

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: P368184

Luminaire Tested: **MSA-SA4A-727-U-5NQ**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368184  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-727-U-5NQ  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13267 lumens  
Efficiency: N/A  
Efficacy: 102.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B3 - U0 - G2

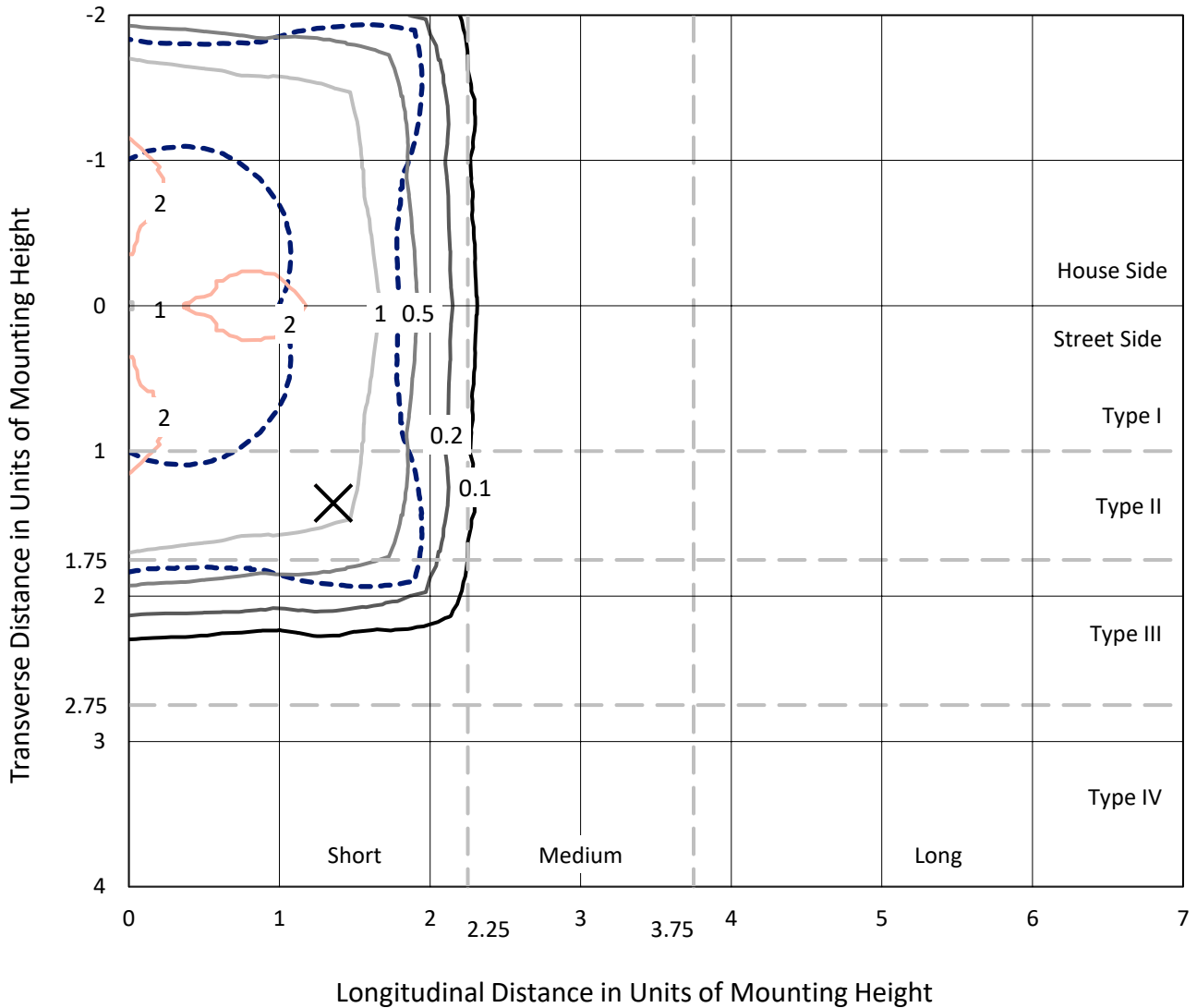
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

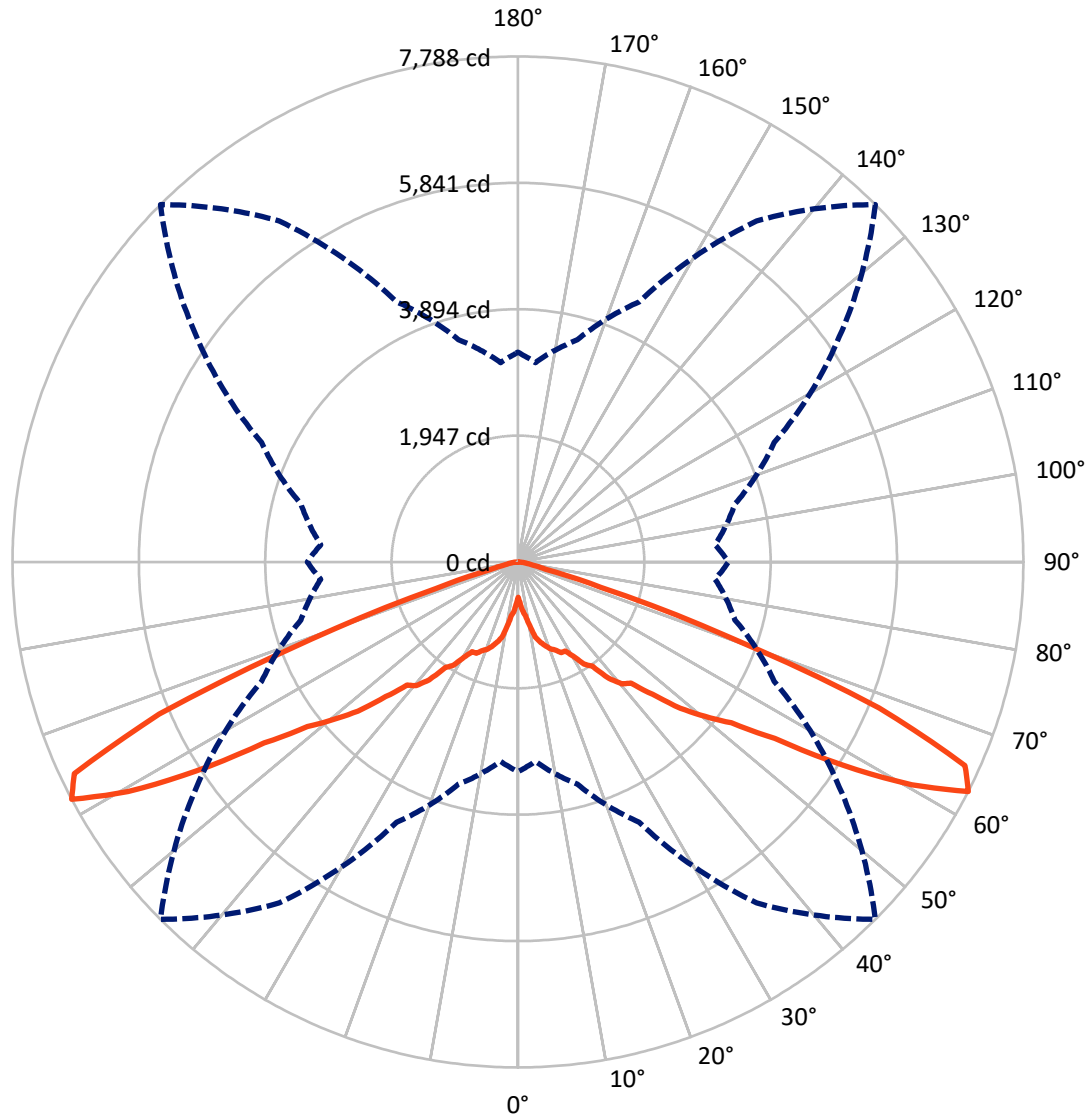
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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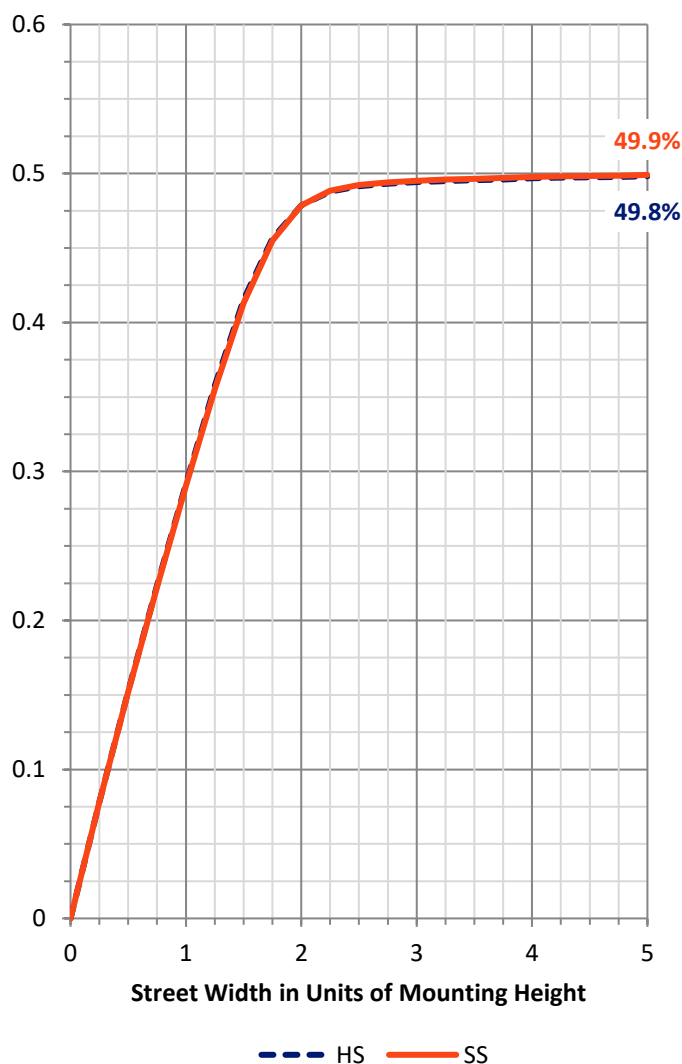
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 6633.5   | 0.0    | 6633.5  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 6633.5   | 0.0    | 6633.5  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 13267.0  | 0.0    | 13267.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 81.8    | 0.6       |
| 10°-20°   | 360.5   | 2.7       |
| 20°-30°   | 755.5   | 5.7       |
| 30°-40°   | 1423.5  | 10.7      |
| 40°-50°   | 2583.7  | 19.5      |
| 50°-60°   | 4365.5  | 32.9      |
| 60°-70°   | 3263.5  | 24.6      |
| 70°-80°   | 365.1   | 2.8       |
| 80°-90°   | 67.9    | 0.5       |
| 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°    | 13267.0 | 100.0     |
| 0°-180°   | 13267.0 | 100.0     |

**Coefficient of Utilization**



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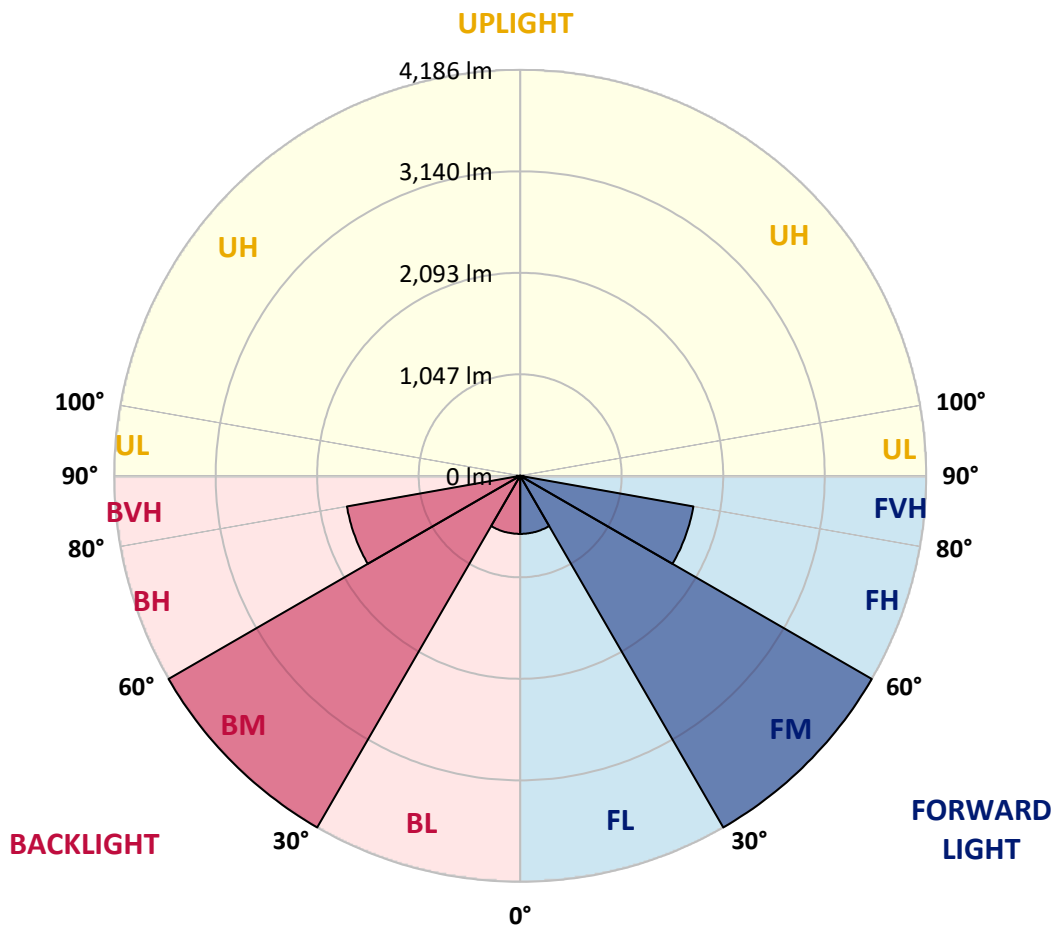
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 598.9  | 4.5       |                         |      |         |
| FM (30°-60°)   | 4186.4 | 31.6      |                         |      |         |
| FH (60°-80°)   | 1814.3 | 13.7      |                         |      | G2/5000 |
| FVH (80°-90°)  | 34.0   | 0.3       |                         |      | G1/100  |
| BL (0°-30°)    | 598.9  | 4.5       | B2/1000                 |      |         |
| BM (30°-60°)   | 4186.4 | 31.6      | B3/5000                 |      |         |
| BH (60°-80°)   | 1814.3 | 13.7      | B3/2500                 |      | G2/5000 |
| BVH (80°-90°)  | 34.0   | 0.3       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G2**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 542.5  | 542.5  | 542.5  | 542.5  | 542.5  | 542.5  | 542.5  | 542.5  | 542.5  | 542.5  | 542.5  |
| 2.5°  | 659.6  | 647.7  | 606.1  | 620.7  | 635.8  | 633.7  | 629.9  | 618.6  | 608.3  | 650.9  | 659.6  |
| 5°    | 840.9  | 813.9  | 799.4  | 787.5  | 784.8  | 755.7  | 795.6  | 791.3  | 804.8  | 827.4  | 849.6  |
| 7.5°  | 985.6  | 960.2  | 921.9  | 913.8  | 870.1  | 837.7  | 872.2  | 914.9  | 928.4  | 969.9  | 994.8  |
| 10°   | 1038.5 | 1016.4 | 1023.4 | 987.2  | 985.1  | 994.2  | 986.7  | 996.4  | 1032.0 | 1027.2 | 1045.5 |
| 12.5° | 1157.2 | 1161.0 | 1138.3 | 1129.2 | 1147.5 | 1187.5 | 1153.5 | 1141.6 | 1132.9 | 1169.6 | 1181.0 |
| 15°   | 1268.4 | 1290.6 | 1253.3 | 1247.4 | 1239.8 | 1277.1 | 1240.4 | 1258.2 | 1273.8 | 1281.4 | 1277.1 |
| 17.5° | 1426.0 | 1427.1 | 1385.5 | 1319.2 | 1344.0 | 1355.9 | 1339.7 | 1308.9 | 1382.8 | 1420.1 | 1422.3 |
| 20°   | 1529.7 | 1533.4 | 1451.4 | 1347.8 | 1417.9 | 1428.7 | 1420.6 | 1356.4 | 1454.6 | 1516.7 | 1514.0 |
| 22.5° | 1641.4 | 1628.4 | 1517.2 | 1441.7 | 1466.5 | 1473.0 | 1455.7 | 1447.6 | 1516.7 | 1629.5 | 1612.8 |
| 25°   | 1716.4 | 1740.2 | 1629.5 | 1580.9 | 1559.9 | 1544.8 | 1566.9 | 1571.2 | 1641.9 | 1744.5 | 1687.8 |
| 27.5° | 1895.6 | 1854.6 | 1681.3 | 1699.7 | 1654.9 | 1552.9 | 1650.0 | 1703.5 | 1688.3 | 1863.2 | 1905.9 |
| 30°   | 2054.8 | 2055.9 | 1813.0 | 1848.1 | 1765.0 | 1682.4 | 1787.7 | 1864.8 | 1846.0 | 2070.0 | 2029.5 |
| 32.5° | 2258.3 | 2265.9 | 2040.3 | 1946.4 | 1890.2 | 1874.6 | 1861.6 | 1946.9 | 2064.6 | 2245.9 | 2249.7 |
| 35°   | 2478.0 | 2542.8 | 2236.2 | 2137.4 | 2041.9 | 1972.8 | 2047.3 | 2165.5 | 2242.1 | 2532.0 | 2480.7 |
| 37.5° | 2906.0 | 2797.0 | 2546.0 | 2360.3 | 2299.3 | 2271.8 | 2311.2 | 2379.8 | 2545.5 | 2795.4 | 2883.4 |
| 40°   | 3159.2 | 3129.0 | 2787.3 | 2631.8 | 2396.5 | 2469.9 | 2448.3 | 2636.2 | 2773.3 | 3146.2 | 3154.3 |
| 42.5° | 3546.2 | 3394.0 | 3086.9 | 2889.3 | 2677.7 | 2550.3 | 2685.3 | 2937.3 | 3103.0 | 3418.3 | 3567.2 |
| 45°   | 3852.2 | 3656.8 | 3419.9 | 3269.8 | 3002.6 | 2908.2 | 2956.8 | 3279.5 | 3487.3 | 3703.8 | 3899.7 |
| 47.5° | 4190.6 | 3979.1 | 3742.1 | 3475.5 | 3214.8 | 3368.6 | 3282.8 | 3566.7 | 3769.6 | 4080.0 | 4263.5 |
| 50°   | 4616.0 | 4381.7 | 4078.4 | 3858.2 | 3685.4 | 3739.4 | 3725.9 | 3928.3 | 4178.8 | 4461.6 | 4669.9 |
| 52.5° | 5084.5 | 4819.5 | 4526.9 | 4322.3 | 4249.5 | 4115.6 | 4290.5 | 4373.6 | 4558.2 | 4817.3 | 5061.8 |
| 55°   | 5412.1 | 5147.1 | 4970.1 | 5035.9 | 5016.5 | 4801.6 | 4954.9 | 4963.6 | 4874.5 | 4967.9 | 5214.0 |
| 57.5° | 5361.4 | 5108.2 | 5083.9 | 5332.8 | 5704.7 | 5912.5 | 5675.5 | 5166.0 | 4832.4 | 4788.7 | 5049.4 |
| 60°   | 4687.8 | 4471.3 | 4693.7 | 5255.0 | 6338.3 | 6970.9 | 6058.7 | 5013.2 | 4463.8 | 4236.5 | 4488.1 |
| 62.5° | 3230.4 | 3084.2 | 3545.1 | 4422.7 | 6414.4 | 7787.6 | 6044.7 | 4356.4 | 3462.0 | 3049.6 | 3245.0 |
| 65°   | 1531.3 | 1478.4 | 1867.5 | 2804.0 | 5343.0 | 7569.5 | 5280.9 | 2947.6 | 1992.8 | 1591.7 | 1636.0 |
| 67.5° | 575.9  | 549.5  | 685.5  | 1238.7 | 3365.4 | 6003.7 | 3550.0 | 1454.1 | 770.8  | 599.1  | 619.6  |
| 70°   | 327.1  | 308.2  | 326.0  | 451.8  | 1354.8 | 3400.4 | 1531.3 | 498.7  | 327.6  | 298.5  | 317.9  |
| 72.5° | 257.5  | 242.9  | 245.6  | 273.1  | 467.4  | 1334.8 | 495.5  | 284.5  | 238.0  | 226.2  | 243.4  |
| 75°   | 212.7  | 199.7  | 199.2  | 214.3  | 272.6  | 433.4  | 280.1  | 217.5  | 192.7  | 184.1  | 198.1  |
| 77.5° | 168.9  | 161.4  | 163.5  | 175.4  | 195.4  | 242.3  | 202.9  | 176.0  | 158.1  | 147.9  | 157.6  |
| 80°   | 123.6  | 122.5  | 131.2  | 142.0  | 145.7  | 163.0  | 152.2  | 142.0  | 126.3  | 111.7  | 115.5  |
| 82.5° | 81.0   | 81.5   | 97.7   | 106.3  | 104.7  | 104.2  | 109.0  | 108.5  | 94.5   | 73.9   | 73.9   |
| 85°   | 46.4   | 47.5   | 59.9   | 66.9   | 65.8   | 52.4   | 69.1   | 69.6   | 60.5   | 44.8   | 43.2   |
| 87.5° | 15.1   | 18.9   | 25.9   | 27.5   | 26.4   | 14.6   | 26.4   | 29.1   | 26.4   | 18.9   | 16.7   |
| 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)