

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: P401568

Luminaire Tested: **ENT-SA1D-827-U-T2**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401568
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-11)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1D-827-U-T2
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 2700K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4131 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

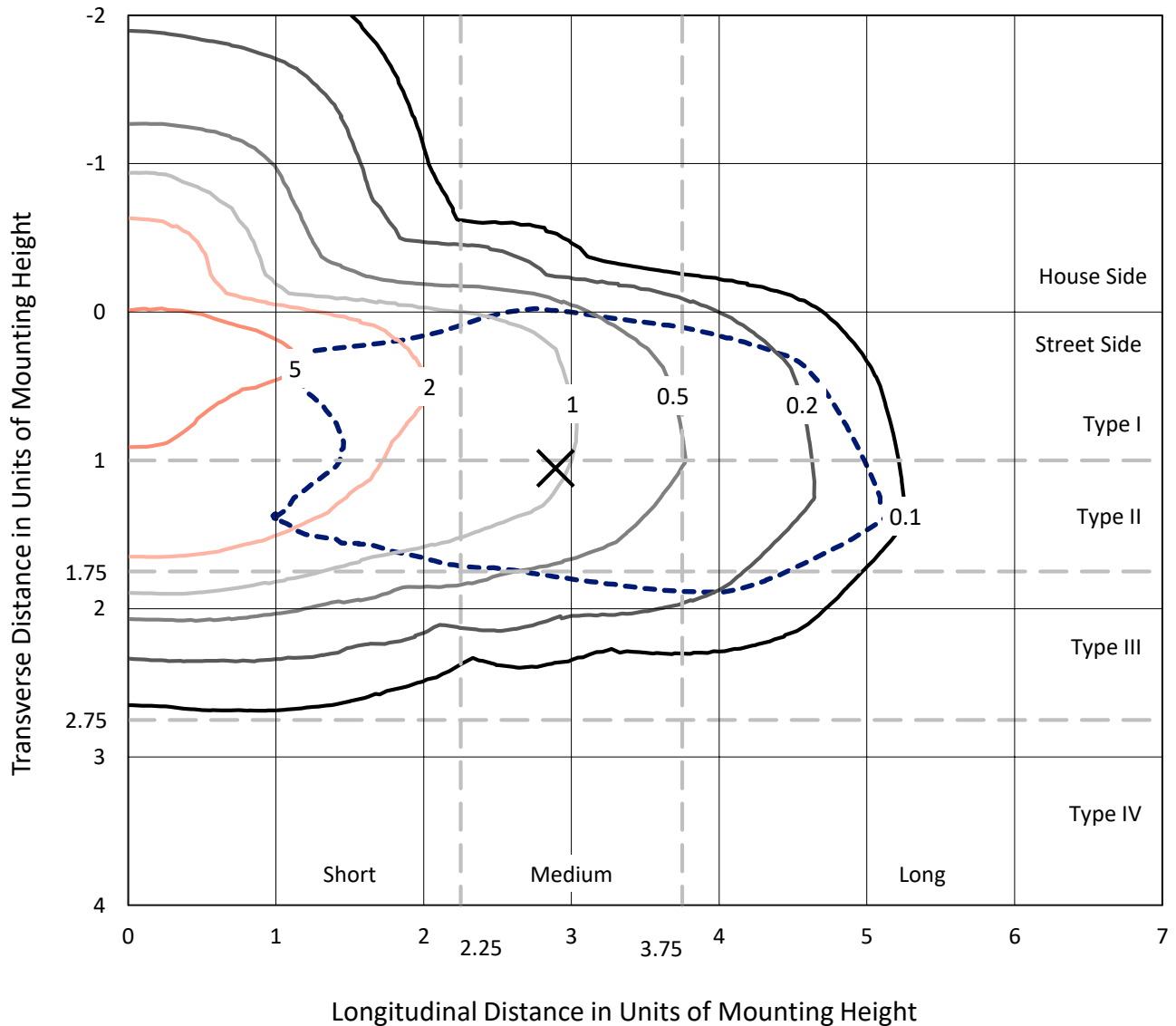
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

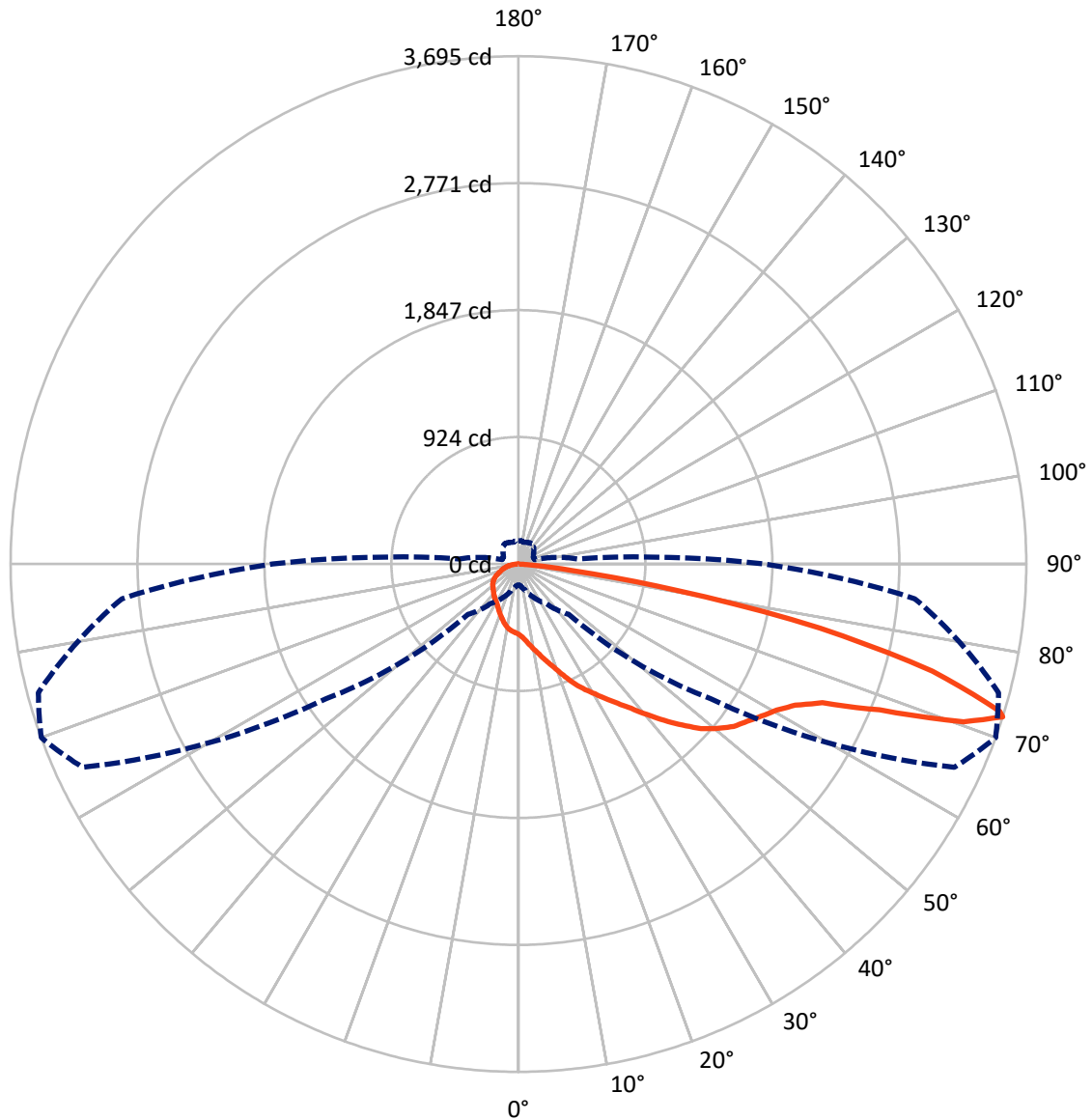
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.1 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 70-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 767.6 | 0.0 | 767.6 |
| | % Fixture | 18.6 | 0.0 | 18.6 |
| Street Side | Lumens | 3363.4 | 0.0 | 3363.4 |
| | % Fixture | 81.4 | 0.0 | 81.4 |
| Total | Lumens | 4131.0 | 0.0 | 4131.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 51.4 | 1.2 |
| 10°-20° | 165.0 | 4.0 |
| 20°-30° | 292.2 | 7.1 |
| 30°-40° | 434.3 | 10.5 |
| 40°-50° | 630.1 | 15.3 |
| 50°-60° | 860.9 | 20.8 |
| 60°-70° | 942.5 | 22.8 |
| 70°-80° | 670.4 | 16.2 |
| 80°-90° | 84.2 | 2.0 |
| 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° | 4131.0 | 100.0 |
| 0°-180° | 4131.0 | 100.0 |



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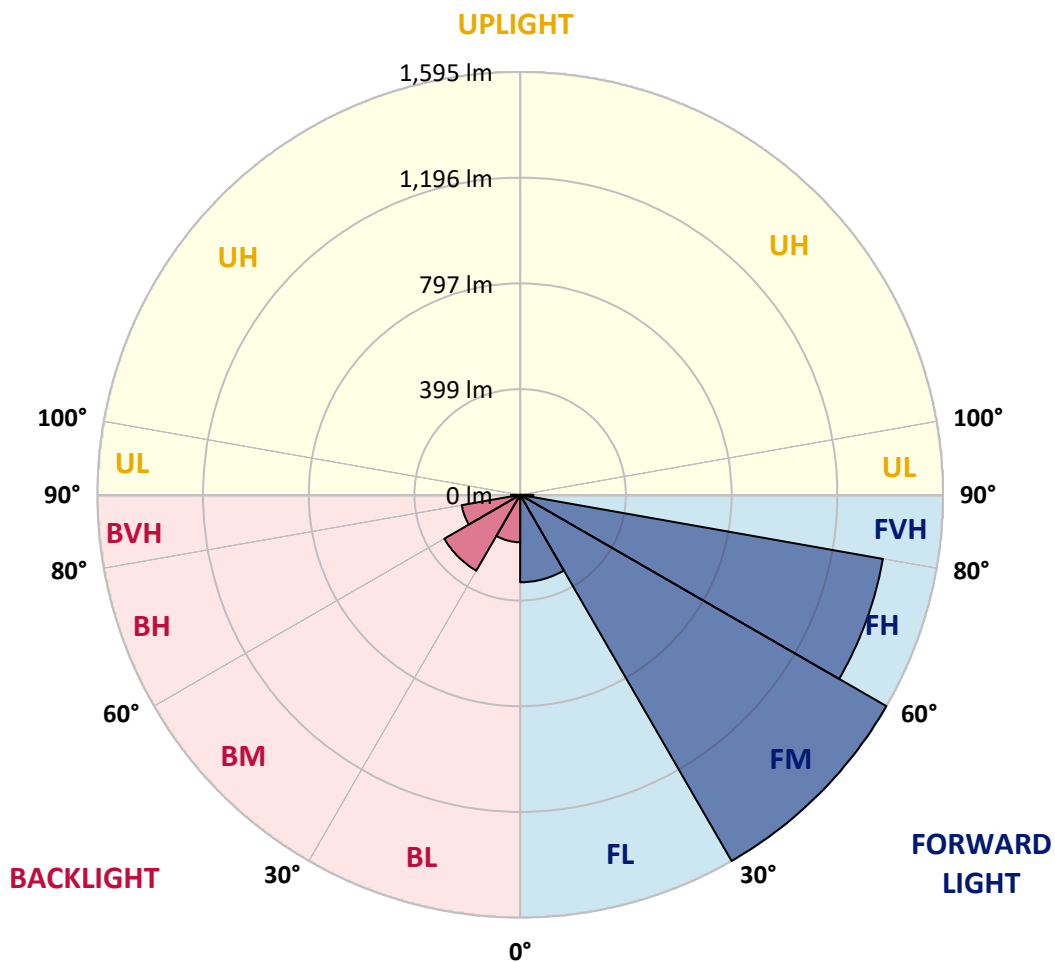
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 329.7 | 8.0 | | | |
| FM | (30°-60°) | 1594.8 | 38.6 | | | |
| FH | (60°-80°) | 1389.2 | 33.6 | | | G1/1800 |
| FVH | (80°-90°) | 49.7 | 1.2 | | | G1/100 |
| BL | (0°-30°) | 178.9 | 4.3 | B1/500 | | |
| BM | (30°-60°) | 330.5 | 8.0 | B1/1000 | | |
| BH | (60°-80°) | 223.8 | 5.4 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 34.5 | 0.8 | | | 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 Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 70° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 |
| 2.5° | 568.8 | 565.9 | 566.5 | 561.2 | 558.2 | 551.1 | 543.5 | 535.2 | 531.1 | 528.1 | 518.1 |
| 5° | 624.3 | 624.3 | 626.7 | 622.5 | 611.3 | 599.5 | 585.9 | 567.7 | 560.0 | 549.4 | 529.3 |
| 7.5° | 670.3 | 671.5 | 671.5 | 670.3 | 660.3 | 647.3 | 629.6 | 607.2 | 594.8 | 579.5 | 548.2 |
| 10° | 693.9 | 696.9 | 699.2 | 701.0 | 699.8 | 692.2 | 672.1 | 649.1 | 632.0 | 611.9 | 570.0 |
| 12.5° | 705.7 | 706.9 | 711.0 | 719.9 | 727.0 | 732.9 | 718.1 | 691.0 | 673.9 | 649.7 | 593.6 |
| 15° | 718.7 | 718.7 | 722.8 | 734.1 | 747.6 | 763.6 | 761.8 | 740.5 | 722.3 | 692.2 | 623.7 |
| 17.5° | 727.0 | 729.3 | 737.0 | 748.8 | 767.7 | 794.2 | 807.8 | 796.0 | 772.4 | 740.5 | 656.2 |
| 20° | 722.3 | 724.0 | 739.4 | 762.4 | 786.6 | 820.8 | 855.0 | 855.0 | 832.6 | 796.0 | 692.2 |
| 22.5° | 731.1 | 734.1 | 744.7 | 766.5 | 799.6 | 843.8 | 899.9 | 919.3 | 899.9 | 859.7 | 734.1 |
| 25° | 765.3 | 764.1 | 773.0 | 781.8 | 810.2 | 865.0 | 938.2 | 988.4 | 970.7 | 926.4 | 774.8 |
| 27.5° | 814.9 | 814.9 | 819.6 | 819.0 | 829.1 | 882.8 | 971.9 | 1049.2 | 1034.4 | 981.3 | 808.4 |
| 30° | 872.1 | 873.3 | 872.1 | 871.5 | 869.8 | 906.9 | 1001.9 | 1103.4 | 1095.8 | 1043.3 | 839.1 |
| 32.5° | 941.8 | 944.7 | 940.0 | 928.2 | 921.1 | 941.8 | 1027.3 | 1164.2 | 1166.6 | 1104.6 | 869.2 |
| 35° | 1029.1 | 1033.8 | 1016.1 | 999.0 | 981.3 | 990.7 | 1056.8 | 1221.5 | 1245.1 | 1174.2 | 905.8 |
| 37.5° | 1116.4 | 1124.1 | 1121.1 | 1075.1 | 1050.3 | 1049.7 | 1100.5 | 1292.9 | 1332.4 | 1265.1 | 957.7 |
| 40° | 1190.2 | 1196.7 | 1200.2 | 1158.3 | 1124.1 | 1122.9 | 1164.8 | 1367.2 | 1439.8 | 1369.6 | 1019.1 |
| 42.5° | 1239.2 | 1245.1 | 1255.7 | 1230.9 | 1199.0 | 1213.8 | 1235.6 | 1441.0 | 1555.4 | 1497.0 | 1094.6 |
| 45° | 1292.3 | 1297.0 | 1303.5 | 1289.3 | 1272.8 | 1315.3 | 1325.3 | 1523.0 | 1671.1 | 1633.9 | 1183.1 |
| 47.5° | 1348.9 | 1353.6 | 1357.2 | 1346.6 | 1340.6 | 1400.2 | 1413.2 | 1606.8 | 1787.9 | 1775.5 | 1269.3 |
| 50° | 1411.5 | 1413.2 | 1416.8 | 1411.5 | 1413.2 | 1477.5 | 1485.8 | 1680.5 | 1880.6 | 1923.1 | 1358.9 |
| 52.5° | 1518.9 | 1521.2 | 1522.4 | 1497.0 | 1488.2 | 1526.5 | 1544.2 | 1759.0 | 1962.0 | 2045.8 | 1438.0 |
| 55° | 1603.8 | 1612.1 | 1649.3 | 1632.7 | 1611.5 | 1561.3 | 1592.6 | 1822.2 | 2019.8 | 2160.3 | 1520.6 |
| 57.5° | 1534.2 | 1553.1 | 1645.7 | 1723.6 | 1783.2 | 1663.4 | 1649.8 | 1887.1 | 2086.5 | 2258.8 | 1616.8 |
| 60° | 1331.8 | 1359.5 | 1494.1 | 1656.3 | 1849.3 | 1897.7 | 1767.3 | 1967.9 | 2159.1 | 2361.5 | 1720.1 |
| 62.5° | 923.5 | 951.8 | 1137.7 | 1396.7 | 1737.8 | 2031.6 | 2088.9 | 2111.3 | 2260.0 | 2466.5 | 1854.6 |
| 65° | 442.6 | 471.5 | 624.9 | 898.1 | 1372.5 | 1945.5 | 2463.6 | 2408.7 | 2429.9 | 2599.9 | 2052.9 |
| 67.5° | 281.5 | 296.8 | 357.0 | 489.2 | 798.4 | 1515.3 | 2598.1 | 3001.1 | 2832.4 | 2907.3 | 2447.6 |
| 70° | 205.9 | 209.5 | 261.4 | 338.7 | 473.8 | 885.1 | 2294.2 | 3568.2 | 3436.0 | 3427.7 | 2923.8 |
| 72° | 152.2 | 158.1 | 198.3 | 270.3 | 350.5 | 517.5 | 1707.1 | 3499.1 | 3694.5 | 3616.0 | 2895.5 |
| 72.5° | 143.4 | 148.1 | 182.9 | 255.5 | 331.0 | 454.4 | 1529.5 | 3418.9 | 3662.6 | 3621.3 | 2841.2 |
| 75° | 104.4 | 108.0 | 125.1 | 181.7 | 256.1 | 263.2 | 816.7 | 2624.1 | 3110.3 | 3457.2 | 2575.7 |
| 77.5° | 72.0 | 74.3 | 83.2 | 111.5 | 175.3 | 178.2 | 346.4 | 1791.5 | 2244.6 | 2764.5 | 1980.9 |
| 80° | 43.7 | 44.8 | 50.2 | 60.8 | 111.5 | 105.6 | 142.8 | 936.4 | 1171.3 | 1502.9 | 918.7 |
| 82.5° | 18.3 | 18.9 | 21.8 | 24.2 | 47.2 | 50.2 | 57.8 | 305.7 | 387.7 | 469.7 | 264.9 |
| 85° | 0.0 | 0.0 | 0.6 | 0.6 | 1.2 | 5.3 | 8.3 | 37.8 | 57.2 | 68.4 | 47.8 |
| 87.5° | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 1.2 | 1.2 | 1.8 | 2.4 | 2.4 | 3.5 |
| 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° | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 | 511.6 |
| 2.5° | 513.4 | 511.0 | 503.9 | 498.0 | 493.3 | 485.6 | 485.0 | 479.1 | 479.1 | 477.4 | 476.2 |
| 5° | 521.6 | 514.0 | 499.8 | 486.8 | 477.4 | 466.2 | 460.8 | 454.4 | 450.2 | 447.9 | 448.5 |
| 7.5° | 532.2 | 519.3 | 495.1 | 473.2 | 455.5 | 441.4 | 433.1 | 427.8 | 424.9 | 423.7 | 423.7 |
| 10° | 547.0 | 526.9 | 487.4 | 454.4 | 431.9 | 421.3 | 417.2 | 416.6 | 417.2 | 417.8 | 418.4 |
| 12.5° | 563.5 | 532.2 | 473.2 | 431.9 | 414.2 | 410.1 | 412.5 | 417.8 | 422.5 | 424.3 | 424.3 |
| 15° | 580.6 | 535.8 | 453.8 | 411.3 | 400.7 | 404.8 | 413.1 | 423.1 | 430.8 | 435.5 | 436.7 |
| 17.5° | 598.3 | 536.4 | 433.1 | 392.4 | 388.9 | 399.5 | 414.2 | 430.2 | 442.6 | 450.2 | 451.4 |
| 20° | 617.2 | 535.2 | 408.9 | 375.3 | 377.1 | 394.8 | 415.4 | 437.2 | 453.8 | 463.8 | 465.0 |
| 22.5° | 637.9 | 530.5 | 385.3 | 358.8 | 367.0 | 390.0 | 414.2 | 439.6 | 457.3 | 469.1 | 471.5 |
| 25° | 657.9 | 521.0 | 361.7 | 344.0 | 359.9 | 385.3 | 408.3 | 430.2 | 447.3 | 458.5 | 461.4 |
| 27.5° | 668.6 | 501.0 | 339.3 | 332.8 | 354.6 | 378.2 | 394.8 | 409.5 | 419.0 | 426.0 | 429.0 |
| 30° | 670.3 | 472.6 | 321.0 | 325.1 | 348.7 | 368.2 | 377.6 | 380.0 | 378.2 | 380.6 | 377.6 |
| 32.5° | 666.8 | 442.0 | 306.2 | 319.2 | 339.3 | 354.0 | 356.4 | 349.3 | 338.7 | 324.0 | 324.5 |
| 35° | 664.4 | 408.3 | 294.4 | 311.0 | 326.9 | 336.3 | 332.2 | 321.0 | 300.9 | 283.2 | 282.1 |
| 37.5° | 668.6 | 377.6 | 284.4 | 300.3 | 311.0 | 315.1 | 309.2 | 294.4 | 276.7 | 261.4 | 259.6 |
| 40° | 680.4 | 355.2 | 275.0 | 288.5 | 293.9 | 296.8 | 289.7 | 276.7 | 269.7 | 258.5 | 256.7 |
| 42.5° | 703.4 | 339.9 | 266.1 | 275.6 | 277.9 | 280.9 | 273.8 | 264.9 | 271.4 | 269.1 | 269.1 |
| 45° | 735.2 | 332.8 | 258.5 | 263.2 | 265.5 | 270.3 | 266.1 | 258.5 | 265.5 | 252.0 | 249.6 |
| 47.5° | 776.5 | 335.2 | 253.1 | 250.8 | 257.9 | 266.1 | 261.4 | 252.0 | 249.6 | 225.4 | 221.3 |
| 50° | 820.2 | 347.6 | 247.8 | 240.8 | 249.6 | 260.8 | 254.9 | 240.2 | 226.0 | 213.6 | 211.2 |
| 52.5° | 871.5 | 368.2 | 243.1 | 229.5 | 240.2 | 254.9 | 250.8 | 234.8 | 220.1 | 211.2 | 209.5 |
| 55° | 928.2 | 388.3 | 237.2 | 216.6 | 227.8 | 253.1 | 252.0 | 231.3 | 211.8 | 207.7 | 206.5 |
| 57.5° | 991.9 | 404.8 | 230.1 | 201.8 | 215.4 | 247.8 | 246.7 | 223.0 | 209.5 | 205.9 | 205.3 |
| 60° | 1071.6 | 424.3 | 217.7 | 184.7 | 203.0 | 237.8 | 236.6 | 218.9 | 204.2 | 201.2 | 200.0 |
| 62.5° | 1180.1 | 460.3 | 196.5 | 168.8 | 190.0 | 220.1 | 227.2 | 210.7 | 196.5 | 195.9 | 195.9 |
| 65° | 1358.9 | 529.9 | 174.7 | 155.2 | 175.3 | 203.0 | 214.8 | 201.2 | 189.4 | 192.4 | 192.4 |
| 67.5° | 1697.1 | 623.7 | 152.2 | 142.2 | 161.1 | 186.5 | 204.2 | 191.8 | 181.7 | 187.6 | 187.6 |
| 70° | 1957.9 | 588.9 | 134.5 | 129.8 | 146.9 | 171.7 | 190.6 | 181.7 | 172.3 | 182.3 | 181.2 |
| 72° | 1786.2 | 431.3 | 122.7 | 119.8 | 135.1 | 159.3 | 178.8 | 172.3 | 162.3 | 170.5 | 168.2 |
| 72.5° | 1714.8 | 391.8 | 119.2 | 116.8 | 131.6 | 157.0 | 176.4 | 169.9 | 159.3 | 167.6 | 164.0 |
| 75° | 1495.8 | 330.4 | 103.9 | 102.7 | 116.8 | 141.0 | 161.1 | 157.5 | 146.9 | 151.6 | 148.1 |
| 77.5° | 1238.0 | 278.5 | 87.3 | 89.7 | 99.7 | 125.7 | 145.2 | 141.6 | 131.6 | 131.0 | 130.4 |
| 80° | 580.6 | 155.2 | 72.0 | 73.8 | 83.8 | 107.4 | 125.1 | 122.7 | 113.3 | 112.1 | 110.3 |
| 82.5° | 168.2 | 74.3 | 55.5 | 56.6 | 67.3 | 87.9 | 107.4 | 106.2 | 99.1 | 97.4 | 93.2 |
| 85° | 31.3 | 24.2 | 30.1 | 35.4 | 49.0 | 73.2 | 98.0 | 95.6 | 85.0 | 77.3 | 71.4 |
| 87.5° | 1.8 | 4.7 | 10.0 | 17.1 | 31.3 | 54.9 | 79.1 | 77.3 | 67.9 | 58.4 | 59.0 |
| 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)