

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: P677187

Luminaire Tested: **CCW-SA-1F-830-U-SL4-HSS**

Issue Date: 04/25/2023



Test Information

Test Method: LM-79-08
Report Number: P677187
Test Lab: INNOVATION CENTER(G1)
Issue Date: 04/25/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: CCW-SA-1F-830-U-SL4-HSS
Description: INVUE CLEAR CURVE Wall Pack MOUNT Light Square Luminaire @1200mA w/
SL4 distribution lens and House Side Shield
Light Source: (16) 3000K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

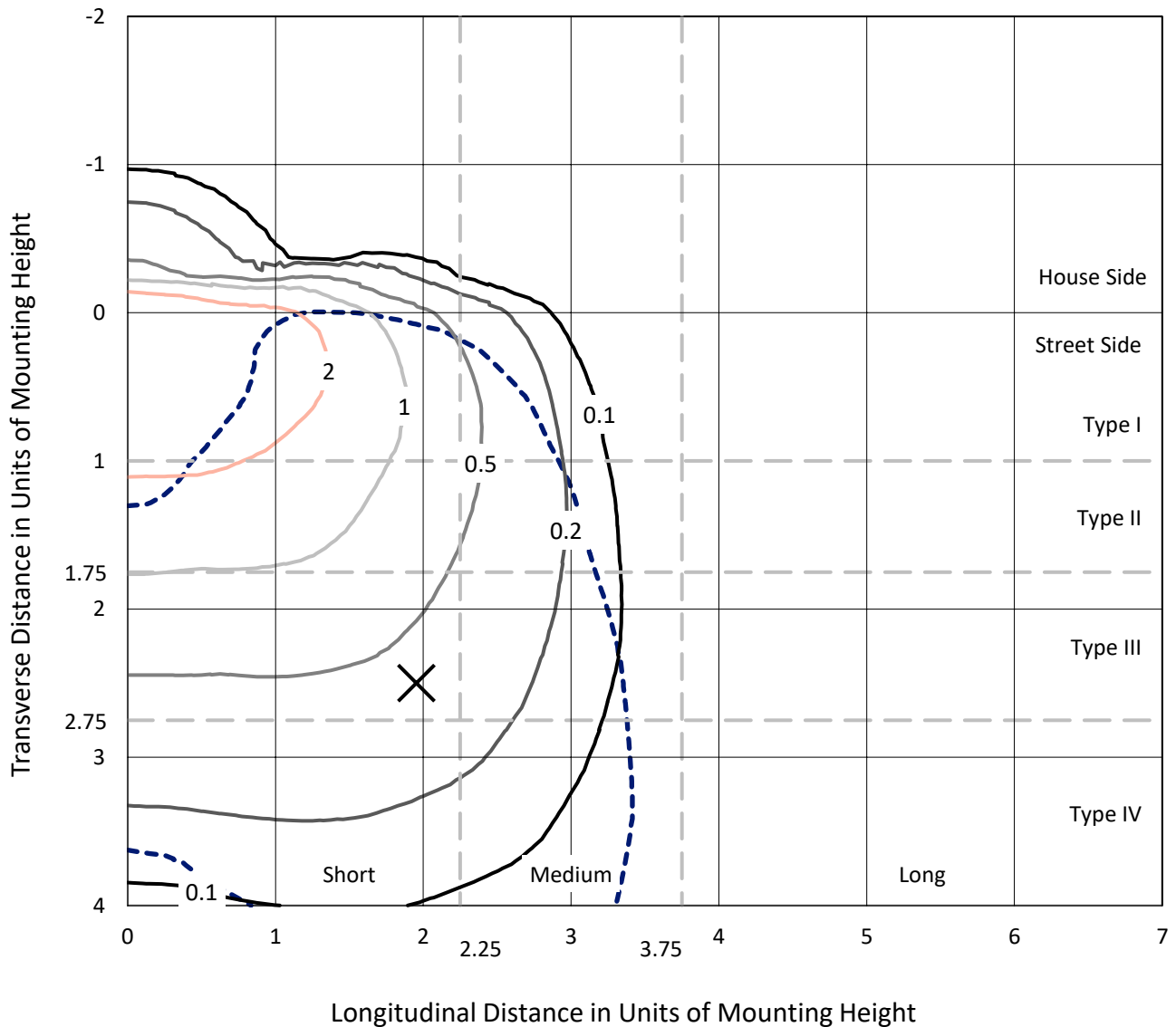
Lumens per Lamp: N/A
Luminaire Lumens: 4921.2 lumens
Efficiency: N/A
Efficacy: 73.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

Input Watts (W): 67
Input Voltage (V): 120
Input Current (A_{in}): 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

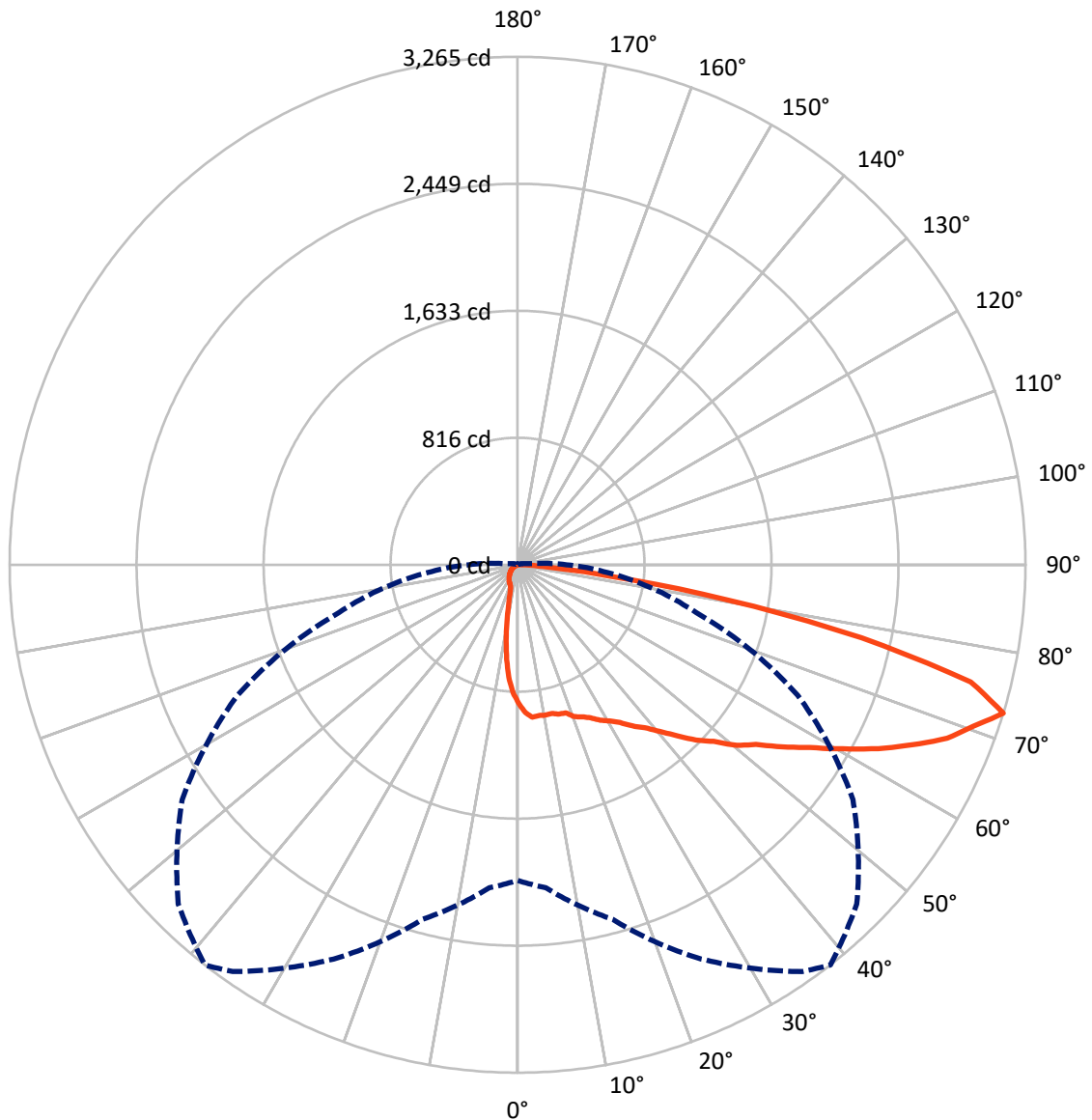
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 4.3 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 38-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 412.2 | 0.0 | 412.2 |
| | % Fixture | 8.4 | 0.0 | 8.4 |
| Street Side | Lumens | 4509.0 | 0.0 | 4509.0 |
| | % Fixture | 91.6 | 0.0 | 91.6 |
| Total | Lumens | 4921.2 | 0.0 | 4921.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 77.9 | 1.6 |
| 10°-20° | 190.7 | 3.9 |
| 20°-30° | 305.8 | 6.2 |
| 30°-40° | 461.6 | 9.4 |
| 40°-50° | 702.5 | 14.3 |
| 50°-60° | 989.1 | 20.1 |
| 60°-70° | 1208.2 | 24.6 |
| 70°-80° | 877.3 | 17.8 |
| 80°-90° | 108.0 | 2.2 |
| 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° | 4921.2 | 100.0 |
| 0°-180° | 4921.2 | 100.0 |



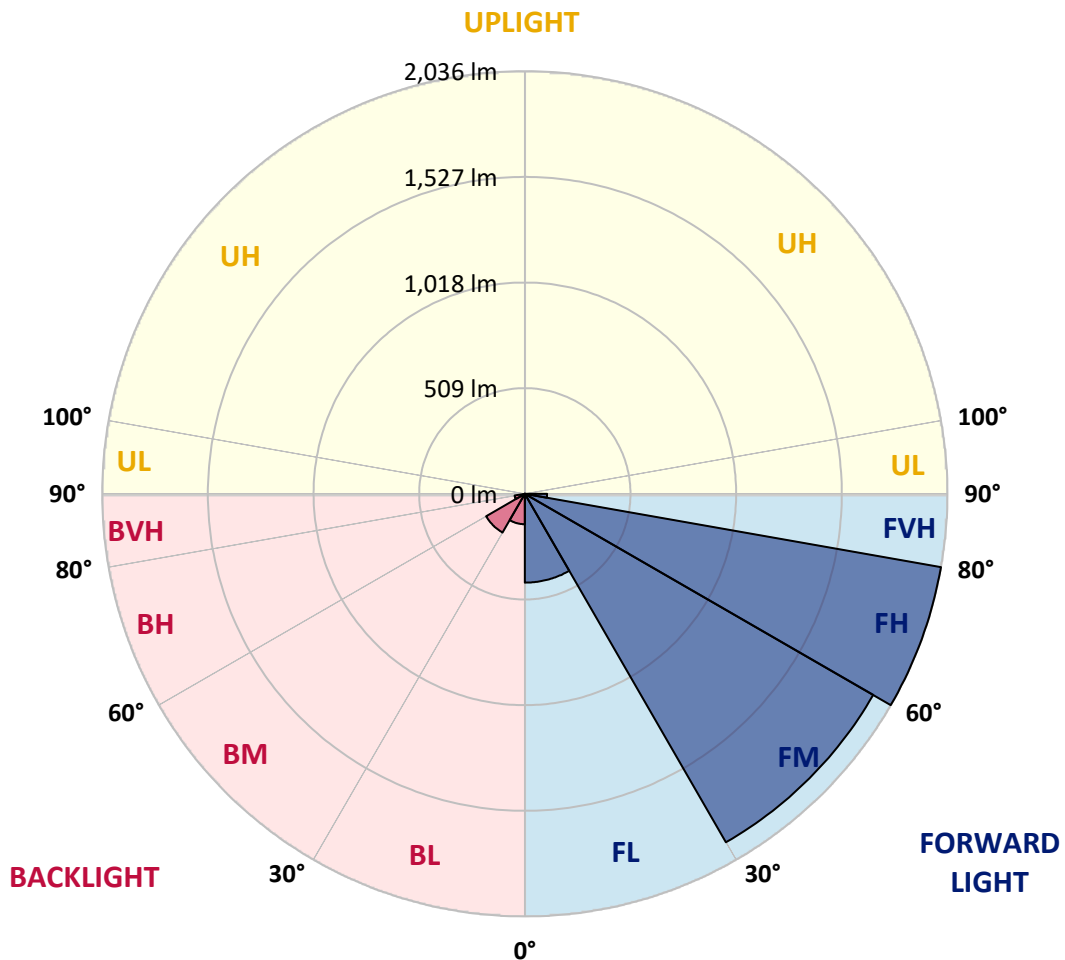
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 428.0 | 8.7 | | | |
| FM (30°-60°) | 1938.0 | 39.4 | | | |
| FH (60°-80°) | 2035.5 | 41.4 | | | G2/5000 |
| FVH (80°-90°) | 107.5 | 2.2 | | | G2/225 |
| BL (0°-30°) | 146.3 | 3.0 | B1/500 | | |
| BM (30°-60°) | 215.3 | 4.4 | B0/220 | | |
| BH (60°-80°) | 50.0 | 1.0 | B0/110 | | G0/110 |
| BVH (80°-90°) | 0.6 | 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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 38° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 |
| 2.5° | 977.7 | 977.7 | 986.9 | 977.7 | 974.2 | 952.3 | 953.4 | 941.9 | 930.3 | 914.2 | 899.2 |
| 5° | 989.2 | 997.3 | 1003.1 | 995.0 | 982.3 | 984.6 | 992.7 | 970.7 | 939.6 | 920.0 | 886.5 |
| 7.5° | 984.6 | 1001.9 | 997.3 | 992.7 | 984.6 | 978.8 | 967.3 | 958.0 | 943.0 | 924.6 | 885.3 |
| 10° | 981.1 | 986.9 | 988.1 | 984.6 | 967.3 | 983.4 | 970.7 | 955.7 | 937.3 | 915.3 | 866.9 |
| 12.5° | 968.4 | 968.4 | 978.8 | 970.7 | 973.0 | 981.1 | 975.4 | 971.9 | 952.3 | 933.8 | 891.1 |
| 15° | 954.6 | 959.2 | 975.4 | 988.1 | 999.6 | 996.1 | 992.7 | 982.3 | 965.0 | 944.2 | 899.2 |
| 17.5° | 958.0 | 960.4 | 985.7 | 1008.8 | 1003.1 | 1000.8 | 1019.2 | 997.3 | 980.0 | 956.9 | 906.1 |
| 20° | 970.7 | 977.7 | 1006.5 | 1036.5 | 1042.3 | 1042.3 | 1035.4 | 1022.7 | 998.4 | 967.3 | 918.8 |
| 22.5° | 983.4 | 985.7 | 1033.1 | 1071.2 | 1076.9 | 1061.9 | 1067.7 | 1030.8 | 1007.7 | 990.4 | 931.5 |
| 25° | 1031.9 | 1027.3 | 1078.1 | 1108.1 | 1104.6 | 1089.6 | 1083.9 | 1051.5 | 1042.3 | 1011.1 | 959.2 |
| 27.5° | 1097.7 | 1078.1 | 1127.7 | 1146.2 | 1127.7 | 1132.3 | 1116.2 | 1081.6 | 1061.9 | 1043.5 | 971.9 |
| 30° | 1138.1 | 1149.7 | 1176.2 | 1194.7 | 1163.5 | 1164.7 | 1156.6 | 1118.5 | 1088.5 | 1093.1 | 1014.6 |
| 32.5° | 1200.4 | 1208.5 | 1228.1 | 1236.2 | 1212.0 | 1209.7 | 1201.6 | 1171.6 | 1149.7 | 1145.0 | 1072.3 |
| 35° | 1267.4 | 1282.4 | 1283.5 | 1285.9 | 1263.9 | 1273.2 | 1261.6 | 1218.9 | 1230.5 | 1238.5 | 1141.6 |
| 37.5° | 1333.2 | 1319.3 | 1342.4 | 1352.8 | 1328.6 | 1328.6 | 1332.0 | 1303.2 | 1323.9 | 1348.2 | 1239.7 |
| 40° | 1358.6 | 1364.3 | 1404.7 | 1396.7 | 1425.5 | 1408.2 | 1420.9 | 1414.0 | 1431.3 | 1486.7 | 1378.2 |
| 42.5° | 1385.1 | 1392.0 | 1446.3 | 1461.3 | 1495.9 | 1501.7 | 1520.2 | 1521.3 | 1572.1 | 1663.3 | 1510.9 |
| 45° | 1435.9 | 1424.4 | 1498.2 | 1535.2 | 1591.7 | 1607.9 | 1629.8 | 1648.3 | 1727.9 | 1835.3 | 1662.1 |
| 47.5° | 1482.1 | 1465.9 | 1550.2 | 1624.1 | 1693.3 | 1696.8 | 1756.8 | 1776.4 | 1871.1 | 1993.4 | 1812.2 |
| 50° | 1546.7 | 1552.5 | 1588.3 | 1715.2 | 1785.7 | 1826.1 | 1867.6 | 1932.2 | 2037.3 | 2167.7 | 1920.7 |
| 52.5° | 1613.7 | 1607.9 | 1667.9 | 1792.6 | 1903.4 | 1918.4 | 2011.9 | 2084.6 | 2198.9 | 2297.0 | 1969.2 |
| 55° | 1695.6 | 1702.5 | 1725.6 | 1889.5 | 2030.4 | 2066.1 | 2171.2 | 2247.4 | 2372.0 | 2352.4 | 1985.3 |
| 57.5° | 1777.6 | 1770.6 | 1822.6 | 1998.0 | 2189.6 | 2216.2 | 2355.9 | 2400.9 | 2485.1 | 2389.3 | 1944.9 |
| 60° | 1858.4 | 1871.1 | 1893.0 | 2120.4 | 2363.9 | 2403.2 | 2514.0 | 2537.1 | 2555.6 | 2406.7 | 1913.8 |
| 62.5° | 1950.7 | 1920.7 | 1988.8 | 2249.7 | 2520.9 | 2602.9 | 2690.6 | 2599.4 | 2583.3 | 2375.5 | 1842.2 |
| 65° | 1996.9 | 2006.1 | 2095.0 | 2397.4 | 2729.8 | 2789.9 | 2801.4 | 2683.7 | 2600.6 | 2306.2 | 1775.3 |
| 67.5° | 2068.5 | 2081.1 | 2194.3 | 2548.6 | 2944.5 | 2978.0 | 2936.5 | 2759.9 | 2585.6 | 2216.2 | 1534.0 |
| 70° | 2077.7 | 2108.8 | 2327.0 | 2706.8 | 3079.6 | 3108.4 | 3076.1 | 2810.6 | 2464.4 | 1861.8 | 1135.8 |
| 72.5° | 2029.2 | 2084.6 | 2359.3 | 2796.8 | 3192.7 | 3265.4 | 3084.2 | 2631.7 | 1986.5 | 1187.7 | 581.8 |
| 75° | 1532.9 | 1579.0 | 2159.6 | 2662.9 | 2991.9 | 3009.2 | 2707.9 | 2008.4 | 1131.2 | 405.1 | 148.9 |
| 77.5° | 794.1 | 873.8 | 1441.7 | 2035.0 | 2279.7 | 2261.2 | 1884.9 | 1183.1 | 389.0 | 106.2 | 60.0 |
| 80° | 455.9 | 475.6 | 630.2 | 1142.7 | 1433.6 | 1363.2 | 1042.3 | 510.2 | 170.8 | 53.1 | 39.2 |
| 82.5° | 225.1 | 252.8 | 339.4 | 511.3 | 716.8 | 589.8 | 391.3 | 305.9 | 95.8 | 28.9 | 34.6 |
| 85° | 48.5 | 50.8 | 173.1 | 244.7 | 290.9 | 191.6 | 133.9 | 257.4 | 34.6 | 17.3 | 33.5 |
| 87.5° | 34.6 | 33.5 | 48.5 | 109.7 | 80.8 | 49.6 | 79.6 | 135.0 | 8.1 | 8.1 | 6.9 |
| 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° | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 | 889.9 |
| 2.5° | 889.9 | 879.6 | 868.0 | 846.1 | 840.3 | 836.8 | 817.2 | 816.1 | 812.6 | 804.5 | 801.1 |
| 5° | 865.7 | 848.4 | 826.5 | 803.4 | 784.9 | 751.4 | 711.0 | 690.3 | 664.9 | 666.0 | 657.9 |
| 7.5° | 862.2 | 829.9 | 798.8 | 750.3 | 691.4 | 629.1 | 566.7 | 526.3 | 497.5 | 480.2 | 483.6 |
| 10° | 846.1 | 821.8 | 771.1 | 681.0 | 586.4 | 491.7 | 412.1 | 352.1 | 317.4 | 290.9 | 299.0 |
| 12.5° | 853.0 | 805.7 | 734.1 | 614.1 | 479.0 | 362.4 | 263.2 | 205.5 | 180.1 | 170.8 | 173.1 |
| 15° | 848.4 | 805.7 | 712.2 | 541.4 | 376.3 | 245.9 | 170.8 | 152.4 | 147.7 | 147.7 | 145.4 |
| 17.5° | 862.2 | 814.9 | 675.2 | 469.8 | 270.1 | 163.9 | 146.6 | 143.1 | 139.7 | 139.7 | 139.7 |
| 20° | 881.9 | 819.5 | 649.9 | 390.1 | 190.5 | 144.3 | 137.4 | 135.0 | 133.9 | 133.9 | 132.7 |
| 22.5° | 883.0 | 814.9 | 602.5 | 302.4 | 146.6 | 136.2 | 130.4 | 129.3 | 129.3 | 127.0 | 127.0 |
| 25° | 889.9 | 819.5 | 551.7 | 227.4 | 136.2 | 128.1 | 123.5 | 122.4 | 123.5 | 122.4 | 121.2 |
| 27.5° | 907.3 | 827.6 | 501.0 | 166.2 | 128.1 | 121.2 | 117.7 | 116.6 | 116.6 | 116.6 | 114.3 |
| 30° | 929.2 | 827.6 | 444.4 | 137.4 | 121.2 | 114.3 | 110.8 | 109.7 | 108.5 | 108.5 | 108.5 |
| 32.5° | 975.4 | 854.2 | 375.1 | 122.4 | 112.0 | 106.2 | 102.7 | 102.7 | 101.6 | 101.6 | 100.4 |
| 35° | 1033.1 | 872.6 | 304.7 | 113.1 | 103.9 | 98.1 | 94.7 | 94.7 | 93.5 | 93.5 | 92.3 |
| 37.5° | 1104.6 | 918.8 | 233.2 | 106.2 | 95.8 | 90.0 | 86.6 | 86.6 | 86.6 | 85.4 | 85.4 |
| 40° | 1206.2 | 966.1 | 173.1 | 97.0 | 87.7 | 82.0 | 79.6 | 78.5 | 77.3 | 77.3 | 75.0 |
| 42.5° | 1314.7 | 1038.8 | 129.3 | 90.0 | 80.8 | 76.2 | 72.7 | 69.3 | 69.3 | 65.8 | 65.8 |
| 45° | 1432.4 | 1102.3 | 105.0 | 82.0 | 73.9 | 68.1 | 64.6 | 62.3 | 58.9 | 56.6 | 56.6 |
| 47.5° | 1547.9 | 1141.6 | 92.3 | 72.7 | 66.9 | 62.3 | 58.9 | 54.3 | 49.6 | 48.5 | 47.3 |
| 50° | 1641.4 | 1153.1 | 82.0 | 65.8 | 61.2 | 56.6 | 51.9 | 46.2 | 41.6 | 39.2 | 38.1 |
| 52.5° | 1641.4 | 1089.6 | 73.9 | 58.9 | 55.4 | 50.8 | 45.0 | 38.1 | 32.3 | 30.0 | 28.9 |
| 55° | 1641.4 | 989.2 | 65.8 | 54.3 | 49.6 | 46.2 | 38.1 | 31.2 | 25.4 | 21.9 | 20.8 |
| 57.5° | 1617.1 | 868.0 | 58.9 | 48.5 | 43.9 | 39.2 | 32.3 | 24.2 | 18.5 | 15.0 | 15.0 |
| 60° | 1550.2 | 741.0 | 50.8 | 42.7 | 38.1 | 32.3 | 25.4 | 17.3 | 11.5 | 8.1 | 8.1 |
| 62.5° | 1464.8 | 589.8 | 43.9 | 35.8 | 31.2 | 26.5 | 19.6 | 11.5 | 4.6 | 2.3 | 2.3 |
| 65° | 1315.9 | 435.2 | 38.1 | 30.0 | 24.2 | 19.6 | 12.7 | 4.6 | 0.0 | 0.0 | 0.0 |
| 67.5° | 1086.2 | 290.9 | 30.0 | 24.2 | 20.8 | 13.9 | 8.1 | 1.2 | 0.0 | 0.0 | 0.0 |
| 70° | 764.1 | 165.1 | 23.1 | 17.3 | 15.0 | 9.2 | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 314.0 | 72.7 | 16.2 | 12.7 | 10.4 | 4.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 85.4 | 32.3 | 10.4 | 6.9 | 5.8 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 49.6 | 21.9 | 4.6 | 2.3 | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 39.2 | 10.4 | 2.3 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 39.2 | 5.8 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 33.5 | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 4.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 |

(END OF REPORT)