

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: LUMARK

Report Number: P959939

Luminaire Tested: **NAV-SB1B-827-U-SL3-HSS**

Issue Date: 1/21/2025

### Test Information

Test Method: LM-79-08  
Report Number: P959939  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/21/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB1B-827-U-SL3-HSS  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(1) 80 CRI, 2700K, 450mA LIGHTSQUARE WITH 26 LEDS AND TYPE III SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 4043.6 lumens  
Efficiency: N/A  
Efficacy: 101.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G1

Input Watts (W): 39.8  
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: 24 FT

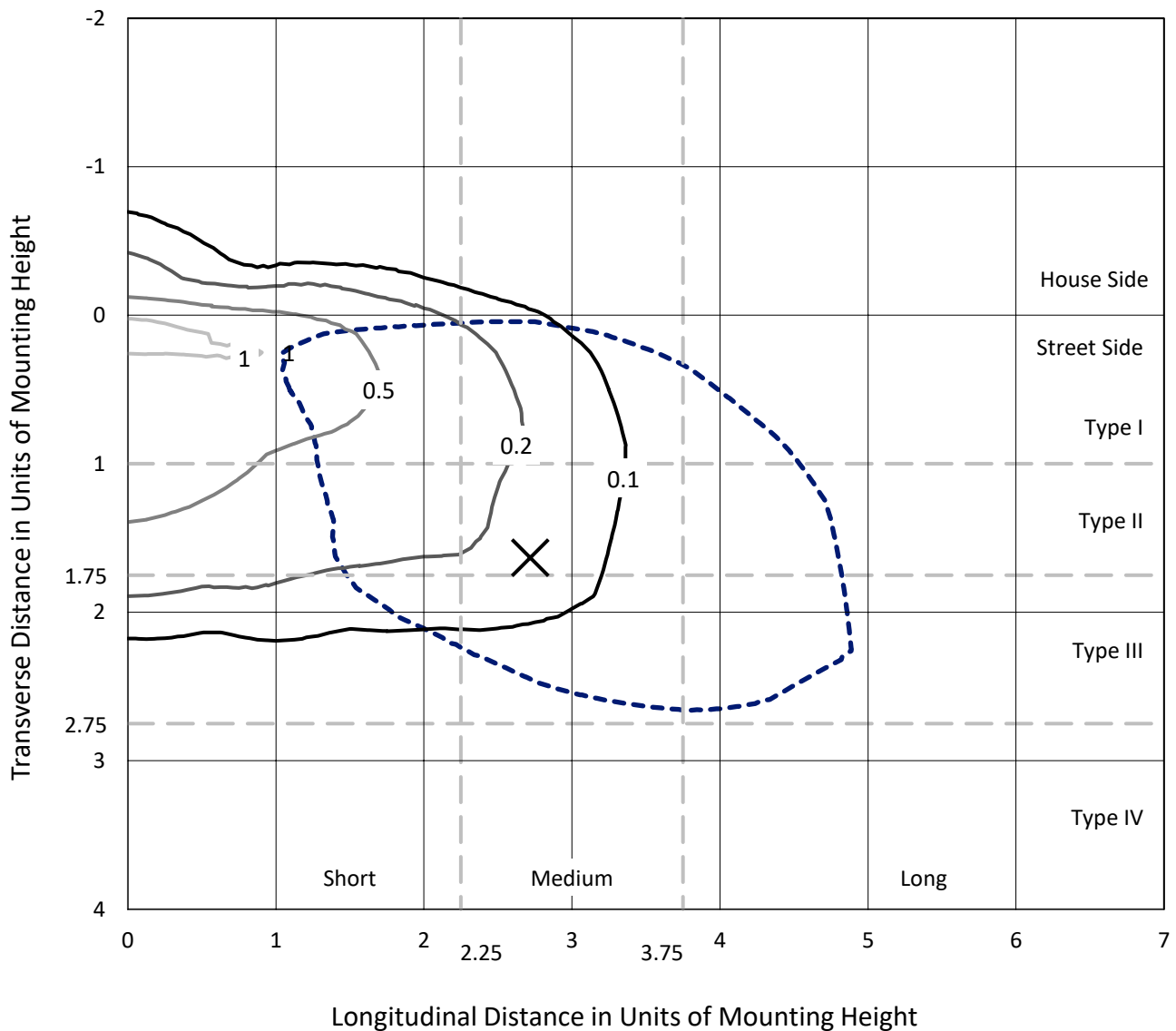


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## Iso-Footcandle Lines of Horizontal Illumination

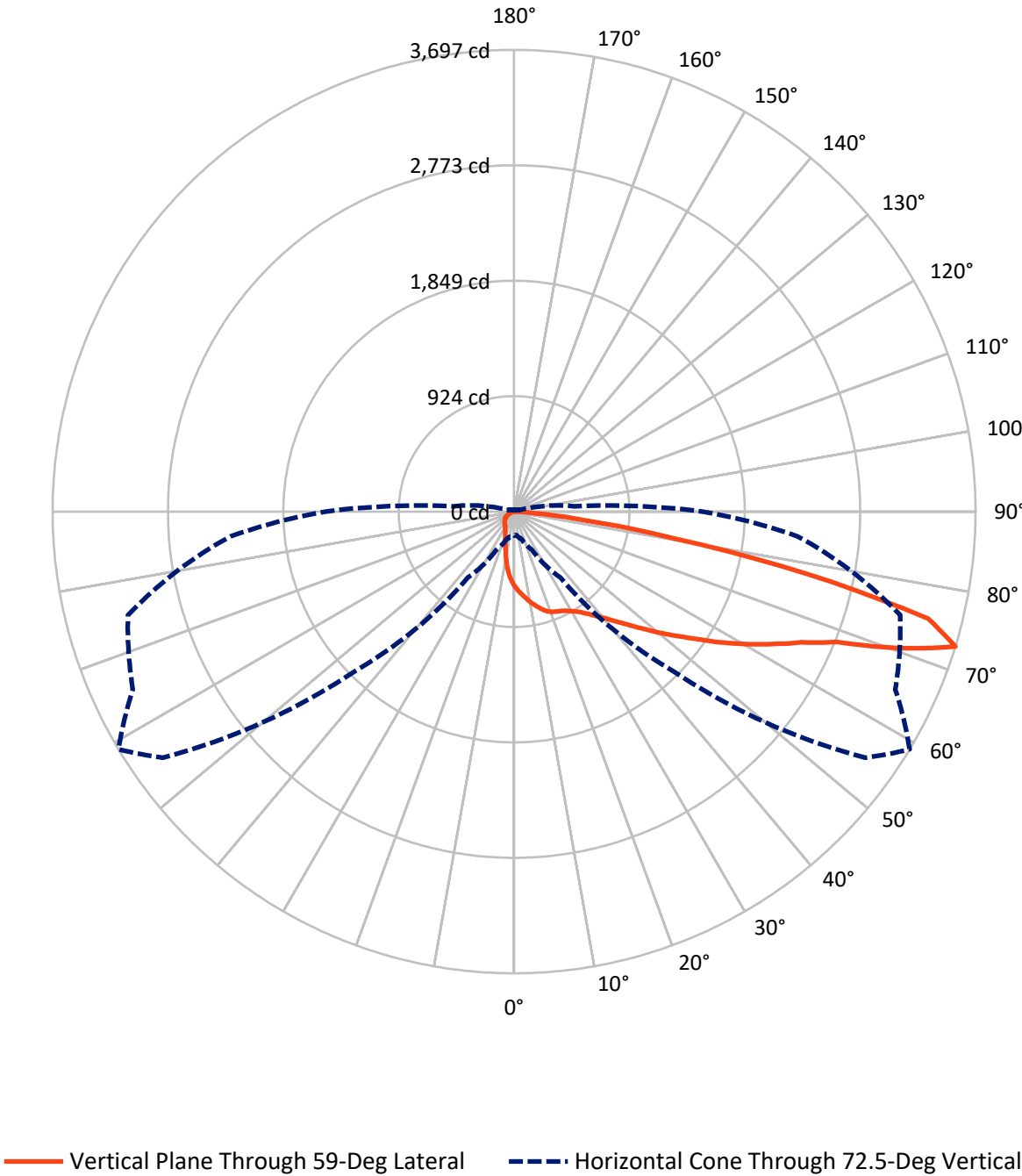
× Max cd  
- - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 fc  
Type III - Medium - N/A

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Luminous Intensity Polar Plot



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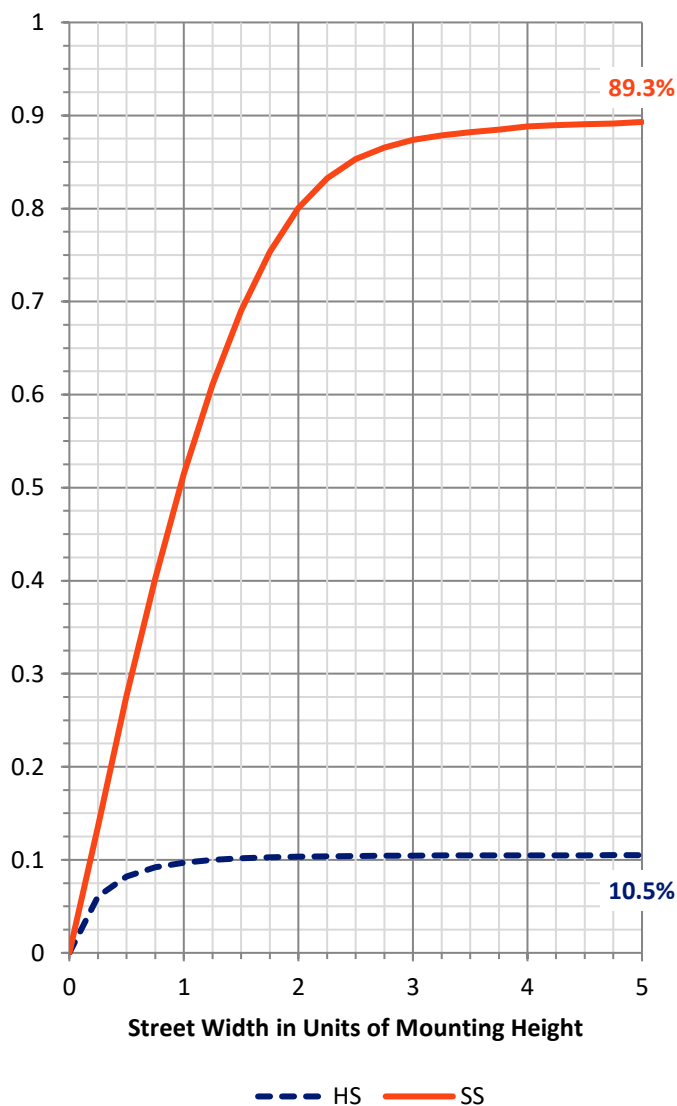
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 427.1    | 0.0    | 427.1  |
|                    | % Fixture | 10.6     | 0.0    | 10.6   |
| <b>Street Side</b> | Lumens    | 3616.5   | 0.0    | 3616.5 |
|                    | % Fixture | 89.4     | 0.0    | 89.4   |
| <b>Total</b>       | Lumens    | 4043.6   | 0.0    | 4043.6 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 54.1   | 1.3       |
| 10°-20°   | 143.7  | 3.6       |
| 20°-30°   | 227.7  | 5.6       |
| 30°-40°   | 365.5  | 9.0       |
| 40°-50°   | 583.7  | 14.4      |
| 50°-60°   | 845.2  | 20.9      |
| 60°-70°   | 1003.0 | 24.8      |
| 70°-80°   | 744.6  | 18.4      |
| 80°-90°   | 76.1   | 1.9       |
| 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°    | 4043.6 | 100.0     |
| 0°-180°   | 4043.6 | 100.0     |

**Coefficient of Utilization**



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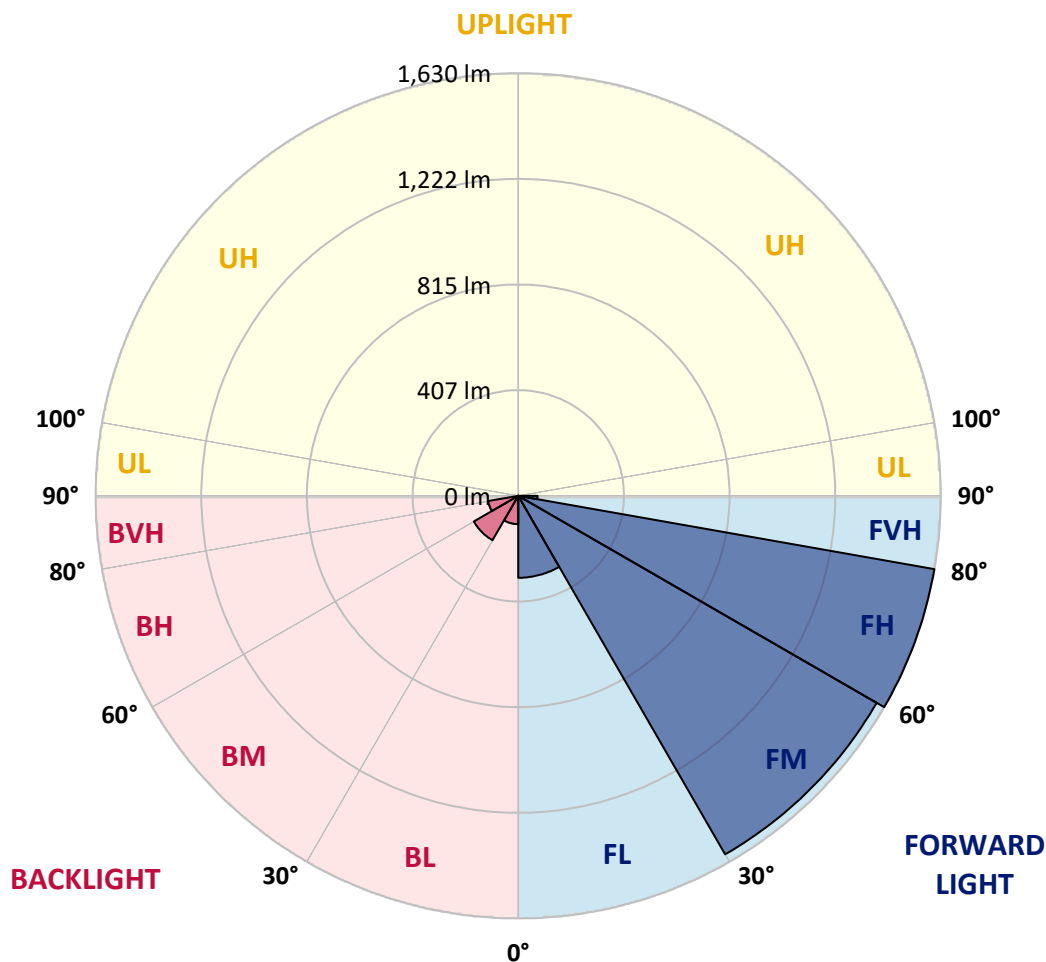
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 316.1  | 7.8       |                         |      |         |
| FM   | (30°-60°)   | 1596.4 | 39.5      |                         |      |         |
| FH   | (60°-80°)   | 1629.8 | 40.3      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 74.2   | 1.8       |                         |      | G1/100  |
| BL   | (0°-30°)    | 109.4  | 2.7       | B0/110                  |      |         |
| BM   | (30°-60°)   | 198.0  | 4.9       | B0/220                  |      |         |
| BH   | (60°-80°)   | 117.8  | 2.9       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 1.9    | 0.0       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G1**

Type III Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 59°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 598.0  | 598.0  | 598.0  | 598.0  | 598.0  | 598.0  | 598.0  | 598.0  | 598.0  | 598.0  | 598.0  |
| 2.5°  | 663.4  | 659.7  | 660.3  | 653.9  | 649.4  | 644.7  | 635.4  | 634.2  | 627.5  | 615.9  | 604.0  |
| 5°    | 721.3  | 718.8  | 716.8  | 709.6  | 700.4  | 688.8  | 673.2  | 667.7  | 655.5  | 635.4  | 612.2  |
| 7.5°  | 763.5  | 760.6  | 761.7  | 754.5  | 747.1  | 734.2  | 712.8  | 702.5  | 686.4  | 655.8  | 620.6  |
| 10°   | 771.6  | 770.1  | 776.9  | 779.6  | 779.6  | 771.4  | 750.5  | 740.3  | 716.8  | 677.7  | 629.3  |
| 12.5° | 725.7  | 726.0  | 743.1  | 763.7  | 790.7  | 798.4  | 784.3  | 773.3  | 750.0  | 700.9  | 640.4  |
| 15°   | 672.1  | 672.4  | 689.0  | 715.4  | 759.5  | 803.6  | 814.7  | 807.6  | 783.5  | 726.0  | 653.4  |
| 17.5° | 639.9  | 638.6  | 649.7  | 671.4  | 717.5  | 779.6  | 833.2  | 837.9  | 818.4  | 753.7  | 667.7  |
| 20°   | 635.4  | 633.0  | 638.9  | 649.7  | 682.6  | 749.5  | 835.3  | 857.7  | 854.3  | 785.2  | 684.0  |
| 22.5° | 662.9  | 659.2  | 656.0  | 656.5  | 670.6  | 724.4  | 830.0  | 868.8  | 891.2  | 822.9  | 706.4  |
| 25°   | 717.3  | 711.5  | 701.2  | 688.0  | 685.1  | 719.1  | 826.4  | 881.0  | 925.6  | 871.1  | 736.1  |
| 27.5° | 783.8  | 775.6  | 755.8  | 736.1  | 719.1  | 733.9  | 833.9  | 900.3  | 964.4  | 927.4  | 770.4  |
| 30°   | 856.9  | 846.9  | 827.1  | 789.7  | 762.7  | 766.9  | 852.2  | 925.6  | 1014.0 | 991.1  | 813.3  |
| 32.5° | 964.4  | 941.2  | 906.6  | 849.3  | 813.6  | 802.6  | 879.7  | 957.8  | 1075.5 | 1075.8 | 875.7  |
| 35°   | 1056.6 | 1043.6 | 1008.7 | 937.5  | 864.3  | 849.8  | 915.8  | 1003.2 | 1160.8 | 1188.0 | 962.8  |
| 37.5° | 1116.9 | 1099.3 | 1068.7 | 1015.1 | 943.0  | 898.4  | 964.1  | 1058.9 | 1251.1 | 1315.8 | 1070.2 |
| 40°   | 1184.6 | 1167.2 | 1126.5 | 1076.0 | 1034.3 | 981.8  | 1025.1 | 1123.1 | 1350.1 | 1447.0 | 1193.0 |
| 42.5° | 1266.2 | 1243.4 | 1195.4 | 1141.0 | 1097.5 | 1091.6 | 1104.8 | 1203.0 | 1451.7 | 1589.6 | 1320.8 |
| 45°   | 1361.9 | 1340.6 | 1285.5 | 1216.8 | 1178.4 | 1168.2 | 1205.2 | 1296.2 | 1565.0 | 1745.8 | 1449.9 |
| 47.5° | 1451.7 | 1426.9 | 1367.6 | 1304.9 | 1262.4 | 1230.0 | 1311.8 | 1406.3 | 1693.3 | 1909.3 | 1571.8 |
| 50°   | 1528.1 | 1502.6 | 1448.3 | 1381.5 | 1352.7 | 1310.3 | 1416.7 | 1529.1 | 1820.5 | 2075.3 | 1683.3 |
| 52.5° | 1580.2 | 1557.9 | 1493.9 | 1448.5 | 1429.1 | 1407.6 | 1539.3 | 1659.3 | 1947.3 | 2227.3 | 1793.3 |
| 55°   | 1568.5 | 1548.4 | 1492.1 | 1488.9 | 1487.6 | 1510.0 | 1686.1 | 1806.8 | 2076.3 | 2371.2 | 1902.9 |
| 57.5° | 1530.6 | 1508.0 | 1437.8 | 1486.0 | 1532.8 | 1601.5 | 1845.1 | 1981.3 | 2217.9 | 2506.9 | 2008.5 |
| 60°   | 1419.5 | 1411.6 | 1368.8 | 1480.5 | 1551.7 | 1690.9 | 2026.7 | 2156.6 | 2370.9 | 2626.3 | 2102.2 |
| 62.5° | 1184.3 | 1191.2 | 1190.8 | 1492.1 | 1586.1 | 1792.8 | 2191.8 | 2334.0 | 2520.7 | 2741.1 | 2185.6 |
| 65°   | 886.7  | 910.5  | 940.8  | 1387.5 | 1632.0 | 1974.7 | 2389.0 | 2526.4 | 2672.7 | 2874.7 | 2270.4 |
| 67.5° | 595.8  | 614.9  | 635.4  | 1138.4 | 1495.3 | 2165.8 | 2716.6 | 2790.2 | 2854.8 | 3022.8 | 2365.7 |
| 70°   | 341.1  | 347.2  | 376.0  | 710.9  | 1152.6 | 2113.0 | 3250.1 | 3276.7 | 3126.6 | 3205.2 | 2435.1 |
| 72.5° | 191.2  | 189.0  | 227.0  | 337.4  | 644.1  | 1809.4 | 3437.0 | 3697.1 | 3369.7 | 3202.3 | 2280.1 |
| 75°   | 127.8  | 128.0  | 156.3  | 212.8  | 251.0  | 1266.7 | 2961.8 | 3428.0 | 3223.9 | 2839.6 | 1863.0 |
| 77.5° | 87.1   | 90.0   | 114.8  | 164.5  | 116.1  | 618.0  | 1959.4 | 2401.4 | 2610.2 | 2192.8 | 1286.2 |
| 80°   | 37.7   | 38.0   | 75.7   | 118.0  | 78.4   | 196.7  | 1015.9 | 1286.5 | 1637.0 | 1231.3 | 509.5  |
| 82.5° | 19.6   | 22.1   | 48.3   | 76.3   | 49.4   | 68.9   | 479.9  | 562.0  | 687.0  | 361.4  | 104.6  |
| 85°   | 6.9    | 8.2    | 29.8   | 37.5   | 24.8   | 24.6   | 167.1  | 170.3  | 145.4  | 54.4   | 28.8   |
| 87.5° | 0.0    | 1.3    | 11.6   | 9.2    | 3.2    | 2.9    | 19.8   | 16.6   | 13.2   | 7.7    | 9.5    |
| 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°    | 598.0  | 598.0 | 598.0 | 598.0 | 598.0 | 598.0 | 598.0 | 598.0 | 598.0 | 598.0 | 598.0 |
| 2.5°  | 598.5  | 591.3 | 579.7 | 565.5 | 548.9 | 539.9 | 527.0 | 519.1 | 511.9 | 512.2 | 517.9 |
| 5°    | 599.3  | 587.4 | 557.8 | 526.4 | 491.6 | 466.0 | 437.5 | 417.4 | 402.1 | 398.4 | 404.0 |
| 7.5°  | 601.7  | 581.6 | 533.3 | 481.0 | 422.9 | 379.9 | 340.6 | 315.7 | 301.8 | 298.1 | 301.8 |
| 10°   | 604.9  | 575.2 | 505.5 | 425.6 | 353.5 | 301.8 | 269.1 | 253.2 | 246.8 | 242.1 | 245.0 |
| 12.5° | 607.4  | 568.7 | 470.7 | 368.3 | 291.7 | 251.3 | 226.5 | 213.3 | 207.8 | 204.4 | 206.2 |
| 15°   | 611.9  | 560.0 | 433.0 | 315.0 | 250.0 | 217.0 | 193.5 | 183.8 | 182.1 | 182.7 | 183.5 |
| 17.5° | 616.4  | 551.4 | 390.7 | 273.3 | 219.4 | 187.0 | 172.6 | 171.1 | 173.2 | 175.3 | 176.1 |
| 20°   | 621.5  | 539.4 | 348.0 | 241.8 | 191.2 | 166.0 | 162.4 | 163.4 | 164.5 | 168.2 | 169.2 |
| 22.5° | 628.8  | 524.1 | 310.5 | 215.1 | 167.7 | 156.0 | 154.2 | 155.0 | 155.8 | 159.5 | 160.5 |
| 25°   | 639.4  | 507.7 | 280.1 | 190.6 | 152.8 | 147.8 | 146.0 | 146.0 | 147.1 | 150.5 | 151.8 |
| 27.5° | 650.5  | 484.4 | 255.5 | 167.9 | 144.1 | 138.9 | 135.7 | 135.7 | 137.0 | 140.9 | 142.6 |
| 30°   | 662.9  | 463.3 | 236.3 | 151.0 | 136.7 | 129.9 | 125.7 | 124.6 | 126.2 | 131.2 | 132.5 |
| 32.5° | 685.3  | 449.6 | 222.5 | 143.1 | 130.2 | 121.7 | 115.9 | 113.0 | 114.6 | 120.3 | 122.0 |
| 35°   | 719.3  | 446.4 | 213.1 | 139.1 | 123.8 | 114.3 | 106.1 | 101.7 | 102.9 | 109.1 | 110.9 |
| 37.5° | 759.2  | 453.0 | 203.8 | 133.9 | 117.8 | 107.2 | 96.4  | 90.5  | 92.7  | 98.2  | 99.8  |
| 40°   | 816.5  | 480.5 | 196.7 | 129.9 | 111.6 | 98.7  | 86.6  | 80.8  | 84.3  | 89.0  | 89.8  |
| 42.5° | 885.7  | 529.3 | 194.9 | 126.2 | 104.2 | 89.8  | 77.6  | 73.4  | 76.1  | 80.6  | 81.3  |
| 45°   | 971.5  | 591.6 | 203.3 | 121.5 | 96.1  | 81.1  | 70.5  | 68.2  | 68.9  | 73.4  | 75.5  |
| 47.5° | 1063.6 | 655.5 | 226.5 | 117.3 | 89.0  | 73.9  | 65.0  | 62.8  | 62.3  | 66.5  | 69.2  |
| 50°   | 1156.8 | 712.3 | 254.0 | 114.1 | 83.9  | 68.2  | 60.7  | 58.1  | 56.8  | 59.4  | 60.5  |
| 52.5° | 1249.0 | 757.4 | 271.9 | 108.8 | 78.9  | 62.3  | 57.0  | 53.1  | 50.7  | 52.0  | 53.1  |
| 55°   | 1342.4 | 797.0 | 273.0 | 100.9 | 74.2  | 58.6  | 53.3  | 48.8  | 45.9  | 45.9  | 46.4  |
| 57.5° | 1429.8 | 831.9 | 257.4 | 90.3  | 67.5  | 55.1  | 48.3  | 44.6  | 41.4  | 40.4  | 40.7  |
| 60°   | 1507.2 | 857.7 | 231.5 | 78.4  | 61.8  | 50.7  | 43.3  | 40.4  | 36.4  | 34.3  | 33.8  |
| 62.5° | 1576.0 | 870.4 | 196.2 | 66.2  | 54.6  | 45.4  | 38.5  | 35.4  | 30.1  | 27.5  | 27.2  |
| 65°   | 1634.4 | 857.5 | 159.2 | 54.9  | 48.6  | 39.6  | 33.0  | 29.8  | 24.0  | 20.8  | 20.8  |
| 67.5° | 1692.3 | 798.4 | 120.3 | 46.2  | 42.2  | 33.3  | 27.2  | 24.3  | 20.1  | 17.4  | 17.4  |
| 70°   | 1699.7 | 673.9 | 84.3  | 38.8  | 35.2  | 25.6  | 21.9  | 20.1  | 16.4  | 14.0  | 13.7  |
| 72.5° | 1513.0 | 484.9 | 51.2  | 31.7  | 27.5  | 18.2  | 17.4  | 15.9  | 12.1  | 10.6  | 10.2  |
| 75°   | 1209.4 | 297.2 | 30.1  | 23.8  | 18.2  | 12.9  | 12.9  | 11.4  | 8.2   | 6.9   | 6.9   |
| 77.5° | 835.8  | 155.5 | 17.7  | 15.3  | 10.9  | 7.7   | 8.4   | 6.9   | 4.0   | 3.2   | 3.2   |
| 80°   | 334.8  | 59.1  | 9.5   | 7.2   | 5.0   | 3.4   | 2.9   | 1.5   | 0.8   | 0.5   | 0.8   |
| 82.5° | 66.8   | 15.6  | 3.2   | 1.8   | 1.8   | 0.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 17.1   | 3.4   | 0.8   | 0.5   | 0.5   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 5.3    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 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   |

(END OF REPORT)