

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: **LD4C10D010 EX4C109027 4LBCSSQMMS**

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: LD4C10D010 EX4C109027 4LBCSSQMMS  
Description: 4 INCH 1000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MMS FINISH  
Light Source: -  
Ballast/Driver: -

**Summary**

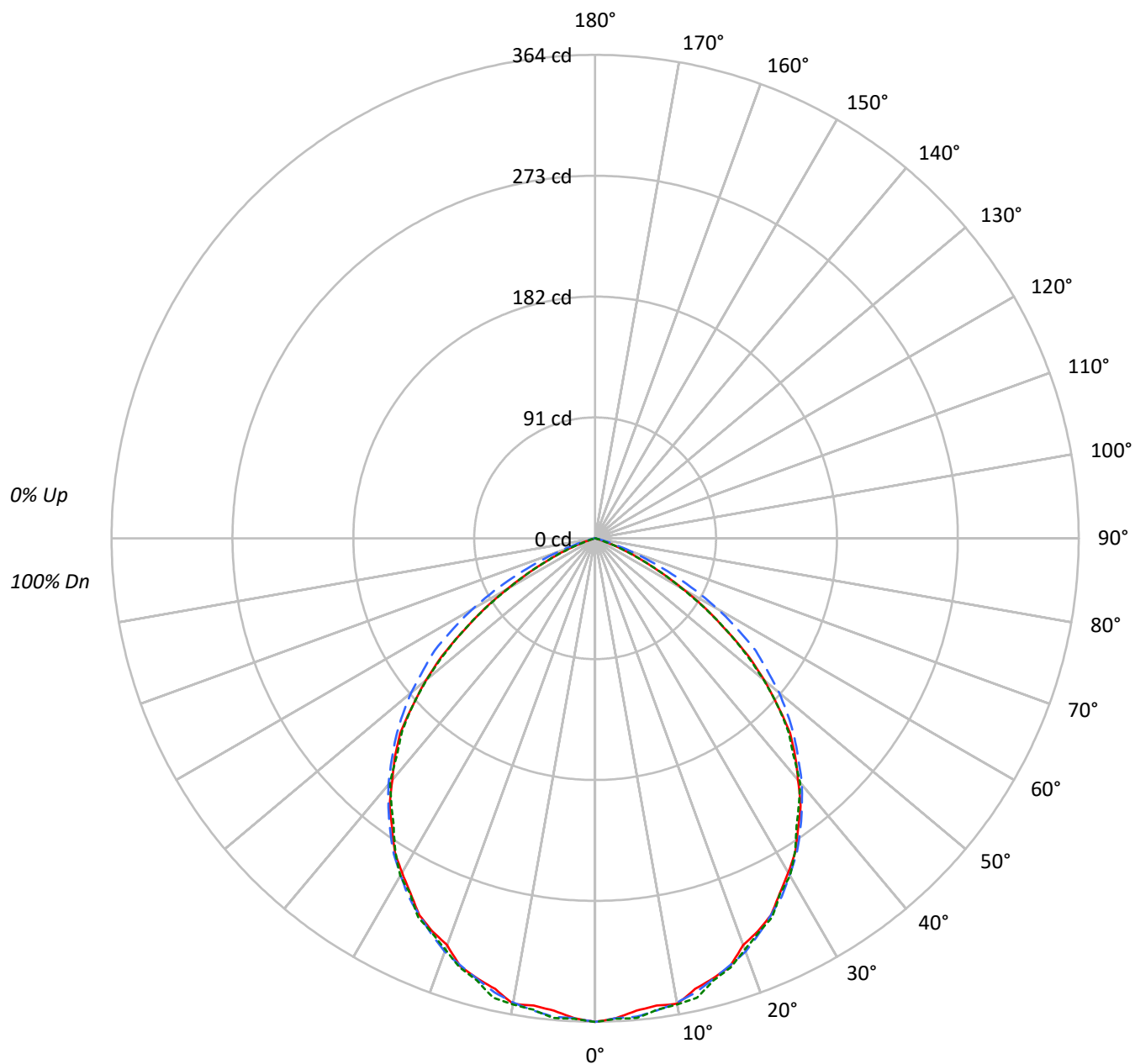
Lumens per Lamp: N/A  
Luminaire Lumens: 778.0 lumens  
Efficiency: N/A  
Efficacy: 79.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 9.75  
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

TEST NUMBER: P#

CATALOG NUMBER: LD4C10D010 EX4C109027 4LBCSSQMMS

### Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: LD4C10D010 EX4C109027 4LBCSSQMMMS

**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  | 34  |    |    |
| 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°  | 35141 | 35141 | 35141 |
| 5°  | 34578 | 35024 | 35121 |
| 10° | 34870 | 34772 | 34919 |
| 15° | 34263 | 34313 | 34413 |
| 20° | 33464 | 33998 | 33834 |
| 25° | 33323 | 33323 | 33536 |
| 30° | 32389 | 32623 | 32678 |
| 35° | 31380 | 31686 | 31132 |
| 40° | 29915 | 30494 | 30230 |
| 45° | 28301 | 28942 | 28028 |
| 50° | 24933 | 27110 | 24768 |
| 55° | 20187 | 24796 | 20271 |
| 60° | 14782 | 20571 | 14473 |
| 65° | 8973  | 14635 | 8744  |
| 70° | 3498  | 7871  | 3357  |
| 75° | 373   | 2125  | 373   |
| 80° | 278   | 278   | 278   |
| 85° | 0     | 0     | 0     |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 34.4   | 4.4       |
| 10°-20°   | 97.3   | 12.5      |
| 20°-30°   | 144.3  | 18.6      |
| 30°-40°   | 167.3  | 21.5      |
| 40°-50°   | 160.4  | 20.6      |
| 50°-60°   | 117.9  | 15.2      |
| 60°-70°   | 50.9   | 6.5       |
| 70°-80°   | 5.5    | 0.7       |
| 80°-90°   | 0.1    | 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       |
| <hr/>     |        |           |
| 0°-30°    | 276.0  | 35.5      |
| 0°-40°    | 443.3  | 57.0      |
| 0°-60°    | 721.5  | 92.7      |
| 0°-90°    | 778.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 778.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 364 | 364   | 364 | 364   | 364 |      |
| 5°  | 357 | 361   | 362 | 362   | 363 | 34   |
| 15° | 343 | 345   | 344 | 344   | 344 | 97   |
| 25° | 313 | 312   | 313 | 314   | 315 | 143  |
| 35° | 266 | 268   | 269 | 268   | 264 | 167  |
| 45° | 207 | 208   | 212 | 209   | 205 | 158  |
| 55° | 120 | 132   | 147 | 132   | 120 | 108  |
| 65° | 39  | 49    | 64  | 49    | 38  | 40   |
| 75° | 1   | 2     | 6   | 1     | 1   | 3    |
| 85° | 0   | 0     | 0   | 0     | 0   | 0    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



TEST NUMBER: P#

CATALOG NUMBER: LD4C10D010 EX4C109027 4LBCSSQMMS

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 5°    | 10°   | 15°   | 20°   | 22.5° | 25°   | 30°   | 35°   | 40°   | 45°   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 |
| 2.5°  | 361.6 | 365.7 | 366.3 | 363.7 | 362.6 | 361.1 | 364.7 | 362.1 | 363.2 | 362.1 | 361.6 |
| 5°    | 357.0 | 361.6 | 362.1 | 362.1 | 361.1 | 360.6 | 362.1 | 361.6 | 361.1 | 360.1 | 361.6 |
| 7.5°  | 354.9 | 357.5 | 360.1 | 357.0 | 358.5 | 358.0 | 361.6 | 360.1 | 359.5 | 359.5 | 358.5 |
| 10°   | 355.9 | 355.4 | 357.5 | 354.4 | 355.4 | 354.4 | 357.5 | 357.5 | 356.4 | 355.4 | 354.9 |
| 12.5° | 347.6 | 351.8 | 351.8 | 351.3 | 350.2 | 348.7 | 351.8 | 353.9 | 350.7 | 350.7 | 350.2 |
| 15°   | 343.0 | 344.0 | 344.5 | 344.5 | 344.0 | 345.1 | 346.6 | 344.5 | 345.1 | 342.5 | 343.5 |
| 17.5° | 337.8 | 335.8 | 337.3 | 336.3 | 336.8 | 337.8 | 339.9 | 339.9 | 336.8 | 336.3 | 337.3 |
| 20°   | 325.9 | 332.1 | 332.7 | 329.5 | 330.1 | 330.1 | 333.7 | 330.6 | 332.7 | 330.1 | 331.1 |
| 22.5° | 320.2 | 324.4 | 324.9 | 320.7 | 323.3 | 320.2 | 323.8 | 319.2 | 324.4 | 320.7 | 322.3 |
| 25°   | 313.0 | 312.5 | 314.0 | 311.9 | 312.5 | 312.5 | 315.0 | 313.0 | 314.5 | 312.5 | 313.0 |
| 27.5° | 301.1 | 305.2 | 304.7 | 302.6 | 303.7 | 303.2 | 308.3 | 302.6 | 305.7 | 303.2 | 304.2 |
| 30°   | 290.7 | 294.4 | 293.3 | 291.3 | 291.3 | 289.7 | 295.4 | 293.8 | 293.3 | 293.3 | 292.8 |
| 32.5° | 280.4 | 280.9 | 279.9 | 280.4 | 280.9 | 278.8 | 283.5 | 281.4 | 280.9 | 281.4 | 282.0 |
| 35°   | 266.4 | 266.4 | 267.5 | 265.9 | 268.0 | 268.0 | 272.1 | 269.5 | 269.0 | 267.5 | 269.0 |
| 37.5° | 254.0 | 252.5 | 253.0 | 253.0 | 254.0 | 255.0 | 257.1 | 256.1 | 256.1 | 254.5 | 255.6 |
| 40°   | 237.5 | 236.4 | 238.0 | 238.0 | 239.5 | 239.5 | 241.6 | 240.6 | 242.1 | 242.1 | 242.1 |
| 42.5° | 223.0 | 223.0 | 221.9 | 223.5 | 224.0 | 223.5 | 227.1 | 226.6 | 227.1 | 226.1 | 226.6 |
| 45°   | 207.4 | 207.4 | 206.4 | 205.9 | 208.5 | 208.0 | 212.1 | 210.5 | 212.6 | 211.6 | 212.1 |
| 47.5° | 186.2 | 188.8 | 187.3 | 188.8 | 191.9 | 192.5 | 195.0 | 194.0 | 196.1 | 194.5 | 196.6 |
| 50°   | 166.1 | 166.1 | 167.6 | 169.7 | 172.8 | 173.3 | 176.4 | 178.5 | 179.5 | 180.0 | 180.6 |
| 52.5° | 144.9 | 144.3 | 145.9 | 148.5 | 151.1 | 153.1 | 156.2 | 159.3 | 161.4 | 164.5 | 162.9 |
| 55°   | 120.0 | 121.1 | 122.6 | 125.7 | 129.9 | 132.4 | 135.0 | 139.2 | 142.8 | 144.3 | 147.4 |
| 57.5° | 98.8  | 97.8  | 98.8  | 102.9 | 107.6 | 109.7 | 113.3 | 117.4 | 122.6 | 125.7 | 126.7 |
| 60°   | 76.6  | 77.1  | 78.1  | 81.7  | 85.4  | 88.5  | 90.0  | 96.7  | 101.4 | 104.5 | 106.6 |
| 62.5° | 56.4  | 57.4  | 58.5  | 61.6  | 65.2  | 67.8  | 70.4  | 76.0  | 80.2  | 83.3  | 85.4  |
| 65°   | 39.3  | 39.8  | 41.4  | 42.9  | 46.6  | 49.1  | 51.2  | 55.9  | 60.0  | 62.6  | 64.1  |
| 67.5° | 24.3  | 24.8  | 25.9  | 27.9  | 30.5  | 32.6  | 34.7  | 37.8  | 41.4  | 44.0  | 44.5  |
| 70°   | 12.4  | 12.9  | 13.4  | 15.0  | 17.1  | 18.1  | 19.7  | 22.2  | 24.8  | 26.9  | 27.9  |
| 72.5° | 4.1   | 4.1   | 4.7   | 5.7   | 6.7   | 7.8   | 8.3   | 10.9  | 12.9  | 14.0  | 14.5  |
| 75°   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.6   | 1.6   | 3.1   | 4.1   | 5.2   | 5.7   |
| 77.5° | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 1.0   | 1.0   |
| 80°   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   |
| 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°    | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 | 364.2 |
| 2.5°  | 364.2 | 363.2 | 362.6 | 363.2 | 363.2 | 362.6 | 364.2 | 366.3 | 368.8 | 362.1 |
| 5°    | 363.7 | 362.6 | 363.7 | 360.6 | 362.1 | 361.1 | 363.2 | 362.6 | 364.7 | 362.6 |
| 7.5°  | 362.1 | 360.1 | 360.6 | 359.0 | 361.1 | 358.5 | 360.1 | 363.2 | 361.1 | 358.0 |
| 10°   | 357.0 | 355.9 | 359.5 | 354.4 | 353.3 | 355.4 | 359.5 | 356.4 | 355.4 | 356.4 |
| 12.5° | 351.8 | 351.8 | 353.3 | 349.2 | 349.7 | 350.7 | 352.8 | 350.7 | 351.8 | 354.4 |
| 15°   | 346.1 | 345.1 | 347.6 | 344.5 | 344.0 | 343.0 | 345.1 | 345.1 | 346.1 | 344.5 |
| 17.5° | 339.4 | 337.8 | 337.8 | 336.8 | 336.3 | 338.9 | 339.9 | 340.4 | 340.9 | 338.9 |
| 20°   | 331.1 | 330.6 | 332.1 | 330.6 | 331.1 | 331.6 | 331.6 | 330.6 | 335.2 | 329.5 |
| 22.5° | 322.3 | 323.8 | 321.8 | 320.7 | 321.8 | 322.8 | 322.8 | 323.3 | 322.3 | 321.3 |
| 25°   | 313.5 | 314.5 | 315.0 | 311.9 | 313.5 | 311.9 | 315.6 | 316.1 | 314.0 | 315.0 |
| 27.5° | 305.7 | 304.2 | 303.7 | 301.6 | 302.6 | 302.1 | 302.6 | 302.6 | 305.7 | 301.6 |
| 30°   | 293.8 | 292.3 | 292.8 | 291.3 | 291.8 | 291.3 | 291.8 | 291.8 | 293.8 | 293.3 |
| 32.5° | 282.5 | 280.9 | 281.4 | 279.9 | 279.9 | 280.4 | 279.4 | 279.4 | 280.9 | 279.9 |
| 35°   | 271.6 | 268.0 | 268.5 | 268.0 | 268.5 | 266.4 | 266.4 | 265.9 | 266.9 | 264.3 |
| 37.5° | 256.1 | 254.5 | 254.0 | 253.5 | 254.0 | 253.0 | 254.0 | 252.5 | 254.0 | 251.9 |
| 40°   | 242.1 | 241.1 | 241.6 | 238.5 | 238.5 | 239.0 | 238.0 | 237.5 | 238.0 | 240.0 |
| 42.5° | 228.1 | 226.1 | 225.0 | 224.0 | 224.5 | 223.0 | 222.4 | 221.4 | 222.4 | 220.4 |
| 45°   | 211.6 | 211.6 | 211.1 | 208.5 | 209.0 | 209.0 | 206.9 | 204.9 | 205.4 | 205.4 |
| 47.5° | 196.6 | 195.6 | 195.0 | 192.5 | 191.9 | 191.4 | 189.3 | 187.8 | 187.8 | 186.2 |
| 50°   | 180.0 | 179.0 | 177.4 | 174.9 | 173.8 | 170.7 | 169.2 | 167.1 | 165.0 | 165.0 |
| 52.5° | 164.5 | 160.9 | 158.8 | 154.7 | 153.1 | 151.6 | 147.4 | 145.9 | 144.3 | 142.8 |
| 55°   | 145.9 | 142.8 | 138.7 | 134.0 | 131.9 | 129.3 | 125.2 | 122.1 | 120.0 | 120.5 |
| 57.5° | 127.8 | 122.6 | 118.5 | 112.3 | 109.7 | 108.1 | 104.0 | 99.8  | 97.8  | 97.8  |
| 60°   | 105.5 | 101.4 | 96.2  | 90.5  | 88.5  | 85.9  | 80.7  | 78.1  | 76.6  | 75.0  |
| 62.5° | 84.3  | 81.2  | 76.6  | 69.3  | 67.8  | 65.2  | 61.6  | 58.5  | 56.9  | 56.9  |
| 65°   | 63.1  | 60.0  | 55.9  | 50.7  | 48.6  | 46.6  | 43.5  | 40.4  | 38.8  | 38.3  |
| 67.5° | 44.5  | 40.9  | 37.3  | 33.1  | 31.6  | 30.5  | 27.4  | 25.3  | 24.3  | 23.8  |
| 70°   | 26.9  | 24.8  | 22.2  | 19.1  | 17.6  | 16.5  | 14.5  | 12.9  | 12.4  | 11.9  |
| 72.5° | 14.0  | 12.4  | 10.3  | 8.3   | 7.2   | 6.2   | 5.2   | 4.1   | 3.6   | 3.6   |
| 75°   | 5.2   | 4.1   | 2.6   | 1.6   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   |
| 77.5° | 1.0   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   |
| 80°   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   |
| 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)