

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: P233468

Luminaire Tested: **VRDN-C016-D-UNV-T2-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P233468
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1710-389-10)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: VRDN-C016-D-UNV-T2-7030
Description: VERDEON ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 3000K, 950mA LED AND TYPE II OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4739 lumens
Efficiency: N/A
Efficacy: 121.5 lumens/watt
Luminous Opening: Rectangular (W 0.79' x L: 1.25' x H: 0')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 39
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

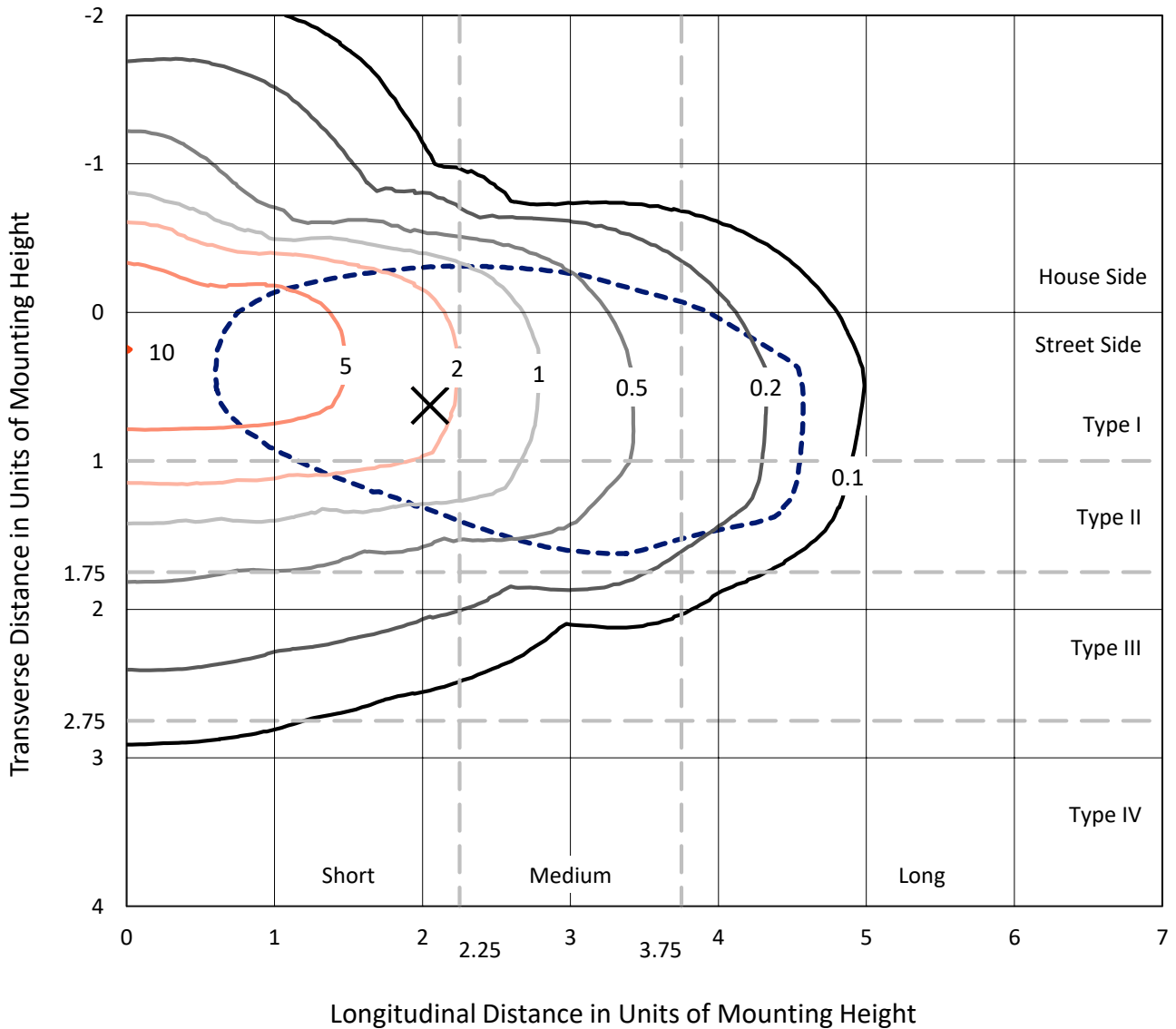


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Iso-Footcandle Lines of Horizontal Illumination

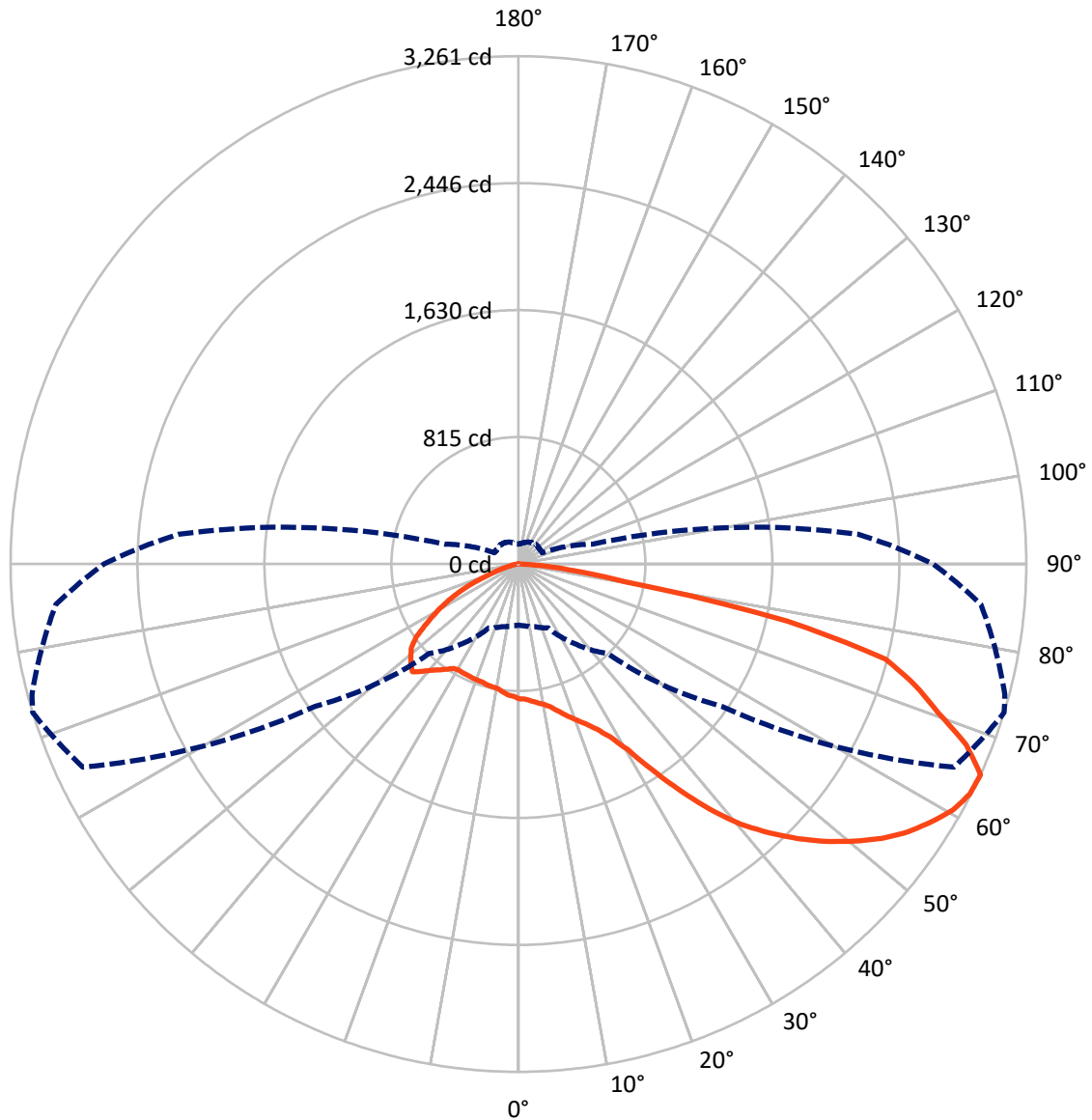
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.1 fc
 Type II - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 73-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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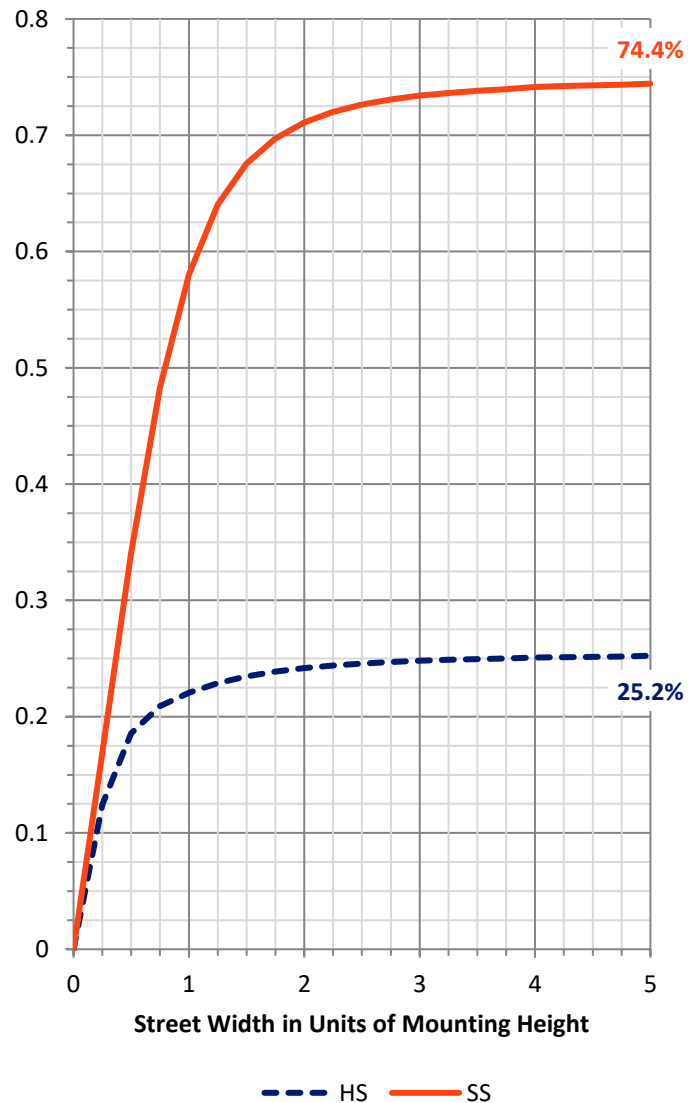
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1214.8 | 0.0 | 1214.8 |
| | % Fixture | 25.6 | 0.0 | 25.6 |
| Street Side | Lumens | 3524.2 | 0.0 | 3524.2 |
| | % Fixture | 74.4 | 0.0 | 74.4 |
| Total | Lumens | 4739.0 | 0.0 | 4739.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 82.7 | 1.7 |
| 10°-20° | 250.0 | 5.3 |
| 20°-30° | 419.4 | 8.8 |
| 30°-40° | 615.0 | 13.0 |
| 40°-50° | 831.2 | 17.5 |
| 50°-60° | 962.9 | 20.3 |
| 60°-70° | 940.6 | 19.8 |
| 70°-80° | 564.8 | 11.9 |
| 80°-90° | 72.3 | 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° | 4739.0 | 100.0 |
| 0°-180° | 4739.0 | 100.0 |



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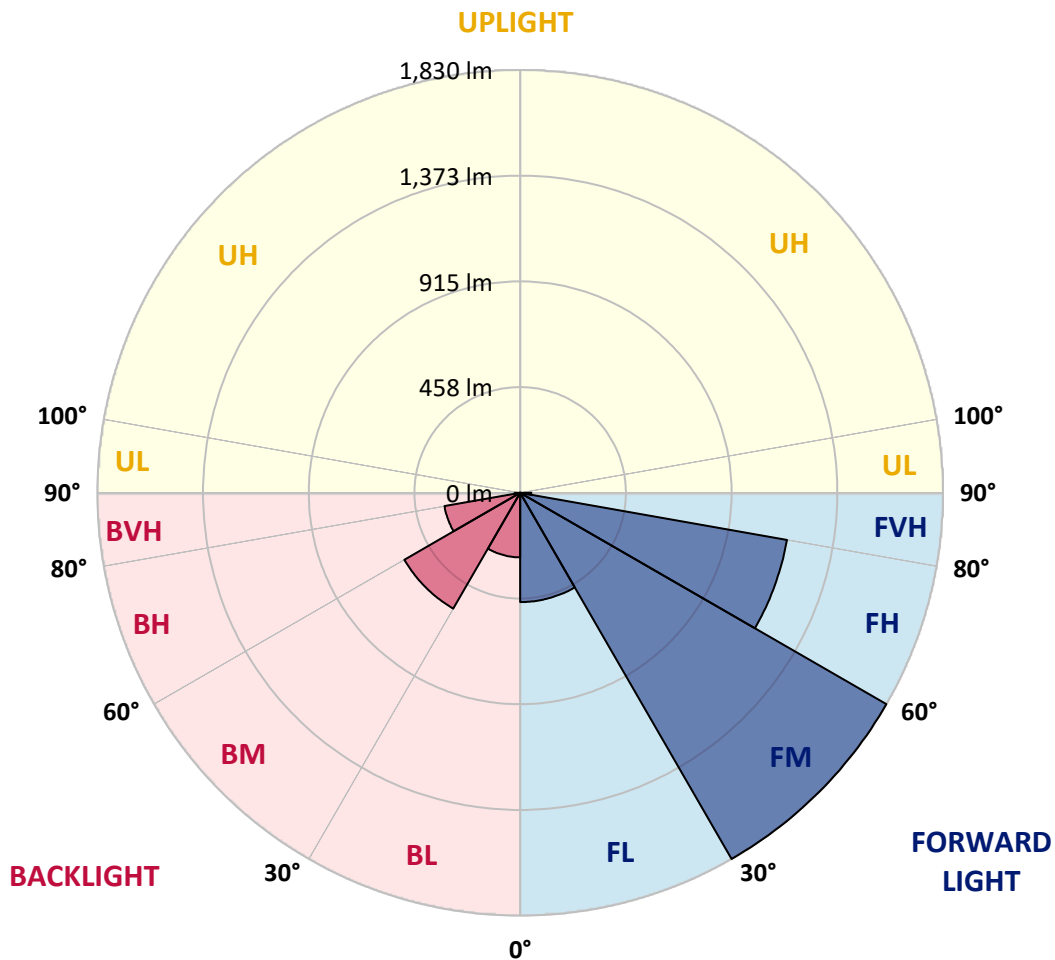
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 472.9 | 10.0 | | | |
| FM | (30°-60°) | 1830.4 | 38.6 | | | |
| FH | (60°-80°) | 1172.8 | 24.7 | | | G1/1800 |
| FVH | (80°-90°) | 48.2 | 1.0 | | | G1/100 |
| BL | (0°-30°) | 279.2 | 5.9 | B1/500 | | |
| BM | (30°-60°) | 578.8 | 12.2 | B1/1000 | | |
| BH | (60°-80°) | 332.6 | 7.0 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 24.2 | 0.5 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 73° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 |
| 2.5° | 919.9 | 923.3 | 919.4 | 908.3 | 902.7 | 898.8 | 887.2 | 876.8 | 868.7 | 867.8 | 860.1 |
| 5° | 955.2 | 960.3 | 953.9 | 939.7 | 934.1 | 925.9 | 913.0 | 898.8 | 884.2 | 881.2 | 865.7 |
| 7.5° | 999.9 | 1000.8 | 997.3 | 983.1 | 971.5 | 954.3 | 931.9 | 916.9 | 900.1 | 895.3 | 870.8 |
| 10° | 1037.8 | 1037.3 | 1033.0 | 1019.3 | 1007.6 | 992.6 | 961.2 | 936.7 | 916.9 | 910.8 | 876.8 |
| 12.5° | 1073.9 | 1073.0 | 1068.7 | 1054.5 | 1039.9 | 1027.4 | 1003.8 | 970.6 | 944.0 | 936.2 | 894.1 |
| 15° | 1118.6 | 1116.5 | 1109.6 | 1090.7 | 1079.1 | 1064.4 | 1047.2 | 1014.1 | 983.6 | 972.8 | 919.0 |
| 17.5° | 1153.1 | 1152.6 | 1147.5 | 1131.6 | 1117.8 | 1101.9 | 1086.0 | 1060.1 | 1027.0 | 1015.0 | 943.5 |
| 20° | 1172.9 | 1171.1 | 1169.8 | 1157.4 | 1153.9 | 1145.3 | 1122.5 | 1102.7 | 1069.6 | 1057.1 | 971.1 |
| 22.5° | 1193.9 | 1194.4 | 1194.8 | 1188.3 | 1198.2 | 1190.9 | 1174.2 | 1150.1 | 1116.5 | 1102.3 | 1009.8 |
| 25° | 1198.7 | 1199.5 | 1208.1 | 1222.3 | 1234.4 | 1247.7 | 1235.7 | 1212.0 | 1175.9 | 1160.8 | 1062.7 |
| 27.5° | 1185.3 | 1188.8 | 1214.6 | 1238.7 | 1281.3 | 1298.5 | 1296.3 | 1295.1 | 1258.1 | 1243.0 | 1135.4 |
| 30° | 1197.4 | 1197.4 | 1215.0 | 1256.3 | 1310.1 | 1355.3 | 1365.2 | 1392.7 | 1381.5 | 1370.8 | 1257.6 |
| 32.5° | 1161.2 | 1167.7 | 1199.1 | 1256.8 | 1341.9 | 1407.8 | 1452.5 | 1529.1 | 1573.4 | 1564.4 | 1430.6 |
| 35° | 1093.3 | 1101.9 | 1147.9 | 1236.1 | 1357.9 | 1469.7 | 1549.8 | 1697.3 | 1783.0 | 1793.7 | 1638.8 |
| 37.5° | 1040.8 | 1048.1 | 1105.7 | 1203.8 | 1363.9 | 1527.8 | 1662.1 | 1886.6 | 1997.2 | 1991.6 | 1815.2 |
| 40° | 976.7 | 989.6 | 1047.7 | 1165.5 | 1349.7 | 1577.3 | 1783.8 | 2060.5 | 2196.4 | 2170.6 | 1983.0 |
| 42.5° | 919.0 | 930.2 | 978.8 | 1104.5 | 1329.9 | 1605.3 | 1894.0 | 2239.4 | 2358.6 | 2338.0 | 2141.8 |
| 45° | 857.9 | 867.8 | 913.0 | 1031.3 | 1283.9 | 1619.0 | 1997.2 | 2410.7 | 2514.4 | 2491.1 | 2288.9 |
| 47.5° | 787.8 | 801.1 | 854.9 | 962.5 | 1216.3 | 1610.4 | 2072.5 | 2559.6 | 2662.4 | 2645.2 | 2410.7 |
| 50° | 611.0 | 624.7 | 765.4 | 897.9 | 1122.5 | 1574.7 | 2140.1 | 2708.4 | 2796.2 | 2779.8 | 2518.3 |
| 52.5° | 554.6 | 560.6 | 604.5 | 823.9 | 1024.9 | 1504.2 | 2182.2 | 2831.0 | 2926.6 | 2910.2 | 2619.8 |
| 55° | 520.2 | 524.5 | 549.0 | 672.9 | 941.8 | 1390.6 | 2187.4 | 2958.4 | 3036.3 | 3014.8 | 2727.8 |
| 57.5° | 484.9 | 489.6 | 516.7 | 580.4 | 858.3 | 1212.9 | 2132.7 | 3066.4 | 3125.3 | 3102.1 | 2831.0 |
| 60° | 455.2 | 457.8 | 484.5 | 528.3 | 764.1 | 1036.5 | 1992.1 | 3140.0 | 3207.5 | 3177.4 | 2932.2 |
| 62.5° | 428.1 | 431.5 | 450.9 | 490.9 | 685.0 | 904.4 | 1795.9 | 3140.4 | 3252.7 | 3234.2 | 2983.4 |
| 65° | 392.8 | 398.0 | 416.9 | 453.1 | 620.9 | 814.0 | 1592.8 | 3085.8 | 3260.9 | 3233.3 | 2980.8 |
| 67.5° | 351.9 | 358.4 | 375.6 | 404.4 | 535.7 | 717.7 | 1309.7 | 3013.9 | 3101.2 | 3096.5 | 2857.7 |
| 70° | 311.1 | 311.1 | 330.4 | 353.7 | 444.4 | 614.4 | 1034.8 | 2757.9 | 2857.7 | 2865.0 | 2637.0 |
| 72.5° | 262.5 | 263.3 | 278.4 | 298.6 | 358.0 | 504.3 | 753.8 | 2357.8 | 2664.1 | 2575.5 | 2378.4 |
| 75° | 220.3 | 219.4 | 234.9 | 251.7 | 291.3 | 397.1 | 491.8 | 1732.2 | 2434.8 | 2454.6 | 2093.2 |
| 77.5° | 117.0 | 112.7 | 132.5 | 145.9 | 170.8 | 220.7 | 272.8 | 868.7 | 1763.2 | 1801.9 | 1675.8 |
| 80° | 33.1 | 33.6 | 87.8 | 98.1 | 112.3 | 109.3 | 126.5 | 331.3 | 697.4 | 786.1 | 977.1 |
| 82.5° | 19.8 | 22.8 | 49.9 | 58.5 | 43.9 | 28.4 | 48.2 | 184.1 | 361.0 | 404.4 | 484.9 |
| 85° | 10.3 | 11.2 | 17.6 | 21.9 | 16.8 | 14.2 | 14.6 | 77.4 | 175.5 | 178.6 | 193.6 |
| 87.5° | 4.7 | 4.7 | 6.5 | 6.9 | 4.3 | 2.6 | 1.7 | 1.3 | 1.3 | 0.9 | 0.9 |
| 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° | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 | 866.5 |
| 2.5° | 854.0 | 858.3 | 851.0 | 845.4 | 841.1 | 838.6 | 835.5 | 828.2 | 830.4 | 833.4 | 833.0 |
| 5° | 858.3 | 860.5 | 847.6 | 830.0 | 813.6 | 802.0 | 794.2 | 782.6 | 782.6 | 787.4 | 787.4 |
| 7.5° | 862.2 | 859.2 | 833.0 | 803.3 | 784.8 | 775.3 | 762.8 | 750.4 | 748.2 | 751.6 | 752.1 |
| 10° | 864.4 | 851.5 | 814.9 | 787.4 | 763.3 | 743.9 | 728.0 | 713.8 | 713.4 | 718.1 | 718.9 |
| 12.5° | 873.8 | 848.9 | 813.6 | 775.7 | 739.6 | 718.9 | 700.0 | 684.1 | 678.5 | 678.9 | 679.8 |
| 15° | 888.5 | 859.2 | 811.9 | 759.8 | 720.7 | 693.1 | 665.6 | 645.4 | 640.2 | 647.1 | 649.7 |
| 17.5° | 906.1 | 876.0 | 803.7 | 745.2 | 697.4 | 664.3 | 636.8 | 618.7 | 602.3 | 595.0 | 593.7 |
| 20° | 929.3 | 890.2 | 808.0 | 723.7 | 675.1 | 630.7 | 596.3 | 574.4 | 560.6 | 559.8 | 558.9 |
| 22.5° | 959.9 | 906.1 | 808.9 | 709.5 | 639.8 | 593.7 | 551.1 | 538.7 | 514.1 | 505.1 | 509.0 |
| 25° | 1000.3 | 930.2 | 806.7 | 694.4 | 612.7 | 550.7 | 499.5 | 476.7 | 467.7 | 457.4 | 458.2 |
| 27.5° | 1052.4 | 968.5 | 812.3 | 674.6 | 568.4 | 498.2 | 441.0 | 416.5 | 402.7 | 394.1 | 395.4 |
| 30° | 1158.2 | 1026.6 | 811.9 | 655.7 | 527.5 | 444.0 | 379.5 | 363.1 | 349.4 | 341.6 | 345.5 |
| 32.5° | 1308.8 | 1152.6 | 830.0 | 630.3 | 481.0 | 371.3 | 327.9 | 309.3 | 297.7 | 289.1 | 291.3 |
| 35° | 1495.1 | 1289.9 | 876.4 | 595.9 | 428.1 | 315.8 | 286.1 | 263.3 | 249.1 | 245.7 | 244.4 |
| 37.5° | 1668.1 | 1411.2 | 920.3 | 573.1 | 367.4 | 285.3 | 247.8 | 225.0 | 212.5 | 216.8 | 216.8 |
| 40° | 1822.5 | 1572.1 | 969.8 | 536.5 | 312.4 | 250.4 | 205.2 | 194.9 | 188.4 | 195.8 | 198.3 |
| 42.5° | 1939.1 | 1726.6 | 1036.9 | 488.3 | 267.6 | 209.1 | 175.5 | 182.9 | 185.4 | 190.6 | 189.3 |
| 45° | 2083.7 | 1814.8 | 1103.2 | 443.6 | 228.5 | 174.3 | 169.5 | 184.6 | 190.6 | 195.3 | 193.2 |
| 47.5° | 2216.6 | 1883.2 | 1089.8 | 361.0 | 192.3 | 168.7 | 172.5 | 184.6 | 194.9 | 202.6 | 201.4 |
| 50° | 2331.1 | 1968.8 | 1064.4 | 280.5 | 184.6 | 173.8 | 175.5 | 179.8 | 195.3 | 200.5 | 200.5 |
| 52.5° | 2402.5 | 2053.6 | 1033.0 | 226.7 | 190.2 | 180.3 | 177.3 | 176.8 | 187.2 | 191.0 | 187.6 |
| 55° | 2488.6 | 2141.4 | 951.7 | 210.4 | 192.3 | 184.6 | 182.0 | 178.1 | 181.1 | 178.1 | 179.8 |
| 57.5° | 2584.1 | 2227.8 | 826.9 | 205.7 | 191.0 | 183.3 | 197.1 | 176.4 | 174.7 | 163.9 | 161.3 |
| 60° | 2668.0 | 2261.8 | 717.7 | 194.9 | 184.1 | 179.8 | 183.3 | 174.3 | 165.6 | 151.4 | 145.9 |
| 62.5° | 2699.4 | 2258.8 | 606.7 | 183.7 | 173.8 | 174.7 | 174.3 | 167.8 | 160.1 | 145.9 | 142.4 |
| 65° | 2661.5 | 2190.0 | 491.8 | 170.4 | 165.6 | 169.1 | 164.8 | 155.3 | 142.4 | 130.8 | 127.8 |
| 67.5° | 2533.3 | 2014.4 | 365.3 | 152.7 | 152.3 | 158.8 | 155.8 | 142.8 | 128.6 | 119.6 | 119.6 |
| 70° | 2288.1 | 1798.4 | 236.6 | 126.9 | 136.4 | 147.6 | 147.6 | 133.8 | 115.3 | 107.6 | 109.7 |
| 72.5° | 2019.6 | 1547.6 | 153.2 | 94.2 | 107.6 | 133.8 | 132.9 | 123.5 | 106.3 | 96.4 | 96.8 |
| 75° | 1749.4 | 1227.9 | 99.0 | 65.0 | 69.7 | 114.0 | 117.9 | 100.7 | 82.6 | 70.6 | 68.4 |
| 77.5° | 1329.9 | 923.7 | 62.8 | 37.9 | 44.3 | 69.7 | 89.5 | 83.9 | 84.3 | 102.8 | 102.0 |
| 80° | 817.9 | 556.7 | 45.6 | 18.5 | 21.9 | 45.6 | 72.3 | 80.0 | 112.3 | 74.0 | 68.0 |
| 82.5° | 409.6 | 260.3 | 24.1 | 11.2 | 12.5 | 20.2 | 43.0 | 95.9 | 81.7 | 49.0 | 46.5 |
| 85° | 153.2 | 70.1 | 7.3 | 5.6 | 6.9 | 10.3 | 17.6 | 87.8 | 52.1 | 39.2 | 38.3 |
| 87.5° | 0.9 | 1.3 | 1.3 | 1.7 | 2.6 | 3.0 | 6.5 | 41.7 | 26.2 | 18.9 | 18.1 |
| 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)