

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: P231157

Luminaire Tested: **ARCH-M-AF48-80-D-U-T3**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231157
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29465)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: ARCH-M-AF48-80-D-U-T3
Description: ARCHEON-M ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 535mA LIGHT ENGINES WITH 24 LEDS AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11377.3 lumens
Efficiency: N/A
Efficacy: 137.1 lumens/watt
Luminous Opening: Rectangular (W 0.75' x L: 1' x H: 0')
IES Classification: Type III - Short - Non-Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 83
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

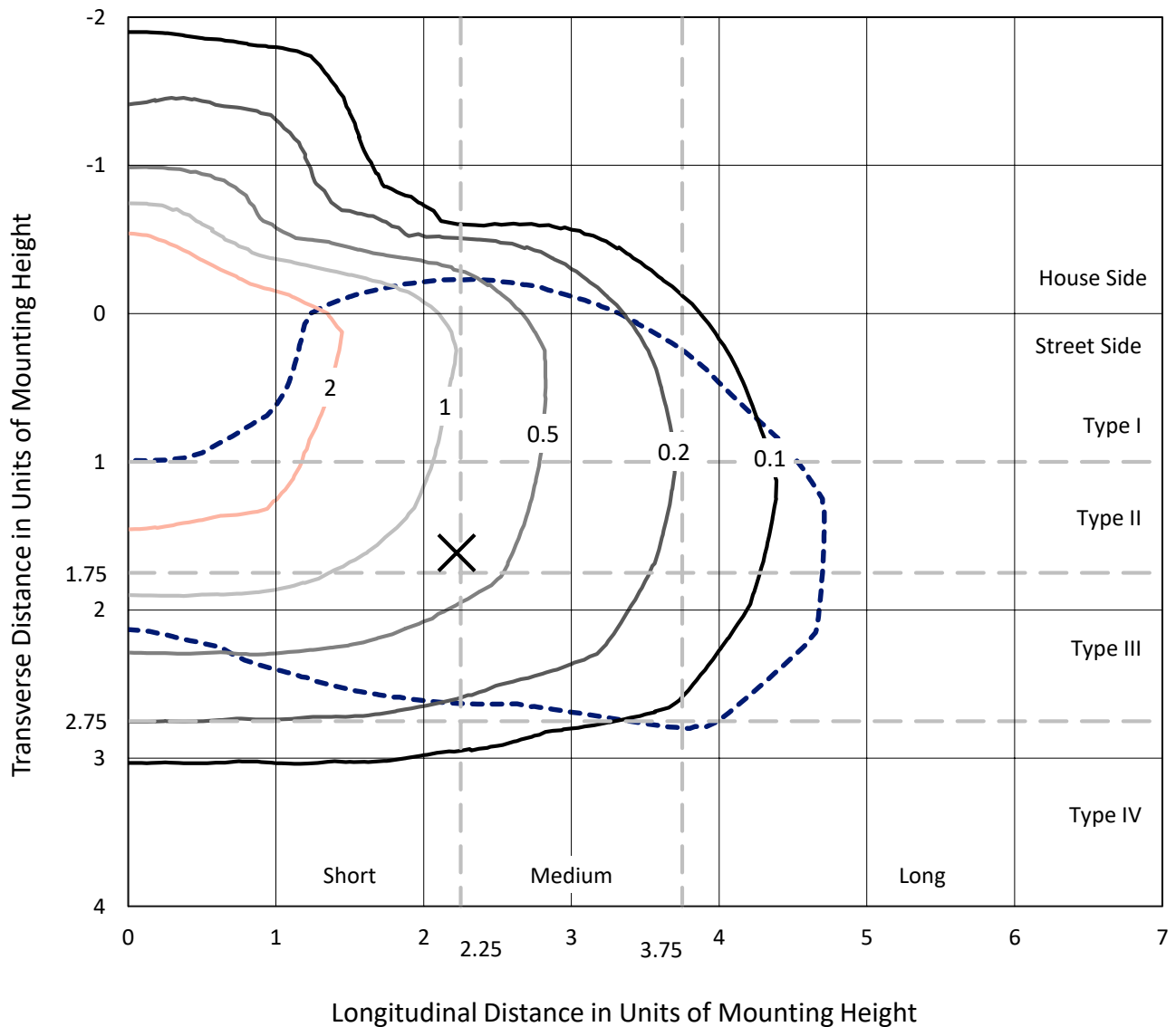


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

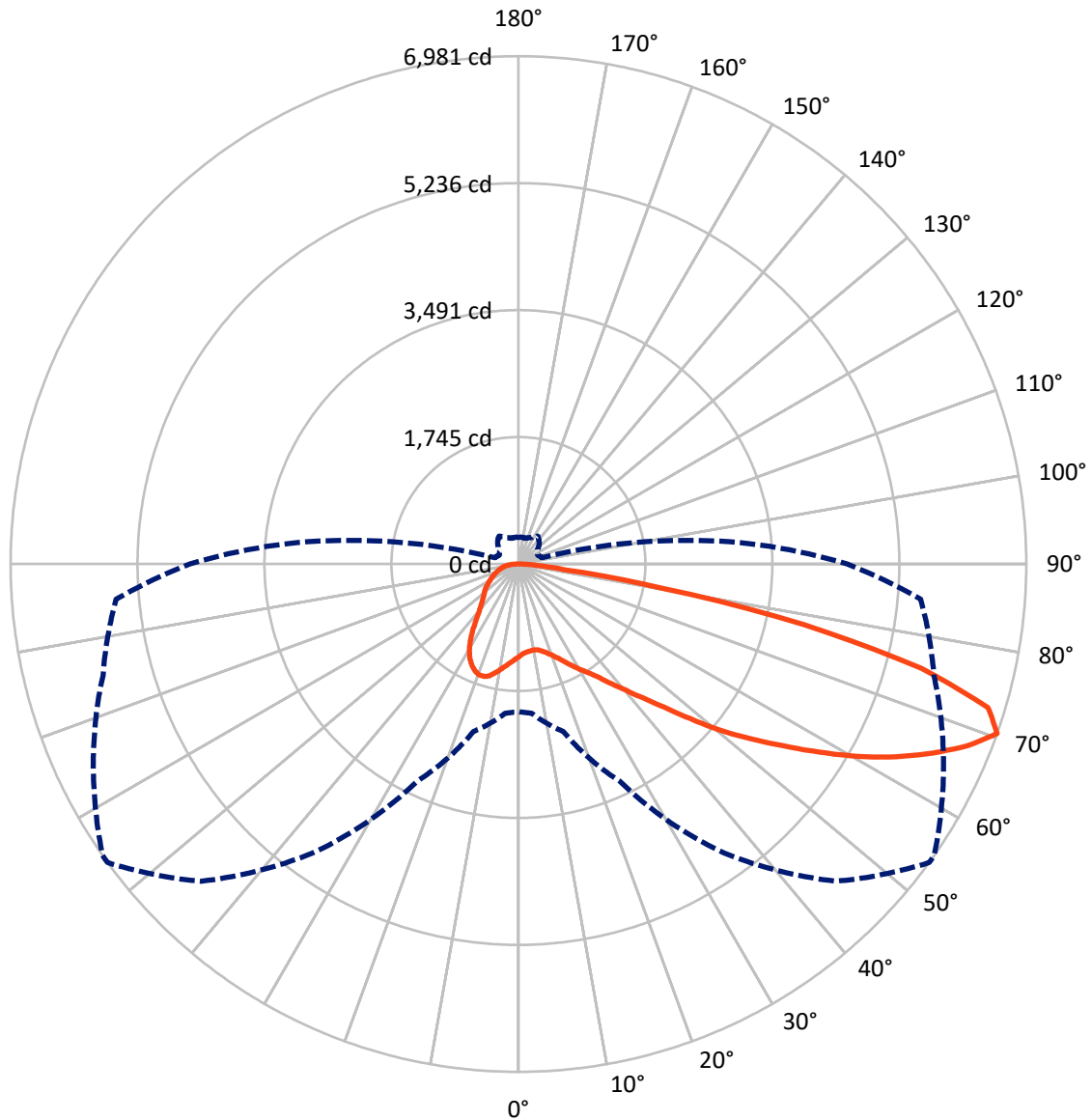


Based on 20 foot mounting height. Maximum calculated value = 3.7 fc
 Type III - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 54-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2580.3 | 0.0 | 2580.3 |
| | % Fixture | 22.7 | 0.0 | 22.7 |
| Street Side | Lumens | 8796.9 | 0.0 | 8796.9 |
| | % Fixture | 77.3 | 0.0 | 77.3 |
| Total | Lumens | 11377.3 | 0.0 | 11377.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 124.9 | 1.1 |
| 10°-20° | 399.1 | 3.5 |
| 20°-30° | 693.5 | 6.1 |
| 30°-40° | 1013.4 | 8.9 |
| 40°-50° | 1590.5 | 14.0 |
| 50°-60° | 2445.8 | 21.5 |
| 60°-70° | 2988.2 | 26.3 |
| 70°-80° | 1852.7 | 16.3 |
| 80°-90° | 269.1 | 2.4 |
| 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° | 11377.3 | 100.0 |
| 0°-180° | 11377.3 | 100.0 |

Coefficient of Utilization



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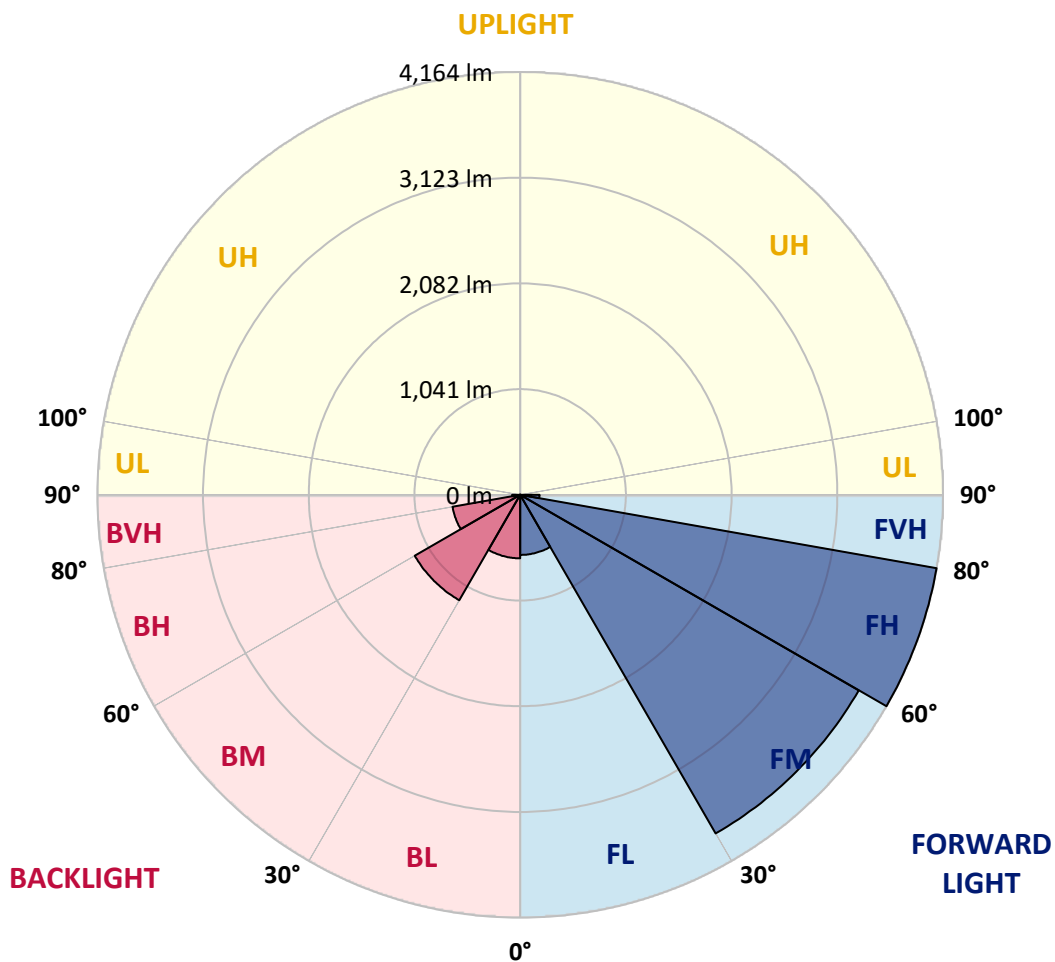
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 592.0 | 5.2 | | | |
| FM | (30°-60°) | 3850.7 | 33.8 | | | |
| FH | (60°-80°) | 4164.2 | 36.6 | | | G2/5000 |
| FVH | (80°-90°) | 190.0 | 1.7 | | | G2/225 |
| BL | (0°-30°) | 625.6 | 5.5 | B2/1000 | | |
| BM | (30°-60°) | 1199.0 | 10.5 | B2/2500 | | |
| BH | (60°-80°) | 676.6 | 5.9 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 79.1 | 0.7 | | | 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 III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 54° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 |
| 2.5° | 1222.9 | 1218.7 | 1218.7 | 1225.0 | 1227.0 | 1233.3 | 1233.3 | 1235.4 | 1241.7 | 1252.1 | 1264.6 |
| 5° | 1185.4 | 1183.3 | 1185.4 | 1193.7 | 1197.9 | 1210.4 | 1214.5 | 1216.6 | 1229.2 | 1245.9 | 1264.6 |
| 7.5° | 1147.9 | 1145.8 | 1150.0 | 1162.5 | 1175.0 | 1193.7 | 1204.1 | 1206.3 | 1225.0 | 1247.9 | 1272.9 |
| 10° | 1135.4 | 1133.3 | 1139.6 | 1150.0 | 1162.5 | 1183.3 | 1199.9 | 1202.1 | 1229.2 | 1256.2 | 1291.7 |
| 12.5° | 1152.0 | 1150.0 | 1156.2 | 1166.7 | 1179.2 | 1193.7 | 1212.5 | 1214.5 | 1249.9 | 1285.3 | 1322.9 |
| 15° | 1193.7 | 1193.7 | 1195.8 | 1202.1 | 1214.5 | 1227.0 | 1243.7 | 1245.9 | 1283.3 | 1324.9 | 1362.5 |
| 17.5° | 1258.3 | 1254.1 | 1254.1 | 1252.1 | 1260.4 | 1266.6 | 1287.5 | 1289.5 | 1329.1 | 1366.7 | 1404.1 |
| 20° | 1337.5 | 1335.4 | 1327.1 | 1316.6 | 1314.6 | 1318.7 | 1339.6 | 1341.6 | 1381.2 | 1412.5 | 1447.9 |
| 22.5° | 1433.3 | 1435.4 | 1416.6 | 1393.7 | 1383.3 | 1389.6 | 1408.3 | 1410.3 | 1439.6 | 1466.6 | 1497.9 |
| 25° | 1560.4 | 1554.2 | 1527.1 | 1493.7 | 1472.8 | 1472.8 | 1491.7 | 1491.7 | 1518.7 | 1535.3 | 1556.2 |
| 27.5° | 1681.2 | 1668.7 | 1643.7 | 1595.8 | 1562.5 | 1568.7 | 1587.4 | 1587.4 | 1612.5 | 1618.7 | 1629.2 |
| 30° | 1812.5 | 1800.0 | 1768.7 | 1708.3 | 1664.5 | 1660.4 | 1683.3 | 1681.2 | 1714.6 | 1712.4 | 1704.1 |
| 32.5° | 1972.9 | 1966.6 | 1914.6 | 1837.4 | 1779.1 | 1764.6 | 1785.4 | 1787.5 | 1808.3 | 1802.0 | 1774.9 |
| 35° | 2197.9 | 2195.8 | 2147.9 | 2012.5 | 1935.3 | 1908.3 | 1920.8 | 1920.8 | 1935.3 | 1918.7 | 1872.9 |
| 37.5° | 2481.2 | 2485.4 | 2443.7 | 2243.7 | 2135.4 | 2089.6 | 2091.6 | 2089.6 | 2093.7 | 2075.0 | 2027.1 |
| 40° | 2764.5 | 2775.0 | 2772.8 | 2531.2 | 2393.7 | 2314.5 | 2285.4 | 2281.2 | 2291.6 | 2283.3 | 2237.4 |
| 42.5° | 3137.4 | 3162.5 | 3104.0 | 2885.3 | 2731.2 | 2597.9 | 2518.7 | 2508.3 | 2531.2 | 2541.6 | 2497.8 |
| 45° | 3524.9 | 3516.6 | 3424.9 | 3266.6 | 3127.0 | 2956.2 | 2806.2 | 2789.5 | 2806.2 | 2837.5 | 2791.6 |
| 47.5° | 3727.0 | 3720.8 | 3697.9 | 3618.7 | 3597.8 | 3402.0 | 3174.9 | 3160.3 | 3129.1 | 3172.9 | 3118.7 |
| 50° | 4060.3 | 4066.5 | 3972.8 | 3964.4 | 4052.0 | 3943.7 | 3591.6 | 3558.2 | 3502.0 | 3537.4 | 3491.5 |
| 52.5° | 4302.0 | 4274.9 | 4216.6 | 4289.4 | 4562.4 | 4504.1 | 3983.3 | 3968.6 | 3916.6 | 3908.3 | 3887.4 |
| 55° | 4399.9 | 4399.9 | 4410.4 | 4579.0 | 4968.7 | 4891.5 | 4408.2 | 4422.8 | 4351.9 | 4293.6 | 4320.7 |
| 57.5° | 4429.1 | 4441.6 | 4531.2 | 4810.3 | 5445.7 | 5193.6 | 4876.9 | 4897.8 | 4795.7 | 4679.1 | 4764.5 |
| 60° | 4285.3 | 4322.8 | 4537.4 | 4941.6 | 5714.4 | 5514.4 | 5370.7 | 5376.9 | 5229.0 | 5058.2 | 5208.3 |
| 62.5° | 3916.6 | 3962.4 | 4345.7 | 4995.7 | 5670.7 | 5843.6 | 5837.4 | 5851.9 | 5649.9 | 5437.4 | 5624.9 |
| 65° | 3464.5 | 3510.4 | 3918.6 | 4843.7 | 5637.4 | 6079.0 | 6264.4 | 6304.0 | 6043.6 | 5758.2 | 5885.2 |
| 67.5° | 2799.9 | 2860.4 | 3247.9 | 4331.2 | 5474.8 | 6272.7 | 6664.4 | 6706.1 | 6347.7 | 5924.8 | 5862.3 |
| 70° | 2029.1 | 2058.3 | 2383.3 | 3291.5 | 4812.4 | 6166.6 | 6981.1 | 6979.0 | 6447.8 | 5912.3 | 5549.8 |
| 72.5° | 977.0 | 999.9 | 1281.2 | 2043.7 | 3441.6 | 5233.2 | 6751.9 | 6791.5 | 6310.3 | 5731.1 | 4835.3 |
| 75° | 402.1 | 425.0 | 518.7 | 862.4 | 1806.2 | 3458.3 | 5722.8 | 5816.5 | 5731.1 | 5143.6 | 3783.3 |
| 77.5° | 250.0 | 258.3 | 304.1 | 445.8 | 825.0 | 1614.5 | 4006.2 | 4133.2 | 4541.6 | 4120.8 | 2497.8 |
| 80° | 187.5 | 193.7 | 227.1 | 312.5 | 520.8 | 595.9 | 1989.5 | 2149.9 | 2752.0 | 2364.6 | 1131.2 |
| 82.5° | 156.2 | 158.4 | 181.3 | 227.1 | 354.1 | 341.7 | 637.5 | 710.4 | 1283.3 | 902.0 | 389.5 |
| 85° | 145.9 | 150.0 | 162.5 | 162.5 | 224.9 | 214.6 | 264.5 | 277.1 | 372.9 | 308.3 | 135.4 |
| 87.5° | 75.0 | 70.8 | 143.7 | 127.1 | 116.6 | 104.1 | 112.5 | 120.8 | 139.5 | 147.9 | 60.5 |
| 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° | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 | 1272.9 |
| 2.5° | 1268.8 | 1275.0 | 1285.3 | 1295.8 | 1308.3 | 1322.9 | 1331.3 | 1341.6 | 1350.0 | 1345.8 | 1343.7 |
| 5° | 1275.0 | 1285.3 | 1308.3 | 1329.1 | 1354.2 | 1383.3 | 1402.1 | 1422.9 | 1439.6 | 1443.7 | 1437.5 |
| 7.5° | 1285.3 | 1304.2 | 1335.4 | 1372.9 | 1406.3 | 1443.7 | 1472.8 | 1502.0 | 1522.9 | 1527.1 | 1527.1 |
| 10° | 1310.4 | 1331.3 | 1372.9 | 1422.9 | 1462.5 | 1502.0 | 1535.3 | 1558.3 | 1577.1 | 1585.4 | 1585.4 |
| 12.5° | 1345.8 | 1370.8 | 1420.8 | 1481.2 | 1524.9 | 1562.5 | 1581.2 | 1591.6 | 1600.0 | 1608.3 | 1610.3 |
| 15° | 1387.4 | 1414.5 | 1475.0 | 1539.5 | 1585.4 | 1604.1 | 1604.1 | 1602.0 | 1602.0 | 1606.2 | 1610.3 |
| 17.5° | 1429.2 | 1458.3 | 1520.8 | 1589.6 | 1618.7 | 1608.3 | 1593.8 | 1587.4 | 1583.3 | 1581.2 | 1587.4 |
| 20° | 1472.8 | 1502.0 | 1564.5 | 1629.2 | 1620.8 | 1577.1 | 1556.2 | 1541.6 | 1529.1 | 1522.9 | 1531.3 |
| 22.5° | 1520.8 | 1547.9 | 1612.5 | 1656.3 | 1593.8 | 1527.1 | 1487.5 | 1464.6 | 1443.7 | 1431.2 | 1439.6 |
| 25° | 1577.1 | 1604.1 | 1666.6 | 1664.5 | 1545.8 | 1452.1 | 1389.6 | 1352.0 | 1329.1 | 1316.6 | 1316.6 |
| 27.5° | 1643.7 | 1666.6 | 1727.0 | 1643.7 | 1479.1 | 1352.0 | 1260.4 | 1225.0 | 1218.7 | 1208.3 | 1208.3 |
| 30° | 1712.4 | 1731.2 | 1783.3 | 1595.8 | 1387.4 | 1220.8 | 1120.8 | 1104.2 | 1106.2 | 1095.8 | 1097.9 |
| 32.5° | 1783.3 | 1802.0 | 1816.7 | 1524.9 | 1268.8 | 1072.9 | 1006.2 | 993.7 | 991.6 | 983.3 | 975.0 |
| 35° | 1883.3 | 1910.4 | 1820.8 | 1429.2 | 1124.9 | 950.0 | 902.0 | 889.6 | 877.1 | 847.9 | 847.9 |
| 37.5° | 2035.4 | 2064.5 | 1810.4 | 1310.4 | 977.0 | 854.2 | 810.4 | 793.7 | 772.9 | 743.7 | 733.4 |
| 40° | 2243.7 | 2243.7 | 1787.5 | 1177.0 | 858.4 | 777.0 | 735.4 | 714.5 | 691.6 | 662.5 | 656.2 |
| 42.5° | 2489.6 | 2431.1 | 1752.0 | 1041.7 | 770.8 | 725.0 | 687.5 | 664.6 | 637.5 | 604.2 | 600.0 |
| 45° | 2777.0 | 2618.7 | 1702.1 | 920.9 | 706.2 | 693.8 | 670.9 | 631.3 | 585.4 | 549.9 | 543.7 |
| 47.5° | 3056.2 | 2787.4 | 1654.1 | 835.4 | 652.0 | 681.2 | 662.5 | 595.9 | 533.4 | 483.3 | 477.1 |
| 50° | 3362.4 | 2937.4 | 1597.8 | 764.6 | 610.4 | 672.9 | 652.0 | 543.7 | 475.0 | 439.6 | 435.4 |
| 52.5° | 3668.7 | 3089.5 | 1537.5 | 689.6 | 575.0 | 656.2 | 627.1 | 506.3 | 472.9 | 425.0 | 418.7 |
| 55° | 3991.6 | 3266.6 | 1466.6 | 606.2 | 533.4 | 622.9 | 593.7 | 504.1 | 487.5 | 425.0 | 410.4 |
| 57.5° | 4306.1 | 3462.4 | 1352.0 | 525.0 | 487.5 | 572.9 | 581.2 | 491.6 | 456.2 | 420.8 | 404.2 |
| 60° | 4654.0 | 3670.8 | 1162.5 | 456.2 | 448.0 | 531.2 | 564.6 | 464.5 | 420.8 | 408.4 | 400.0 |
| 62.5° | 4933.2 | 3858.3 | 908.3 | 408.4 | 414.6 | 497.9 | 543.7 | 448.0 | 406.2 | 395.8 | 393.7 |
| 65° | 5054.1 | 3862.4 | 652.0 | 366.6 | 381.3 | 466.7 | 522.9 | 433.3 | 393.7 | 389.5 | 387.5 |
| 67.5° | 4926.9 | 3649.9 | 458.3 | 327.0 | 345.9 | 437.5 | 495.8 | 418.7 | 381.3 | 383.3 | 379.2 |
| 70° | 4516.5 | 3202.0 | 335.4 | 289.6 | 312.5 | 406.2 | 466.7 | 400.0 | 366.6 | 370.8 | 364.6 |
| 72.5° | 3779.1 | 2495.8 | 268.7 | 258.3 | 285.4 | 372.9 | 437.5 | 379.2 | 343.7 | 345.9 | 333.3 |
| 75° | 2791.6 | 1654.1 | 224.9 | 231.3 | 254.2 | 341.7 | 400.0 | 352.1 | 318.8 | 310.4 | 302.1 |
| 77.5° | 1660.4 | 850.0 | 185.5 | 202.0 | 227.1 | 304.1 | 358.3 | 318.8 | 291.6 | 277.1 | 270.9 |
| 80° | 685.4 | 343.7 | 152.1 | 170.8 | 197.9 | 270.9 | 316.7 | 279.2 | 260.4 | 245.8 | 237.5 |
| 82.5° | 272.9 | 168.8 | 120.8 | 139.5 | 166.6 | 235.4 | 277.1 | 245.8 | 227.1 | 216.7 | 193.7 |
| 85° | 104.1 | 83.4 | 81.2 | 97.9 | 125.0 | 181.3 | 229.1 | 206.2 | 191.7 | 164.6 | 158.4 |
| 87.5° | 41.6 | 37.5 | 37.5 | 47.9 | 70.8 | 114.6 | 164.6 | 143.7 | 150.0 | 118.8 | 120.8 |
| 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)