

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: P565264

Luminaire Tested: **MSA-SA3D-722-U-T1**

Issue Date: 8/19/2021

Test Information

Test Method: LM-79-08
Report Number: P565264
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2108-334-1)
Test Lab: INNOVATIONS CENTER
Issue Date: 8/19/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3D-722-U-T1
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS.
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13229 lumens
Efficiency: N/A
Efficacy: 68.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type I - Medium
BUG Rating: B4 - U0 - G4

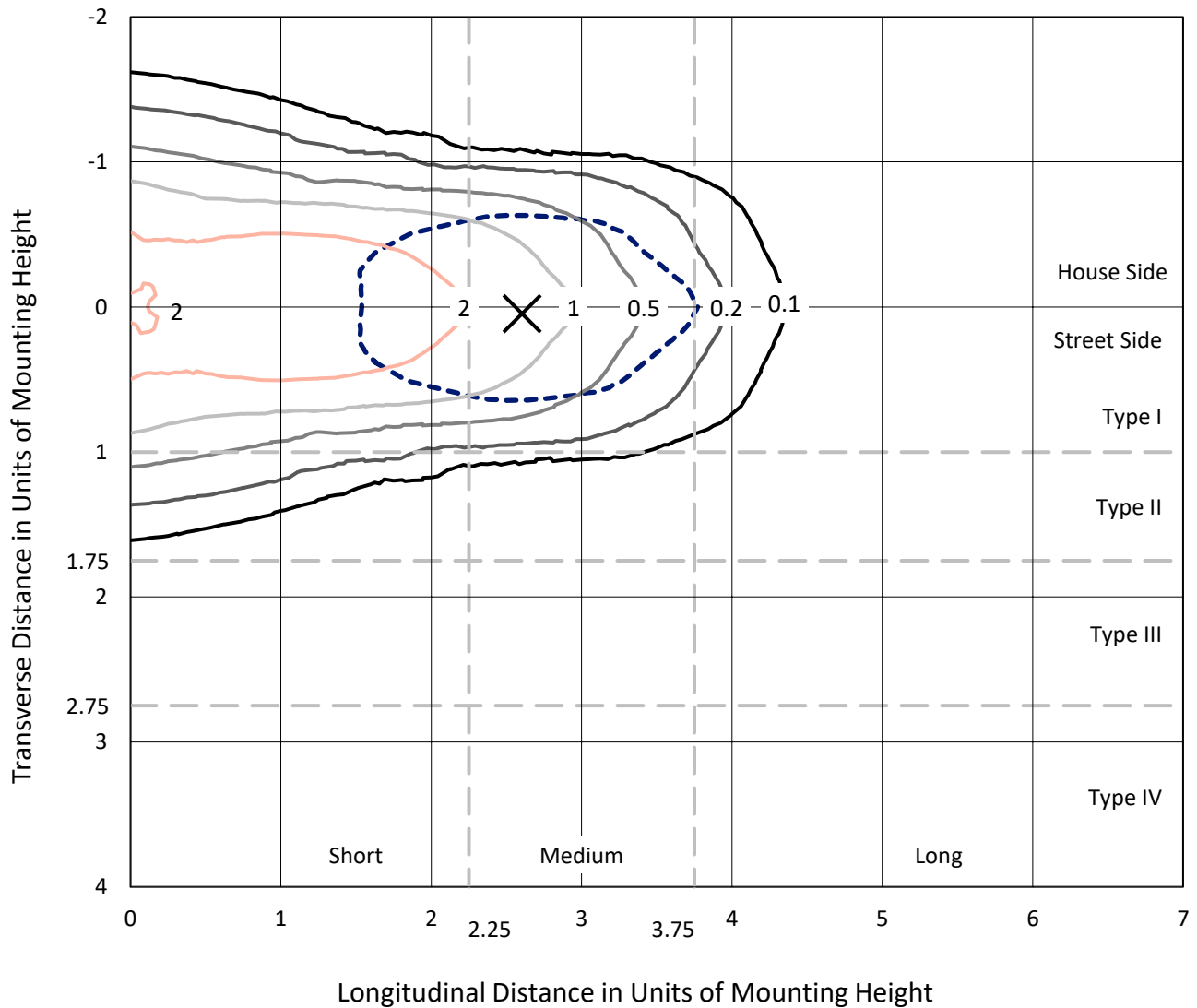
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

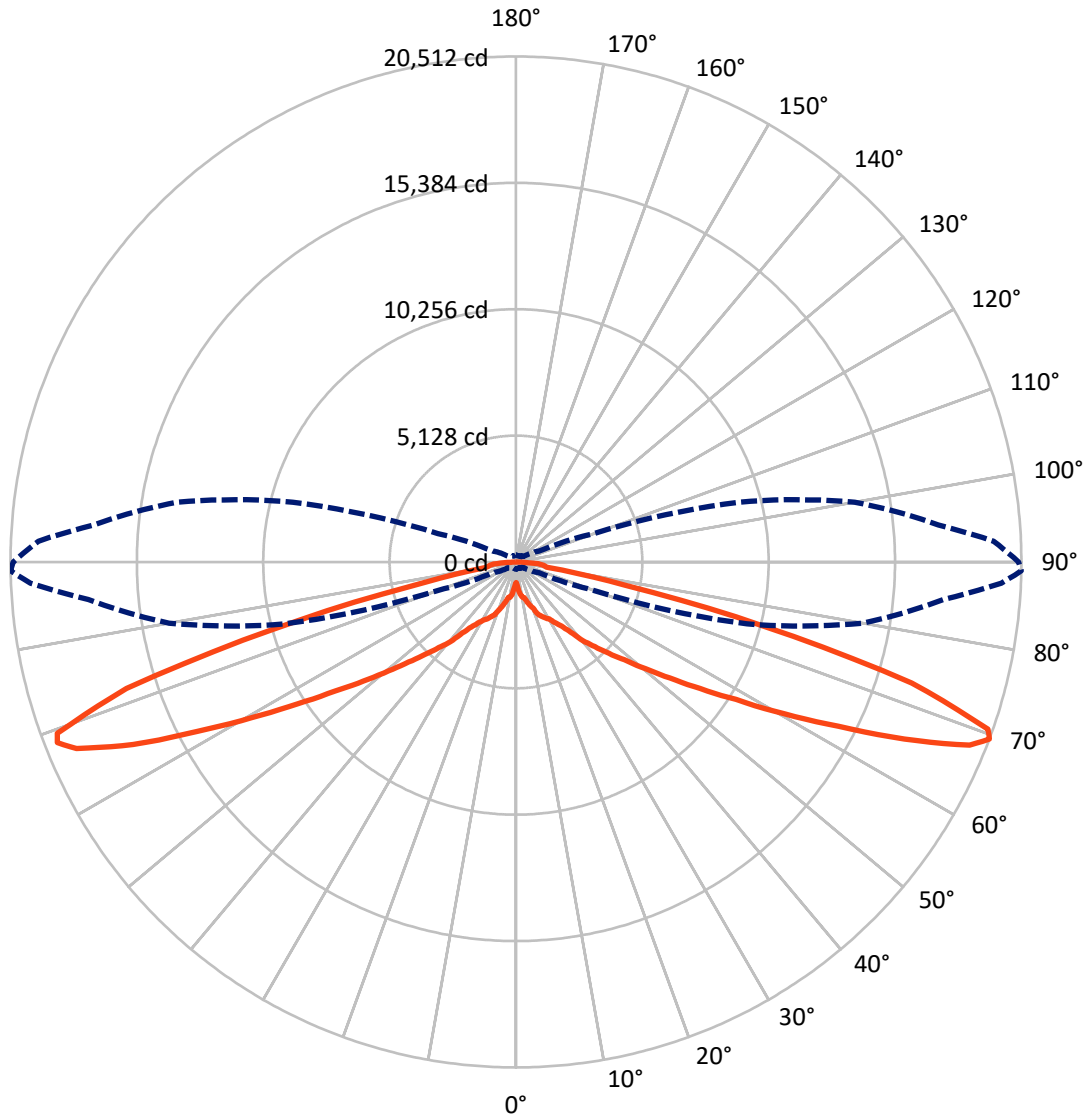
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 fc
 Type I - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 89-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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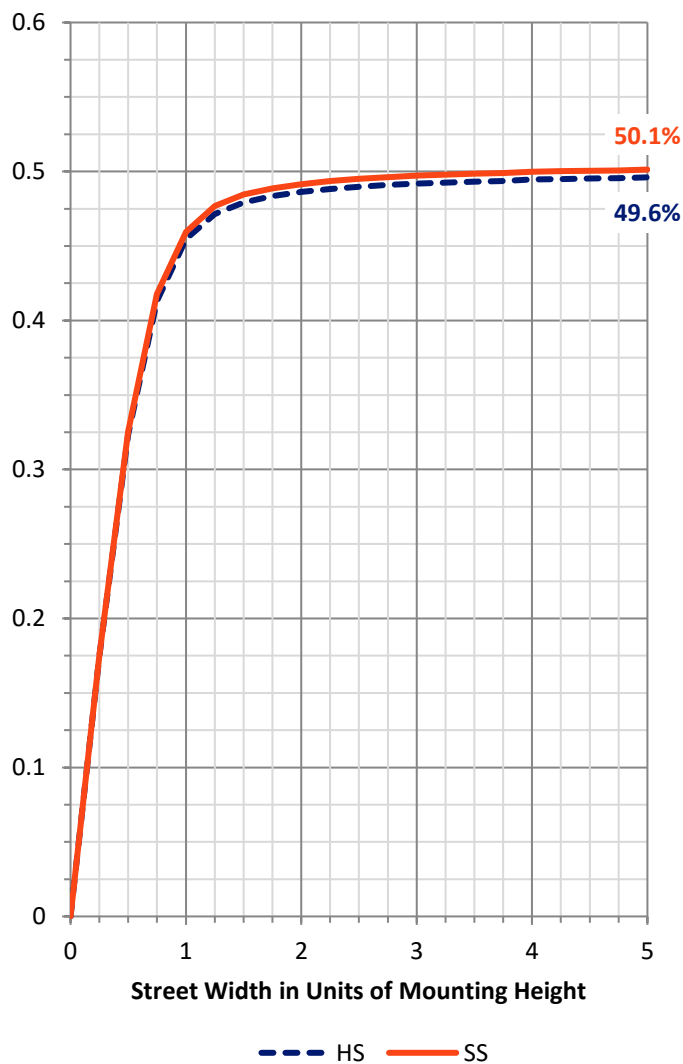
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 6614.4 | 0.0 | 6614.4 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 6614.6 | 0.0 | 6614.6 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 13229.0 | 0.0 | 13229.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 105.3 | 0.8 |
| 10°-20° | 485.1 | 3.7 |
| 20°-30° | 967.8 | 7.3 |
| 30°-40° | 1463.7 | 11.1 |
| 40°-50° | 2124.7 | 16.1 |
| 50°-60° | 2791.5 | 21.1 |
| 60°-70° | 3405.2 | 25.7 |
| 70°-80° | 1721.6 | 13.0 |
| 80°-90° | 164.1 | 1.2 |
| 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° | 13229.0 | 100.0 |
| 0°-180° | 13229.0 | 100.0 |

Coefficient of Utilization



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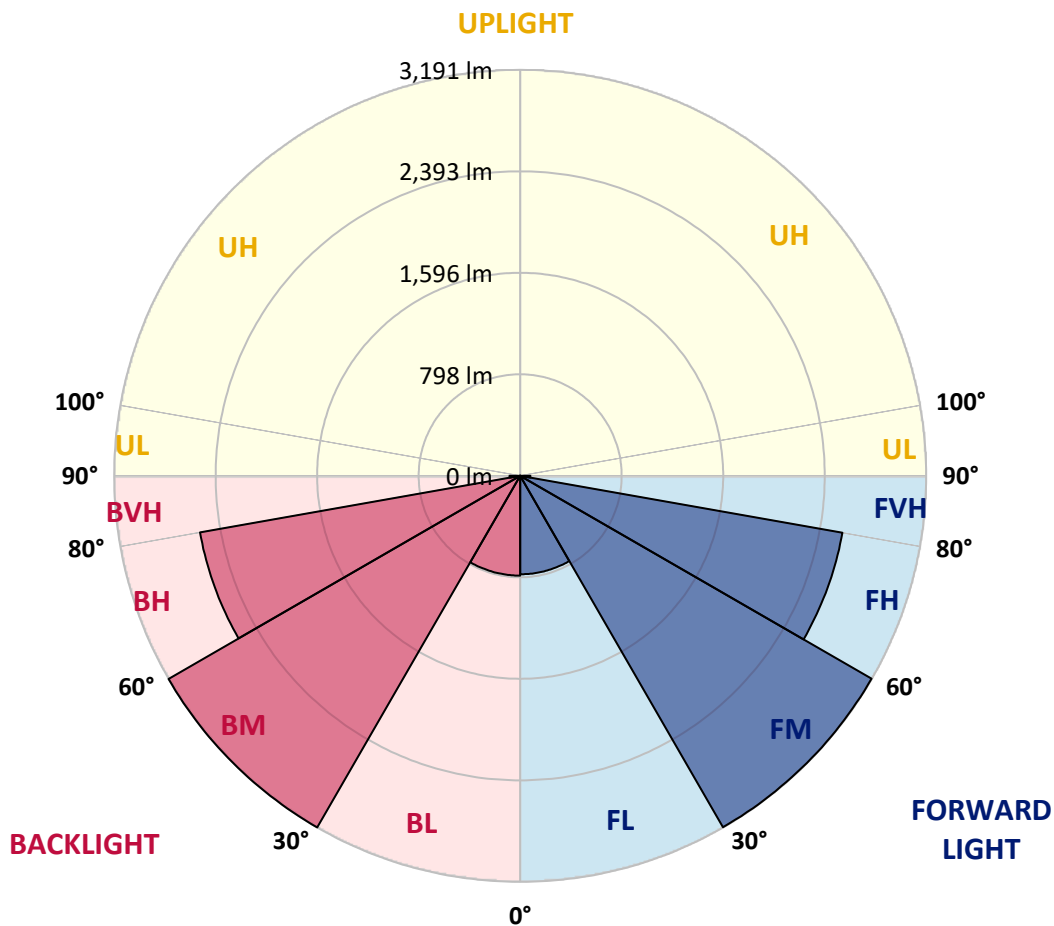
CATALOG NUMBER: MSA-SA3D-722-U-T1

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 773.6 | 5.8 | | | |
| FM (30°-60°) | 3188.9 | 24.1 | | | |
| FH (60°-80°) | 2571.6 | 19.4 | | | G2/5000 |
| FVH (80°-90°) | 80.5 | 0.6 | | | G1/100 |
| BL (0°-30°) | 784.5 | 5.9 | B2/1000 | | |
| BM (30°-60°) | 3191.0 | 24.1 | B3/5000 | | |
| BH (60°-80°) | 2555.2 | 19.3 | B4/5000 | | G4/5000 |
| BVH (80°-90°) | 83.6 | 0.6 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G4

Type I Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 70° | 75° | 80° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| 0° | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 |
| 2.5° | 983.3 | 870.0 | 860.1 | 833.0 | 852.7 | 860.1 | 842.9 | 818.2 | 845.3 | 860.1 | 833.0 |
| 5° | 1239.6 | 1072.1 | 1015.4 | 968.5 | 874.9 | 835.5 | 874.9 | 975.9 | 988.3 | 1049.9 | 1032.6 |
| 7.5° | 1365.3 | 1338.2 | 1266.7 | 1111.5 | 961.1 | 877.4 | 983.3 | 1128.7 | 1202.7 | 1261.8 | 1323.4 |
| 10° | 1459.0 | 1444.2 | 1318.5 | 1207.6 | 1146.0 | 1150.9 | 1153.4 | 1200.2 | 1264.3 | 1362.9 | 1397.4 |
| 12.5° | 1481.2 | 1476.2 | 1495.9 | 1471.3 | 1476.2 | 1503.3 | 1476.2 | 1463.9 | 1500.9 | 1532.9 | 1498.4 |
| 15° | 1624.1 | 1621.6 | 1629.0 | 1634.0 | 1732.5 | 1774.4 | 1732.5 | 1695.6 | 1668.5 | 1641.3 | 1698.0 |
| 17.5° | 1722.7 | 1710.4 | 1712.8 | 1759.6 | 1870.5 | 1986.4 | 1964.2 | 1914.9 | 1853.3 | 1890.3 | 1937.1 |
| 20° | 1776.9 | 1754.7 | 1769.5 | 1789.2 | 1976.5 | 2104.7 | 2119.5 | 2052.9 | 2015.9 | 2062.8 | 2102.2 |
| 22.5° | 1828.6 | 1794.1 | 1742.4 | 1762.1 | 1934.6 | 2119.5 | 2190.9 | 2173.7 | 2200.8 | 2215.6 | 2208.2 |
| 25° | 1767.0 | 1789.2 | 1732.5 | 1789.2 | 1964.2 | 2134.2 | 2277.2 | 2378.2 | 2380.7 | 2373.3 | 2427.5 |
| 27.5° | 1730.1 | 1712.8 | 1616.7 | 1762.1 | 1907.5 | 2013.5 | 2378.2 | 2548.3 | 2600.0 | 2442.3 | 2548.3 |
| 30° | 1666.0 | 1693.1 | 1562.5 | 1683.2 | 1868.1 | 2045.5 | 2494.1 | 2738.0 | 2661.6 | 2641.9 | 2666.6 |
| 32.5° | 1626.6 | 1609.3 | 1547.7 | 1614.2 | 1754.7 | 2141.6 | 2568.0 | 2848.9 | 2945.1 | 2898.2 | 2893.3 |
| 35° | 1562.5 | 1574.8 | 1478.7 | 1550.2 | 1747.3 | 2060.3 | 2617.3 | 3127.4 | 3275.3 | 3238.3 | 3208.8 |
| 37.5° | 1572.3 | 1530.4 | 1461.4 | 1513.2 | 1700.5 | 2104.7 | 2740.5 | 3396.1 | 3630.2 | 3649.9 | 3514.4 |
| 40° | 1498.4 | 1473.8 | 1370.3 | 1456.5 | 1611.8 | 2077.6 | 2770.1 | 3701.7 | 4098.4 | 4187.2 | 3992.5 |
| 42.5° | 1392.4 | 1360.4 | 1301.2 | 1397.4 | 1560.0 | 1944.5 | 2812.0 | 4068.9 | 4574.1 | 4758.9 | 4581.5 |
| 45° | 1239.6 | 1197.7 | 1168.2 | 1296.3 | 1446.7 | 1910.0 | 2767.6 | 4374.5 | 5030.0 | 5283.9 | 5278.9 |
| 47.5° | 1054.8 | 1027.7 | 1012.9 | 1148.4 | 1353.0 | 1823.7 | 2676.4 | 4566.7 | 5347.9 | 5998.6 | 5900.0 |
| 50° | 845.3 | 825.6 | 823.1 | 966.1 | 1195.3 | 1646.3 | 2572.9 | 4662.8 | 5831.0 | 6654.1 | 6740.4 |
| 52.5° | 677.7 | 662.9 | 660.5 | 776.3 | 1000.6 | 1407.2 | 2356.0 | 4736.7 | 6291.8 | 7398.4 | 7842.0 |
| 55° | 529.9 | 515.1 | 517.5 | 613.7 | 796.0 | 1150.9 | 2025.8 | 4652.9 | 6696.0 | 8159.9 | 9000.3 |
| 57.5° | 433.7 | 419.0 | 421.4 | 475.6 | 608.7 | 879.8 | 1614.2 | 4470.6 | 6878.4 | 9101.3 | 10350.8 |
| 60° | 382.0 | 367.2 | 359.8 | 384.5 | 468.3 | 662.9 | 1200.2 | 3760.8 | 6907.9 | 9882.6 | 11817.2 |
| 62.5° | 354.9 | 340.1 | 332.7 | 340.1 | 386.9 | 507.7 | 865.0 | 2979.6 | 6737.9 | 10550.5 | 13160.3 |
| 65° | 330.2 | 317.9 | 308.1 | 315.5 | 340.1 | 404.2 | 630.9 | 2040.6 | 5848.2 | 10856.1 | 14136.3 |
| 67.5° | 303.1 | 293.3 | 283.4 | 293.3 | 310.5 | 340.1 | 490.4 | 1291.4 | 4384.3 | 10459.3 | 14542.9 |
| 69° | 288.3 | 273.6 | 268.6 | 276.0 | 293.3 | 313.0 | 423.9 | 1030.2 | 3334.4 | 9705.1 | 14296.5 |
| 70° | 273.6 | 263.7 | 256.3 | 268.6 | 283.4 | 298.2 | 382.0 | 874.9 | 2614.8 | 8736.6 | 13685.3 |
| 72.5° | 241.5 | 234.1 | 229.2 | 241.5 | 253.8 | 263.7 | 313.0 | 623.5 | 1515.7 | 5949.3 | 10853.6 |
| 75° | 211.9 | 204.6 | 202.1 | 211.9 | 221.8 | 226.7 | 263.7 | 428.8 | 894.6 | 3112.6 | 6511.2 |
| 77.5° | 177.4 | 167.6 | 170.0 | 182.4 | 189.8 | 192.2 | 221.8 | 308.1 | 527.4 | 1409.7 | 3016.5 |
| 80° | 130.6 | 130.6 | 140.5 | 150.3 | 150.3 | 150.3 | 177.4 | 224.3 | 320.4 | 648.2 | 1252.0 |
| 82.5° | 91.2 | 93.7 | 96.1 | 110.9 | 113.4 | 103.5 | 135.5 | 162.7 | 199.6 | 283.4 | 433.7 |
| 85° | 51.8 | 54.2 | 56.7 | 66.5 | 69.0 | 61.6 | 88.7 | 103.5 | 115.8 | 140.5 | 226.7 |
| 87.5° | 19.7 | 22.2 | 29.6 | 34.5 | 37.0 | 27.1 | 41.9 | 49.3 | 49.3 | 59.1 | 101.0 |
| 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):

| | 85° | 87.5° | 89° | 90° | 92.5° | 95° | 100° | 105° | 110° | 115° | 125° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|
| 0° | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 |
| 2.5° | 889.7 | 906.9 | 939.0 | 946.4 | 919.3 | 889.7 | 823.1 | 865.0 | 882.3 | 850.2 | 860.1 |
| 5° | 1101.6 | 1138.6 | 1178.0 | 1131.2 | 1101.6 | 1081.9 | 1049.9 | 1052.3 | 1035.1 | 978.4 | 884.7 |
| 7.5° | 1340.7 | 1298.8 | 1328.4 | 1360.4 | 1313.6 | 1316.0 | 1345.6 | 1284.0 | 1237.2 | 1141.1 | 966.1 |
| 10° | 1451.6 | 1451.6 | 1459.0 | 1459.0 | 1439.3 | 1439.3 | 1436.8 | 1338.2 | 1281.5 | 1239.6 | 1190.3 |
| 12.5° | 1459.0 | 1456.5 | 1486.1 | 1463.9 | 1468.8 | 1473.8 | 1486.1 | 1530.4 | 1515.7 | 1461.4 | 1505.8 |
| 15° | 1663.5 | 1653.7 | 1663.5 | 1661.1 | 1668.5 | 1690.6 | 1680.8 | 1670.9 | 1673.4 | 1712.8 | 1779.4 |
| 17.5° | 1855.8 | 1860.7 | 1850.8 | 1868.1 | 1868.1 | 1882.9 | 1917.4 | 1882.9 | 1853.3 | 1927.2 | 1979.0 |
| 20° | 2077.6 | 2060.3 | 2020.9 | 2050.5 | 2057.8 | 2060.3 | 2117.0 | 2075.1 | 2033.2 | 2060.3 | 2121.9 |
| 22.5° | 2301.8 | 2299.4 | 2304.3 | 2306.8 | 2316.6 | 2279.6 | 2203.2 | 2190.9 | 2218.0 | 2181.1 | 2188.5 |
| 25° | 2439.8 | 2442.3 | 2454.6 | 2457.1 | 2415.2 | 2454.6 | 2481.7 | 2400.4 | 2400.4 | 2393.0 | 2343.7 |
| 27.5° | 2607.4 | 2570.5 | 2585.2 | 2605.0 | 2587.7 | 2597.6 | 2565.5 | 2447.2 | 2572.9 | 2590.2 | 2393.0 |
| 30° | 2720.8 | 2703.5 | 2686.3 | 2706.0 | 2723.3 | 2767.6 | 2676.4 | 2664.1 | 2674.0 | 2765.2 | 2506.4 |
| 32.5° | 2959.8 | 2984.5 | 2952.5 | 2920.4 | 2952.5 | 2942.6 | 2903.2 | 2885.9 | 3009.1 | 2888.4 | 2585.2 |
| 35° | 3181.6 | 3191.5 | 3194.0 | 3189.0 | 3208.8 | 3174.3 | 3174.3 | 3238.3 | 3275.3 | 3144.7 | 2609.9 |
| 37.5° | 3716.4 | 3681.9 | 3610.5 | 3576.0 | 3637.6 | 3689.3 | 3536.5 | 3612.9 | 3598.1 | 3376.3 | 2794.7 |
| 40° | 4100.9 | 4179.8 | 4201.9 | 4192.1 | 4201.9 | 4054.1 | 4086.1 | 4142.8 | 4076.3 | 3709.0 | 2730.6 |
| 42.5° | 4662.8 | 4712.1 | 4694.8 | 4672.7 | 4682.5 | 4655.4 | 4559.3 | 4768.8 | 4529.7 | 4081.2 | 2829.2 |
| 45° | 5175.4 | 5286.3 | 5293.7 | 5217.3 | 5278.9 | 5182.8 | 5222.2 | 5296.2 | 5054.7 | 4359.7 | 2802.1 |
| 47.5° | 5786.6 | 6015.8 | 5929.5 | 5929.5 | 5991.2 | 5784.1 | 5877.8 | 5976.4 | 5335.6 | 4547.0 | 2654.2 |
| 50° | 6691.1 | 6814.3 | 6809.4 | 6787.2 | 6814.3 | 6703.4 | 6688.6 | 6676.3 | 5766.9 | 4724.4 | 2563.1 |
| 52.5° | 7713.8 | 7881.4 | 7817.3 | 7842.0 | 7879.0 | 7669.5 | 7834.6 | 7383.6 | 6306.6 | 4791.0 | 2356.0 |
| 55° | 9020.0 | 9135.8 | 9071.8 | 8946.1 | 9113.7 | 8980.6 | 9034.8 | 8155.0 | 6681.2 | 4601.2 | 2011.0 |
| 57.5° | 10575.1 | 10634.2 | 10528.3 | 10516.0 | 10626.9 | 10483.9 | 10392.7 | 9022.5 | 6875.9 | 4458.3 | 1606.8 |
| 60° | 12391.4 | 12576.3 | 12509.7 | 12403.7 | 12504.8 | 12379.1 | 11689.0 | 9759.4 | 6836.5 | 3790.4 | 1244.6 |
| 62.5° | 14570.0 | 14757.3 | 14683.4 | 14611.9 | 14676.0 | 14348.2 | 12906.5 | 10341.0 | 6659.0 | 3004.2 | 909.4 |
| 65° | 16369.1 | 17214.4 | 17325.3 | 17327.8 | 17017.3 | 16258.2 | 13877.5 | 10567.7 | 5722.5 | 2097.3 | 665.4 |
| 67.5° | 17552.1 | 19309.2 | 19856.3 | 19659.2 | 18947.0 | 17214.4 | 14269.4 | 10124.1 | 4418.8 | 1325.9 | 497.8 |
| 69° | 17416.5 | 19720.8 | 20511.9 | 20401.0 | 19400.4 | 17199.6 | 13963.8 | 9377.4 | 3376.3 | 1054.8 | 421.4 |
| 70° | 16790.5 | 19383.2 | 20322.1 | 20371.4 | 19112.1 | 16539.2 | 13419.1 | 8519.7 | 2730.6 | 899.5 | 386.9 |
| 72.5° | 13399.4 | 15972.3 | 16797.9 | 17120.8 | 15871.3 | 13244.1 | 11003.9 | 6010.9 | 1582.2 | 628.4 | 313.0 |
| 75° | 8300.4 | 9685.4 | 10370.5 | 10557.8 | 9801.3 | 8248.6 | 6678.8 | 3344.3 | 963.6 | 443.6 | 263.7 |
| 77.5° | 3721.4 | 4123.1 | 4517.4 | 4517.4 | 4221.7 | 3765.7 | 3060.9 | 1616.7 | 547.1 | 315.5 | 221.8 |
| 80° | 1247.0 | 1293.9 | 1259.4 | 1271.7 | 1222.4 | 1175.6 | 1229.8 | 697.4 | 337.6 | 236.6 | 179.9 |
| 82.5° | 847.8 | 1064.7 | 1131.2 | 1131.2 | 1062.2 | 837.9 | 473.2 | 320.4 | 207.0 | 170.0 | 138.0 |
| 85° | 690.1 | 842.9 | 904.5 | 931.6 | 877.4 | 707.3 | 248.9 | 155.3 | 123.2 | 108.4 | 93.7 |
| 87.5° | 231.7 | 216.9 | 204.6 | 199.6 | 209.5 | 219.3 | 123.2 | 66.5 | 56.7 | 51.8 | 49.3 |
| 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):

| | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|
| 0° | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 | 837.9 |
| 2.5° | 877.4 | 847.8 | 860.1 | 872.4 | 961.1 | 1027.7 |
| 5° | 872.4 | 914.3 | 1008.0 | 1126.3 | 1180.5 | 1313.6 |
| 7.5° | 897.1 | 1049.9 | 1224.8 | 1348.1 | 1397.4 | 1439.3 |
| 10° | 1200.2 | 1227.3 | 1286.5 | 1404.8 | 1503.3 | 1520.6 |
| 12.5° | 1550.2 | 1542.8 | 1500.9 | 1555.1 | 1505.8 | 1540.3 |
| 15° | 1823.7 | 1742.4 | 1685.7 | 1678.3 | 1661.1 | 1661.1 |
| 17.5° | 1974.1 | 1902.6 | 1823.7 | 1804.0 | 1752.2 | 1794.1 |
| 20° | 2151.5 | 2028.3 | 1831.1 | 1811.4 | 1794.1 | 1754.7 |
| 22.5° | 2117.0 | 1993.8 | 1789.2 | 1764.6 | 1855.8 | 1850.8 |
| 25° | 2158.9 | 1993.8 | 1799.1 | 1772.0 | 1813.9 | 1813.9 |
| 27.5° | 2055.4 | 1919.8 | 1779.4 | 1616.7 | 1744.9 | 1774.4 |
| 30° | 2028.3 | 1875.5 | 1712.8 | 1567.4 | 1698.0 | 1670.9 |
| 32.5° | 2171.2 | 1764.6 | 1604.4 | 1560.0 | 1656.1 | 1636.4 |
| 35° | 2060.3 | 1744.9 | 1577.3 | 1495.9 | 1609.3 | 1589.6 |
| 37.5° | 2107.1 | 1720.2 | 1530.4 | 1461.4 | 1552.6 | 1582.2 |
| 40° | 2097.3 | 1604.4 | 1476.2 | 1387.5 | 1478.7 | 1493.5 |
| 42.5° | 1932.2 | 1515.7 | 1385.0 | 1296.3 | 1343.1 | 1392.4 |
| 45° | 1882.9 | 1461.4 | 1296.3 | 1173.1 | 1175.6 | 1232.2 |
| 47.5° | 1791.7 | 1338.2 | 1133.7 | 1020.3 | 1020.3 | 1067.1 |
| 50° | 1638.9 | 1173.1 | 948.8 | 845.3 | 842.9 | 879.8 |
| 52.5° | 1412.1 | 1012.9 | 801.0 | 687.6 | 680.2 | 717.2 |
| 55° | 1155.8 | 815.7 | 630.9 | 557.0 | 542.2 | 557.0 |
| 57.5° | 899.5 | 635.8 | 497.8 | 438.7 | 436.2 | 448.5 |
| 60° | 697.4 | 497.8 | 396.8 | 362.3 | 367.2 | 386.9 |
| 62.5° | 527.4 | 396.8 | 337.6 | 325.3 | 332.7 | 352.4 |
| 65° | 419.0 | 342.6 | 308.1 | 300.7 | 308.1 | 327.8 |
| 67.5° | 340.1 | 310.5 | 285.9 | 276.0 | 281.0 | 300.7 |
| 69° | 313.0 | 293.3 | 273.6 | 261.2 | 266.2 | 281.0 |
| 70° | 298.2 | 283.4 | 263.7 | 251.4 | 256.3 | 271.1 |
| 72.5° | 261.2 | 253.8 | 239.1 | 226.7 | 229.2 | 241.5 |
| 75° | 229.2 | 224.3 | 214.4 | 199.6 | 199.6 | 214.4 |
| 77.5° | 192.2 | 194.7 | 184.8 | 170.0 | 167.6 | 175.0 |
| 80° | 152.8 | 157.7 | 152.8 | 138.0 | 133.1 | 133.1 |
| 82.5° | 110.9 | 120.8 | 115.8 | 101.0 | 98.6 | 98.6 |
| 85° | 69.0 | 76.4 | 73.9 | 64.1 | 64.1 | 56.7 |
| 87.5° | 32.0 | 41.9 | 39.4 | 34.5 | 32.0 | 22.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)