

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: P136724

Luminaire Tested: **LDSQ6A10D010TE ESQ6A10927 6LSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P136724
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23378)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ6A10D010TE ESQ6A10927 6LSQ1LI
Description: PORTFOLIO LED SQUARE 6 INCH 60 DEGREE CUTOFF RECESSED DOWNLIGHT
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 2700K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1074.1 lumens
Efficiency: N/A
Efficacy: 76.7 lumens/watt
Spacing Criteria (0/90/45): 0.92 / 0.93 / 0.95
Luminous Opening: Rectangular (W 0.46' x L: 0.46' x H: 0')
CIE Type: Direct

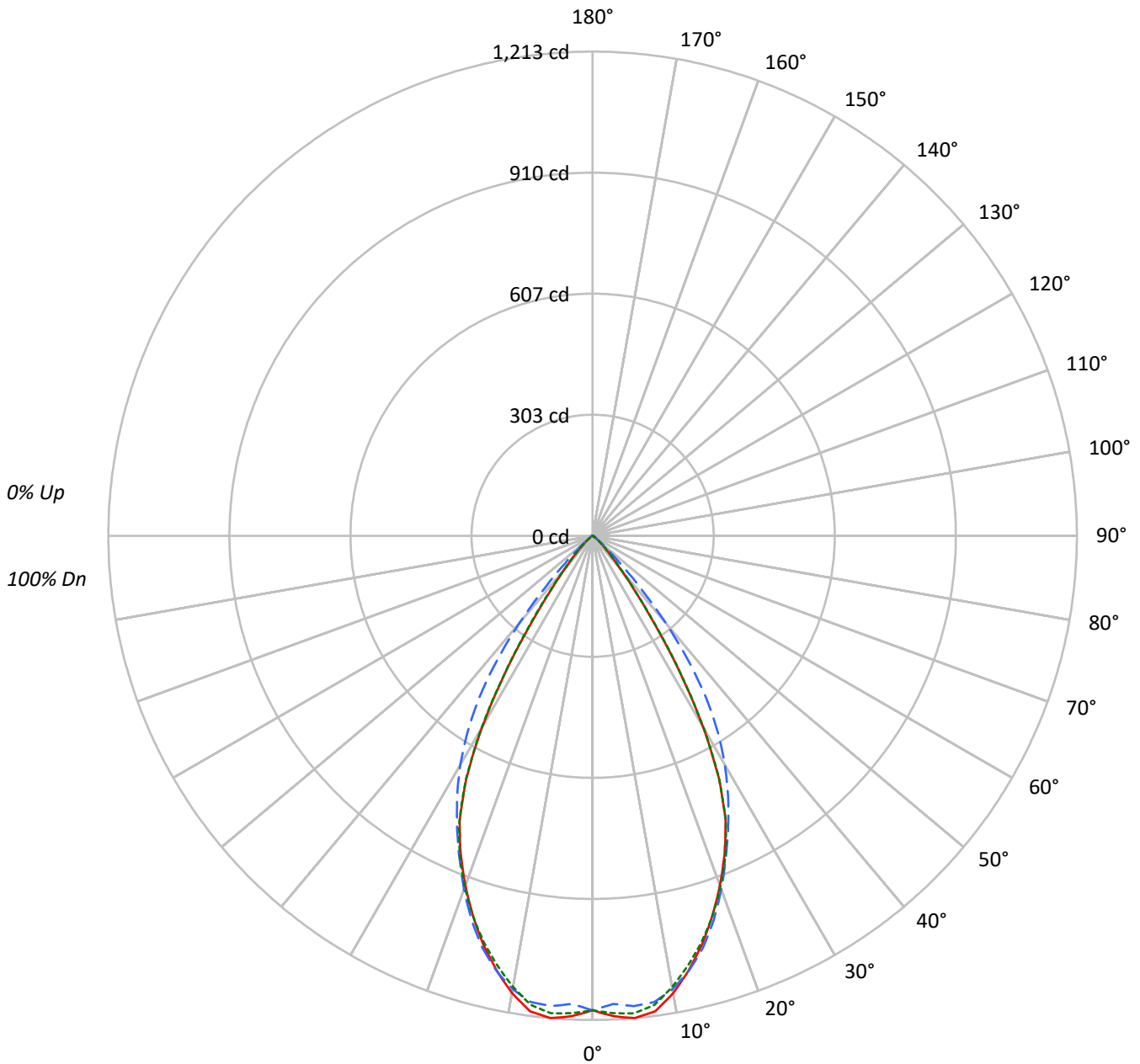
Input Watts (W): 14
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P136724

CATALOG NUMBER: LDSQ6A10D010TE ESQ6A10927 6LSQ1LI

Luminous Intensity Polar Plot





TEST NUMBER: P136724

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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 | 114 | 111 | 108 | 106 | 111 | 109 | 106 | 104 | 105 | 103 | 101 | 101 | 99 | 98 | 97 | 96 | 95 | 94 | | | | | | | | | | | | | | | | | | | |
| 2 | 108 | 103 | 99 | 96 | 106 | 101 | 98 | 95 | 98 | 95 | 93 | 95 | 93 | 91 | 92 | 91 | 89 | 87 | | | | | | | | | | | | | | | | | | | |
| 3 | 103 | 96 | 91 | 87 | 101 | 95 | 90 | 87 | 92 | 88 | 85 | 90 | 87 | 84 | 88 | 85 | 83 | 81 | | | | | | | | | | | | | | | | | | | |
| 4 | 97 | 90 | 84 | 80 | 96 | 89 | 84 | 80 | 87 | 82 | 79 | 85 | 81 | 78 | 83 | 80 | 77 | 75 | | | | | | | | | | | | | | | | | | | |
| 5 | 92 | 84 | 78 | 74 | 91 | 83 | 78 | 74 | 81 | 77 | 73 | 80 | 76 | 72 | 78 | 75 | 72 | 70 | | | | | | | | | | | | | | | | | | | |
| 6 | 88 | 79 | 73 | 69 | 86 | 78 | 73 | 69 | 77 | 72 | 68 | 75 | 71 | 68 | 74 | 70 | 67 | 66 | | | | | | | | | | | | | | | | | | | |
| 7 | 84 | 74 | 68 | 64 | 82 | 74 | 68 | 64 | 72 | 67 | 64 | 71 | 67 | 63 | 70 | 66 | 63 | 62 | | | | | | | | | | | | | | | | | | | |
| 8 | 79 | 70 | 64 | 60 | 78 | 69 | 64 | 60 | 68 | 63 | 60 | 67 | 63 | 59 | 66 | 62 | 59 | 58 | | | | | | | | | | | | | | | | | | | |
| 9 | 76 | 66 | 60 | 56 | 75 | 66 | 60 | 56 | 65 | 59 | 56 | 64 | 59 | 56 | 63 | 59 | 56 | 54 | | | | | | | | | | | | | | | | | | | |
| 10 | 72 | 62 | 57 | 53 | 71 | 62 | 56 | 53 | 61 | 56 | 53 | 60 | 56 | 52 | 60 | 55 | 52 | 51 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 60919 | 60919 | 60919 |
| 5° | 62386 | 60843 | 61764 |
| 10° | 60511 | 60017 | 59705 |
| 15° | 56193 | 56665 | 55901 |
| 20° | 50820 | 51344 | 51011 |
| 25° | 44523 | 45422 | 44636 |
| 30° | 32778 | 39216 | 32932 |
| 35° | 17033 | 30945 | 17402 |
| 40° | 7170 | 18983 | 7471 |
| 45° | 3283 | 7044 | 3399 |
| 50° | 1507 | 2104 | 1554 |
| 55° | 750 | 849 | 750 |
| 60° | 461 | 512 | 461 |
| 65° | 303 | 364 | 303 |
| 70° | 225 | 225 | 225 |
| 75° | 99 | 198 | 99 |
| 80° | 148 | 148 | 148 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 112.5 | 10.5 |
| 10°-20° | 295.8 | 27.5 |
| 20°-30° | 361.7 | 33.7 |
| 30°-40° | 232.4 | 21.6 |
| 40°-50° | 58.0 | 5.4 |
| 50°-60° | 9.7 | 0.9 |
| 60°-70° | 2.9 | 0.3 |
| 70°-80° | 0.9 | 0.1 |
| 80°-90° | 0.2 | 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° | 770.0 | 71.7 |
| 0°-40° | 1002.4 | 93.3 |
| 0°-60° | 1070.1 | 99.6 |
| 0°-90° | 1074.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1074.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1189 | 1189 | 1189 | 1189 | 1189 | |
| 5° | 1213 | 1187 | 1183 | 1184 | 1201 | 114 |
| 15° | 1059 | 1065 | 1068 | 1056 | 1054 | 296 |
| 25° | 788 | 809 | 803 | 811 | 790 | 351 |
| 35° | 272 | 359 | 495 | 366 | 278 | 180 |
| 45° | 45 | 57 | 97 | 60 | 47 | 39 |
| 55° | 8 | 10 | 10 | 10 | 8 | 8 |
| 65° | 2 | 3 | 3 | 3 | 2 | 3 |
| 75° | 0 | 1 | 1 | 1 | 0 | 1 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P136724

CATALOG NUMBER: LDSQ6A10D010TE ESQ6A10927 6LSQ1LI

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 |
| 2.5° | 1204.9 | 1174.9 | 1198.4 | 1196.4 | 1176.4 | 1180.5 | 1183.9 | 1183.4 | 1182.9 | 1173.9 | 1194.9 |
| 5° | 1212.9 | 1182.4 | 1206.3 | 1203.4 | 1185.0 | 1188.9 | 1190.9 | 1191.9 | 1189.4 | 1182.9 | 1202.9 |
| 7.5° | 1201.4 | 1172.9 | 1195.9 | 1192.4 | 1178.0 | 1181.5 | 1182.9 | 1185.4 | 1181.9 | 1178.4 | 1197.3 |
| 10° | 1163.0 | 1139.1 | 1160.4 | 1158.0 | 1148.5 | 1152.5 | 1153.5 | 1157.5 | 1153.5 | 1153.5 | 1170.4 |
| 12.5° | 1114.1 | 1095.6 | 1115.1 | 1113.1 | 1109.6 | 1114.1 | 1112.6 | 1119.6 | 1113.6 | 1115.6 | 1131.1 |
| 15° | 1059.3 | 1047.3 | 1063.2 | 1062.8 | 1063.2 | 1066.7 | 1062.2 | 1067.3 | 1061.8 | 1068.2 | 1081.7 |
| 17.5° | 997.4 | 991.9 | 1004.4 | 1004.8 | 1008.9 | 1009.9 | 1002.9 | 1009.3 | 1001.4 | 1008.9 | 1020.4 |
| 20° | 932.0 | 933.1 | 943.1 | 941.6 | 947.6 | 944.5 | 934.5 | 941.0 | 933.1 | 941.6 | 950.5 |
| 22.5° | 863.3 | 871.7 | 877.2 | 876.2 | 884.2 | 880.2 | 867.8 | 870.7 | 862.7 | 872.2 | 877.7 |
| 25° | 787.5 | 796.9 | 801.0 | 801.0 | 809.4 | 807.9 | 796.9 | 801.9 | 794.4 | 803.4 | 806.4 |
| 27.5° | 684.2 | 696.2 | 699.1 | 705.2 | 719.6 | 722.6 | 718.2 | 728.1 | 725.1 | 734.6 | 733.6 |
| 30° | 554.0 | 566.0 | 570.5 | 582.5 | 605.9 | 619.9 | 627.4 | 646.8 | 651.8 | 662.8 | 657.3 |
| 32.5° | 408.4 | 418.4 | 424.9 | 442.8 | 473.8 | 502.2 | 527.7 | 556.6 | 572.0 | 583.9 | 574.0 |
| 35° | 272.3 | 279.8 | 286.8 | 309.2 | 341.6 | 377.0 | 413.9 | 455.3 | 481.8 | 494.7 | 481.2 |
| 37.5° | 171.0 | 176.1 | 180.6 | 197.0 | 222.9 | 255.8 | 295.2 | 342.6 | 379.0 | 394.5 | 377.5 |
| 40° | 107.2 | 110.3 | 112.7 | 122.6 | 138.6 | 158.6 | 192.0 | 231.9 | 269.3 | 283.8 | 267.8 |
| 42.5° | 68.9 | 70.3 | 71.8 | 77.3 | 85.7 | 98.2 | 116.7 | 141.6 | 167.5 | 177.5 | 167.1 |
| 45° | 45.3 | 45.9 | 46.4 | 49.4 | 53.9 | 59.9 | 69.3 | 80.8 | 93.3 | 97.2 | 92.7 |
| 47.5° | 29.9 | 29.9 | 30.4 | 32.4 | 34.9 | 38.4 | 41.9 | 44.9 | 48.8 | 50.9 | 48.4 |
| 50° | 18.9 | 19.5 | 19.9 | 21.5 | 23.0 | 24.4 | 25.4 | 25.4 | 26.4 | 26.4 | 25.9 |
| 52.5° | 11.5 | 11.5 | 11.9 | 12.5 | 14.5 | 16.0 | 16.0 | 15.0 | 15.0 | 15.0 | 14.5 |
| 55° | 8.4 | 8.4 | 8.4 | 9.0 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.0 |
| 57.5° | 6.5 | 6.5 | 6.5 | 7.0 | 7.0 | 7.0 | 7.0 | 6.5 | 6.5 | 6.5 | 6.5 |
| 60° | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.5 |
| 62.5° | 3.5 | 3.5 | 3.5 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.5 | 3.5 |
| 65° | 2.5 | 2.5 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 67.5° | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.5 | 2.0 | 2.0 | 2.0 | 2.0 |
| 70° | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 72.5° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 75° | 0.5 | 0.5 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 77.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 80° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 82.5° | 0.0 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 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° | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 | 1188.9 |
| 2.5° | 1199.9 | 1201.4 | 1179.4 | 1183.9 | 1199.9 | 1183.9 | 1184.4 | 1197.3 |
| 5° | 1204.3 | 1203.9 | 1181.5 | 1186.9 | 1196.4 | 1185.0 | 1185.4 | 1200.8 |
| 7.5° | 1194.4 | 1189.9 | 1167.4 | 1173.9 | 1176.4 | 1168.4 | 1168.4 | 1185.4 |
| 10° | 1163.5 | 1155.9 | 1135.0 | 1141.5 | 1137.0 | 1132.1 | 1130.5 | 1147.5 |
| 12.5° | 1123.1 | 1114.6 | 1096.6 | 1102.6 | 1091.7 | 1091.7 | 1087.2 | 1102.6 |
| 15° | 1072.7 | 1065.2 | 1052.8 | 1059.7 | 1043.3 | 1046.8 | 1039.8 | 1053.8 |
| 17.5° | 1012.4 | 1007.4 | 1000.4 | 1008.9 | 989.4 | 995.4 | 985.9 | 997.9 |
| 20° | 943.1 | 940.6 | 939.6 | 948.0 | 928.1 | 938.0 | 927.1 | 935.5 |
| 22.5° | 871.3 | 871.3 | 876.7 | 888.2 | 866.2 | 877.2 | 864.2 | 869.3 |
| 25° | 800.4 | 801.0 | 807.4 | 815.4 | 794.0 | 803.4 | 788.9 | 789.5 |
| 27.5° | 725.1 | 720.6 | 727.6 | 726.1 | 699.1 | 704.7 | 689.2 | 686.2 |
| 30° | 642.3 | 628.8 | 623.9 | 609.9 | 579.5 | 578.5 | 562.6 | 556.6 |
| 32.5° | 551.5 | 526.1 | 510.7 | 482.2 | 443.3 | 434.4 | 419.9 | 412.9 |
| 35° | 450.8 | 412.5 | 384.5 | 347.1 | 308.7 | 295.7 | 284.3 | 278.2 |
| 37.5° | 340.1 | 296.2 | 264.3 | 228.4 | 201.0 | 190.5 | 181.0 | 177.1 |
| 40° | 231.9 | 194.5 | 167.1 | 143.1 | 126.1 | 119.7 | 114.2 | 111.7 |
| 42.5° | 143.1 | 119.2 | 103.3 | 88.8 | 79.3 | 75.8 | 73.3 | 71.8 |
| 45° | 81.8 | 70.8 | 63.8 | 55.8 | 51.4 | 49.4 | 47.9 | 46.9 |
| 47.5° | 45.3 | 42.4 | 39.9 | 36.4 | 33.4 | 31.9 | 31.4 | 30.9 |
| 50° | 25.4 | 25.9 | 25.9 | 24.0 | 22.4 | 20.9 | 19.9 | 19.5 |
| 52.5° | 15.0 | 16.0 | 16.4 | 15.0 | 12.9 | 11.9 | 11.9 | 11.5 |
| 55° | 9.5 | 9.5 | 9.5 | 9.5 | 9.0 | 8.4 | 8.4 | 8.4 |
| 57.5° | 6.5 | 6.5 | 7.0 | 7.0 | 7.0 | 6.5 | 6.5 | 6.0 |
| 60° | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.5 | 4.5 |
| 62.5° | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.5 | 3.5 | 3.5 |
| 65° | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 2.5 | 2.5 | 2.5 |
| 67.5° | 2.0 | 2.5 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 70° | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 72.5° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 75° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 |
| 77.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 80° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 82.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.0 | 0.5 |
| 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)