

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: P209351

Luminaire Tested: **LDSQ6B30D010 EU6B30509040 6LBSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209351  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35360)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQ6B30D010 EU6B30509040 6LBSQ1LI  
Description: PORTFOLIO LD6 SERIES 6" RECESSED FIXTURE WITH A SQUARE LOW  
IRIDESCENT TRIM.  
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM  
WATTAGE D010TR-27.4 W DE010-27.95 W D5LT-27.65 W DMX-27.73 W DL2-29.56 W  
DL3-29.67 W DLE-29.73 W  
Light Source: HIGH LUMEN LED 4000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2530.7 lumens  
Efficiency: N/A  
Efficacy: 90.4 lumens/watt  
Spacing Criteria (0/90/45): 0.92 / 0.92 / 0.95  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

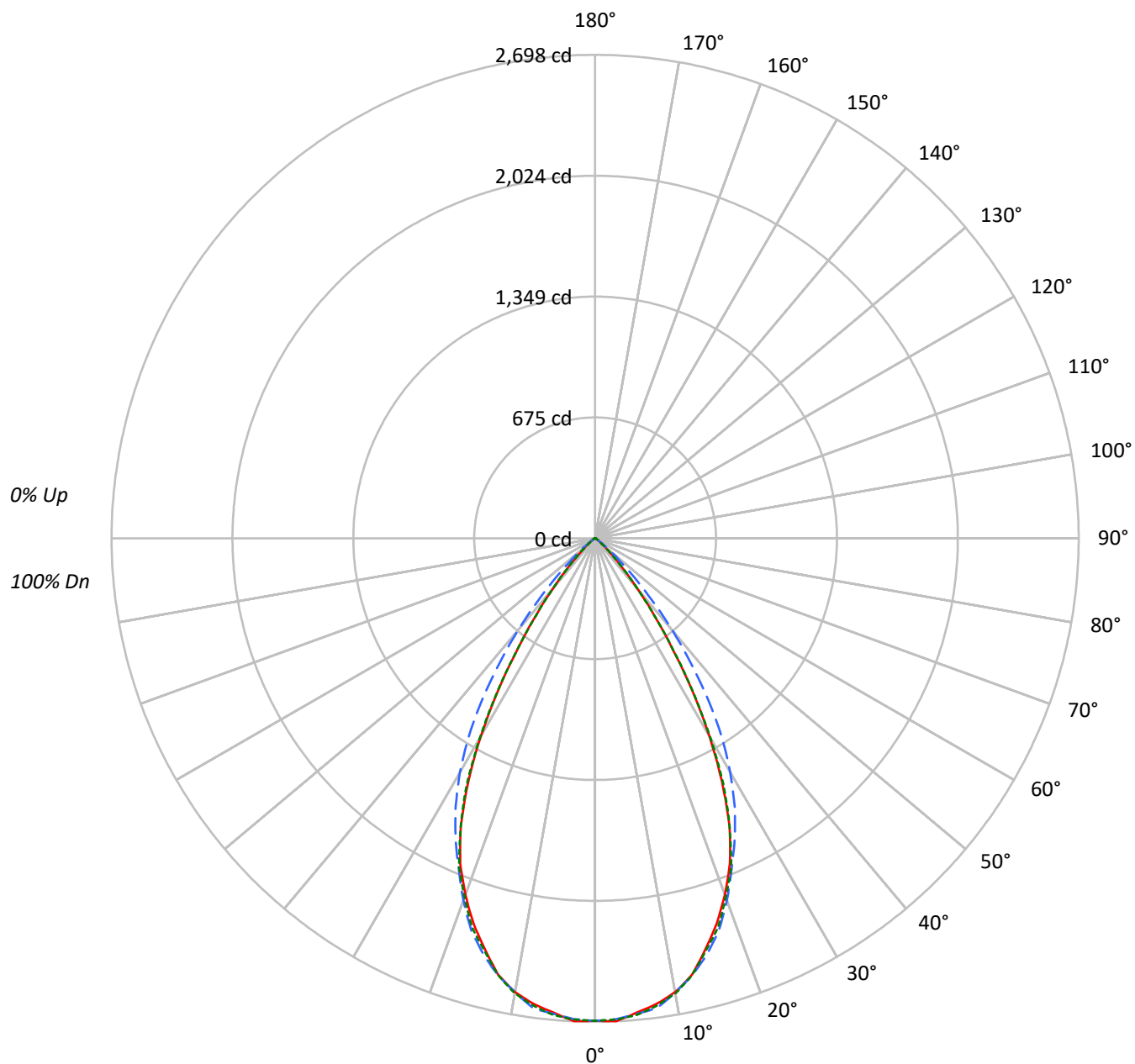
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 113 | 111 | 108 | 106 | 111 | 108 | 106 | 104 | 104 | 103 | 101 | 101 | 99  | 98  | 97  | 96  | 95  | 93  |    |    |
| 2   | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 94  | 98  | 95  | 92  | 95  | 92  | 90  | 92  | 90  | 88  | 87  |    |    |
| 3   | 102 | 96  | 91  | 87  | 100 | 94  | 90  | 86  | 92  | 88  | 85  | 89  | 86  | 83  | 87  | 84  | 82  | 80  |    |    |
| 4   | 97  | 89  | 84  | 79  | 95  | 88  | 83  | 79  | 86  | 81  | 78  | 84  | 80  | 77  | 82  | 79  | 76  | 75  |    |    |
| 5   | 92  | 83  | 78  | 73  | 90  | 82  | 77  | 73  | 81  | 76  | 72  | 79  | 75  | 72  | 77  | 74  | 71  | 69  |    |    |
| 6   | 87  | 78  | 72  | 68  | 86  | 77  | 72  | 67  | 76  | 71  | 67  | 74  | 70  | 67  | 73  | 69  | 66  | 65  |    |    |
| 7   | 83  | 73  | 67  | 63  | 81  | 73  | 67  | 63  | 71  | 66  | 62  | 70  | 66  | 62  | 69  | 65  | 62  | 60  |    |    |
| 8   | 79  | 69  | 63  | 59  | 77  | 68  | 63  | 59  | 67  | 62  | 58  | 66  | 62  | 58  | 65  | 61  | 58  | 56  |    |    |
| 9   | 75  | 65  | 59  | 55  | 74  | 64  | 59  | 55  | 64  | 58  | 55  | 63  | 58  | 54  | 62  | 57  | 54  | 53  |    |    |
| 10  | 71  | 61  | 55  | 52  | 70  | 61  | 55  | 51  | 60  | 55  | 51  | 59  | 55  | 51  | 59  | 54  | 51  | 50  |    |    |

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

|     | 0°                                                           | 45° | 90° |
|-----|--------------------------------------------------------------|-----|-----|
| 0°  | Luminaire represents a point source (luminous area is zero). |     |     |
| 5°  | No luminance values can be calculated.                       |     |     |
| 10° |                                                              |     |     |
| 15° |                                                              |     |     |
| 20° |                                                              |     |     |
| 25° |                                                              |     |     |
| 30° |                                                              |     |     |
| 35° |                                                              |     |     |
| 40° |                                                              |     |     |
| 45° |                                                              |     |     |
| 50° |                                                              |     |     |
| 55° |                                                              |     |     |
| 60° |                                                              |     |     |
| 65° |                                                              |     |     |
| 70° |                                                              |     |     |
| 75° |                                                              |     |     |
| 80° |                                                              |     |     |
| 85° |                                                              |     |     |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 252.1  | 10.0      |
| 10°-20°   | 670.6  | 26.5      |
| 20°-30°   | 823.1  | 32.5      |
| 30°-40°   | 568.2  | 22.5      |
| 40°-50°   | 177.6  | 7.0       |
| 50°-60°   | 27.8   | 1.1       |
| 60°-70°   | 8.0    | 0.3       |
| 70°-80°   | 2.6    | 0.1       |
| 80°-90°   | 0.6    | 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°    | 1745.8 | 69.0      |
| 0°-40°    | 2314.0 | 91.4      |
| 0°-60°    | 2519.4 | 99.6      |
| 0°-90°    | 2530.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2530.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2693 | 2693  | 2693 | 2693  | 2693 |      |
| 5°  | 2657 | 2668  | 2664 | 2665  | 2671 | 251  |
| 15° | 2376 | 2410  | 2406 | 2403  | 2384 | 664  |
| 25° | 1773 | 1819  | 1843 | 1831  | 1775 | 795  |
| 35° | 748  | 885   | 1098 | 893   | 752  | 478  |
| 45° | 141  | 193   | 309  | 191   | 144  | 126  |
| 55° | 24   | 26    | 29   | 26    | 22   | 23   |
| 65° | 7    | 8     | 7    | 8     | 7    | 8    |
| 75° | 2    | 2     | 2    | 2     | 2    | 2    |
| 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°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 |
| 2.5°  | 2698.1 | 2660.7 | 2684.5 | 2679.4 | 2693.0 | 2701.5 | 2693.0 | 2708.2 | 2698.1 | 2686.2 | 2689.6 |
| 5°    | 2657.3 | 2662.4 | 2660.7 | 2664.1 | 2667.5 | 2667.5 | 2684.5 | 2686.2 | 2689.6 | 2664.1 | 2670.9 |
| 7.5°  | 2621.7 | 2621.7 | 2630.2 | 2626.8 | 2638.7 | 2635.3 | 2637.0 | 2650.5 | 2652.2 | 2645.5 | 2640.4 |
| 10°   | 2572.5 | 2565.7 | 2557.2 | 2557.2 | 2572.5 | 2574.2 | 2587.8 | 2589.5 | 2599.6 | 2572.5 | 2575.9 |
| 12.5° | 2496.1 | 2492.7 | 2479.2 | 2485.9 | 2497.8 | 2491.0 | 2513.1 | 2514.8 | 2511.4 | 2499.5 | 2506.3 |
| 15°   | 2375.6 | 2389.2 | 2385.8 | 2384.1 | 2411.3 | 2407.9 | 2406.2 | 2411.3 | 2413.0 | 2406.2 | 2401.1 |
| 17.5° | 2255.2 | 2267.0 | 2268.7 | 2272.1 | 2277.2 | 2282.3 | 2289.1 | 2307.8 | 2301.0 | 2295.9 | 2312.9 |
| 20°   | 2116.0 | 2110.9 | 2124.5 | 2138.1 | 2143.2 | 2143.2 | 2153.4 | 2166.9 | 2156.7 | 2150.0 | 2151.7 |
| 22.5° | 1965.0 | 1973.5 | 1966.7 | 1980.3 | 1987.1 | 1995.5 | 2005.7 | 2017.6 | 2009.1 | 1990.5 | 2012.5 |
| 25°   | 1773.3 | 1778.3 | 1800.4 | 1798.7 | 1808.9 | 1829.2 | 1844.5 | 1844.5 | 1844.5 | 1842.8 | 1842.8 |
| 27.5° | 1532.3 | 1528.9 | 1556.0 | 1574.7 | 1600.2 | 1632.4 | 1652.8 | 1685.0 | 1690.1 | 1685.0 | 1673.1 |
| 30°   | 1274.4 | 1271.0 | 1304.9 | 1328.7 | 1374.5 | 1389.8 | 1445.8 | 1476.3 | 1508.5 | 1506.8 | 1498.4 |
| 32.5° | 1006.3 | 1013.0 | 1040.2 | 1074.1 | 1111.5 | 1159.0 | 1211.6 | 1279.5 | 1308.3 | 1315.1 | 1299.8 |
| 35°   | 748.3  | 758.5  | 784.0  | 812.8  | 858.6  | 911.2  | 984.2  | 1048.7 | 1097.9 | 1097.9 | 1086.0 |
| 37.5° | 539.6  | 543.0  | 566.8  | 585.4  | 632.9  | 680.5  | 743.2  | 831.5  | 862.0  | 873.9  | 862.0  |
| 40°   | 368.2  | 368.2  | 381.8  | 402.2  | 441.2  | 481.9  | 539.6  | 605.8  | 649.9  | 668.6  | 648.2  |
| 42.5° | 234.2  | 237.6  | 247.7  | 261.3  | 290.2  | 325.8  | 369.9  | 419.1  | 451.4  | 464.9  | 446.3  |
| 45°   | 140.8  | 144.2  | 152.7  | 162.9  | 181.6  | 203.6  | 234.2  | 269.8  | 297.0  | 308.8  | 300.3  |
| 47.5° | 84.8   | 88.2   | 91.6   | 98.4   | 112.0  | 127.3  | 142.5  | 162.9  | 179.9  | 181.6  | 178.2  |
| 50°   | 49.2   | 49.2   | 52.6   | 57.7   | 64.5   | 73.0   | 81.5   | 93.3   | 98.4   | 105.2  | 98.4   |
| 52.5° | 32.2   | 32.2   | 32.2   | 33.9   | 37.3   | 40.7   | 44.1   | 50.9   | 54.3   | 54.3   | 52.6   |
| 55°   | 23.8   | 23.8   | 23.8   | 23.8   | 25.5   | 25.5   | 25.5   | 27.2   | 28.8   | 28.8   | 28.8   |
| 57.5° | 17.0   | 17.0   | 17.0   | 18.7   | 18.7   | 18.7   | 17.0   | 17.0   | 17.0   | 17.0   | 17.0   |
| 60°   | 13.6   | 13.6   | 13.6   | 13.6   | 13.6   | 13.6   | 13.6   | 13.6   | 11.9   | 11.9   | 11.9   |
| 62.5° | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   |
| 65°   | 6.8    | 6.8    | 6.8    | 8.5    | 8.5    | 8.5    | 8.5    | 6.8    | 6.8    | 6.8    | 6.8    |
| 67.5° | 5.1    | 5.1    | 5.1    | 6.8    | 6.8    | 6.8    | 6.8    | 6.8    | 5.1    | 5.1    | 5.1    |
| 70°   | 3.4    | 3.4    | 5.1    | 5.1    | 5.1    | 5.1    | 5.1    | 5.1    | 5.1    | 5.1    | 5.1    |
| 72.5° | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    |
| 75°   | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 77.5° | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 80°   | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 82.5° | 0.0    | 0.0    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 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):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 | 2693.0 |
| 2.5°  | 2699.8 | 2691.3 | 2691.3 | 2691.3 | 2687.9 | 2691.3 | 2696.4 | 2687.9 |
| 5°    | 2670.9 | 2674.3 | 2659.0 | 2670.9 | 2676.0 | 2667.5 | 2687.9 | 2670.9 |
| 7.5°  | 2645.5 | 2640.4 | 2616.6 | 2633.6 | 2643.8 | 2647.2 | 2645.5 | 2631.9 |
| 10°   | 2594.5 | 2582.7 | 2572.5 | 2572.5 | 2569.1 | 2567.4 | 2586.1 | 2579.3 |
| 12.5° | 2502.9 | 2511.4 | 2496.1 | 2504.6 | 2497.8 | 2499.5 | 2501.2 | 2497.8 |
| 15°   | 2424.9 | 2416.4 | 2396.0 | 2409.6 | 2401.1 | 2392.6 | 2409.6 | 2384.1 |
| 17.5° | 2302.7 | 2301.0 | 2289.1 | 2280.6 | 2284.0 | 2282.3 | 2290.8 | 2278.9 |
| 20°   | 2158.4 | 2161.8 | 2155.1 | 2151.7 | 2146.6 | 2134.7 | 2144.9 | 2131.3 |
| 22.5° | 2002.3 | 2005.7 | 2012.5 | 1998.9 | 2000.6 | 1983.7 | 1998.9 | 1983.7 |
| 25°   | 1844.5 | 1842.8 | 1834.3 | 1827.6 | 1808.9 | 1790.2 | 1786.8 | 1774.9 |
| 27.5° | 1671.4 | 1659.6 | 1639.2 | 1617.1 | 1588.3 | 1562.8 | 1561.1 | 1552.7 |
| 30°   | 1481.4 | 1455.9 | 1418.6 | 1383.0 | 1338.8 | 1299.8 | 1299.8 | 1286.2 |
| 32.5° | 1281.2 | 1223.5 | 1172.6 | 1128.4 | 1070.7 | 1048.7 | 1026.6 | 1014.7 |
| 35°   | 1041.9 | 991.0  | 929.9  | 856.9  | 829.8  | 775.5  | 778.9  | 751.7  |
| 37.5° | 816.2  | 753.4  | 695.7  | 636.3  | 588.8  | 563.4  | 549.8  | 536.2  |
| 40°   | 605.8  | 544.7  | 481.9  | 442.9  | 400.5  | 378.4  | 369.9  | 366.5  |
| 42.5° | 414.0  | 363.1  | 322.4  | 290.2  | 268.1  | 244.4  | 237.6  | 234.2  |
| 45°   | 269.8  | 241.0  | 203.6  | 178.2  | 162.9  | 149.3  | 149.3  | 144.2  |
| 47.5° | 161.2  | 142.5  | 123.9  | 106.9  | 96.7   | 88.2   | 84.8   | 83.1   |
| 50°   | 89.9   | 79.8   | 69.6   | 62.8   | 56.0   | 50.9   | 49.2   | 49.2   |
| 52.5° | 49.2   | 44.1   | 40.7   | 35.6   | 32.2   | 32.2   | 32.2   | 30.5   |
| 55°   | 25.5   | 25.5   | 25.5   | 25.5   | 23.8   | 23.8   | 23.8   | 22.1   |
| 57.5° | 17.0   | 17.0   | 18.7   | 18.7   | 18.7   | 17.0   | 17.0   | 17.0   |
| 60°   | 13.6   | 13.6   | 13.6   | 13.6   | 13.6   | 13.6   | 13.6   | 13.6   |
| 62.5° | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   | 10.2   |
| 65°   | 6.8    | 8.5    | 8.5    | 8.5    | 8.5    | 6.8    | 6.8    | 6.8    |
| 67.5° | 5.1    | 6.8    | 6.8    | 6.8    | 5.1    | 5.1    | 5.1    | 5.1    |
| 70°   | 5.1    | 5.1    | 5.1    | 5.1    | 5.1    | 3.4    | 3.4    | 3.4    |
| 72.5° | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    | 3.4    |
| 75°   | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 77.5° | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 80°   | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 82.5° | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 0.0    | 0.0    | 0.0    |
| 85°   | 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    |
| 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)