

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: STREETWORKS

Report Number: P196016

Luminaire Tested: **NVN-AF-02-LED-U-AFL-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196016  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: NVN-AF-02-LED-U-AFL-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10314.4 lumens  
Efficiency: N/A  
Efficacy: 121.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B1 - U0 - G1

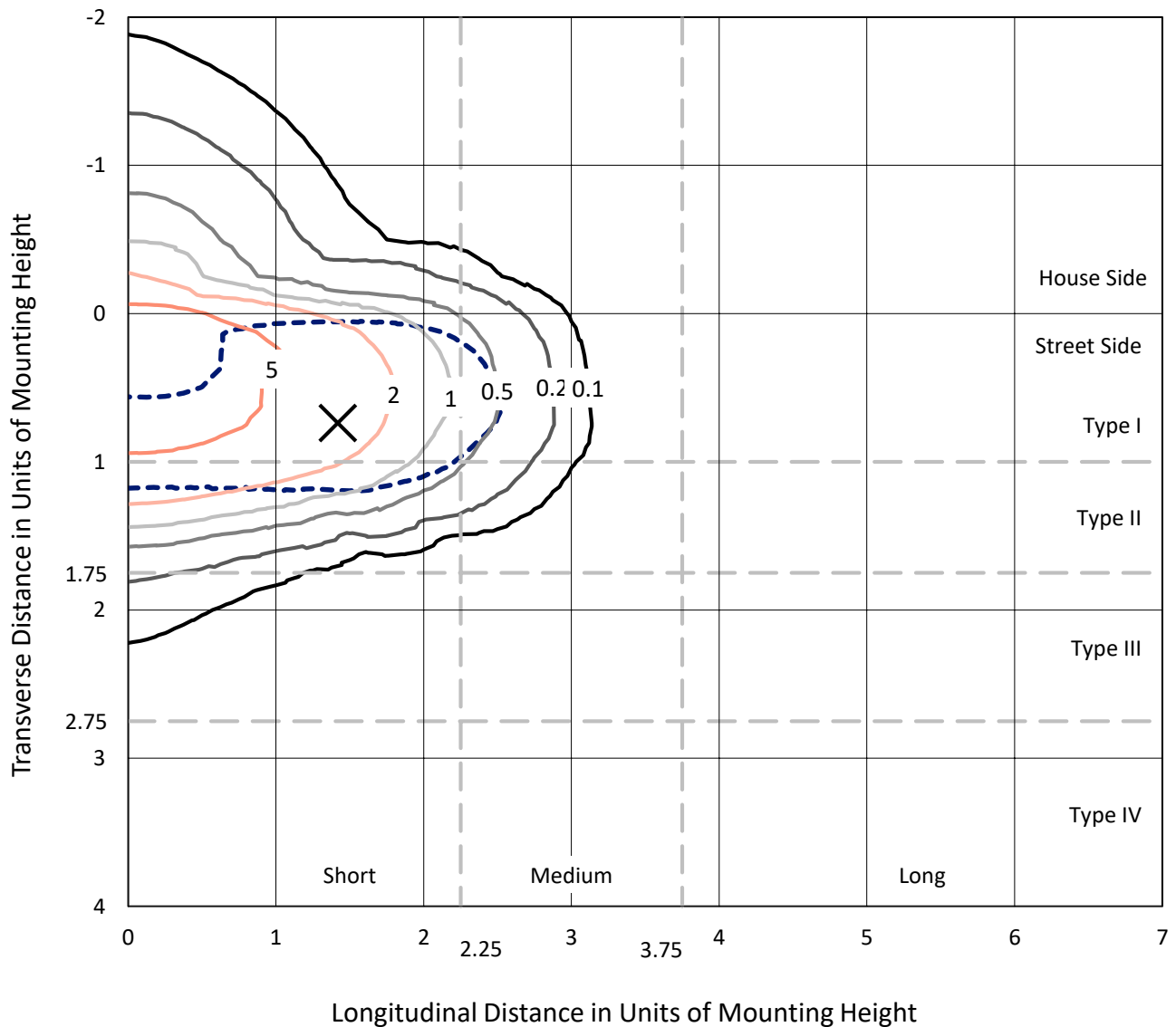
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

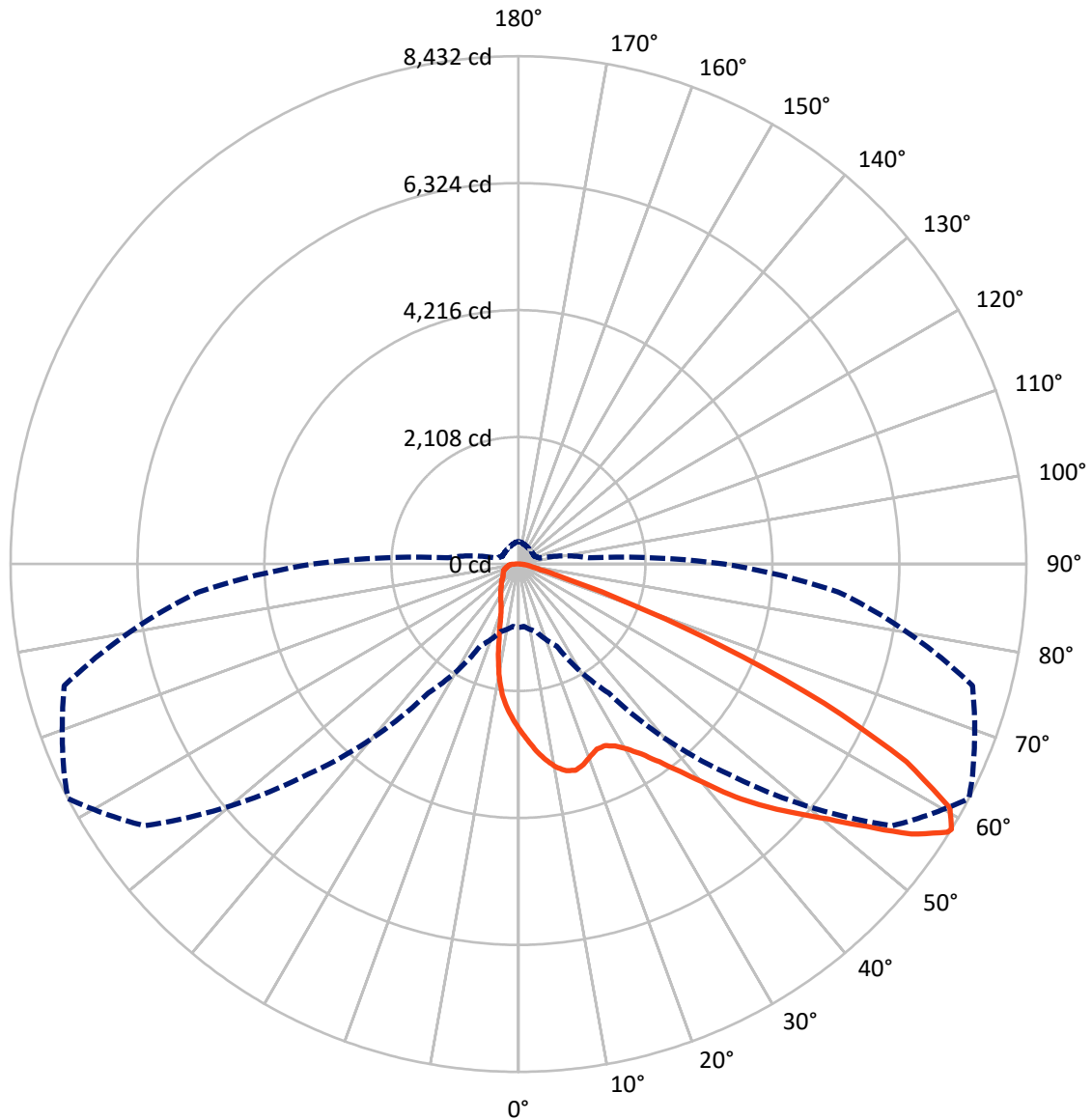
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.1 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral    - - - Horizontal Cone Through 58-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1583.6   | 0.0    | 1583.6  |
|                    | % Fixture | 15.4     | 0.0    | 15.4    |
| <b>Street Side</b> | Lumens    | 8730.8   | 0.0    | 8730.8  |
|                    | % Fixture | 84.6     | 0.0    | 84.6    |
| <b>Total</b>       | Lumens    | 10314.4  | 0.0    | 10314.4 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 246.1   | 2.4       |
| 10°-20°   | 621.2   | 6.0       |
| 20°-30°   | 1006.8  | 9.8       |
| 30°-40°   | 1607.4  | 15.6      |
| 40°-50°   | 2338.0  | 22.7      |
| 50°-60°   | 2446.5  | 23.7      |
| 60°-70°   | 1491.5  | 14.5      |
| 70°-80°   | 417.1   | 4.0       |
| 80°-90°   | 139.8   | 1.4       |
| 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°    | 10314.4 | 100.0     |
| 0°-180°   | 10314.4 | 100.0     |



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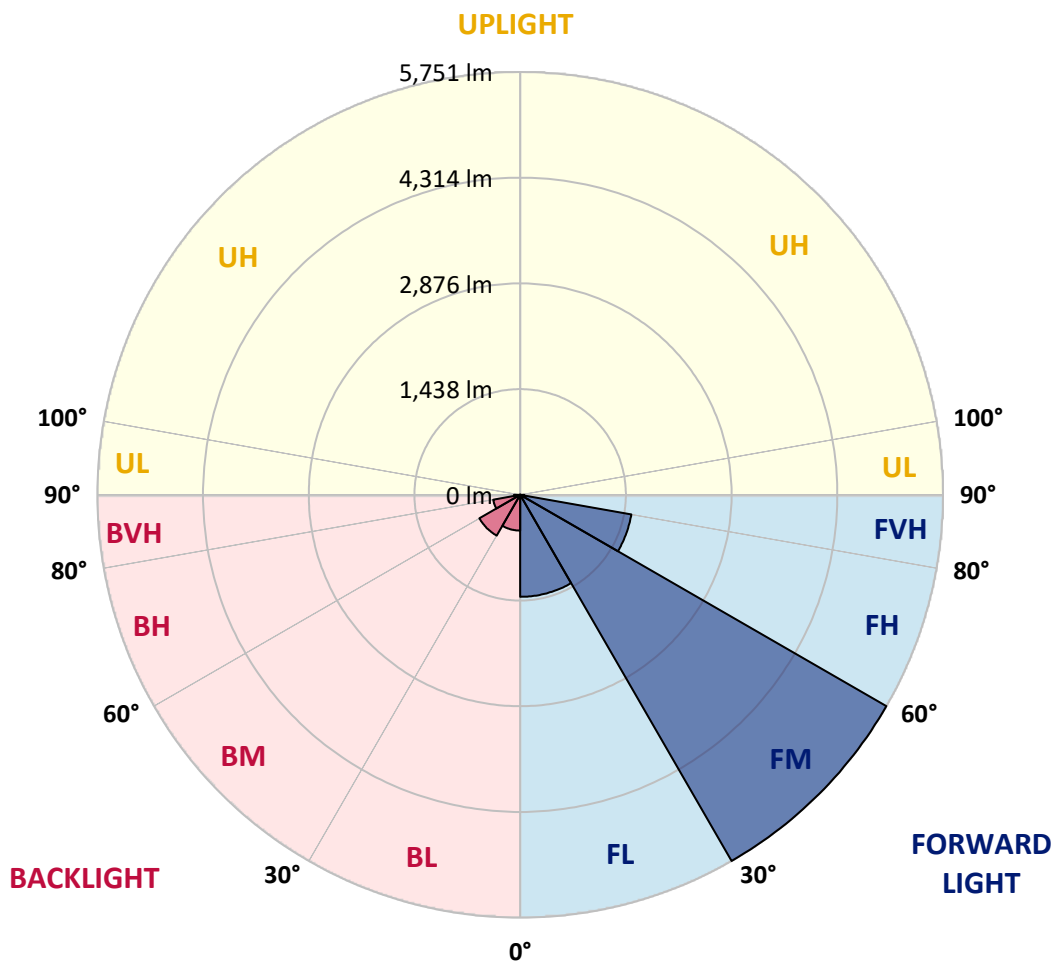
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1387.3 | 13.5      |                         |      |         |
| FM   | (30°-60°)   | 5751.4 | 55.8      |                         |      |         |
| FH   | (60°-80°)   | 1535.7 | 14.9      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 56.2   | 0.5       |                         |      | G1/100  |
| BL   | (0°-30°)    | 486.8  | 4.7       | B1/500                  |      |         |
| BM   | (30°-60°)   | 640.5  | 6.2       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 372.8  | 3.6       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 83.6   | 0.8       |                         |      | 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 II Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 62.5°  | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 |
| 2.5°  | 3125.8 | 3123.9 | 3097.5 | 3080.1 | 3059.4 | 3011.8 | 2964.0 | 2928.6 | 2910.5 | 2841.6 | 2774.5 |
| 5°    | 3384.3 | 3376.6 | 3361.7 | 3343.1 | 3316.0 | 3256.1 | 3180.7 | 3115.5 | 3089.7 | 2967.3 | 2844.1 |
| 7.5°  | 3247.7 | 3259.9 | 3305.7 | 3357.2 | 3411.4 | 3415.3 | 3361.7 | 3284.4 | 3256.1 | 3092.3 | 2911.8 |
| 10°   | 2869.3 | 2864.2 | 2921.4 | 3022.0 | 3200.6 | 3377.3 | 3465.6 | 3427.5 | 3397.8 | 3210.9 | 2979.5 |
| 12.5° | 2754.5 | 2753.3 | 2762.9 | 2788.7 | 2900.9 | 3143.2 | 3439.2 | 3521.6 | 3511.3 | 3336.7 | 3051.7 |
| 15°   | 2789.4 | 2790.6 | 2790.0 | 2793.2 | 2824.2 | 2939.6 | 3291.5 | 3553.2 | 3585.4 | 3461.1 | 3125.2 |
| 17.5° | 2900.9 | 2896.4 | 2882.2 | 2866.7 | 2871.2 | 2912.4 | 3132.3 | 3499.1 | 3595.8 | 3571.9 | 3187.1 |
| 20°   | 3072.9 | 3072.9 | 3034.9 | 2991.7 | 2963.4 | 2972.4 | 3065.9 | 3406.2 | 3548.1 | 3666.1 | 3233.4 |
| 22.5° | 3288.9 | 3292.2 | 3236.1 | 3157.4 | 3093.0 | 3068.4 | 3103.9 | 3337.3 | 3490.1 | 3753.1 | 3274.8 |
| 25°   | 3557.1 | 3556.5 | 3474.6 | 3361.7 | 3259.9 | 3201.2 | 3200.6 | 3340.5 | 3472.0 | 3854.9 | 3317.9 |
| 27.5° | 3889.1 | 3858.8 | 3763.3 | 3602.8 | 3459.1 | 3369.5 | 3328.9 | 3421.8 | 3510.1 | 3980.0 | 3375.9 |
| 30°   | 4263.7 | 4232.7 | 4107.7 | 3901.3 | 3706.7 | 3575.8 | 3508.7 | 3562.2 | 3626.1 | 4139.2 | 3463.6 |
| 32.5° | 4634.3 | 4641.3 | 4494.4 | 4261.7 | 4011.6 | 3827.2 | 3727.9 | 3760.8 | 3805.3 | 4333.8 | 3582.3 |
| 35°   | 5177.1 | 5176.4 | 4984.3 | 4693.6 | 4396.4 | 4141.1 | 4015.4 | 4032.9 | 4073.5 | 4608.5 | 3748.6 |
| 37.5° | 5581.9 | 5575.5 | 5451.7 | 5194.4 | 4859.9 | 4553.7 | 4371.9 | 4374.4 | 4409.3 | 4953.3 | 3967.7 |
| 40°   | 5623.2 | 5621.8 | 5621.2 | 5584.5 | 5355.7 | 5066.9 | 4839.3 | 4792.2 | 4806.4 | 5319.5 | 4200.4 |
| 42.5° | 5307.9 | 5354.9 | 5490.4 | 5697.9 | 5761.8 | 5610.3 | 5394.9 | 5289.9 | 5258.9 | 5739.9 | 4446.7 |
| 45°   | 4858.6 | 4882.4 | 5119.7 | 5586.4 | 5966.1 | 6120.8 | 5959.0 | 5737.2 | 5684.4 | 6148.5 | 4647.2 |
| 47.5° | 4649.7 | 4639.4 | 4776.8 | 5285.4 | 5946.1 | 6526.9 | 6538.5 | 6174.9 | 6085.3 | 6501.2 | 4818.0 |
| 50°   | 4201.8 | 4188.2 | 4361.6 | 4842.5 | 5728.2 | 6728.7 | 7133.5 | 6651.9 | 6486.3 | 6836.4 | 4972.7 |
| 52.5° | 3308.9 | 3296.0 | 3528.8 | 4148.3 | 5240.9 | 6653.3 | 7635.1 | 7237.3 | 6954.9 | 7159.3 | 5117.1 |
| 55°   | 2153.1 | 2154.3 | 2376.1 | 3014.9 | 4241.1 | 6213.6 | 7870.4 | 7913.5 | 7597.0 | 7482.3 | 5233.8 |
| 57.5° | 1185.5 | 1174.6 | 1332.5 | 1725.0 | 2917.7 | 5215.1 | 7674.4 | 8400.9 | 8235.9 | 7759.5 | 5318.2 |
| 58°   | 1053.9 | 1041.1 | 1162.9 | 1501.4 | 2615.9 | 4933.4 | 7575.8 | 8431.8 | 8317.7 | 7805.2 | 5330.5 |
| 60°   | 751.1  | 729.1  | 710.3  | 846.4  | 1507.1 | 3557.1 | 6918.2 | 8231.4 | 8341.6 | 7896.8 | 5318.8 |
| 62.5° | 633.0  | 607.9  | 540.8  | 535.7  | 709.7  | 1739.8 | 5471.0 | 7228.9 | 7537.7 | 7685.9 | 5131.9 |
| 65°   | 587.9  | 562.7  | 474.4  | 442.8  | 481.5  | 751.1  | 3383.0 | 5581.9 | 5994.5 | 6953.0 | 4661.4 |
| 67.5° | 555.7  | 526.0  | 431.3  | 390.1  | 397.7  | 449.3  | 1435.6 | 3650.6 | 4128.9 | 5422.0 | 3739.5 |
| 70°   | 526.7  | 493.8  | 397.1  | 349.4  | 343.0  | 341.7  | 560.8  | 1906.2 | 2367.1 | 3548.1 | 2505.0 |
| 72.5° | 493.8  | 461.6  | 366.8  | 315.9  | 301.7  | 277.2  | 337.2  | 787.8  | 1079.7 | 1739.2 | 1148.1 |
| 75°   | 446.1  | 419.6  | 333.3  | 288.2  | 263.6  | 224.9  | 248.8  | 377.8  | 465.4  | 665.9  | 533.2  |
| 77.5° | 392.6  | 371.3  | 299.1  | 264.9  | 232.1  | 183.7  | 190.2  | 255.9  | 287.6  | 375.2  | 308.8  |
| 80°   | 277.8  | 285.6  | 261.1  | 233.3  | 204.4  | 148.2  | 146.3  | 187.6  | 206.3  | 252.1  | 207.6  |
| 82.5° | 191.5  | 197.2  | 212.8  | 184.3  | 165.0  | 115.4  | 107.6  | 130.2  | 139.8  | 152.1  | 100.6  |
| 85°   | 136.7  | 132.8  | 147.6  | 132.2  | 121.2  | 73.4   | 68.9   | 82.6   | 88.3   | 92.8   | 48.4   |
| 87.5° | 83.2   | 82.6   | 85.1   | 68.3   | 63.2   | 37.3   | 34.2   | 39.3   | 41.9   | 40.6   | 23.2   |
| 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°    | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 | 2753.9 |
| 2.5°  | 2749.4 | 2717.8 | 2648.8 | 2593.4 | 2533.4 | 2487.6 | 2441.9 | 2416.1 | 2387.8 | 2371.6 | 2369.7 |
| 5°    | 2779.7 | 2715.2 | 2568.2 | 2431.6 | 2291.0 | 2164.7 | 2040.9 | 1949.3 | 1874.6 | 1832.0 | 1829.4 |
| 7.5°  | 2813.2 | 2711.9 | 2485.1 | 2248.4 | 1998.3 | 1749.6 | 1529.7 | 1374.3 | 1274.5 | 1228.1 | 1224.8 |
| 10°   | 2839.0 | 2698.4 | 2383.9 | 2015.7 | 1619.3 | 1290.6 | 1090.8 | 999.2  | 968.8  | 961.2  | 959.8  |
| 12.5° | 2869.9 | 2688.7 | 2256.2 | 1717.3 | 1237.7 | 982.4  | 921.8  | 916.1  | 922.5  | 926.4  | 927.0  |
| 15°   | 2898.9 | 2670.1 | 2084.1 | 1386.6 | 968.8  | 878.0  | 879.3  | 891.5  | 904.4  | 910.2  | 910.8  |
| 17.5° | 2912.4 | 2624.3 | 1857.9 | 1092.6 | 847.7  | 830.9  | 845.8  | 861.8  | 873.5  | 878.0  | 878.0  |
| 20°   | 2912.4 | 2550.8 | 1595.5 | 885.1  | 784.5  | 787.8  | 805.8  | 818.1  | 820.6  | 816.7  | 814.8  |
| 22.5° | 2900.2 | 2459.9 | 1340.2 | 772.2  | 732.9  | 745.2  | 759.3  | 751.1  | 720.7  | 697.4  | 692.9  |
| 25°   | 2889.2 | 2352.3 | 1094.6 | 703.3  | 687.8  | 703.9  | 698.2  | 640.8  | 594.3  | 570.5  | 566.6  |
| 27.5° | 2871.2 | 2222.1 | 889.6  | 646.6  | 643.9  | 656.8  | 599.6  | 544.1  | 520.9  | 508.0  | 505.4  |
| 30°   | 2866.7 | 2080.9 | 744.5  | 596.3  | 600.8  | 582.8  | 517.0  | 499.0  | 493.8  | 486.7  | 483.4  |
| 32.5° | 2881.6 | 1939.7 | 653.7  | 555.1  | 559.6  | 500.2  | 475.1  | 477.7  | 477.0  | 468.0  | 464.8  |
| 35°   | 2922.2 | 1802.4 | 595.7  | 517.6  | 504.7  | 448.1  | 451.2  | 459.0  | 459.0  | 448.1  | 444.2  |
| 37.5° | 2993.1 | 1674.8 | 558.9  | 486.0  | 441.6  | 420.9  | 429.3  | 439.7  | 439.7  | 431.9  | 428.7  |
| 40°   | 3068.4 | 1550.4 | 531.2  | 460.9  | 401.6  | 402.2  | 410.6  | 418.4  | 421.6  | 422.9  | 420.3  |
| 42.5° | 3136.8 | 1421.4 | 501.6  | 433.8  | 383.6  | 388.1  | 391.9  | 397.7  | 411.2  | 420.3  | 419.0  |
| 45°   | 3176.8 | 1291.9 | 469.3  | 400.3  | 371.3  | 373.3  | 371.9  | 382.3  | 398.3  | 411.9  | 411.9  |
| 47.5° | 3213.5 | 1185.5 | 442.8  | 366.8  | 359.1  | 359.1  | 355.2  | 365.5  | 380.3  | 396.5  | 397.7  |
| 50°   | 3248.3 | 1116.6 | 424.2  | 341.1  | 343.6  | 341.7  | 340.3  | 350.1  | 370.0  | 389.3  | 392.6  |
| 52.5° | 3283.8 | 1093.3 | 407.4  | 322.3  | 327.4  | 324.9  | 326.2  | 339.7  | 362.3  | 382.3  | 385.4  |
| 55°   | 3333.4 | 1108.2 | 390.1  | 309.4  | 312.0  | 311.4  | 316.5  | 331.9  | 352.0  | 371.9  | 373.3  |
| 57.5° | 3394.7 | 1162.3 | 375.2  | 299.7  | 297.2  | 301.1  | 309.4  | 324.3  | 343.6  | 367.4  | 369.4  |
| 58°   | 3406.9 | 1175.2 | 372.6  | 297.2  | 294.0  | 299.7  | 308.1  | 322.3  | 342.3  | 367.4  | 369.4  |
| 60°   | 3425.6 | 1220.9 | 366.1  | 292.1  | 282.9  | 293.3  | 303.6  | 317.8  | 339.7  | 370.6  | 374.5  |
| 62.5° | 3335.3 | 1230.0 | 364.2  | 286.2  | 271.4  | 284.3  | 296.6  | 312.6  | 337.2  | 381.7  | 390.1  |
| 65°   | 3022.7 | 1137.1 | 350.7  | 276.5  | 261.7  | 277.2  | 290.1  | 308.8  | 344.8  | 414.5  | 418.4  |
| 67.5° | 2426.4 | 944.4  | 317.8  | 261.7  | 250.7  | 268.8  | 284.9  | 308.8  | 348.1  | 419.6  | 422.3  |
| 70°   | 1668.3 | 709.7  | 276.5  | 245.6  | 237.8  | 258.5  | 282.9  | 315.9  | 337.2  | 397.1  | 389.3  |
| 72.5° | 871.6  | 493.8  | 242.3  | 226.9  | 222.4  | 249.5  | 301.7  | 308.8  | 324.3  | 370.6  | 362.9  |
| 75°   | 438.9  | 335.8  | 213.4  | 205.6  | 205.0  | 246.2  | 337.8  | 297.2  | 310.7  | 348.7  | 365.5  |
| 77.5° | 259.1  | 263.0  | 190.2  | 185.7  | 188.8  | 240.5  | 338.4  | 285.6  | 295.2  | 321.0  | 339.1  |
| 80°   | 177.3  | 217.3  | 172.2  | 170.8  | 173.4  | 221.1  | 312.0  | 271.4  | 277.2  | 303.6  | 322.9  |
| 82.5° | 99.9   | 119.9  | 150.9  | 159.3  | 157.9  | 181.2  | 269.4  | 246.9  | 254.0  | 359.1  | 379.7  |
| 85°   | 48.4   | 72.2   | 126.3  | 148.9  | 134.7  | 120.5  | 219.2  | 219.2  | 221.1  | 257.2  | 260.4  |
| 87.5° | 18.0   | 32.2   | 85.1   | 117.9  | 94.1   | 72.2   | 148.9  | 155.4  | 172.8  | 177.9  | 181.8  |
| 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)