

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: P676646

Luminaire Tested: **CCW-SA-2B-850-U-T4FT-HSS**

Issue Date: 04/25/2023



Test Information

Test Method: LM-79-08
Report Number: P676646
Test Lab: INNOVATION CENTER(G1)
Issue Date: 04/25/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: CCW-SA-2B-850-U-T4FT-HSS
Description: INVUE CLEAR CURVE Wall Pack MOUNT Light Square Luminaire @450mA w/
T4FT distribution lens and House Side Shield
Light Source: (32) 5000K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

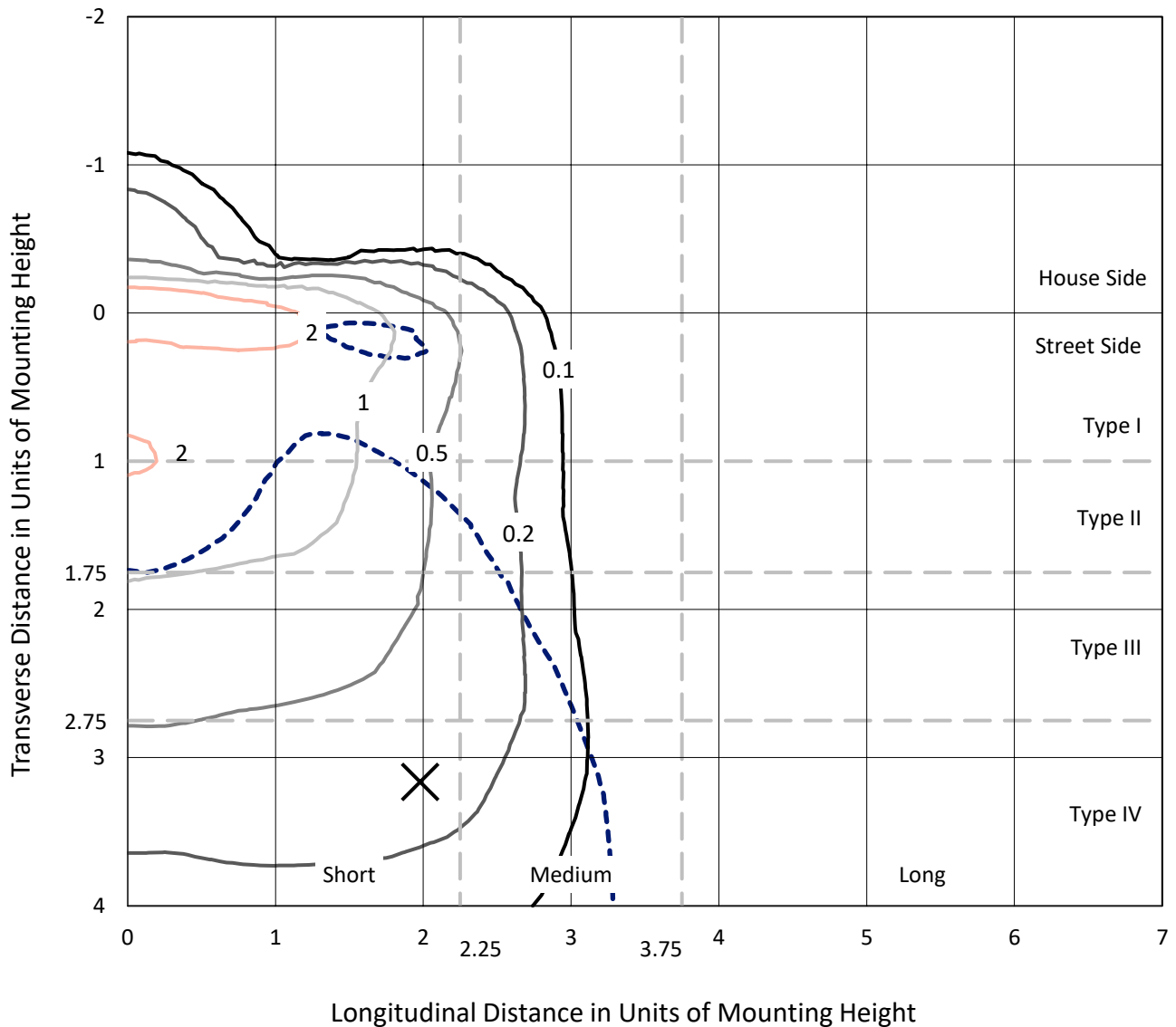
Lumens per Lamp: N/A
Luminaire Lumens: 4327.2 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

Input Watts (W): 46
Input Voltage (V): 120
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-Footcandle Lines of Horizontal Illumination

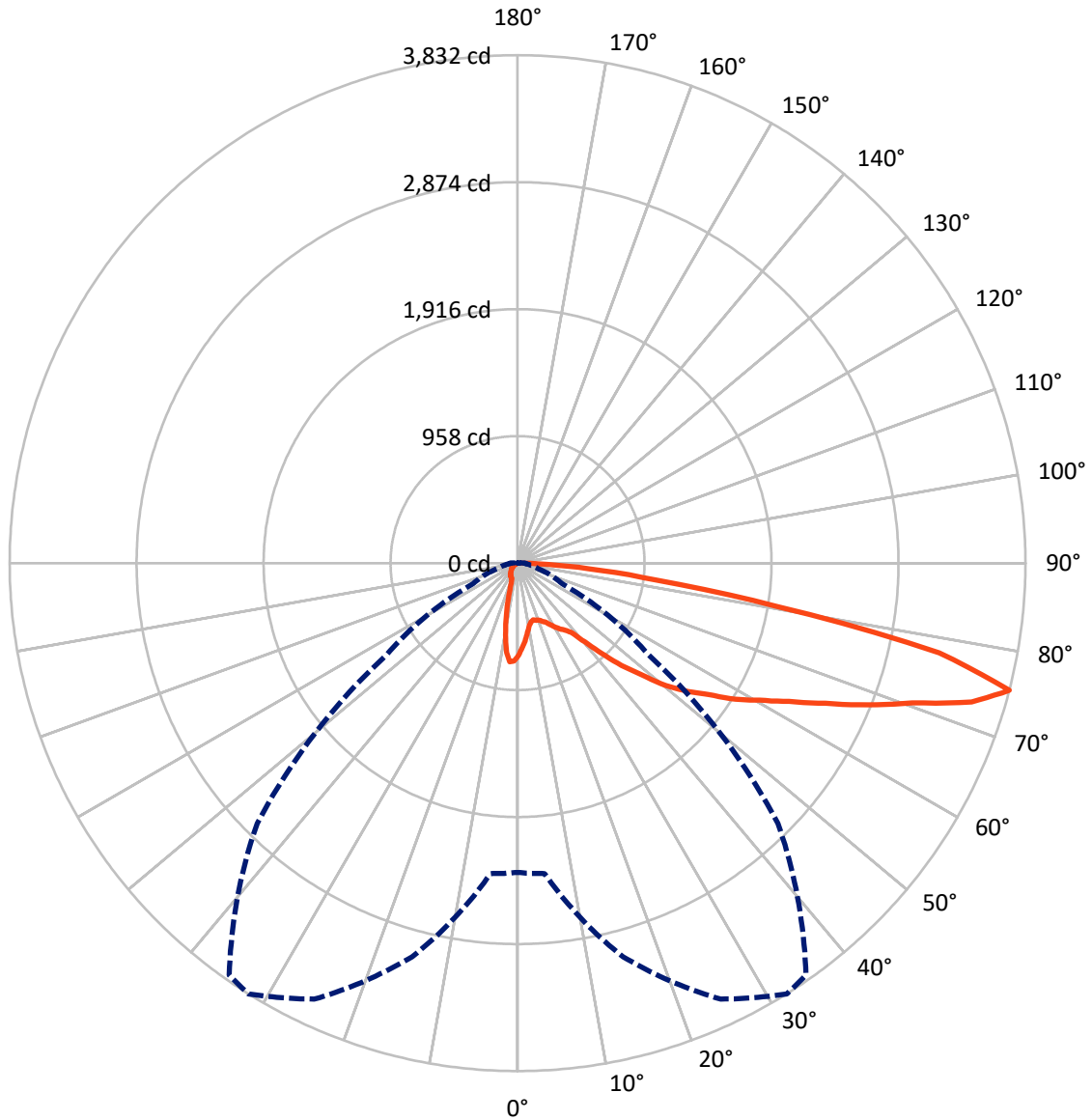
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 3.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 32-Deg Lateral - - - Horizontal Cone Through 75-Deg Vertical

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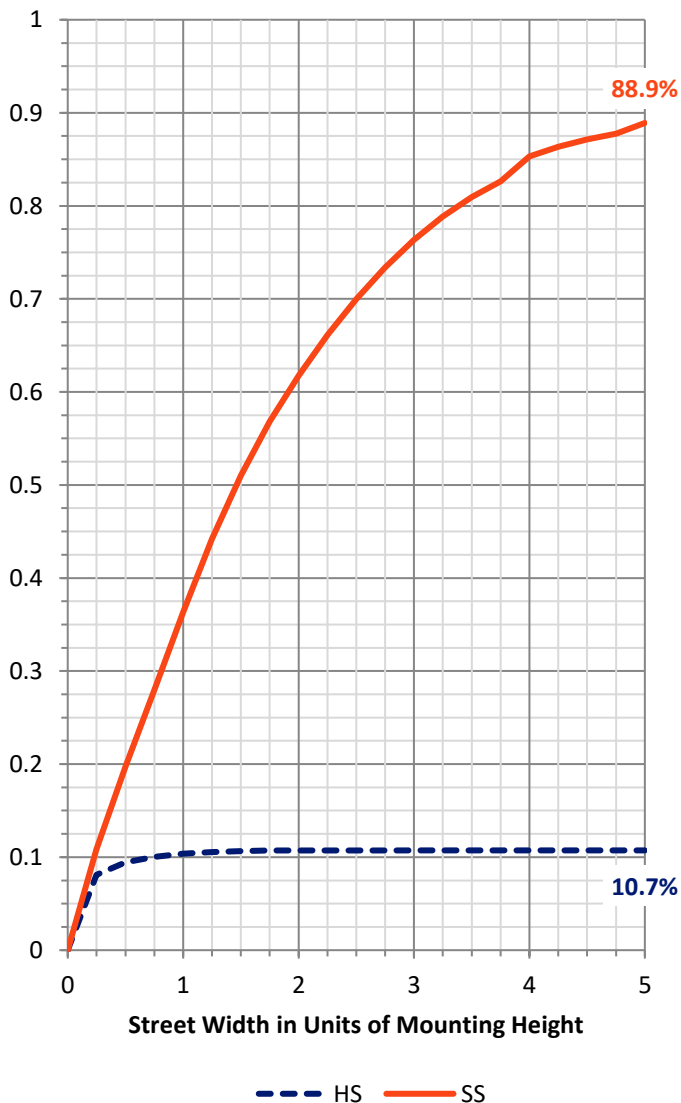
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 467.5 | 0.0 | 467.5 |
| | % Fixture | 10.8 | 0.0 | 10.8 |
| Street Side | Lumens | 3859.7 | 0.0 | 3859.7 |
| | % Fixture | 89.2 | 0.0 | 89.2 |
| Total | Lumens | 4327.2 | 0.0 | 4327.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 61.4 | 1.4 |
| 10°-20° | 139.4 | 3.2 |
| 20°-30° | 208.7 | 4.8 |
| 30°-40° | 320.4 | 7.4 |
| 40°-50° | 560.3 | 12.9 |
| 50°-60° | 875.8 | 20.2 |
| 60°-70° | 1132.3 | 26.2 |
| 70°-80° | 922.2 | 21.3 |
| 80°-90° | 106.8 | 2.5 |
| 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° | 4327.2 | 100.0 |
| 0°-180° | 4327.2 | 100.0 |



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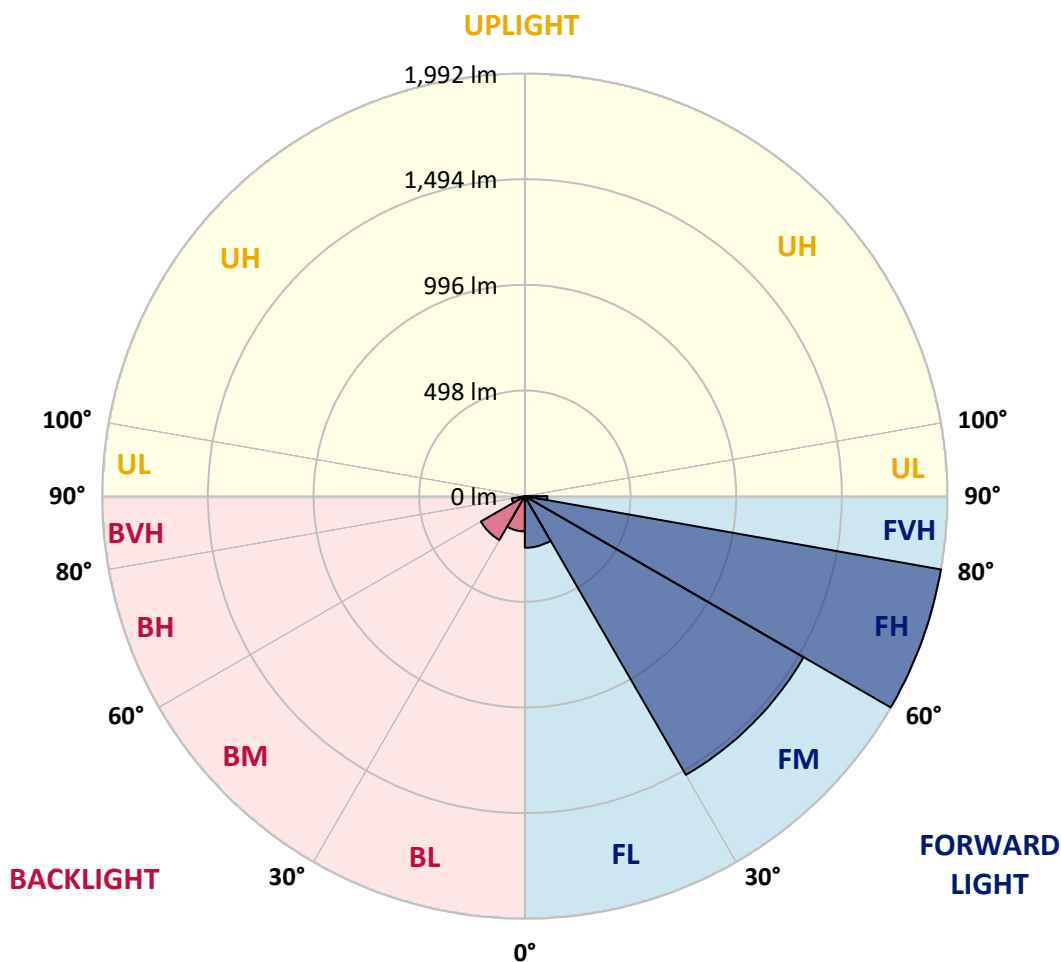
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 243.5 | 5.6 | | | |
| FM (30°-60°) | 1517.3 | 35.1 | | | |
| FH (60°-80°) | 1992.3 | 46.0 | | | G2/5000 |
| FVH (80°-90°) | 106.7 | 2.5 | | | G2/225 |
| BL (0°-30°) | 166.1 | 3.8 | B1/500 | | |
| BM (30°-60°) | 239.2 | 5.5 | B1/1000 | | |
| BH (60°-80°) | 62.2 | 1.4 | B0/110 | | G0/110 |
| BVH (80°-90°) | 0.1 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 32° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 |
| 2.5° | 626.6 | 635.5 | 634.4 | 639.9 | 641.0 | 644.4 | 652.1 | 652.1 | 674.3 | 689.8 | 699.8 |
| 5° | 570.1 | 564.5 | 566.7 | 573.4 | 590.0 | 588.9 | 607.8 | 617.7 | 644.4 | 666.5 | 689.8 |
| 7.5° | 500.2 | 499.1 | 503.5 | 519.0 | 531.2 | 541.2 | 561.2 | 586.7 | 622.2 | 655.5 | 696.5 |
| 10° | 455.8 | 453.6 | 462.5 | 466.9 | 481.3 | 488.0 | 519.0 | 559.0 | 601.1 | 648.8 | 696.5 |
| 12.5° | 445.8 | 438.1 | 442.5 | 441.4 | 454.7 | 458.0 | 488.0 | 536.8 | 587.8 | 646.6 | 705.4 |
| 15° | 451.4 | 445.8 | 441.4 | 441.4 | 444.7 | 447.0 | 479.1 | 522.4 | 580.0 | 649.9 | 725.3 |
| 17.5° | 469.1 | 465.8 | 452.5 | 439.2 | 453.6 | 453.6 | 473.6 | 519.0 | 581.1 | 659.9 | 749.7 |
| 20° | 490.2 | 486.9 | 463.6 | 448.1 | 458.0 | 469.1 | 490.2 | 526.8 | 584.5 | 667.7 | 787.4 |
| 22.5° | 513.5 | 513.5 | 481.3 | 463.6 | 476.9 | 478.0 | 515.7 | 551.2 | 597.8 | 687.6 | 811.8 |
| 25° | 542.3 | 540.1 | 509.1 | 489.1 | 493.5 | 505.7 | 540.1 | 577.8 | 622.2 | 715.3 | 857.3 |
| 27.5° | 580.0 | 576.7 | 540.1 | 520.2 | 525.7 | 539.0 | 577.8 | 615.5 | 644.4 | 726.4 | 896.1 |
| 30° | 611.1 | 607.8 | 577.8 | 547.9 | 560.1 | 572.3 | 617.7 | 651.0 | 672.1 | 747.5 | 940.5 |
| 32.5° | 617.7 | 612.2 | 592.2 | 578.9 | 592.2 | 615.5 | 651.0 | 685.4 | 717.6 | 800.7 | 1024.8 |
| 35° | 694.3 | 674.3 | 622.2 | 601.1 | 621.1 | 628.8 | 687.6 | 748.6 | 779.7 | 842.9 | 1119.0 |
| 37.5° | 840.7 | 821.8 | 753.1 | 694.3 | 666.5 | 675.4 | 751.9 | 827.4 | 857.3 | 921.6 | 1222.2 |
| 40° | 1020.3 | 989.3 | 916.1 | 837.3 | 780.8 | 769.7 | 819.6 | 930.5 | 959.3 | 1020.3 | 1357.5 |
| 42.5° | 1225.5 | 1195.6 | 1082.4 | 989.3 | 931.6 | 917.2 | 925.0 | 1050.3 | 1074.7 | 1111.3 | 1446.2 |
| 45° | 1373.0 | 1357.5 | 1230.0 | 1146.8 | 1101.3 | 1085.8 | 1066.9 | 1181.2 | 1212.2 | 1224.4 | 1574.9 |
| 47.5° | 1458.4 | 1447.3 | 1376.3 | 1319.8 | 1258.8 | 1242.2 | 1254.4 | 1363.0 | 1342.0 | 1351.9 | 1698.0 |
| 50° | 1572.7 | 1543.8 | 1447.3 | 1465.1 | 1452.9 | 1448.4 | 1469.5 | 1517.2 | 1486.1 | 1457.3 | 1832.2 |
| 52.5° | 1664.7 | 1613.7 | 1546.0 | 1589.3 | 1608.1 | 1624.8 | 1699.1 | 1734.6 | 1595.9 | 1551.6 | 1918.7 |
| 55° | 1721.3 | 1672.5 | 1690.2 | 1730.1 | 1750.1 | 1826.6 | 1914.2 | 1887.6 | 1668.0 | 1627.0 | 2034.0 |
| 57.5° | 1772.3 | 1775.6 | 1823.3 | 1835.5 | 1937.5 | 1950.8 | 2119.4 | 2032.9 | 1719.0 | 1695.8 | 2079.5 |
| 60° | 1895.4 | 1883.2 | 1922.0 | 2000.8 | 2098.3 | 2172.7 | 2333.5 | 2130.5 | 1744.6 | 1731.2 | 2067.3 |
| 62.5° | 2117.2 | 2041.8 | 2055.1 | 2154.9 | 2298.0 | 2378.9 | 2456.6 | 2174.9 | 1737.9 | 1736.8 | 2030.7 |
| 65° | 2398.9 | 2312.4 | 2272.5 | 2365.6 | 2550.8 | 2665.1 | 2595.2 | 2224.8 | 1693.5 | 1724.6 | 1894.3 |
| 67.5° | 2632.9 | 2634.0 | 2559.7 | 2611.8 | 2853.6 | 2878.0 | 2726.1 | 2214.8 | 1619.2 | 1628.1 | 1561.6 |
| 70° | 2902.4 | 2939.0 | 2873.6 | 3036.6 | 3157.5 | 3173.0 | 2875.8 | 2132.7 | 1459.5 | 1227.7 | 897.2 |
| 72.5° | 2971.2 | 2990.0 | 3194.1 | 3444.8 | 3581.2 | 3585.6 | 3023.3 | 1858.8 | 960.4 | 542.3 | 278.4 |
| 75° | 2333.5 | 2351.2 | 3074.3 | 3628.9 | 3831.8 | 3793.0 | 2777.1 | 1206.7 | 373.8 | 158.6 | 66.5 |
| 77.5° | 1302.0 | 1307.6 | 1908.7 | 2933.5 | 3250.7 | 3094.3 | 1945.3 | 470.2 | 150.8 | 90.9 | 31.1 |
| 80° | 356.0 | 418.1 | 707.6 | 1446.2 | 1985.2 | 1948.6 | 926.1 | 153.1 | 97.6 | 71.0 | 14.4 |
| 82.5° | 85.4 | 92.1 | 227.4 | 639.9 | 1049.2 | 1094.6 | 276.2 | 77.6 | 67.7 | 58.8 | 7.8 |
| 85° | 31.1 | 34.4 | 69.9 | 311.6 | 539.0 | 494.6 | 83.2 | 38.8 | 49.9 | 45.5 | 3.3 |
| 87.5° | 11.1 | 11.1 | 22.2 | 102.0 | 157.5 | 118.7 | 27.7 | 13.3 | 25.5 | 27.7 | 1.1 |
| 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° | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 | 698.7 |
| 2.5° | 700.9 | 700.9 | 716.5 | 729.8 | 734.2 | 739.7 | 734.2 | 746.4 | 745.3 | 739.7 | 742.0 |
| 5° | 702.0 | 722.0 | 735.3 | 744.2 | 748.6 | 747.5 | 749.7 | 736.4 | 728.7 | 723.1 | 717.6 |
| 7.5° | 707.6 | 726.4 | 750.8 | 748.6 | 736.4 | 710.9 | 690.9 | 655.5 | 621.1 | 620.0 | 614.4 |
| 10° | 726.4 | 743.1 | 757.5 | 748.6 | 704.3 | 626.6 | 563.4 | 515.7 | 472.5 | 452.5 | 454.7 |
| 12.5° | 739.7 | 770.8 | 764.1 | 718.7 | 626.6 | 524.6 | 431.4 | 361.6 | 322.7 | 286.1 | 286.1 |
| 15° | 767.5 | 778.6 | 776.3 | 675.4 | 531.2 | 409.2 | 296.1 | 225.1 | 184.1 | 167.5 | 165.3 |
| 17.5° | 794.1 | 806.3 | 768.6 | 610.0 | 437.0 | 275.0 | 179.7 | 139.7 | 134.2 | 132.0 | 133.1 |
| 20° | 827.4 | 828.5 | 761.9 | 544.6 | 328.3 | 174.1 | 128.7 | 125.3 | 126.4 | 125.3 | 125.3 |
| 22.5° | 862.9 | 870.6 | 738.6 | 452.5 | 218.5 | 126.4 | 119.8 | 120.9 | 120.9 | 120.9 | 124.2 |
| 25° | 909.4 | 897.2 | 702.0 | 364.9 | 143.1 | 116.5 | 116.5 | 117.6 | 117.6 | 117.6 | 118.7 |
| 27.5° | 940.5 | 923.8 | 655.5 | 262.8 | 112.0 | 109.8 | 112.0 | 112.0 | 114.2 | 114.2 | 114.2 |
| 30° | 1004.8 | 961.6 | 596.7 | 169.7 | 100.9 | 104.3 | 106.5 | 108.7 | 109.8 | 112.0 | 113.1 |
| 32.5° | 1054.7 | 994.8 | 523.5 | 113.1 | 92.1 | 94.3 | 99.8 | 104.3 | 108.7 | 107.6 | 107.6 |
| 35° | 1145.7 | 1049.2 | 455.8 | 89.8 | 84.3 | 84.3 | 89.8 | 97.6 | 104.3 | 106.5 | 106.5 |
| 37.5° | 1249.9 | 1093.5 | 361.6 | 82.1 | 77.6 | 77.6 | 81.0 | 89.8 | 98.7 | 103.1 | 100.9 |
| 40° | 1336.4 | 1144.6 | 267.3 | 76.5 | 72.1 | 72.1 | 74.3 | 81.0 | 90.9 | 98.7 | 99.8 |
| 42.5° | 1397.4 | 1182.3 | 180.8 | 71.0 | 67.7 | 66.5 | 69.9 | 73.2 | 81.0 | 92.1 | 94.3 |
| 45° | 1452.9 | 1202.2 | 112.0 | 65.4 | 63.2 | 63.2 | 63.2 | 66.5 | 72.1 | 82.1 | 84.3 |
| 47.5° | 1551.6 | 1224.4 | 81.0 | 61.0 | 57.7 | 58.8 | 59.9 | 61.0 | 65.4 | 67.7 | 68.8 |
| 50° | 1634.8 | 1241.0 | 66.5 | 56.6 | 54.3 | 55.5 | 55.5 | 55.5 | 57.7 | 54.3 | 54.3 |
| 52.5° | 1698.0 | 1224.4 | 56.6 | 52.1 | 49.9 | 51.0 | 49.9 | 49.9 | 47.7 | 43.3 | 43.3 |
| 55° | 1744.6 | 1194.5 | 45.5 | 47.7 | 47.7 | 47.7 | 45.5 | 42.1 | 37.7 | 34.4 | 34.4 |
| 57.5° | 1756.8 | 1143.4 | 35.5 | 39.9 | 43.3 | 43.3 | 38.8 | 34.4 | 28.8 | 25.5 | 24.4 |
| 60° | 1737.9 | 1032.5 | 26.6 | 28.8 | 33.3 | 34.4 | 31.1 | 25.5 | 20.0 | 16.6 | 16.6 |
| 62.5° | 1670.2 | 944.9 | 21.1 | 18.9 | 24.4 | 25.5 | 22.2 | 16.6 | 11.1 | 7.8 | 6.7 |
| 65° | 1541.6 | 809.6 | 15.5 | 13.3 | 16.6 | 17.7 | 14.4 | 7.8 | 3.3 | 1.1 | 0.0 |
| 67.5° | 1236.6 | 610.0 | 10.0 | 8.9 | 11.1 | 11.1 | 6.7 | 2.2 | 0.0 | 0.0 | 0.0 |
| 70° | 684.3 | 342.7 | 6.7 | 4.4 | 5.5 | 3.3 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 197.4 | 97.6 | 3.3 | 2.2 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 53.2 | 23.3 | 2.2 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 23.3 | 8.9 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 10.0 | 3.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 5.5 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 1.1 | 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 |

(END OF REPORT)