

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: P195459

Luminaire Tested: **NAV-AF-03-D-UNV-5NQ-7050-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195459  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-03-D-UNV-5NQ-7050-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12269 lumens  
Efficiency: N/A  
Efficacy: 127.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type V - Short - Full Cutoff  
BUG Rating: B3 - U0 - G2

Input Watts (W): 96  
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: 25 FT

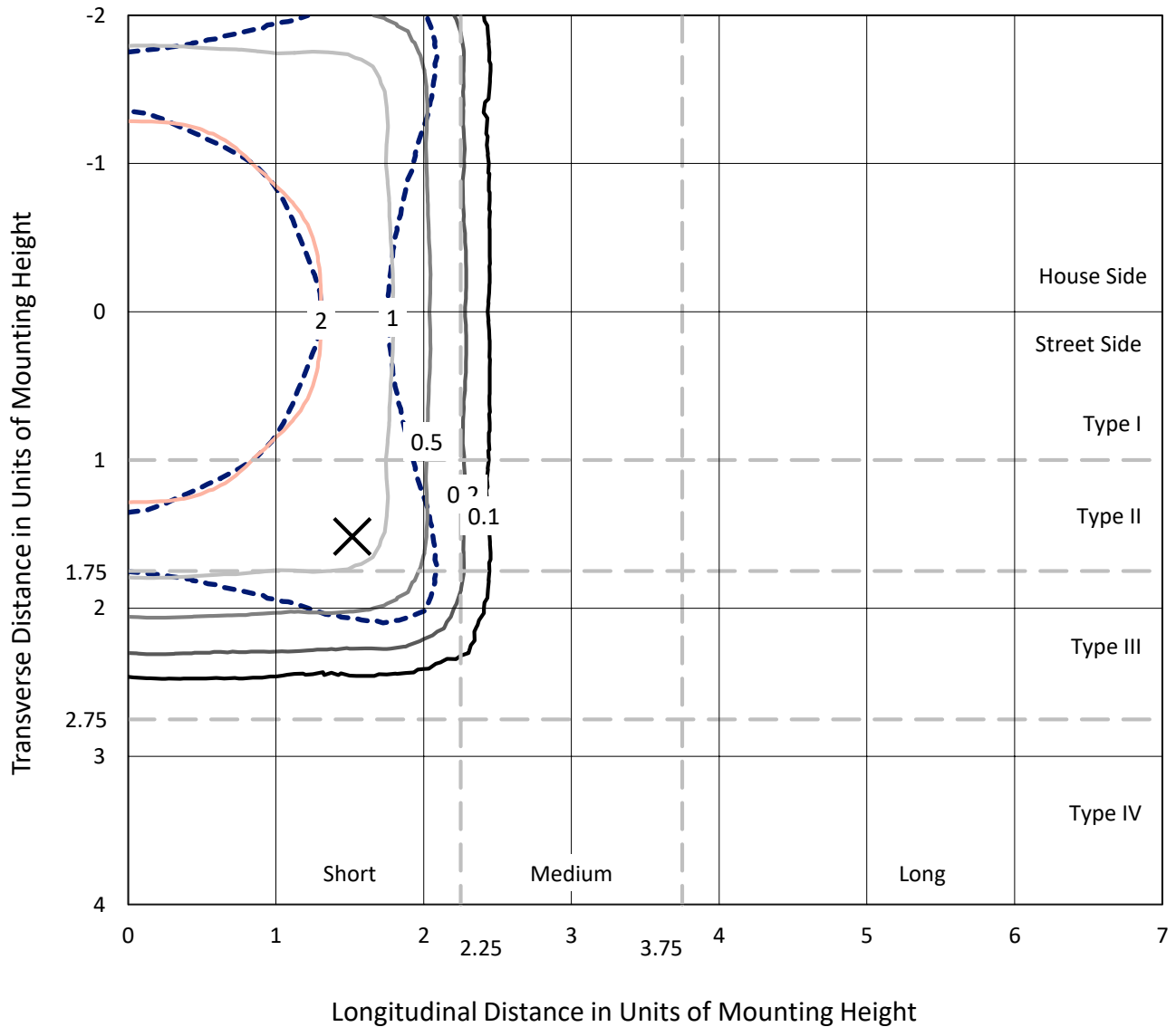


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### Iso-Footcandle Lines of Horizontal Illumination

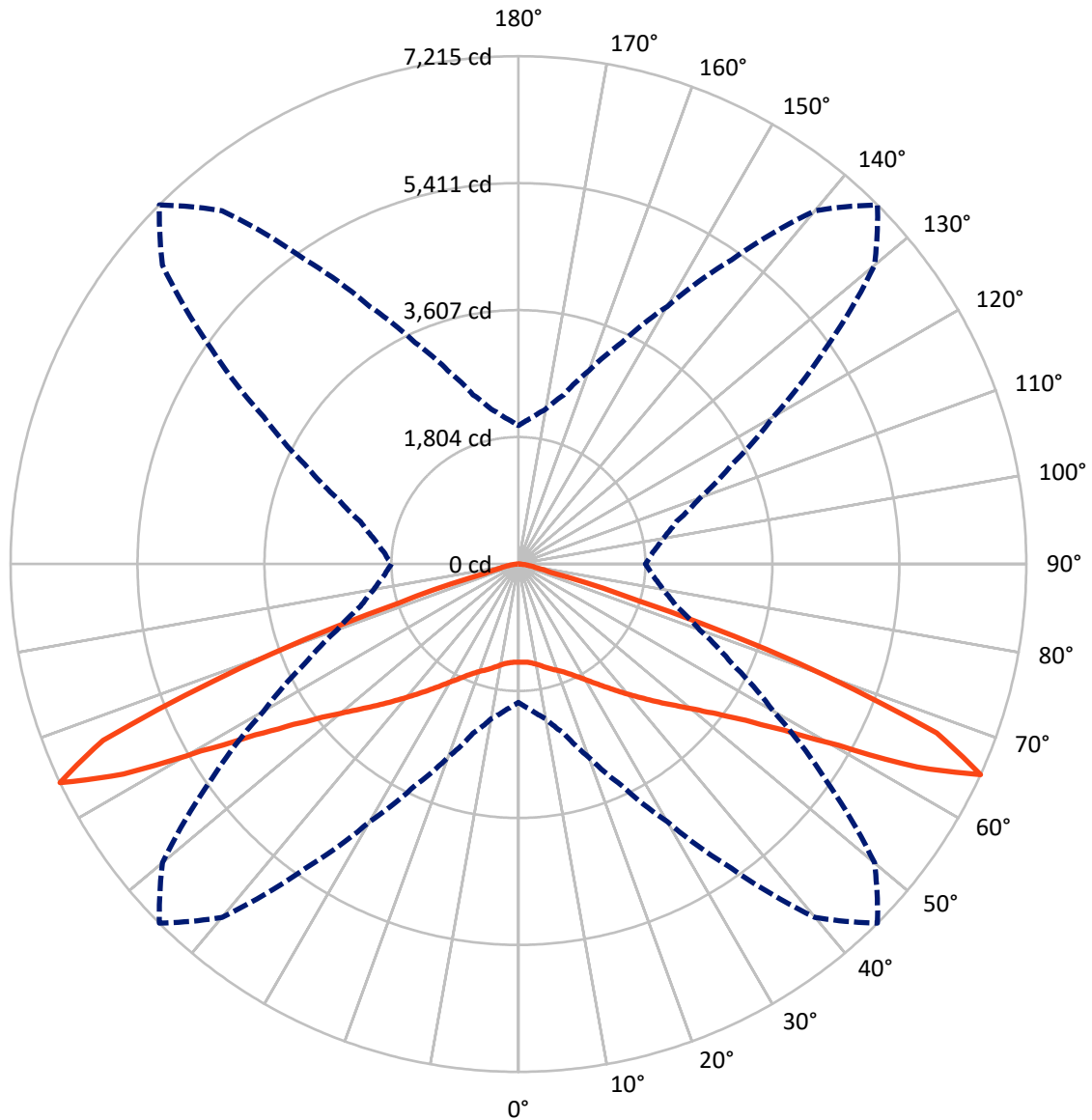
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.5 fc  
 Type V - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral      - - - Horizontal Cone Through 65-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 6134.5   | 0.0    | 6134.5  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 6134.5   | 0.0    | 6134.5  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 12269.0  | 0.0    | 12269.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 135.9   | 1.1       |
| 10°-20°   | 435.6   | 3.6       |
| 20°-30°   | 812.5   | 6.6       |
| 30°-40°   | 1370.1  | 11.2      |
| 40°-50°   | 2225.4  | 18.1      |
| 50°-60°   | 3486.9  | 28.4      |
| 60°-70°   | 3291.4  | 26.8      |
| 70°-80°   | 443.6   | 3.6       |
| 80°-90°   | 67.6    | 0.6       |
| 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°    | 12269.0 | 100.0     |
| 0°-180°   | 12269.0 | 100.0     |

**Coefficient of Utilization**



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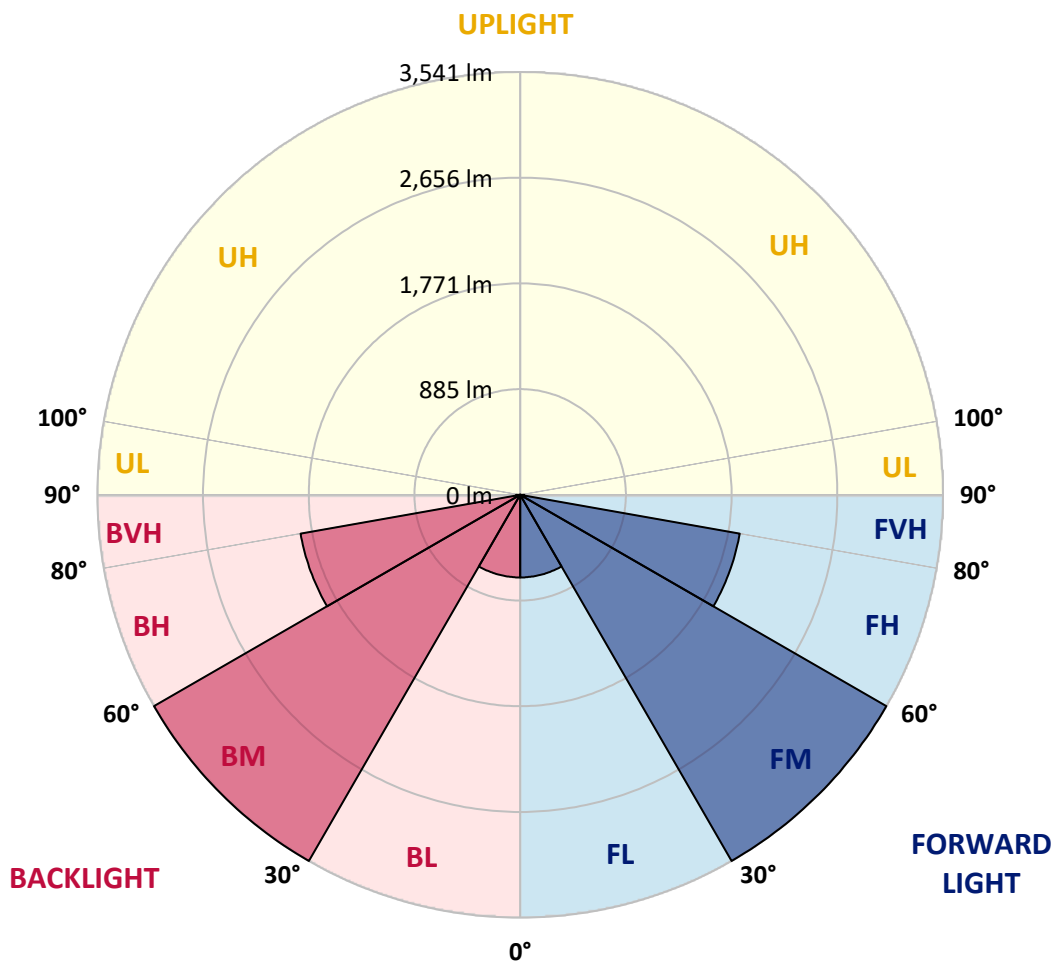
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 692.0  | 5.6       |                         |      |         |
| FM   | (30°-60°)   | 3541.2 | 28.9      |                         |      |         |
| FH   | (60°-80°)   | 1867.5 | 15.2      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 33.8   | 0.3       |                         |      | G1/100  |
| BL   | (0°-30°)    | 692.0  | 5.6       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 3541.2 | 28.9      | B3/5000                 |      |         |
| BH   | (60°-80°)   | 1867.5 | 15.2      | B3/2500                 |      | G2/5000 |
| BVH  | (80°-90°)   | 33.8   | 0.3       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G2**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 |
| 2.5°  | 1407.0 | 1407.0 | 1409.3 | 1408.6 | 1405.5 | 1403.2 | 1400.9 | 1397.9 | 1396.3 | 1394.8 | 1394.1 |
| 5°    | 1414.7 | 1414.7 | 1417.0 | 1416.2 | 1413.9 | 1410.9 | 1409.3 | 1407.0 | 1404.8 | 1403.2 | 1404.0 |
| 7.5°  | 1433.8 | 1434.6 | 1435.3 | 1434.6 | 1432.3 | 1430.0 | 1426.9 | 1426.2 | 1423.1 | 1420.8 | 1422.3 |
| 10°   | 1462.8 | 1462.8 | 1463.6 | 1464.4 | 1462.8 | 1457.5 | 1457.5 | 1456.0 | 1452.9 | 1449.8 | 1450.6 |
| 12.5° | 1494.9 | 1494.9 | 1495.7 | 1495.7 | 1495.7 | 1492.6 | 1493.4 | 1492.6 | 1488.8 | 1487.3 | 1488.8 |
| 15°   | 1526.3 | 1527.0 | 1527.0 | 1528.6 | 1528.6 | 1529.3 | 1532.4 | 1532.4 | 1530.9 | 1530.1 | 1530.1 |
| 17.5° | 1563.0 | 1564.5 | 1565.3 | 1567.5 | 1568.3 | 1569.8 | 1572.9 | 1573.7 | 1574.4 | 1572.1 | 1572.9 |
| 20°   | 1611.9 | 1612.6 | 1614.9 | 1615.7 | 1618.8 | 1618.8 | 1620.3 | 1619.5 | 1618.0 | 1614.9 | 1614.9 |
| 22.5° | 1666.9 | 1668.4 | 1673.0 | 1673.0 | 1676.8 | 1674.5 | 1675.3 | 1673.0 | 1669.2 | 1667.7 | 1666.1 |
| 25°   | 1738.7 | 1741.0 | 1744.9 | 1743.3 | 1744.9 | 1741.0 | 1741.0 | 1741.0 | 1738.7 | 1736.5 | 1735.7 |
| 27.5° | 1829.7 | 1825.9 | 1829.7 | 1826.6 | 1825.9 | 1822.8 | 1823.6 | 1822.1 | 1819.8 | 1819.0 | 1815.9 |
| 30°   | 1924.5 | 1919.9 | 1922.2 | 1922.9 | 1921.4 | 1920.6 | 1917.6 | 1915.3 | 1911.5 | 1912.2 | 1909.9 |
| 32.5° | 2033.0 | 2028.4 | 2030.7 | 2031.5 | 2029.9 | 2031.5 | 2030.7 | 2025.4 | 2020.8 | 2023.8 | 2023.8 |
| 35°   | 2162.2 | 2159.1 | 2165.2 | 2167.5 | 2162.9 | 2160.6 | 2157.6 | 2151.5 | 2144.6 | 2149.2 | 2149.9 |
| 37.5° | 2317.3 | 2313.5 | 2318.1 | 2324.2 | 2315.8 | 2311.2 | 2299.0 | 2289.8 | 2285.2 | 2287.5 | 2290.6 |
| 40°   | 2478.6 | 2479.3 | 2492.3 | 2493.9 | 2484.7 | 2479.3 | 2467.1 | 2453.4 | 2440.4 | 2440.4 | 2444.2 |
| 42.5° | 2648.2 | 2650.5 | 2665.8 | 2671.2 | 2668.1 | 2658.2 | 2641.4 | 2624.6 | 2607.7 | 2610.8 | 2615.4 |
| 45°   | 2840.1 | 2837.0 | 2853.1 | 2866.1 | 2863.8 | 2860.7 | 2844.7 | 2814.1 | 2798.8 | 2798.0 | 2805.7 |
| 47.5° | 3041.9 | 3048.0 | 3064.8 | 3086.9 | 3086.2 | 3078.5 | 3057.9 | 3029.6 | 3001.3 | 3003.6 | 3012.8 |
| 50°   | 3277.3 | 3285.7 | 3313.9 | 3336.1 | 3339.2 | 3336.9 | 3312.4 | 3279.5 | 3239.8 | 3242.1 | 3254.3 |
| 52.5° | 3488.2 | 3500.4 | 3533.3 | 3579.1 | 3607.4 | 3620.4 | 3604.4 | 3573.8 | 3533.3 | 3535.6 | 3548.6 |
| 55°   | 3679.3 | 3698.4 | 3747.3 | 3810.0 | 3866.5 | 3919.3 | 3942.9 | 3942.2 | 3912.4 | 3919.3 | 3936.1 |
| 57.5° | 3799.3 | 3826.0 | 3900.1 | 4001.0 | 4113.4 | 4219.6 | 4311.3 | 4397.7 | 4416.8 | 4452.7 | 4452.7 |
| 60°   | 3638.0 | 3700.7 | 3799.3 | 3972.0 | 4192.9 | 4431.3 | 4689.7 | 4941.1 | 5103.1 | 5230.8 | 5162.0 |
| 62.5° | 3038.0 | 3130.5 | 3268.8 | 3496.6 | 3840.5 | 4266.2 | 4785.2 | 5369.9 | 5979.8 | 6352.7 | 6079.1 |
| 65°   | 1965.7 | 2081.9 | 2232.5 | 2488.5 | 2921.9 | 3469.9 | 4225.7 | 5276.6 | 6553.0 | 7214.8 | 6603.4 |
| 67.5° | 778.8  | 857.5  | 949.2  | 1131.1 | 1507.2 | 2045.2 | 2893.6 | 4189.8 | 5786.4 | 6410.8 | 5725.3 |
| 70°   | 372.2  | 385.2  | 402.8  | 441.8  | 535.8  | 723.0  | 1162.5 | 2064.3 | 3548.6 | 4206.6 | 3463.7 |
| 72.5° | 269.0  | 271.3  | 279.7  | 292.7  | 320.2  | 358.4  | 435.6  | 631.3  | 1223.6 | 1779.3 | 1225.1 |
| 75°   | 204.1  | 207.1  | 211.7  | 218.6  | 233.1  | 251.4  | 280.5  | 336.3  | 418.8  | 483.0  | 418.1  |
| 77.5° | 155.1  | 158.2  | 162.0  | 168.9  | 176.5  | 189.5  | 200.2  | 222.4  | 257.6  | 271.3  | 269.8  |
| 80°   | 113.1  | 118.5  | 124.6  | 130.7  | 136.0  | 142.2  | 142.9  | 153.6  | 173.5  | 186.5  | 182.7  |
| 82.5° | 71.8   | 76.4   | 92.5   | 99.4   | 100.1  | 101.6  | 100.9  | 101.6  | 112.3  | 121.5  | 118.5  |
| 85°   | 45.9   | 48.9   | 57.3   | 65.0   | 63.4   | 66.5   | 66.5   | 65.0   | 60.4   | 52.0   | 61.9   |
| 87.5° | 22.9   | 23.7   | 27.5   | 34.4   | 32.9   | 29.0   | 28.3   | 28.3   | 20.6   | 17.6   | 19.1   |
| 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):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 | 1395.6 |
| 2.5°  | 1391.8 | 1393.3 | 1391.0 | 1391.0 | 1390.2 | 1391.8 | 1389.5 | 1389.5 |
| 5°    | 1402.5 | 1404.8 | 1404.0 | 1404.0 | 1405.5 | 1407.0 | 1406.3 | 1405.5 |
| 7.5°  | 1421.6 | 1423.1 | 1424.6 | 1425.4 | 1426.9 | 1426.2 | 1427.7 | 1426.9 |
| 10°   | 1450.6 | 1449.1 | 1451.4 | 1449.1 | 1449.8 | 1448.3 | 1449.1 | 1449.1 |
| 12.5° | 1487.3 | 1485.0 | 1483.5 | 1481.9 | 1481.9 | 1478.9 | 1478.9 | 1479.7 |
| 15°   | 1529.3 | 1525.5 | 1522.5 | 1520.9 | 1519.4 | 1519.4 | 1517.1 | 1518.6 |
| 17.5° | 1570.6 | 1566.8 | 1561.4 | 1561.4 | 1559.1 | 1557.6 | 1556.1 | 1559.9 |
| 20°   | 1614.2 | 1610.3 | 1607.3 | 1606.5 | 1601.9 | 1600.4 | 1601.2 | 1605.8 |
| 22.5° | 1664.6 | 1662.3 | 1662.3 | 1660.8 | 1657.7 | 1655.4 | 1655.4 | 1660.8 |
| 25°   | 1732.6 | 1728.0 | 1728.8 | 1729.6 | 1728.0 | 1728.0 | 1726.5 | 1730.3 |
| 27.5° | 1815.9 | 1812.1 | 1814.4 | 1815.9 | 1814.4 | 1816.7 | 1814.4 | 1817.5 |
| 30°   | 1913.8 | 1911.5 | 1913.8 | 1916.1 | 1912.2 | 1912.2 | 1910.7 | 1913.0 |
| 32.5° | 2030.7 | 2027.6 | 2029.2 | 2029.2 | 2023.8 | 2019.2 | 2013.1 | 2017.7 |
| 35°   | 2159.1 | 2155.3 | 2158.3 | 2160.6 | 2154.5 | 2149.9 | 2140.8 | 2144.6 |
| 37.5° | 2300.5 | 2302.0 | 2305.8 | 2315.8 | 2314.3 | 2306.6 | 2299.7 | 2302.8 |
| 40°   | 2458.7 | 2466.3 | 2483.2 | 2490.0 | 2488.5 | 2480.9 | 2471.7 | 2473.2 |
| 42.5° | 2637.5 | 2647.5 | 2665.1 | 2676.5 | 2671.2 | 2660.5 | 2649.0 | 2653.6 |
| 45°   | 2832.4 | 2847.7 | 2870.7 | 2882.1 | 2875.2 | 2863.8 | 2847.7 | 2856.1 |
| 47.5° | 3038.8 | 3069.4 | 3099.9 | 3115.2 | 3112.9 | 3096.9 | 3076.2 | 3078.5 |
| 50°   | 3285.7 | 3326.2 | 3365.1 | 3380.4 | 3369.0 | 3344.5 | 3315.5 | 3314.7 |
| 52.5° | 3592.9 | 3636.5 | 3668.6 | 3664.7 | 3636.5 | 3598.3 | 3565.4 | 3563.9 |
| 55°   | 3976.6 | 3991.1 | 3986.5 | 3953.6 | 3904.0 | 3844.4 | 3802.3 | 3795.4 |
| 57.5° | 4440.5 | 4391.6 | 4319.7 | 4220.4 | 4108.8 | 3995.7 | 3919.3 | 3891.0 |
| 60°   | 5007.6 | 4786.7 | 4529.9 | 4259.4 | 4012.5 | 3827.5 | 3710.6 | 3639.5 |
| 62.5° | 5476.1 | 4836.4 | 4262.4 | 3792.4 | 3407.9 | 3179.4 | 3019.7 | 2921.1 |
| 65°   | 5315.6 | 4178.3 | 3346.8 | 2740.7 | 2321.1 | 2085.0 | 1916.1 | 1803.7 |
| 67.5° | 4106.5 | 2791.9 | 1942.8 | 1346.7 | 1021.1 | 864.4  | 755.1  | 684.0  |
| 70°   | 2070.4 | 1070.8 | 648.9  | 457.8  | 391.3  | 363.8  | 345.5  | 334.8  |
| 72.5° | 607.6  | 405.8  | 337.0  | 298.1  | 274.4  | 257.6  | 246.9  | 241.5  |
| 75°   | 336.3  | 274.4  | 242.3  | 220.1  | 204.8  | 193.4  | 186.5  | 181.9  |
| 77.5° | 231.6  | 199.5  | 183.4  | 168.9  | 156.7  | 148.3  | 142.9  | 138.3  |
| 80°   | 162.0  | 146.0  | 139.1  | 131.5  | 122.3  | 115.4  | 107.8  | 104.7  |
| 82.5° | 107.8  | 100.9  | 99.4   | 93.2   | 87.9   | 80.2   | 66.5   | 61.9   |
| 85°   | 63.4   | 62.7   | 62.7   | 60.4   | 56.6   | 49.7   | 39.7   | 39.7   |
| 87.5° | 22.2   | 22.9   | 23.7   | 25.2   | 24.5   | 20.6   | 16.8   | 16.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)