

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: P882753

Luminaire Tested: **NAV-SB2D-740-U-SL4-HSS**

Issue Date: 10/7/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P882753  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB2D-740-U-SL4-HSS  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(2) 70 CRI, 4000K, 900mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE IV SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

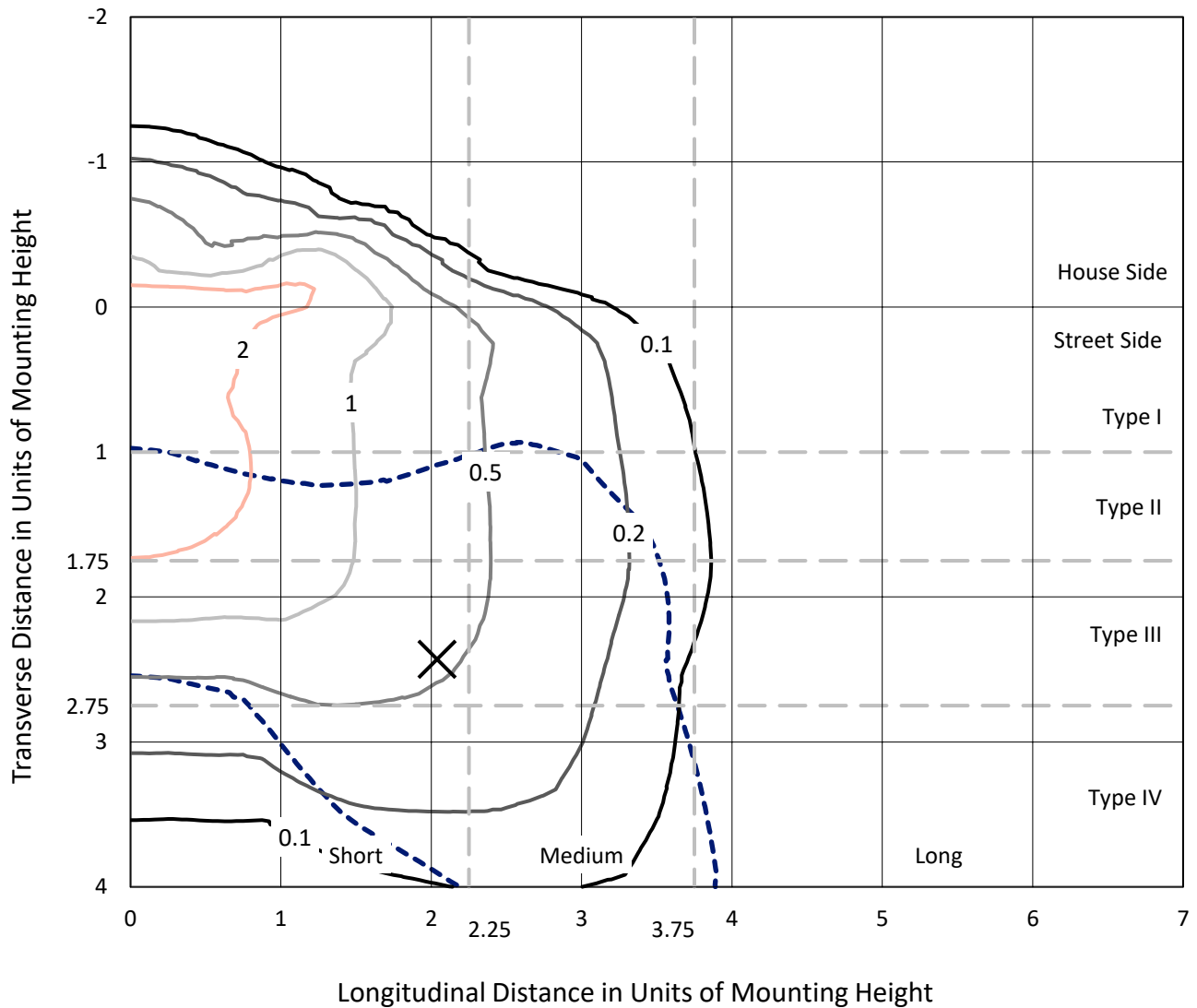
Lumens per Lamp: N/A  
Luminaire Lumens: 15608 lumens  
Efficiency: N/A  
Efficacy: 105.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3  
  
Input Watts (W): 147.6  
Input Voltage (V): 120.0  
Input Current (Ain): 1.234  
Voltage Rise (V): NR  
Power Factor: 0.999  
Total Harmonic Distortion (THDi): 3.108  
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

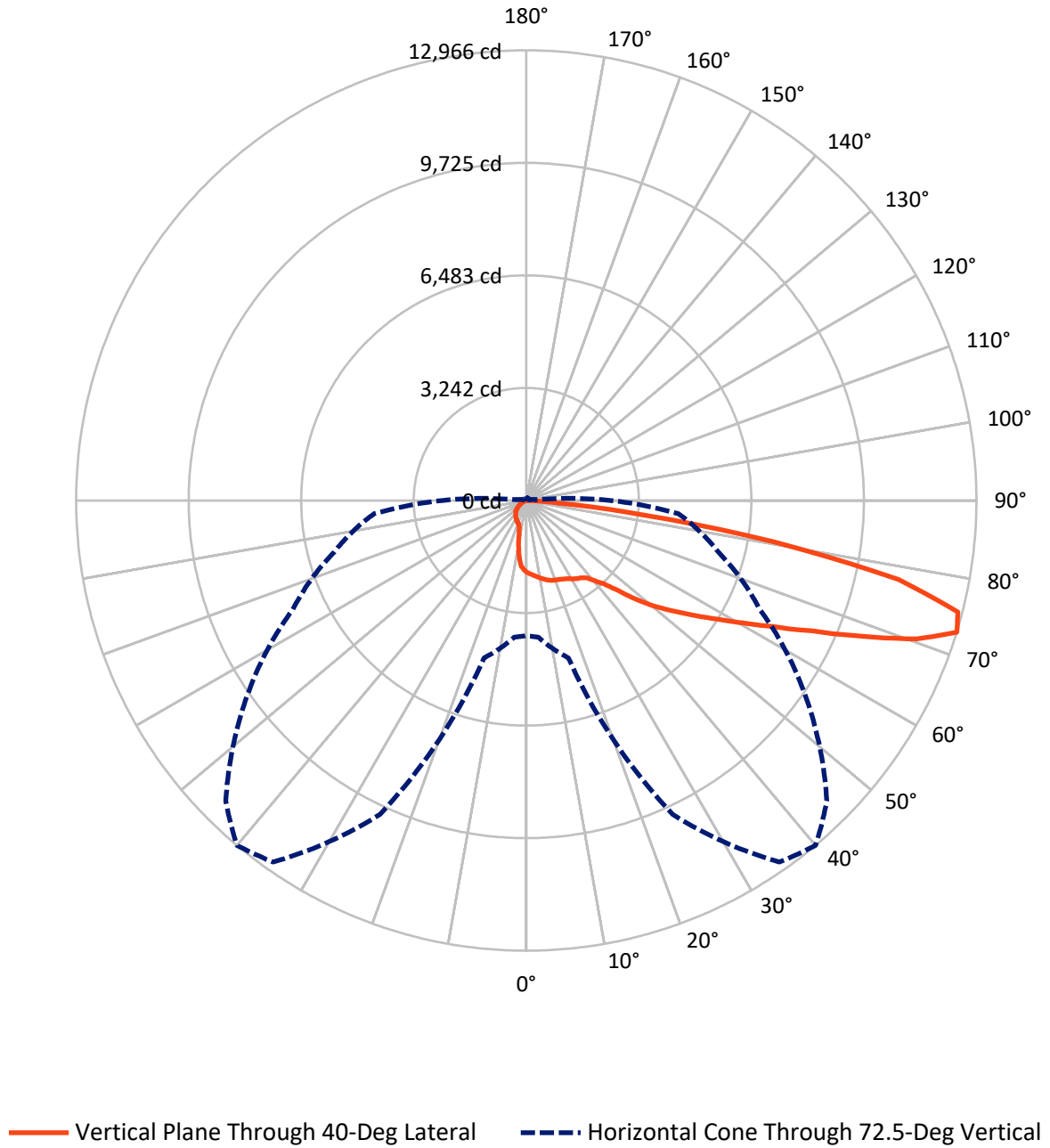
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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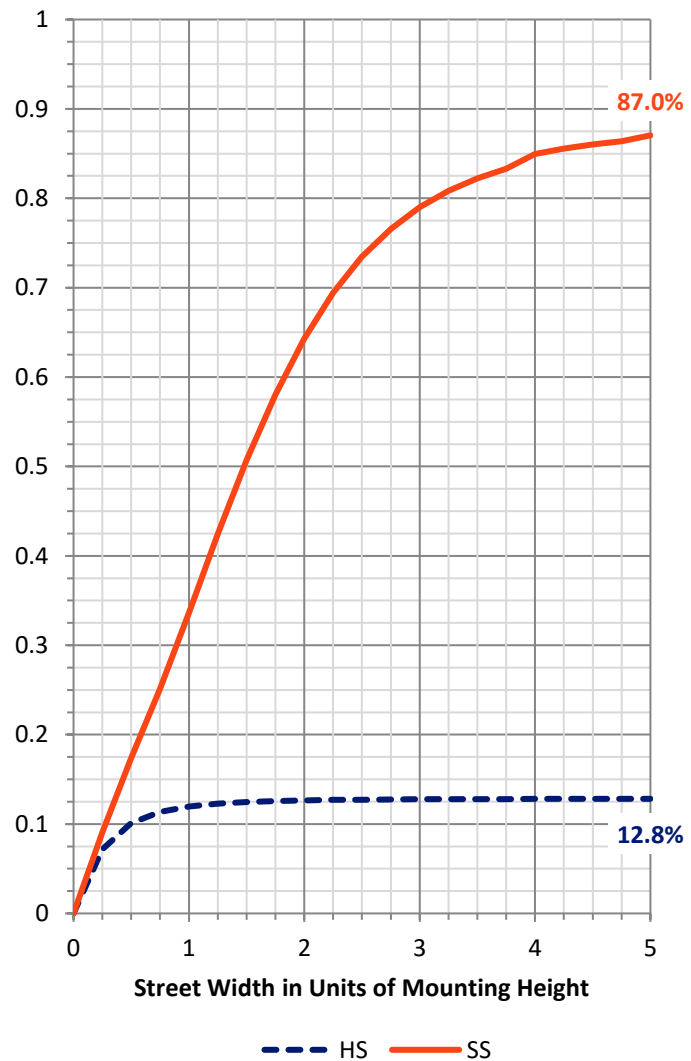
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2015.6   | 0.0    | 2015.6  |
|                    | % Fixture | 12.9     | 0.0    | 12.9    |
| <b>Street Side</b> | Lumens    | 13592.4  | 0.0    | 13592.4 |
|                    | % Fixture | 87.1     | 0.0    | 87.1    |
| <b>Total</b>       | Lumens    | 15608.0  | 0.0    | 15608.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 188.7   | 1.2       |
| 10°-20°   | 512.5   | 3.3       |
| 20°-30°   | 829.4   | 5.3       |
| 30°-40°   | 1224.4  | 7.8       |
| 40°-50°   | 2060.7  | 13.2      |
| 50°-60°   | 3199.7  | 20.5      |
| 60°-70°   | 4003.8  | 25.7      |
| 70°-80°   | 3277.9  | 21.0      |
| 80°-90°   | 310.8   | 2.0       |
| 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°    | 15608.0 | 100.0     |
| 0°-180°   | 15608.0 | 100.0     |

**Coefficient of Utilization**



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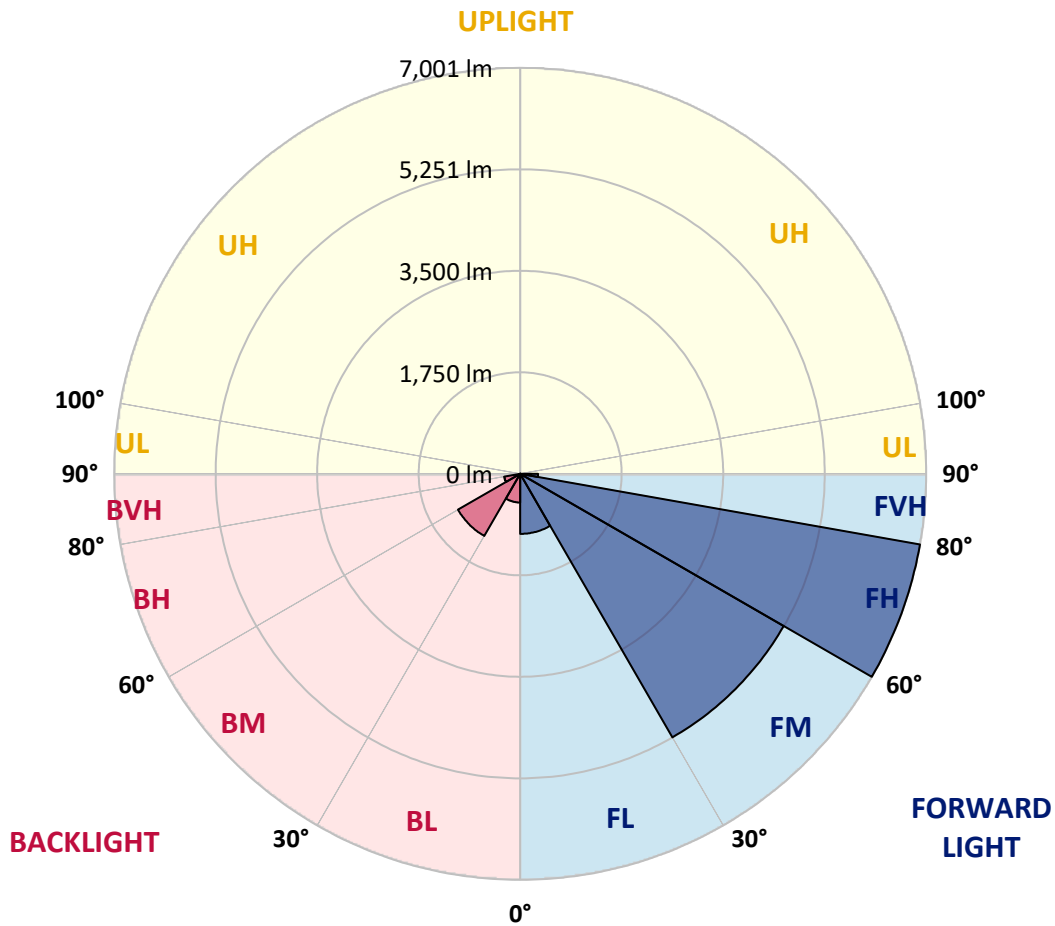
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 1035.9 | 6.6       |                         |      |         |
| FM (30°-60°)   | 5247.1 | 33.6      |                         |      |         |
| FH (60°-80°)   | 7000.9 | 44.9      |                         |      | G3/7500 |
| FVH (80°-90°)  | 308.5  | 2.0       |                         |      | G3/500  |
| BL (0°-30°)    | 494.7  | 3.2       | B1/500                  |      |         |
| BM (30°-60°)   | 1237.7 | 7.9       | B2/2500                 |      |         |
| BH (60°-80°)   | 280.8  | 1.8       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 2.4    | 0.0       |                         |      | G0/10   |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G3**

Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°     | 15°    | 25°     | 35°     | 40°     | 45°     | 55°    | 65°    | 75°    | 85°    |
|-------|---------|--------|--------|---------|---------|---------|---------|--------|--------|--------|--------|
| 0°    | 2066.6  | 2066.6 | 2066.6 | 2066.6  | 2066.6  | 2066.6  | 2066.6  | 2066.6 | 2066.6 | 2066.6 | 2066.6 |
| 2.5°  | 2128.9  | 2137.2 | 2132.5 | 2123.1  | 2120.7  | 2116.0  | 2110.1  | 2107.8 | 2099.5 | 2092.5 | 2084.3 |
| 5°    | 2188.9  | 2197.1 | 2191.2 | 2178.3  | 2172.4  | 2166.5  | 2158.3  | 2151.3 | 2134.8 | 2119.5 | 2100.7 |
| 7.5°  | 2254.7  | 2261.8 | 2254.7 | 2235.9  | 2226.5  | 2219.4  | 2207.7  | 2197.1 | 2178.3 | 2156.0 | 2132.5 |
| 10°   | 2327.6  | 2333.5 | 2322.9 | 2298.2  | 2282.9  | 2272.3  | 2261.8  | 2250.0 | 2232.4 | 2207.7 | 2179.5 |
| 12.5° | 2395.8  | 2402.8 | 2386.4 | 2357.0  | 2339.4  | 2328.8  | 2317.0  | 2307.6 | 2290.0 | 2266.5 | 2237.1 |
| 15°   | 2458.1  | 2468.7 | 2440.5 | 2408.7  | 2388.7  | 2380.5  | 2368.7  | 2362.9 | 2351.1 | 2334.7 | 2307.6 |
| 17.5° | 2505.1  | 2512.2 | 2482.8 | 2445.2  | 2422.8  | 2416.9  | 2408.7  | 2412.2 | 2409.9 | 2401.7 | 2384.0 |
| 20°   | 2545.1  | 2549.8 | 2511.0 | 2465.1  | 2440.5  | 2441.6  | 2439.3  | 2451.0 | 2455.7 | 2455.7 | 2454.6 |
| 22.5° | 2594.4  | 2595.6 | 2546.3 | 2488.7  | 2459.3  | 2467.5  | 2471.0  | 2483.9 | 2493.4 | 2502.8 | 2523.9 |
| 25°   | 2659.1  | 2656.8 | 2598.0 | 2519.2  | 2493.4  | 2505.1  | 2513.3  | 2518.0 | 2528.6 | 2543.9 | 2592.1 |
| 27.5° | 2755.5  | 2748.4 | 2673.2 | 2568.6  | 2538.0  | 2548.6  | 2563.9  | 2561.5 | 2556.8 | 2568.6 | 2649.7 |
| 30°   | 2877.8  | 2868.4 | 2768.4 | 2637.9  | 2609.7  | 2619.1  | 2623.8  | 2602.7 | 2568.6 | 2579.2 | 2700.2 |
| 32.5° | 3071.7  | 3055.3 | 2916.6 | 2715.5  | 2672.0  | 2682.6  | 2676.7  | 2633.2 | 2582.7 | 2593.3 | 2750.8 |
| 35°   | 3409.1  | 3369.1 | 3172.8 | 2877.8  | 2742.6  | 2730.8  | 2716.7  | 2674.4 | 2612.1 | 2601.5 | 2793.1 |
| 37.5° | 4126.2  | 4055.7 | 3720.6 | 3194.0  | 2902.4  | 2826.0  | 2782.5  | 2740.2 | 2643.8 | 2601.5 | 2841.3 |
| 40°   | 4935.0  | 4863.3 | 4476.5 | 3723.0  | 3168.1  | 3038.8  | 2935.4  | 2817.8 | 2676.7 | 2616.8 | 2916.6 |
| 42.5° | 5779.0  | 5700.3 | 5302.9 | 4378.9  | 3547.8  | 3282.1  | 3089.4  | 2880.1 | 2730.8 | 2663.8 | 3016.5 |
| 45°   | 6721.8  | 6623.1 | 6103.5 | 5063.1  | 4099.2  | 3686.5  | 3337.4  | 3008.2 | 2824.9 | 2747.3 | 3152.8 |
| 47.5° | 7716.3  | 7588.2 | 6901.7 | 5727.3  | 4692.8  | 4246.1  | 3791.2  | 3237.5 | 2963.6 | 2871.9 | 3337.4 |
| 50°   | 8598.0  | 8471.0 | 7725.7 | 6422.1  | 5247.7  | 4778.6  | 4308.4  | 3554.9 | 3171.6 | 3048.2 | 3585.4 |
| 52.5° | 9231.6  | 9135.2 | 8475.8 | 7139.1  | 5824.9  | 5278.2  | 4777.5  | 3924.0 | 3435.0 | 3273.9 | 3878.2 |
| 55°   | 9656.0  | 9567.8 | 9007.1 | 7818.6  | 6496.1  | 5828.4  | 5239.4  | 4324.9 | 3752.4 | 3544.3 | 4201.4 |
| 57.5° | 9913.5  | 9862.9 | 9391.5 | 8425.2  | 7161.5  | 6430.3  | 5768.4  | 4765.7 | 4126.2 | 3862.9 | 4562.3 |
| 60°   | 10005.1 | 9964.0 | 9630.1 | 9003.6  | 7965.6  | 7153.3  | 6390.3  | 5263.0 | 4580.0 | 4224.9 | 4932.6 |
| 62.5° | 9760.6  | 9768.9 | 9801.8 | 9688.9  | 8813.1  | 7999.7  | 7135.6  | 5860.1 | 5083.1 | 4635.2 | 5280.6 |
| 65°   | 8609.8  | 8677.9 | 9303.3 | 10448.3 | 9935.8  | 9060.0  | 8084.3  | 6589.0 | 5659.1 | 5101.9 | 5556.8 |
| 67.5° | 7128.6  | 7227.3 | 8005.5 | 10892.7 | 11132.5 | 10436.6 | 9405.6  | 7517.7 | 6345.6 | 5576.8 | 5661.5 |
| 70°   | 5456.9  | 5562.7 | 6505.5 | 10799.8 | 12252.8 | 11941.3 | 11039.6 | 8699.1 | 7056.9 | 5906.0 | 5394.6 |
| 72.5° | 3894.6  | 3948.7 | 4691.6 | 9973.4  | 12712.5 | 12966.4 | 12243.4 | 9818.2 | 7420.1 | 5723.8 | 4400.1 |
| 75°   | 2736.7  | 2727.3 | 3219.8 | 8031.4  | 11996.5 | 12841.8 | 11821.4 | 9212.8 | 6714.8 | 4547.0 | 2713.2 |
| 77.5° | 1192.0  | 1194.4 | 1608.2 | 4877.4  | 9574.9  | 10967.9 | 9826.5  | 5770.8 | 4681.1 | 2409.9 | 1145.0 |
| 80°   | 309.2   | 318.6  | 590.1  | 1942.0  | 5764.9  | 7239.1  | 5993.0  | 2536.8 | 2163.0 | 587.8  | 218.7  |
| 82.5° | 109.3   | 116.4  | 271.6  | 610.1   | 2126.6  | 3319.8  | 2668.5  | 811.1  | 564.3  | 168.1  | 58.8   |
| 85°   | 31.7    | 37.6   | 145.8  | 186.9   | 439.7   | 938.1   | 647.7   | 157.5  | 138.7  | 87.0   | 15.3   |
| 87.5° | 0.0     | 4.7    | 29.4   | 25.9    | 25.9    | 17.6    | 32.9    | 17.6   | 22.3   | 10.6   | 4.7    |
| 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°    | 2066.6 | 2066.6 | 2066.6 | 2066.6 | 2066.6 | 2066.6 | 2066.6 | 2066.6 | 2066.6 | 2066.6 | 2066.6 |
| 2.5°  | 2077.2 | 2069.0 | 2051.3 | 2032.5 | 2014.9 | 1998.4 | 1993.7 | 1976.1 | 1967.9 | 1969.1 | 1967.9 |
| 5°    | 2087.8 | 2072.5 | 2038.4 | 1997.3 | 1954.9 | 1906.8 | 1866.8 | 1810.4 | 1762.2 | 1756.3 | 1752.8 |
| 7.5°  | 2116.0 | 2091.3 | 2036.1 | 1956.1 | 1850.3 | 1717.5 | 1594.1 | 1471.8 | 1402.4 | 1364.8 | 1362.5 |
| 10°   | 2159.5 | 2126.6 | 2041.9 | 1889.1 | 1664.6 | 1427.1 | 1240.2 | 1086.2 | 1007.5 | 971.0  | 964.0  |
| 12.5° | 2211.2 | 2174.8 | 2051.3 | 1775.1 | 1424.8 | 1113.3 | 911.1  | 817.0  | 800.6  | 798.2  | 797.0  |
| 15°   | 2284.1 | 2244.1 | 2061.9 | 1621.1 | 1165.0 | 847.6  | 754.7  | 755.9  | 768.8  | 775.9  | 774.7  |
| 17.5° | 2365.2 | 2325.2 | 2046.6 | 1433.0 | 908.7  | 724.1  | 721.8  | 732.4  | 751.2  | 758.2  | 757.1  |
| 20°   | 2447.5 | 2409.9 | 1992.6 | 1212.0 | 734.7  | 690.1  | 699.5  | 711.2  | 730.0  | 739.4  | 739.4  |
| 22.5° | 2532.1 | 2499.2 | 1906.8 | 976.9  | 663.0  | 665.4  | 677.1  | 688.9  | 710.0  | 720.6  | 720.6  |
| 25°   | 2622.7 | 2594.4 | 1792.7 | 782.9  | 632.4  | 639.5  | 654.8  | 668.9  | 691.2  | 704.2  | 704.2  |
| 27.5° | 2714.4 | 2693.2 | 1663.4 | 653.6  | 604.2  | 612.5  | 630.1  | 648.9  | 671.2  | 686.5  | 687.7  |
| 30°   | 2814.3 | 2802.5 | 1560.0 | 605.4  | 577.2  | 584.3  | 604.2  | 625.4  | 650.1  | 668.9  | 671.2  |
| 32.5° | 2916.6 | 2914.2 | 1509.4 | 640.7  | 552.5  | 557.2  | 574.8  | 596.0  | 626.6  | 650.1  | 652.4  |
| 35°   | 3017.6 | 3022.4 | 1480.0 | 740.6  | 544.3  | 531.4  | 543.1  | 561.9  | 598.4  | 627.7  | 632.4  |
| 37.5° | 3147.0 | 3158.7 | 1478.8 | 848.8  | 564.3  | 505.5  | 513.7  | 526.6  | 558.4  | 592.5  | 598.4  |
| 40°   | 3339.8 | 3402.1 | 1554.1 | 941.6  | 599.5  | 482.0  | 484.3  | 486.7  | 503.1  | 531.4  | 540.8  |
| 42.5° | 3596.0 | 3778.2 | 1825.6 | 1005.1 | 613.6  | 460.8  | 452.6  | 439.7  | 437.3  | 452.6  | 460.8  |
| 45°   | 3914.6 | 4233.2 | 2302.9 | 1040.4 | 599.5  | 437.3  | 415.0  | 380.9  | 367.9  | 378.5  | 378.5  |
| 47.5° | 4289.6 | 4731.6 | 2868.4 | 1048.6 | 576.0  | 407.9  | 367.9  | 323.3  | 312.7  | 316.2  | 315.0  |
| 50°   | 4655.2 | 5105.4 | 3365.6 | 980.4  | 537.2  | 370.3  | 316.2  | 278.6  | 271.6  | 272.7  | 272.7  |
| 52.5° | 4978.5 | 5233.6 | 3506.7 | 819.4  | 485.5  | 324.5  | 271.6  | 245.7  | 241.0  | 241.0  | 239.8  |
| 55°   | 5192.4 | 5094.9 | 3127.0 | 626.6  | 420.8  | 277.4  | 232.8  | 219.8  | 217.5  | 216.3  | 214.0  |
| 57.5° | 5237.1 | 4643.4 | 2361.7 | 452.6  | 329.2  | 233.9  | 206.9  | 199.8  | 195.1  | 190.4  | 188.1  |
| 60°   | 5077.2 | 3891.1 | 1503.5 | 316.2  | 246.9  | 199.8  | 183.4  | 178.7  | 169.3  | 159.9  | 156.3  |
| 62.5° | 4731.6 | 2938.9 | 832.3  | 219.8  | 198.7  | 170.5  | 162.2  | 156.3  | 138.7  | 123.4  | 118.7  |
| 65°   | 4267.3 | 1953.8 | 367.9  | 171.6  | 162.2  | 143.4  | 138.7  | 130.5  | 109.3  | 91.7   | 88.2   |
| 67.5° | 3800.6 | 1125.0 | 165.8  | 137.5  | 130.5  | 117.6  | 114.0  | 108.2  | 92.9   | 76.4   | 74.1   |
| 70°   | 3268.0 | 570.1  | 114.0  | 109.3  | 101.1  | 89.3   | 92.9   | 91.7   | 76.4   | 62.3   | 60.0   |
| 72.5° | 2433.4 | 283.3  | 85.8   | 82.3   | 72.9   | 63.5   | 76.4   | 75.2   | 60.0   | 47.0   | 44.7   |
| 75°   | 1377.8 | 139.9  | 62.3   | 57.6   | 43.5   | 47.0   | 61.1   | 57.6   | 41.1   | 30.6   | 28.2   |
| 77.5° | 546.6  | 71.7   | 41.1   | 35.3   | 25.9   | 31.7   | 44.7   | 38.8   | 21.2   | 12.9   | 11.8   |
| 80°   | 125.8  | 35.3   | 21.2   | 15.3   | 11.8   | 18.8   | 23.5   | 14.1   | 5.9    | 1.2    | 0.0    |
| 82.5° | 35.3   | 15.3   | 7.1    | 5.9    | 5.9    | 7.1    | 5.9    | 2.4    | 0.0    | 0.0    | 0.0    |
| 85°   | 11.8   | 7.1    | 2.4    | 1.2    | 1.2    | 1.2    | 1.2    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 4.7    | 2.4    | 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)