

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: P367940

Luminaire Tested: **MSA-SA3C-727-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367940  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3C-727-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15437 lumens  
Efficiency: N/A  
Efficacy: 93.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G3

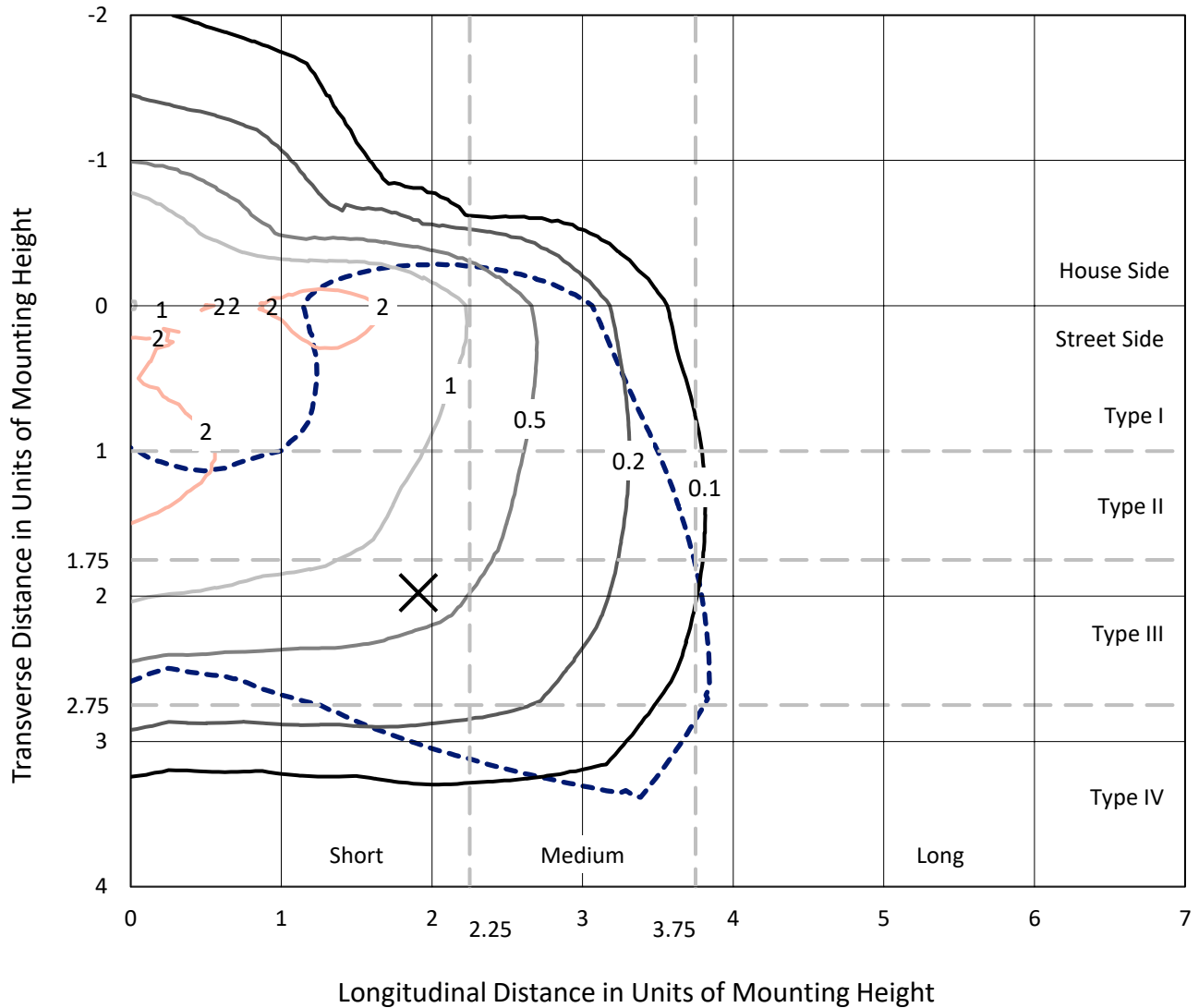
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P367940  
 CATALOG NUMBER: MSA-SA3C-727-U-T4W

### Iso-Footcandle Lines of Horizontal Illumination

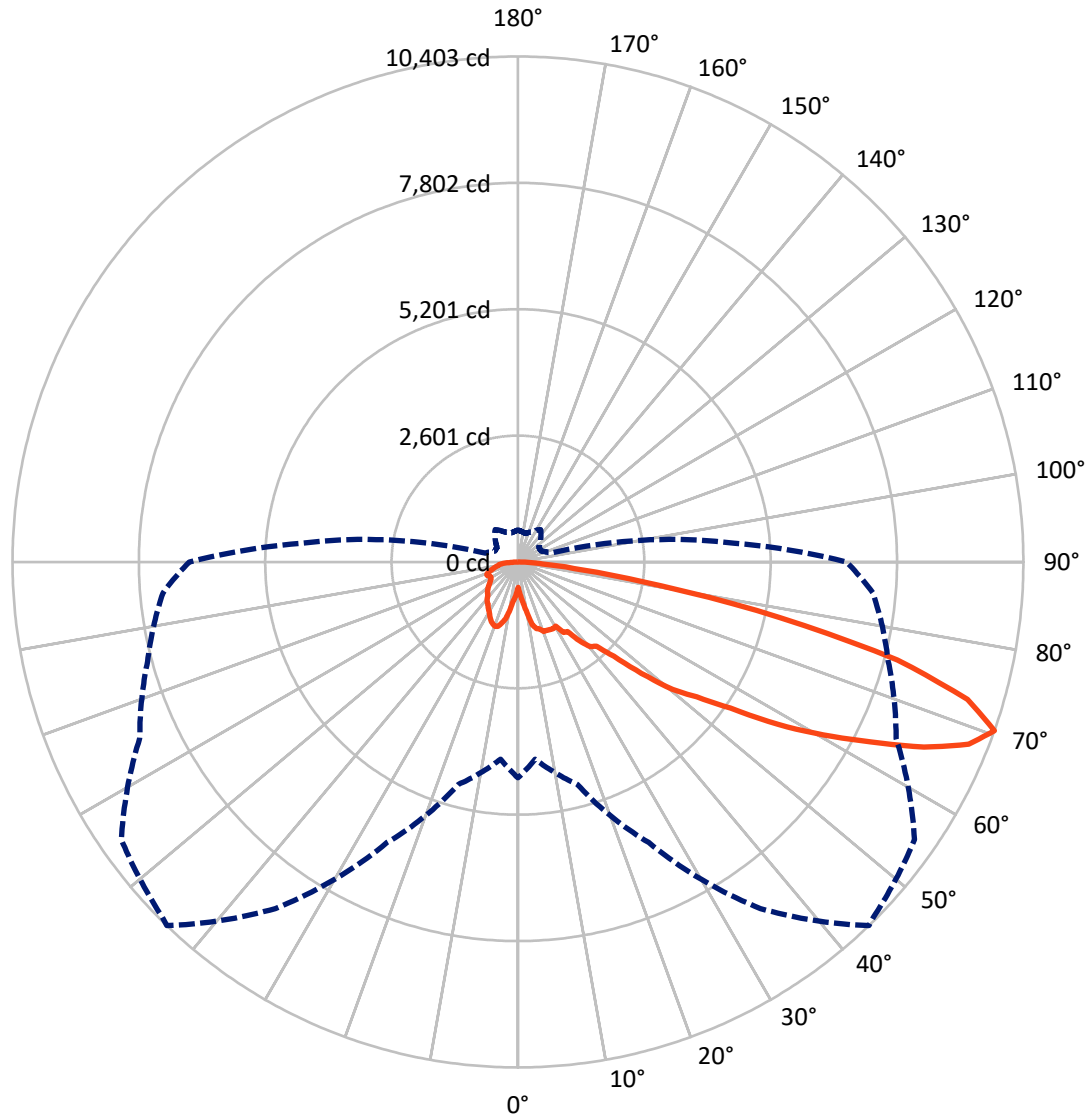
✕ Max cd  
 - - - 1/2 Max cd



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

REPORT NUMBER: P367940  
CATALOG NUMBER: MSA-SA3C-727-U-T4W

### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P367940

CATALOG NUMBER: MSA-SA3C-727-U-T4W

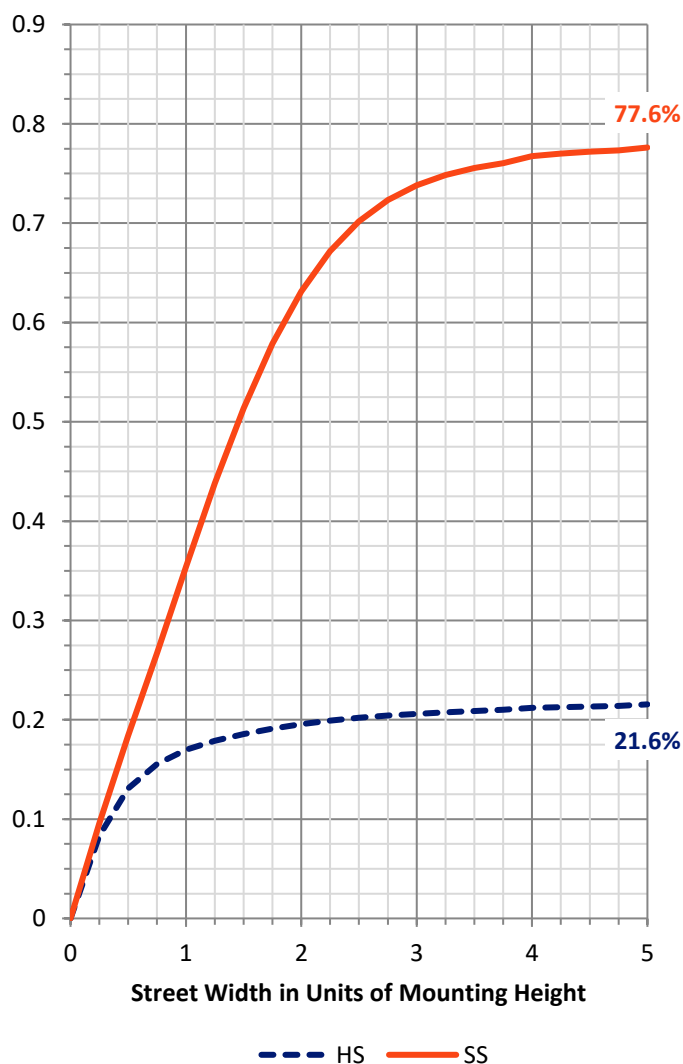
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 3406.0   | 0.0    | 3406.0  |
|                    | % Fixture | 22.1     | 0.0    | 22.1    |
| <b>Street Side</b> | Lumens    | 12031.0  | 0.0    | 12031.0 |
|                    | % Fixture | 77.9     | 0.0    | 77.9    |
| <b>Total</b>       | Lumens    | 15437.0  | 0.0    | 15437.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 82.3    | 0.5       |
| 10°-20°   | 378.9   | 2.5       |
| 20°-30°   | 708.0   | 4.6       |
| 30°-40°   | 1136.4  | 7.4       |
| 40°-50°   | 1918.1  | 12.4      |
| 50°-60°   | 3418.1  | 22.1      |
| 60°-70°   | 4675.5  | 30.3      |
| 70°-80°   | 2749.5  | 17.8      |
| 80°-90°   | 370.2   | 2.4       |
| 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°    | 15437.0 | 100.0     |
| 0°-180°   | 15437.0 | 100.0     |

**Coefficient of Utilization**

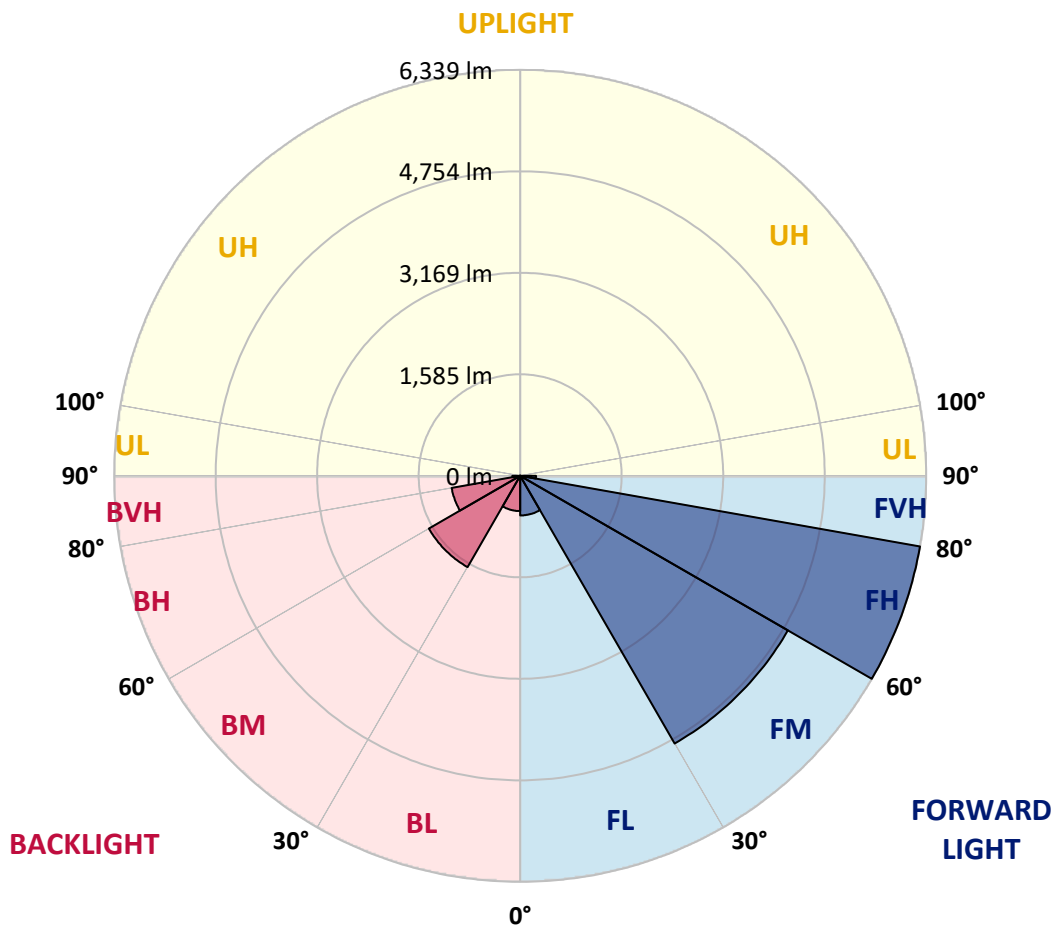


REPORT NUMBER: P367940  
 CATALOG NUMBER: MSA-SA3C-727-U-T4W

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 618.6  | 4.0       |                         |      |         |
| FM (30°-60°)   | 4826.7 | 31.3      |                         |      |         |
| FH (60°-80°)   | 6338.9 | 41.1      |                         |      | G3/7500 |
| FVH (80°-90°)  | 246.7  | 1.6       |                         |      | G3/500  |
| BL (0°-30°)    | 550.5  | 3.6       | B2/1000                 |      |         |
| BM (30°-60°)   | 1646.0 | 10.7      | B2/2500                 |      |         |
| BH (60°-80°)   | 1086.1 | 7.0       | B3/2500                 |      | G3/2500 |
| BVH (80°-90°)  | 123.5  | 0.8       |                         |      | G2/225  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G3**  
 Type IV Short





REPORT NUMBER: P367940  
 CATALOG NUMBER: MSA-SA3C-727-U-T4W

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 44°     | 45°     | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|--------|
| 0°    | 524.7  | 524.7  | 524.7  | 524.7  | 524.7  | 524.7   | 524.7   | 524.7  | 524.7  | 524.7  | 524.7  |
| 2.5°  | 636.8  | 624.1  | 593.7  | 603.8  | 616.5  | 621.6   | 620.3   | 619.0  | 599.4  | 592.5  | 627.3  |
| 5°    | 865.3  | 837.4  | 815.3  | 806.4  | 777.3  | 754.5   | 740.6   | 777.3  | 771.6  | 781.1  | 805.1  |
| 7.5°  | 1080.5 | 1062.7 | 1012.7 | 995.0  | 935.5  | 896.3   | 891.8   | 921.0  | 928.6  | 913.4  | 954.5  |
| 10°   | 1219.1 | 1188.7 | 1178.6 | 1136.2 | 1095.0 | 1088.7  | 1084.9  | 1071.6 | 1053.2 | 1052.0 | 1015.3 |
| 12.5° | 1326.7 | 1342.5 | 1350.7 | 1302.0 | 1303.3 | 1326.1  | 1314.0  | 1260.2 | 1229.2 | 1174.8 | 1179.2 |
| 15°   | 1519.7 | 1542.5 | 1477.3 | 1446.3 | 1386.8 | 1421.0  | 1416.6  | 1371.6 | 1367.2 | 1331.7 | 1290.6 |
| 17.5° | 1688.1 | 1698.2 | 1589.4 | 1518.5 | 1498.2 | 1448.8  | 1462.1  | 1463.4 | 1405.2 | 1468.5 | 1431.8 |
| 20°   | 1702.0 | 1738.1 | 1612.8 | 1471.6 | 1532.4 | 1526.1  | 1528.0  | 1515.3 | 1438.7 | 1543.2 | 1529.2 |
| 22.5° | 1770.4 | 1715.3 | 1602.7 | 1499.5 | 1515.3 | 1524.8  | 1533.7  | 1518.5 | 1514.0 | 1572.3 | 1614.7 |
| 25°   | 1757.7 | 1740.0 | 1626.1 | 1538.7 | 1540.6 | 1542.5  | 1547.0  | 1592.5 | 1587.5 | 1666.6 | 1688.7 |
| 27.5° | 1876.1 | 1848.9 | 1633.0 | 1611.5 | 1562.1 | 1551.4  | 1521.0  | 1615.9 | 1690.0 | 1688.1 | 1810.3 |
| 30°   | 2101.4 | 2073.6 | 1795.1 | 1732.4 | 1643.2 | 1533.0  | 1591.3  | 1717.9 | 1776.1 | 1795.7 | 1950.8 |
| 32.5° | 2453.4 | 2498.9 | 2114.1 | 1861.5 | 1750.8 | 1726.7  | 1720.4  | 1707.7 | 1852.0 | 1948.9 | 2090.0 |
| 35°   | 2958.5 | 2922.4 | 2490.1 | 2138.1 | 1864.1 | 1760.9  | 1774.8  | 1852.0 | 2023.6 | 2086.2 | 2216.6 |
| 37.5° | 3537.0 | 3462.3 | 2971.7 | 2451.5 | 2190.7 | 2061.6  | 2015.3  | 2090.0 | 2128.0 | 2177.4 | 2443.9 |
| 40°   | 4125.0 | 3942.7 | 3444.6 | 2863.5 | 2386.9 | 2289.4  | 2248.9  | 2157.1 | 2246.4 | 2346.4 | 2685.0 |
| 42.5° | 4692.8 | 4551.6 | 3959.2 | 3355.3 | 2717.3 | 2369.8  | 2347.6  | 2257.8 | 2534.4 | 2640.1 | 3033.1 |
| 45°   | 5287.7 | 4960.5 | 4486.4 | 3910.4 | 3200.2 | 2764.1  | 2731.2  | 2569.8 | 2924.3 | 3144.5 | 3524.3 |
| 47.5° | 5687.8 | 5384.6 | 4969.4 | 4361.1 | 3604.7 | 3423.7  | 3361.0  | 3085.0 | 3406.6 | 3692.7 | 4283.2 |
| 50°   | 6066.3 | 5754.2 | 5318.1 | 4854.2 | 4337.0 | 4128.8  | 3995.2  | 3535.7 | 4007.3 | 4473.1 | 5256.1 |
| 52.5° | 6608.1 | 6329.0 | 5723.2 | 5351.0 | 5123.8 | 4611.7  | 4512.4  | 4259.8 | 4709.9 | 5338.4 | 6319.5 |
| 55°   | 7187.3 | 6806.9 | 6258.1 | 6051.7 | 5960.0 | 5304.2  | 5223.2  | 5062.4 | 5645.4 | 6223.9 | 7353.1 |
| 57.5° | 7443.0 | 7046.1 | 6743.6 | 6620.1 | 6612.5 | 6310.6  | 6217.6  | 6105.5 | 6601.8 | 6983.4 | 8326.0 |
| 60°   | 7646.2 | 7220.2 | 7099.3 | 7168.3 | 7418.9 | 7220.2  | 7099.3  | 7000.5 | 7380.3 | 7734.1 | 9119.7 |
| 62.5° | 7608.8 | 7181.6 | 7243.6 | 7453.7 | 8093.7 | 8151.9  | 8058.8  | 7819.6 | 8151.9 | 8349.4 | 9574.8 |
| 65°   | 7006.2 | 6611.3 | 6972.7 | 7471.5 | 8720.9 | 9186.2  | 9181.1  | 8555.1 | 8670.3 | 8670.3 | 9526.7 |
| 67.5° | 5950.5 | 5541.6 | 6133.4 | 7315.1 | 9154.5 | 10005.8 | 10007.1 | 9334.9 | 8717.8 | 8638.0 | 8782.3 |
| 70°   | 4443.4 | 4073.1 | 4738.3 | 6370.7 | 8707.0 | 10402.7 | 10345.1 | 9964.1 | 8587.4 | 7890.5 | 7336.0 |
| 72.5° | 2654.0 | 2414.7 | 3026.8 | 4637.7 | 7427.2 | 9672.9  | 9826.1  | 9239.3 | 7861.4 | 6561.9 | 5244.1 |
| 75°   | 1205.2 | 1101.4 | 1422.3 | 2664.1 | 5302.3 | 8068.3  | 8234.8  | 7797.4 | 6244.2 | 4719.4 | 3030.6 |
| 77.5° | 515.9  | 488.0  | 620.9  | 1181.7 | 2923.6 | 5517.5  | 5858.7  | 5572.6 | 4230.7 | 2742.6 | 1340.6 |
| 80°   | 331.7  | 313.9  | 381.7  | 568.4  | 1357.7 | 2981.2  | 3274.9  | 3168.0 | 2155.2 | 1066.5 | 472.2  |
| 82.5° | 198.1  | 192.4  | 255.1  | 357.0  | 740.6  | 1312.1  | 1478.6  | 1517.8 | 895.0  | 478.5  | 270.3  |
| 85°   | 108.2  | 109.5  | 139.9  | 216.5  | 444.3  | 510.8   | 546.9   | 595.0  | 421.6  | 277.2  | 131.0  |
| 87.5° | 36.1   | 41.8   | 56.3   | 88.0   | 158.2  | 144.3   | 144.9   | 168.4  | 177.9  | 115.2  | 41.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P367940  
 CATALOG NUMBER: MSA-SA3C-727-U-T4W

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 524.7  | 524.7  | 524.7  | 524.7  | 524.7  | 524.7  | 524.7  | 524.7  | 524.7  | 524.7  | 524.7  |
| 2.5°  | 633.0  | 621.6  | 592.5  | 594.3  | 605.1  | 607.6  | 610.8  | 592.5  | 588.7  | 623.5  | 626.6  |
| 5°    | 808.9  | 771.6  | 754.5  | 748.8  | 732.3  | 726.6  | 757.0  | 770.9  | 784.9  | 812.1  | 825.4  |
| 7.5°  | 950.1  | 908.3  | 877.3  | 848.8  | 824.7  | 810.8  | 862.1  | 901.3  | 925.4  | 981.1  | 1006.4 |
| 10°   | 1014.6 | 978.6  | 967.2  | 944.4  | 962.7  | 1004.5 | 1014.0 | 1015.3 | 1068.4 | 1067.2 | 1077.9 |
| 12.5° | 1143.1 | 1119.7 | 1082.4 | 1090.6 | 1138.7 | 1181.7 | 1169.7 | 1188.1 | 1207.1 | 1252.6 | 1231.7 |
| 15°   | 1260.2 | 1253.9 | 1219.1 | 1224.8 | 1234.3 | 1288.1 | 1295.0 | 1313.4 | 1342.5 | 1378.6 | 1353.9 |
| 17.5° | 1404.5 | 1402.0 | 1317.2 | 1309.6 | 1331.7 | 1384.3 | 1367.8 | 1335.5 | 1431.8 | 1470.4 | 1460.2 |
| 20°   | 1502.6 | 1483.7 | 1374.8 | 1342.5 | 1398.8 | 1405.8 | 1386.8 | 1335.5 | 1419.1 | 1503.3 | 1526.1 |
| 22.5° | 1584.3 | 1562.1 | 1450.1 | 1386.8 | 1375.4 | 1378.6 | 1378.6 | 1369.1 | 1410.2 | 1479.2 | 1478.6 |
| 25°   | 1650.1 | 1671.0 | 1528.6 | 1467.8 | 1407.1 | 1331.1 | 1321.6 | 1329.8 | 1353.3 | 1486.2 | 1481.8 |
| 27.5° | 1815.3 | 1757.7 | 1555.2 | 1509.6 | 1384.9 | 1265.3 | 1291.2 | 1303.9 | 1311.5 | 1457.1 | 1481.1 |
| 30°   | 1922.9 | 1940.7 | 1650.1 | 1534.3 | 1352.6 | 1191.9 | 1200.7 | 1237.4 | 1281.7 | 1453.9 | 1460.9 |
| 32.5° | 2067.9 | 2029.9 | 1798.2 | 1493.2 | 1266.6 | 1147.6 | 1131.1 | 1180.5 | 1246.3 | 1402.6 | 1421.6 |
| 35°   | 2202.7 | 2247.6 | 1860.9 | 1485.6 | 1206.4 | 1081.1 | 1098.8 | 1115.9 | 1184.3 | 1345.7 | 1367.8 |
| 37.5° | 2519.2 | 2416.6 | 2036.9 | 1448.8 | 1156.4 | 1047.5 | 1028.6 | 1054.5 | 1112.7 | 1237.4 | 1288.7 |
| 40°   | 2759.7 | 2766.0 | 2074.8 | 1402.6 | 1060.8 | 999.4  | 958.9  | 984.9  | 1009.6 | 1108.9 | 1131.1 |
| 42.5° | 3211.0 | 3073.0 | 2167.9 | 1301.4 | 1000.7 | 927.3  | 904.5  | 915.9  | 919.7  | 961.5  | 998.2  |
| 45°   | 3785.1 | 3461.7 | 2204.6 | 1165.3 | 921.6  | 897.5  | 851.3  | 845.6  | 824.7  | 830.4  | 862.7  |
| 47.5° | 4579.5 | 4068.0 | 2178.0 | 1020.3 | 851.3  | 858.9  | 792.5  | 766.5  | 737.4  | 744.4  | 774.7  |
| 50°   | 5606.8 | 4842.8 | 2176.1 | 897.5  | 803.2  | 808.3  | 753.9  | 707.0  | 677.9  | 692.5  | 719.0  |
| 52.5° | 6759.4 | 5620.1 | 2185.0 | 813.4  | 750.7  | 748.2  | 728.5  | 671.6  | 648.2  | 663.3  | 693.7  |
| 55°   | 7862.0 | 6288.5 | 2250.8 | 760.2  | 696.3  | 700.7  | 708.3  | 660.2  | 634.2  | 648.2  | 679.8  |
| 57.5° | 8821.6 | 6816.3 | 2226.1 | 703.9  | 645.6  | 665.9  | 686.1  | 644.4  | 624.7  | 645.0  | 676.6  |
| 60°   | 9492.5 | 7061.3 | 2031.2 | 650.1  | 608.3  | 636.1  | 675.4  | 642.5  | 639.9  | 683.6  | 721.6  |
| 62.5° | 9737.5 | 6970.8 | 1651.4 | 607.6  | 586.1  | 632.3  | 700.1  | 684.2  | 686.8  | 740.6  | 793.1  |
| 65°   | 9379.8 | 6494.8 | 1231.7 | 580.4  | 569.0  | 650.7  | 757.0  | 708.9  | 674.1  | 718.4  | 766.5  |
| 67.5° | 8362.7 | 5648.5 | 900.1  | 557.0  | 549.4  | 679.8  | 809.6  | 706.4  | 641.8  | 686.8  | 726.0  |
| 70°   | 6765.7 | 4458.6 | 696.9  | 527.3  | 523.5  | 660.2  | 814.6  | 687.4  | 607.0  | 636.1  | 658.3  |
| 72.5° | 4635.8 | 3052.8 | 577.3  | 498.8  | 478.5  | 584.9  | 773.5  | 645.0  | 565.2  | 582.3  | 600.7  |
| 75°   | 2590.7 | 1713.4 | 485.5  | 463.3  | 419.0  | 520.9  | 725.4  | 619.7  | 534.2  | 539.3  | 564.6  |
| 77.5° | 1162.7 | 741.2  | 412.1  | 416.5  | 365.2  | 460.8  | 662.7  | 579.2  | 486.7  | 475.4  | 500.7  |
| 80°   | 439.9  | 361.4  | 334.2  | 351.9  | 307.0  | 399.4  | 597.5  | 542.4  | 436.7  | 422.2  | 436.7  |
| 82.5° | 255.1  | 219.0  | 248.1  | 270.9  | 243.7  | 367.1  | 570.3  | 508.9  | 384.8  | 348.1  | 360.8  |
| 85°   | 118.4  | 113.3  | 148.7  | 176.0  | 170.3  | 286.1  | 488.0  | 382.9  | 274.1  | 231.7  | 256.3  |
| 87.5° | 31.0   | 34.8   | 52.5   | 62.0   | 63.3   | 98.1   | 188.0  | 142.4  | 107.0  | 81.0   | 77.9   |
| 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)