

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: P284111

Luminaire Tested: **LDA2B209050D010 EU2B20WFL559050 2LBALPINSQ1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P284111  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1809-951-61)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA2B209050D010 EU2B20WFL559050 2LBALPINSQ1MW  
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH WIDE FLOOD OPTIC AND  
2in Adj SQ Pinhole w-lens, MW  
  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1518.9 lumens  
Efficiency: N/A  
Efficacy: 73.7 lumens/watt  
Spacing Criteria (0/90/45): 0.68 / 0.68 / 0.68  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

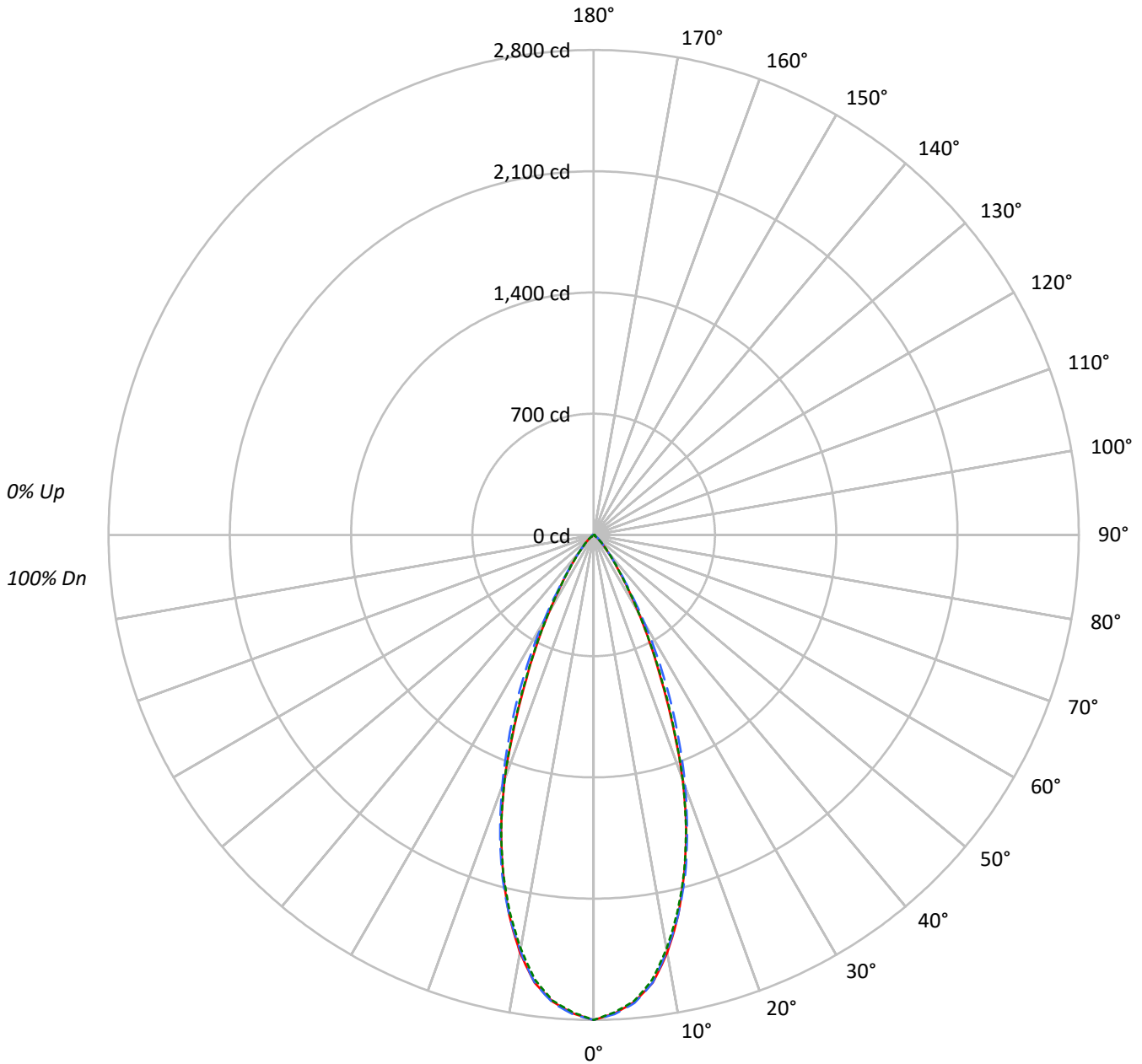
Input Watts (W): 20.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF  | 20  |     |     |     |     |     |     |     |     | 20  |     |     |     |     |     |     |     |     | 20 |    |   |  |  |  |  |  |  | 20 |  |  |  |  |  |  |  |  |   |
| 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   | 114 | 111 | 109 | 107 | 111 | 109 | 107 | 105 | 105 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 96  | 94  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 109 | 104 | 101 | 98  | 107 | 103 | 99  | 96  | 100 | 97  | 94  | 97  | 94  | 92  | 94  | 92  | 90  | 89  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 104 | 98  | 94  | 90  | 102 | 97  | 93  | 89  | 94  | 91  | 88  | 92  | 89  | 87  | 90  | 87  | 85  | 84  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 100 | 93  | 88  | 84  | 98  | 92  | 87  | 83  | 90  | 86  | 82  | 88  | 84  | 81  | 86  | 83  | 81  | 79  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 95  | 88  | 82  | 79  | 94  | 87  | 82  | 78  | 85  | 81  | 78  | 84  | 80  | 77  | 82  | 79  | 76  | 75  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 91  | 83  | 78  | 74  | 90  | 82  | 77  | 74  | 81  | 77  | 73  | 80  | 76  | 73  | 78  | 75  | 72  | 71  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 87  | 79  | 74  | 70  | 86  | 78  | 73  | 70  | 77  | 73  | 69  | 76  | 72  | 69  | 75  | 71  | 69  | 67  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 84  | 75  | 70  | 66  | 83  | 75  | 70  | 66  | 74  | 69  | 66  | 73  | 69  | 66  | 72  | 68  | 65  | 64  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 81  | 72  | 67  | 63  | 80  | 71  | 66  | 63  | 71  | 66  | 63  | 70  | 66  | 63  | 69  | 65  | 62  | 61  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 77  | 69  | 64  | 60  | 76  | 68  | 63  | 60  | 68  | 63  | 60  | 67  | 63  | 60  | 66  | 62  | 60  | 58  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 1381610 | 1381610 | 1381610 |
| 5°  | 1340087 | 1343306 | 1337264 |
| 10° | 1226632 | 1221772 | 1214408 |
| 15° | 1031798 | 1041349 | 1030112 |
| 20° | 789007  | 810008  | 787747  |
| 25° | 501033  | 564887  | 510832  |
| 30° | 291394  | 328993  | 296521  |
| 35° | 154064  | 163881  | 154546  |
| 40° | 81342   | 85013   | 81342   |
| 45° | 45491   | 47166   | 46049   |
| 50° | 21261   | 26864   | 21261   |
| 55° | 7741    | 14709   | 8429    |
| 60° | 8881    | 8881    | 8881    |
| 65° | 9456    | 10507   | 9456    |
| 70° | 11684   | 10530   | 11684   |
| 75° | 10865   | 10865   | 10865   |
| 80° | 11649   | 9376    | 11649   |
| 85° | 9057    | 9057    | 9057    |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 250.0  | 16.5      |
| 10°-20°   | 556.6  | 36.6      |
| 20°-30°   | 449.5  | 29.6      |
| 30°-40°   | 177.7  | 11.7      |
| 40°-50°   | 54.6   | 3.6       |
| 50°-60°   | 14.1   | 0.9       |
| 60°-70°   | 8.5    | 0.6       |
| 70°-80°   | 6.2    | 0.4       |
| 80°-90°   | 1.8    | 0.1       |
| 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°    | 1256.1 | 82.7      |
| 0°-40°    | 1433.7 | 94.4      |
| 0°-60°    | 1502.4 | 98.9      |
| 0°-90°    | 1518.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1518.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2800 | 2800  | 2800 | 2800  | 2800 |      |
| 5°  | 2706 | 2711  | 2712 | 2707  | 2700 | 250  |
| 15° | 2020 | 2026  | 2039 | 2031  | 2017 | 555  |
| 25° | 920  | 964   | 1038 | 982   | 938  | 428  |
| 35° | 256  | 263   | 272  | 264   | 257  | 171  |
| 45° | 65   | 66    | 68   | 67    | 66   | 53   |
| 55° | 9    | 12    | 17   | 12    | 10   | 11   |
| 65° | 8    | 9     | 9    | 9     | 8    | 8    |
| 75° | 6    | 6     | 6    | 6     | 6    | 6    |
| 85° | 2    | 2     | 2    | 2     | 2    | 2    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2800.4 | 2800.4 | 2800.4 | 2800.4 | 2800.4 |
| 2.5°  | 2765.4 | 2767.0 | 2769.5 | 2766.2 | 2758.1 |
| 5°    | 2705.9 | 2710.8 | 2712.4 | 2706.7 | 2700.2 |
| 7.5°  | 2608.2 | 2602.5 | 2607.4 | 2597.6 | 2589.5 |
| 10°   | 2448.5 | 2441.2 | 2438.8 | 2424.1 | 2424.1 |
| 12.5° | 2251.4 | 2249.0 | 2250.6 | 2243.3 | 2231.9 |
| 15°   | 2020.1 | 2025.8 | 2038.8 | 2030.7 | 2016.8 |
| 17.5° | 1774.9 | 1783.0 | 1794.5 | 1792.0 | 1773.3 |
| 20°   | 1502.8 | 1526.5 | 1542.8 | 1527.3 | 1500.4 |
| 22.5° | 1193.3 | 1243.8 | 1285.4 | 1252.8 | 1208.8 |
| 25°   | 920.4  | 964.4  | 1037.7 | 982.3  | 938.4  |
| 27.5° | 698.1  | 729.8  | 796.6  | 742.1  | 711.9  |
| 30°   | 511.5  | 531.1  | 577.5  | 541.7  | 520.5  |
| 32.5° | 365.7  | 379.6  | 399.1  | 378.0  | 367.4  |
| 35°   | 255.8  | 263.1  | 272.1  | 263.9  | 256.6  |
| 37.5° | 180.0  | 182.5  | 189.0  | 182.5  | 179.2  |
| 40°   | 126.3  | 127.1  | 132.0  | 127.9  | 126.3  |
| 42.5° | 91.2   | 91.2   | 93.7   | 92.0   | 91.2   |
| 45°   | 65.2   | 66.0   | 67.6   | 66.8   | 66.0   |
| 47.5° | 46.4   | 48.1   | 48.1   | 48.9   | 45.6   |
| 50°   | 27.7   | 34.2   | 35.0   | 34.2   | 27.7   |
| 52.5° | 14.7   | 20.4   | 25.3   | 20.4   | 14.7   |
| 55°   | 9.0    | 12.2   | 17.1   | 12.2   | 9.8    |
| 57.5° | 9.0    | 9.0    | 11.4   | 9.8    | 9.0    |
| 60°   | 9.0    | 9.0    | 9.0    | 9.0    | 9.0    |
| 62.5° | 9.0    | 9.0    | 9.0    | 9.0    | 9.0    |
| 65°   | 8.1    | 9.0    | 9.0    | 9.0    | 8.1    |
| 67.5° | 8.1    | 8.1    | 8.1    | 8.1    | 8.1    |
| 70°   | 8.1    | 8.1    | 7.3    | 8.1    | 8.1    |
| 72.5° | 7.3    | 7.3    | 6.5    | 7.3    | 7.3    |
| 75°   | 5.7    | 5.7    | 5.7    | 5.7    | 5.7    |
| 77.5° | 4.9    | 4.9    | 4.9    | 4.9    | 4.9    |
| 80°   | 4.1    | 4.1    | 3.3    | 4.1    | 4.1    |
| 82.5° | 2.4    | 2.4    | 2.4    | 2.4    | 2.4    |
| 85°   | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    |
| 87.5° | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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







(END OF REPORT)