

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: P251929

Luminaire Tested: **LD4B20D010 EU4B10209040 4LBDW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251929  
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: LD4B20D010 EU4B10209040 4LBDW1H  
Description: PORTFOLIO 4 INCH DOUBLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1517.0 lumens  
Efficiency: N/A  
Efficacy: 72.9 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

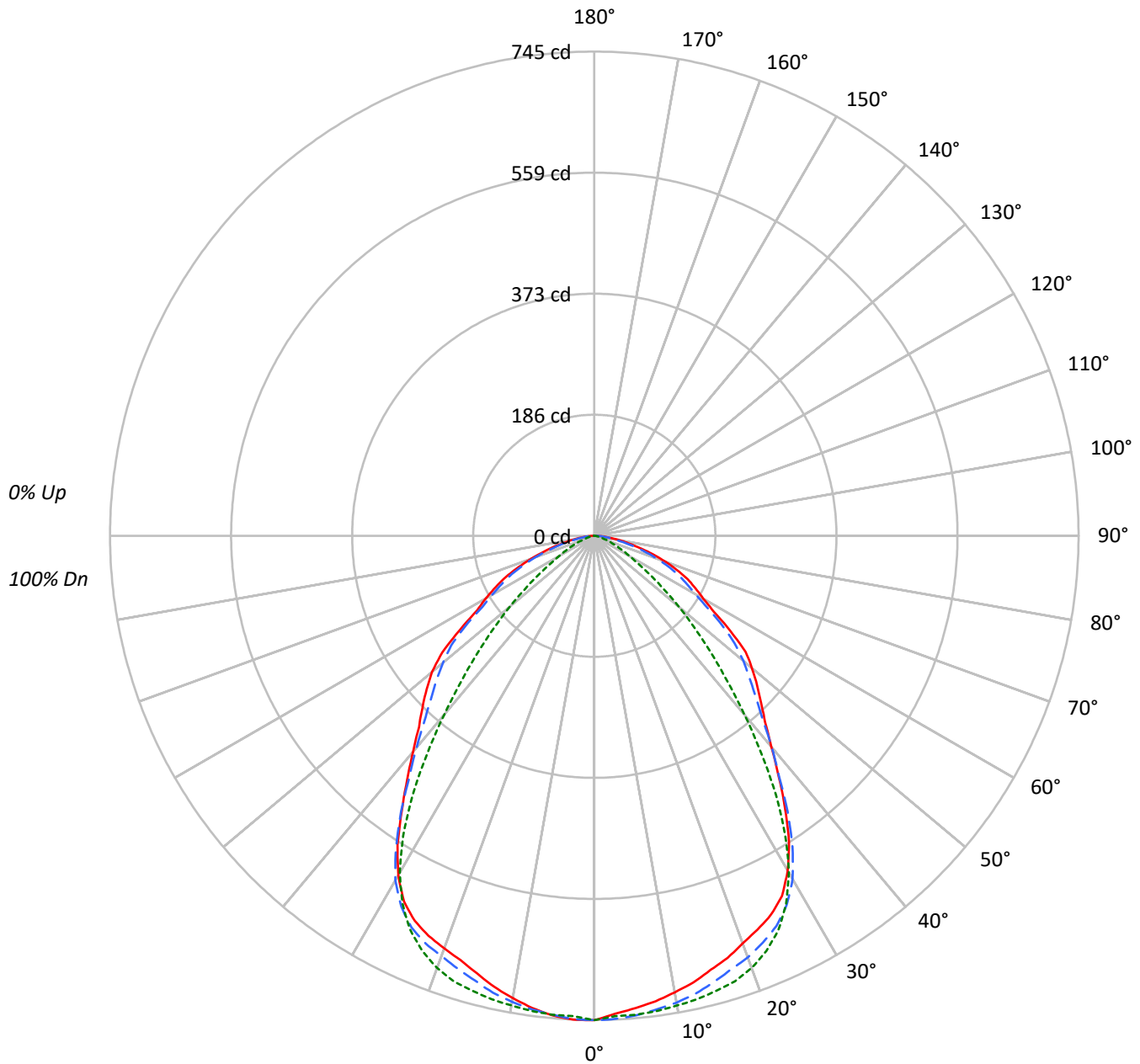
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 72645 | 72645 | 72645 |
| 5°  | 71348 | 72365 | 72473 |
| 10° | 70589 | 72628 | 71500 |
| 15° | 69770 | 73129 | 70345 |
| 20° | 69218 | 73387 | 70048 |
| 25° | 69176 | 72015 | 70294 |
| 30° | 66981 | 67363 | 67881 |
| 35° | 60855 | 57988 | 61391 |
| 40° | 53841 | 45660 | 55151 |
| 45° | 49948 | 34774 | 51520 |
| 50° | 47987 | 25730 | 49382 |
| 55° | 43447 | 17739 | 42869 |
| 60° | 37775 | 12065 | 37560 |
| 65° | 36505 | 8717  | 34637 |
| 70° | 32997 | 5870  | 29407 |
| 75° | 27187 | 3878  | 23308 |
| 80° | 21888 | 2582  | 17398 |
| 85° | 18003 | 1230  | 11518 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 70.4   | 4.6       |
| 10°-20°   | 201.2  | 13.3      |
| 20°-30°   | 303.9  | 20.0      |
| 30°-40°   | 318.1  | 21.0      |
| 40°-50°   | 257.6  | 17.0      |
| 50°-60°   | 187.4  | 12.4      |
| 60°-70°   | 115.6  | 7.6       |
| 70°-80°   | 52.2   | 3.4       |
| 80°-90°   | 10.6   | 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°    | 575.5  | 37.9      |
| 0°-40°    | 893.6  | 58.9      |
| 0°-60°    | 1338.6 | 88.2      |
| 0°-90°    | 1517.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1517.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 745 | 745 | 745 | 745  | 745  |      |
| 5°  | 729 | 741 | 740 | 740  | 741  | 69   |
| 15° | 692 | 711 | 725 | 709  | 697  | 195  |
| 25° | 643 | 663 | 670 | 665  | 654  | 295  |
| 35° | 512 | 518 | 487 | 518  | 516  | 319  |
| 45° | 362 | 351 | 252 | 356  | 374  | 282  |
| 55° | 256 | 240 | 104 | 242  | 252  | 228  |
| 65° | 158 | 142 | 38  | 140  | 150  | 155  |
| 75° | 72  | 62  | 10  | 54   | 62   | 78   |
| 85° | 16  | 13  | 1   | 9    | 10   | 18   |
| 90° | 0   | 0   | 0   | 0    | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 5°    | 10°   | 15°   | 20°   | 22.5° | 25°   | 30°   | 35°   | 40°   | 45°   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 |
| 2.5°  | 736.2 | 736.2 | 743.1 | 751.1 | 744.2 | 737.4 | 742.0 | 739.7 | 747.7 | 747.7 | 744.2 |
| 5°    | 729.3 | 731.6 | 737.4 | 744.2 | 738.5 | 731.6 | 737.4 | 735.1 | 743.1 | 743.1 | 740.8 |
| 7.5°  | 722.5 | 723.6 | 730.5 | 738.5 | 732.8 | 725.9 | 730.5 | 729.3 | 736.2 | 737.4 | 735.1 |
| 10°   | 713.3 | 714.4 | 721.3 | 729.3 | 723.6 | 717.9 | 722.5 | 721.3 | 730.5 | 730.5 | 729.3 |
| 12.5° | 704.1 | 705.3 | 712.1 | 719.0 | 713.3 | 707.6 | 712.1 | 712.1 | 721.3 | 722.5 | 721.3 |
| 15°   | 691.5 | 693.8 | 699.5 | 706.4 | 703.0 | 696.1 | 700.7 | 700.7 | 708.7 | 711.0 | 711.0 |
| 17.5° | 681.2 | 682.3 | 688.1 | 694.9 | 690.4 | 684.6 | 689.2 | 689.2 | 697.2 | 699.5 | 699.5 |
| 20°   | 667.4 | 669.7 | 675.4 | 682.3 | 678.9 | 674.3 | 677.7 | 677.7 | 686.9 | 689.2 | 690.4 |
| 22.5° | 655.9 | 658.2 | 662.8 | 672.0 | 666.3 | 662.8 | 667.4 | 666.3 | 676.6 | 677.7 | 677.7 |
| 25°   | 643.3 | 645.6 | 651.4 | 657.1 | 653.7 | 650.2 | 653.7 | 653.7 | 661.7 | 662.8 | 662.8 |
| 27.5° | 625.0 | 626.1 | 631.9 | 637.6 | 634.2 | 629.6 | 634.2 | 633.0 | 641.0 | 642.2 | 641.0 |
| 30°   | 595.2 | 597.5 | 599.8 | 607.8 | 604.3 | 600.9 | 605.5 | 603.2 | 611.2 | 611.2 | 610.1 |
| 32.5° | 557.3 | 557.3 | 561.9 | 567.6 | 563.1 | 560.8 | 564.2 | 565.4 | 571.1 | 571.1 | 567.6 |
| 35°   | 511.5 | 513.7 | 517.2 | 520.6 | 517.2 | 514.9 | 518.3 | 517.2 | 524.1 | 521.8 | 518.3 |
| 37.5° | 465.6 | 466.7 | 470.2 | 474.8 | 470.2 | 466.7 | 467.9 | 466.7 | 472.5 | 472.5 | 466.7 |
| 40°   | 423.2 | 425.4 | 427.7 | 432.3 | 427.7 | 425.4 | 426.6 | 423.2 | 430.0 | 427.7 | 424.3 |
| 42.5° | 388.8 | 389.9 | 393.3 | 395.6 | 391.0 | 389.9 | 391.0 | 388.8 | 392.2 | 389.9 | 383.0 |
| 45°   | 362.4 | 362.4 | 363.5 | 367.0 | 362.4 | 361.2 | 361.2 | 358.9 | 362.4 | 357.8 | 350.9 |
| 47.5° | 339.4 | 340.6 | 341.7 | 344.0 | 340.6 | 337.1 | 338.3 | 333.7 | 336.0 | 332.6 | 323.4 |
| 50°   | 316.5 | 318.8 | 319.9 | 322.2 | 318.8 | 316.5 | 317.7 | 313.1 | 313.1 | 307.3 | 299.3 |
| 52.5° | 293.6 | 294.7 | 293.6 | 295.9 | 293.6 | 290.1 | 291.3 | 286.7 | 286.7 | 279.8 | 271.8 |
| 55°   | 255.7 | 256.9 | 258.0 | 260.3 | 258.0 | 254.6 | 256.9 | 253.4 | 253.4 | 248.8 | 239.7 |
| 57.5° | 217.9 | 219.0 | 220.2 | 221.3 | 221.3 | 219.0 | 220.2 | 217.9 | 216.7 | 213.3 | 206.4 |
| 60°   | 193.8 | 193.8 | 193.8 | 194.9 | 193.8 | 192.7 | 192.7 | 190.4 | 190.4 | 185.8 | 178.9 |
| 62.5° | 175.5 | 176.6 | 176.6 | 177.7 | 176.6 | 175.5 | 174.3 | 172.0 | 170.9 | 166.3 | 160.5 |
| 65°   | 158.3 | 158.3 | 157.1 | 159.4 | 158.3 | 157.1 | 157.1 | 154.8 | 152.5 | 147.9 | 142.2 |
| 67.5° | 137.6 | 138.8 | 137.6 | 138.8 | 138.8 | 137.6 | 136.5 | 134.2 | 133.0 | 129.6 | 122.7 |
| 70°   | 115.8 | 115.8 | 115.8 | 117.0 | 115.8 | 115.8 | 117.0 | 113.5 | 112.4 | 107.8 | 102.1 |
| 72.5° | 94.0  | 95.2  | 95.2  | 94.0  | 95.2  | 92.9  | 92.9  | 92.9  | 91.7  | 87.2  | 81.4  |
| 75°   | 72.2  | 73.4  | 73.4  | 74.5  | 73.4  | 72.2  | 72.2  | 71.1  | 70.0  | 66.5  | 61.9  |
| 77.5° | 53.9  | 53.9  | 55.0  | 55.0  | 55.0  | 53.9  | 53.9  | 51.6  | 51.6  | 49.3  | 44.7  |
| 80°   | 39.0  | 39.0  | 37.8  | 39.0  | 39.0  | 37.8  | 37.8  | 36.7  | 36.7  | 34.4  | 31.0  |
| 82.5° | 25.2  | 26.4  | 26.4  | 26.4  | 26.4  | 25.2  | 25.2  | 25.2  | 24.1  | 22.9  | 20.6  |
| 85°   | 16.1  | 16.1  | 16.1  | 16.1  | 17.2  | 16.1  | 17.2  | 16.1  | 16.1  | 13.8  | 12.6  |
| 87.5° | 6.9   | 6.9   | 6.9   | 8.0   | 8.0   | 6.9   | 6.9   | 6.9   | 6.9   | 6.9   | 5.7   |
| 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):**

|       | 50°   | 55°   | 60°   | 65°   | 67.5° | 70°   | 75°   | 80°   | 85°   | 90°   | 95°   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 |
| 2.5°  | 744.2 | 745.4 | 742.0 | 746.5 | 743.1 | 744.2 | 745.4 | 744.2 | 739.7 | 739.7 | 752.3 |
| 5°    | 739.7 | 742.0 | 738.5 | 744.2 | 742.0 | 742.0 | 744.2 | 743.1 | 738.5 | 739.7 | 751.1 |
| 7.5°  | 735.1 | 738.5 | 736.2 | 742.0 | 738.5 | 738.5 | 740.8 | 740.8 | 736.2 | 737.4 | 747.7 |
| 10°   | 728.2 | 732.8 | 731.6 | 737.4 | 733.9 | 733.9 | 737.4 | 737.4 | 732.8 | 733.9 | 744.2 |
| 12.5° | 722.5 | 727.0 | 725.9 | 731.6 | 729.3 | 730.5 | 731.6 | 733.9 | 728.2 | 730.5 | 739.7 |
| 15°   | 713.3 | 717.9 | 717.9 | 723.6 | 721.3 | 723.6 | 725.9 | 729.3 | 724.8 | 724.8 | 733.9 |
| 17.5° | 703.0 | 708.7 | 708.7 | 713.3 | 713.3 | 714.4 | 719.0 | 722.5 | 717.9 | 719.0 | 727.0 |
| 20°   | 691.5 | 698.4 | 698.4 | 704.1 | 703.0 | 705.3 | 708.7 | 712.1 | 707.6 | 707.6 | 716.7 |
| 22.5° | 680.0 | 685.8 | 686.9 | 690.4 | 690.4 | 691.5 | 694.9 | 697.2 | 691.5 | 691.5 | 700.7 |
| 25°   | 664.0 | 669.7 | 670.9 | 673.1 | 670.9 | 670.9 | 673.1 | 675.4 | 669.7 | 669.7 | 677.7 |
| 27.5° | 642.2 | 647.9 | 647.9 | 646.8 | 644.5 | 645.6 | 644.5 | 645.6 | 639.9 | 638.7 | 646.8 |
| 30°   | 610.1 | 613.5 | 613.5 | 612.4 | 608.9 | 608.9 | 605.5 | 606.6 | 598.6 | 598.6 | 605.5 |
| 32.5° | 566.5 | 569.9 | 567.6 | 565.4 | 560.8 | 558.5 | 556.2 | 555.0 | 547.0 | 547.0 | 555.0 |
| 35°   | 514.9 | 517.2 | 513.7 | 509.2 | 503.4 | 500.0 | 496.5 | 492.0 | 486.2 | 487.4 | 492.0 |
| 37.5° | 462.1 | 462.1 | 457.6 | 448.4 | 443.8 | 438.1 | 432.3 | 432.3 | 423.2 | 422.0 | 425.4 |
| 40°   | 417.4 | 412.8 | 404.8 | 392.2 | 384.2 | 378.4 | 370.4 | 365.8 | 358.9 | 358.9 | 364.7 |
| 42.5° | 377.3 | 368.1 | 357.8 | 340.6 | 332.6 | 325.7 | 315.4 | 310.8 | 302.7 | 301.6 | 305.0 |
| 45°   | 341.7 | 332.6 | 317.7 | 299.3 | 289.0 | 281.0 | 266.0 | 260.3 | 253.4 | 252.3 | 254.6 |
| 47.5° | 313.1 | 302.7 | 284.4 | 260.3 | 250.0 | 239.7 | 224.8 | 216.7 | 211.0 | 207.6 | 211.0 |
| 50°   | 287.8 | 274.1 | 254.6 | 229.4 | 215.6 | 206.4 | 188.1 | 180.0 | 172.0 | 169.7 | 170.9 |
| 52.5° | 260.3 | 246.6 | 225.9 | 199.5 | 186.9 | 173.2 | 156.0 | 144.5 | 137.6 | 134.2 | 137.6 |
| 55°   | 230.5 | 216.7 | 196.1 | 169.7 | 156.0 | 143.3 | 125.0 | 115.8 | 107.8 | 104.4 | 107.8 |
| 57.5° | 198.4 | 185.8 | 167.4 | 141.1 | 128.4 | 117.0 | 99.8  | 90.6  | 82.6  | 80.3  | 82.6  |
| 60°   | 170.9 | 160.5 | 142.2 | 117.0 | 106.6 | 94.0  | 79.1  | 70.0  | 63.1  | 61.9  | 63.1  |
| 62.5° | 152.5 | 141.1 | 123.9 | 99.8  | 89.4  | 79.1  | 65.4  | 56.2  | 50.5  | 49.3  | 50.5  |
| 65°   | 134.2 | 121.6 | 105.5 | 84.9  | 74.5  | 66.5  | 52.8  | 44.7  | 39.0  | 37.8  | 39.0  |
| 67.5° | 113.5 | 102.1 | 88.3  | 70.0  | 61.9  | 53.9  | 42.4  | 34.4  | 29.8  | 28.7  | 29.8  |
| 70°   | 94.0  | 83.7  | 70.0  | 56.2  | 48.2  | 42.4  | 32.1  | 26.4  | 21.8  | 20.6  | 21.8  |
| 72.5° | 74.5  | 65.4  | 53.9  | 42.4  | 37.8  | 32.1  | 25.2  | 19.5  | 16.1  | 14.9  | 16.1  |
| 75°   | 57.3  | 50.5  | 41.3  | 31.0  | 27.5  | 24.1  | 17.2  | 13.8  | 11.5  | 10.3  | 11.5  |
| 77.5° | 40.1  | 35.5  | 28.7  | 22.9  | 19.5  | 17.2  | 12.6  | 9.2   | 8.0   | 6.9   | 8.0   |
| 80°   | 27.5  | 24.1  | 19.5  | 14.9  | 12.6  | 10.3  | 8.0   | 5.7   | 4.6   | 4.6   | 4.6   |
| 82.5° | 18.3  | 14.9  | 11.5  | 9.2   | 8.0   | 6.9   | 4.6   | 3.4   | 3.4   | 2.3   | 2.3   |
| 85°   | 10.3  | 9.2   | 6.9   | 5.7   | 4.6   | 3.4   | 2.3   | 2.3   | 1.1   | 1.1   | 1.1   |
| 87.5° | 4.6   | 3.4   | 2.3   | 2.3   | 1.1   | 1.1   | 1.1   | 1.1   | 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):**

|       | 100°  | 105°  | 110°  | 112.5° | 115°  | 120°  | 125°  | 130°  | 135°  | 140°  | 145°  |
|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 745.4 | 745.4 | 745.4 | 745.4  | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 |
| 2.5°  | 748.8 | 745.4 | 750.0 | 745.4  | 743.1 | 745.4 | 743.1 | 750.0 | 744.2 | 739.7 | 744.2 |
| 5°    | 747.7 | 743.1 | 747.7 | 744.2  | 740.8 | 742.0 | 739.7 | 746.5 | 739.7 | 736.2 | 738.5 |
| 7.5°  | 745.4 | 742.0 | 744.2 | 740.8  | 737.4 | 738.5 | 736.2 | 742.0 | 735.1 | 731.6 | 733.9 |
| 10°   | 742.0 | 738.5 | 739.7 | 737.4  | 733.9 | 733.9 | 731.6 | 736.2 | 728.2 | 723.6 | 725.9 |
| 12.5° | 737.4 | 732.8 | 735.1 | 731.6  | 727.0 | 727.0 | 724.8 | 728.2 | 720.2 | 715.6 | 716.7 |
| 15°   | 731.6 | 727.0 | 727.0 | 723.6  | 719.0 | 719.0 | 714.4 | 717.9 | 708.7 | 704.1 | 704.1 |
| 17.5° | 724.8 | 719.0 | 719.0 | 715.6  | 709.8 | 708.7 | 705.3 | 708.7 | 698.4 | 693.8 | 693.8 |
| 20°   | 714.4 | 709.8 | 708.7 | 706.4  | 700.7 | 699.5 | 694.9 | 696.1 | 688.1 | 684.6 | 683.5 |
| 22.5° | 700.7 | 696.1 | 697.2 | 693.8  | 689.2 | 688.1 | 683.5 | 686.9 | 678.9 | 675.4 | 676.6 |
| 25°   | 676.6 | 674.3 | 676.6 | 675.4  | 672.0 | 672.0 | 669.7 | 672.0 | 665.1 | 662.8 | 664.0 |
| 27.5° | 649.1 | 647.9 | 649.1 | 649.1  | 646.8 | 646.8 | 646.8 | 650.2 | 643.3 | 642.2 | 642.2 |
| 30°   | 608.9 | 608.9 | 610.1 | 611.2  | 611.2 | 613.5 | 612.4 | 617.0 | 612.4 | 610.1 | 612.4 |
| 32.5° | 556.2 | 560.8 | 564.2 | 564.2  | 564.2 | 566.5 | 568.8 | 572.2 | 567.6 | 568.8 | 568.8 |
| 35°   | 496.5 | 500.0 | 502.3 | 508.0  | 504.6 | 512.6 | 514.9 | 519.5 | 518.3 | 520.6 | 519.5 |
| 37.5° | 430.0 | 434.6 | 439.2 | 447.2  | 446.1 | 455.3 | 459.9 | 469.0 | 466.7 | 471.3 | 473.6 |
| 40°   | 368.1 | 375.0 | 381.9 | 387.6  | 392.2 | 401.4 | 410.5 | 422.0 | 425.4 | 428.9 | 430.0 |
| 42.5° | 308.5 | 315.4 | 326.8 | 334.9  | 341.7 | 356.6 | 369.3 | 383.0 | 386.5 | 393.3 | 395.6 |
| 45°   | 260.3 | 266.0 | 279.8 | 290.1  | 295.9 | 317.7 | 332.6 | 349.8 | 355.5 | 363.5 | 367.0 |
| 47.5° | 215.6 | 225.9 | 239.7 | 252.3  | 260.3 | 283.2 | 302.7 | 321.1 | 329.1 | 338.3 | 342.9 |
| 50°   | 176.6 | 188.1 | 206.4 | 217.9  | 229.4 | 254.6 | 276.4 | 295.9 | 303.9 | 314.2 | 318.8 |
| 52.5° | 144.5 | 157.1 | 174.3 | 186.9  | 199.5 | 225.9 | 248.8 | 267.2 | 277.5 | 284.4 | 291.3 |
| 55°   | 113.5 | 127.3 | 144.5 | 158.3  | 168.6 | 197.2 | 216.7 | 235.1 | 242.0 | 247.7 | 251.1 |
| 57.5° | 88.3  | 98.6  | 115.8 | 127.3  | 139.9 | 165.1 | 184.6 | 198.4 | 204.1 | 211.0 | 213.3 |
| 60°   | 68.8  | 79.1  | 95.2  | 106.6  | 118.1 | 142.2 | 161.7 | 175.5 | 181.2 | 186.9 | 190.4 |
| 62.5° | 55.0  | 65.4  | 80.3  | 90.6   | 100.9 | 122.7 | 139.9 | 153.7 | 160.5 | 166.3 | 169.7 |
| 65°   | 43.6  | 52.8  | 65.4  | 75.7   | 83.7  | 103.2 | 120.4 | 133.0 | 139.9 | 145.6 | 149.1 |
| 67.5° | 34.4  | 42.4  | 53.9  | 60.8   | 68.8  | 84.9  | 99.8  | 111.2 | 117.0 | 123.9 | 127.3 |
| 70°   | 26.4  | 32.1  | 42.4  | 48.2   | 53.9  | 67.7  | 79.1  | 90.6  | 96.3  | 100.9 | 103.2 |
| 72.5° | 19.5  | 24.1  | 32.1  | 36.7   | 40.1  | 51.6  | 60.8  | 68.8  | 73.4  | 78.0  | 80.3  |
| 75°   | 13.8  | 17.2  | 22.9  | 26.4   | 28.7  | 36.7  | 44.7  | 50.5  | 53.9  | 57.3  | 60.8  |
| 77.5° | 9.2   | 11.5  | 14.9  | 17.2   | 19.5  | 25.2  | 29.8  | 34.4  | 37.8  | 41.3  | 42.4  |
| 80°   | 5.7   | 8.0   | 10.3  | 11.5   | 12.6  | 16.1  | 20.6  | 22.9  | 25.2  | 27.5  | 28.7  |
| 82.5° | 3.4   | 4.6   | 5.7   | 6.9    | 8.0   | 10.3  | 12.6  | 14.9  | 16.1  | 18.3  | 19.5  |
| 85°   | 1.1   | 2.3   | 2.3   | 3.4    | 3.4   | 5.7   | 6.9   | 8.0   | 9.2   | 10.3  | 11.5  |
| 87.5° | 0.0   | 0.0   | 1.1   | 1.1    | 1.1   | 1.1   | 2.3   | 2.3   | 2.3   | 2.3   | 2.3   |
| 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: P251929

CATALOG NUMBER: LD4B20D010 EU4B10209040 4LBDW1H

**CANDELA DISTRIBUTION (continued):**

|       | 150°  | 155°  | 157.5° | 160°  | 165°  | 170°  | 175°  | 180°  |
|-------|-------|-------|--------|-------|-------|-------|-------|-------|
| 0°    | 745.4 | 745.4 | 745.4  | 745.4 | 745.4 | 745.4 | 745.4 | 745.4 |
| 2.5°  | 748.8 | 745.4 | 743.1  | 742.0 | 750.0 | 739.7 | 744.2 | 745.4 |
| 5°    | 744.2 | 740.8 | 738.5  | 737.4 | 744.2 | 735.1 | 738.5 | 740.8 |
| 7.5°  | 737.4 | 735.1 | 731.6  | 730.5 | 737.4 | 727.0 | 731.6 | 732.8 |
| 10°   | 729.3 | 725.9 | 723.6  | 722.5 | 728.2 | 717.9 | 722.5 | 722.5 |
| 12.5° | 719.0 | 716.7 | 712.1  | 712.1 | 716.7 | 707.6 | 711.0 | 711.0 |
| 15°   | 705.3 | 703.0 | 698.4  | 698.4 | 703.0 | 693.8 | 697.2 | 697.2 |
| 17.5° | 693.8 | 691.5 | 688.1  | 686.9 | 691.5 | 682.3 | 685.8 | 684.6 |
| 20°   | 684.6 | 682.3 | 677.7  | 677.7 | 681.2 | 672.0 | 675.4 | 675.4 |
| 22.5° | 676.6 | 675.4 | 670.9  | 670.9 | 675.4 | 666.3 | 668.6 | 666.3 |
| 25°   | 664.0 | 662.8 | 658.2  | 659.4 | 661.7 | 652.5 | 655.9 | 653.7 |
| 27.5° | 643.3 | 643.3 | 638.7  | 637.6 | 641.0 | 633.0 | 635.3 | 634.2 |
| 30°   | 611.2 | 612.4 | 606.6  | 606.6 | 607.8 | 600.9 | 604.3 | 603.2 |
| 32.5° | 567.6 | 568.8 | 564.2  | 563.1 | 566.5 | 560.8 | 563.1 | 563.1 |
| 35°   | 519.5 | 520.6 | 517.2  | 517.2 | 520.6 | 517.2 | 517.2 | 516.0 |
| 37.5° | 471.3 | 473.6 | 471.3  | 472.5 | 474.8 | 471.3 | 473.6 | 472.5 |
| 40°   | 432.3 | 434.6 | 431.2  | 433.5 | 435.8 | 432.3 | 435.8 | 433.5 |
| 42.5° | 396.8 | 400.2 | 397.9  | 400.2 | 402.5 | 400.2 | 402.5 | 399.1 |
| 45°   | 370.4 | 372.7 | 371.6  | 372.7 | 375.0 | 373.8 | 375.0 | 373.8 |
| 47.5° | 345.2 | 349.8 | 347.5  | 349.8 | 353.2 | 350.9 | 353.2 | 349.8 |
| 50°   | 322.2 | 325.7 | 324.5  | 326.8 | 328.0 | 326.8 | 329.1 | 325.7 |
| 52.5° | 292.4 | 295.9 | 294.7  | 294.7 | 297.0 | 294.7 | 297.0 | 294.7 |
| 55°   | 253.4 | 254.6 | 254.6  | 255.7 | 254.6 | 253.4 | 254.6 | 252.3 |
| 57.5° | 215.6 | 217.9 | 214.4  | 217.9 | 216.7 | 215.6 | 215.6 | 213.3 |
| 60°   | 191.5 | 194.9 | 192.7  | 194.9 | 193.8 | 193.8 | 193.8 | 192.7 |
| 62.5° | 172.0 | 174.3 | 172.0  | 173.2 | 173.2 | 173.2 | 172.0 | 170.9 |
| 65°   | 150.2 | 153.7 | 151.4  | 152.5 | 151.4 | 150.2 | 151.4 | 150.2 |
| 67.5° | 128.4 | 129.6 | 129.6  | 128.4 | 128.4 | 128.4 | 128.4 | 126.1 |
| 70°   | 104.4 | 105.5 | 104.4  | 106.6 | 105.5 | 104.4 | 105.5 | 103.2 |
| 72.5° | 81.4  | 82.6  | 81.4   | 82.6  | 81.4  | 81.4  | 81.4  | 81.4  |
| 75°   | 60.8  | 61.9  | 61.9   | 61.9  | 61.9  | 61.9  | 59.6  | 61.9  |
| 77.5° | 43.6  | 43.6  | 43.6   | 44.7  | 43.6  | 43.6  | 43.6  | 43.6  |
| 80°   | 29.8  | 29.8  | 29.8   | 31.0  | 29.8  | 31.0  | 29.8  | 31.0  |
| 82.5° | 19.5  | 19.5  | 19.5   | 19.5  | 19.5  | 19.5  | 19.5  | 19.5  |
| 85°   | 10.3  | 11.5  | 11.5   | 10.3  | 10.3  | 10.3  | 10.3  | 10.3  |
| 87.5° | 2.3   | 1.1   | 1.1    | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   |
| 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)