

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: P596037

Luminaire Tested: **MSA-SA1A-AMB-U-SL3-HSS**

Issue Date: 4/29/2022

Test Information

Test Method: LM-79-08
Report Number: P596037
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2109-400-20)
Test Lab: INNOVATIONS CENTER
Issue Date: 4/29/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1A-AMB-U-SL3-HSS
Description: POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH
AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: (16) 1549K CCT, -21.5 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 716 lumens
Efficiency: N/A
Efficacy: 34.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B0 - U0 - G0

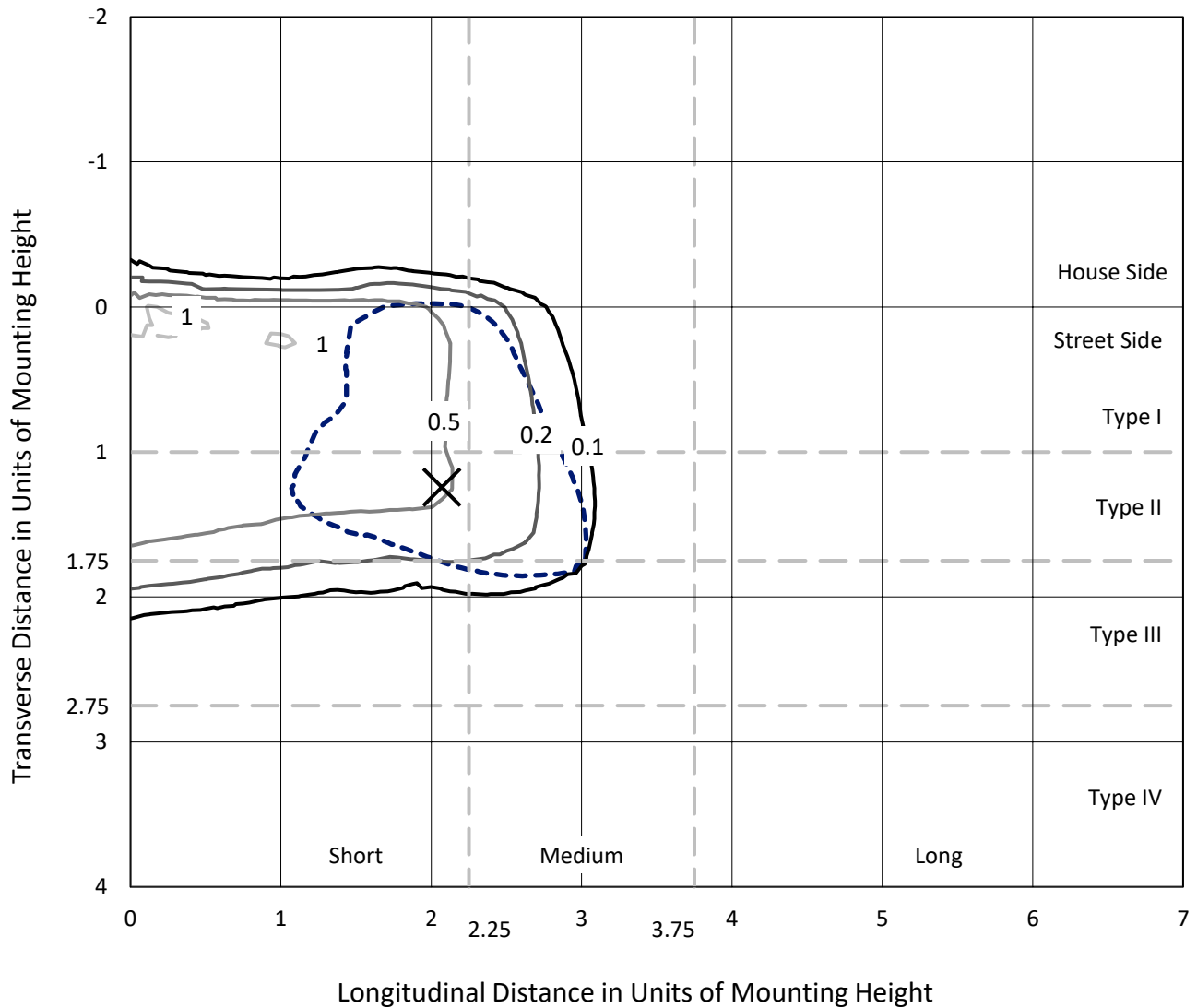
Input Watts (W): 20.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

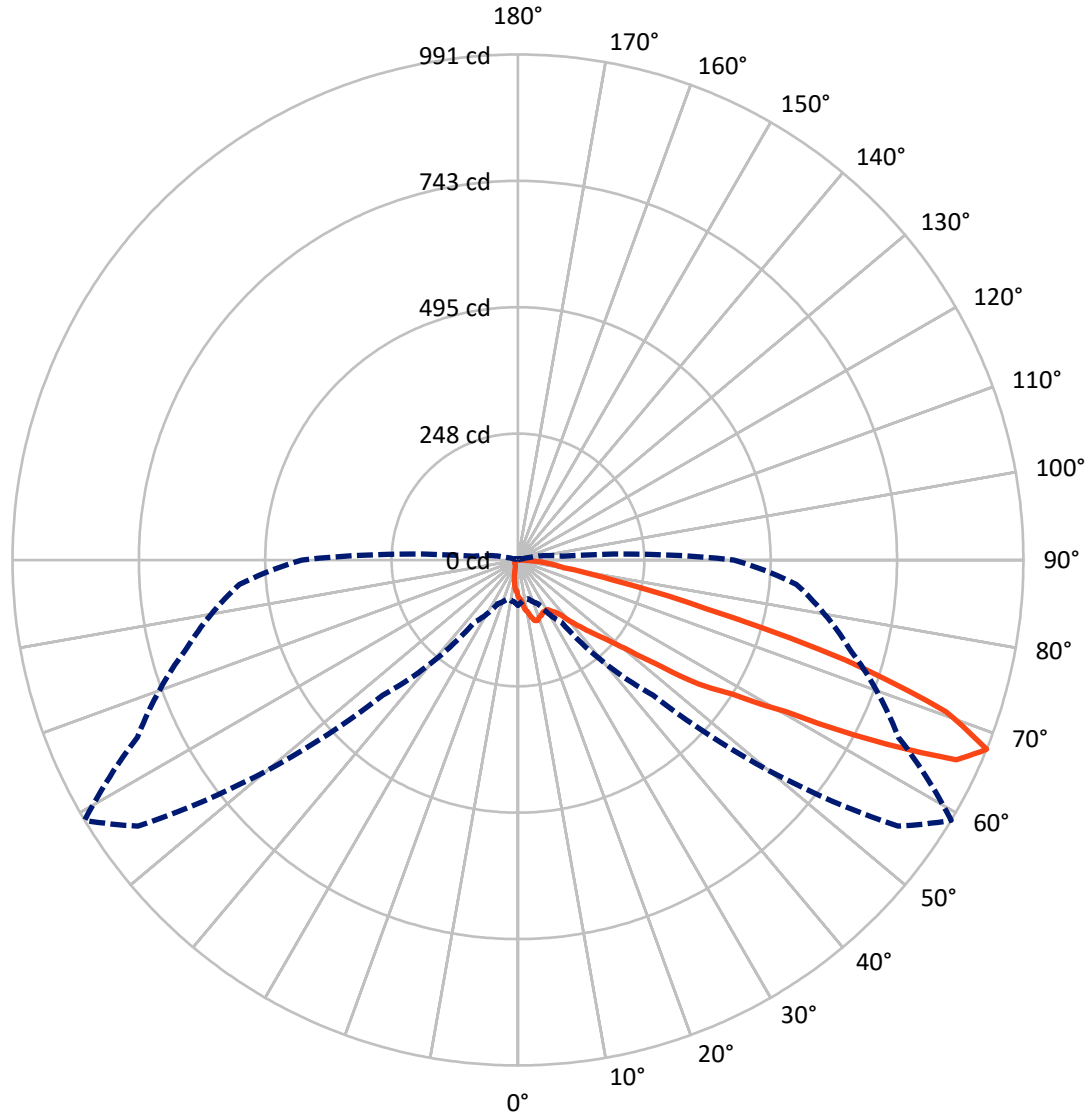
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 1.2 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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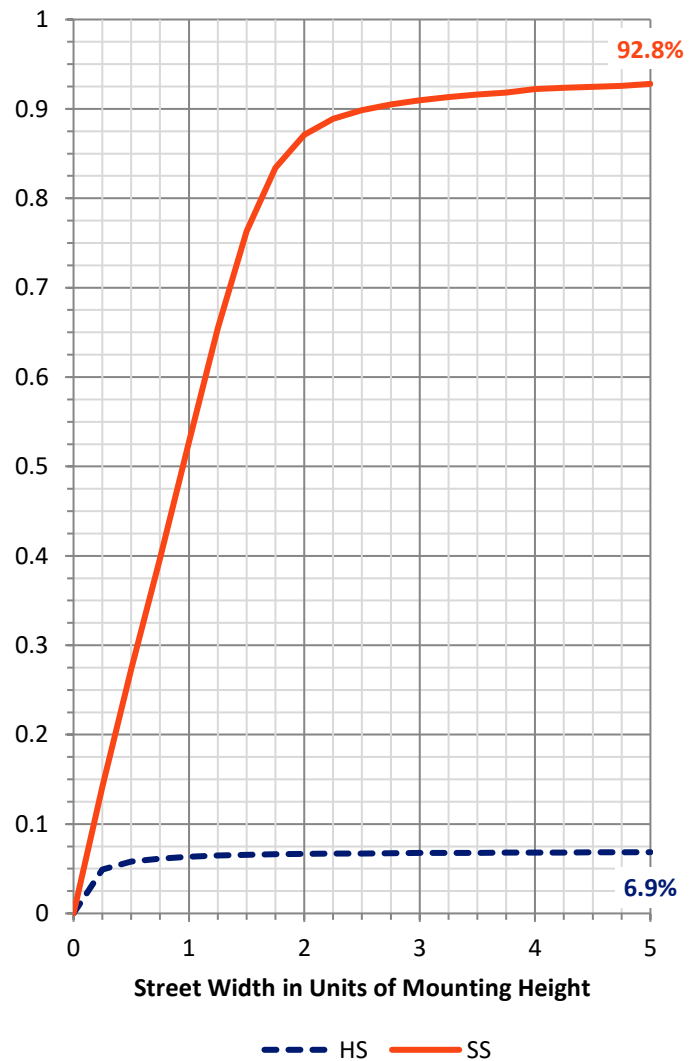
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|-------|
| House Side | Lumens | 49.7 | 0.0 | 49.7 |
| | % Fixture | 6.9 | 0.0 | 6.9 |
| Street Side | Lumens | 666.3 | 0.0 | 666.3 |
| | % Fixture | 93.1 | 0.0 | 93.1 |
| Total | Lumens | 716.0 | 0.0 | 716.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 7.1 | 1.0 |
| 10°-20° | 20.0 | 2.8 |
| 20°-30° | 31.6 | 4.4 |
| 30°-40° | 51.0 | 7.1 |
| 40°-50° | 97.7 | 13.6 |
| 50°-60° | 190.3 | 26.6 |
| 60°-70° | 231.4 | 32.3 |
| 70°-80° | 78.1 | 10.9 |
| 80°-90° | 8.8 | 1.2 |
| 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° | 716.0 | 100.0 |
| 0°-180° | 716.0 | 100.0 |

Coefficient of Utilization



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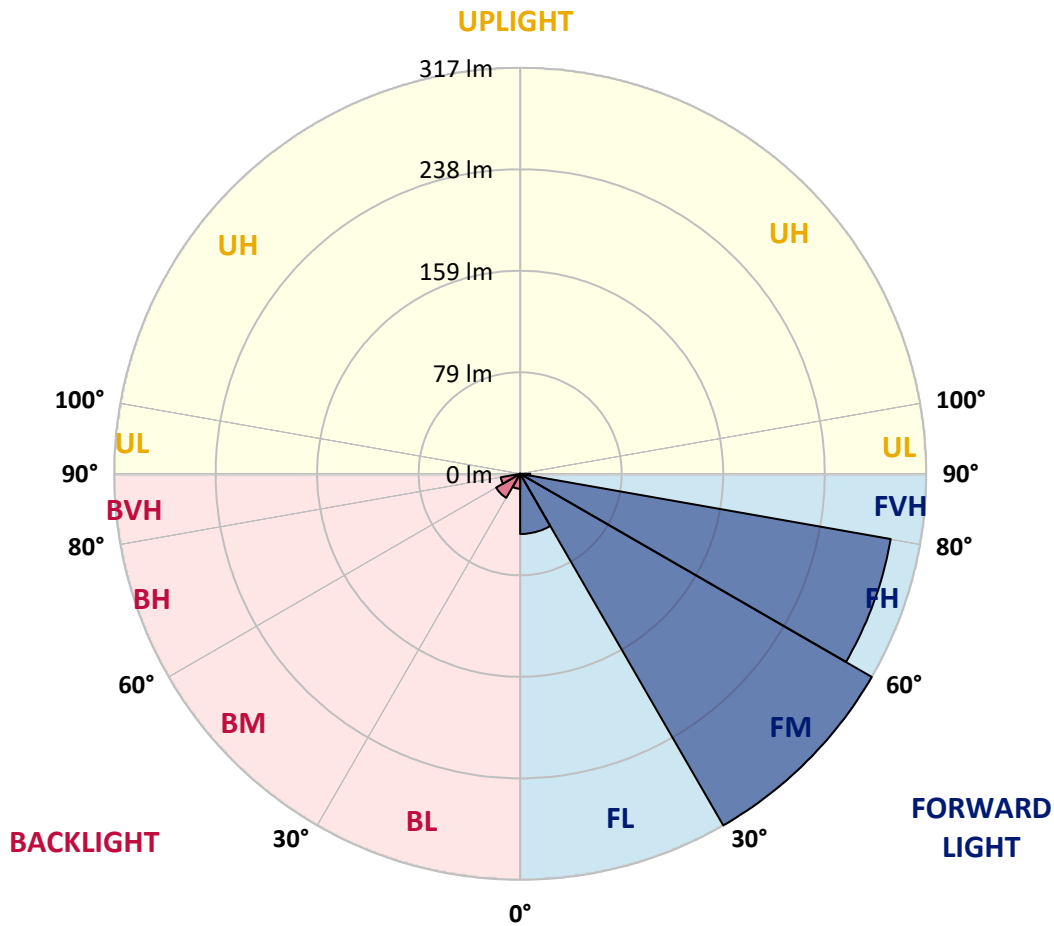
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|--------|
| | | | B | U | G |
| FL (0°-30°) | 47.0 | 6.6 | | | |
| FM (30°-60°) | 317.3 | 44.3 | | | |
| FH (60°-80°) | 294.1 | 41.1 | | | G0/660 |
| FVH (80°-90°) | 7.8 | 1.1 | | | G0/10 |
| BL (0°-30°) | 11.7 | 1.6 | B0/110 | | |
| BM (30°-60°) | 21.6 | 3.0 | B0/220 | | |
| BH (60°-80°) | 15.4 | 2.2 | B0/110 | | G0/110 |
| BVH (80°-90°) | 0.9 | 0.1 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B0-U0-G0

Type III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 59° | 65° | 75° | 85° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 |
| 2.5° | 104.6 | 90.5 | 85.7 | 76.2 | 77.4 | 79.7 | 79.1 | 75.3 | 75.6 | 78.8 | 80.3 |
| 5° | 119.3 | 102.2 | 104.6 | 93.5 | 83.0 | 80.0 | 78.5 | 82.4 | 89.6 | 103.4 | 96.5 |
| 7.5° | 120.8 | 110.9 | 111.8 | 101.0 | 85.7 | 84.5 | 94.1 | 97.7 | 106.4 | 111.2 | 105.5 |
| 10° | 104.3 | 101.6 | 98.9 | 93.8 | 96.2 | 101.9 | 100.7 | 102.8 | 107.6 | 116.0 | 107.3 |
| 12.5° | 92.6 | 93.5 | 100.7 | 96.8 | 105.2 | 113.0 | 116.6 | 113.9 | 120.8 | 121.7 | 110.3 |
| 15° | 93.5 | 93.8 | 95.3 | 99.5 | 105.2 | 116.9 | 121.7 | 123.2 | 127.7 | 131.9 | 114.8 |
| 17.5° | 97.1 | 98.0 | 96.5 | 100.4 | 107.3 | 115.7 | 122.3 | 124.7 | 128.6 | 140.6 | 124.7 |
| 20° | 101.6 | 102.5 | 99.2 | 94.4 | 103.7 | 110.9 | 119.6 | 119.6 | 125.9 | 142.4 | 128.6 |
| 22.5° | 110.9 | 107.9 | 99.8 | 95.0 | 97.1 | 102.2 | 112.4 | 117.8 | 123.5 | 141.8 | 135.8 |
| 25° | 113.3 | 112.7 | 106.1 | 100.4 | 98.9 | 101.3 | 109.4 | 113.6 | 127.4 | 150.2 | 134.9 |
| 27.5° | 122.0 | 119.9 | 105.8 | 107.3 | 100.7 | 96.5 | 107.3 | 113.3 | 128.9 | 147.8 | 137.9 |
| 30° | 130.4 | 131.6 | 114.8 | 113.9 | 107.0 | 96.8 | 110.0 | 112.7 | 129.5 | 154.4 | 143.9 |
| 32.5° | 145.7 | 144.5 | 128.0 | 119.6 | 112.1 | 110.0 | 109.1 | 119.0 | 128.6 | 165.5 | 152.6 |
| 35° | 162.2 | 160.7 | 143.0 | 134.3 | 123.2 | 116.6 | 122.9 | 125.9 | 137.6 | 178.7 | 160.1 |
| 37.5° | 191.6 | 185.6 | 164.9 | 151.1 | 144.2 | 135.5 | 140.0 | 136.4 | 155.0 | 198.5 | 183.8 |
| 40° | 214.7 | 206.9 | 184.7 | 175.7 | 157.1 | 156.8 | 152.6 | 157.4 | 167.0 | 223.4 | 211.7 |
| 42.5° | 237.4 | 229.7 | 208.4 | 201.2 | 181.7 | 169.1 | 167.9 | 179.0 | 189.5 | 253.9 | 238.9 |
| 45° | 258.1 | 243.1 | 228.5 | 224.6 | 215.9 | 203.0 | 199.1 | 203.0 | 217.4 | 292.3 | 270.4 |
| 47.5° | 277.6 | 263.5 | 252.7 | 248.5 | 244.0 | 258.1 | 234.4 | 231.8 | 246.7 | 333.1 | 310.6 |
| 50° | 314.8 | 294.1 | 279.7 | 274.9 | 286.3 | 299.8 | 281.2 | 272.5 | 281.8 | 372.7 | 349.9 |
| 52.5° | 370.9 | 345.1 | 328.9 | 317.5 | 330.7 | 335.8 | 364.6 | 336.7 | 331.3 | 413.4 | 397.8 |
| 55° | 401.7 | 378.4 | 369.4 | 378.4 | 394.8 | 392.1 | 444.9 | 428.7 | 407.4 | 458.4 | 458.7 |
| 57.5° | 393.0 | 368.5 | 367.6 | 387.9 | 438.0 | 480.6 | 514.5 | 496.2 | 477.6 | 522.3 | 537.3 |
| 60° | 317.5 | 294.4 | 311.2 | 355.0 | 444.3 | 538.2 | 633.2 | 604.4 | 543.5 | 592.1 | 618.8 |
| 62.5° | 212.3 | 198.5 | 218.9 | 246.1 | 377.2 | 573.2 | 773.5 | 775.6 | 634.1 | 659.3 | 671.0 |
| 65° | 130.1 | 118.1 | 125.0 | 160.1 | 256.3 | 532.5 | 879.9 | 944.4 | 736.0 | 699.4 | 652.1 |
| 67.5° | 89.0 | 82.4 | 78.8 | 95.3 | 149.9 | 374.5 | 909.3 | 990.6 | 823.0 | 672.8 | 547.7 |
| 70° | 68.7 | 63.0 | 58.5 | 66.9 | 95.0 | 205.7 | 768.7 | 890.4 | 749.5 | 525.0 | 349.3 |
| 72.5° | 50.7 | 46.5 | 46.8 | 53.4 | 79.1 | 101.3 | 512.4 | 672.2 | 554.3 | 320.2 | 162.5 |
| 75° | 33.3 | 31.5 | 36.9 | 45.9 | 70.8 | 75.9 | 254.2 | 380.8 | 316.3 | 136.4 | 48.0 |
| 77.5° | 20.1 | 18.3 | 24.0 | 37.2 | 60.6 | 66.3 | 110.6 | 191.9 | 119.0 | 37.2 | 14.1 |
| 80° | 9.9 | 9.0 | 12.3 | 26.7 | 48.6 | 59.1 | 74.7 | 90.8 | 48.6 | 11.7 | 8.1 |
| 82.5° | 3.9 | 3.9 | 6.0 | 16.5 | 33.3 | 45.3 | 62.7 | 65.1 | 27.6 | 6.0 | 6.0 |
| 85° | 0.9 | 1.2 | 3.0 | 7.8 | 16.5 | 19.8 | 46.2 | 42.9 | 14.4 | 3.6 | 4.2 |
| 87.5° | 0.6 | 0.6 | 1.2 | 1.8 | 2.7 | 3.0 | 10.2 | 9.3 | 3.0 | 2.1 | 1.8 |
| 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-SA1A-AMB-U-SL3-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 0° | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 | 72.3 |
| 2.5° | 84.2 | 71.1 | 72.3 | 62.7 | 58.8 | 59.1 | 58.8 | 59.1 | 63.9 | 64.5 | 68.7 |
| 5° | 102.8 | 88.1 | 81.2 | 67.8 | 54.0 | 47.4 | 47.4 | 52.2 | 55.5 | 53.4 | 58.2 |
| 7.5° | 107.6 | 95.6 | 81.2 | 61.8 | 43.2 | 36.3 | 35.7 | 33.6 | 33.3 | 31.8 | 33.6 |
| 10° | 101.6 | 89.3 | 70.8 | 48.9 | 35.7 | 27.9 | 21.0 | 17.4 | 16.2 | 16.2 | 16.2 |
| 12.5° | 103.4 | 89.0 | 65.1 | 41.1 | 27.3 | 18.3 | 14.1 | 12.0 | 11.7 | 11.4 | 11.7 |
| 15° | 101.9 | 88.4 | 59.7 | 33.3 | 19.8 | 14.1 | 12.0 | 11.7 | 11.4 | 11.7 | 11.7 |
| 17.5° | 106.1 | 92.3 | 52.5 | 25.8 | 15.3 | 12.6 | 12.0 | 11.7 | 11.7 | 12.0 | 11.7 |
| 20° | 109.7 | 89.6 | 43.8 | 18.9 | 12.9 | 12.0 | 11.7 | 11.1 | 11.4 | 12.0 | 11.7 |
| 22.5° | 114.5 | 87.2 | 34.5 | 15.3 | 11.7 | 11.1 | 10.8 | 10.5 | 10.8 | 11.4 | 11.4 |
| 25° | 113.6 | 83.3 | 27.6 | 12.9 | 11.1 | 10.5 | 9.9 | 9.9 | 9.9 | 10.5 | 10.5 |
| 27.5° | 113.9 | 77.4 | 21.0 | 11.7 | 10.5 | 9.6 | 9.3 | 9.0 | 8.7 | 9.0 | 9.0 |
| 30° | 111.8 | 76.5 | 16.5 | 10.8 | 9.6 | 8.4 | 8.4 | 8.1 | 7.5 | 7.8 | 7.8 |
| 32.5° | 118.7 | 66.9 | 14.4 | 10.2 | 9.0 | 8.1 | 7.5 | 6.9 | 6.6 | 6.9 | 6.9 |
| 35° | 121.1 | 62.7 | 12.9 | 9.9 | 8.7 | 7.5 | 6.9 | 6.3 | 6.0 | 6.0 | 6.0 |
| 37.5° | 135.2 | 57.6 | 12.0 | 9.6 | 8.4 | 7.2 | 6.3 | 5.7 | 5.7 | 5.7 | 5.7 |
| 40° | 152.9 | 57.0 | 11.4 | 9.3 | 8.1 | 6.9 | 6.0 | 5.4 | 5.1 | 5.1 | 5.4 |
| 42.5° | 175.4 | 57.6 | 11.4 | 9.0 | 7.5 | 6.3 | 5.4 | 5.1 | 4.8 | 4.8 | 4.8 |
| 45° | 200.0 | 58.2 | 10.8 | 8.7 | 7.2 | 6.0 | 5.1 | 4.8 | 4.2 | 4.2 | 4.5 |
| 47.5° | 223.4 | 61.2 | 10.5 | 8.4 | 6.9 | 5.7 | 4.8 | 4.2 | 3.9 | 3.9 | 3.9 |
| 50° | 253.0 | 68.1 | 10.2 | 8.1 | 6.6 | 5.4 | 4.5 | 3.9 | 3.6 | 3.6 | 3.3 |
| 52.5° | 298.6 | 78.2 | 9.6 | 7.8 | 6.3 | 5.4 | 4.5 | 3.6 | 3.3 | 3.0 | 3.0 |
| 55° | 357.1 | 95.6 | 9.0 | 7.5 | 6.0 | 5.1 | 4.2 | 3.3 | 3.0 | 3.0 | 3.0 |
| 57.5° | 431.1 | 117.5 | 8.4 | 6.9 | 5.7 | 4.8 | 3.9 | 3.3 | 3.0 | 2.7 | 2.4 |
| 60° | 504.0 | 130.4 | 7.8 | 6.3 | 5.1 | 4.2 | 3.6 | 3.0 | 2.7 | 2.4 | 2.4 |
| 62.5° | 544.4 | 125.9 | 7.2 | 6.0 | 4.5 | 3.9 | 3.3 | 3.0 | 2.7 | 2.4 | 2.1 |
| 65° | 519.9 | 111.5 | 6.6 | 5.4 | 4.2 | 3.6 | 3.0 | 3.0 | 2.7 | 2.4 | 2.1 |
| 67.5° | 423.3 | 86.6 | 5.7 | 4.8 | 3.9 | 3.3 | 2.7 | 2.7 | 2.4 | 2.1 | 1.8 |
| 70° | 260.2 | 52.2 | 5.1 | 4.2 | 3.3 | 3.0 | 2.7 | 2.7 | 2.4 | 2.1 | 1.8 |
| 72.5° | 112.7 | 21.3 | 4.5 | 3.9 | 3.0 | 2.7 | 2.7 | 2.7 | 2.4 | 2.4 | 1.8 |
| 75° | 35.1 | 8.7 | 4.2 | 3.6 | 3.0 | 2.4 | 2.7 | 2.7 | 2.4 | 2.1 | 1.8 |
| 77.5° | 11.1 | 5.4 | 3.6 | 3.0 | 2.7 | 2.4 | 2.7 | 2.7 | 2.1 | 1.8 | 1.2 |
| 80° | 6.6 | 3.6 | 3.0 | 2.7 | 2.4 | 1.5 | 2.4 | 2.4 | 2.1 | 1.8 | 1.2 |
| 82.5° | 4.8 | 2.7 | 2.4 | 2.1 | 1.8 | 0.9 | 2.1 | 2.1 | 2.1 | 1.8 | 1.2 |
| 85° | 3.3 | 2.1 | 2.1 | 1.8 | 1.5 | 0.9 | 1.8 | 1.8 | 2.1 | 2.1 | 1.2 |
| 87.5° | 1.2 | 1.8 | 1.8 | 1.8 | 1.5 | 0.9 | 1.8 | 1.8 | 2.1 | 1.8 | 1.2 |
| 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)