

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: P284095

Luminaire Tested: **LDA2B209030D010 EU2B20WFL559030 2LBALPINSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P284095  
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 2LBALPINSQ1MMS  
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH WIDE FLOOD OPTIC AND  
2in Adj SQ Pinhole w-lens, MMS  
  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1365.0 lumens  
Efficiency: N/A  
Efficacy: 66.3 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

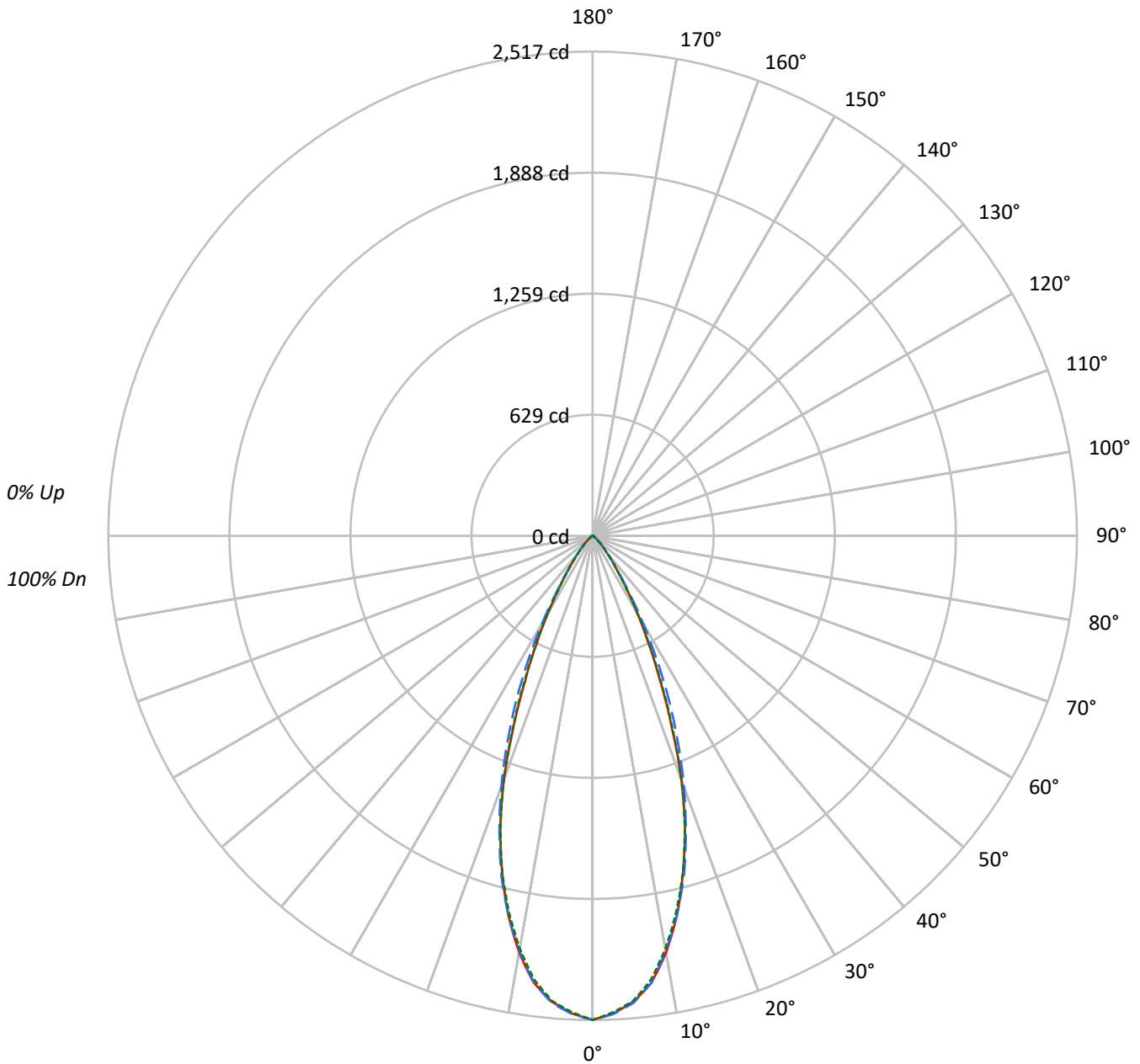
Input Watts (W): 20.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P284095

CATALOG NUMBER: LDA2B209030D010 EU2B20WFL559030 2LBALPINSQ1MMS

### Luminous Intensity Polar Plot





TEST NUMBER: P284095

CATALOG NUMBER: LDA2B209030D010 EU2B20WFL559030 2LBALPINSQ1MMS

**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  | 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 |    |    |    |    | 100 |   |  |   |
| 1   | 114 | 111 | 109 | 107 | 111 | 109 | 107 | 105 | 105 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 96  | 94  |    |    |    |    | 94  |   |  |   |
| 2   | 109 | 104 | 101 | 98  | 107 | 103 | 99  | 96  | 100 | 97  | 94  | 97  | 94  | 92  | 94  | 92  | 90  | 89  |    |    |    |    | 89  |   |  |   |
| 3   | 104 | 98  | 94  | 90  | 102 | 97  | 93  | 89  | 94  | 91  | 88  | 92  | 89  | 87  | 90  | 87  | 85  | 84  |    |    |    |    | 84  |   |  |   |
| 4   | 100 | 93  | 88  | 84  | 98  | 92  | 87  | 83  | 90  | 86  | 82  | 88  | 84  | 81  | 86  | 83  | 81  | 79  |    |    |    |    | 79  |   |  |   |
| 5   | 95  | 88  | 82  | 79  | 94  | 87  | 82  | 78  | 85  | 81  | 78  | 84  | 80  | 77  | 82  | 79  | 76  | 75  |    |    |    |    | 75  |   |  |   |
| 6   | 91  | 83  | 78  | 74  | 90  | 82  | 77  | 74  | 81  | 77  | 73  | 80  | 76  | 73  | 78  | 75  | 72  | 71  |    |    |    |    | 71  |   |  |   |
| 7   | 87  | 79  | 74  | 70  | 86  | 78  | 73  | 70  | 77  | 73  | 69  | 76  | 72  | 69  | 75  | 71  | 69  | 67  |    |    |    |    | 67  |   |  |   |
| 8   | 84  | 75  | 70  | 66  | 83  | 75  | 70  | 66  | 74  | 69  | 66  | 73  | 69  | 66  | 72  | 68  | 65  | 64  |    |    |    |    | 64  |   |  |   |
| 9   | 81  | 72  | 67  | 63  | 80  | 71  | 66  | 63  | 71  | 66  | 63  | 70  | 66  | 63  | 69  | 65  | 62  | 61  |    |    |    |    | 61  |   |  |   |
| 10  | 77  | 69  | 64  | 60  | 76  | 68  | 63  | 60  | 68  | 63  | 60  | 67  | 63  | 60  | 66  | 62  | 60  | 58  |    |    |    |    | 58  |   |  |   |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 1241594 | 1241594 | 1241594 |
| 5°  | 1204241 | 1207163 | 1201715 |
| 10° | 1102290 | 1097932 | 1091319 |
| 15° | 927193  | 935825  | 925712  |
| 20° | 709046  | 727894  | 707891  |
| 25° | 450244  | 507620  | 459008  |
| 30° | 261884  | 295667  | 266442  |
| 35° | 138405  | 147258  | 138887  |
| 40° | 73098   | 76383   | 73098   |
| 45° | 40886   | 42421   | 41375   |
| 50° | 19112   | 24177   | 19112   |
| 55° | 6967    | 13246   | 7569    |
| 60° | 7992    | 7992    | 7992    |
| 65° | 8522    | 9456    | 8522    |
| 70° | 10530   | 9520    | 10530   |
| 75° | 9722    | 9722    | 9722    |
| 80° | 10512   | 8239    | 10512   |
| 85° | 8491    | 8491    | 8491    |



TEST NUMBER: P284095

CATALOG NUMBER: LDA2B209030D010 EU2B20WFL559030 2LBALPINSQ1MMS

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 224.6  | 16.5      |
| 10°-20°   | 500.2  | 36.6      |
| 20°-30°   | 403.9  | 29.6      |
| 30°-40°   | 159.7  | 11.7      |
| 40°-50°   | 49.0   | 3.6       |
| 50°-60°   | 12.6   | 0.9       |
| 60°-70°   | 7.7    | 0.6       |
| 70°-80°   | 5.6    | 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°    | 1128.8 | 82.7      |
| 0°-40°    | 1288.4 | 94.4      |
| 0°-60°    | 1350.1 | 98.9      |
| 0°-90°    | 1365.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1365.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2517 | 2517  | 2517 | 2517  | 2517 |      |
| 5°  | 2432 | 2436  | 2438 | 2432  | 2426 | 225  |
| 15° | 1815 | 1820  | 1832 | 1825  | 1812 | 499  |
| 25° | 827  | 867   | 932  | 883   | 843  | 385  |
| 35° | 230  | 236   | 244  | 237   | 231  | 154  |
| 45° | 59   | 59    | 61   | 60    | 59   | 48   |
| 55° | 8    | 11    | 15   | 11    | 9    | 10   |
| 65° | 7    | 8     | 8    | 8     | 7    | 8    |
| 75° | 5    | 5     | 5    | 5     | 5    | 6    |
| 85° | 2    | 2     | 2    | 2     | 2    | 2    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



TEST NUMBER: P284095

CATALOG NUMBER: LDA2B209030D010 EU2B20WFL559030 2LBALPINSQ1MMS

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2516.6 | 2516.6 | 2516.6 | 2516.6 | 2516.6 |
| 2.5°  | 2485.1 | 2486.5 | 2488.7 | 2485.8 | 2478.5 |
| 5°    | 2431.6 | 2436.0 | 2437.5 | 2432.4 | 2426.5 |
| 7.5°  | 2343.8 | 2338.7 | 2343.1 | 2334.3 | 2327.0 |
| 10°   | 2200.3 | 2193.8 | 2191.6 | 2178.4 | 2178.4 |
| 12.5° | 2023.2 | 2021.0 | 2022.5 | 2015.9 | 2005.6 |
| 15°   | 1815.3 | 1820.4 | 1832.2 | 1824.8 | 1812.4 |
| 17.5° | 1595.0 | 1602.3 | 1612.6 | 1610.4 | 1593.5 |
| 20°   | 1350.5 | 1371.7 | 1386.4 | 1372.5 | 1348.3 |
| 22.5° | 1072.4 | 1117.7 | 1155.1 | 1125.8 | 1086.3 |
| 25°   | 827.1  | 866.7  | 932.5  | 882.8  | 843.2  |
| 27.5° | 627.3  | 655.9  | 715.9  | 666.8  | 639.8  |
| 30°   | 459.7  | 477.3  | 519.0  | 486.8  | 467.7  |
| 32.5° | 328.7  | 341.1  | 358.7  | 339.6  | 330.1  |
| 35°   | 229.8  | 236.4  | 244.5  | 237.2  | 230.6  |
| 37.5° | 161.8  | 164.0  | 169.8  | 164.0  | 161.0  |
| 40°   | 113.5  | 114.2  | 118.6  | 114.9  | 113.5  |
| 42.5° | 82.0   | 82.0   | 84.2   | 82.7   | 82.0   |
| 45°   | 58.6   | 59.3   | 60.8   | 60.0   | 59.3   |
| 47.5° | 41.7   | 43.2   | 43.2   | 43.9   | 41.0   |
| 50°   | 24.9   | 30.7   | 31.5   | 30.7   | 24.9   |
| 52.5° | 13.2   | 18.3   | 22.7   | 18.3   | 13.2   |
| 55°   | 8.1    | 11.0   | 15.4   | 11.0   | 8.8    |
| 57.5° | 8.1    | 8.1    | 10.2   | 8.8    | 8.1    |
| 60°   | 8.1    | 8.1    | 8.1    | 8.1    | 8.1    |
| 62.5° | 8.1    | 8.1    | 8.1    | 8.1    | 8.1    |
| 65°   | 7.3    | 8.1    | 8.1    | 8.1    | 7.3    |
| 67.5° | 7.3    | 7.3    | 7.3    | 7.3    | 7.3    |
| 70°   | 7.3    | 7.3    | 6.6    | 7.3    | 7.3    |
| 72.5° | 6.6    | 6.6    | 5.9    | 6.6    | 6.6    |
| 75°   | 5.1    | 5.1    | 5.1    | 5.1    | 5.1    |
| 77.5° | 4.4    | 4.4    | 4.4    | 4.4    | 4.4    |
| 80°   | 3.7    | 3.7    | 2.9    | 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    |



Report Generated By E9808895 / USPTCWHP6082093







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







(END OF REPORT)