

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: P472340

Luminaire Tested: **CCW-VA-4-830-U-T3**

Issue Date: 01/27/2021

Test Information

Test Method: LM-79-08
Report Number: P472340
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: CCW-VA-4-830-U-T3
Description: INVUE WALL PACK Wave Stream LUMINAIRE WITH T3 DISTRIBUTION LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5283.9 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.54' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G2

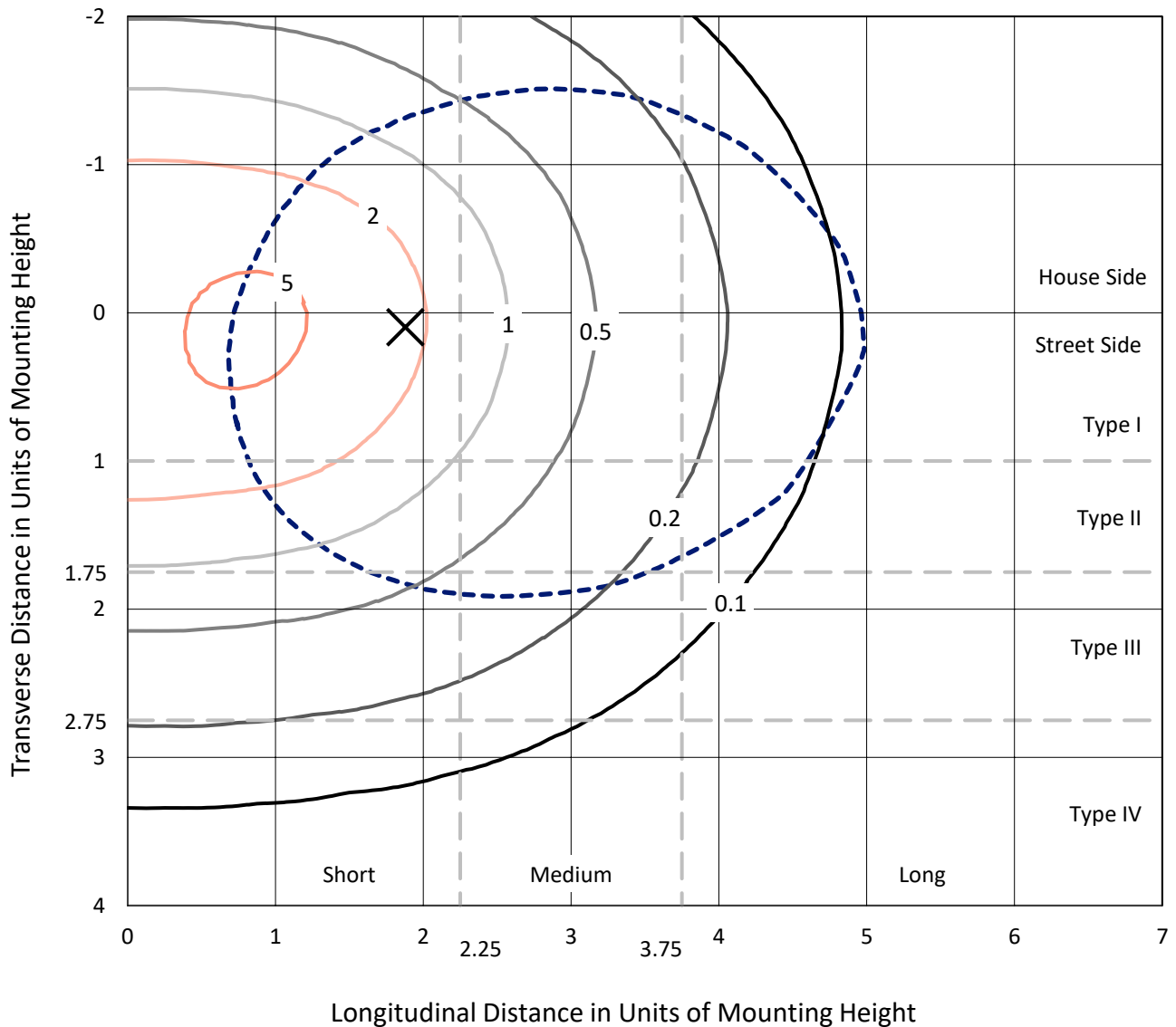
Input Watts (W): 64.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

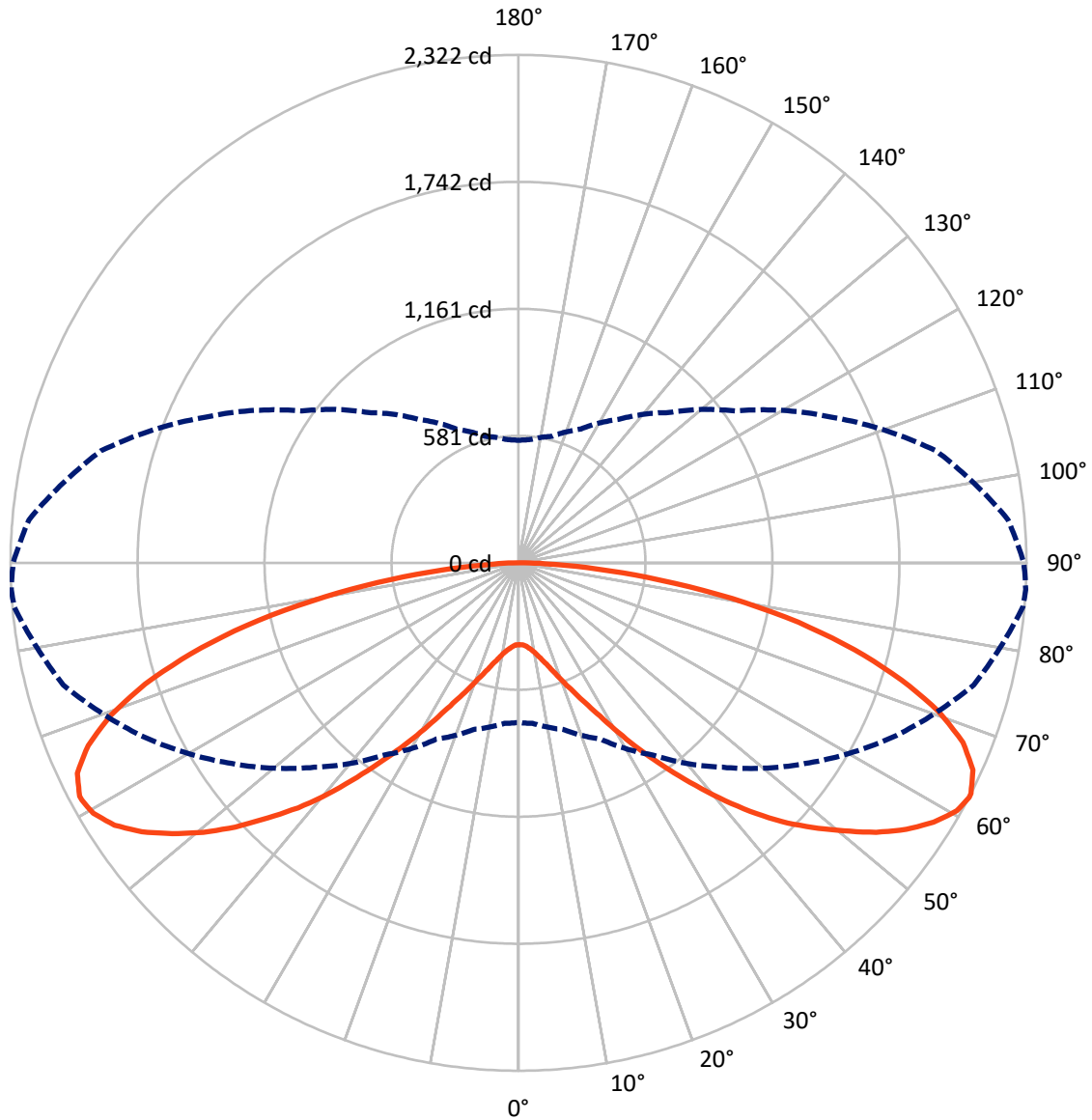
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.3 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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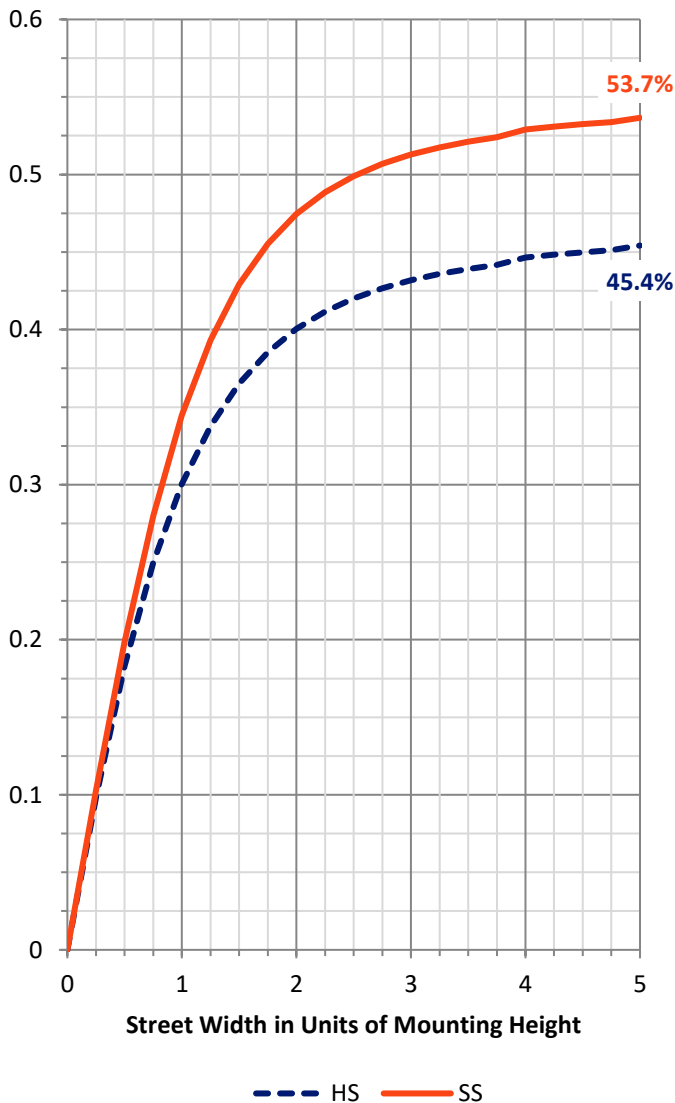
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 2432.8 | 0.0 | 2432.8 |
| | % Fixture | 46.0 | 0.0 | 46.0 |
| Street Side | Lumens | 2851.1 | 0.0 | 2851.1 |
| | % Fixture | 54.0 | 0.0 | 54.0 |
| Total | Lumens | 5283.9 | 0.0 | 5283.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 37.6 | 0.7 |
| 10°-20° | 132.8 | 2.5 |
| 20°-30° | 283.9 | 5.4 |
| 30°-40° | 523.2 | 9.9 |
| 40°-50° | 834.4 | 15.8 |
| 50°-60° | 1134.7 | 21.5 |
| 60°-70° | 1229.3 | 23.3 |
| 70°-80° | 878.4 | 16.6 |
| 80°-90° | 229.6 | 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° | 5283.9 | 100.0 |
| 0°-180° | 5283.9 | 100.0 |

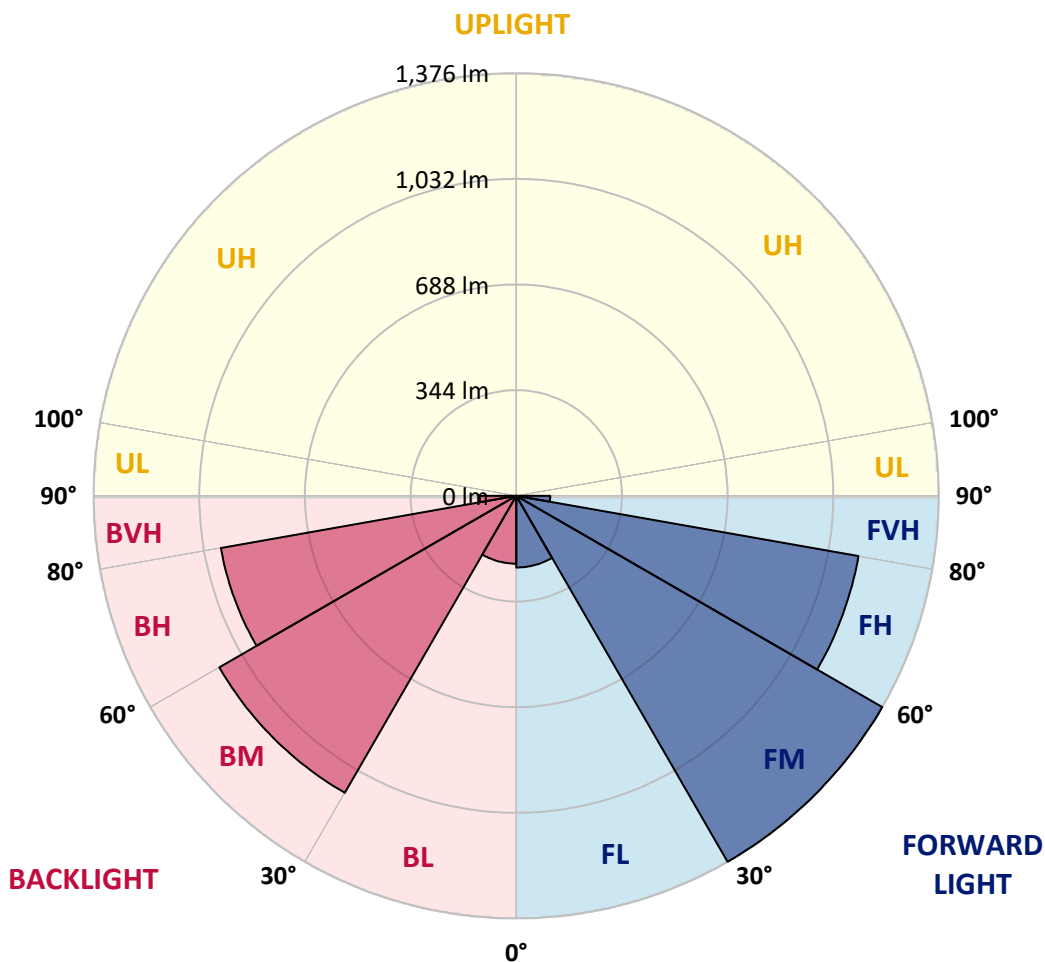


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 233.3 | 4.4 | | | |
| FM (30°-60°) | 1375.9 | 26.0 | | | |
| FH (60°-80°) | 1131.3 | 21.4 | | | G1/1800 |
| FVH (80°-90°) | 110.6 | 2.1 | | | G2/225 |
| BL (0°-30°) | 221.0 | 4.2 | B1/500 | | |
| BM (30°-60°) | 1116.4 | 21.1 | B2/2500 | | |
| BH (60°-80°) | 976.5 | 18.5 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 119.0 | 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° | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 |
| 2.5° | 374.8 | 374.8 | 374.8 | 374.8 | 374.8 | 374.8 | 374.8 | 374.8 | 374.8 | 375.6 | 375.6 |
| 5° | 377.4 | 376.5 | 376.5 | 377.4 | 378.2 | 379.1 | 380.8 | 381.6 | 383.3 | 385.0 | 384.2 |
| 7.5° | 385.0 | 385.0 | 385.0 | 385.9 | 388.4 | 390.1 | 392.7 | 395.2 | 397.8 | 399.5 | 398.6 |
| 10° | 396.9 | 396.9 | 396.9 | 398.6 | 401.2 | 406.3 | 410.6 | 414.8 | 417.4 | 419.1 | 419.9 |
| 12.5° | 409.7 | 409.7 | 411.4 | 414.8 | 419.9 | 426.8 | 434.4 | 440.4 | 444.6 | 446.3 | 447.2 |
| 15° | 427.6 | 428.5 | 431.9 | 435.3 | 442.1 | 452.3 | 465.1 | 473.6 | 477.9 | 481.3 | 480.4 |
| 17.5° | 454.9 | 454.0 | 456.6 | 464.2 | 471.9 | 486.4 | 501.7 | 516.2 | 524.7 | 524.7 | 524.7 |
| 20° | 485.5 | 484.7 | 486.4 | 492.3 | 505.1 | 524.7 | 548.6 | 568.2 | 577.5 | 575.8 | 577.5 |
| 22.5° | 519.6 | 519.6 | 521.3 | 526.4 | 539.2 | 567.3 | 600.5 | 629.5 | 642.3 | 638.0 | 636.3 |
| 25° | 557.1 | 557.1 | 559.6 | 563.9 | 581.8 | 615.9 | 660.2 | 701.9 | 714.7 | 710.4 | 708.7 |
| 27.5° | 600.5 | 597.1 | 602.2 | 606.5 | 628.6 | 673.8 | 731.7 | 784.5 | 812.6 | 798.1 | 793.0 |
| 30° | 646.5 | 644.0 | 644.8 | 653.3 | 678.9 | 736.8 | 805.8 | 876.5 | 915.7 | 906.3 | 898.7 |
| 32.5° | 686.6 | 688.3 | 690.8 | 705.3 | 734.3 | 804.1 | 884.2 | 977.0 | 1021.3 | 1018.8 | 1017.1 |
| 35° | 731.7 | 731.7 | 736.8 | 750.4 | 793.0 | 875.7 | 972.8 | 1077.5 | 1143.1 | 1145.7 | 1140.6 |
| 37.5° | 767.5 | 767.5 | 775.1 | 793.0 | 843.3 | 941.3 | 1060.5 | 1184.0 | 1263.2 | 1276.9 | 1272.6 |
| 40° | 799.0 | 797.3 | 805.8 | 832.2 | 891.0 | 1011.1 | 1146.5 | 1289.6 | 1396.1 | 1419.1 | 1413.2 |
| 42.5° | 817.7 | 819.4 | 831.4 | 864.6 | 937.0 | 1072.4 | 1230.9 | 1389.3 | 1513.7 | 1552.9 | 1552.9 |
| 45° | 831.4 | 833.1 | 851.0 | 890.1 | 978.7 | 1132.9 | 1307.5 | 1491.5 | 1628.7 | 1685.7 | 1688.3 |
| 47.5° | 837.3 | 839.9 | 862.0 | 909.7 | 1013.7 | 1188.3 | 1381.6 | 1583.5 | 1731.7 | 1812.7 | 1807.5 |
| 50° | 837.3 | 840.7 | 867.1 | 924.2 | 1045.2 | 1235.1 | 1451.5 | 1671.3 | 1836.5 | 1926.8 | 1925.9 |
| 52.5° | 832.2 | 836.5 | 868.8 | 935.3 | 1071.6 | 1280.3 | 1513.7 | 1746.2 | 1937.0 | 2043.5 | 2046.9 |
| 55° | 822.0 | 827.1 | 864.6 | 942.1 | 1092.0 | 1316.0 | 1563.9 | 1816.1 | 2023.9 | 2144.0 | 2151.7 |
| 57.5° | 801.6 | 806.7 | 849.3 | 936.1 | 1099.7 | 1334.8 | 1600.6 | 1865.5 | 2094.6 | 2235.2 | 2236.9 |
| 60° | 767.5 | 773.4 | 819.4 | 916.5 | 1092.0 | 1335.6 | 1609.9 | 1887.6 | 2142.3 | 2296.5 | 2302.4 |
| 62° | 730.0 | 736.8 | 788.8 | 889.3 | 1072.4 | 1322.0 | 1599.7 | 1886.8 | 2155.1 | 2314.4 | 2322.0 |
| 62.5° | 720.6 | 726.6 | 779.4 | 879.9 | 1064.8 | 1315.2 | 1593.7 | 1882.5 | 2153.4 | 2315.2 | 2321.2 |
| 65° | 662.7 | 668.7 | 722.3 | 828.8 | 1017.9 | 1273.5 | 1550.3 | 1845.0 | 2122.7 | 2281.2 | 2282.9 |
| 67.5° | 598.8 | 604.8 | 658.5 | 759.0 | 950.6 | 1203.6 | 1477.0 | 1770.9 | 2040.9 | 2178.1 | 2190.9 |
| 70° | 524.7 | 533.2 | 582.6 | 682.3 | 862.0 | 1103.1 | 1361.2 | 1653.4 | 1910.6 | 2027.3 | 2039.2 |
| 72.5° | 451.5 | 457.4 | 496.6 | 584.3 | 747.0 | 971.1 | 1211.3 | 1475.3 | 1709.6 | 1820.3 | 1830.5 |
| 75° | 366.3 | 371.4 | 409.7 | 482.1 | 618.4 | 809.2 | 1035.8 | 1266.6 | 1479.6 | 1579.3 | 1586.9 |
| 77.5° | 288.8 | 290.5 | 317.7 | 375.6 | 480.4 | 634.6 | 822.0 | 1004.3 | 1197.6 | 1287.9 | 1308.4 |
| 80° | 203.6 | 212.1 | 230.8 | 270.9 | 337.3 | 454.9 | 590.3 | 746.2 | 881.6 | 983.0 | 989.8 |
| 82.5° | 132.0 | 133.7 | 145.7 | 160.1 | 207.8 | 287.1 | 375.6 | 471.9 | 592.9 | 658.5 | 653.3 |
| 85° | 69.0 | 69.0 | 73.3 | 77.5 | 93.7 | 128.6 | 181.4 | 248.7 | 319.4 | 368.8 | 362.0 |
| 87.5° | 11.9 | 11.1 | 11.9 | 11.1 | 14.5 | 20.4 | 38.3 | 62.2 | 93.7 | 110.7 | 121.8 |
| 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° | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 | 373.9 |
| 2.5° | 375.6 | 375.6 | 376.5 | 378.2 | 378.2 | 379.1 | 379.9 | 379.9 | 380.8 | 381.6 | 381.6 |
| 5° | 385.9 | 385.9 | 386.7 | 388.4 | 389.3 | 389.3 | 390.1 | 391.0 | 391.0 | 391.0 | 391.8 |
| 7.5° | 399.5 | 400.4 | 401.2 | 402.1 | 402.9 | 402.9 | 405.5 | 404.6 | 404.6 | 404.6 | 404.6 |
| 10° | 419.1 | 420.8 | 420.8 | 420.8 | 420.8 | 419.9 | 420.8 | 419.9 | 418.2 | 418.2 | 417.4 |
| 12.5° | 448.1 | 448.1 | 446.3 | 444.6 | 442.1 | 441.2 | 440.4 | 437.8 | 434.4 | 432.7 | 432.7 |
| 15° | 481.3 | 479.6 | 476.2 | 472.8 | 468.5 | 465.1 | 459.1 | 455.7 | 451.5 | 449.8 | 449.8 |
| 17.5° | 523.9 | 521.3 | 511.9 | 505.1 | 494.9 | 487.2 | 480.4 | 473.6 | 468.5 | 466.8 | 465.9 |
| 20° | 572.4 | 566.5 | 552.8 | 537.5 | 523.9 | 511.9 | 499.2 | 490.6 | 485.5 | 481.3 | 480.4 |
| 22.5° | 633.7 | 625.2 | 601.4 | 577.5 | 552.8 | 535.8 | 519.6 | 507.7 | 498.3 | 494.1 | 492.3 |
| 25° | 700.2 | 687.4 | 656.7 | 621.0 | 586.9 | 560.5 | 540.0 | 523.9 | 512.8 | 506.0 | 504.3 |
| 27.5° | 784.5 | 765.8 | 720.6 | 667.0 | 621.8 | 588.6 | 560.5 | 541.8 | 527.3 | 517.0 | 515.3 |
| 30° | 883.3 | 863.7 | 788.8 | 718.1 | 661.0 | 614.2 | 583.5 | 558.8 | 540.9 | 529.0 | 526.4 |
| 32.5° | 1000.9 | 965.1 | 879.1 | 779.4 | 701.0 | 644.0 | 604.8 | 575.8 | 553.7 | 540.0 | 536.6 |
| 35° | 1120.1 | 1083.5 | 970.2 | 844.1 | 743.6 | 674.6 | 627.8 | 592.9 | 568.2 | 551.1 | 549.4 |
| 37.5° | 1253.9 | 1209.6 | 1076.7 | 917.4 | 789.6 | 707.0 | 649.1 | 609.0 | 579.2 | 561.3 | 559.6 |
| 40° | 1397.8 | 1352.7 | 1190.8 | 1001.7 | 844.1 | 738.5 | 669.5 | 624.4 | 591.2 | 571.6 | 569.0 |
| 42.5° | 1539.2 | 1485.6 | 1306.7 | 1086.1 | 899.5 | 773.4 | 693.4 | 640.6 | 601.4 | 580.9 | 577.5 |
| 45° | 1661.9 | 1615.0 | 1424.2 | 1183.2 | 963.4 | 809.2 | 717.2 | 655.9 | 612.5 | 589.5 | 586.0 |
| 47.5° | 1800.7 | 1750.5 | 1552.9 | 1272.6 | 1024.7 | 850.1 | 740.2 | 669.5 | 621.8 | 597.1 | 594.6 |
| 50° | 1923.4 | 1878.2 | 1667.0 | 1355.2 | 1083.5 | 888.4 | 761.5 | 682.3 | 629.5 | 603.1 | 599.7 |
| 52.5° | 2035.0 | 1994.9 | 1771.8 | 1432.7 | 1133.8 | 924.2 | 781.1 | 691.7 | 634.6 | 605.6 | 601.4 |
| 55° | 2147.4 | 2095.5 | 1862.9 | 1500.9 | 1173.8 | 952.3 | 797.3 | 695.9 | 633.7 | 603.9 | 599.7 |
| 57.5° | 2231.7 | 2182.3 | 1929.4 | 1549.4 | 1203.6 | 971.1 | 806.7 | 695.1 | 628.6 | 596.3 | 591.2 |
| 60° | 2288.8 | 2234.3 | 1968.5 | 1573.3 | 1213.8 | 977.0 | 806.7 | 687.4 | 615.9 | 580.9 | 575.8 |
| 62° | 2310.1 | 2247.1 | 1976.2 | 1576.7 | 1209.6 | 971.1 | 800.7 | 674.6 | 598.8 | 564.8 | 559.6 |
| 62.5° | 2311.0 | 2246.2 | 1973.6 | 1574.1 | 1207.0 | 968.5 | 797.3 | 670.4 | 594.6 | 559.6 | 554.5 |
| 65° | 2273.5 | 2208.7 | 1943.0 | 1547.7 | 1178.1 | 945.5 | 773.4 | 645.7 | 564.8 | 530.7 | 525.6 |
| 67.5° | 2166.2 | 2116.8 | 1869.7 | 1486.4 | 1128.7 | 902.9 | 738.5 | 609.9 | 529.8 | 494.1 | 491.5 |
| 70° | 2017.1 | 1971.9 | 1750.5 | 1393.6 | 1057.1 | 841.6 | 686.6 | 562.2 | 485.5 | 453.2 | 447.2 |
| 72.5° | 1829.7 | 1770.9 | 1581.0 | 1269.2 | 954.0 | 757.3 | 618.4 | 502.6 | 434.4 | 405.5 | 402.1 |
| 75° | 1597.1 | 1526.4 | 1368.0 | 1104.8 | 830.5 | 655.9 | 539.2 | 436.1 | 375.6 | 350.9 | 353.5 |
| 77.5° | 1300.7 | 1267.5 | 1105.7 | 880.8 | 676.3 | 542.6 | 442.1 | 369.7 | 317.7 | 297.3 | 295.6 |
| 80° | 982.1 | 950.6 | 837.3 | 668.7 | 511.1 | 410.6 | 342.4 | 291.3 | 255.5 | 237.7 | 236.8 |
| 82.5° | 666.1 | 636.3 | 550.3 | 448.9 | 348.4 | 290.5 | 247.9 | 214.7 | 192.5 | 184.0 | 184.0 |
| 85° | 366.3 | 340.7 | 291.3 | 242.8 | 196.8 | 166.1 | 160.1 | 143.1 | 137.1 | 135.4 | 137.1 |
| 87.5° | 114.1 | 113.3 | 96.3 | 79.2 | 69.0 | 69.8 | 63.0 | 64.7 | 61.3 | 60.5 | 64.7 |
| 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)