

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: P366954

Luminaire Tested: **MSA-SA1C-760-U-RW**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366954  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1C-760-U-RW  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6441 lumens  
Efficiency: N/A  
Efficacy: 109.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3

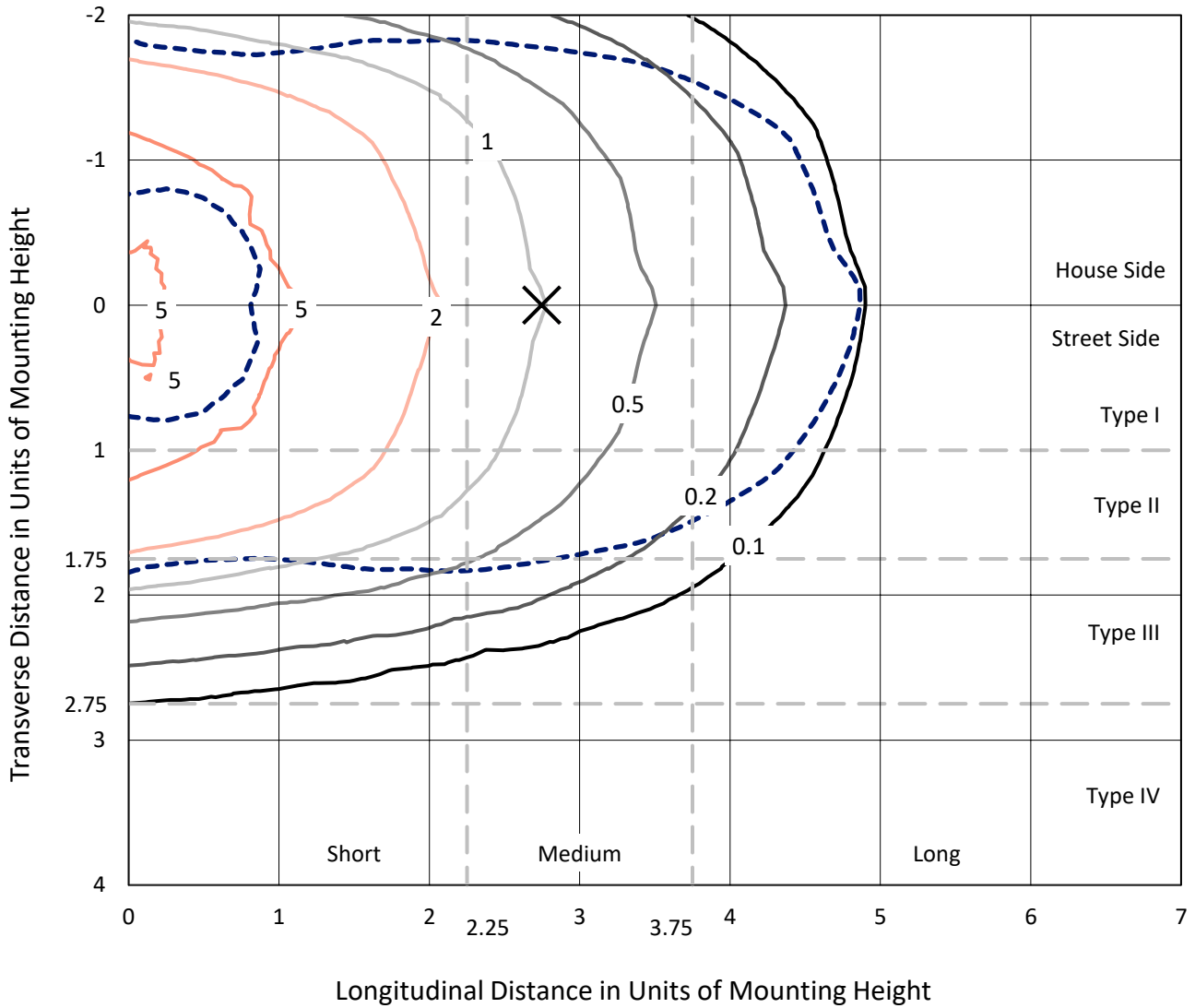
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



REPORT NUMBER: P366954  
 CATALOG NUMBER: MSA-SA1C-760-U-RW

### Iso-Footcandle Lines of Horizontal Illumination

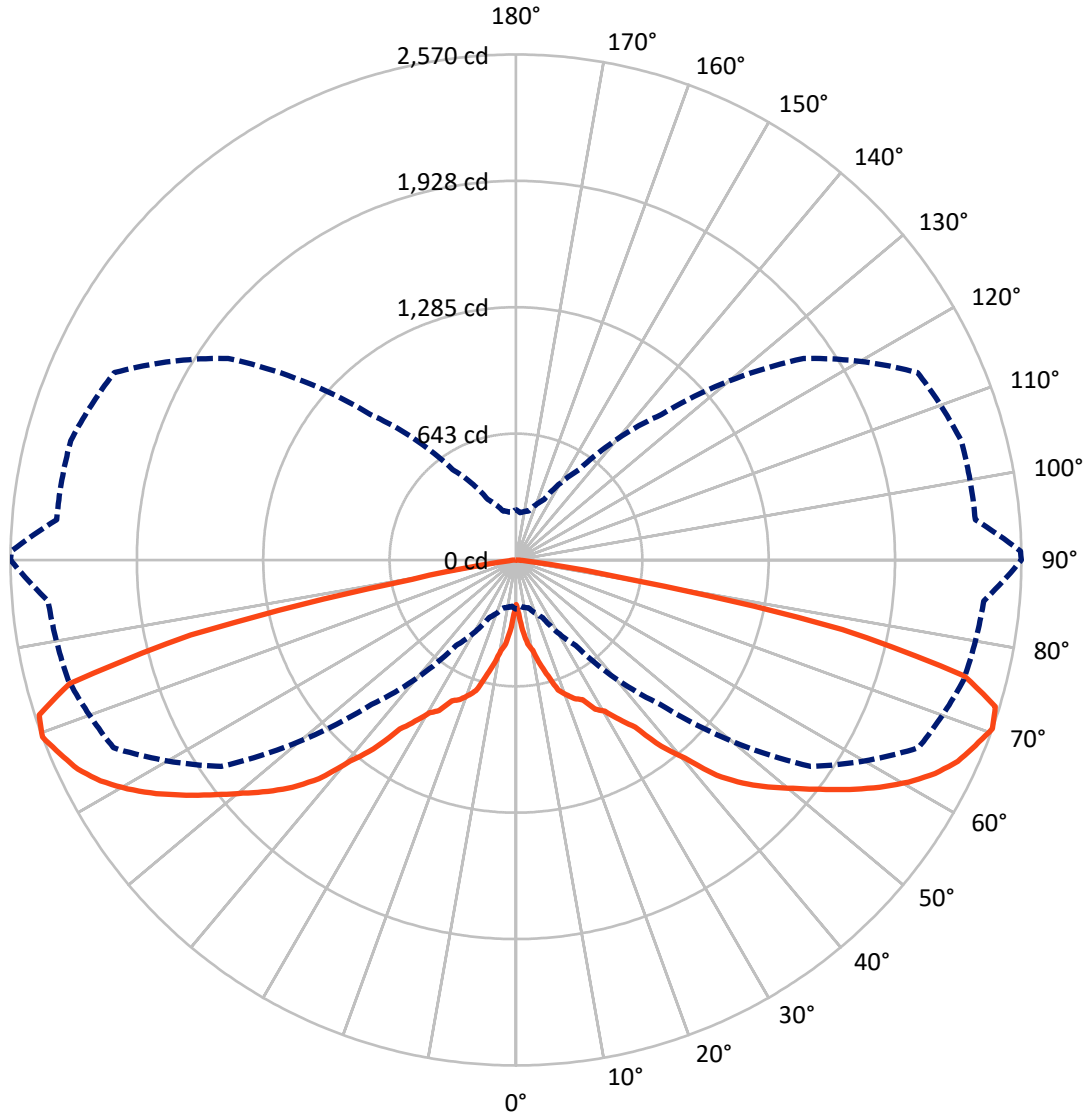
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.6 fc  
 Type III - Short - N/A

REPORT NUMBER: P366954  
CATALOG NUMBER: MSA-SA1C-760-U-RW

### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P366954  
 CATALOG NUMBER: MSA-SA1C-760-U-RW

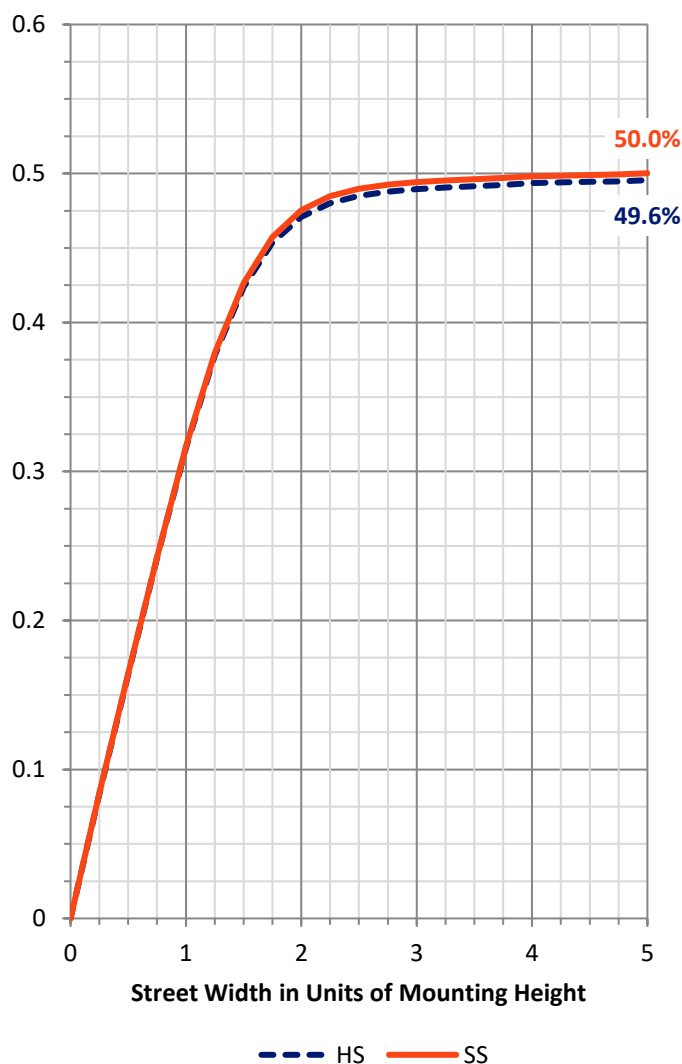
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 3208.6   | 0.0    | 3208.6 |
|                    | % Fixture | 49.8     | 0.0    | 49.8   |
| <b>Street Side</b> | Lumens    | 3232.4   | 0.0    | 3232.4 |
|                    | % Fixture | 50.2     | 0.0    | 50.2   |
| <b>Total</b>       | Lumens    | 6441.0   | 0.0    | 6441.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 34.1   | 0.5       |
| 10°-20°   | 156.3  | 2.4       |
| 20°-30°   | 337.9  | 5.2       |
| 30°-40°   | 644.8  | 10.0      |
| 40°-50°   | 1171.3 | 18.2      |
| 50°-60°   | 1645.4 | 25.5      |
| 60°-70°   | 1571.0 | 24.4      |
| 70°-80°   | 806.3  | 12.5      |
| 80°-90°   | 73.9   | 1.1       |
| 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°    | 6441.0 | 100.0     |
| 0°-180°   | 6441.0 | 100.0     |

**Coefficient of Utilization**



REPORT NUMBER: P366954

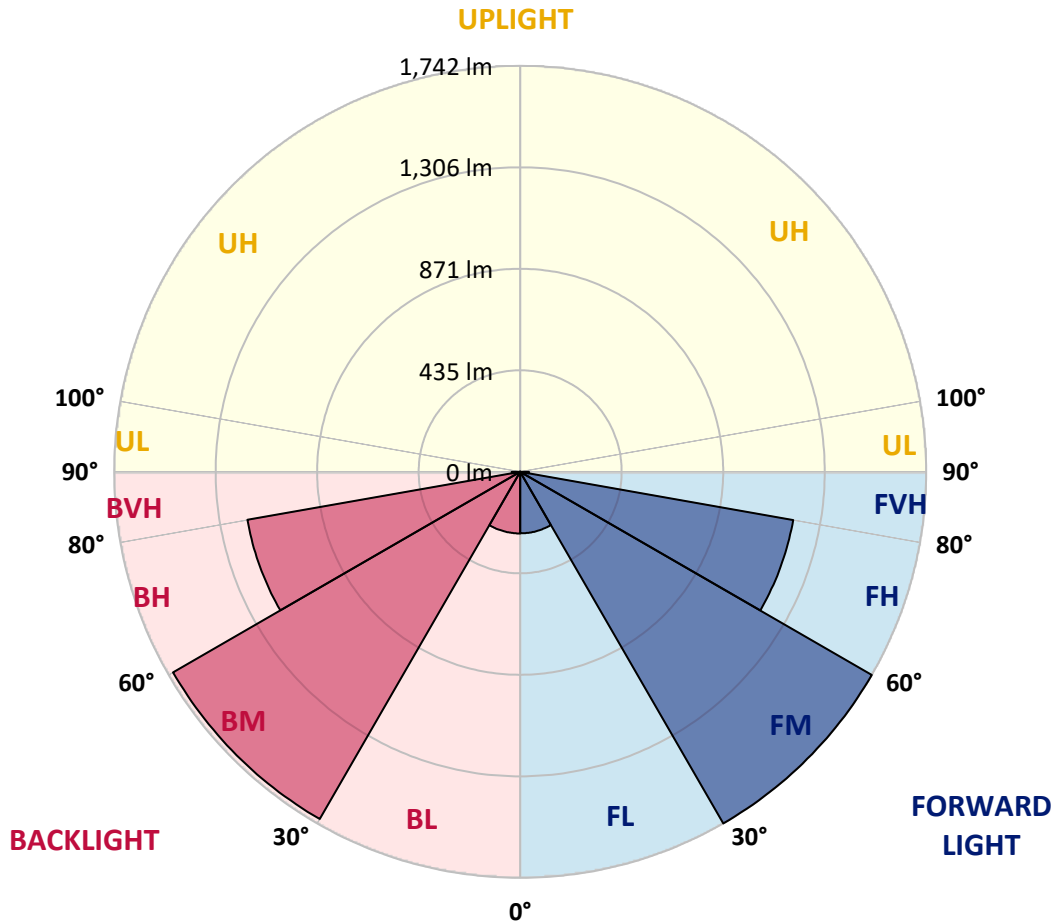
CATALOG NUMBER: MSA-SA1C-760-U-RW

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

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 263.9  | 4.1       |                         |      |         |
| FM (30°-60°)   | 1741.7 | 27.0      |                         |      |         |
| FH (60°-80°)   | 1189.3 | 18.5      |                         |      | G1/1800 |
| FVH (80°-90°)  | 37.5   | 0.6       |                         |      | G1/100  |
| BL (0°-30°)    | 264.4  | 4.1       | B1/500                  |      |         |
| BM (30°-60°)   | 1719.7 | 26.7      | B2/2500                 |      |         |
| BH (60°-80°)   | 1188.0 | 18.4      | B3/2500                 |      | G3/2500 |
| BVH (80°-90°)  | 36.4   | 0.6       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G3**

Type III Short





REPORT NUMBER: P366954

CATALOG NUMBER: MSA-SA1C-760-U-RW

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  |
| 2.5°  | 273.8  | 263.7  | 250.9  | 258.4  | 261.6  | 267.0  | 266.3  | 263.7  | 252.4  | 271.2  | 273.3  |
| 5°    | 342.8  | 326.6  | 320.6  | 319.5  | 321.1  | 315.9  | 332.8  | 327.9  | 337.0  | 354.0  | 357.9  |
| 7.5°  | 390.3  | 378.3  | 365.5  | 369.4  | 353.2  | 350.8  | 372.8  | 392.3  | 397.3  | 428.4  | 430.5  |
| 10°   | 412.7  | 401.0  | 404.4  | 402.0  | 400.2  | 415.3  | 425.5  | 439.9  | 460.5  | 463.4  | 467.8  |
| 12.5° | 431.8  | 436.5  | 451.3  | 450.8  | 475.4  | 502.2  | 498.3  | 513.2  | 516.6  | 552.6  | 541.7  |
| 15°   | 480.1  | 489.7  | 488.7  | 497.8  | 508.5  | 552.6  | 552.9  | 578.2  | 601.4  | 615.5  | 611.9  |
| 17.5° | 550.8  | 554.2  | 540.1  | 540.6  | 571.7  | 589.7  | 609.8  | 605.4  | 665.9  | 693.6  | 695.4  |
| 20°   | 593.1  | 601.7  | 585.5  | 564.1  | 619.2  | 644.0  | 655.2  | 629.4  | 694.1  | 731.4  | 731.4  |
| 22.5° | 667.0  | 644.8  | 620.2  | 605.9  | 654.4  | 680.8  | 679.5  | 672.2  | 706.6  | 772.7  | 766.4  |
| 25°   | 707.7  | 695.2  | 682.9  | 686.5  | 711.1  | 724.7  | 742.7  | 725.7  | 758.1  | 807.1  | 786.5  |
| 27.5° | 785.0  | 761.7  | 701.4  | 749.5  | 749.5  | 739.3  | 777.4  | 785.5  | 764.3  | 844.2  | 859.6  |
| 30°   | 872.4  | 864.3  | 779.0  | 829.9  | 814.2  | 785.5  | 858.6  | 853.4  | 817.9  | 899.3  | 892.3  |
| 32.5° | 955.2  | 981.8  | 900.9  | 872.9  | 896.4  | 907.4  | 869.0  | 884.7  | 891.5  | 970.0  | 966.6  |
| 35°   | 1082.0 | 1104.5 | 997.2  | 990.1  | 951.0  | 940.8  | 970.0  | 975.3  | 975.8  | 1058.5 | 1043.4 |
| 37.5° | 1301.6 | 1269.2 | 1163.2 | 1113.4 | 1117.8 | 1105.5 | 1111.3 | 1070.0 | 1075.8 | 1195.8 | 1203.4 |
| 40°   | 1462.1 | 1425.6 | 1307.6 | 1271.8 | 1184.1 | 1236.6 | 1190.1 | 1185.9 | 1174.4 | 1330.0 | 1325.8 |
| 42.5° | 1639.4 | 1589.2 | 1458.7 | 1410.9 | 1317.8 | 1296.3 | 1274.9 | 1323.2 | 1320.1 | 1464.2 | 1496.0 |
| 45°   | 1773.3 | 1672.0 | 1603.9 | 1574.1 | 1518.2 | 1465.8 | 1445.4 | 1467.1 | 1457.2 | 1564.2 | 1619.8 |
| 47.5° | 1857.9 | 1769.9 | 1691.6 | 1628.9 | 1575.4 | 1704.1 | 1601.0 | 1572.0 | 1551.9 | 1671.7 | 1725.2 |
| 50°   | 1925.2 | 1823.7 | 1731.2 | 1710.4 | 1752.7 | 1866.5 | 1703.8 | 1639.9 | 1664.4 | 1752.7 | 1825.5 |
| 52.5° | 1943.5 | 1835.9 | 1752.9 | 1739.6 | 1853.9 | 1874.6 | 1848.2 | 1740.6 | 1734.1 | 1849.8 | 1937.7 |
| 55°   | 1887.6 | 1784.5 | 1745.1 | 1817.9 | 1944.3 | 1927.0 | 1967.2 | 1898.6 | 1852.4 | 1949.0 | 2059.6 |
| 57.5° | 1743.8 | 1641.4 | 1632.1 | 1737.0 | 1896.2 | 2042.9 | 2062.8 | 2008.5 | 1947.9 | 2050.2 | 2180.8 |
| 60°   | 1507.5 | 1414.1 | 1437.8 | 1553.7 | 1793.9 | 2002.7 | 2108.2 | 2058.6 | 2039.8 | 2141.6 | 2293.0 |
| 62.5° | 1139.7 | 1066.9 | 1130.3 | 1291.9 | 1607.0 | 1950.8 | 2170.8 | 2163.0 | 2135.9 | 2238.7 | 2392.2 |
| 65°   | 726.7  | 688.4  | 753.1  | 917.3  | 1317.0 | 1856.3 | 2200.9 | 2211.3 | 2236.4 | 2313.6 | 2469.0 |
| 67.5° | 422.4  | 402.0  | 441.4  | 575.9  | 937.9  | 1524.2 | 2145.0 | 2294.8 | 2307.9 | 2352.3 | 2519.3 |
| 70°   | 249.8  | 236.5  | 252.7  | 323.4  | 531.0  | 1038.4 | 1829.7 | 2258.3 | 2357.0 | 2387.8 | 2570.2 |
| 72.5° | 190.6  | 178.0  | 171.0  | 191.3  | 277.2  | 536.4  | 1237.1 | 1914.2 | 2317.6 | 2364.3 | 2548.8 |
| 75°   | 164.7  | 152.7  | 144.4  | 146.2  | 165.0  | 254.8  | 670.6  | 1369.2 | 1974.8 | 2152.8 | 2354.4 |
| 77.5° | 141.5  | 130.8  | 124.8  | 124.3  | 126.6  | 139.9  | 280.4  | 742.4  | 1236.8 | 1547.5 | 1697.3 |
| 80°   | 113.3  | 104.9  | 103.6  | 103.6  | 100.2  | 99.2   | 139.4  | 282.5  | 470.7  | 558.1  | 535.1  |
| 82.5° | 82.8   | 74.4   | 82.8   | 81.7   | 76.5   | 72.3   | 88.8   | 122.2  | 145.1  | 114.6  | 90.6   |
| 85°   | 55.9   | 48.3   | 54.6   | 55.6   | 50.6   | 37.6   | 53.3   | 61.1   | 62.7   | 39.2   | 32.4   |
| 87.5° | 19.6   | 19.1   | 30.8   | 26.9   | 21.9   | 12.8   | 19.6   | 21.1   | 22.2   | 13.8   | 9.4    |
| 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: P366954

CATALOG NUMBER: MSA-SA1C-760-U-RW

**CANDELA DISTRIBUTION (continued):**

|       | 91°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  | 226.1  |
| 2.5°  | 274.1  | 271.0  | 255.3  | 257.7  | 263.7  | 266.5  | 269.4  | 257.7  | 251.9  | 270.2  | 268.4  |
| 5°    | 358.9  | 347.5  | 334.7  | 332.8  | 333.6  | 322.4  | 328.9  | 326.0  | 327.3  | 339.1  | 341.4  |
| 7.5°  | 429.9  | 416.1  | 399.1  | 385.8  | 362.9  | 344.6  | 360.0  | 367.8  | 370.2  | 391.0  | 398.9  |
| 10°   | 468.3  | 456.6  | 451.6  | 426.5  | 419.0  | 416.6  | 413.0  | 400.4  | 414.3  | 409.3  | 413.2  |
| 12.5° | 543.5  | 541.1  | 515.3  | 498.9  | 500.4  | 504.9  | 481.9  | 469.4  | 451.3  | 479.5  | 469.4  |
| 15°   | 607.5  | 617.6  | 591.8  | 561.8  | 546.9  | 554.5  | 537.0  | 518.7  | 502.5  | 511.1  | 500.2  |
| 17.5° | 689.2  | 688.9  | 638.5  | 606.4  | 605.1  | 604.6  | 578.7  | 538.5  | 557.9  | 551.8  | 552.4  |
| 20°   | 732.5  | 725.4  | 662.8  | 625.7  | 657.3  | 646.1  | 622.9  | 571.2  | 593.6  | 600.9  | 605.6  |
| 22.5° | 768.8  | 764.9  | 688.9  | 661.7  | 682.1  | 682.4  | 659.1  | 632.0  | 629.1  | 651.8  | 639.6  |
| 25°   | 794.1  | 809.8  | 738.2  | 731.7  | 740.6  | 731.7  | 709.0  | 691.2  | 679.8  | 713.7  | 679.8  |
| 27.5° | 854.1  | 831.9  | 745.8  | 782.9  | 788.4  | 743.7  | 772.2  | 751.3  | 719.4  | 761.5  | 775.3  |
| 30°   | 896.9  | 910.0  | 799.1  | 854.9  | 848.4  | 807.1  | 818.9  | 818.1  | 780.0  | 862.0  | 852.3  |
| 32.5° | 970.6  | 954.9  | 886.0  | 881.5  | 897.2  | 895.4  | 875.5  | 885.2  | 894.6  | 954.1  | 968.5  |
| 35°   | 1046.0 | 1062.7 | 941.6  | 971.6  | 967.2  | 939.0  | 990.9  | 984.9  | 1012.9 | 1135.0 | 1094.6 |
| 37.5° | 1216.2 | 1136.6 | 1066.4 | 1062.5 | 1092.2 | 1096.6 | 1079.9 | 1106.3 | 1166.6 | 1260.6 | 1303.9 |
| 40°   | 1327.7 | 1291.4 | 1172.1 | 1176.8 | 1135.5 | 1206.5 | 1159.6 | 1244.4 | 1290.3 | 1448.8 | 1433.4 |
| 42.5° | 1496.3 | 1407.8 | 1293.2 | 1308.9 | 1300.5 | 1266.3 | 1328.2 | 1371.8 | 1437.6 | 1558.4 | 1636.5 |
| 45°   | 1621.9 | 1500.5 | 1446.2 | 1436.5 | 1435.5 | 1495.0 | 1487.2 | 1556.9 | 1580.4 | 1671.2 | 1735.9 |
| 47.5° | 1717.2 | 1614.0 | 1533.6 | 1544.6 | 1512.8 | 1682.7 | 1592.1 | 1613.8 | 1661.3 | 1746.9 | 1822.4 |
| 50°   | 1830.2 | 1715.3 | 1624.0 | 1651.1 | 1728.6 | 1793.9 | 1711.9 | 1674.9 | 1698.1 | 1799.1 | 1883.2 |
| 52.5° | 1934.9 | 1814.0 | 1713.5 | 1736.2 | 1862.8 | 1833.1 | 1824.2 | 1730.5 | 1727.6 | 1808.8 | 1904.3 |
| 55°   | 2057.3 | 1921.0 | 1832.3 | 1904.3 | 1949.2 | 1912.4 | 1898.3 | 1784.2 | 1713.8 | 1758.9 | 1849.0 |
| 57.5° | 2177.4 | 2027.0 | 1938.8 | 1953.7 | 2010.6 | 1974.0 | 1868.3 | 1692.6 | 1604.6 | 1613.5 | 1704.6 |
| 60°   | 2289.9 | 2124.4 | 2051.5 | 2037.2 | 2082.6 | 1939.3 | 1754.2 | 1524.8 | 1408.1 | 1386.7 | 1465.5 |
| 62.5° | 2386.2 | 2205.8 | 2136.9 | 2097.8 | 2141.1 | 1940.6 | 1576.4 | 1255.4 | 1127.2 | 1054.6 | 1116.0 |
| 65°   | 2462.7 | 2273.4 | 2224.4 | 2204.0 | 2219.7 | 1822.6 | 1299.5 | 921.7  | 764.6  | 684.2  | 720.0  |
| 67.5° | 2513.6 | 2311.3 | 2288.8 | 2315.5 | 2106.6 | 1518.0 | 962.7  | 590.0  | 444.6  | 400.7  | 423.2  |
| 70°   | 2566.3 | 2344.7 | 2343.9 | 2253.3 | 1786.3 | 1046.5 | 562.3  | 340.1  | 258.7  | 241.7  | 255.8  |
| 72.5° | 2548.6 | 2305.0 | 2316.8 | 1970.6 | 1237.9 | 559.4  | 296.8  | 192.4  | 175.2  | 181.2  | 193.7  |
| 75°   | 2360.1 | 2095.7 | 2039.0 | 1416.7 | 702.2  | 260.0  | 171.0  | 145.7  | 144.6  | 153.8  | 166.0  |
| 77.5° | 1711.9 | 1459.5 | 1309.7 | 803.0  | 301.0  | 140.7  | 125.8  | 121.6  | 121.6  | 129.0  | 139.9  |
| 80°   | 564.4  | 488.4  | 509.0  | 310.6  | 142.3  | 97.1   | 98.2   | 100.0  | 99.5   | 101.3  | 110.4  |
| 82.5° | 92.7   | 96.1   | 148.5  | 126.9  | 85.9   | 66.3   | 74.1   | 77.8   | 78.8   | 70.5   | 80.1   |
| 85°   | 32.9   | 37.1   | 63.2   | 58.7   | 49.6   | 33.4   | 48.8   | 54.6   | 53.8   | 47.0   | 51.9   |
| 87.5° | 10.2   | 13.1   | 23.0   | 17.8   | 14.9   | 9.1    | 18.3   | 21.4   | 26.9   | 11.0   | 9.9    |
| 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)