

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: P195151

Luminaire Tested: **NAV-AF-01-D-UNV-SL3-7060-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195151
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
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-SL3-7060-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 5700K, 800mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE III SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4190 lumens
Efficiency: N/A
Efficacy: 95.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

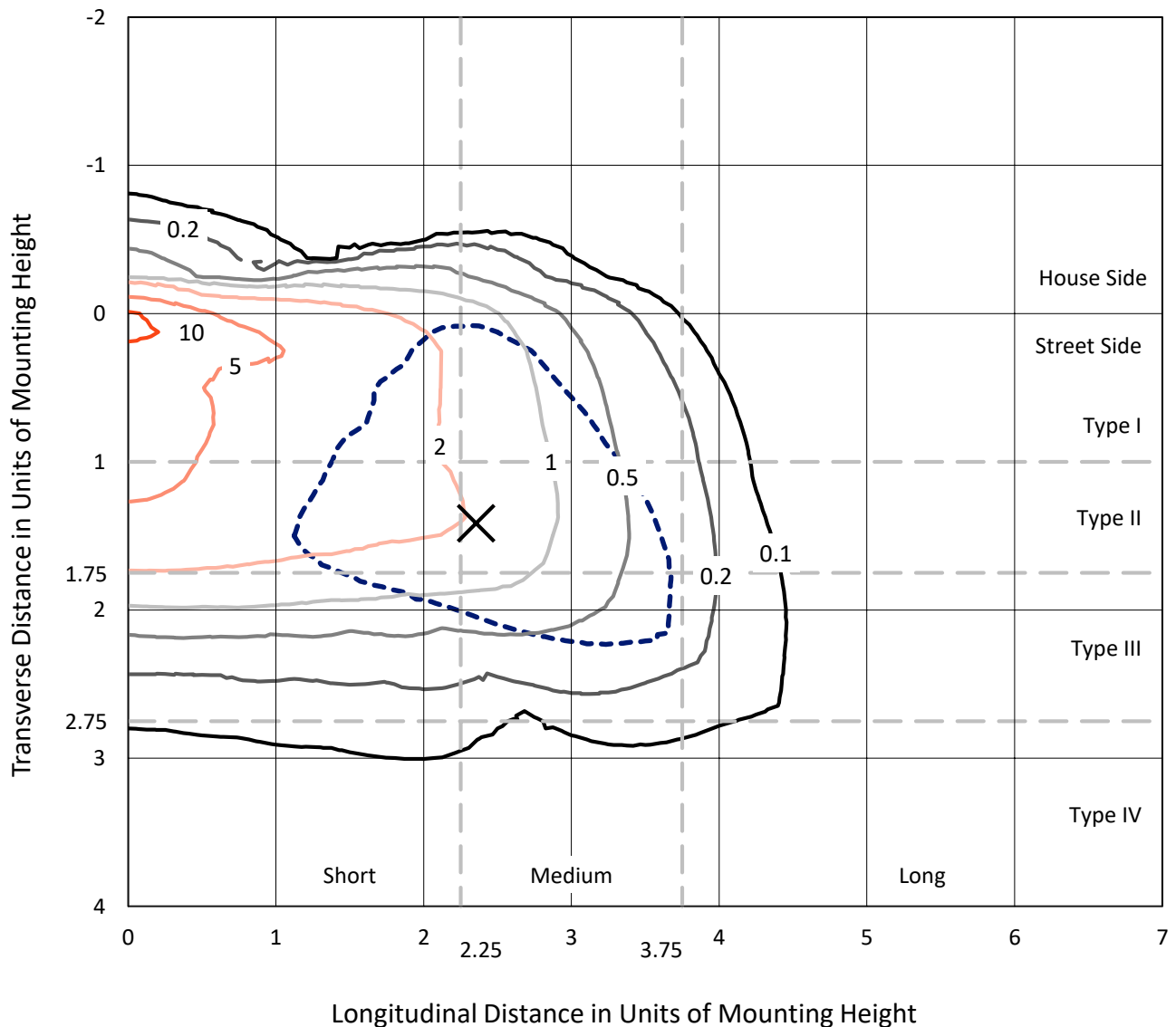
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

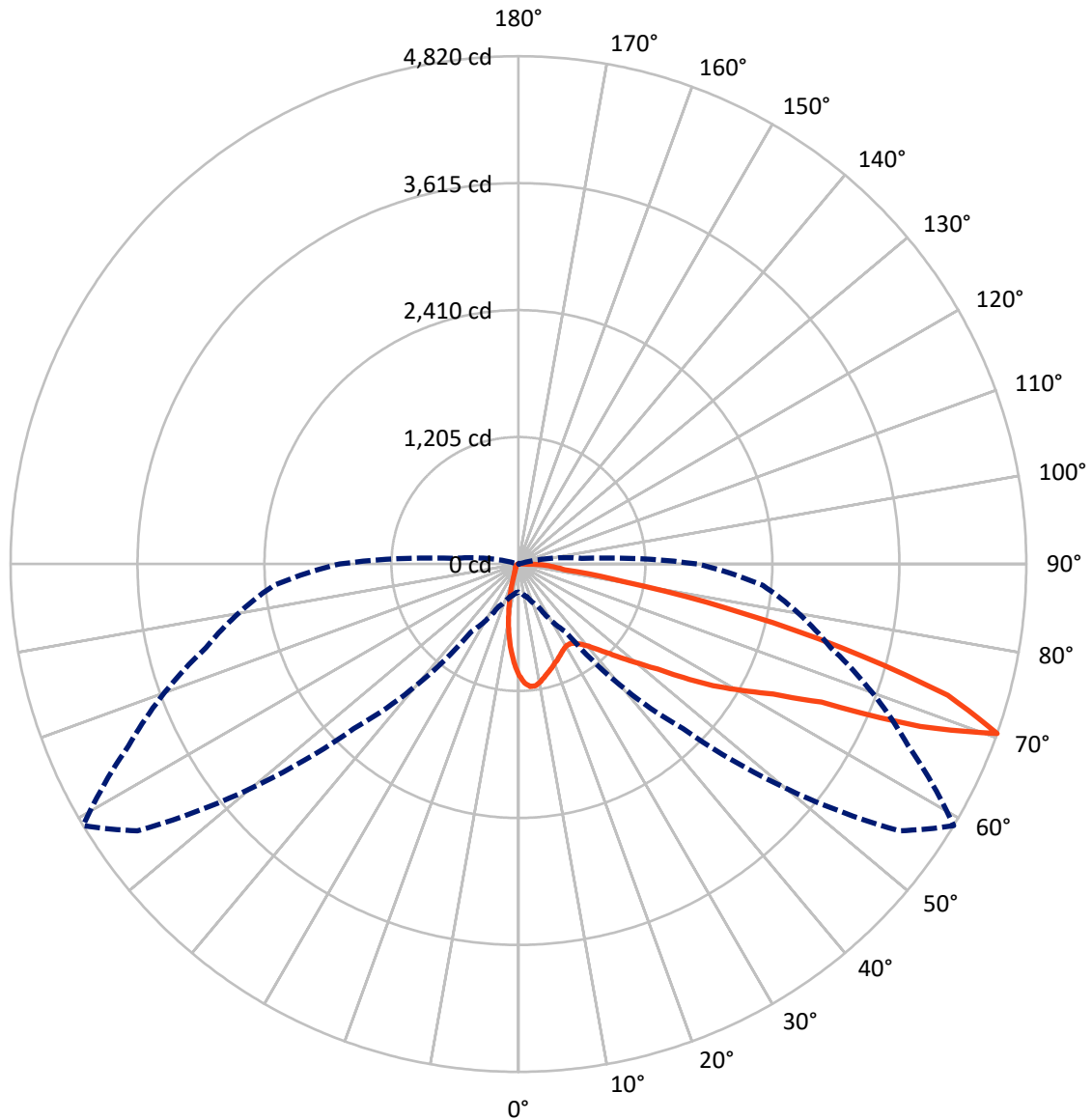


Based on 10 foot mounting height. Maximum calculated value = 11.3 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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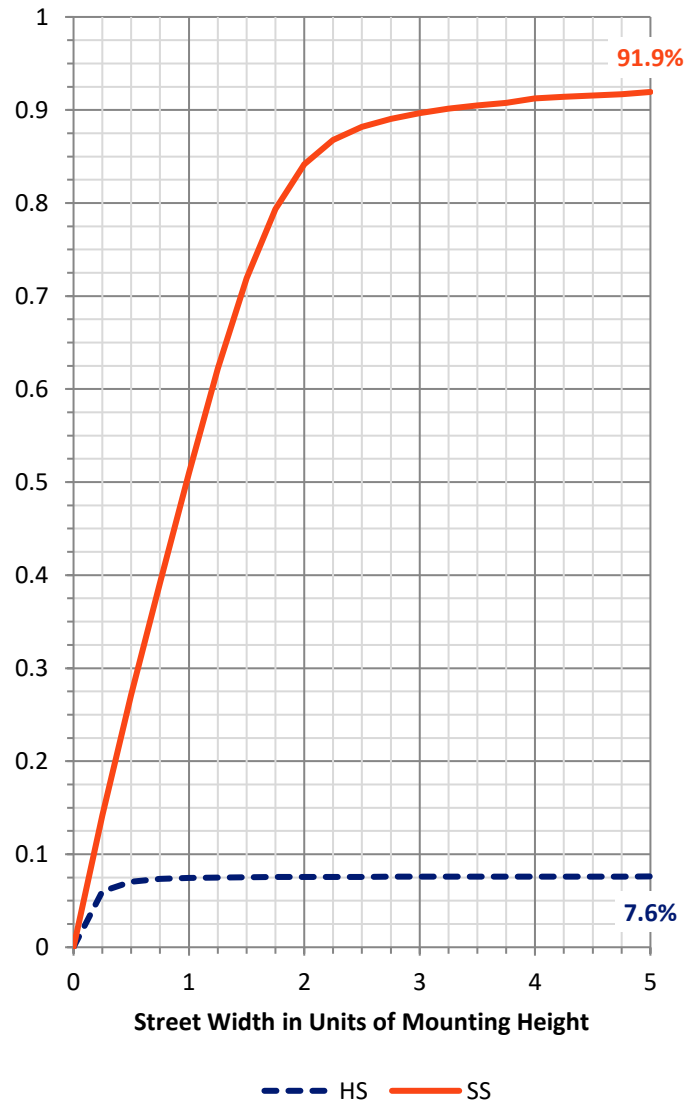
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 322.1 | 0.0 | 322.1 |
| | % Fixture | 7.7 | 0.0 | 7.7 |
| Street Side | Lumens | 3867.9 | 0.0 | 3867.9 |
| | % Fixture | 92.3 | 0.0 | 92.3 |
| Total | Lumens | 4190.0 | 0.0 | 4190.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 87.1 | 2.1 |
| 10°-20° | 182.7 | 4.4 |
| 20°-30° | 247.4 | 5.9 |
| 30°-40° | 357.0 | 8.5 |
| 40°-50° | 592.9 | 14.1 |
| 50°-60° | 906.9 | 21.6 |
| 60°-70° | 1127.9 | 26.9 |
| 70°-80° | 623.5 | 14.9 |
| 80°-90° | 64.6 | 1.5 |
| 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° | 4190.0 | 100.0 |
| 0°-180° | 4190.0 | 100.0 |



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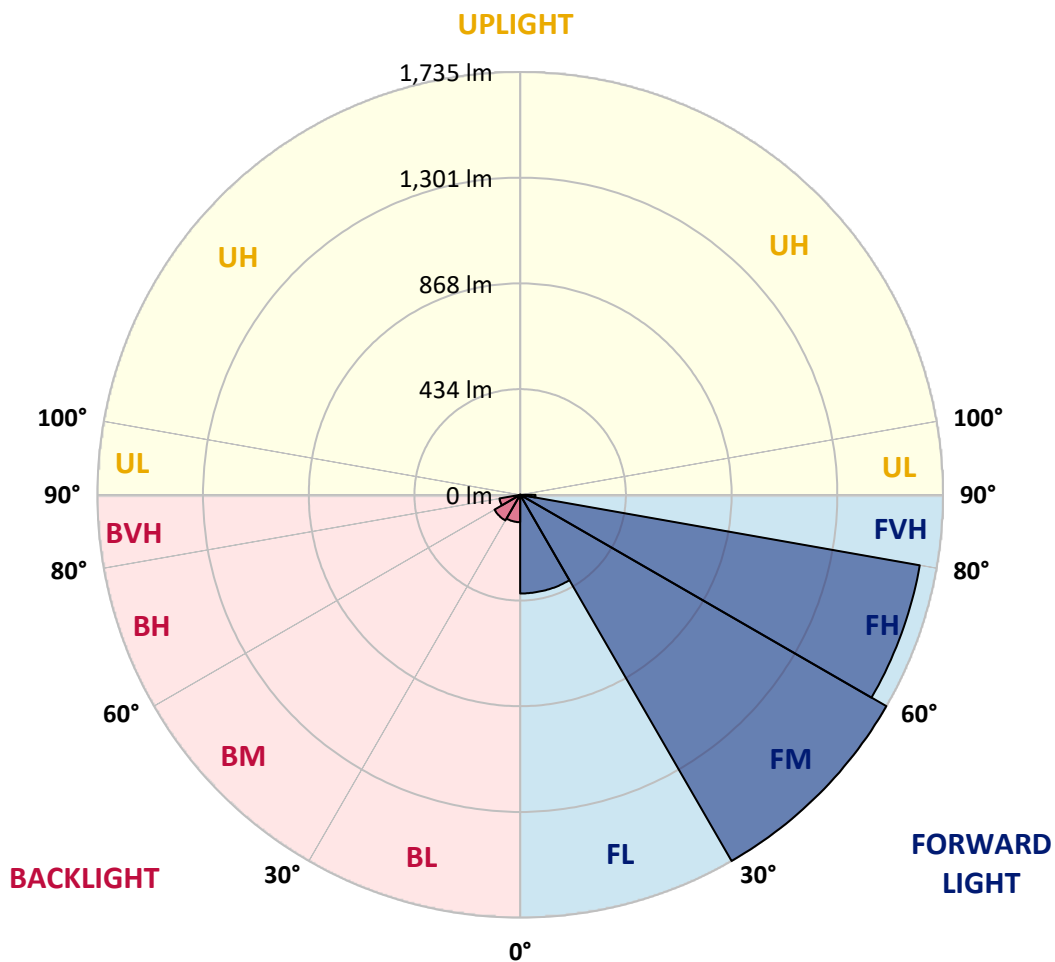
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 405.0 | 9.7 | | | |
| FM | (30°-60°) | 1735.1 | 41.4 | | | |
| FH | (60°-80°) | 1665.0 | 39.7 | | | G1/1800 |
| FVH | (80°-90°) | 62.8 | 1.5 | | | G1/100 |
| BL | (0°-30°) | 112.2 | 2.7 | B1/500 | | |
| BM | (30°-60°) | 121.6 | 2.9 | B0/220 | | |
| BH | (60°-80°) | 86.4 | 2.1 | B0/110 | | G0/110 |
| 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° | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 |
| 2.5° | 1197.6 | 1195.7 | 1187.8 | 1186.2 | 1177.4 | 1159.7 | 1139.2 | 1130.9 | 1114.2 | 1087.6 | 1058.2 |
| 5° | 1217.5 | 1218.5 | 1219.1 | 1215.6 | 1214.4 | 1199.8 | 1177.1 | 1167.3 | 1144.8 | 1101.2 | 1047.5 |
| 7.5° | 1142.9 | 1145.5 | 1153.4 | 1156.9 | 1172.0 | 1177.7 | 1173.0 | 1166.7 | 1149.0 | 1097.4 | 1021.9 |
| 10° | 1064.2 | 1069.0 | 1077.5 | 1083.2 | 1101.9 | 1117.0 | 1136.3 | 1137.9 | 1134.1 | 1084.8 | 993.1 |
| 12.5° | 996.6 | 1001.0 | 1010.5 | 1021.9 | 1040.9 | 1060.4 | 1089.2 | 1099.3 | 1112.0 | 1076.6 | 972.6 |
| 15° | 938.4 | 939.7 | 948.9 | 963.1 | 988.1 | 1014.9 | 1049.1 | 1063.9 | 1088.6 | 1073.4 | 956.8 |
| 17.5° | 887.6 | 887.9 | 893.9 | 906.8 | 937.2 | 972.6 | 1012.4 | 1032.0 | 1063.3 | 1069.0 | 942.9 |
| 20° | 854.0 | 853.7 | 854.0 | 861.0 | 887.9 | 929.9 | 978.3 | 998.8 | 1039.0 | 1063.6 | 928.6 |
| 22.5° | 842.7 | 841.1 | 833.8 | 831.3 | 848.4 | 885.3 | 943.2 | 970.0 | 1017.1 | 1062.0 | 918.2 |
| 25° | 856.6 | 855.6 | 840.1 | 825.6 | 827.2 | 850.3 | 907.5 | 940.3 | 1000.1 | 1067.7 | 915.7 |
| 27.5° | 901.5 | 899.6 | 875.9 | 847.4 | 829.4 | 833.5 | 880.9 | 915.4 | 986.5 | 1081.6 | 919.2 |
| 30° | 960.3 | 960.6 | 935.3 | 900.8 | 858.5 | 835.1 | 866.7 | 899.2 | 977.3 | 1102.5 | 926.7 |
| 32.5° | 1025.7 | 1025.4 | 1007.3 | 967.5 | 913.5 | 864.2 | 873.0 | 900.5 | 978.6 | 1133.1 | 941.3 |
| 35° | 1093.3 | 1089.8 | 1083.8 | 1048.8 | 985.5 | 915.1 | 901.8 | 922.0 | 991.9 | 1173.6 | 965.9 |
| 37.5° | 1171.4 | 1170.1 | 1176.1 | 1139.2 | 1074.7 | 990.0 | 952.3 | 965.9 | 1025.4 | 1233.3 | 1005.8 |
| 40° | 1295.6 | 1288.7 | 1291.5 | 1241.2 | 1175.2 | 1090.8 | 1023.2 | 1026.6 | 1078.8 | 1312.4 | 1068.7 |
| 42.5° | 1532.4 | 1504.2 | 1451.4 | 1357.2 | 1285.8 | 1202.7 | 1115.8 | 1109.8 | 1154.3 | 1408.1 | 1151.5 |
| 45° | 1815.2 | 1783.0 | 1649.9 | 1485.3 | 1396.4 | 1322.8 | 1230.2 | 1214.1 | 1247.3 | 1522.2 | 1258.3 |
| 47.5° | 2051.4 | 2016.6 | 1840.2 | 1619.0 | 1509.0 | 1446.7 | 1356.9 | 1338.0 | 1358.5 | 1654.7 | 1386.6 |
| 50° | 2132.0 | 2112.7 | 1957.8 | 1730.2 | 1622.4 | 1585.8 | 1515.9 | 1484.3 | 1489.4 | 1797.5 | 1536.5 |
| 52.5° | 2095.0 | 2088.3 | 1984.7 | 1806.4 | 1727.4 | 1739.4 | 1690.1 | 1656.9 | 1651.2 | 1953.7 | 1702.1 |
| 55° | 2016.9 | 2013.7 | 1963.2 | 1848.8 | 1820.0 | 1880.0 | 1934.4 | 1905.6 | 1851.9 | 2119.6 | 1839.0 |
| 57.5° | 1905.3 | 1917.3 | 1953.7 | 1930.3 | 1933.8 | 2028.6 | 2161.4 | 2176.2 | 2095.9 | 2251.8 | 1940.4 |
| 60° | 1607.3 | 1639.5 | 1806.1 | 2017.9 | 2180.0 | 2275.8 | 2404.4 | 2432.2 | 2302.6 | 2342.2 | 2057.7 |
| 62.5° | 1188.1 | 1234.3 | 1471.7 | 1860.8 | 2315.6 | 2745.8 | 2727.8 | 2715.4 | 2499.9 | 2463.2 | 2271.0 |
| 65° | 697.9 | 752.0 | 952.7 | 1454.0 | 2111.1 | 3048.0 | 3331.5 | 3160.8 | 2800.5 | 2714.8 | 2610.8 |
| 67.5° | 347.7 | 348.0 | 438.7 | 767.4 | 1560.2 | 2837.1 | 4212.7 | 4114.1 | 3439.6 | 3085.6 | 2744.8 |
| 70° | 267.4 | 274.7 | 324.6 | 446.0 | 788.9 | 2209.7 | 4414.7 | 4819.6 | 4081.9 | 3069.1 | 2328.9 |
| 72.5° | 226.6 | 231.4 | 288.9 | 388.1 | 589.8 | 1213.1 | 3821.7 | 4260.1 | 3895.1 | 2593.1 | 1716.6 |
| 75° | 163.1 | 166.9 | 255.7 | 352.1 | 543.0 | 601.8 | 2621.6 | 3159.5 | 2922.5 | 1824.1 | 944.8 |
| 77.5° | 40.5 | 40.1 | 89.1 | 285.7 | 485.8 | 501.3 | 1504.2 | 2026.1 | 1676.8 | 746.9 | 242.7 |
| 80° | 18.0 | 17.4 | 20.2 | 60.1 | 452.0 | 473.2 | 661.6 | 1023.2 | 643.2 | 121.1 | 74.3 |
| 82.5° | 12.6 | 12.0 | 12.6 | 22.1 | 151.1 | 439.0 | 399.8 | 443.5 | 235.5 | 41.4 | 31.6 |
| 85° | 4.1 | 3.8 | 7.0 | 18.6 | 42.4 | 253.2 | 390.0 | 331.3 | 175.1 | 17.7 | 21.2 |
| 87.5° | 0.6 | 0.6 | 2.5 | 10.1 | 12.3 | 84.4 | 228.8 | 229.5 | 78.7 | 10.4 | 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° | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 | 1059.5 |
| 2.5° | 1043.4 | 1024.7 | 998.5 | 972.3 | 948.6 | 924.2 | 904.6 | 895.5 | 891.3 | 885.7 | 873.3 |
| 5° | 1019.4 | 985.5 | 928.0 | 871.4 | 818.6 | 768.1 | 724.8 | 700.1 | 673.6 | 672.3 | 659.3 |
| 7.5° | 980.8 | 932.8 | 842.0 | 754.2 | 673.6 | 596.4 | 530.1 | 487.1 | 457.7 | 439.4 | 426.7 |
| 10° | 937.8 | 876.2 | 756.1 | 632.5 | 522.8 | 419.8 | 334.4 | 278.8 | 245.0 | 227.9 | 218.1 |
| 12.5° | 903.7 | 826.2 | 671.4 | 515.8 | 378.3 | 260.1 | 180.8 | 140.3 | 122.3 | 115.4 | 112.2 |
| 15° | 874.3 | 780.4 | 592.0 | 411.5 | 252.5 | 149.5 | 104.6 | 91.3 | 88.5 | 88.5 | 88.2 |
| 17.5° | 844.6 | 736.2 | 514.9 | 309.1 | 159.0 | 98.0 | 82.5 | 80.6 | 80.9 | 81.9 | 81.9 |
| 20° | 816.4 | 694.1 | 440.6 | 220.3 | 104.3 | 78.4 | 74.9 | 74.3 | 75.2 | 76.5 | 76.2 |
| 22.5° | 793.7 | 657.1 | 371.1 | 151.4 | 80.3 | 71.1 | 68.9 | 68.0 | 68.6 | 69.5 | 69.2 |
| 25° | 777.6 | 625.5 | 307.2 | 105.6 | 69.9 | 64.8 | 62.3 | 61.0 | 60.4 | 61.0 | 60.7 |
| 27.5° | 767.8 | 599.0 | 247.2 | 79.3 | 62.6 | 58.5 | 55.3 | 52.8 | 51.2 | 51.2 | 50.6 |
| 30° | 761.4 | 574.0 | 193.8 | 65.7 | 56.6 | 52.2 | 47.7 | 44.3 | 41.7 | 41.1 | 40.8 |
| 32.5° | 761.1 | 552.5 | 144.8 | 58.2 | 50.9 | 45.8 | 40.5 | 36.0 | 33.2 | 32.6 | 32.2 |
| 35° | 769.0 | 535.1 | 106.5 | 52.5 | 45.8 | 39.8 | 33.8 | 29.1 | 26.6 | 26.6 | 26.2 |
| 37.5° | 789.6 | 525.0 | 80.6 | 48.0 | 41.7 | 34.8 | 28.4 | 24.0 | 21.8 | 22.4 | 22.4 |
| 40° | 827.8 | 523.1 | 65.7 | 44.6 | 38.2 | 30.3 | 23.1 | 19.6 | 18.6 | 19.6 | 19.6 |
| 42.5° | 886.3 | 533.2 | 58.5 | 42.0 | 35.1 | 25.9 | 19.3 | 16.8 | 16.4 | 17.4 | 17.4 |
| 45° | 962.5 | 553.1 | 54.4 | 39.8 | 31.6 | 21.5 | 16.1 | 14.5 | 14.2 | 15.5 | 15.5 |
| 47.5° | 1054.8 | 580.0 | 50.6 | 37.3 | 28.1 | 17.7 | 13.6 | 12.3 | 12.3 | 13.6 | 13.9 |
| 50° | 1164.1 | 616.4 | 46.8 | 34.8 | 25.3 | 14.9 | 11.4 | 10.4 | 10.7 | 12.0 | 12.3 |
| 52.5° | 1289.9 | 660.9 | 43.3 | 32.6 | 22.1 | 12.0 | 9.5 | 8.9 | 9.2 | 10.4 | 10.7 |
| 55° | 1398.3 | 699.8 | 39.2 | 30.3 | 18.0 | 9.8 | 7.9 | 7.6 | 7.9 | 9.5 | 9.5 |
| 57.5° | 1492.8 | 737.1 | 35.4 | 26.9 | 14.2 | 7.9 | 6.3 | 6.3 | 7.0 | 8.5 | 8.9 |
| 60° | 1618.3 | 795.9 | 32.2 | 22.8 | 10.7 | 6.0 | 5.1 | 5.4 | 6.3 | 7.6 | 7.9 |
| 62.5° | 1840.5 | 895.8 | 28.1 | 19.0 | 7.9 | 4.7 | 4.1 | 4.4 | 5.7 | 7.3 | 7.6 |
| 65° | 2118.7 | 990.3 | 23.4 | 15.8 | 6.0 | 3.5 | 3.2 | 4.1 | 5.7 | 7.3 | 7.6 |
| 67.5° | 2090.2 | 861.3 | 18.3 | 12.6 | 4.4 | 2.8 | 2.5 | 3.8 | 5.4 | 7.3 | 7.6 |
| 70° | 1695.1 | 603.7 | 13.6 | 8.5 | 3.5 | 2.5 | 2.5 | 3.8 | 5.4 | 7.0 | 7.3 |
| 72.5° | 1175.8 | 336.0 | 10.4 | 5.7 | 3.2 | 2.5 | 2.2 | 3.5 | 5.1 | 7.0 | 7.3 |
| 75° | 559.5 | 103.0 | 8.2 | 4.1 | 2.8 | 2.2 | 1.9 | 3.5 | 5.1 | 7.0 | 7.3 |
| 77.5° | 107.5 | 26.2 | 6.6 | 3.5 | 2.5 | 2.2 | 1.9 | 3.2 | 5.1 | 6.6 | 7.0 |
| 80° | 36.3 | 11.7 | 5.4 | 3.2 | 2.5 | 2.2 | 1.9 | 3.2 | 4.7 | 6.3 | 6.6 |
| 82.5° | 19.9 | 6.6 | 4.7 | 2.8 | 2.5 | 1.9 | 1.6 | 2.8 | 4.4 | 6.3 | 6.6 |
| 85° | 15.5 | 4.7 | 3.8 | 2.8 | 2.5 | 1.9 | 1.6 | 2.8 | 4.4 | 6.0 | 6.3 |
| 87.5° | 7.9 | 3.5 | 3.2 | 2.8 | 2.5 | 1.9 | 1.6 | 2.5 | 4.1 | 5.7 | 6.3 |
| 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)