

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P136667

Luminaire Tested: **LD6A20D010TE ERW6A20840 6LW121H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P136667  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23376)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD6A20D010TE ERW6A20840 6LW121H  
Description: PORTFOLIO 6 INCH 60 DEGREE CUTOFF RECESSED DOUBLE WALL WASH LUMINAIRE  
SEMI-SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER  
Light Source: (1) HIGH LUMEN LED 4000K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2431.0 lumens  
Efficiency: N/A  
Efficacy: 74.1 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.2 / 1.15  
Luminous Opening: Circular (Dia: 0.46' x H: 0')  
CIE Type: Direct

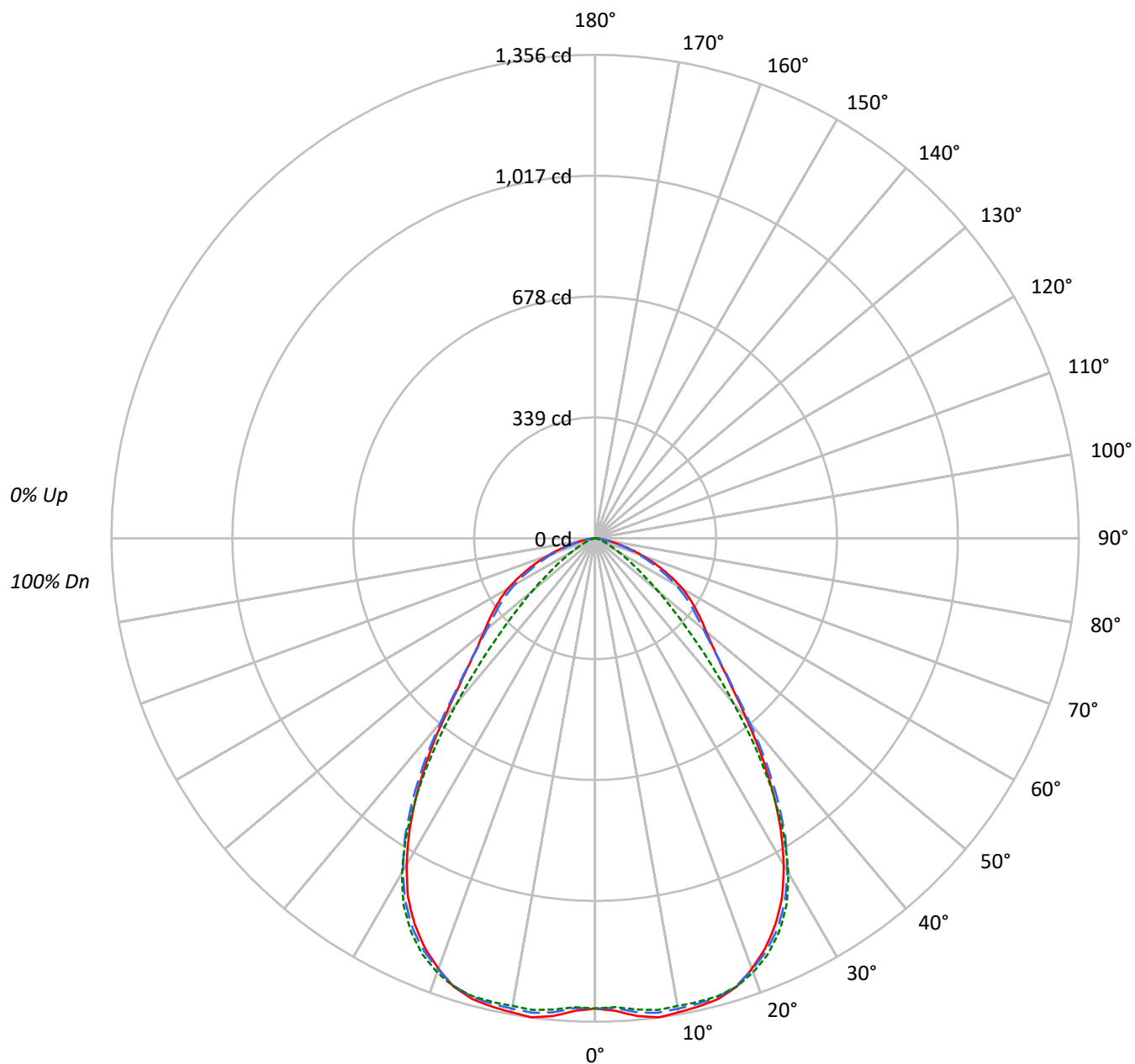
Input Watts (W): 32.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
| RF  | 20  |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |     |    | 20 |
| RC  | 80  |     |     |     | 70  |     |     |     |     | 50  |     |     |     |     | 30  |     |     |     |    | 0  |
| 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 | 97  | 91  | 87  | 101 | 95  | 90  | 86  | 91  | 87  | 84  | 88  | 85  | 82  | 85  | 83  | 80  | 78  |    |    |
| 3   | 96  | 87  | 81  | 75  | 94  | 86  | 80  | 75  | 83  | 78  | 73  | 80  | 76  | 72  | 78  | 74  | 71  | 69  |    |    |
| 4   | 89  | 79  | 72  | 66  | 87  | 78  | 71  | 66  | 75  | 70  | 65  | 73  | 68  | 64  | 71  | 67  | 63  | 61  |    |    |
| 5   | 83  | 72  | 64  | 59  | 81  | 71  | 64  | 59  | 69  | 63  | 58  | 67  | 62  | 57  | 65  | 61  | 57  | 55  |    |    |
| 6   | 77  | 66  | 58  | 53  | 76  | 65  | 58  | 53  | 63  | 57  | 52  | 62  | 56  | 52  | 60  | 55  | 51  | 50  |    |    |
| 7   | 72  | 61  | 53  | 48  | 71  | 60  | 53  | 48  | 58  | 52  | 47  | 57  | 51  | 47  | 56  | 51  | 47  | 45  |    |    |
| 8   | 68  | 56  | 49  | 43  | 67  | 55  | 48  | 43  | 54  | 48  | 43  | 53  | 47  | 43  | 52  | 47  | 43  | 41  |    |    |
| 9   | 64  | 52  | 45  | 40  | 63  | 51  | 44  | 40  | 50  | 44  | 39  | 49  | 43  | 39  | 48  | 43  | 39  | 37  |    |    |
| 10  | 60  | 48  | 41  | 37  | 59  | 48  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 36  | 45  | 40  | 36  | 34  |    |    |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 86039 | 86039 | 86039 |
| 5°  | 88084 | 87396 | 86885 |
| 10° | 89447 | 88758 | 88234 |
| 15° | 90317 | 89959 | 89784 |
| 20° | 89201 | 89381 | 89930 |
| 25° | 86087 | 87023 | 87779 |
| 30° | 79642 | 81217 | 81609 |
| 35° | 69195 | 70859 | 68980 |
| 40° | 56158 | 57274 | 51261 |
| 45° | 45874 | 46114 | 34765 |
| 50° | 41167 | 40101 | 23111 |
| 55° | 38991 | 37206 | 14878 |
| 60° | 36874 | 34147 | 9564  |
| 65° | 32310 | 29485 | 6067  |
| 70° | 26457 | 23958 | 3987  |
| 75° | 19132 | 17141 | 2647  |
| 80° | 12774 | 10820 | 1954  |
| 85° | 7860  | 5914  | 1946  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 127.6  | 5.2       |
| 10°-20°   | 374.9  | 15.4      |
| 20°-30°   | 551.9  | 22.7      |
| 30°-40°   | 543.1  | 22.3      |
| 40°-50°   | 367.3  | 15.1      |
| 50°-60°   | 246.9  | 10.2      |
| 60°-70°   | 150.7  | 6.2       |
| 70°-80°   | 59.4   | 2.4       |
| 80°-90°   | 9.2    | 0.4       |
| 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°    | 1054.5 | 43.4      |
| 0°-40°    | 1597.6 | 65.7      |
| 0°-60°    | 2211.8 | 91.0      |
| 0°-90°    | 2431.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2431.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1319 | 1319  | 1319 | 1319  | 1319 |      |
| 5°  | 1345 | 1340  | 1334 | 1333  | 1327 | 129  |
| 15° | 1337 | 1332  | 1332 | 1333  | 1329 | 376  |
| 25° | 1196 | 1200  | 1209 | 1221  | 1219 | 546  |
| 35° | 869  | 879   | 890  | 875   | 866  | 538  |
| 45° | 497  | 505   | 500  | 413   | 377  | 393  |
| 55° | 343  | 347   | 327  | 183   | 131  | 307  |
| 65° | 209  | 211   | 191  | 77    | 39   | 208  |
| 75° | 76   | 76    | 68   | 26    | 10   | 85   |
| 85° | 10   | 8     | 8    | 4     | 3    | 14   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 |
| 2.5°  | 1326.7 | 1321.5 | 1324.1 | 1321.5 | 1321.5 | 1316.2 | 1321.5 | 1321.5 | 1318.8 | 1318.8 | 1318.8 |
| 5°    | 1345.0 | 1342.4 | 1345.0 | 1339.8 | 1342.4 | 1337.2 | 1339.8 | 1337.2 | 1334.5 | 1334.5 | 1334.5 |
| 7.5°  | 1355.5 | 1350.2 | 1352.9 | 1347.6 | 1350.2 | 1345.0 | 1347.6 | 1345.0 | 1342.4 | 1342.4 | 1339.8 |
| 10°   | 1350.2 | 1347.6 | 1347.6 | 1345.0 | 1345.0 | 1339.8 | 1345.0 | 1342.4 | 1337.2 | 1339.8 | 1337.2 |
| 12.5° | 1345.0 | 1342.4 | 1345.0 | 1339.8 | 1342.4 | 1334.5 | 1339.8 | 1337.2 | 1334.5 | 1337.2 | 1334.5 |
| 15°   | 1337.2 | 1334.5 | 1337.2 | 1331.9 | 1334.5 | 1329.3 | 1334.5 | 1331.9 | 1329.3 | 1331.9 | 1329.3 |
| 17.5° | 1318.8 | 1316.2 | 1318.8 | 1316.2 | 1318.8 | 1311.0 | 1316.2 | 1316.2 | 1313.6 | 1316.2 | 1316.2 |
| 20°   | 1284.8 | 1282.2 | 1284.8 | 1282.2 | 1284.8 | 1279.6 | 1284.8 | 1284.8 | 1282.2 | 1287.4 | 1287.4 |
| 22.5° | 1245.6 | 1245.6 | 1245.6 | 1245.6 | 1248.2 | 1243.0 | 1248.2 | 1248.2 | 1248.2 | 1253.4 | 1253.4 |
| 25°   | 1195.9 | 1198.5 | 1198.5 | 1198.5 | 1201.1 | 1198.5 | 1203.7 | 1203.7 | 1203.7 | 1208.9 | 1208.9 |
| 27.5° | 1135.7 | 1135.7 | 1138.3 | 1140.9 | 1140.9 | 1138.3 | 1143.5 | 1146.1 | 1146.1 | 1151.4 | 1154.0 |
| 30°   | 1057.2 | 1059.8 | 1062.4 | 1065.0 | 1067.6 | 1065.0 | 1070.3 | 1070.3 | 1072.9 | 1078.1 | 1080.7 |
| 32.5° | 968.2  | 973.4  | 973.4  | 978.7  | 981.3  | 978.7  | 986.5  | 983.9  | 986.5  | 991.7  | 994.4  |
| 35°   | 868.8  | 874.0  | 874.0  | 879.2  | 879.2  | 879.2  | 884.5  | 887.1  | 887.1  | 889.7  | 889.7  |
| 37.5° | 764.1  | 769.3  | 766.7  | 774.6  | 774.6  | 771.9  | 782.4  | 782.4  | 779.8  | 782.4  | 779.8  |
| 40°   | 659.4  | 664.7  | 664.7  | 669.9  | 669.9  | 669.9  | 677.7  | 672.5  | 672.5  | 672.5  | 667.3  |
| 42.5° | 567.8  | 573.1  | 573.1  | 578.3  | 578.3  | 578.3  | 583.5  | 583.5  | 578.3  | 575.7  | 567.8  |
| 45°   | 497.2  | 499.8  | 502.4  | 505.0  | 505.0  | 505.0  | 510.3  | 507.6  | 505.0  | 499.8  | 486.7  |
| 47.5° | 444.8  | 447.5  | 447.5  | 450.1  | 450.1  | 450.1  | 452.7  | 452.7  | 447.5  | 439.6  | 426.5  |
| 50°   | 405.6  | 405.6  | 408.2  | 408.2  | 410.8  | 408.2  | 410.8  | 408.2  | 403.0  | 395.1  | 379.4  |
| 52.5° | 374.2  | 374.2  | 374.2  | 376.8  | 376.8  | 376.8  | 376.8  | 374.2  | 369.0  | 358.5  | 340.2  |
| 55°   | 342.8  | 342.8  | 345.4  | 345.4  | 348.0  | 345.4  | 345.4  | 342.8  | 334.9  | 327.1  | 306.2  |
| 57.5° | 314.0  | 314.0  | 314.0  | 316.6  | 316.6  | 316.6  | 314.0  | 311.4  | 306.2  | 295.7  | 274.8  |
| 60°   | 282.6  | 282.6  | 282.6  | 282.6  | 285.2  | 282.6  | 282.6  | 277.4  | 272.1  | 261.7  | 243.4  |
| 62.5° | 246.0  | 246.0  | 246.0  | 248.6  | 248.6  | 246.0  | 246.0  | 240.7  | 235.5  | 225.0  | 206.7  |
| 65°   | 209.3  | 209.3  | 209.3  | 212.0  | 212.0  | 209.3  | 209.3  | 204.1  | 198.9  | 191.0  | 172.7  |
| 67.5° | 175.3  | 175.3  | 175.3  | 175.3  | 175.3  | 172.7  | 172.7  | 170.1  | 164.9  | 157.0  | 143.9  |
| 70°   | 138.7  | 138.7  | 138.7  | 141.3  | 138.7  | 138.7  | 138.7  | 136.1  | 130.8  | 125.6  | 112.5  |
| 72.5° | 107.3  | 107.3  | 107.3  | 107.3  | 107.3  | 107.3  | 104.7  | 104.7  | 99.4   | 94.2   | 86.4   |
| 75°   | 75.9   | 75.9   | 75.9   | 75.9   | 75.9   | 75.9   | 75.9   | 73.3   | 70.7   | 68.0   | 60.2   |
| 77.5° | 52.3   | 52.3   | 52.3   | 52.3   | 52.3   | 52.3   | 52.3   | 49.7   | 49.7   | 47.1   | 41.9   |
| 80°   | 34.0   | 34.0   | 34.0   | 34.0   | 34.0   | 31.4   | 31.4   | 31.4   | 31.4   | 28.8   | 26.2   |
| 82.5° | 20.9   | 18.3   | 20.9   | 18.3   | 18.3   | 18.3   | 18.3   | 18.3   | 18.3   | 18.3   | 15.7   |
| 85°   | 10.5   | 10.5   | 10.5   | 10.5   | 7.9    | 7.9    | 7.9    | 7.9    | 7.9    | 7.9    | 7.9    |
| 87.5° | 2.6    | 2.6    | 2.6    | 2.6    | 2.6    | 2.6    | 2.6    | 2.6    | 2.6    | 2.6    | 2.6    |
| 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):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 | 1318.8 |
| 2.5°  | 1318.8 | 1313.6 | 1318.8 | 1321.5 | 1316.2 | 1318.8 | 1321.5 | 1316.2 |
| 5°    | 1334.5 | 1326.7 | 1331.9 | 1334.5 | 1326.7 | 1329.3 | 1331.9 | 1326.7 |
| 7.5°  | 1342.4 | 1334.5 | 1339.8 | 1339.8 | 1331.9 | 1337.2 | 1339.8 | 1334.5 |
| 10°   | 1337.2 | 1331.9 | 1337.2 | 1337.2 | 1331.9 | 1334.5 | 1337.2 | 1331.9 |
| 12.5° | 1334.5 | 1329.3 | 1334.5 | 1337.2 | 1329.3 | 1334.5 | 1337.2 | 1331.9 |
| 15°   | 1331.9 | 1326.7 | 1331.9 | 1334.5 | 1326.7 | 1331.9 | 1334.5 | 1329.3 |
| 17.5° | 1316.2 | 1313.6 | 1321.5 | 1321.5 | 1316.2 | 1321.5 | 1324.1 | 1318.8 |
| 20°   | 1290.1 | 1287.4 | 1295.3 | 1297.9 | 1292.7 | 1297.9 | 1300.5 | 1295.3 |
| 22.5° | 1256.0 | 1253.4 | 1261.3 | 1263.9 | 1258.7 | 1263.9 | 1266.5 | 1263.9 |
| 25°   | 1214.2 | 1211.6 | 1219.4 | 1222.0 | 1216.8 | 1222.0 | 1224.6 | 1219.4 |
| 27.5° | 1156.6 | 1154.0 | 1161.8 | 1161.8 | 1159.2 | 1164.5 | 1167.1 | 1161.8 |
| 30°   | 1083.3 | 1078.1 | 1086.0 | 1083.3 | 1080.7 | 1086.0 | 1086.0 | 1083.3 |
| 32.5° | 991.7  | 986.5  | 991.7  | 986.5  | 986.5  | 989.1  | 989.1  | 983.9  |
| 35°   | 884.5  | 881.8  | 879.2  | 871.4  | 871.4  | 871.4  | 871.4  | 866.1  |
| 37.5° | 771.9  | 764.1  | 758.9  | 745.8  | 740.5  | 743.2  | 740.5  | 735.3  |
| 40°   | 656.8  | 643.7  | 633.3  | 617.6  | 609.7  | 609.7  | 607.1  | 601.9  |
| 42.5° | 554.8  | 536.4  | 520.7  | 499.8  | 491.9  | 489.3  | 484.1  | 481.5  |
| 45°   | 471.0  | 447.5  | 423.9  | 403.0  | 389.9  | 387.3  | 382.0  | 376.8  |
| 47.5° | 405.6  | 376.8  | 348.0  | 324.5  | 311.4  | 303.5  | 298.3  | 295.7  |
| 50°   | 353.3  | 321.9  | 287.8  | 259.1  | 246.0  | 235.5  | 230.3  | 227.7  |
| 52.5° | 311.4  | 277.4  | 238.1  | 209.3  | 193.6  | 183.2  | 177.9  | 172.7  |
| 55°   | 277.4  | 238.1  | 198.9  | 167.5  | 151.8  | 141.3  | 136.1  | 130.8  |
| 57.5° | 243.4  | 206.7  | 164.9  | 133.5  | 117.8  | 107.3  | 102.1  | 99.4   |
| 60°   | 212.0  | 175.3  | 136.1  | 107.3  | 91.6   | 81.1   | 75.9   | 73.3   |
| 62.5° | 180.6  | 146.5  | 112.5  | 86.4   | 70.7   | 60.2   | 55.0   | 55.0   |
| 65°   | 149.2  | 120.4  | 89.0   | 65.4   | 52.3   | 44.5   | 39.3   | 39.3   |
| 67.5° | 123.0  | 96.8   | 70.7   | 52.3   | 39.3   | 34.0   | 28.8   | 28.8   |
| 70°   | 96.8   | 78.5   | 55.0   | 41.9   | 31.4   | 23.6   | 20.9   | 20.9   |
| 72.5° | 73.3   | 60.2   | 41.9   | 31.4   | 23.6   | 18.3   | 15.7   | 15.7   |
| 75°   | 52.3   | 41.9   | 31.4   | 20.9   | 15.7   | 13.1   | 10.5   | 10.5   |
| 77.5° | 36.6   | 28.8   | 20.9   | 15.7   | 10.5   | 7.9    | 7.9    | 7.9    |
| 80°   | 23.6   | 18.3   | 13.1   | 10.5   | 7.9    | 5.2    | 5.2    | 5.2    |
| 82.5° | 13.1   | 10.5   | 7.9    | 5.2    | 5.2    | 2.6    | 2.6    | 2.6    |
| 85°   | 5.2    | 5.2    | 5.2    | 2.6    | 2.6    | 2.6    | 2.6    | 2.6    |
| 87.5° | 2.6    | 2.6    | 2.6    | 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    |



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— 0°-180°    - - 45°-225°    - - - 90°-270°









(END OF REPORT)