

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: P284093

Luminaire Tested: **LDA2B209030D010 EU2B20WFL559030 2LBALPINSQ1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P284093  
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: LDA2B209030D010 EU2B20WFL559030 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: 1394.4 lumens  
Efficiency: N/A  
Efficacy: 67.7 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

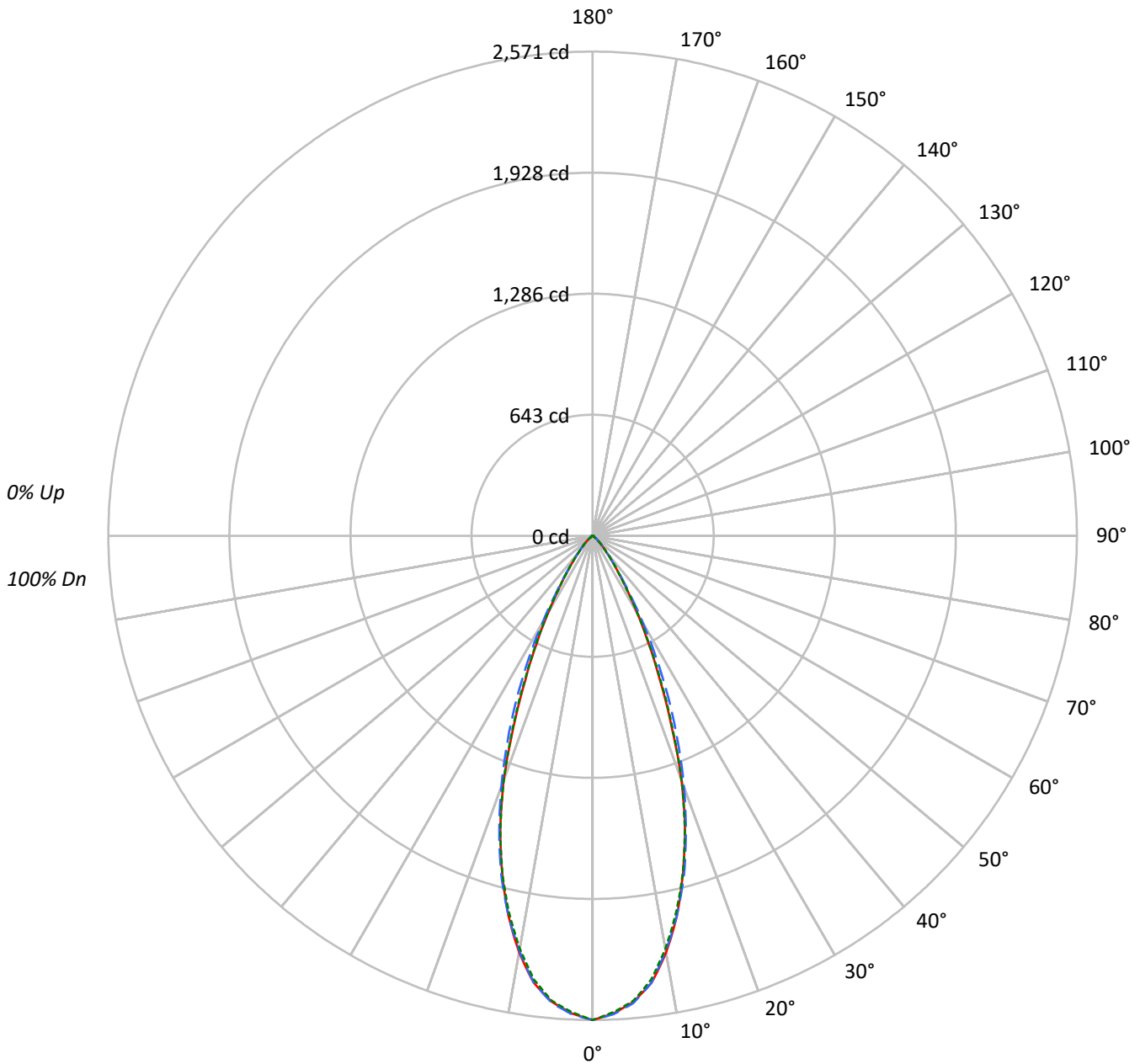
Input Watts (W): 20.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |     | 30  |     |     |     | 10  | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 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°  | 1268433 | 1268433 | 1268433 |
| 5°  | 1230291 | 1233262 | 1227716 |
| 10° | 1126137 | 1121628 | 1114915 |
| 15° | 947266  | 956051  | 945734  |
| 20° | 724377  | 743645  | 723221  |
| 25° | 459988  | 518616  | 468970  |
| 30° | 267524  | 302047  | 272253  |
| 35° | 141416  | 150450  | 141898  |
| 40° | 74644   | 77993   | 74644   |
| 45° | 41724   | 43328   | 42282   |
| 50° | 19495   | 24715   | 19495   |
| 55° | 7053    | 13504   | 7741    |
| 60° | 8091    | 8091    | 8091    |
| 65° | 8755    | 9573    | 8755    |
| 70° | 10819   | 9665    | 10819   |
| 75° | 9912    | 9912    | 9912    |
| 80° | 10512   | 8523    | 10512   |
| 85° | 8491    | 8491    | 8491    |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 229.5  | 16.5      |
| 10°-20°   | 511.0  | 36.6      |
| 20°-30°   | 412.7  | 29.6      |
| 30°-40°   | 163.1  | 11.7      |
| 40°-50°   | 50.1   | 3.6       |
| 50°-60°   | 12.9   | 0.9       |
| 60°-70°   | 7.8    | 0.6       |
| 70°-80°   | 5.7    | 0.4       |
| 80°-90°   | 1.7    | 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°    | 1153.2 | 82.7      |
| 0°-40°    | 1316.3 | 94.4      |
| 0°-60°    | 1379.3 | 98.9      |
| 0°-90°    | 1394.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1394.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2571 | 2571  | 2571 | 2571  | 2571 |      |
| 5°  | 2484 | 2489  | 2490 | 2485  | 2479 | 230  |
| 15° | 1855 | 1860  | 1872 | 1864  | 1852 | 509  |
| 25° | 845  | 885   | 953  | 902   | 862  | 393  |
| 35° | 235  | 242   | 250  | 242   | 236  | 157  |
| 45° | 60   | 61    | 62   | 61    | 61   | 49   |
| 55° | 8    | 11    | 16   | 11    | 9    | 10   |
| 65° | 8    | 8     | 8    | 8     | 8    | 8    |
| 75° | 5    | 5     | 5    | 5     | 5    | 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°    | 2571.0 | 2571.0 | 2571.0 | 2571.0 | 2571.0 |
| 2.5°  | 2538.8 | 2540.3 | 2542.6 | 2539.6 | 2532.1 |
| 5°    | 2484.2 | 2488.7 | 2490.2 | 2485.0 | 2479.0 |
| 7.5°  | 2394.5 | 2389.3 | 2393.7 | 2384.8 | 2377.3 |
| 10°   | 2247.9 | 2241.2 | 2238.9 | 2225.5 | 2225.5 |
| 12.5° | 2067.0 | 2064.7 | 2066.2 | 2059.5 | 2049.0 |
| 15°   | 1854.6 | 1859.8 | 1871.8 | 1864.3 | 1851.6 |
| 17.5° | 1629.5 | 1637.0 | 1647.4 | 1645.2 | 1628.0 |
| 20°   | 1379.7 | 1401.4 | 1416.4 | 1402.1 | 1377.5 |
| 22.5° | 1095.5 | 1141.9 | 1180.0 | 1150.1 | 1109.8 |
| 25°   | 845.0  | 885.4  | 952.7  | 901.9  | 861.5  |
| 27.5° | 640.9  | 670.0  | 731.4  | 681.3  | 653.6  |
| 30°   | 469.6  | 487.6  | 530.2  | 497.3  | 477.9  |
| 32.5° | 335.8  | 348.5  | 366.4  | 347.0  | 337.3  |
| 35°   | 234.8  | 241.5  | 249.8  | 242.3  | 235.6  |
| 37.5° | 165.3  | 167.5  | 173.5  | 167.5  | 164.5  |
| 40°   | 115.9  | 116.7  | 121.1  | 117.4  | 115.9  |
| 42.5° | 83.8   | 83.8   | 86.0   | 84.5   | 83.8   |
| 45°   | 59.8   | 60.6   | 62.1   | 61.3   | 60.6   |
| 47.5° | 42.6   | 44.1   | 44.1   | 44.9   | 41.9   |
| 50°   | 25.4   | 31.4   | 32.2   | 31.4   | 25.4   |
| 52.5° | 13.5   | 18.7   | 23.2   | 18.7   | 13.5   |
| 55°   | 8.2    | 11.2   | 15.7   | 11.2   | 9.0    |
| 57.5° | 8.2    | 8.2    | 10.5   | 9.0    | 8.2    |
| 60°   | 8.2    | 8.2    | 8.2    | 8.2    | 8.2    |
| 62.5° | 8.2    | 8.2    | 8.2    | 8.2    | 8.2    |
| 65°   | 7.5    | 8.2    | 8.2    | 8.2    | 7.5    |
| 67.5° | 7.5    | 7.5    | 7.5    | 7.5    | 7.5    |
| 70°   | 7.5    | 7.5    | 6.7    | 7.5    | 7.5    |
| 72.5° | 6.7    | 6.7    | 6.0    | 6.7    | 6.7    |
| 75°   | 5.2    | 5.2    | 5.2    | 5.2    | 5.2    |
| 77.5° | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    |
| 80°   | 3.7    | 3.7    | 3.0    | 3.7    | 3.7    |
| 82.5° | 2.2    | 2.2    | 2.2    | 2.2    | 2.2    |
| 85°   | 1.5    | 1.5    | 1.5    | 1.5    | 1.5    |
| 87.5° | 0.7    | 0.7    | 0.7    | 0.7    | 0.7    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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







(END OF REPORT)