

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: P281172

Luminaire Tested: **LDA2B109035D010 EU2B10SP159035 2LBALD1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P281172  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-5)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA2B109035D010 EU2B10SP159035 2LBALD1MW  
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in  
ADJ spun Refl w/lens Self-Flanged, MW  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 906.0 lumens  
Efficiency: N/A  
Efficacy: 90.6 lumens/watt  
Spacing Criteria (0/90/45): 0.33 / 0.31 / 0.32  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

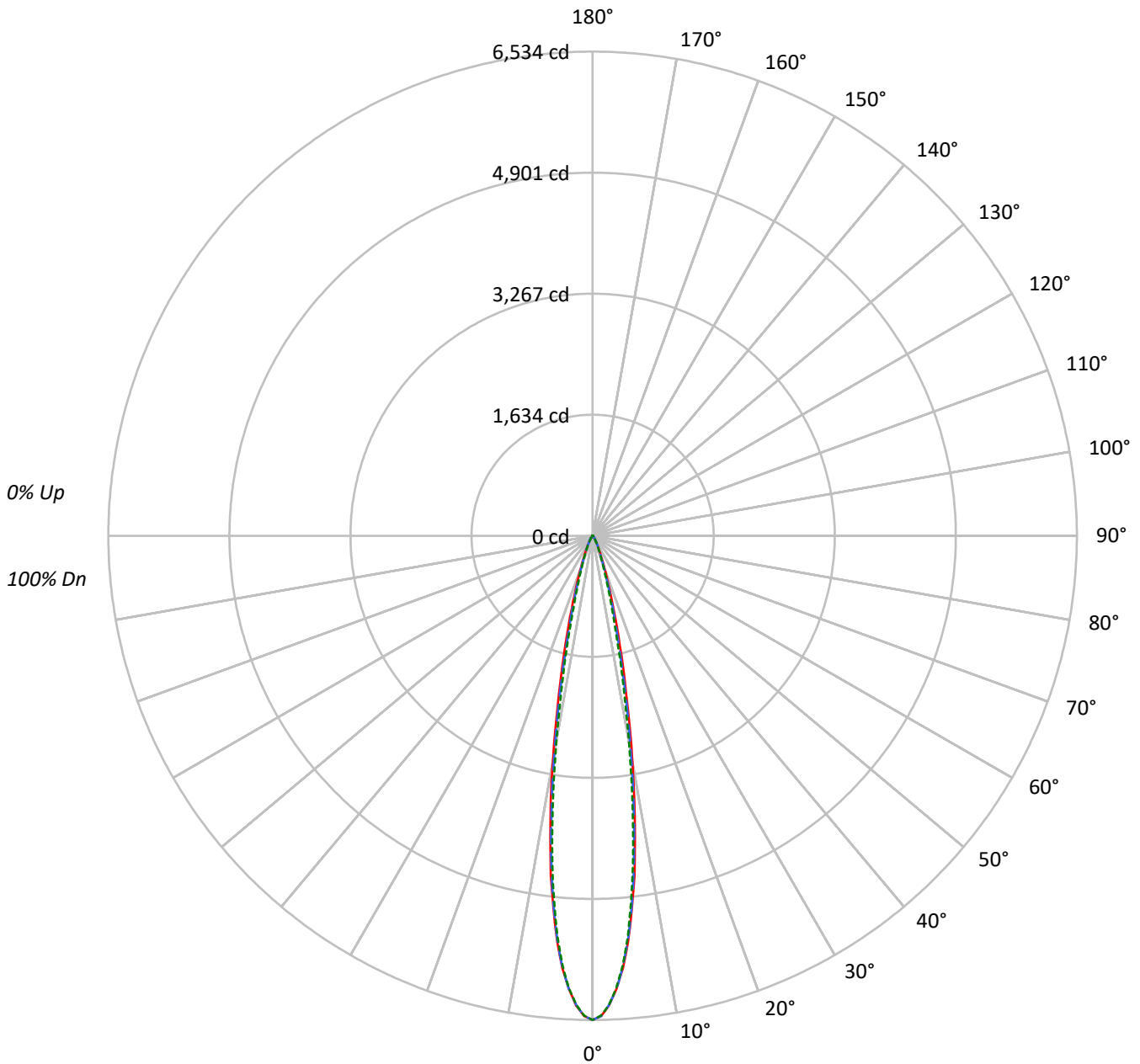
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 115 | 113 | 111 | 110 | 113 | 111 | 110 | 108 | 107 | 106 | 105 | 104 | 103 | 102 | 100 | 99  | 99  | 97  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 112 | 108 | 106 | 103 | 110 | 107 | 104 | 102 | 104 | 102 | 100 | 101 | 99  | 98  | 98  | 97  | 96  | 95  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 109 | 104 | 101 | 98  | 107 | 103 | 100 | 98  | 101 | 98  | 96  | 98  | 96  | 95  | 96  | 95  | 93  | 92  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 106 | 101 | 97  | 95  | 104 | 100 | 97  | 94  | 98  | 95  | 93  | 96  | 94  | 92  | 94  | 93  | 91  | 90  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 103 | 98  | 94  | 91  | 102 | 97  | 93  | 91  | 95  | 92  | 90  | 94  | 91  | 89  | 93  | 90  | 89  | 88  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 101 | 95  | 91  | 88  | 99  | 94  | 91  | 88  | 93  | 90  | 88  | 92  | 89  | 87  | 91  | 88  | 87  | 86  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 98  | 92  | 89  | 86  | 97  | 92  | 88  | 86  | 91  | 88  | 85  | 90  | 87  | 85  | 89  | 87  | 85  | 84  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 96  | 90  | 86  | 84  | 95  | 90  | 86  | 84  | 89  | 86  | 83  | 88  | 85  | 83  | 87  | 85  | 83  | 82  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 94  | 88  | 84  | 82  | 93  | 88  | 84  | 82  | 87  | 84  | 82  | 86  | 83  | 81  | 86  | 83  | 81  | 80  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 92  | 86  | 83  | 80  | 91  | 86  | 82  | 80  | 85  | 82  | 80  | 85  | 82  | 80  | 84  | 81  | 80  | 79  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 3223626 | 3223626 | 3223626 |
| 5°  | 2723657 | 2709146 | 2689138 |
| 10° | 1550260 | 1482028 | 1406631 |
| 15° | 641981  | 568635  | 500908  |
| 20° | 244189  | 213843  | 195782  |
| 25° | 107893  | 103647  | 92161   |
| 30° | 49904   | 55146   | 43923   |
| 35° | 26260   | 30957   | 24573   |
| 40° | 11528   | 13267   | 7664    |
| 45° | 4465    | 3489    | 5093    |
| 50° | 2149    | 2456    | 3531    |
| 55° | 0       | 1548    | 0       |
| 60° | 0       | 0       | 888     |
| 65° | 0       | 0       | 0       |
| 70° | 0       | 721     | 0       |
| 75° | 0       | 0       | 0       |
| 80° | 2557    | 0       | 0       |
| 85° | 26039   | 23209   | 10189   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 436.9  | 48.2      |
| 10°-20°   | 334.0  | 36.9      |
| 20°-30°   | 92.9   | 10.3      |
| 30°-40°   | 30.2   | 3.3       |
| 40°-50°   | 6.7    | 0.7       |
| 50°-60°   | 2.0    | 0.2       |
| 60°-70°   | 1.2    | 0.1       |
| 70°-80°   | 0.7    | 0.1       |
| 80°-90°   | 1.5    | 0.2       |
| 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°    | 863.7  | 95.3      |
| 0°-40°    | 893.9  | 98.7      |
| 0°-60°    | 902.6  | 99.6      |
| 0°-90°    | 906.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 906.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 6534 | 6534  | 6534 | 6534  | 6534 |      |
| 5°  | 5500 | 5459  | 5470 | 5429  | 5430 | 445  |
| 15° | 1257 | 1213  | 1113 | 1028  | 981  | 367  |
| 25° | 198  | 200   | 190  | 179   | 169  | 99   |
| 35° | 44   | 47    | 51   | 39    | 41   | 29   |
| 45° | 6    | 9     | 5    | 5     | 7    | 6    |
| 55° | 0    | 3     | 2    | 1     | 0    | 2    |
| 65° | 0    | 2     | 0    | 0     | 0    | 1    |
| 75° | 0    | 0     | 0    | 1     | 0    | 0    |
| 85° | 5    | 2     | 4    | 2     | 2    | 1    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 6534.0 | 6534.0 | 6534.0 | 6534.0 | 6534.0 |
| 1°    | 6484.0 | 6459.7 | 6483.1 | 6469.3 | 6477.1 |
| 2°    | 6343.2 | 6312.9 | 6337.2 | 6318.0 | 6334.0 |
| 3°    | 6123.9 | 6100.5 | 6122.1 | 6097.8 | 6110.6 |
| 4°    | 5849.2 | 5815.2 | 5836.8 | 5804.2 | 5812.0 |
| 5°    | 5499.6 | 5459.2 | 5470.3 | 5429.4 | 5429.9 |
| 6°    | 5059.2 | 5031.3 | 5037.7 | 4973.9 | 4969.3 |
| 7°    | 4628.5 | 4562.4 | 4555.6 | 4482.6 | 4468.4 |
| 8°    | 4105.6 | 4045.5 | 4025.7 | 3940.0 | 3909.7 |
| 9°    | 3604.2 | 3529.4 | 3489.0 | 3389.5 | 3354.2 |
| 10°   | 3094.5 | 3018.8 | 2958.3 | 2845.9 | 2807.8 |
| 11°   | 2623.0 | 2554.6 | 2479.4 | 2359.2 | 2322.0 |
| 12°   | 2185.3 | 2131.7 | 2049.1 | 1933.1 | 1894.1 |
| 13°   | 1828.0 | 1766.1 | 1677.5 | 1569.7 | 1536.3 |
| 14°   | 1518.4 | 1451.9 | 1363.3 | 1271.1 | 1206.0 |
| 15°   | 1256.9 | 1213.3 | 1113.3 | 1027.5 | 980.7  |
| 16°   | 1027.1 | 989.9  | 903.7  | 829.4  | 796.3  |
| 17°   | 842.2  | 812.4  | 739.0  | 680.7  | 653.2  |
| 18°   | 695.0  | 657.8  | 600.0  | 561.9  | 540.4  |
| 19°   | 563.8  | 534.9  | 492.7  | 463.3  | 441.7  |
| 20°   | 465.1  | 441.3  | 407.3  | 381.2  | 372.9  |
| 22.5° | 300.5  | 296.3  | 274.3  | 260.1  | 253.2  |
| 25°   | 198.2  | 200.5  | 190.4  | 179.4  | 169.3  |
| 26°   | 169.3  | 170.6  | 161.5  | 155.0  | 142.2  |
| 27°   | 145.0  | 145.4  | 145.4  | 133.5  | 121.1  |
| 28°   | 118.4  | 123.4  | 118.8  | 113.3  | 101.4  |
| 29°   | 101.4  | 107.8  | 105.5  | 100.0  | 88.5   |
| 30°   | 87.6   | 92.2   | 96.8   | 88.1   | 77.1   |
| 32.5° | 61.5   | 65.6   | 70.6   | 66.1   | 56.9   |
| 35°   | 43.6   | 47.2   | 51.4   | 39.0   | 40.8   |
| 37.5° | 29.8   | 36.2   | 34.9   | 31.7   | 27.1   |
| 40°   | 17.9   | 18.8   | 20.6   | 22.0   | 11.9   |
| 42.5° | 12.8   | 15.1   | 13.8   | 15.6   | 5.5    |
| 45°   | 6.4    | 9.2    | 5.0    | 5.0    | 7.3    |
| 47.5° | 4.6    | 7.8    | 2.8    | 2.8    | 0.9    |
| 50°   | 2.8    | 6.0    | 3.2    | 1.4    | 4.6    |
| 52.5° | 4.6    | 5.5    | 3.7    | 4.1    | 0.9    |
| 55°   | 0.0    | 2.8    | 1.8    | 0.9    | 0.0    |
| 57.5° | 1.8    | 3.2    | 1.8    | 0.9    | 1.8    |
| 60°   | 0.0    | 0.0    | 0.0    | 0.5    | 0.9    |
| 62.5° | 0.0    | 0.9    | 0.0    | 1.4    | 1.8    |
| 65°   | 0.0    | 1.8    | 0.0    | 0.0    | 0.0    |
| 67.5° | 2.8    | 3.2    | 1.8    | 3.7    | 5.5    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.0   | 0.0 | 0.9   | 0.0 |
| 77.5° | 0.0 | 4.6   | 1.4 | 1.4   | 1.8 |
| 80°   | 0.9 | 0.0   | 0.0 | 0.5   | 0.0 |
| 82.5° | 0.0 | 3.7   | 0.5 | 1.8   | 2.8 |
| 85°   | 4.6 | 2.3   | 4.1 | 2.3   | 1.8 |
| 87.5° | 0.0 | 0.5   | 0.9 | 0.5   | 0.0 |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |



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







|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| 70°   | 0.0 | 0.0 | 0.5 | 0.5 | 0.0 |
| 72.5° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)