

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: McGRAW-EDISON

Report Number: P271579

Luminaire Tested: **ISS-AF-450-LED-E1-T4FT-7027-ULG**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P271579  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29760)-DOWNLIGHT AND  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: ISS-AF-450-LED-E1-T4FT-7027-ULG  
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE WITH UPLIGHT  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV FORWARD THROW, WITH UPLIGHT GLOW  
Light Source: (16) 2700K CCT, 70 CRI LEDs and (1) UPLIGHT LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3974.2 lumens  
Efficiency: N/A  
Efficacy: 94.6 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U5 - G1  
  
Input Watts (W): 42.01  
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: 25 FT

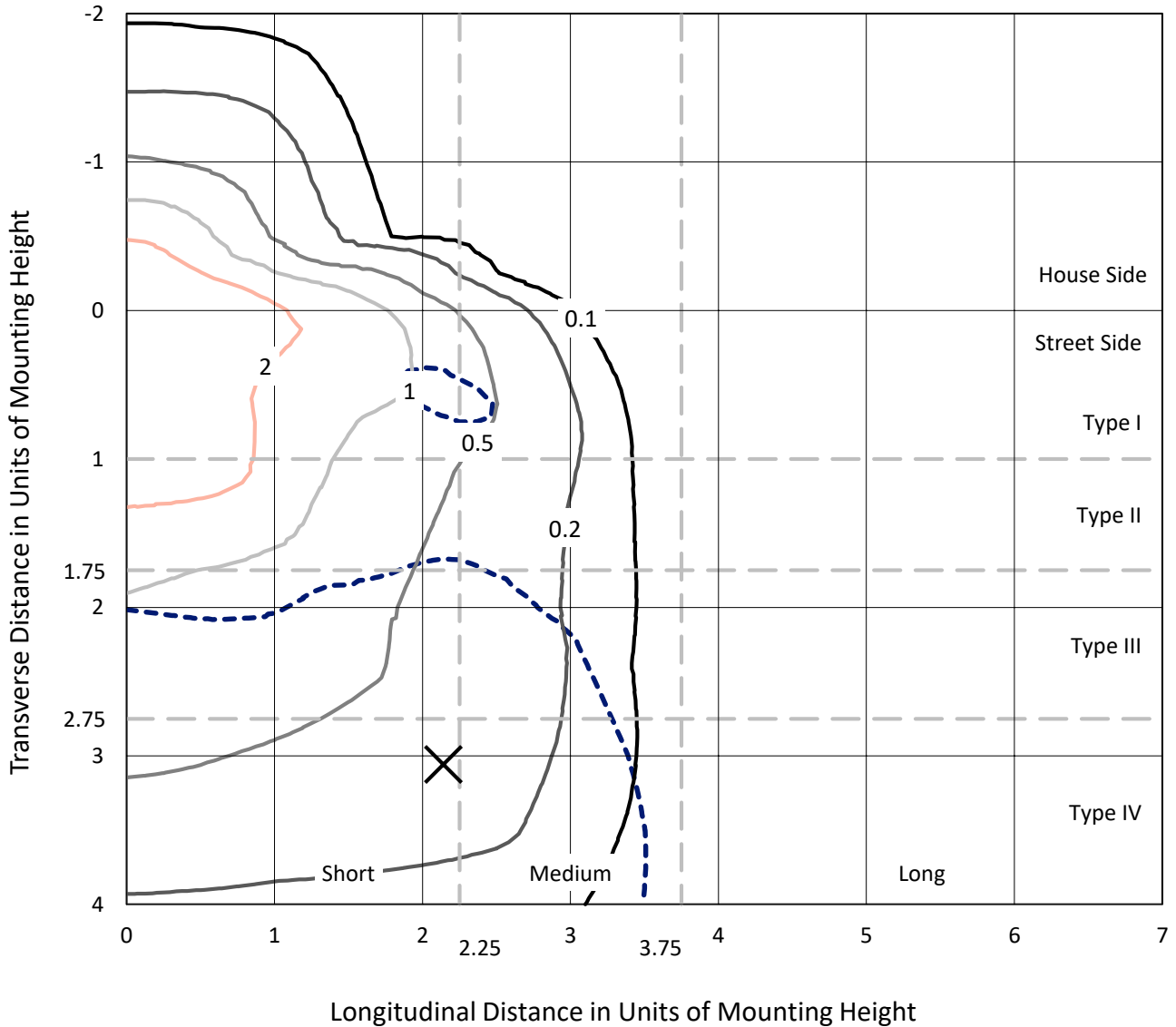


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### Iso-Footcandle Lines of Horizontal Illumination

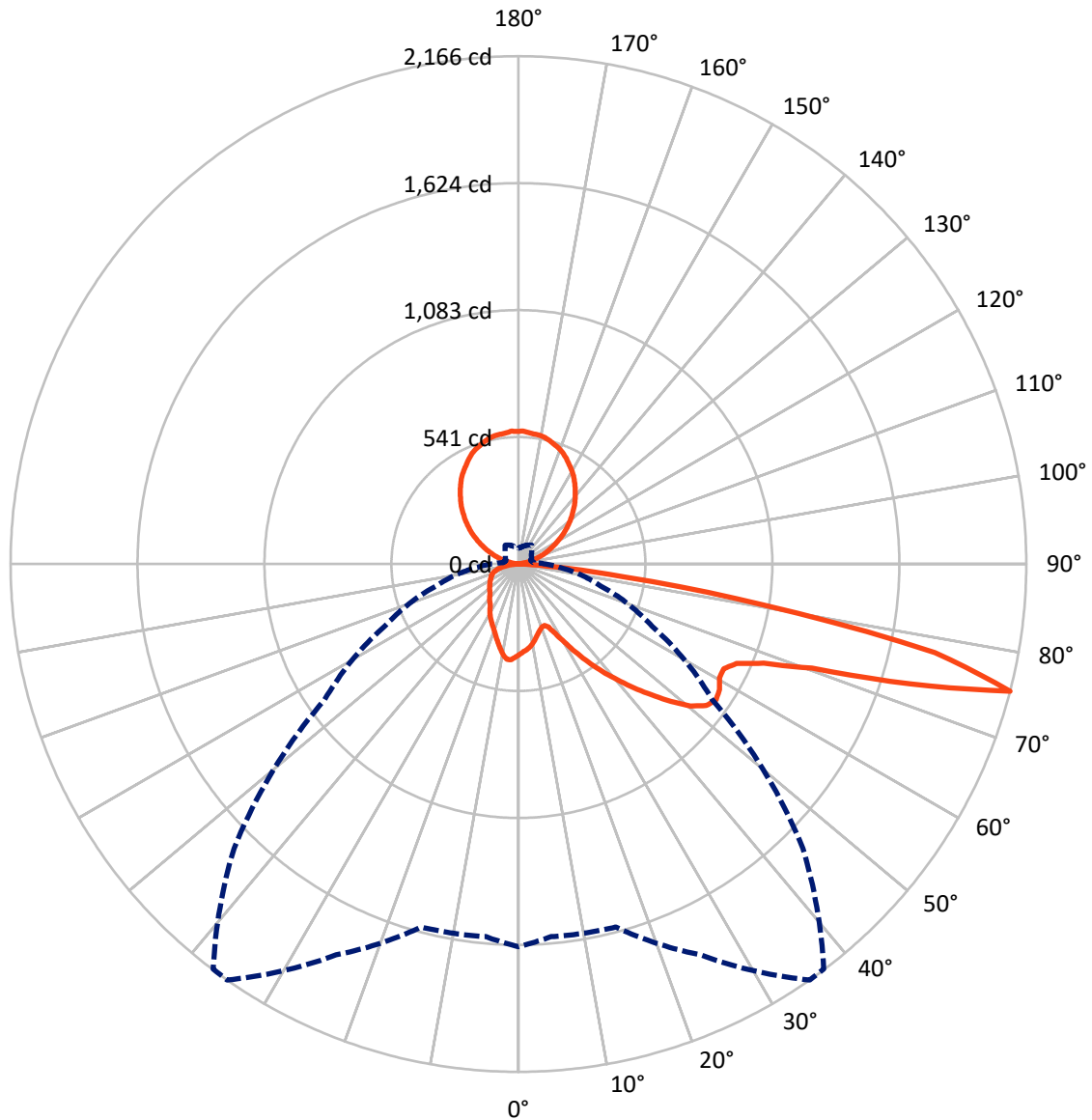
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.9 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral    - - - Horizontal Cone Through 75-Deg Vertical

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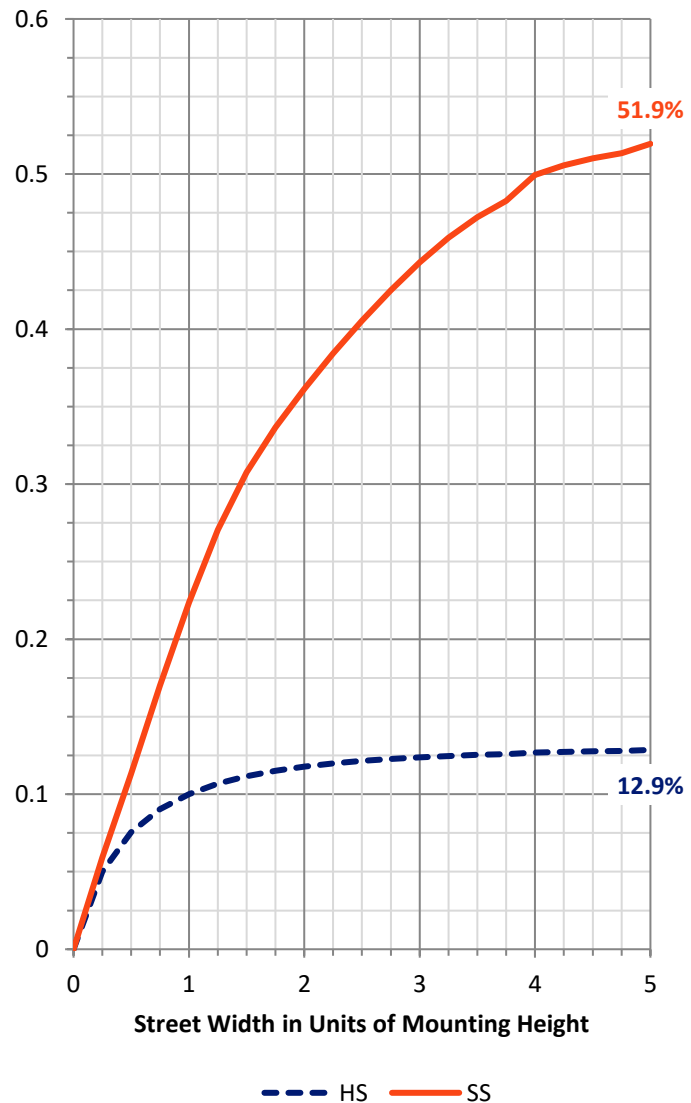
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 516.7    | 699.9  | 1216.6 |
|                    | % Fixture | 13.0     | 17.6   | 30.6   |
| <b>Street Side</b> | Lumens    | 2057.7   | 699.9  | 2757.6 |
|                    | % Fixture | 51.8     | 17.6   | 69.4   |
| <b>Total</b>       | Lumens    | 2574.4   | 1399.8 | 3974.2 |
|                    | % Fixture | 64.8     | 35.2   | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 36.3   | 0.9       |
| 10°-20°   | 95.8   | 2.4       |
| 20°-30°   | 151.6  | 3.8       |
| 30°-40°   | 244.6  | 6.2       |
| 40°-50°   | 361.9  | 9.1       |
| 50°-60°   | 465.4  | 11.7      |
| 60°-70°   | 576.2  | 14.5      |
| 70°-80°   | 580.6  | 14.6      |
| 80°-90°   | 62.0   | 1.6       |
| 90°-100°  | 4.7    | 0.1       |
| 100°-110° | 67.7   | 1.7       |
| 110°-120° | 150.2  | 3.8       |
| 120°-130° | 219.7  | 5.5       |
| 130°-140° | 260.7  | 6.6       |
| 140°-150° | 264.3  | 6.7       |
| 150°-160° | 226.8  | 5.7       |
| 160°-170° | 152.2  | 3.8       |
| 170°-180° | 53.3   | 1.3       |
| 0°-90°    | 2574.4 | 64.8      |
| 0°-180°   | 3974.2 | 100.0     |



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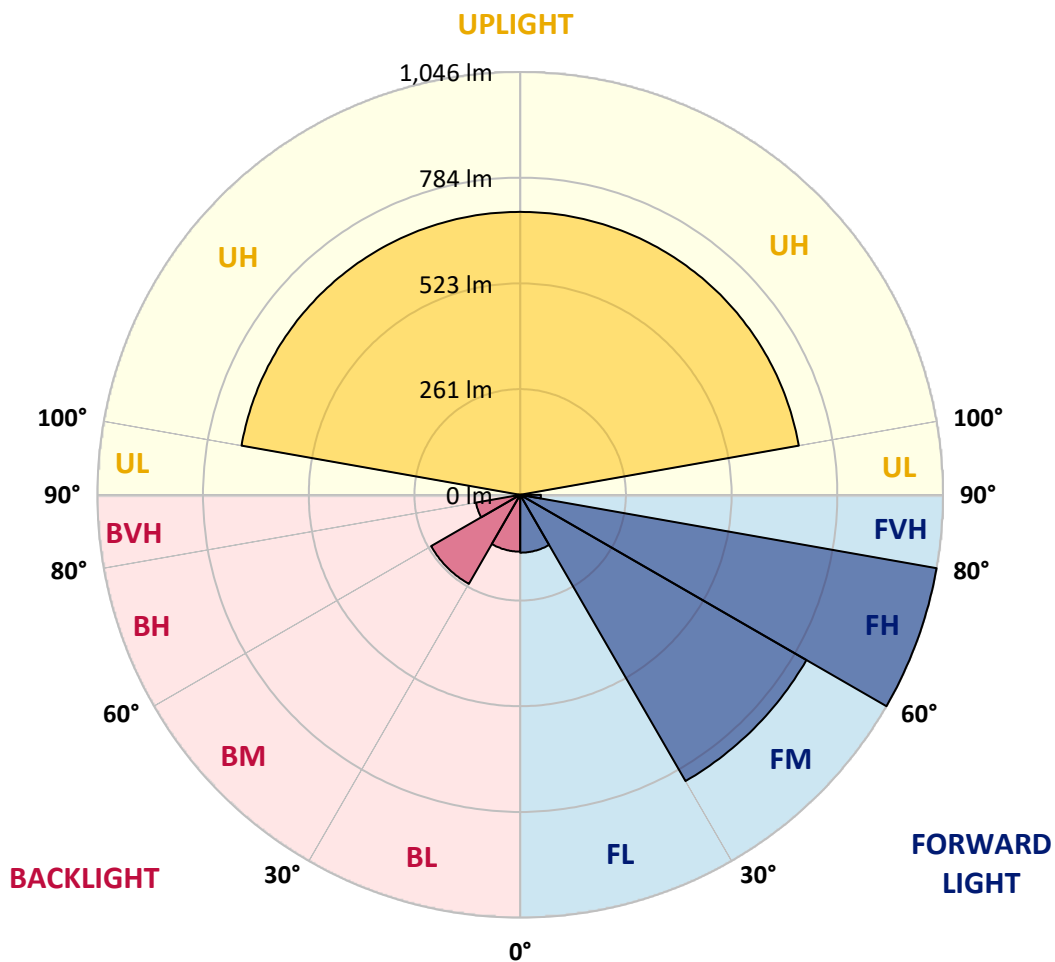
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |         |         |
|----------------|--------|-----------|-------------------------|---------|---------|
|                |        |           | B                       | U       | G       |
| FL (0°-30°)    | 143.1  | 3.6       |                         |         |         |
| FM (30°-60°)   | 817.5  | 20.6      |                         |         |         |
| FH (60°-80°)   | 1045.8 | 26.3      |                         |         | G1/1800 |
| FVH (80°-90°)  | 51.3   | 1.3       |                         |         | G1/100  |
| BL (0°-30°)    | 140.5  | 3.5       | B1/500                  |         |         |
| BM (30°-60°)   | 254.4  | 6.4       | B1/1000                 |         |         |
| BH (60°-80°)   | 111.0  | 2.8       | B1/500                  |         | G1/500  |
| BVH (80°-90°)  | 10.7   | 0.3       |                         |         | G1/100  |
| UL (90°-100°)  | 4.7    | 0.1       |                         | U1/10   |         |
| UH (100°-180°) | 699.9  | 17.6      |                         | U4/1000 |         |

**BUG Rating: B1-U5-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 5°     | 15°    | 25°    | 35°    | 37°    | 45°    | 55°    | 65°   | 75°    | 85°    |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|
| 0°     | 386.7  | 386.7  | 386.7  | 386.7  | 386.7  | 386.7  | 386.7  | 386.7  | 386.7 | 386.7  | 386.7  |
| 2.5°   | 375.6  | 374.8  | 373.9  | 373.9  | 375.6  | 375.6  | 376.4  | 377.3  | 378.2 | 380.7  | 384.1  |
| 5°     | 365.3  | 364.4  | 363.5  | 364.4  | 367.0  | 367.0  | 369.6  | 371.3  | 373.0 | 377.3  | 381.6  |
| 7.5°   | 351.5  | 351.5  | 350.7  | 354.1  | 356.6  | 355.8  | 359.2  | 361.0  | 365.3 | 369.6  | 376.4  |
| 10°    | 333.5  | 333.5  | 333.5  | 337.8  | 342.1  | 342.1  | 344.6  | 348.9  | 352.3 | 358.3  | 367.0  |
| 12.5°  | 318.0  | 317.1  | 317.1  | 320.5  | 325.7  | 326.5  | 330.8  | 337.0  | 341.2 | 348.9  | 358.3  |
| 15°    | 312.8  | 311.2  | 306.8  | 306.8  | 309.4  | 309.4  | 316.2  | 324.8  | 331.7 | 339.5  | 350.7  |
| 17.5°  | 313.7  | 311.2  | 299.9  | 296.5  | 296.5  | 297.4  | 304.3  | 313.7  | 322.3 | 331.7  | 346.4  |
| 20°    | 321.4  | 317.1  | 296.5  | 288.7  | 287.1  | 287.9  | 293.9  | 303.4  | 313.7 | 326.5  | 343.0  |
| 22.5°  | 354.9  | 348.0  | 309.4  | 292.2  | 284.4  | 284.4  | 287.9  | 298.1  | 311.2 | 328.3  | 348.9  |
| 25°    | 432.4  | 421.1  | 352.3  | 321.4  | 298.1  | 295.6  | 289.6  | 299.9  | 315.5 | 336.1  | 366.1  |
| 27.5°  | 511.3  | 500.2  | 405.7  | 372.2  | 336.1  | 328.3  | 306.0  | 308.6  | 325.7 | 353.2  | 391.9  |
| 30°    | 577.5  | 568.1  | 472.7  | 434.0  | 385.9  | 377.3  | 343.0  | 326.5  | 343.8 | 377.3  | 430.6  |
| 32.5°  | 582.7  | 578.4  | 544.9  | 505.4  | 446.9  | 434.9  | 389.3  | 363.5  | 372.2 | 410.0  | 472.7  |
| 35°    | 630.8  | 627.4  | 609.3  | 571.5  | 513.1  | 499.4  | 451.2  | 411.6  | 409.1 | 446.1  | 520.7  |
| 37.5°  | 678.1  | 673.8  | 661.7  | 636.0  | 581.8  | 570.6  | 532.9  | 469.3  | 451.2 | 488.2  | 568.1  |
| 40°    | 722.8  | 716.8  | 701.3  | 686.7  | 647.2  | 647.2  | 606.7  | 524.3  | 491.6 | 525.1  | 607.6  |
| 42.5°  | 805.3  | 786.4  | 745.1  | 733.9  | 722.8  | 722.8  | 663.5  | 562.1  | 524.3 | 565.6  | 645.4  |
| 45°    | 884.3  | 866.3  | 810.5  | 788.2  | 794.1  | 790.7  | 709.0  | 583.6  | 553.4 | 603.3  | 681.5  |
| 47.5°  | 947.2  | 930.7  | 874.1  | 858.6  | 875.8  | 862.0  | 746.9  | 600.8  | 590.5 | 643.7  | 711.5  |
| 50°    | 1003.0 | 964.3  | 909.3  | 929.8  | 951.3  | 928.2  | 780.4  | 626.5  | 627.4 | 686.7  | 755.5  |
| 52.5°  | 926.4  | 922.2  | 934.1  | 982.4  | 1003.0 | 977.2  | 810.5  | 659.2  | 666.9 | 741.7  | 805.3  |
| 55°    | 834.5  | 833.6  | 904.1  | 997.7  | 1022.7 | 998.6  | 830.2  | 698.7  | 708.1 | 809.6  | 868.0  |
| 57.5°  | 816.5  | 807.8  | 855.9  | 965.2  | 1010.8 | 993.4  | 840.5  | 735.7  | 747.7 | 895.5  | 929.8  |
| 60°    | 874.9  | 858.6  | 850.9  | 929.8  | 984.9  | 976.3  | 853.4  | 779.5  | 795.8 | 993.4  | 987.5  |
| 62.5°  | 1002.1 | 979.7  | 924.7  | 932.5  | 982.4  | 975.5  | 884.3  | 831.0  | 850.0 | 1091.5 | 1020.1 |
| 65°    | 1170.5 | 1154.2 | 1066.6 | 1003.9 | 1022.7 | 1013.3 | 940.3  | 896.4  | 906.7 | 1162.0 | 983.1  |
| 67.5°  | 1355.4 | 1332.9 | 1237.5 | 1151.6 | 1127.6 | 1109.6 | 1028.6 | 973.8  | 936.8 | 1151.6 | 884.3  |
| 70°    | 1564.2 | 1540.1 | 1457.6 | 1369.1 | 1327.9 | 1308.0 | 1183.4 | 1040.8 | 925.6 | 1038.2 | 697.8  |
| 72.5°  | 1821.1 | 1788.4 | 1742.9 | 1752.3 | 1745.5 | 1690.5 | 1430.1 | 1063.1 | 844.0 | 772.6  | 416.8  |
| 75°    | 1632.1 | 1595.1 | 1602.8 | 1839.2 | 2165.7 | 2163.2 | 1715.4 | 1008.1 | 629.2 | 364.4  | 180.5  |
| 77.5°  | 585.2  | 647.2  | 954.8  | 1377.7 | 1815.9 | 1813.4 | 1327.9 | 630.8  | 269.9 | 155.6  | 109.1  |
| 80°    | 147.0  | 149.6  | 237.2  | 565.6  | 1060.4 | 1051.9 | 752.9  | 238.1  | 112.6 | 94.5   | 74.8   |
| 82.5°  | 47.3   | 50.8   | 86.8   | 195.1  | 453.7  | 443.4  | 233.8  | 78.2   | 70.4  | 61.1   | 45.5   |
| 85°    | 15.5   | 15.5   | 30.9   | 67.0   | 149.6  | 143.5  | 47.3   | 28.4   | 38.6  | 31.8   | 20.6   |
| 87.5°  | 0.0    | 0.0    | 0.9    | 1.8    | 3.4    | 1.8    | 0.0    | 1.8    | 5.2   | 6.0    | 4.3    |
| 90°    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0    | 0.0    |
| 92.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0    | 0.0    |
| 95°    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0   | 1.0    | 1.0    |
| 97.5°  | 2.0    | 2.0    | 2.0    | 3.0    | 4.0    | 4.9    | 8.8    | 12.8   | 6.8   | 4.9    | 4.0    |
| 100°   | 7.8    | 7.8    | 9.8    | 13.7   | 21.6   | 23.2   | 29.5   | 31.4   | 29.5  | 26.5   | 25.5   |
| 102.5° | 27.5   | 27.5   | 31.4   | 37.3   | 44.2   | 45.2   | 49.0   | 50.0   | 49.0  | 47.1   | 48.1   |
| 105°   | 53.0   | 53.0   | 55.0   | 59.8   | 64.8   | 65.6   | 68.7   | 69.7   | 69.7  | 67.7   | 69.7   |
| 107.5° | 76.5   | 75.5   | 78.5   | 82.5   | 86.3   | 87.0   | 89.3   | 91.3   | 90.3  | 89.3   | 90.3   |
| 110°   | 99.2   | 100.1  | 101.1  | 104.0  | 108.0  | 108.3  | 110.0  | 111.9  | 111.9 | 110.9  | 111.9  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 5°    | 15°   | 25°   | 35°   | 37°   | 45°   | 55°   | 65°   | 75°   | 85°   |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 112.5° | 121.7 | 121.7 | 123.7 | 126.6 | 129.5 | 130.0 | 131.5 | 133.5 | 133.5 | 132.5 | 134.5 |
| 115°   | 143.3 | 144.3 | 146.2 | 148.2 | 151.2 | 151.5 | 153.1 | 155.0 | 155.0 | 155.0 | 157.0 |
| 117.5° | 165.8 | 166.8 | 168.8 | 170.8 | 173.7 | 174.1 | 175.7 | 176.7 | 177.7 | 176.7 | 178.7 |
| 120°   | 189.5 | 191.4 | 192.3 | 194.3 | 197.3 | 197.4 | 198.3 | 200.2 | 200.2 | 200.2 | 202.2 |
| 122.5° | 215.0 | 216.0 | 216.9 | 218.8 | 221.8 | 222.0 | 222.8 | 223.8 | 223.8 | 224.8 | 228.7 |
| 125°   | 239.5 | 241.5 | 242.5 | 243.4 | 246.3 | 246.6 | 247.3 | 248.3 | 249.3 | 249.3 | 252.2 |
| 127.5° | 262.0 | 264.0 | 265.0 | 267.0 | 269.0 | 269.3 | 270.9 | 272.8 | 271.8 | 272.8 | 275.8 |
| 130°   | 284.7 | 286.6 | 287.5 | 288.5 | 292.5 | 292.7 | 293.5 | 295.5 | 295.5 | 296.4 | 299.3 |
| 132.5° | 307.2 | 308.2 | 311.2 | 312.1 | 315.0 | 315.2 | 316.0 | 319.0 | 319.0 | 320.0 | 322.9 |
| 135°   | 329.8 | 330.8 | 332.7 | 334.7 | 338.6 | 338.6 | 338.6 | 341.5 | 341.5 | 342.5 | 344.5 |
| 137.5° | 352.3 | 353.3 | 356.3 | 357.3 | 360.2 | 360.2 | 360.2 | 362.2 | 362.2 | 363.2 | 367.0 |
| 140°   | 375.0 | 375.9 | 377.8 | 378.8 | 380.8 | 381.0 | 381.8 | 382.8 | 382.8 | 384.7 | 388.7 |
| 142.5° | 396.5 | 398.5 | 400.5 | 399.5 | 402.4 | 402.4 | 402.4 | 404.3 | 404.3 | 405.3 | 408.3 |
| 145°   | 417.2 | 418.1 | 420.0 | 420.0 | 423.0 | 423.2 | 424.0 | 426.0 | 425.0 | 426.0 | 428.9 |
| 147.5° | 435.8 | 435.8 | 438.7 | 439.7 | 443.7 | 443.9 | 444.6 | 445.6 | 443.7 | 444.6 | 447.5 |
| 150°   | 452.5 | 453.5 | 455.4 | 456.4 | 460.3 | 460.5 | 461.3 | 462.3 | 460.3 | 460.3 | 464.2 |
| 152.5° | 470.2 | 471.1 | 474.0 | 473.0 | 476.0 | 476.2 | 477.0 | 478.0 | 477.0 | 477.0 | 480.0 |
| 155°   | 489.8 | 490.7 | 492.7 | 491.7 | 493.7 | 493.7 | 493.7 | 494.7 | 493.7 | 494.7 | 497.6 |
| 157.5° | 503.5 | 505.5 | 507.5 | 506.5 | 509.4 | 509.4 | 509.4 | 509.4 | 507.5 | 508.4 | 513.3 |
| 160°   | 515.3 | 517.2 | 519.2 | 519.2 | 522.2 | 522.2 | 522.2 | 522.2 | 520.2 | 520.2 | 523.2 |
| 162.5° | 525.1 | 526.0 | 529.0 | 528.0 | 531.0 | 531.0 | 531.0 | 532.0 | 530.0 | 528.0 | 530.0 |
| 165°   | 535.9 | 536.8 | 538.8 | 537.8 | 541.8 | 541.8 | 541.8 | 542.8 | 539.8 | 537.8 | 539.8 |
| 167.5° | 544.7 | 545.7 | 548.7 | 547.7 | 550.6 | 550.4 | 549.7 | 549.7 | 547.7 | 548.7 | 552.5 |
| 170°   | 551.6 | 552.5 | 555.5 | 554.5 | 556.5 | 556.3 | 555.5 | 554.5 | 553.5 | 555.5 | 560.5 |
| 172.5° | 554.5 | 555.5 | 558.5 | 556.5 | 558.5 | 558.3 | 557.5 | 558.5 | 556.5 | 557.5 | 560.5 |
| 175°   | 556.5 | 558.5 | 559.5 | 558.5 | 561.4 | 561.4 | 561.4 | 562.4 | 559.5 | 557.5 | 560.5 |
| 177.5° | 561.4 | 562.4 | 564.3 | 563.3 | 567.3 | 567.1 | 566.3 | 566.3 | 563.3 | 563.3 | 566.3 |
| 180°   | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 |





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**CANDELA DISTRIBUTION (continued):**

|        | 90°   | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°     | 386.7 | 386.7 | 386.7 | 386.7 | 386.7 | 386.7 | 386.7 | 386.7 | 386.7 | 386.7 | 386.7 |
| 2.5°   | 386.7 | 385.9 | 389.3 | 391.9 | 392.8 | 395.3 | 397.9 | 399.7 | 398.8 | 397.9 | 397.9 |
| 5°     | 385.9 | 386.7 | 392.8 | 397.9 | 402.2 | 406.6 | 410.0 | 411.6 | 410.9 | 410.9 | 410.9 |
| 7.5°   | 380.7 | 384.1 | 391.0 | 399.7 | 405.7 | 408.2 | 409.1 | 406.6 | 404.8 | 402.2 | 402.2 |
| 10°    | 372.2 | 377.3 | 388.4 | 397.9 | 400.6 | 397.1 | 391.9 | 386.7 | 379.8 | 375.6 | 375.6 |
| 12.5°  | 365.3 | 371.3 | 385.0 | 392.8 | 389.3 | 380.7 | 369.6 | 361.0 | 354.1 | 348.9 | 348.0 |
| 15°    | 359.2 | 367.0 | 381.6 | 383.3 | 375.6 | 361.0 | 346.4 | 337.0 | 329.2 | 325.7 | 325.7 |
| 17.5°  | 354.9 | 365.3 | 378.2 | 373.0 | 357.5 | 338.6 | 324.8 | 317.1 | 311.2 | 307.7 | 306.8 |
| 20°    | 355.8 | 368.8 | 374.8 | 360.1 | 337.8 | 318.0 | 305.2 | 300.8 | 296.5 | 294.7 | 294.7 |
| 22.5°  | 365.3 | 377.3 | 373.9 | 348.9 | 319.7 | 297.4 | 288.7 | 287.9 | 286.2 | 284.4 | 283.7 |
| 25°    | 385.9 | 394.4 | 376.4 | 337.8 | 300.8 | 278.5 | 274.2 | 276.8 | 275.9 | 274.2 | 274.2 |
| 27.5°  | 414.3 | 415.9 | 380.7 | 326.5 | 280.2 | 260.4 | 260.4 | 264.7 | 262.9 | 260.4 | 262.1 |
| 30°    | 448.6 | 439.2 | 382.5 | 308.6 | 256.1 | 243.2 | 245.8 | 248.4 | 246.7 | 243.2 | 243.2 |
| 32.5°  | 485.5 | 463.3 | 382.5 | 285.3 | 232.9 | 227.7 | 228.6 | 229.4 | 226.0 | 221.7 | 221.7 |
| 35°    | 521.6 | 486.4 | 378.2 | 257.8 | 214.9 | 212.3 | 211.4 | 214.9 | 212.3 | 206.3 | 206.3 |
| 37.5°  | 556.1 | 504.5 | 367.0 | 229.4 | 201.1 | 200.2 | 202.8 | 201.1 | 197.6 | 189.0 | 187.4 |
| 40°    | 580.1 | 516.5 | 344.6 | 206.3 | 189.9 | 195.1 | 193.3 | 184.0 | 178.8 | 172.7 | 172.7 |
| 42.5°  | 601.7 | 522.5 | 317.1 | 188.3 | 182.2 | 189.0 | 182.2 | 170.2 | 163.3 | 162.4 | 163.3 |
| 45°    | 621.4 | 527.7 | 290.5 | 173.6 | 172.7 | 182.2 | 173.6 | 160.7 | 153.0 | 153.0 | 153.8 |
| 47.5°  | 640.3 | 532.9 | 263.8 | 159.9 | 161.5 | 171.8 | 166.7 | 153.8 | 146.2 | 140.9 | 140.9 |
| 50°    | 670.3 | 544.9 | 225.1 | 145.3 | 148.7 | 163.3 | 161.5 | 147.0 | 138.4 | 130.6 | 128.9 |
| 52.5°  | 706.4 | 565.6 | 183.1 | 129.7 | 139.2 | 155.6 | 155.6 | 140.9 | 131.5 | 121.2 | 119.5 |
| 55°    | 754.6 | 587.9 | 147.0 | 118.6 | 129.7 | 147.0 | 149.6 | 138.4 | 124.7 | 115.2 | 113.5 |
| 57.5°  | 802.7 | 595.6 | 118.6 | 107.4 | 117.8 | 138.4 | 145.3 | 133.2 | 116.9 | 110.0 | 109.1 |
| 60°    | 836.2 | 570.6 | 99.7  | 97.9  | 109.1 | 128.1 | 139.2 | 127.2 | 111.7 | 104.8 | 104.8 |
| 62.5°  | 831.0 | 495.1 | 89.4  | 92.0  | 102.2 | 120.4 | 134.0 | 122.0 | 108.2 | 104.0 | 103.1 |
| 65°    | 758.0 | 373.9 | 80.8  | 86.8  | 96.3  | 112.6 | 128.9 | 119.5 | 106.6 | 102.2 | 100.6 |
| 67.5°  | 638.5 | 248.4 | 74.8  | 81.7  | 90.2  | 106.6 | 124.7 | 116.0 | 101.4 | 98.8  | 97.1  |
| 70°    | 462.4 | 145.3 | 68.8  | 76.4  | 84.2  | 99.7  | 118.6 | 109.1 | 95.4  | 93.6  | 89.4  |
| 72.5°  | 250.1 | 91.1  | 61.8  | 69.6  | 76.4  | 91.1  | 109.1 | 100.6 | 87.7  | 80.8  | 78.2  |
| 75°    | 114.4 | 66.1  | 55.0  | 61.8  | 67.0  | 79.9  | 97.9  | 88.6  | 78.2  | 69.6  | 67.9  |
| 77.5°  | 76.4  | 49.9  | 46.4  | 53.3  | 55.9  | 67.0  | 86.8  | 70.4  | 61.1  | 55.0  | 53.3  |
| 80°    | 52.4  | 37.0  | 37.8  | 43.8  | 43.0  | 53.3  | 65.3  | 56.8  | 48.1  | 49.9  | 45.5  |
| 82.5°  | 33.6  | 25.8  | 29.3  | 30.9  | 30.0  | 40.4  | 50.8  | 43.0  | 36.1  | 30.0  | 25.8  |
| 85°    | 14.6  | 13.7  | 17.2  | 18.1  | 18.1  | 22.4  | 26.6  | 21.5  | 16.3  | 12.0  | 12.0  |
| 87.5°  | 0.9   | 1.8   | 1.8   | 2.5   | 1.8   | 0.9   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 90°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 92.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 95°    | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   |
| 97.5°  | 4.0   | 4.0   | 4.9   | 6.8   | 12.8  | 8.8   | 4.0   | 3.0   | 2.0   | 2.0   | 2.0   |
| 100°   | 24.5  | 25.5  | 26.5  | 29.5  | 31.4  | 29.5  | 21.6  | 13.7  | 9.8   | 7.8   | 7.8   |
| 102.5° | 47.1  | 48.1  | 47.1  | 49.0  | 50.0  | 49.0  | 44.2  | 37.3  | 31.4  | 27.5  | 27.5  |
| 105°   | 67.7  | 69.7  | 67.7  | 69.7  | 69.7  | 68.7  | 64.8  | 59.8  | 55.0  | 53.0  | 53.0  |
| 107.5° | 89.3  | 90.3  | 89.3  | 90.3  | 91.3  | 89.3  | 86.3  | 82.5  | 78.5  | 75.5  | 76.5  |
| 110°   | 110.9 | 111.9 | 110.9 | 111.9 | 111.9 | 110.0 | 108.0 | 104.0 | 101.1 | 100.1 | 99.2  |



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**CANDELA DISTRIBUTION (continued):**

|        | 90°   | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 112.5° | 132.5 | 134.5 | 132.5 | 133.5 | 133.5 | 131.5 | 129.5 | 126.6 | 123.7 | 121.7 | 121.7 |
| 115°   | 156.0 | 157.0 | 155.0 | 155.0 | 155.0 | 153.1 | 151.2 | 148.2 | 146.2 | 144.3 | 143.3 |
| 117.5° | 176.7 | 178.7 | 176.7 | 177.7 | 176.7 | 175.7 | 173.7 | 170.8 | 168.8 | 166.8 | 165.8 |
| 120°   | 200.2 | 202.2 | 200.2 | 200.2 | 200.2 | 198.3 | 197.3 | 194.3 | 192.3 | 191.4 | 189.5 |
| 122.5° | 227.7 | 228.7 | 224.8 | 223.8 | 223.8 | 222.8 | 221.8 | 218.8 | 216.9 | 216.0 | 215.0 |
| 125°   | 251.3 | 252.2 | 249.3 | 249.3 | 248.3 | 247.3 | 246.3 | 243.4 | 242.5 | 241.5 | 239.5 |
| 127.5° | 272.8 | 275.8 | 272.8 | 271.8 | 272.8 | 270.9 | 269.0 | 267.0 | 265.0 | 264.0 | 262.0 |
| 130°   | 297.4 | 299.3 | 296.4 | 295.5 | 295.5 | 293.5 | 292.5 | 288.5 | 287.5 | 286.6 | 284.7 |
| 132.5° | 321.0 | 322.9 | 320.0 | 319.0 | 319.0 | 316.0 | 315.0 | 312.1 | 311.2 | 308.2 | 307.2 |
| 135°   | 343.5 | 344.5 | 342.5 | 341.5 | 341.5 | 338.6 | 338.6 | 334.7 | 332.7 | 330.8 | 329.8 |
| 137.5° | 365.1 | 367.0 | 363.2 | 362.2 | 362.2 | 360.2 | 360.2 | 357.3 | 356.3 | 353.3 | 352.3 |
| 140°   | 386.7 | 388.7 | 384.7 | 382.8 | 382.8 | 381.8 | 380.8 | 378.8 | 377.8 | 375.9 | 375.0 |
| 142.5° | 407.3 | 408.3 | 405.3 | 404.3 | 404.3 | 402.4 | 402.4 | 399.5 | 400.5 | 398.5 | 396.5 |
| 145°   | 427.0 | 428.9 | 426.0 | 425.0 | 426.0 | 424.0 | 423.0 | 420.0 | 420.0 | 418.1 | 417.2 |
| 147.5° | 444.6 | 447.5 | 444.6 | 443.7 | 445.6 | 444.6 | 443.7 | 439.7 | 438.7 | 435.8 | 435.8 |
| 150°   | 461.3 | 464.2 | 460.3 | 460.3 | 462.3 | 461.3 | 460.3 | 456.4 | 455.4 | 453.5 | 452.5 |
| 152.5° | 477.0 | 480.0 | 477.0 | 477.0 | 478.0 | 477.0 | 476.0 | 473.0 | 474.0 | 471.1 | 470.2 |
| 155°   | 495.7 | 497.6 | 494.7 | 493.7 | 494.7 | 493.7 | 493.7 | 491.7 | 492.7 | 490.7 | 489.8 |
| 157.5° | 510.3 | 513.3 | 508.4 | 507.5 | 509.4 | 509.4 | 509.4 | 506.5 | 507.5 | 505.5 | 503.5 |
| 160°   | 521.2 | 523.2 | 520.2 | 520.2 | 522.2 | 522.2 | 522.2 | 519.2 | 519.2 | 517.2 | 515.3 |
| 162.5° | 527.0 | 530.0 | 528.0 | 530.0 | 532.0 | 531.0 | 531.0 | 528.0 | 529.0 | 526.0 | 525.1 |
| 165°   | 537.8 | 539.8 | 537.8 | 539.8 | 542.8 | 541.8 | 541.8 | 537.8 | 538.8 | 536.8 | 535.9 |
| 167.5° | 550.6 | 552.5 | 548.7 | 547.7 | 549.7 | 549.7 | 550.6 | 547.7 | 548.7 | 545.7 | 544.7 |
| 170°   | 558.5 | 560.5 | 555.5 | 553.5 | 554.5 | 555.5 | 556.5 | 554.5 | 555.5 | 552.5 | 551.6 |
| 172.5° | 557.5 | 560.5 | 557.5 | 556.5 | 558.5 | 557.5 | 558.5 | 556.5 | 558.5 | 555.5 | 554.5 |
| 175°   | 557.5 | 560.5 | 557.5 | 559.5 | 562.4 | 561.4 | 561.4 | 558.5 | 559.5 | 558.5 | 556.5 |
| 177.5° | 563.3 | 566.3 | 563.3 | 563.3 | 566.3 | 566.3 | 567.3 | 563.3 | 564.3 | 562.4 | 561.4 |
| 180°   | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 | 565.3 |

(END OF REPORT)