

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: P401570

Luminaire Tested: **ENT-SA1D-827-U-T3**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401570
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-13)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1D-827-U-T3
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 2700K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4226 lumens
Efficiency: N/A
Efficacy: 98.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

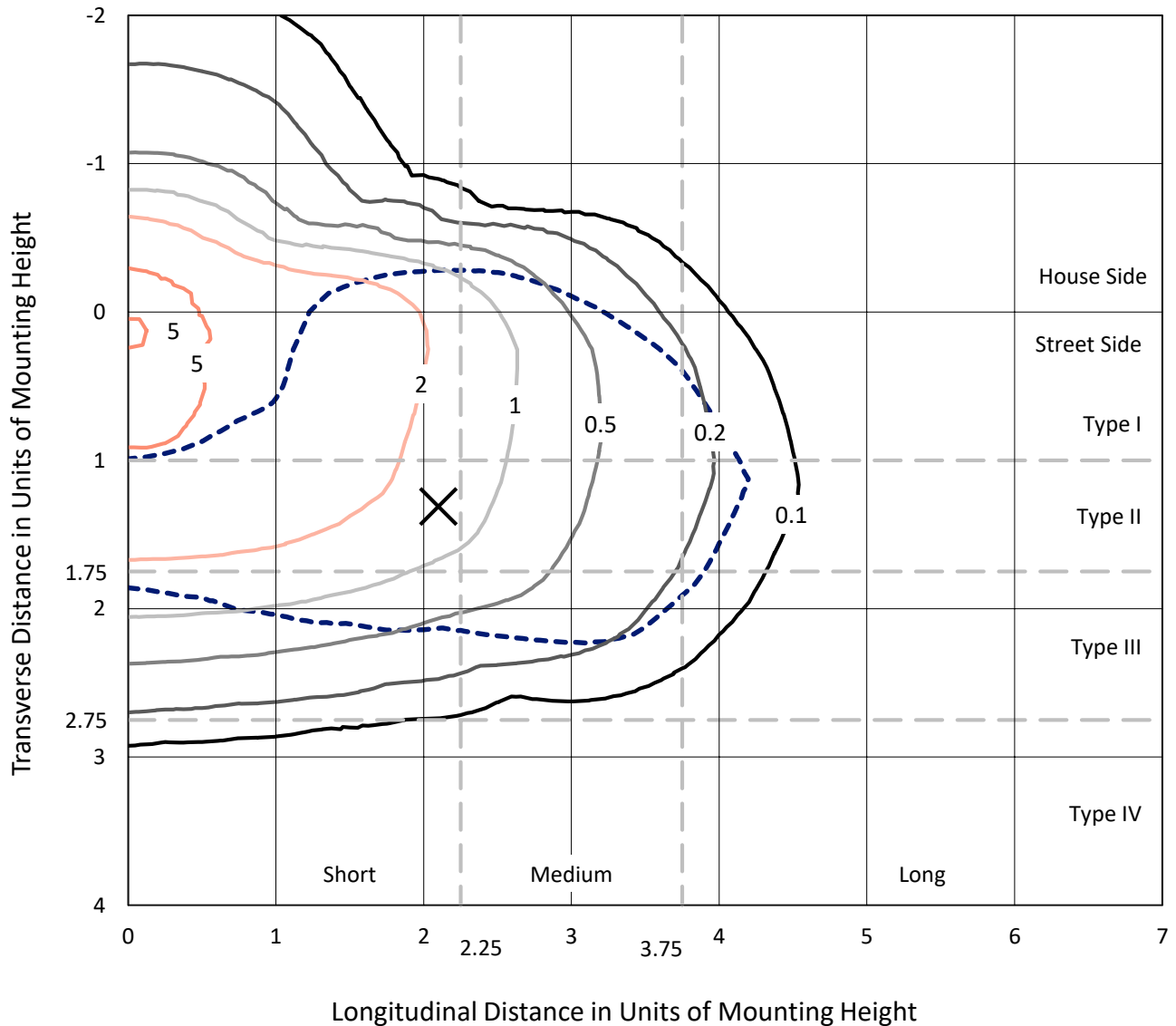
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

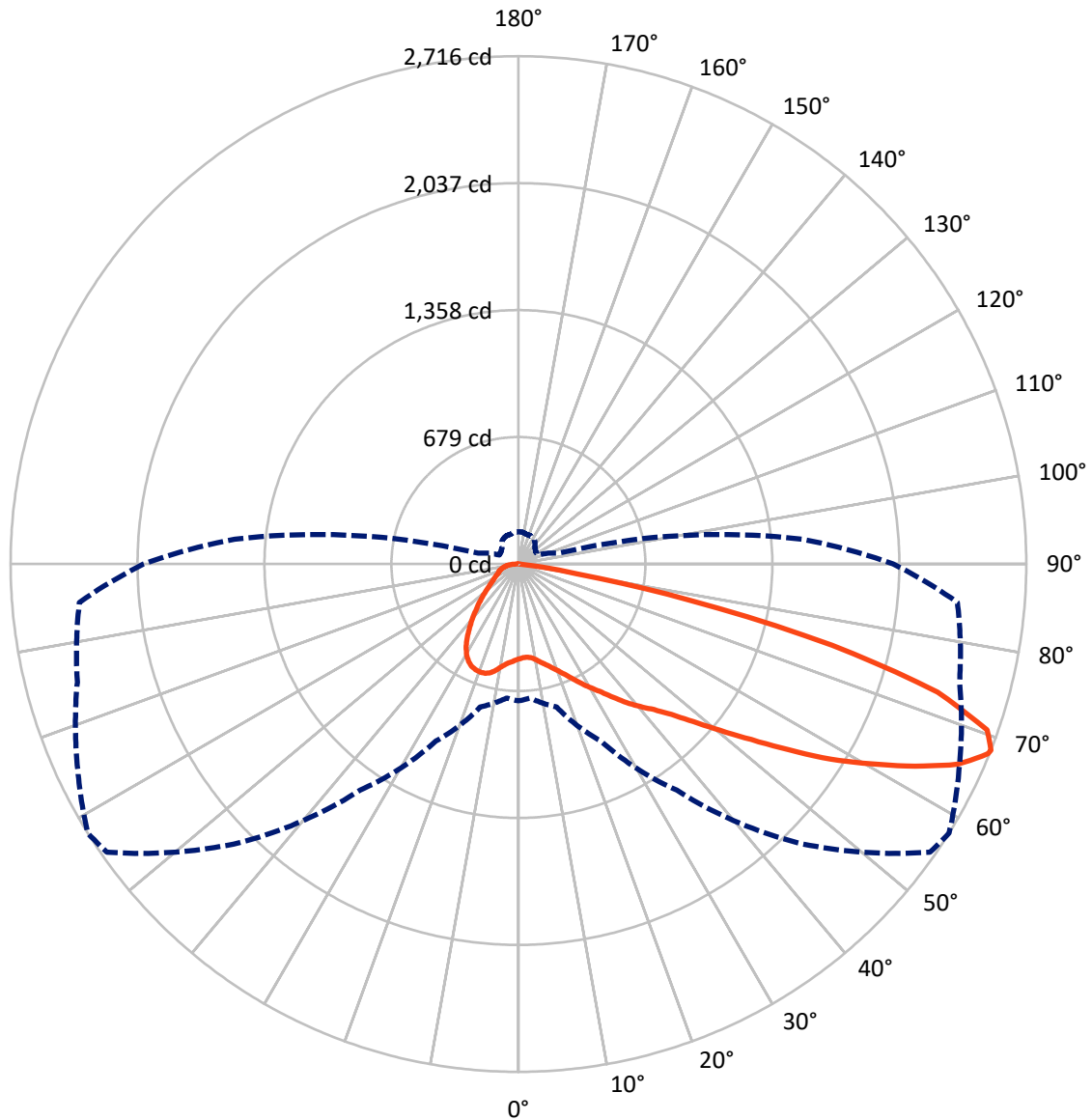
✕ Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 989.5 | 0.0 | 989.5 |
| | % Fixture | 23.4 | 0.0 | 23.4 |
| Street Side | Lumens | 3236.5 | 0.0 | 3236.5 |
| | % Fixture | 76.6 | 0.0 | 76.6 |
| Total | Lumens | 4226.0 | 0.0 | 4226.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 50.0 | 1.2 |
| 10°-20° | 163.5 | 3.9 |
| 20°-30° | 294.0 | 7.0 |
| 30°-40° | 431.9 | 10.2 |
| 40°-50° | 633.4 | 15.0 |
| 50°-60° | 946.9 | 22.4 |
| 60°-70° | 1107.2 | 26.2 |
| 70°-80° | 545.9 | 12.9 |
| 80°-90° | 53.3 | 1.3 |
| 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° | 4226.0 | 100.0 |
| 0°-180° | 4226.0 | 100.0 |



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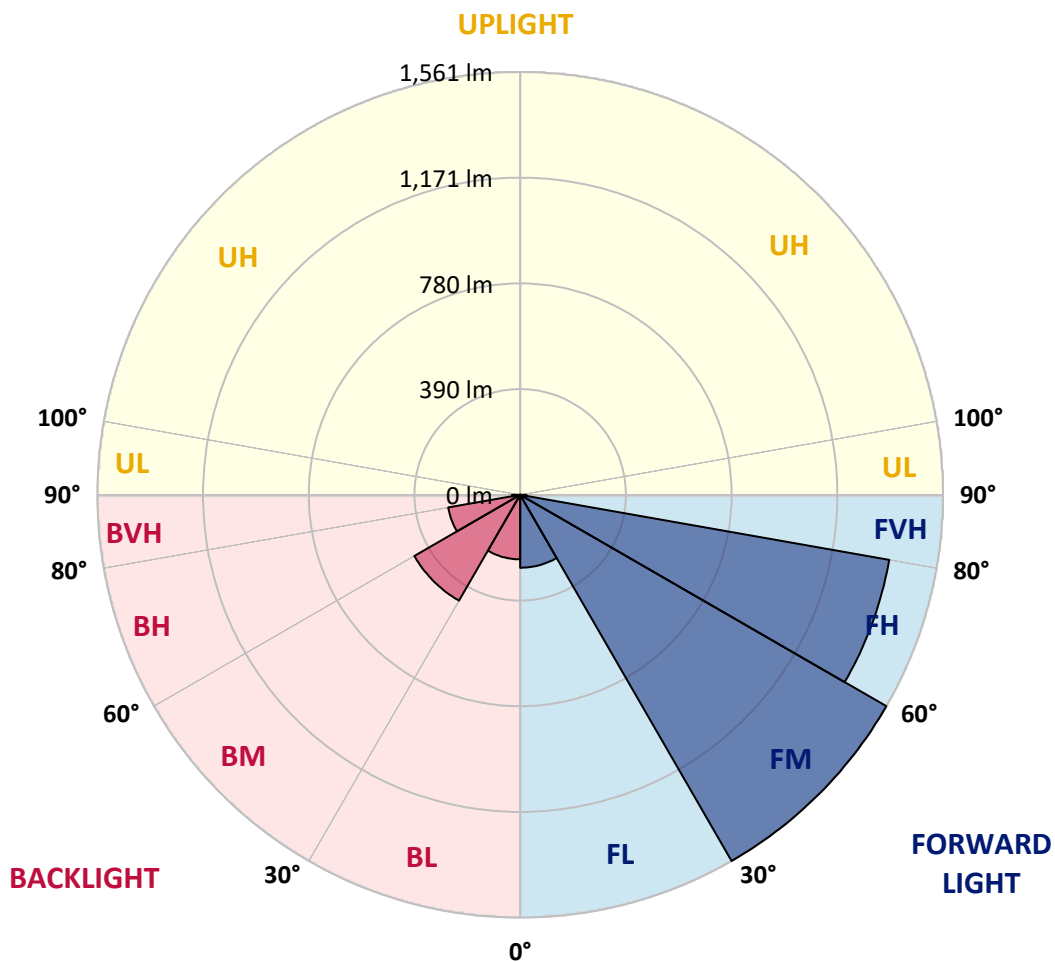
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 269.2 | 6.4 | | | |
| FM (30°-60°) | 1560.9 | 36.9 | | | |
| FH (60°-80°) | 1383.4 | 32.7 | | | G1/1800 |
| FVH (80°-90°) | 22.9 | 0.5 | | | G1/100 |
| BL (0°-30°) | 238.3 | 5.6 | B1/500 | | |
| BM (30°-60°) | 451.3 | 10.7 | B1/1000 | | |
| BH (60°-80°) | 269.6 | 6.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 30.3 | 0.7 | | | 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 III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 58° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 |
| 2.5° | 495.1 | 495.1 | 496.9 | 497.5 | 498.6 | 499.8 | 501.0 | 501.6 | 503.4 | 505.7 | 506.9 |
| 5° | 491.0 | 491.6 | 492.7 | 493.3 | 495.1 | 497.5 | 499.2 | 500.4 | 503.4 | 508.1 | 511.0 |
| 7.5° | 500.4 | 502.2 | 502.8 | 503.4 | 503.9 | 505.7 | 505.7 | 506.3 | 509.3 | 514.0 | 518.1 |
| 10° | 515.7 | 516.9 | 518.7 | 520.5 | 522.2 | 523.4 | 519.9 | 520.5 | 521.6 | 526.4 | 532.3 |
| 12.5° | 535.2 | 535.2 | 535.8 | 538.2 | 539.9 | 543.5 | 539.9 | 539.9 | 539.9 | 544.1 | 551.2 |
| 15° | 557.1 | 555.9 | 555.9 | 558.2 | 558.8 | 561.2 | 559.4 | 559.4 | 561.8 | 565.9 | 573.0 |
| 17.5° | 581.8 | 583.6 | 581.8 | 580.7 | 578.9 | 580.1 | 581.2 | 582.4 | 587.1 | 593.6 | 597.8 |
| 20° | 617.8 | 620.8 | 619.6 | 614.9 | 607.2 | 603.7 | 607.8 | 610.2 | 619.6 | 627.3 | 627.9 |
| 22.5° | 675.1 | 673.3 | 671.5 | 663.3 | 647.9 | 638.5 | 639.1 | 642.6 | 657.4 | 669.2 | 663.3 |
| 25° | 728.2 | 730.0 | 730.0 | 718.2 | 698.1 | 678.6 | 680.4 | 682.2 | 696.9 | 707.5 | 691.6 |
| 27.5° | 792.5 | 791.3 | 790.7 | 774.8 | 750.6 | 731.7 | 721.7 | 726.4 | 737.0 | 741.2 | 710.5 |
| 30° | 859.2 | 863.9 | 859.2 | 836.8 | 813.7 | 789.6 | 769.5 | 768.3 | 773.6 | 773.0 | 732.9 |
| 32.5° | 939.4 | 935.3 | 933.5 | 907.6 | 878.7 | 846.8 | 821.4 | 817.3 | 814.3 | 810.2 | 759.5 |
| 35° | 1001.4 | 1006.7 | 1006.7 | 984.3 | 950.1 | 918.8 | 879.2 | 875.7 | 868.6 | 855.1 | 794.3 |
| 37.5° | 1074.6 | 1073.4 | 1077.5 | 1051.6 | 1017.3 | 987.2 | 950.6 | 940.6 | 924.7 | 904.6 | 835.6 |
| 40° | 1146.0 | 1148.9 | 1158.4 | 1127.1 | 1095.8 | 1072.2 | 1020.3 | 1002.0 | 977.8 | 959.5 | 895.8 |
| 42.5° | 1243.3 | 1247.5 | 1251.0 | 1225.0 | 1187.9 | 1166.6 | 1086.4 | 1063.4 | 1049.8 | 1046.2 | 975.4 |
| 45° | 1361.4 | 1368.4 | 1371.4 | 1347.8 | 1326.5 | 1275.8 | 1169.6 | 1148.3 | 1133.6 | 1148.9 | 1084.0 |
| 47.5° | 1474.7 | 1471.1 | 1484.7 | 1484.1 | 1486.5 | 1425.7 | 1289.4 | 1257.5 | 1243.3 | 1282.3 | 1208.5 |
| 50° | 1538.4 | 1543.7 | 1573.2 | 1603.3 | 1645.2 | 1601.5 | 1428.0 | 1396.2 | 1379.7 | 1428.0 | 1354.9 |
| 52.5° | 1571.4 | 1578.5 | 1618.1 | 1702.4 | 1791.5 | 1770.9 | 1595.0 | 1559.6 | 1545.5 | 1592.7 | 1511.8 |
| 55° | 1574.4 | 1578.5 | 1631.6 | 1762.6 | 1903.1 | 1909.6 | 1785.6 | 1752.0 | 1732.5 | 1763.2 | 1683.0 |
| 57.5° | 1525.4 | 1513.0 | 1604.5 | 1771.5 | 1974.5 | 2054.1 | 1995.1 | 1970.9 | 1916.1 | 1949.1 | 1895.4 |
| 60° | 1438.1 | 1450.5 | 1540.2 | 1734.9 | 2004.6 | 2166.8 | 2205.2 | 2168.6 | 2104.9 | 2118.5 | 2124.4 |
| 62.5° | 1305.9 | 1321.8 | 1415.1 | 1649.9 | 1980.4 | 2262.4 | 2399.3 | 2381.1 | 2295.5 | 2288.4 | 2299.0 |
| 65° | 1117.6 | 1108.2 | 1212.1 | 1464.0 | 1865.9 | 2294.3 | 2589.9 | 2582.3 | 2480.2 | 2397.0 | 2401.1 |
| 67.5° | 806.1 | 797.2 | 869.8 | 1130.0 | 1556.1 | 2175.7 | 2691.4 | 2708.6 | 2591.7 | 2444.8 | 2381.1 |
| 68° | 731.7 | 719.3 | 791.9 | 1044.5 | 1476.4 | 2107.2 | 2686.1 | 2715.6 | 2600.0 | 2441.8 | 2356.3 |
| 70° | 421.3 | 401.3 | 471.5 | 681.6 | 1087.0 | 1773.8 | 2577.6 | 2659.0 | 2580.5 | 2384.6 | 2194.0 |
| 72.5° | 132.2 | 132.2 | 182.3 | 275.6 | 533.4 | 1122.4 | 2205.2 | 2343.9 | 2360.4 | 2167.4 | 1823.4 |
| 75° | 82.6 | 82.6 | 95.0 | 130.4 | 212.4 | 476.2 | 1521.3 | 1732.5 | 1875.3 | 1824.6 | 1329.5 |
| 77.5° | 56.1 | 54.9 | 63.1 | 80.8 | 118.6 | 152.8 | 763.6 | 938.3 | 1147.2 | 1245.7 | 777.8 |
| 80° | 30.7 | 31.3 | 38.9 | 48.4 | 67.3 | 70.8 | 224.2 | 316.9 | 505.1 | 591.9 | 295.0 |
| 82.5° | 17.7 | 17.1 | 18.9 | 21.2 | 29.5 | 30.7 | 64.3 | 79.1 | 132.2 | 122.7 | 79.1 |
| 85° | 0.0 | 0.6 | 0.6 | 0.6 | 1.2 | 3.0 | 8.3 | 12.4 | 20.1 | 27.7 | 19.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 1.2 | 1.2 | 1.2 | 1.2 | 1.8 |
| 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° | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 | 507.5 |
| 2.5° | 508.1 | 509.8 | 512.8 | 515.2 | 516.3 | 515.2 | 519.3 | 518.7 | 519.9 | 519.9 | 521.1 |
| 5° | 513.4 | 515.7 | 521.1 | 524.0 | 527.0 | 528.1 | 532.9 | 534.0 | 536.4 | 537.6 | 537.0 |
| 7.5° | 521.1 | 524.0 | 530.5 | 535.8 | 539.9 | 542.9 | 550.6 | 554.1 | 557.6 | 558.8 | 560.0 |
| 10° | 535.2 | 539.4 | 546.4 | 552.9 | 558.8 | 563.0 | 569.4 | 574.2 | 577.7 | 578.9 | 580.1 |
| 12.5° | 554.1 | 558.8 | 567.7 | 576.5 | 583.0 | 585.4 | 584.8 | 583.6 | 583.6 | 583.0 | 583.6 |
| 15° | 575.9 | 580.7 | 591.9 | 600.1 | 600.7 | 593.0 | 582.4 | 577.1 | 575.9 | 575.9 | 576.5 |
| 17.5° | 601.3 | 607.2 | 614.3 | 619.0 | 607.8 | 588.9 | 576.5 | 571.2 | 570.0 | 569.4 | 568.3 |
| 20° | 630.2 | 633.8 | 636.1 | 630.2 | 605.4 | 583.6 | 569.4 | 561.8 | 555.9 | 555.3 | 552.9 |
| 22.5° | 660.9 | 659.7 | 656.8 | 635.5 | 599.0 | 571.2 | 551.7 | 537.6 | 529.9 | 529.3 | 527.0 |
| 25° | 683.3 | 678.6 | 669.8 | 636.7 | 587.1 | 551.2 | 523.4 | 501.0 | 491.0 | 486.2 | 487.4 |
| 27.5° | 698.1 | 688.1 | 672.7 | 630.8 | 566.5 | 520.5 | 481.5 | 452.0 | 437.3 | 434.9 | 436.7 |
| 30° | 715.8 | 699.9 | 675.1 | 616.1 | 537.0 | 477.4 | 426.6 | 397.1 | 388.9 | 384.7 | 385.9 |
| 32.5° | 737.0 | 716.4 | 682.7 | 593.6 | 499.8 | 427.2 | 372.4 | 351.7 | 342.3 | 334.6 | 336.9 |
| 35° | 764.8 | 738.8 | 695.1 | 561.8 | 452.6 | 374.1 | 333.4 | 314.5 | 297.4 | 289.1 | 289.7 |
| 37.5° | 797.2 | 767.7 | 705.8 | 524.6 | 401.3 | 334.0 | 299.8 | 277.3 | 256.1 | 240.2 | 237.2 |
| 40° | 849.2 | 825.0 | 714.6 | 483.3 | 352.3 | 301.0 | 266.7 | 241.4 | 221.3 | 205.4 | 203.6 |
| 42.5° | 935.9 | 894.0 | 715.2 | 433.7 | 310.4 | 272.6 | 239.6 | 211.8 | 189.4 | 175.8 | 175.3 |
| 45° | 1038.0 | 973.1 | 702.8 | 380.6 | 273.8 | 244.3 | 215.4 | 184.1 | 171.1 | 162.3 | 161.1 |
| 47.5° | 1159.0 | 1063.9 | 675.7 | 331.0 | 242.5 | 216.6 | 190.6 | 171.7 | 162.3 | 155.8 | 155.8 |
| 50° | 1297.0 | 1170.8 | 648.5 | 288.6 | 212.4 | 194.1 | 176.4 | 166.4 | 159.3 | 153.4 | 152.8 |
| 52.5° | 1452.8 | 1297.0 | 639.7 | 245.5 | 187.7 | 173.5 | 171.7 | 162.3 | 156.4 | 152.2 | 151.1 |
| 55° | 1638.7 | 1438.7 | 647.9 | 211.8 | 168.2 | 165.2 | 168.8 | 161.1 | 157.0 | 150.5 | 148.7 |
| 57.5° | 1853.5 | 1576.7 | 639.1 | 183.5 | 154.6 | 157.6 | 165.2 | 161.1 | 157.6 | 149.3 | 146.9 |
| 60° | 2055.9 | 1700.1 | 578.9 | 159.9 | 141.6 | 148.1 | 160.5 | 155.8 | 150.5 | 148.7 | 147.5 |
| 62.5° | 2164.5 | 1740.2 | 461.5 | 141.6 | 131.6 | 138.7 | 152.8 | 146.9 | 143.4 | 147.5 | 148.1 |
| 65° | 2165.7 | 1694.8 | 339.3 | 128.1 | 123.3 | 130.4 | 145.2 | 143.4 | 145.8 | 155.2 | 157.0 |
| 67.5° | 2045.3 | 1556.7 | 239.6 | 115.7 | 115.1 | 123.9 | 148.7 | 160.5 | 162.3 | 171.7 | 171.7 |
| 68° | 2004.0 | 1522.5 | 222.5 | 113.9 | 113.3 | 123.9 | 151.7 | 163.5 | 164.6 | 173.5 | 172.9 |
| 70° | 1777.4 | 1287.0 | 161.1 | 106.8 | 110.3 | 132.8 | 167.6 | 171.7 | 164.6 | 174.7 | 174.1 |
| 72.5° | 1389.1 | 951.8 | 120.4 | 99.1 | 105.0 | 131.0 | 168.8 | 164.6 | 154.0 | 156.4 | 153.4 |
| 75° | 938.8 | 606.6 | 99.1 | 90.9 | 93.2 | 110.9 | 153.4 | 155.2 | 142.8 | 140.4 | 136.9 |
| 77.5° | 491.6 | 284.4 | 80.3 | 80.8 | 83.2 | 96.2 | 136.9 | 141.0 | 129.8 | 122.7 | 121.6 |
| 80° | 181.2 | 112.7 | 65.5 | 71.4 | 72.6 | 84.4 | 117.4 | 123.9 | 113.3 | 108.0 | 106.8 |
| 82.5° | 66.1 | 56.1 | 54.3 | 62.6 | 61.4 | 72.0 | 102.7 | 107.4 | 96.2 | 90.9 | 87.9 |
| 85° | 18.3 | 20.7 | 34.2 | 49.0 | 47.8 | 56.1 | 82.6 | 86.7 | 77.3 | 63.7 | 62.0 |
| 87.5° | 1.2 | 4.1 | 13.6 | 28.9 | 30.1 | 34.8 | 59.6 | 65.5 | 57.2 | 47.2 | 46.6 |
| 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)