

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: P596200

Luminaire Tested: **MSA-SA1D-722-U-SLL**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596200
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1D-722-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS
EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4318 lumens
Efficiency: N/A
Efficacy: 64.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

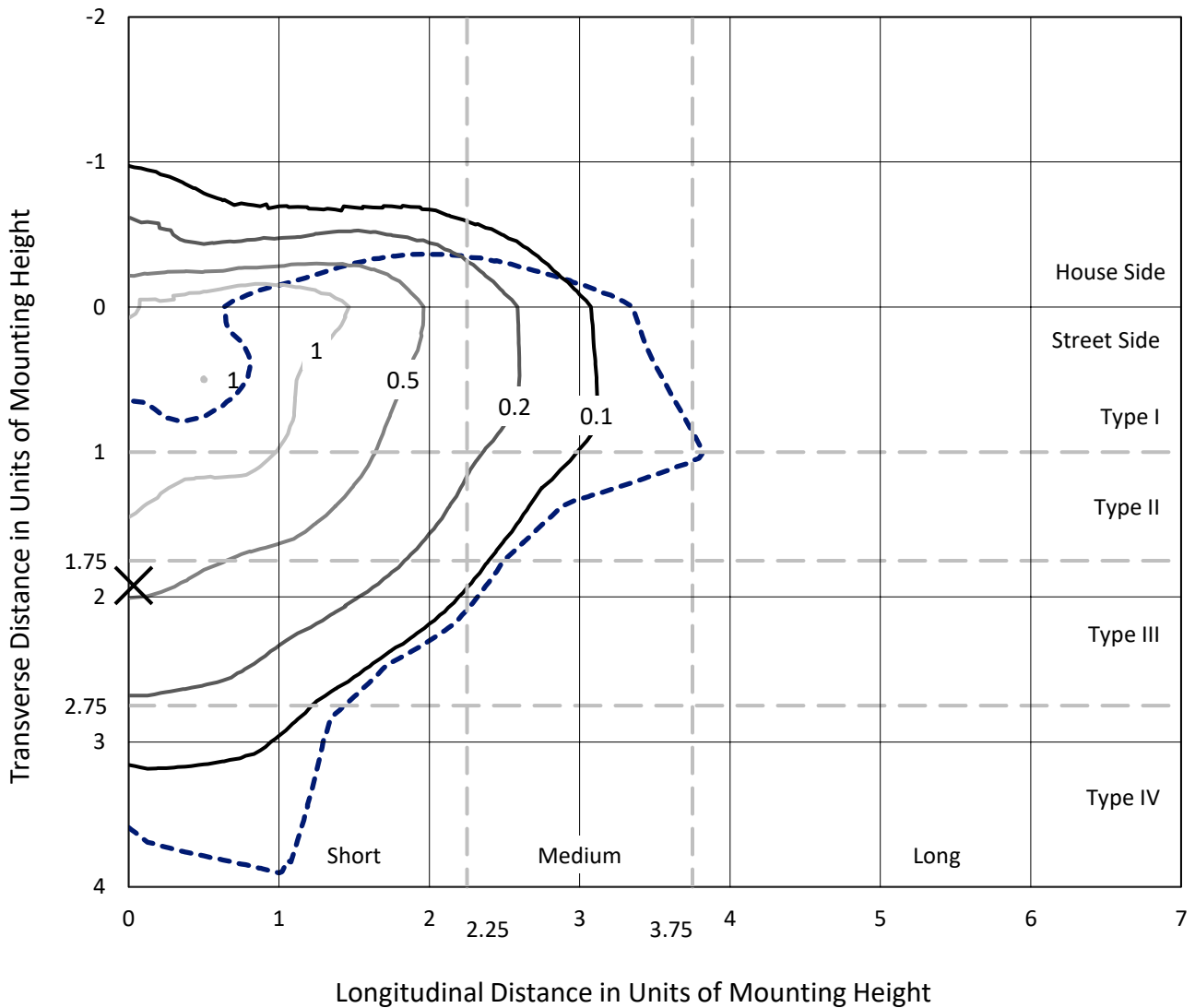
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P596200
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Iso-Footcandle Lines of Horizontal Illumination

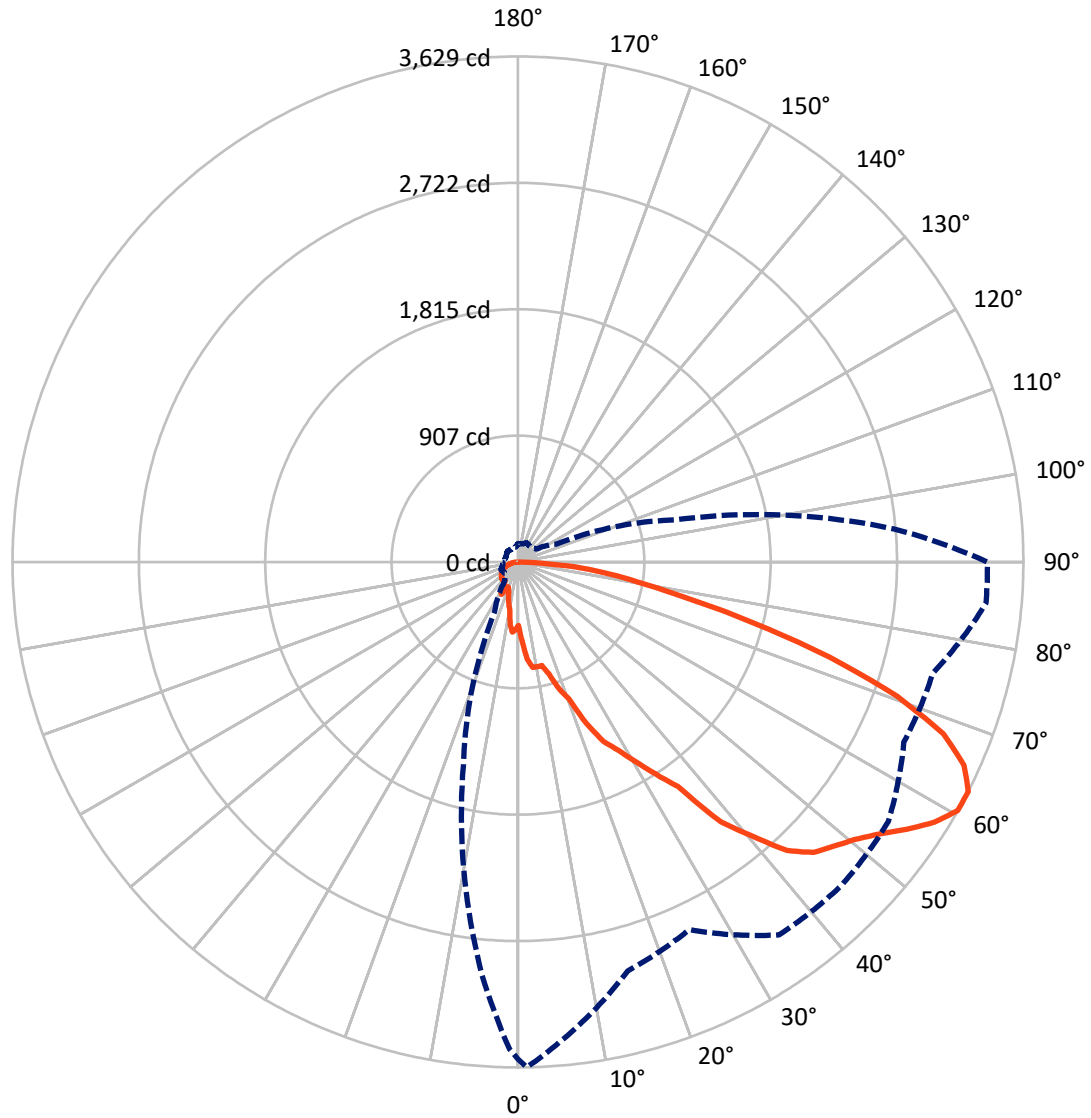
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 1-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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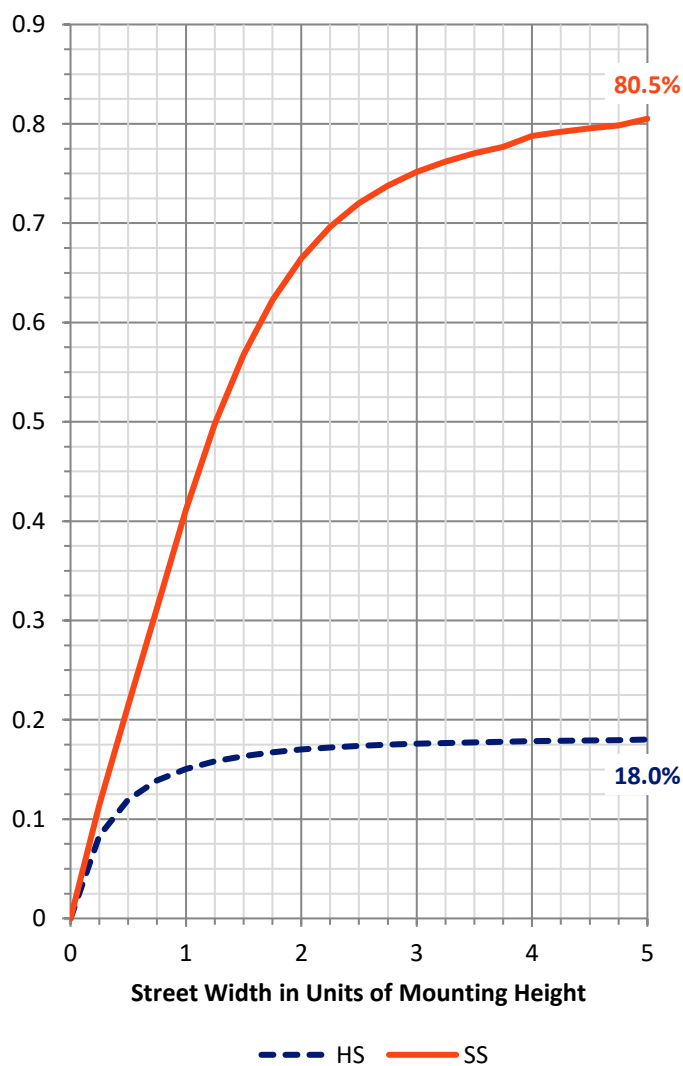
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 786.3 | 0.0 | 786.3 |
| | % Fixture | 18.2 | 0.0 | 18.2 |
| Street Side | Lumens | 3531.7 | 0.0 | 3531.7 |
| | % Fixture | 81.8 | 0.0 | 81.8 |
| Total | Lumens | 4318.0 | 0.0 | 4318.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 52.2 | 1.2 |
| 10°-20° | 151.7 | 3.5 |
| 20°-30° | 267.8 | 6.2 |
| 30°-40° | 417.1 | 9.7 |
| 40°-50° | 686.8 | 15.9 |
| 50°-60° | 980.3 | 22.7 |
| 60°-70° | 1039.5 | 24.1 |
| 70°-80° | 574.2 | 13.3 |
| 80°-90° | 148.5 | 3.4 |
| 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° | 4318.0 | 100.0 |
| 0°-180° | 4318.0 | 100.0 |

Coefficient of Utilization

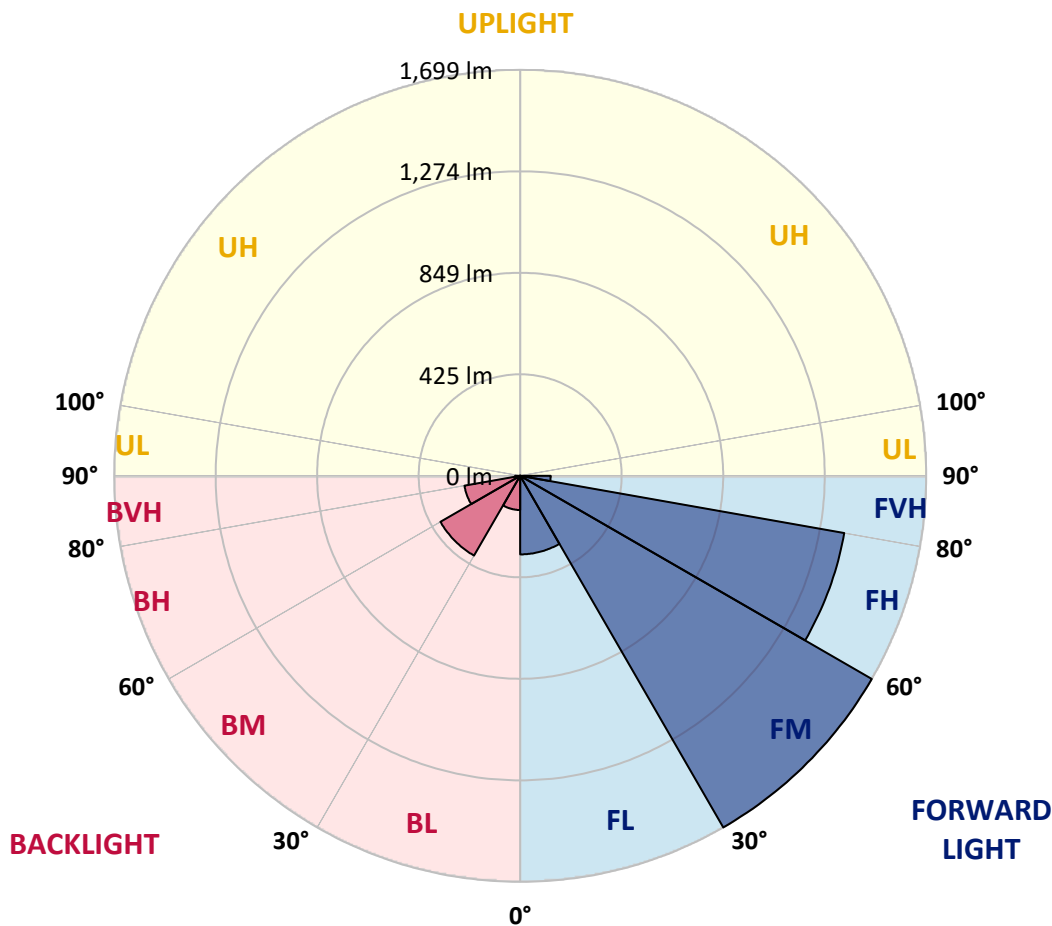


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 328.7 | 7.6 | | | |
| FM (30°-60°) | 1698.7 | 39.3 | | | |
| FH (60°-80°) | 1376.8 | 31.9 | | | G1/1800 |
| FVH (80°-90°) | 127.6 | 3.0 | | | G2/225 |
| BL (0°-30°) | 143.0 | 3.3 | B1/500 | | |
| BM (30°-60°) | 385.5 | 8.9 | B1/1000 | | |
| BH (60°-80°) | 236.9 | 5.5 | B1/500 | | G1/500 |
| BVH (80°-90°) | 20.9 | 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-G2
 Type IV Short





REPORT NUMBER: P596200

CATALOG NUMBER: MSA-SA1D-722-U-SLL

CANDELA DISTRIBUTION (FULL):

| | 0° | 1° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 |
| 2.5° | 559.9 | 564.7 | 554.9 | 543.8 | 497.9 | 542.1 | 528.9 | 553.4 | 545.4 | 492.2 | 589.6 |
| 5° | 691.9 | 700.7 | 691.1 | 724.4 | 726.5 | 735.1 | 655.6 | 705.1 | 687.9 | 683.5 | 732.8 |
| 7.5° | 755.6 | 764.6 | 789.1 | 848.4 | 894.7 | 852.8 | 806.5 | 796.2 | 782.8 | 747.8 | 777.6 |
| 10° | 759.6 | 764.6 | 797.5 | 923.2 | 945.7 | 975.4 | 945.4 | 874.8 | 845.7 | 769.6 | 747.0 |
| 12.5° | 747.6 | 763.4 | 805.9 | 959.1 | 1025.7 | 1058.2 | 1065.5 | 986.9 | 915.5 | 828.7 | 817.2 |
| 15° | 827.9 | 833.5 | 894.5 | 984.6 | 1030.5 | 1058.0 | 1081.9 | 1033.4 | 1011.0 | 942.3 | 849.9 |
| 17.5° | 942.9 | 958.6 | 1008.5 | 1041.8 | 1072.8 | 1078.1 | 1058.4 | 1039.5 | 1003.9 | 1095.7 | 997.4 |
| 20° | 1020.9 | 1051.3 | 1112.4 | 1118.7 | 1053.6 | 1065.1 | 1062.4 | 1063.6 | 1043.3 | 1213.0 | 1159.0 |
| 22.5° | 1227.1 | 1260.0 | 1268.3 | 1231.9 | 1109.1 | 1056.5 | 1067.0 | 1097.4 | 1177.4 | 1322.8 | 1384.0 |
| 25° | 1413.8 | 1426.5 | 1503.0 | 1409.2 | 1213.4 | 1098.8 | 1081.6 | 1160.2 | 1290.8 | 1507.6 | 1551.2 |
| 27.5° | 1511.2 | 1527.8 | 1578.7 | 1374.4 | 1226.4 | 1044.3 | 1004.1 | 1123.8 | 1256.8 | 1420.7 | 1612.0 |
| 30° | 1635.9 | 1662.3 | 1731.6 | 1409.2 | 1265.6 | 1080.0 | 990.9 | 1105.3 | 1252.4 | 1477.7 | 1740.6 |
| 32.5° | 1764.3 | 1815.7 | 1867.2 | 1531.7 | 1260.2 | 1134.4 | 1075.4 | 1084.6 | 1292.2 | 1597.1 | 1873.9 |
| 35° | 1934.5 | 1979.7 | 2024.1 | 1602.6 | 1370.0 | 1179.9 | 1121.2 | 1218.9 | 1394.5 | 1735.6 | 2059.8 |
| 37.5° | 2298.2 | 2369.9 | 2252.8 | 1804.1 | 1489.4 | 1384.8 | 1279.0 | 1336.9 | 1502.6 | 1851.1 | 2363.4 |
| 40° | 2530.0 | 2583.8 | 2470.7 | 1941.4 | 1699.8 | 1522.9 | 1505.5 | 1510.4 | 1651.6 | 1950.0 | 2567.7 |
| 42.5° | 2760.3 | 2833.2 | 2653.2 | 2129.8 | 1954.2 | 1808.1 | 1718.4 | 1712.4 | 1818.4 | 2127.7 | 2800.1 |
| 45° | 2932.1 | 2975.0 | 2715.8 | 2288.6 | 2227.0 | 2118.7 | 2051.4 | 1944.7 | 2037.6 | 2250.7 | 2943.8 |
| 47.5° | 3013.8 | 3048.8 | 2816.6 | 2381.0 | 2403.8 | 2409.5 | 2530.8 | 2348.9 | 2229.1 | 2333.8 | 3019.3 |
| 50° | 3115.8 | 3132.4 | 2875.9 | 2462.3 | 2571.9 | 2820.4 | 2849.5 | 2541.3 | 2415.6 | 2424.6 | 3063.9 |
| 52.5° | 3237.8 | 3244.7 | 2962.5 | 2556.2 | 2741.8 | 3090.7 | 3045.7 | 2867.3 | 2593.0 | 2590.3 | 3147.9 |
| 55° | 3391.2 | 3387.0 | 3071.0 | 2682.5 | 2863.1 | 3251.4 | 3217.3 | 3087.4 | 2786.5 | 2727.6 | 3278.7 |
| 57.5° | 3527.6 | 3525.1 | 3215.0 | 2798.8 | 2965.2 | 3334.0 | 3344.0 | 3309.7 | 2918.0 | 2825.8 | 3420.3 |
| 60° | 3594.4 | 3626.5 | 3378.8 | 2926.0 | 2971.7 | 3371.3 | 3375.0 | 3320.4 | 3065.1 | 2952.0 | 3458.0 |
| 62.5° | 3568.5 | 3629.4 | 3459.3 | 3040.4 | 2912.0 | 3269.4 | 3285.2 | 3247.4 | 3058.4 | 3084.4 | 3373.8 |
| 65° | 3450.3 | 3520.7 | 3389.5 | 3101.4 | 2875.3 | 3098.9 | 3102.9 | 3007.5 | 2962.7 | 3172.2 | 3176.4 |
| 67.5° | 3228.6 | 3294.6 | 3167.4 | 3004.2 | 2624.3 | 2639.1 | 2728.0 | 2735.7 | 2670.4 | 3106.0 | 2899.2 |
| 70° | 2840.5 | 2887.0 | 2807.4 | 2764.0 | 2193.5 | 2106.3 | 2202.7 | 2244.0 | 2273.7 | 2866.9 | 2566.4 |
| 72.5° | 2248.8 | 2338.7 | 2351.2 | 2379.5 | 1766.0 | 1620.8 | 1692.2 | 1631.1 | 1824.9 | 2440.1 | 2096.9 |
| 75° | 1663.7 | 1739.6 | 1821.1 | 1978.9 | 1392.0 | 1213.4 | 1204.6 | 1173.4 | 1354.5 | 1962.3 | 1555.2 |
| 77.5° | 1175.7 | 1224.1 | 1286.8 | 1580.8 | 1050.4 | 934.5 | 940.0 | 908.4 | 978.1 | 1483.1 | 1074.3 |
| 80° | 842.8 | 868.1 | 897.2 | 1041.4 | 774.9 | 806.3 | 807.1 | 777.2 | 727.3 | 1007.3 | 717.0 |
| 82.5° | 600.5 | 620.2 | 653.6 | 686.9 | 577.7 | 660.9 | 660.3 | 658.4 | 576.7 | 680.8 | 448.6 |
| 85° | 334.4 | 360.8 | 418.7 | 538.1 | 417.2 | 472.5 | 415.5 | 457.6 | 423.3 | 453.2 | 227.1 |
| 87.5° | 23.5 | 21.0 | 93.7 | 311.8 | 194.7 | 142.3 | 74.6 | 147.7 | 189.4 | 236.8 | 31.6 |
| 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° | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 |
| 2.5° | 609.8 | 617.1 | 588.4 | 545.2 | 557.0 | 544.2 | 528.0 | 502.9 | 451.1 | 483.2 | 483.4 |
| 5° | 732.3 | 704.5 | 682.1 | 660.9 | 625.3 | 571.4 | 564.3 | 521.1 | 496.8 | 509.6 | 507.7 |
| 7.5° | 770.7 | 731.1 | 697.3 | 621.7 | 555.7 | 472.1 | 446.9 | 421.4 | 410.7 | 441.7 | 454.1 |
| 10° | 728.6 | 687.3 | 654.2 | 562.2 | 517.4 | 465.2 | 396.0 | 360.6 | 339.7 | 347.8 | 352.7 |
| 12.5° | 762.5 | 720.4 | 616.3 | 564.9 | 491.0 | 459.1 | 398.5 | 346.6 | 315.6 | 323.1 | 314.1 |
| 15° | 795.2 | 738.4 | 634.3 | 532.0 | 472.1 | 426.0 | 377.0 | 323.3 | 286.9 | 273.9 | 267.0 |
| 17.5° | 914.6 | 820.3 | 632.2 | 513.6 | 444.9 | 391.8 | 332.7 | 274.1 | 249.8 | 236.4 | 224.8 |
| 20° | 1060.3 | 928.9 | 643.5 | 494.5 | 415.9 | 349.1 | 284.8 | 230.3 | 213.3 | 204.5 | 201.4 |
| 22.5° | 1233.6 | 1068.0 | 708.2 | 491.8 | 388.7 | 317.9 | 258.4 | 224.4 | 205.3 | 195.7 | 191.7 |
| 25° | 1371.2 | 1212.0 | 756.0 | 510.2 | 387.2 | 292.1 | 242.4 | 249.4 | 240.6 | 243.5 | 220.2 |
| 27.5° | 1504.9 | 1251.2 | 729.2 | 502.1 | 348.3 | 246.4 | 238.7 | 253.1 | 260.7 | 263.0 | 262.1 |
| 30° | 1617.9 | 1416.7 | 735.1 | 456.0 | 294.2 | 200.7 | 182.7 | 189.8 | 210.6 | 243.5 | 249.8 |
| 32.5° | 1783.2 | 1495.9 | 785.1 | 428.1 | 263.0 | 179.6 | 159.5 | 156.7 | 161.6 | 173.5 | 183.8 |
| 35° | 1976.6 | 1678.2 | 799.2 | 420.8 | 241.4 | 170.1 | 156.1 | 149.8 | 152.3 | 161.3 | 163.4 |
| 37.5° | 2337.2 | 1811.0 | 851.1 | 411.7 | 233.4 | 164.5 | 153.6 | 151.3 | 156.7 | 164.1 | 168.3 |
| 40° | 2536.1 | 2049.9 | 853.7 | 404.0 | 223.2 | 162.2 | 155.3 | 154.2 | 157.6 | 167.6 | 170.1 |
| 42.5° | 2801.1 | 2186.1 | 893.1 | 395.0 | 219.6 | 165.3 | 158.6 | 158.2 | 161.1 | 167.0 | 171.6 |
| 45° | 2962.7 | 2277.3 | 895.2 | 389.7 | 218.8 | 179.2 | 163.0 | 161.6 | 160.9 | 164.5 | 168.7 |
| 47.5° | 3066.8 | 2408.7 | 920.7 | 383.9 | 223.8 | 182.7 | 168.3 | 162.0 | 159.9 | 161.3 | 164.5 |
| 50° | 3165.5 | 2513.6 | 969.1 | 383.0 | 229.0 | 179.2 | 177.5 | 161.8 | 157.6 | 156.9 | 159.2 |
| 52.5° | 3286.6 | 2686.3 | 1028.8 | 391.0 | 227.8 | 173.9 | 184.4 | 160.9 | 153.4 | 151.9 | 154.2 |
| 55° | 3462.8 | 2871.3 | 1092.3 | 384.3 | 214.8 | 163.9 | 177.7 | 160.3 | 149.0 | 146.3 | 148.4 |
| 57.5° | 3577.0 | 2977.3 | 1163.4 | 378.6 | 195.1 | 156.3 | 171.6 | 160.7 | 149.4 | 143.3 | 144.6 |
| 60° | 3539.1 | 2920.3 | 1191.2 | 344.1 | 176.4 | 150.4 | 157.2 | 157.4 | 145.6 | 140.0 | 141.0 |
| 62.5° | 3371.5 | 2714.0 | 1165.2 | 303.8 | 162.6 | 142.1 | 142.3 | 151.1 | 134.7 | 130.8 | 132.4 |
| 65° | 3137.2 | 2457.3 | 1060.1 | 277.6 | 156.1 | 133.3 | 129.9 | 132.6 | 120.1 | 117.1 | 120.5 |
| 67.5° | 2849.7 | 2140.9 | 903.5 | 250.0 | 153.8 | 121.3 | 117.3 | 116.3 | 108.3 | 105.0 | 108.3 |
| 70° | 2489.1 | 1792.6 | 722.3 | 230.5 | 145.0 | 108.3 | 105.2 | 104.1 | 97.4 | 94.9 | 97.9 |
| 72.5° | 2000.7 | 1399.7 | 557.4 | 215.6 | 135.4 | 96.4 | 93.7 | 92.4 | 86.7 | 83.2 | 86.7 |
| 75° | 1423.0 | 1069.7 | 414.0 | 192.8 | 121.7 | 84.2 | 81.1 | 79.4 | 74.2 | 70.8 | 74.0 |
| 77.5° | 1011.2 | 803.0 | 289.2 | 159.5 | 100.4 | 71.2 | 69.4 | 66.6 | 62.0 | 58.0 | 61.2 |
| 80° | 747.6 | 573.7 | 186.5 | 123.0 | 76.7 | 57.0 | 55.9 | 54.1 | 49.7 | 44.8 | 47.1 |
| 82.5° | 492.2 | 413.6 | 106.9 | 83.4 | 55.7 | 41.1 | 41.9 | 40.7 | 36.5 | 31.4 | 32.7 |
| 85° | 220.4 | 245.0 | 56.8 | 45.9 | 36.3 | 24.7 | 27.0 | 26.2 | 23.0 | 18.2 | 18.6 |
| 87.5° | 21.2 | 41.3 | 17.4 | 16.8 | 13.4 | 7.8 | 9.6 | 8.2 | 6.9 | 4.4 | 3.4 |
| 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):

| | 185° | 195° | 205° | 215° | 225° | 235° | 245° | 255° | 265° | 270° | 275° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 |
| 2.5° | 490.7 | 461.2 | 431.7 | 449.7 | 450.1 | 454.9 | 455.5 | 437.7 | 452.0 | 462.9 | 474.2 |
| 5° | 498.5 | 479.2 | 480.3 | 462.9 | 453.4 | 465.6 | 463.1 | 458.3 | 466.9 | 478.8 | 493.3 |
| 7.5° | 442.3 | 429.8 | 427.7 | 410.9 | 370.3 | 361.2 | 368.8 | 371.9 | 383.5 | 401.9 | 417.4 |
| 10° | 345.3 | 370.3 | 342.2 | 335.7 | 325.0 | 304.0 | 291.9 | 290.4 | 314.9 | 329.8 | 342.8 |
| 12.5° | 311.2 | 304.9 | 301.5 | 283.7 | 283.7 | 261.5 | 254.4 | 260.9 | 298.6 | 309.3 | 326.0 |
| 15° | 265.1 | 260.5 | 245.0 | 236.2 | 232.0 | 222.9 | 230.5 | 236.8 | 272.0 | 272.8 | 290.4 |
| 17.5° | 220.0 | 217.3 | 202.6 | 200.9 | 196.8 | 192.8 | 199.7 | 214.8 | 233.8 | 230.5 | 238.7 |
| 20° | 196.8 | 187.3 | 173.9 | 178.7 | 174.3 | 171.2 | 168.3 | 189.6 | 203.0 | 207.4 | 212.3 |
| 22.5° | 190.9 | 173.7 | 165.7 | 161.3 | 161.6 | 156.5 | 157.2 | 175.0 | 195.3 | 198.0 | 195.1 |
| 25° | 218.1 | 187.5 | 161.8 | 149.0 | 144.2 | 142.5 | 147.3 | 163.0 | 187.5 | 193.4 | 195.7 |
| 27.5° | 255.2 | 203.7 | 166.6 | 144.8 | 135.2 | 136.0 | 142.9 | 153.8 | 182.7 | 193.2 | 195.9 |
| 30° | 245.0 | 191.5 | 166.8 | 141.6 | 129.7 | 134.1 | 136.6 | 147.1 | 178.9 | 194.7 | 208.3 |
| 32.5° | 189.0 | 172.2 | 167.8 | 144.2 | 139.3 | 132.4 | 136.0 | 146.0 | 167.8 | 177.7 | 178.3 |
| 35° | 160.1 | 147.3 | 144.4 | 138.5 | 131.8 | 128.9 | 132.8 | 141.6 | 155.9 | 162.0 | 161.1 |
| 37.5° | 158.8 | 144.8 | 133.3 | 130.8 | 128.0 | 127.2 | 129.5 | 137.7 | 152.1 | 162.8 | 160.5 |
| 40° | 160.9 | 143.5 | 131.8 | 127.4 | 128.4 | 124.7 | 127.0 | 137.0 | 152.8 | 162.8 | 160.7 |
| 42.5° | 158.4 | 142.1 | 129.9 | 126.6 | 127.6 | 122.4 | 125.1 | 135.6 | 151.1 | 163.0 | 159.0 |
| 45° | 153.4 | 138.7 | 128.9 | 123.2 | 128.0 | 120.3 | 123.6 | 131.8 | 146.0 | 159.0 | 154.4 |
| 47.5° | 148.4 | 134.7 | 124.5 | 120.9 | 125.7 | 118.2 | 119.6 | 126.8 | 141.0 | 153.8 | 149.8 |
| 50° | 142.9 | 129.7 | 120.9 | 119.9 | 123.2 | 117.8 | 115.5 | 121.3 | 134.9 | 147.7 | 144.4 |
| 52.5° | 137.0 | 125.5 | 118.4 | 118.0 | 121.1 | 115.0 | 111.7 | 116.3 | 128.4 | 141.2 | 138.5 |
| 55° | 131.4 | 120.9 | 115.2 | 116.3 | 119.9 | 112.7 | 108.5 | 111.5 | 121.5 | 134.1 | 130.3 |
| 57.5° | 125.7 | 115.7 | 111.1 | 114.0 | 116.7 | 109.8 | 104.6 | 106.2 | 114.4 | 126.8 | 122.4 |
| 60° | 120.7 | 111.1 | 106.4 | 110.0 | 112.5 | 105.4 | 99.3 | 100.4 | 107.7 | 118.8 | 114.8 |
| 62.5° | 114.2 | 106.0 | 100.0 | 104.6 | 106.4 | 99.5 | 93.0 | 94.3 | 100.2 | 110.6 | 107.7 |
| 65° | 105.0 | 99.7 | 94.1 | 97.2 | 99.7 | 92.6 | 86.5 | 88.0 | 92.4 | 102.3 | 100.2 |
| 67.5° | 97.0 | 92.0 | 88.2 | 90.7 | 91.1 | 85.7 | 80.3 | 81.1 | 84.7 | 93.9 | 91.6 |
| 70° | 88.2 | 83.4 | 80.5 | 82.3 | 82.1 | 77.5 | 73.3 | 73.5 | 76.5 | 84.9 | 81.7 |
| 72.5° | 78.6 | 74.0 | 72.5 | 73.5 | 72.7 | 68.5 | 64.5 | 66.0 | 67.9 | 74.2 | 71.7 |
| 75° | 68.3 | 64.1 | 63.3 | 64.3 | 63.1 | 59.1 | 55.5 | 57.0 | 58.7 | 63.9 | 60.8 |
| 77.5° | 57.6 | 53.9 | 54.1 | 54.3 | 52.6 | 49.9 | 46.3 | 47.8 | 48.8 | 52.4 | 49.2 |
| 80° | 45.9 | 43.0 | 43.8 | 43.8 | 41.9 | 40.0 | 36.7 | 37.1 | 37.7 | 39.0 | 36.7 |
| 82.5° | 33.5 | 33.5 | 33.5 | 33.7 | 29.8 | 30.4 | 27.4 | 27.2 | 26.6 | 26.4 | 24.9 |
| 85° | 19.9 | 20.7 | 21.2 | 21.8 | 16.1 | 18.9 | 16.3 | 15.7 | 14.5 | 13.2 | 12.8 |
| 87.5° | 4.4 | 5.7 | 5.7 | 5.4 | 0.0 | 2.1 | 1.0 | 1.7 | 0.4 | 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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|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 0° | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 | 455.3 |
| 2.5° | 461.2 | 448.6 | 472.1 | 493.0 | 489.7 | 501.8 | 473.6 | 515.5 | 559.9 | 559.9 |
| 5° | 489.5 | 478.8 | 484.9 | 497.0 | 506.2 | 548.6 | 583.8 | 618.8 | 691.1 | 691.9 |
| 7.5° | 412.8 | 435.8 | 441.3 | 437.7 | 477.3 | 531.8 | 589.9 | 689.6 | 750.8 | 755.6 |
| 10° | 386.0 | 396.4 | 413.0 | 422.2 | 438.4 | 492.0 | 564.1 | 682.5 | 747.4 | 759.6 |
| 12.5° | 349.7 | 388.5 | 413.6 | 465.2 | 478.0 | 488.6 | 603.3 | 705.7 | 750.6 | 747.6 |
| 15° | 310.1 | 339.5 | 375.7 | 432.7 | 465.2 | 546.9 | 626.5 | 780.3 | 805.7 | 827.9 |
| 17.5° | 247.3 | 268.8 | 317.0 | 382.0 | 462.5 | 537.7 | 683.9 | 872.5 | 919.9 | 942.9 |
| 20° | 203.5 | 203.7 | 251.9 | 338.0 | 425.6 | 499.1 | 705.7 | 949.0 | 1009.1 | 1020.9 |
| 22.5° | 192.4 | 182.7 | 208.1 | 278.1 | 384.9 | 522.0 | 749.7 | 1072.0 | 1197.5 | 1227.1 |
| 25° | 186.3 | 174.5 | 190.5 | 245.4 | 355.8 | 533.9 | 838.4 | 1241.1 | 1402.2 | 1413.8 |
| 27.5° | 188.8 | 194.2 | 199.3 | 218.8 | 318.9 | 511.5 | 817.8 | 1316.7 | 1489.4 | 1511.2 |
| 30° | 205.8 | 214.6 | 203.0 | 209.7 | 288.5 | 479.0 | 854.5 | 1439.5 | 1599.2 | 1635.9 |
| 32.5° | 171.2 | 167.8 | 166.8 | 181.5 | 258.2 | 449.7 | 931.4 | 1612.4 | 1718.2 | 1764.3 |
| 35° | 154.4 | 149.2 | 151.3 | 168.1 | 243.3 | 445.5 | 974.6 | 1755.5 | 1906.2 | 1934.5 |
| 37.5° | 153.8 | 147.7 | 150.4 | 163.0 | 248.5 | 453.0 | 1043.7 | 1985.2 | 2237.7 | 2298.2 |
| 40° | 152.3 | 149.0 | 150.4 | 159.9 | 243.1 | 457.2 | 1083.5 | 2178.2 | 2468.6 | 2530.0 |
| 42.5° | 152.1 | 150.4 | 151.9 | 162.4 | 237.4 | 459.1 | 1138.6 | 2352.5 | 2711.9 | 2760.3 |
| 45° | 151.5 | 153.2 | 153.2 | 164.5 | 234.9 | 471.7 | 1171.1 | 2438.0 | 2872.4 | 2932.1 |
| 47.5° | 148.6 | 153.6 | 161.8 | 163.9 | 224.6 | 465.8 | 1217.0 | 2567.7 | 2957.6 | 3013.8 |
| 50° | 144.8 | 153.0 | 172.7 | 159.7 | 222.9 | 451.6 | 1270.6 | 2670.6 | 3067.0 | 3115.8 |
| 52.5° | 139.8 | 151.9 | 170.1 | 151.5 | 220.0 | 449.0 | 1345.9 | 2804.3 | 3194.6 | 3237.8 |
| 55° | 132.6 | 148.1 | 162.4 | 143.3 | 212.9 | 441.1 | 1460.9 | 2970.0 | 3361.6 | 3391.2 |
| 57.5° | 126.1 | 142.5 | 151.1 | 138.7 | 195.9 | 442.8 | 1541.0 | 3105.2 | 3501.8 | 3527.6 |
| 60° | 120.3 | 141.9 | 134.9 | 133.9 | 178.5 | 420.3 | 1566.9 | 3103.7 | 3554.0 | 3594.4 |
| 62.5° | 114.0 | 133.9 | 123.6 | 127.4 | 163.2 | 397.3 | 1511.8 | 2970.6 | 3497.6 | 3568.5 |
| 65° | 105.8 | 114.8 | 114.2 | 122.8 | 163.7 | 359.8 | 1385.5 | 2736.0 | 3357.0 | 3450.3 |
| 67.5° | 96.2 | 101.6 | 105.2 | 115.2 | 168.9 | 330.7 | 1182.2 | 2453.7 | 3117.7 | 3228.6 |
| 70° | 86.3 | 91.8 | 95.8 | 105.4 | 173.7 | 317.2 | 941.0 | 2057.3 | 2728.0 | 2840.5 |
| 72.5° | 76.3 | 81.9 | 85.1 | 93.5 | 167.2 | 288.5 | 696.5 | 1600.7 | 2189.7 | 2248.8 |
| 75° | 65.8 | 71.2 | 73.8 | 81.5 | 145.2 | 238.7 | 480.9 | 1212.4 | 1603.8 | 1663.7 |
| 77.5° | 55.1 | 61.0 | 61.8 | 68.1 | 110.8 | 182.5 | 308.2 | 929.9 | 1135.7 | 1175.7 |
| 80° | 44.0 | 49.9 | 49.9 | 53.2 | 77.9 | 125.5 | 184.6 | 701.5 | 827.1 | 842.8 |
| 82.5° | 31.6 | 37.9 | 37.5 | 37.7 | 53.9 | 77.7 | 106.9 | 525.7 | 597.6 | 600.5 |
| 85° | 18.6 | 23.0 | 22.8 | 21.0 | 31.8 | 41.9 | 57.8 | 326.5 | 333.6 | 334.4 |
| 87.5° | 3.6 | 5.4 | 4.8 | 2.1 | 8.8 | 12.4 | 16.8 | 60.6 | 24.1 | 23.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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