

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: INVUE

Report Number: P401454

Luminaire Tested: **ENT-SA1D-730-U-SL4**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401454
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-5)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1D-730-U-SL4
Description: ENTRI LED LUMINAIRE
(1) 70 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4875 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 43.1
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

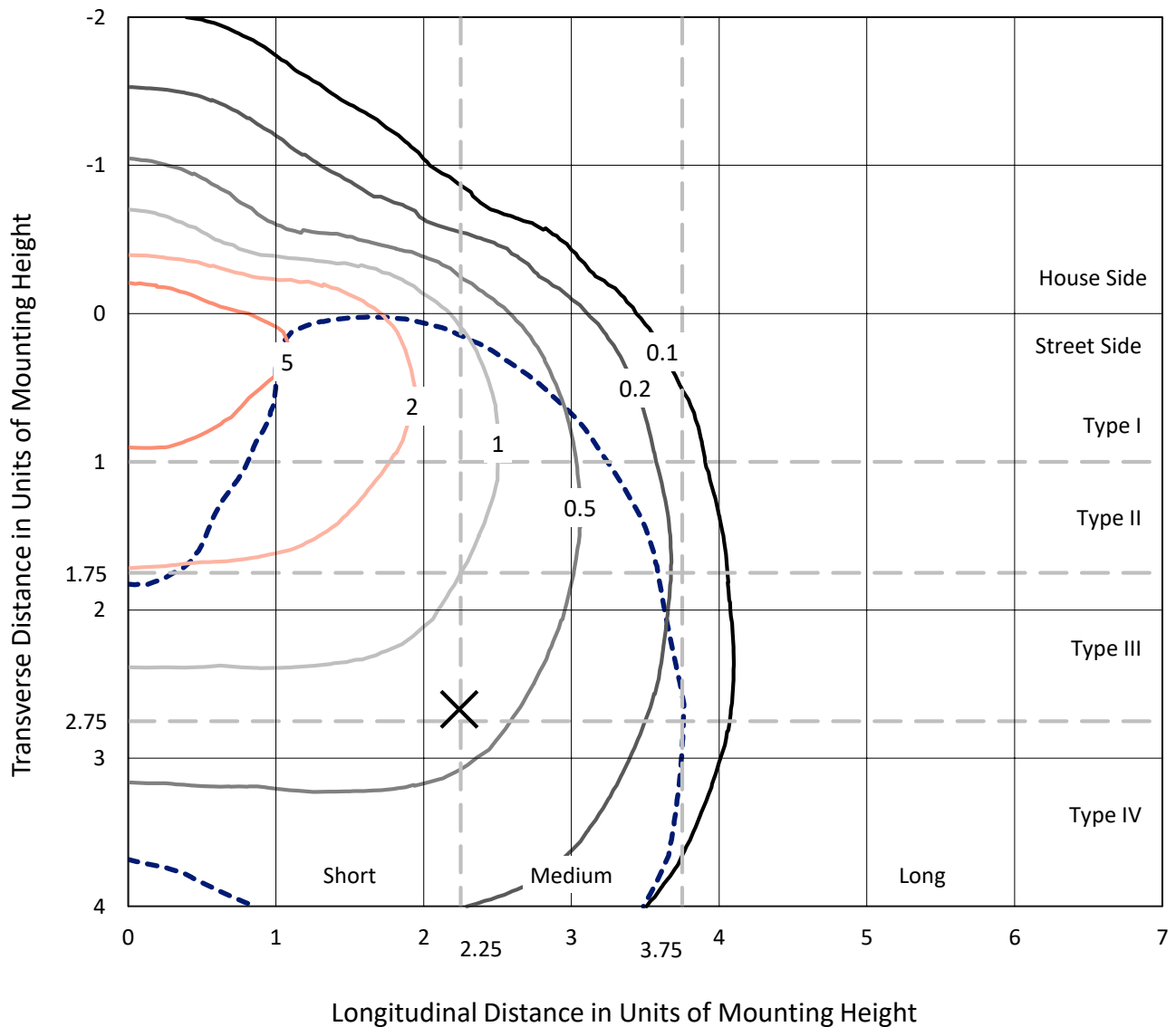


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

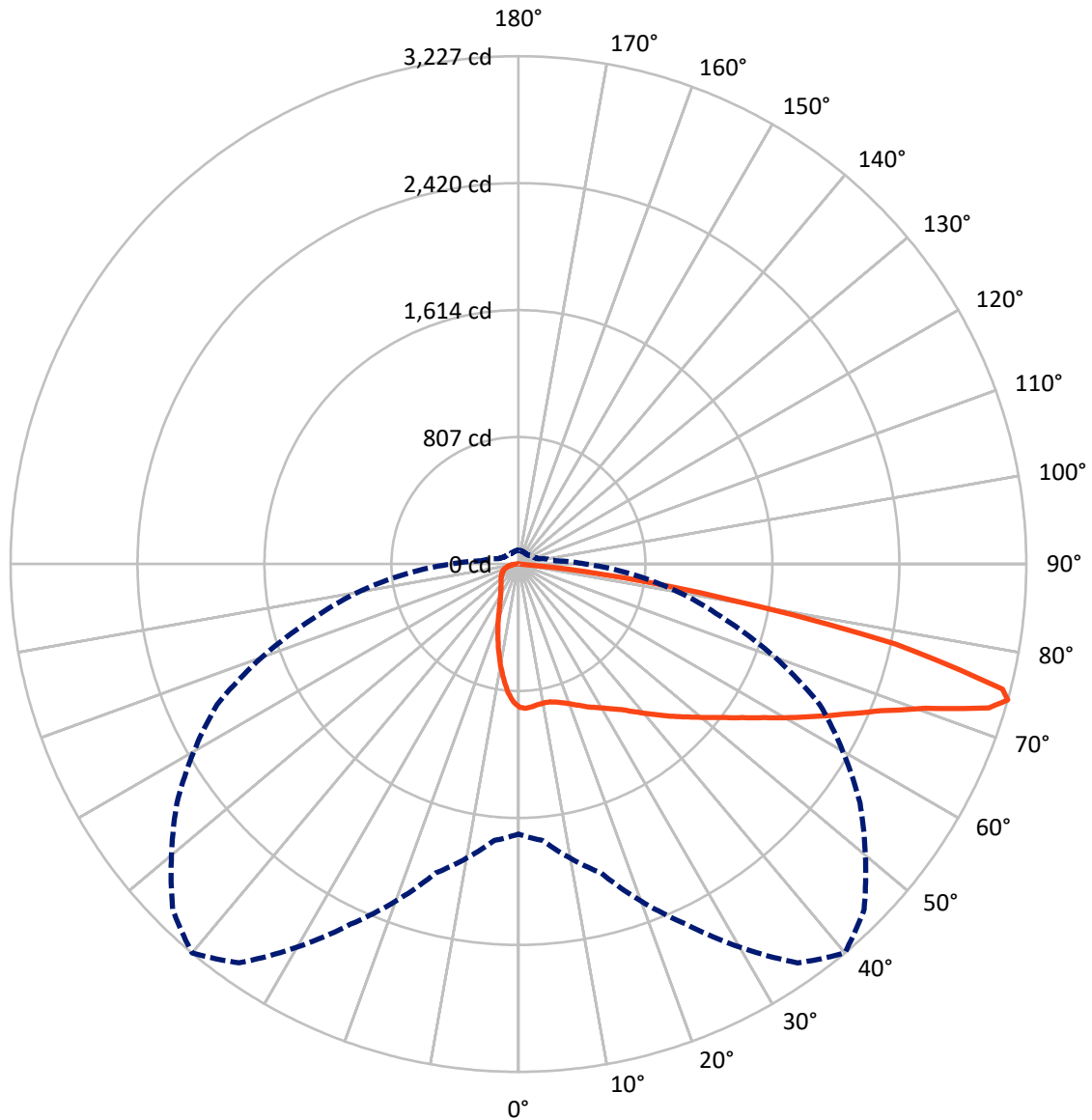


Based on 10 foot mounting height. Maximum calculated value = 9.1 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral - - - Horizontal Cone Through 74-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 760.1 | 0.0 | 760.1 |
| | % Fixture | 15.6 | 0.0 | 15.6 |
| Street Side | Lumens | 4114.9 | 0.0 | 4114.9 |
| | % Fixture | 84.4 | 0.0 | 84.4 |
| Total | Lumens | 4875.0 | 0.0 | 4875.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 80.3 | 1.6 |
| 10°-20° | 206.9 | 4.2 |
| 20°-30° | 317.3 | 6.5 |
| 30°-40° | 458.3 | 9.4 |
| 40°-50° | 659.3 | 13.5 |
| 50°-60° | 910.3 | 18.7 |
| 60°-70° | 1147.7 | 23.5 |
| 70°-80° | 995.2 | 20.4 |
| 80°-90° | 99.6 | 2.0 |
| 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° | 4875.0 | 100.0 |
| 0°-180° | 4875.0 | 100.0 |

Coefficient of Utilization



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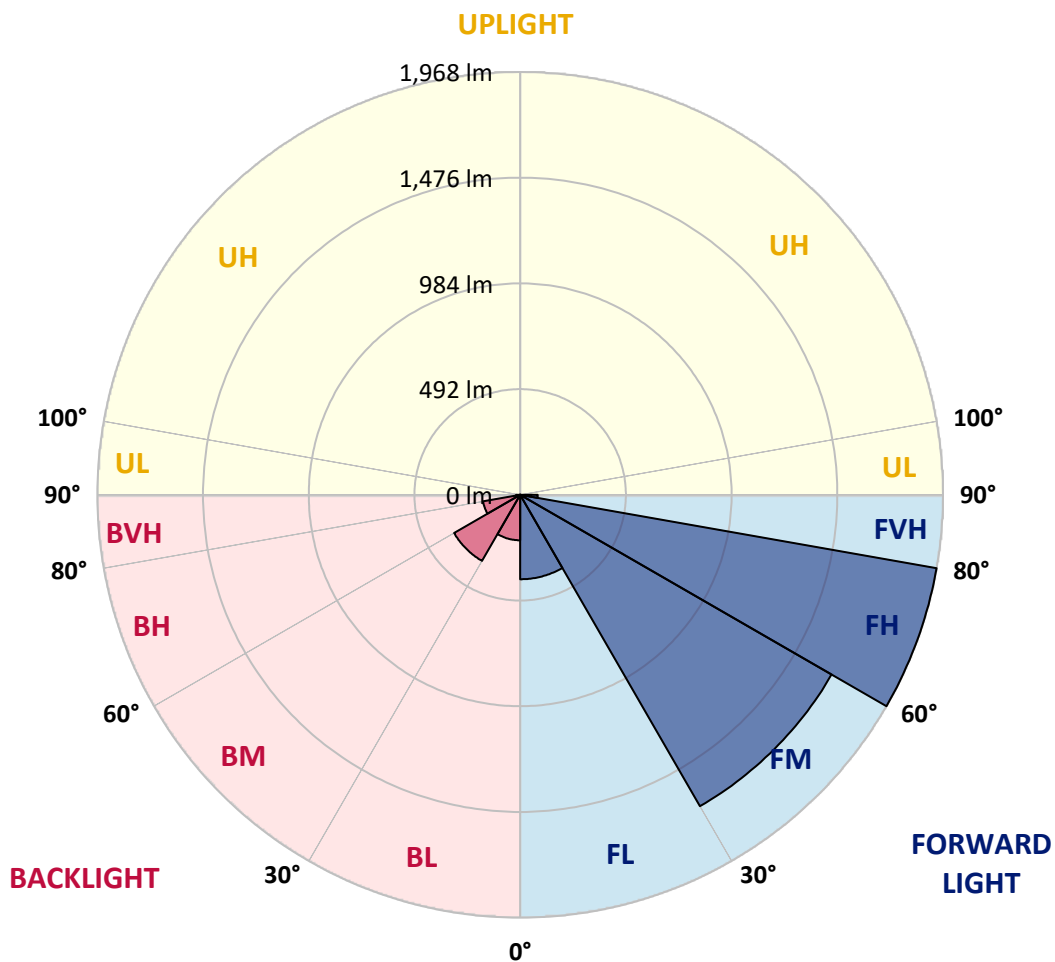
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 393.0 | 8.1 | | | |
| FM (30°-60°) | 1672.9 | 34.3 | | | |
| FH (60°-80°) | 1967.5 | 40.4 | | | G2/5000 |
| FVH (80°-90°) | 81.5 | 1.7 | | | G1/100 |
| BL (0°-30°) | 211.5 | 4.3 | B1/500 | | |
| BM (30°-60°) | 355.0 | 7.3 | B1/1000 | | |
| BH (60°-80°) | 175.4 | 3.6 | B1/500 | | G1/500 |
| BVH (80°-90°) | 18.2 | 0.4 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 40° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 |
| 2.5° | 921.7 | 920.9 | 923.1 | 921.7 | 919.5 | 918.0 | 917.3 | 912.9 | 911.4 | 907.1 | 901.2 |
| 5° | 918.0 | 918.0 | 918.0 | 916.6 | 912.2 | 910.7 | 909.3 | 902.7 | 898.3 | 891.0 | 880.0 |
| 7.5° | 905.6 | 907.8 | 907.1 | 906.3 | 902.7 | 901.2 | 899.0 | 891.0 | 885.1 | 874.2 | 860.3 |
| 10° | 893.9 | 893.9 | 894.6 | 897.6 | 896.1 | 896.8 | 896.1 | 887.3 | 879.3 | 865.4 | 847.9 |
| 12.5° | 877.1 | 880.0 | 884.4 | 892.4 | 896.1 | 899.0 | 899.0 | 892.4 | 883.7 | 866.9 | 846.4 |
| 15° | 866.9 | 870.5 | 881.5 | 896.1 | 904.9 | 910.0 | 911.4 | 903.4 | 892.4 | 875.6 | 853.0 |
| 17.5° | 862.5 | 866.9 | 887.3 | 907.8 | 923.1 | 927.5 | 928.3 | 919.5 | 907.8 | 887.3 | 861.0 |
| 20° | 866.9 | 872.0 | 899.0 | 926.8 | 945.1 | 948.7 | 950.2 | 937.8 | 923.1 | 903.4 | 869.1 |
| 22.5° | 883.7 | 891.0 | 920.9 | 950.9 | 969.9 | 975.0 | 973.6 | 956.0 | 941.4 | 920.2 | 879.3 |
| 25° | 920.2 | 924.6 | 951.6 | 983.8 | 998.4 | 1004.3 | 1000.6 | 980.9 | 961.9 | 940.7 | 893.9 |
| 27.5° | 962.6 | 968.5 | 997.0 | 1021.1 | 1030.6 | 1032.0 | 1028.4 | 1007.9 | 986.7 | 969.2 | 916.6 |
| 30° | 1013.8 | 1018.9 | 1042.3 | 1060.5 | 1061.3 | 1062.0 | 1059.8 | 1036.4 | 1018.9 | 1005.0 | 949.5 |
| 32.5° | 1067.9 | 1068.6 | 1092.7 | 1101.5 | 1095.6 | 1097.8 | 1095.6 | 1070.1 | 1057.6 | 1053.2 | 992.6 |
| 35° | 1117.6 | 1118.3 | 1143.1 | 1146.1 | 1136.6 | 1137.3 | 1141.7 | 1111.7 | 1111.7 | 1121.9 | 1056.9 |
| 37.5° | 1165.1 | 1167.3 | 1189.2 | 1186.3 | 1182.6 | 1189.2 | 1195.0 | 1169.5 | 1184.1 | 1213.3 | 1135.1 |
| 40° | 1200.9 | 1206.0 | 1235.2 | 1233.8 | 1241.8 | 1248.4 | 1253.5 | 1240.4 | 1263.7 | 1320.8 | 1231.6 |
| 42.5° | 1224.3 | 1234.5 | 1276.2 | 1286.4 | 1300.3 | 1312.0 | 1320.8 | 1320.0 | 1361.0 | 1439.9 | 1333.9 |
| 45° | 1248.4 | 1258.6 | 1314.2 | 1339.0 | 1362.4 | 1380.7 | 1397.5 | 1406.3 | 1471.3 | 1565.6 | 1453.0 |
| 47.5° | 1277.6 | 1286.4 | 1348.5 | 1397.5 | 1427.5 | 1452.3 | 1482.3 | 1501.3 | 1583.9 | 1693.5 | 1563.4 |
| 50° | 1322.2 | 1328.1 | 1383.6 | 1459.6 | 1497.6 | 1532.0 | 1569.3 | 1608.0 | 1705.2 | 1824.3 | 1659.9 |
| 52.5° | 1380.0 | 1383.6 | 1424.5 | 1522.5 | 1583.1 | 1619.7 | 1675.2 | 1726.4 | 1828.7 | 1942.8 | 1738.8 |
| 55° | 1445.7 | 1442.8 | 1474.2 | 1597.8 | 1668.7 | 1723.5 | 1792.2 | 1844.1 | 1958.8 | 2045.8 | 1801.7 |
| 57.5° | 1511.5 | 1509.3 | 1534.2 | 1670.1 | 1776.8 | 1841.2 | 1912.1 | 1966.9 | 2078.0 | 2142.3 | 1847.0 |
| 60° | 1574.4 | 1566.3 | 1601.4 | 1754.9 | 1907.7 | 1981.5 | 2045.1 | 2095.5 | 2190.5 | 2211.7 | 1871.1 |
| 62.5° | 1629.9 | 1629.9 | 1681.1 | 1859.4 | 2064.1 | 2130.6 | 2181.0 | 2214.7 | 2298.0 | 2262.9 | 1861.6 |
| 65° | 1681.1 | 1687.7 | 1760.8 | 1976.4 | 2226.3 | 2294.3 | 2338.2 | 2351.3 | 2404.7 | 2265.1 | 1781.2 |
| 67.5° | 1738.8 | 1749.1 | 1852.1 | 2113.1 | 2413.5 | 2485.8 | 2523.8 | 2519.4 | 2480.7 | 2231.5 | 1608.7 |
| 70° | 1795.1 | 1811.9 | 1965.4 | 2289.2 | 2644.4 | 2742.4 | 2784.0 | 2697.8 | 2520.2 | 2045.1 | 1336.1 |
| 72.5° | 1836.0 | 1864.5 | 2058.2 | 2465.4 | 2975.5 | 3126.1 | 3109.3 | 2746.8 | 2335.3 | 1685.5 | 1010.8 |
| 74° | 1716.2 | 1763.7 | 2032.7 | 2526.0 | 3094.7 | 3227.0 | 3106.4 | 2649.5 | 2112.3 | 1357.3 | 716.3 |
| 75° | 1576.6 | 1622.6 | 1903.3 | 2501.9 | 3117.3 | 3176.5 | 2955.8 | 2478.5 | 1894.5 | 1051.8 | 467.8 |
| 77.5° | 1167.3 | 1203.1 | 1461.8 | 1972.7 | 2465.4 | 2447.8 | 2200.8 | 1679.6 | 933.4 | 317.2 | 197.3 |
| 80° | 515.3 | 542.3 | 721.4 | 992.6 | 1335.4 | 1330.3 | 1238.9 | 771.8 | 301.1 | 165.9 | 120.6 |
| 82.5° | 155.7 | 155.0 | 207.6 | 289.4 | 507.3 | 516.8 | 439.3 | 266.1 | 144.0 | 68.7 | 58.5 |
| 85° | 0.7 | 0.7 | 0.7 | 0.7 | 2.2 | 19.0 | 16.1 | 51.2 | 26.3 | 12.4 | 21.2 |
| 87.5° | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.0 | 0.0 |
| 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° | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 | 910.0 |
| 2.5° | 897.6 | 896.8 | 894.6 | 889.5 | 885.9 | 874.9 | 878.6 | 871.2 | 870.5 | 869.1 | 868.3 |
| 5° | 874.9 | 872.0 | 863.2 | 853.0 | 841.3 | 823.0 | 817.2 | 806.2 | 799.6 | 797.4 | 798.9 |
| 7.5° | 851.5 | 844.9 | 828.1 | 806.2 | 782.8 | 755.8 | 736.0 | 720.7 | 709.7 | 706.1 | 700.9 |
| 10° | 836.9 | 825.9 | 797.4 | 760.9 | 722.9 | 684.9 | 652.0 | 629.3 | 612.5 | 599.3 | 599.3 |
| 12.5° | 831.8 | 817.2 | 775.5 | 722.1 | 667.3 | 613.2 | 565.7 | 535.8 | 507.3 | 493.4 | 491.2 |
| 15° | 834.7 | 814.2 | 757.2 | 687.1 | 614.0 | 543.8 | 485.3 | 442.2 | 415.2 | 398.3 | 404.2 |
| 17.5° | 837.6 | 812.0 | 738.2 | 649.8 | 562.1 | 480.9 | 413.0 | 364.0 | 331.1 | 322.3 | 318.7 |
| 20° | 841.3 | 807.7 | 714.1 | 609.6 | 508.7 | 420.3 | 348.6 | 298.9 | 274.1 | 263.1 | 263.1 |
| 22.5° | 846.4 | 801.8 | 689.2 | 565.0 | 453.9 | 361.1 | 294.6 | 257.3 | 237.5 | 231.0 | 231.0 |
| 25° | 853.7 | 798.2 | 663.7 | 520.4 | 402.0 | 314.3 | 258.7 | 229.5 | 219.3 | 214.9 | 214.2 |
| 27.5° | 867.6 | 798.9 | 638.8 | 475.1 | 350.8 | 274.8 | 233.2 | 214.2 | 206.1 | 203.9 | 203.2 |
| 30° | 888.8 | 806.2 | 612.5 | 426.9 | 305.5 | 244.9 | 215.6 | 202.5 | 197.3 | 195.9 | 195.9 |
| 32.5° | 918.0 | 819.3 | 590.6 | 383.7 | 271.9 | 220.7 | 201.0 | 192.2 | 189.3 | 187.8 | 188.6 |
| 35° | 963.3 | 842.0 | 564.3 | 344.3 | 240.5 | 203.9 | 189.3 | 182.7 | 180.5 | 180.5 | 181.3 |
| 37.5° | 1022.5 | 877.1 | 538.7 | 307.7 | 219.3 | 189.3 | 178.3 | 174.7 | 172.5 | 174.0 | 174.7 |
| 40° | 1097.1 | 918.8 | 514.6 | 274.8 | 201.7 | 177.6 | 168.8 | 165.9 | 165.2 | 166.6 | 168.1 |
| 42.5° | 1177.5 | 969.2 | 492.6 | 247.8 | 187.8 | 168.1 | 160.8 | 159.3 | 158.6 | 159.3 | 161.5 |
| 45° | 1271.1 | 1026.9 | 474.4 | 227.3 | 177.6 | 160.1 | 153.5 | 152.0 | 151.3 | 152.8 | 154.2 |
| 47.5° | 1357.3 | 1078.8 | 459.7 | 213.4 | 168.8 | 154.2 | 147.6 | 145.5 | 145.5 | 145.5 | 146.9 |
| 50° | 1427.5 | 1119.8 | 451.0 | 203.9 | 161.5 | 147.6 | 141.8 | 139.6 | 138.9 | 138.1 | 138.9 |
| 52.5° | 1488.1 | 1150.5 | 448.0 | 198.1 | 155.7 | 141.8 | 135.9 | 134.5 | 133.0 | 131.6 | 132.3 |
| 55° | 1528.3 | 1165.8 | 442.2 | 193.0 | 150.6 | 135.2 | 130.1 | 128.6 | 127.2 | 125.0 | 125.0 |
| 57.5° | 1551.7 | 1164.3 | 429.0 | 190.0 | 147.6 | 129.4 | 124.3 | 124.3 | 122.8 | 119.1 | 119.9 |
| 60° | 1553.9 | 1138.8 | 396.9 | 186.4 | 145.5 | 123.5 | 117.7 | 119.1 | 119.1 | 116.2 | 116.2 |
| 62.5° | 1516.6 | 1071.5 | 334.8 | 176.9 | 142.5 | 119.1 | 112.6 | 116.2 | 117.7 | 114.8 | 114.8 |
| 65° | 1401.9 | 912.9 | 269.0 | 163.0 | 135.2 | 114.0 | 106.7 | 114.0 | 118.4 | 116.2 | 115.5 |
| 67.5° | 1181.9 | 722.9 | 222.2 | 147.6 | 127.2 | 107.4 | 100.9 | 110.4 | 116.2 | 116.2 | 115.5 |
| 70° | 948.7 | 548.9 | 182.7 | 130.8 | 114.8 | 99.4 | 94.3 | 102.3 | 107.4 | 108.9 | 108.9 |
| 72.5° | 653.4 | 335.5 | 148.4 | 112.6 | 100.9 | 89.9 | 85.5 | 90.6 | 93.6 | 96.5 | 95.7 |
| 74° | 421.7 | 235.4 | 130.1 | 102.3 | 92.1 | 82.6 | 80.4 | 82.6 | 84.1 | 87.0 | 87.7 |
| 75° | 282.1 | 192.2 | 121.3 | 95.0 | 87.0 | 77.5 | 76.0 | 78.2 | 79.7 | 81.9 | 81.9 |
| 77.5° | 162.3 | 137.4 | 97.9 | 78.9 | 72.4 | 66.5 | 65.8 | 66.5 | 68.7 | 70.9 | 70.2 |
| 80° | 112.6 | 104.5 | 77.5 | 61.4 | 57.0 | 54.1 | 54.8 | 55.5 | 59.2 | 59.9 | 59.2 |
| 82.5° | 68.0 | 75.3 | 54.8 | 46.0 | 43.1 | 42.4 | 44.6 | 46.0 | 49.0 | 49.7 | 49.0 |
| 85° | 27.0 | 35.8 | 27.0 | 25.6 | 28.5 | 31.4 | 35.1 | 37.3 | 38.7 | 38.7 | 38.7 |
| 87.5° | 0.0 | 5.1 | 6.6 | 10.2 | 16.1 | 19.0 | 24.9 | 27.0 | 28.5 | 27.8 | 27.0 |
| 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)