

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: P368053

Luminaire Tested: **MSA-SA3D-727-U-5WQ**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368053  
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-SA3D-727-U-5WQ  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17857 lumens  
Efficiency: N/A  
Efficacy: 93.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B5 - U0 - G3

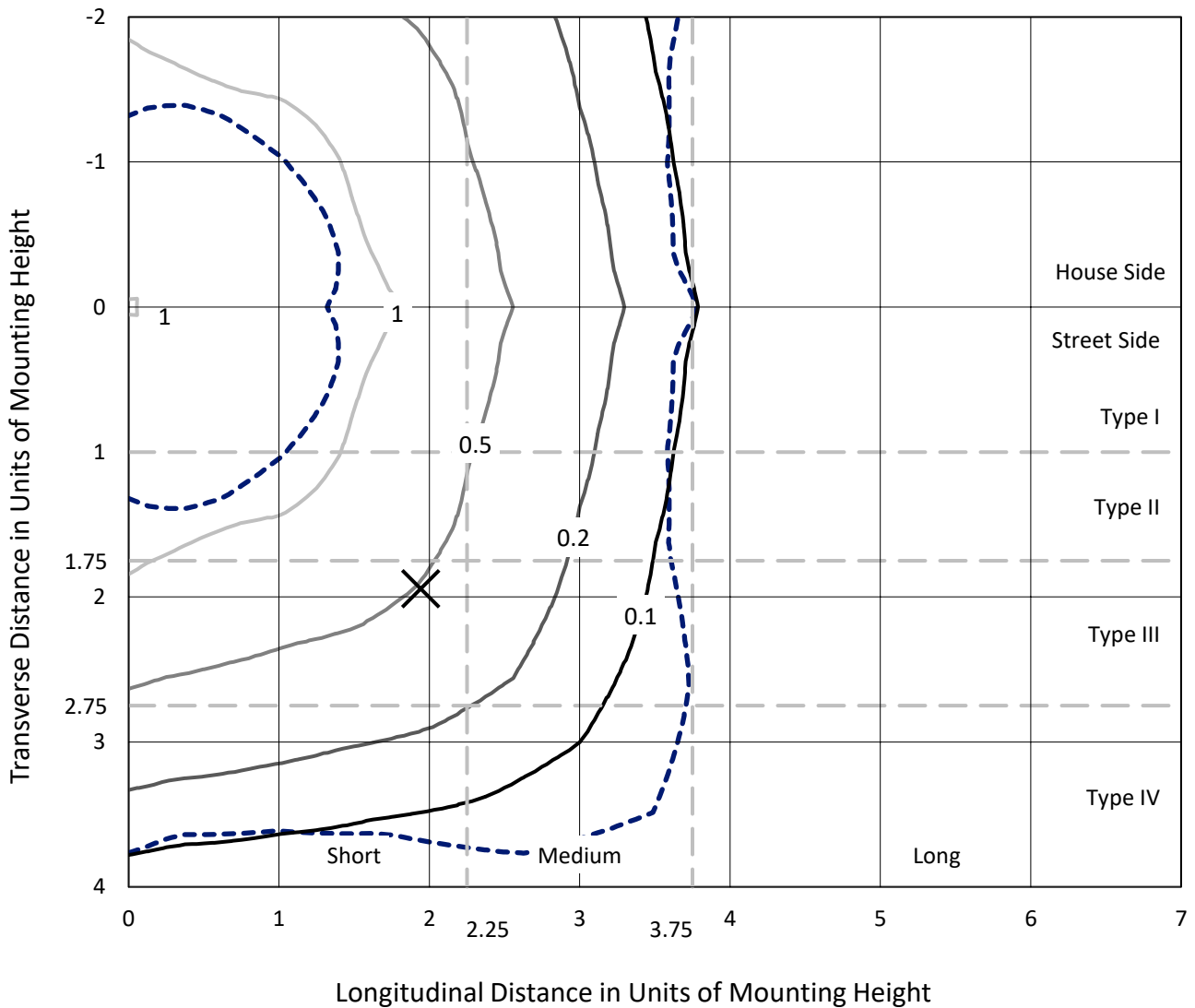
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

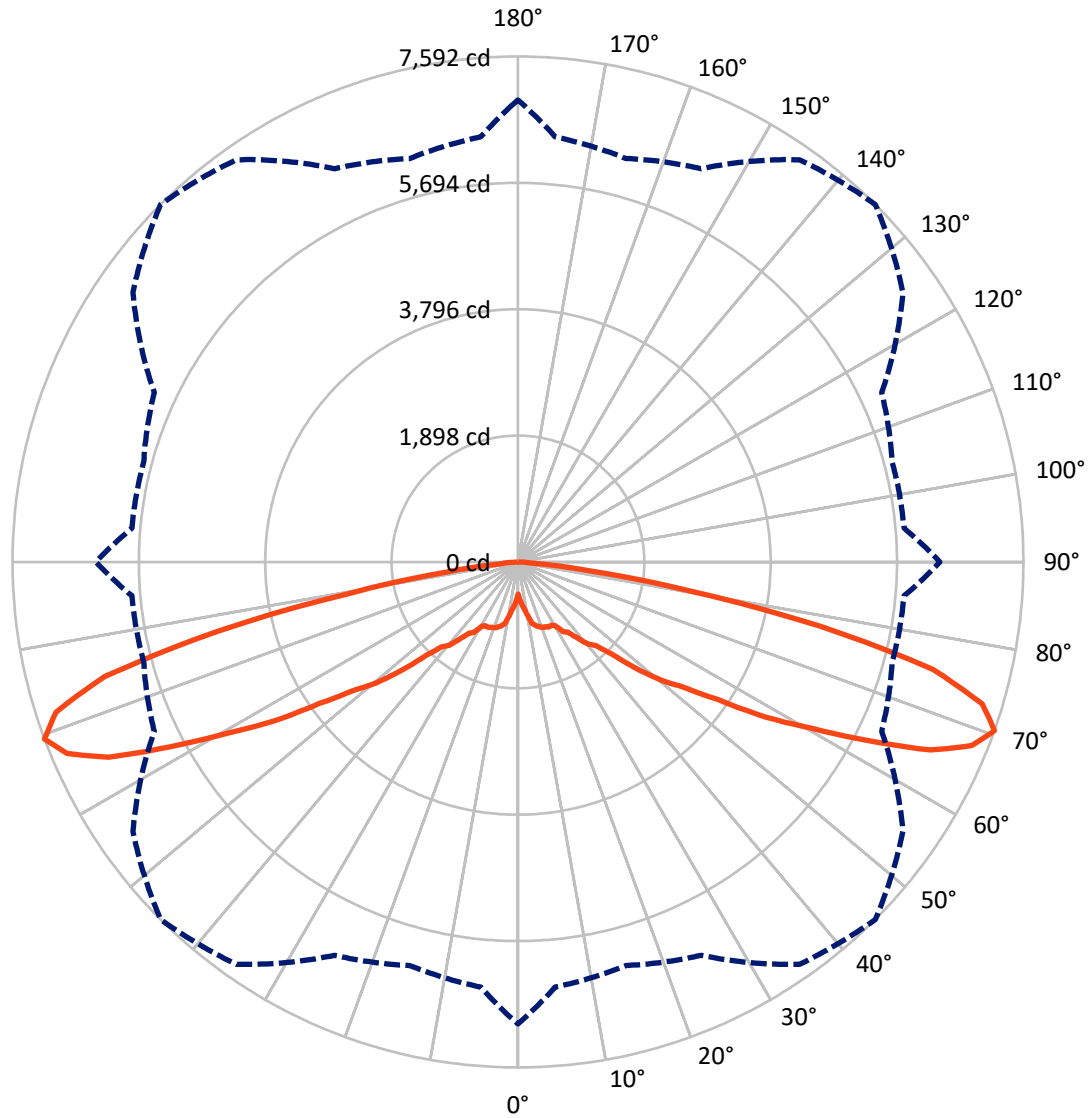
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.6 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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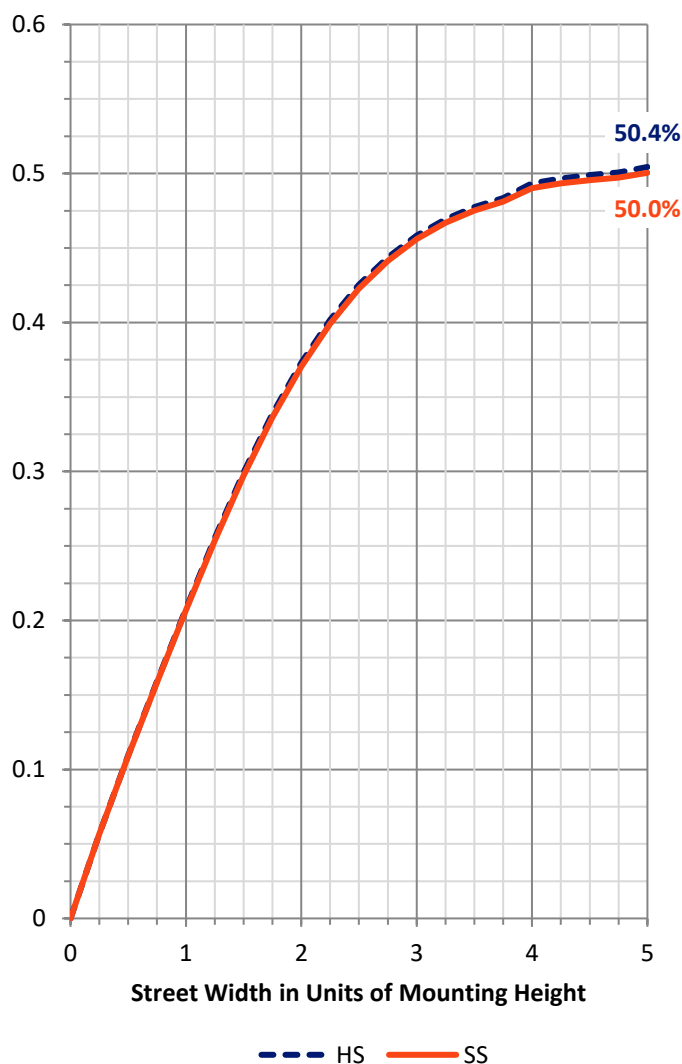
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 8928.5   | 0.0    | 8928.5  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 8928.5   | 0.0    | 8928.5  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 17857.0  | 0.0    | 17857.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 70.2    | 0.4       |
| 10°-20°   | 281.1   | 1.6       |
| 20°-30°   | 531.4   | 3.0       |
| 30°-40°   | 925.7   | 5.2       |
| 40°-50°   | 1769.6  | 9.9       |
| 50°-60°   | 3431.4  | 19.2      |
| 60°-70°   | 6008.6  | 33.6      |
| 70°-80°   | 4515.8  | 25.3      |
| 80°-90°   | 323.1   | 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°    | 17857.0 | 100.0     |
| 0°-180°   | 17857.0 | 100.0     |

**Coefficient of Utilization**

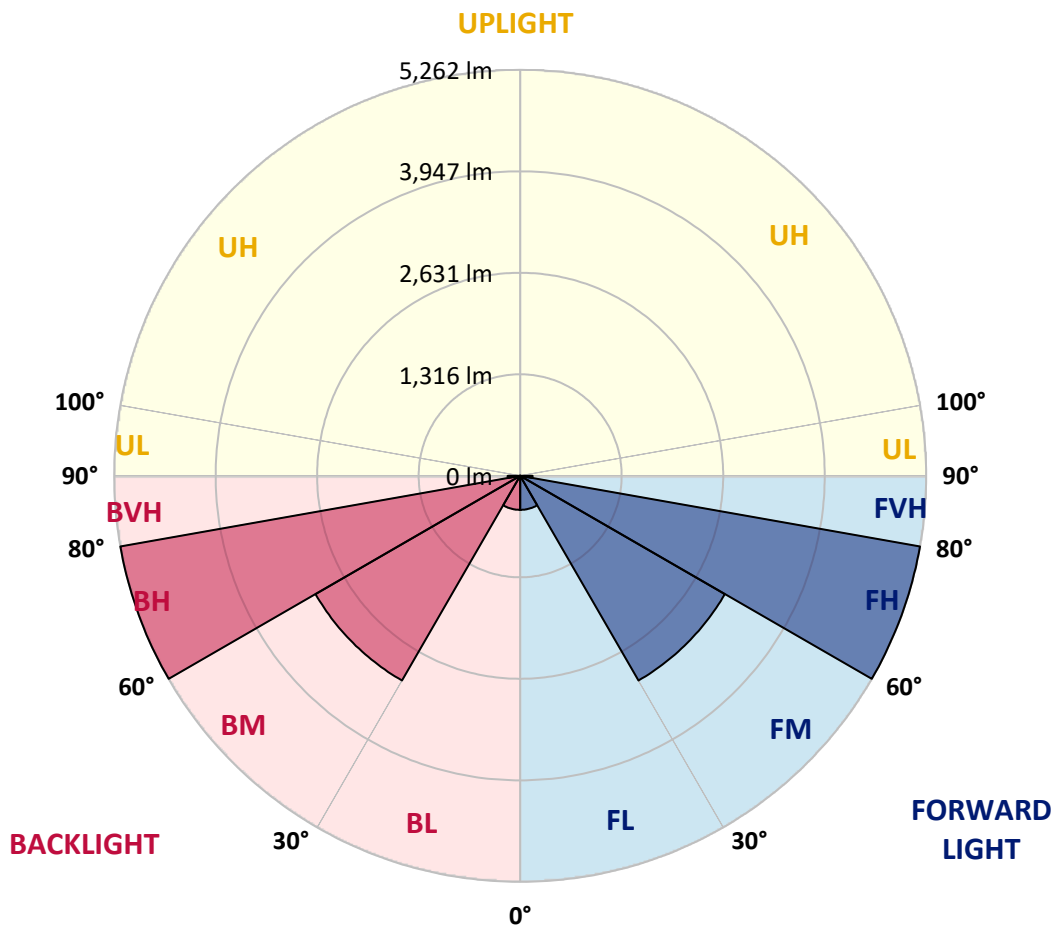


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 441.4  | 2.5       |                         |      |         |
| FM (30°-60°)   | 3063.4 | 17.2      |                         |      |         |
| FH (60°-80°)   | 5262.2 | 29.5      |                         |      | G3/7500 |
| FVH (80°-90°)  | 161.5  | 0.9       |                         |      | G2/225  |
| BL (0°-30°)    | 441.4  | 2.5       | B1/500                  |      |         |
| BM (30°-60°)   | 3063.4 | 17.2      | B3/5000                 |      |         |
| BH (60°-80°)   | 5262.2 | 29.5      | B5                      |      | G3/7500 |
| BVH (80°-90°)  | 161.5  | 0.9       |                         |      | G2/225  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B5-U0-G3**  
 Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 482.8  | 482.8  | 482.8  | 482.8  | 482.8  | 482.8  | 482.8  | 482.8  | 482.8  | 482.8  | 482.8  |
| 2.5°  | 587.4  | 578.4  | 550.0  | 551.4  | 564.6  | 566.0  | 567.4  | 550.0  | 545.9  | 581.2  | 583.3  |
| 5°    | 746.1  | 725.3  | 704.5  | 696.2  | 683.7  | 649.1  | 687.2  | 691.4  | 699.7  | 726.7  | 739.2  |
| 7.5°  | 852.1  | 826.4  | 798.0  | 780.7  | 746.8  | 718.4  | 749.5  | 775.2  | 791.8  | 822.3  | 839.6  |
| 10°   | 872.2  | 856.9  | 855.5  | 825.1  | 818.8  | 829.2  | 827.1  | 827.8  | 852.8  | 853.5  | 863.8  |
| 12.5° | 935.2  | 946.3  | 924.8  | 914.4  | 920.7  | 946.3  | 925.5  | 916.5  | 922.7  | 951.1  | 939.4  |
| 15°   | 1017.6 | 1030.8 | 998.2  | 981.6  | 965.0  | 989.2  | 967.8  | 983.7  | 1003.8 | 1024.6 | 1014.2 |
| 17.5° | 1109.1 | 1109.8 | 1065.4 | 1003.8 | 1018.3 | 1021.8 | 1014.2 | 1001.0 | 1058.5 | 1108.4 | 1103.5 |
| 20°   | 1159.0 | 1158.3 | 1082.1 | 998.2  | 1041.2 | 1048.8 | 1041.9 | 996.9  | 1083.4 | 1152.0 | 1149.9 |
| 22.5° | 1210.2 | 1195.0 | 1103.5 | 1035.6 | 1051.6 | 1057.8 | 1041.9 | 1037.7 | 1103.5 | 1199.1 | 1198.4 |
| 25°   | 1237.9 | 1251.1 | 1150.6 | 1108.4 | 1095.2 | 1080.7 | 1094.5 | 1101.5 | 1164.5 | 1258.0 | 1231.0 |
| 27.5° | 1324.5 | 1303.0 | 1164.5 | 1160.3 | 1132.6 | 1075.1 | 1122.9 | 1156.9 | 1160.3 | 1311.4 | 1339.1 |
| 30°   | 1402.8 | 1411.1 | 1226.8 | 1233.1 | 1182.5 | 1109.8 | 1183.9 | 1237.9 | 1248.3 | 1412.5 | 1409.7 |
| 32.5° | 1485.9 | 1489.4 | 1337.7 | 1273.3 | 1251.8 | 1249.0 | 1220.6 | 1267.7 | 1349.5 | 1481.1 | 1486.6 |
| 35°   | 1612.0 | 1640.4 | 1436.7 | 1350.2 | 1323.1 | 1295.4 | 1320.4 | 1362.6 | 1438.8 | 1636.3 | 1622.4 |
| 37.5° | 1900.9 | 1855.9 | 1652.2 | 1472.8 | 1454.8 | 1443.7 | 1463.8 | 1494.2 | 1650.1 | 1860.7 | 1925.1 |
| 40°   | 2102.5 | 2081.0 | 1803.9 | 1675.7 | 1562.1 | 1621.7 | 1574.6 | 1692.4 | 1821.2 | 2082.4 | 2123.9 |
| 42.5° | 2414.9 | 2319.3 | 2034.6 | 1875.9 | 1758.2 | 1715.9 | 1742.2 | 1896.0 | 2060.2 | 2351.2 | 2432.9 |
| 45°   | 2714.9 | 2567.3 | 2323.5 | 2183.5 | 2004.8 | 1960.5 | 1995.8 | 2176.6 | 2366.4 | 2596.4 | 2740.5 |
| 47.5° | 3021.0 | 2868.6 | 2600.5 | 2398.3 | 2252.1 | 2384.4 | 2268.7 | 2440.5 | 2629.6 | 2897.0 | 3025.2 |
| 50°   | 3339.0 | 3170.0 | 2905.4 | 2685.1 | 2672.6 | 2789.7 | 2651.1 | 2739.1 | 2914.4 | 3191.5 | 3342.5 |
| 52.5° | 3704.1 | 3521.9 | 3257.3 | 3108.3 | 3137.4 | 3129.8 | 3102.1 | 3086.2 | 3258.7 | 3530.9 | 3710.3 |
| 55°   | 4138.4 | 3941.7 | 3730.4 | 3661.8 | 3742.2 | 3655.6 | 3696.5 | 3690.9 | 3715.9 | 3910.5 | 4120.4 |
| 57.5° | 4663.5 | 4441.2 | 4229.2 | 4213.9 | 4317.2 | 4398.9 | 4326.2 | 4221.6 | 4177.9 | 4367.0 | 4607.4 |
| 60°   | 5325.1 | 5052.2 | 4819.4 | 4771.6 | 5066.0 | 5065.3 | 4999.5 | 4765.4 | 4748.7 | 4962.8 | 5252.4 |
| 62.5° | 6055.9 | 5723.4 | 5469.2 | 5393.0 | 5854.4 | 5906.3 | 5701.3 | 5281.5 | 5367.4 | 5539.8 | 5883.4 |
| 65°   | 6676.6 | 6276.9 | 6040.0 | 6019.2 | 6583.1 | 6812.4 | 6359.4 | 5785.1 | 5812.8 | 5956.2 | 6328.2 |
| 67.5° | 7081.2 | 6599.7 | 6411.3 | 6511.8 | 7212.8 | 7356.2 | 6935.0 | 6121.8 | 6023.4 | 6083.0 | 6527.7 |
| 70°   | 6939.2 | 6409.9 | 6274.2 | 6518.0 | 7375.6 | 7592.4 | 7059.0 | 6027.5 | 5818.3 | 5821.1 | 6337.9 |
| 72.5° | 5863.4 | 5359.7 | 5424.2 | 5871.7 | 6990.4 | 7294.6 | 6485.4 | 5444.2 | 5016.1 | 5005.7 | 5474.7 |
| 75°   | 3877.3 | 3540.6 | 3794.8 | 4492.4 | 5811.4 | 6433.5 | 5373.6 | 4267.3 | 3730.4 | 3555.8 | 3918.1 |
| 77.5° | 1695.8 | 1652.9 | 1866.9 | 2655.3 | 3961.8 | 4636.5 | 3849.6 | 2787.6 | 2029.0 | 1687.5 | 1843.4 |
| 80°   | 454.4  | 444.7  | 558.3  | 1007.2 | 1928.6 | 2553.4 | 2083.1 | 1111.8 | 580.5  | 422.6  | 448.2  |
| 82.5° | 165.6  | 169.7  | 207.1  | 281.9  | 635.2  | 1075.1 | 692.0  | 324.9  | 219.6  | 180.1  | 180.1  |
| 85°   | 72.0   | 70.0   | 100.4  | 112.9  | 173.2  | 243.2  | 198.8  | 137.9  | 110.8  | 83.1   | 79.7   |
| 87.5° | 19.4   | 24.2   | 33.9   | 35.3   | 45.0   | 36.7   | 52.6   | 48.5   | 41.6   | 29.1   | 23.6   |
| 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)