

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: P472344

Luminaire Tested: **CCW-VA-4-835-U-T3**

Issue Date: 01/27/2021

Test Information

Test Method: LM-79-08
Report Number: P472344
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-T3
Description: INVUE WALL PACK Wave Stream LUMINAIRE WITH T3 DISTRIBUTION LENS
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5378 lumens
Efficiency: N/A
Efficacy: 83.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.54' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G2

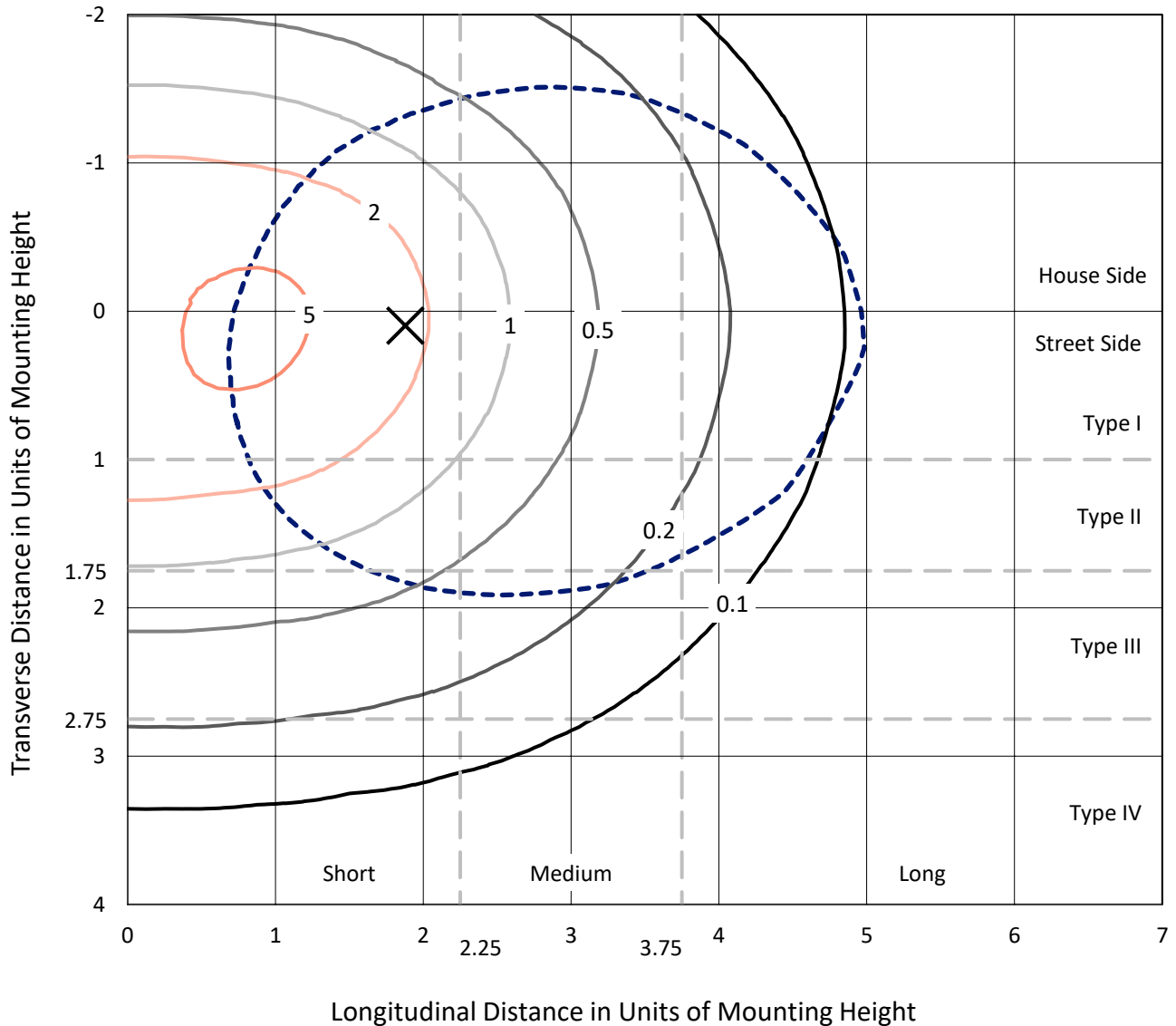
Input Watts (W): 64.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

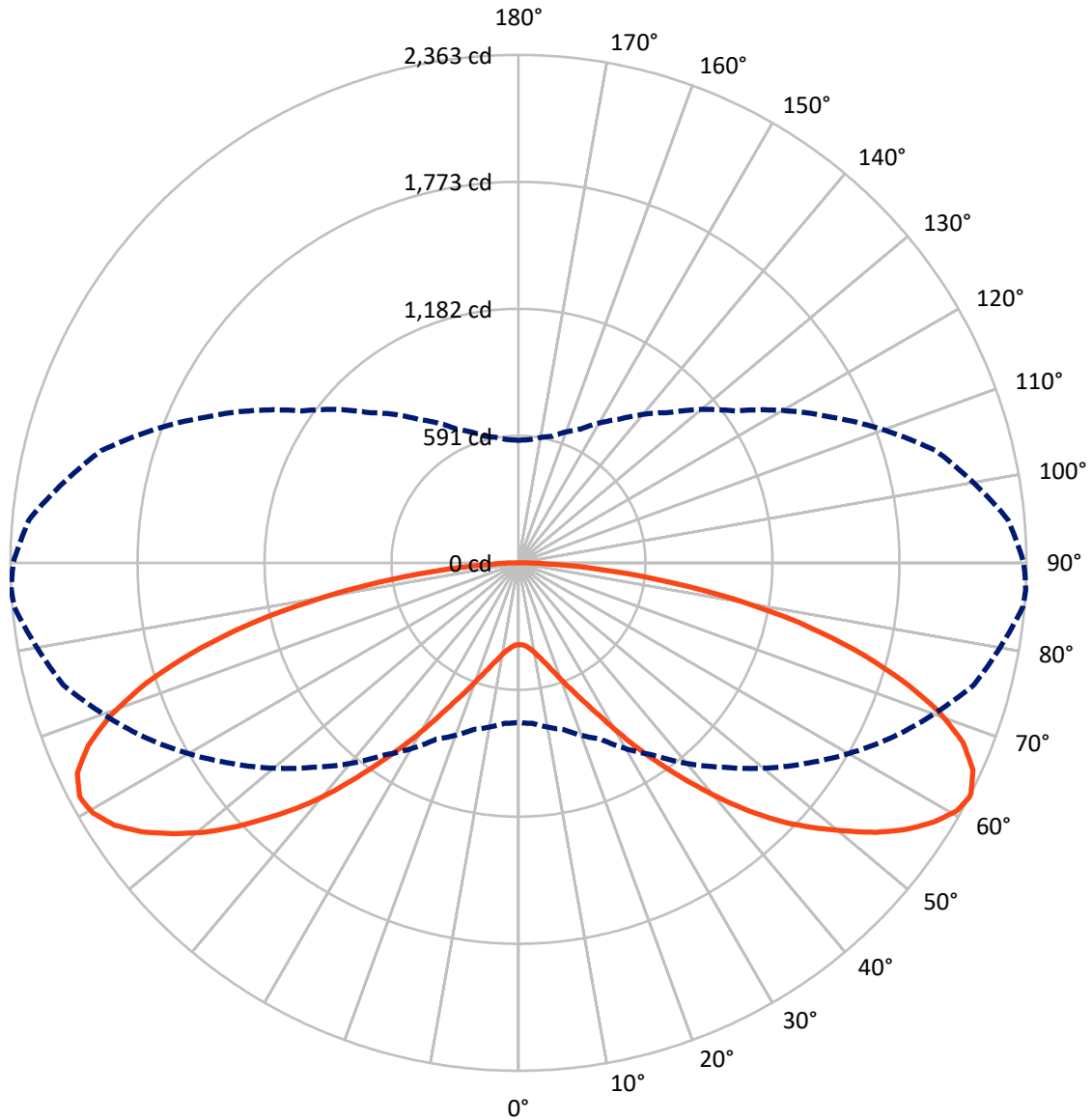
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.5 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 87-Deg Lateral - - - Horizontal Cone Through 62-Deg Vertical

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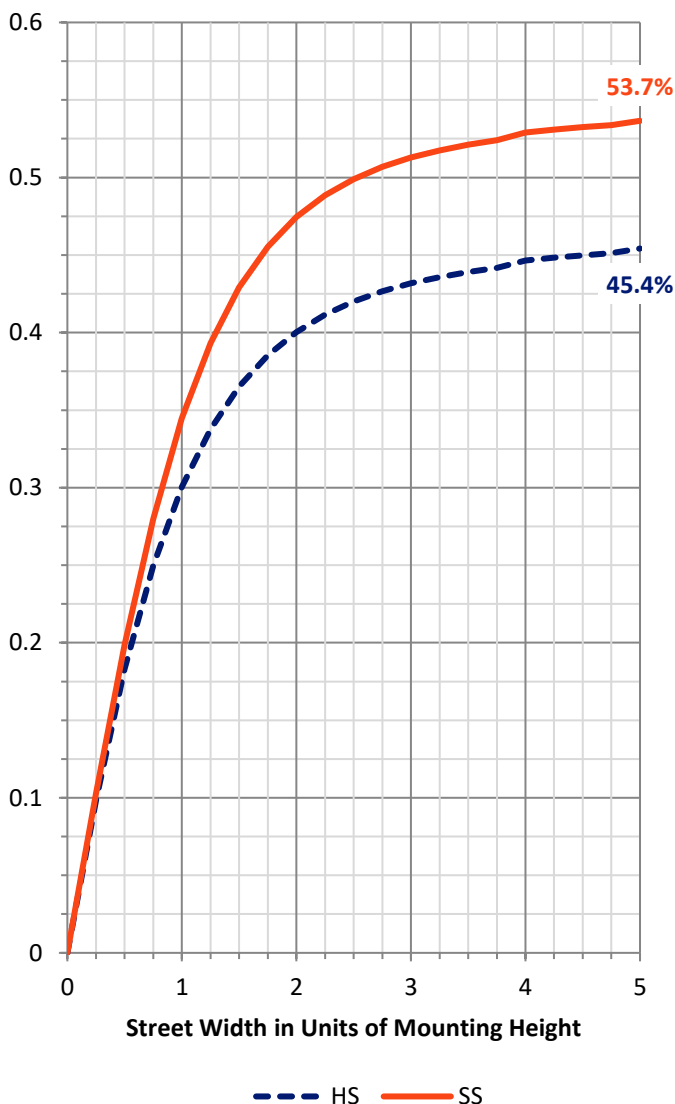
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 2476.2 | 0.0 | 2476.2 |
| | % Fixture | 46.0 | 0.0 | 46.0 |
| Street Side | Lumens | 2901.8 | 0.0 | 2901.8 |
| | % Fixture | 54.0 | 0.0 | 54.0 |
| Total | Lumens | 5378.0 | 0.0 | 5378.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 38.3 | 0.7 |
| 10°-20° | 135.1 | 2.5 |
| 20°-30° | 288.9 | 5.4 |
| 30°-40° | 532.5 | 9.9 |
| 40°-50° | 849.3 | 15.8 |
| 50°-60° | 1154.9 | 21.5 |
| 60°-70° | 1251.2 | 23.3 |
| 70°-80° | 894.1 | 16.6 |
| 80°-90° | 233.7 | 4.3 |
| 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° | 5378.0 | 100.0 |
| 0°-180° | 5378.0 | 100.0 |

Coefficient of Utilization



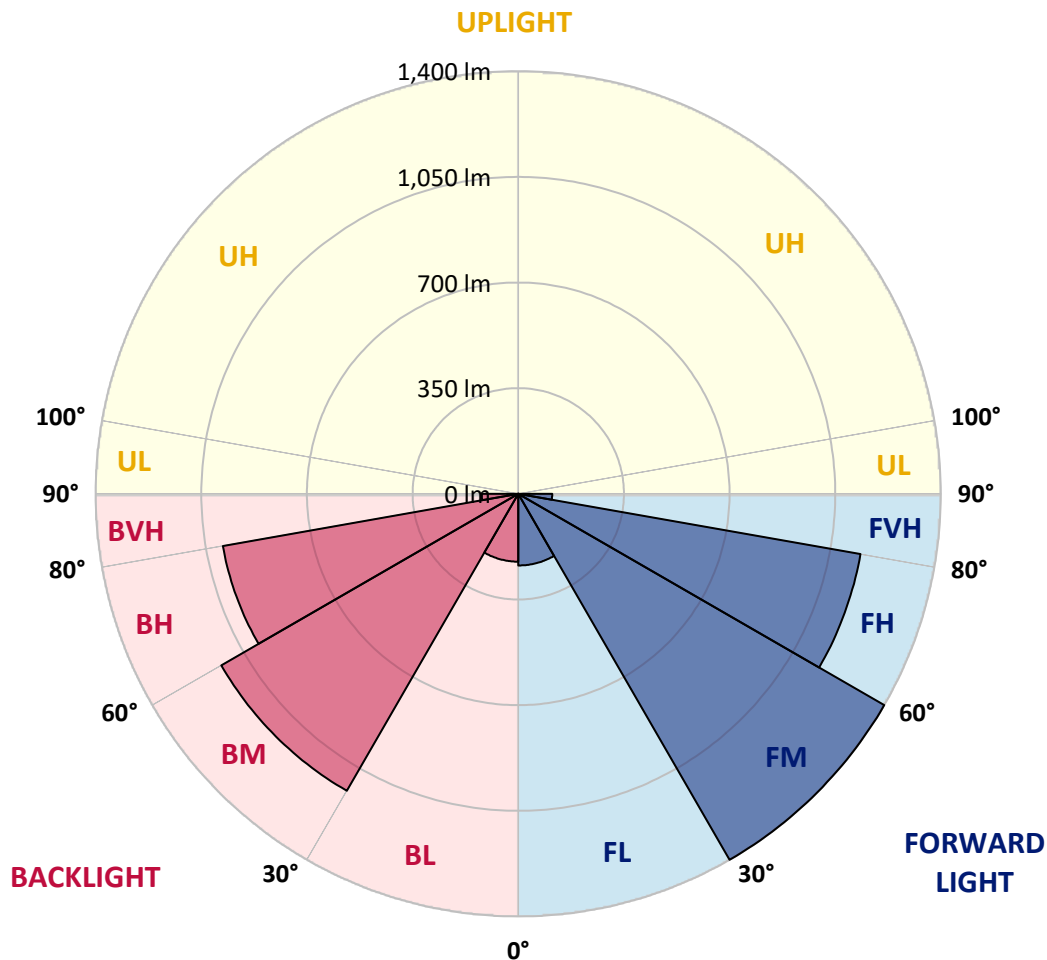
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 237.5 | 4.4 | | | |
| FM (30°-60°) | 1400.4 | 26.0 | | | |
| FH (60°-80°) | 1151.4 | 21.4 | | | G1/1800 |
| FVH (80°-90°) | 112.6 | 2.1 | | | G2/225 |
| BL (0°-30°) | 224.9 | 4.2 | B1/500 | | |
| BM (30°-60°) | 1136.3 | 21.1 | B2/2500 | | |
| BH (60°-80°) | 993.9 | 18.5 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 121.1 | 2.3 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 87° |
|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 |
| 2.5° | 381.5 | 381.5 | 381.5 | 381.5 | 381.5 | 381.5 | 381.5 | 381.5 | 381.5 | 382.3 | 382.3 |
| 5° | 384.1 | 383.2 | 383.2 | 384.1 | 384.9 | 385.8 | 387.5 | 388.4 | 390.1 | 391.9 | 391.0 |
| 7.5° | 391.9 | 391.9 | 391.9 | 392.7 | 395.3 | 397.1 | 399.7 | 402.3 | 404.9 | 406.6 | 405.7 |
| 10° | 404.0 | 404.0 | 404.0 | 405.7 | 408.3 | 413.5 | 417.9 | 422.2 | 424.8 | 426.6 | 427.4 |
| 12.5° | 417.0 | 417.0 | 418.8 | 422.2 | 427.4 | 434.4 | 442.2 | 448.2 | 452.6 | 454.3 | 455.2 |
| 15° | 435.2 | 436.1 | 439.6 | 443.0 | 450.0 | 460.4 | 473.4 | 482.0 | 486.4 | 489.8 | 489.0 |
| 17.5° | 463.0 | 462.1 | 464.7 | 472.5 | 480.3 | 495.0 | 510.6 | 525.4 | 534.1 | 534.1 | 534.1 |
| 20° | 494.2 | 493.3 | 495.0 | 501.1 | 514.1 | 534.1 | 558.3 | 578.3 | 587.8 | 586.1 | 587.8 |
| 22.5° | 528.9 | 528.9 | 530.6 | 535.8 | 548.8 | 577.4 | 611.2 | 640.7 | 653.7 | 649.4 | 647.6 |
| 25° | 567.0 | 567.0 | 569.6 | 573.9 | 592.1 | 626.8 | 671.9 | 714.4 | 727.4 | 723.1 | 721.3 |
| 27.5° | 611.2 | 607.8 | 613.0 | 617.3 | 639.8 | 685.8 | 744.7 | 798.5 | 827.1 | 812.4 | 807.2 |
| 30° | 658.0 | 655.4 | 656.3 | 665.0 | 691.0 | 749.9 | 820.2 | 892.1 | 932.0 | 922.5 | 914.7 |
| 32.5° | 698.8 | 700.5 | 703.1 | 717.9 | 747.3 | 818.4 | 899.9 | 994.4 | 1039.5 | 1036.9 | 1035.2 |
| 35° | 744.7 | 744.7 | 749.9 | 763.8 | 807.2 | 891.3 | 990.1 | 1096.7 | 1163.5 | 1166.1 | 1160.9 |
| 37.5° | 781.1 | 781.1 | 788.9 | 807.2 | 858.3 | 958.0 | 1079.4 | 1205.1 | 1285.7 | 1299.6 | 1295.3 |
| 40° | 813.2 | 811.5 | 820.2 | 847.0 | 906.9 | 1029.1 | 1167.0 | 1312.6 | 1421.0 | 1444.4 | 1438.3 |
| 42.5° | 832.3 | 834.0 | 846.2 | 880.0 | 953.7 | 1091.5 | 1252.8 | 1414.0 | 1540.6 | 1580.5 | 1580.5 |
| 45° | 846.2 | 847.9 | 866.1 | 906.0 | 996.2 | 1153.1 | 1330.8 | 1518.1 | 1657.7 | 1715.7 | 1718.3 |
| 47.5° | 852.2 | 854.8 | 877.4 | 925.9 | 1031.7 | 1209.4 | 1406.2 | 1611.7 | 1762.6 | 1844.9 | 1839.7 |
| 50° | 852.2 | 855.7 | 882.6 | 940.7 | 1063.8 | 1257.1 | 1477.3 | 1701.0 | 1869.2 | 1961.1 | 1960.2 |
| 52.5° | 847.0 | 851.4 | 884.3 | 951.9 | 1090.7 | 1303.1 | 1540.6 | 1777.3 | 1971.5 | 2079.9 | 2083.3 |
| 55° | 836.6 | 841.8 | 880.0 | 958.9 | 1111.5 | 1339.5 | 1591.8 | 1848.4 | 2059.9 | 2182.2 | 2190.0 |
| 57.5° | 815.8 | 821.0 | 864.4 | 952.8 | 1119.3 | 1358.6 | 1629.1 | 1898.7 | 2131.9 | 2274.9 | 2276.7 |
| 60° | 781.1 | 787.2 | 834.0 | 932.9 | 1111.5 | 1359.4 | 1638.6 | 1921.2 | 2180.4 | 2337.4 | 2343.4 |
| 62° | 743.0 | 749.9 | 802.8 | 905.1 | 1091.5 | 1345.5 | 1628.2 | 1920.4 | 2193.5 | 2355.6 | 2363.4 |
| 62.5° | 733.5 | 739.5 | 793.3 | 895.6 | 1083.7 | 1338.6 | 1622.1 | 1916.0 | 2191.7 | 2356.4 | 2362.5 |
| 65° | 674.5 | 680.6 | 735.2 | 843.6 | 1036.0 | 1296.1 | 1577.9 | 1877.9 | 2160.5 | 2321.8 | 2323.5 |
| 67.5° | 609.5 | 615.6 | 670.2 | 772.5 | 967.5 | 1225.0 | 1503.3 | 1802.4 | 2077.3 | 2216.9 | 2229.9 |
| 70° | 534.1 | 542.7 | 593.0 | 694.4 | 877.4 | 1122.7 | 1385.4 | 1682.8 | 1944.6 | 2063.4 | 2075.5 |
| 72.5° | 459.5 | 465.6 | 505.4 | 594.7 | 760.3 | 988.4 | 1232.8 | 1501.6 | 1740.0 | 1852.7 | 1863.1 |
| 75° | 372.8 | 378.0 | 417.0 | 490.7 | 629.4 | 823.6 | 1054.2 | 1289.2 | 1505.9 | 1607.4 | 1615.2 |
| 77.5° | 293.9 | 295.6 | 323.4 | 382.3 | 489.0 | 645.9 | 836.6 | 1022.2 | 1219.0 | 1310.9 | 1331.7 |
| 80° | 207.2 | 215.9 | 235.0 | 275.7 | 343.3 | 463.0 | 600.8 | 759.5 | 897.3 | 1000.5 | 1007.4 |
| 82.5° | 134.4 | 136.1 | 148.3 | 163.0 | 211.5 | 292.2 | 382.3 | 480.3 | 603.4 | 670.2 | 665.0 |
| 85° | 70.2 | 70.2 | 74.6 | 78.9 | 95.4 | 130.9 | 184.7 | 253.2 | 325.1 | 375.4 | 368.5 |
| 87.5° | 12.1 | 11.3 | 12.1 | 11.3 | 14.7 | 20.8 | 39.0 | 63.3 | 95.4 | 112.7 | 124.0 |
| 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° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|
| 0° | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 | 380.6 |
| 2.5° | 382.3 | 382.3 | 383.2 | 384.9 | 384.9 | 385.8 | 386.7 | 386.7 | 387.5 | 388.4 | 388.4 |
| 5° | 392.7 | 392.7 | 393.6 | 395.3 | 396.2 | 396.2 | 397.1 | 397.9 | 397.9 | 397.9 | 398.8 |
| 7.5° | 406.6 | 407.5 | 408.3 | 409.2 | 410.1 | 410.1 | 412.7 | 411.8 | 411.8 | 411.8 | 411.8 |
| 10° | 426.6 | 428.3 | 428.3 | 428.3 | 428.3 | 427.4 | 428.3 | 427.4 | 425.7 | 425.7 | 424.8 |
| 12.5° | 456.0 | 456.0 | 454.3 | 452.6 | 450.0 | 449.1 | 448.2 | 445.6 | 442.2 | 440.4 | 440.4 |
| 15° | 489.8 | 488.1 | 484.6 | 481.2 | 476.8 | 473.4 | 467.3 | 463.8 | 459.5 | 457.8 | 457.8 |
| 17.5° | 533.2 | 530.6 | 521.1 | 514.1 | 503.7 | 495.9 | 489.0 | 482.0 | 476.8 | 475.1 | 474.2 |
| 20° | 582.6 | 576.5 | 562.7 | 547.1 | 533.2 | 521.1 | 508.0 | 499.4 | 494.2 | 489.8 | 489.0 |
| 22.5° | 645.0 | 636.4 | 612.1 | 587.8 | 562.7 | 545.3 | 528.9 | 516.7 | 507.2 | 502.8 | 501.1 |
| 25° | 712.7 | 699.7 | 668.4 | 632.0 | 597.3 | 570.5 | 549.7 | 533.2 | 521.9 | 515.0 | 513.3 |
| 27.5° | 798.5 | 779.4 | 733.5 | 678.8 | 632.9 | 599.1 | 570.5 | 551.4 | 536.7 | 526.3 | 524.5 |
| 30° | 899.1 | 879.1 | 802.8 | 730.9 | 672.8 | 625.1 | 593.9 | 568.7 | 550.5 | 538.4 | 535.8 |
| 32.5° | 1018.7 | 982.3 | 894.7 | 793.3 | 713.5 | 655.4 | 615.6 | 586.1 | 563.5 | 549.7 | 546.2 |
| 35° | 1140.1 | 1102.8 | 987.5 | 859.2 | 756.9 | 686.6 | 639.0 | 603.4 | 578.3 | 560.9 | 559.2 |
| 37.5° | 1276.2 | 1231.1 | 1095.9 | 933.7 | 803.7 | 719.6 | 660.6 | 619.9 | 589.5 | 571.3 | 569.6 |
| 40° | 1422.7 | 1376.8 | 1212.0 | 1019.6 | 859.2 | 751.7 | 681.4 | 635.5 | 601.7 | 581.7 | 579.1 |
| 42.5° | 1566.6 | 1512.0 | 1329.9 | 1105.4 | 915.5 | 787.2 | 705.7 | 652.0 | 612.1 | 591.3 | 587.8 |
| 45° | 1691.5 | 1643.8 | 1449.6 | 1204.2 | 980.6 | 823.6 | 730.0 | 667.6 | 623.4 | 599.9 | 596.5 |
| 47.5° | 1832.8 | 1781.6 | 1580.5 | 1295.3 | 1043.0 | 865.2 | 753.4 | 681.4 | 632.9 | 607.8 | 605.2 |
| 50° | 1957.6 | 1911.7 | 1696.7 | 1379.4 | 1102.8 | 904.3 | 775.1 | 694.4 | 640.7 | 613.8 | 610.4 |
| 52.5° | 2071.2 | 2030.5 | 1803.3 | 1458.3 | 1153.9 | 940.7 | 795.0 | 704.0 | 645.9 | 616.4 | 612.1 |
| 55° | 2185.7 | 2132.8 | 1896.1 | 1527.6 | 1194.7 | 969.3 | 811.5 | 708.3 | 645.0 | 614.7 | 610.4 |
| 57.5° | 2271.5 | 2221.2 | 1963.7 | 1577.0 | 1225.0 | 988.4 | 821.0 | 707.5 | 639.8 | 606.9 | 601.7 |
| 60° | 2329.6 | 2274.1 | 2003.6 | 1601.3 | 1235.4 | 994.4 | 821.0 | 699.7 | 626.8 | 591.3 | 586.1 |
| 62° | 2351.2 | 2287.1 | 2011.4 | 1604.8 | 1231.1 | 988.4 | 815.0 | 686.6 | 609.5 | 574.8 | 569.6 |
| 62.5° | 2352.1 | 2286.2 | 2008.8 | 1602.2 | 1228.5 | 985.8 | 811.5 | 682.3 | 605.2 | 569.6 | 564.4 |
| 65° | 2314.0 | 2248.1 | 1977.6 | 1575.3 | 1199.0 | 962.3 | 787.2 | 657.2 | 574.8 | 540.1 | 534.9 |
| 67.5° | 2204.7 | 2154.4 | 1903.0 | 1512.9 | 1148.7 | 919.0 | 751.7 | 620.8 | 539.3 | 502.8 | 500.2 |
| 70° | 2053.0 | 2007.1 | 1781.6 | 1418.4 | 1075.9 | 856.6 | 698.8 | 572.2 | 494.2 | 461.2 | 455.2 |
| 72.5° | 1862.3 | 1802.4 | 1609.1 | 1291.8 | 971.0 | 770.7 | 629.4 | 511.5 | 442.2 | 412.7 | 409.2 |
| 75° | 1625.6 | 1553.6 | 1392.4 | 1124.5 | 845.3 | 667.6 | 548.8 | 443.9 | 382.3 | 357.2 | 359.8 |
| 77.5° | 1323.9 | 1290.1 | 1125.3 | 896.5 | 688.4 | 552.3 | 450.0 | 376.3 | 323.4 | 302.6 | 300.8 |
| 80° | 999.6 | 967.5 | 852.2 | 680.6 | 520.2 | 417.9 | 348.5 | 296.5 | 260.1 | 241.9 | 241.0 |
| 82.5° | 678.0 | 647.6 | 560.1 | 456.9 | 354.6 | 295.6 | 252.3 | 218.5 | 195.9 | 187.3 | 187.3 |
| 85° | 372.8 | 346.8 | 296.5 | 247.1 | 200.3 | 169.1 | 163.0 | 145.7 | 139.6 | 137.8 | 139.6 |
| 87.5° | 116.2 | 115.3 | 98.0 | 80.6 | 70.2 | 71.1 | 64.2 | 65.9 | 62.4 | 61.6 | 65.9 |
| 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)