

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: P368023

Luminaire Tested: **MSA-SA3C-760-U-T3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368023
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3C-760-U-T3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13444 lumens
Efficiency: N/A
Efficacy: 81.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G3

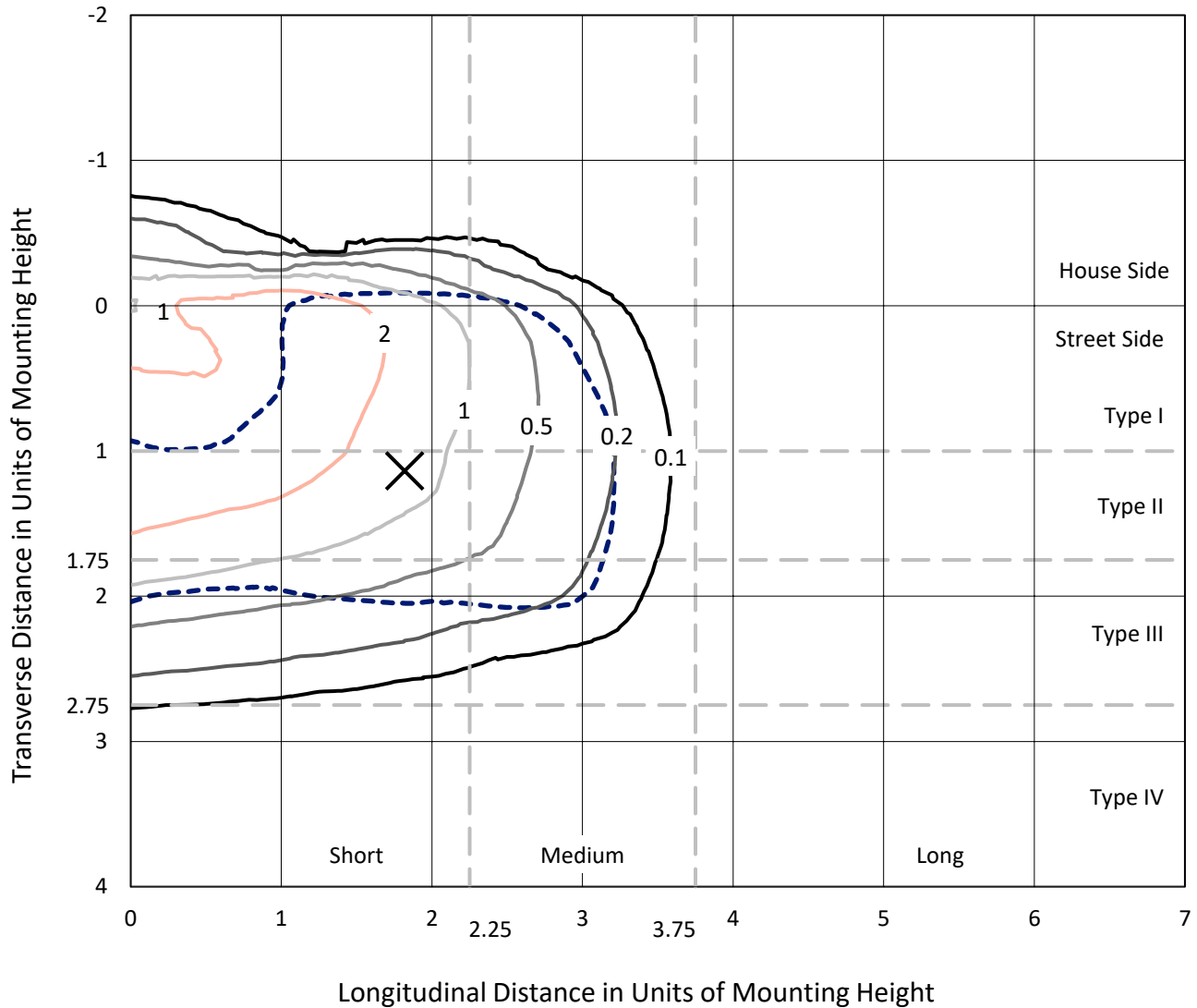
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P368023
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Iso-Footcandle Lines of Horizontal Illumination

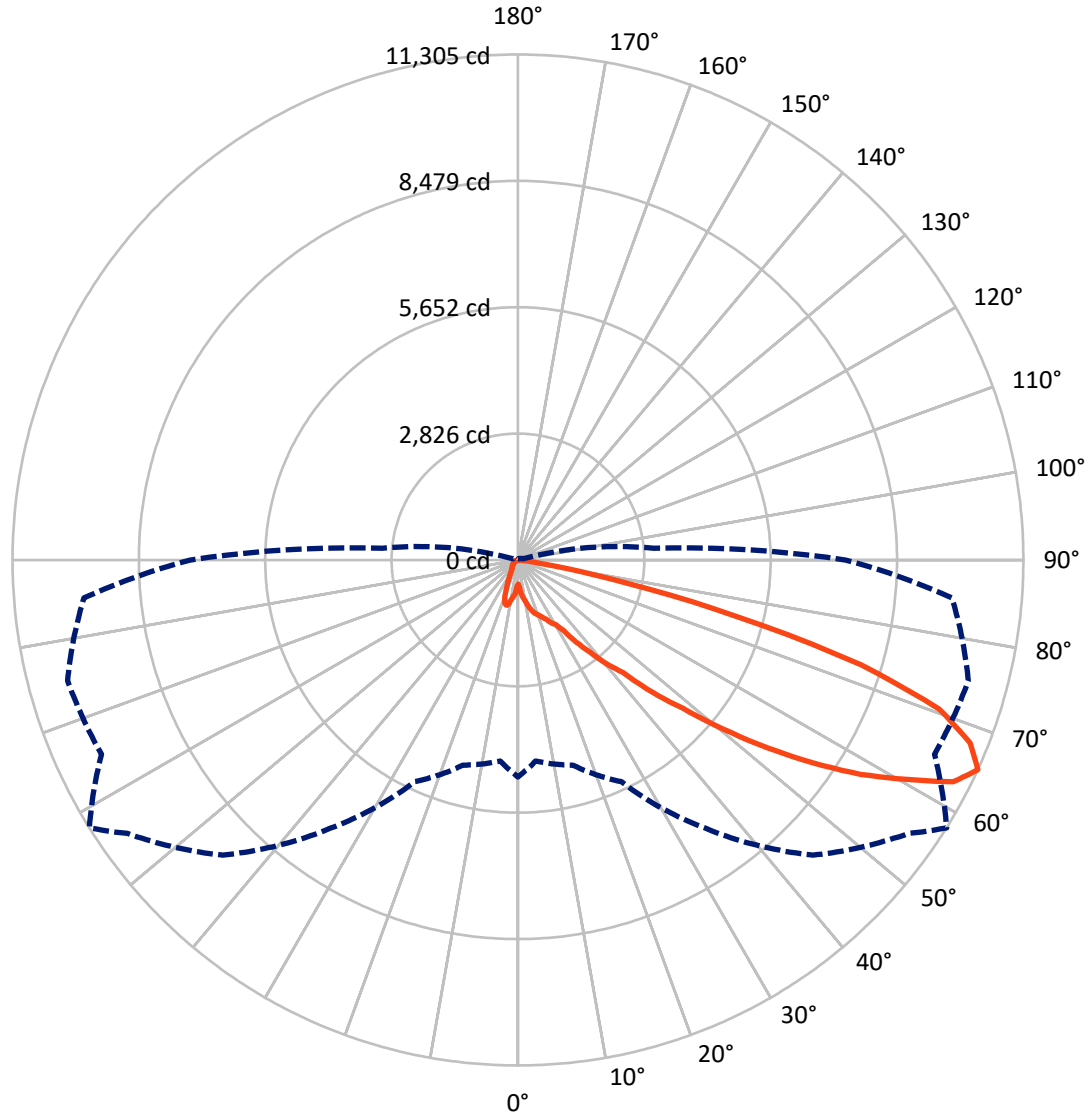
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.5 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1326.6 | 0.0 | 1326.6 |
| | % Fixture | 9.9 | 0.0 | 9.9 |
| Street Side | Lumens | 12117.4 | 0.0 | 12117.4 |
| | % Fixture | 90.1 | 0.0 | 90.1 |
| Total | Lumens | 13444.0 | 0.0 | 13444.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 75.6 | 0.6 |
| 10°-20° | 276.0 | 2.1 |
| 20°-30° | 534.2 | 4.0 |
| 30°-40° | 1065.7 | 7.9 |
| 40°-50° | 2178.8 | 16.2 |
| 50°-60° | 3864.5 | 28.7 |
| 60°-70° | 4074.3 | 30.3 |
| 70°-80° | 1320.9 | 9.8 |
| 80°-90° | 54.0 | 0.4 |
| 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° | 13444.0 | 100.0 |
| 0°-180° | 13444.0 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P368023

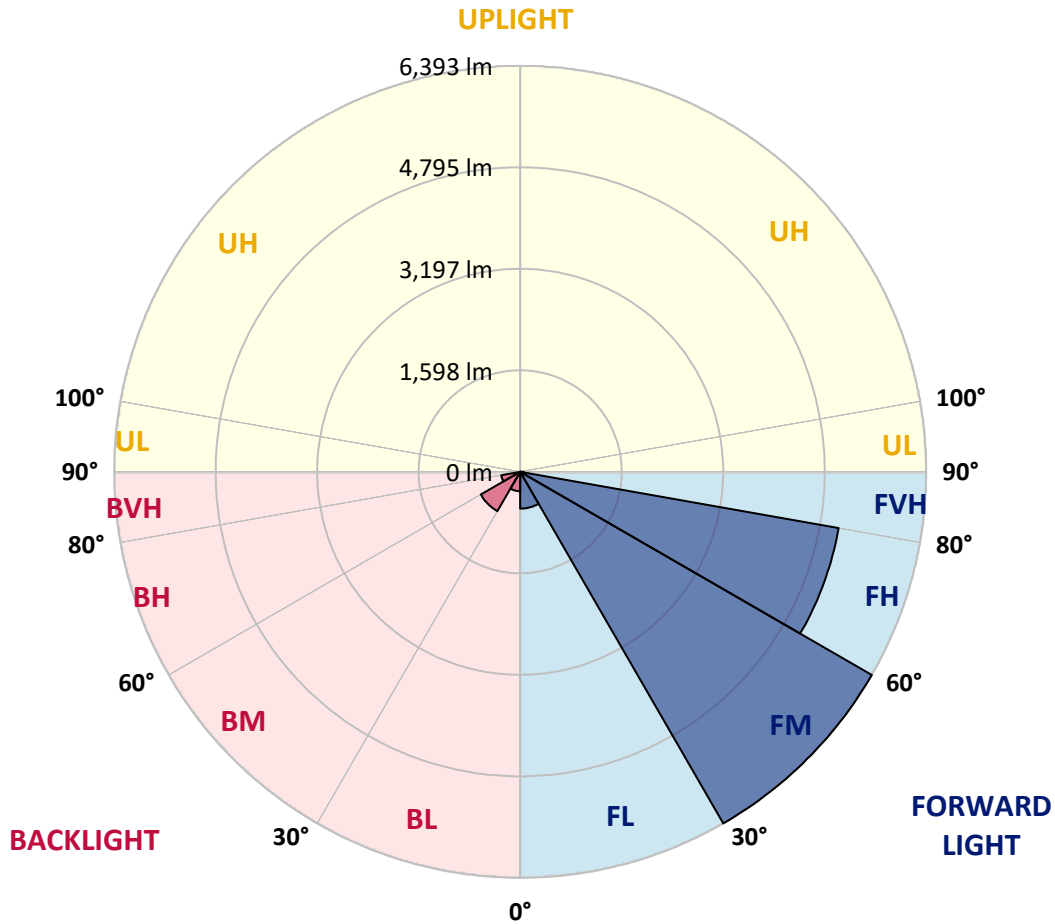
CATALOG NUMBER: MSA-SA3C-760-U-T3-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 580.0 | 4.3 | | | |
| FM (30°-60°) | 6393.3 | 47.6 | | | |
| FH (60°-80°) | 5092.4 | 37.9 | | | G3/7500 |
| FVH (80°-90°) | 51.7 | 0.4 | | | G1/100 |
| BL (0°-30°) | 305.8 | 2.3 | B1/500 | | |
| BM (30°-60°) | 715.7 | 5.3 | B1/1000 | | |
| BH (60°-80°) | 302.8 | 2.3 | B1/500 | | G1/500 |
| BVH (80°-90°) | 2.3 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G3

Type III Short





REPORT NUMBER: P368023

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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 58° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0° | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 |
| 2.5° | 657.0 | 637.3 | 606.3 | 611.6 | 617.7 | 629.8 | 619.9 | 610.9 | 601.0 | 588.1 | 637.3 |
| 5° | 793.3 | 760.7 | 757.7 | 750.9 | 745.6 | 744.8 | 756.9 | 753.2 | 758.5 | 782.7 | 807.7 |
| 7.5° | 843.2 | 829.6 | 803.9 | 814.5 | 797.8 | 784.9 | 838.7 | 856.1 | 889.4 | 900.8 | 965.9 |
| 10° | 837.9 | 818.3 | 828.8 | 834.1 | 845.5 | 892.4 | 926.5 | 945.4 | 974.2 | 1036.3 | 1023.4 |
| 12.5° | 862.2 | 879.6 | 890.9 | 891.7 | 950.0 | 1036.3 | 1060.5 | 1076.4 | 1127.8 | 1152.1 | 1215.6 |
| 15° | 943.1 | 971.9 | 953.7 | 961.3 | 980.2 | 1085.5 | 1142.2 | 1177.0 | 1249.7 | 1328.4 | 1344.3 |
| 17.5° | 1059.0 | 1077.1 | 1039.3 | 1012.0 | 1064.3 | 1121.8 | 1224.7 | 1261.1 | 1307.2 | 1491.2 | 1525.2 |
| 20° | 1205.0 | 1236.1 | 1154.3 | 1046.1 | 1115.0 | 1183.1 | 1295.1 | 1312.5 | 1361.7 | 1601.7 | 1655.4 |
| 22.5° | 1546.4 | 1500.3 | 1375.4 | 1206.6 | 1186.1 | 1216.4 | 1323.1 | 1391.3 | 1474.5 | 1663.8 | 1788.6 |
| 25° | 1883.3 | 1867.4 | 1683.4 | 1495.0 | 1358.7 | 1290.6 | 1432.1 | 1470.0 | 1606.2 | 1811.4 | 1880.2 |
| 27.5° | 2258.0 | 2289.7 | 1982.4 | 1868.1 | 1600.9 | 1378.4 | 1500.3 | 1594.9 | 1756.1 | 1865.1 | 2030.9 |
| 30° | 2752.2 | 2701.5 | 2341.2 | 2226.9 | 1921.9 | 1619.9 | 1676.6 | 1682.7 | 1919.6 | 2042.2 | 2199.7 |
| 32.5° | 3139.8 | 3172.3 | 2719.7 | 2544.1 | 2300.3 | 1991.5 | 1809.1 | 1887.8 | 2057.4 | 2330.6 | 2479.7 |
| 35° | 3559.1 | 3556.1 | 3114.8 | 2878.6 | 2560.0 | 2295.0 | 2201.9 | 2259.5 | 2472.2 | 2781.8 | 2821.1 |
| 37.5° | 4185.9 | 4132.1 | 3611.4 | 3265.4 | 2994.5 | 2768.1 | 2697.0 | 2620.5 | 2840.0 | 3135.2 | 3282.8 |
| 40° | 4777.0 | 4591.6 | 4110.2 | 3699.9 | 3353.2 | 3260.9 | 3003.5 | 3050.5 | 3115.6 | 3505.4 | 3913.4 |
| 42.5° | 5374.3 | 5259.2 | 4615.8 | 4272.2 | 3846.0 | 3626.5 | 3458.5 | 3436.5 | 3746.1 | 4207.8 | 4629.4 |
| 45° | 6162.2 | 5810.3 | 5295.6 | 4993.5 | 4500.0 | 4279.7 | 4144.2 | 4225.2 | 4503.8 | 5178.2 | 5459.0 |
| 47.5° | 6823.8 | 6499.8 | 6057.8 | 5599.1 | 5081.3 | 5328.9 | 5074.5 | 4946.6 | 5328.9 | 6026.0 | 6399.2 |
| 50° | 7392.3 | 7031.2 | 6583.9 | 6244.0 | 6160.0 | 6397.7 | 5882.9 | 5929.9 | 6178.1 | 6997.2 | 7207.6 |
| 52.5° | 7805.6 | 7425.6 | 7035.0 | 6870.7 | 7215.1 | 7334.7 | 7076.6 | 6972.9 | 7198.5 | 7825.2 | 7927.4 |
| 55° | 8116.7 | 7727.6 | 7422.6 | 7648.9 | 8315.0 | 8275.6 | 8366.5 | 8012.2 | 8227.9 | 8688.9 | 8640.5 |
| 57.5° | 8135.6 | 7674.6 | 7496.0 | 7860.1 | 8774.4 | 9383.8 | 9649.5 | 9046.9 | 9169.6 | 9364.1 | 9255.1 |
| 60° | 7540.6 | 7081.9 | 7067.5 | 7584.5 | 8907.7 | 9670.7 | 10252.0 | 9958.3 | 9794.0 | 9938.6 | 9732.0 |
| 62.5° | 6355.3 | 6034.3 | 6184.2 | 6755.7 | 8411.9 | 9512.5 | 10572.9 | 10926.4 | 10286.8 | 10319.4 | 10025.7 |
| 65° | 4852.7 | 4515.9 | 4750.6 | 5470.4 | 7327.9 | 9335.3 | 10663.8 | 11304.9 | 10277.7 | 10427.6 | 9744.1 |
| 67.5° | 3214.0 | 3018.7 | 3284.4 | 4077.6 | 5826.2 | 8240.8 | 10616.8 | 10907.5 | 9951.5 | 10004.5 | 8698.8 |
| 70° | 1659.2 | 1611.5 | 1826.5 | 2452.5 | 3917.2 | 6331.0 | 10155.9 | 9996.9 | 9289.2 | 8618.5 | 6709.5 |
| 72.5° | 531.4 | 533.6 | 740.3 | 1120.3 | 2111.9 | 3854.3 | 7806.3 | 8024.3 | 7433.1 | 6304.6 | 4096.6 |
| 75° | 235.4 | 231.6 | 309.6 | 470.1 | 880.3 | 1728.1 | 4849.7 | 5085.1 | 4627.9 | 3468.3 | 1722.0 |
| 77.5° | 169.6 | 164.3 | 198.3 | 274.8 | 436.0 | 585.9 | 2273.8 | 2454.0 | 2098.2 | 1202.0 | 394.4 |
| 80° | 119.6 | 118.8 | 143.8 | 193.0 | 272.5 | 260.4 | 718.3 | 805.4 | 644.9 | 291.4 | 115.8 |
| 82.5° | 67.4 | 69.6 | 99.9 | 136.2 | 165.8 | 130.2 | 202.1 | 222.5 | 217.2 | 155.2 | 50.7 |
| 85° | 32.5 | 36.3 | 65.1 | 98.4 | 87.0 | 50.7 | 71.9 | 78.0 | 90.8 | 90.1 | 25.7 |
| 87.5° | 0.0 | 0.0 | 26.5 | 44.7 | 23.5 | 7.6 | 22.0 | 25.0 | 24.2 | 28.8 | 6.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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 CATALOG NUMBER: MSA-SA3C-760-U-T3-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|
| 0° | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 | 538.2 |
| 2.5° | 647.2 | 642.6 | 585.1 | 589.7 | 602.5 | 597.2 | 601.8 | 591.2 | 579.1 | 628.3 | 627.5 |
| 5° | 818.3 | 784.2 | 766.0 | 749.4 | 752.4 | 718.3 | 738.0 | 747.1 | 745.6 | 773.6 | 781.2 |
| 7.5° | 968.1 | 922.7 | 886.4 | 851.6 | 798.6 | 750.9 | 780.4 | 799.3 | 812.2 | 860.6 | 879.6 |
| 10° | 1038.5 | 1001.4 | 987.0 | 918.9 | 881.1 | 851.6 | 816.0 | 790.2 | 800.8 | 788.0 | 800.8 |
| 12.5° | 1192.9 | 1168.0 | 1112.7 | 1043.8 | 998.4 | 937.8 | 805.4 | 694.9 | 626.7 | 627.5 | 623.0 |
| 15° | 1333.7 | 1332.2 | 1249.7 | 1135.4 | 1003.7 | 831.1 | 624.5 | 485.2 | 420.9 | 402.7 | 396.6 |
| 17.5° | 1517.7 | 1495.0 | 1344.3 | 1175.5 | 938.6 | 643.4 | 425.4 | 332.3 | 326.2 | 336.8 | 332.3 |
| 20° | 1635.0 | 1601.7 | 1391.3 | 1117.2 | 773.6 | 435.2 | 320.9 | 294.4 | 312.6 | 327.8 | 324.0 |
| 22.5° | 1752.3 | 1702.4 | 1426.8 | 1046.1 | 550.3 | 318.7 | 289.9 | 285.4 | 296.7 | 315.6 | 318.7 |
| 25° | 1816.7 | 1806.8 | 1496.5 | 912.9 | 377.0 | 279.3 | 279.3 | 277.8 | 281.6 | 295.2 | 292.9 |
| 27.5° | 2003.6 | 1870.4 | 1444.2 | 712.3 | 291.4 | 256.6 | 260.4 | 258.9 | 245.2 | 258.9 | 259.6 |
| 30° | 2120.2 | 2058.9 | 1448.0 | 507.1 | 256.6 | 227.1 | 236.9 | 224.8 | 204.4 | 215.7 | 213.5 |
| 32.5° | 2354.8 | 2201.9 | 1436.7 | 342.1 | 233.9 | 216.5 | 201.3 | 183.9 | 168.8 | 173.3 | 169.6 |
| 35° | 2628.1 | 2511.5 | 1283.0 | 274.8 | 218.0 | 191.5 | 167.3 | 149.9 | 134.0 | 137.8 | 137.0 |
| 37.5° | 3171.6 | 2801.4 | 1155.8 | 247.5 | 207.4 | 175.6 | 147.6 | 123.4 | 115.1 | 117.3 | 119.6 |
| 40° | 3674.9 | 3285.1 | 918.9 | 235.4 | 189.2 | 156.7 | 121.9 | 104.5 | 99.2 | 100.7 | 102.9 |
| 42.5° | 4427.3 | 3669.6 | 694.1 | 223.3 | 171.1 | 132.5 | 101.4 | 90.1 | 84.8 | 87.8 | 89.3 |
| 45° | 5155.5 | 3996.6 | 518.5 | 212.7 | 155.9 | 114.3 | 85.5 | 78.0 | 71.9 | 74.2 | 77.2 |
| 47.5° | 5882.9 | 4360.0 | 386.8 | 196.0 | 139.3 | 98.4 | 73.4 | 68.1 | 64.3 | 65.1 | 68.9 |
| 50° | 6533.9 | 4529.5 | 304.3 | 175.6 | 125.7 | 85.5 | 66.6 | 61.3 | 59.8 | 60.6 | 63.6 |
| 52.5° | 7012.3 | 4531.0 | 256.6 | 157.4 | 112.8 | 75.7 | 62.8 | 56.8 | 56.0 | 57.5 | 60.6 |
| 55° | 7444.5 | 4409.9 | 222.5 | 141.5 | 101.4 | 68.9 | 59.8 | 54.5 | 54.5 | 56.0 | 59.0 |
| 57.5° | 7731.4 | 4187.4 | 193.0 | 124.9 | 91.6 | 65.1 | 57.5 | 52.2 | 51.5 | 50.7 | 53.0 |
| 60° | 7871.4 | 3883.9 | 163.5 | 109.8 | 82.5 | 62.8 | 56.0 | 46.2 | 45.4 | 43.9 | 45.4 |
| 62.5° | 7782.9 | 3503.9 | 137.0 | 94.6 | 73.4 | 59.8 | 49.2 | 40.1 | 38.6 | 35.6 | 37.8 |
| 65° | 7330.2 | 3042.1 | 115.8 | 81.0 | 63.6 | 50.7 | 41.6 | 34.1 | 30.3 | 26.5 | 25.7 |
| 67.5° | 6404.5 | 2471.4 | 96.9 | 69.6 | 54.5 | 41.6 | 34.1 | 30.3 | 23.5 | 20.4 | 19.7 |
| 70° | 4799.8 | 1687.2 | 80.2 | 59.8 | 45.4 | 35.6 | 28.8 | 27.2 | 22.0 | 19.7 | 18.2 |
| 72.5° | 2815.8 | 910.6 | 67.4 | 52.2 | 38.6 | 29.5 | 23.5 | 25.0 | 22.0 | 18.2 | 16.7 |
| 75° | 1124.8 | 302.8 | 53.7 | 41.6 | 31.0 | 21.2 | 19.7 | 20.4 | 19.7 | 16.7 | 13.6 |
| 77.5° | 256.6 | 95.4 | 41.6 | 32.5 | 24.2 | 13.6 | 15.9 | 17.4 | 17.4 | 13.6 | 9.8 |
| 80° | 80.2 | 37.8 | 24.2 | 20.4 | 17.4 | 7.6 | 11.4 | 12.1 | 8.3 | 3.8 | 0.0 |
| 82.5° | 25.7 | 10.6 | 8.3 | 8.3 | 7.6 | 1.5 | 2.3 | 1.5 | 0.0 | 0.0 | 0.0 |
| 85° | 9.8 | 6.8 | 5.3 | 5.3 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 3.8 | 3.0 | 2.3 | 3.0 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 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)