

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: **LD4C40D010 EX4C409027 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: LD4C40D010 EX4C409027 4LBCSSQMMS
Description: 4 INCH 4000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND 4LBCSSQ TRIM WITH MMS FINISH
Light Source: -
Ballast/Driver: -

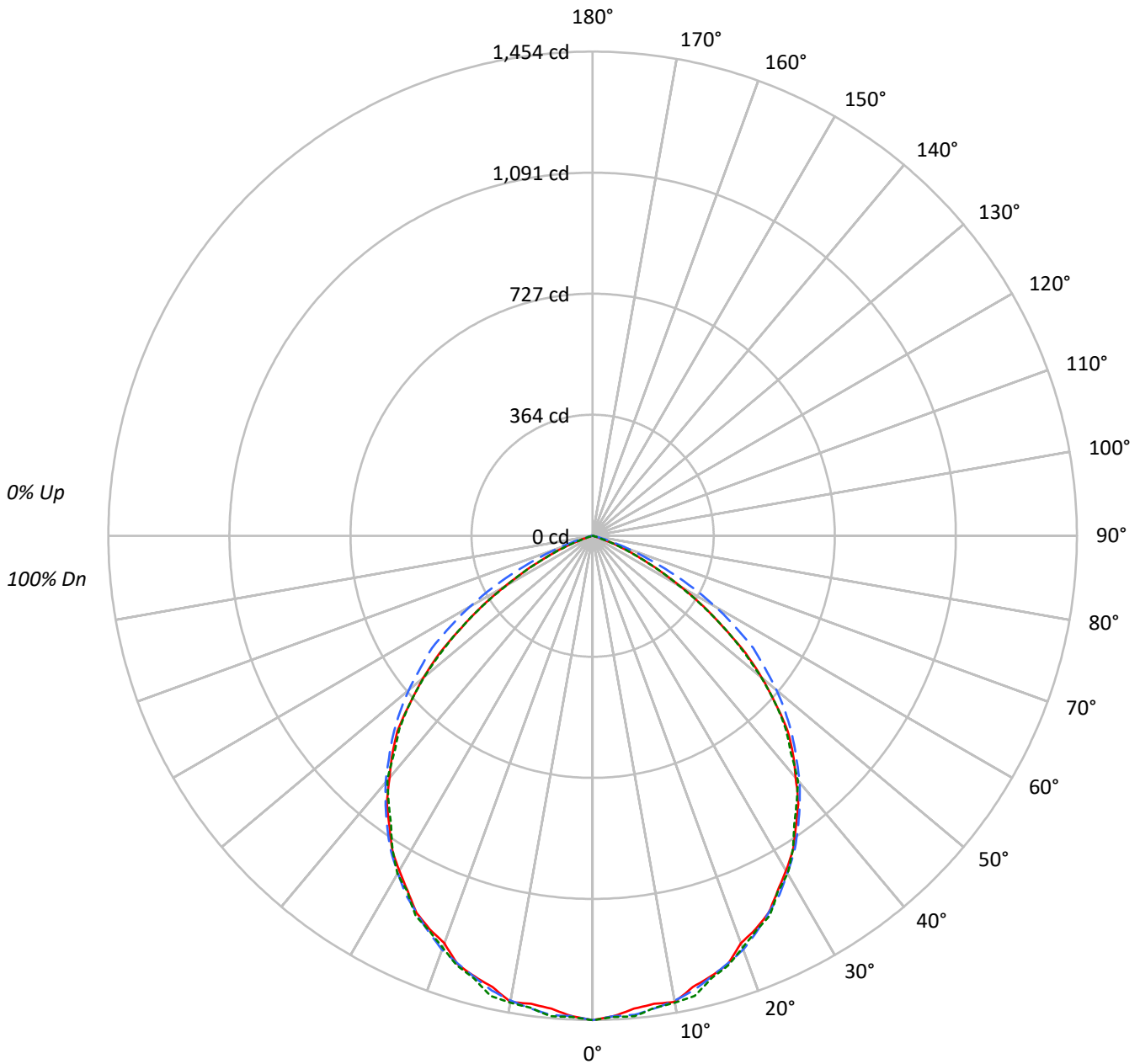
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3107.0 lumens
Efficiency: N/A
Efficacy: 66.1 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): 47
Input Voltage (V):
Input Current (A_{in}): 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: LD4C40D010 EX4C409027 4LBCSSQMMS

Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: LD4C40D010 EX4C409027 4LBCSSQMMS

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 | 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° | 140343 | 140343 | 140343 |
| 5° | 138080 | 139872 | 140269 |
| 10° | 139265 | 138863 | 139471 |
| 15° | 136833 | 137033 | 137442 |
| 20° | 133650 | 135765 | 135139 |
| 25° | 133069 | 133069 | 133953 |
| 30° | 129365 | 130278 | 130512 |
| 35° | 125330 | 126543 | 124352 |
| 40° | 119445 | 121776 | 120743 |
| 45° | 113040 | 115592 | 111921 |
| 50° | 99553 | 108229 | 98938 |
| 55° | 80629 | 99050 | 80983 |
| 60° | 58993 | 82131 | 57816 |
| 65° | 35845 | 58494 | 34909 |
| 70° | 13993 | 31484 | 13400 |
| 75° | 1528 | 8500 | 1528 |
| 80° | 1167 | 1167 | 1167 |
| 85° | 0 | 0 | 0 |



TEST NUMBER: P#

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 137.3 | 4.4 |
| 10°-20° | 388.5 | 12.5 |
| 20°-30° | 576.4 | 18.6 |
| 30°-40° | 667.9 | 21.5 |
| 40°-50° | 640.4 | 20.6 |
| 50°-60° | 470.8 | 15.2 |
| 60°-70° | 203.4 | 6.5 |
| 70°-80° | 21.9 | 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° | 1102.2 | 35.5 |
| 0°-40° | 1770.2 | 57.0 |
| 0°-60° | 2881.4 | 92.7 |
| 0°-90° | 3107.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3107.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1454 | 1454 | 1454 | 1454 | 1454 | |
| 5° | 1426 | 1440 | 1444 | 1446 | 1448 | 136 |
| 15° | 1370 | 1378 | 1372 | 1374 | 1376 | 386 |
| 25° | 1250 | 1248 | 1250 | 1252 | 1258 | 572 |
| 35° | 1064 | 1070 | 1074 | 1072 | 1056 | 665 |
| 45° | 828 | 830 | 847 | 835 | 820 | 630 |
| 55° | 479 | 529 | 589 | 527 | 481 | 431 |
| 65° | 157 | 196 | 256 | 194 | 153 | 161 |
| 75° | 4 | 6 | 23 | 4 | 4 | 13 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P#

CATALOG NUMBER: LD4C40D010 EX4C409027 4LBCSSQMMS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 22.5° | 25° | 30° | 35° | 40° | 45° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 |
| 2.5° | 1444.1 | 1460.6 | 1462.7 | 1452.4 | 1448.2 | 1442.1 | 1456.5 | 1446.2 | 1450.4 | 1446.2 | 1444.1 |
| 5° | 1425.6 | 1444.1 | 1446.2 | 1446.2 | 1442.1 | 1440.0 | 1446.2 | 1444.1 | 1442.1 | 1438.0 | 1444.1 |
| 7.5° | 1417.3 | 1427.6 | 1438.0 | 1425.6 | 1431.7 | 1429.7 | 1444.1 | 1438.0 | 1435.9 | 1435.9 | 1431.7 |
| 10° | 1421.4 | 1419.3 | 1427.6 | 1415.2 | 1419.3 | 1415.2 | 1427.6 | 1427.6 | 1423.5 | 1419.3 | 1417.3 |
| 12.5° | 1388.3 | 1404.8 | 1404.8 | 1402.8 | 1398.7 | 1392.4 | 1404.8 | 1413.2 | 1400.7 | 1400.7 | 1398.7 |
| 15° | 1369.8 | 1373.9 | 1375.9 | 1375.9 | 1373.9 | 1378.0 | 1384.2 | 1375.9 | 1378.0 | 1367.7 | 1371.8 |
| 17.5° | 1349.1 | 1340.9 | 1347.0 | 1342.9 | 1345.0 | 1349.1 | 1357.4 | 1357.4 | 1345.0 | 1342.9 | 1347.0 |
| 20° | 1301.6 | 1326.4 | 1328.5 | 1316.1 | 1318.1 | 1318.1 | 1332.6 | 1320.2 | 1328.5 | 1318.1 | 1322.2 |
| 22.5° | 1278.8 | 1295.3 | 1297.4 | 1280.9 | 1291.2 | 1278.8 | 1293.3 | 1274.7 | 1295.3 | 1280.9 | 1287.1 |
| 25° | 1249.9 | 1247.9 | 1254.0 | 1245.8 | 1247.9 | 1247.9 | 1258.2 | 1249.9 | 1256.1 | 1247.9 | 1249.9 |
| 27.5° | 1202.4 | 1219.0 | 1216.9 | 1208.6 | 1212.7 | 1210.7 | 1231.4 | 1208.6 | 1221.0 | 1210.7 | 1214.8 |
| 30° | 1161.1 | 1175.6 | 1171.4 | 1163.2 | 1163.2 | 1156.9 | 1179.7 | 1173.5 | 1171.4 | 1171.4 | 1169.3 |
| 32.5° | 1119.8 | 1121.9 | 1117.7 | 1119.8 | 1121.9 | 1113.6 | 1132.1 | 1123.9 | 1121.9 | 1123.9 | 1126.0 |
| 35° | 1064.0 | 1064.0 | 1068.1 | 1061.9 | 1070.2 | 1070.2 | 1086.7 | 1076.3 | 1074.3 | 1068.1 | 1074.3 |
| 37.5° | 1014.4 | 1008.2 | 1010.3 | 1010.3 | 1014.4 | 1018.5 | 1026.8 | 1022.6 | 1022.6 | 1016.5 | 1020.6 |
| 40° | 948.3 | 944.2 | 950.3 | 950.3 | 956.6 | 956.6 | 964.8 | 960.7 | 966.8 | 966.8 | 966.8 |
| 42.5° | 890.5 | 890.5 | 886.3 | 892.5 | 894.6 | 892.5 | 907.0 | 904.9 | 907.0 | 902.9 | 904.9 |
| 45° | 828.4 | 828.4 | 824.3 | 822.3 | 832.6 | 830.5 | 847.1 | 840.8 | 849.1 | 845.0 | 847.1 |
| 47.5° | 743.7 | 754.1 | 747.9 | 754.1 | 766.5 | 768.6 | 778.9 | 774.7 | 783.0 | 776.8 | 785.1 |
| 50° | 663.2 | 663.2 | 669.4 | 677.6 | 690.0 | 692.1 | 704.5 | 712.8 | 716.9 | 718.9 | 721.0 |
| 52.5° | 578.5 | 576.4 | 582.6 | 592.9 | 603.3 | 611.5 | 623.9 | 636.3 | 644.6 | 657.0 | 650.7 |
| 55° | 479.3 | 483.4 | 489.7 | 502.1 | 518.6 | 528.9 | 539.2 | 555.7 | 570.2 | 576.4 | 588.8 |
| 57.5° | 394.6 | 390.4 | 394.6 | 411.1 | 429.7 | 438.0 | 452.5 | 469.0 | 489.7 | 502.1 | 506.2 |
| 60° | 305.7 | 307.8 | 312.0 | 326.5 | 340.9 | 353.3 | 359.5 | 386.3 | 404.9 | 417.3 | 425.6 |
| 62.5° | 225.2 | 229.4 | 233.5 | 245.9 | 260.3 | 270.7 | 281.0 | 303.7 | 320.2 | 332.6 | 340.9 |
| 65° | 157.0 | 159.1 | 165.3 | 171.5 | 186.0 | 196.2 | 204.5 | 223.1 | 239.6 | 250.0 | 256.2 |
| 67.5° | 97.1 | 99.1 | 103.3 | 111.6 | 121.9 | 130.1 | 138.4 | 150.8 | 165.3 | 175.6 | 177.7 |
| 70° | 49.6 | 51.7 | 53.7 | 59.9 | 68.2 | 72.3 | 78.5 | 88.8 | 99.1 | 107.4 | 111.6 |
| 72.5° | 16.5 | 16.5 | 18.6 | 22.8 | 26.9 | 31.0 | 33.0 | 43.4 | 51.7 | 55.8 | 57.8 |
| 75° | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 6.2 | 6.2 | 12.4 | 16.5 | 20.7 | 22.8 |
| 77.5° | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 4.1 | 4.1 |
| 80° | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| 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: P#

CATALOG NUMBER: LD4C40D010 EX4C409027 4LBCSSQMMS

CANDELA DISTRIBUTION (continued):

| | 50° | 55° | 60° | 65° | 67.5° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 | 1454.5 |
| 2.5° | 1454.5 | 1450.4 | 1448.2 | 1450.4 | 1450.4 | 1448.2 | 1454.5 | 1462.7 | 1473.0 | 1446.2 |
| 5° | 1452.4 | 1448.2 | 1452.4 | 1440.0 | 1446.2 | 1442.1 | 1450.4 | 1448.2 | 1456.5 | 1448.2 |
| 7.5° | 1446.2 | 1438.0 | 1440.0 | 1433.8 | 1442.1 | 1431.7 | 1438.0 | 1450.4 | 1442.1 | 1429.7 |
| 10° | 1425.6 | 1421.4 | 1435.9 | 1415.2 | 1411.1 | 1419.3 | 1435.9 | 1423.5 | 1419.3 | 1423.5 |
| 12.5° | 1404.8 | 1404.8 | 1411.1 | 1394.6 | 1396.6 | 1400.7 | 1409.0 | 1400.7 | 1404.8 | 1415.2 |
| 15° | 1382.2 | 1378.0 | 1388.3 | 1375.9 | 1373.9 | 1369.8 | 1378.0 | 1378.0 | 1382.2 | 1375.9 |
| 17.5° | 1355.3 | 1349.1 | 1349.1 | 1345.0 | 1342.9 | 1353.2 | 1357.4 | 1359.4 | 1361.5 | 1353.2 |
| 20° | 1322.2 | 1320.2 | 1326.4 | 1320.2 | 1322.2 | 1324.3 | 1324.3 | 1320.2 | 1338.7 | 1316.1 |
| 22.5° | 1287.1 | 1293.3 | 1285.1 | 1280.9 | 1285.1 | 1289.2 | 1289.2 | 1291.2 | 1287.1 | 1282.9 |
| 25° | 1252.0 | 1256.1 | 1258.2 | 1245.8 | 1252.0 | 1245.8 | 1260.3 | 1262.3 | 1254.0 | 1258.2 |
| 27.5° | 1221.0 | 1214.8 | 1212.7 | 1204.5 | 1208.6 | 1206.6 | 1208.6 | 1208.6 | 1221.0 | 1204.5 |
| 30° | 1173.5 | 1167.3 | 1169.3 | 1163.2 | 1165.2 | 1163.2 | 1165.2 | 1165.2 | 1173.5 | 1171.4 |
| 32.5° | 1128.0 | 1121.9 | 1123.9 | 1117.7 | 1117.7 | 1119.8 | 1115.6 | 1115.6 | 1121.9 | 1117.7 |
| 35° | 1084.6 | 1070.2 | 1072.2 | 1070.2 | 1072.2 | 1064.0 | 1064.0 | 1061.9 | 1066.1 | 1055.7 |
| 37.5° | 1022.6 | 1016.5 | 1014.4 | 1012.4 | 1014.4 | 1010.3 | 1014.4 | 1008.2 | 1014.4 | 1006.1 |
| 40° | 966.8 | 962.7 | 964.8 | 952.4 | 952.4 | 954.5 | 950.3 | 948.3 | 950.3 | 958.6 |
| 42.5° | 911.1 | 902.9 | 898.7 | 894.6 | 896.6 | 890.5 | 888.4 | 884.2 | 888.4 | 880.1 |
| 45° | 845.0 | 845.0 | 842.9 | 832.6 | 834.7 | 834.7 | 826.4 | 818.2 | 820.2 | 820.2 |
| 47.5° | 785.1 | 781.0 | 778.9 | 768.6 | 766.5 | 764.5 | 756.1 | 750.0 | 750.0 | 743.7 |
| 50° | 718.9 | 714.8 | 708.7 | 698.3 | 694.2 | 681.8 | 675.6 | 667.3 | 659.1 | 659.1 |
| 52.5° | 657.0 | 642.5 | 634.2 | 617.7 | 611.5 | 605.3 | 588.8 | 582.6 | 576.4 | 570.2 |
| 55° | 582.6 | 570.2 | 553.7 | 535.1 | 526.8 | 516.5 | 499.9 | 487.6 | 479.3 | 481.4 |
| 57.5° | 510.3 | 489.7 | 473.1 | 448.4 | 438.0 | 431.8 | 415.2 | 398.7 | 390.4 | 390.4 |
| 60° | 421.5 | 404.9 | 384.3 | 361.5 | 353.3 | 343.0 | 322.3 | 312.0 | 305.7 | 299.6 |
| 62.5° | 336.8 | 324.4 | 305.7 | 276.8 | 270.7 | 260.3 | 245.9 | 233.5 | 227.3 | 227.3 |
| 65° | 252.0 | 239.6 | 223.1 | 202.5 | 194.2 | 186.0 | 173.6 | 161.2 | 154.9 | 152.9 |
| 67.5° | 177.7 | 163.2 | 148.8 | 132.3 | 126.0 | 121.9 | 109.5 | 101.2 | 97.1 | 95.0 |
| 70° | 107.4 | 99.1 | 88.8 | 76.5 | 70.2 | 66.1 | 57.8 | 51.7 | 49.6 | 47.5 |
| 72.5° | 55.8 | 49.6 | 41.3 | 33.0 | 28.9 | 24.8 | 20.7 | 16.5 | 14.5 | 14.5 |
| 75° | 20.7 | 16.5 | 10.4 | 6.2 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 |
| 77.5° | 4.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| 80° | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| 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)