

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: P209483

Luminaire Tested: **LDSQ6B60D010 EU6B60708030 6LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209483
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35359)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ6B60D010 EU6B60708030 6LBCSSQ1MMS
Description: PORTFOLIO LD6 SERIES 6" RECESSED FIXTURE WITH A SQUARE SHALLOW CAST METALLIC SILVER TRIM
MEDIUM DISTRIBUTION WITH MATTE METALLIC SILVER TRIM
D010TE
Light Source: HIGH LUMEN LED 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6531.6 lumens
Efficiency: N/A
Efficacy: 104.5 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.22 / 1.33
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

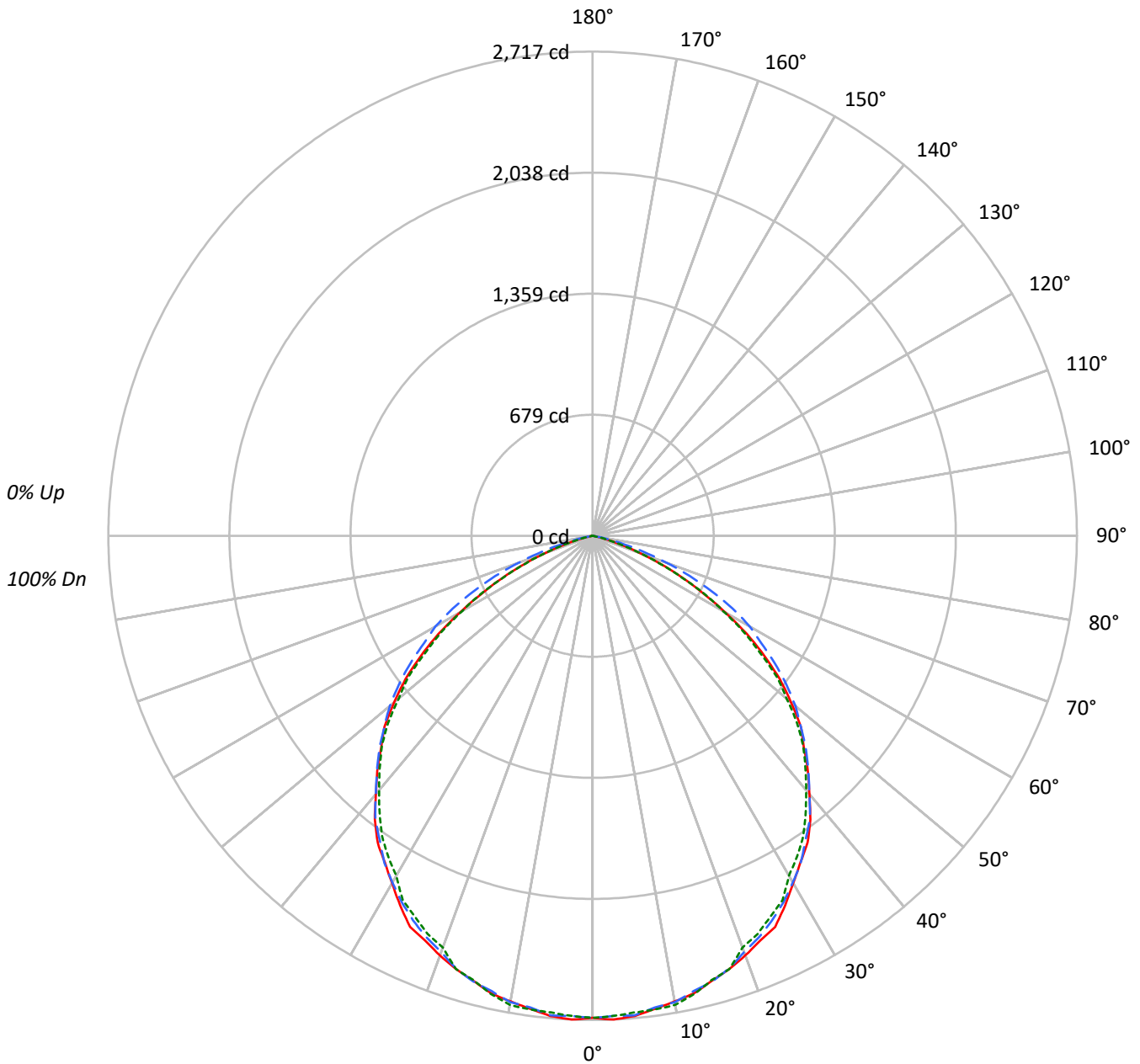
Input Watts (W): 62.48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|
| RF | 20 | | | | 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 | | | | 100 |
| 1 | 111 | 107 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 91 | 89 | 87 | | | | 87 |
| 2 | 102 | 94 | 88 | 83 | 99 | 93 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 79 | 83 | 80 | 77 | 75 | | | | 75 |
| 3 | 93 | 84 | 76 | 70 | 91 | 82 | 75 | 70 | 79 | 73 | 69 | 77 | 72 | 67 | 74 | 70 | 66 | 64 | | | | 64 |
| 4 | 86 | 75 | 67 | 60 | 84 | 73 | 66 | 60 | 71 | 64 | 59 | 69 | 63 | 58 | 67 | 62 | 58 | 56 | | | | 56 |
| 5 | 79 | 67 | 59 | 52 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 | | | | 49 |
| 6 | 73 | 61 | 52 | 46 | 71 | 60 | 52 | 46 | 58 | 51 | 45 | 56 | 50 | 45 | 55 | 49 | 45 | 43 | | | | 43 |
| 7 | 68 | 55 | 47 | 41 | 66 | 54 | 46 | 41 | 53 | 46 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | | 38 |
| 8 | 63 | 50 | 42 | 37 | 62 | 50 | 42 | 36 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 34 | | | | 34 |
| 9 | 59 | 46 | 38 | 33 | 58 | 46 | 38 | 33 | 45 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 32 | 31 | | | | 31 |
| 10 | 55 | 43 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 39 | 34 | 30 | 28 | | | | 28 |

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° | 255.9 | 3.9 |
| 10°-20° | 729.6 | 11.2 |
| 20°-30° | 1097.9 | 16.8 |
| 30°-40° | 1298.8 | 19.9 |
| 40°-50° | 1296.1 | 19.8 |
| 50°-60° | 1074.8 | 16.5 |
| 60°-70° | 627.9 | 9.6 |
| 70°-80° | 149.5 | 2.3 |
| 80°-90° | 1.1 | 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 |
| 0°-30° | 2083.3 | 31.9 |
| 0°-40° | 3382.1 | 51.8 |
| 0°-60° | 5753.0 | 88.1 |
| 0°-90° | 6531.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6531.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2705 | 2705 | 2705 | 2705 | 2705 | |
| 5° | 2705 | 2691 | 2701 | 2693 | 2685 | 256 |
| 15° | 2586 | 2584 | 2590 | 2578 | 2582 | 731 |
| 25° | 2422 | 2394 | 2382 | 2374 | 2358 | 1107 |
| 35° | 2103 | 2083 | 2083 | 2071 | 2059 | 1307 |
| 45° | 1676 | 1678 | 1692 | 1674 | 1672 | 1296 |
| 55° | 1177 | 1219 | 1249 | 1215 | 1149 | 1045 |
| 65° | 555 | 624 | 734 | 622 | 551 | 551 |
| 75° | 80 | 116 | 180 | 114 | 76 | 108 |
| 85° | 0 | 0 | 0 | 0 | 0 | 1 |
| 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° | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 |
| 2.5° | 2717.3 | 2701.3 | 2713.3 | 2689.4 | 2705.3 | 2689.4 | 2693.4 | 2685.4 | 2701.3 | 2697.4 | 2693.4 |
| 5° | 2705.3 | 2709.3 | 2701.3 | 2709.3 | 2697.4 | 2685.4 | 2697.4 | 2689.4 | 2665.4 | 2701.3 | 2693.4 |
| 7.5° | 2677.4 | 2681.4 | 2673.4 | 2685.4 | 2677.4 | 2661.4 | 2693.4 | 2669.4 | 2665.4 | 2669.4 | 2685.4 |
| 10° | 2653.5 | 2661.4 | 2657.5 | 2653.5 | 2657.5 | 2657.5 | 2649.5 | 2637.5 | 2649.5 | 2657.5 | 2653.5 |
| 12.5° | 2629.5 | 2641.5 | 2633.5 | 2625.5 | 2617.5 | 2621.5 | 2629.5 | 2609.6 | 2609.6 | 2617.5 | 2641.5 |
| 15° | 2585.6 | 2593.6 | 2597.6 | 2581.6 | 2581.6 | 2585.6 | 2601.6 | 2569.7 | 2585.6 | 2589.6 | 2593.6 |
| 17.5° | 2549.7 | 2553.7 | 2553.7 | 2541.7 | 2549.7 | 2537.7 | 2549.7 | 2533.8 | 2549.7 | 2545.7 | 2553.7 |
| 20° | 2505.8 | 2513.8 | 2505.8 | 2505.8 | 2497.8 | 2501.8 | 2501.8 | 2501.8 | 2489.9 | 2485.9 | 2493.9 |
| 22.5° | 2457.9 | 2457.9 | 2450.0 | 2457.9 | 2450.0 | 2446.0 | 2465.9 | 2434.0 | 2465.9 | 2438.0 | 2461.9 |
| 25° | 2422.0 | 2402.1 | 2390.1 | 2386.1 | 2402.1 | 2386.1 | 2394.1 | 2382.1 | 2390.1 | 2382.1 | 2386.1 |
| 27.5° | 2338.2 | 2326.3 | 2322.3 | 2326.3 | 2326.3 | 2322.3 | 2338.2 | 2294.3 | 2322.3 | 2318.3 | 2318.3 |
| 30° | 2250.5 | 2250.5 | 2258.4 | 2250.5 | 2258.4 | 2246.5 | 2262.4 | 2226.5 | 2250.5 | 2246.5 | 2250.5 |
| 32.5° | 2170.7 | 2174.6 | 2174.6 | 2182.6 | 2170.7 | 2174.6 | 2174.6 | 2162.7 | 2170.7 | 2174.6 | 2166.7 |
| 35° | 2102.8 | 2082.9 | 2082.9 | 2082.9 | 2082.9 | 2082.9 | 2090.8 | 2078.9 | 2090.8 | 2082.9 | 2082.9 |
| 37.5° | 2007.1 | 1987.1 | 1987.1 | 1983.1 | 2003.1 | 1991.1 | 2011.0 | 1995.1 | 1995.1 | 2003.1 | 2003.1 |
| 40° | 1891.3 | 1899.3 | 1887.3 | 1903.3 | 1899.3 | 1883.4 | 1919.3 | 1895.3 | 1911.3 | 1891.3 | 1907.3 |
| 42.5° | 1787.6 | 1791.6 | 1787.6 | 1783.6 | 1799.6 | 1795.6 | 1811.5 | 1795.6 | 1791.6 | 1791.6 | 1819.5 |
| 45° | 1675.9 | 1675.9 | 1675.9 | 1687.8 | 1675.9 | 1679.9 | 1695.8 | 1687.8 | 1695.8 | 1691.8 | 1719.8 |
| 47.5° | 1584.1 | 1564.1 | 1560.2 | 1584.1 | 1580.1 | 1584.1 | 1584.1 | 1588.1 | 1592.1 | 1584.1 | 1596.1 |
| 50° | 1452.4 | 1444.4 | 1444.4 | 1448.4 | 1452.4 | 1460.4 | 1472.4 | 1480.4 | 1472.4 | 1484.3 | 1488.3 |
| 52.5° | 1324.7 | 1316.8 | 1320.7 | 1336.7 | 1344.7 | 1340.7 | 1360.6 | 1364.6 | 1360.6 | 1368.6 | 1368.6 |
| 55° | 1177.1 | 1169.1 | 1181.1 | 1201.0 | 1213.0 | 1225.0 | 1244.9 | 1229.0 | 1244.9 | 1248.9 | 1252.9 |
| 57.5° | 1025.5 | 1021.5 | 1025.5 | 1045.4 | 1057.4 | 1085.3 | 1117.2 | 1117.2 | 1133.2 | 1121.2 | 1133.2 |
| 60° | 857.9 | 857.9 | 873.8 | 885.8 | 917.7 | 937.7 | 969.6 | 985.6 | 1001.5 | 1017.5 | 1009.5 |
| 62.5° | 698.3 | 702.3 | 714.2 | 742.2 | 762.1 | 790.1 | 826.0 | 841.9 | 869.9 | 885.8 | 877.8 |
| 65° | 554.6 | 554.6 | 562.6 | 586.6 | 606.5 | 642.4 | 674.3 | 710.2 | 726.2 | 734.2 | 738.2 |
| 67.5° | 415.0 | 411.0 | 426.9 | 442.9 | 462.9 | 498.8 | 534.7 | 554.6 | 582.6 | 590.5 | 586.6 |
| 70° | 279.3 | 283.3 | 291.3 | 307.2 | 331.2 | 359.1 | 399.0 | 415.0 | 430.9 | 438.9 | 430.9 |
| 72.5° | 175.6 | 175.6 | 179.6 | 195.5 | 211.5 | 231.4 | 259.4 | 275.3 | 295.3 | 299.3 | 291.3 |
| 75° | 79.8 | 79.8 | 87.8 | 95.8 | 107.7 | 123.7 | 143.6 | 155.6 | 167.6 | 179.6 | 179.6 |
| 77.5° | 16.0 | 20.0 | 23.9 | 23.9 | 31.9 | 43.9 | 55.9 | 67.8 | 79.8 | 79.8 | 79.8 |
| 80° | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 8.0 | 12.0 | 20.0 | 20.0 | 20.0 |
| 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):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 | 2705.3 |
| 2.5° | 2705.3 | 2729.3 | 2705.3 | 2693.4 | 2709.3 | 2705.3 | 2693.4 | 2697.4 |
| 5° | 2693.4 | 2701.3 | 2709.3 | 2677.4 | 2697.4 | 2701.3 | 2693.4 | 2685.4 |
| 7.5° | 2681.4 | 2685.4 | 2681.4 | 2673.4 | 2673.4 | 2673.4 | 2681.4 | 2681.4 |
| 10° | 2677.4 | 2665.4 | 2645.5 | 2633.5 | 2645.5 | 2645.5 | 2641.5 | 2673.4 |
| 12.5° | 2625.5 | 2641.5 | 2629.5 | 2605.6 | 2629.5 | 2625.5 | 2625.5 | 2633.5 |
| 15° | 2585.6 | 2585.6 | 2593.6 | 2561.7 | 2577.6 | 2573.7 | 2573.7 | 2581.6 |
| 17.5° | 2545.7 | 2545.7 | 2541.7 | 2533.8 | 2529.8 | 2541.7 | 2529.8 | 2549.7 |
| 20° | 2489.9 | 2497.8 | 2521.8 | 2481.9 | 2493.9 | 2481.9 | 2481.9 | 2457.9 |
| 22.5° | 2422.0 | 2461.9 | 2442.0 | 2438.0 | 2434.0 | 2438.0 | 2446.0 | 2418.0 |
| 25° | 2378.1 | 2378.1 | 2386.1 | 2362.2 | 2362.2 | 2370.2 | 2366.2 | 2358.2 |
| 27.5° | 2318.3 | 2314.3 | 2310.3 | 2302.3 | 2322.3 | 2306.3 | 2306.3 | 2306.3 |
| 30° | 2234.5 | 2246.5 | 2242.5 | 2222.5 | 2246.5 | 2238.5 | 2226.5 | 2202.6 |
| 32.5° | 2162.7 | 2178.6 | 2154.7 | 2150.7 | 2146.7 | 2150.7 | 2154.7 | 2134.7 |
| 35° | 2074.9 | 2078.9 | 2078.9 | 2062.9 | 2066.9 | 2062.9 | 2054.9 | 2058.9 |
| 37.5° | 1995.1 | 1991.1 | 1971.1 | 1963.2 | 1967.2 | 1967.2 | 1971.1 | 1963.2 |
| 40° | 1883.4 | 1895.3 | 1895.3 | 1867.4 | 1875.4 | 1867.4 | 1867.4 | 1863.4 |
| 42.5° | 1791.6 | 1795.6 | 1783.6 | 1771.6 | 1771.6 | 1767.6 | 1759.7 | 1767.6 |
| 45° | 1695.8 | 1691.8 | 1679.9 | 1667.9 | 1667.9 | 1663.9 | 1655.9 | 1671.9 |
| 47.5° | 1588.1 | 1580.1 | 1576.1 | 1560.2 | 1560.2 | 1536.2 | 1540.2 | 1556.2 |
| 50° | 1480.4 | 1472.4 | 1456.4 | 1448.4 | 1436.5 | 1424.5 | 1420.5 | 1420.5 |
| 52.5° | 1352.7 | 1352.7 | 1336.7 | 1320.7 | 1316.8 | 1308.8 | 1300.8 | 1304.8 |
| 55° | 1240.9 | 1240.9 | 1229.0 | 1201.0 | 1185.1 | 1165.1 | 1153.2 | 1149.2 |
| 57.5° | 1113.3 | 1105.3 | 1081.3 | 1049.4 | 1033.5 | 1017.5 | 1005.5 | 1005.5 |
| 60° | 985.6 | 965.6 | 941.7 | 913.7 | 885.8 | 857.9 | 849.9 | 845.9 |
| 62.5° | 845.9 | 826.0 | 782.1 | 750.2 | 730.2 | 714.2 | 698.3 | 710.2 |
| 65° | 706.3 | 678.3 | 638.4 | 606.5 | 586.6 | 562.6 | 550.6 | 550.6 |
| 67.5° | 558.6 | 530.7 | 490.8 | 458.9 | 438.9 | 423.0 | 407.0 | 407.0 |
| 70° | 411.0 | 391.0 | 355.1 | 327.2 | 311.2 | 287.3 | 283.3 | 283.3 |
| 72.5° | 279.3 | 255.4 | 227.4 | 207.5 | 191.5 | 175.6 | 167.6 | 163.6 |
| 75° | 155.6 | 139.7 | 119.7 | 107.7 | 91.8 | 83.8 | 75.8 | 75.8 |
| 77.5° | 63.8 | 51.9 | 39.9 | 31.9 | 23.9 | 20.0 | 16.0 | 20.0 |
| 80° | 12.0 | 8.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 82.5° | 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 |
| 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 |



Report Generated By E9808895 / USPTCWHP6082093





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









(END OF REPORT)