

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: P283500

Luminaire Tested: **LDA2B059027D010 EU2B05FL409027 2LBALPINSQ1MB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P283500  
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: LDA2B059027D010 EU2B05FL409027 2LBALPINSQ1MB  
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj SQ Pinhole w-lens, MB  
  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 492.6 lumens  
Efficiency: N/A  
Efficacy: 70.4 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

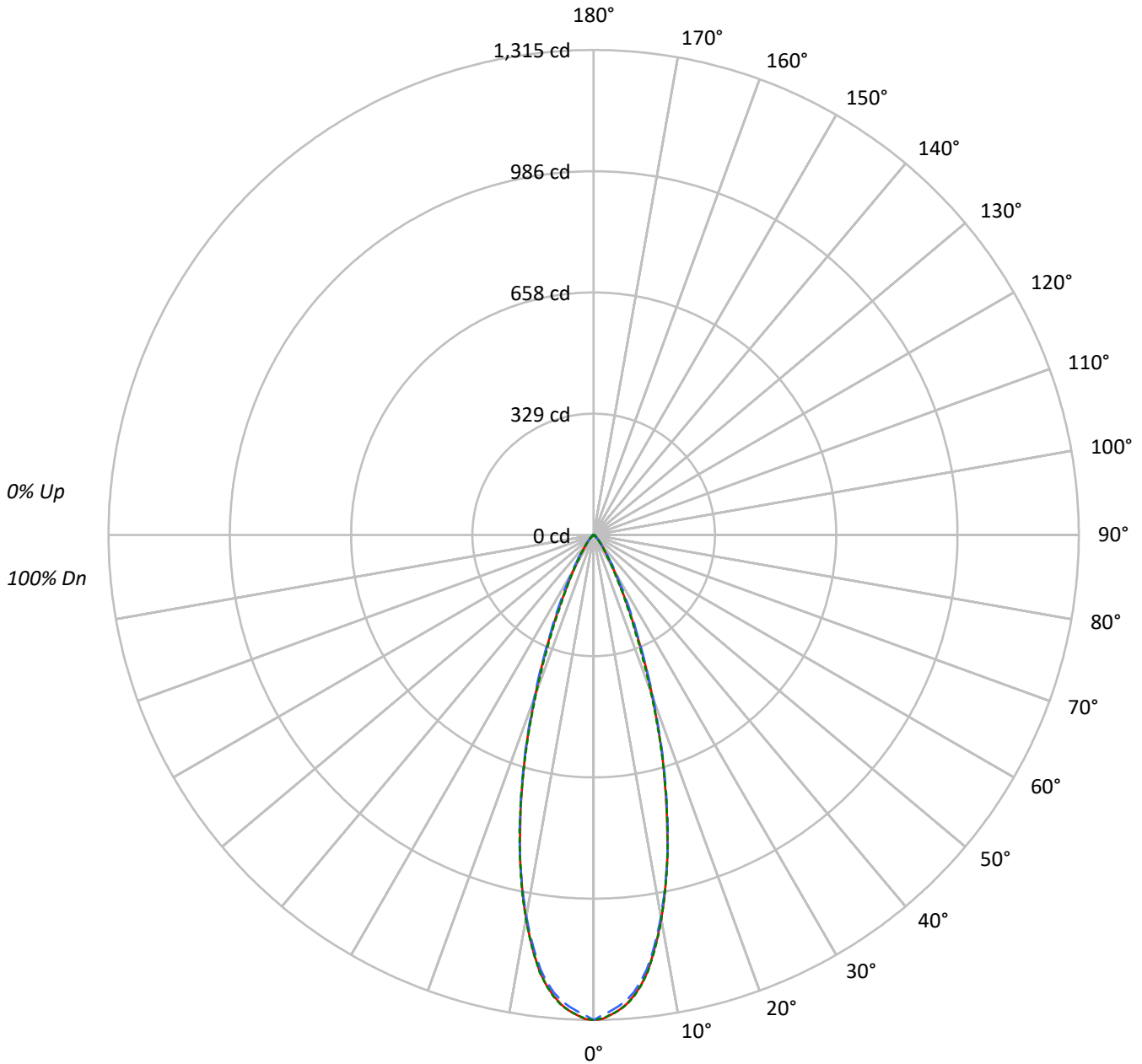
Input Watts (W): 7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 648968 | 648968 | 648968 |
| 5°  | 621088 | 616433 | 622029 |
| 10° | 529127 | 525821 | 529678 |
| 15° | 389970 | 392523 | 391247 |
| 20° | 243454 | 247969 | 238099 |
| 25° | 125748 | 134948 | 119434 |
| 30° | 60273  | 69103  | 57481  |
| 35° | 31138  | 34451  | 29151  |
| 40° | 17453  | 18355  | 16552  |
| 45° | 10605  | 10605  | 10187  |
| 50° | 5526   | 6754   | 5526   |
| 55° | 2838   | 4559   | 3097   |
| 60° | 3256   | 3256   | 3256   |
| 65° | 3502   | 3502   | 3502   |
| 70° | 4327   | 4039   | 4327   |
| 75° | 4194   | 4194   | 4194   |
| 80° | 3978   | 3978   | 3978   |
| 85° | 3396   | 3396   | 3396   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 113.1  | 23.0      |
| 10°-20°   | 207.8  | 42.2      |
| 20°-30°   | 112.7  | 22.9      |
| 30°-40°   | 36.2   | 7.3       |
| 40°-50°   | 12.3   | 2.5       |
| 50°-60°   | 4.3    | 0.9       |
| 60°-70°   | 3.1    | 0.6       |
| 70°-80°   | 2.3    | 0.5       |
| 80°-90°   | 0.7    | 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°    | 433.6  | 88.0      |
| 0°-40°    | 469.8  | 95.4      |
| 0°-60°    | 486.5  | 98.8      |
| 0°-90°    | 492.6  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 492.6  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1315 | 1315  | 1315 | 1315  | 1315 |      |
| 5°  | 1254 | 1246  | 1245 | 1257  | 1256 | 113  |
| 15° | 764  | 770   | 768  | 772   | 766  | 207  |
| 25° | 231  | 242   | 248  | 231   | 219  | 111  |
| 35° | 52   | 54    | 57   | 52    | 48   | 35   |
| 45° | 15   | 16    | 15   | 15    | 15   | 12   |
| 55° | 3    | 4     | 5    | 4     | 4    | 4    |
| 65° | 3    | 3     | 3    | 3     | 3    | 3    |
| 75° | 2    | 2     | 2    | 2     | 2    | 2    |
| 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°    | 1315.4 | 1315.4 | 1315.4 | 1315.4 | 1315.4 |
| 1°    | 1313.2 | 1303.8 | 1302.4 | 1314.6 | 1311.8 |
| 2°    | 1302.7 | 1293.9 | 1292.5 | 1304.6 | 1302.1 |
| 3°    | 1291.1 | 1283.1 | 1280.3 | 1293.0 | 1291.4 |
| 4°    | 1275.6 | 1268.2 | 1265.7 | 1278.4 | 1277.0 |
| 5°    | 1254.1 | 1246.3 | 1244.7 | 1257.1 | 1256.0 |
| 6°    | 1227.5 | 1221.2 | 1218.1 | 1230.6 | 1228.4 |
| 7°    | 1194.4 | 1188.6 | 1185.2 | 1194.4 | 1195.5 |
| 8°    | 1151.3 | 1148.5 | 1144.6 | 1153.7 | 1153.7 |
| 9°    | 1105.4 | 1102.9 | 1098.8 | 1107.0 | 1107.0 |
| 10°   | 1056.2 | 1054.5 | 1049.6 | 1057.3 | 1057.3 |
| 11°   | 1002.3 | 1001.5 | 997.9  | 1004.2 | 1004.2 |
| 12°   | 945.7  | 947.6  | 944.3  | 949.8  | 947.9  |
| 13°   | 889.0  | 888.2  | 888.5  | 892.6  | 889.6  |
| 14°   | 824.9  | 829.9  | 830.7  | 833.2  | 828.5  |
| 15°   | 763.5  | 769.9  | 768.5  | 772.1  | 766.0  |
| 16°   | 700.8  | 708.0  | 707.7  | 708.6  | 702.7  |
| 17°   | 642.2  | 646.4  | 646.7  | 645.8  | 638.6  |
| 18°   | 579.8  | 585.6  | 585.6  | 584.2  | 575.6  |
| 19°   | 518.7  | 523.1  | 526.2  | 523.1  | 513.2  |
| 20°   | 463.7  | 466.7  | 472.3  | 464.5  | 453.5  |
| 21°   | 410.9  | 413.7  | 418.4  | 409.3  | 397.1  |
| 22°   | 360.4  | 363.9  | 368.4  | 357.9  | 345.2  |
| 23°   | 313.1  | 321.4  | 323.0  | 308.7  | 297.9  |
| 24°   | 269.7  | 279.1  | 281.9  | 267.2  | 255.9  |
| 25°   | 231.0  | 241.5  | 247.9  | 230.7  | 219.4  |
| 26°   | 197.6  | 207.8  | 215.6  | 198.4  | 187.6  |
| 27°   | 168.3  | 179.1  | 187.1  | 171.1  | 160.8  |
| 28°   | 143.1  | 153.6  | 161.9  | 147.0  | 137.3  |
| 29°   | 124.4  | 130.4  | 138.7  | 126.3  | 117.4  |
| 30°   | 105.8  | 112.5  | 121.3  | 108.6  | 100.9  |
| 32.5° | 72.7   | 76.3   | 83.2   | 75.4   | 69.4   |
| 35°   | 51.7   | 53.9   | 57.2   | 52.0   | 48.4   |
| 37.5° | 36.8   | 37.9   | 39.8   | 36.8   | 34.8   |
| 40°   | 27.1   | 27.6   | 28.5   | 26.8   | 25.7   |
| 42.5° | 20.2   | 20.4   | 20.4   | 19.9   | 19.3   |
| 45°   | 15.2   | 15.5   | 15.2   | 15.2   | 14.6   |
| 47.5° | 11.1   | 11.9   | 11.6   | 11.6   | 10.8   |
| 50°   | 7.2    | 8.8    | 8.8    | 8.6    | 7.2    |
| 52.5° | 4.4    | 6.1    | 6.9    | 6.1    | 4.7    |
| 55°   | 3.3    | 4.1    | 5.3    | 4.1    | 3.6    |
| 57.5° | 3.3    | 3.3    | 3.9    | 3.3    | 3.3    |
| 60°   | 3.3    | 3.3    | 3.3    | 3.3    | 3.3    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 67.5° | 3.0 | 3.0   | 3.0 | 3.0   | 3.0 |
| 70°   | 3.0 | 3.0   | 2.8 | 3.0   | 3.0 |
| 72.5° | 2.8 | 2.8   | 2.5 | 2.8   | 2.5 |
| 75°   | 2.2 | 2.2   | 2.2 | 2.2   | 2.2 |
| 77.5° | 1.7 | 1.7   | 1.7 | 1.7   | 1.7 |
| 80°   | 1.4 | 1.4   | 1.4 | 1.4   | 1.4 |
| 82.5° | 0.8 | 0.8   | 0.8 | 1.1   | 0.8 |
| 85°   | 0.6 | 0.6   | 0.6 | 0.6   | 0.6 |
| 87.5° | 0.3 | 0.3   | 0.3 | 0.3   | 0.3 |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |



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







|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| 62.5° | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |
| 65°   | 3.0 | 3.3 | 3.0 | 3.3 | 3.0 |



(END OF REPORT)