

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: P367713

Luminaire Tested: **MSA-SA3A-740-U-T2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367713
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3A-740-U-T2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8847 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G2

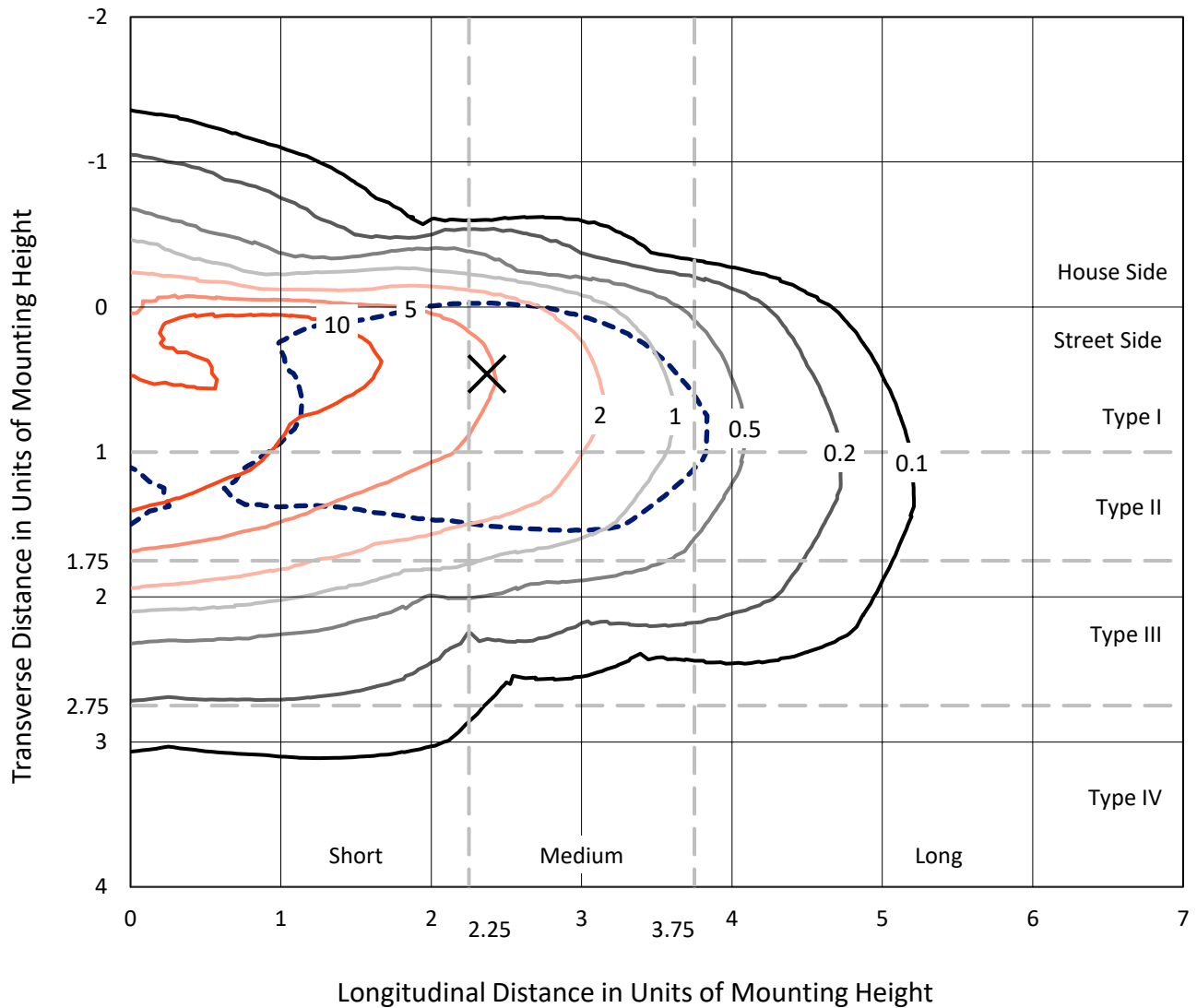
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P367713
 CATALOG NUMBER: MSA-SA3A-740-U-T2-HSS

Iso-Footcandle Lines of Horizontal Illumination

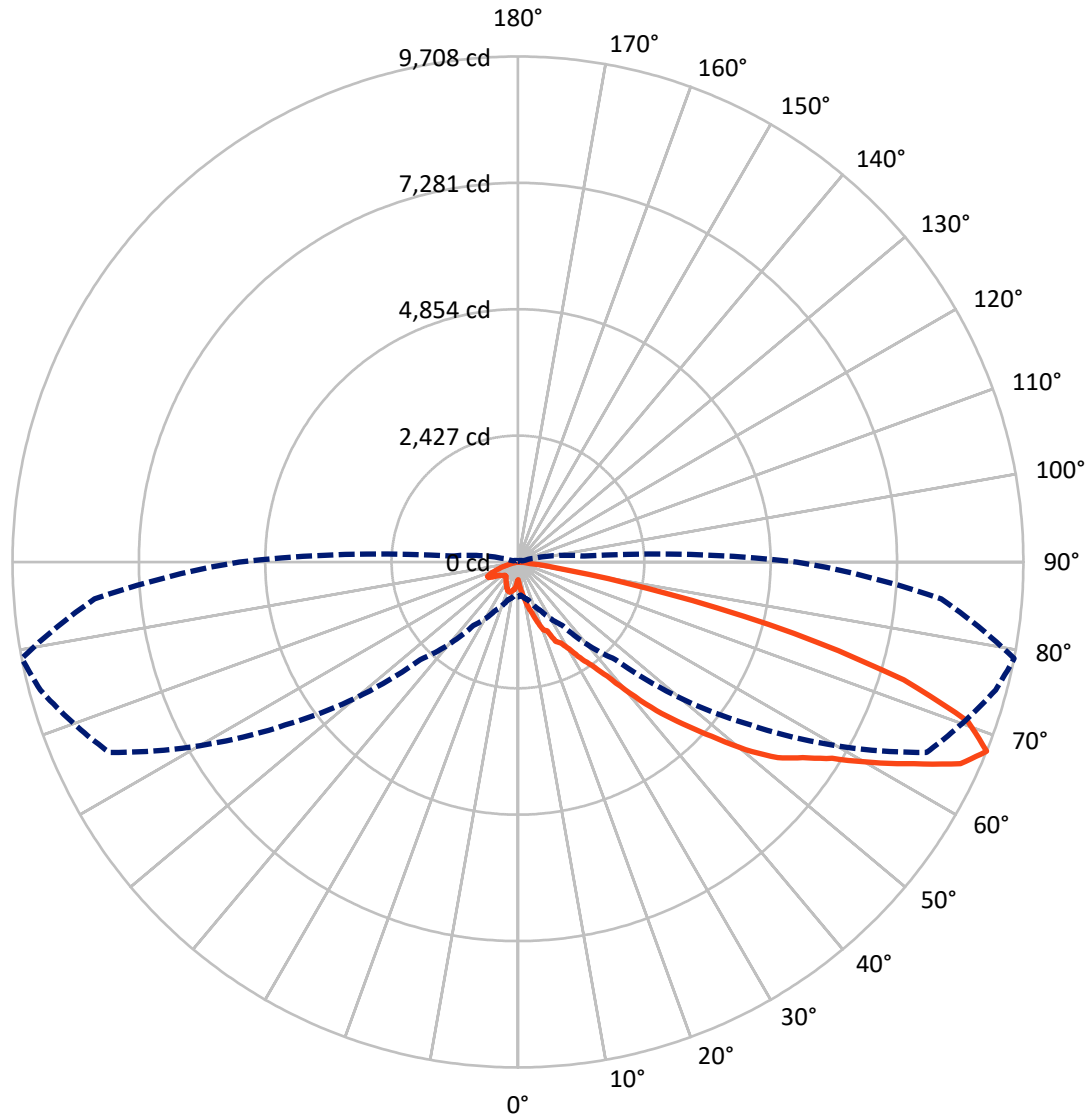
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.6 fc
 Type II - Medium - N/A

REPORT NUMBER: P367713
CATALOG NUMBER: MSA-SA3A-740-U-T2-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P367713

CATALOG NUMBER: MSA-SA3A-740-U-T2-HSS

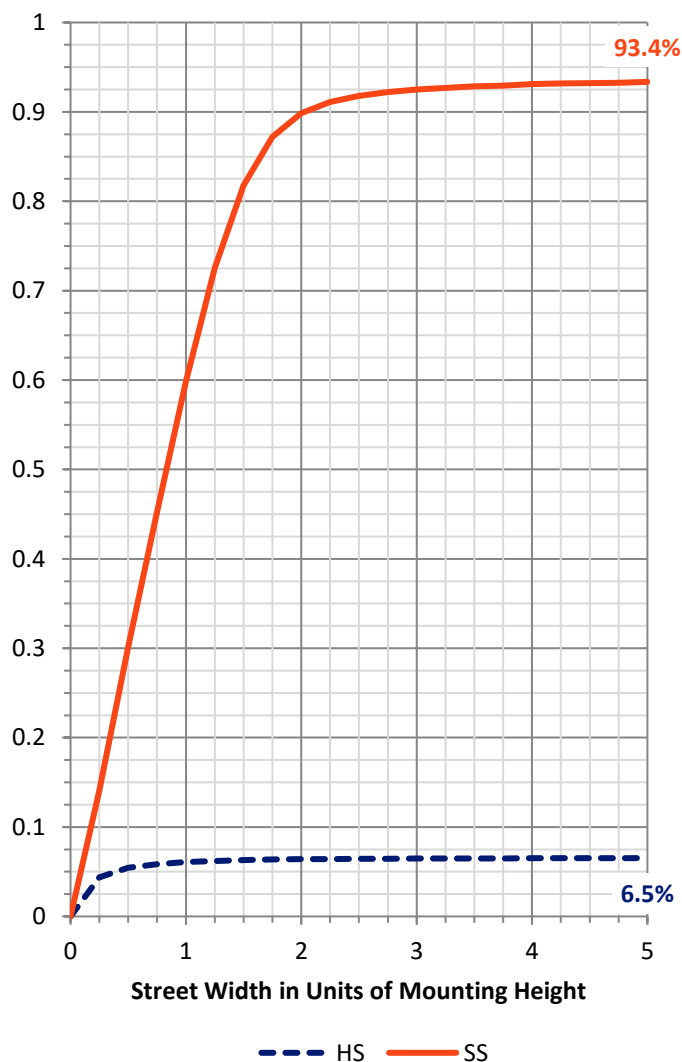
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 581.3 | 0.0 | 581.3 |
| | % Fixture | 6.6 | 0.0 | 6.6 |
| Street Side | Lumens | 8265.7 | 0.0 | 8265.7 |
| | % Fixture | 93.4 | 0.0 | 93.4 |
| Total | Lumens | 8847.0 | 0.0 | 8847.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 49.6 | 0.6 |
| 10°-20° | 197.7 | 2.2 |
| 20°-30° | 381.4 | 4.3 |
| 30°-40° | 749.2 | 8.5 |
| 40°-50° | 1500.7 | 17.0 |
| 50°-60° | 2398.7 | 27.1 |
| 60°-70° | 2413.5 | 27.3 |
| 70°-80° | 1088.8 | 12.3 |
| 80°-90° | 67.4 | 0.8 |
| 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° | 8847.0 | 100.0 |
| 0°-180° | 8847.0 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P367713

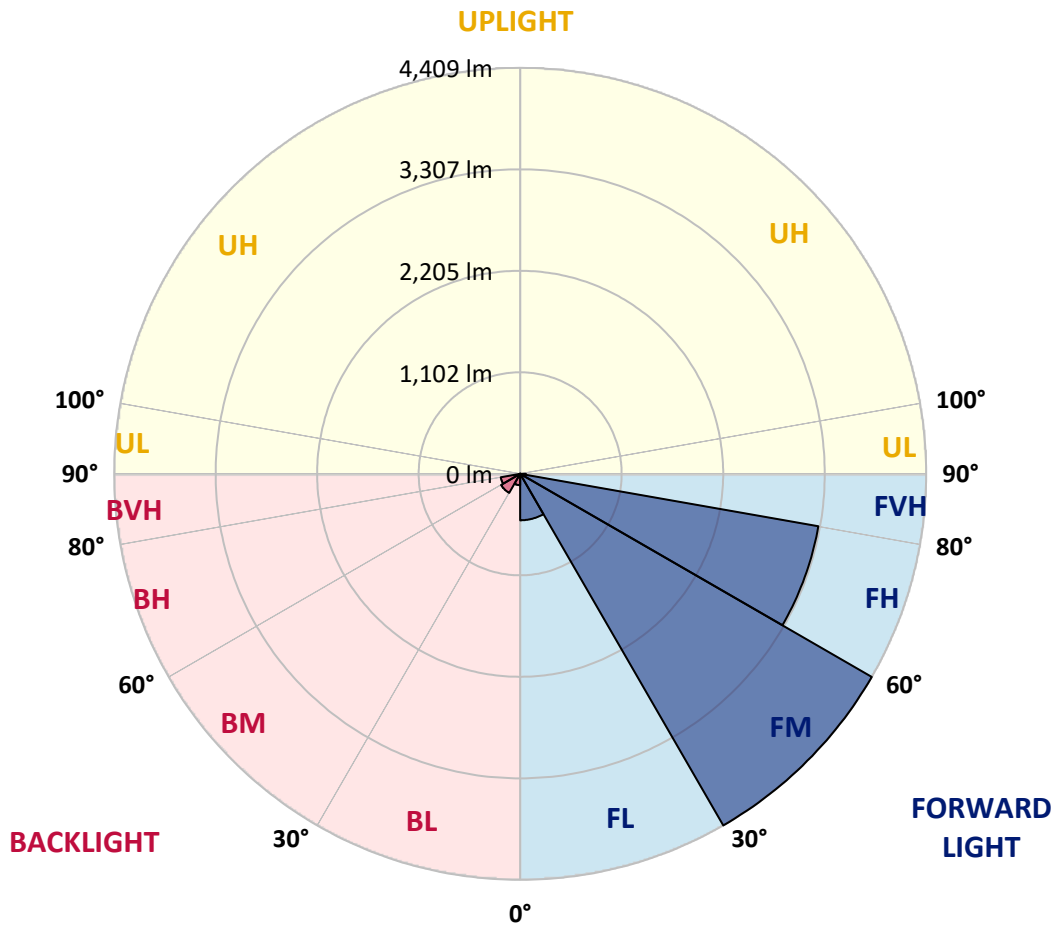
CATALOG NUMBER: MSA-SA3A-740-U-T2-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 505.1 | 5.7 | | | |
| FM (30°-60°) | 4409.5 | 49.8 | | | |
| FH (60°-80°) | 3288.1 | 37.2 | | | G2/5000 |
| FVH (80°-90°) | 63.1 | 0.7 | | | G1/100 |
| BL (0°-30°) | 123.6 | 1.4 | B1/500 | | |
| BM (30°-60°) | 239.2 | 2.7 | B1/1000 | | |
| BH (60°-80°) | 214.3 | 2.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 4.3 | 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 II Medium





REPORT NUMBER: P367713
 CATALOG NUMBER: MSA-SA3A-740-U-T2-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 79° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 |
| 2.5° | 460.4 | 443.8 | 417.0 | 432.1 | 431.1 | 438.9 | 424.3 | 408.2 | 382.4 | 408.2 | 410.2 |
| 5° | 662.8 | 632.1 | 612.5 | 608.6 | 587.2 | 567.2 | 562.8 | 546.2 | 533.5 | 510.6 | 531.1 |
| 7.5° | 825.7 | 811.5 | 776.9 | 773.0 | 720.3 | 691.1 | 700.3 | 693.0 | 644.7 | 620.8 | 640.8 |
| 10° | 894.9 | 870.5 | 875.4 | 870.5 | 848.1 | 856.4 | 837.4 | 815.4 | 776.9 | 737.4 | 687.6 |
| 12.5° | 921.7 | 917.8 | 958.3 | 953.4 | 1006.1 | 1069.5 | 1027.1 | 990.5 | 901.3 | 891.5 | 823.7 |
| 15° | 979.3 | 1003.7 | 997.8 | 1018.3 | 1052.0 | 1159.7 | 1158.8 | 1167.5 | 1072.9 | 1022.2 | 924.2 |
| 17.5° | 1030.5 | 1048.5 | 1019.3 | 1042.7 | 1134.4 | 1199.7 | 1287.0 | 1252.9 | 1263.6 | 1211.9 | 1060.2 |
| 20° | 1008.6 | 1029.0 | 999.8 | 985.6 | 1147.1 | 1270.9 | 1387.5 | 1362.6 | 1427.0 | 1394.8 | 1185.6 |
| 22.5° | 1145.6 | 1107.1 | 1033.4 | 987.6 | 1108.0 | 1269.5 | 1423.1 | 1527.0 | 1515.8 | 1436.7 | 1302.1 |
| 25° | 1314.8 | 1291.4 | 1203.1 | 1122.2 | 1132.9 | 1260.7 | 1535.3 | 1687.9 | 1721.1 | 1687.4 | 1412.8 |
| 27.5° | 1543.1 | 1537.7 | 1357.3 | 1322.1 | 1217.8 | 1222.2 | 1552.8 | 1890.8 | 1815.2 | 1762.5 | 1542.1 |
| 30° | 1841.0 | 1798.6 | 1584.5 | 1538.7 | 1384.6 | 1309.0 | 1660.1 | 2065.9 | 2010.3 | 1938.6 | 1663.5 |
| 32.5° | 2161.5 | 2167.8 | 1894.7 | 1743.5 | 1619.6 | 1529.9 | 1617.7 | 2147.8 | 2251.7 | 2193.6 | 1815.2 |
| 35° | 2525.3 | 2553.6 | 2219.5 | 2042.0 | 1801.1 | 1668.9 | 1800.1 | 2399.5 | 2585.8 | 2433.1 | 2018.6 |
| 37.5° | 3085.6 | 3084.7 | 2694.5 | 2340.9 | 2165.8 | 2022.5 | 2103.9 | 2628.2 | 2996.4 | 2781.8 | 2383.4 |
| 40° | 3578.7 | 3471.4 | 3108.6 | 2702.3 | 2429.2 | 2390.2 | 2331.2 | 2941.3 | 3434.8 | 3305.6 | 2707.7 |
| 42.5° | 3946.9 | 3871.3 | 3432.9 | 3116.9 | 2778.4 | 2654.5 | 2633.5 | 3400.2 | 4082.0 | 3901.1 | 3170.5 |
| 45° | 4387.3 | 4139.5 | 3816.7 | 3531.9 | 3187.1 | 3151.0 | 3101.7 | 3865.9 | 4835.0 | 4427.3 | 3572.8 |
| 47.5° | 4781.8 | 4548.7 | 4243.4 | 3877.7 | 3481.6 | 3779.1 | 3589.9 | 4275.1 | 5382.7 | 4999.8 | 4016.6 |
| 50° | 5114.0 | 4866.2 | 4524.3 | 4245.9 | 4076.1 | 4278.0 | 3962.5 | 4612.1 | 5974.2 | 5664.1 | 4431.7 |
| 52.5° | 5283.2 | 5002.8 | 4738.4 | 4566.3 | 4670.2 | 4624.8 | 4467.8 | 5020.3 | 6478.5 | 6246.4 | 4799.4 |
| 55° | 5144.2 | 4870.1 | 4759.4 | 4844.7 | 5160.3 | 5029.1 | 5041.8 | 5652.9 | 6954.5 | 6634.6 | 5119.3 |
| 57.5° | 4527.7 | 4277.6 | 4326.8 | 4560.4 | 5165.2 | 5508.5 | 5696.3 | 6267.4 | 7336.4 | 7118.4 | 5612.9 |
| 60° | 3425.1 | 3223.7 | 3406.1 | 3820.6 | 4679.4 | 5412.9 | 6160.5 | 6881.8 | 7882.1 | 7813.8 | 6360.0 |
| 62.5° | 2091.7 | 1982.5 | 2241.0 | 2757.9 | 3728.9 | 4944.2 | 6431.2 | 7701.2 | 8465.9 | 8538.5 | 7152.5 |
| 65° | 1067.1 | 1017.8 | 1233.4 | 1687.9 | 2519.4 | 4061.5 | 6235.7 | 8210.3 | 9069.2 | 9337.4 | 7908.0 |
| 67.5° | 672.0 | 640.3 | 755.4 | 1029.5 | 1486.5 | 2649.2 | 5459.7 | 8655.6 | 9495.4 | 9707.5 | 8160.1 |
| 70° | 465.7 | 445.8 | 545.2 | 706.7 | 937.8 | 1427.0 | 4053.7 | 8240.1 | 9157.4 | 9167.2 | 7550.0 |
| 72.5° | 295.5 | 279.9 | 377.0 | 523.3 | 692.0 | 736.9 | 2323.9 | 6465.8 | 7838.7 | 7748.5 | 6114.2 |
| 75° | 191.7 | 183.9 | 239.5 | 383.3 | 531.6 | 454.5 | 1148.5 | 4362.9 | 5620.7 | 5479.2 | 4061.0 |
| 77.5° | 137.5 | 132.7 | 160.5 | 256.0 | 378.5 | 318.0 | 515.0 | 2600.4 | 3222.7 | 2913.5 | 1971.3 |
| 80° | 82.9 | 82.4 | 116.1 | 160.5 | 269.2 | 224.3 | 238.0 | 1180.7 | 1249.5 | 1018.8 | 602.3 |
| 82.5° | 41.5 | 42.9 | 64.9 | 103.4 | 173.1 | 146.8 | 108.8 | 393.1 | 335.5 | 247.3 | 121.9 |
| 85° | 9.8 | 12.2 | 34.1 | 71.2 | 86.8 | 58.5 | 51.7 | 102.9 | 92.2 | 69.7 | 35.6 |
| 87.5° | 0.0 | 0.0 | 10.7 | 17.1 | 23.4 | 9.8 | 17.6 | 19.5 | 24.9 | 19.5 | 7.3 |
| 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: P367713
 CATALOG NUMBER: MSA-SA3A-740-U-T2-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 | 340.9 |
| 2.5° | 410.6 | 404.8 | 369.2 | 359.9 | 358.9 | 348.7 | 351.1 | 341.4 | 341.9 | 363.8 | 363.8 |
| 5° | 523.3 | 489.2 | 455.0 | 424.8 | 404.3 | 375.0 | 364.3 | 359.9 | 356.0 | 364.8 | 370.2 |
| 7.5° | 614.5 | 564.3 | 502.8 | 437.0 | 376.0 | 334.1 | 328.2 | 317.5 | 313.6 | 322.4 | 329.2 |
| 10° | 655.0 | 592.5 | 508.2 | 412.1 | 355.0 | 320.9 | 292.6 | 277.5 | 274.6 | 274.1 | 276.5 |
| 12.5° | 740.8 | 663.3 | 514.0 | 402.8 | 340.9 | 303.3 | 271.2 | 245.8 | 222.4 | 224.8 | 222.4 |
| 15° | 809.6 | 717.9 | 514.0 | 380.4 | 306.8 | 269.2 | 212.6 | 200.0 | 196.5 | 201.9 | 197.5 |
| 17.5° | 913.5 | 772.0 | 488.2 | 340.4 | 277.5 | 209.2 | 187.8 | 186.8 | 193.6 | 201.4 | 196.5 |
| 20° | 975.9 | 779.3 | 444.8 | 294.6 | 227.8 | 181.4 | 173.6 | 165.8 | 175.6 | 181.9 | 179.5 |
| 22.5° | 1040.7 | 779.8 | 401.4 | 270.2 | 183.4 | 165.3 | 152.6 | 146.3 | 147.8 | 153.6 | 154.6 |
| 25° | 1068.5 | 760.8 | 360.9 | 238.0 | 166.3 | 147.8 | 134.6 | 127.8 | 125.3 | 128.3 | 127.3 |
| 27.5° | 1144.1 | 724.2 | 317.0 | 202.9 | 158.0 | 131.2 | 119.0 | 110.7 | 103.4 | 108.3 | 109.2 |
| 30° | 1154.9 | 712.5 | 293.1 | 180.4 | 147.3 | 116.1 | 105.3 | 96.6 | 91.2 | 98.0 | 98.0 |
| 32.5° | 1189.0 | 648.1 | 280.9 | 171.2 | 136.1 | 107.3 | 92.7 | 86.3 | 85.3 | 89.7 | 90.2 |
| 35° | 1241.7 | 619.9 | 262.9 | 163.9 | 125.8 | 97.1 | 83.4 | 80.5 | 79.5 | 82.9 | 82.9 |
| 37.5° | 1420.2 | 584.7 | 242.9 | 157.5 | 117.0 | 91.7 | 81.0 | 76.1 | 76.6 | 79.5 | 81.4 |
| 40° | 1538.7 | 589.1 | 213.1 | 149.7 | 106.8 | 86.8 | 76.1 | 72.7 | 72.2 | 73.6 | 75.1 |
| 42.5° | 1758.6 | 592.5 | 200.0 | 141.4 | 99.0 | 81.0 | 71.2 | 68.8 | 66.8 | 68.3 | 69.7 |
| 45° | 2004.4 | 610.6 | 193.1 | 134.6 | 94.6 | 77.5 | 66.8 | 65.4 | 61.0 | 61.9 | 63.9 |
| 47.5° | 2241.4 | 676.4 | 184.8 | 124.8 | 90.7 | 75.6 | 62.4 | 59.0 | 56.1 | 55.6 | 57.5 |
| 50° | 2510.6 | 740.3 | 175.6 | 114.1 | 86.8 | 72.7 | 58.0 | 52.7 | 50.7 | 50.7 | 52.2 |
| 52.5° | 2751.6 | 801.3 | 166.8 | 106.8 | 83.9 | 67.3 | 54.1 | 48.8 | 47.3 | 47.3 | 49.3 |
| 55° | 3005.2 | 865.2 | 159.0 | 100.0 | 80.0 | 61.9 | 50.7 | 45.8 | 45.4 | 44.4 | 45.8 |
| 57.5° | 3452.9 | 1004.6 | 149.2 | 94.1 | 74.6 | 57.5 | 47.8 | 42.9 | 41.9 | 40.5 | 41.9 |
| 60° | 4104.9 | 1218.7 | 136.6 | 88.3 | 68.3 | 54.6 | 45.4 | 39.5 | 38.0 | 35.6 | 36.1 |
| 62.5° | 4742.3 | 1391.9 | 121.9 | 81.0 | 62.4 | 51.7 | 41.5 | 35.6 | 33.2 | 30.2 | 30.7 |
| 65° | 5288.6 | 1460.2 | 106.3 | 72.2 | 56.6 | 44.9 | 36.1 | 31.2 | 27.8 | 23.9 | 23.4 |
| 67.5° | 5352.9 | 1289.5 | 91.2 | 63.9 | 50.7 | 38.0 | 30.7 | 27.8 | 22.4 | 19.0 | 18.0 |
| 70° | 4817.4 | 960.8 | 76.1 | 56.6 | 43.9 | 32.2 | 26.3 | 24.4 | 21.0 | 18.0 | 16.6 |
| 72.5° | 3836.2 | 709.1 | 63.9 | 50.2 | 38.5 | 27.3 | 22.4 | 22.9 | 21.0 | 17.6 | 15.6 |
| 75° | 2537.0 | 405.8 | 52.2 | 41.9 | 32.2 | 21.9 | 20.5 | 20.5 | 20.0 | 16.6 | 14.6 |
| 77.5° | 1220.7 | 175.1 | 40.0 | 33.2 | 25.8 | 16.6 | 18.5 | 18.5 | 19.0 | 15.1 | 12.2 |
| 80° | 346.3 | 52.7 | 24.9 | 22.4 | 19.0 | 11.2 | 14.6 | 14.1 | 12.7 | 8.8 | 5.4 |
| 82.5° | 61.9 | 20.5 | 11.2 | 11.7 | 10.7 | 4.4 | 8.3 | 7.8 | 6.3 | 3.4 | 0.5 |
| 85° | 17.1 | 7.8 | 6.3 | 6.8 | 5.4 | 1.5 | 3.4 | 4.4 | 3.4 | 2.0 | 0.0 |
| 87.5° | 4.4 | 3.4 | 4.4 | 4.9 | 3.9 | 0.5 | 1.5 | 0.5 | 1.5 | 0.5 | 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)