

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: STREETWORKS

Report Number: P509888

Luminaire Tested: **VERD-M-CA3-160-730-U-T4-HSS**

Issue Date: 4/6/2021

Test Information

Test Method: LM-79-08
Report Number: P509888
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2103-181-7)
Test Lab: INNOVATION CENTER
Issue Date: 4/6/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: VERD-M-CA3-160-730-U-T4-HSS
Description: VERDEON-M ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 1000mA LEDS AND TYPE IV OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20592 lumens
Efficiency: N/A
Efficacy: 126.6 lumens/watt
Luminous Opening: Rectangular (W 1.35' x L: 1.58' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G5

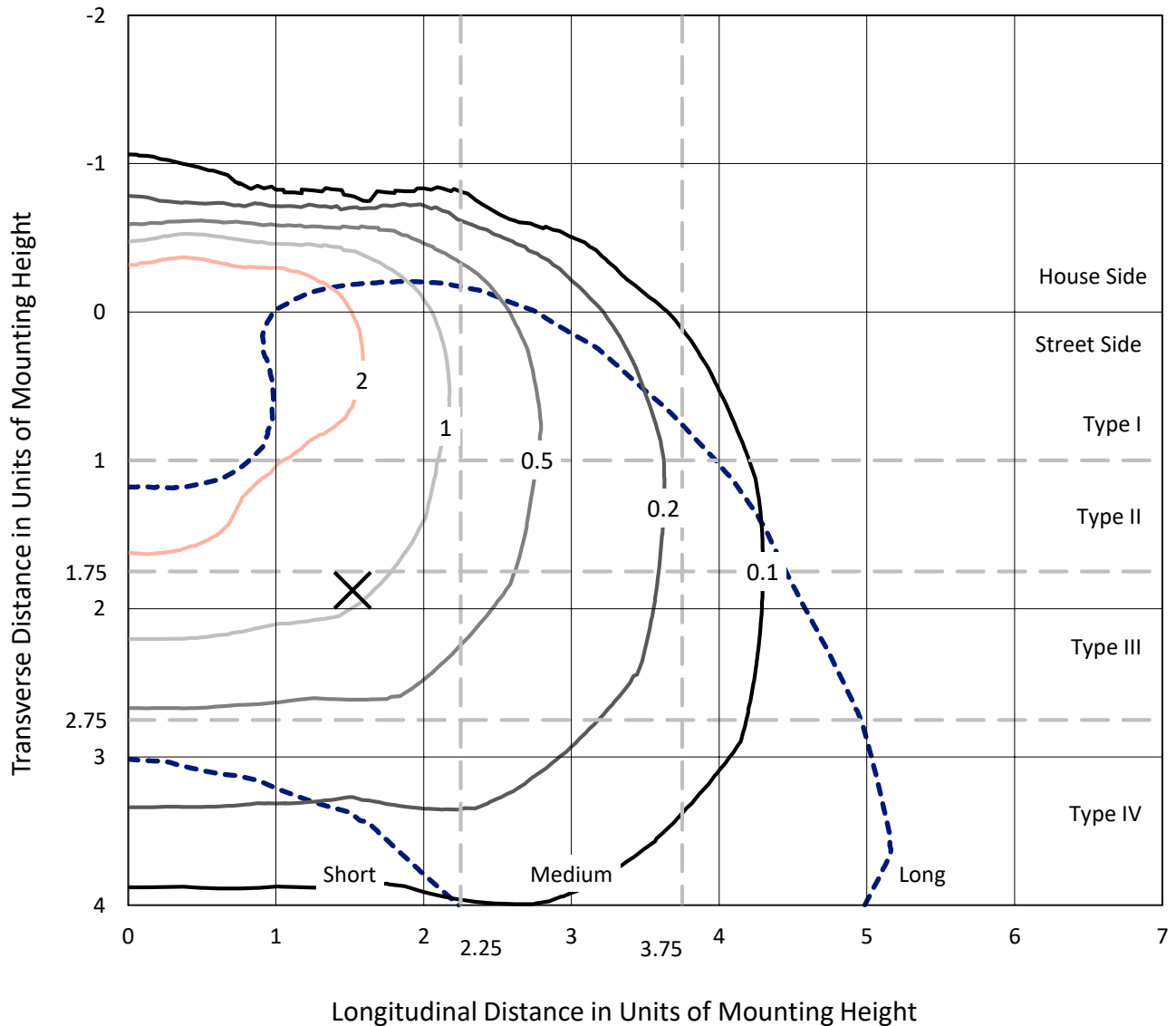
Input Watts (W): 162.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

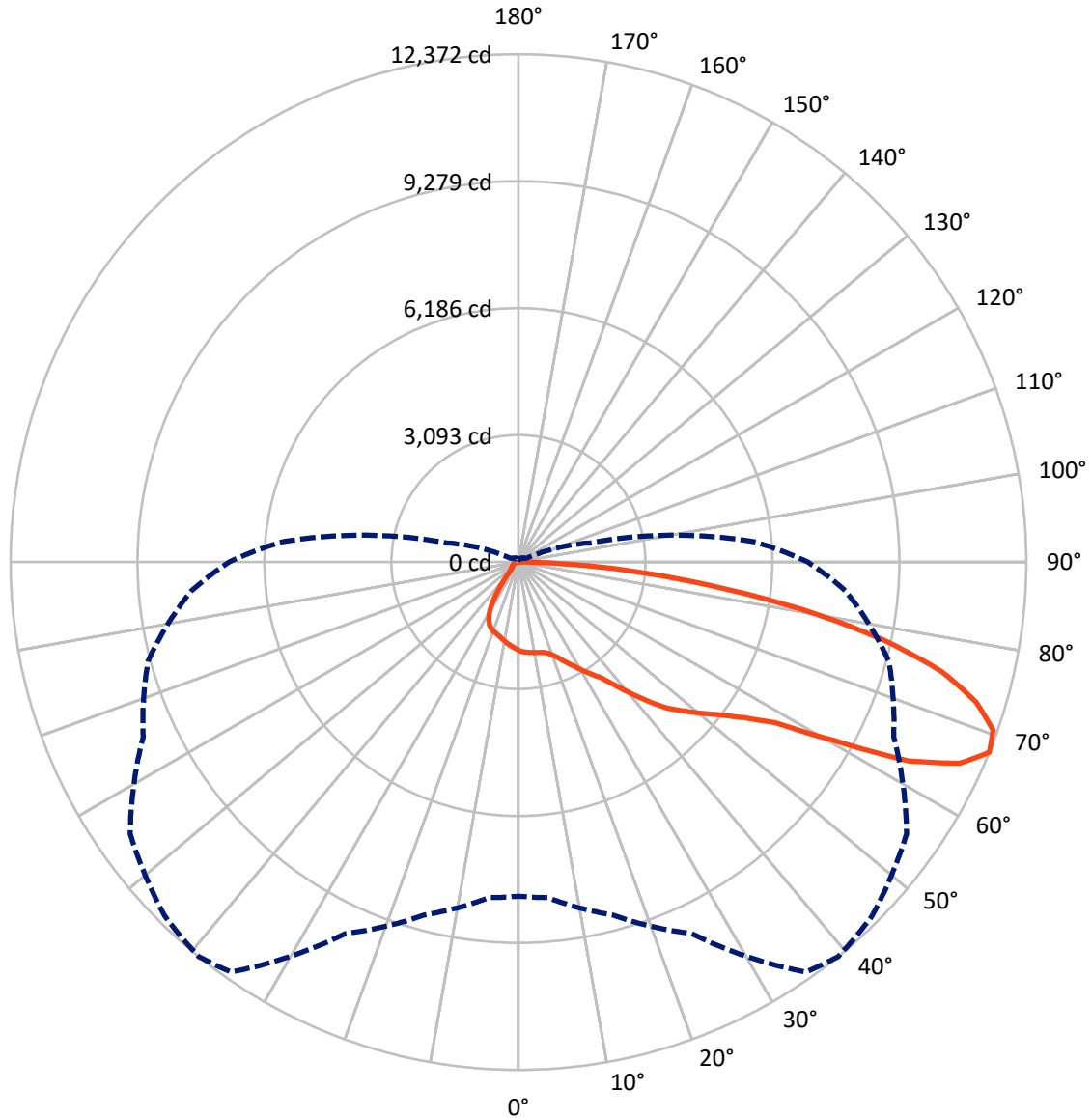
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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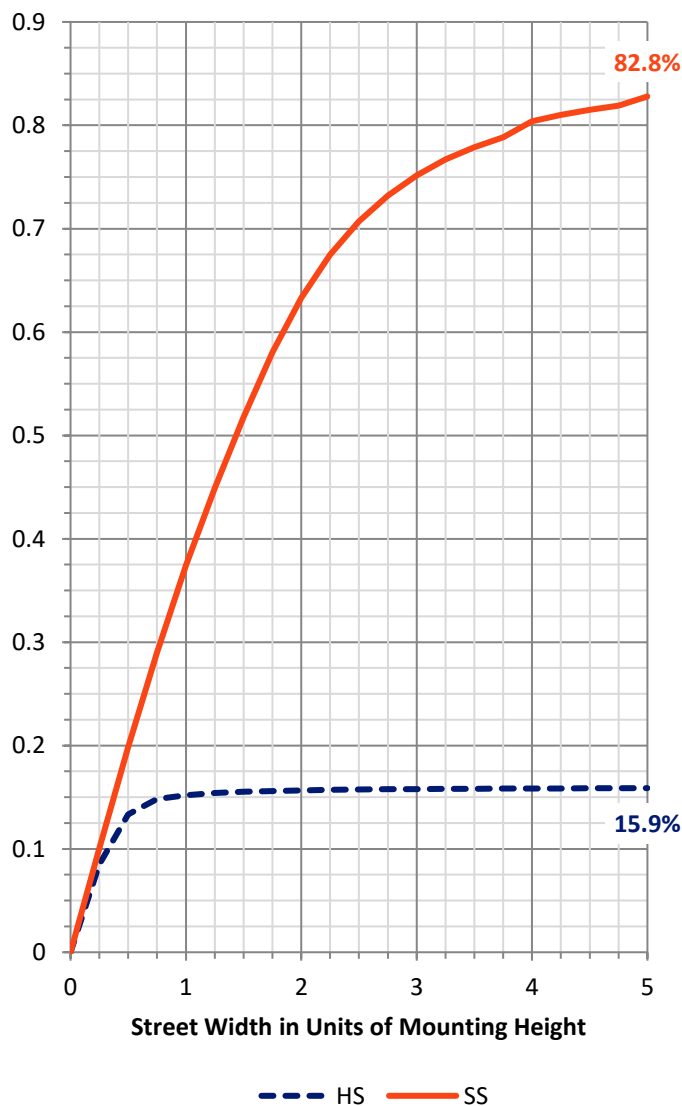
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3306.6 | 0.0 | 3306.6 |
| | % Fixture | 16.1 | 0.0 | 16.1 |
| Street Side | Lumens | 17285.4 | 0.0 | 17285.4 |
| | % Fixture | 83.9 | 0.0 | 83.9 |
| Total | Lumens | 20592.0 | 0.0 | 20592.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 203.6 | 1.0 |
| 10°-20° | 605.8 | 2.9 |
| 20°-30° | 1073.4 | 5.2 |
| 30°-40° | 1719.2 | 8.3 |
| 40°-50° | 2757.9 | 13.4 |
| 50°-60° | 4031.3 | 19.6 |
| 60°-70° | 5372.0 | 26.1 |
| 70°-80° | 4031.2 | 19.6 |
| 80°-90° | 797.6 | 3.9 |
| 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° | 20592.0 | 100.0 |
| 0°-180° | 20592.0 | 100.0 |

Coefficient of Utilization



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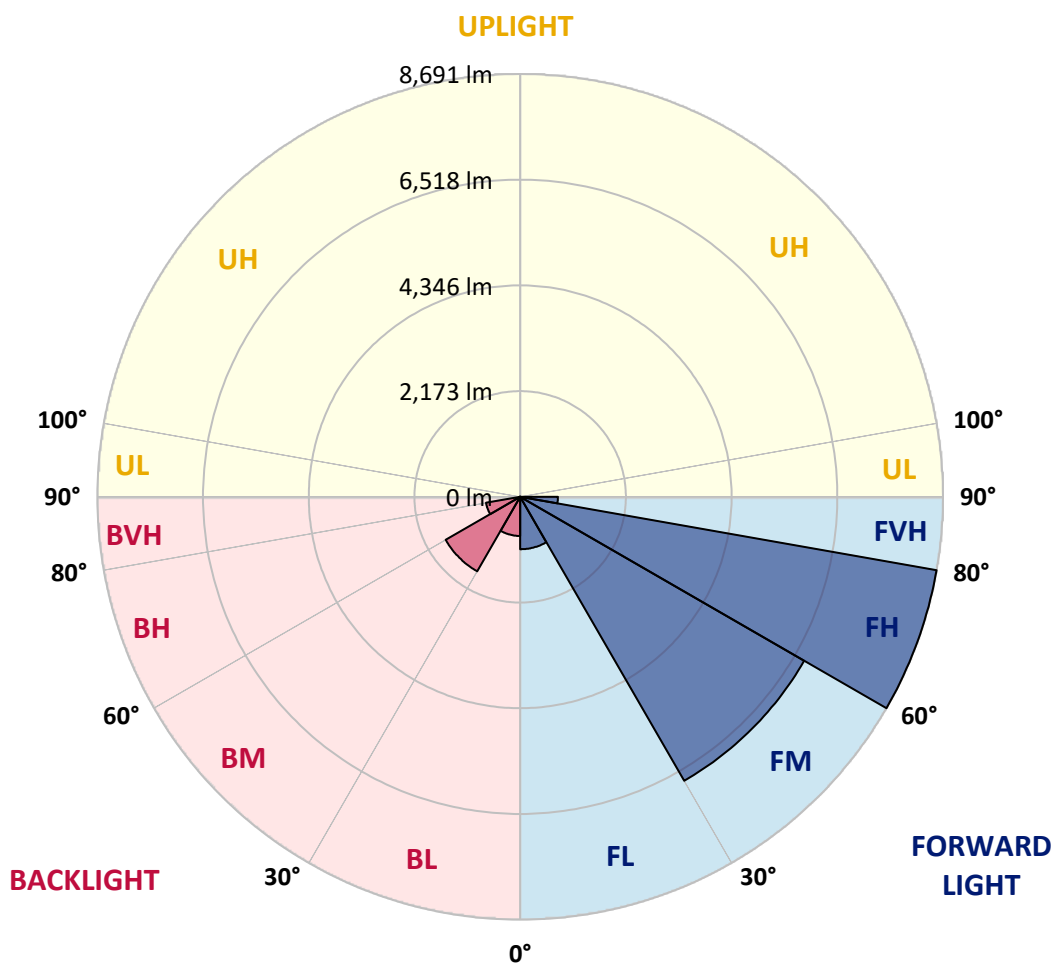
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 1077.6 | 5.2 | | | |
| FM | (30°-60°) | 6740.0 | 32.7 | | | |
| FH | (60°-80°) | 8691.2 | 42.2 | | | G4/12000 |
| FVH | (80°-90°) | 776.7 | 3.8 | | | G5 |
| BL | (0°-30°) | 805.2 | 3.9 | B2/1000 | | |
| BM | (30°-60°) | 1768.5 | 8.6 | B2/2500 | | |
| BH | (60°-80°) | 712.0 | 3.5 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 20.9 | 0.1 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 39° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|---------|---------|---------|---------|---------|---------|---------|--------|--------|
| 0° | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 |
| 2.5° | 2158.3 | 2187.2 | 2187.2 | 2179.0 | 2184.1 | 2188.3 | 2157.2 | 2165.5 | 2162.4 | 2161.4 | 2167.6 |
| 5° | 2174.8 | 2206.9 | 2204.8 | 2194.5 | 2198.6 | 2206.9 | 2177.9 | 2190.3 | 2186.2 | 2175.9 | 2177.9 |
| 7.5° | 2174.8 | 2201.7 | 2207.9 | 2196.6 | 2216.2 | 2226.6 | 2195.5 | 2206.9 | 2212.1 | 2204.8 | 2197.6 |
| 10° | 2166.5 | 2190.3 | 2198.6 | 2196.6 | 2222.4 | 2239.0 | 2209.0 | 2241.0 | 2245.2 | 2245.2 | 2233.8 |
| 12.5° | 2163.4 | 2190.3 | 2201.7 | 2211.0 | 2241.0 | 2258.6 | 2241.0 | 2272.1 | 2292.8 | 2291.7 | 2284.5 |
| 15° | 2165.5 | 2195.5 | 2213.1 | 2228.6 | 2260.7 | 2282.4 | 2275.2 | 2322.8 | 2347.6 | 2354.9 | 2354.9 |
| 17.5° | 2217.2 | 2253.5 | 2261.7 | 2278.3 | 2300.0 | 2333.1 | 2323.8 | 2384.9 | 2424.2 | 2436.6 | 2454.2 |
| 20° | 2362.1 | 2390.0 | 2400.4 | 2392.1 | 2401.4 | 2422.1 | 2403.5 | 2462.5 | 2521.4 | 2554.5 | 2583.5 |
| 22.5° | 2547.3 | 2568.0 | 2558.7 | 2550.4 | 2545.2 | 2550.4 | 2527.6 | 2567.0 | 2633.2 | 2680.8 | 2730.4 |
| 25° | 2688.0 | 2733.5 | 2726.3 | 2703.5 | 2696.3 | 2702.5 | 2673.5 | 2722.2 | 2783.2 | 2832.9 | 2907.4 |
| 27.5° | 2858.7 | 2886.7 | 2867.0 | 2858.7 | 2863.9 | 2862.9 | 2845.3 | 2891.8 | 2947.7 | 3009.8 | 3119.5 |
| 30° | 3043.9 | 3067.7 | 3048.1 | 3039.8 | 3049.1 | 3055.3 | 3035.7 | 3117.4 | 3176.4 | 3243.6 | 3385.4 |
| 32.5° | 3348.1 | 3405.0 | 3351.2 | 3243.6 | 3245.7 | 3255.0 | 3257.1 | 3366.7 | 3474.3 | 3527.1 | 3714.4 |
| 35° | 3781.6 | 3827.2 | 3755.8 | 3625.4 | 3463.0 | 3456.8 | 3473.3 | 3636.8 | 3853.0 | 4093.1 | 4312.4 |
| 37.5° | 4186.2 | 4252.4 | 4188.2 | 4036.2 | 3838.5 | 3790.9 | 3705.1 | 3899.6 | 4240.0 | 4756.3 | 5029.4 |
| 40° | 4671.4 | 4721.1 | 4593.8 | 4461.4 | 4263.8 | 4196.5 | 4058.9 | 4183.1 | 4649.7 | 5448.4 | 5636.8 |
| 42.5° | 5061.5 | 5091.5 | 4986.0 | 4847.3 | 4675.6 | 4624.9 | 4483.1 | 4494.5 | 5087.4 | 6054.7 | 6175.8 |
| 45° | 5422.6 | 5454.7 | 5367.7 | 5249.8 | 5141.2 | 5080.1 | 4976.6 | 5032.5 | 5600.5 | 6694.2 | 6620.7 |
| 47.5° | 5696.8 | 5728.8 | 5659.5 | 5575.7 | 5462.9 | 5421.5 | 5423.6 | 5624.3 | 6228.6 | 7205.3 | 7020.1 |
| 50° | 6145.8 | 6133.4 | 5952.3 | 5861.3 | 5773.3 | 5795.1 | 5817.8 | 6103.4 | 6861.8 | 7644.0 | 7389.4 |
| 52.5° | 6929.0 | 6868.0 | 6494.5 | 6256.5 | 6147.9 | 6185.1 | 6222.4 | 6602.1 | 7580.9 | 8044.4 | 7672.9 |
| 55° | 7814.7 | 7752.6 | 7435.0 | 6925.9 | 6638.3 | 6698.3 | 6666.2 | 7095.6 | 8185.1 | 8429.3 | 7906.8 |
| 57.5° | 8472.7 | 8575.1 | 8454.1 | 8176.8 | 7456.7 | 7378.1 | 7306.7 | 7594.3 | 8673.4 | 8814.1 | 8131.3 |
| 60° | 9044.9 | 9187.7 | 9403.9 | 9328.4 | 9022.1 | 8817.3 | 8162.3 | 8176.8 | 9143.2 | 9081.1 | 8220.3 |
| 62.5° | 9603.6 | 9687.4 | 10057.8 | 10139.5 | 10519.2 | 10666.2 | 10000.9 | 8930.0 | 9597.4 | 9266.3 | 8280.3 |
| 65° | 9044.9 | 9152.5 | 9797.1 | 10392.0 | 11619.1 | 11815.7 | 11581.8 | 10293.7 | 9931.6 | 9376.0 | 8211.0 |
| 67.5° | 8141.6 | 8206.8 | 8903.1 | 9985.4 | 12194.3 | 12372.3 | 12190.2 | 11545.6 | 10087.8 | 9342.9 | 7995.7 |
| 70° | 6961.1 | 7063.5 | 7747.4 | 9198.0 | 12173.6 | 12268.8 | 12110.5 | 11696.7 | 10028.8 | 9152.5 | 7452.6 |
| 72.5° | 5756.8 | 5814.7 | 6394.1 | 7841.6 | 11578.7 | 11658.4 | 11574.6 | 11464.9 | 9830.2 | 8621.7 | 6408.6 |
| 75° | 4326.9 | 4339.3 | 4933.2 | 6192.4 | 10237.8 | 10653.7 | 10756.2 | 11065.5 | 9069.7 | 7390.5 | 4739.7 |
| 77.5° | 2901.1 | 3024.3 | 3594.4 | 4732.5 | 8404.4 | 9069.7 | 9555.0 | 9780.5 | 7577.7 | 5515.7 | 2520.4 |
| 80° | 1557.1 | 1588.2 | 2202.8 | 3358.5 | 6386.9 | 7023.2 | 7483.6 | 7487.7 | 5299.5 | 2732.5 | 562.8 |
| 82.5° | 721.1 | 691.1 | 1109.1 | 2125.2 | 4424.1 | 4707.6 | 5016.0 | 4201.7 | 2122.1 | 466.6 | 143.8 |
| 85° | 319.7 | 337.3 | 501.8 | 1035.7 | 2455.2 | 2739.7 | 2700.4 | 1860.3 | 372.5 | 126.2 | 87.9 |
| 87.5° | 119.0 | 125.2 | 194.5 | 418.0 | 876.3 | 956.0 | 859.8 | 358.0 | 48.6 | 44.5 | 26.9 |
| 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° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 | 2156.2 |
| 2.5° | 2160.3 | 2160.3 | 2158.3 | 2130.3 | 2124.1 | 2110.7 | 2099.3 | 2107.6 | 2098.3 | 2104.5 | 2098.3 |
| 5° | 2169.7 | 2164.5 | 2152.1 | 2119.0 | 2103.4 | 2073.4 | 2050.7 | 2055.8 | 2043.4 | 2043.4 | 2042.4 |
| 7.5° | 2191.4 | 2181.0 | 2159.3 | 2106.5 | 2077.6 | 2034.1 | 1998.9 | 1987.6 | 1975.1 | 1960.7 | 1958.6 |
| 10° | 2226.6 | 2212.1 | 2183.1 | 2110.7 | 2054.8 | 1996.9 | 1935.8 | 1912.0 | 1881.0 | 1858.2 | 1854.1 |
| 12.5° | 2275.2 | 2253.5 | 2214.1 | 2126.2 | 2052.7 | 1960.7 | 1878.9 | 1832.4 | 1795.1 | 1762.0 | 1754.8 |
| 15° | 2345.5 | 2323.8 | 2277.3 | 2157.2 | 2053.8 | 1926.5 | 1818.9 | 1741.3 | 1677.2 | 1646.1 | 1647.2 |
| 17.5° | 2448.0 | 2432.5 | 2361.1 | 2222.4 | 2073.4 | 1908.9 | 1769.2 | 1646.1 | 1546.8 | 1495.1 | 1487.8 |
| 20° | 2579.4 | 2569.0 | 2482.1 | 2308.3 | 2119.0 | 1912.0 | 1715.4 | 1544.7 | 1398.8 | 1286.1 | 1261.2 |
| 22.5° | 2732.5 | 2717.0 | 2610.4 | 2382.8 | 2154.1 | 1903.7 | 1656.5 | 1433.0 | 1213.6 | 1066.7 | 1037.7 |
| 25° | 2903.2 | 2894.9 | 2728.4 | 2448.0 | 2158.3 | 1868.6 | 1571.6 | 1288.1 | 1012.9 | 855.7 | 830.8 |
| 27.5° | 3121.5 | 3072.9 | 2834.9 | 2483.2 | 2149.0 | 1799.2 | 1450.6 | 1089.5 | 805.0 | 696.3 | 669.4 |
| 30° | 3360.5 | 3262.2 | 2938.4 | 2510.1 | 2103.4 | 1688.5 | 1277.8 | 859.8 | 599.1 | 502.8 | 489.4 |
| 32.5° | 3625.4 | 3478.5 | 3035.7 | 2508.0 | 2022.7 | 1517.8 | 1053.3 | 597.0 | 404.5 | 365.2 | 351.8 |
| 35° | 4104.4 | 3855.1 | 3152.6 | 2473.8 | 1887.2 | 1315.0 | 743.9 | 389.0 | 300.0 | 276.3 | 273.1 |
| 37.5° | 4769.7 | 4346.5 | 3309.8 | 2408.7 | 1712.3 | 1079.1 | 485.2 | 265.9 | 256.6 | 257.6 | 256.6 |
| 40° | 5315.0 | 4894.9 | 3528.1 | 2310.4 | 1492.0 | 770.8 | 290.7 | 236.9 | 242.1 | 245.2 | 246.2 |
| 42.5° | 5848.9 | 5341.9 | 3798.2 | 2187.2 | 1261.2 | 500.8 | 235.9 | 226.6 | 222.4 | 227.6 | 229.7 |
| 45° | 6278.2 | 5731.9 | 4052.7 | 2043.4 | 991.2 | 295.9 | 228.7 | 210.0 | 202.8 | 204.9 | 208.0 |
| 47.5° | 6621.7 | 6042.3 | 4205.8 | 1875.8 | 724.3 | 223.5 | 222.4 | 195.5 | 185.2 | 183.1 | 182.1 |
| 50° | 6945.6 | 6308.2 | 4304.1 | 1673.0 | 461.5 | 215.2 | 205.9 | 179.0 | 166.6 | 164.5 | 164.5 |
| 52.5° | 7166.0 | 6482.1 | 4337.2 | 1433.0 | 275.2 | 210.0 | 194.5 | 165.5 | 149.0 | 152.1 | 154.2 |
| 55° | 7381.2 | 6657.9 | 4268.9 | 1120.5 | 211.1 | 196.6 | 182.1 | 149.0 | 135.5 | 148.0 | 152.1 |
| 57.5° | 7483.6 | 6683.8 | 4114.8 | 779.1 | 204.9 | 178.0 | 164.5 | 133.5 | 123.1 | 130.4 | 130.4 |
| 60° | 7566.4 | 6666.2 | 3899.6 | 493.5 | 199.7 | 165.5 | 150.0 | 121.1 | 108.6 | 104.5 | 101.4 |
| 62.5° | 7511.5 | 6595.9 | 3467.1 | 321.8 | 185.2 | 151.1 | 136.6 | 111.7 | 94.2 | 82.8 | 81.7 |
| 65° | 7394.6 | 6347.6 | 2767.7 | 253.5 | 171.8 | 143.8 | 124.2 | 100.4 | 82.8 | 69.3 | 68.3 |
| 67.5° | 7050.1 | 5743.3 | 1791.0 | 210.0 | 164.5 | 138.6 | 114.8 | 93.1 | 73.5 | 60.0 | 59.0 |
| 70° | 6224.4 | 4639.4 | 549.4 | 188.3 | 170.7 | 133.5 | 112.8 | 84.8 | 65.2 | 52.8 | 50.7 |
| 72.5° | 4921.8 | 3099.8 | 203.8 | 156.2 | 146.9 | 128.3 | 109.7 | 76.6 | 55.9 | 44.5 | 42.4 |
| 75° | 3170.2 | 1012.9 | 172.8 | 121.1 | 125.2 | 122.1 | 101.4 | 70.4 | 47.6 | 36.2 | 35.2 |
| 77.5° | 898.1 | 212.1 | 157.3 | 89.0 | 110.7 | 117.9 | 89.0 | 59.0 | 42.4 | 31.0 | 30.0 |
| 80° | 188.3 | 151.1 | 143.8 | 63.1 | 82.8 | 76.6 | 60.0 | 45.5 | 40.4 | 26.9 | 26.9 |
| 82.5° | 123.1 | 120.0 | 123.1 | 43.5 | 54.8 | 55.9 | 47.6 | 39.3 | 35.2 | 24.8 | 24.8 |
| 85° | 86.9 | 109.7 | 59.0 | 31.0 | 25.9 | 23.8 | 27.9 | 34.1 | 31.0 | 20.7 | 20.7 |
| 87.5° | 30.0 | 17.6 | 12.4 | 12.4 | 11.4 | 11.4 | 13.5 | 15.5 | 16.6 | 16.6 | 15.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)