

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: P270261

Luminaire Tested: **NAV-AF-01-D-UNV-RW-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270261
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24161)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-RW-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 2700K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5423.7 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

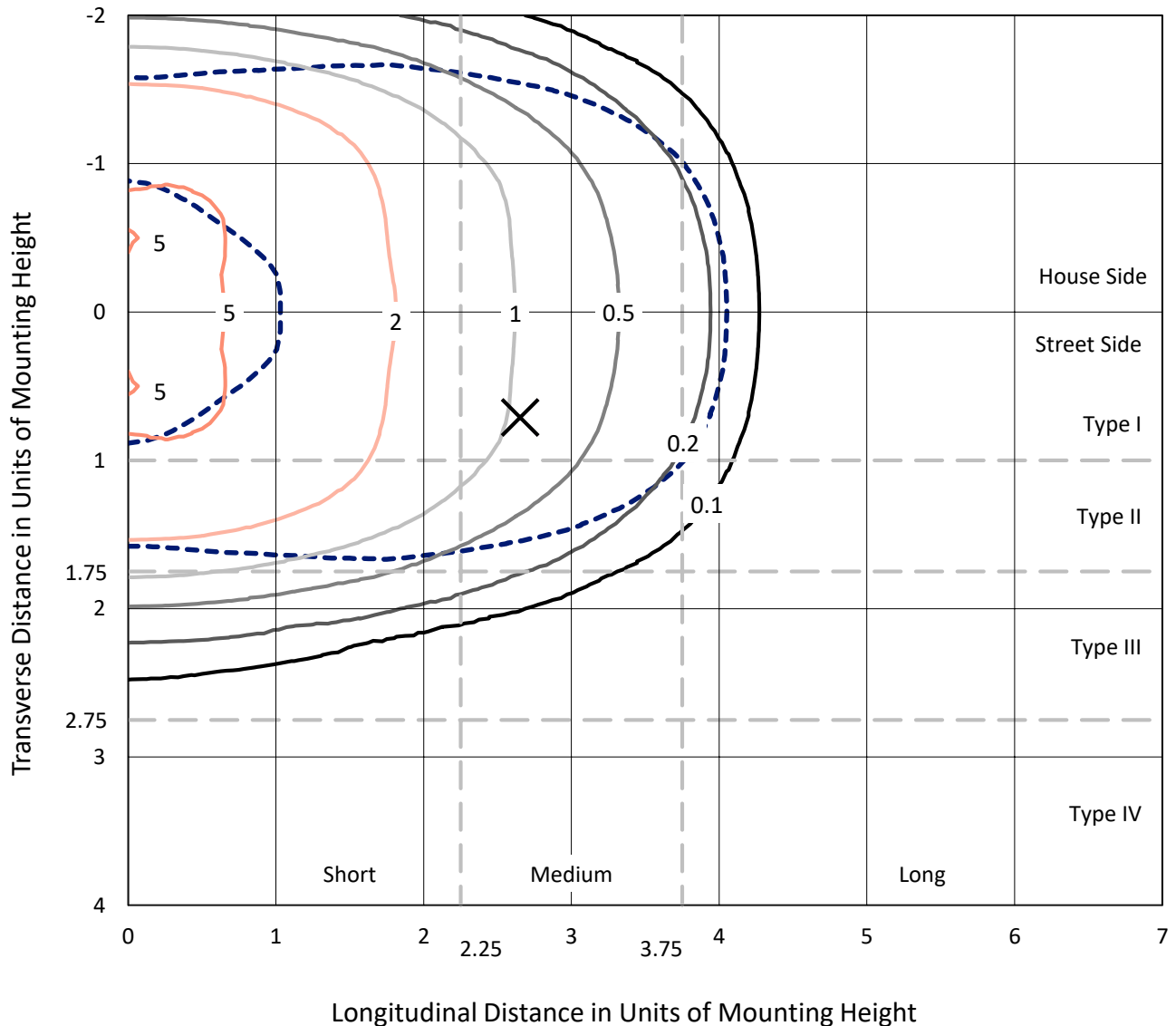
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

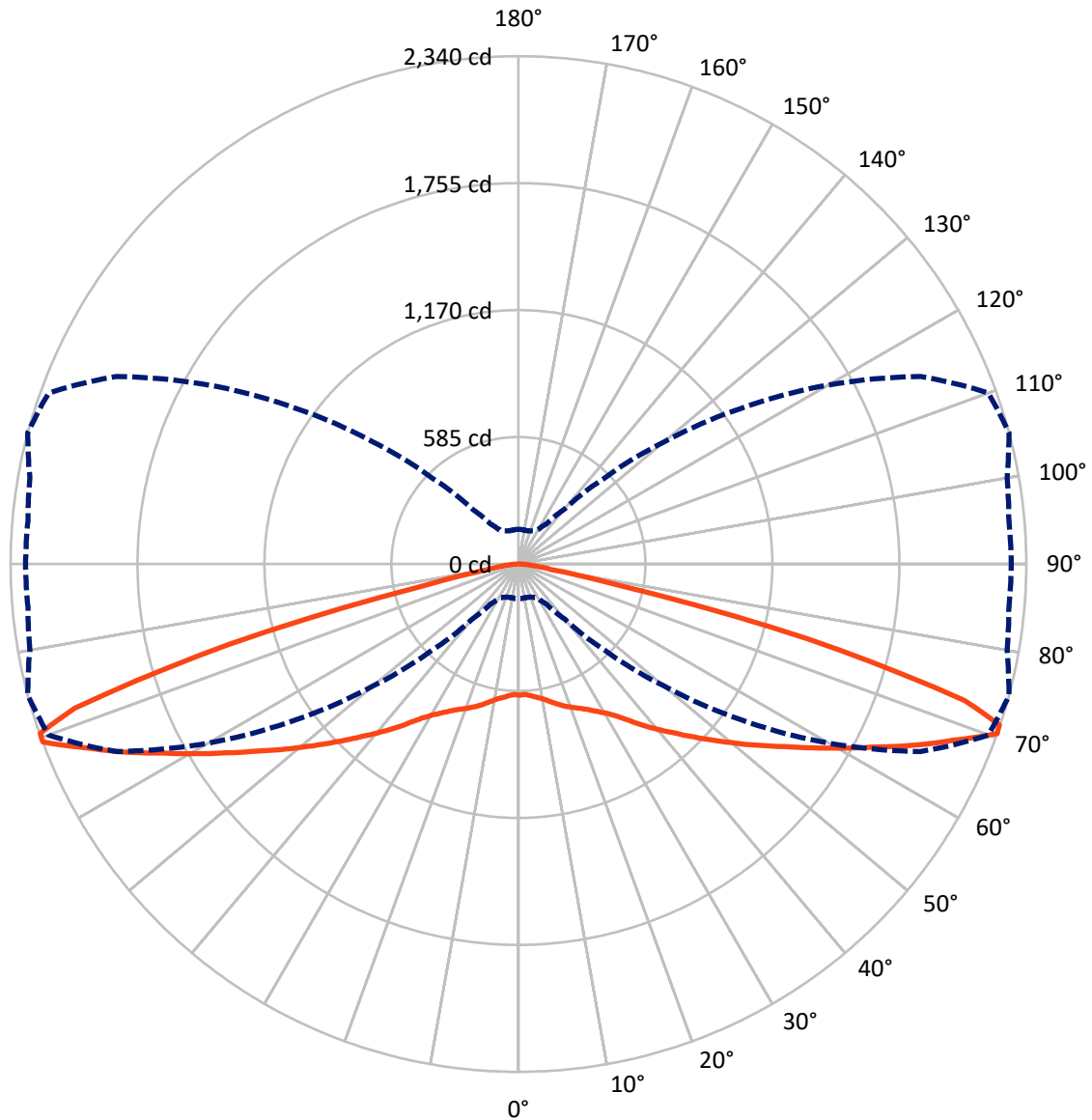
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.1 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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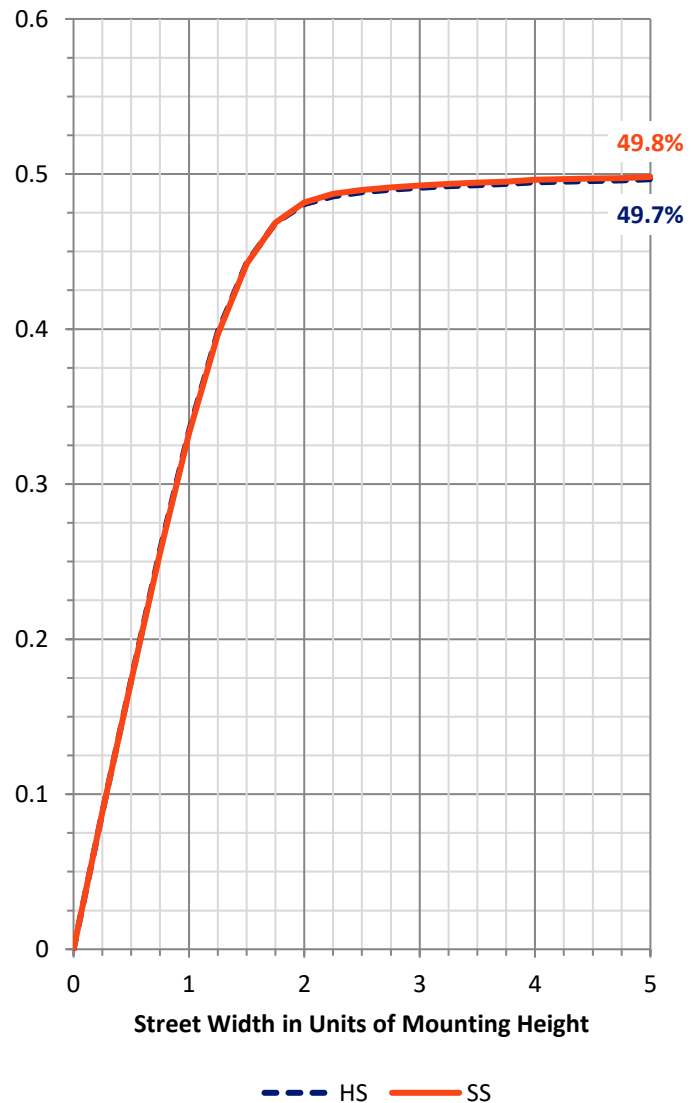
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 2711.8 | 0.0 | 2711.8 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 2711.8 | 0.0 | 2711.8 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 5423.7 | 0.0 | 5423.7 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 57.9 | 1.1 |
| 10°-20° | 179.7 | 3.3 |
| 20°-30° | 337.4 | 6.2 |
| 30°-40° | 594.4 | 11.0 |
| 40°-50° | 985.2 | 18.2 |
| 50°-60° | 1370.5 | 25.3 |
| 60°-70° | 1293.8 | 23.9 |
| 70°-80° | 552.6 | 10.2 |
| 80°-90° | 52.2 | 1.0 |
| 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° | 5423.7 | 100.0 |
| 0°-180° | 5423.7 | 100.0 |



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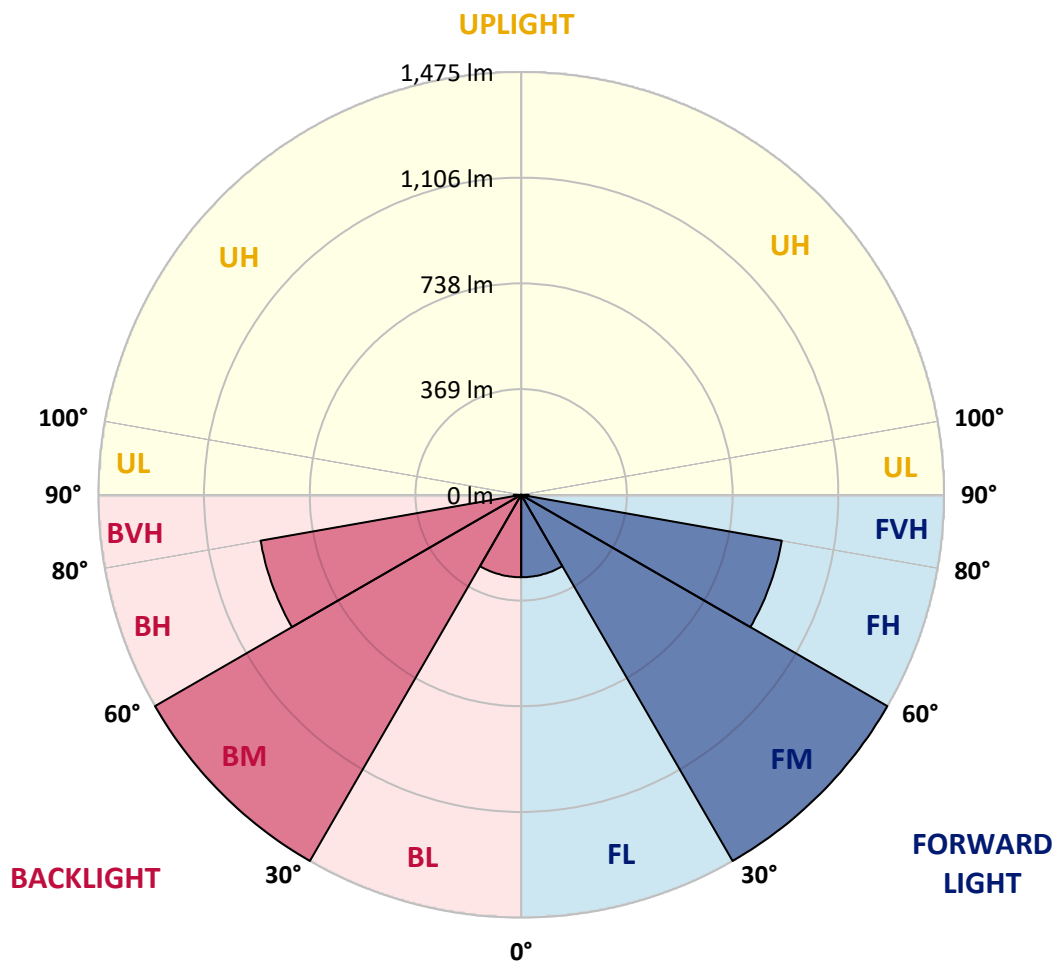
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 287.5 | 5.3 | | | |
| FM | (30°-60°) | 1475.0 | 27.2 | | | |
| FH | (60°-80°) | 923.2 | 17.0 | | | G1/1800 |
| FVH | (80°-90°) | 26.1 | 0.5 | | | G1/100 |
| BL | (0°-30°) | 287.5 | 5.3 | B1/500 | | |
| BM | (30°-60°) | 1475.0 | 27.2 | B2/2500 | | |
| BH | (60°-80°) | 923.2 | 17.0 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 26.1 | 0.5 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 |
| 2.5° | 607.8 | 607.3 | 607.8 | 606.6 | 607.1 | 606.6 | 606.6 | 605.4 | 605.4 | 604.6 | 603.7 |
| 5° | 601.0 | 601.5 | 601.5 | 601.5 | 602.7 | 602.7 | 604.0 | 604.3 | 605.4 | 606.4 | 607.1 |
| 7.5° | 589.6 | 590.0 | 591.1 | 591.8 | 593.8 | 596.6 | 599.2 | 602.3 | 605.0 | 608.4 | 612.1 |
| 10° | 580.1 | 580.8 | 582.6 | 584.3 | 588.0 | 591.4 | 596.1 | 601.0 | 605.6 | 611.4 | 617.2 |
| 12.5° | 575.0 | 576.2 | 578.8 | 581.6 | 587.3 | 591.8 | 598.2 | 605.6 | 612.1 | 617.6 | 624.1 |
| 15° | 575.8 | 576.2 | 579.9 | 583.5 | 591.8 | 597.8 | 607.1 | 615.9 | 623.8 | 629.8 | 637.3 |
| 17.5° | 585.6 | 586.4 | 590.0 | 595.4 | 603.3 | 611.0 | 621.0 | 630.2 | 640.8 | 647.8 | 656.8 |
| 20° | 605.0 | 606.0 | 610.0 | 615.9 | 624.4 | 632.5 | 642.7 | 652.2 | 663.0 | 671.7 | 680.5 |
| 22.5° | 630.2 | 631.9 | 636.3 | 643.4 | 651.9 | 661.7 | 672.3 | 682.2 | 692.4 | 700.9 | 708.4 |
| 25° | 663.8 | 665.9 | 670.6 | 677.7 | 686.2 | 696.7 | 707.7 | 717.8 | 728.3 | 734.9 | 740.9 |
| 27.5° | 709.0 | 712.4 | 717.4 | 723.2 | 730.7 | 742.0 | 752.2 | 760.7 | 770.8 | 778.0 | 782.1 |
| 30° | 769.8 | 774.6 | 778.7 | 784.8 | 790.1 | 802.1 | 810.4 | 817.1 | 825.0 | 829.0 | 830.0 |
| 32.5° | 844.2 | 848.7 | 852.9 | 857.3 | 864.7 | 875.6 | 883.4 | 887.0 | 891.2 | 890.5 | 886.7 |
| 35° | 928.2 | 931.6 | 934.0 | 941.9 | 954.1 | 961.1 | 966.9 | 968.4 | 969.0 | 961.8 | 954.8 |
| 37.5° | 1016.6 | 1020.7 | 1022.7 | 1034.9 | 1046.5 | 1054.7 | 1057.3 | 1060.4 | 1058.5 | 1046.5 | 1033.6 |
| 40° | 1112.1 | 1116.6 | 1122.6 | 1133.2 | 1146.7 | 1154.6 | 1157.9 | 1157.6 | 1155.9 | 1142.0 | 1120.9 |
| 42.5° | 1206.0 | 1211.4 | 1216.5 | 1234.8 | 1245.9 | 1259.2 | 1261.0 | 1260.6 | 1256.9 | 1240.9 | 1216.5 |
| 45° | 1285.5 | 1291.9 | 1302.5 | 1322.8 | 1340.9 | 1356.8 | 1363.3 | 1365.7 | 1361.9 | 1344.9 | 1317.0 |
| 47.5° | 1351.1 | 1355.5 | 1368.7 | 1393.5 | 1416.6 | 1440.2 | 1453.0 | 1462.3 | 1461.8 | 1449.7 | 1420.0 |
| 50° | 1396.0 | 1400.9 | 1417.3 | 1445.3 | 1474.1 | 1501.6 | 1527.1 | 1547.8 | 1557.8 | 1548.9 | 1521.3 |
| 52.5° | 1408.8 | 1415.3 | 1436.7 | 1469.9 | 1503.7 | 1540.8 | 1578.9 | 1615.5 | 1637.6 | 1643.0 | 1621.6 |
| 55° | 1354.5 | 1361.7 | 1392.8 | 1439.1 | 1494.5 | 1549.1 | 1607.0 | 1659.3 | 1704.9 | 1726.0 | 1717.5 |
| 57.5° | 1196.1 | 1201.2 | 1240.9 | 1300.7 | 1379.9 | 1476.2 | 1573.3 | 1669.2 | 1747.4 | 1802.1 | 1811.6 |
| 60° | 945.9 | 952.4 | 996.0 | 1059.1 | 1149.1 | 1270.8 | 1406.7 | 1563.8 | 1717.1 | 1842.6 | 1904.8 |
| 62.5° | 638.3 | 642.7 | 684.5 | 742.3 | 840.9 | 958.1 | 1109.8 | 1308.7 | 1527.1 | 1751.1 | 1926.4 |
| 65° | 335.2 | 335.2 | 363.4 | 403.8 | 482.3 | 587.3 | 742.7 | 946.5 | 1206.7 | 1486.3 | 1779.6 |
| 67.5° | 194.5 | 194.0 | 200.5 | 209.8 | 234.5 | 276.9 | 362.6 | 512.6 | 758.6 | 1084.3 | 1418.1 |
| 70° | 160.4 | 159.4 | 158.5 | 158.5 | 162.1 | 168.6 | 185.0 | 226.1 | 330.7 | 559.1 | 872.6 |
| 71° | 153.3 | 152.6 | 149.8 | 148.8 | 150.6 | 154.0 | 161.1 | 180.1 | 234.8 | 381.3 | 651.6 |
| 72.5° | 144.7 | 143.1 | 139.0 | 137.4 | 137.7 | 139.0 | 141.0 | 148.5 | 165.2 | 216.9 | 371.4 |
| 75° | 132.0 | 127.7 | 122.7 | 120.4 | 119.4 | 118.9 | 118.9 | 121.0 | 124.8 | 130.9 | 152.3 |
| 77.5° | 116.9 | 111.1 | 105.7 | 103.3 | 101.6 | 100.6 | 99.9 | 98.5 | 97.8 | 100.6 | 108.4 |
| 80° | 99.0 | 92.7 | 88.4 | 87.0 | 86.0 | 83.9 | 81.2 | 78.5 | 76.8 | 78.2 | 83.0 |
| 82.5° | 76.4 | 70.3 | 71.1 | 71.3 | 69.7 | 66.3 | 63.6 | 60.5 | 57.4 | 56.8 | 59.2 |
| 85° | 60.8 | 57.9 | 55.8 | 60.1 | 56.5 | 52.3 | 48.6 | 43.5 | 36.4 | 30.0 | 32.6 |
| 87.5° | 26.2 | 26.5 | 38.1 | 57.4 | 50.3 | 40.5 | 33.6 | 27.2 | 17.3 | 12.9 | 13.2 |
| 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):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 | 604.0 |
| 2.5° | 603.3 | 603.3 | 602.3 | 601.5 | 601.5 | 601.5 | 601.0 | 601.2 |
| 5° | 607.3 | 608.1 | 608.7 | 608.4 | 609.4 | 610.5 | 610.0 | 609.8 |
| 7.5° | 614.3 | 616.1 | 618.3 | 619.3 | 620.5 | 621.9 | 622.3 | 621.3 |
| 10° | 621.0 | 625.0 | 628.2 | 630.8 | 632.5 | 633.8 | 634.9 | 634.6 |
| 12.5° | 629.4 | 635.2 | 640.8 | 646.2 | 649.8 | 651.9 | 654.0 | 653.2 |
| 15° | 643.4 | 649.8 | 656.8 | 663.8 | 669.5 | 672.7 | 675.6 | 675.0 |
| 17.5° | 662.4 | 668.2 | 673.6 | 680.7 | 687.9 | 691.3 | 694.7 | 694.4 |
| 20° | 686.2 | 690.6 | 693.8 | 697.9 | 704.6 | 708.4 | 711.4 | 710.4 |
| 22.5° | 713.4 | 714.8 | 715.1 | 716.5 | 721.9 | 726.3 | 730.4 | 731.4 |
| 25° | 743.0 | 742.0 | 739.9 | 738.9 | 742.7 | 747.4 | 752.5 | 753.9 |
| 27.5° | 779.6 | 776.2 | 771.3 | 767.2 | 768.1 | 774.2 | 780.1 | 781.3 |
| 30° | 825.9 | 818.0 | 807.2 | 799.4 | 798.1 | 804.5 | 810.6 | 812.6 |
| 32.5° | 878.6 | 868.0 | 853.1 | 841.3 | 836.1 | 841.9 | 847.3 | 850.3 |
| 35° | 941.2 | 929.6 | 911.6 | 896.2 | 888.2 | 891.8 | 901.4 | 904.8 |
| 37.5° | 1015.3 | 999.3 | 979.2 | 959.7 | 946.3 | 947.0 | 957.1 | 961.1 |
| 40° | 1097.2 | 1074.1 | 1048.5 | 1024.3 | 1004.8 | 1003.3 | 1012.5 | 1015.5 |
| 42.5° | 1182.4 | 1152.9 | 1123.1 | 1091.4 | 1066.8 | 1062.4 | 1074.5 | 1074.7 |
| 45° | 1274.2 | 1236.2 | 1199.1 | 1162.3 | 1137.0 | 1129.1 | 1140.7 | 1142.0 |
| 47.5° | 1372.2 | 1324.6 | 1280.8 | 1240.9 | 1213.4 | 1201.2 | 1212.4 | 1214.4 |
| 50° | 1474.1 | 1424.8 | 1373.8 | 1329.6 | 1297.3 | 1282.4 | 1295.6 | 1297.1 |
| 52.5° | 1575.1 | 1528.5 | 1477.8 | 1427.1 | 1388.2 | 1371.2 | 1386.8 | 1391.5 |
| 55° | 1676.6 | 1631.9 | 1584.3 | 1533.5 | 1484.3 | 1469.4 | 1486.3 | 1491.5 |
| 57.5° | 1782.3 | 1739.2 | 1696.0 | 1645.1 | 1597.1 | 1574.4 | 1592.8 | 1599.8 |
| 60° | 1898.9 | 1860.8 | 1820.1 | 1768.8 | 1721.5 | 1695.0 | 1710.6 | 1718.7 |
| 62.5° | 2013.6 | 2005.6 | 1968.6 | 1915.2 | 1855.4 | 1828.9 | 1842.2 | 1848.0 |
| 65° | 2023.1 | 2149.7 | 2148.0 | 2095.0 | 2011.5 | 1966.8 | 1970.6 | 1973.3 |
| 67.5° | 1765.7 | 2056.7 | 2242.6 | 2259.2 | 2166.2 | 2096.5 | 2088.3 | 2089.9 |
| 70° | 1250.1 | 1649.5 | 2044.1 | 2303.1 | 2339.7 | 2285.7 | 2268.1 | 2270.7 |
| 71° | 1001.6 | 1415.3 | 1849.7 | 2198.1 | 2337.1 | 2321.4 | 2311.6 | 2318.7 |
| 72.5° | 639.4 | 1042.8 | 1465.6 | 1882.3 | 2149.1 | 2225.6 | 2236.8 | 2241.2 |
| 75° | 232.1 | 448.7 | 759.2 | 1087.9 | 1378.9 | 1579.1 | 1689.3 | 1698.1 |
| 77.5° | 124.8 | 160.7 | 248.4 | 371.2 | 466.3 | 517.3 | 523.4 | 525.8 |
| 80° | 91.7 | 106.4 | 121.7 | 139.0 | 149.8 | 152.0 | 148.2 | 140.3 |
| 82.5° | 64.9 | 73.4 | 79.5 | 85.7 | 90.1 | 86.3 | 71.8 | 54.7 |
| 85° | 37.6 | 41.4 | 44.8 | 47.9 | 48.6 | 46.0 | 30.3 | 24.9 |
| 87.5° | 14.9 | 16.3 | 16.0 | 18.1 | 17.3 | 16.0 | 11.9 | 10.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)