

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: P284059

Luminaire Tested: **LDA2B208030D010 EU2B20WFL558030 2LBALPINSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P284059  
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: LDA2B208030D010 EU2B20WFL558030 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: 1692.2 lumens  
Efficiency: N/A  
Efficacy: 82.1 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

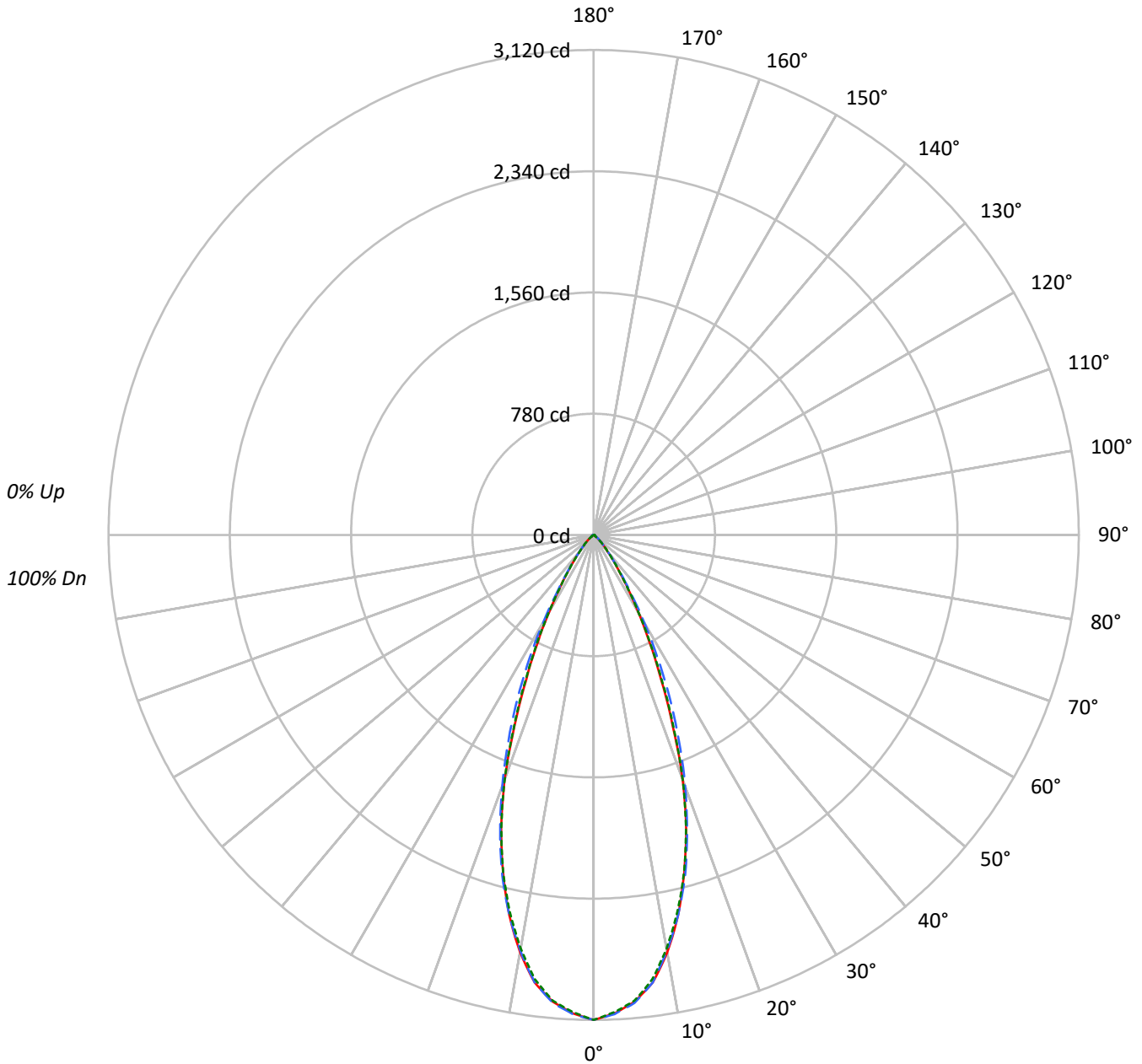
Input Watts (W): 20.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 1539239 | 1539239 | 1539239 |
| 5°  | 1493019 | 1496585 | 1489850 |
| 10° | 1366603 | 1361143 | 1352977 |
| 15° | 1149529 | 1160153 | 1147639 |
| 20° | 879049  | 902412  | 877631  |
| 25° | 558246  | 629340  | 569079  |
| 30° | 324664  | 366535  | 330360  |
| 35° | 171591  | 182552  | 172193  |
| 40° | 90616   | 94674   | 90616   |
| 45° | 50654   | 52538   | 51282   |
| 50° | 23717   | 29934   | 23717   |
| 55° | 8602    | 16429   | 9376    |
| 60° | 9867    | 9867    | 9867    |
| 65° | 10623   | 11674   | 10623   |
| 70° | 13127   | 11828   | 13127   |
| 75° | 12200   | 12200   | 12200   |
| 80° | 12785   | 10228   | 12785   |
| 85° | 10189   | 10189   | 10189   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 278.5  | 16.5      |
| 10°-20°   | 620.1  | 36.6      |
| 20°-30°   | 500.8  | 29.6      |
| 30°-40°   | 197.9  | 11.7      |
| 40°-50°   | 60.8   | 3.6       |
| 50°-60°   | 15.7   | 0.9       |
| 60°-70°   | 9.5    | 0.6       |
| 70°-80°   | 7.0    | 0.4       |
| 80°-90°   | 2.1    | 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°    | 1399.4 | 82.7      |
| 0°-40°    | 1597.3 | 94.4      |
| 0°-60°    | 1673.7 | 98.9      |
| 0°-90°    | 1692.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1692.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3120 | 3120  | 3120 | 3120  | 3120 |      |
| 5°  | 3015 | 3020  | 3022 | 3016  | 3008 | 279  |
| 15° | 2251 | 2257  | 2271 | 2262  | 2247 | 618  |
| 25° | 1026 | 1074  | 1156 | 1094  | 1045 | 477  |
| 35° | 285  | 293   | 303  | 294   | 286  | 191  |
| 45° | 73   | 74    | 75   | 74    | 74   | 59   |
| 55° | 10   | 14    | 19   | 14    | 11   | 13   |
| 65° | 9    | 10    | 10   | 10    | 9    | 9    |
| 75° | 6    | 6     | 6    | 6     | 6    | 7    |
| 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°    | 3119.9 | 3119.9 | 3119.9 | 3119.9 | 3119.9 |
| 2.5°  | 3080.9 | 3082.7 | 3085.4 | 3081.8 | 3072.7 |
| 5°    | 3014.7 | 3020.1 | 3021.9 | 3015.6 | 3008.3 |
| 7.5°  | 2905.8 | 2899.4 | 2904.9 | 2894.0 | 2884.9 |
| 10°   | 2727.9 | 2719.7 | 2717.0 | 2700.7 | 2700.7 |
| 12.5° | 2508.3 | 2505.6 | 2507.4 | 2499.2 | 2486.5 |
| 15°   | 2250.6 | 2256.9 | 2271.4 | 2262.4 | 2246.9 |
| 17.5° | 1977.4 | 1986.5 | 1999.2 | 1996.5 | 1975.6 |
| 20°   | 1674.3 | 1700.6 | 1718.8 | 1701.5 | 1671.6 |
| 22.5° | 1329.5 | 1385.7 | 1432.0 | 1395.7 | 1346.7 |
| 25°   | 1025.5 | 1074.5 | 1156.1 | 1094.4 | 1045.4 |
| 27.5° | 777.7  | 813.1  | 887.5  | 826.7  | 793.1  |
| 30°   | 569.9  | 591.7  | 643.4  | 603.5  | 579.9  |
| 32.5° | 407.5  | 422.9  | 444.7  | 421.1  | 409.3  |
| 35°   | 284.9  | 293.1  | 303.1  | 294.0  | 285.9  |
| 37.5° | 200.6  | 203.3  | 210.5  | 203.3  | 199.6  |
| 40°   | 140.7  | 141.6  | 147.0  | 142.5  | 140.7  |
| 42.5° | 101.6  | 101.6  | 104.4  | 102.5  | 101.6  |
| 45°   | 72.6   | 73.5   | 75.3   | 74.4   | 73.5   |
| 47.5° | 51.7   | 53.5   | 53.5   | 54.4   | 50.8   |
| 50°   | 30.9   | 38.1   | 39.0   | 38.1   | 30.9   |
| 52.5° | 16.3   | 22.7   | 28.1   | 22.7   | 16.3   |
| 55°   | 10.0   | 13.6   | 19.1   | 13.6   | 10.9   |
| 57.5° | 10.0   | 10.0   | 12.7   | 10.9   | 10.0   |
| 60°   | 10.0   | 10.0   | 10.0   | 10.0   | 10.0   |
| 62.5° | 10.0   | 10.0   | 10.0   | 10.0   | 10.0   |
| 65°   | 9.1    | 10.0   | 10.0   | 10.0   | 9.1    |
| 67.5° | 9.1    | 9.1    | 9.1    | 9.1    | 9.1    |
| 70°   | 9.1    | 9.1    | 8.2    | 9.1    | 9.1    |
| 72.5° | 8.2    | 8.2    | 7.3    | 8.2    | 8.2    |
| 75°   | 6.4    | 6.4    | 6.4    | 6.4    | 6.4    |
| 77.5° | 5.4    | 5.4    | 5.4    | 5.4    | 5.4    |
| 80°   | 4.5    | 4.5    | 3.6    | 4.5    | 4.5    |
| 82.5° | 2.7    | 2.7    | 2.7    | 2.7    | 2.7    |
| 85°   | 1.8    | 1.8    | 1.8    | 1.8    | 1.8    |
| 87.5° | 0.9    | 0.9    | 0.9    | 0.9    | 0.9    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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







(END OF REPORT)