

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: P209413

Luminaire Tested: **LDSQ6B10D010 EU6B10209030 6LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209413
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: LDSQ6B10D010 EU6B10209030 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-10.05 W DE010-10.58 W D5LT-10.2 W DMX-10.6 W DL2-11.8 W DL3-11.1 W DLE-11.39 W
Light Source: HIGH LUMEN LED 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 986.0 lumens
Efficiency: N/A
Efficacy: 98.1 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

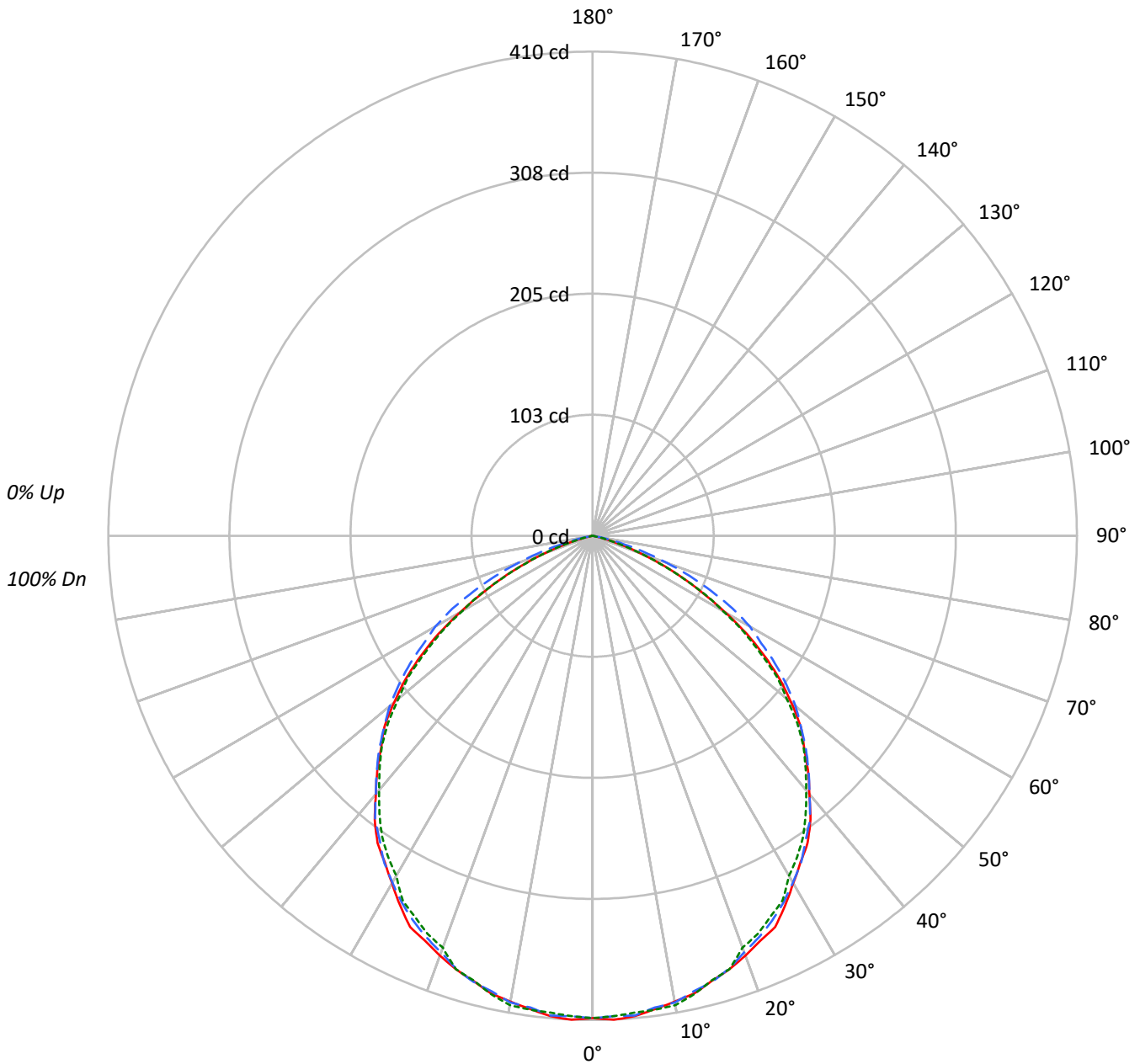
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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° | 38.6 | 3.9 |
| 10°-20° | 110.1 | 11.2 |
| 20°-30° | 165.7 | 16.8 |
| 30°-40° | 196.1 | 19.9 |
| 40°-50° | 195.7 | 19.8 |
| 50°-60° | 162.3 | 16.5 |
| 60°-70° | 94.8 | 9.6 |
| 70°-80° | 22.6 | 2.3 |
| 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° | 314.5 | 31.9 |
| 0°-40° | 510.6 | 51.8 |
| 0°-60° | 868.5 | 88.1 |
| 0°-90° | 986.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 986.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 408 | 408 | 408 | 408 | 408 | |
| 5° | 408 | 406 | 408 | 407 | 405 | 39 |
| 15° | 390 | 390 | 391 | 389 | 390 | 110 |
| 25° | 366 | 361 | 360 | 358 | 356 | 167 |
| 35° | 317 | 314 | 314 | 313 | 311 | 197 |
| 45° | 253 | 253 | 255 | 253 | 252 | 196 |
| 55° | 178 | 184 | 188 | 183 | 174 | 158 |
| 65° | 84 | 94 | 111 | 94 | 83 | 83 |
| 75° | 12 | 18 | 27 | 17 | 11 | 16 |
| 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° | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 |
| 2.5° | 410.2 | 407.8 | 409.6 | 406.0 | 408.4 | 406.0 | 406.6 | 405.4 | 407.8 | 407.2 | 406.6 |
| 5° | 408.4 | 409.0 | 407.8 | 409.0 | 407.2 | 405.4 | 407.2 | 406.0 | 402.4 | 407.8 | 406.6 |
| 7.5° | 404.2 | 404.8 | 403.6 | 405.4 | 404.2 | 401.8 | 406.6 | 403.0 | 402.4 | 403.0 | 405.4 |
| 10° | 400.6 | 401.8 | 401.2 | 400.6 | 401.2 | 401.2 | 400.0 | 398.2 | 400.0 | 401.2 | 400.6 |
| 12.5° | 397.0 | 398.8 | 397.6 | 396.4 | 395.1 | 395.7 | 397.0 | 393.9 | 393.9 | 395.1 | 398.8 |
| 15° | 390.3 | 391.5 | 392.1 | 389.7 | 389.7 | 390.3 | 392.7 | 387.9 | 390.3 | 390.9 | 391.5 |
| 17.5° | 384.9 | 385.5 | 385.5 | 383.7 | 384.9 | 383.1 | 384.9 | 382.5 | 384.9 | 384.3 | 385.5 |
| 20° | 378.3 | 379.5 | 378.3 | 378.3 | 377.1 | 377.7 | 377.7 | 377.7 | 375.9 | 375.3 | 376.5 |
| 22.5° | 371.1 | 371.1 | 369.8 | 371.1 | 369.8 | 369.2 | 372.3 | 367.4 | 372.3 | 368.0 | 371.7 |
| 25° | 365.6 | 362.6 | 360.8 | 360.2 | 362.6 | 360.2 | 361.4 | 359.6 | 360.8 | 359.6 | 360.2 |
| 27.5° | 353.0 | 351.2 | 350.6 | 351.2 | 351.2 | 350.6 | 353.0 | 346.4 | 350.6 | 350.0 | 350.0 |
| 30° | 339.7 | 339.7 | 340.9 | 339.7 | 340.9 | 339.1 | 341.5 | 336.1 | 339.7 | 339.1 | 339.7 |
| 32.5° | 327.7 | 328.3 | 328.3 | 329.5 | 327.7 | 328.3 | 328.3 | 326.5 | 327.7 | 328.3 | 327.1 |
| 35° | 317.4 | 314.4 | 314.4 | 314.4 | 314.4 | 314.4 | 315.6 | 313.8 | 315.6 | 314.4 | 314.4 |
| 37.5° | 303.0 | 300.0 | 300.0 | 299.4 | 302.4 | 300.6 | 303.6 | 301.2 | 301.2 | 302.4 | 302.4 |
| 40° | 285.5 | 286.7 | 284.9 | 287.3 | 286.7 | 284.3 | 289.7 | 286.1 | 288.5 | 285.5 | 287.9 |
| 42.5° | 269.9 | 270.5 | 269.9 | 269.3 | 271.7 | 271.1 | 273.5 | 271.1 | 270.5 | 270.5 | 274.7 |
| 45° | 253.0 | 253.0 | 253.0 | 254.8 | 253.0 | 253.6 | 256.0 | 254.8 | 256.0 | 255.4 | 259.6 |
| 47.5° | 239.1 | 236.1 | 235.5 | 239.1 | 238.5 | 239.1 | 239.1 | 239.7 | 240.3 | 239.1 | 240.9 |
| 50° | 219.3 | 218.1 | 218.1 | 218.7 | 219.3 | 220.5 | 222.3 | 223.5 | 222.3 | 224.1 | 224.7 |
| 52.5° | 200.0 | 198.8 | 199.4 | 201.8 | 203.0 | 202.4 | 205.4 | 206.0 | 205.4 | 206.6 | 206.6 |
| 55° | 177.7 | 176.5 | 178.3 | 181.3 | 183.1 | 184.9 | 187.9 | 185.5 | 187.9 | 188.5 | 189.1 |
| 57.5° | 154.8 | 154.2 | 154.8 | 157.8 | 159.6 | 163.8 | 168.7 | 168.7 | 171.1 | 169.3 | 171.1 |
| 60° | 129.5 | 129.5 | 131.9 | 133.7 | 138.5 | 141.6 | 146.4 | 148.8 | 151.2 | 153.6 | 152.4 |
| 62.5° | 105.4 | 106.0 | 107.8 | 112.0 | 115.1 | 119.3 | 124.7 | 127.1 | 131.3 | 133.7 | 132.5 |
| 65° | 83.7 | 83.7 | 84.9 | 88.5 | 91.6 | 97.0 | 101.8 | 107.2 | 109.6 | 110.8 | 111.4 |
| 67.5° | 62.6 | 62.0 | 64.5 | 66.9 | 69.9 | 75.3 | 80.7 | 83.7 | 87.9 | 89.1 | 88.5 |
| 70° | 42.2 | 42.8 | 44.0 | 46.4 | 50.0 | 54.2 | 60.2 | 62.6 | 65.1 | 66.3 | 65.1 |
| 72.5° | 26.5 | 26.5 | 27.1 | 29.5 | 31.9 | 34.9 | 39.2 | 41.6 | 44.6 | 45.2 | 44.0 |
| 75° | 12.0 | 12.0 | 13.3 | 14.5 | 16.3 | 18.7 | 21.7 | 23.5 | 25.3 | 27.1 | 27.1 |
| 77.5° | 2.4 | 3.0 | 3.6 | 3.6 | 4.8 | 6.6 | 8.4 | 10.2 | 12.0 | 12.0 | 12.0 |
| 80° | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 1.2 | 1.8 | 3.0 | 3.0 | 3.0 |
| 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° | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 | 408.4 |
| 2.5° | 408.4 | 412.0 | 408.4 | 406.6 | 409.0 | 408.4 | 406.6 | 407.2 |
| 5° | 406.6 | 407.8 | 409.0 | 404.2 | 407.2 | 407.8 | 406.6 | 405.4 |
| 7.5° | 404.8 | 405.4 | 404.8 | 403.6 | 403.6 | 403.6 | 404.8 | 404.8 |
| 10° | 404.2 | 402.4 | 399.4 | 397.6 | 399.4 | 399.4 | 398.8 | 403.6 |
| 12.5° | 396.4 | 398.8 | 397.0 | 393.3 | 397.0 | 396.4 | 396.4 | 397.6 |
| 15° | 390.3 | 390.3 | 391.5 | 386.7 | 389.1 | 388.5 | 388.5 | 389.7 |
| 17.5° | 384.3 | 384.3 | 383.7 | 382.5 | 381.9 | 383.7 | 381.9 | 384.9 |
| 20° | 375.9 | 377.1 | 380.7 | 374.7 | 376.5 | 374.7 | 374.7 | 371.1 |
| 22.5° | 365.6 | 371.7 | 368.6 | 368.0 | 367.4 | 368.0 | 369.2 | 365.0 |
| 25° | 359.0 | 359.0 | 360.2 | 356.6 | 356.6 | 357.8 | 357.2 | 356.0 |
| 27.5° | 350.0 | 349.4 | 348.8 | 347.6 | 350.6 | 348.2 | 348.2 | 348.2 |
| 30° | 337.3 | 339.1 | 338.5 | 335.5 | 339.1 | 337.9 | 336.1 | 332.5 |
| 32.5° | 326.5 | 328.9 | 325.3 | 324.7 | 324.1 | 324.7 | 325.3 | 322.3 |
| 35° | 313.2 | 313.8 | 313.8 | 311.4 | 312.0 | 311.4 | 310.2 | 310.8 |
| 37.5° | 301.2 | 300.6 | 297.6 | 296.4 | 297.0 | 297.0 | 297.6 | 296.4 |
| 40° | 284.3 | 286.1 | 286.1 | 281.9 | 283.1 | 281.9 | 281.9 | 281.3 |
| 42.5° | 270.5 | 271.1 | 269.3 | 267.4 | 267.4 | 266.8 | 265.6 | 266.8 |
| 45° | 256.0 | 255.4 | 253.6 | 251.8 | 251.8 | 251.2 | 250.0 | 252.4 |
| 47.5° | 239.7 | 238.5 | 237.9 | 235.5 | 235.5 | 231.9 | 232.5 | 234.9 |
| 50° | 223.5 | 222.3 | 219.9 | 218.7 | 216.8 | 215.0 | 214.4 | 214.4 |
| 52.5° | 204.2 | 204.2 | 201.8 | 199.4 | 198.8 | 197.6 | 196.4 | 197.0 |
| 55° | 187.3 | 187.3 | 185.5 | 181.3 | 178.9 | 175.9 | 174.1 | 173.5 |
| 57.5° | 168.1 | 166.9 | 163.2 | 158.4 | 156.0 | 153.6 | 151.8 | 151.8 |
| 60° | 148.8 | 145.8 | 142.2 | 137.9 | 133.7 | 129.5 | 128.3 | 127.7 |
| 62.5° | 127.7 | 124.7 | 118.1 | 113.2 | 110.2 | 107.8 | 105.4 | 107.2 |
| 65° | 106.6 | 102.4 | 96.4 | 91.6 | 88.5 | 84.9 | 83.1 | 83.1 |
| 67.5° | 84.3 | 80.1 | 74.1 | 69.3 | 66.3 | 63.8 | 61.4 | 61.4 |
| 70° | 62.0 | 59.0 | 53.6 | 49.4 | 47.0 | 43.4 | 42.8 | 42.8 |
| 72.5° | 42.2 | 38.6 | 34.3 | 31.3 | 28.9 | 26.5 | 25.3 | 24.7 |
| 75° | 23.5 | 21.1 | 18.1 | 16.3 | 13.9 | 12.6 | 11.4 | 11.4 |
| 77.5° | 9.6 | 7.8 | 6.0 | 4.8 | 3.6 | 3.0 | 2.4 | 3.0 |
| 80° | 1.8 | 1.2 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 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 |



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









(END OF REPORT)