

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: P367776

Luminaire Tested: **MSA-SA3A-830-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367776
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3A-830-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7985 lumens
Efficiency: N/A
Efficacy: 83.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

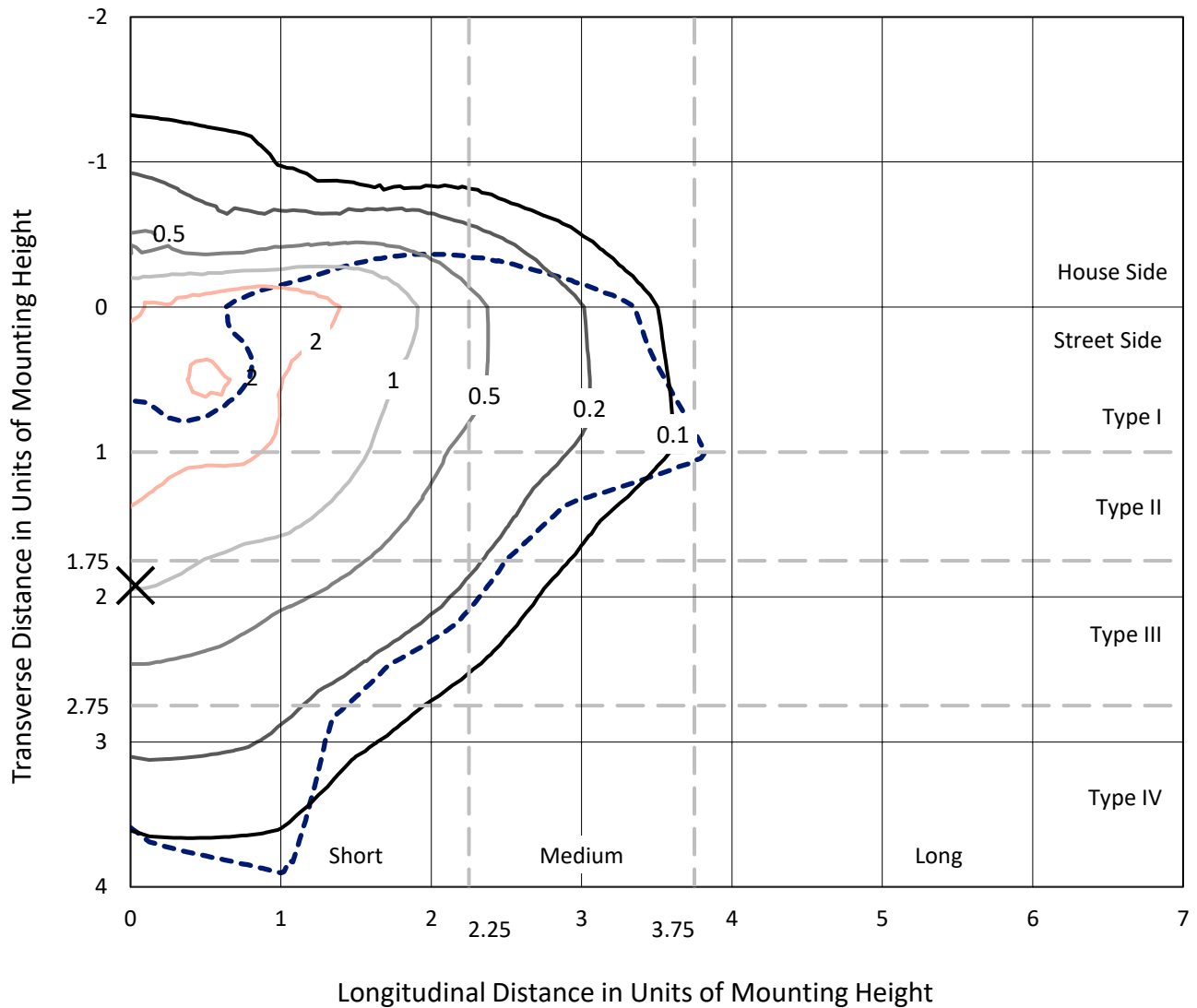
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P367776
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Iso-Footcandle Lines of Horizontal Illumination

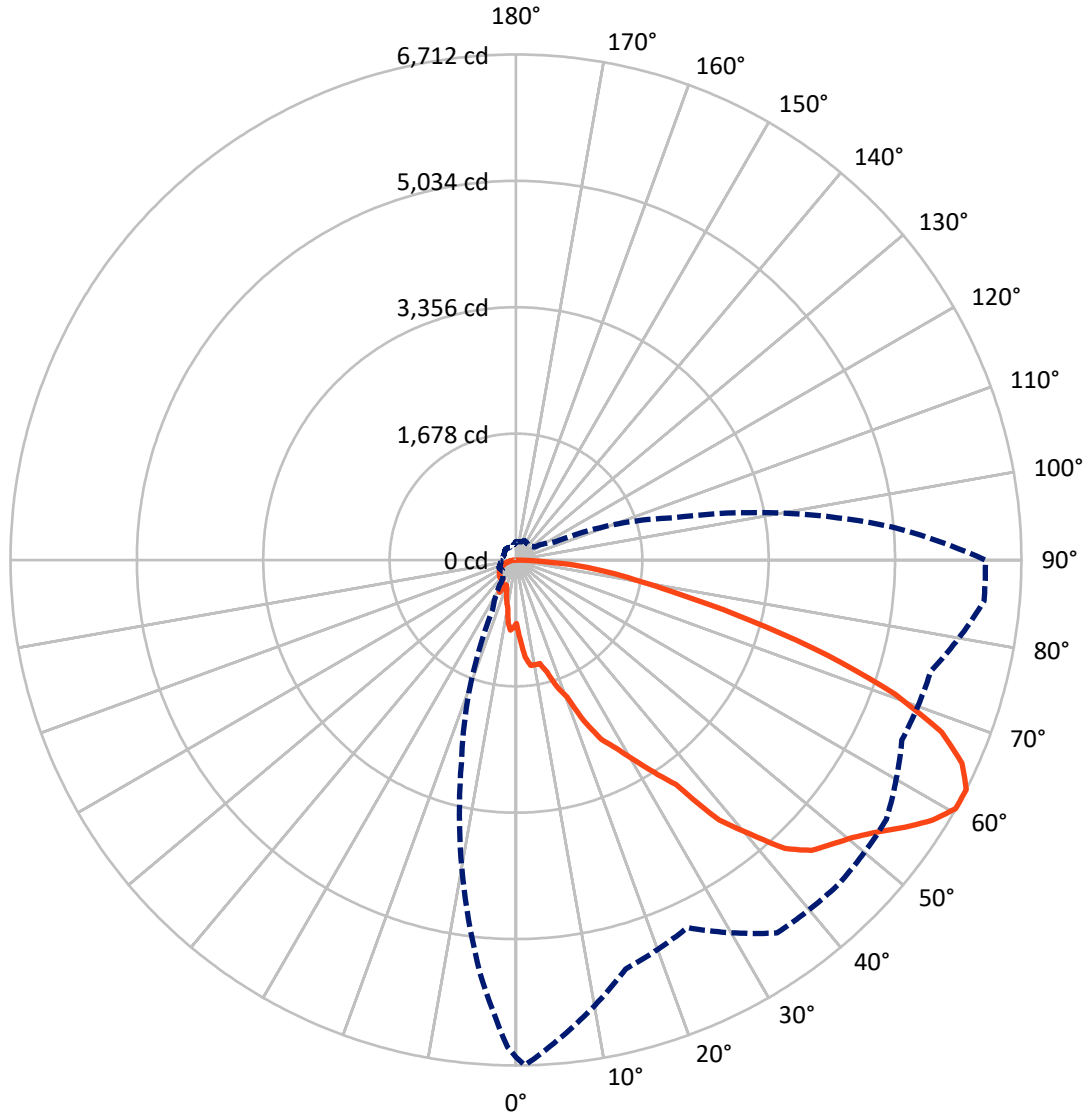
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.4 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 1-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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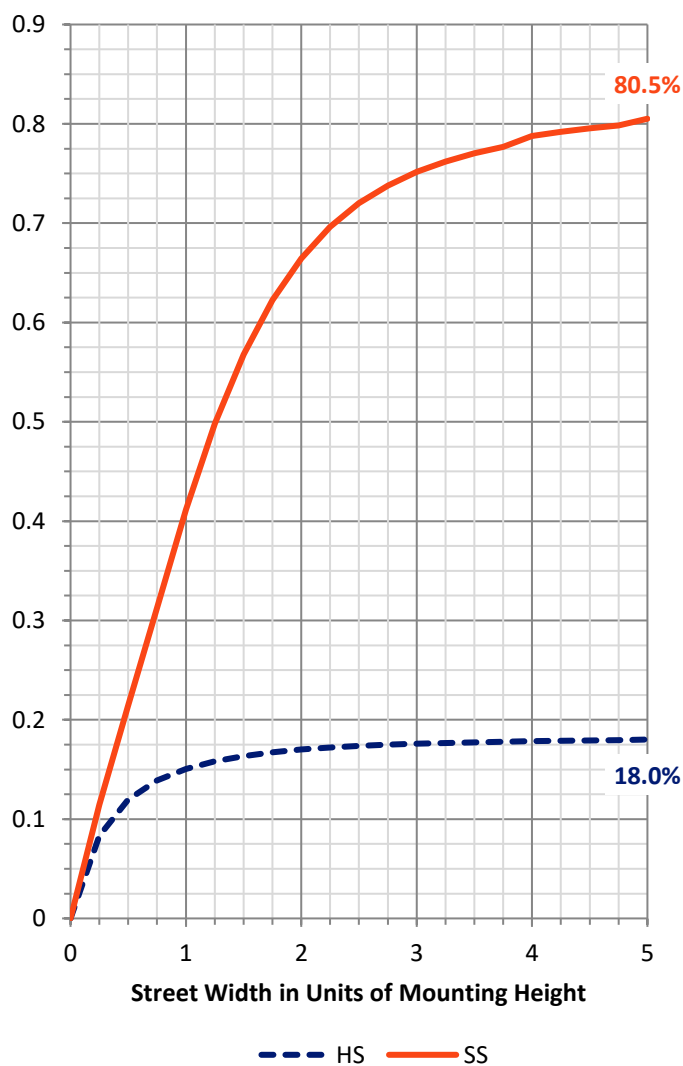
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1454.0 | 0.0 | 1454.0 |
| | % Fixture | 18.2 | 0.0 | 18.2 |
| Street Side | Lumens | 6531.0 | 0.0 | 6531.0 |
| | % Fixture | 81.8 | 0.0 | 81.8 |
| Total | Lumens | 7985.0 | 0.0 | 7985.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 96.5 | 1.2 |
| 10°-20° | 280.5 | 3.5 |
| 20°-30° | 495.2 | 6.2 |
| 30°-40° | 771.3 | 9.7 |
| 40°-50° | 1270.1 | 15.9 |
| 50°-60° | 1812.7 | 22.7 |
| 60°-70° | 1922.2 | 24.1 |
| 70°-80° | 1061.8 | 13.3 |
| 80°-90° | 274.6 | 3.4 |
| 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° | 7985.0 | 100.0 |
| 0°-180° | 7985.0 | 100.0 |

Coefficient of Utilization



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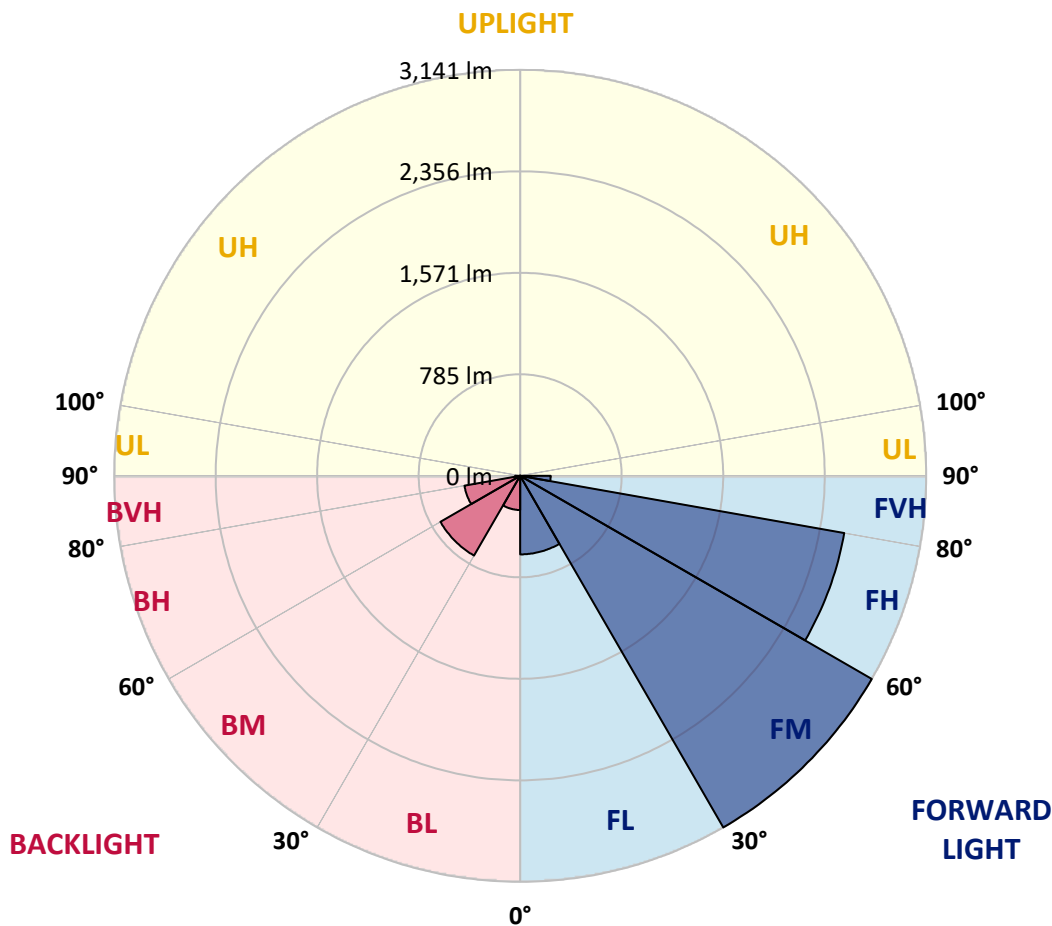
CATALOG NUMBER: MSA-SA3A-830-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 607.8 | 7.6 | | | |
| FM (30°-60°) | 3141.4 | 39.3 | | | |
| FH (60°-80°) | 2545.9 | 31.9 | | | G2/5000 |
| FVH (80°-90°) | 235.9 | 3.0 | | | G3/500 |
| BL (0°-30°) | 264.4 | 3.3 | B1/500 | | |
| BM (30°-60°) | 712.8 | 8.9 | B1/1000 | | |
| BH (60°-80°) | 438.1 | 5.5 | B1/500 | | G1/500 |
| BVH (80°-90°) | 38.7 | 0.5 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G3

Type IV Short





REPORT NUMBER: P367776
 CATALOG NUMBER: MSA-SA3A-830-U-SLL

CANDELA DISTRIBUTION (FULL):

| | 0° | 1° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 |
| 2.5° | 1035.4 | 1044.3 | 1026.1 | 1005.5 | 920.7 | 1002.4 | 978.0 | 1023.4 | 1008.6 | 910.2 | 1090.4 |
| 5° | 1279.5 | 1295.8 | 1277.9 | 1339.5 | 1343.4 | 1359.3 | 1212.4 | 1303.9 | 1272.1 | 1264.0 | 1355.0 |
| 7.5° | 1397.3 | 1413.9 | 1459.3 | 1568.9 | 1654.6 | 1577.1 | 1491.4 | 1472.5 | 1447.7 | 1382.9 | 1438.0 |
| 10° | 1404.6 | 1413.9 | 1474.8 | 1707.3 | 1748.7 | 1803.8 | 1748.3 | 1617.8 | 1563.9 | 1423.2 | 1381.4 |
| 12.5° | 1382.6 | 1411.6 | 1490.3 | 1773.5 | 1896.8 | 1956.8 | 1970.4 | 1825.1 | 1692.9 | 1532.5 | 1511.2 |
| 15° | 1531.0 | 1541.4 | 1654.2 | 1820.8 | 1905.7 | 1956.4 | 2000.6 | 1911.1 | 1869.6 | 1742.5 | 1571.6 |
| 17.5° | 1743.7 | 1772.8 | 1865.0 | 1926.6 | 1983.9 | 1993.6 | 1957.2 | 1922.3 | 1856.5 | 2026.2 | 1844.4 |
| 20° | 1887.8 | 1944.0 | 2057.2 | 2068.8 | 1948.3 | 1969.6 | 1964.6 | 1966.9 | 1929.3 | 2243.2 | 2143.2 |
| 22.5° | 2269.1 | 2330.0 | 2345.5 | 2278.0 | 2051.0 | 1953.7 | 1973.1 | 2029.3 | 2177.3 | 2446.2 | 2559.4 |
| 25° | 2614.4 | 2638.0 | 2779.4 | 2605.9 | 2243.9 | 2032.0 | 2000.2 | 2145.5 | 2386.9 | 2788.0 | 2868.6 |
| 27.5° | 2794.6 | 2825.2 | 2919.3 | 2541.5 | 2268.0 | 1931.2 | 1856.8 | 2078.1 | 2324.1 | 2627.2 | 2980.9 |
| 30° | 3025.1 | 3073.9 | 3202.2 | 2605.9 | 2340.4 | 1997.1 | 1832.4 | 2044.0 | 2316.0 | 2732.6 | 3218.9 |
| 32.5° | 3262.6 | 3357.6 | 3452.9 | 2832.5 | 2330.3 | 2097.9 | 1988.6 | 2005.6 | 2389.6 | 2953.4 | 3465.3 |
| 35° | 3577.3 | 3661.0 | 3743.1 | 2963.5 | 2533.4 | 2181.9 | 2073.4 | 2254.0 | 2578.7 | 3209.6 | 3809.0 |
| 37.5° | 4250.0 | 4382.5 | 4165.9 | 3336.3 | 2754.3 | 2560.9 | 2365.2 | 2472.2 | 2778.7 | 3423.1 | 4370.5 |
| 40° | 4678.5 | 4778.1 | 4568.9 | 3590.1 | 3143.3 | 2816.3 | 2784.1 | 2793.0 | 3054.2 | 3606.0 | 4748.3 |
| 42.5° | 5104.4 | 5239.2 | 4906.4 | 3938.4 | 3613.7 | 3343.6 | 3177.8 | 3166.5 | 3362.6 | 3934.5 | 5178.0 |
| 45° | 5422.1 | 5501.5 | 5022.2 | 4232.1 | 4118.2 | 3917.9 | 3793.5 | 3596.3 | 3767.9 | 4162.0 | 5443.8 |
| 47.5° | 5573.2 | 5637.9 | 5208.6 | 4403.0 | 4445.3 | 4455.7 | 4680.1 | 4343.7 | 4122.1 | 4315.8 | 5583.3 |
| 50° | 5761.9 | 5792.5 | 5318.3 | 4553.4 | 4756.0 | 5215.6 | 5269.4 | 4699.4 | 4467.0 | 4483.6 | 5665.8 |
| 52.5° | 5987.5 | 6000.2 | 5478.3 | 4727.0 | 5070.3 | 5715.4 | 5632.1 | 5302.4 | 4795.2 | 4790.1 | 5821.2 |
| 55° | 6271.1 | 6263.3 | 5679.0 | 4960.6 | 5294.6 | 6012.6 | 5949.5 | 5709.2 | 5152.8 | 5043.9 | 6063.0 |
| 57.5° | 6523.4 | 6518.7 | 5945.2 | 5175.7 | 5483.3 | 6165.3 | 6183.9 | 6120.4 | 5396.2 | 5225.7 | 6325.0 |
| 60° | 6647.0 | 6706.2 | 6248.2 | 5410.9 | 5495.3 | 6234.3 | 6241.3 | 6140.1 | 5668.2 | 5458.9 | 6394.7 |
| 62.5° | 6598.9 | 6711.7 | 6397.0 | 5622.4 | 5384.9 | 6046.0 | 6075.0 | 6005.3 | 5655.8 | 5703.8 | 6238.9 |
| 65° | 6380.4 | 6510.6 | 6268.0 | 5735.2 | 5317.1 | 5730.6 | 5737.9 | 5561.6 | 5478.7 | 5866.2 | 5873.9 |
| 67.5° | 5970.4 | 6092.5 | 5857.3 | 5555.4 | 4852.9 | 4880.4 | 5044.7 | 5059.0 | 4938.1 | 5743.7 | 5361.3 |
| 70° | 5252.8 | 5338.8 | 5191.6 | 5111.3 | 4056.2 | 3895.0 | 4073.3 | 4149.6 | 4204.6 | 5301.6 | 4745.9 |
| 72.5° | 4158.5 | 4324.7 | 4348.0 | 4400.3 | 3265.7 | 2997.2 | 3129.3 | 3016.2 | 3374.6 | 4512.3 | 3877.6 |
| 75° | 3076.7 | 3216.9 | 3367.7 | 3659.4 | 2574.1 | 2243.9 | 2227.7 | 2169.9 | 2504.7 | 3628.8 | 2875.9 |
| 77.5° | 2174.2 | 2263.7 | 2379.6 | 2923.2 | 1942.5 | 1728.2 | 1738.3 | 1679.8 | 1808.8 | 2742.6 | 1986.6 |
| 80° | 1558.5 | 1605.4 | 1659.2 | 1925.8 | 1432.9 | 1491.1 | 1492.6 | 1437.2 | 1345.0 | 1862.7 | 1326.0 |
| 82.5° | 1110.5 | 1147.0 | 1208.6 | 1270.2 | 1068.3 | 1222.1 | 1221.0 | 1217.5 | 1066.4 | 1258.9 | 829.6 |
| 85° | 618.4 | 667.3 | 774.2 | 995.1 | 771.5 | 873.8 | 768.4 | 846.3 | 782.7 | 838.1 | 420.0 |
| 87.5° | 43.4 | 38.7 | 173.2 | 576.6 | 360.0 | 263.1 | 137.9 | 273.2 | 350.3 | 437.9 | 58.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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 CATALOG NUMBER: MSA-SA3A-830-U-SLL

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 0° | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 |
| 2.5° | 1127.6 | 1141.2 | 1088.1 | 1008.2 | 1029.9 | 1006.3 | 976.5 | 930.0 | 834.3 | 893.5 | 893.9 |
| 5° | 1354.3 | 1302.7 | 1261.3 | 1222.1 | 1156.3 | 1056.7 | 1043.5 | 963.7 | 918.7 | 942.4 | 938.9 |
| 7.5° | 1425.2 | 1351.9 | 1289.6 | 1149.7 | 1027.6 | 873.0 | 826.5 | 779.2 | 759.5 | 816.8 | 839.7 |
| 10° | 1347.3 | 1271.0 | 1209.7 | 1039.6 | 956.7 | 860.2 | 732.4 | 666.9 | 628.1 | 643.2 | 652.1 |
| 12.5° | 1410.1 | 1332.2 | 1139.6 | 1044.7 | 907.9 | 849.0 | 737.0 | 640.9 | 583.6 | 597.5 | 580.8 |
| 15° | 1470.5 | 1365.5 | 1172.9 | 983.8 | 873.0 | 787.8 | 697.1 | 597.9 | 530.5 | 506.4 | 493.7 |
| 17.5° | 1691.4 | 1517.0 | 1169.0 | 949.7 | 822.6 | 724.6 | 615.3 | 506.8 | 461.9 | 437.1 | 415.8 |
| 20° | 1960.7 | 1717.7 | 1190.0 | 914.5 | 769.2 | 645.6 | 526.6 | 425.8 | 394.5 | 378.2 | 372.4 |
| 22.5° | 2281.1 | 1975.0 | 1309.7 | 909.4 | 718.8 | 587.8 | 477.8 | 415.0 | 379.7 | 361.9 | 354.6 |
| 25° | 2535.7 | 2241.2 | 1398.1 | 943.5 | 716.1 | 540.2 | 448.3 | 461.1 | 444.8 | 450.3 | 407.2 |
| 27.5° | 2782.9 | 2313.7 | 1348.5 | 928.4 | 644.0 | 455.7 | 441.3 | 468.1 | 482.0 | 486.3 | 484.7 |
| 30° | 2991.8 | 2619.8 | 1359.3 | 843.2 | 544.0 | 371.2 | 337.9 | 351.1 | 389.4 | 450.3 | 461.9 |
| 32.5° | 3297.5 | 2766.3 | 1451.9 | 791.6 | 486.3 | 332.1 | 294.9 | 289.8 | 298.8 | 320.8 | 339.8 |
| 35° | 3655.2 | 3103.4 | 1477.9 | 778.1 | 446.4 | 314.6 | 288.7 | 277.1 | 281.7 | 298.4 | 302.2 |
| 37.5° | 4322.0 | 3349.1 | 1574.0 | 761.4 | 431.7 | 304.2 | 284.0 | 279.8 | 289.8 | 303.4 | 311.2 |
| 40° | 4689.8 | 3790.8 | 1578.6 | 747.1 | 412.7 | 299.9 | 287.1 | 285.2 | 291.4 | 310.0 | 314.6 |
| 42.5° | 5179.9 | 4042.7 | 1651.5 | 730.4 | 406.1 | 305.7 | 293.3 | 292.6 | 298.0 | 308.8 | 317.4 |
| 45° | 5478.7 | 4211.2 | 1655.3 | 720.7 | 404.5 | 331.3 | 301.5 | 298.8 | 297.6 | 304.2 | 311.9 |
| 47.5° | 5671.3 | 4454.2 | 1702.6 | 709.9 | 413.8 | 337.9 | 311.2 | 299.5 | 295.7 | 298.4 | 304.2 |
| 50° | 5853.8 | 4648.3 | 1792.1 | 708.3 | 423.5 | 331.3 | 328.2 | 299.1 | 291.4 | 290.2 | 294.5 |
| 52.5° | 6077.7 | 4967.6 | 1902.6 | 723.1 | 421.2 | 321.6 | 341.0 | 297.6 | 283.6 | 280.9 | 285.2 |
| 55° | 6403.6 | 5309.7 | 2020.0 | 710.7 | 397.2 | 303.0 | 328.6 | 296.4 | 275.5 | 270.5 | 274.3 |
| 57.5° | 6614.8 | 5505.8 | 2151.3 | 700.2 | 360.8 | 289.1 | 317.4 | 297.2 | 276.3 | 265.0 | 267.4 |
| 60° | 6544.7 | 5400.4 | 2202.9 | 636.3 | 326.3 | 278.2 | 290.6 | 291.0 | 269.3 | 258.8 | 260.8 |
| 62.5° | 6234.7 | 5018.7 | 2154.8 | 561.9 | 300.7 | 262.7 | 263.1 | 279.4 | 249.2 | 241.8 | 244.9 |
| 65° | 5801.5 | 4544.1 | 1960.3 | 513.4 | 288.7 | 246.4 | 240.2 | 245.3 | 222.0 | 216.6 | 222.8 |
| 67.5° | 5269.8 | 3959.0 | 1670.8 | 462.3 | 284.4 | 224.4 | 217.0 | 215.1 | 200.3 | 194.1 | 200.3 |
| 70° | 4603.0 | 3315.0 | 1335.7 | 426.2 | 268.1 | 200.3 | 194.5 | 192.6 | 180.2 | 175.5 | 181.0 |
| 72.5° | 3699.7 | 2588.4 | 1030.7 | 398.7 | 250.3 | 178.2 | 173.2 | 170.9 | 160.4 | 153.8 | 160.4 |
| 75° | 2631.4 | 1978.1 | 765.7 | 356.5 | 225.1 | 155.8 | 150.0 | 146.9 | 137.2 | 131.0 | 136.8 |
| 77.5° | 1870.0 | 1484.9 | 534.7 | 294.9 | 185.6 | 131.7 | 128.3 | 123.2 | 114.7 | 107.3 | 113.1 |
| 80° | 1382.6 | 1060.9 | 344.9 | 227.5 | 141.8 | 105.4 | 103.5 | 100.0 | 91.8 | 82.9 | 87.2 |
| 82.5° | 910.2 | 764.9 | 197.6 | 154.2 | 103.1 | 75.9 | 77.5 | 75.2 | 67.4 | 58.1 | 60.4 |
| 85° | 407.6 | 453.0 | 105.0 | 84.9 | 67.0 | 45.7 | 50.0 | 48.4 | 42.6 | 33.7 | 34.5 |
| 87.5° | 39.1 | 76.3 | 32.2 | 31.0 | 24.8 | 14.3 | 17.8 | 15.1 | 12.8 | 8.1 | 6.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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 CATALOG NUMBER: MSA-SA3A-830-U-SLL

CANDELA DISTRIBUTION (continued):

| | 185° | 195° | 205° | 215° | 225° | 235° | 245° | 255° | 265° | 270° | 275° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 | 842.0 |
| 2.5° | 907.5 | 852.9 | 798.2 | 831.5 | 832.3 | 841.2 | 842.4 | 809.5 | 835.8 | 856.0 | 876.9 |
| 5° | 921.8 | 886.2 | 888.1 | 856.0 | 838.5 | 861.0 | 856.3 | 847.4 | 863.3 | 885.4 | 912.1 |
| 7.5° | 818.0 | 794.7 | 790.9 | 759.9 | 684.7 | 668.0 | 682.0 | 687.8 | 709.1 | 743.2 | 771.9 |
| 10° | 638.6 | 684.7 | 632.8 | 620.8 | 601.0 | 562.2 | 539.8 | 537.1 | 582.4 | 609.9 | 633.9 |
| 12.5° | 575.4 | 563.8 | 557.6 | 524.7 | 524.7 | 483.6 | 470.4 | 482.4 | 552.2 | 571.9 | 602.9 |
| 15° | 490.2 | 481.6 | 453.0 | 436.7 | 428.9 | 412.3 | 426.2 | 437.9 | 503.0 | 504.5 | 537.1 |
| 17.5° | 406.9 | 401.8 | 374.7 | 371.6 | 363.9 | 356.5 | 369.3 | 397.2 | 432.4 | 426.2 | 441.3 |
| 20° | 363.9 | 346.4 | 321.6 | 330.5 | 322.4 | 316.6 | 311.2 | 350.7 | 375.5 | 383.6 | 392.5 |
| 22.5° | 353.0 | 321.2 | 306.5 | 298.4 | 298.8 | 289.5 | 290.6 | 323.6 | 361.1 | 366.2 | 360.8 |
| 25° | 403.4 | 346.8 | 299.1 | 275.5 | 266.6 | 263.5 | 272.4 | 301.5 | 346.8 | 357.7 | 361.9 |
| 27.5° | 472.0 | 376.6 | 308.1 | 267.8 | 249.9 | 251.5 | 264.3 | 284.4 | 337.9 | 357.3 | 362.3 |
| 30° | 453.0 | 354.2 | 308.4 | 261.9 | 239.9 | 248.0 | 252.6 | 272.0 | 330.9 | 360.0 | 385.2 |
| 32.5° | 349.5 | 318.5 | 310.4 | 266.6 | 257.7 | 244.9 | 251.5 | 270.1 | 310.4 | 328.6 | 329.8 |
| 35° | 296.0 | 272.4 | 267.0 | 256.1 | 243.7 | 238.3 | 245.7 | 261.9 | 288.3 | 299.5 | 298.0 |
| 37.5° | 293.7 | 267.8 | 246.4 | 241.8 | 236.8 | 235.2 | 239.5 | 254.6 | 281.3 | 301.1 | 296.8 |
| 40° | 297.6 | 265.4 | 243.7 | 235.6 | 237.5 | 230.6 | 234.8 | 253.4 | 282.5 | 301.1 | 297.2 |
| 42.5° | 292.9 | 262.7 | 240.2 | 234.0 | 236.0 | 226.3 | 231.3 | 250.7 | 279.4 | 301.5 | 294.1 |
| 45° | 283.6 | 256.5 | 238.3 | 227.8 | 236.8 | 222.4 | 228.6 | 243.7 | 270.1 | 294.1 | 285.6 |
| 47.5° | 274.3 | 249.2 | 230.2 | 223.6 | 232.5 | 218.5 | 221.3 | 234.4 | 260.8 | 284.4 | 277.1 |
| 50° | 264.3 | 239.9 | 223.6 | 221.6 | 227.8 | 217.8 | 213.5 | 224.4 | 249.5 | 273.2 | 267.0 |
| 52.5° | 253.4 | 232.1 | 218.9 | 218.2 | 224.0 | 212.7 | 206.5 | 215.1 | 237.5 | 261.2 | 256.1 |
| 55° | 243.0 | 223.6 | 213.1 | 215.1 | 221.6 | 208.5 | 200.7 | 206.1 | 224.7 | 248.0 | 241.0 |
| 57.5° | 232.5 | 213.9 | 205.4 | 210.8 | 215.8 | 203.0 | 193.4 | 196.5 | 211.6 | 234.4 | 226.3 |
| 60° | 223.2 | 205.4 | 196.8 | 203.4 | 208.1 | 194.9 | 183.7 | 185.6 | 199.2 | 219.7 | 212.3 |
| 62.5° | 211.2 | 196.1 | 184.8 | 193.4 | 196.8 | 184.1 | 172.0 | 174.4 | 185.2 | 204.6 | 199.2 |
| 65° | 194.1 | 184.4 | 174.0 | 179.8 | 184.4 | 171.3 | 160.0 | 162.7 | 170.9 | 189.1 | 185.2 |
| 67.5° | 179.4 | 170.1 | 163.1 | 167.8 | 168.6 | 158.5 | 148.4 | 150.0 | 156.5 | 173.6 | 169.3 |
| 70° | 163.1 | 154.2 | 148.8 | 152.3 | 151.9 | 143.4 | 135.6 | 136.0 | 141.4 | 156.9 | 151.1 |
| 72.5° | 145.3 | 136.8 | 134.1 | 136.0 | 134.5 | 126.7 | 119.3 | 122.1 | 125.5 | 137.2 | 132.5 |
| 75° | 126.3 | 118.6 | 117.0 | 119.0 | 116.6 | 109.3 | 102.7 | 105.4 | 108.5 | 118.2 | 112.4 |
| 77.5° | 106.6 | 99.6 | 100.0 | 100.4 | 97.3 | 92.2 | 85.6 | 88.3 | 90.3 | 96.9 | 91.1 |
| 80° | 84.9 | 79.4 | 81.0 | 81.0 | 77.5 | 74.0 | 67.8 | 68.6 | 69.7 | 72.1 | 67.8 |
| 82.5° | 62.0 | 62.0 | 62.0 | 62.4 | 55.0 | 56.2 | 50.8 | 50.4 | 49.2 | 48.8 | 46.1 |
| 85° | 36.8 | 38.4 | 39.1 | 40.3 | 29.8 | 34.9 | 30.2 | 29.1 | 26.7 | 24.4 | 23.6 |
| 87.5° | 8.1 | 10.5 | 10.5 | 10.1 | 0.0 | 3.9 | 1.9 | 3.1 | 0.8 | 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 |



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| 30° | 380.5 | 396.8 | 375.5 | 387.9 | 533.6 | 885.8 | 1580.2 | 2662.0 | 2957.3 | 3025.1 |
| 32.5° | 316.6 | 310.4 | 308.4 | 335.6 | 477.4 | 831.5 | 1722.4 | 2981.7 | 3177.4 | 3262.6 |
| 35° | 285.6 | 275.9 | 279.8 | 310.8 | 449.9 | 823.8 | 1802.2 | 3246.4 | 3525.0 | 3577.3 |
| 37.5° | 284.4 | 273.2 | 278.2 | 301.5 | 459.6 | 837.7 | 1930.1 | 3671.1 | 4138.0 | 4250.0 |
| 40° | 281.7 | 275.5 | 278.2 | 295.7 | 449.5 | 845.5 | 2003.7 | 4027.9 | 4565.0 | 4678.5 |
| 42.5° | 281.3 | 278.2 | 280.9 | 300.3 | 439.0 | 849.0 | 2105.6 | 4350.3 | 5014.9 | 5104.4 |
| 45° | 280.2 | 283.3 | 283.3 | 304.2 | 434.4 | 872.2 | 2165.7 | 4508.4 | 5311.7 | 5422.1 |
| 47.5° | 274.7 | 284.0 | 299.1 | 303.0 | 415.4 | 861.4 | 2250.5 | 4748.3 | 5469.4 | 5573.2 |
| 50° | 267.8 | 282.9 | 319.3 | 295.3 | 412.3 | 835.0 | 2349.7 | 4938.5 | 5671.7 | 5761.9 |
| 52.5° | 258.5 | 280.9 | 314.6 | 280.2 | 406.9 | 830.4 | 2488.8 | 5185.7 | 5907.6 | 5987.5 |
| 55° | 245.3 | 274.0 | 300.3 | 265.0 | 393.7 | 815.7 | 2701.6 | 5492.2 | 6216.5 | 6271.1 |
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| 60° | 222.4 | 262.3 | 249.5 | 247.6 | 330.1 | 777.3 | 2897.6 | 5739.5 | 6572.2 | 6647.0 |
| 62.5° | 210.8 | 247.6 | 228.6 | 235.6 | 301.9 | 734.7 | 2795.7 | 5493.4 | 6467.9 | 6598.9 |
| 65° | 195.7 | 212.3 | 211.2 | 227.1 | 302.6 | 665.3 | 2562.1 | 5059.4 | 6207.9 | 6380.4 |
| 67.5° | 177.9 | 187.9 | 194.5 | 213.1 | 312.3 | 611.5 | 2186.2 | 4537.5 | 5765.4 | 5970.4 |
| 70° | 159.6 | 169.7 | 177.1 | 194.9 | 321.2 | 586.7 | 1740.2 | 3804.4 | 5044.7 | 5252.8 |
| 72.5° | 141.0 | 151.5 | 157.3 | 172.8 | 309.2 | 533.6 | 1288.0 | 2960.0 | 4049.2 | 4158.5 |
| 75° | 121.7 | 131.7 | 136.4 | 150.7 | 268.5 | 441.3 | 889.3 | 2242.0 | 2965.8 | 3076.7 |
| 77.5° | 101.9 | 112.8 | 114.3 | 125.9 | 205.0 | 337.5 | 570.0 | 1719.7 | 2100.2 | 2174.2 |
| 80° | 81.4 | 92.2 | 92.2 | 98.4 | 144.1 | 232.1 | 341.4 | 1297.3 | 1529.4 | 1558.5 |
| 82.5° | 58.5 | 70.1 | 69.4 | 69.7 | 99.6 | 143.8 | 197.6 | 972.2 | 1105.1 | 1110.5 |
| 85° | 34.5 | 42.6 | 42.2 | 38.7 | 58.9 | 77.5 | 106.9 | 603.7 | 616.9 | 618.4 |
| 87.5° | 6.6 | 10.1 | 8.9 | 3.9 | 16.3 | 22.9 | 31.0 | 112.0 | 44.6 | 43.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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