

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: P209450

Luminaire Tested: **LDSQ6B30D010 EU6B30509027 6LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209450
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: LDSQ6B30D010 EU6B30509027 6LBCSSQ1MMS
Description: PORTFOLIO LD6 SERIES 6" RECESSED FIXTURE WITH A SQUARE SHALLOW CAST METALLIC SILVER TRIM
MEDIUM DISTRIBUTION WITH MATTE METALLIC SILVER 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 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2630.1 lumens
Efficiency: N/A
Efficacy: 93.9 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

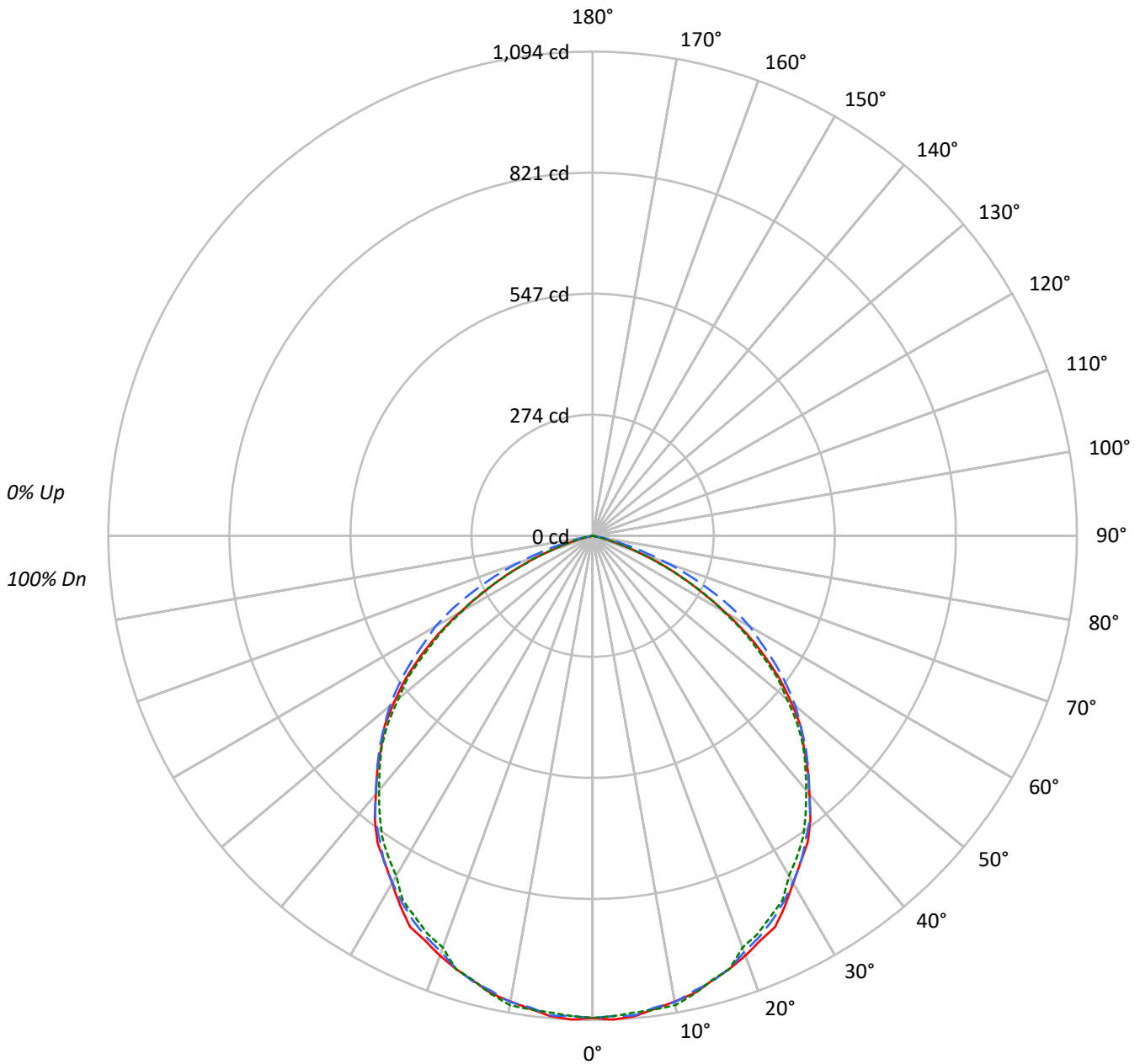
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P209450

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| RC | 80 | | | | | | | | | 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 | 107 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 91 | 89 | 87 | | | | | | | | | | | | | | | | | | | |
| 2 | 102 | 94 | 88 | 83 | 99 | 93 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 79 | 83 | 80 | 77 | 75 | | | | | | | | | | | | | | | | | | | |
| 3 | 93 | 84 | 76 | 70 | 91 | 82 | 75 | 70 | 79 | 73 | 69 | 77 | 72 | 67 | 74 | 70 | 66 | 64 | | | | | | | | | | | | | | | | | | | |
| 4 | 86 | 75 | 67 | 60 | 84 | 73 | 66 | 60 | 71 | 64 | 59 | 69 | 63 | 58 | 67 | 62 | 58 | 56 | | | | | | | | | | | | | | | | | | | |
| 5 | 79 | 67 | 59 | 52 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 | | | | | | | | | | | | | | | | | | | |
| 6 | 73 | 61 | 52 | 46 | 71 | 60 | 52 | 46 | 58 | 51 | 45 | 56 | 50 | 45 | 55 | 49 | 45 | 43 | | | | | | | | | | | | | | | | | | | |
| 7 | 68 | 55 | 47 | 41 | 66 | 54 | 46 | 41 | 53 | 46 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | | | | | | | | | | | | | | | | | |
| 8 | 63 | 50 | 42 | 37 | 62 | 50 | 42 | 36 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 34 | | | | | | | | | | | | | | | | | | | |
| 9 | 59 | 46 | 38 | 33 | 58 | 46 | 38 | 33 | 45 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 32 | 31 | | | | | | | | | | | | | | | | | | | |
| 10 | 55 | 43 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 39 | 34 | 30 | 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° | 103.0 | 3.9 |
| 10°-20° | 293.8 | 11.2 |
| 20°-30° | 442.1 | 16.8 |
| 30°-40° | 523.0 | 19.9 |
| 40°-50° | 521.9 | 19.8 |
| 50°-60° | 432.8 | 16.5 |
| 60°-70° | 252.9 | 9.6 |
| 70°-80° | 60.2 | 2.3 |
| 80°-90° | 0.4 | 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° | 838.9 | 31.9 |
| 0°-40° | 1361.9 | 51.8 |
| 0°-60° | 2316.6 | 88.1 |
| 0°-90° | 2630.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2630.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1089 | 1089 | 1089 | 1089 | 1089 | |
| 5° | 1089 | 1084 | 1088 | 1085 | 1081 | 103 |
| 15° | 1041 | 1040 | 1043 | 1038 | 1040 | 294 |
| 25° | 975 | 964 | 959 | 956 | 950 | 446 |
| 35° | 847 | 839 | 839 | 834 | 829 | 526 |
| 45° | 675 | 676 | 681 | 674 | 673 | 522 |
| 55° | 474 | 491 | 503 | 489 | 463 | 421 |
| 65° | 223 | 251 | 296 | 251 | 222 | 222 |
| 75° | 32 | 47 | 72 | 46 | 30 | 44 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P209450

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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 |
| 2.5° | 1094.2 | 1087.8 | 1092.6 | 1082.9 | 1089.4 | 1082.9 | 1084.6 | 1081.3 | 1087.8 | 1086.2 | 1084.6 |
| 5° | 1089.4 | 1091.0 | 1087.8 | 1091.0 | 1086.2 | 1081.3 | 1086.2 | 1082.9 | 1073.3 | 1087.8 | 1084.6 |
| 7.5° | 1078.1 | 1079.7 | 1076.5 | 1081.3 | 1078.1 | 1071.7 | 1084.6 | 1074.9 | 1073.3 | 1074.9 | 1081.3 |
| 10° | 1068.5 | 1071.7 | 1070.1 | 1068.5 | 1070.1 | 1070.1 | 1066.9 | 1062.1 | 1066.9 | 1070.1 | 1068.5 |
| 12.5° | 1058.8 | 1063.7 | 1060.5 | 1057.2 | 1054.0 | 1055.6 | 1058.8 | 1050.8 | 1050.8 | 1054.0 | 1063.7 |
| 15° | 1041.2 | 1044.4 | 1046.0 | 1039.6 | 1039.6 | 1041.2 | 1047.6 | 1034.7 | 1041.2 | 1042.8 | 1044.4 |
| 17.5° | 1026.7 | 1028.3 | 1028.3 | 1023.5 | 1026.7 | 1021.9 | 1026.7 | 1020.3 | 1026.7 | 1025.1 | 1028.3 |
| 20° | 1009.0 | 1012.3 | 1009.0 | 1009.0 | 1005.8 | 1007.4 | 1007.4 | 1007.4 | 1002.6 | 1001.0 | 1004.2 |
| 22.5° | 989.8 | 989.8 | 986.5 | 989.8 | 986.5 | 984.9 | 993.0 | 980.1 | 993.0 | 981.7 | 991.4 |
| 25° | 975.3 | 967.3 | 962.4 | 960.8 | 967.3 | 960.8 | 964.0 | 959.2 | 962.4 | 959.2 | 960.8 |
| 27.5° | 941.6 | 936.7 | 935.1 | 936.7 | 936.7 | 935.1 | 941.6 | 923.9 | 935.1 | 933.5 | 933.5 |
| 30° | 906.2 | 906.2 | 909.4 | 906.2 | 909.4 | 904.6 | 911.0 | 896.6 | 906.2 | 904.6 | 906.2 |
| 32.5° | 874.1 | 875.7 | 875.7 | 878.9 | 874.1 | 875.7 | 875.7 | 870.9 | 874.1 | 875.7 | 872.5 |
| 35° | 846.8 | 838.7 | 838.7 | 838.7 | 838.7 | 838.7 | 841.9 | 837.1 | 841.9 | 838.7 | 838.7 |
| 37.5° | 808.2 | 800.2 | 800.2 | 798.6 | 806.6 | 801.8 | 809.8 | 803.4 | 803.4 | 806.6 | 806.6 |
| 40° | 761.6 | 764.8 | 760.0 | 766.4 | 764.8 | 758.4 | 772.8 | 763.2 | 769.6 | 761.6 | 768.0 |
| 42.5° | 719.8 | 721.4 | 719.8 | 718.2 | 724.6 | 723.0 | 729.5 | 723.0 | 721.4 | 721.4 | 732.7 |
| 45° | 674.8 | 674.8 | 674.8 | 679.7 | 674.8 | 676.4 | 682.9 | 679.7 | 682.9 | 681.3 | 692.5 |
| 47.5° | 637.9 | 629.8 | 628.2 | 637.9 | 636.3 | 637.9 | 637.9 | 639.5 | 641.1 | 637.9 | 642.7 |
| 50° | 584.9 | 581.6 | 581.6 | 583.2 | 584.9 | 588.1 | 592.9 | 596.1 | 592.9 | 597.7 | 599.3 |
| 52.5° | 533.4 | 530.2 | 531.8 | 538.3 | 541.5 | 539.9 | 547.9 | 549.5 | 547.9 | 551.1 | 551.1 |
| 55° | 474.0 | 470.8 | 475.6 | 483.6 | 488.5 | 493.3 | 501.3 | 494.9 | 501.3 | 502.9 | 504.5 |
| 57.5° | 412.9 | 411.3 | 412.9 | 421.0 | 425.8 | 437.0 | 449.9 | 449.9 | 456.3 | 451.5 | 456.3 |
| 60° | 345.5 | 345.5 | 351.9 | 356.7 | 369.6 | 377.6 | 390.4 | 396.9 | 403.3 | 409.7 | 406.5 |
| 62.5° | 281.2 | 282.8 | 287.6 | 298.9 | 306.9 | 318.1 | 332.6 | 339.0 | 350.3 | 356.7 | 353.5 |
| 65° | 223.3 | 223.3 | 226.6 | 236.2 | 244.2 | 258.7 | 271.5 | 286.0 | 292.4 | 295.6 | 297.2 |
| 67.5° | 167.1 | 165.5 | 171.9 | 178.3 | 186.4 | 200.8 | 215.3 | 223.3 | 234.6 | 237.8 | 236.2 |
| 70° | 112.5 | 114.1 | 117.3 | 123.7 | 133.4 | 144.6 | 160.7 | 167.1 | 173.5 | 176.7 | 173.5 |
| 72.5° | 70.7 | 70.7 | 72.3 | 78.7 | 85.2 | 93.2 | 104.4 | 110.9 | 118.9 | 120.5 | 117.3 |
| 75° | 32.1 | 32.1 | 35.3 | 38.6 | 43.4 | 49.8 | 57.8 | 62.7 | 67.5 | 72.3 | 72.3 |
| 77.5° | 6.4 | 8.0 | 9.6 | 9.6 | 12.9 | 17.7 | 22.5 | 27.3 | 32.1 | 32.1 | 32.1 |
| 80° | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 3.2 | 4.8 | 8.0 | 8.0 | 8.0 |
| 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° | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 | 1089.4 |
| 2.5° | 1089.4 | 1099.0 | 1089.4 | 1084.6 | 1091.0 | 1089.4 | 1084.6 | 1086.2 |
| 5° | 1084.6 | 1087.8 | 1091.0 | 1078.1 | 1086.2 | 1087.8 | 1084.6 | 1081.3 |
| 7.5° | 1079.7 | 1081.3 | 1079.7 | 1076.5 | 1076.5 | 1076.5 | 1079.7 | 1079.7 |
| 10° | 1078.1 | 1073.3 | 1065.3 | 1060.5 | 1065.3 | 1065.3 | 1063.7 | 1076.5 |
| 12.5° | 1057.2 | 1063.7 | 1058.8 | 1049.2 | 1058.8 | 1057.2 | 1057.2 | 1060.5 |
| 15° | 1041.2 | 1041.2 | 1044.4 | 1031.5 | 1038.0 | 1036.4 | 1036.4 | 1039.6 |
| 17.5° | 1025.1 | 1025.1 | 1023.5 | 1020.3 | 1018.7 | 1023.5 | 1018.7 | 1026.7 |
| 20° | 1002.6 | 1005.8 | 1015.5 | 999.4 | 1004.2 | 999.4 | 999.4 | 989.8 |
| 22.5° | 975.3 | 991.4 | 983.3 | 981.7 | 980.1 | 981.7 | 984.9 | 973.7 |
| 25° | 957.6 | 957.6 | 960.8 | 951.2 | 951.2 | 954.4 | 952.8 | 949.6 |
| 27.5° | 933.5 | 931.9 | 930.3 | 927.1 | 935.1 | 928.7 | 928.7 | 928.7 |
| 30° | 899.8 | 904.6 | 903.0 | 895.0 | 904.6 | 901.4 | 896.6 | 886.9 |
| 32.5° | 870.9 | 877.3 | 867.6 | 866.0 | 864.4 | 866.0 | 867.6 | 859.6 |
| 35° | 835.5 | 837.1 | 837.1 | 830.7 | 832.3 | 830.7 | 827.5 | 829.1 |
| 37.5° | 803.4 | 801.8 | 793.7 | 790.5 | 792.1 | 792.1 | 793.7 | 790.5 |
| 40° | 758.4 | 763.2 | 763.2 | 752.0 | 755.2 | 752.0 | 752.0 | 750.4 |
| 42.5° | 721.4 | 723.0 | 718.2 | 713.4 | 713.4 | 711.8 | 708.6 | 711.8 |
| 45° | 682.9 | 681.3 | 676.4 | 671.6 | 671.6 | 670.0 | 666.8 | 673.2 |
| 47.5° | 639.5 | 636.3 | 634.7 | 628.2 | 628.2 | 618.6 | 620.2 | 626.6 |
| 50° | 596.1 | 592.9 | 586.5 | 583.2 | 578.4 | 573.6 | 572.0 | 572.0 |
| 52.5° | 544.7 | 544.7 | 538.3 | 531.8 | 530.2 | 527.0 | 523.8 | 525.4 |
| 55° | 499.7 | 499.7 | 494.9 | 483.6 | 477.2 | 469.2 | 464.4 | 462.7 |
| 57.5° | 448.3 | 445.1 | 435.4 | 422.6 | 416.1 | 409.7 | 404.9 | 404.9 |
| 60° | 396.9 | 388.8 | 379.2 | 367.9 | 356.7 | 345.5 | 342.2 | 340.6 |
| 62.5° | 340.6 | 332.6 | 314.9 | 302.1 | 294.0 | 287.6 | 281.2 | 286.0 |
| 65° | 284.4 | 273.1 | 257.1 | 244.2 | 236.2 | 226.6 | 221.7 | 221.7 |
| 67.5° | 224.9 | 213.7 | 197.6 | 184.8 | 176.7 | 170.3 | 163.9 | 163.9 |
| 70° | 165.5 | 157.5 | 143.0 | 131.8 | 125.3 | 115.7 | 114.1 | 114.1 |
| 72.5° | 112.5 | 102.8 | 91.6 | 83.6 | 77.1 | 70.7 | 67.5 | 65.9 |
| 75° | 62.7 | 56.2 | 48.2 | 43.4 | 37.0 | 33.7 | 30.5 | 30.5 |
| 77.5° | 25.7 | 20.9 | 16.1 | 12.9 | 9.6 | 8.0 | 6.4 | 8.0 |
| 80° | 4.8 | 3.2 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 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)