

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: P472192

Luminaire Tested: **CCW-VA-4-835-U-T4W**

Issue Date: 01/27/2021

Test Information

Test Method: LM-79-08
Report Number: P472192
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: CCW-VA-4-835-U-T4W
Description: INVUE WALL PACK Wave Stream LUMINAIRE WITH T4W DISTRIBUTION LENS
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5863.8 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.54' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G2

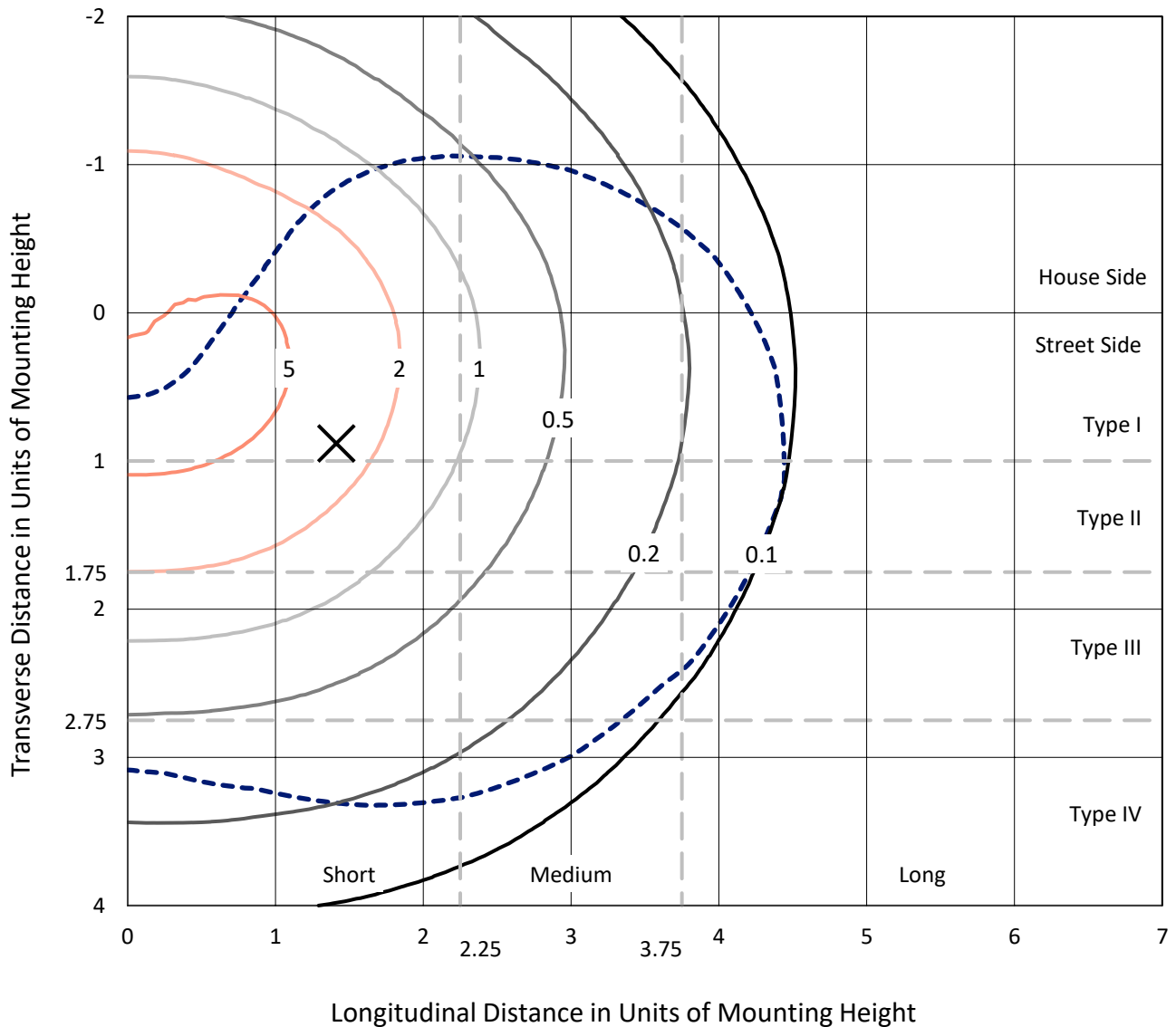
Input Watts (W): 57.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

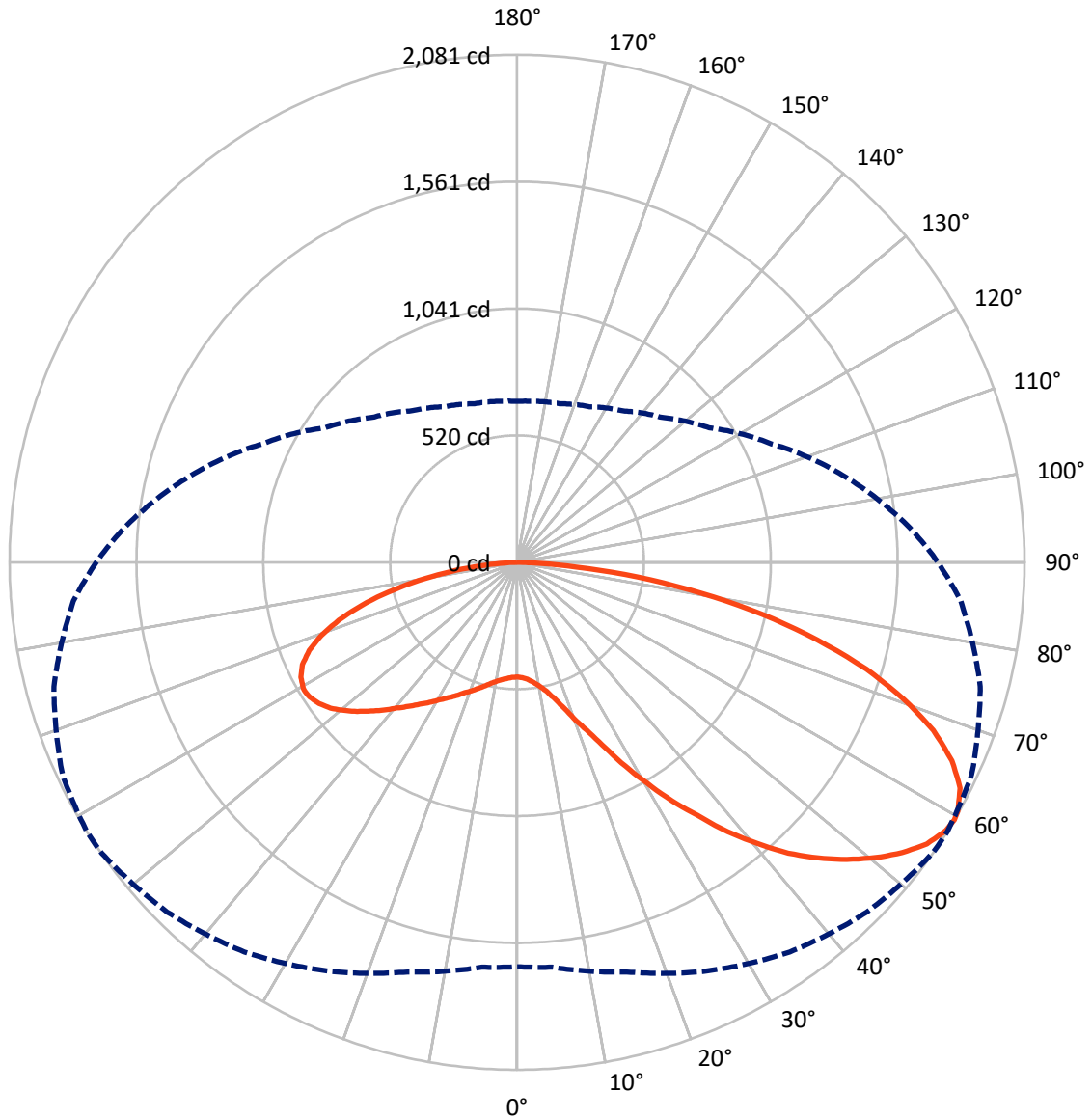
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.2 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 59-Deg Vertical

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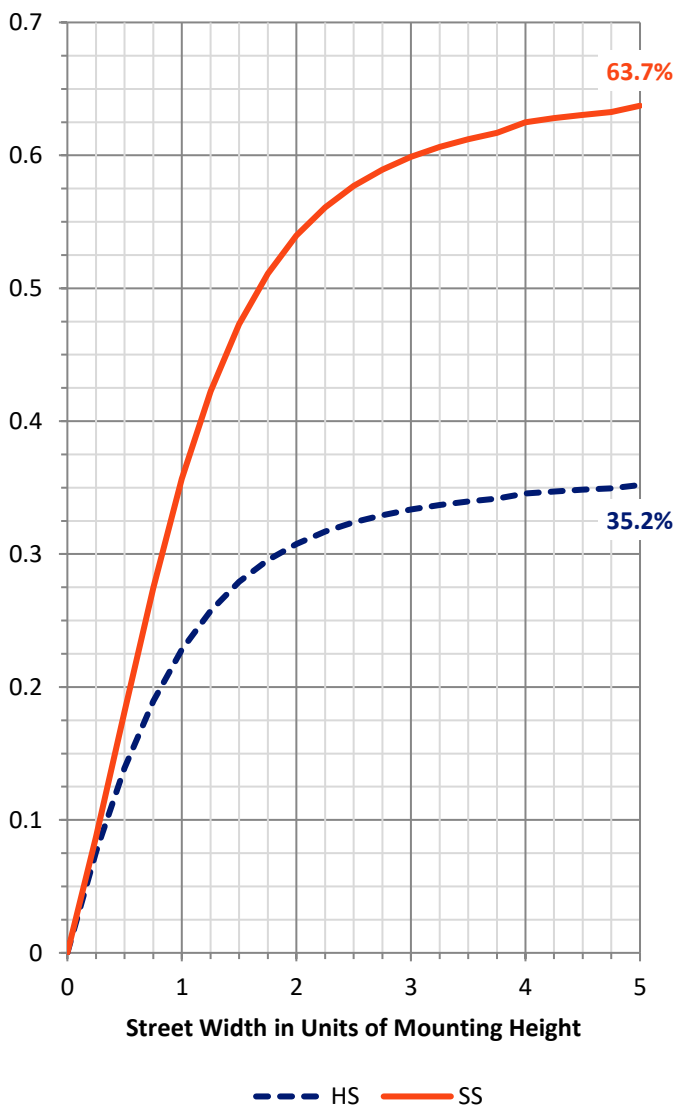
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 2091.3 | 0.0 | 2091.3 |
| | % Fixture | 35.7 | 0.0 | 35.7 |
| Street Side | Lumens | 3772.6 | 0.0 | 3772.6 |
| | % Fixture | 64.3 | 0.0 | 64.3 |
| Total | Lumens | 5863.8 | 0.0 | 5863.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 46.6 | 0.8 |
| 10°-20° | 159.1 | 2.7 |
| 20°-30° | 335.7 | 5.7 |
| 30°-40° | 617.8 | 10.5 |
| 40°-50° | 963.0 | 16.4 |
| 50°-60° | 1265.4 | 21.6 |
| 60°-70° | 1326.0 | 22.6 |
| 70°-80° | 919.3 | 15.7 |
| 80°-90° | 230.9 | 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° | 5863.8 | 100.0 |
| 0°-180° | 5863.8 | 100.0 |



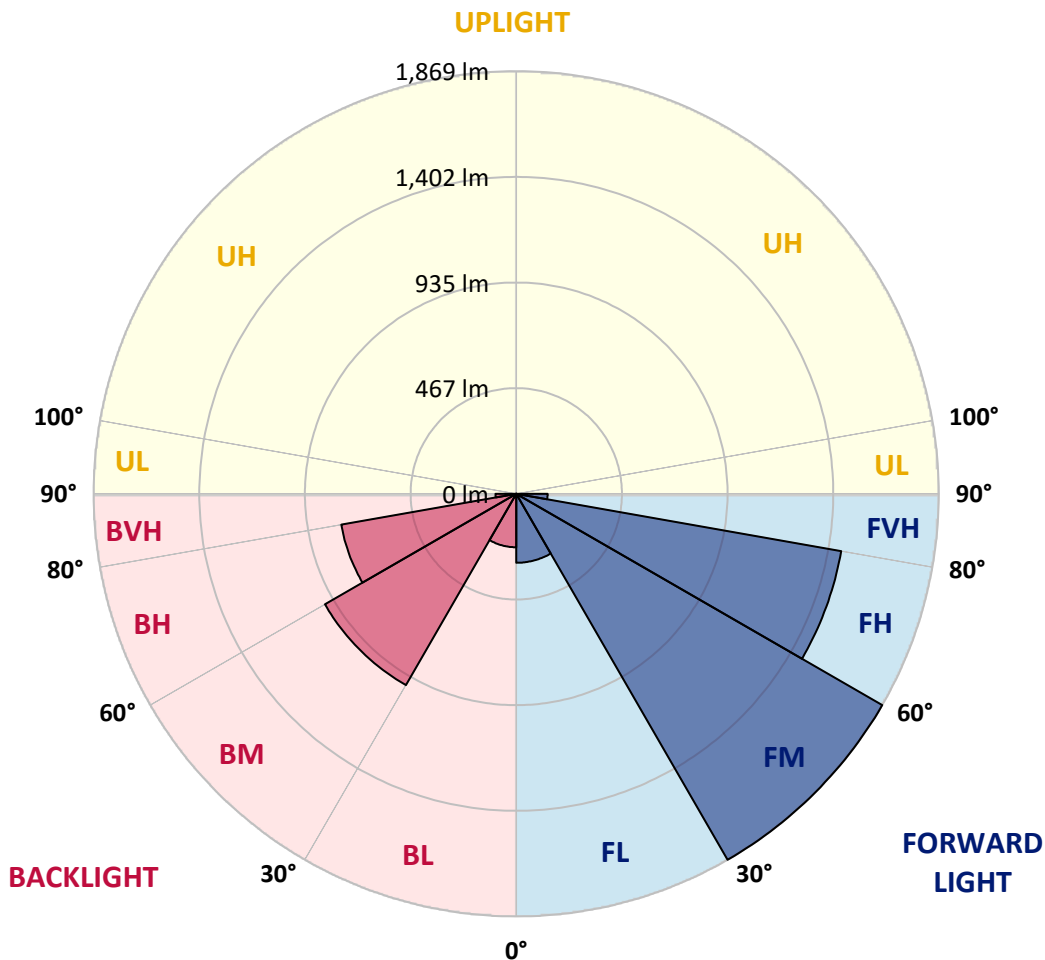
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 305.0 | 5.2 | | | |
| FM (30°-60°) | 1869.3 | 31.9 | | | |
| FH (60°-80°) | 1459.5 | 24.9 | | | G1/1800 |
| FVH (80°-90°) | 138.7 | 2.4 | | | G2/225 |
| BL (0°-30°) | 236.4 | 4.0 | B1/500 | | |
| BM (30°-60°) | 977.0 | 16.7 | B1/1000 | | |
| BH (60°-80°) | 785.8 | 13.4 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 92.1 | 1.6 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 58° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 |
| 2.5° | 476.7 | 476.7 | 476.7 | 475.4 | 475.4 | 475.4 | 474.0 | 474.0 | 474.0 | 472.7 | 471.4 |
| 5° | 487.2 | 487.2 | 485.9 | 487.2 | 485.9 | 484.6 | 483.3 | 483.3 | 483.3 | 482.0 | 480.6 |
| 7.5° | 501.8 | 503.1 | 501.8 | 503.1 | 501.8 | 500.4 | 497.8 | 497.8 | 496.5 | 493.8 | 491.2 |
| 10° | 524.2 | 524.2 | 524.2 | 522.9 | 521.6 | 520.3 | 518.9 | 517.6 | 516.3 | 512.3 | 508.4 |
| 12.5° | 551.9 | 551.9 | 551.9 | 549.3 | 549.3 | 546.7 | 545.3 | 544.0 | 541.4 | 536.1 | 530.8 |
| 15° | 586.3 | 585.0 | 588.9 | 588.9 | 587.6 | 587.6 | 583.6 | 581.0 | 578.4 | 570.4 | 558.5 |
| 17.5° | 632.5 | 631.2 | 635.1 | 637.8 | 637.8 | 639.1 | 632.5 | 629.8 | 620.6 | 610.0 | 594.2 |
| 20° | 694.6 | 691.9 | 695.9 | 698.5 | 695.9 | 698.5 | 691.9 | 693.2 | 680.0 | 661.5 | 636.5 |
| 22.5° | 761.9 | 761.9 | 765.9 | 765.9 | 767.2 | 769.8 | 761.9 | 757.9 | 747.4 | 721.0 | 689.3 |
| 25° | 845.1 | 851.7 | 851.7 | 851.7 | 857.0 | 858.3 | 850.4 | 843.8 | 829.2 | 793.6 | 750.0 |
| 27.5° | 946.8 | 945.4 | 944.1 | 952.0 | 952.0 | 954.7 | 949.4 | 946.8 | 929.6 | 886.0 | 820.0 |
| 30° | 1055.0 | 1047.1 | 1052.4 | 1055.0 | 1060.3 | 1064.3 | 1059.0 | 1051.1 | 1029.9 | 982.4 | 900.5 |
| 32.5° | 1154.1 | 1159.3 | 1167.3 | 1169.9 | 1177.8 | 1179.2 | 1165.9 | 1165.9 | 1144.8 | 1084.1 | 999.6 |
| 35° | 1266.3 | 1266.3 | 1287.4 | 1296.7 | 1296.7 | 1304.6 | 1284.8 | 1274.2 | 1259.7 | 1196.3 | 1089.4 |
| 37.5° | 1364.0 | 1366.7 | 1383.8 | 1404.9 | 1407.6 | 1419.5 | 1404.9 | 1401.0 | 1374.6 | 1309.9 | 1191.0 |
| 40° | 1455.1 | 1457.8 | 1478.9 | 1504.0 | 1518.5 | 1537.0 | 1522.5 | 1515.9 | 1488.1 | 1414.2 | 1292.7 |
| 42.5° | 1526.4 | 1531.7 | 1558.1 | 1595.1 | 1618.9 | 1641.3 | 1634.7 | 1630.7 | 1592.4 | 1514.5 | 1386.5 |
| 45° | 1580.6 | 1589.8 | 1626.8 | 1670.4 | 1703.4 | 1736.4 | 1737.7 | 1729.8 | 1694.1 | 1607.0 | 1477.6 |
| 47.5° | 1624.1 | 1634.7 | 1675.6 | 1731.1 | 1781.3 | 1822.2 | 1830.1 | 1820.9 | 1787.9 | 1696.8 | 1559.4 |
| 50° | 1659.8 | 1665.1 | 1711.3 | 1782.6 | 1844.7 | 1896.1 | 1912.0 | 1904.1 | 1875.0 | 1772.0 | 1630.7 |
| 52.5° | 1678.3 | 1686.2 | 1739.0 | 1820.9 | 1896.1 | 1958.2 | 1982.0 | 1978.0 | 1943.7 | 1840.7 | 1694.1 |
| 55° | 1687.5 | 1695.4 | 1757.5 | 1851.3 | 1935.8 | 2008.4 | 2037.4 | 2038.8 | 2005.7 | 1902.8 | 1753.5 |
| 57.5° | 1677.0 | 1687.5 | 1754.9 | 1859.2 | 1952.9 | 2030.8 | 2075.7 | 2074.4 | 2048.0 | 1950.3 | 1803.7 |
| 59° | 1658.5 | 1666.4 | 1739.0 | 1848.6 | 1950.3 | 2028.2 | 2079.7 | 2081.0 | 2057.2 | 1966.1 | 1826.2 |
| 60° | 1637.3 | 1646.6 | 1720.5 | 1835.4 | 1939.7 | 2018.9 | 2073.1 | 2075.7 | 2055.9 | 1970.1 | 1835.4 |
| 62.5° | 1564.7 | 1576.6 | 1658.5 | 1781.3 | 1894.8 | 1970.1 | 2034.8 | 2038.8 | 2028.2 | 1959.5 | 1842.0 |
| 65° | 1463.0 | 1473.6 | 1562.1 | 1692.8 | 1811.6 | 1889.5 | 1950.3 | 1959.5 | 1958.2 | 1912.0 | 1815.6 |
| 67.5° | 1338.9 | 1340.2 | 1423.4 | 1566.0 | 1690.2 | 1766.7 | 1824.8 | 1840.7 | 1852.6 | 1822.2 | 1737.7 |
| 70° | 1189.7 | 1188.4 | 1268.9 | 1410.2 | 1534.3 | 1614.9 | 1673.0 | 1683.6 | 1713.9 | 1690.2 | 1621.5 |
| 72.5° | 1004.9 | 1020.7 | 1096.0 | 1214.8 | 1337.6 | 1427.4 | 1478.9 | 1498.7 | 1515.9 | 1521.1 | 1464.4 |
| 75° | 830.6 | 847.7 | 907.1 | 1018.1 | 1123.7 | 1206.9 | 1262.3 | 1271.6 | 1303.3 | 1311.2 | 1258.4 |
| 77.5° | 664.2 | 665.5 | 709.1 | 797.5 | 893.9 | 962.6 | 1007.5 | 1031.3 | 1048.4 | 1064.3 | 1008.8 |
| 80° | 466.1 | 472.7 | 503.1 | 566.5 | 641.7 | 714.4 | 751.3 | 767.2 | 779.1 | 789.6 | 771.1 |
| 82.5° | 291.8 | 294.5 | 314.3 | 352.6 | 404.1 | 445.0 | 483.3 | 496.5 | 499.1 | 522.9 | 520.3 |
| 85° | 138.6 | 140.0 | 153.2 | 171.7 | 194.1 | 227.1 | 241.6 | 241.6 | 260.1 | 277.3 | 277.3 |
| 87.5° | 18.5 | 18.5 | 22.4 | 25.1 | 31.7 | 40.9 | 56.8 | 58.1 | 68.7 | 76.6 | 83.2 |
| 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° | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 | 470.1 |
| 2.5° | 471.4 | 471.4 | 471.4 | 471.4 | 471.4 | 470.1 | 471.4 | 471.4 | 471.4 | 471.4 | 471.4 |
| 5° | 480.6 | 479.3 | 478.0 | 476.7 | 476.7 | 475.4 | 475.4 | 475.4 | 475.4 | 475.4 | 475.4 |
| 7.5° | 489.9 | 488.6 | 487.2 | 484.6 | 483.3 | 482.0 | 482.0 | 480.6 | 480.6 | 480.6 | 480.6 |
| 10° | 505.7 | 504.4 | 499.1 | 495.2 | 492.5 | 491.2 | 489.9 | 488.6 | 487.2 | 487.2 | 487.2 |
| 12.5° | 526.9 | 524.2 | 515.0 | 509.7 | 505.7 | 503.1 | 500.4 | 499.1 | 497.8 | 496.5 | 496.5 |
| 15° | 553.3 | 546.7 | 534.8 | 526.9 | 521.6 | 517.6 | 513.7 | 511.0 | 509.7 | 508.4 | 508.4 |
| 17.5° | 585.0 | 577.0 | 561.2 | 546.7 | 537.4 | 530.8 | 525.5 | 521.6 | 520.3 | 520.3 | 520.3 |
| 20° | 624.6 | 611.4 | 588.9 | 569.1 | 554.6 | 545.3 | 537.4 | 533.5 | 532.1 | 530.8 | 529.5 |
| 22.5° | 670.8 | 653.6 | 620.6 | 590.2 | 571.7 | 558.5 | 549.3 | 544.0 | 540.1 | 538.7 | 538.7 |
| 25° | 723.6 | 698.5 | 654.9 | 618.0 | 592.9 | 574.4 | 562.5 | 555.9 | 549.3 | 546.7 | 546.7 |
| 27.5° | 787.0 | 754.0 | 695.9 | 647.0 | 612.7 | 590.2 | 577.0 | 567.8 | 561.2 | 555.9 | 553.3 |
| 30° | 855.6 | 818.7 | 740.8 | 678.7 | 635.1 | 610.0 | 594.2 | 583.6 | 574.4 | 565.1 | 563.8 |
| 32.5° | 942.8 | 890.0 | 794.9 | 714.4 | 661.5 | 629.8 | 611.4 | 598.2 | 586.3 | 577.0 | 574.4 |
| 35° | 1031.3 | 967.9 | 851.7 | 751.3 | 686.6 | 648.3 | 625.9 | 611.4 | 599.5 | 588.9 | 587.6 |
| 37.5° | 1122.4 | 1055.0 | 913.7 | 794.9 | 715.7 | 669.5 | 641.7 | 625.9 | 611.4 | 600.8 | 599.5 |
| 40° | 1217.4 | 1138.2 | 977.1 | 839.8 | 746.0 | 690.6 | 658.9 | 639.1 | 623.2 | 614.0 | 612.7 |
| 42.5° | 1307.2 | 1221.4 | 1045.8 | 892.6 | 781.7 | 713.0 | 676.1 | 654.9 | 635.1 | 625.9 | 624.6 |
| 45° | 1393.1 | 1300.6 | 1114.4 | 941.5 | 817.4 | 736.8 | 693.2 | 668.1 | 647.0 | 637.8 | 636.5 |
| 47.5° | 1471.0 | 1378.5 | 1177.8 | 994.3 | 854.3 | 763.2 | 711.7 | 681.3 | 657.6 | 648.3 | 648.3 |
| 50° | 1541.0 | 1444.6 | 1239.9 | 1043.1 | 888.7 | 789.6 | 727.6 | 693.2 | 669.5 | 660.2 | 658.9 |
| 52.5° | 1607.0 | 1502.7 | 1294.0 | 1085.4 | 921.7 | 813.4 | 743.4 | 702.5 | 677.4 | 666.8 | 665.5 |
| 55° | 1659.8 | 1555.5 | 1338.9 | 1119.7 | 944.1 | 829.2 | 754.0 | 707.8 | 680.0 | 670.8 | 669.5 |
| 57.5° | 1706.0 | 1599.1 | 1370.6 | 1143.5 | 958.6 | 838.5 | 759.3 | 707.8 | 678.7 | 668.1 | 666.8 |
| 59° | 1725.8 | 1617.5 | 1381.2 | 1150.1 | 961.3 | 839.8 | 757.9 | 703.8 | 673.4 | 662.9 | 660.2 |
| 60° | 1736.4 | 1625.5 | 1385.1 | 1151.4 | 960.0 | 837.2 | 756.6 | 699.8 | 668.1 | 656.3 | 656.3 |
| 62.5° | 1746.9 | 1632.1 | 1379.9 | 1140.9 | 945.4 | 822.6 | 743.4 | 684.0 | 648.3 | 635.1 | 635.1 |
| 65° | 1724.5 | 1608.3 | 1349.5 | 1111.8 | 916.4 | 797.5 | 718.3 | 657.6 | 618.0 | 604.8 | 604.8 |
| 67.5° | 1658.5 | 1550.2 | 1294.0 | 1057.7 | 868.8 | 754.0 | 677.4 | 615.3 | 578.4 | 563.8 | 559.9 |
| 70° | 1546.2 | 1455.1 | 1206.9 | 979.8 | 804.1 | 698.5 | 625.9 | 566.5 | 528.2 | 513.7 | 508.4 |
| 72.5° | 1395.7 | 1305.9 | 1090.7 | 884.7 | 718.3 | 625.9 | 562.5 | 505.7 | 463.5 | 448.9 | 450.3 |
| 75° | 1188.4 | 1125.0 | 940.2 | 764.5 | 619.3 | 533.5 | 480.6 | 433.1 | 397.5 | 385.6 | 386.9 |
| 77.5° | 963.9 | 911.1 | 761.9 | 623.2 | 505.7 | 439.7 | 394.8 | 356.5 | 332.8 | 326.1 | 322.2 |
| 80° | 738.1 | 686.6 | 571.7 | 464.8 | 384.2 | 338.0 | 307.7 | 281.3 | 262.8 | 253.5 | 256.2 |
| 82.5° | 495.2 | 463.5 | 379.0 | 307.7 | 261.4 | 228.4 | 217.9 | 200.7 | 194.1 | 188.8 | 192.8 |
| 85° | 266.7 | 239.0 | 198.1 | 165.1 | 143.9 | 134.7 | 137.3 | 136.0 | 130.7 | 129.4 | 133.4 |
| 87.5° | 87.1 | 75.3 | 58.1 | 48.9 | 50.2 | 44.9 | 44.9 | 42.3 | 38.3 | 37.0 | 39.6 |
| 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)