

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: P366758

Luminaire Tested: **MSA-SA1B-730-U-SL2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366758  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1B-730-U-SL2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4582 lumens  
Efficiency: N/A  
Efficacy: 104.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2

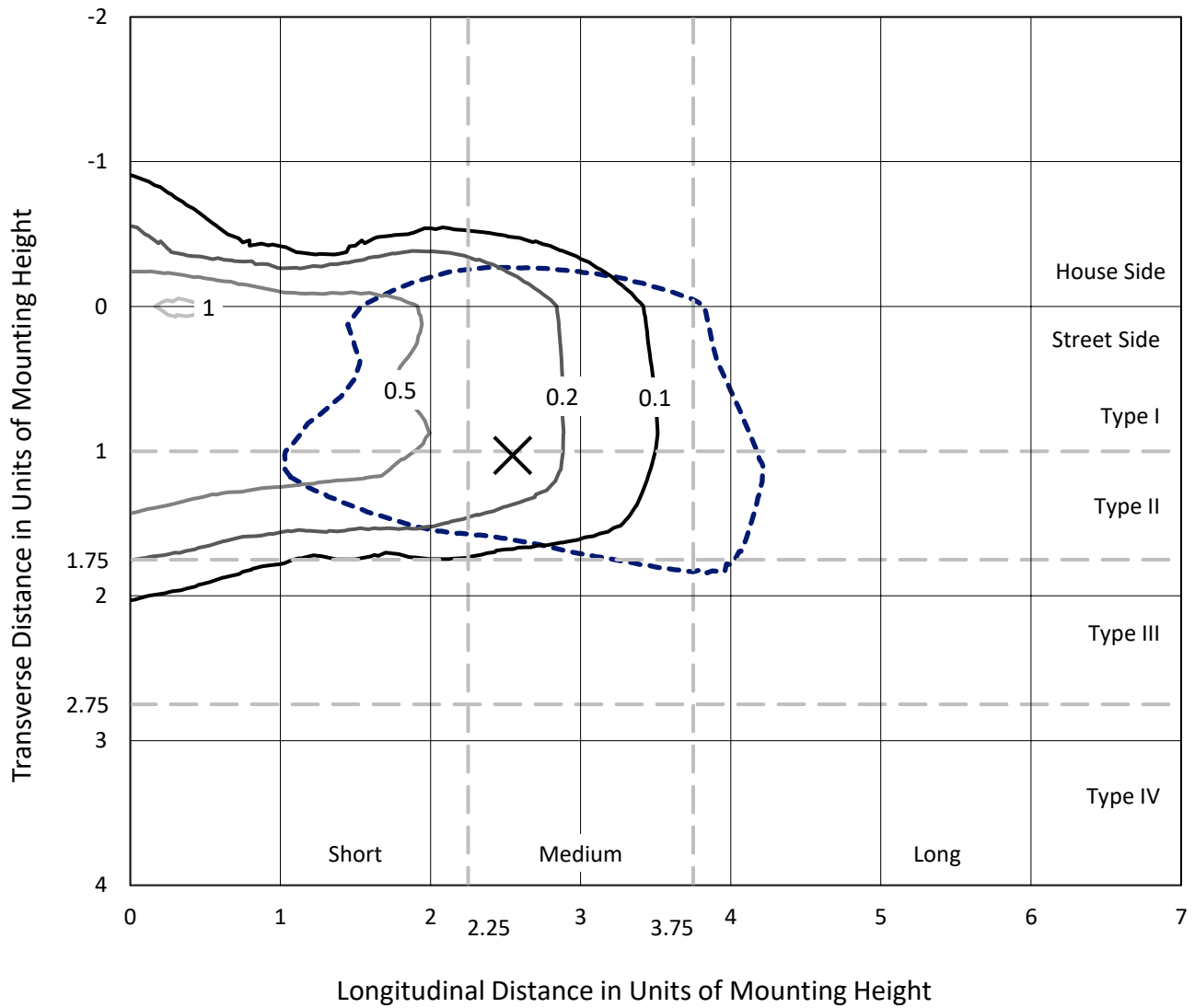
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P366758  
 CATALOG NUMBER: MSA-SA1B-730-U-SL2

### Iso-Footcandle Lines of Horizontal Illumination

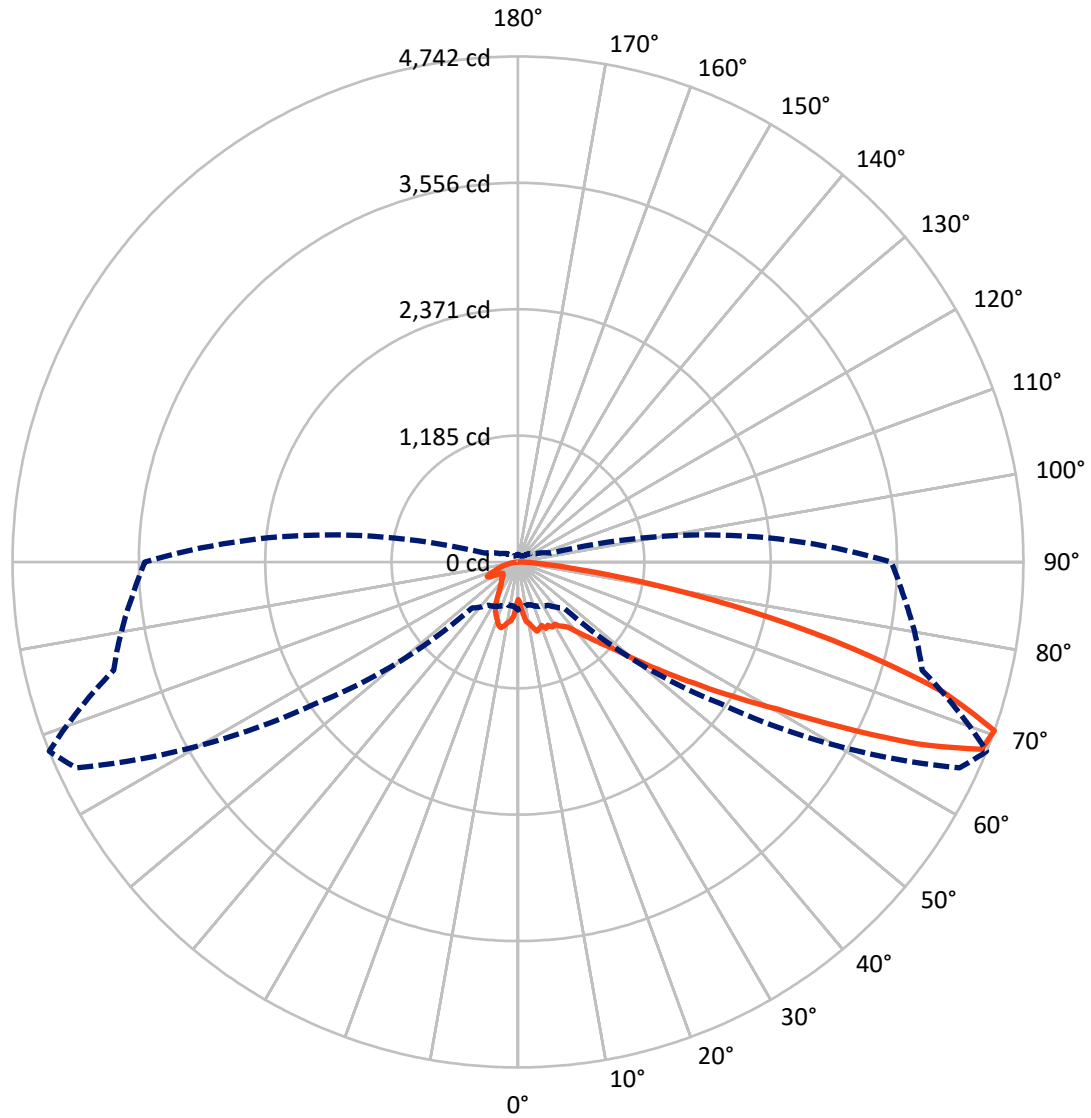
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 fc  
 Type III - Medium - N/A

REPORT NUMBER: P366758  
CATALOG NUMBER: MSA-SA1B-730-U-SL2

### Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P366758

CATALOG NUMBER: MSA-SA1B-730-U-SL2

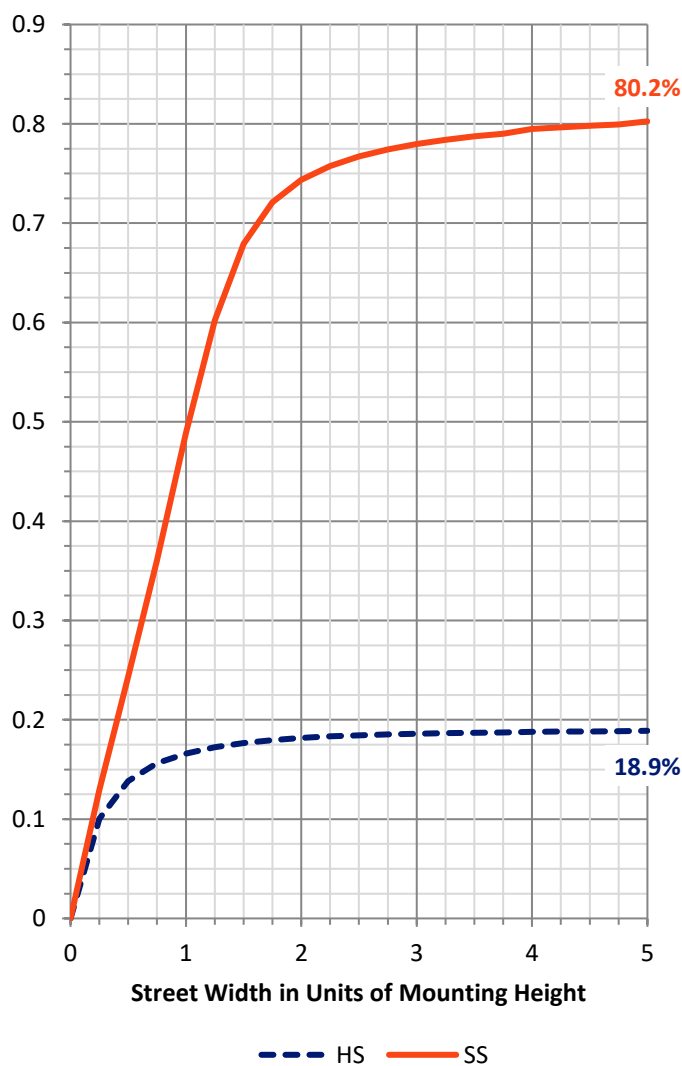
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 874.8    | 0.0    | 874.8  |
|                    | % Fixture | 19.1     | 0.0    | 19.1   |
| <b>Street Side</b> | Lumens    | 3707.2   | 0.0    | 3707.2 |
|                    | % Fixture | 80.9     | 0.0    | 80.9   |
| <b>Total</b>       | Lumens    | 4582.0   | 0.0    | 4582.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 46.9   | 1.0       |
| 10°-20°   | 152.9  | 3.3       |
| 20°-30°   | 232.6  | 5.1       |
| 30°-40°   | 355.3  | 7.8       |
| 40°-50°   | 611.0  | 13.3      |
| 50°-60°   | 1011.3 | 22.1      |
| 60°-70°   | 1246.8 | 27.2      |
| 70°-80°   | 800.9  | 17.5      |
| 80°-90°   | 124.2  | 2.7       |
| 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°    | 4582.0 | 100.0     |
| 0°-180°   | 4582.0 | 100.0     |

**Coefficient of Utilization**



REPORT NUMBER: P366758

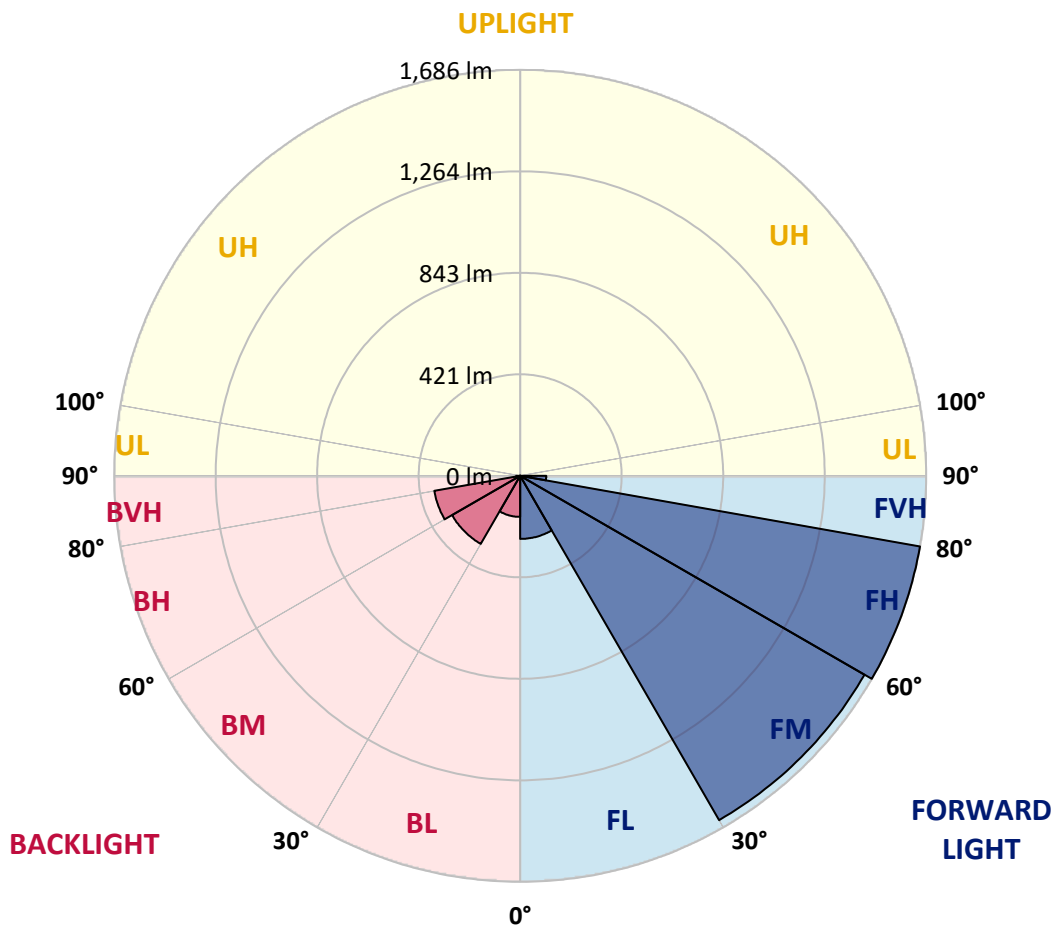
CATALOG NUMBER: MSA-SA1B-730-U-SL2

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

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 262.0  | 5.7       |                         |      |         |
| FM (30°-60°)   | 1651.1 | 36.0      |                         |      |         |
| FH (60°-80°)   | 1685.8 | 36.8      |                         |      | G1/1800 |
| FVH (80°-90°)  | 108.3  | 2.4       |                         |      | G2/225  |
| BL (0°-30°)    | 170.5  | 3.7       | B1/500                  |      |         |
| BM (30°-60°)   | 326.5  | 7.1       | B1/1000                 |      |         |
| BH (60°-80°)   | 361.9  | 7.9       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 15.9   | 0.3       |                         |      | G1/100  |
| 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 Medium





REPORT NUMBER: P366758

CATALOG NUMBER: MSA-SA1B-730-U-SL2

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 68°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 351.3  | 351.3  | 351.3  | 351.3  | 351.3  | 351.3  | 351.3  | 351.3  | 351.3  | 351.3  | 351.3  |
| 2.5°  | 403.7  | 387.4  | 370.9  | 378.9  | 391.8  | 403.1  | 400.8  | 402.1  | 386.6  | 384.5  | 425.3  |
| 5°    | 475.6  | 447.6  | 447.0  | 447.4  | 448.5  | 435.5  | 467.3  | 483.8  | 487.5  | 504.3  | 544.4  |
| 7.5°  | 500.5  | 489.2  | 477.7  | 483.4  | 468.9  | 470.2  | 509.3  | 552.3  | 562.5  | 574.7  | 629.6  |
| 10°   | 495.3  | 484.6  | 488.0  | 489.0  | 491.7  | 513.4  | 538.5  | 579.7  | 588.3  | 627.5  | 641.7  |
| 12.5° | 496.1  | 494.2  | 510.3  | 510.9  | 539.6  | 578.6  | 588.5  | 626.5  | 630.0  | 658.7  | 718.0  |
| 15°   | 522.4  | 535.6  | 526.6  | 531.4  | 536.9  | 583.5  | 597.9  | 652.4  | 673.1  | 710.1  | 754.6  |
| 17.5° | 573.6  | 577.4  | 550.4  | 543.3  | 561.5  | 575.7  | 608.5  | 632.1  | 653.7  | 757.1  | 818.5  |
| 20°   | 585.5  | 595.8  | 563.6  | 527.0  | 565.5  | 585.3  | 608.1  | 618.8  | 635.7  | 764.0  | 851.1  |
| 22.5° | 636.5  | 615.0  | 576.1  | 544.2  | 556.9  | 576.1  | 592.6  | 633.0  | 677.3  | 744.2  | 883.7  |
| 25°   | 665.4  | 653.0  | 618.3  | 584.1  | 573.4  | 574.0  | 605.8  | 642.0  | 657.4  | 773.2  | 890.2  |
| 27.5° | 735.4  | 715.5  | 637.4  | 630.9  | 590.5  | 559.0  | 607.9  | 664.3  | 691.1  | 750.6  | 922.0  |
| 30°   | 823.1  | 807.9  | 705.5  | 696.9  | 635.1  | 580.3  | 634.8  | 680.8  | 676.9  | 765.3  | 944.1  |
| 32.5° | 894.0  | 919.3  | 816.0  | 747.9  | 704.0  | 651.4  | 626.3  | 677.9  | 716.1  | 799.7  | 981.5  |
| 35°   | 995.3  | 1019.1 | 902.1  | 856.1  | 760.7  | 684.4  | 685.2  | 717.4  | 741.0  | 839.8  | 1023.3 |
| 37.5° | 1170.5 | 1149.6 | 1055.5 | 982.8  | 921.8  | 807.9  | 773.8  | 762.5  | 781.5  | 888.8  | 1105.2 |
| 40°   | 1296.9 | 1279.3 | 1168.4 | 1127.0 | 1008.3 | 942.2  | 848.6  | 837.8  | 871.4  | 939.5  | 1172.1 |
| 42.5° | 1446.7 | 1415.2 | 1312.1 | 1277.9 | 1153.9 | 1034.6 | 940.2  | 946.4  | 962.7  | 1035.0 | 1262.6 |
| 45°   | 1599.1 | 1522.8 | 1464.3 | 1461.7 | 1378.8 | 1214.1 | 1087.3 | 1082.3 | 1082.9 | 1175.5 | 1364.2 |
| 47.5° | 1720.2 | 1651.5 | 1584.6 | 1552.7 | 1510.9 | 1524.6 | 1301.0 | 1242.5 | 1224.8 | 1317.1 | 1516.7 |
| 50°   | 1802.0 | 1723.0 | 1647.3 | 1639.8 | 1751.4 | 1824.9 | 1501.5 | 1439.0 | 1450.0 | 1519.6 | 1720.0 |
| 52.5° | 1803.8 | 1710.0 | 1631.0 | 1683.3 | 1946.2 | 2051.3 | 1847.1 | 1672.4 | 1707.3 | 1754.7 | 1985.2 |
| 55°   | 1678.3 | 1581.1 | 1529.7 | 1649.0 | 2022.4 | 2320.0 | 2332.7 | 2046.4 | 2006.1 | 2023.5 | 2302.2 |
| 57.5° | 1413.9 | 1315.7 | 1285.8 | 1428.7 | 1878.0 | 2579.1 | 2919.1 | 2493.2 | 2375.0 | 2302.2 | 2627.0 |
| 60°   | 1064.3 | 979.4  | 960.8  | 1051.8 | 1557.0 | 2503.0 | 3393.9 | 3049.3 | 2808.6 | 2613.4 | 2952.8 |
| 62.5° | 798.1  | 737.2  | 709.2  | 722.2  | 1077.4 | 2255.4 | 3705.7 | 3751.9 | 3411.2 | 2953.2 | 3271.2 |
| 65°   | 648.6  | 599.3  | 574.3  | 557.5  | 670.0  | 1743.9 | 3649.3 | 4343.3 | 4114.9 | 3310.1 | 3518.9 |
| 67.5° | 541.7  | 498.0  | 486.5  | 503.0  | 529.7  | 1011.8 | 3208.3 | 4674.1 | 4689.7 | 3662.2 | 3663.7 |
| 70°   | 449.7  | 417.3  | 413.1  | 459.9  | 495.0  | 610.6  | 2317.3 | 4570.2 | 4741.6 | 3926.2 | 3629.8 |
| 72.5° | 347.5  | 330.0  | 329.5  | 402.9  | 491.7  | 520.5  | 1380.0 | 3948.1 | 4178.4 | 3841.9 | 3297.6 |
| 75°   | 241.1  | 229.0  | 238.2  | 331.2  | 480.4  | 527.9  | 787.6  | 3075.2 | 3247.6 | 3269.3 | 2641.6 |
| 77.5° | 165.9  | 155.7  | 165.7  | 239.5  | 429.0  | 540.6  | 550.9  | 2223.5 | 2242.7 | 2192.3 | 1513.0 |
| 80°   | 115.4  | 108.3  | 116.0  | 169.5  | 333.9  | 535.0  | 469.1  | 1399.9 | 1284.5 | 978.4  | 484.4  |
| 82.5° | 71.5   | 69.4   | 77.9   | 120.8  | 235.1  | 486.7  | 444.5  | 722.4  | 551.5  | 270.0  | 173.0  |
| 85°   | 37.6   | 34.5   | 45.3   | 78.8   | 147.1  | 382.0  | 416.5  | 329.6  | 212.9  | 95.9   | 69.4   |
| 87.5° | 11.1   | 10.0   | 17.5   | 31.8   | 62.3   | 171.2  | 238.4  | 139.8  | 79.4   | 28.2   | 21.7   |
| 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: P366758  
 CATALOG NUMBER: MSA-SA1B-730-U-SL2

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 351.3  | 351.3  | 351.3 | 351.3 | 351.3 | 351.3 | 351.3 | 351.3 | 351.3 | 351.3 | 351.3 |
| 2.5°  | 428.2  | 426.1  | 397.7 | 401.4 | 407.5 | 409.0 | 408.8 | 398.5 | 387.6 | 418.1 | 417.1 |
| 5°    | 545.4  | 526.4  | 512.2 | 509.1 | 491.7 | 474.2 | 480.4 | 478.3 | 475.6 | 489.4 | 491.1 |
| 7.5°  | 629.8  | 603.5  | 587.0 | 544.6 | 504.3 | 469.4 | 480.6 | 484.0 | 477.1 | 502.0 | 509.5 |
| 10°   | 652.0  | 631.3  | 613.5 | 559.0 | 536.8 | 516.4 | 486.3 | 452.0 | 447.4 | 433.0 | 434.7 |
| 12.5° | 709.3  | 706.5  | 645.7 | 597.7 | 568.8 | 528.3 | 463.3 | 421.7 | 386.0 | 387.8 | 377.4 |
| 15°   | 754.6  | 756.1  | 683.1 | 616.0 | 538.3 | 476.5 | 400.0 | 348.2 | 311.6 | 304.3 | 296.9 |
| 17.5° | 815.4  | 812.3  | 686.1 | 594.1 | 495.7 | 405.2 | 311.4 | 260.0 | 253.9 | 258.1 | 251.6 |
| 20°   | 841.9  | 814.8  | 666.6 | 539.8 | 429.2 | 307.8 | 235.3 | 208.1 | 220.0 | 236.8 | 237.2 |
| 22.5° | 865.6  | 819.4  | 656.4 | 496.1 | 340.6 | 223.8 | 188.9 | 183.9 | 197.9 | 220.7 | 222.6 |
| 25°   | 864.7  | 840.7  | 638.2 | 452.0 | 264.1 | 174.7 | 164.2 | 167.8 | 184.5 | 208.3 | 209.6 |
| 27.5° | 908.2  | 824.4  | 590.8 | 394.1 | 198.9 | 149.6 | 152.3 | 159.0 | 166.8 | 189.5 | 193.9 |
| 30°   | 907.8  | 854.7  | 567.1 | 323.7 | 159.7 | 137.1 | 144.0 | 149.8 | 156.3 | 177.0 | 179.5 |
| 32.5° | 929.3  | 835.0  | 552.7 | 251.8 | 143.3 | 134.0 | 135.8 | 141.5 | 150.9 | 164.9 | 166.6 |
| 35°   | 955.2  | 857.4  | 506.6 | 200.0 | 137.1 | 131.4 | 132.7 | 136.0 | 144.6 | 157.4 | 159.2 |
| 37.5° | 1038.2 | 861.6  | 488.4 | 168.6 | 136.7 | 130.2 | 130.0 | 131.7 | 141.5 | 153.2 | 158.4 |
| 40°   | 1070.6 | 900.2  | 435.3 | 157.4 | 135.4 | 130.2 | 127.5 | 128.5 | 136.5 | 151.5 | 155.5 |
| 42.5° | 1148.3 | 913.0  | 396.0 | 153.6 | 135.4 | 127.9 | 123.7 | 125.2 | 134.6 | 147.9 | 154.2 |
| 45°   | 1228.3 | 931.2  | 349.2 | 152.8 | 135.2 | 127.7 | 119.7 | 123.1 | 130.8 | 141.9 | 148.8 |
| 47.5° | 1342.2 | 996.8  | 302.4 | 150.5 | 133.7 | 128.7 | 118.7 | 118.5 | 125.2 | 134.8 | 141.3 |
| 50°   | 1528.0 | 1099.2 | 266.2 | 147.7 | 133.9 | 127.9 | 116.8 | 114.1 | 118.5 | 127.0 | 133.3 |
| 52.5° | 1786.7 | 1273.7 | 252.0 | 146.1 | 132.3 | 124.8 | 113.5 | 109.3 | 111.8 | 118.5 | 124.6 |
| 55°   | 2087.0 | 1509.4 | 266.0 | 146.1 | 129.3 | 120.0 | 108.9 | 103.9 | 105.3 | 109.9 | 115.8 |
| 57.5° | 2437.9 | 1802.2 | 333.7 | 144.0 | 125.4 | 114.3 | 103.4 | 97.6  | 98.0  | 102.0 | 107.4 |
| 60°   | 2804.4 | 2129.4 | 485.4 | 142.3 | 122.7 | 108.0 | 96.8  | 90.9  | 90.3  | 94.2  | 99.0  |
| 62.5° | 3171.5 | 2431.2 | 644.9 | 146.3 | 122.0 | 102.6 | 89.9  | 84.0  | 83.8  | 87.3  | 91.3  |
| 65°   | 3463.3 | 2637.6 | 684.6 | 162.6 | 127.0 | 96.5  | 82.8  | 77.3  | 76.9  | 79.8  | 84.2  |
| 67.5° | 3606.6 | 2667.5 | 520.1 | 182.9 | 137.5 | 90.7  | 75.9  | 70.8  | 70.4  | 73.4  | 77.3  |
| 70°   | 3500.5 | 2463.1 | 321.0 | 185.1 | 136.9 | 84.0  | 68.8  | 64.4  | 63.7  | 66.9  | 69.8  |
| 72.5° | 3108.2 | 2154.5 | 243.9 | 163.8 | 118.5 | 74.4  | 61.7  | 57.9  | 56.8  | 59.6  | 62.3  |
| 75°   | 2494.7 | 1710.6 | 195.4 | 132.1 | 93.4  | 62.7  | 54.7  | 51.0  | 49.7  | 52.4  | 54.7  |
| 77.5° | 1453.2 | 962.3  | 142.9 | 103.2 | 70.6  | 51.2  | 46.6  | 43.3  | 41.8  | 44.7  | 46.4  |
| 80°   | 472.5  | 320.6  | 89.7  | 74.0  | 51.6  | 40.1  | 37.8  | 35.5  | 33.9  | 35.9  | 36.4  |
| 82.5° | 169.7  | 119.3  | 49.7  | 45.4  | 34.3  | 28.8  | 28.6  | 27.2  | 25.3  | 26.1  | 26.1  |
| 85°   | 75.2   | 54.5   | 29.5  | 24.4  | 20.5  | 15.3  | 18.0  | 17.1  | 15.1  | 14.8  | 14.2  |
| 87.5° | 21.1   | 18.0   | 10.7  | 8.2   | 6.7   | 2.5   | 5.8   | 5.2   | 4.2   | 3.8   | 2.7   |
| 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)