

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: P#

Luminaire Tested: **LD4C50D010 EX4C509050 4LBCSSQMW**

Issue Date: 5/25/2022



**Test Information**

Test Method: LM-79-08  
Report Number: P#  
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: LD4C50D010 EX4C509050 4LBCSSQMW  
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MW FINISH  
Light Source: -  
Ballast/Driver: -

**Summary**

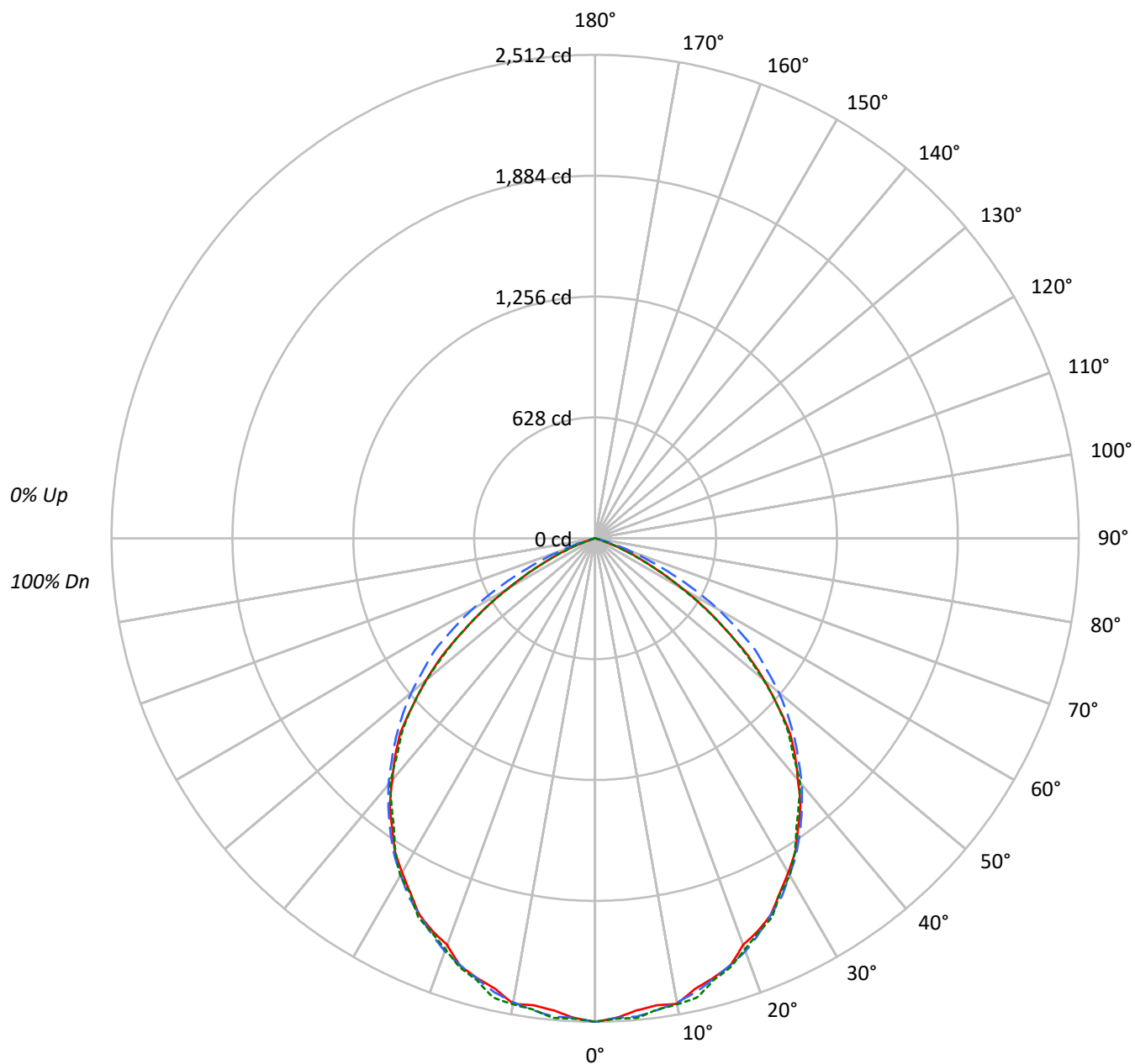
Lumens per Lamp: N/A  
Luminaire Lumens: 5367.0 lumens  
Efficiency: N/A  
Efficacy: 91.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 58.4  
Input Voltage (V):  
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: 25 FT

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CATALOG NUMBER: LD4C50D010 EX4C509050 4LBCSSQMW

### Luminous Intensity Polar Plot





TEST NUMBER: P#

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

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

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

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 242428 | 242428 | 242428 |
| 5°  | 238512 | 241621 | 242308 |
| 10° | 240574 | 239868 | 240917 |
| 15° | 236356 | 236706 | 237425 |
| 20° | 230858 | 234524 | 233436 |
| 25° | 229866 | 229866 | 231378 |
| 30° | 223455 | 225049 | 225450 |
| 35° | 216488 | 218597 | 214804 |
| 40° | 206331 | 210361 | 208573 |
| 45° | 195268 | 199662 | 193331 |
| 50° | 171966 | 186962 | 170900 |
| 55° | 139272 | 171100 | 139894 |
| 60° | 101912 | 141877 | 99866  |
| 65° | 61941  | 101028 | 60297  |
| 70° | 24149  | 54392  | 23162  |
| 75° | 2647   | 14651  | 2647   |
| 80° | 2000   | 2000   | 2000   |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 237.2  | 4.4       |
| 10°-20°   | 671.1  | 12.5      |
| 20°-30°   | 995.7  | 18.6      |
| 30°-40°   | 1153.8 | 21.5      |
| 40°-50°   | 1106.2 | 20.6      |
| 50°-60°   | 813.3  | 15.2      |
| 60°-70°   | 351.3  | 6.5       |
| 70°-80°   | 37.9   | 0.7       |
| 80°-90°   | 0.5    | 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°    | 1904.0 | 35.5      |
| 0°-40°    | 3057.7 | 57.0      |
| 0°-60°    | 4977.3 | 92.7      |
| 0°-90°    | 5367.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5367.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2512 | 2512  | 2512 | 2512  | 2512 |      |
| 5°  | 2462 | 2487  | 2495 | 2498  | 2502 | 235  |
| 15° | 2366 | 2380  | 2370 | 2373  | 2377 | 667  |
| 25° | 2159 | 2156  | 2159 | 2163  | 2173 | 989  |
| 35° | 1838 | 1849  | 1856 | 1852  | 1824 | 1149 |
| 45° | 1431 | 1435  | 1463 | 1442  | 1417 | 1088 |
| 55° | 828  | 914   | 1017 | 910   | 832  | 745  |
| 65° | 271  | 339   | 442  | 336   | 264  | 279  |
| 75° | 7    | 11    | 39   | 7     | 7    | 22   |
| 85° | 0    | 0     | 0    | 0     | 0    | 0    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



TEST NUMBER: P#

CATALOG NUMBER: LD4C50D010 EX4C509050 4LBCSSQMW

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 22.5°  | 25°    | 30°    | 35°    | 40°    | 45°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 |
| 2.5°  | 2494.6 | 2523.1 | 2526.7 | 2508.8 | 2501.7 | 2491.1 | 2516.0 | 2498.2 | 2505.3 | 2498.2 | 2494.6 |
| 5°    | 2462.5 | 2494.6 | 2498.2 | 2498.2 | 2491.1 | 2487.4 | 2498.2 | 2494.6 | 2491.1 | 2483.9 | 2494.6 |
| 7.5°  | 2448.2 | 2466.0 | 2483.9 | 2462.5 | 2473.1 | 2469.6 | 2494.6 | 2483.9 | 2480.3 | 2480.3 | 2473.1 |
| 10°   | 2455.4 | 2451.7 | 2466.0 | 2444.6 | 2451.7 | 2444.6 | 2466.0 | 2466.0 | 2458.9 | 2451.7 | 2448.2 |
| 12.5° | 2398.2 | 2426.7 | 2426.7 | 2423.2 | 2416.1 | 2405.3 | 2426.7 | 2441.1 | 2419.6 | 2419.6 | 2416.1 |
| 15°   | 2366.1 | 2373.3 | 2376.8 | 2376.8 | 2373.3 | 2380.4 | 2391.0 | 2376.8 | 2380.4 | 2362.5 | 2369.6 |
| 17.5° | 2330.4 | 2316.2 | 2326.8 | 2319.7 | 2323.3 | 2330.4 | 2344.7 | 2344.7 | 2323.3 | 2319.7 | 2326.8 |
| 20°   | 2248.3 | 2291.1 | 2294.8 | 2273.4 | 2276.9 | 2276.9 | 2301.9 | 2280.5 | 2294.8 | 2276.9 | 2284.0 |
| 22.5° | 2209.0 | 2237.6 | 2241.2 | 2212.7 | 2230.4 | 2209.0 | 2234.1 | 2201.9 | 2237.6 | 2212.7 | 2223.3 |
| 25°   | 2159.1 | 2155.6 | 2166.2 | 2151.9 | 2155.6 | 2155.6 | 2173.3 | 2159.1 | 2169.8 | 2155.6 | 2159.1 |
| 27.5° | 2077.1 | 2105.6 | 2102.0 | 2087.7 | 2094.9 | 2091.4 | 2127.0 | 2087.7 | 2109.1 | 2091.4 | 2098.5 |
| 30°   | 2005.6 | 2030.6 | 2023.5 | 2009.2 | 2009.2 | 1998.5 | 2037.8 | 2027.0 | 2023.5 | 2023.5 | 2019.9 |
| 32.5° | 1934.3 | 1937.9 | 1930.8 | 1934.3 | 1937.9 | 1923.6 | 1955.7 | 1941.4 | 1937.9 | 1941.4 | 1945.0 |
| 35°   | 1837.9 | 1837.9 | 1845.0 | 1834.4 | 1848.6 | 1848.6 | 1877.2 | 1859.3 | 1855.8 | 1845.0 | 1855.8 |
| 37.5° | 1752.2 | 1741.6 | 1745.1 | 1745.1 | 1752.2 | 1759.4 | 1773.6 | 1766.5 | 1766.5 | 1755.9 | 1763.0 |
| 40°   | 1638.1 | 1631.0 | 1641.6 | 1641.6 | 1652.4 | 1652.4 | 1666.6 | 1659.5 | 1670.1 | 1670.1 | 1670.1 |
| 42.5° | 1538.2 | 1538.2 | 1531.1 | 1541.7 | 1545.3 | 1541.7 | 1566.7 | 1563.1 | 1566.7 | 1559.6 | 1563.1 |
| 45°   | 1431.0 | 1431.0 | 1423.9 | 1420.4 | 1438.2 | 1434.7 | 1463.2 | 1452.4 | 1466.7 | 1459.6 | 1463.2 |
| 47.5° | 1284.7 | 1302.6 | 1291.8 | 1302.6 | 1324.0 | 1327.6 | 1345.4 | 1338.3 | 1352.6 | 1341.9 | 1356.2 |
| 50°   | 1145.6 | 1145.6 | 1156.3 | 1170.5 | 1191.9 | 1195.6 | 1217.0 | 1231.3 | 1238.4 | 1241.9 | 1245.5 |
| 52.5° | 999.3  | 995.7  | 1006.4 | 1024.2 | 1042.1 | 1056.4 | 1077.8 | 1099.2 | 1113.5 | 1134.9 | 1124.1 |
| 55°   | 827.9  | 835.1  | 845.8  | 867.2  | 895.8  | 913.5  | 931.5  | 960.0  | 985.0  | 995.7  | 1017.1 |
| 57.5° | 681.6  | 674.5  | 681.6  | 710.1  | 742.3  | 756.6  | 781.6  | 810.2  | 845.8  | 867.2  | 874.4  |
| 60°   | 528.1  | 531.8  | 538.9  | 563.9  | 588.8  | 610.2  | 621.0  | 667.3  | 699.5  | 720.9  | 735.2  |
| 62.5° | 389.1  | 396.2  | 403.3  | 424.7  | 449.6  | 467.5  | 485.3  | 524.6  | 553.2  | 574.6  | 588.8  |
| 65°   | 271.3  | 274.8  | 285.5  | 296.2  | 321.2  | 339.0  | 353.2  | 385.4  | 414.0  | 431.9  | 442.5  |
| 67.5° | 167.7  | 171.2  | 178.4  | 192.8  | 210.5  | 224.8  | 239.1  | 260.5  | 285.5  | 303.3  | 306.9  |
| 70°   | 85.6   | 89.3   | 92.8   | 103.5  | 117.8  | 124.9  | 135.6  | 153.5  | 171.2  | 185.5  | 192.8  |
| 72.5° | 28.5   | 28.5   | 32.2   | 39.3   | 46.4   | 53.6   | 57.1   | 75.0   | 89.3   | 96.4   | 99.9   |
| 75°   | 7.1    | 7.1    | 7.1    | 7.1    | 7.1    | 10.8   | 10.8   | 21.4   | 28.5   | 35.7   | 39.3   |
| 77.5° | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 7.1    | 7.1    |
| 80°   | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    |
| 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°    | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 | 2512.5 |
| 2.5°  | 2512.5 | 2505.3 | 2501.7 | 2505.3 | 2505.3 | 2501.7 | 2512.5 | 2526.7 | 2544.5 | 2498.2 |
| 5°    | 2508.8 | 2501.7 | 2508.8 | 2487.4 | 2498.2 | 2491.1 | 2505.3 | 2501.7 | 2516.0 | 2501.7 |
| 7.5°  | 2498.2 | 2483.9 | 2487.4 | 2476.8 | 2491.1 | 2473.1 | 2483.9 | 2505.3 | 2491.1 | 2469.6 |
| 10°   | 2462.5 | 2455.4 | 2480.3 | 2444.6 | 2437.5 | 2451.7 | 2480.3 | 2458.9 | 2451.7 | 2458.9 |
| 12.5° | 2426.7 | 2426.7 | 2437.5 | 2408.9 | 2412.4 | 2419.6 | 2433.8 | 2419.6 | 2426.7 | 2444.6 |
| 15°   | 2387.5 | 2380.4 | 2398.2 | 2376.8 | 2373.3 | 2366.1 | 2380.4 | 2380.4 | 2387.5 | 2376.8 |
| 17.5° | 2341.1 | 2330.4 | 2330.4 | 2323.3 | 2319.7 | 2337.6 | 2344.7 | 2348.2 | 2351.9 | 2337.6 |
| 20°   | 2284.0 | 2280.5 | 2291.1 | 2280.5 | 2284.0 | 2287.6 | 2287.6 | 2280.5 | 2312.5 | 2273.4 |
| 22.5° | 2223.3 | 2234.1 | 2219.8 | 2212.7 | 2219.8 | 2226.9 | 2226.9 | 2230.4 | 2223.3 | 2216.2 |
| 25°   | 2162.7 | 2169.8 | 2173.3 | 2151.9 | 2162.7 | 2151.9 | 2177.0 | 2180.5 | 2166.2 | 2173.3 |
| 27.5° | 2109.1 | 2098.5 | 2094.9 | 2080.6 | 2087.7 | 2084.2 | 2087.7 | 2087.7 | 2109.1 | 2080.6 |
| 30°   | 2027.0 | 2016.4 | 2019.9 | 2009.2 | 2012.7 | 2009.2 | 2012.7 | 2012.7 | 2027.0 | 2023.5 |
| 32.5° | 1948.5 | 1937.9 | 1941.4 | 1930.8 | 1930.8 | 1934.3 | 1927.1 | 1927.1 | 1937.9 | 1930.8 |
| 35°   | 1873.5 | 1848.6 | 1852.1 | 1848.6 | 1852.1 | 1837.9 | 1837.9 | 1834.4 | 1841.5 | 1823.6 |
| 37.5° | 1766.5 | 1755.9 | 1752.2 | 1748.7 | 1752.2 | 1745.1 | 1752.2 | 1741.6 | 1752.2 | 1738.0 |
| 40°   | 1670.1 | 1663.0 | 1666.6 | 1645.2 | 1645.2 | 1648.7 | 1641.6 | 1638.1 | 1641.6 | 1655.9 |
| 42.5° | 1573.9 | 1559.6 | 1552.5 | 1545.3 | 1548.8 | 1538.2 | 1534.6 | 1527.4 | 1534.6 | 1520.3 |
| 45°   | 1459.6 | 1459.6 | 1456.1 | 1438.2 | 1441.8 | 1441.8 | 1427.5 | 1413.3 | 1416.8 | 1416.8 |
| 47.5° | 1356.2 | 1349.1 | 1345.4 | 1327.6 | 1324.0 | 1320.5 | 1306.1 | 1295.5 | 1295.5 | 1284.7 |
| 50°   | 1241.9 | 1234.8 | 1224.1 | 1206.2 | 1199.1 | 1177.7 | 1167.0 | 1152.8 | 1138.5 | 1138.5 |
| 52.5° | 1134.9 | 1109.8 | 1095.6 | 1067.0 | 1056.4 | 1045.6 | 1017.1 | 1006.4 | 995.7  | 985.0  |
| 55°   | 1006.4 | 985.0  | 956.5  | 924.3  | 910.0  | 892.1  | 863.6  | 842.2  | 827.9  | 831.6  |
| 57.5° | 881.5  | 845.8  | 817.3  | 774.5  | 756.6  | 745.8  | 717.3  | 688.7  | 674.5  | 674.5  |
| 60°   | 728.0  | 699.5  | 663.8  | 624.5  | 610.2  | 592.5  | 556.7  | 538.9  | 528.1  | 517.5  |
| 62.5° | 581.7  | 560.3  | 528.1  | 478.2  | 467.5  | 449.6  | 424.7  | 403.3  | 392.6  | 392.6  |
| 65°   | 435.4  | 414.0  | 385.4  | 349.7  | 335.5  | 321.2  | 299.8  | 278.4  | 267.6  | 264.1  |
| 67.5° | 306.9  | 281.9  | 257.0  | 228.5  | 217.7  | 210.5  | 189.1  | 174.9  | 167.7  | 164.1  |
| 70°   | 185.5  | 171.2  | 153.5  | 132.1  | 121.3  | 114.2  | 99.9   | 89.3   | 85.6   | 82.1   |
| 72.5° | 96.4   | 85.6   | 71.3   | 57.1   | 49.9   | 42.8   | 35.7   | 28.5   | 25.0   | 25.0   |
| 75°   | 35.7   | 28.5   | 17.9   | 10.8   | 7.1    | 7.1    | 7.1    | 7.1    | 7.1    | 7.1    |
| 77.5° | 7.1    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    |
| 80°   | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    | 3.6    |
| 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)