

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: P401592

Luminaire Tested: **ENV-SA1D-830-U-T4W**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401592
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-17)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENV-SA1D-830-U-T4W
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4486 lumens
Efficiency: N/A
Efficacy: 104.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

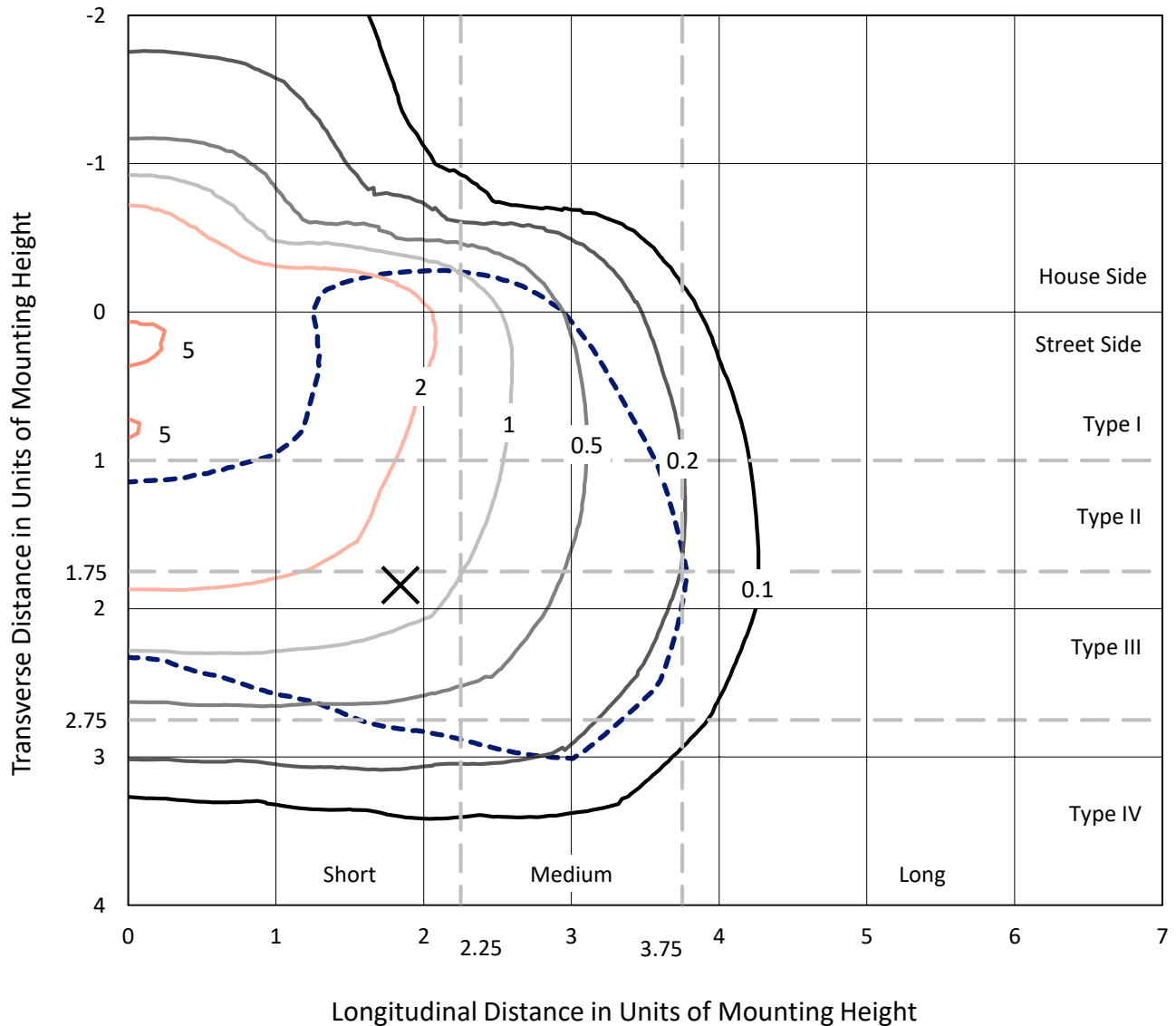
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

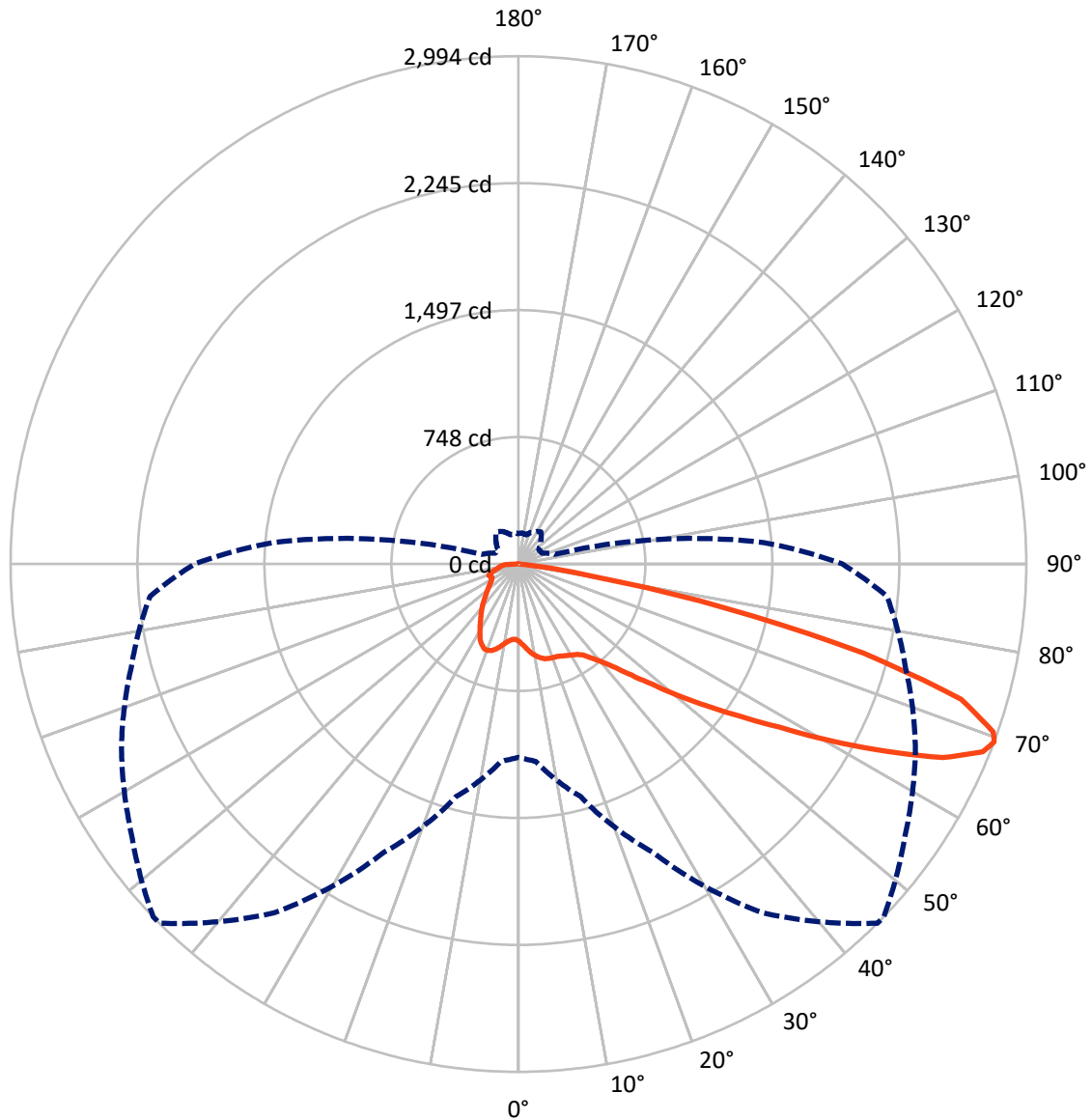


Based on 10 foot mounting height. Maximum calculated value = 5.6 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1056.2 | 0.0 | 1056.2 |
| | % Fixture | 23.5 | 0.0 | 23.5 |
| Street Side | Lumens | 3429.8 | 0.0 | 3429.8 |
| | % Fixture | 76.5 | 0.0 | 76.5 |
| Total | Lumens | 4486.0 | 0.0 | 4486.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 46.4 | 1.0 |
| 10°-20° | 153.7 | 3.4 |
| 20°-30° | 259.8 | 5.8 |
| 30°-40° | 375.9 | 8.4 |
| 40°-50° | 567.6 | 12.7 |
| 50°-60° | 957.0 | 21.3 |
| 60°-70° | 1316.6 | 29.3 |
| 70°-80° | 729.6 | 16.3 |
| 80°-90° | 79.4 | 1.8 |
| 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° | 4486.0 | 100.0 |
| 0°-180° | 4486.0 | 100.0 |



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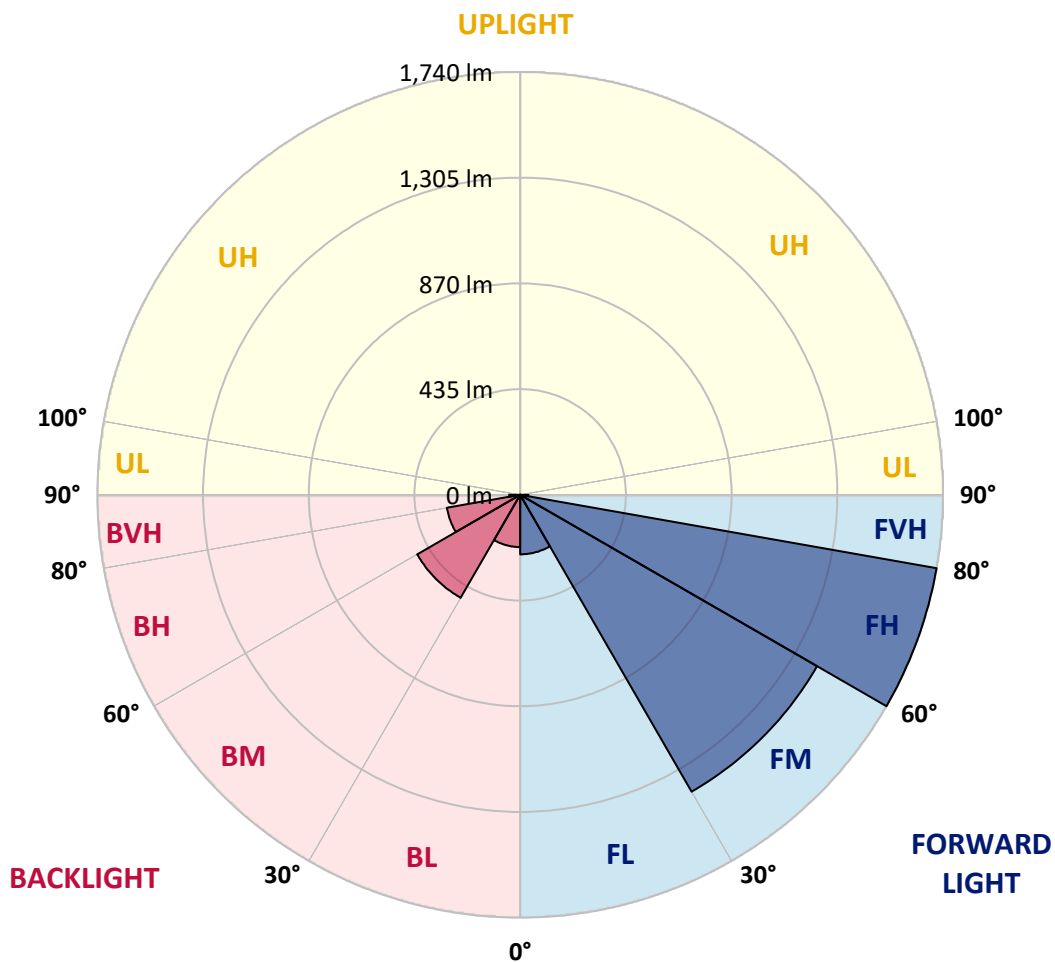
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 244.8 | 5.5 | | | |
| FM | (30°-60°) | 1410.9 | 31.5 | | | |
| FH | (60°-80°) | 1740.1 | 38.8 | | | G1/1800 |
| FVH | (80°-90°) | 34.0 | 0.8 | | | G1/100 |
| BL | (0°-30°) | 215.1 | 4.8 | B1/500 | | |
| BM | (30°-60°) | 489.6 | 10.9 | B1/1000 | | |
| BH | (60°-80°) | 306.1 | 6.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 45.4 | 1.0 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 46° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 |
| 2.5° | 484.0 | 483.4 | 484.0 | 481.5 | 478.9 | 475.1 | 473.8 | 469.4 | 466.2 | 461.7 | 457.9 |
| 5° | 519.8 | 521.7 | 521.0 | 517.8 | 507.6 | 500.0 | 500.0 | 490.4 | 480.2 | 470.6 | 461.7 |
| 7.5° | 558.7 | 558.7 | 554.8 | 548.4 | 538.2 | 526.8 | 525.5 | 512.7 | 498.1 | 484.7 | 470.6 |
| 10° | 586.7 | 588.0 | 582.2 | 573.3 | 560.6 | 548.4 | 547.2 | 532.5 | 518.5 | 501.3 | 484.0 |
| 12.5° | 606.5 | 606.5 | 601.4 | 593.1 | 577.8 | 566.3 | 565.0 | 551.6 | 537.0 | 519.1 | 499.3 |
| 15° | 616.7 | 615.4 | 610.9 | 602.0 | 588.6 | 579.1 | 577.1 | 565.7 | 553.5 | 535.7 | 514.6 |
| 17.5° | 614.8 | 614.8 | 610.9 | 602.0 | 592.5 | 584.8 | 583.5 | 575.2 | 566.3 | 549.1 | 528.0 |
| 20° | 606.5 | 605.8 | 604.6 | 597.6 | 591.2 | 588.0 | 586.7 | 582.9 | 577.1 | 562.5 | 542.7 |
| 22.5° | 598.8 | 598.2 | 596.3 | 591.8 | 589.3 | 591.2 | 591.2 | 590.5 | 589.9 | 578.4 | 559.3 |
| 25° | 603.3 | 602.7 | 598.8 | 592.5 | 591.8 | 600.7 | 601.4 | 603.3 | 604.6 | 595.0 | 575.2 |
| 27.5° | 634.5 | 632.6 | 621.8 | 605.2 | 599.5 | 610.9 | 612.2 | 618.0 | 616.7 | 606.5 | 589.3 |
| 30° | 695.8 | 696.4 | 672.2 | 636.5 | 617.3 | 622.4 | 623.1 | 629.4 | 627.5 | 619.2 | 605.2 |
| 32.5° | 788.2 | 788.2 | 748.7 | 694.5 | 646.0 | 635.8 | 633.9 | 639.6 | 647.3 | 636.5 | 622.4 |
| 35° | 905.6 | 902.4 | 854.6 | 771.0 | 695.1 | 658.8 | 657.5 | 654.9 | 668.3 | 658.1 | 637.7 |
| 37.5° | 1023.6 | 1012.1 | 965.5 | 873.7 | 764.0 | 703.4 | 698.3 | 690.7 | 698.3 | 676.6 | 658.8 |
| 40° | 1118.6 | 1116.7 | 1078.4 | 985.3 | 845.6 | 757.6 | 753.8 | 720.0 | 725.1 | 707.9 | 700.9 |
| 42.5° | 1223.2 | 1224.4 | 1198.9 | 1105.2 | 943.2 | 831.0 | 820.8 | 768.5 | 783.1 | 776.8 | 773.6 |
| 45° | 1338.0 | 1336.7 | 1317.6 | 1219.3 | 1062.5 | 933.0 | 920.2 | 855.8 | 885.8 | 882.0 | 899.8 |
| 47.5° | 1426.0 | 1433.0 | 1422.1 | 1352.6 | 1204.0 | 1056.7 | 1047.2 | 968.7 | 1014.0 | 1044.6 | 1078.4 |
| 50° | 1545.9 | 1545.2 | 1515.9 | 1487.2 | 1368.6 | 1214.9 | 1205.3 | 1117.9 | 1183.0 | 1227.6 | 1289.5 |
| 52.5° | 1694.4 | 1689.3 | 1628.8 | 1618.6 | 1568.8 | 1387.7 | 1379.4 | 1288.2 | 1381.3 | 1420.2 | 1545.9 |
| 55° | 1787.6 | 1786.9 | 1755.7 | 1773.5 | 1774.8 | 1580.3 | 1570.1 | 1489.1 | 1594.3 | 1639.0 | 1829.0 |
| 57.5° | 1865.4 | 1866.0 | 1892.1 | 1954.6 | 1996.7 | 1814.3 | 1810.5 | 1711.7 | 1818.2 | 1880.7 | 2105.1 |
| 60° | 1925.3 | 1938.1 | 2011.4 | 2154.3 | 2224.4 | 2112.8 | 2096.2 | 1991.6 | 2063.1 | 2087.9 | 2316.2 |
| 62.5° | 1901.1 | 1917.7 | 2061.8 | 2272.2 | 2452.7 | 2429.1 | 2423.4 | 2272.2 | 2271.6 | 2258.8 | 2473.8 |
| 65° | 1709.8 | 1745.5 | 1972.5 | 2267.8 | 2603.2 | 2750.5 | 2742.2 | 2536.9 | 2465.5 | 2401.7 | 2520.9 |
| 67.5° | 1399.2 | 1406.8 | 1680.4 | 2094.3 | 2601.9 | 2952.7 | 2943.8 | 2729.5 | 2586.0 | 2429.8 | 2382.6 |
| 69° | 1139.0 | 1167.0 | 1420.2 | 1874.9 | 2510.1 | 2993.5 | 2993.5 | 2783.1 | 2581.5 | 2362.8 | 2179.8 |
| 70° | 985.3 | 986.6 | 1230.8 | 1700.2 | 2385.1 | 2969.3 | 2975.0 | 2783.1 | 2545.2 | 2275.4 | 1999.9 |
| 72.5° | 461.7 | 490.4 | 644.7 | 1109.7 | 1926.6 | 2729.5 | 2743.5 | 2599.4 | 2334.1 | 1960.4 | 1500.6 |
| 75° | 138.4 | 143.5 | 214.9 | 526.1 | 1103.9 | 2102.6 | 2133.8 | 2162.5 | 1901.1 | 1443.2 | 924.1 |
| 77.5° | 82.3 | 81.6 | 104.0 | 178.6 | 510.8 | 1246.8 | 1260.8 | 1383.2 | 1233.4 | 802.3 | 419.6 |
| 80° | 40.2 | 41.5 | 55.5 | 86.7 | 191.3 | 452.8 | 498.1 | 646.7 | 546.5 | 313.8 | 153.7 |
| 82.5° | 13.4 | 14.7 | 23.0 | 35.1 | 81.0 | 146.0 | 161.3 | 202.8 | 174.7 | 114.2 | 65.7 |
| 85° | 0.0 | 0.0 | 0.6 | 1.3 | 4.5 | 10.8 | 10.8 | 24.2 | 36.4 | 40.2 | 21.7 |
| 87.5° | 0.0 | 0.0 | 0.6 | 0.6 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.9 |
| 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° | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 |
| 2.5° | 456.0 | 454.7 | 452.2 | 449.6 | 448.3 | 445.1 | 445.8 | 444.5 | 443.9 | 443.9 | 444.5 |
| 5° | 457.3 | 455.3 | 451.5 | 449.0 | 446.4 | 445.1 | 448.3 | 449.6 | 450.9 | 450.9 | 451.5 |
| 7.5° | 464.9 | 461.1 | 456.6 | 453.4 | 454.1 | 456.0 | 461.1 | 464.9 | 466.8 | 468.1 | 469.4 |
| 10° | 477.7 | 473.2 | 466.8 | 466.2 | 467.5 | 472.6 | 479.6 | 485.3 | 490.4 | 493.6 | 493.6 |
| 12.5° | 491.1 | 485.3 | 480.2 | 481.5 | 487.2 | 494.9 | 501.9 | 508.3 | 512.7 | 515.9 | 516.6 |
| 15° | 505.7 | 500.0 | 494.9 | 498.1 | 507.6 | 516.6 | 522.9 | 525.5 | 527.4 | 530.6 | 531.2 |
| 17.5° | 519.1 | 514.0 | 509.5 | 517.8 | 526.1 | 533.1 | 535.1 | 533.8 | 531.2 | 533.1 | 534.4 |
| 20° | 533.1 | 528.7 | 526.1 | 535.1 | 540.8 | 541.4 | 536.3 | 530.6 | 524.2 | 524.2 | 524.9 |
| 22.5° | 550.4 | 544.6 | 543.3 | 547.8 | 545.9 | 538.2 | 525.5 | 516.6 | 507.6 | 506.4 | 508.3 |
| 25° | 566.9 | 561.2 | 560.6 | 557.4 | 540.8 | 521.0 | 503.8 | 493.6 | 486.6 | 487.2 | 491.1 |
| 27.5° | 583.5 | 579.7 | 580.3 | 563.1 | 526.1 | 496.2 | 473.2 | 464.9 | 466.8 | 468.1 | 471.9 |
| 30° | 600.1 | 600.1 | 602.7 | 563.1 | 505.7 | 461.1 | 439.4 | 438.8 | 443.9 | 447.7 | 452.2 |
| 32.5° | 619.2 | 625.0 | 620.5 | 556.1 | 478.3 | 425.4 | 408.1 | 409.4 | 415.2 | 421.5 | 425.4 |
| 35° | 637.7 | 651.1 | 638.4 | 540.2 | 440.7 | 392.8 | 378.8 | 376.9 | 381.4 | 387.1 | 389.0 |
| 37.5° | 667.1 | 688.7 | 653.7 | 515.3 | 401.8 | 364.1 | 350.1 | 345.0 | 340.5 | 345.0 | 344.4 |
| 40° | 718.1 | 744.2 | 665.2 | 473.8 | 364.1 | 337.4 | 322.7 | 313.1 | 302.3 | 292.7 | 292.7 |
| 42.5° | 799.7 | 816.9 | 671.5 | 423.5 | 326.5 | 310.6 | 295.9 | 281.9 | 265.3 | 248.1 | 248.1 |
| 45° | 933.0 | 936.8 | 674.1 | 369.9 | 292.1 | 283.8 | 268.5 | 255.1 | 233.4 | 216.2 | 212.4 |
| 47.5° | 1110.9 | 1094.3 | 680.5 | 318.2 | 262.1 | 260.2 | 247.4 | 232.1 | 208.5 | 192.6 | 190.7 |
| 50° | 1350.1 | 1278.6 | 708.5 | 276.8 | 237.9 | 239.8 | 230.2 | 212.4 | 190.0 | 178.6 | 176.0 |
| 52.5° | 1619.2 | 1511.4 | 730.2 | 243.6 | 216.8 | 222.6 | 215.6 | 198.3 | 179.2 | 169.6 | 167.7 |
| 55° | 1913.2 | 1735.3 | 725.1 | 221.3 | 200.9 | 207.3 | 204.7 | 190.0 | 172.8 | 164.5 | 162.6 |
| 57.5° | 2153.0 | 1892.8 | 680.5 | 201.5 | 184.9 | 193.9 | 196.4 | 184.9 | 169.0 | 161.3 | 159.4 |
| 60° | 2332.8 | 1978.9 | 588.6 | 184.9 | 172.2 | 183.0 | 190.0 | 181.8 | 168.4 | 163.9 | 162.0 |
| 62.5° | 2414.4 | 1971.2 | 469.4 | 172.2 | 162.6 | 175.4 | 190.7 | 186.9 | 177.9 | 181.1 | 181.8 |
| 65° | 2368.5 | 1874.9 | 352.0 | 162.6 | 156.9 | 176.7 | 201.5 | 201.5 | 188.1 | 193.9 | 194.5 |
| 67.5° | 2133.2 | 1623.0 | 256.4 | 155.6 | 151.1 | 183.0 | 221.9 | 209.2 | 183.7 | 188.1 | 186.2 |
| 69° | 1909.4 | 1452.1 | 220.0 | 151.8 | 146.7 | 186.2 | 230.9 | 210.5 | 178.6 | 183.7 | 178.6 |
| 70° | 1744.8 | 1297.8 | 197.7 | 148.6 | 144.8 | 186.2 | 233.4 | 209.2 | 176.0 | 179.8 | 174.1 |
| 72.5° | 1241.7 | 901.1 | 162.6 | 142.2 | 137.7 | 172.2 | 228.9 | 202.2 | 169.0 | 164.5 | 153.7 |
| 75° | 721.9 | 498.1 | 138.4 | 135.2 | 121.8 | 151.1 | 217.5 | 194.5 | 162.0 | 153.7 | 146.0 |
| 77.5° | 302.9 | 222.6 | 118.0 | 123.1 | 107.8 | 134.6 | 203.4 | 186.9 | 153.7 | 142.2 | 138.4 |
| 80° | 123.1 | 111.0 | 98.2 | 106.5 | 93.7 | 118.6 | 187.5 | 174.1 | 141.6 | 130.1 | 124.4 |
| 82.5° | 64.4 | 61.2 | 75.3 | 86.1 | 77.8 | 109.1 | 176.7 | 165.2 | 131.4 | 119.9 | 112.9 |
| 85° | 19.1 | 25.5 | 42.7 | 58.7 | 59.3 | 98.2 | 171.5 | 153.1 | 114.2 | 98.8 | 97.6 |
| 87.5° | 1.3 | 5.1 | 14.7 | 30.6 | 38.9 | 75.3 | 139.0 | 125.6 | 92.5 | 77.8 | 78.4 |
| 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)