

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: P596889

Luminaire Tested: **MSA-SA1C-835-U-T4FT-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596889
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1C-835-U-T4FT-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3872 lumens
Efficiency: N/A
Efficacy: 65.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B0 - U0 - G2

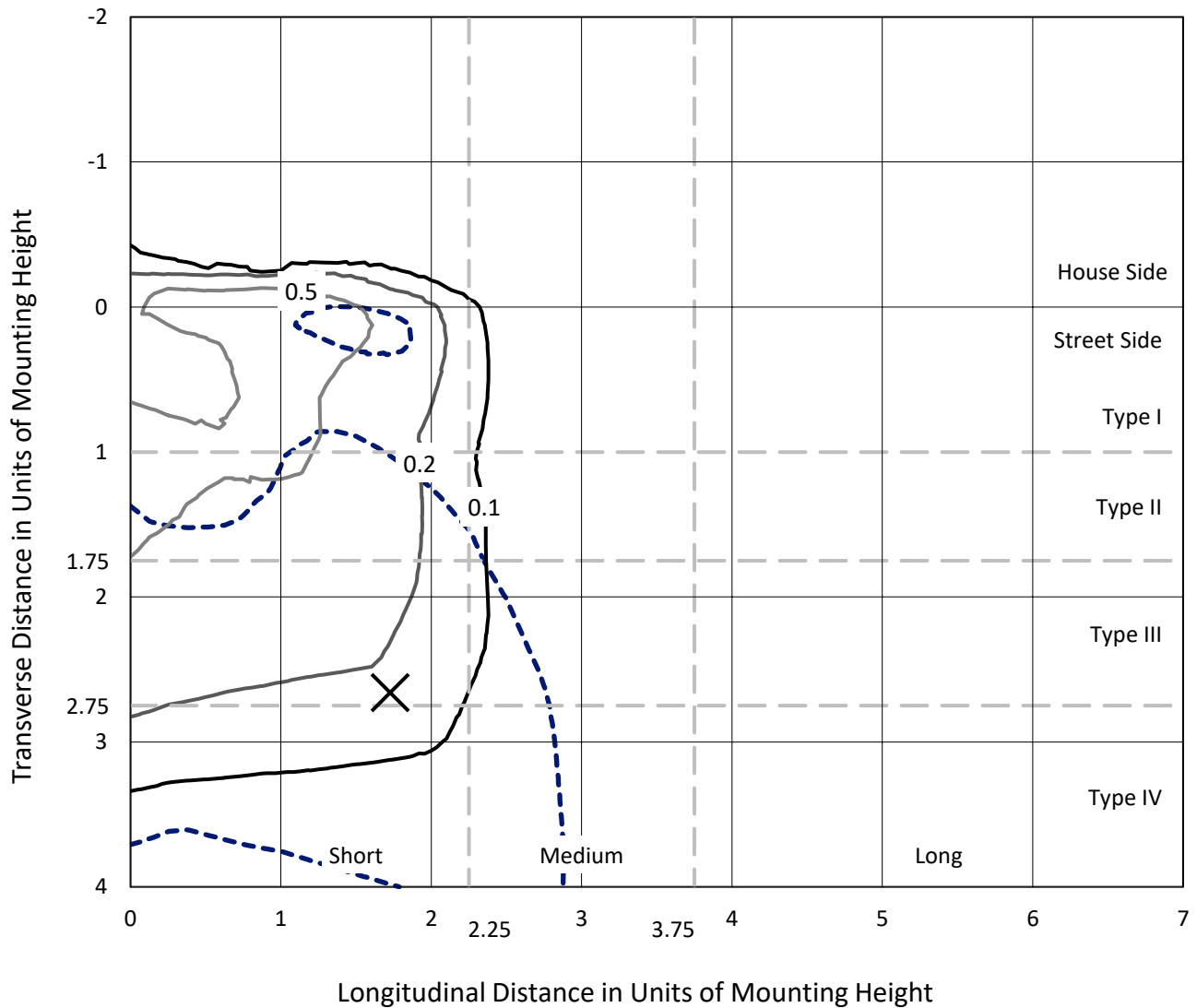
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

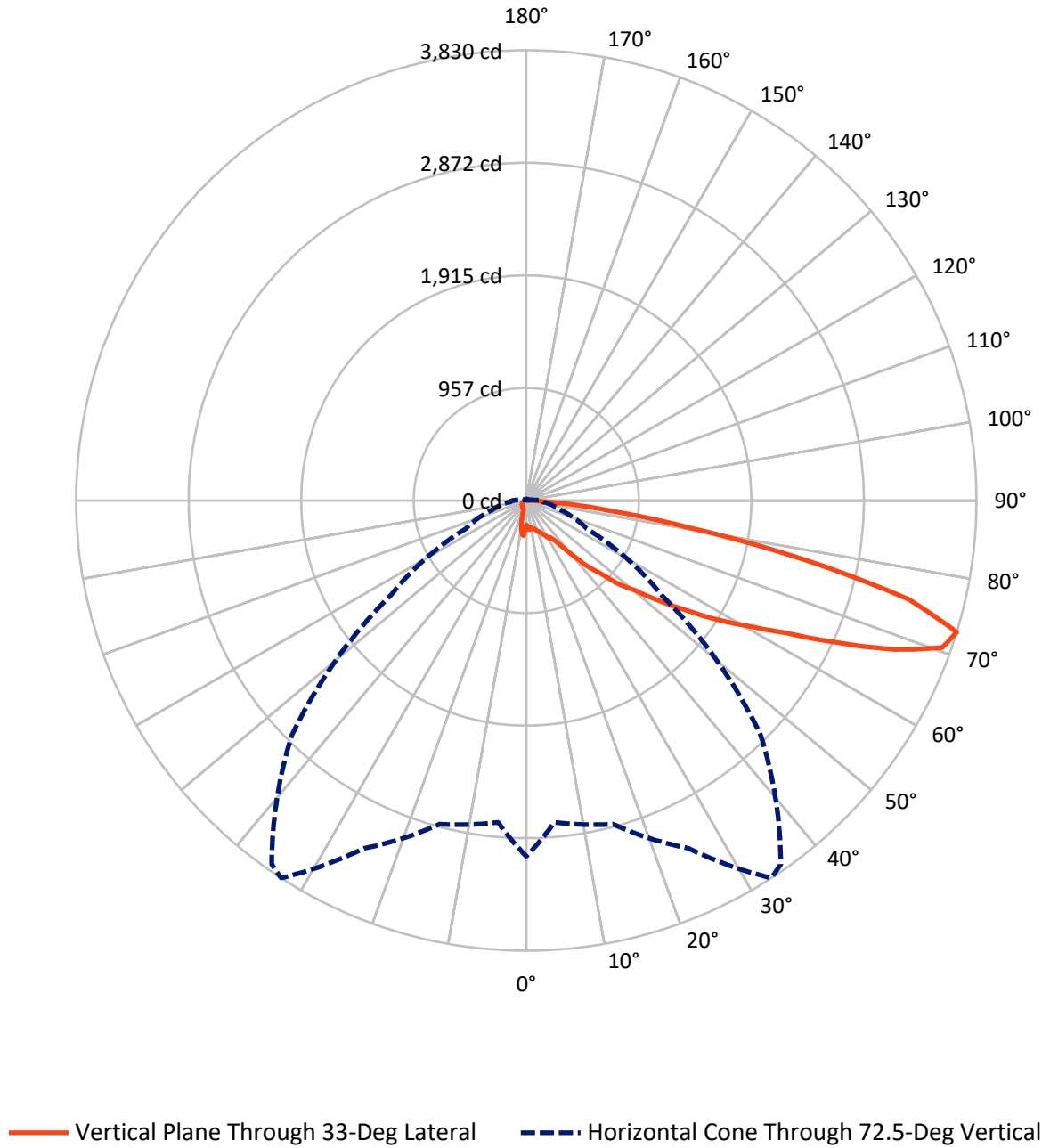
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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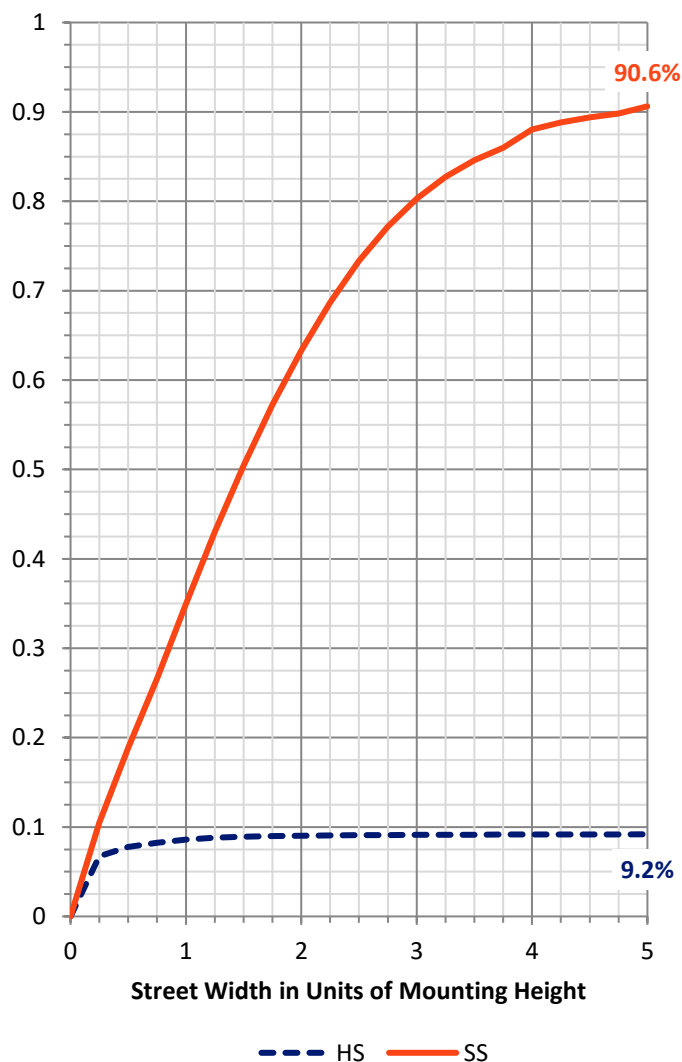
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 358.0 | 0.0 | 358.0 |
| | % Fixture | 9.2 | 0.0 | 9.2 |
| Street Side | Lumens | 3514.0 | 0.0 | 3514.0 |
| | % Fixture | 90.8 | 0.0 | 90.8 |
| Total | Lumens | 3872.0 | 0.0 | 3872.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 26.7 | 0.7 |
| 10°-20° | 79.4 | 2.1 |
| 20°-30° | 134.7 | 3.5 |
| 30°-40° | 246.5 | 6.4 |
| 40°-50° | 520.3 | 13.4 |
| 50°-60° | 870.5 | 22.5 |
| 60°-70° | 1165.2 | 30.1 |
| 70°-80° | 761.1 | 19.7 |
| 80°-90° | 67.5 | 1.7 |
| 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° | 3872.0 | 100.0 |
| 0°-180° | 3872.0 | 100.0 |

Coefficient of Utilization

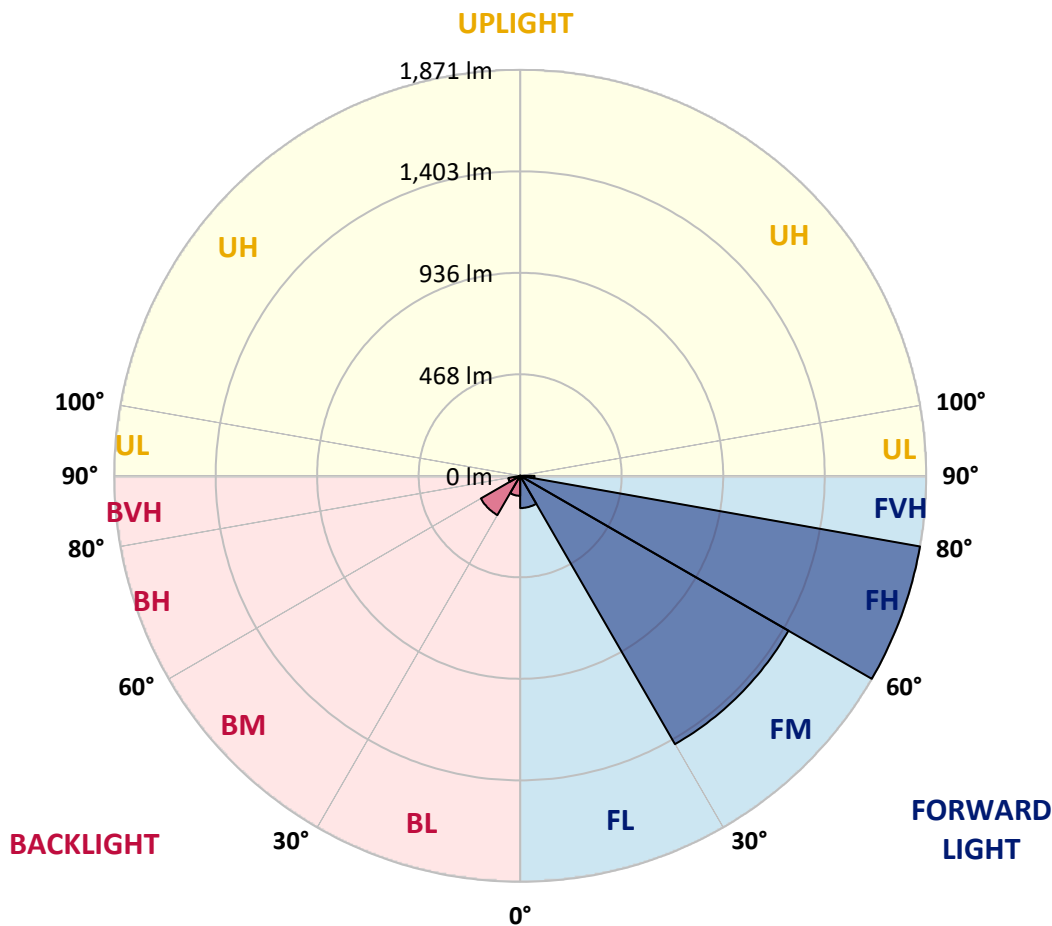


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 148.6 | 3.8 | | | |
| FM (30°-60°) | 1428.0 | 36.9 | | | |
| FH (60°-80°) | 1871.1 | 48.3 | | | G2/5000 |
| FVH (80°-90°) | 66.2 | 1.7 | | | G1/100 |
| BL (0°-30°) | 92.2 | 2.4 | B0/110 | | |
| BM (30°-60°) | 209.3 | 5.4 | B0/220 | | |
| BH (60°-80°) | 55.3 | 1.4 | B0/110 | | G0/110 |
| BVH (80°-90°) | 1.3 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B0-U0-G2
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 33° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 |
| 2.5° | 245.5 | 236.0 | 222.3 | 223.1 | 225.5 | 227.4 | 232.6 | 230.5 | 226.4 | 226.2 | 245.5 |
| 5° | 260.1 | 249.6 | 248.7 | 250.0 | 249.4 | 252.8 | 248.5 | 262.5 | 274.3 | 288.5 | 311.3 |
| 7.5° | 253.0 | 248.1 | 241.8 | 248.3 | 248.1 | 246.4 | 249.2 | 277.5 | 306.1 | 324.2 | 361.8 |
| 10° | 232.6 | 227.0 | 231.7 | 233.9 | 232.4 | 239.9 | 258.6 | 281.8 | 316.0 | 353.8 | 372.1 |
| 12.5° | 226.8 | 230.2 | 232.0 | 232.0 | 246.4 | 250.2 | 278.8 | 300.7 | 341.4 | 371.3 | 424.4 |
| 15° | 249.4 | 256.0 | 244.2 | 241.6 | 246.1 | 248.3 | 280.1 | 306.6 | 358.6 | 413.2 | 457.7 |
| 17.5° | 285.3 | 284.8 | 266.6 | 256.5 | 263.6 | 268.7 | 286.3 | 317.3 | 347.8 | 446.1 | 510.6 |
| 20° | 310.0 | 310.4 | 277.5 | 256.5 | 279.9 | 282.9 | 302.5 | 327.2 | 351.3 | 462.6 | 545.2 |
| 22.5° | 341.8 | 330.4 | 294.1 | 273.7 | 289.6 | 292.4 | 313.9 | 333.4 | 368.9 | 460.7 | 589.5 |
| 25° | 367.8 | 360.5 | 314.7 | 300.5 | 314.7 | 310.9 | 330.4 | 359.9 | 387.8 | 491.4 | 615.5 |
| 27.5° | 408.2 | 395.8 | 329.3 | 331.9 | 331.1 | 333.9 | 338.4 | 383.5 | 421.1 | 492.9 | 675.7 |
| 30° | 445.9 | 438.5 | 362.0 | 362.0 | 370.4 | 365.0 | 368.3 | 422.9 | 453.4 | 527.8 | 743.4 |
| 32.5° | 484.8 | 485.2 | 400.5 | 380.1 | 373.4 | 395.6 | 417.3 | 442.0 | 492.3 | 587.5 | 847.0 |
| 35° | 587.7 | 579.1 | 474.2 | 423.3 | 417.9 | 416.6 | 451.4 | 518.3 | 561.3 | 665.3 | 986.5 |
| 37.5° | 795.2 | 765.3 | 632.9 | 521.3 | 501.1 | 494.2 | 533.8 | 602.4 | 645.1 | 779.7 | 1217.2 |
| 40° | 1008.0 | 953.2 | 806.2 | 680.4 | 614.8 | 585.2 | 631.2 | 689.4 | 765.5 | 906.1 | 1430.7 |
| 42.5° | 1194.8 | 1127.1 | 936.6 | 851.9 | 766.6 | 753.7 | 710.5 | 805.3 | 937.5 | 1090.1 | 1639.8 |
| 45° | 1376.9 | 1243.6 | 1052.7 | 985.7 | 882.0 | 889.3 | 874.7 | 956.9 | 1116.1 | 1291.8 | 1825.3 |
| 47.5° | 1502.2 | 1382.5 | 1195.0 | 1108.0 | 1066.5 | 1023.7 | 1139.8 | 1225.1 | 1275.2 | 1419.9 | 1985.7 |
| 50° | 1637.2 | 1516.0 | 1317.4 | 1256.5 | 1201.9 | 1245.1 | 1395.8 | 1407.2 | 1403.1 | 1539.4 | 2094.9 |
| 52.5° | 1811.6 | 1668.6 | 1457.7 | 1388.9 | 1419.9 | 1462.9 | 1636.8 | 1639.0 | 1516.9 | 1640.0 | 2173.6 |
| 55° | 1972.8 | 1814.4 | 1644.8 | 1579.8 | 1644.6 | 1680.9 | 1873.7 | 1803.0 | 1583.1 | 1708.4 | 2212.3 |
| 57.5° | 2200.0 | 2016.7 | 1893.5 | 1779.1 | 1910.3 | 1875.4 | 2082.0 | 1976.9 | 1657.5 | 1753.8 | 2198.1 |
| 60° | 2487.3 | 2271.4 | 2148.0 | 2027.0 | 2167.6 | 2191.2 | 2285.4 | 2063.8 | 1686.3 | 1768.6 | 2112.8 |
| 62.5° | 2779.4 | 2562.3 | 2400.0 | 2317.9 | 2477.4 | 2555.2 | 2473.7 | 2107.0 | 1651.6 | 1739.6 | 1919.5 |
| 65° | 3141.9 | 2863.9 | 2674.3 | 2626.1 | 2921.7 | 3036.1 | 2696.4 | 2117.5 | 1584.8 | 1579.8 | 1543.3 |
| 67.5° | 3390.1 | 3119.5 | 2945.6 | 3026.2 | 3383.3 | 3392.5 | 2896.3 | 2120.7 | 1359.7 | 1237.0 | 1013.0 |
| 70° | 3449.0 | 3159.3 | 3081.4 | 3318.8 | 3751.5 | 3635.2 | 2960.8 | 1957.3 | 1008.4 | 734.1 | 463.1 |
| 72.5° | 3027.7 | 2748.7 | 2849.9 | 3263.5 | 3829.8 | 3776.5 | 2818.3 | 1412.2 | 567.7 | 293.7 | 142.1 |
| 75° | 1857.2 | 1688.4 | 2137.9 | 2766.9 | 3361.8 | 3327.4 | 2198.8 | 729.6 | 228.7 | 117.4 | 53.1 |
| 77.5° | 807.7 | 750.0 | 1115.7 | 1835.9 | 2415.7 | 2384.9 | 1288.3 | 268.7 | 118.2 | 82.6 | 26.9 |
| 80° | 267.2 | 259.3 | 422.6 | 869.4 | 1415.0 | 1387.9 | 542.8 | 111.8 | 84.3 | 66.2 | 15.0 |
| 82.5° | 63.4 | 63.0 | 147.5 | 400.1 | 720.8 | 698.2 | 166.6 | 61.7 | 61.1 | 52.2 | 8.0 |
| 85° | 15.9 | 16.3 | 40.8 | 163.6 | 292.8 | 258.2 | 43.4 | 30.7 | 43.0 | 35.5 | 4.1 |
| 87.5° | 0.0 | 0.0 | 10.5 | 23.4 | 44.3 | 27.7 | 4.7 | 8.2 | 12.0 | 12.7 | 2.1 |
| 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° | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 |
| 2.5° | 249.8 | 247.4 | 228.1 | 232.8 | 240.1 | 239.5 | 244.2 | 240.6 | 237.3 | 253.2 | 251.7 |
| 5° | 317.7 | 304.8 | 298.8 | 307.2 | 302.7 | 292.2 | 301.0 | 299.5 | 296.9 | 302.3 | 306.3 |
| 7.5° | 368.7 | 356.9 | 351.5 | 333.9 | 308.3 | 288.1 | 291.3 | 283.8 | 276.7 | 285.1 | 293.7 |
| 10° | 385.4 | 379.0 | 378.4 | 344.0 | 319.9 | 290.6 | 256.0 | 226.2 | 218.2 | 207.7 | 212.4 |
| 12.5° | 431.0 | 434.9 | 410.6 | 370.4 | 324.0 | 267.9 | 206.4 | 164.0 | 146.8 | 135.6 | 136.3 |
| 15° | 468.4 | 482.0 | 446.7 | 374.5 | 285.1 | 204.2 | 137.4 | 99.3 | 88.6 | 85.8 | 84.9 |
| 17.5° | 524.1 | 537.2 | 457.9 | 345.5 | 229.8 | 138.4 | 88.4 | 77.4 | 78.0 | 80.0 | 79.5 |
| 20° | 565.4 | 563.4 | 448.2 | 294.1 | 169.4 | 90.7 | 74.0 | 72.4 | 75.9 | 81.5 | 80.2 |
| 22.5° | 605.2 | 591.8 | 442.2 | 246.6 | 109.6 | 72.9 | 71.4 | 71.2 | 74.4 | 79.8 | 81.3 |
| 25° | 633.5 | 635.7 | 432.1 | 193.0 | 79.8 | 67.7 | 69.0 | 70.9 | 74.2 | 80.0 | 79.1 |
| 27.5° | 714.8 | 654.6 | 390.0 | 140.2 | 67.3 | 64.9 | 68.1 | 72.0 | 73.1 | 80.4 | 80.6 |
| 30° | 767.5 | 726.0 | 362.4 | 94.4 | 62.1 | 60.0 | 66.4 | 71.6 | 72.9 | 82.3 | 83.0 |
| 32.5° | 859.3 | 756.7 | 330.6 | 70.1 | 57.8 | 58.5 | 62.6 | 69.4 | 75.5 | 85.6 | 86.0 |
| 35° | 973.4 | 855.4 | 273.0 | 63.0 | 56.3 | 55.2 | 57.2 | 65.1 | 75.0 | 86.0 | 88.1 |
| 37.5° | 1190.7 | 914.5 | 216.5 | 61.1 | 56.3 | 54.4 | 56.3 | 61.1 | 73.7 | 90.3 | 94.8 |
| 40° | 1336.3 | 1034.9 | 156.1 | 60.6 | 55.2 | 53.5 | 54.2 | 58.9 | 70.1 | 87.7 | 94.4 |
| 42.5° | 1515.6 | 1085.6 | 115.0 | 59.5 | 54.2 | 51.6 | 52.0 | 58.0 | 66.4 | 82.3 | 87.3 |
| 45° | 1662.4 | 1122.6 | 90.5 | 59.1 | 51.6 | 50.7 | 51.6 | 57.4 | 63.0 | 70.7 | 75.2 |
| 47.5° | 1774.0 | 1165.6 | 72.7 | 56.3 | 50.9 | 50.7 | 49.7 | 53.7 | 57.2 | 59.1 | 62.1 |
| 50° | 1855.7 | 1155.9 | 60.2 | 52.0 | 48.8 | 50.1 | 48.2 | 48.8 | 49.7 | 48.6 | 52.0 |
| 52.5° | 1905.7 | 1121.1 | 50.1 | 46.9 | 46.2 | 47.3 | 44.9 | 43.0 | 41.5 | 40.6 | 42.8 |
| 55° | 1924.0 | 1051.2 | 42.6 | 40.2 | 41.7 | 42.1 | 40.2 | 36.8 | 34.2 | 32.9 | 34.6 |
| 57.5° | 1889.4 | 944.8 | 37.0 | 33.3 | 36.8 | 36.8 | 34.2 | 30.5 | 27.5 | 25.4 | 27.1 |
| 60° | 1801.7 | 827.2 | 32.9 | 27.7 | 31.4 | 31.6 | 28.6 | 24.7 | 22.4 | 20.2 | 21.3 |
| 62.5° | 1638.3 | 699.1 | 28.8 | 24.1 | 27.1 | 27.3 | 23.6 | 20.0 | 18.3 | 15.9 | 16.8 |
| 65° | 1311.6 | 534.6 | 24.5 | 21.3 | 23.4 | 22.8 | 19.6 | 17.0 | 14.8 | 12.7 | 13.1 |
| 67.5° | 851.3 | 330.0 | 21.3 | 19.3 | 19.8 | 19.1 | 16.6 | 14.8 | 12.5 | 10.7 | 11.0 |
| 70° | 381.1 | 142.1 | 18.7 | 17.4 | 17.2 | 16.1 | 14.0 | 13.8 | 12.3 | 10.7 | 10.7 |
| 72.5° | 117.6 | 53.5 | 16.1 | 15.7 | 14.8 | 13.5 | 12.3 | 13.1 | 12.0 | 10.3 | 10.1 |
| 75° | 46.4 | 24.5 | 13.3 | 13.3 | 12.9 | 11.2 | 11.0 | 11.8 | 11.2 | 9.5 | 9.0 |
| 77.5° | 24.3 | 15.5 | 11.0 | 11.4 | 11.2 | 8.6 | 9.9 | 10.7 | 10.3 | 8.0 | 6.7 |
| 80° | 14.4 | 9.5 | 8.2 | 9.2 | 9.0 | 6.0 | 7.5 | 6.9 | 4.9 | 2.4 | 0.6 |
| 82.5° | 8.0 | 4.3 | 3.7 | 5.4 | 5.4 | 2.1 | 3.9 | 3.4 | 1.9 | 0.0 | 0.0 |
| 85° | 3.9 | 3.0 | 2.8 | 3.0 | 2.1 | 0.6 | 1.9 | 1.9 | 1.1 | 0.0 | 0.0 |
| 87.5° | 1.9 | 1.7 | 1.3 | 1.1 | 0.9 | 0.0 | 0.6 | 0.9 | 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 |

(END OF REPORT)