

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: P563822

Luminaire Tested: **LD4C35D010 EX4C359030 4LBCSSQMMS**

Issue Date: 5/25/2022



**Test Information**

Test Method: LM-79-08  
Report Number: P563822  
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: LD4C35D010 EX4C359030 4LBCSSQMMS  
Description: 4 INCH 3500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MMS FINISH, DIM TO WARM  
Light Source: -  
Ballast/Driver: -

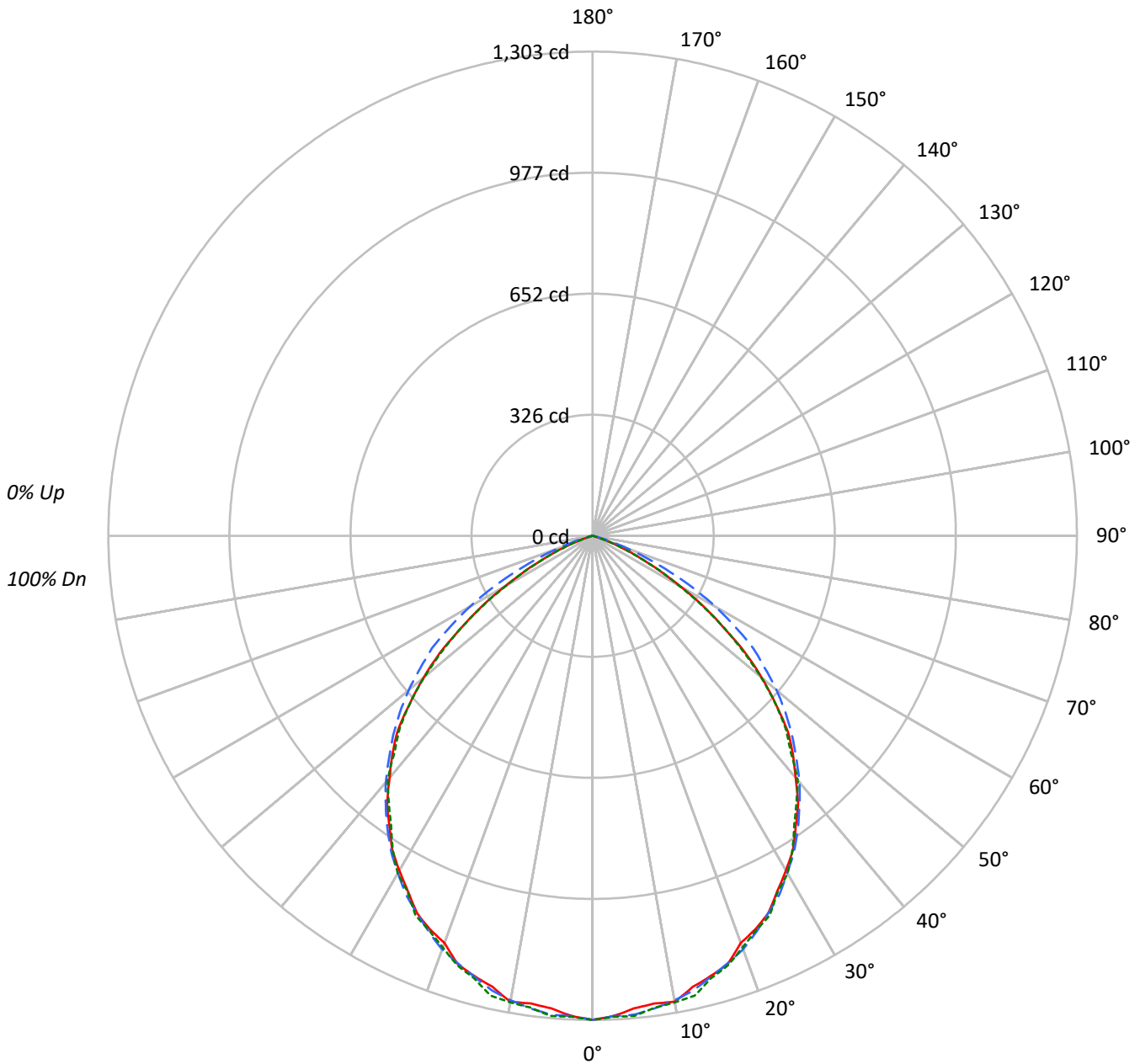
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2783.0 lumens  
Efficiency: N/A  
Efficacy: 68.9 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): 40.4  
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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CATALOG NUMBER: LD4C35D010 EX4C359030 4LBCSSQMMS

### 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 |    |    |   |
| 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°  | 125706 | 125706 | 125706 |
| 5°  | 123677 | 125285 | 125644 |
| 10° | 124745 | 124382 | 124921 |
| 15° | 122558 | 122738 | 123108 |
| 20° | 119706 | 121606 | 121041 |
| 25° | 119197 | 119197 | 119985 |
| 30° | 115872 | 116697 | 116909 |
| 35° | 112255 | 113350 | 111383 |
| 40° | 106988 | 109079 | 108147 |
| 45° | 101250 | 103529 | 100241 |
| 50° | 89180  | 96956  | 88625  |
| 55° | 72218  | 88721  | 72538  |
| 60° | 52857  | 73563  | 51776  |
| 65° | 32124  | 52398  | 31279  |
| 70° | 12526  | 28211  | 12018  |
| 75° | 1379   | 7605   | 1379   |
| 80° | 1056   | 1056   | 1056   |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 123.0  | 4.4       |
| 10°-20°   | 348.0  | 12.5      |
| 20°-30°   | 516.3  | 18.6      |
| 30°-40°   | 598.3  | 21.5      |
| 40°-50°   | 573.6  | 20.6      |
| 50°-60°   | 421.8  | 15.2      |
| 60°-70°   | 182.2  | 6.5       |
| 70°-80°   | 19.7   | 0.7       |
| 80°-90°   | 0.3    | 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°    | 987.3  | 35.5      |
| 0°-40°    | 1585.6 | 57.0      |
| 0°-60°    | 2580.9 | 92.7      |
| 0°-90°    | 2783.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2783.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1303 | 1303  | 1303 | 1303  | 1303 |      |
| 5°  | 1277 | 1290  | 1294 | 1295  | 1297 | 122  |
| 15° | 1227 | 1234  | 1229 | 1231  | 1232 | 346  |
| 25° | 1120 | 1118  | 1120 | 1121  | 1127 | 513  |
| 35° | 953  | 959   | 962  | 960   | 946  | 596  |
| 45° | 742  | 744   | 759  | 748   | 735  | 564  |
| 55° | 429  | 474   | 527  | 472   | 431  | 386  |
| 65° | 141  | 176   | 230  | 174   | 137  | 145  |
| 75° | 4    | 6     | 20   | 4     | 4    | 11   |
| 85° | 0    | 0     | 0    | 0     | 0    | 0    |
| 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°    | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 |
| 2.5°  | 1293.5 | 1308.3 | 1310.2 | 1300.9 | 1297.2 | 1291.7 | 1304.6 | 1295.4 | 1299.1 | 1295.4 | 1293.5 |
| 5°    | 1276.9 | 1293.5 | 1295.4 | 1295.4 | 1291.7 | 1289.8 | 1295.4 | 1293.5 | 1291.7 | 1288.0 | 1293.5 |
| 7.5°  | 1269.5 | 1278.7 | 1288.0 | 1276.9 | 1282.4 | 1280.6 | 1293.5 | 1288.0 | 1286.1 | 1286.1 | 1282.4 |
| 10°   | 1273.2 | 1271.3 | 1278.7 | 1267.6 | 1271.3 | 1267.6 | 1278.7 | 1278.7 | 1275.0 | 1271.3 | 1269.5 |
| 12.5° | 1243.5 | 1258.3 | 1258.3 | 1256.5 | 1252.8 | 1247.2 | 1258.3 | 1265.8 | 1254.6 | 1254.6 | 1252.8 |
| 15°   | 1226.9 | 1230.6 | 1232.4 | 1232.4 | 1230.6 | 1234.3 | 1239.8 | 1232.4 | 1234.3 | 1225.0 | 1228.7 |
| 17.5° | 1208.4 | 1201.0 | 1206.5 | 1202.8 | 1204.7 | 1208.4 | 1215.8 | 1215.8 | 1204.7 | 1202.8 | 1206.5 |
| 20°   | 1165.8 | 1188.0 | 1189.9 | 1178.8 | 1180.6 | 1180.6 | 1193.6 | 1182.5 | 1189.9 | 1180.6 | 1184.3 |
| 22.5° | 1145.5 | 1160.3 | 1162.1 | 1147.3 | 1156.6 | 1145.5 | 1158.4 | 1141.8 | 1160.3 | 1147.3 | 1152.9 |
| 25°   | 1119.6 | 1117.7 | 1123.3 | 1115.9 | 1117.7 | 1117.7 | 1127.0 | 1119.6 | 1125.1 | 1117.7 | 1119.6 |
| 27.5° | 1077.1 | 1091.9 | 1090.0 | 1082.6 | 1086.3 | 1084.5 | 1103.0 | 1082.6 | 1093.7 | 1084.5 | 1088.2 |
| 30°   | 1040.0 | 1053.0 | 1049.3 | 1041.9 | 1041.9 | 1036.3 | 1056.7 | 1051.1 | 1049.3 | 1049.3 | 1047.4 |
| 32.5° | 1003.0 | 1004.9 | 1001.2 | 1003.0 | 1004.9 | 997.5  | 1014.1 | 1006.7 | 1004.9 | 1006.7 | 1008.6 |
| 35°   | 953.0  | 953.0  | 956.7  | 951.2  | 958.6  | 958.6  | 973.4  | 964.1  | 962.3  | 956.7  | 962.3  |
| 37.5° | 908.6  | 903.1  | 904.9  | 904.9  | 908.6  | 912.3  | 919.7  | 916.0  | 916.0  | 910.5  | 914.2  |
| 40°   | 849.4  | 845.7  | 851.2  | 851.2  | 856.8  | 856.8  | 864.2  | 860.5  | 866.0  | 866.0  | 866.0  |
| 42.5° | 797.6  | 797.6  | 793.9  | 799.4  | 801.3  | 799.4  | 812.4  | 810.5  | 812.4  | 808.7  | 810.5  |
| 45°   | 742.0  | 742.0  | 738.3  | 736.5  | 745.7  | 743.9  | 758.7  | 753.1  | 760.5  | 756.8  | 758.7  |
| 47.5° | 666.2  | 675.5  | 669.9  | 675.5  | 686.6  | 688.4  | 697.7  | 694.0  | 701.4  | 695.8  | 703.2  |
| 50°   | 594.1  | 594.1  | 599.6  | 607.0  | 618.1  | 620.0  | 631.1  | 638.5  | 642.2  | 644.0  | 645.9  |
| 52.5° | 518.2  | 516.3  | 521.9  | 531.1  | 540.4  | 547.8  | 558.9  | 570.0  | 577.4  | 588.5  | 582.9  |
| 55°   | 429.3  | 433.0  | 438.6  | 449.7  | 464.5  | 473.7  | 483.0  | 497.8  | 510.8  | 516.3  | 527.4  |
| 57.5° | 353.4  | 349.7  | 353.4  | 368.2  | 384.9  | 392.3  | 405.3  | 420.1  | 438.6  | 449.7  | 453.4  |
| 60°   | 273.9  | 275.7  | 279.4  | 292.4  | 305.3  | 316.4  | 322.0  | 346.0  | 362.7  | 373.8  | 381.2  |
| 62.5° | 201.7  | 205.4  | 209.1  | 220.2  | 233.2  | 242.4  | 251.7  | 272.0  | 286.8  | 297.9  | 305.3  |
| 65°   | 140.7  | 142.5  | 148.1  | 153.6  | 166.6  | 175.8  | 183.2  | 199.9  | 214.7  | 223.9  | 229.5  |
| 67.5° | 87.0   | 88.8   | 92.5   | 100.0  | 109.2  | 116.6  | 124.0  | 135.1  | 148.1  | 157.3  | 159.2  |
| 70°   | 44.4   | 46.3   | 48.1   | 53.7   | 61.1   | 64.8   | 70.3   | 79.6   | 88.8   | 96.2   | 100.0  |
| 72.5° | 14.8   | 14.8   | 16.7   | 20.4   | 24.1   | 27.8   | 29.6   | 38.9   | 46.3   | 50.0   | 51.8   |
| 75°   | 3.7    | 3.7    | 3.7    | 3.7    | 3.7    | 5.6    | 5.6    | 11.1   | 14.8   | 18.5   | 20.4   |
| 77.5° | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 3.7    | 3.7    |
| 80°   | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    |
| 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    |



TEST NUMBER: P563822

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**CANDELA DISTRIBUTION (continued):**

|       | 50°    | 55°    | 60°    | 65°    | 67.5°  | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 | 1302.8 |
| 2.5°  | 1302.8 | 1299.1 | 1297.2 | 1299.1 | 1299.1 | 1297.2 | 1302.8 | 1310.2 | 1319.4 | 1295.4 |
| 5°    | 1300.9 | 1297.2 | 1300.9 | 1289.8 | 1295.4 | 1291.7 | 1299.1 | 1297.2 | 1304.6 | 1297.2 |
| 7.5°  | 1295.4 | 1288.0 | 1289.8 | 1284.3 | 1291.7 | 1282.4 | 1288.0 | 1299.1 | 1291.7 | 1280.6 |
| 10°   | 1276.9 | 1273.2 | 1286.1 | 1267.6 | 1263.9 | 1271.3 | 1286.1 | 1275.0 | 1271.3 | 1275.0 |
| 12.5° | 1258.3 | 1258.3 | 1263.9 | 1249.1 | 1250.9 | 1254.6 | 1262.0 | 1254.6 | 1258.3 | 1267.6 |
| 15°   | 1238.0 | 1234.3 | 1243.5 | 1232.4 | 1230.6 | 1226.9 | 1234.3 | 1234.3 | 1238.0 | 1232.4 |
| 17.5° | 1213.9 | 1208.4 | 1208.4 | 1204.7 | 1202.8 | 1212.1 | 1215.8 | 1217.6 | 1219.5 | 1212.1 |
| 20°   | 1184.3 | 1182.5 | 1188.0 | 1182.5 | 1184.3 | 1186.2 | 1186.2 | 1182.5 | 1199.1 | 1178.8 |
| 22.5° | 1152.9 | 1158.4 | 1151.0 | 1147.3 | 1151.0 | 1154.7 | 1154.7 | 1156.6 | 1152.9 | 1149.2 |
| 25°   | 1121.4 | 1125.1 | 1127.0 | 1115.9 | 1121.4 | 1115.9 | 1128.8 | 1130.7 | 1123.3 | 1127.0 |
| 27.5° | 1093.7 | 1088.2 | 1086.3 | 1078.9 | 1082.6 | 1080.8 | 1082.6 | 1082.6 | 1093.7 | 1078.9 |
| 30°   | 1051.1 | 1045.6 | 1047.4 | 1041.9 | 1043.7 | 1041.9 | 1043.7 | 1043.7 | 1051.1 | 1049.3 |
| 32.5° | 1010.4 | 1004.9 | 1006.7 | 1001.2 | 1001.2 | 1003.0 | 999.3  | 999.3  | 1004.9 | 1001.2 |
| 35°   | 971.5  | 958.6  | 960.4  | 958.6  | 960.4  | 953.0  | 953.0  | 951.2  | 954.9  | 945.6  |
| 37.5° | 916.0  | 910.5  | 908.6  | 906.8  | 908.6  | 904.9  | 908.6  | 903.1  | 908.6  | 901.2  |
| 40°   | 866.0  | 862.3  | 864.2  | 853.1  | 853.1  | 854.9  | 851.2  | 849.4  | 851.2  | 858.6  |
| 42.5° | 816.1  | 808.7  | 805.0  | 801.3  | 803.1  | 797.6  | 795.7  | 792.0  | 795.7  | 788.3  |
| 45°   | 756.8  | 756.8  | 755.0  | 745.7  | 747.6  | 747.6  | 740.2  | 732.8  | 734.6  | 734.6  |
| 47.5° | 703.2  | 699.5  | 697.7  | 688.4  | 686.6  | 684.7  | 677.3  | 671.8  | 671.8  | 666.2  |
| 50°   | 644.0  | 640.3  | 634.8  | 625.5  | 621.8  | 610.7  | 605.2  | 597.8  | 590.4  | 590.4  |
| 52.5° | 588.5  | 575.5  | 568.1  | 553.3  | 547.8  | 542.2  | 527.4  | 521.9  | 516.3  | 510.8  |
| 55°   | 521.9  | 510.8  | 496.0  | 479.3  | 471.9  | 462.6  | 447.8  | 436.7  | 429.3  | 431.2  |
| 57.5° | 457.1  | 438.6  | 423.8  | 401.6  | 392.3  | 386.7  | 371.9  | 357.1  | 349.7  | 349.7  |
| 60°   | 377.5  | 362.7  | 344.2  | 323.8  | 316.4  | 307.2  | 288.7  | 279.4  | 273.9  | 268.3  |
| 62.5° | 301.6  | 290.5  | 273.9  | 248.0  | 242.4  | 233.2  | 220.2  | 209.1  | 203.6  | 203.6  |
| 65°   | 225.8  | 214.7  | 199.9  | 181.4  | 174.0  | 166.6  | 155.5  | 144.4  | 138.8  | 137.0  |
| 67.5° | 159.2  | 146.2  | 133.3  | 118.5  | 112.9  | 109.2  | 98.1   | 90.7   | 87.0   | 85.1   |
| 70°   | 96.2   | 88.8   | 79.6   | 68.5   | 62.9   | 59.2   | 51.8   | 46.3   | 44.4   | 42.6   |
| 72.5° | 50.0   | 44.4   | 37.0   | 29.6   | 25.9   | 22.2   | 18.5   | 14.8   | 13.0   | 13.0   |
| 75°   | 18.5   | 14.8   | 9.3    | 5.6    | 3.7    | 3.7    | 3.7    | 3.7    | 3.7    | 3.7    |
| 77.5° | 3.7    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    |
| 80°   | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    | 1.9    |
| 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)