

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: P209322

Luminaire Tested: **LDSQ6B15D010 EU6B10209027 6LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209322
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: LDSQ6B15D010 EU6B10209027 6LBSQ1LI
Description: PORTFOLIO LD6 SERIES 6" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-14.39 W DE010-14.29 W D5LT-14.34 W DMX-14.46 W DL2-15.8 W
DL3-15.28 W DLE-15.432 W
Light Source: HIGH LUMEN LED 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1195.0 lumens
Efficiency: N/A
Efficacy: 83.0 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

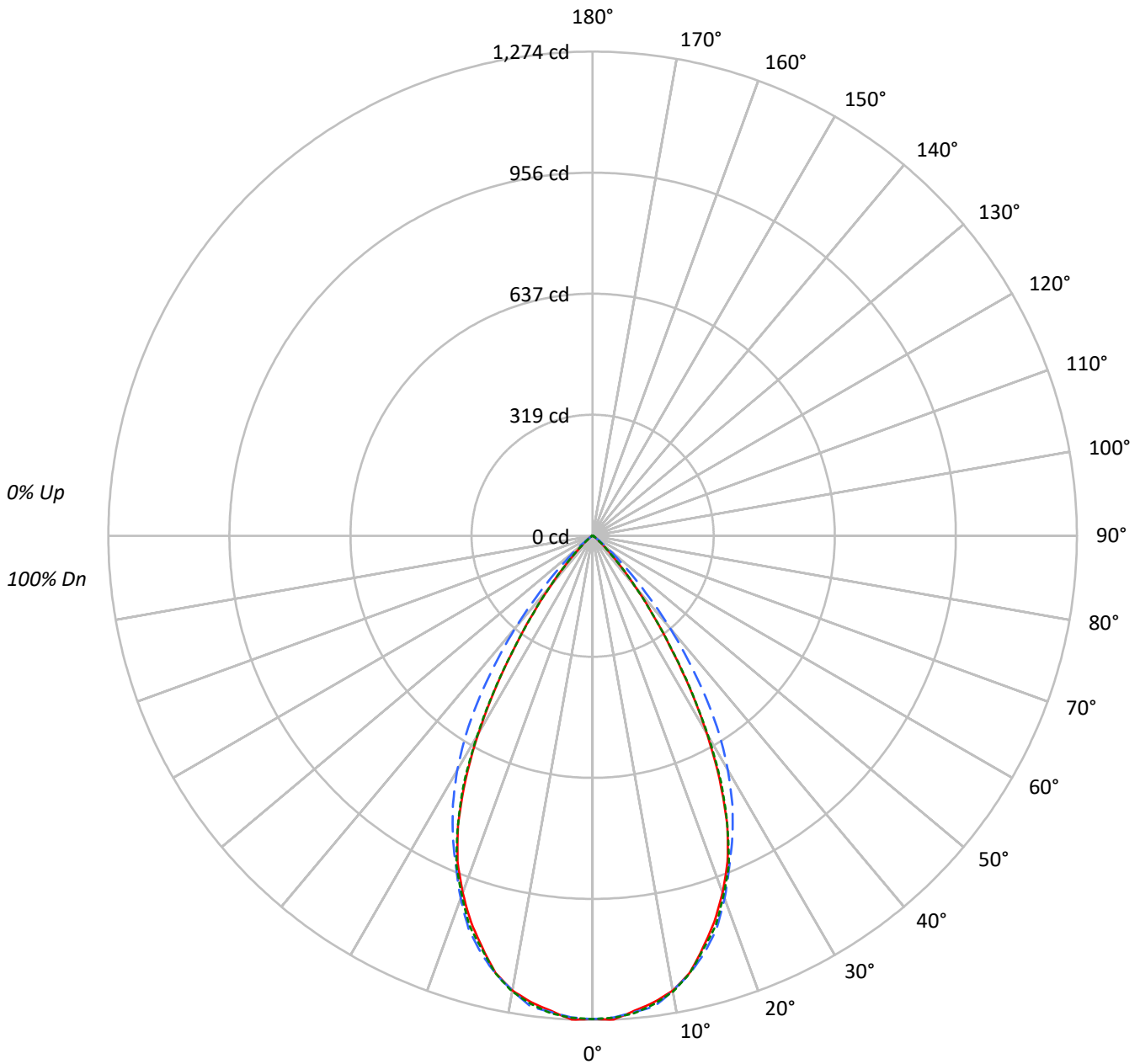
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| 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 | 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° | 119.1 | 10.0 |
| 10°-20° | 316.7 | 26.5 |
| 20°-30° | 388.7 | 32.5 |
| 30°-40° | 268.3 | 22.5 |
| 40°-50° | 83.9 | 7.0 |
| 50°-60° | 13.1 | 1.1 |
| 60°-70° | 3.8 | 0.3 |
| 70°-80° | 1.2 | 0.1 |
| 80°-90° | 0.3 | 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° | 824.4 | 69.0 |
| 0°-40° | 1092.7 | 91.4 |
| 0°-60° | 1189.7 | 99.6 |
| 0°-90° | 1195.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1195.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1272 | 1272 | 1272 | 1272 | 1272 | |
| 5° | 1255 | 1260 | 1258 | 1258 | 1261 | 119 |
| 15° | 1122 | 1138 | 1136 | 1135 | 1126 | 314 |
| 25° | 837 | 859 | 870 | 865 | 838 | 375 |
| 35° | 353 | 418 | 518 | 422 | 355 | 226 |
| 45° | 66 | 91 | 146 | 90 | 68 | 60 |
| 55° | 11 | 12 | 14 | 12 | 10 | 11 |
| 65° | 3 | 4 | 3 | 4 | 3 | 4 |
| 75° | 1 | 1 | 1 | 1 | 1 | 1 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | 0 |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 |
| 2.5° | 1274.1 | 1256.4 | 1267.7 | 1265.3 | 1271.7 | 1275.7 | 1271.7 | 1278.9 | 1274.1 | 1268.5 | 1270.1 |
| 5° | 1254.8 | 1257.2 | 1256.4 | 1258.0 | 1259.6 | 1259.6 | 1267.7 | 1268.5 | 1270.1 | 1258.0 | 1261.2 |
| 7.5° | 1238.0 | 1238.0 | 1242.0 | 1240.4 | 1246.0 | 1244.4 | 1245.2 | 1251.6 | 1252.4 | 1249.2 | 1246.8 |
| 10° | 1214.8 | 1211.6 | 1207.6 | 1207.6 | 1214.8 | 1215.6 | 1222.0 | 1222.8 | 1227.6 | 1214.8 | 1216.4 |
| 12.5° | 1178.7 | 1177.1 | 1170.7 | 1173.9 | 1179.5 | 1176.3 | 1186.7 | 1187.5 | 1185.9 | 1180.3 | 1183.5 |
| 15° | 1121.8 | 1128.2 | 1126.6 | 1125.8 | 1138.6 | 1137.0 | 1136.2 | 1138.6 | 1139.5 | 1136.2 | 1133.8 |
| 17.5° | 1064.9 | 1070.5 | 1071.3 | 1072.9 | 1075.3 | 1077.8 | 1081.0 | 1089.8 | 1086.6 | 1084.2 | 1092.2 |
| 20° | 999.2 | 996.8 | 1003.2 | 1009.6 | 1012.0 | 1012.0 | 1016.9 | 1023.3 | 1018.5 | 1015.2 | 1016.1 |
| 22.5° | 927.9 | 931.9 | 928.7 | 935.1 | 938.3 | 942.3 | 947.1 | 952.7 | 948.7 | 939.9 | 950.3 |
| 25° | 837.4 | 839.8 | 850.2 | 849.4 | 854.2 | 863.8 | 871.0 | 871.0 | 871.0 | 870.2 | 870.2 |
| 27.5° | 723.6 | 722.0 | 734.8 | 743.6 | 755.6 | 770.9 | 780.5 | 795.7 | 798.1 | 795.7 | 790.1 |
| 30° | 601.8 | 600.2 | 616.2 | 627.4 | 649.1 | 656.3 | 682.7 | 697.1 | 712.4 | 711.6 | 707.5 |
| 32.5° | 475.2 | 478.4 | 491.2 | 507.2 | 524.9 | 547.3 | 572.1 | 604.2 | 617.8 | 621.0 | 613.8 |
| 35° | 353.4 | 358.2 | 370.2 | 383.8 | 405.5 | 430.3 | 464.8 | 495.2 | 518.4 | 518.4 | 512.8 |
| 37.5° | 254.8 | 256.4 | 267.6 | 276.4 | 298.9 | 321.3 | 351.0 | 392.6 | 407.1 | 412.7 | 407.1 |
| 40° | 173.9 | 173.9 | 180.3 | 189.9 | 208.3 | 227.6 | 254.8 | 286.1 | 306.9 | 315.7 | 306.1 |
| 42.5° | 110.6 | 112.2 | 117.0 | 123.4 | 137.0 | 153.8 | 174.7 | 197.9 | 213.1 | 219.6 | 210.7 |
| 45° | 66.5 | 68.1 | 72.1 | 76.9 | 85.7 | 96.2 | 110.6 | 127.4 | 140.2 | 145.8 | 141.8 |
| 47.5° | 40.1 | 41.7 | 43.3 | 46.5 | 52.9 | 60.1 | 67.3 | 76.9 | 84.9 | 85.7 | 84.1 |
| 50° | 23.2 | 23.2 | 24.8 | 27.2 | 30.4 | 34.5 | 38.5 | 44.1 | 46.5 | 49.7 | 46.5 |
| 52.5° | 15.2 | 15.2 | 15.2 | 16.0 | 17.6 | 19.2 | 20.8 | 24.0 | 25.6 | 25.6 | 24.8 |
| 55° | 11.2 | 11.2 | 11.2 | 11.2 | 12.0 | 12.0 | 12.0 | 12.8 | 13.6 | 13.6 | 13.6 |
| 57.5° | 8.0 | 8.0 | 8.0 | 8.8 | 8.8 | 8.8 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| 60° | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 5.6 | 5.6 | 5.6 |
| 62.5° | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 |
| 65° | 3.2 | 3.2 | 3.2 | 4.0 | 4.0 | 4.0 | 4.0 | 3.2 | 3.2 | 3.2 | 3.2 |
| 67.5° | 2.4 | 2.4 | 2.4 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 2.4 | 2.4 | 2.4 |
| 70° | 1.6 | 1.6 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| 72.5° | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 75° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 77.5° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 80° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82.5° | 0.0 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 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° | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 | 1271.7 |
| 2.5° | 1274.9 | 1270.9 | 1270.9 | 1270.9 | 1269.3 | 1270.9 | 1273.3 | 1269.3 |
| 5° | 1261.2 | 1262.9 | 1255.6 | 1261.2 | 1263.7 | 1259.6 | 1269.3 | 1261.2 |
| 7.5° | 1249.2 | 1246.8 | 1235.6 | 1243.6 | 1248.4 | 1250.0 | 1249.2 | 1242.8 |
| 10° | 1225.2 | 1219.6 | 1214.8 | 1214.8 | 1213.2 | 1212.4 | 1221.2 | 1218.0 |
| 12.5° | 1181.9 | 1185.9 | 1178.7 | 1182.7 | 1179.5 | 1180.3 | 1181.1 | 1179.5 |
| 15° | 1145.1 | 1141.1 | 1131.4 | 1137.8 | 1133.8 | 1129.8 | 1137.8 | 1125.8 |
| 17.5° | 1087.4 | 1086.6 | 1081.0 | 1076.9 | 1078.6 | 1077.8 | 1081.8 | 1076.1 |
| 20° | 1019.3 | 1020.9 | 1017.7 | 1016.1 | 1013.6 | 1008.0 | 1012.8 | 1006.4 |
| 22.5° | 945.5 | 947.1 | 950.3 | 943.9 | 944.7 | 936.7 | 943.9 | 936.7 |
| 25° | 871.0 | 870.2 | 866.2 | 863.0 | 854.2 | 845.4 | 843.8 | 838.2 |
| 27.5° | 789.3 | 783.7 | 774.1 | 763.6 | 750.0 | 738.0 | 737.2 | 733.2 |
| 30° | 699.5 | 687.5 | 669.9 | 653.1 | 632.2 | 613.8 | 613.8 | 607.4 |
| 32.5° | 605.0 | 577.7 | 553.7 | 532.9 | 505.6 | 495.2 | 484.8 | 479.2 |
| 35° | 492.0 | 468.0 | 439.1 | 404.7 | 391.8 | 366.2 | 367.8 | 355.0 |
| 37.5° | 385.4 | 355.8 | 328.5 | 300.5 | 278.1 | 266.0 | 259.6 | 253.2 |
| 40° | 286.1 | 257.2 | 227.6 | 209.1 | 189.1 | 178.7 | 174.7 | 173.1 |
| 42.5° | 195.5 | 171.5 | 152.2 | 137.0 | 126.6 | 115.4 | 112.2 | 110.6 |
| 45° | 127.4 | 113.8 | 96.2 | 84.1 | 76.9 | 70.5 | 70.5 | 68.1 |
| 47.5° | 76.1 | 67.3 | 58.5 | 50.5 | 45.7 | 41.7 | 40.1 | 39.3 |
| 50° | 42.5 | 37.7 | 32.9 | 29.6 | 26.4 | 24.0 | 23.2 | 23.2 |
| 52.5° | 23.2 | 20.8 | 19.2 | 16.8 | 15.2 | 15.2 | 15.2 | 14.4 |
| 55° | 12.0 | 12.0 | 12.0 | 12.0 | 11.2 | 11.2 | 11.2 | 10.4 |
| 57.5° | 8.0 | 8.0 | 8.8 | 8.8 | 8.8 | 8.0 | 8.0 | 8.0 |
| 60° | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| 62.5° | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 |
| 65° | 3.2 | 4.0 | 4.0 | 4.0 | 4.0 | 3.2 | 3.2 | 3.2 |
| 67.5° | 2.4 | 3.2 | 3.2 | 3.2 | 2.4 | 2.4 | 2.4 | 2.4 |
| 70° | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 1.6 | 1.6 | 1.6 |
| 72.5° | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 75° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 77.5° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 80° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82.5° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 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)