

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: P281036

Luminaire Tested: **LDA2B059024D010 EU2B05SP159024 2LBALD1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P281036  
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: LDA2B059024D010 EU2B05SP159024 2LBALD1MW  
Description: PORTFOLIO 2IN ADJ 500 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: 571.4 lumens  
Efficiency: N/A  
Efficacy: 81.6 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

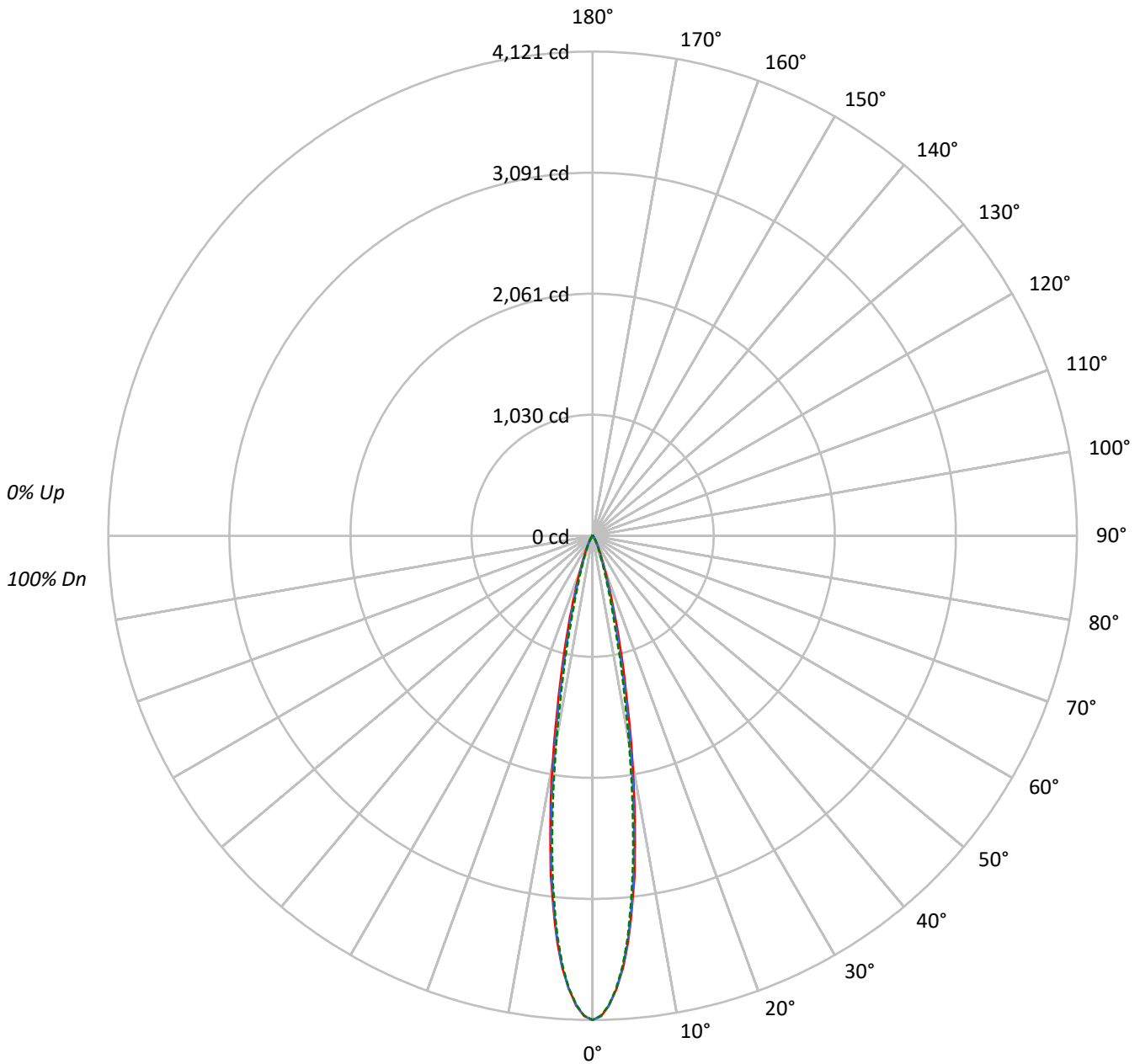
Input Watts (W): 7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 2033193 | 2033193 | 2033193 |
| 5°  | 1717861 | 1708699 | 1696070 |
| 10° | 977798  | 934715  | 887173  |
| 15° | 404884  | 358660  | 315960  |
| 20° | 154042  | 134879  | 123486  |
| 25° | 68046   | 65378   | 58138   |
| 30° | 31504   | 34751   | 27687   |
| 35° | 16563   | 19514   | 15479   |
| 40° | 7278    | 8372    | 4830    |
| 45° | 2861    | 2233    | 3210    |
| 50° | 1305    | 1535    | 2226    |
| 55° | 0       | 1032    | 0       |
| 60° | 0       | 0       | 592     |
| 65° | 0       | 0       | 0       |
| 70° | 0       | 433     | 0       |
| 75° | 0       | 0       | 0       |
| 80° | 1705    | 0       | 0       |
| 85° | 16416   | 14718   | 6793    |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 275.5  | 48.2      |
| 10°-20°   | 210.7  | 36.9      |
| 20°-30°   | 58.6   | 10.3      |
| 30°-40°   | 19.1   | 3.3       |
| 40°-50°   | 4.2    | 0.7       |
| 50°-60°   | 1.3    | 0.2       |
| 60°-70°   | 0.8    | 0.1       |
| 70°-80°   | 0.5    | 0.1       |
| 80°-90°   | 0.9    | 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°    | 544.8  | 95.3      |
| 0°-40°    | 563.8  | 98.7      |
| 0°-60°    | 569.3  | 99.6      |
| 0°-90°    | 571.4  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 571.4  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 4121 | 4121  | 4121 | 4121  | 4121 |      |
| 5°  | 3469 | 3443  | 3450 | 3424  | 3425 | 280  |
| 15° | 793  | 765   | 702  | 648   | 619  | 231  |
| 25° | 125  | 126   | 120  | 113   | 107  | 63   |
| 35° | 28   | 30    | 32   | 25    | 26   | 18   |
| 45° | 4    | 6     | 3    | 3     | 5    | 4    |
| 55° | 0    | 2     | 1    | 1     | 0    | 1    |
| 65° | 0    | 1     | 0    | 0     | 0    | 1    |
| 75° | 0    | 0     | 0    | 1     | 0    | 0    |
| 85° | 3    | 1     | 3    | 1     | 1    | 1    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 4121.1 | 4121.1 | 4121.1 | 4121.1 | 4121.1 |
| 1°    | 4089.6 | 4074.2 | 4089.0 | 4080.3 | 4085.2 |
| 2°    | 4000.7 | 3981.6 | 3997.0 | 3984.8 | 3995.0 |
| 3°    | 3862.4 | 3847.7 | 3861.3 | 3846.0 | 3854.1 |
| 4°    | 3689.1 | 3667.7 | 3681.3 | 3660.8 | 3665.7 |
| 5°    | 3468.7 | 3443.2 | 3450.2 | 3424.4 | 3424.7 |
| 6°    | 3190.9 | 3173.3 | 3177.3 | 3137.1 | 3134.2 |
| 7°    | 2919.3 | 2877.6 | 2873.3 | 2827.3 | 2818.3 |
| 8°    | 2589.4 | 2551.5 | 2539.1 | 2485.0 | 2465.9 |
| 9°    | 2273.2 | 2226.0 | 2200.6 | 2137.8 | 2115.5 |
| 10°   | 1951.8 | 1904.0 | 1865.8 | 1795.0 | 1770.9 |
| 11°   | 1654.3 | 1611.2 | 1563.8 | 1488.0 | 1464.5 |
| 12°   | 1378.3 | 1344.5 | 1292.4 | 1219.2 | 1194.6 |
| 13°   | 1152.9 | 1113.9 | 1058.1 | 990.1  | 968.9  |
| 14°   | 957.7  | 915.7  | 859.9  | 801.7  | 760.6  |
| 15°   | 792.7  | 765.3  | 702.2  | 648.1  | 618.6  |
| 16°   | 647.8  | 624.4  | 570.0  | 523.1  | 502.3  |
| 17°   | 531.2  | 512.4  | 466.1  | 429.4  | 412.0  |
| 18°   | 438.3  | 414.9  | 378.4  | 354.4  | 340.8  |
| 19°   | 355.6  | 337.3  | 310.7  | 292.2  | 278.6  |
| 20°   | 293.4  | 278.3  | 256.9  | 240.4  | 235.2  |
| 22.5° | 189.5  | 186.9  | 173.0  | 164.0  | 159.7  |
| 25°   | 125.0  | 126.4  | 120.1  | 113.1  | 106.8  |
| 26°   | 106.8  | 107.6  | 101.8  | 97.8   | 89.7   |
| 27°   | 91.4   | 91.7   | 91.7   | 84.2   | 76.4   |
| 28°   | 74.6   | 77.8   | 74.9   | 71.5   | 63.9   |
| 29°   | 63.9   | 68.0   | 66.5   | 63.1   | 55.8   |
| 30°   | 55.3   | 58.2   | 61.0   | 55.5   | 48.6   |
| 32.5° | 38.8   | 41.4   | 44.6   | 41.7   | 35.9   |
| 35°   | 27.5   | 29.8   | 32.4   | 24.6   | 25.7   |
| 37.5° | 18.8   | 22.9   | 22.0   | 20.0   | 17.1   |
| 40°   | 11.3   | 11.9   | 13.0   | 13.9   | 7.5    |
| 42.5° | 8.1    | 9.5    | 8.7    | 9.8    | 3.5    |
| 45°   | 4.1    | 5.8    | 3.2    | 3.2    | 4.6    |
| 47.5° | 2.9    | 4.9    | 1.7    | 1.7    | 0.6    |
| 50°   | 1.7    | 3.8    | 2.0    | 0.9    | 2.9    |
| 52.5° | 2.9    | 3.5    | 2.3    | 2.6    | 0.6    |
| 55°   | 0.0    | 1.7    | 1.2    | 0.6    | 0.0    |
| 57.5° | 1.2    | 2.0    | 1.2    | 0.6    | 1.2    |
| 60°   | 0.0    | 0.0    | 0.0    | 0.3    | 0.6    |
| 62.5° | 0.0    | 0.6    | 0.0    | 0.9    | 1.2    |
| 65°   | 0.0    | 1.2    | 0.0    | 0.0    | 0.0    |
| 67.5° | 1.7    | 2.0    | 1.2    | 2.3    | 3.5    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.0   | 0.0 | 0.6   | 0.0 |
| 77.5° | 0.0 | 2.9   | 0.9 | 0.9   | 1.2 |
| 80°   | 0.6 | 0.0   | 0.0 | 0.3   | 0.0 |
| 82.5° | 0.0 | 2.3   | 0.3 | 1.2   | 1.7 |
| 85°   | 2.9 | 1.4   | 2.6 | 1.4   | 1.2 |
| 87.5° | 0.0 | 0.3   | 0.6 | 0.3   | 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 | 0.3 | 0.3 | 0.0 |
| 72.5° | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)