

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: P283685

Luminaire Tested: **LDA2B159040D010 EU2B15FL409040 2LBALPINSQ1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P283685  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1809-951-15)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA2B159040D010 EU2B15FL409040 2LBALPINSQ1MW  
Description: PORTFOLIO 2IN ADJ 1500 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj SQ Pinhole w-lens, MW  
  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1022.6 lumens  
Efficiency: N/A  
Efficacy: 72.5 lumens/watt  
Spacing Criteria (0/90/45): 0.55 / 0.55 / 0.55  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

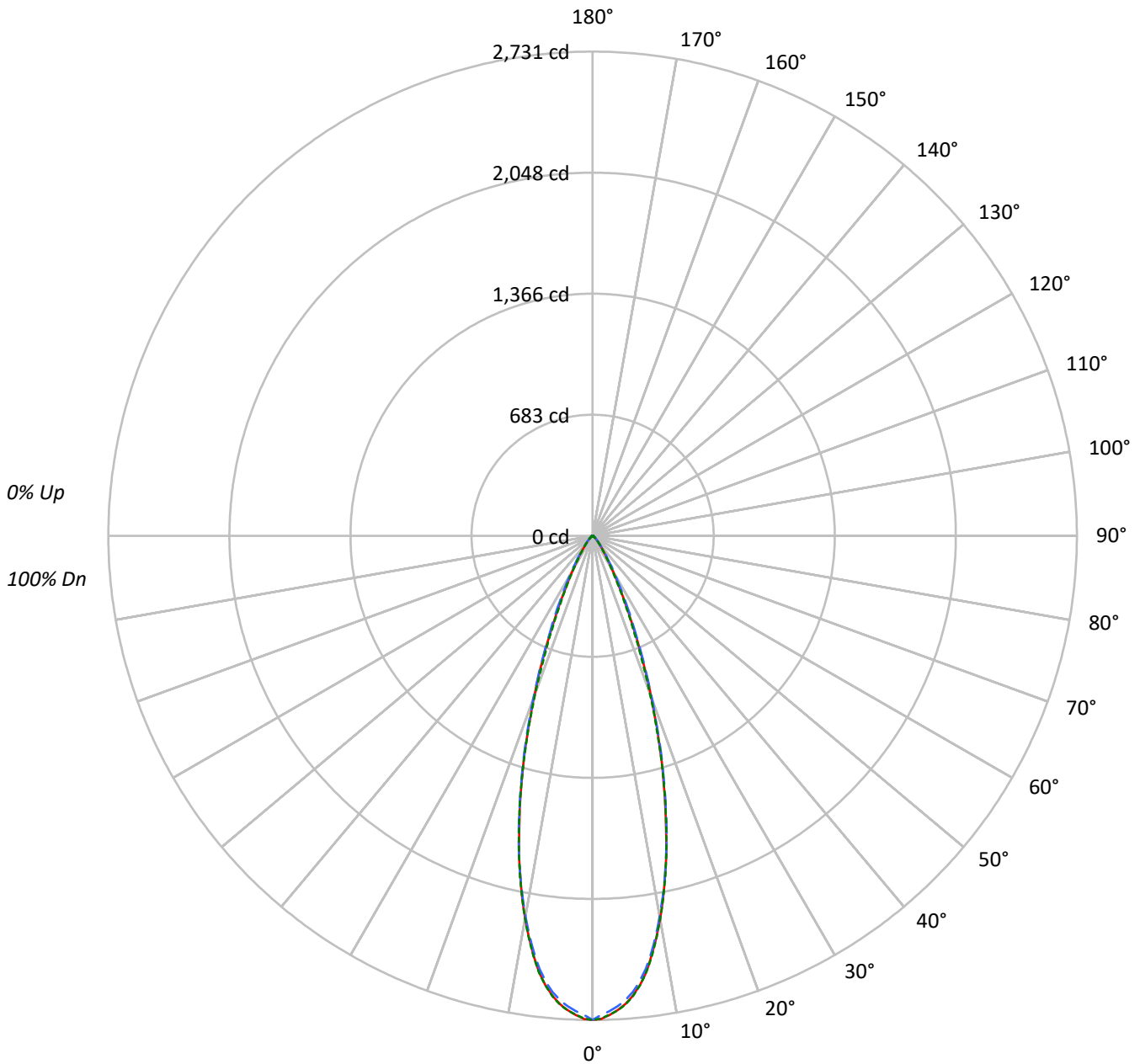
Input Watts (W): 14.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 95  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 110 | 106 | 102 | 99  | 108 | 104 | 101 | 98  | 101 | 98  | 96  | 98  | 96  | 94  | 95  | 93  | 92  | 90  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 105 | 100 | 96  | 92  | 104 | 99  | 95  | 92  | 96  | 93  | 90  | 94  | 91  | 89  | 92  | 89  | 88  | 86  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 101 | 95  | 90  | 87  | 100 | 94  | 90  | 86  | 92  | 88  | 85  | 90  | 87  | 84  | 88  | 86  | 83  | 82  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 98  | 91  | 86  | 82  | 96  | 90  | 85  | 82  | 88  | 84  | 81  | 86  | 83  | 80  | 85  | 82  | 80  | 79  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 94  | 87  | 82  | 78  | 93  | 86  | 81  | 78  | 84  | 80  | 77  | 83  | 80  | 77  | 82  | 79  | 76  | 75  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 91  | 83  | 78  | 75  | 89  | 82  | 78  | 74  | 81  | 77  | 74  | 80  | 76  | 74  | 79  | 76  | 73  | 72  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 87  | 80  | 75  | 71  | 86  | 79  | 74  | 71  | 78  | 74  | 71  | 77  | 73  | 71  | 76  | 73  | 70  | 69  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 84  | 77  | 72  | 69  | 83  | 76  | 72  | 68  | 75  | 71  | 68  | 74  | 71  | 68  | 74  | 70  | 68  | 67  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 82  | 74  | 69  | 66  | 81  | 73  | 69  | 66  | 73  | 69  | 66  | 72  | 68  | 65  | 71  | 68  | 65  | 64  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 1347322 | 1347322 | 1347322 |
| 5°  | 1289374 | 1279717 | 1291404 |
| 10° | 1098533 | 1091619 | 1099635 |
| 15° | 809666  | 814927  | 812271  |
| 20° | 505441  | 514787  | 494311  |
| 25° | 261077  | 280130  | 247958  |
| 30° | 125160  | 143504  | 119292  |
| 35° | 64625   | 71551   | 60469   |
| 40° | 36195   | 38063   | 34392   |
| 45° | 22048   | 22048   | 21211   |
| 50° | 11436   | 14123   | 11436   |
| 55° | 5935    | 9376    | 6451    |
| 60° | 6808    | 6808    | 6808    |
| 65° | 7355    | 7355    | 7355    |
| 70° | 9088    | 8222    | 9088    |
| 75° | 8769    | 8769    | 8769    |
| 80° | 8239    | 8239    | 8239    |
| 85° | 6227    | 6227    | 6227    |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 234.9  | 23.0      |
| 10°-20°   | 431.5  | 42.2      |
| 20°-30°   | 233.9  | 22.9      |
| 30°-40°   | 75.1   | 7.3       |
| 40°-50°   | 25.6   | 2.5       |
| 50°-60°   | 9.0    | 0.9       |
| 60°-70°   | 6.5    | 0.6       |
| 70°-80°   | 4.8    | 0.5       |
| 80°-90°   | 1.4    | 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°    | 900.3  | 88.0      |
| 0°-40°    | 975.4  | 95.4      |
| 0°-60°    | 1010.0 | 98.8      |
| 0°-90°    | 1022.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1022.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2731 | 2731  | 2731 | 2731  | 2731 |      |
| 5°  | 2604 | 2588  | 2584 | 2610  | 2608 | 235  |
| 15° | 1585 | 1598  | 1596 | 1603  | 1590 | 430  |
| 25° | 480  | 501   | 515  | 479   | 456  | 230  |
| 35° | 107  | 112   | 119  | 108   | 100  | 72   |
| 45° | 32   | 32    | 32   | 32    | 30   | 25   |
| 55° | 7    | 9     | 11   | 9     | 8    | 8    |
| 65° | 6    | 7     | 6    | 7     | 6    | 6    |
| 75° | 5    | 5     | 5    | 5     | 5    | 5    |
| 85° | 1    | 1     | 1    | 1     | 1    | 1    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2730.9 | 2730.9 | 2730.9 | 2730.9 | 2730.9 |
| 1°    | 2726.3 | 2706.8 | 2703.9 | 2729.2 | 2723.4 |
| 2°    | 2704.5 | 2686.2 | 2683.3 | 2708.5 | 2703.4 |
| 3°    | 2680.4 | 2663.8 | 2658.0 | 2684.4 | 2681.0 |
| 4°    | 2648.3 | 2632.8 | 2627.6 | 2654.0 | 2651.2 |
| 5°    | 2603.5 | 2587.5 | 2584.0 | 2609.8 | 2607.6 |
| 6°    | 2548.5 | 2535.3 | 2529.0 | 2554.8 | 2550.2 |
| 7°    | 2479.6 | 2467.6 | 2460.7 | 2479.6 | 2481.9 |
| 8°    | 2390.1 | 2384.4 | 2376.3 | 2395.3 | 2395.3 |
| 9°    | 2294.9 | 2289.7 | 2281.1 | 2298.3 | 2298.3 |
| 10°   | 2192.8 | 2189.3 | 2179.0 | 2195.0 | 2195.0 |
| 11°   | 2080.9 | 2079.2 | 2071.7 | 2084.9 | 2084.9 |
| 12°   | 1963.3 | 1967.3 | 1960.4 | 1971.9 | 1967.9 |
| 13°   | 1845.7 | 1843.9 | 1844.5 | 1853.1 | 1846.8 |
| 14°   | 1712.6 | 1722.9 | 1724.6 | 1729.8 | 1720.0 |
| 15°   | 1585.2 | 1598.4 | 1595.5 | 1603.0 | 1590.3 |
| 16°   | 1455.0 | 1469.9 | 1469.3 | 1471.0 | 1459.0 |
| 17°   | 1333.3 | 1341.9 | 1342.5 | 1340.8 | 1325.9 |
| 18°   | 1203.7 | 1215.7 | 1215.7 | 1212.8 | 1195.1 |
| 19°   | 1076.9 | 1086.1 | 1092.4 | 1086.1 | 1065.4 |
| 20°   | 962.7  | 969.0  | 980.5  | 964.4  | 941.5  |
| 21°   | 853.1  | 858.9  | 868.6  | 849.7  | 824.4  |
| 22°   | 748.1  | 755.6  | 764.8  | 743.0  | 716.6  |
| 23°   | 650.0  | 667.2  | 670.7  | 640.8  | 618.5  |
| 24°   | 559.9  | 579.5  | 585.2  | 554.8  | 531.3  |
| 25°   | 479.6  | 501.4  | 514.6  | 479.1  | 455.5  |
| 26°   | 410.2  | 431.4  | 447.5  | 411.9  | 389.6  |
| 27°   | 349.4  | 371.8  | 388.4  | 355.1  | 333.9  |
| 28°   | 297.2  | 319.0  | 336.2  | 305.2  | 285.1  |
| 29°   | 258.2  | 270.8  | 288.0  | 262.2  | 243.8  |
| 30°   | 219.7  | 233.5  | 251.9  | 225.5  | 209.4  |
| 32.5° | 150.9  | 158.3  | 172.7  | 156.6  | 144.0  |
| 35°   | 107.3  | 111.9  | 118.8  | 107.9  | 100.4  |
| 37.5° | 76.3   | 78.6   | 82.6   | 76.3   | 72.3   |
| 40°   | 56.2   | 57.4   | 59.1   | 55.7   | 53.4   |
| 42.5° | 41.9   | 42.5   | 42.5   | 41.3   | 40.2   |
| 45°   | 31.6   | 32.1   | 31.6   | 31.6   | 30.4   |
| 47.5° | 22.9   | 24.7   | 24.1   | 24.1   | 22.4   |
| 50°   | 14.9   | 18.4   | 18.4   | 17.8   | 14.9   |
| 52.5° | 9.2    | 12.6   | 14.3   | 12.6   | 9.8    |
| 55°   | 6.9    | 8.6    | 10.9   | 8.6    | 7.5    |
| 57.5° | 6.9    | 6.9    | 8.0    | 6.9    | 6.9    |
| 60°   | 6.9    | 6.9    | 6.9    | 6.9    | 6.9    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 67.5° | 6.3 | 6.3   | 6.3 | 6.3   | 6.3 |
| 70°   | 6.3 | 6.3   | 5.7 | 6.3   | 6.3 |
| 72.5° | 5.7 | 5.7   | 5.2 | 5.7   | 5.2 |
| 75°   | 4.6 | 4.6   | 4.6 | 4.6   | 4.6 |
| 77.5° | 3.4 | 3.4   | 3.4 | 3.4   | 3.4 |
| 80°   | 2.9 | 2.9   | 2.9 | 2.9   | 2.9 |
| 82.5° | 1.7 | 1.7   | 1.7 | 2.3   | 1.7 |
| 85°   | 1.1 | 1.1   | 1.1 | 1.1   | 1.1 |
| 87.5° | 0.6 | 0.6   | 0.6 | 0.6   | 0.6 |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |



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







|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| 62.5° | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 |
| 65°   | 6.3 | 6.9 | 6.3 | 6.9 | 6.3 |



(END OF REPORT)