

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: P251919

Luminaire Tested: **LD4B15D010 EU4B10209730 4LBDW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251919  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-15)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B15D010 EU4B10209730 4LBDW1H  
Description: PORTFOLIO 4 INCH DOUBLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 97CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 963.0 lumens  
Efficiency: N/A  
Efficacy: 66.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

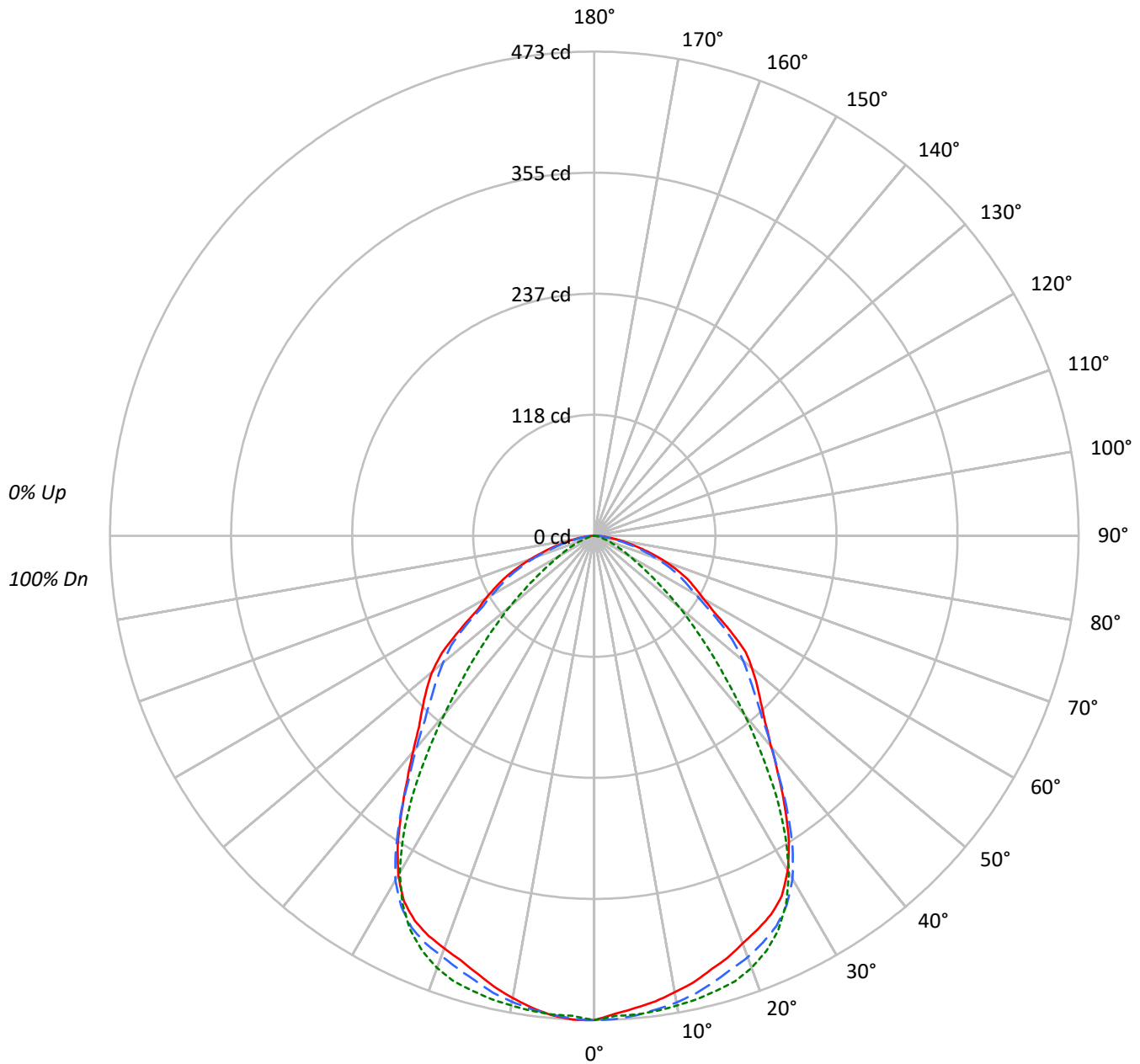
Input Watts (W): 14.39  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |  | 20  |     |     |  | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |  | 30  |     |     |  | 10  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 111 | 107 | 103 | 100 | 108 | 104 | 101 | 98  | 100 | 98  | 95  |  | 96  | 94  | 92  |  | 93  |
| 2   | 102 | 95  | 89  | 84  | 100 | 93  | 88  | 83  | 90  | 85  | 81  |  | 87  | 83  | 80  |  | 84  |
| 3   | 94  | 85  | 78  | 72  | 92  | 84  | 77  | 72  | 81  | 75  | 70  |  | 78  | 73  | 69  |  | 76  |
| 4   | 87  | 77  | 69  | 63  | 85  | 75  | 68  | 62  | 73  | 67  | 62  |  | 71  | 65  | 61  |  | 69  |
| 5   | 81  | 69  | 61  | 55  | 79  | 68  | 61  | 55  | 66  | 60  | 54  |  | 64  | 58  | 54  |  | 63  |
| 6   | 75  | 63  | 55  | 49  | 73  | 62  | 55  | 49  | 60  | 54  | 49  |  | 59  | 53  | 48  |  | 57  |
| 7   | 70  | 58  | 50  | 44  | 68  | 57  | 49  | 44  | 56  | 49  | 44  |  | 54  | 48  | 43  |  | 53  |
| 8   | 66  | 53  | 45  | 40  | 64  | 52  | 45  | 40  | 51  | 44  | 40  |  | 50  | 44  | 39  |  | 49  |
| 9   | 62  | 49  | 41  | 36  | 60  | 49  | 41  | 36  | 47  | 41  | 36  |  | 46  | 40  | 36  |  | 45  |
| 10  | 58  | 46  | 38  | 33  | 57  | 45  | 38  | 33  | 44  | 38  | 33  |  | 43  | 37  | 33  |  | 42  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 46117 | 46117 | 46117 |
| 5°  | 45295 | 45931 | 46010 |
| 10° | 44810 | 46106 | 45384 |
| 15° | 44293 | 46422 | 44657 |
| 20° | 43943 | 46588 | 44472 |
| 25° | 43917 | 45712 | 44615 |
| 30° | 42516 | 42763 | 43090 |
| 35° | 38631 | 36811 | 38976 |
| 40° | 34172 | 28994 | 35012 |
| 45° | 31700 | 22080 | 32706 |
| 50° | 30460 | 16329 | 31339 |
| 55° | 27577 | 11248 | 27220 |
| 60° | 23975 | 7660  | 23838 |
| 65° | 23176 | 5535  | 22000 |
| 70° | 20944 | 3733  | 18664 |
| 75° | 17284 | 2485  | 14798 |
| 80° | 13919 | 1628  | 11056 |
| 85° | 11406 | 783   | 7380  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 44.7   | 4.6       |
| 10°-20°   | 127.7  | 13.3      |
| 20°-30°   | 192.9  | 20.0      |
| 30°-40°   | 201.9  | 21.0      |
| 40°-50°   | 163.5  | 17.0      |
| 50°-60°   | 119.0  | 12.4      |
| 60°-70°   | 73.4   | 7.6       |
| 70°-80°   | 33.2   | 3.4       |
| 80°-90°   | 6.7    | 0.7       |
| 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°    | 365.3  | 37.9      |
| 0°-40°    | 567.3  | 58.9      |
| 0°-60°    | 849.7  | 88.2      |
| 0°-90°    | 963.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 963.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 473 | 473 | 473 | 473  | 473  |      |
| 5°  | 463 | 470 | 470 | 470  | 470  | 44   |
| 15° | 439 | 451 | 460 | 450  | 443  | 124  |
| 25° | 408 | 421 | 425 | 422  | 415  | 187  |
| 35° | 325 | 329 | 309 | 329  | 328  | 202  |
| 45° | 230 | 223 | 160 | 226  | 237  | 179  |
| 55° | 162 | 152 | 66  | 154  | 160  | 145  |
| 65° | 100 | 90  | 24  | 89   | 95   | 98   |
| 75° | 46  | 39  | 7   | 34   | 39   | 50   |
| 85° | 10  | 8   | 1   | 6    | 7    | 12   |
| 90° | 0   | 0   | 0   | 0    | 0    |      |



TEST NUMBER: P251919

CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBDW1H

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 5°    | 10°   | 15°   | 20°   | 22.5° | 25°   | 30°   | 35°   | 40°   | 45°   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 |
| 2.5°  | 467.4 | 467.4 | 471.7 | 476.8 | 472.5 | 468.1 | 471.0 | 469.5 | 474.6 | 474.6 | 472.5 |
| 5°    | 463.0 | 464.4 | 468.1 | 472.5 | 468.8 | 464.4 | 468.1 | 466.6 | 471.7 | 471.7 | 470.3 |
| 7.5°  | 458.6 | 459.3 | 463.7 | 468.8 | 465.2 | 460.8 | 463.7 | 463.0 | 467.4 | 468.1 | 466.6 |
| 10°   | 452.8 | 453.5 | 457.9 | 463.0 | 459.3 | 455.7 | 458.6 | 457.9 | 463.7 | 463.7 | 463.0 |
| 12.5° | 447.0 | 447.7 | 452.1 | 456.4 | 452.8 | 449.2 | 452.1 | 452.1 | 457.9 | 458.6 | 457.9 |
| 15°   | 439.0 | 440.4 | 444.1 | 448.4 | 446.2 | 441.9 | 444.8 | 444.8 | 449.9 | 451.3 | 451.3 |
| 17.5° | 432.4 | 433.1 | 436.8 | 441.1 | 438.2 | 434.6 | 437.5 | 437.5 | 442.6 | 444.1 | 444.1 |
| 20°   | 423.7 | 425.1 | 428.8 | 433.1 | 431.0 | 428.0 | 430.2 | 430.2 | 436.1 | 437.5 | 438.2 |
| 22.5° | 416.4 | 417.9 | 420.8 | 426.6 | 423.0 | 420.8 | 423.7 | 423.0 | 429.5 | 430.2 | 430.2 |
| 25°   | 408.4 | 409.8 | 413.5 | 417.1 | 414.9 | 412.8 | 414.9 | 414.9 | 420.0 | 420.8 | 420.8 |
| 27.5° | 396.7 | 397.5 | 401.1 | 404.8 | 402.6 | 399.7 | 402.6 | 401.8 | 406.9 | 407.7 | 406.9 |
| 30°   | 377.8 | 379.3 | 380.7 | 385.8 | 383.6 | 381.5 | 384.4 | 382.9 | 388.0 | 388.0 | 387.3 |
| 32.5° | 353.8 | 353.8 | 356.7 | 360.3 | 357.4 | 356.0 | 358.2 | 358.9 | 362.5 | 362.5 | 360.3 |
| 35°   | 324.7 | 326.1 | 328.3 | 330.5 | 328.3 | 326.9 | 329.0 | 328.3 | 332.7 | 331.2 | 329.0 |
| 37.5° | 295.6 | 296.3 | 298.5 | 301.4 | 298.5 | 296.3 | 297.0 | 296.3 | 299.9 | 299.9 | 296.3 |
| 40°   | 268.6 | 270.1 | 271.5 | 274.4 | 271.5 | 270.1 | 270.8 | 268.6 | 273.0 | 271.5 | 269.3 |
| 42.5° | 246.8 | 247.5 | 249.7 | 251.1 | 248.2 | 247.5 | 248.2 | 246.8 | 249.0 | 247.5 | 243.1 |
| 45°   | 230.0 | 230.0 | 230.8 | 233.0 | 230.0 | 229.3 | 229.3 | 227.9 | 230.0 | 227.1 | 222.8 |
| 47.5° | 215.5 | 216.2 | 216.9 | 218.4 | 216.2 | 214.0 | 214.8 | 211.8 | 213.3 | 211.1 | 205.3 |
| 50°   | 200.9 | 202.4 | 203.1 | 204.6 | 202.4 | 200.9 | 201.6 | 198.7 | 198.7 | 195.1 | 190.0 |
| 52.5° | 186.4 | 187.1 | 186.4 | 187.8 | 186.4 | 184.2 | 184.9 | 182.0 | 182.0 | 177.6 | 172.5 |
| 55°   | 162.3 | 163.1 | 163.8 | 165.2 | 163.8 | 161.6 | 163.1 | 160.9 | 160.9 | 158.0 | 152.1 |
| 57.5° | 138.3 | 139.0 | 139.8 | 140.5 | 140.5 | 139.0 | 139.8 | 138.3 | 137.6 | 135.4 | 131.0 |
| 60°   | 123.0 | 123.0 | 123.0 | 123.8 | 123.0 | 122.3 | 122.3 | 120.8 | 120.8 | 117.9 | 113.6 |
| 62.5° | 111.4 | 112.1 | 112.1 | 112.8 | 112.1 | 111.4 | 110.7 | 109.2 | 108.5 | 105.6 | 101.9 |
| 65°   | 100.5 | 100.5 | 99.7  | 101.2 | 100.5 | 99.7  | 99.7  | 98.3  | 96.8  | 93.9  | 90.3  |
| 67.5° | 87.4  | 88.1  | 87.4  | 88.1  | 88.1  | 87.4  | 86.6  | 85.2  | 84.4  | 82.3  | 77.9  |
| 70°   | 73.5  | 73.5  | 73.5  | 74.3  | 73.5  | 73.5  | 74.3  | 72.1  | 71.3  | 68.4  | 64.8  |
| 72.5° | 59.7  | 60.4  | 60.4  | 59.7  | 60.4  | 59.0  | 59.0  | 59.0  | 58.2  | 55.3  | 51.7  |
| 75°   | 45.9  | 46.6  | 46.6  | 47.3  | 46.6  | 45.9  | 45.9  | 45.1  | 44.4  | 42.2  | 39.3  |
| 77.5° | 34.2  | 34.2  | 34.9  | 34.9  | 34.9  | 34.2  | 34.2  | 32.8  | 32.8  | 31.3  | 28.4  |
| 80°   | 24.8  | 24.8  | 24.0  | 24.8  | 24.8  | 24.0  | 24.0  | 23.3  | 23.3  | 21.8  | 19.7  |
| 82.5° | 16.0  | 16.7  | 16.7  | 16.7  | 16.7  | 16.0  | 16.0  | 16.0  | 15.3  | 14.6  | 13.1  |
| 85°   | 10.2  | 10.2  | 10.2  | 10.2  | 10.9  | 10.2  | 10.9  | 10.2  | 10.2  | 8.7   | 8.0   |
| 87.5° | 4.4   | 4.4   | 4.4   | 5.1   | 5.1   | 4.4   | 4.4   | 4.4   | 4.4   | 4.4   | 3.6   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



TEST NUMBER: P251919

CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBDW1H

**CANDELA DISTRIBUTION (continued):**

|       | 50°   | 55°   | 60°   | 65°   | 67.5° | 70°   | 75°   | 80°   | 85°   | 90°   | 95°   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 |
| 2.5°  | 472.5 | 473.2 | 471.0 | 473.9 | 471.7 | 472.5 | 473.2 | 472.5 | 469.5 | 469.5 | 477.5 |
| 5°    | 469.5 | 471.0 | 468.8 | 472.5 | 471.0 | 471.0 | 472.5 | 471.7 | 468.8 | 469.5 | 476.8 |
| 7.5°  | 466.6 | 468.8 | 467.4 | 471.0 | 468.8 | 468.8 | 470.3 | 470.3 | 467.4 | 468.1 | 474.6 |
| 10°   | 462.3 | 465.2 | 464.4 | 468.1 | 465.9 | 465.9 | 468.1 | 468.1 | 465.2 | 465.9 | 472.5 |
| 12.5° | 458.6 | 461.5 | 460.8 | 464.4 | 463.0 | 463.7 | 464.4 | 465.9 | 462.3 | 463.7 | 469.5 |
| 15°   | 452.8 | 455.7 | 455.7 | 459.3 | 457.9 | 459.3 | 460.8 | 463.0 | 460.1 | 460.1 | 465.9 |
| 17.5° | 446.2 | 449.9 | 449.9 | 452.8 | 452.8 | 453.5 | 456.4 | 458.6 | 455.7 | 456.4 | 461.5 |
| 20°   | 439.0 | 443.3 | 443.3 | 447.0 | 446.2 | 447.7 | 449.9 | 452.1 | 449.2 | 449.2 | 455.0 |
| 22.5° | 431.7 | 435.3 | 436.1 | 438.2 | 438.2 | 439.0 | 441.1 | 442.6 | 439.0 | 439.0 | 444.8 |
| 25°   | 421.5 | 425.1 | 425.9 | 427.3 | 425.9 | 425.9 | 427.3 | 428.8 | 425.1 | 425.1 | 430.2 |
| 27.5° | 407.7 | 411.3 | 411.3 | 410.6 | 409.1 | 409.8 | 409.1 | 409.8 | 406.2 | 405.5 | 410.6 |
| 30°   | 387.3 | 389.5 | 389.5 | 388.7 | 386.6 | 386.6 | 384.4 | 385.1 | 380.0 | 380.0 | 384.4 |
| 32.5° | 359.6 | 361.8 | 360.3 | 358.9 | 356.0 | 354.5 | 353.1 | 352.3 | 347.2 | 347.2 | 352.3 |
| 35°   | 326.9 | 328.3 | 326.1 | 323.2 | 319.6 | 317.4 | 315.2 | 312.3 | 308.7 | 309.4 | 312.3 |
| 37.5° | 293.4 | 293.4 | 290.5 | 284.6 | 281.7 | 278.1 | 274.4 | 274.4 | 268.6 | 267.9 | 270.1 |
| 40°   | 265.0 | 262.1 | 257.0 | 249.0 | 243.9 | 240.2 | 235.1 | 232.2 | 227.9 | 227.9 | 231.5 |
| 42.5° | 239.5 | 233.7 | 227.1 | 216.2 | 211.1 | 206.7 | 200.2 | 197.3 | 192.2 | 191.5 | 193.6 |
| 45°   | 216.9 | 211.1 | 201.6 | 190.0 | 183.4 | 178.4 | 168.9 | 165.2 | 160.9 | 160.2 | 161.6 |
| 47.5° | 198.7 | 192.2 | 180.5 | 165.2 | 158.7 | 152.1 | 142.7 | 137.6 | 133.9 | 131.8 | 133.9 |
| 50°   | 182.7 | 174.0 | 161.6 | 145.6 | 136.9 | 131.0 | 119.4 | 114.3 | 109.2 | 107.7 | 108.5 |
| 52.5° | 165.2 | 156.5 | 143.4 | 126.7 | 118.7 | 109.9 | 99.0  | 91.7  | 87.4  | 85.2  | 87.4  |
| 55°   | 146.3 | 137.6 | 124.5 | 107.7 | 99.0  | 91.0  | 79.3  | 73.5  | 68.4  | 66.2  | 68.4  |
| 57.5° | 125.9 | 117.9 | 106.3 | 89.5  | 81.5  | 74.3  | 63.3  | 57.5  | 52.4  | 51.0  | 52.4  |
| 60°   | 108.5 | 101.9 | 90.3  | 74.3  | 67.7  | 59.7  | 50.2  | 44.4  | 40.0  | 39.3  | 40.0  |
| 62.5° | 96.8  | 89.5  | 78.6  | 63.3  | 56.8  | 50.2  | 41.5  | 35.7  | 32.0  | 31.3  | 32.0  |
| 65°   | 85.2  | 77.2  | 67.0  | 53.9  | 47.3  | 42.2  | 33.5  | 28.4  | 24.8  | 24.0  | 24.8  |
| 67.5° | 72.1  | 64.8  | 56.1  | 44.4  | 39.3  | 34.2  | 26.9  | 21.8  | 18.9  | 18.2  | 18.9  |
| 70°   | 59.7  | 53.1  | 44.4  | 35.7  | 30.6  | 26.9  | 20.4  | 16.7  | 13.8  | 13.1  | 13.8  |
| 72.5° | 47.3  | 41.5  | 34.2  | 26.9  | 24.0  | 20.4  | 16.0  | 12.4  | 10.2  | 9.5   | 10.2  |
| 75°   | 36.4  | 32.0  | 26.2  | 19.7  | 17.5  | 15.3  | 10.9  | 8.7   | 7.3   | 6.6   | 7.3   |
| 77.5° | 25.5  | 22.6  | 18.2  | 14.6  | 12.4  | 10.9  | 8.0   | 5.8   | 5.1   | 4.4   | 5.1   |
| 80°   | 17.5  | 15.3  | 12.4  | 9.5   | 8.0   | 6.6   | 5.1   | 3.6   | 2.9   | 2.9   | 2.9   |
| 82.5° | 11.6  | 9.5   | 7.3   | 5.8   | 5.1   | 4.4   | 2.9   | 2.2   | 2.2   | 1.5   | 1.5   |
| 85°   | 6.6   | 5.8   | 4.4   | 3.6   | 2.9   | 2.2   | 1.5   | 1.5   | 0.7   | 0.7   | 0.7   |
| 87.5° | 2.9   | 2.2   | 1.5   | 1.5   | 0.7   | 0.7   | 0.7   | 0.7   | 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   |



TEST NUMBER: P251919

CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBDW1H

**CANDELA DISTRIBUTION (continued):**

|       | 100°  | 105°  | 110°  | 112.5° | 115°  | 120°  | 125°  | 130°  | 135°  | 140°  | 145°  |
|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 473.2 | 473.2 | 473.2 | 473.2  | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 |
| 2.5°  | 475.4 | 473.2 | 476.1 | 473.2  | 471.7 | 473.2 | 471.7 | 476.1 | 472.5 | 469.5 | 472.5 |
| 5°    | 474.6 | 471.7 | 474.6 | 472.5  | 470.3 | 471.0 | 469.5 | 473.9 | 469.5 | 467.4 | 468.8 |
| 7.5°  | 473.2 | 471.0 | 472.5 | 470.3  | 468.1 | 468.8 | 467.4 | 471.0 | 466.6 | 464.4 | 465.9 |
| 10°   | 471.0 | 468.8 | 469.5 | 468.1  | 465.9 | 465.9 | 464.4 | 467.4 | 462.3 | 459.3 | 460.8 |
| 12.5° | 468.1 | 465.2 | 466.6 | 464.4  | 461.5 | 461.5 | 460.1 | 462.3 | 457.2 | 454.3 | 455.0 |
| 15°   | 464.4 | 461.5 | 461.5 | 459.3  | 456.4 | 456.4 | 453.5 | 455.7 | 449.9 | 447.0 | 447.0 |
| 17.5° | 460.1 | 456.4 | 456.4 | 454.3  | 450.6 | 449.9 | 447.7 | 449.9 | 443.3 | 440.4 | 440.4 |
| 20°   | 453.5 | 450.6 | 449.9 | 448.4  | 444.8 | 444.1 | 441.1 | 441.9 | 436.8 | 434.6 | 433.9 |
| 22.5° | 444.8 | 441.9 | 442.6 | 440.4  | 437.5 | 436.8 | 433.9 | 436.1 | 431.0 | 428.8 | 429.5 |
| 25°   | 429.5 | 428.0 | 429.5 | 428.8  | 426.6 | 426.6 | 425.1 | 426.6 | 422.2 | 420.8 | 421.5 |
| 27.5° | 412.0 | 411.3 | 412.0 | 412.0  | 410.6 | 410.6 | 410.6 | 412.8 | 408.4 | 407.7 | 407.7 |
| 30°   | 386.6 | 386.6 | 387.3 | 388.0  | 388.0 | 389.5 | 388.7 | 391.6 | 388.7 | 387.3 | 388.7 |
| 32.5° | 353.1 | 356.0 | 358.2 | 358.2  | 358.2 | 359.6 | 361.1 | 363.3 | 360.3 | 361.1 | 361.1 |
| 35°   | 315.2 | 317.4 | 318.9 | 322.5  | 320.3 | 325.4 | 326.9 | 329.8 | 329.0 | 330.5 | 329.8 |
| 37.5° | 273.0 | 275.9 | 278.8 | 283.9  | 283.2 | 289.0 | 291.9 | 297.7 | 296.3 | 299.2 | 300.7 |
| 40°   | 233.7 | 238.0 | 242.4 | 246.1  | 249.0 | 254.8 | 260.6 | 267.9 | 270.1 | 272.3 | 273.0 |
| 42.5° | 195.8 | 200.2 | 207.5 | 212.6  | 216.9 | 226.4 | 234.4 | 243.1 | 245.3 | 249.7 | 251.1 |
| 45°   | 165.2 | 168.9 | 177.6 | 184.2  | 187.8 | 201.6 | 211.1 | 222.0 | 225.7 | 230.8 | 233.0 |
| 47.5° | 136.9 | 143.4 | 152.1 | 160.2  | 165.2 | 179.8 | 192.2 | 203.8 | 208.9 | 214.8 | 217.7 |
| 50°   | 112.1 | 119.4 | 131.0 | 138.3  | 145.6 | 161.6 | 175.4 | 187.8 | 192.9 | 199.5 | 202.4 |
| 52.5° | 91.7  | 99.7  | 110.7 | 118.7  | 126.7 | 143.4 | 158.0 | 169.6 | 176.2 | 180.5 | 184.9 |
| 55°   | 72.1  | 80.8  | 91.7  | 100.5  | 107.0 | 125.2 | 137.6 | 149.2 | 153.6 | 157.2 | 159.4 |
| 57.5° | 56.1  | 62.6  | 73.5  | 80.8   | 88.8  | 104.8 | 117.2 | 125.9 | 129.6 | 133.9 | 135.4 |
| 60°   | 43.7  | 50.2  | 60.4  | 67.7   | 75.0  | 90.3  | 102.6 | 111.4 | 115.0 | 118.7 | 120.8 |
| 62.5° | 34.9  | 41.5  | 51.0  | 57.5   | 64.1  | 77.9  | 88.8  | 97.5  | 101.9 | 105.6 | 107.7 |
| 65°   | 27.7  | 33.5  | 41.5  | 48.0   | 53.1  | 65.5  | 76.4  | 84.4  | 88.8  | 92.5  | 94.6  |
| 67.5° | 21.8  | 26.9  | 34.2  | 38.6   | 43.7  | 53.9  | 63.3  | 70.6  | 74.3  | 78.6  | 80.8  |
| 70°   | 16.7  | 20.4  | 26.9  | 30.6   | 34.2  | 43.0  | 50.2  | 57.5  | 61.1  | 64.1  | 65.5  |
| 72.5° | 12.4  | 15.3  | 20.4  | 23.3   | 25.5  | 32.8  | 38.6  | 43.7  | 46.6  | 49.5  | 51.0  |
| 75°   | 8.7   | 10.9  | 14.6  | 16.7   | 18.2  | 23.3  | 28.4  | 32.0  | 34.2  | 36.4  | 38.6  |
| 77.5° | 5.8   | 7.3   | 9.5   | 10.9   | 12.4  | 16.0  | 18.9  | 21.8  | 24.0  | 26.2  | 26.9  |
| 80°   | 3.6   | 5.1   | 6.6   | 7.3    | 8.0   | 10.2  | 13.1  | 14.6  | 16.0  | 17.5  | 18.2  |
| 82.5° | 2.2   | 2.9   | 3.6   | 4.4    | 5.1   | 6.6   | 8.0   | 9.5   | 10.2  | 11.6  | 12.4  |
| 85°   | 0.7   | 1.5   | 1.5   | 2.2    | 2.2   | 3.6   | 4.4   | 5.1   | 5.8   | 6.6   | 7.3   |
| 87.5° | 0.0   | 0.0   | 0.7   | 0.7    | 0.7   | 0.7   | 1.5   | 1.5   | 1.5   | 1.5   | 1.5   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |





TEST NUMBER: P251919

CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBDW1H

**CANDELA DISTRIBUTION (continued):**

|       | 150°  | 155°  | 157.5° | 160°  | 165°  | 170°  | 175°  | 180°  |
|-------|-------|-------|--------|-------|-------|-------|-------|-------|
| 0°    | 473.2 | 473.2 | 473.2  | 473.2 | 473.2 | 473.2 | 473.2 | 473.2 |
| 2.5°  | 475.4 | 473.2 | 471.7  | 471.0 | 476.1 | 469.5 | 472.5 | 473.2 |
| 5°    | 472.5 | 470.3 | 468.8  | 468.1 | 472.5 | 466.6 | 468.8 | 470.3 |
| 7.5°  | 468.1 | 466.6 | 464.4  | 463.7 | 468.1 | 461.5 | 464.4 | 465.2 |
| 10°   | 463.0 | 460.8 | 459.3  | 458.6 | 462.3 | 455.7 | 458.6 | 458.6 |
| 12.5° | 456.4 | 455.0 | 452.1  | 452.1 | 455.0 | 449.2 | 451.3 | 451.3 |
| 15°   | 447.7 | 446.2 | 443.3  | 443.3 | 446.2 | 440.4 | 442.6 | 442.6 |
| 17.5° | 440.4 | 439.0 | 436.8  | 436.1 | 439.0 | 433.1 | 435.3 | 434.6 |
| 20°   | 434.6 | 433.1 | 430.2  | 430.2 | 432.4 | 426.6 | 428.8 | 428.8 |
| 22.5° | 429.5 | 428.8 | 425.9  | 425.9 | 428.8 | 423.0 | 424.4 | 423.0 |
| 25°   | 421.5 | 420.8 | 417.9  | 418.6 | 420.0 | 414.2 | 416.4 | 414.9 |
| 27.5° | 408.4 | 408.4 | 405.5  | 404.8 | 406.9 | 401.8 | 403.3 | 402.6 |
| 30°   | 388.0 | 388.7 | 385.1  | 385.1 | 385.8 | 381.5 | 383.6 | 382.9 |
| 32.5° | 360.3 | 361.1 | 358.2  | 357.4 | 359.6 | 356.0 | 357.4 | 357.4 |
| 35°   | 329.8 | 330.5 | 328.3  | 328.3 | 330.5 | 328.3 | 328.3 | 327.6 |
| 37.5° | 299.2 | 300.7 | 299.2  | 299.9 | 301.4 | 299.2 | 300.7 | 299.9 |
| 40°   | 274.4 | 275.9 | 273.7  | 275.2 | 276.6 | 274.4 | 276.6 | 275.2 |
| 42.5° | 251.9 | 254.1 | 252.6  | 254.1 | 255.5 | 254.1 | 255.5 | 253.3 |
| 45°   | 235.1 | 236.6 | 235.9  | 236.6 | 238.0 | 237.3 | 238.0 | 237.3 |
| 47.5° | 219.1 | 222.0 | 220.6  | 222.0 | 224.2 | 222.8 | 224.2 | 222.0 |
| 50°   | 204.6 | 206.7 | 206.0  | 207.5 | 208.2 | 207.5 | 208.9 | 206.7 |
| 52.5° | 185.6 | 187.8 | 187.1  | 187.1 | 188.5 | 187.1 | 188.5 | 187.1 |
| 55°   | 160.9 | 161.6 | 161.6  | 162.3 | 161.6 | 160.9 | 161.6 | 160.2 |
| 57.5° | 136.9 | 138.3 | 136.1  | 138.3 | 137.6 | 136.9 | 136.9 | 135.4 |
| 60°   | 121.6 | 123.8 | 122.3  | 123.8 | 123.0 | 123.0 | 123.0 | 122.3 |
| 62.5° | 109.2 | 110.7 | 109.2  | 109.9 | 109.9 | 109.9 | 109.2 | 108.5 |
| 65°   | 95.4  | 97.5  | 96.1   | 96.8  | 96.1  | 95.4  | 96.1  | 95.4  |
| 67.5° | 81.5  | 82.3  | 82.3   | 81.5  | 81.5  | 81.5  | 81.5  | 80.1  |
| 70°   | 66.2  | 67.0  | 66.2   | 67.7  | 67.0  | 66.2  | 67.0  | 65.5  |
| 72.5° | 51.7  | 52.4  | 51.7   | 52.4  | 51.7  | 51.7  | 51.7  | 51.7  |
| 75°   | 38.6  | 39.3  | 39.3   | 39.3  | 39.3  | 39.3  | 37.9  | 39.3  |
| 77.5° | 27.7  | 27.7  | 27.7   | 28.4  | 27.7  | 27.7  | 27.7  | 27.7  |
| 80°   | 18.9  | 18.9  | 18.9   | 19.7  | 18.9  | 19.7  | 18.9  | 19.7  |
| 82.5° | 12.4  | 12.4  | 12.4   | 12.4  | 12.4  | 12.4  | 12.4  | 12.4  |
| 85°   | 6.6   | 7.3   | 7.3    | 6.6   | 6.6   | 6.6   | 6.6   | 6.6   |
| 87.5° | 1.5   | 0.7   | 0.7    | 0.7   | 0.7   | 0.7   | 0.7   | 0.7   |
| 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)