

Scaled data based on original data using  
LM-31-95 IESNA Approved Method for Photometric Testing of Roadway Luminaires  
Using Incandescent Filament and High Intensity Discharge Lamps

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: STREETWORKS

Report Number: 768913

Luminaire Tested: **UTR70SXX33**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-31-95  
Report Number: 768913  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: UTR70SXX33  
Description: 70W HPS TYPE III TRADITIONAIRE POST TOP  
Light Source: 70W HPS COATED ED-23.5  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 5860 (1 lamp)  
Luminaire Lumens: 3017.5 lumens  
Efficiency: 51.5%  
Efficacy: 30.2 lumens/watt  
Luminous Opening: Point Source (0' x 0' x 0')  
IES Classification: Type II - Short - Semi-Cutoff  
BUG Rating: B1 - U3 - G2

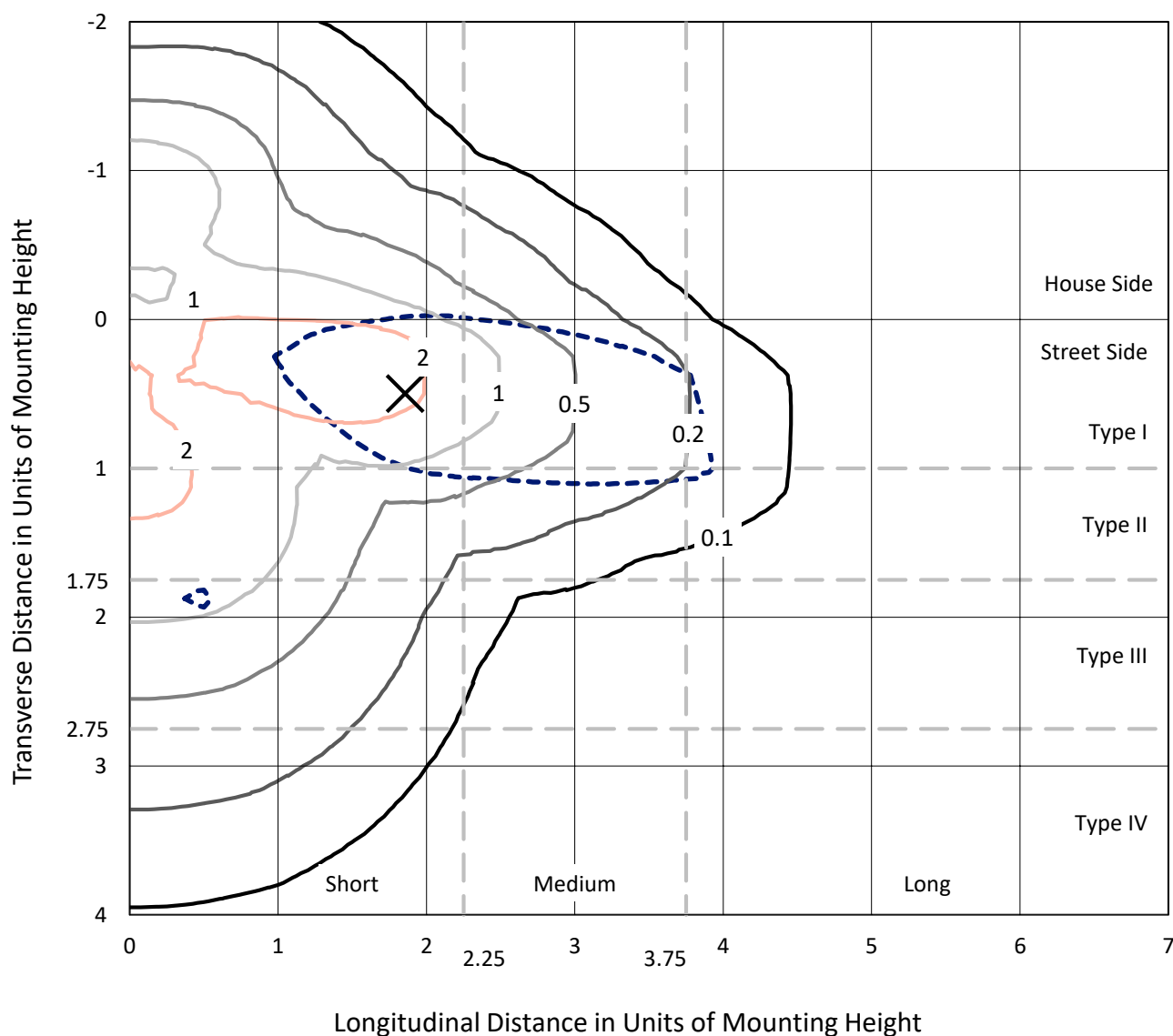
Input Watts (W): 100  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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## Iso-Footcandle Lines of Horizontal Illumination

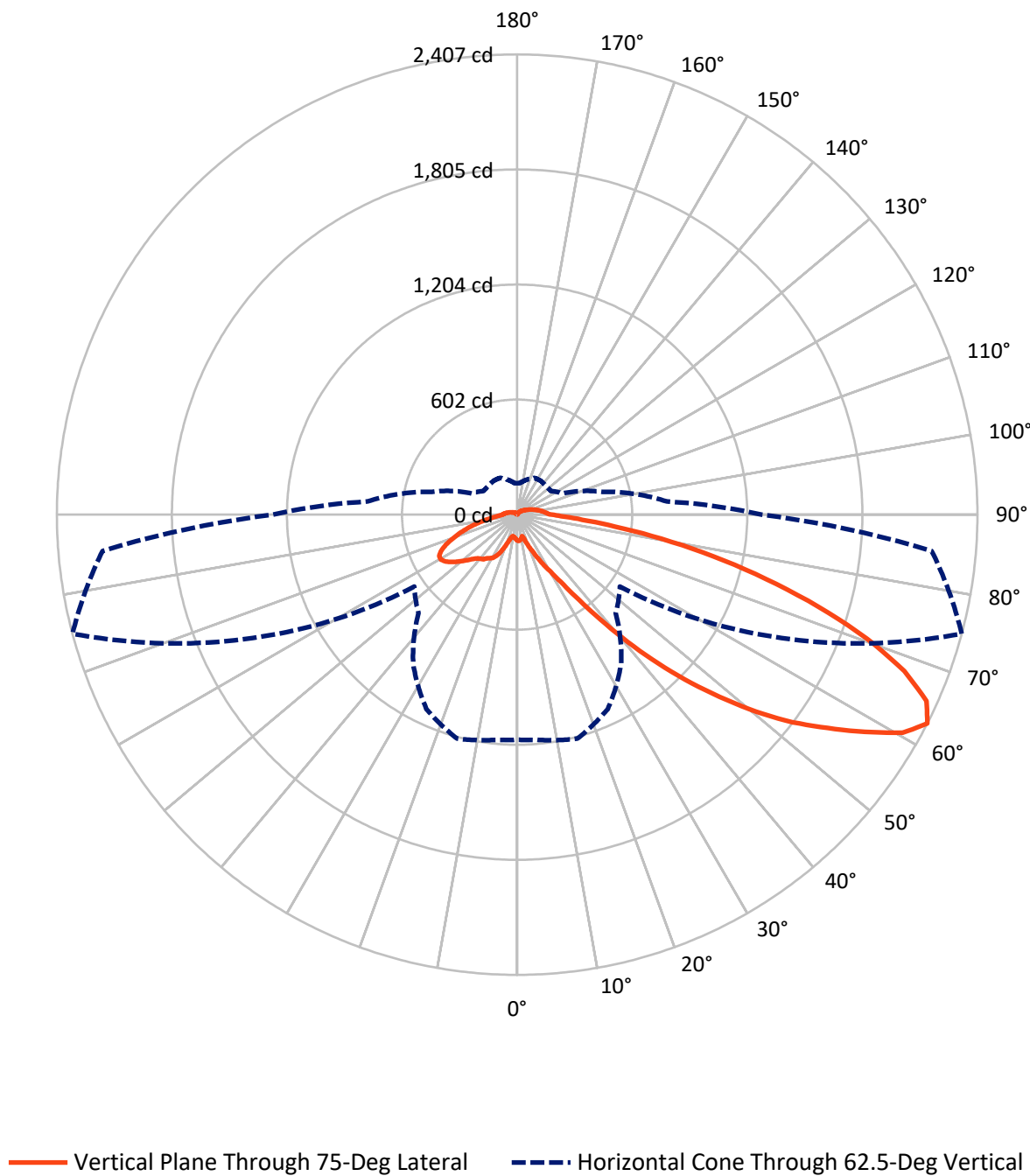
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.2 fc  
 Type II - Short - Semi-Cutoff

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## Luminous Intensity Polar Plot



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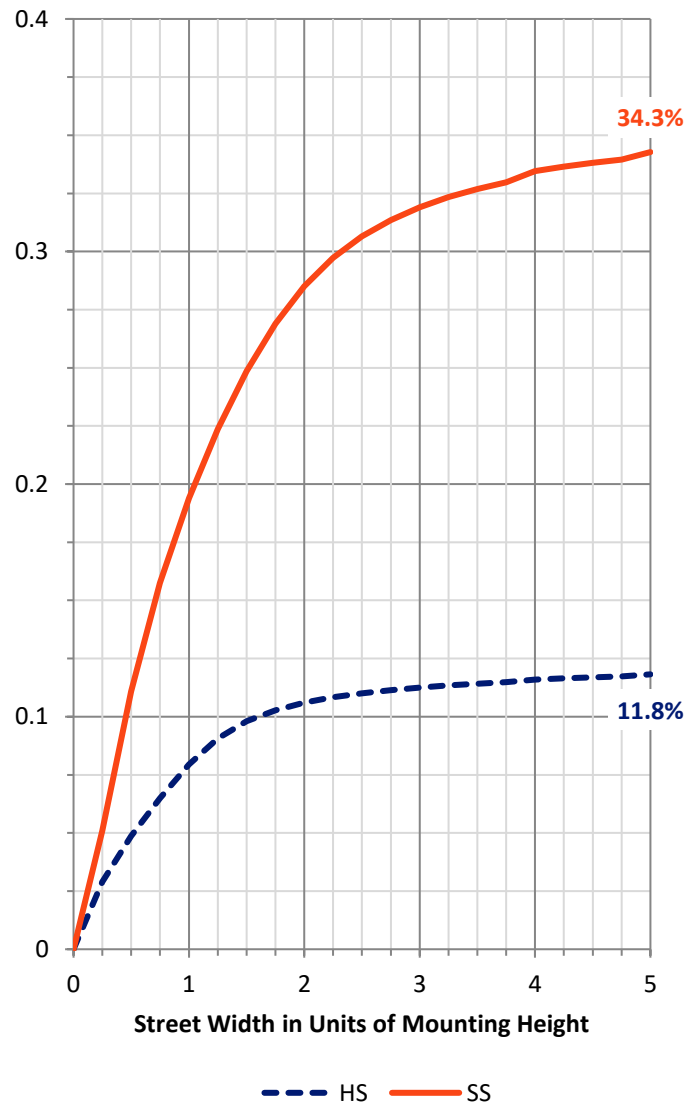
**FLUX DISTRIBUTION:**

|                    |        | Downward | Upward | Total  |
|--------------------|--------|----------|--------|--------|
| <b>House Side</b>  | Lumens | 721.5    | 90.9   | 812.4  |
|                    | % Lamp | 12.3     | 1.6    | 13.9   |
| <b>Street Side</b> | Lumens | 2065.7   | 139.4  | 2205.1 |
|                    | % Lamp | 35.3     | 2.4    | 37.6   |
| <b>Total</b>       | Lumens | 2787.2   | 230.3  | 3017.5 |
|                    | % Lamp | 47.6     | 3.9    | 51.5   |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10°    | 13.0   | 0.4       | 0.2    |
| 10°-20°   | 40.0   | 1.3       | 0.7    |
| 20°-30°   | 102.5  | 3.4       | 1.7    |
| 30°-40°   | 207.7  | 6.9       | 3.5    |
| 40°-50°   | 389.6  | 12.9      | 6.6    |
| 50°-60°   | 632.4  | 21.0      | 10.8   |
| 60°-70°   | 747.1  | 24.8      | 12.7   |
| 70°-80°   | 468.2  | 15.5      | 8.0    |
| 80°-90°   | 186.6  | 6.2       | 3.2    |
| 90°-100°  | 93.8   | 3.1       | 1.6    |
| 100°-110° | 62.2   | 2.1       | 1.1    |
| 110°-120° | 38.6   | 1.3       | 0.7    |
| 120°-130° | 23.2   | 0.8       | 0.4    |
| 130°-140° | 11.8   | 0.4       | 0.2    |
| 140°-150° | 3.5    | 0.1       | 0.1    |
| 150°-160° | 0.3    | 0.0       | 0.0    |
| 160°-170° | 0.0    | 0.0       | 0.0    |
| 170°-180° | 0.0    | 0.0       | 0.0    |
| 0°-90°    | 2787.2 | 92.4      | 47.6   |
| 0°-180°   | 3017.5 | 100.0     | 51.5   |

**Coefficient of Utilization**



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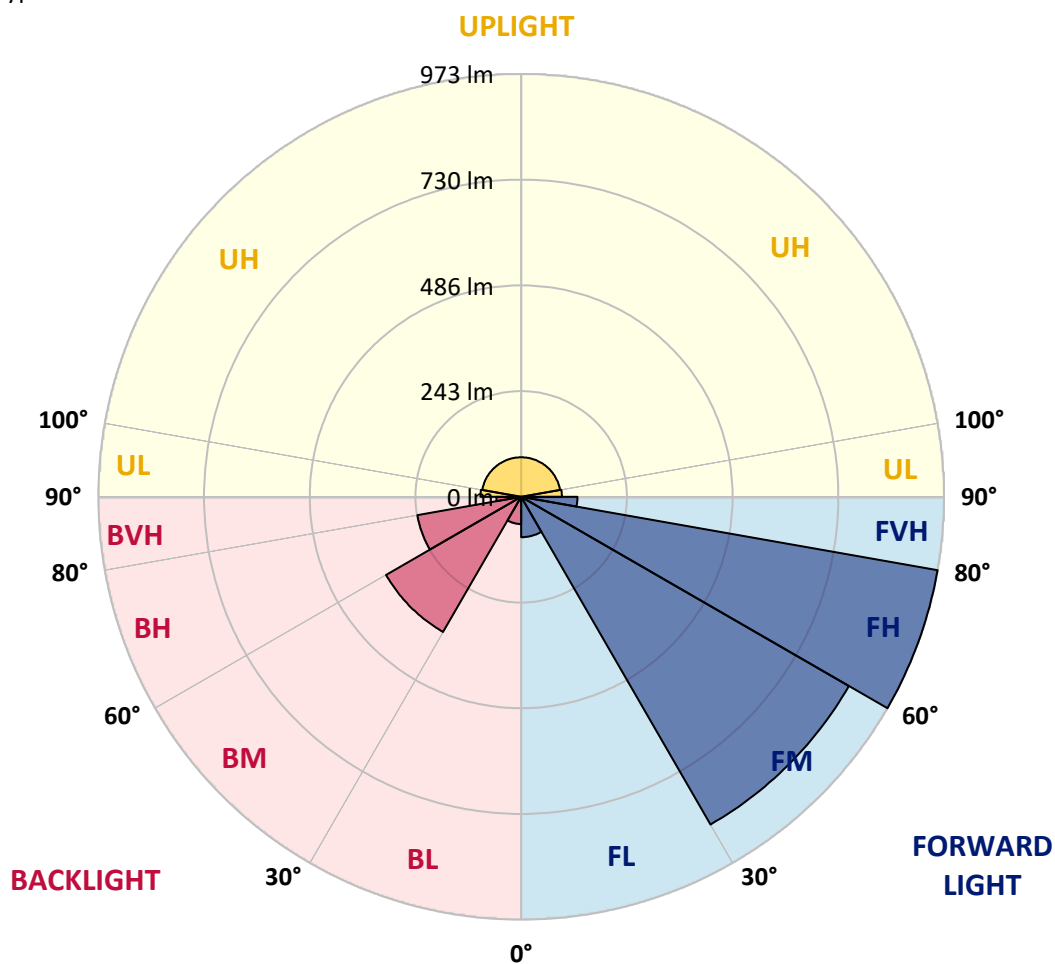
CATALOG NUMBER: UTR70SXX33

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

| Zone          |             | Lumens | % Lamp | Zone Rating/Lumen Limit |        |         |
|---------------|-------------|--------|--------|-------------------------|--------|---------|
|               |             |        |        | B                       | U      | G       |
| FL            | (0°-30°)    | 92.9   | 1.6    |                         |        |         |
| FM            | (30°-60°)   | 870.7  | 14.9   |                         |        |         |
| FH            | (60°-80°)   | 972.7  | 16.6   |                         |        | G1/1800 |
| FVH           | (80°-90°)   | 129.4  | 2.2    |                         |        | G2/225  |
| BL            | (0°-30°)    | 62.6   | 1.1    | B0/110                  |        |         |
| BM            | (30°-60°)   | 359.1  | 6.1    | B1/1000                 |        |         |
| BH            | (60°-80°)   | 242.5  | 4.1    | B1/500                  |        | G1/500  |
| BVH           | (80°-90°)   | 57.2   | 1.0    |                         |        | G1/100  |
| UL            | (90°-100°)  | 93.8   | 1.6    |                         | U3/500 |         |
| UH            | (100°-180°) | 90.9   | 1.6    |                         | U3/500 |         |
| Trapped Light |             | 2842.5 | 48.5   |                         |        |         |

**BUG Rating: B1-U3-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°   | 45°   | 55°   | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|-------|-------|-------|--------|--------|--------|--------|
| 0°    | 134.5  | 134.5  | 134.5  | 134.5  | 134.5 | 134.5 | 134.5 | 134.5  | 134.5  | 134.5  | 134.5  |
| 2.5°  | 153.8  | 153.8  | 153.2  | 151.8  | 149.8 | 145.8 | 142.5 | 139.8  | 137.2  | 134.5  | 133.2  |
| 5°    | 175.8  | 175.1  | 173.1  | 169.8  | 163.8 | 157.2 | 149.8 | 142.5  | 135.8  | 130.5  | 128.5  |
| 7.5°  | 190.4  | 189.8  | 187.1  | 182.5  | 174.5 | 165.1 | 153.2 | 141.2  | 131.8  | 125.2  | 123.2  |
| 10°   | 199.1  | 199.1  | 196.4  | 191.8  | 181.8 | 165.8 | 149.8 | 135.2  | 125.2  | 118.5  | 117.2  |
| 12.5° | 207.8  | 207.1  | 203.1  | 195.8  | 180.5 | 161.8 | 140.5 | 123.2  | 115.2  | 115.9  | 117.2  |
| 15°   | 219.7  | 218.4  | 212.4  | 199.8  | 179.1 | 153.8 | 129.9 | 119.9  | 125.9  | 132.5  | 133.2  |
| 17.5° | 233.1  | 231.7  | 225.1  | 207.8  | 182.5 | 150.5 | 133.8 | 135.2  | 151.8  | 160.5  | 160.5  |
| 20°   | 250.4  | 250.4  | 245.7  | 228.4  | 201.8 | 172.5 | 156.5 | 155.2  | 181.1  | 191.1  | 189.1  |
| 22.5° | 275.0  | 276.4  | 269.0  | 245.7  | 224.4 | 219.1 | 195.8 | 185.8  | 210.4  | 229.7  | 224.4  |
| 25°   | 287.7  | 289.7  | 279.7  | 255.7  | 252.4 | 270.4 | 259.0 | 230.4  | 253.0  | 271.0  | 261.7  |
| 27.5° | 298.3  | 299.7  | 286.3  | 259.7  | 267.7 | 302.3 | 323.0 | 291.0  | 300.3  | 303.0  | 285.7  |
| 30°   | 320.3  | 321.6  | 305.7  | 274.4  | 277.7 | 307.6 | 353.6 | 361.6  | 347.6  | 332.3  | 309.0  |
| 32.5° | 356.3  | 354.3  | 334.3  | 301.7  | 293.0 | 308.3 | 378.2 | 450.2  | 417.5  | 371.6  | 335.6  |
| 35°   | 411.5  | 407.5  | 379.6  | 340.9  | 318.3 | 318.3 | 394.9 | 529.4  | 525.4  | 423.5  | 368.2  |
| 37.5° | 470.1  | 464.8  | 431.5  | 386.9  | 350.3 | 341.6 | 414.9 | 603.3  | 669.2  | 487.4  | 409.5  |
| 40°   | 530.1  | 523.4  | 487.4  | 436.2  | 384.2 | 368.9 | 436.2 | 671.2  | 843.7  | 558.7  | 450.2  |
| 42.5° | 594.0  | 589.3  | 551.4  | 492.1  | 426.2 | 398.2 | 458.1 | 741.2  | 1035.5 | 654.6  | 504.1  |
| 45°   | 667.9  | 663.9  | 624.6  | 554.0  | 475.5 | 428.8 | 486.8 | 819.1  | 1229.3 | 782.4  | 564.7  |
| 47.5° | 748.5  | 745.2  | 710.5  | 628.6  | 532.1 | 462.1 | 517.4 | 912.3  | 1424.4 | 953.6  | 639.3  |
| 50°   | 827.1  | 823.1  | 799.1  | 713.2  | 598.7 | 503.4 | 552.0 | 1024.8 | 1620.2 | 1169.3 | 731.2  |
| 52.5° | 904.3  | 904.3  | 887.7  | 799.1  | 671.9 | 552.7 | 592.7 | 1144.7 | 1803.9 | 1391.7 | 835.7  |
| 55°   | 998.2  | 997.5  | 988.2  | 891.0  | 751.8 | 604.6 | 628.6 | 1262.6 | 1970.4 | 1615.5 | 958.2  |
| 57.5° | 1097.4 | 1097.4 | 1098.1 | 993.5  | 834.4 | 658.6 | 652.6 | 1369.1 | 2144.2 | 1841.2 | 1090.8 |
| 60°   | 1162.7 | 1165.3 | 1183.3 | 1086.1 | 910.3 | 704.5 | 662.6 | 1477.0 | 2316.0 | 2056.3 | 1210.6 |
| 62.5° | 1177.3 | 1182.0 | 1213.3 | 1122.1 | 948.3 | 728.5 | 656.6 | 1527.6 | 2407.3 | 2176.2 | 1276.5 |
| 65°   | 1145.4 | 1150.7 | 1180.7 | 1088.8 | 920.3 | 708.5 | 622.6 | 1451.0 | 2352.7 | 2150.9 | 1264.6 |
| 67.5° | 1068.1 | 1074.8 | 1095.4 | 1001.5 | 835.7 | 638.6 | 556.7 | 1261.2 | 2184.2 | 1997.7 | 1176.7 |
| 70°   | 964.2  | 968.2  | 977.6  | 878.3  | 716.5 | 536.1 | 471.5 | 1022.2 | 1940.5 | 1768.7 | 1040.1 |
| 72.5° | 844.4  | 846.4  | 841.7  | 743.2  | 596.0 | 438.8 | 386.9 | 803.8  | 1649.5 | 1507.6 | 882.3  |
| 75°   | 716.5  | 717.2  | 701.9  | 614.0  | 488.1 | 357.6 | 313.0 | 618.6  | 1343.1 | 1219.3 | 709.9  |
| 77.5° | 585.3  | 587.3  | 570.0  | 491.4  | 392.2 | 289.0 | 252.4 | 459.5  | 1048.1 | 942.9  | 547.4  |
| 80°   | 455.5  | 456.1  | 440.8  | 380.2  | 306.3 | 232.4 | 201.8 | 322.3  | 763.8  | 679.2  | 404.9  |
| 82.5° | 339.6  | 339.6  | 327.6  | 285.7  | 235.7 | 186.5 | 160.5 | 223.7  | 515.4  | 452.8  | 290.3  |
| 85°   | 240.4  | 242.4  | 237.1  | 213.8  | 185.1 | 156.5 | 132.5 | 165.8  | 341.6  | 301.7  | 208.4  |
| 87.5° | 167.1  | 169.8  | 177.1  | 171.1  | 155.2 | 133.8 | 113.9 | 129.9  | 230.4  | 207.1  | 151.2  |
| 90°   | 115.2  | 117.2  | 131.8  | 135.8  | 133.8 | 116.5 | 101.2 | 109.9  | 167.1  | 156.5  | 115.9  |
| 95°   | 88.6   | 89.9   | 101.9  | 110.5  | 109.9 | 94.6  | 89.9  | 95.9   | 142.5  | 126.5  | 93.9   |
| 105°  | 61.3   | 60.6   | 59.3   | 59.9   | 59.9  | 57.3  | 68.6  | 86.6   | 94.6   | 83.2   | 61.3   |
| 115°  | 36.0   | 36.0   | 36.0   | 36.6   | 36.6  | 36.6  | 43.9  | 57.3   | 57.9   | 48.6   | 37.3   |
| 125°  | 21.3   | 21.3   | 21.3   | 20.6   | 25.3  | 32.6  | 38.6  | 35.3   | 36.0   | 31.3   | 26.0   |
| 135°  | 16.6   | 16.6   | 16.0   | 14.0   | 11.3  | 18.0  | 23.3  | 20.6   | 24.6   | 23.3   | 20.0   |
| 145°  | 4.0    | 4.0    | 3.3    | 2.0    | 0.7   | 0.7   | 1.3   | 2.7    | 4.0    | 4.7    | 4.7    |
| 155°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    |
| 165°  | 0.0    | 0.0    | 0.0    | 0.7    | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|      | 0°  | 5°  | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 175° | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180° | 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):**

|       | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 134.5 | 134.5 | 134.5 | 134.5 | 134.5 | 134.5 | 134.5 | 134.5 | 134.5 | 134.5 |
| 2.5°  | 132.5 | 130.5 | 129.2 | 127.9 | 127.2 | 126.5 | 126.5 | 125.9 | 125.9 | 125.9 |
| 5°    | 127.9 | 124.5 | 122.5 | 121.2 | 119.2 | 119.2 | 119.2 | 118.5 | 119.2 | 118.5 |
| 7.5°  | 121.2 | 119.2 | 116.5 | 114.5 | 111.9 | 108.5 | 107.2 | 107.2 | 107.9 | 107.9 |
| 10°   | 116.5 | 115.9 | 113.9 | 109.9 | 103.2 | 97.9  | 94.6  | 93.2  | 93.9  | 93.2  |
| 12.5° | 117.2 | 115.2 | 111.9 | 105.9 | 98.6  | 89.9  | 84.6  | 83.9  | 85.9  | 86.6  |
| 15°   | 132.5 | 123.2 | 112.5 | 104.5 | 96.6  | 93.2  | 90.6  | 90.6  | 93.2  | 93.9  |
| 17.5° | 156.5 | 140.5 | 123.9 | 106.5 | 101.2 | 100.6 | 103.2 | 104.5 | 106.5 | 107.2 |
| 20°   | 183.1 | 162.5 | 141.8 | 121.2 | 108.5 | 110.5 | 114.5 | 117.9 | 120.5 | 121.9 |
| 22.5° | 215.8 | 191.8 | 165.8 | 137.8 | 125.2 | 119.9 | 131.2 | 144.5 | 151.2 | 151.8 |
| 25°   | 249.0 | 221.7 | 192.4 | 159.8 | 145.2 | 143.8 | 154.5 | 169.1 | 178.5 | 180.5 |
| 27.5° | 271.0 | 242.4 | 205.8 | 175.8 | 162.5 | 160.5 | 173.8 | 193.1 | 205.8 | 207.8 |
| 30°   | 288.3 | 260.4 | 208.4 | 182.5 | 174.5 | 177.1 | 191.8 | 210.4 | 225.7 | 229.1 |
| 32.5° | 306.3 | 268.4 | 217.1 | 185.1 | 179.8 | 189.8 | 208.4 | 230.4 | 250.4 | 253.7 |
| 35°   | 327.0 | 276.4 | 223.1 | 184.5 | 183.8 | 205.8 | 233.1 | 261.7 | 287.7 | 291.7 |
| 37.5° | 352.3 | 292.3 | 223.7 | 185.1 | 192.4 | 225.1 | 265.0 | 300.3 | 331.0 | 338.3 |
| 40°   | 378.2 | 299.7 | 224.4 | 189.1 | 203.1 | 249.7 | 301.7 | 341.6 | 377.6 | 383.6 |
| 42.5° | 415.5 | 307.6 | 227.1 | 195.8 | 221.1 | 275.7 | 335.6 | 377.6 | 410.9 | 416.9 |
| 45°   | 454.1 | 323.6 | 235.7 | 207.8 | 237.7 | 300.3 | 359.6 | 394.9 | 419.5 | 424.2 |
| 47.5° | 495.4 | 346.3 | 249.0 | 219.1 | 249.0 | 313.6 | 366.9 | 395.5 | 412.2 | 414.2 |
| 50°   | 542.0 | 373.6 | 265.0 | 225.7 | 255.7 | 317.0 | 364.3 | 383.6 | 390.2 | 389.6 |
| 52.5° | 588.7 | 399.5 | 273.0 | 225.1 | 253.0 | 311.0 | 350.3 | 355.6 | 350.9 | 349.6 |
| 55°   | 642.6 | 426.2 | 275.0 | 222.4 | 250.4 | 299.7 | 323.6 | 315.0 | 299.7 | 297.7 |
| 57.5° | 703.2 | 449.5 | 273.0 | 221.1 | 243.7 | 276.4 | 287.0 | 268.4 | 247.7 | 243.7 |
| 60°   | 757.8 | 462.8 | 269.7 | 219.7 | 230.4 | 245.7 | 247.7 | 225.7 | 202.4 | 199.8 |
| 62.5° | 785.8 | 461.5 | 261.7 | 215.1 | 211.8 | 215.8 | 211.8 | 188.5 | 165.8 | 163.8 |
| 65°   | 772.5 | 440.8 | 248.4 | 203.8 | 193.8 | 191.1 | 182.5 | 159.2 | 137.8 | 134.5 |
| 67.5° | 722.5 | 405.5 | 229.1 | 189.1 | 178.5 | 171.8 | 158.5 | 135.2 | 114.5 | 111.9 |
| 70°   | 650.6 | 361.6 | 204.4 | 171.8 | 163.1 | 154.5 | 137.8 | 115.2 | 95.9  | 93.2  |
| 72.5° | 570.7 | 317.0 | 181.1 | 157.2 | 150.5 | 141.2 | 124.5 | 103.2 | 83.9  | 79.9  |
| 75°   | 480.1 | 269.7 | 159.2 | 144.5 | 141.2 | 129.9 | 111.2 | 91.9  | 74.6  | 69.9  |
| 77.5° | 392.2 | 224.4 | 138.5 | 133.2 | 133.2 | 121.9 | 103.2 | 87.9  | 72.6  | 68.6  |
| 80°   | 306.3 | 181.8 | 119.9 | 123.2 | 126.5 | 116.5 | 99.9  | 85.9  | 72.6  | 69.3  |
| 82.5° | 230.4 | 143.8 | 102.5 | 110.5 | 117.2 | 109.2 | 93.9  | 81.2  | 71.3  | 67.3  |
| 85°   | 172.5 | 114.5 | 89.9  | 99.9  | 107.9 | 101.2 | 89.9  | 78.6  | 67.9  | 65.3  |
| 87.5° | 131.2 | 93.2  | 78.6  | 87.9  | 95.9  | 92.6  | 82.6  | 71.9  | 62.6  | 59.9  |
| 90°   | 101.2 | 77.9  | 69.3  | 76.6  | 83.9  | 81.9  | 75.2  | 65.9  | 55.9  | 55.3  |
| 95°   | 77.2  | 67.3  | 60.6  | 62.6  | 67.9  | 67.3  | 63.3  | 56.6  | 49.9  | 49.3  |
| 105°  | 49.9  | 44.6  | 40.6  | 41.3  | 43.3  | 45.3  | 45.3  | 42.0  | 42.0  | 42.6  |
| 115°  | 32.6  | 27.3  | 24.6  | 26.6  | 28.0  | 31.3  | 33.3  | 33.3  | 35.3  | 34.6  |
| 125°  | 22.6  | 19.3  | 17.3  | 18.6  | 20.6  | 22.0  | 22.6  | 24.0  | 26.0  | 25.3  |
| 135°  | 18.6  | 16.6  | 13.3  | 10.7  | 10.7  | 10.7  | 13.3  | 15.3  | 16.6  | 17.3  |
| 145°  | 4.7   | 3.3   | 2.0   | 0.7   | 0.7   | 2.0   | 4.0   | 6.0   | 6.0   | 6.7   |
| 155°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 165°  | 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):**

|      | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|------|-----|------|------|------|------|------|------|------|------|------|
| 175° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 180° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

(END OF REPORT)