

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: P472189

Luminaire Tested: **CCW-VA-1-835-U-T4W**

Issue Date: 01/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P472189  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: CCW-VA-1-835-U-T4W  
Description: INVUE WALL PACK Wave Stream LUMINAIRE WITH T4W DISTRIBUTION LENS  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2981.9 lumens  
Efficiency: N/A  
Efficacy: 102.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.54' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1

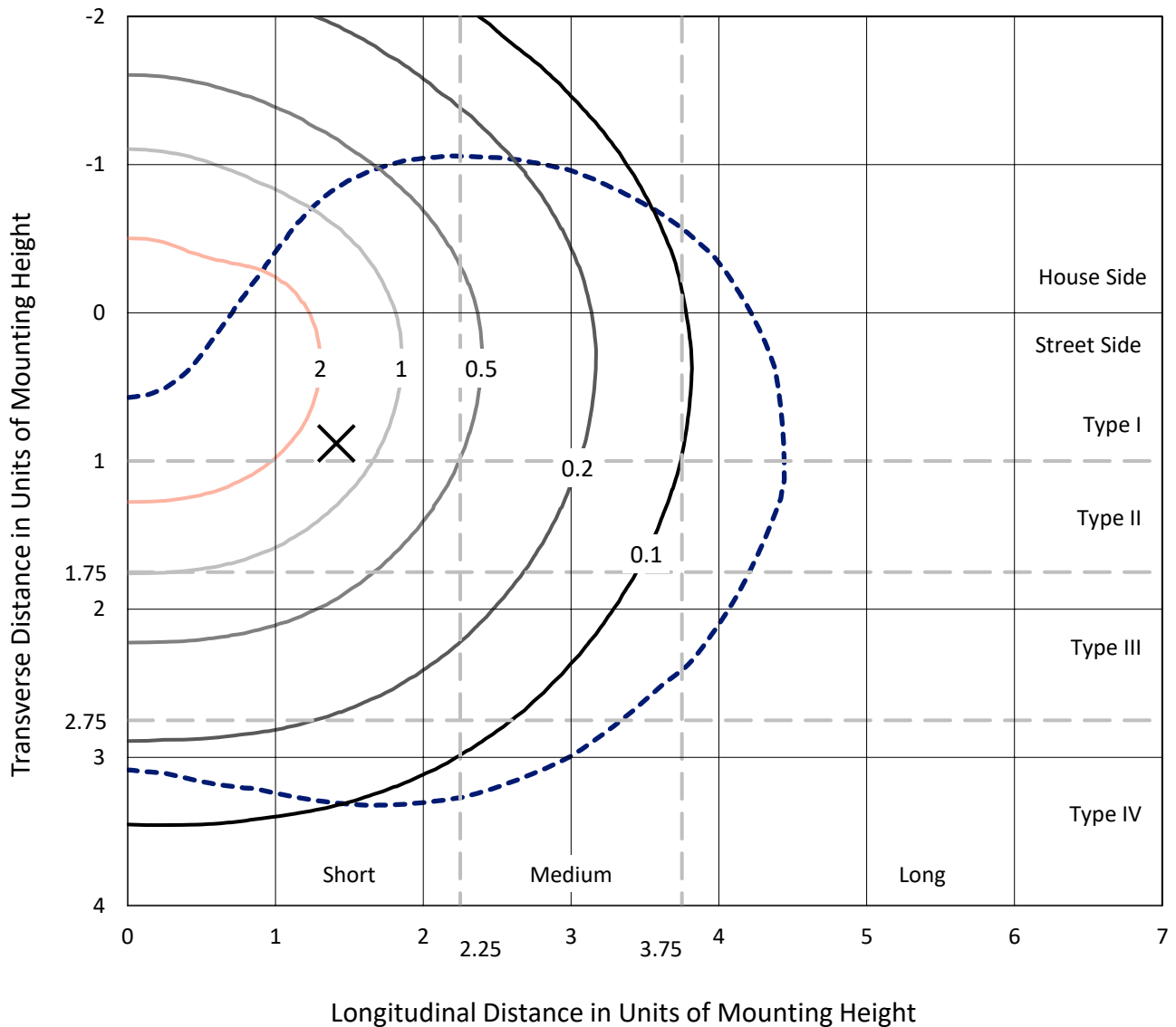
Input Watts (W): 29  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

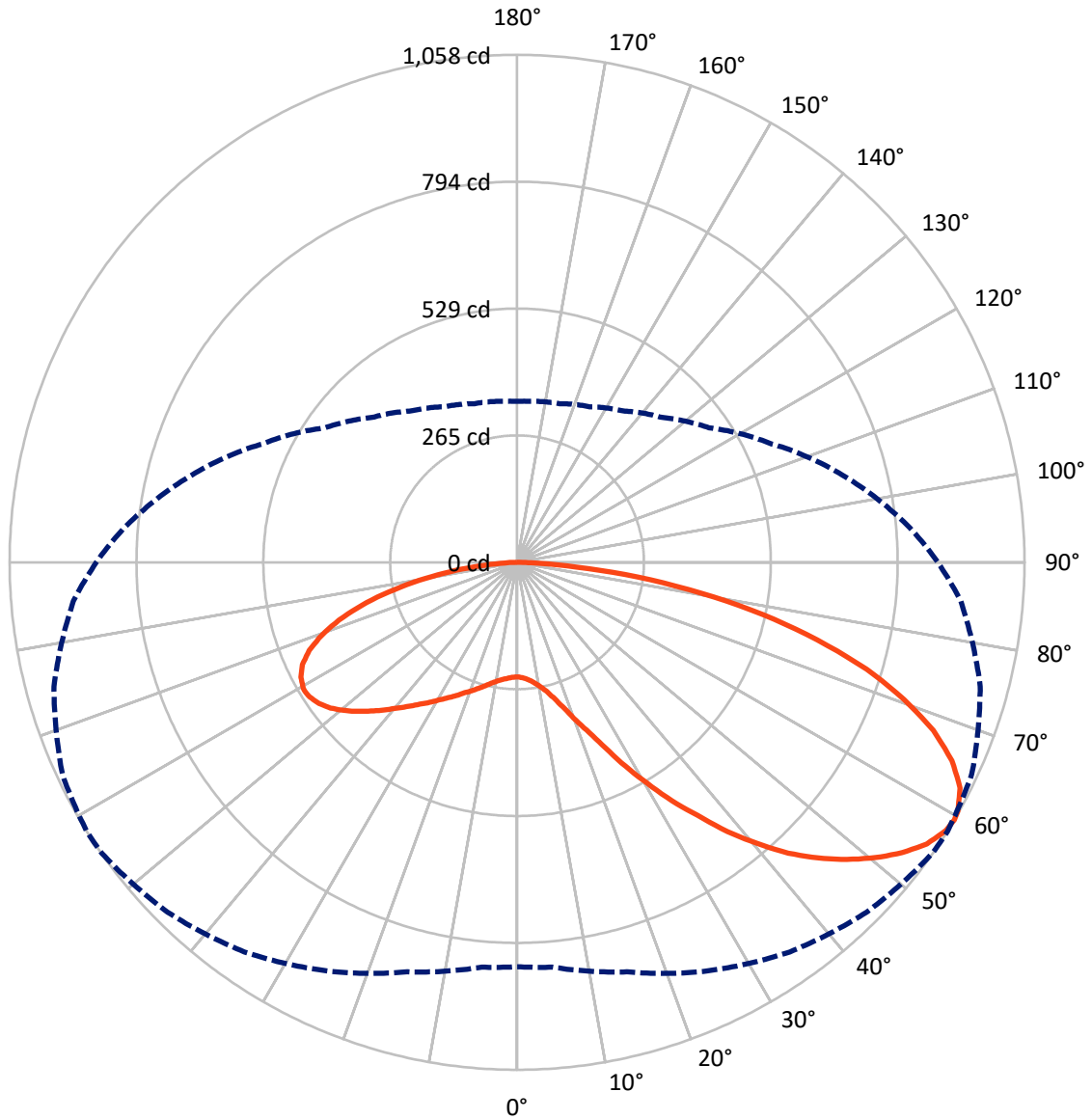
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.6 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral      - - - Horizontal Cone Through 59-Deg Vertical

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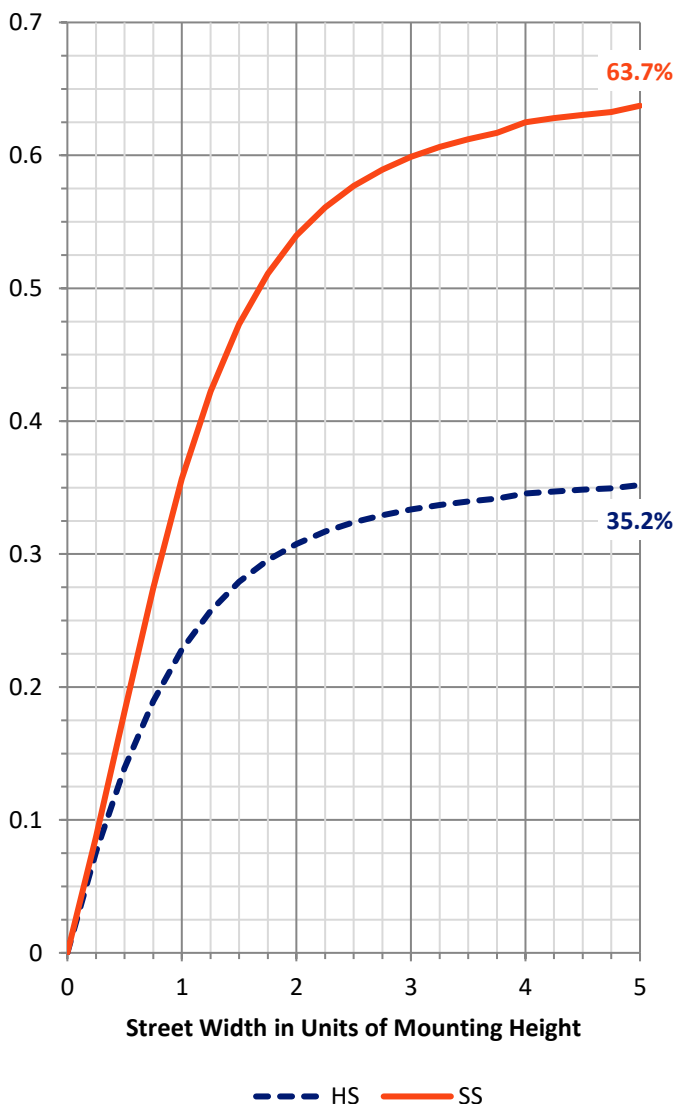
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1063.5   | 0.0    | 1063.5 |
|                    | % Fixture | 35.7     | 0.0    | 35.7   |
| <b>Street Side</b> | Lumens    | 1918.5   | 0.0    | 1918.5 |
|                    | % Fixture | 64.3     | 0.0    | 64.3   |
| <b>Total</b>       | Lumens    | 2981.9   | 0.0    | 2981.9 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 23.7   | 0.8       |
| 10°-20°   | 80.9   | 2.7       |
| 20°-30°   | 170.7  | 5.7       |
| 30°-40°   | 314.2  | 10.5      |
| 40°-50°   | 489.7  | 16.4      |
| 50°-60°   | 643.5  | 21.6      |
| 60°-70°   | 674.3  | 22.6      |
| 70°-80°   | 467.5  | 15.7      |
| 80°-90°   | 117.4  | 3.9       |
| 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°    | 2981.9 | 100.0     |
| 0°-180°   | 2981.9 | 100.0     |

**Coefficient of Utilization**

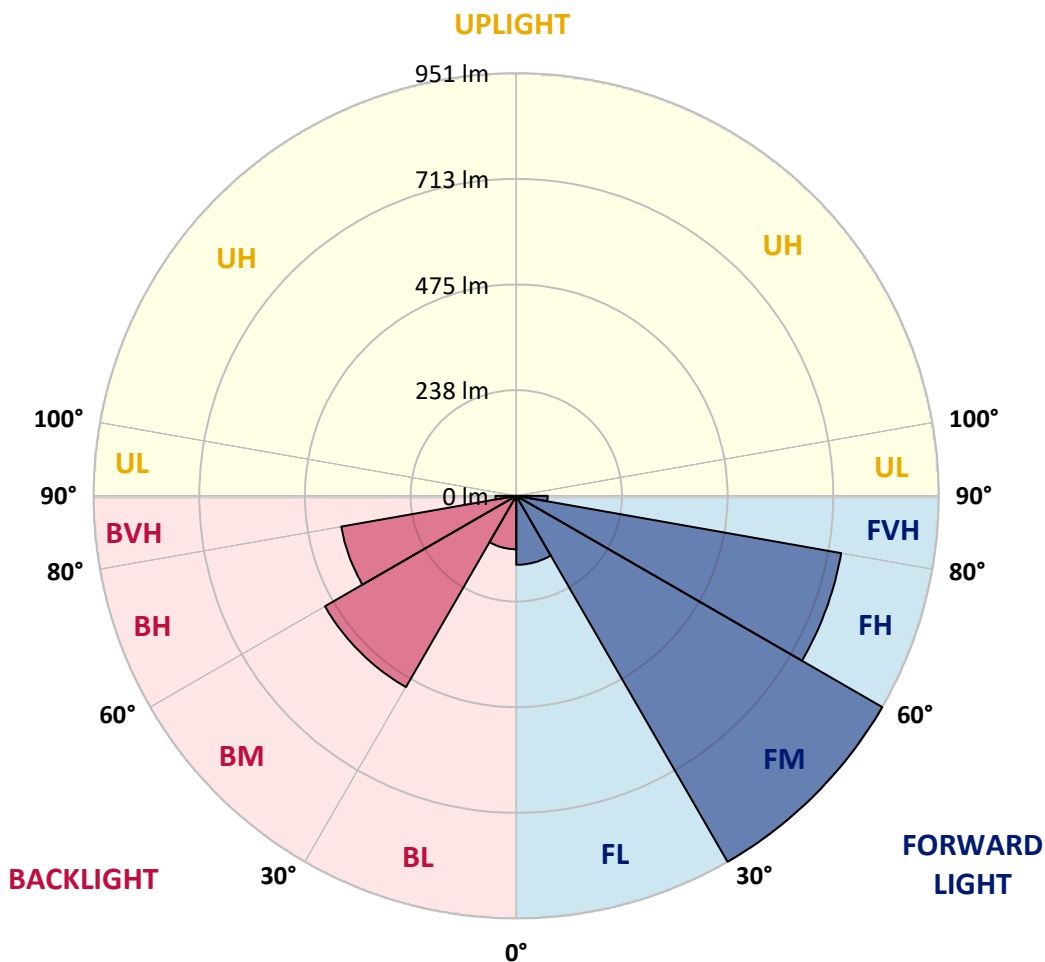


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 155.1  | 5.2       |                         |      |         |
| FM (30°-60°)   | 950.6  | 31.9      |                         |      |         |
| FH (60°-80°)   | 742.2  | 24.9      |                         |      | G1/1800 |
| FVH (80°-90°)  | 70.5   | 2.4       |                         |      | G1/100  |
| BL (0°-30°)    | 120.2  | 4.0       | B1/500                  |      |         |
| BM (30°-60°)   | 496.8  | 16.7      | B1/1000                 |      |         |
| BH (60°-80°)   | 399.6  | 13.4      | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 46.9   | 1.6       |                         |      | 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°    | 55°    | 58°    | 65°    | 75°    | 85°   |
|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|
| 0°    | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 | 239.0  | 239.0  | 239.0  | 239.0  | 239.0  | 239.0 |
| 2.5°  | 242.4 | 242.4 | 242.4 | 241.7 | 241.7 | 241.7  | 241.1  | 241.1  | 241.1  | 240.4  | 239.7 |
| 5°    | 247.8 | 247.8 | 247.1 | 247.8 | 247.1 | 246.4  | 245.8  | 245.8  | 245.8  | 245.1  | 244.4 |
| 7.5°  | 255.2 | 255.8 | 255.2 | 255.8 | 255.2 | 254.5  | 253.1  | 253.1  | 252.5  | 251.1  | 249.8 |
| 10°   | 266.6 | 266.6 | 266.6 | 265.9 | 265.2 | 264.6  | 263.9  | 263.2  | 262.5  | 260.5  | 258.5 |
| 12.5° | 280.7 | 280.7 | 280.7 | 279.3 | 279.3 | 278.0  | 277.3  | 276.6  | 275.3  | 272.6  | 269.9 |
| 15°   | 298.1 | 297.5 | 299.5 | 299.5 | 298.8 | 298.8  | 296.8  | 295.5  | 294.1  | 290.1  | 284.0 |
| 17.5° | 321.6 | 321.0 | 323.0 | 324.3 | 324.3 | 325.0  | 321.6  | 320.3  | 315.6  | 310.2  | 302.2 |
| 20°   | 353.2 | 351.9 | 353.9 | 355.2 | 353.9 | 355.2  | 351.9  | 352.5  | 345.8  | 336.4  | 323.7 |
| 22.5° | 387.4 | 387.4 | 389.5 | 389.5 | 390.1 | 391.5  | 387.4  | 385.4  | 380.1  | 366.6  | 350.5 |
| 25°   | 429.7 | 433.1 | 433.1 | 433.1 | 435.8 | 436.5  | 432.4  | 429.1  | 421.7  | 403.6  | 381.4 |
| 27.5° | 481.5 | 480.8 | 480.1 | 484.1 | 484.1 | 485.5  | 482.8  | 481.5  | 472.7  | 450.6  | 417.0 |
| 30°   | 536.5 | 532.5 | 535.2 | 536.5 | 539.2 | 541.2  | 538.5  | 534.5  | 523.8  | 499.6  | 457.9 |
| 32.5° | 586.9 | 589.6 | 593.6 | 594.9 | 599.0 | 599.6  | 592.9  | 592.9  | 582.2  | 551.3  | 508.3 |
| 35°   | 643.9 | 643.9 | 654.7 | 659.4 | 659.4 | 663.4  | 653.3  | 648.0  | 640.6  | 608.4  | 554.0 |
| 37.5° | 693.6 | 695.0 | 703.7 | 714.5 | 715.8 | 721.8  | 714.5  | 712.4  | 699.0  | 666.1  | 605.7 |
| 40°   | 740.0 | 741.3 | 752.1 | 764.8 | 772.2 | 781.6  | 774.2  | 770.9  | 756.8  | 719.2  | 657.4 |
| 42.5° | 776.2 | 778.9 | 792.3 | 811.1 | 823.2 | 834.6  | 831.3  | 829.3  | 809.8  | 770.2  | 705.1 |
| 45°   | 803.8 | 808.5 | 827.3 | 849.4 | 866.2 | 883.0  | 883.7  | 879.6  | 861.5  | 817.2  | 751.4 |
| 47.5° | 825.9 | 831.3 | 852.1 | 880.3 | 905.8 | 926.6  | 930.7  | 926.0  | 909.2  | 862.9  | 793.0 |
| 50°   | 844.1 | 846.7 | 870.2 | 906.5 | 938.1 | 964.2  | 972.3  | 968.3  | 953.5  | 901.1  | 829.3 |
| 52.5° | 853.5 | 857.5 | 884.3 | 926.0 | 964.2 | 995.8  | 1007.9 | 1005.9 | 988.4  | 936.0  | 861.5 |
| 55°   | 858.2 | 862.2 | 893.7 | 941.4 | 984.4 | 1021.3 | 1036.1 | 1036.8 | 1020.0 | 967.6  | 891.7 |
| 57.5° | 852.8 | 858.2 | 892.4 | 945.4 | 993.1 | 1032.7 | 1055.6 | 1054.9 | 1041.5 | 991.8  | 917.2 |
| 59°   | 843.4 | 847.4 | 884.3 | 940.1 | 991.8 | 1031.4 | 1057.6 | 1058.3 | 1046.2 | 999.8  | 928.7 |
| 60°   | 832.6 | 837.3 | 874.9 | 933.4 | 986.4 | 1026.7 | 1054.2 | 1055.6 | 1045.5 | 1001.8 | 933.4 |
| 62.5° | 795.7 | 801.7 | 843.4 | 905.8 | 963.6 | 1001.8 | 1034.8 | 1036.8 | 1031.4 | 996.5  | 936.7 |
| 65°   | 744.0 | 749.4 | 794.4 | 860.8 | 921.3 | 960.9  | 991.8  | 996.5  | 995.8  | 972.3  | 923.3 |
| 67.5° | 680.9 | 681.6 | 723.9 | 796.4 | 859.5 | 898.4  | 928.0  | 936.0  | 942.1  | 926.6  | 883.7 |
| 70°   | 605.0 | 604.3 | 645.3 | 717.1 | 780.3 | 821.2  | 850.8  | 856.1  | 871.6  | 859.5  | 824.6 |
| 72.5° | 511.0 | 519.1 | 557.3 | 617.8 | 680.2 | 725.9  | 752.1  | 762.1  | 770.9  | 773.5  | 744.7 |
| 75°   | 422.4 | 431.1 | 461.3 | 517.7 | 571.4 | 613.7  | 641.9  | 646.6  | 662.8  | 666.8  | 639.9 |
| 77.5° | 337.8 | 338.4 | 360.6 | 405.6 | 454.6 | 489.5  | 512.3  | 524.4  | 533.2  | 541.2  | 513.0 |
| 80°   | 237.0 | 240.4 | 255.8 | 288.1 | 326.3 | 363.3  | 382.1  | 390.1  | 396.2  | 401.5  | 392.1 |
| 82.5° | 148.4 | 149.7 | 159.8 | 179.3 | 205.5 | 226.3  | 245.8  | 252.5  | 253.8  | 265.9  | 264.6 |
| 85°   | 70.5  | 71.2  | 77.9  | 87.3  | 98.7  | 115.5  | 122.9  | 122.9  | 132.3  | 141.0  | 141.0 |
| 87.5° | 9.4   | 9.4   | 11.4  | 12.8  | 16.1  | 20.8   | 28.9   | 29.5   | 34.9   | 38.9   | 42.3  |
| 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°    | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 |
| 2.5°  | 239.7 | 239.7 | 239.7 | 239.7 | 239.7 | 239.0 | 239.7 | 239.7 | 239.7 | 239.7 | 239.7 |
| 5°    | 244.4 | 243.7 | 243.1 | 242.4 | 242.4 | 241.7 | 241.7 | 241.7 | 241.7 | 241.7 | 241.7 |
| 7.5°  | 249.1 | 248.4 | 247.8 | 246.4 | 245.8 | 245.1 | 245.1 | 244.4 | 244.4 | 244.4 | 244.4 |
| 10°   | 257.2 | 256.5 | 253.8 | 251.8 | 250.5 | 249.8 | 249.1 | 248.4 | 247.8 | 247.8 | 247.8 |
| 12.5° | 267.9 | 266.6 | 261.9 | 259.2 | 257.2 | 255.8 | 254.5 | 253.8 | 253.1 | 252.5 | 252.5 |
| 15°   | 281.4 | 278.0 | 271.9 | 267.9 | 265.2 | 263.2 | 261.2 | 259.9 | 259.2 | 258.5 | 258.5 |
| 17.5° | 297.5 | 293.4 | 285.4 | 278.0 | 273.3 | 269.9 | 267.2 | 265.2 | 264.6 | 264.6 | 264.6 |
| 20°   | 317.6 | 310.9 | 299.5 | 289.4 | 282.0 | 277.3 | 273.3 | 271.3 | 270.6 | 269.9 | 269.3 |
| 22.5° | 341.1 | 332.4 | 315.6 | 300.2 | 290.8 | 284.0 | 279.3 | 276.6 | 274.6 | 274.0 | 274.0 |
| 25°   | 368.0 | 355.2 | 333.1 | 314.3 | 301.5 | 292.1 | 286.1 | 282.7 | 279.3 | 278.0 | 278.0 |
| 27.5° | 400.2 | 383.4 | 353.9 | 329.0 | 311.6 | 300.2 | 293.4 | 288.7 | 285.4 | 282.7 | 281.4 |
| 30°   | 435.1 | 416.3 | 376.7 | 345.1 | 323.0 | 310.2 | 302.2 | 296.8 | 292.1 | 287.4 | 286.7 |
| 32.5° | 479.4 | 452.6 | 404.2 | 363.3 | 336.4 | 320.3 | 310.9 | 304.2 | 298.1 | 293.4 | 292.1 |
| 35°   | 524.4 | 492.2 | 433.1 | 382.1 | 349.2 | 329.7 | 318.3 | 310.9 | 304.9 | 299.5 | 298.8 |
| 37.5° | 570.8 | 536.5 | 464.7 | 404.2 | 363.9 | 340.4 | 326.3 | 318.3 | 310.9 | 305.5 | 304.9 |
| 40°   | 619.1 | 578.8 | 496.9 | 427.1 | 379.4 | 351.2 | 335.1 | 325.0 | 316.9 | 312.2 | 311.6 |
| 42.5° | 664.8 | 621.1 | 531.8 | 453.9 | 397.5 | 362.6 | 343.8 | 333.1 | 323.0 | 318.3 | 317.6 |
| 45°   | 708.4 | 661.4 | 566.7 | 478.8 | 415.6 | 374.7 | 352.5 | 339.8 | 329.0 | 324.3 | 323.7 |
| 47.5° | 748.0 | 701.0 | 599.0 | 505.6 | 434.4 | 388.1 | 361.9 | 346.5 | 334.4 | 329.7 | 329.7 |
| 50°   | 783.6 | 734.6 | 630.5 | 530.5 | 451.9 | 401.5 | 370.0 | 352.5 | 340.4 | 335.7 | 335.1 |
| 52.5° | 817.2 | 764.1 | 658.1 | 552.0 | 468.7 | 413.6 | 378.0 | 357.2 | 344.5 | 339.1 | 338.4 |
| 55°   | 844.1 | 791.0 | 680.9 | 569.4 | 480.1 | 421.7 | 383.4 | 359.9 | 345.8 | 341.1 | 340.4 |
| 57.5° | 867.6 | 813.2 | 697.0 | 581.5 | 487.5 | 426.4 | 386.1 | 359.9 | 345.1 | 339.8 | 339.1 |
| 59°   | 877.6 | 822.6 | 702.4 | 584.9 | 488.8 | 427.1 | 385.4 | 357.9 | 342.5 | 337.1 | 335.7 |
| 60°   | 883.0 | 826.6 | 704.4 | 585.5 | 488.2 | 425.7 | 384.8 | 355.9 | 339.8 | 333.7 | 333.7 |
| 62.5° | 888.4 | 829.9 | 701.7 | 580.2 | 480.8 | 418.3 | 378.0 | 347.8 | 329.7 | 323.0 | 323.0 |
| 65°   | 877.0 | 817.9 | 686.3 | 565.4 | 466.0 | 405.6 | 365.3 | 334.4 | 314.3 | 307.5 | 307.5 |
| 67.5° | 843.4 | 788.3 | 658.1 | 537.9 | 441.8 | 383.4 | 344.5 | 312.9 | 294.1 | 286.7 | 284.7 |
| 70°   | 786.3 | 740.0 | 613.7 | 498.2 | 408.9 | 355.2 | 318.3 | 288.1 | 268.6 | 261.2 | 258.5 |
| 72.5° | 709.8 | 664.1 | 554.6 | 449.9 | 365.3 | 318.3 | 286.1 | 257.2 | 235.7 | 228.3 | 229.0 |
| 75°   | 604.3 | 572.1 | 478.1 | 388.8 | 314.9 | 271.3 | 244.4 | 220.2 | 202.1 | 196.1 | 196.7 |
| 77.5° | 490.2 | 463.3 | 387.4 | 316.9 | 257.2 | 223.6 | 200.8 | 181.3 | 169.2 | 165.9 | 163.8 |
| 80°   | 375.4 | 349.2 | 290.8 | 236.4 | 195.4 | 171.9 | 156.5 | 143.0 | 133.6 | 128.9 | 130.3 |
| 82.5° | 251.8 | 235.7 | 192.7 | 156.5 | 133.0 | 116.2 | 110.8 | 102.1 | 98.7  | 96.0  | 98.0  |
| 85°   | 135.6 | 121.5 | 100.7 | 83.9  | 73.2  | 68.5  | 69.8  | 69.2  | 66.5  | 65.8  | 67.8  |
| 87.5° | 44.3  | 38.3  | 29.5  | 24.8  | 25.5  | 22.8  | 22.8  | 21.5  | 19.5  | 18.8  | 20.1  |
| 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)