

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: P367353

Luminaire Tested: **MSA-SA2B-760-U-SL3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367353
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2B-760-U-SL3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8180 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

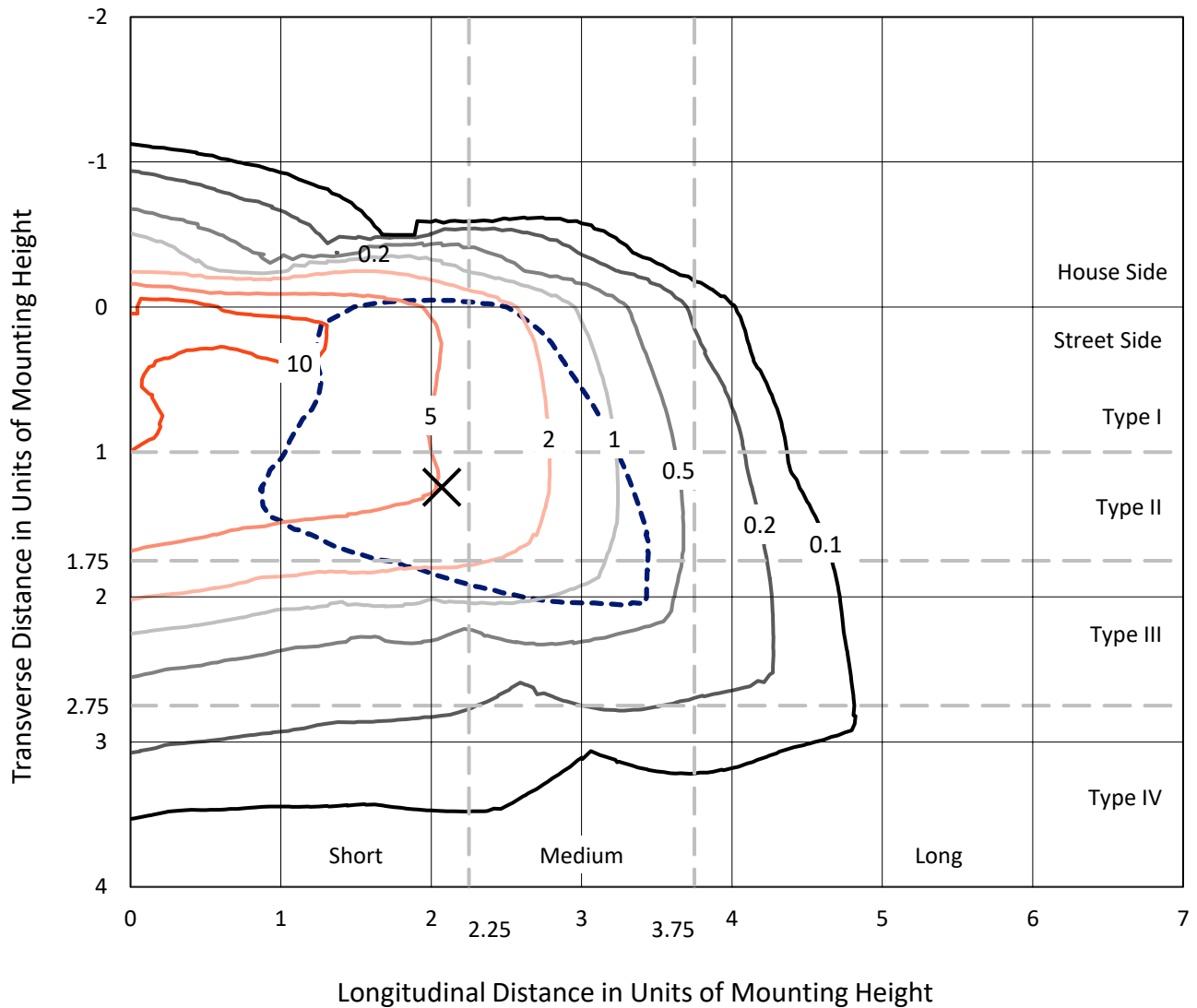
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P367353
 CATALOG NUMBER: MSA-SA2B-760-U-SL3-HSS

Iso-Footcandle Lines of Horizontal Illumination

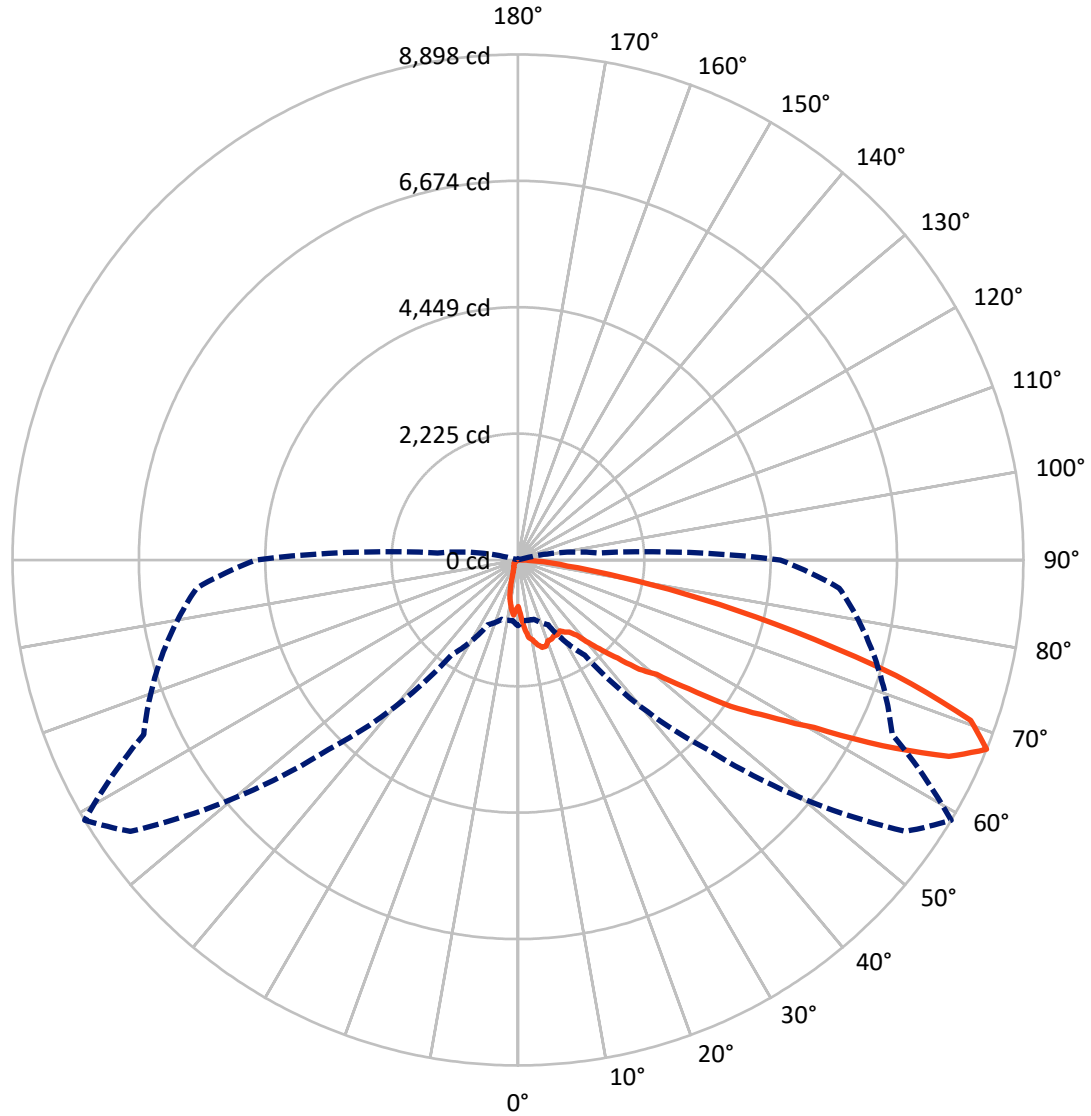
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.6 fc
 Type III - Short - N/A

REPORT NUMBER: P367353
CATALOG NUMBER: MSA-SA2B-760-U-SL3-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P367353
 CATALOG NUMBER: MSA-SA2B-760-U-SL3-HSS

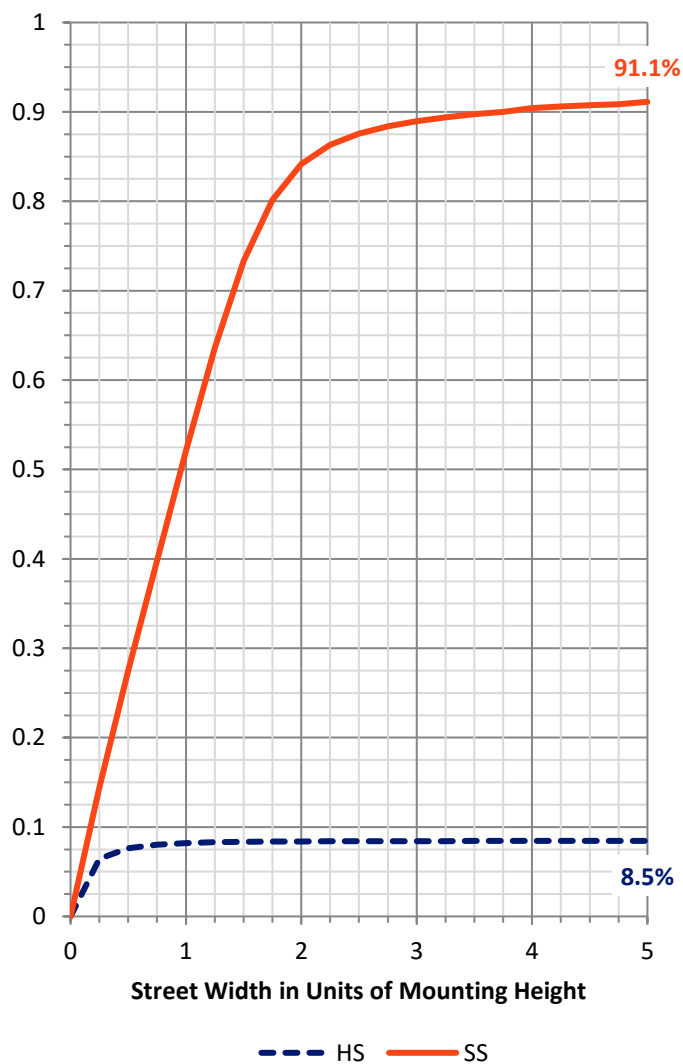
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 695.7 | 0.0 | 695.7 |
| | % Fixture | 8.5 | 0.0 | 8.5 |
| Street Side | Lumens | 7484.3 | 0.0 | 7484.3 |
| | % Fixture | 91.5 | 0.0 | 91.5 |
| Total | Lumens | 8180.0 | 0.0 | 8180.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 99.5 | 1.2 |
| 10°-20° | 280.2 | 3.4 |
| 20°-30° | 416.8 | 5.1 |
| 30°-40° | 643.0 | 7.9 |
| 40°-50° | 1147.5 | 14.0 |
| 50°-60° | 2042.1 | 25.0 |
| 60°-70° | 2378.3 | 29.1 |
| 70°-80° | 1057.7 | 12.9 |
| 80°-90° | 114.9 | 1.4 |
| 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° | 8180.0 | 100.0 |
| 0°-180° | 8180.0 | 100.0 |

Coefficient of Utilization



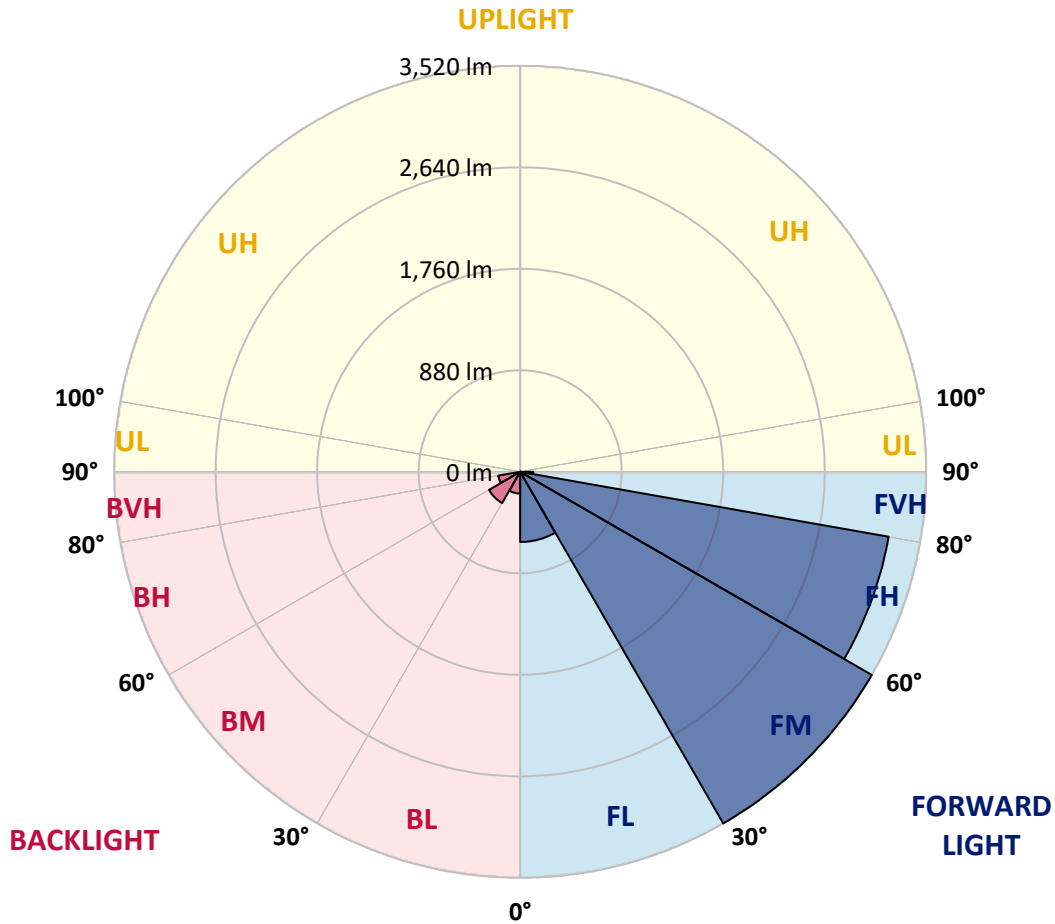
REPORT NUMBER: P367353
 CATALOG NUMBER: MSA-SA2B-760-U-SL3-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 608.4 | 7.4 | | | |
| FM (30°-60°) | 3519.9 | 43.0 | | | |
| FH (60°-80°) | 3243.3 | 39.6 | | | G2/5000 |
| FVH (80°-90°) | 112.8 | 1.4 | | | G2/225 |
| BL (0°-30°) | 188.1 | 2.3 | B1/500 | | |
| BM (30°-60°) | 312.8 | 3.8 | B1/1000 | | |
| BH (60°-80°) | 192.7 | 2.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 2.0 | 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 III Short





REPORT NUMBER: P367353

CATALOG NUMBER: MSA-SA2B-760-U-SL3-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 59° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 |
| 2.5° | 1066.9 | 1026.8 | 969.6 | 986.6 | 1001.9 | 1016.4 | 992.4 | 978.7 | 972.1 | 913.3 | 987.0 |
| 5° | 1310.1 | 1260.0 | 1233.9 | 1227.2 | 1210.7 | 1173.8 | 1235.1 | 1207.8 | 1216.9 | 1228.5 | 1252.5 |
| 7.5° | 1384.2 | 1361.4 | 1323.7 | 1337.8 | 1274.9 | 1269.5 | 1354.4 | 1378.0 | 1409.1 | 1387.9 | 1416.9 |
| 10° | 1346.1 | 1306.8 | 1324.6 | 1319.6 | 1317.1 | 1372.6 | 1432.3 | 1433.5 | 1479.9 | 1502.3 | 1404.1 |
| 12.5° | 1270.7 | 1275.3 | 1339.1 | 1334.1 | 1416.9 | 1527.9 | 1541.6 | 1527.1 | 1602.9 | 1564.0 | 1549.1 |
| 15° | 1320.8 | 1358.1 | 1322.9 | 1334.9 | 1364.3 | 1503.1 | 1551.5 | 1596.3 | 1667.9 | 1691.1 | 1590.5 |
| 17.5° | 1381.3 | 1385.0 | 1320.8 | 1305.9 | 1380.1 | 1444.7 | 1559.0 | 1595.9 | 1602.9 | 1806.3 | 1683.7 |
| 20° | 1348.6 | 1380.5 | 1303.9 | 1209.8 | 1325.0 | 1412.8 | 1528.8 | 1517.2 | 1564.4 | 1840.2 | 1704.8 |
| 22.5° | 1435.6 | 1390.0 | 1291.9 | 1221.0 | 1260.0 | 1339.9 | 1438.1 | 1513.9 | 1584.7 | 1759.1 | 1732.1 |
| 25° | 1443.9 | 1427.3 | 1339.9 | 1276.9 | 1270.3 | 1290.6 | 1427.3 | 1476.2 | 1587.2 | 1832.0 | 1708.9 |
| 27.5° | 1537.1 | 1518.0 | 1339.1 | 1345.3 | 1283.2 | 1220.6 | 1375.1 | 1489.8 | 1632.3 | 1787.6 | 1758.2 |
| 30° | 1657.2 | 1658.8 | 1428.1 | 1447.6 | 1359.0 | 1258.3 | 1417.8 | 1449.2 | 1663.0 | 1858.5 | 1794.7 |
| 32.5° | 1778.9 | 1829.1 | 1604.1 | 1501.0 | 1473.3 | 1401.2 | 1364.7 | 1510.1 | 1629.4 | 1979.4 | 1885.8 |
| 35° | 1964.1 | 1998.0 | 1749.1 | 1656.8 | 1547.8 | 1465.8 | 1508.9 | 1561.1 | 1749.9 | 2139.7 | 2005.5 |
| 37.5° | 2277.6 | 2216.3 | 2009.2 | 1848.5 | 1822.4 | 1701.5 | 1723.0 | 1676.2 | 1873.0 | 2328.6 | 2242.4 |
| 40° | 2454.1 | 2398.6 | 2183.2 | 2104.9 | 1938.4 | 1957.0 | 1889.1 | 1916.4 | 2051.5 | 2525.3 | 2458.2 |
| 42.5° | 2638.0 | 2584.9 | 2396.1 | 2340.6 | 2181.9 | 2104.9 | 2074.3 | 2172.4 | 2325.3 | 2852.9 | 2767.6 |
| 45° | 2822.7 | 2688.1 | 2608.1 | 2635.9 | 2564.7 | 2412.2 | 2376.6 | 2464.0 | 2624.3 | 3255.5 | 3094.0 |
| 47.5° | 2978.4 | 2864.9 | 2804.9 | 2792.0 | 2764.3 | 2975.9 | 2831.0 | 2869.5 | 2940.3 | 3611.7 | 3500.7 |
| 50° | 3259.2 | 3147.4 | 3053.4 | 3027.3 | 3162.3 | 3462.6 | 3238.9 | 3164.4 | 3306.0 | 4042.1 | 3972.1 |
| 52.5° | 3664.7 | 3522.3 | 3372.7 | 3373.1 | 3627.9 | 3792.7 | 3898.8 | 3767.9 | 3794.4 | 4515.5 | 4484.4 |
| 55° | 3990.7 | 3809.7 | 3685.9 | 3783.6 | 4163.4 | 4255.8 | 4660.4 | 4545.7 | 4511.3 | 4954.5 | 4916.4 |
| 57.5° | 4035.4 | 3818.4 | 3759.6 | 3931.1 | 4450.9 | 5040.7 | 5476.0 | 5189.4 | 5136.8 | 5321.9 | 5397.7 |
| 60° | 3617.9 | 3387.6 | 3432.0 | 3707.8 | 4544.5 | 5519.1 | 6224.8 | 5990.8 | 5656.6 | 5752.2 | 5804.4 |
| 62.5° | 2698.4 | 2514.5 | 2638.8 | 3004.1 | 4183.7 | 5839.6 | 7091.7 | 7200.2 | 6259.6 | 6075.3 | 6064.1 |
| 65° | 1750.8 | 1635.6 | 1717.2 | 2016.7 | 3166.1 | 5803.2 | 7866.3 | 8336.8 | 6734.7 | 6338.7 | 6145.7 |
| 67.5° | 1158.1 | 1070.7 | 1082.3 | 1259.5 | 2047.3 | 4719.7 | 8329.3 | 8898.0 | 7269.0 | 6488.3 | 5678.1 |
| 70° | 863.2 | 794.4 | 798.6 | 894.6 | 1215.2 | 3112.6 | 7683.6 | 8455.2 | 7464.1 | 5970.1 | 4583.0 |
| 72.5° | 622.5 | 576.5 | 615.1 | 721.9 | 968.4 | 1646.0 | 5727.0 | 6963.3 | 6508.5 | 4708.9 | 3087.8 |
| 75° | 431.2 | 400.9 | 463.9 | 603.9 | 883.9 | 1021.8 | 3784.4 | 5012.5 | 4561.9 | 2954.4 | 1395.8 |
| 77.5° | 239.0 | 229.9 | 320.6 | 492.1 | 802.3 | 837.5 | 2318.2 | 3293.6 | 2530.3 | 1059.1 | 332.2 |
| 80° | 104.4 | 101.1 | 155.3 | 369.5 | 674.3 | 756.7 | 1305.1 | 1826.2 | 995.3 | 188.9 | 107.3 |
| 82.5° | 44.7 | 43.1 | 66.3 | 222.4 | 490.0 | 632.9 | 804.8 | 878.9 | 342.5 | 58.4 | 60.9 |
| 85° | 7.9 | 8.7 | 26.5 | 117.2 | 298.2 | 321.4 | 582.8 | 520.2 | 172.3 | 27.8 | 43.5 |
| 87.5° | 0.0 | 0.0 | 4.1 | 22.8 | 55.9 | 91.9 | 252.7 | 182.2 | 32.7 | 9.1 | 7.5 |
| 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: P367353
 CATALOG NUMBER: MSA-SA2B-760-U-SL3-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 | 818.4 |
| 2.5° | 997.4 | 974.2 | 885.9 | 874.8 | 862.8 | 844.9 | 838.3 | 800.2 | 795.2 | 844.1 | 844.1 |
| 5° | 1241.3 | 1158.5 | 1074.4 | 1008.1 | 948.9 | 866.9 | 843.7 | 819.7 | 800.2 | 795.2 | 810.6 |
| 7.5° | 1370.1 | 1269.1 | 1136.9 | 968.4 | 831.7 | 712.8 | 663.1 | 628.3 | 589.4 | 601.0 | 607.2 |
| 10° | 1363.1 | 1255.8 | 1087.2 | 870.6 | 719.0 | 587.7 | 461.4 | 387.7 | 346.7 | 326.4 | 323.9 |
| 12.5° | 1432.3 | 1331.2 | 1053.7 | 792.8 | 599.3 | 417.9 | 290.3 | 237.7 | 207.5 | 207.9 | 205.4 |
| 15° | 1472.4 | 1362.3 | 1014.8 | 694.2 | 422.1 | 268.8 | 201.3 | 189.7 | 185.6 | 190.1 | 187.6 |
| 17.5° | 1543.3 | 1395.0 | 926.5 | 547.1 | 290.3 | 203.0 | 185.1 | 180.6 | 186.0 | 195.5 | 193.0 |
| 20° | 1537.9 | 1338.2 | 801.0 | 385.6 | 214.5 | 182.7 | 175.2 | 168.2 | 179.3 | 189.3 | 187.6 |
| 22.5° | 1532.9 | 1282.7 | 683.0 | 284.5 | 179.3 | 166.5 | 160.3 | 157.4 | 163.2 | 174.8 | 177.3 |
| 25° | 1489.0 | 1255.4 | 563.3 | 213.7 | 162.4 | 151.2 | 148.3 | 145.8 | 147.9 | 157.4 | 157.0 |
| 27.5° | 1542.8 | 1186.2 | 434.9 | 179.3 | 150.4 | 137.1 | 134.6 | 130.5 | 126.3 | 134.6 | 135.9 |
| 30° | 1531.7 | 1195.8 | 340.9 | 157.8 | 138.3 | 120.5 | 121.4 | 112.7 | 105.2 | 112.7 | 112.7 |
| 32.5° | 1572.3 | 1126.2 | 272.9 | 143.3 | 126.3 | 113.5 | 103.1 | 94.0 | 88.6 | 93.2 | 94.0 |
| 35° | 1631.5 | 1129.1 | 213.7 | 134.2 | 116.0 | 101.1 | 88.6 | 79.5 | 74.6 | 76.6 | 77.9 |
| 37.5° | 1829.9 | 1109.2 | 178.5 | 127.2 | 112.2 | 93.6 | 80.8 | 68.8 | 65.4 | 67.9 | 69.2 |
| 40° | 1959.1 | 1162.2 | 157.4 | 123.4 | 102.7 | 86.2 | 69.2 | 60.5 | 57.6 | 58.8 | 60.9 |
| 42.5° | 2202.7 | 1191.6 | 147.0 | 119.3 | 94.0 | 73.7 | 59.2 | 54.3 | 50.1 | 51.8 | 53.4 |
| 45° | 2463.2 | 1241.7 | 139.2 | 114.7 | 87.4 | 64.6 | 52.2 | 48.0 | 42.7 | 43.1 | 44.7 |
| 47.5° | 2783.3 | 1361.0 | 130.1 | 106.9 | 78.3 | 58.8 | 46.4 | 40.2 | 35.2 | 34.8 | 36.9 |
| 50° | 3213.3 | 1520.5 | 121.8 | 96.9 | 72.5 | 53.8 | 40.6 | 32.7 | 28.6 | 27.3 | 29.0 |
| 52.5° | 3672.2 | 1726.7 | 113.1 | 89.9 | 65.4 | 47.2 | 34.8 | 26.5 | 22.8 | 22.0 | 23.2 |
| 55° | 4127.0 | 1924.7 | 104.8 | 85.3 | 58.0 | 40.6 | 29.4 | 22.0 | 18.6 | 17.8 | 18.6 |
| 57.5° | 4645.1 | 2138.9 | 94.0 | 76.2 | 50.9 | 35.2 | 24.4 | 18.2 | 15.3 | 14.5 | 14.9 |
| 60° | 5035.3 | 2214.2 | 84.9 | 66.3 | 44.3 | 31.1 | 20.7 | 14.5 | 12.4 | 11.6 | 12.0 |
| 62.5° | 5220.4 | 2091.2 | 76.2 | 57.6 | 38.9 | 26.9 | 17.4 | 12.0 | 10.4 | 9.5 | 9.5 |
| 65° | 5172.4 | 1818.7 | 67.5 | 49.3 | 33.5 | 22.4 | 13.7 | 10.4 | 9.1 | 7.9 | 7.5 |
| 67.5° | 4617.4 | 1423.1 | 57.6 | 41.4 | 28.2 | 18.2 | 11.6 | 9.9 | 8.3 | 7.5 | 6.2 |
| 70° | 3661.8 | 1030.5 | 46.8 | 34.4 | 23.6 | 14.9 | 9.1 | 9.1 | 7.9 | 7.5 | 5.8 |
| 72.5° | 2400.2 | 648.6 | 38.1 | 27.8 | 19.5 | 11.6 | 7.0 | 8.3 | 7.5 | 7.5 | 5.4 |
| 75° | 1040.0 | 231.9 | 30.6 | 22.4 | 16.2 | 7.9 | 6.2 | 7.5 | 7.9 | 7.5 | 6.2 |
| 77.5° | 243.5 | 72.1 | 24.0 | 17.8 | 13.3 | 5.4 | 6.2 | 7.5 | 7.9 | 7.0 | 5.4 |
| 80° | 91.5 | 30.6 | 15.7 | 11.6 | 10.4 | 3.3 | 5.4 | 4.6 | 4.1 | 2.9 | 0.8 |
| 82.5° | 55.5 | 12.8 | 8.3 | 5.8 | 5.0 | 0.8 | 2.5 | 1.7 | 0.8 | 0.8 | 0.0 |
| 85° | 39.3 | 6.2 | 4.6 | 4.1 | 2.5 | 0.0 | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 |
| 87.5° | 5.4 | 1.7 | 2.1 | 2.1 | 1.7 | 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)