

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: P401019

Luminaire Tested: **ENV-SA1A-827-U-SL3-HSS**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401019  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/20/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENV-SA1A-827-U-SL3-HSS  
Description: ENTRI LED LUMINAIRE  
(1) 80 CRI, 2700K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE III SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1684 lumens  
Efficiency: N/A  
Efficacy: 83.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G1

Input Watts (W): 20.1  
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

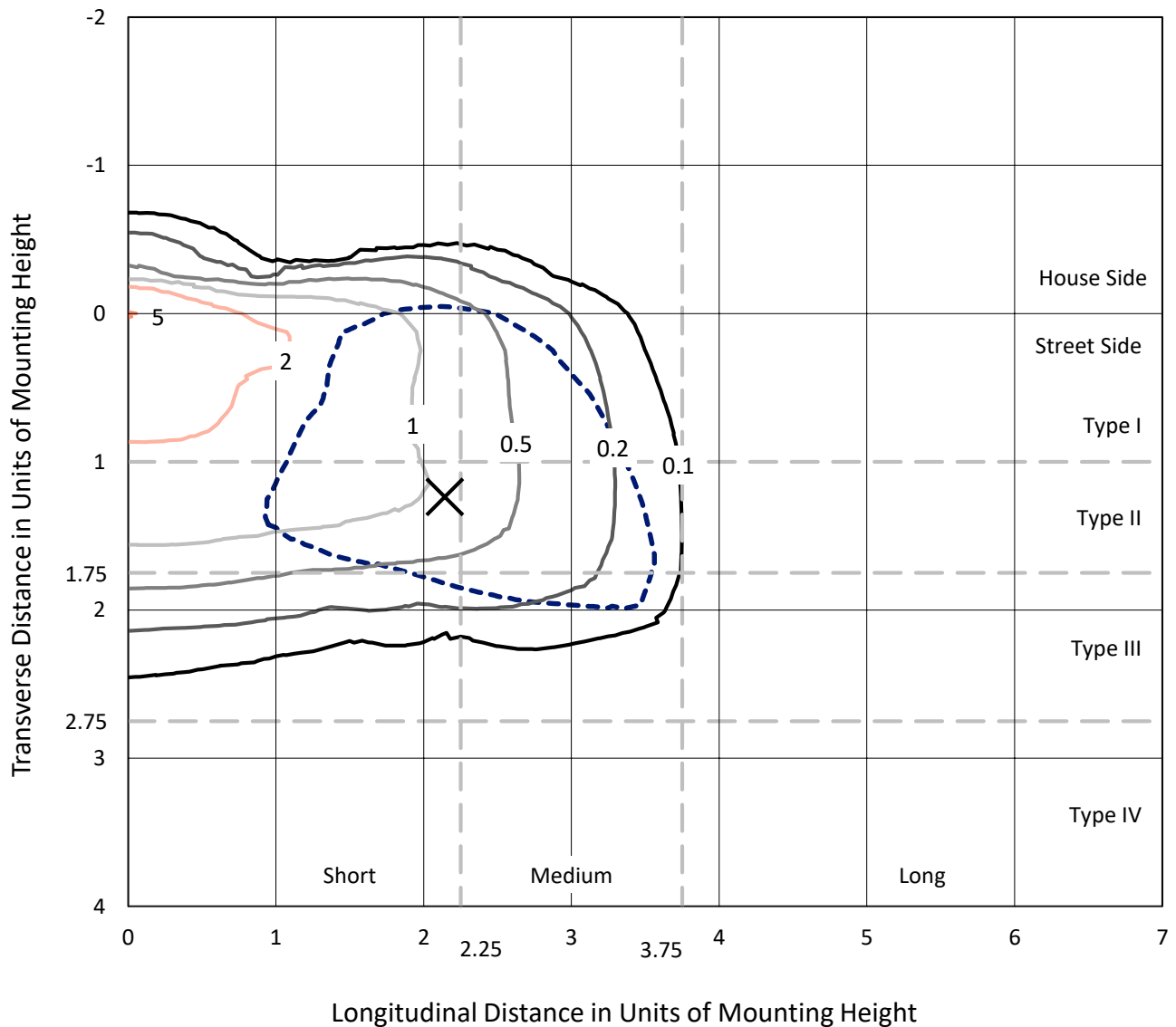


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

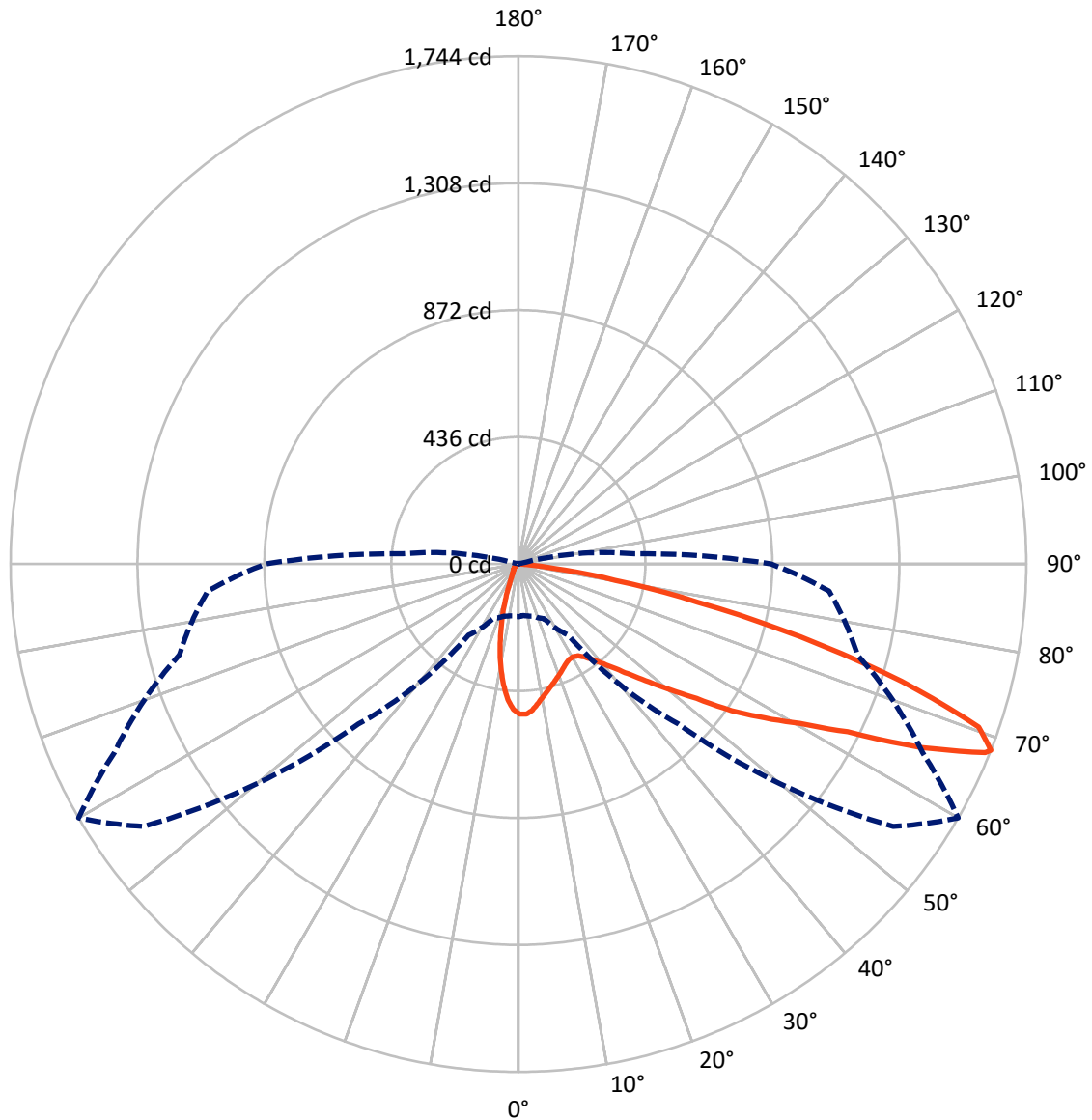


Based on 10 foot mounting height. Maximum calculated value = 5.2 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral      - - - Horizontal Cone Through 68-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 188.3    | 0.0    | 188.3  |
|                    | % Fixture | 11.2     | 0.0    | 11.2   |
| <b>Street Side</b> | Lumens    | 1495.7   | 0.0    | 1495.7 |
|                    | % Fixture | 88.8     | 0.0    | 88.8   |
| <b>Total</b>       | Lumens    | 1684.0   | 0.0    | 1684.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 41.8   | 2.5       |
| 10°-20°   | 85.3   | 5.1       |
| 20°-30°   | 112.3  | 6.7       |
| 30°-40°   | 155.0  | 9.2       |
| 40°-50°   | 235.0  | 14.0      |
| 50°-60°   | 379.2  | 22.5      |
| 60°-70°   | 450.4  | 26.7      |
| 70°-80°   | 212.3  | 12.6      |
| 80°-90°   | 12.7   | 0.8       |
| 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°    | 1684.0 | 100.0     |
| 0°-180°   | 1684.0 | 100.0     |



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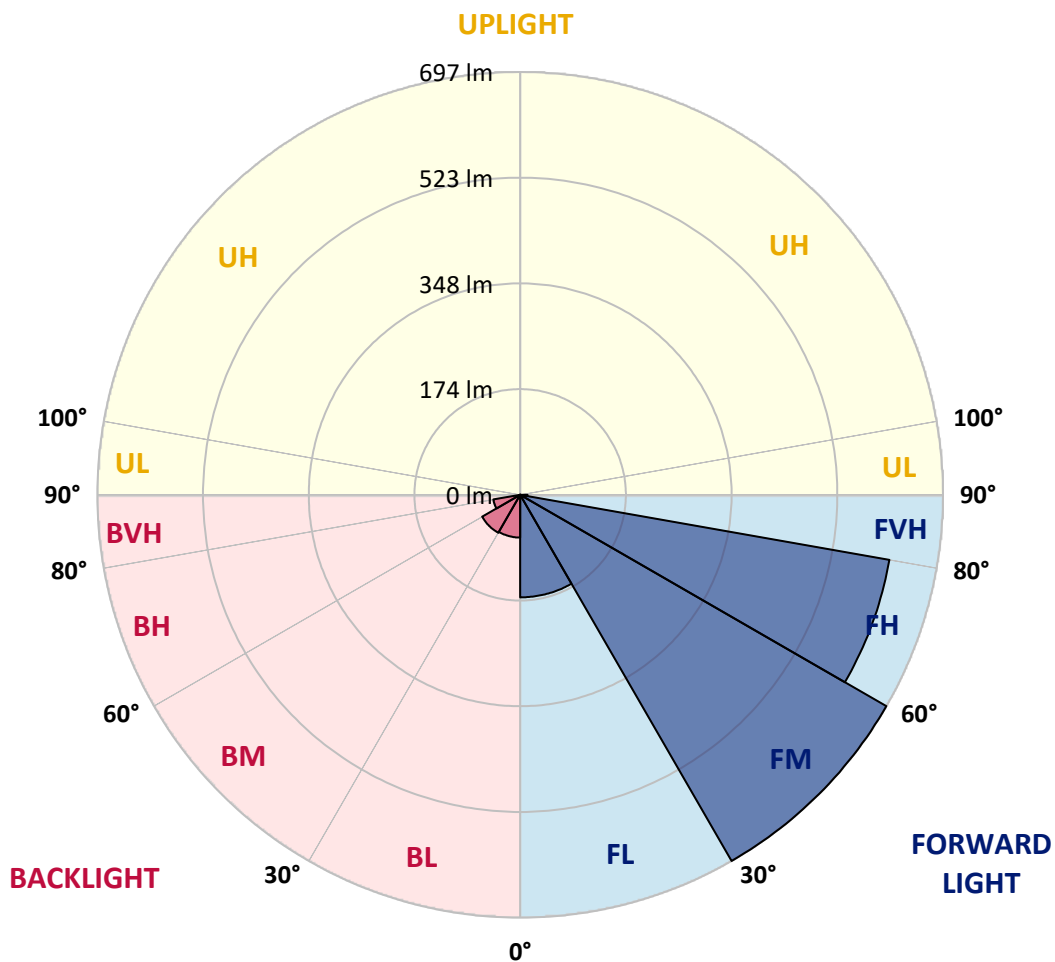
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |        |
|----------------|--------|-----------|-------------------------|------|--------|
|                |        |           | B                       | U    | G      |
| FL (0°-30°)    | 169.0  | 10.0      |                         |      |        |
| FM (30°-60°)   | 696.8  | 41.4      |                         |      |        |
| FH (60°-80°)   | 617.8  | 36.7      |                         |      | G0/660 |
| FVH (80°-90°)  | 12.1   | 0.7       |                         |      | G1/100 |
| BL (0°-30°)    | 70.5   | 4.2       | B0/110                  |      |        |
| BM (30°-60°)   | 72.4   | 4.3       | B0/220                  |      |        |
| BH (60°-80°)   | 44.9   | 2.7       | B0/110                  |      | G0/110 |
| BVH (80°-90°)  | 0.5    | 0.0       |                         |      | G0/10  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |        |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |        |

**BUG Rating: B0-U0-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 5°    | 15°   | 25°   | 35°   | 45°    | 55°    | 60°    | 65°    | 75°    | 85°    |
|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| 0°    | 515.5 | 515.5 | 515.5 | 515.5 | 515.5 | 515.5  | 515.5  | 515.5  | 515.5  | 515.5  | 515.5  |
| 2.5°  | 510.9 | 509.7 | 512.9 | 513.7 | 514.6 | 516.3  | 516.0  | 516.3  | 516.6  | 516.0  | 512.6  |
| 5°    | 476.0 | 478.0 | 480.9 | 484.6 | 488.3 | 496.9  | 500.3  | 503.7  | 506.0  | 507.7  | 504.6  |
| 7.5°  | 441.7 | 445.7 | 448.0 | 454.9 | 460.6 | 469.5  | 476.9  | 482.9  | 488.6  | 494.9  | 491.7  |
| 10°   | 414.3 | 415.7 | 417.7 | 424.0 | 432.6 | 446.0  | 455.7  | 463.2  | 470.0  | 480.6  | 478.0  |
| 12.5° | 387.4 | 388.3 | 392.3 | 399.2 | 408.0 | 424.6  | 437.4  | 446.0  | 453.7  | 466.9  | 467.2  |
| 15°   | 367.7 | 368.0 | 370.6 | 376.9 | 387.2 | 404.9  | 421.4  | 430.9  | 441.7  | 457.7  | 458.6  |
| 17.5° | 354.9 | 354.6 | 355.2 | 359.2 | 368.9 | 385.7  | 405.7  | 416.9  | 429.7  | 450.3  | 451.2  |
| 20°   | 350.9 | 350.3 | 349.2 | 348.3 | 354.3 | 368.9  | 391.4  | 403.7  | 418.9  | 444.9  | 445.2  |
| 22.5° | 354.3 | 353.2 | 350.6 | 345.7 | 347.4 | 356.9  | 375.7  | 390.6  | 409.2  | 442.0  | 440.0  |
| 25°   | 362.6 | 362.6 | 359.2 | 351.4 | 347.4 | 349.4  | 364.6  | 378.9  | 399.4  | 440.6  | 436.3  |
| 27.5° | 376.3 | 375.7 | 371.2 | 363.2 | 355.7 | 350.3  | 357.7  | 371.2  | 392.3  | 442.3  | 434.6  |
| 30°   | 392.9 | 391.2 | 386.3 | 380.6 | 371.4 | 359.7  | 359.2  | 369.2  | 388.9  | 447.7  | 435.7  |
| 32.5° | 408.6 | 408.6 | 406.6 | 401.2 | 392.3 | 376.9  | 368.0  | 376.0  | 393.2  | 456.6  | 439.4  |
| 35°   | 428.0 | 427.7 | 428.3 | 426.3 | 418.6 | 402.3  | 388.0  | 392.0  | 406.3  | 471.5  | 448.3  |
| 37.5° | 443.5 | 443.7 | 448.6 | 452.0 | 448.6 | 431.4  | 416.6  | 416.6  | 428.6  | 493.7  | 463.5  |
| 40°   | 458.6 | 459.2 | 468.3 | 478.3 | 479.2 | 465.5  | 451.2  | 450.9  | 457.7  | 521.2  | 486.9  |
| 42.5° | 472.3 | 474.6 | 487.7 | 504.9 | 514.9 | 505.7  | 495.2  | 491.7  | 495.2  | 562.6  | 524.9  |
| 45°   | 486.9 | 491.5 | 509.7 | 534.6 | 550.9 | 551.2  | 547.2  | 543.2  | 544.9  | 609.2  | 575.7  |
| 47.5° | 505.7 | 510.9 | 533.7 | 564.3 | 595.2 | 603.2  | 606.9  | 605.5  | 600.9  | 668.0  | 641.5  |
| 50°   | 536.3 | 541.2 | 562.6 | 596.9 | 639.2 | 668.0  | 678.0  | 679.7  | 673.7  | 733.2  | 716.0  |
| 52.5° | 588.3 | 591.2 | 611.2 | 638.3 | 685.7 | 739.8  | 766.0  | 766.3  | 752.9  | 809.5  | 796.6  |
| 55°   | 644.0 | 651.5 | 674.9 | 706.3 | 755.2 | 815.8  | 881.5  | 888.6  | 847.2  | 876.3  | 855.5  |
| 57.5° | 644.9 | 652.0 | 690.9 | 751.2 | 853.5 | 933.8  | 992.3  | 997.5  | 951.5  | 930.0  | 910.9  |
| 60°   | 576.9 | 580.6 | 634.6 | 722.9 | 888.6 | 1092.9 | 1118.6 | 1110.9 | 1024.6 | 985.5  | 980.3  |
| 62.5° | 407.2 | 408.9 | 472.9 | 589.2 | 810.9 | 1168.9 | 1310.9 | 1269.5 | 1128.6 | 1067.2 | 1084.3 |
| 65°   | 256.3 | 255.4 | 282.0 | 374.9 | 603.2 | 1094.1 | 1548.6 | 1518.4 | 1319.8 | 1169.5 | 1165.5 |
| 67.5° | 189.2 | 184.6 | 191.7 | 220.6 | 344.6 | 858.9  | 1592.4 | 1728.9 | 1501.8 | 1212.1 | 1095.2 |
| 68°   | 181.4 | 177.4 | 184.9 | 207.2 | 298.0 | 777.5  | 1571.2 | 1744.1 | 1530.6 | 1205.2 | 1071.2 |
| 70°   | 154.0 | 150.3 | 156.6 | 173.4 | 207.4 | 504.6  | 1386.4 | 1676.9 | 1556.9 | 1146.9 | 944.0  |
| 72.5° | 109.4 | 111.4 | 128.0 | 148.9 | 175.7 | 258.9  | 1020.9 | 1377.2 | 1339.2 | 1020.0 | 718.3  |
| 75°   | 64.9  | 68.6  | 90.3  | 120.0 | 161.4 | 170.9  | 658.6  | 1001.2 | 982.6  | 706.3  | 389.2  |
| 77.5° | 22.9  | 24.3  | 44.9  | 80.0  | 133.1 | 135.4  | 366.9  | 629.5  | 585.5  | 288.6  | 114.9  |
| 80°   | 8.3   | 8.3   | 16.6  | 44.6  | 86.0  | 103.4  | 194.9  | 336.0  | 231.2  | 74.9   | 31.7   |
| 82.5° | 1.4   | 1.4   | 3.7   | 15.1  | 38.0  | 55.1   | 90.6   | 119.4  | 68.6   | 16.6   | 15.7   |
| 85°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.6   | 0.6    | 26.6   | 26.9   | 12.6   | 2.3    | 6.9    |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.3    | 0.6    | 0.6    | 0.6    | 0.6    | 0.9    |
| 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°    | 515.5 | 515.5 | 515.5 | 515.5 | 515.5 | 515.5 | 515.5 | 515.5 | 515.5 | 515.5 | 515.5 |
| 2.5°  | 511.2 | 510.6 | 507.5 | 501.7 | 496.9 | 488.9 | 487.5 | 479.7 | 476.9 | 474.6 | 476.9 |
| 5°    | 502.3 | 499.2 | 488.6 | 475.7 | 458.3 | 437.7 | 425.7 | 409.2 | 405.7 | 396.6 | 402.0 |
| 7.5°  | 487.7 | 480.6 | 460.9 | 433.2 | 401.2 | 369.7 | 345.7 | 322.6 | 302.9 | 296.0 | 294.0 |
| 10°   | 472.3 | 462.3 | 429.2 | 386.3 | 340.0 | 291.7 | 256.0 | 222.6 | 204.0 | 186.6 | 186.0 |
| 12.5° | 457.7 | 442.6 | 394.6 | 334.9 | 270.3 | 212.9 | 166.6 | 131.4 | 109.4 | 97.4  | 100.6 |
| 15°   | 446.0 | 425.7 | 359.7 | 283.4 | 201.7 | 137.1 | 94.3  | 71.7  | 64.0  | 60.3  | 60.9  |
| 17.5° | 434.6 | 407.7 | 326.0 | 229.7 | 143.7 | 84.6  | 61.1  | 53.4  | 51.1  | 50.3  | 49.7  |
| 20°   | 424.3 | 390.3 | 290.6 | 181.2 | 94.9  | 58.6  | 50.3  | 47.7  | 46.9  | 46.3  | 46.3  |
| 22.5° | 414.0 | 372.0 | 255.2 | 134.3 | 64.9  | 48.0  | 45.1  | 44.0  | 43.4  | 42.6  | 42.6  |
| 25°   | 404.6 | 354.3 | 219.7 | 94.0  | 49.7  | 42.9  | 40.9  | 39.7  | 38.6  | 37.7  | 37.7  |
| 27.5° | 397.4 | 340.9 | 186.9 | 66.6  | 41.7  | 38.6  | 36.6  | 34.6  | 33.1  | 32.0  | 32.0  |
| 30°   | 392.9 | 327.7 | 155.2 | 50.3  | 37.1  | 34.3  | 31.7  | 29.1  | 26.9  | 25.4  | 25.1  |
| 32.5° | 390.3 | 316.9 | 125.7 | 41.1  | 33.1  | 30.0  | 26.9  | 24.0  | 21.4  | 19.7  | 19.7  |
| 35°   | 391.4 | 308.3 | 96.3  | 34.9  | 30.0  | 26.3  | 22.9  | 19.4  | 17.1  | 15.7  | 15.4  |
| 37.5° | 398.9 | 303.4 | 71.7  | 30.9  | 26.9  | 22.9  | 19.4  | 16.0  | 13.7  | 12.6  | 12.3  |
| 40°   | 412.9 | 304.6 | 54.6  | 28.0  | 24.6  | 20.0  | 16.0  | 13.1  | 11.1  | 10.0  | 10.0  |
| 42.5° | 441.2 | 312.9 | 43.1  | 25.7  | 22.0  | 17.1  | 13.4  | 10.9  | 9.1   | 8.3   | 8.0   |
| 45°   | 478.6 | 328.6 | 35.4  | 23.7  | 19.4  | 14.6  | 11.4  | 9.1   | 7.4   | 6.6   | 6.6   |
| 47.5° | 535.2 | 353.7 | 30.6  | 21.7  | 16.9  | 12.3  | 9.4   | 7.4   | 5.7   | 5.1   | 4.9   |
| 50°   | 600.6 | 388.9 | 26.9  | 19.4  | 14.9  | 10.3  | 8.0   | 5.7   | 4.6   | 3.7   | 3.7   |
| 52.5° | 667.5 | 428.0 | 24.3  | 17.4  | 12.9  | 8.9   | 6.3   | 4.3   | 3.1   | 2.6   | 2.6   |
| 55°   | 728.9 | 460.9 | 21.7  | 15.7  | 10.9  | 7.4   | 5.1   | 3.4   | 2.3   | 1.7   | 1.7   |
| 57.5° | 788.3 | 490.9 | 18.9  | 13.7  | 8.9   | 6.0   | 4.0   | 2.6   | 1.7   | 1.1   | 1.1   |
| 60°   | 862.9 | 529.7 | 16.3  | 11.7  | 7.1   | 4.9   | 3.1   | 2.0   | 1.1   | 0.9   | 0.6   |
| 62.5° | 952.9 | 558.0 | 13.7  | 9.4   | 5.7   | 3.7   | 2.3   | 1.4   | 0.9   | 0.3   | 0.3   |
| 65°   | 986.0 | 520.6 | 11.4  | 7.7   | 4.6   | 2.9   | 1.7   | 1.1   | 0.6   | 0.3   | 0.3   |
| 67.5° | 893.5 | 419.4 | 9.1   | 6.0   | 3.4   | 2.0   | 1.4   | 0.9   | 0.6   | 0.3   | 0.3   |
| 68°   | 867.8 | 398.9 | 8.9   | 5.7   | 3.1   | 2.0   | 1.1   | 0.9   | 0.3   | 0.3   | 0.0   |
| 70°   | 732.6 | 320.3 | 7.1   | 4.3   | 2.6   | 1.7   | 1.1   | 0.6   | 0.3   | 0.3   | 0.0   |
| 72.5° | 543.2 | 220.9 | 5.1   | 2.9   | 1.7   | 1.1   | 0.9   | 0.6   | 0.3   | 0.3   | 0.0   |
| 75°   | 286.6 | 86.0  | 4.0   | 2.3   | 1.4   | 1.1   | 0.9   | 0.9   | 0.6   | 0.3   | 0.3   |
| 77.5° | 82.3  | 27.1  | 3.1   | 1.7   | 1.4   | 1.4   | 1.4   | 1.1   | 1.1   | 0.9   | 0.6   |
| 80°   | 24.0  | 8.9   | 2.0   | 1.1   | 1.4   | 1.4   | 1.7   | 1.4   | 1.4   | 1.1   | 1.1   |
| 82.5° | 12.9  | 3.4   | 1.1   | 0.9   | 0.9   | 1.1   | 1.4   | 1.1   | 0.9   | 0.6   | 0.3   |
| 85°   | 5.4   | 1.1   | 0.9   | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   | 0.3   | 0.3   |
| 87.5° | 0.3   | 0.6   | 0.6   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   |
| 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)