

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: P367613

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

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367613
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-SA2D-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: 14469 lumens
Efficiency: N/A
Efficacy: 112.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short
BUG Rating: B4 - U0 - G2

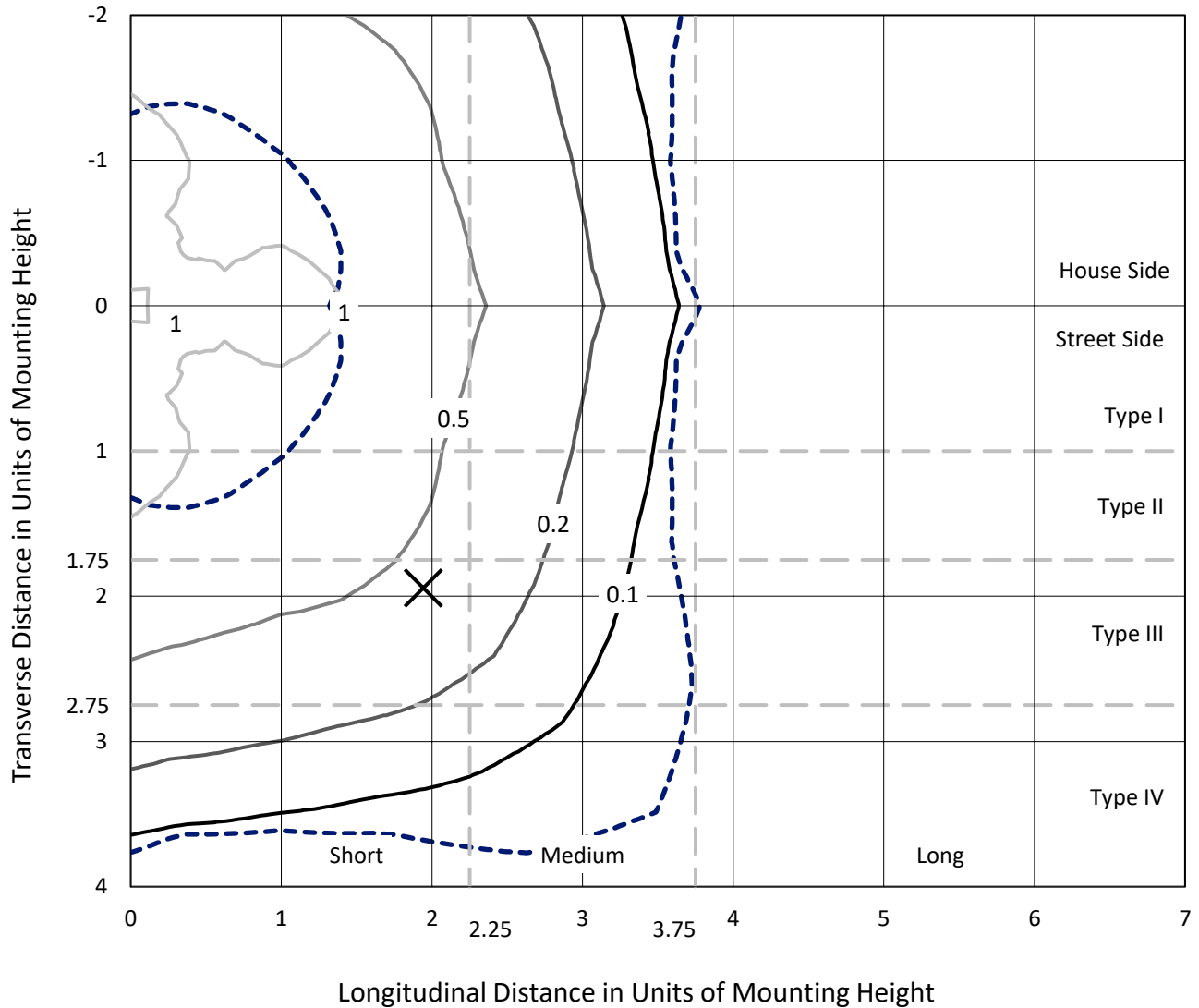
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

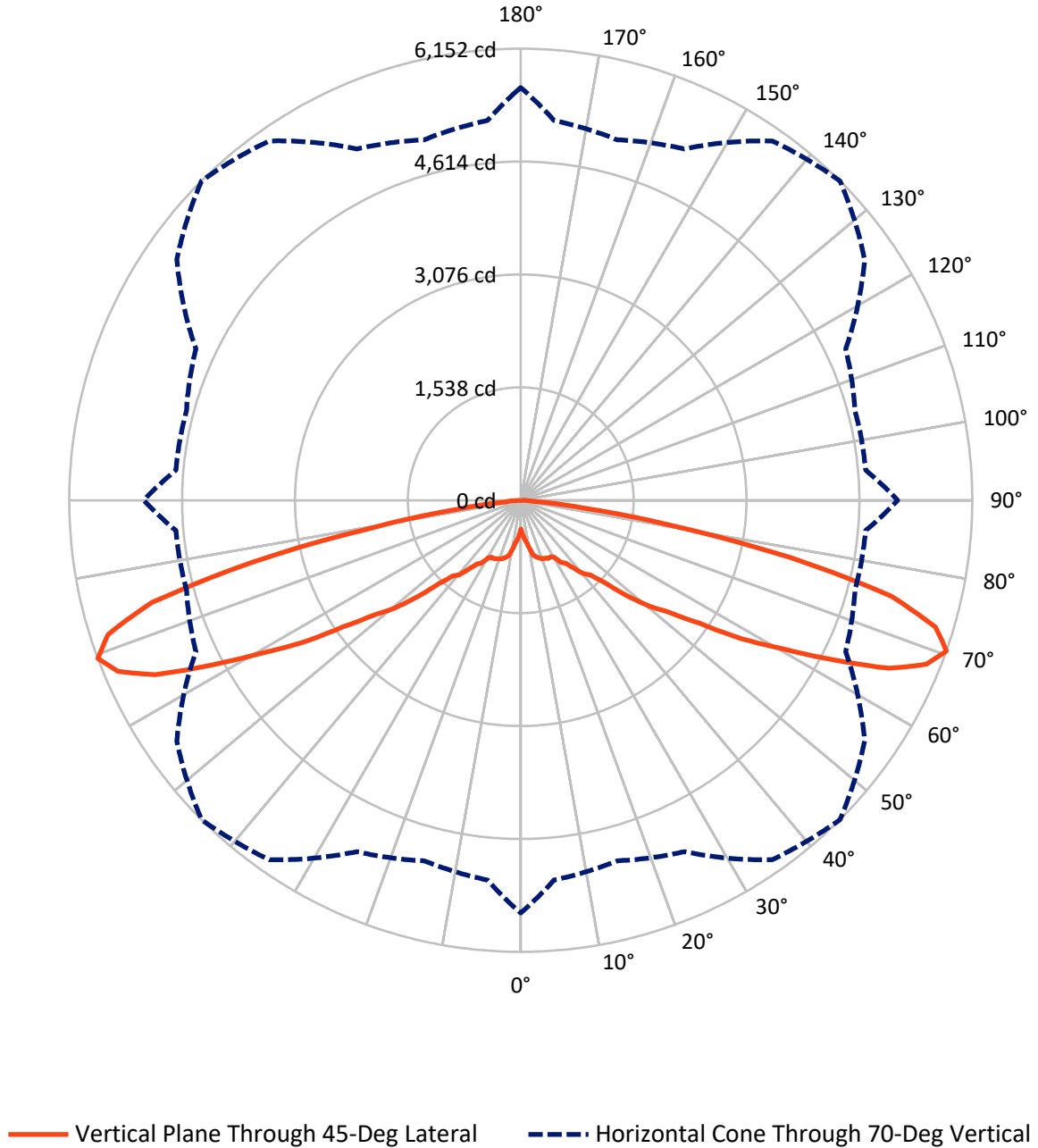
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.3 fc
 Type V - Short - N/A

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Luminous Intensity Polar Plot



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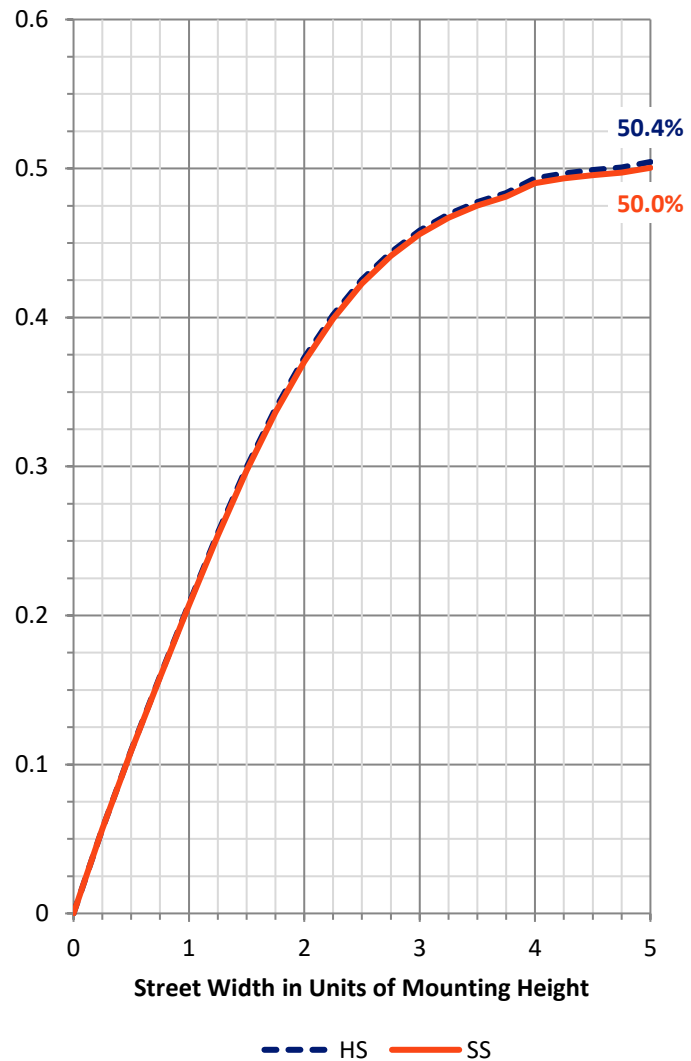
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 7234.5 | 0.0 | 7234.5 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 7234.5 | 0.0 | 7234.5 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 14469.0 | 0.0 | 14469.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 56.9 | 0.4 |
| 10°-20° | 227.8 | 1.6 |
| 20°-30° | 430.6 | 3.0 |
| 30°-40° | 750.1 | 5.2 |
| 40°-50° | 1433.9 | 9.9 |
| 50°-60° | 2780.4 | 19.2 |
| 60°-70° | 4868.6 | 33.6 |
| 70°-80° | 3659.0 | 25.3 |
| 80°-90° | 261.8 | 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° | 14469.0 | 100.0 |
| 0°-180° | 14469.0 | 100.0 |



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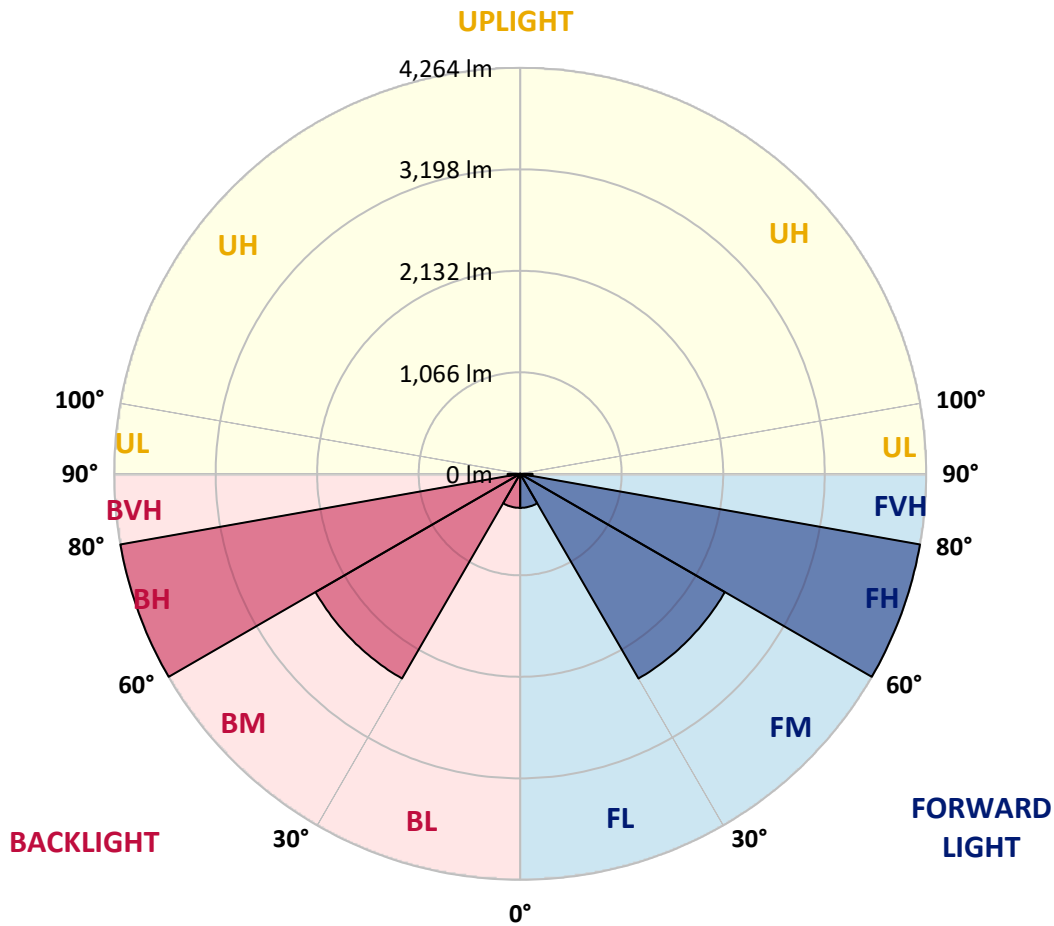
CATALOG NUMBER: MSA-SA2D-760-U-5WQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 357.6 | 2.5 | | | |
| FM (30°-60°) | 2482.2 | 17.2 | | | |
| FH (60°-80°) | 4263.8 | 29.5 | | | G2/5000 |
| FVH (80°-90°) | 130.9 | 0.9 | | | G2/225 |
| BL (0°-30°) | 357.6 | 2.5 | B1/500 | | |
| BM (30°-60°) | 2482.2 | 17.2 | B2/2500 | | |
| BH (60°-80°) | 4263.8 | 29.5 | B4/5000 | | G2/5000 |
| BVH (80°-90°) | 130.9 | 0.9 | | | G2/225 |
| 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° | 391.2 | 391.2 | 391.2 | 391.2 | 391.2 | 391.2 | 391.2 | 391.2 | 391.2 | 391.2 | 391.2 |
| 2.5° | 476.0 | 468.7 | 445.7 | 446.8 | 457.5 | 458.6 | 459.7 | 445.7 | 442.3 | 470.9 | 472.6 |
| 5° | 604.5 | 587.7 | 570.8 | 564.1 | 554.0 | 525.9 | 556.8 | 560.2 | 566.9 | 588.8 | 598.9 |
| 7.5° | 690.4 | 669.6 | 646.6 | 632.6 | 605.1 | 582.1 | 607.3 | 628.1 | 641.6 | 666.3 | 680.3 |
| 10° | 706.7 | 694.3 | 693.2 | 668.5 | 663.5 | 671.9 | 670.2 | 670.8 | 691.0 | 691.5 | 700.0 |
| 12.5° | 757.8 | 766.7 | 749.3 | 740.9 | 746.0 | 766.7 | 749.9 | 742.6 | 747.7 | 770.7 | 761.1 |
| 15° | 824.6 | 835.2 | 808.8 | 795.4 | 781.9 | 801.5 | 784.1 | 797.1 | 813.3 | 830.2 | 821.8 |
| 17.5° | 898.7 | 899.2 | 863.3 | 813.3 | 825.1 | 827.9 | 821.8 | 811.1 | 857.7 | 898.1 | 894.2 |
| 20° | 939.1 | 938.5 | 876.8 | 808.8 | 843.6 | 849.8 | 844.2 | 807.7 | 877.9 | 933.5 | 931.8 |
| 22.5° | 980.6 | 968.3 | 894.2 | 839.2 | 852.1 | 857.1 | 844.2 | 840.8 | 894.2 | 971.6 | 971.1 |
| 25° | 1003.1 | 1013.7 | 932.3 | 898.1 | 887.4 | 875.6 | 886.9 | 892.5 | 943.6 | 1019.3 | 997.4 |
| 27.5° | 1073.2 | 1055.8 | 943.6 | 940.2 | 917.7 | 871.1 | 909.9 | 937.4 | 940.2 | 1062.6 | 1085.0 |
| 30° | 1136.6 | 1143.4 | 994.1 | 999.1 | 958.2 | 899.2 | 959.3 | 1003.1 | 1011.5 | 1144.5 | 1142.3 |
| 32.5° | 1204.0 | 1206.8 | 1083.9 | 1031.7 | 1014.3 | 1012.0 | 989.0 | 1027.2 | 1093.4 | 1200.1 | 1204.6 |
| 35° | 1306.2 | 1329.2 | 1164.2 | 1094.0 | 1072.1 | 1049.6 | 1069.9 | 1104.1 | 1165.8 | 1325.8 | 1314.6 |
| 37.5° | 1540.2 | 1503.7 | 1338.7 | 1193.3 | 1178.7 | 1169.8 | 1186.0 | 1210.7 | 1337.0 | 1507.7 | 1559.9 |
| 40° | 1703.6 | 1686.2 | 1461.6 | 1357.8 | 1265.7 | 1314.0 | 1275.9 | 1371.3 | 1475.7 | 1687.3 | 1721.0 |
| 42.5° | 1956.7 | 1879.3 | 1648.6 | 1520.0 | 1424.6 | 1390.4 | 1411.7 | 1536.3 | 1669.3 | 1905.1 | 1971.3 |
| 45° | 2199.8 | 2080.2 | 1882.6 | 1769.2 | 1624.4 | 1588.5 | 1617.1 | 1763.6 | 1917.4 | 2103.8 | 2220.5 |
| 47.5° | 2447.9 | 2324.4 | 2107.1 | 1943.2 | 1824.8 | 1932.0 | 1838.3 | 1977.5 | 2130.7 | 2347.4 | 2451.2 |
| 50° | 2705.5 | 2568.5 | 2354.1 | 2175.6 | 2165.5 | 2260.4 | 2148.1 | 2219.4 | 2361.4 | 2585.9 | 2708.3 |
| 52.5° | 3001.3 | 2853.7 | 2639.3 | 2518.6 | 2542.2 | 2536.0 | 2513.5 | 2500.6 | 2640.4 | 2861.0 | 3006.4 |
| 55° | 3353.3 | 3193.8 | 3022.6 | 2967.1 | 3032.2 | 2962.0 | 2995.1 | 2990.6 | 3010.9 | 3168.6 | 3338.7 |
| 57.5° | 3778.7 | 3598.5 | 3426.8 | 3414.4 | 3498.1 | 3564.3 | 3505.4 | 3420.6 | 3385.2 | 3538.5 | 3733.3 |
| 60° | 4314.8 | 4093.6 | 3905.0 | 3866.3 | 4104.8 | 4104.3 | 4051.0 | 3861.2 | 3847.8 | 4021.2 | 4255.8 |
| 62.5° | 4906.9 | 4637.5 | 4431.5 | 4369.8 | 4743.6 | 4785.7 | 4619.6 | 4279.4 | 4349.0 | 4488.8 | 4767.2 |
| 65° | 5409.9 | 5086.0 | 4894.0 | 4877.2 | 5334.1 | 5519.9 | 5152.8 | 4687.5 | 4709.9 | 4826.1 | 5127.5 |
| 67.5° | 5737.7 | 5347.6 | 5194.9 | 5276.3 | 5844.3 | 5960.5 | 5619.2 | 4960.3 | 4880.6 | 4928.8 | 5289.2 |
| 70° | 5622.6 | 5193.8 | 5083.8 | 5281.3 | 5976.2 | 6151.9 | 5719.7 | 4883.9 | 4714.4 | 4716.7 | 5135.4 |
| 72.5° | 4750.9 | 4342.8 | 4395.0 | 4757.6 | 5664.2 | 5910.6 | 5255.0 | 4411.3 | 4064.4 | 4056.0 | 4436.0 |
| 75° | 3141.6 | 2868.8 | 3074.8 | 3640.1 | 4708.8 | 5212.9 | 4354.1 | 3457.7 | 3022.6 | 2881.2 | 3174.8 |
| 77.5° | 1374.1 | 1339.3 | 1512.7 | 2151.5 | 3210.1 | 3756.8 | 3119.2 | 2258.7 | 1644.1 | 1367.3 | 1493.6 |
| 80° | 368.2 | 360.4 | 452.4 | 816.1 | 1562.7 | 2069.0 | 1687.9 | 900.9 | 470.4 | 342.4 | 363.2 |
| 82.5° | 134.2 | 137.5 | 167.8 | 228.5 | 514.7 | 871.1 | 560.7 | 263.3 | 177.9 | 145.9 | 145.9 |
| 85° | 58.4 | 56.7 | 81.4 | 91.5 | 140.3 | 197.0 | 161.1 | 111.7 | 89.8 | 67.4 | 64.6 |
| 87.5° | 15.7 | 19.6 | 27.5 | 28.6 | 36.5 | 29.7 | 42.7 | 39.3 | 33.7 | 23.6 | 19.1 |
| 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)