

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: P401574

Luminaire Tested: **ENV-SA1D-827-U-T4W**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401574
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-827-U-T4W
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 2700K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4150 lumens
Efficiency: N/A
Efficacy: 96.3 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

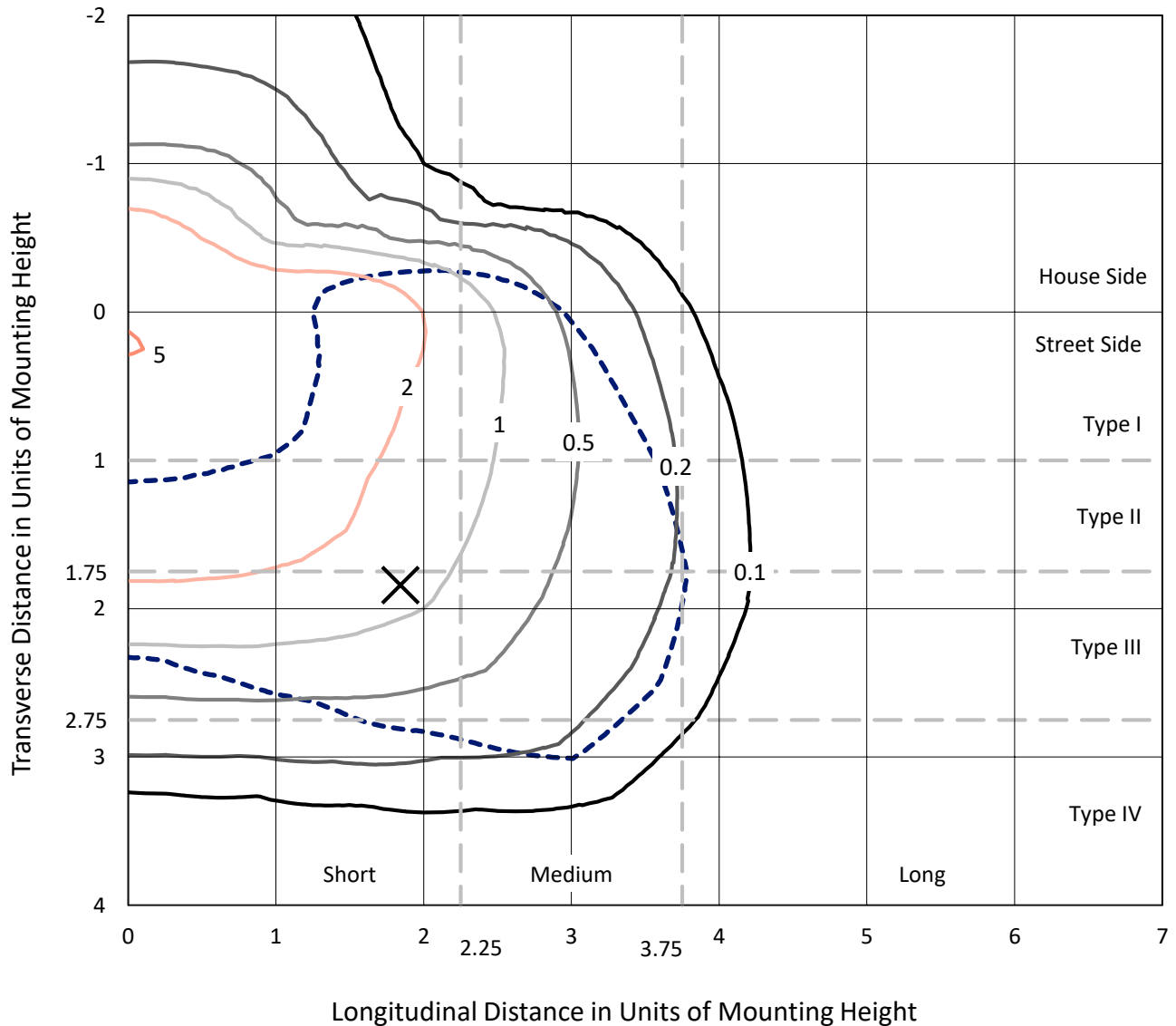


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

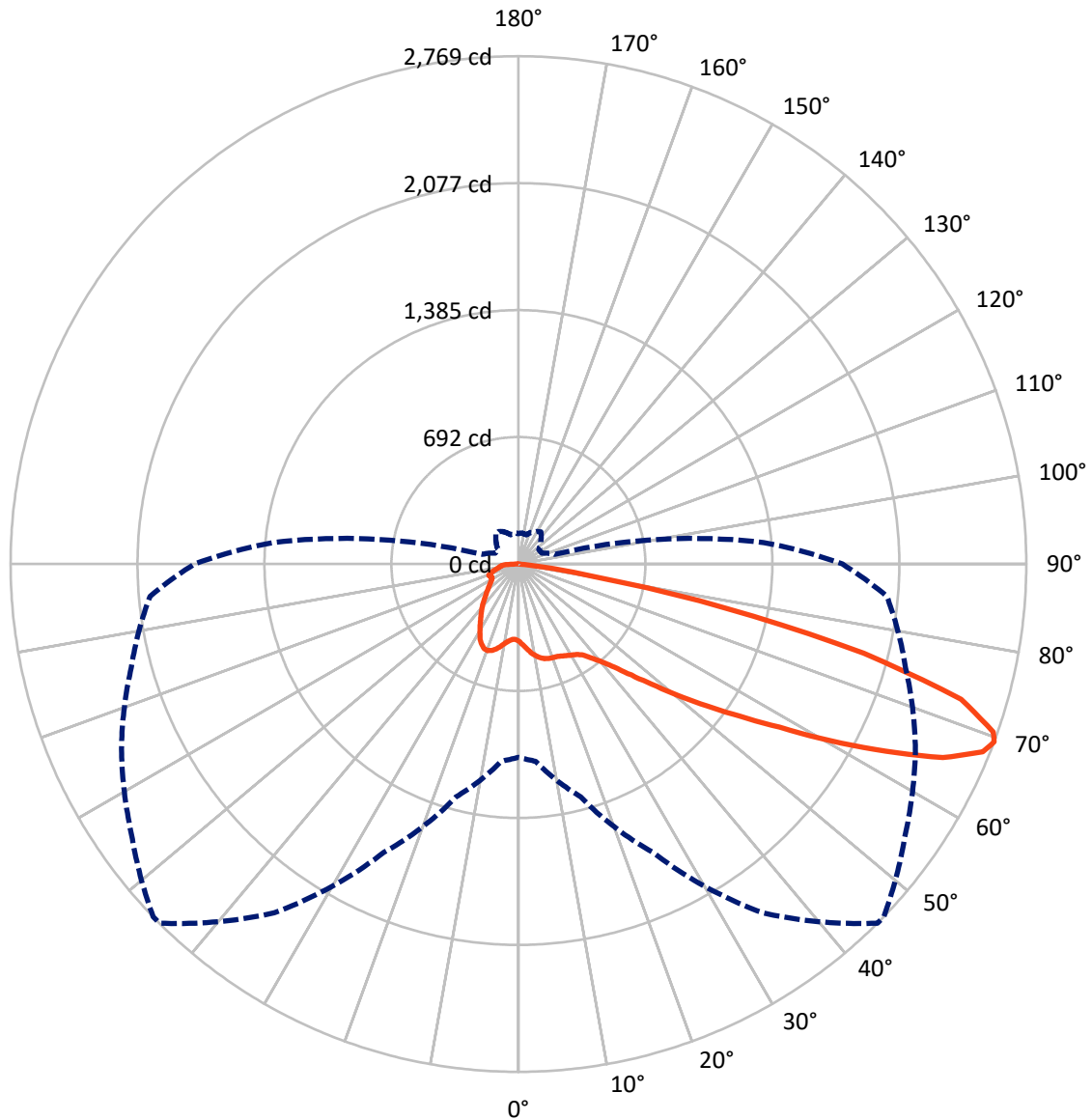


Based on 10 foot mounting height. Maximum calculated value = 5.2 fc
 Type IV - Short - Semi-Cutoff

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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 | 977.1 | 0.0 | 977.1 |
| | % Fixture | 23.5 | 0.0 | 23.5 |
| Street Side | Lumens | 3172.9 | 0.0 | 3172.9 |
| | % Fixture | 76.5 | 0.0 | 76.5 |
| Total | Lumens | 4150.0 | 0.0 | 4150.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 42.9 | 1.0 |
| 10°-20° | 142.2 | 3.4 |
| 20°-30° | 240.3 | 5.8 |
| 30°-40° | 347.7 | 8.4 |
| 40°-50° | 525.1 | 12.7 |
| 50°-60° | 885.3 | 21.3 |
| 60°-70° | 1218.0 | 29.3 |
| 70°-80° | 674.9 | 16.3 |
| 80°-90° | 73.5 | 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° | 4150.0 | 100.0 |
| 0°-180° | 4150.0 | 100.0 |



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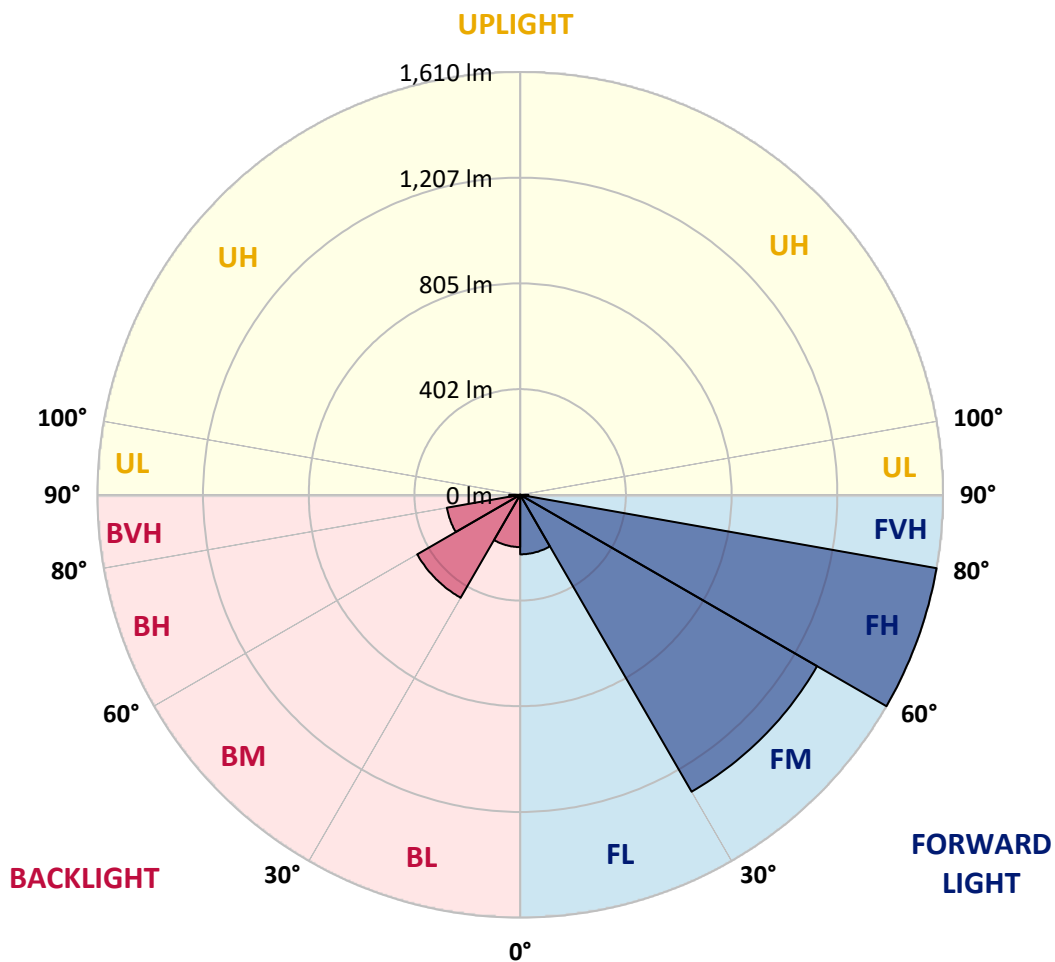
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 226.5 | 5.5 | | | |
| FM | (30°-60°) | 1305.2 | 31.5 | | | |
| FH | (60°-80°) | 1609.7 | 38.8 | | | G1/1800 |
| FVH | (80°-90°) | 31.5 | 0.8 | | | G1/100 |
| BL | (0°-30°) | 198.9 | 4.8 | B1/500 | | |
| BM | (30°-60°) | 452.9 | 10.9 | B1/1000 | | |
| BH | (60°-80°) | 283.2 | 6.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 42.0 | 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° | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 |
| 2.5° | 447.8 | 447.2 | 447.8 | 445.4 | 443.1 | 439.5 | 438.3 | 434.2 | 431.3 | 427.1 | 423.6 |
| 5° | 480.8 | 482.6 | 482.0 | 479.1 | 469.6 | 462.5 | 462.5 | 453.7 | 444.2 | 435.4 | 427.1 |
| 7.5° | 516.8 | 516.8 | 513.3 | 507.4 | 497.9 | 487.3 | 486.1 | 474.3 | 460.8 | 448.4 | 435.4 |
| 10° | 542.8 | 543.9 | 538.6 | 530.4 | 518.6 | 507.4 | 506.2 | 492.6 | 479.6 | 463.7 | 447.8 |
| 12.5° | 561.1 | 561.1 | 556.3 | 548.7 | 534.5 | 523.9 | 522.7 | 510.3 | 496.8 | 480.2 | 461.9 |
| 15° | 570.5 | 569.3 | 565.2 | 556.9 | 544.5 | 535.7 | 533.9 | 523.3 | 512.1 | 495.6 | 476.1 |
| 17.5° | 568.7 | 568.7 | 565.2 | 556.9 | 548.1 | 541.0 | 539.8 | 532.1 | 523.9 | 508.0 | 488.5 |
| 20° | 561.1 | 560.5 | 559.3 | 552.8 | 546.9 | 543.9 | 542.8 | 539.2 | 533.9 | 520.3 | 502.1 |
| 22.5° | 554.0 | 553.4 | 551.6 | 547.5 | 545.1 | 546.9 | 546.9 | 546.3 | 545.7 | 535.1 | 517.4 |
| 25° | 558.1 | 557.5 | 554.0 | 548.1 | 547.5 | 555.7 | 556.3 | 558.1 | 559.3 | 550.4 | 532.1 |
| 27.5° | 587.0 | 585.2 | 575.2 | 559.9 | 554.6 | 565.2 | 566.4 | 571.7 | 570.5 | 561.1 | 545.1 |
| 30° | 643.7 | 644.2 | 621.8 | 588.8 | 571.1 | 575.8 | 576.4 | 582.3 | 580.5 | 572.9 | 559.9 |
| 32.5° | 729.2 | 729.2 | 692.6 | 642.5 | 597.6 | 588.2 | 586.4 | 591.7 | 598.8 | 588.8 | 575.8 |
| 35° | 837.7 | 834.8 | 790.6 | 713.3 | 643.1 | 609.4 | 608.3 | 605.9 | 618.3 | 608.8 | 590.0 |
| 37.5° | 946.9 | 936.3 | 893.2 | 808.3 | 706.8 | 650.7 | 646.0 | 638.9 | 646.0 | 626.0 | 609.4 |
| 40° | 1034.8 | 1033.0 | 997.6 | 911.5 | 782.3 | 700.9 | 697.3 | 666.1 | 670.8 | 654.9 | 648.4 |
| 42.5° | 1131.6 | 1132.7 | 1109.1 | 1022.4 | 872.6 | 768.7 | 759.3 | 710.9 | 724.5 | 718.6 | 715.6 |
| 45° | 1237.7 | 1236.6 | 1218.9 | 1128.0 | 982.9 | 863.1 | 851.3 | 791.7 | 819.5 | 815.9 | 832.4 |
| 47.5° | 1319.2 | 1325.7 | 1315.6 | 1251.3 | 1113.9 | 977.6 | 968.7 | 896.2 | 938.0 | 966.4 | 997.6 |
| 50° | 1430.1 | 1429.5 | 1402.3 | 1375.8 | 1266.1 | 1123.9 | 1115.0 | 1034.2 | 1094.4 | 1135.7 | 1192.9 |
| 52.5° | 1567.5 | 1562.8 | 1506.8 | 1497.3 | 1451.3 | 1283.8 | 1276.1 | 1191.7 | 1277.9 | 1313.9 | 1430.1 |
| 55° | 1653.7 | 1653.1 | 1624.2 | 1640.7 | 1641.9 | 1461.9 | 1452.5 | 1377.6 | 1474.9 | 1516.2 | 1692.0 |
| 57.5° | 1725.6 | 1726.2 | 1750.4 | 1808.2 | 1847.2 | 1678.4 | 1674.9 | 1583.5 | 1682.0 | 1739.8 | 1947.5 |
| 60° | 1781.1 | 1792.9 | 1860.7 | 1992.9 | 2057.8 | 1954.6 | 1939.2 | 1842.5 | 1908.5 | 1931.5 | 2142.8 |
| 62.5° | 1758.7 | 1774.0 | 1907.4 | 2102.0 | 2269.0 | 2247.2 | 2241.9 | 2102.0 | 2101.5 | 2089.7 | 2288.5 |
| 65° | 1581.7 | 1614.7 | 1824.8 | 2097.9 | 2408.2 | 2544.5 | 2536.8 | 2346.9 | 2280.8 | 2221.8 | 2332.1 |
| 67.5° | 1294.4 | 1301.5 | 1554.6 | 1937.4 | 2407.1 | 2731.5 | 2723.3 | 2525.0 | 2392.3 | 2247.8 | 2204.1 |
| 69° | 1053.7 | 1079.6 | 1313.9 | 1734.5 | 2322.1 | 2769.3 | 2769.3 | 2574.6 | 2388.2 | 2185.8 | 2016.5 |
| 70° | 911.5 | 912.7 | 1138.6 | 1572.8 | 2206.5 | 2746.9 | 2752.2 | 2574.6 | 2354.5 | 2105.0 | 1850.1 |
| 72.5° | 427.1 | 453.7 | 596.5 | 1026.5 | 1782.3 | 2525.0 | 2538.0 | 2404.7 | 2159.3 | 1813.6 | 1388.2 |
| 75° | 128.0 | 132.7 | 198.8 | 486.7 | 1021.2 | 1945.1 | 1974.0 | 2000.6 | 1758.7 | 1335.1 | 854.9 |
| 77.5° | 76.1 | 75.5 | 96.2 | 165.2 | 472.6 | 1153.4 | 1166.4 | 1279.6 | 1141.0 | 742.2 | 388.2 |
| 80° | 37.2 | 38.3 | 51.3 | 80.2 | 177.0 | 418.9 | 460.8 | 598.2 | 505.6 | 290.3 | 142.2 |
| 82.5° | 12.4 | 13.6 | 21.2 | 32.4 | 74.9 | 135.1 | 149.3 | 187.6 | 161.7 | 105.6 | 60.8 |
| 85° | 0.0 | 0.0 | 0.6 | 1.2 | 4.1 | 10.0 | 10.0 | 22.4 | 33.6 | 37.2 | 20.1 |
| 87.5° | 0.0 | 0.0 | 0.6 | 0.6 | 1.2 | 1.2 | 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° | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 | 421.2 |
| 2.5° | 421.8 | 420.6 | 418.3 | 415.9 | 414.7 | 411.8 | 412.4 | 411.2 | 410.6 | 410.6 | 411.2 |
| 5° | 423.0 | 421.2 | 417.7 | 415.3 | 413.0 | 411.8 | 414.7 | 415.9 | 417.1 | 417.1 | 417.7 |
| 7.5° | 430.1 | 426.5 | 422.4 | 419.5 | 420.1 | 421.8 | 426.5 | 430.1 | 431.9 | 433.0 | 434.2 |
| 10° | 441.9 | 437.8 | 431.9 | 431.3 | 432.4 | 437.2 | 443.7 | 449.0 | 453.7 | 456.6 | 456.6 |
| 12.5° | 454.3 | 449.0 | 444.2 | 445.4 | 450.7 | 457.8 | 464.3 | 470.2 | 474.3 | 477.3 | 477.9 |
| 15° | 467.8 | 462.5 | 457.8 | 460.8 | 469.6 | 477.9 | 483.8 | 486.1 | 487.9 | 490.9 | 491.4 |
| 17.5° | 480.2 | 475.5 | 471.4 | 479.1 | 486.7 | 493.2 | 495.0 | 493.8 | 491.4 | 493.2 | 494.4 |
| 20° | 493.2 | 489.1 | 486.7 | 495.0 | 500.3 | 500.9 | 496.2 | 490.9 | 485.0 | 485.0 | 485.5 |
| 22.5° | 509.1 | 503.8 | 502.6 | 506.8 | 505.0 | 497.9 | 486.1 | 477.9 | 469.6 | 468.4 | 470.2 |
| 25° | 524.5 | 519.2 | 518.6 | 515.6 | 500.3 | 482.0 | 466.1 | 456.6 | 450.1 | 450.7 | 454.3 |
| 27.5° | 539.8 | 536.3 | 536.9 | 520.9 | 486.7 | 459.0 | 437.8 | 430.1 | 431.9 | 433.0 | 436.6 |
| 30° | 555.2 | 555.2 | 557.5 | 520.9 | 467.8 | 426.5 | 406.5 | 405.9 | 410.6 | 414.2 | 418.3 |
| 32.5° | 572.9 | 578.2 | 574.0 | 514.4 | 442.5 | 393.5 | 377.6 | 378.8 | 384.1 | 390.0 | 393.5 |
| 35° | 590.0 | 602.4 | 590.6 | 499.7 | 407.7 | 363.4 | 350.4 | 348.7 | 352.8 | 358.1 | 359.9 |
| 37.5° | 617.1 | 637.2 | 604.7 | 476.7 | 371.7 | 336.9 | 323.9 | 319.2 | 315.0 | 319.2 | 318.6 |
| 40° | 664.3 | 688.5 | 615.3 | 438.3 | 336.9 | 312.1 | 298.5 | 289.7 | 279.6 | 270.8 | 270.8 |
| 42.5° | 739.8 | 755.7 | 621.2 | 391.7 | 302.1 | 287.3 | 273.7 | 260.8 | 245.4 | 229.5 | 229.5 |
| 45° | 863.1 | 866.7 | 623.6 | 342.2 | 270.2 | 262.5 | 248.4 | 236.0 | 215.9 | 200.0 | 196.5 |
| 47.5° | 1027.7 | 1012.4 | 629.5 | 294.4 | 242.5 | 240.7 | 228.9 | 214.7 | 192.9 | 178.2 | 176.4 |
| 50° | 1249.0 | 1182.9 | 655.5 | 256.0 | 220.1 | 221.8 | 213.0 | 196.5 | 175.8 | 165.2 | 162.8 |
| 52.5° | 1497.9 | 1398.2 | 675.5 | 225.4 | 200.6 | 205.9 | 199.4 | 183.5 | 165.8 | 156.9 | 155.2 |
| 55° | 1769.9 | 1605.3 | 670.8 | 204.7 | 185.8 | 191.7 | 189.4 | 175.8 | 159.9 | 152.2 | 150.4 |
| 57.5° | 1991.7 | 1751.0 | 629.5 | 186.4 | 171.1 | 179.3 | 181.7 | 171.1 | 156.3 | 149.3 | 147.5 |
| 60° | 2158.1 | 1830.7 | 544.5 | 171.1 | 159.3 | 169.3 | 175.8 | 168.1 | 155.8 | 151.6 | 149.9 |
| 62.5° | 2233.6 | 1823.6 | 434.2 | 159.3 | 150.4 | 162.2 | 176.4 | 172.9 | 164.6 | 167.5 | 168.1 |
| 65° | 2191.1 | 1734.5 | 325.7 | 150.4 | 145.1 | 163.4 | 186.4 | 186.4 | 174.0 | 179.3 | 179.9 |
| 67.5° | 1973.4 | 1501.5 | 237.2 | 144.0 | 139.8 | 169.3 | 205.3 | 193.5 | 169.9 | 174.0 | 172.3 |
| 69° | 1766.4 | 1343.3 | 203.5 | 140.4 | 135.7 | 172.3 | 213.6 | 194.7 | 165.2 | 169.9 | 165.2 |
| 70° | 1614.1 | 1200.6 | 182.9 | 137.5 | 133.9 | 172.3 | 215.9 | 193.5 | 162.8 | 166.4 | 161.1 |
| 72.5° | 1148.7 | 833.6 | 150.4 | 131.6 | 127.4 | 159.3 | 211.8 | 187.0 | 156.3 | 152.2 | 142.2 |
| 75° | 667.8 | 460.8 | 128.0 | 125.1 | 112.7 | 139.8 | 201.2 | 179.9 | 149.9 | 142.2 | 135.1 |
| 77.5° | 280.2 | 205.9 | 109.1 | 113.9 | 99.7 | 124.5 | 188.2 | 172.9 | 142.2 | 131.6 | 128.0 |
| 80° | 113.9 | 102.7 | 90.9 | 98.5 | 86.7 | 109.7 | 173.4 | 161.1 | 131.0 | 120.4 | 115.0 |
| 82.5° | 59.6 | 56.6 | 69.6 | 79.6 | 72.0 | 100.9 | 163.4 | 152.8 | 121.5 | 110.9 | 104.4 |
| 85° | 17.7 | 23.6 | 39.5 | 54.3 | 54.9 | 90.9 | 158.7 | 141.6 | 105.6 | 91.4 | 90.3 |
| 87.5° | 1.2 | 4.7 | 13.6 | 28.3 | 36.0 | 69.6 | 128.6 | 116.2 | 85.5 | 72.0 | 72.6 |
| 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)