

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: PORTFOLIO

Report Number: P840239

Luminaire Tested: **LD4C70D010 EU4709027 4LBCSSQMW**

Issue Date: 5/25/2022

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P840239  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P209253)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/25/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C70D010 EU4709027 4LBCSSQMW  
Description: 4 INCH 7000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MW FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

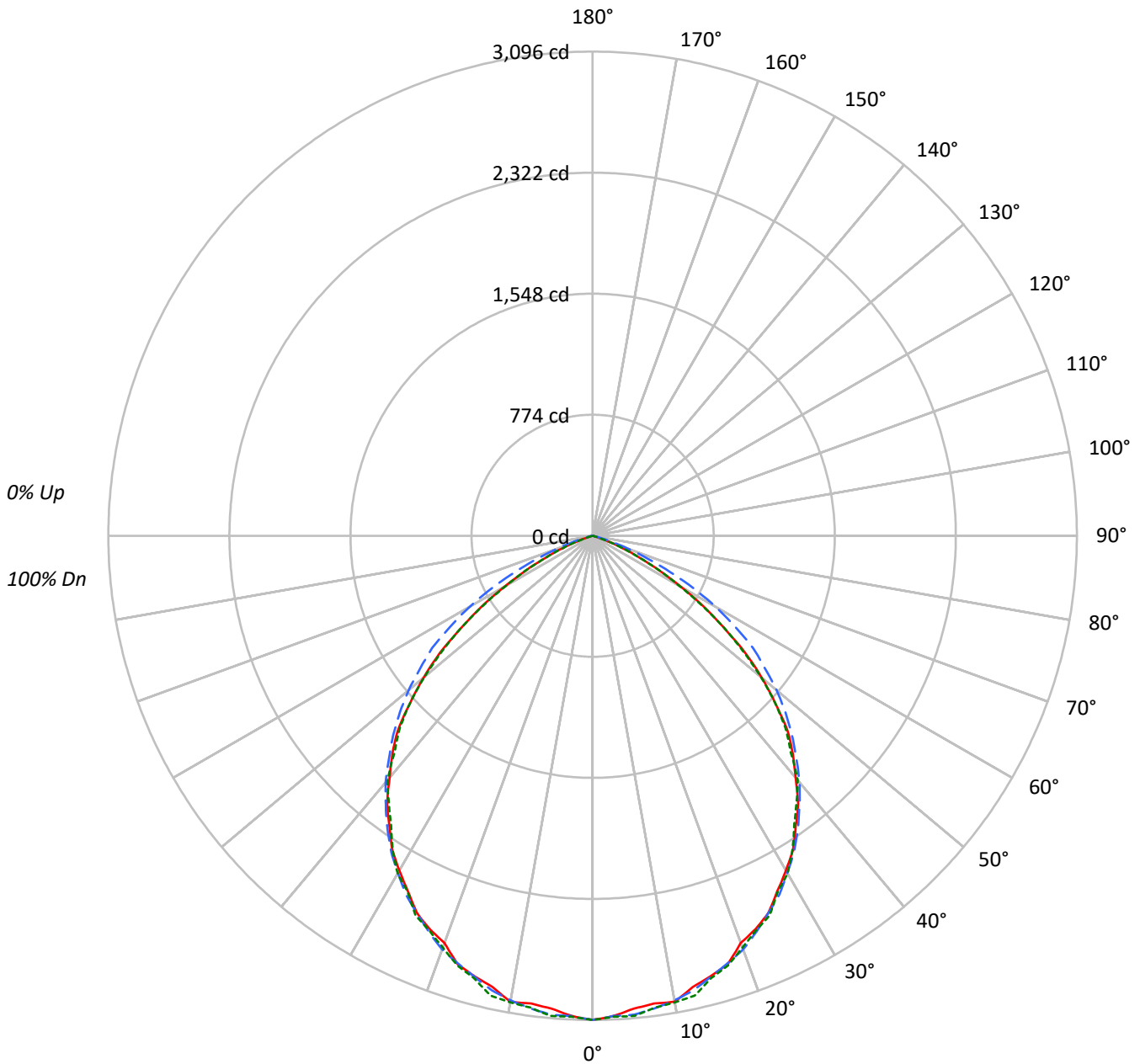
Lumens per Lamp: N/A  
Luminaire Lumens: 6613.0 lumens  
Efficiency: N/A  
Efficacy: 84.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 78  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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: 25 FT

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CATALOG NUMBER: LD4C70D010 EU4709027 4LBCSSQMW

### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |    |    |     |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |     | 30  |     |     |     | 10  |     |    | 0  |     |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    | 100 |
| 1   | 111 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99  | 96  | 97  | 95  | 94  | 94  | 92  | 91  | 89  |    |    | 89  |
| 2   | 103 | 96  | 91  | 86  | 100 | 94  | 89  | 85  | 91  | 87  | 83  | 88  | 84  | 81  | 85  | 82  | 79  | 77  |    |    | 77  |
| 3   | 95  | 86  | 79  | 74  | 93  | 85  | 78  | 73  | 82  | 76  | 72  | 79  | 74  | 71  | 77  | 73  | 69  | 67  |    |    | 67  |
| 4   | 88  | 77  | 70  | 64  | 86  | 76  | 69  | 63  | 74  | 67  | 63  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |    |    | 59  |
| 5   | 81  | 70  | 62  | 56  | 79  | 69  | 61  | 56  | 67  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 54  | 52  |    |    | 52  |
| 6   | 75  | 63  | 55  | 49  | 73  | 62  | 55  | 49  | 61  | 54  | 49  | 59  | 53  | 48  | 57  | 52  | 48  | 46  |    |    | 46  |
| 7   | 70  | 58  | 50  | 44  | 68  | 57  | 49  | 44  | 55  | 49  | 44  | 54  | 48  | 43  | 53  | 47  | 43  | 41  |    |    | 41  |
| 8   | 65  | 53  | 45  | 40  | 64  | 52  | 45  | 39  | 51  | 44  | 39  | 50  | 44  | 39  | 49  | 43  | 39  | 37  |    |    | 37  |
| 9   | 61  | 49  | 41  | 36  | 60  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 35  | 45  | 39  | 35  | 33  |    |    | 33  |
| 10  | 57  | 45  | 38  | 33  | 56  | 44  | 37  | 33  | 44  | 37  | 32  | 43  | 37  | 32  | 42  | 36  | 32  | 31  |    |    | 31  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 298701 | 298701 | 298701 |
| 5°  | 293885 | 297711 | 298563 |
| 10° | 296421 | 295559 | 296842 |
| 15° | 291227 | 291667 | 292536 |
| 20° | 284458 | 288976 | 287631 |
| 25° | 283225 | 283225 | 285099 |
| 30° | 275331 | 277292 | 277793 |
| 35° | 266738 | 269341 | 264677 |
| 40° | 254232 | 259208 | 256991 |
| 45° | 240613 | 246016 | 238211 |
| 50° | 211895 | 230374 | 210574 |
| 55° | 171605 | 210817 | 172362 |
| 60° | 125571 | 174819 | 123043 |
| 65° | 76302  | 124476 | 74316  |
| 70° | 29763  | 67002  | 28550  |
| 75° | 3281   | 18044  | 3281   |
| 80° | 2500   | 2500   | 2500   |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 292.2  | 4.4       |
| 10°-20°   | 826.9  | 12.5      |
| 20°-30°   | 1226.9 | 18.6      |
| 30°-40°   | 1421.6 | 21.5      |
| 40°-50°   | 1363.0 | 20.6      |
| 50°-60°   | 1002.2 | 15.2      |
| 60°-70°   | 432.8  | 6.5       |
| 70°-80°   | 46.7   | 0.7       |
| 80°-90°   | 0.6    | 0.0       |
| 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°-30°    | 2346.0 | 35.5      |
| 0°-40°    | 3767.6 | 57.0      |
| 0°-60°    | 6132.8 | 92.7      |
| 0°-90°    | 6613.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 6613.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3096 | 3096  | 3096 | 3096  | 3096 |      |
| 5°  | 3034 | 3065  | 3074 | 3078  | 3082 | 289  |
| 15° | 2915 | 2933  | 2920 | 2924  | 2928 | 822  |
| 25° | 2660 | 2656  | 2660 | 2665  | 2678 | 1218 |
| 35° | 2264 | 2278  | 2287 | 2282  | 2247 | 1416 |
| 45° | 1763 | 1768  | 1803 | 1776  | 1746 | 1340 |
| 55° | 1020 | 1126  | 1253 | 1121  | 1025 | 918  |
| 65° | 334  | 418   | 545  | 413   | 326  | 344  |
| 75° | 9    | 13    | 48   | 9     | 9    | 27   |
| 85° | 0    | 0     | 0    | 0     | 0    | 1    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 22.5°  | 25°    | 30°    | 35°    | 40°    | 45°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 |
| 2.5°  | 3073.7 | 3108.9 | 3113.3 | 3091.3 | 3082.5 | 3069.4 | 3100.1 | 3078.2 | 3087.0 | 3078.2 | 3073.7 |
| 5°    | 3034.2 | 3073.7 | 3078.2 | 3078.2 | 3069.4 | 3064.9 | 3078.2 | 3073.7 | 3069.4 | 3060.6 | 3073.7 |
| 7.5°  | 3016.6 | 3038.5 | 3060.6 | 3034.2 | 3047.3 | 3043.0 | 3073.7 | 3060.6 | 3056.1 | 3056.1 | 3047.3 |
| 10°   | 3025.4 | 3020.9 | 3038.5 | 3012.1 | 3020.9 | 3012.1 | 3038.5 | 3038.5 | 3029.7 | 3020.9 | 3016.6 |
| 12.5° | 2954.9 | 2990.1 | 2990.1 | 2985.8 | 2977.0 | 2963.7 | 2990.1 | 3007.8 | 2981.3 | 2981.3 | 2977.0 |
| 15°   | 2915.4 | 2924.2 | 2928.5 | 2928.5 | 2924.2 | 2933.0 | 2946.1 | 2928.5 | 2933.0 | 2911.0 | 2919.8 |
| 17.5° | 2871.5 | 2853.9 | 2867.0 | 2858.2 | 2862.7 | 2871.5 | 2889.1 | 2889.1 | 2862.7 | 2858.2 | 2867.0 |
| 20°   | 2770.3 | 2823.0 | 2827.5 | 2801.2 | 2805.5 | 2805.5 | 2836.3 | 2809.9 | 2827.5 | 2805.5 | 2814.3 |
| 22.5° | 2721.9 | 2757.0 | 2761.5 | 2726.3 | 2748.2 | 2721.9 | 2752.7 | 2713.1 | 2757.0 | 2726.3 | 2739.4 |
| 25°   | 2660.3 | 2656.0 | 2669.1 | 2651.5 | 2656.0 | 2656.0 | 2677.9 | 2660.3 | 2673.6 | 2656.0 | 2660.3 |
| 27.5° | 2559.3 | 2594.5 | 2590.0 | 2572.4 | 2581.2 | 2576.9 | 2620.8 | 2572.4 | 2598.8 | 2576.9 | 2585.7 |
| 30°   | 2471.2 | 2502.1 | 2493.3 | 2475.7 | 2475.7 | 2462.4 | 2510.9 | 2497.6 | 2493.3 | 2493.3 | 2488.8 |
| 32.5° | 2383.3 | 2387.8 | 2379.0 | 2383.3 | 2387.8 | 2370.2 | 2409.7 | 2392.1 | 2387.8 | 2392.1 | 2396.6 |
| 35°   | 2264.5 | 2264.5 | 2273.3 | 2260.2 | 2277.8 | 2277.8 | 2313.0 | 2290.9 | 2286.6 | 2273.3 | 2286.6 |
| 37.5° | 2159.0 | 2145.9 | 2150.3 | 2150.3 | 2159.0 | 2167.8 | 2185.4 | 2176.6 | 2176.6 | 2163.5 | 2172.3 |
| 40°   | 2018.4 | 2009.6 | 2022.7 | 2022.7 | 2036.0 | 2036.0 | 2053.5 | 2044.8 | 2057.9 | 2057.9 | 2057.9 |
| 42.5° | 1895.3 | 1895.3 | 1886.5 | 1899.6 | 1904.1 | 1899.6 | 1930.5 | 1926.0 | 1930.5 | 1921.7 | 1926.0 |
| 45°   | 1763.3 | 1763.3 | 1754.5 | 1750.2 | 1772.1 | 1767.7 | 1802.9 | 1789.6 | 1807.2 | 1798.4 | 1802.9 |
| 47.5° | 1583.0 | 1605.0 | 1591.7 | 1605.0 | 1631.4 | 1635.9 | 1657.8 | 1649.0 | 1666.6 | 1653.5 | 1671.0 |
| 50°   | 1411.6 | 1411.6 | 1424.7 | 1442.3 | 1468.7 | 1473.1 | 1499.5 | 1517.1 | 1525.9 | 1530.2 | 1534.7 |
| 52.5° | 1231.3 | 1226.8 | 1240.1 | 1262.0 | 1284.0 | 1301.6 | 1328.0 | 1354.4 | 1372.0 | 1398.3 | 1385.1 |
| 55°   | 1020.1 | 1028.9 | 1042.2 | 1068.6 | 1103.7 | 1125.6 | 1147.7 | 1182.9 | 1213.7 | 1226.8 | 1253.2 |
| 57.5° | 839.8  | 831.0  | 839.8  | 875.0  | 914.6  | 932.2  | 963.1  | 998.2  | 1042.2 | 1068.6 | 1077.4 |
| 60°   | 650.7  | 655.2  | 664.0  | 694.9  | 725.5  | 751.9  | 765.2  | 822.2  | 861.9  | 888.3  | 905.9  |
| 62.5° | 479.4  | 488.2  | 497.0  | 523.3  | 554.0  | 576.1  | 598.0  | 646.4  | 681.6  | 708.0  | 725.5  |
| 65°   | 334.2  | 338.6  | 351.8  | 364.9  | 395.8  | 417.7  | 435.3  | 474.9  | 510.1  | 532.1  | 545.2  |
| 67.5° | 206.7  | 211.0  | 219.8  | 237.5  | 259.4  | 277.0  | 294.6  | 321.0  | 351.8  | 373.7  | 378.2  |
| 70°   | 105.5  | 110.0  | 114.3  | 127.6  | 145.1  | 153.9  | 167.0  | 189.1  | 211.0  | 228.6  | 237.5  |
| 72.5° | 35.2   | 35.2   | 39.6   | 48.4   | 57.2   | 66.0   | 70.3   | 92.4   | 110.0  | 118.8  | 123.1  |
| 75°   | 8.8    | 8.8    | 8.8    | 8.8    | 8.8    | 13.3   | 13.3   | 26.4   | 35.2   | 44.0   | 48.4   |
| 77.5° | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 8.8    | 8.8    |
| 80°   | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 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    |



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**CANDELA DISTRIBUTION (continued):**

|       | 50°    | 55°    | 60°    | 65°    | 67.5°  | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 | 3095.7 |
| 2.5°  | 3095.7 | 3087.0 | 3082.5 | 3087.0 | 3087.0 | 3082.5 | 3095.7 | 3113.3 | 3135.2 | 3078.2 |
| 5°    | 3091.3 | 3082.5 | 3091.3 | 3064.9 | 3078.2 | 3069.4 | 3087.0 | 3082.5 | 3100.1 | 3082.5 |
| 7.5°  | 3078.2 | 3060.6 | 3064.9 | 3051.8 | 3069.4 | 3047.3 | 3060.6 | 3087.0 | 3069.4 | 3043.0 |
| 10°   | 3034.2 | 3025.4 | 3056.1 | 3012.1 | 3003.4 | 3020.9 | 3056.1 | 3029.7 | 3020.9 | 3029.7 |
| 12.5° | 2990.1 | 2990.1 | 3003.4 | 2968.2 | 2972.5 | 2981.3 | 2998.9 | 2981.3 | 2990.1 | 3012.1 |
| 15°   | 2941.8 | 2933.0 | 2954.9 | 2928.5 | 2924.2 | 2915.4 | 2933.0 | 2933.0 | 2941.8 | 2928.5 |
| 17.5° | 2884.6 | 2871.5 | 2871.5 | 2862.7 | 2858.2 | 2880.3 | 2889.1 | 2893.4 | 2897.9 | 2880.3 |
| 20°   | 2814.3 | 2809.9 | 2823.0 | 2809.9 | 2814.3 | 2818.7 | 2818.7 | 2809.9 | 2849.4 | 2801.2 |
| 22.5° | 2739.4 | 2752.7 | 2735.1 | 2726.3 | 2735.1 | 2743.9 | 2743.9 | 2748.2 | 2739.4 | 2730.7 |
| 25°   | 2664.8 | 2673.6 | 2677.9 | 2651.5 | 2664.8 | 2651.5 | 2682.4 | 2686.7 | 2669.1 | 2677.9 |
| 27.5° | 2598.8 | 2585.7 | 2581.2 | 2563.6 | 2572.4 | 2568.1 | 2572.4 | 2572.4 | 2598.8 | 2563.6 |
| 30°   | 2497.6 | 2484.5 | 2488.8 | 2475.7 | 2480.0 | 2475.7 | 2480.0 | 2480.0 | 2497.6 | 2493.3 |
| 32.5° | 2400.9 | 2387.8 | 2392.1 | 2379.0 | 2379.0 | 2383.3 | 2374.5 | 2374.5 | 2387.8 | 2379.0 |
| 35°   | 2308.5 | 2277.8 | 2282.1 | 2277.8 | 2282.1 | 2264.5 | 2264.5 | 2260.2 | 2269.0 | 2247.0 |
| 37.5° | 2176.6 | 2163.5 | 2159.0 | 2154.7 | 2159.0 | 2150.3 | 2159.0 | 2145.9 | 2159.0 | 2141.5 |
| 40°   | 2057.9 | 2049.1 | 2053.5 | 2027.2 | 2027.2 | 2031.5 | 2022.7 | 2018.4 | 2022.7 | 2040.3 |
| 42.5° | 1939.3 | 1921.7 | 1912.9 | 1904.1 | 1908.4 | 1895.3 | 1890.8 | 1882.0 | 1890.8 | 1873.2 |
| 45°   | 1798.4 | 1798.4 | 1794.1 | 1772.1 | 1776.5 | 1776.5 | 1759.0 | 1741.4 | 1745.7 | 1745.7 |
| 47.5° | 1671.0 | 1662.2 | 1657.8 | 1635.9 | 1631.4 | 1627.1 | 1609.3 | 1596.2 | 1596.2 | 1583.0 |
| 50°   | 1530.2 | 1521.4 | 1508.3 | 1486.2 | 1477.5 | 1451.1 | 1438.0 | 1420.4 | 1402.8 | 1402.8 |
| 52.5° | 1398.3 | 1367.5 | 1349.9 | 1314.7 | 1301.6 | 1288.4 | 1253.2 | 1240.1 | 1226.8 | 1213.7 |
| 55°   | 1240.1 | 1213.7 | 1178.6 | 1138.9 | 1121.3 | 1099.3 | 1064.1 | 1037.7 | 1020.1 | 1024.6 |
| 57.5° | 1086.2 | 1042.2 | 1007.0 | 954.3  | 932.2  | 919.0  | 883.8  | 848.6  | 831.0  | 831.0  |
| 60°   | 897.1  | 861.9  | 817.9  | 769.5  | 751.9  | 730.0  | 685.9  | 664.0  | 650.7  | 637.6  |
| 62.5° | 716.8  | 690.4  | 650.7  | 589.2  | 576.1  | 554.0  | 523.3  | 497.0  | 483.7  | 483.7  |
| 65°   | 536.4  | 510.1  | 474.9  | 430.9  | 413.4  | 395.8  | 369.4  | 343.0  | 329.8  | 325.5  |
| 67.5° | 378.2  | 347.3  | 316.7  | 281.5  | 268.2  | 259.4  | 233.1  | 215.5  | 206.7  | 202.2  |
| 70°   | 228.6  | 211.0  | 189.1  | 162.7  | 149.5  | 140.7  | 123.1  | 110.0  | 105.5  | 101.2  |
| 72.5° | 118.8  | 105.5  | 87.9   | 70.3   | 61.5   | 52.7   | 44.0   | 35.2   | 30.9   | 30.9   |
| 75°   | 44.0   | 35.2   | 22.1   | 13.3   | 8.8    | 8.8    | 8.8    | 8.8    | 8.8    | 8.8    |
| 77.5° | 8.8    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    |
| 80°   | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 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    |



Report Generated By 670246072 / DESKTOP-50001EG







— 0°-180°    - - 45°-225°    - - - - 90°-270°









(END OF REPORT)