

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: P367349

Luminaire Tested: **MSA-SA2B-760-U-5WQ**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367349  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2B-760-U-5WQ  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10685 lumens  
Efficiency: N/A  
Efficacy: 125.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B4 - U0 - G2

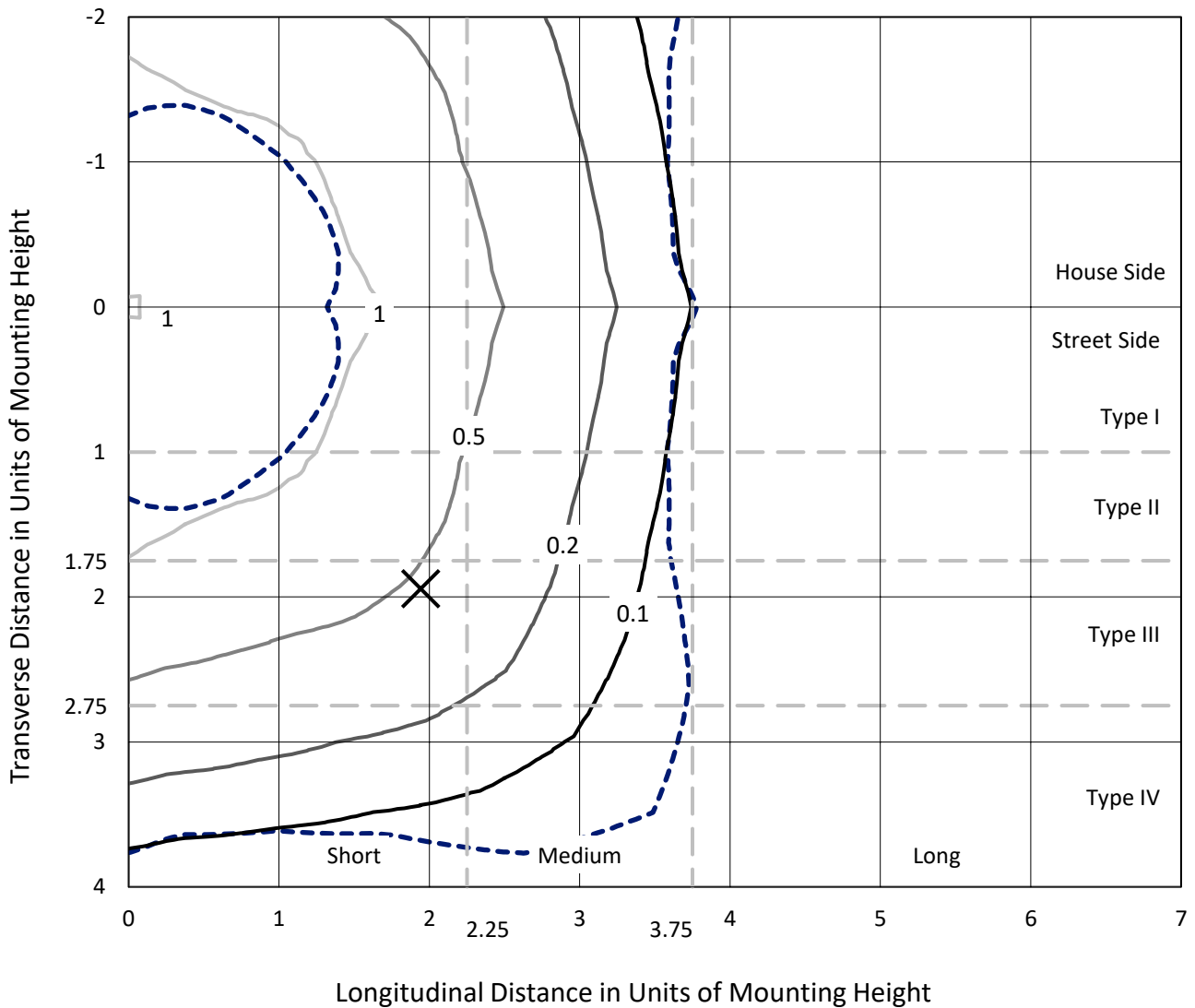
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

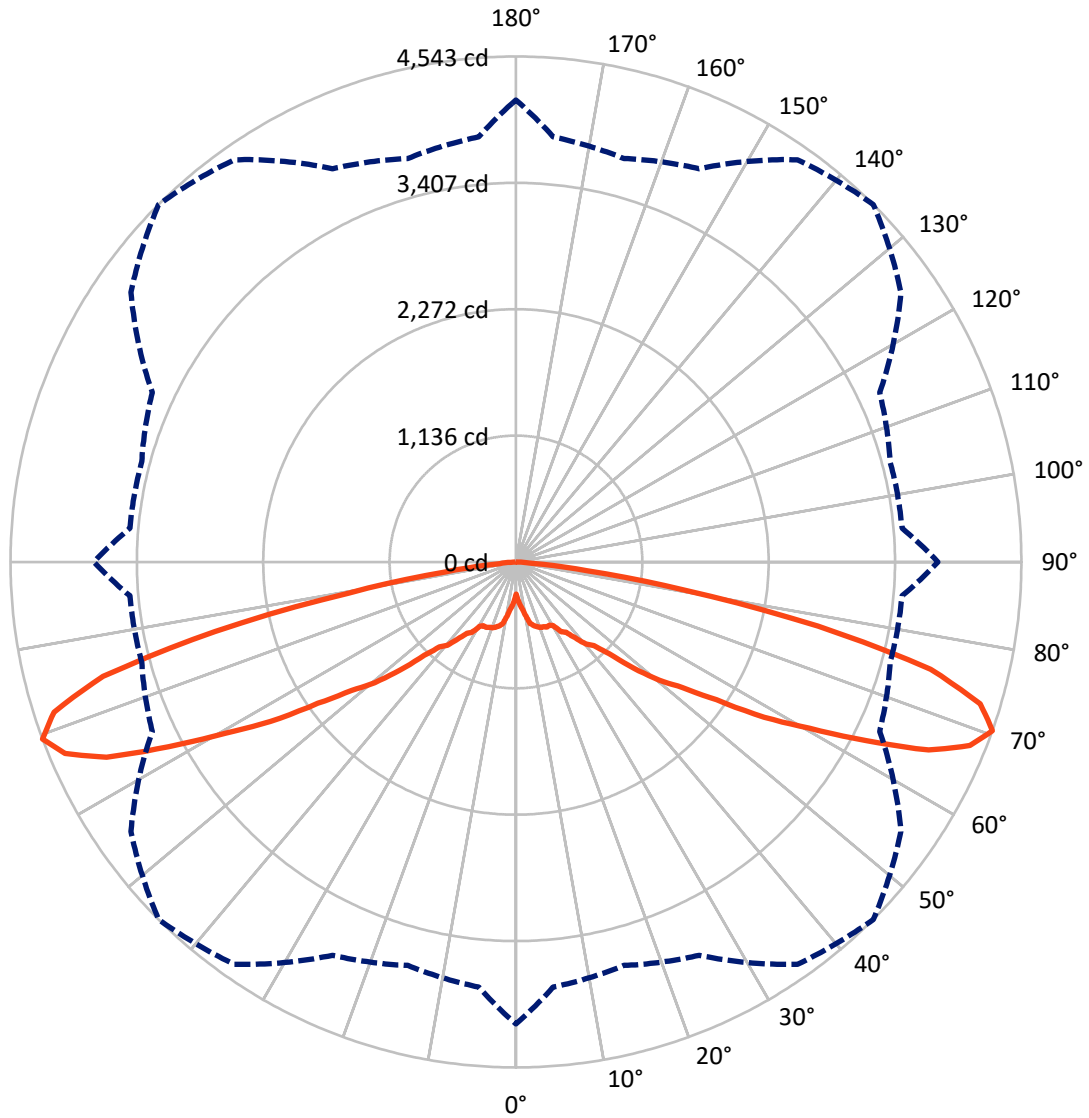
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 1.4 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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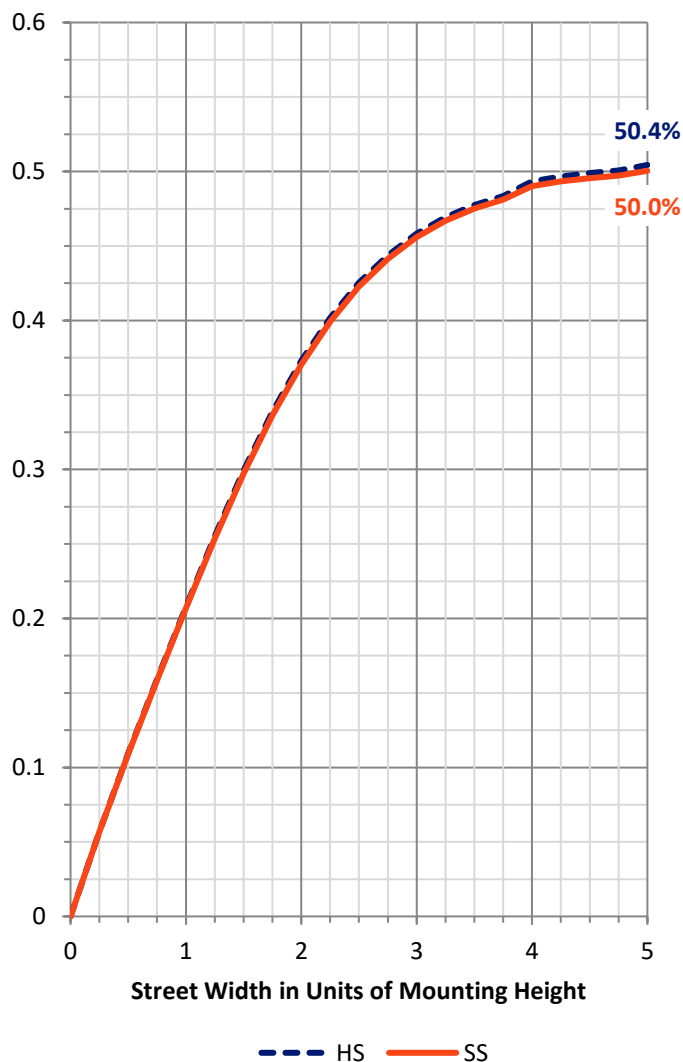
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 5342.5   | 0.0    | 5342.5  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 5342.5   | 0.0    | 5342.5  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 10685.0  | 0.0    | 10685.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 42.0    | 0.4       |
| 10°-20°   | 168.2   | 1.6       |
| 20°-30°   | 318.0   | 3.0       |
| 30°-40°   | 553.9   | 5.2       |
| 40°-50°   | 1058.9  | 9.9       |
| 50°-60°   | 2053.2  | 19.2      |
| 60°-70°   | 3595.3  | 33.6      |
| 70°-80°   | 2702.1  | 25.3      |
| 80°-90°   | 193.3   | 1.8       |
| 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°    | 10685.0 | 100.0     |
| 0°-180°   | 10685.0 | 100.0     |

**Coefficient of Utilization**



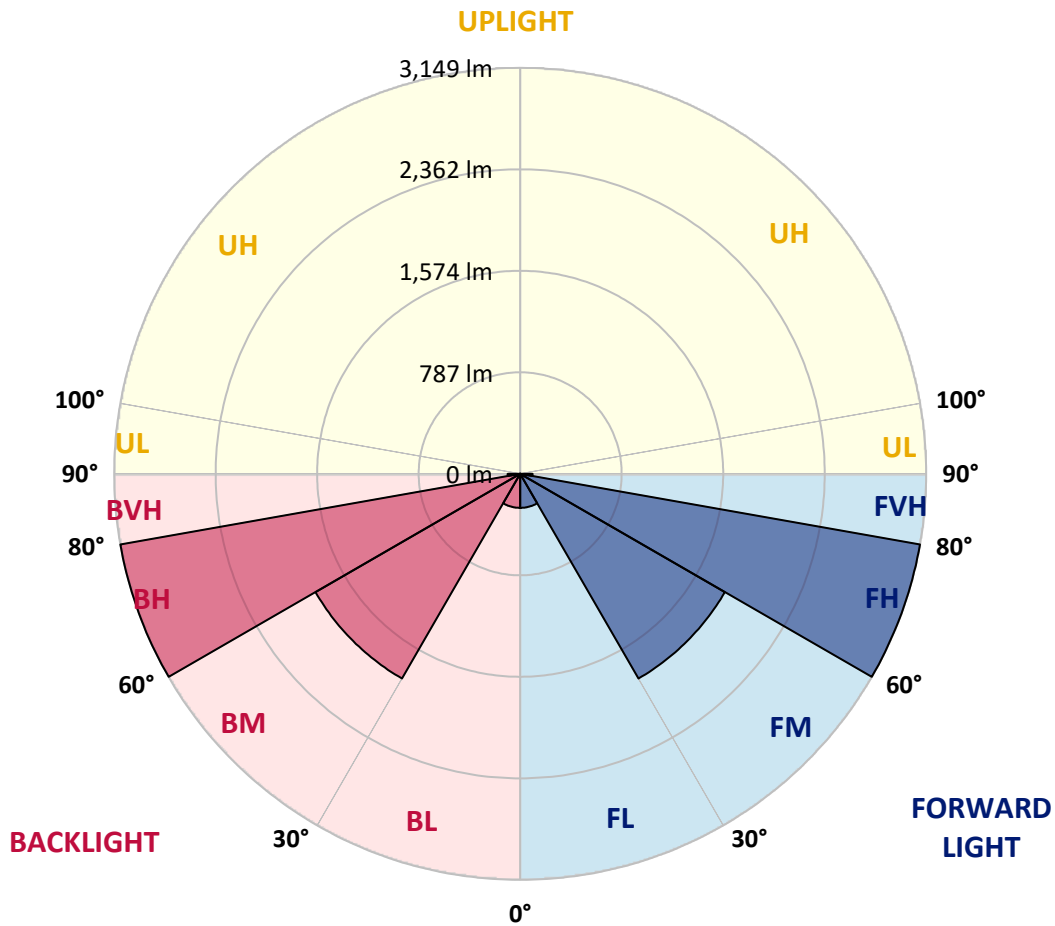
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 264.1  | 2.5       |                         |      |         |
| FM (30°-60°)   | 1833.0 | 17.2      |                         |      |         |
| FH (60°-80°)   | 3148.7 | 29.5      |                         |      | G2/5000 |
| FVH (80°-90°)  | 96.7   | 0.9       |                         |      | G1/100  |
| BL (0°-30°)    | 264.1  | 2.5       | B1/500                  |      |         |
| BM (30°-60°)   | 1833.0 | 17.2      | B2/2500                 |      |         |
| BH (60°-80°)   | 3148.7 | 29.5      | B4/5000                 |      | G2/5000 |
| BVH (80°-90°)  | 96.7   | 0.9       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B4-U0-G2**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 288.9  | 288.9  | 288.9  | 288.9  | 288.9  | 288.9  | 288.9  | 288.9  | 288.9  | 288.9  | 288.9  |
| 2.5°  | 351.5  | 346.1  | 329.1  | 330.0  | 337.8  | 338.7  | 339.5  | 329.1  | 326.6  | 347.8  | 349.0  |
| 5°    | 446.4  | 434.0  | 421.6  | 416.6  | 409.1  | 388.4  | 411.2  | 413.7  | 418.7  | 434.8  | 442.3  |
| 7.5°  | 509.8  | 494.5  | 477.5  | 467.2  | 446.8  | 429.8  | 448.5  | 463.8  | 473.8  | 492.0  | 502.4  |
| 10°   | 521.9  | 512.8  | 511.9  | 493.7  | 490.0  | 496.2  | 494.9  | 495.3  | 510.3  | 510.7  | 516.9  |
| 12.5° | 559.6  | 566.2  | 553.4  | 547.2  | 550.9  | 566.2  | 553.8  | 548.4  | 552.1  | 569.1  | 562.1  |
| 15°   | 608.9  | 616.8  | 597.3  | 587.4  | 577.4  | 591.9  | 579.1  | 588.6  | 600.6  | 613.1  | 606.8  |
| 17.5° | 663.6  | 664.0  | 637.5  | 600.6  | 609.3  | 611.4  | 606.8  | 599.0  | 633.4  | 663.2  | 660.3  |
| 20°   | 693.5  | 693.1  | 647.5  | 597.3  | 623.0  | 627.6  | 623.4  | 596.5  | 648.3  | 689.3  | 688.1  |
| 22.5° | 724.2  | 715.0  | 660.3  | 619.7  | 629.2  | 633.0  | 623.4  | 620.9  | 660.3  | 717.5  | 717.1  |
| 25°   | 740.7  | 748.6  | 688.5  | 663.2  | 655.3  | 646.6  | 654.9  | 659.1  | 696.8  | 752.8  | 736.6  |
| 27.5° | 792.5  | 779.7  | 696.8  | 694.3  | 677.7  | 643.3  | 671.9  | 692.2  | 694.3  | 784.7  | 801.3  |
| 30°   | 839.4  | 844.4  | 734.1  | 737.8  | 707.6  | 664.0  | 708.4  | 740.7  | 747.0  | 845.2  | 843.5  |
| 32.5° | 889.1  | 891.2  | 800.4  | 761.9  | 749.0  | 747.4  | 730.4  | 758.6  | 807.5  | 886.2  | 889.5  |
| 35°   | 964.6  | 981.6  | 859.7  | 807.9  | 791.7  | 775.1  | 790.1  | 815.3  | 860.9  | 979.1  | 970.8  |
| 37.5° | 1137.4 | 1110.5 | 988.6  | 881.3  | 870.5  | 863.8  | 875.9  | 894.1  | 987.4  | 1113.4 | 1151.9 |
| 40°   | 1258.0 | 1245.2 | 1079.4 | 1002.7 | 934.7  | 970.4  | 942.2  | 1012.7 | 1089.8 | 1246.0 | 1270.9 |
| 42.5° | 1445.0 | 1387.8 | 1217.4 | 1122.5 | 1052.0 | 1026.7 | 1042.5 | 1134.5 | 1232.8 | 1406.9 | 1455.8 |
| 45°   | 1624.5 | 1536.2 | 1390.3 | 1306.5 | 1199.6 | 1173.1 | 1194.2 | 1302.4 | 1416.0 | 1553.6 | 1639.8 |
| 47.5° | 1807.7 | 1716.5 | 1556.1 | 1435.0 | 1347.6 | 1426.7 | 1357.5 | 1460.3 | 1573.5 | 1733.5 | 1810.2 |
| 50°   | 1997.9 | 1896.8 | 1738.5 | 1606.6 | 1599.2 | 1669.2 | 1586.3 | 1639.0 | 1743.9 | 1909.7 | 2000.0 |
| 52.5° | 2216.4 | 2107.4 | 1949.0 | 1859.9 | 1877.3 | 1872.8 | 1856.2 | 1846.6 | 1949.9 | 2112.8 | 2220.1 |
| 55°   | 2476.3 | 2358.6 | 2232.1 | 2191.1 | 2239.2 | 2187.4 | 2211.8 | 2208.5 | 2223.4 | 2339.9 | 2465.5 |
| 57.5° | 2790.5 | 2657.4 | 2530.6 | 2521.5 | 2583.2 | 2632.1 | 2588.6 | 2526.0 | 2499.9 | 2613.1 | 2756.9 |
| 60°   | 3186.4 | 3023.0 | 2883.8 | 2855.2 | 3031.3 | 3030.9 | 2991.5 | 2851.4 | 2841.5 | 2969.6 | 3142.8 |
| 62.5° | 3623.7 | 3424.7 | 3272.6 | 3227.0 | 3503.0 | 3534.1 | 3411.4 | 3160.2 | 3211.6 | 3314.8 | 3520.4 |
| 65°   | 3995.1 | 3755.9 | 3614.1 | 3601.7 | 3939.1 | 4076.3 | 3805.2 | 3461.6 | 3478.2 | 3564.0 | 3786.6 |
| 67.5° | 4237.1 | 3949.1 | 3836.3 | 3896.4 | 4315.9 | 4401.7 | 4149.7 | 3663.0 | 3604.2 | 3639.8 | 3905.9 |
| 70°   | 4152.2 | 3835.5 | 3754.2 | 3900.1 | 4413.3 | 4543.0 | 4223.9 | 3606.7 | 3481.5 | 3483.1 | 3792.4 |
| 72.5° | 3508.4 | 3207.1 | 3245.6 | 3513.4 | 4182.8 | 4364.8 | 3880.7 | 3257.6 | 3001.5 | 2995.3 | 3275.9 |
| 75°   | 2320.0 | 2118.6 | 2270.7 | 2688.1 | 3477.3 | 3849.6 | 3215.4 | 2553.4 | 2232.1 | 2127.7 | 2344.5 |
| 77.5° | 1014.7 | 989.0  | 1117.1 | 1588.8 | 2370.6 | 2774.3 | 2303.4 | 1668.0 | 1214.1 | 1009.8 | 1103.0 |
| 80°   | 271.9  | 266.1  | 334.1  | 602.7  | 1154.0 | 1527.9 | 1246.4 | 665.3  | 347.4  | 252.9  | 268.2  |
| 82.5° | 99.1   | 101.6  | 123.9  | 168.7  | 380.1  | 643.3  | 414.1  | 194.4  | 131.4  | 107.8  | 107.8  |
| 85°   | 43.1   | 41.9   | 60.1   | 67.6   | 103.6  | 145.5  | 119.0  | 82.5   | 66.3   | 49.7   | 47.7   |
| 87.5° | 11.6   | 14.5   | 20.3   | 21.1   | 26.9   | 22.0   | 31.5   | 29.0   | 24.9   | 17.4   | 14.1   |
| 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)