

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: P281559

Luminaire Tested: **LDA2B159727D010 EU2B15SP159727 2LBASQC1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P281559  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-6)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA2B159727D010 EU2B15SP159727 2LBASQC1MW  
Description: PORTFOLIO 2IN ADJ 1500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ Cast Trim, MW  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1001.5 lumens  
Efficiency: N/A  
Efficacy: 71.0 lumens/watt  
Spacing Criteria (0/90/45): 0.31 / 0.31 / 0.29  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

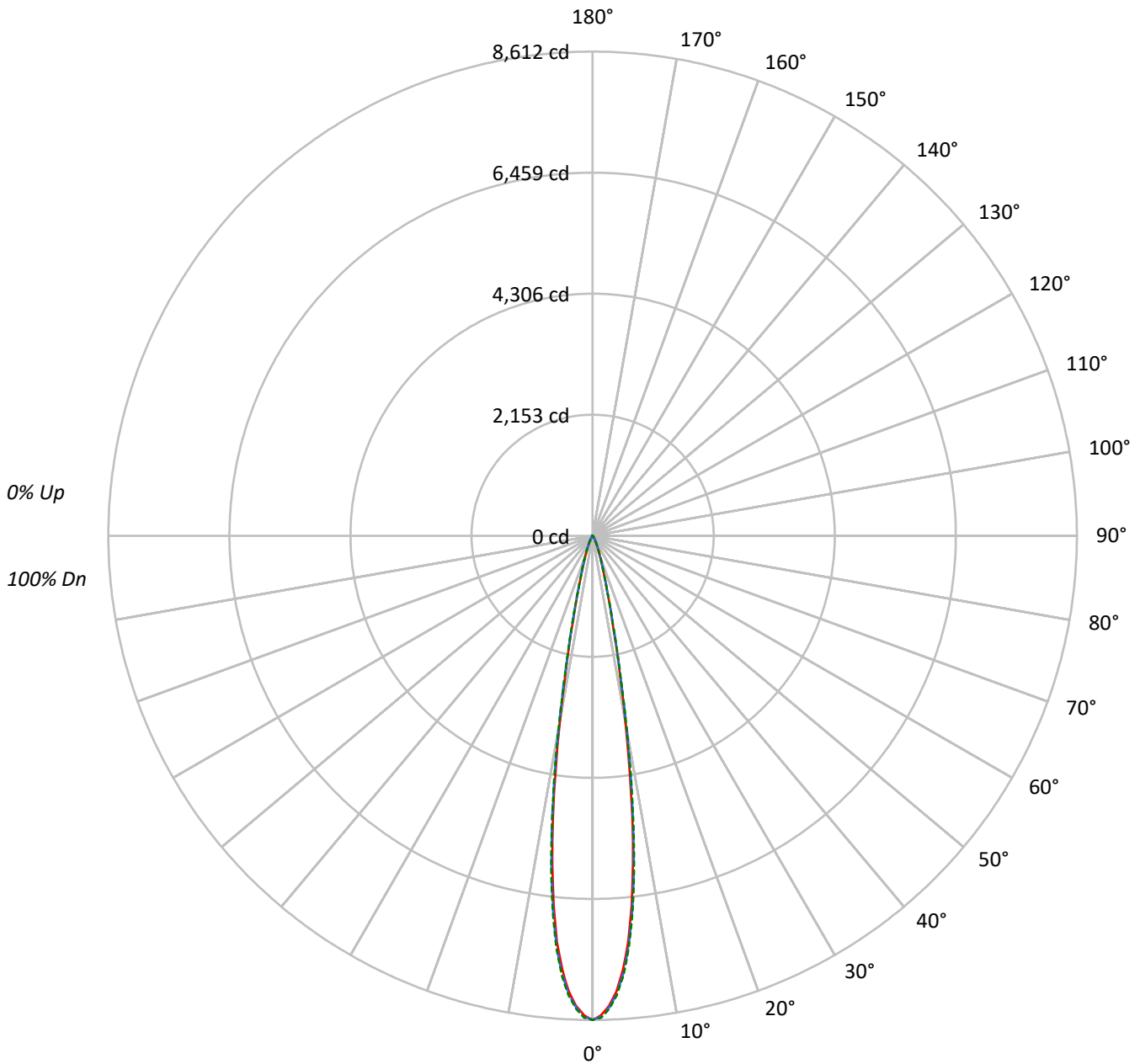
Input Watts (W): 14.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 116 | 114 | 112 | 111 | 113 | 112 | 110 | 109 | 108 | 107 | 106 | 104 | 103 | 102 | 101 | 100 | 99  | 98  | 98 | 98 | 98 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 113 | 109 | 107 | 105 | 111 | 108 | 105 | 103 | 105 | 103 | 101 | 102 | 100 | 99  | 99  | 98  | 97  | 96  | 96 | 96 | 96 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 110 | 106 | 103 | 100 | 108 | 104 | 102 | 99  | 102 | 100 | 98  | 100 | 98  | 96  | 98  | 96  | 95  | 94  | 94 | 94 | 94 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 107 | 103 | 99  | 97  | 106 | 102 | 99  | 96  | 100 | 97  | 95  | 98  | 96  | 94  | 96  | 95  | 93  | 92  | 92 | 92 | 92 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 105 | 100 | 96  | 94  | 103 | 99  | 96  | 93  | 97  | 95  | 93  | 96  | 94  | 92  | 95  | 93  | 91  | 90  | 90 | 90 | 90 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 103 | 97  | 94  | 91  | 101 | 97  | 94  | 91  | 96  | 93  | 91  | 94  | 92  | 90  | 93  | 91  | 90  | 89  | 89 | 89 | 89 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 100 | 95  | 92  | 89  | 100 | 95  | 91  | 89  | 94  | 91  | 89  | 93  | 90  | 88  | 92  | 90  | 88  | 87  | 87 | 87 | 87 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 99  | 93  | 90  | 88  | 98  | 93  | 90  | 87  | 92  | 89  | 87  | 91  | 89  | 87  | 90  | 88  | 86  | 86  | 86 | 86 | 86 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 97  | 91  | 88  | 86  | 96  | 91  | 88  | 86  | 90  | 88  | 86  | 90  | 87  | 85  | 89  | 87  | 85  | 84  | 84 | 84 | 84 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 95  | 90  | 87  | 84  | 94  | 89  | 86  | 84  | 89  | 86  | 84  | 88  | 86  | 84  | 88  | 85  | 84  | 83  | 83 | 83 | 83 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 4248733 | 4248733 | 4248733 |
| 5°  | 3596033 | 3633672 | 3649470 |
| 10° | 1681565 | 1745289 | 1748695 |
| 15° | 492531  | 499682  | 499427  |
| 20° | 197777  | 198039  | 198302  |
| 25° | 88187   | 97115   | 90310   |
| 30° | 37485   | 51500   | 34181   |
| 35° | 17165   | 23911   | 16021   |
| 40° | 5603    | 9339    | 4959    |
| 45° | 0       | 3349    | 0       |
| 50° | 0       | 0       | 0       |
| 55° | 1634    | 860     | 0       |
| 60° | 0       | 0       | 0       |
| 65° | 0       | 0       | 0       |
| 70° | 0       | 0       | 0       |
| 75° | 0       | 0       | 0       |
| 80° | 2841    | 0       | 0       |
| 85° | 5661    | 0       | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 569.1  | 56.8      |
| 10°-20°   | 322.6  | 32.2      |
| 20°-30°   | 84.2   | 8.4       |
| 30°-40°   | 21.7   | 2.2       |
| 40°-50°   | 2.1    | 0.2       |
| 50°-60°   | 0.7    | 0.1       |
| 60°-70°   | 0.1    | 0.0       |
| 70°-80°   | 0.7    | 0.1       |
| 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°    | 975.9  | 97.5      |
| 0°-40°    | 997.6  | 99.6      |
| 0°-60°    | 1000.5 | 99.9      |
| 0°-90°    | 1001.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1001.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 8612 | 8612  | 8612 | 8612  | 8612 |      |
| 5°  | 7261 | 7326  | 7337 | 7291  | 7369 | 562  |
| 15° | 964  | 977   | 978  | 967   | 978  | 317  |
| 25° | 162  | 176   | 178  | 170   | 166  | 81   |
| 35° | 28   | 30    | 40   | 27    | 27   | 20   |
| 45° | 0    | 2     | 5    | 0     | 0    | 2    |
| 55° | 2    | 2     | 1    | 0     | 0    | 1    |
| 65° | 0    | 0     | 0    | 0     | 0    | 0    |
| 75° | 0    | 0     | 0    | 0     | 0    | 2    |
| 85° | 1    | 0     | 0    | 0     | 0    | 1    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 8611.8 | 8611.8 | 8611.8 | 8611.8 | 8611.8 |
| 1°    | 8531.1 | 8564.9 | 8554.8 | 8542.7 | 8576.5 |
| 2°    | 8366.6 | 8399.5 | 8396.6 | 8380.7 | 8420.3 |
| 3°    | 8113.2 | 8159.2 | 8159.2 | 8135.5 | 8184.8 |
| 4°    | 7735.6 | 7805.7 | 7812.4 | 7779.1 | 7840.5 |
| 5°    | 7261.1 | 7325.9 | 7337.1 | 7290.6 | 7369.0 |
| 6°    | 6618.5 | 6707.0 | 6732.1 | 6678.4 | 6758.7 |
| 7°    | 5880.0 | 5972.9 | 6011.1 | 5951.1 | 6041.0 |
| 8°    | 5083.5 | 5150.3 | 5196.2 | 5127.5 | 5218.9 |
| 9°    | 4192.3 | 4288.5 | 4330.6 | 4263.8 | 4352.8 |
| 10°   | 3356.6 | 3445.1 | 3483.8 | 3467.8 | 3490.6 |
| 11°   | 2607.0 | 2685.4 | 2711.5 | 2689.7 | 2700.4 |
| 12°   | 2041.2 | 2072.7 | 2089.6 | 2075.1 | 2082.4 |
| 13°   | 1549.9 | 1592.0 | 1599.7 | 1593.4 | 1596.8 |
| 14°   | 1210.4 | 1230.7 | 1239.4 | 1236.5 | 1238.0 |
| 15°   | 964.3  | 977.3  | 978.3  | 967.2  | 977.8  |
| 16°   | 776.7  | 786.8  | 791.2  | 779.6  | 793.6  |
| 17°   | 636.4  | 644.6  | 649.5  | 637.9  | 643.7  |
| 18°   | 523.7  | 530.0  | 536.8  | 526.6  | 535.3  |
| 19°   | 439.6  | 443.5  | 443.9  | 441.0  | 443.5  |
| 20°   | 376.7  | 374.8  | 377.2  | 371.9  | 377.7  |
| 22.5° | 248.1  | 252.9  | 258.7  | 252.4  | 254.9  |
| 25°   | 162.0  | 175.5  | 178.4  | 170.2  | 165.9  |
| 26°   | 133.5  | 150.9  | 158.6  | 145.6  | 131.5  |
| 27°   | 110.7  | 123.3  | 133.5  | 116.1  | 104.9  |
| 28°   | 97.2   | 107.8  | 118.0  | 101.6  | 88.5   |
| 29°   | 81.2   | 91.9   | 109.3  | 90.4   | 82.2   |
| 30°   | 65.8   | 73.5   | 90.4   | 68.7   | 60.0   |
| 32.5° | 37.2   | 43.5   | 58.5   | 40.6   | 33.4   |
| 35°   | 28.5   | 30.5   | 39.7   | 27.1   | 26.6   |
| 37.5° | 24.7   | 22.2   | 30.9   | 22.2   | 17.9   |
| 40°   | 8.7    | 13.1   | 14.5   | 9.7    | 7.7    |
| 42.5° | 3.9    | 3.9    | 6.3    | 1.9    | 1.9    |
| 45°   | 0.0    | 1.9    | 4.8    | 0.5    | 0.0    |
| 47.5° | 0.0    | 0.0    | 1.0    | 0.0    | 0.0    |
| 50°   | 0.0    | 1.0    | 0.0    | 0.0    | 0.0    |
| 52.5° | 1.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 55°   | 1.9    | 2.4    | 1.0    | 0.5    | 0.0    |
| 57.5° | 2.9    | 2.4    | 1.0    | 1.0    | 1.0    |
| 60°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 62.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 65°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 67.5° | 1.0    | 0.5    | 0.0    | 0.0    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.5   | 0.0 | 0.0   | 0.0 |
| 77.5° | 4.8 | 1.0   | 1.5 | 1.0   | 1.9 |
| 80°   | 1.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 82.5° | 1.9 | 0.0   | 0.0 | 0.0   | 0.0 |
| 85°   | 1.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 87.5° | 0.0 | 0.5   | 0.0 | 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 | 0.0 | 0.0 | 0.0 |
| 72.5° | 1.9 | 1.5 | 0.0 | 0.0 | 1.9 |



(END OF REPORT)