	0.0
7°	2634.7	2601.9	2511.8	2305.8	2017.9	1690.6	1345.9	901.8	246.5	3.3	0.0
5°	2658.4	2641.8	2549.7	2346.0	2061.4	1726.6	1369.9	916.0	251.0	3.4	0.0
3°	2687.0	2661.4	2569.7	2383.8	2113.5	1751.3	1383.6	926.0	254.1	3.5	0.0
1°	2722.5	2669.3	2578.5	2403.6	2136.2	1761.2	1386.9	929.8	256.0	3.6	0.0
0°	2720.1	2668.3	2578.3	2403.1	2133.8	1760.7	1385.1	930.1	256.3	3.6	0.0
-1°	2718.0	2665.3	2574.1	2394.6	2119.6	1754.7	1381.7	928.4	256.0	3.6	0.0
-3°	2679.0	2645.4	2558.7	2368.9	2081.4	1737.1	1370.3	921.5	254.4	3.5	0.0
-5°	2659.3	2614.1	2523.8	2345.8	2050.8	1713.3	1356.1	910.3	251.1	3.4	0.0
-7°	2634.2	2574.6	2473.3	2309.0	2026.1	1685.8	1336.9	894.5	246.1	3.3	0.0
-9°	2594.0	2522.8	2404.4	2240.6	1982.9	1653.3	1313.4	875.1	239.7	3.2	0.0
-11°	2522.0	2455.2	2328.1	2156.8	1924.9	1612.2	1282.5	852.0	232.0	3.1	0.0
-13°	2423.8	2373.9	2258.1	2084.1	1860.7	1559.1	1246.2	825.8	222.6	3.0	0.0
-15°	2321.6	2288.3	2192.2	2016.3	1786.8	1497.3	1204.2	795.2	211.3	2.8	0.0
-17°	2221.2	2190.7	2108.4	1938.9	1702.1	1424.8	1153.9	760.6	199.1	2.7	0.0
-19.5°	2074.2	2033.3	1952.3	1799.2	1579.8	1321.8	1083.6	712.4	182.8	2.5	0.0
-22.5°	1858.2	1796.9	1708.7	1582.0	1403.3	1188.2	986.3	648.1	163.3	2.2	0.0
-25.5°	1644.2	1569.6	1475.3	1360.4	1213.8	1049.3	881.8	574.6	143.2	2.1	0.0
-29°	1425.5	1340.8	1242.9	1129.3	1006.3	891.5	753.0	484.0	118.2	1.9	0.0
-33°	1188.3	1102.4	1002.9	899.6	800.2	722.4	602.2	377.1	91.1	1.7	0.0
-37.5°	905.0	824.2	735.7	657.4	596.8	537.2	438.4	258.7	65.5	1.5	0.0
-42.5°	584.3	523.5	465.7	431.5	409.4	355.7	282.8	142.0	42.3	1.2	0.0
-47.5°	309.6	289.5	277.3	269.5	253.9	199.1	163.5	45.0	23.4	1.0	0.0
-55°	110.9	109.6	105.2	93.4	65.5	56.8	45.5	12.6	0.8	0.7	0.0
-65°	12.2	10.9	9.7	8.1	6.9	4.7	3.8	1.4	0.3	0.2	0.0
-75°	1.3	1.1	0.2	0.4	0.9	0.3	0.0	0.0	0.1	0.0	0.0
-85°	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



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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)