

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: P367612

Luminaire Tested: **MSA-SA2D-760-U-5NQ**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367612
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-SA2D-760-U-5NQ
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13801 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short
BUG Rating: B3 - U0 - G2

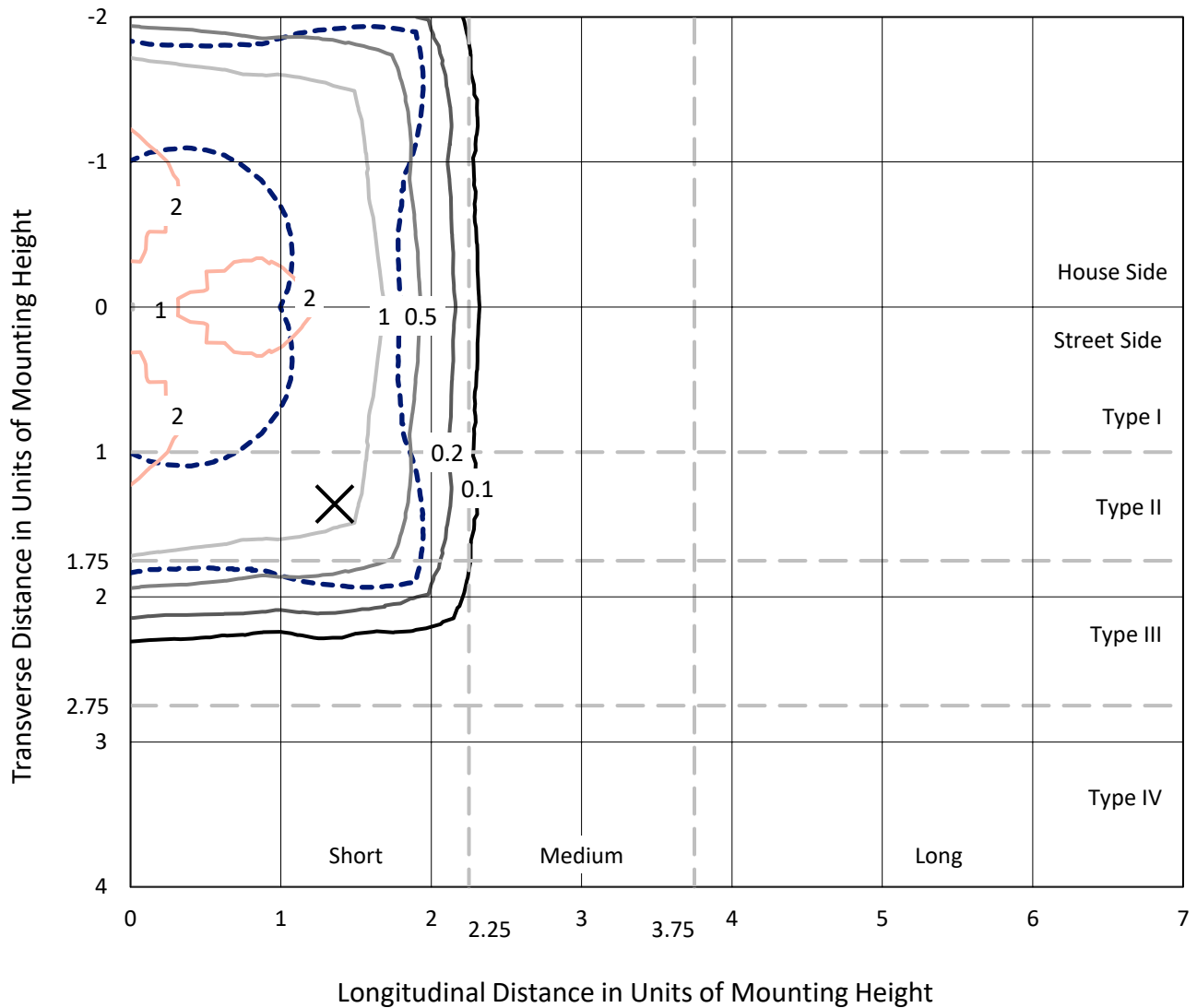
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

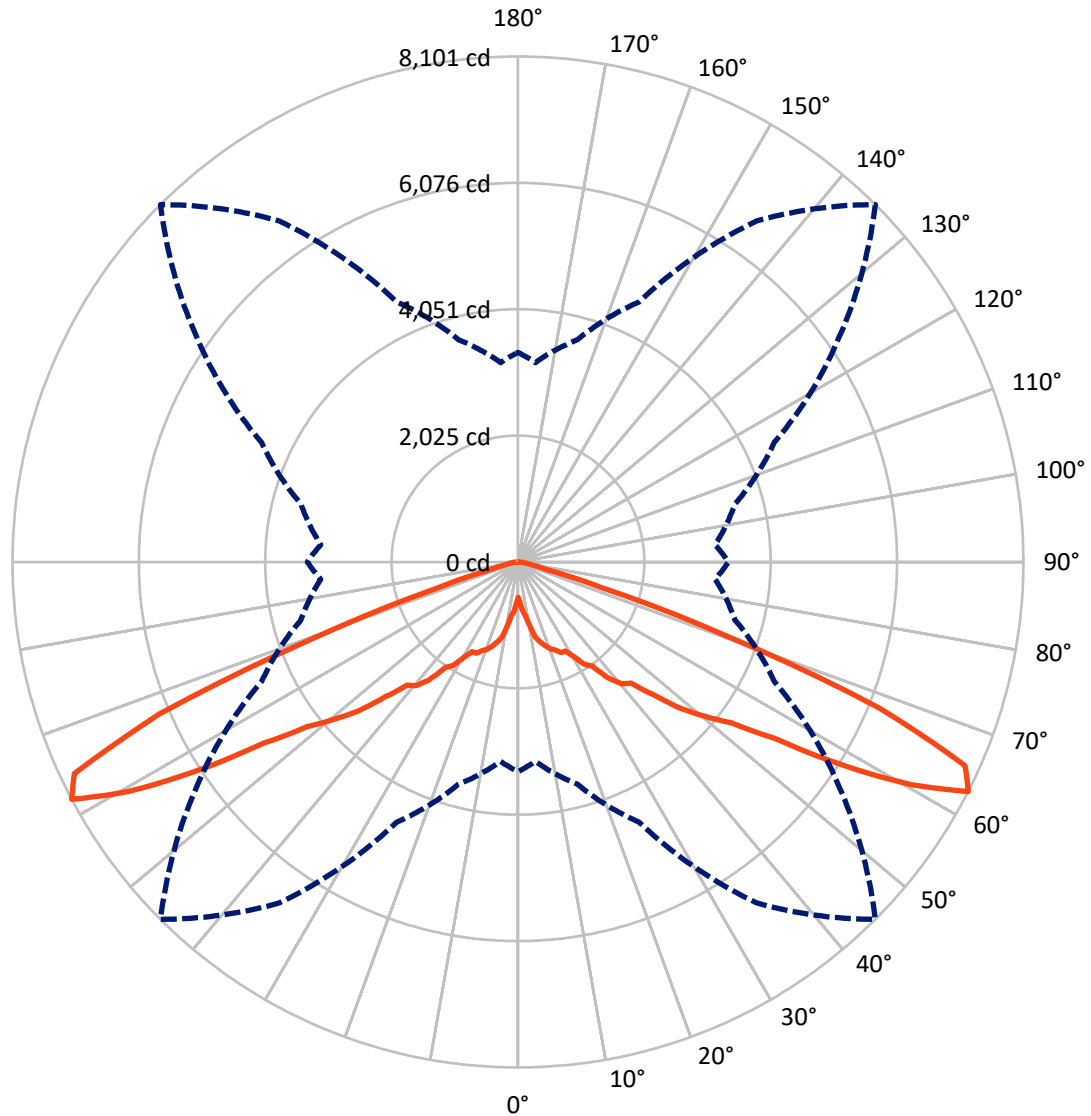
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 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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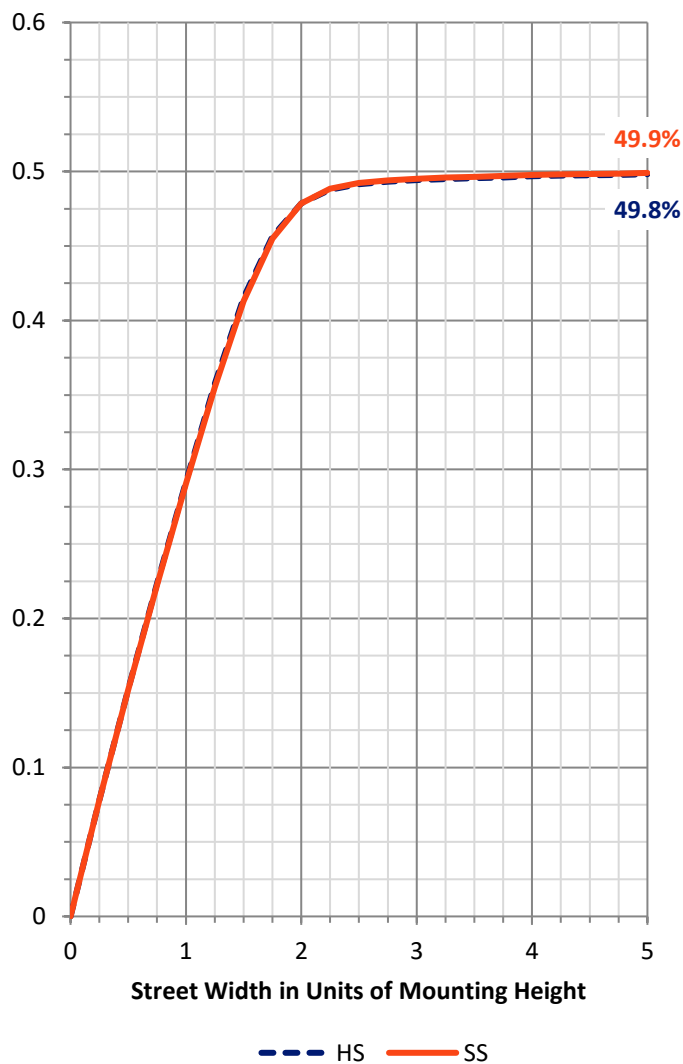
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 6900.5 | 0.0 | 6900.5 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 6900.5 | 0.0 | 6900.5 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 13801.0 | 0.0 | 13801.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 85.0 | 0.6 |
| 10°-20° | 375.0 | 2.7 |
| 20°-30° | 785.9 | 5.7 |
| 30°-40° | 1480.8 | 10.7 |
| 40°-50° | 2687.6 | 19.5 |
| 50°-60° | 4541.2 | 32.9 |
| 60°-70° | 3394.8 | 24.6 |
| 70°-80° | 379.8 | 2.8 |
| 80°-90° | 70.7 | 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° | 13801.0 | 100.0 |
| 0°-180° | 13801.0 | 100.0 |

Coefficient of Utilization



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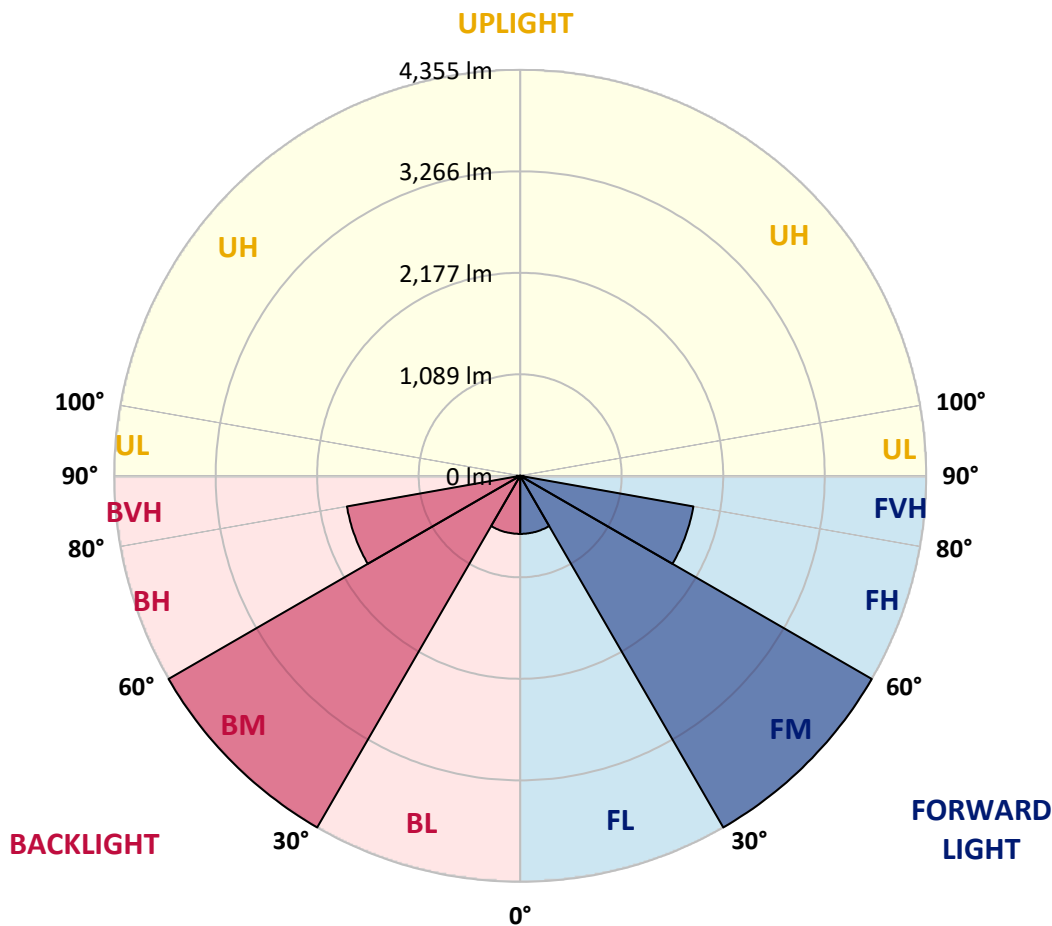
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 623.0 | 4.5 | | | |
| FM (30°-60°) | 4354.9 | 31.6 | | | |
| FH (60°-80°) | 1887.3 | 13.7 | | | G2/5000 |
| FVH (80°-90°) | 35.3 | 0.3 | | | G1/100 |
| BL (0°-30°) | 623.0 | 4.5 | B2/1000 | | |
| BM (30°-60°) | 4354.9 | 31.6 | B3/5000 | | |
| BH (60°-80°) | 1887.3 | 13.7 | B3/2500 | | G2/5000 |
| BVH (80°-90°) | 35.3 | 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° | 564.3 | 564.3 | 564.3 | 564.3 | 564.3 | 564.3 | 564.3 | 564.3 | 564.3 | 564.3 | 564.3 |
| 2.5° | 686.1 | 673.8 | 630.5 | 645.7 | 661.4 | 659.2 | 655.2 | 643.5 | 632.8 | 677.1 | 686.1 |
| 5° | 874.8 | 846.7 | 831.5 | 819.2 | 816.4 | 786.1 | 827.6 | 823.1 | 837.2 | 860.7 | 883.8 |
| 7.5° | 1025.3 | 998.9 | 959.0 | 950.6 | 905.1 | 871.4 | 907.3 | 951.7 | 965.7 | 1009.0 | 1034.8 |
| 10° | 1080.3 | 1057.3 | 1064.6 | 1026.9 | 1024.7 | 1034.2 | 1026.4 | 1036.5 | 1073.5 | 1068.5 | 1087.6 |
| 12.5° | 1203.8 | 1207.7 | 1184.2 | 1174.6 | 1193.7 | 1235.3 | 1199.9 | 1187.5 | 1178.5 | 1216.7 | 1228.5 |
| 15° | 1319.5 | 1342.5 | 1303.8 | 1297.6 | 1289.7 | 1328.5 | 1290.3 | 1308.8 | 1325.1 | 1333.0 | 1328.5 |
| 17.5° | 1483.4 | 1484.5 | 1441.3 | 1372.3 | 1398.1 | 1410.4 | 1393.6 | 1361.6 | 1438.5 | 1477.3 | 1479.5 |
| 20° | 1591.2 | 1595.2 | 1509.8 | 1402.0 | 1475.0 | 1486.2 | 1477.8 | 1411.0 | 1513.2 | 1577.8 | 1574.9 |
| 22.5° | 1707.5 | 1694.0 | 1578.3 | 1499.7 | 1525.5 | 1532.3 | 1514.3 | 1505.9 | 1577.8 | 1695.1 | 1677.7 |
| 25° | 1785.5 | 1810.2 | 1695.1 | 1644.6 | 1622.7 | 1607.0 | 1630.0 | 1634.5 | 1708.0 | 1814.7 | 1755.7 |
| 27.5° | 1971.9 | 1929.2 | 1749.0 | 1768.1 | 1721.5 | 1615.4 | 1716.4 | 1772.0 | 1756.3 | 1938.2 | 1982.6 |
| 30° | 2137.5 | 2138.7 | 1886.0 | 1922.5 | 1836.0 | 1750.1 | 1859.6 | 1939.9 | 1920.3 | 2153.3 | 2111.2 |
| 32.5° | 2349.2 | 2357.1 | 2122.4 | 2024.7 | 1966.3 | 1950.0 | 1936.5 | 2025.3 | 2147.7 | 2336.3 | 2340.2 |
| 35° | 2577.7 | 2645.1 | 2326.2 | 2223.5 | 2124.1 | 2052.2 | 2129.7 | 2252.7 | 2332.4 | 2633.9 | 2580.6 |
| 37.5° | 3023.0 | 2909.6 | 2648.5 | 2455.3 | 2391.9 | 2363.3 | 2404.3 | 2475.6 | 2647.9 | 2907.9 | 2999.4 |
| 40° | 3286.3 | 3254.9 | 2899.5 | 2737.8 | 2493.0 | 2569.3 | 2546.9 | 2742.3 | 2884.9 | 3272.9 | 3281.3 |
| 42.5° | 3688.9 | 3530.6 | 3211.1 | 3005.6 | 2785.5 | 2653.0 | 2793.4 | 3055.6 | 3227.9 | 3555.8 | 3710.8 |
| 45° | 4007.3 | 3804.0 | 3557.5 | 3401.4 | 3123.5 | 3025.2 | 3075.8 | 3411.5 | 3627.7 | 3852.9 | 4056.7 |
| 47.5° | 4359.3 | 4139.2 | 3892.7 | 3615.4 | 3344.2 | 3504.2 | 3414.9 | 3710.3 | 3921.4 | 4244.2 | 4435.1 |
| 50° | 4801.8 | 4558.1 | 4242.5 | 4013.4 | 3833.8 | 3889.9 | 3875.9 | 4086.4 | 4347.0 | 4641.2 | 4857.9 |
| 52.5° | 5289.1 | 5013.4 | 4709.1 | 4496.3 | 4420.5 | 4281.3 | 4463.2 | 4549.7 | 4741.7 | 5011.2 | 5265.5 |
| 55° | 5629.9 | 5354.3 | 5170.1 | 5238.6 | 5218.4 | 4994.9 | 5154.4 | 5163.4 | 5070.7 | 5167.8 | 5423.9 |
| 57.5° | 5577.2 | 5313.8 | 5288.6 | 5547.4 | 5934.3 | 6150.4 | 5903.9 | 5373.9 | 5026.9 | 4981.4 | 5252.6 |
| 60° | 4876.4 | 4651.3 | 4882.6 | 5466.6 | 6593.4 | 7251.5 | 6302.6 | 5215.0 | 4643.4 | 4407.0 | 4668.7 |
| 62.5° | 3360.4 | 3208.3 | 3687.8 | 4600.8 | 6672.6 | 8101.0 | 6288.0 | 4531.7 | 3601.3 | 3172.4 | 3375.6 |
| 65° | 1592.9 | 1537.9 | 1942.7 | 2916.9 | 5558.1 | 7874.2 | 5493.5 | 3066.2 | 2073.0 | 1655.8 | 1701.8 |
| 67.5° | 599.1 | 571.6 | 713.1 | 1288.6 | 3500.8 | 6245.3 | 3692.8 | 1512.6 | 801.8 | 623.2 | 644.6 |
| 70° | 340.3 | 320.6 | 339.1 | 470.0 | 1409.3 | 3537.3 | 1592.9 | 518.8 | 340.8 | 310.5 | 330.7 |
| 72.5° | 267.8 | 252.7 | 255.5 | 284.1 | 486.2 | 1388.5 | 515.4 | 295.9 | 247.6 | 235.3 | 253.2 |
| 75° | 221.2 | 207.7 | 207.2 | 222.9 | 283.5 | 450.9 | 291.4 | 226.3 | 200.4 | 191.5 | 206.1 |
| 77.5° | 175.7 | 167.9 | 170.1 | 182.5 | 203.3 | 252.1 | 211.1 | 183.0 | 164.5 | 153.8 | 164.0 |
| 80° | 128.6 | 127.5 | 136.4 | 147.7 | 151.6 | 169.6 | 158.3 | 147.7 | 131.4 | 116.2 | 120.2 |
| 82.5° | 84.2 | 84.8 | 101.6 | 110.6 | 108.9 | 108.4 | 113.4 | 112.9 | 98.3 | 76.9 | 76.9 |
| 85° | 48.3 | 49.4 | 62.3 | 69.6 | 68.5 | 54.5 | 71.9 | 72.4 | 62.9 | 46.6 | 44.9 |
| 87.5° | 15.7 | 19.7 | 27.0 | 28.6 | 27.5 | 15.2 | 27.5 | 30.3 | 27.5 | 19.7 | 17.4 |
| 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)