

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: P840237

Luminaire Tested: **LD4C65D010 EU4659050 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: P840237  
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: LD4C65D010 EU4659050 4LBCSSQMW  
Description: 4 INCH 6500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MW FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

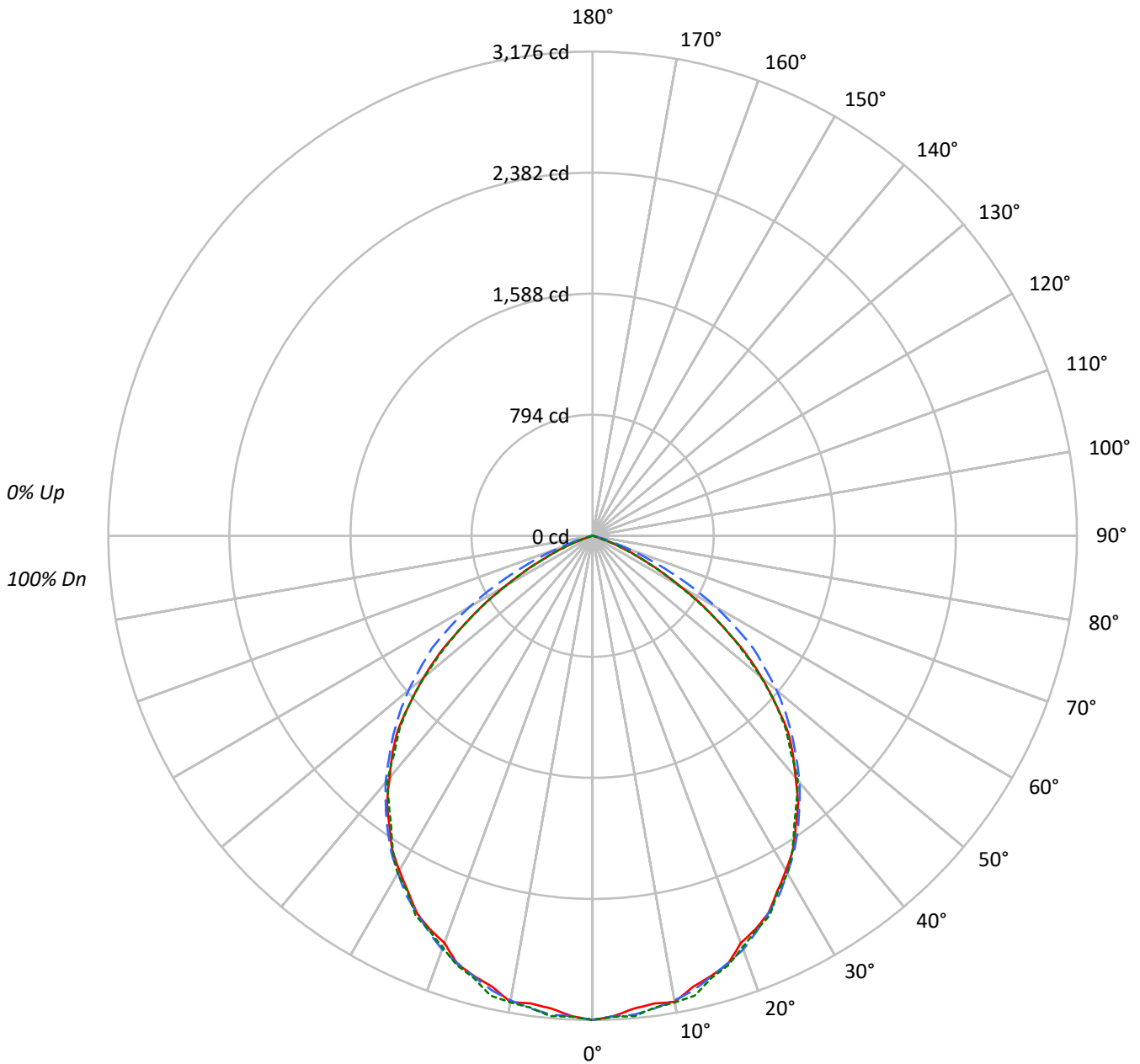
Lumens per Lamp: N/A  
Luminaire Lumens: 6784.0 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 72.4  
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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### Luminous Intensity Polar Plot





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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|
| RF  | 20  |     |     |     | 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°  | 306429 | 306429 | 306429 |
| 5°  | 301488 | 305411 | 306283 |
| 10° | 304092 | 303201 | 304524 |
| 15° | 298759 | 299208 | 300107 |
| 20° | 291810 | 296441 | 295065 |
| 25° | 290550 | 290550 | 292466 |
| 30° | 282450 | 284467 | 284979 |
| 35° | 273641 | 276303 | 271520 |
| 40° | 260807 | 265908 | 263629 |
| 45° | 246835 | 252375 | 244365 |
| 50° | 217374 | 236333 | 216023 |
| 55° | 176046 | 216268 | 176819 |
| 60° | 128832 | 179334 | 126227 |
| 65° | 78288  | 127695 | 76233  |
| 70° | 30525  | 68751  | 29284  |
| 75° | 3355   | 18528  | 3355   |
| 80° | 2556   | 2556   | 2556   |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 299.8  | 4.4       |
| 10°-20°   | 848.3  | 12.5      |
| 20°-30°   | 1258.6 | 18.6      |
| 30°-40°   | 1458.4 | 21.5      |
| 40°-50°   | 1398.3 | 20.6      |
| 50°-60°   | 1028.1 | 15.2      |
| 60°-70°   | 444.0  | 6.5       |
| 70°-80°   | 47.9   | 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°    | 2406.7 | 35.5      |
| 0°-40°    | 3865.0 | 57.0      |
| 0°-60°    | 6291.4 | 92.7      |
| 0°-90°    | 6784.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 6784.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3176 | 3176  | 3176 | 3176  | 3176 |      |
| 5°  | 3113 | 3144  | 3153 | 3158  | 3162 | 297  |
| 15° | 2991 | 3009  | 2995 | 3000  | 3004 | 843  |
| 25° | 2729 | 2725  | 2729 | 2734  | 2747 | 1250 |
| 35° | 2323 | 2337  | 2346 | 2341  | 2305 | 1453 |
| 45° | 1809 | 1814  | 1850 | 1822  | 1791 | 1375 |
| 55° | 1046 | 1155  | 1286 | 1150  | 1051 | 942  |
| 65° | 343  | 428   | 559  | 424   | 334  | 352  |
| 75° | 9    | 14    | 50   | 9     | 9    | 28   |
| 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°    | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 |
| 2.5°  | 3153.2 | 3189.2 | 3193.8 | 3171.2 | 3162.2 | 3148.7 | 3180.2 | 3157.8 | 3166.8 | 3157.8 | 3153.2 |
| 5°    | 3112.7 | 3153.2 | 3157.8 | 3157.8 | 3148.7 | 3144.1 | 3157.8 | 3153.2 | 3148.7 | 3139.7 | 3153.2 |
| 7.5°  | 3094.6 | 3117.1 | 3139.7 | 3112.7 | 3126.1 | 3121.7 | 3153.2 | 3139.7 | 3135.1 | 3135.1 | 3126.1 |
| 10°   | 3103.7 | 3099.1 | 3117.1 | 3090.0 | 3099.1 | 3090.0 | 3117.1 | 3117.1 | 3108.1 | 3099.1 | 3094.6 |
| 12.5° | 3031.3 | 3067.4 | 3067.4 | 3063.0 | 3054.0 | 3040.3 | 3067.4 | 3085.6 | 3058.4 | 3058.4 | 3054.0 |
| 15°   | 2990.8 | 2999.8 | 3004.3 | 3004.3 | 2999.8 | 3008.9 | 3022.3 | 3004.3 | 3008.9 | 2986.2 | 2995.3 |
| 17.5° | 2945.7 | 2927.7 | 2941.1 | 2932.1 | 2936.7 | 2945.7 | 2963.8 | 2963.8 | 2936.7 | 2932.1 | 2941.1 |
| 20°   | 2841.9 | 2896.0 | 2900.6 | 2873.6 | 2878.0 | 2878.0 | 2909.7 | 2882.6 | 2900.6 | 2878.0 | 2887.0 |
| 22.5° | 2792.2 | 2828.3 | 2832.9 | 2796.8 | 2819.3 | 2792.2 | 2823.9 | 2783.2 | 2828.3 | 2796.8 | 2810.3 |
| 25°   | 2729.1 | 2724.7 | 2738.1 | 2720.1 | 2724.7 | 2724.7 | 2747.1 | 2729.1 | 2742.7 | 2724.7 | 2729.1 |
| 27.5° | 2625.5 | 2661.6 | 2657.0 | 2638.9 | 2647.9 | 2643.5 | 2688.6 | 2638.9 | 2666.0 | 2643.5 | 2652.5 |
| 30°   | 2535.1 | 2566.8 | 2557.8 | 2539.7 | 2539.7 | 2526.1 | 2575.8 | 2562.2 | 2557.8 | 2557.8 | 2553.2 |
| 32.5° | 2444.9 | 2449.5 | 2440.5 | 2444.9 | 2449.5 | 2431.5 | 2472.0 | 2454.0 | 2449.5 | 2454.0 | 2458.6 |
| 35°   | 2323.1 | 2323.1 | 2332.1 | 2318.7 | 2336.7 | 2336.7 | 2372.8 | 2350.2 | 2345.7 | 2332.1 | 2345.7 |
| 37.5° | 2214.9 | 2201.4 | 2205.9 | 2205.9 | 2214.9 | 2223.9 | 2241.9 | 2232.9 | 2232.9 | 2219.5 | 2228.5 |
| 40°   | 2070.6 | 2061.6 | 2075.0 | 2075.0 | 2088.6 | 2088.6 | 2106.6 | 2097.6 | 2111.1 | 2111.1 | 2111.1 |
| 42.5° | 1944.3 | 1944.3 | 1935.3 | 1948.7 | 1953.3 | 1948.7 | 1980.4 | 1975.8 | 1980.4 | 1971.4 | 1975.8 |
| 45°   | 1808.9 | 1808.9 | 1799.8 | 1795.4 | 1817.9 | 1813.5 | 1849.5 | 1835.9 | 1854.0 | 1844.9 | 1849.5 |
| 47.5° | 1623.9 | 1646.5 | 1632.9 | 1646.5 | 1673.6 | 1678.2 | 1700.6 | 1691.6 | 1709.7 | 1696.2 | 1714.2 |
| 50°   | 1448.1 | 1448.1 | 1461.6 | 1479.6 | 1506.6 | 1511.2 | 1538.3 | 1556.3 | 1565.4 | 1569.8 | 1574.4 |
| 52.5° | 1263.1 | 1258.5 | 1272.2 | 1294.6 | 1317.3 | 1335.3 | 1362.3 | 1389.4 | 1407.4 | 1434.5 | 1420.9 |
| 55°   | 1046.5 | 1055.5 | 1069.2 | 1096.2 | 1132.3 | 1154.7 | 1177.4 | 1213.4 | 1245.1 | 1258.5 | 1285.6 |
| 57.5° | 861.5  | 852.5  | 861.5  | 897.6  | 938.3  | 956.3  | 988.0  | 1024.1 | 1069.2 | 1096.2 | 1105.2 |
| 60°   | 667.6  | 672.2  | 681.2  | 712.8  | 744.3  | 771.4  | 785.0  | 843.5  | 884.2  | 911.2  | 929.3  |
| 62.5° | 491.8  | 500.8  | 509.8  | 536.9  | 568.4  | 591.0  | 613.4  | 663.1  | 699.2  | 726.3  | 744.3  |
| 65°   | 342.9  | 347.3  | 360.9  | 374.4  | 406.0  | 428.5  | 446.5  | 487.2  | 523.3  | 545.9  | 559.3  |
| 67.5° | 212.0  | 216.4  | 225.5  | 243.7  | 266.1  | 284.2  | 302.2  | 329.3  | 360.9  | 383.4  | 388.0  |
| 70°   | 108.2  | 112.8  | 117.2  | 130.9  | 148.9  | 157.9  | 171.4  | 194.0  | 216.4  | 234.5  | 243.7  |
| 72.5° | 36.1   | 36.1   | 40.7   | 49.7   | 58.7   | 67.7   | 72.1   | 94.8   | 112.8  | 121.8  | 126.3  |
| 75°   | 9.0    | 9.0    | 9.0    | 9.0    | 9.0    | 13.6   | 13.6   | 27.1   | 36.1   | 45.1   | 49.7   |
| 77.5° | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 9.0    | 9.0    |
| 80°   | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    |
| 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°    | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 | 3175.8 |
| 2.5°  | 3175.8 | 3166.8 | 3162.2 | 3166.8 | 3166.8 | 3162.2 | 3175.8 | 3193.8 | 3216.3 | 3157.8 |
| 5°    | 3171.2 | 3162.2 | 3171.2 | 3144.1 | 3157.8 | 3148.7 | 3166.8 | 3162.2 | 3180.2 | 3162.2 |
| 7.5°  | 3157.8 | 3139.7 | 3144.1 | 3130.7 | 3148.7 | 3126.1 | 3139.7 | 3166.8 | 3148.7 | 3121.7 |
| 10°   | 3112.7 | 3103.7 | 3135.1 | 3090.0 | 3081.0 | 3099.1 | 3135.1 | 3108.1 | 3099.1 | 3108.1 |
| 12.5° | 3067.4 | 3067.4 | 3081.0 | 3044.9 | 3049.4 | 3058.4 | 3076.4 | 3058.4 | 3067.4 | 3090.0 |
| 15°   | 3017.9 | 3008.9 | 3031.3 | 3004.3 | 2999.8 | 2990.8 | 3008.9 | 3008.9 | 3017.9 | 3004.3 |
| 17.5° | 2959.2 | 2945.7 | 2945.7 | 2936.7 | 2932.1 | 2954.8 | 2963.8 | 2968.2 | 2972.8 | 2954.8 |
| 20°   | 2887.0 | 2882.6 | 2896.0 | 2882.6 | 2887.0 | 2891.6 | 2891.6 | 2882.6 | 2923.1 | 2873.6 |
| 22.5° | 2810.3 | 2823.9 | 2805.9 | 2796.8 | 2805.9 | 2814.9 | 2814.9 | 2819.3 | 2810.3 | 2801.3 |
| 25°   | 2733.7 | 2742.7 | 2747.1 | 2720.1 | 2733.7 | 2720.1 | 2751.7 | 2756.2 | 2738.1 | 2747.1 |
| 27.5° | 2666.0 | 2652.5 | 2647.9 | 2629.9 | 2638.9 | 2634.5 | 2638.9 | 2638.9 | 2666.0 | 2629.9 |
| 30°   | 2562.2 | 2548.7 | 2553.2 | 2539.7 | 2544.1 | 2539.7 | 2544.1 | 2544.1 | 2562.2 | 2557.8 |
| 32.5° | 2463.0 | 2449.5 | 2454.0 | 2440.5 | 2440.5 | 2444.9 | 2435.9 | 2435.9 | 2449.5 | 2440.5 |
| 35°   | 2368.2 | 2336.7 | 2341.1 | 2336.7 | 2341.1 | 2323.1 | 2323.1 | 2318.7 | 2327.7 | 2305.1 |
| 37.5° | 2232.9 | 2219.5 | 2214.9 | 2210.5 | 2214.9 | 2205.9 | 2214.9 | 2201.4 | 2214.9 | 2196.8 |
| 40°   | 2111.1 | 2102.1 | 2106.6 | 2079.6 | 2079.6 | 2084.0 | 2075.0 | 2070.6 | 2075.0 | 2093.0 |
| 42.5° | 1989.4 | 1971.4 | 1962.4 | 1953.3 | 1957.8 | 1944.3 | 1939.7 | 1930.7 | 1939.7 | 1921.7 |
| 45°   | 1844.9 | 1844.9 | 1840.5 | 1817.9 | 1822.5 | 1822.5 | 1804.4 | 1786.4 | 1790.8 | 1790.8 |
| 47.5° | 1714.2 | 1705.2 | 1700.6 | 1678.2 | 1673.6 | 1669.2 | 1650.9 | 1637.5 | 1637.5 | 1623.9 |
| 50°   | 1569.8 | 1560.8 | 1547.3 | 1524.7 | 1515.7 | 1488.6 | 1475.2 | 1457.1 | 1439.1 | 1439.1 |
| 52.5° | 1434.5 | 1402.8 | 1384.8 | 1348.7 | 1335.3 | 1321.7 | 1285.6 | 1272.2 | 1258.5 | 1245.1 |
| 55°   | 1272.2 | 1245.1 | 1209.0 | 1168.4 | 1150.3 | 1127.7 | 1091.6 | 1064.6 | 1046.5 | 1051.1 |
| 57.5° | 1114.2 | 1069.2 | 1033.1 | 979.0  | 956.3  | 942.7  | 906.6  | 870.6  | 852.5  | 852.5  |
| 60°   | 920.3  | 884.2  | 839.1  | 789.4  | 771.4  | 748.9  | 703.6  | 681.2  | 667.6  | 654.1  |
| 62.5° | 735.3  | 708.2  | 667.6  | 604.4  | 591.0  | 568.4  | 536.9  | 509.8  | 496.2  | 496.2  |
| 65°   | 550.3  | 523.3  | 487.2  | 442.1  | 424.1  | 406.0  | 379.0  | 351.9  | 338.3  | 333.9  |
| 67.5° | 388.0  | 356.3  | 324.8  | 288.8  | 275.2  | 266.1  | 239.1  | 221.0  | 212.0  | 207.4  |
| 70°   | 234.5  | 216.4  | 194.0  | 166.9  | 153.3  | 144.3  | 126.3  | 112.8  | 108.2  | 103.8  |
| 72.5° | 121.8  | 108.2  | 90.2   | 72.1   | 63.1   | 54.1   | 45.1   | 36.1   | 31.7   | 31.7   |
| 75°   | 45.1   | 36.1   | 22.6   | 13.6   | 9.0    | 9.0    | 9.0    | 9.0    | 9.0    | 9.0    |
| 77.5° | 9.0    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    |
| 80°   | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    | 4.6    |
| 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)