

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: P281778

Luminaire Tested: **LDA2B159030D010 EU2B15SP159030 2LBALSQC1MB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P281778  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-5)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA2B159030D010 EU2B15SP159030 2LBALSQC1MB  
Description: PORTFOLIO 2IN ADJ 1500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ Cast Trim w/lens, MB  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1161.2 lumens  
Efficiency: N/A  
Efficacy: 82.4 lumens/watt  
Spacing Criteria (0/90/45): 0.33 / 0.31 / 0.32  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

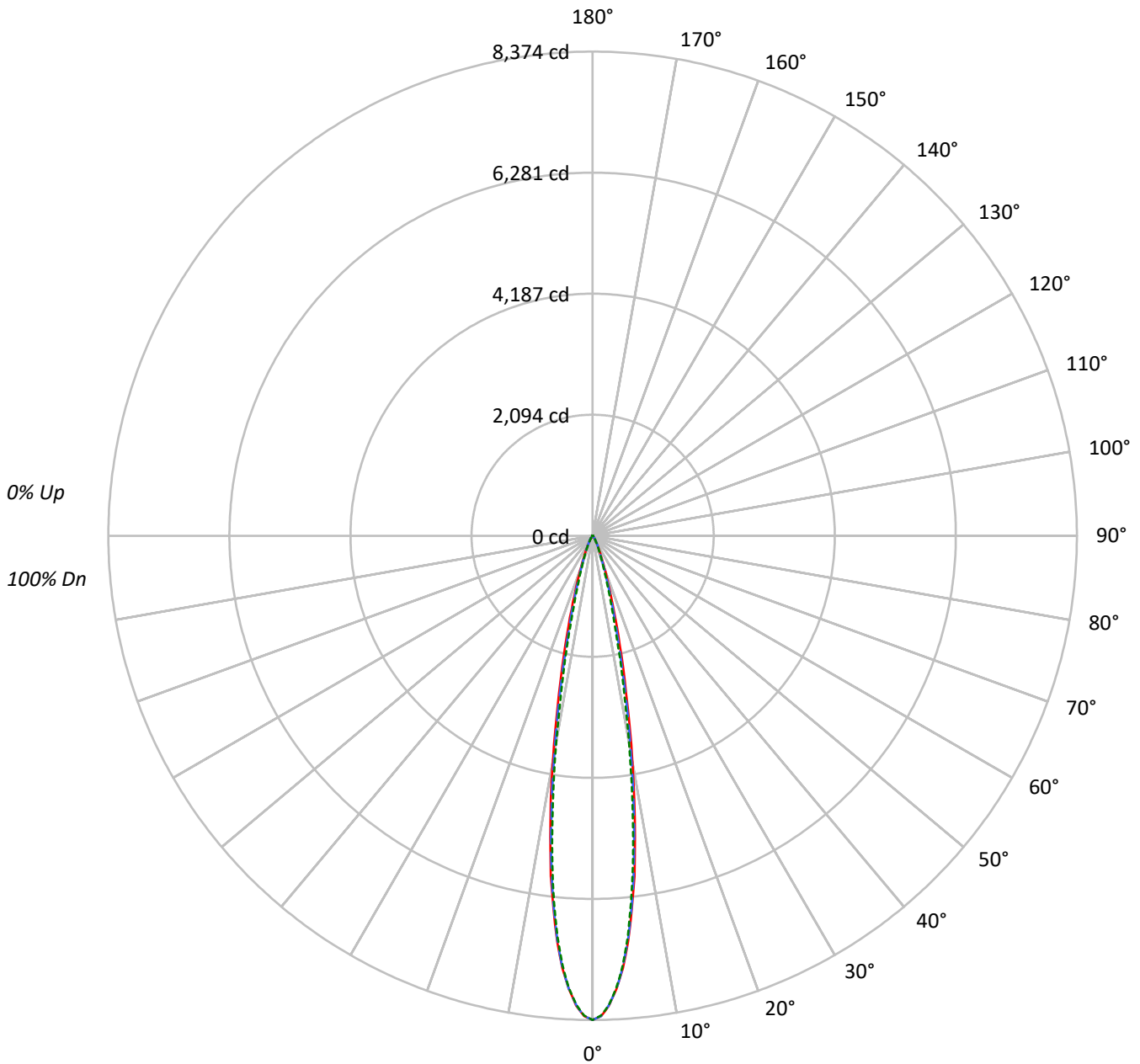
Input Watts (W): 14.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 115 | 113 | 111 | 110 | 113 | 111 | 110 | 108 | 107 | 106 | 105 | 104 | 103 | 102 | 100 | 99  | 99  | 97  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 112 | 108 | 106 | 103 | 110 | 107 | 104 | 102 | 104 | 102 | 100 | 101 | 99  | 98  | 98  | 97  | 96  | 95  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 109 | 104 | 101 | 98  | 107 | 103 | 100 | 98  | 101 | 98  | 96  | 98  | 96  | 95  | 96  | 95  | 93  | 92  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 106 | 101 | 97  | 95  | 104 | 100 | 97  | 94  | 98  | 95  | 93  | 96  | 94  | 92  | 94  | 93  | 91  | 90  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 103 | 98  | 94  | 91  | 102 | 97  | 93  | 91  | 95  | 92  | 90  | 94  | 91  | 89  | 93  | 90  | 89  | 88  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 101 | 95  | 91  | 88  | 99  | 94  | 91  | 88  | 93  | 90  | 88  | 92  | 89  | 87  | 91  | 88  | 87  | 86  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 98  | 92  | 89  | 86  | 97  | 92  | 88  | 86  | 91  | 88  | 85  | 90  | 87  | 85  | 89  | 87  | 85  | 84  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 96  | 90  | 86  | 84  | 95  | 90  | 86  | 84  | 89  | 86  | 83  | 88  | 85  | 83  | 87  | 85  | 83  | 82  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 94  | 88  | 84  | 82  | 93  | 88  | 84  | 82  | 87  | 84  | 82  | 86  | 83  | 81  | 86  | 83  | 81  | 80  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 92  | 86  | 83  | 80  | 91  | 86  | 82  | 80  | 85  | 82  | 80  | 85  | 82  | 80  | 84  | 81  | 80  | 79  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 4131658 | 4131658 | 4131658 |
| 5°  | 3490843 | 3472222 | 3446617 |
| 10° | 1986958 | 1899488 | 1802850 |
| 15° | 822792  | 728812  | 642032  |
| 20° | 313020  | 274115  | 250962  |
| 25° | 138269  | 132825  | 118073  |
| 30° | 63976   | 70698   | 56285   |
| 35° | 33668   | 39630   | 31499   |
| 40° | 14748   | 17067   | 9854    |
| 45° | 5721    | 4535    | 6559    |
| 50° | 2686    | 3147    | 4528    |
| 55° | 0       | 2064    | 0       |
| 60° | 0       | 0       | 1184    |
| 65° | 0       | 0       | 0       |
| 70° | 0       | 865     | 0       |
| 75° | 0       | 0       | 0       |
| 80° | 3409    | 0       | 0       |
| 85° | 33398   | 30002   | 13586   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 559.9  | 48.2      |
| 10°-20°   | 428.1  | 36.9      |
| 20°-30°   | 119.0  | 10.3      |
| 30°-40°   | 38.7   | 3.3       |
| 40°-50°   | 8.5    | 0.7       |
| 50°-60°   | 2.6    | 0.2       |
| 60°-70°   | 1.5    | 0.1       |
| 70°-80°   | 0.9    | 0.1       |
| 80°-90°   | 1.9    | 0.2       |
| 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°    | 1107.1 | 95.3      |
| 0°-40°    | 1145.8 | 98.7      |
| 0°-60°    | 1156.9 | 99.6      |
| 0°-90°    | 1161.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1161.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 8374 | 8374  | 8374 | 8374  | 8374 |      |
| 5°  | 7049 | 6997  | 7011 | 6959  | 6959 | 570  |
| 15° | 1611 | 1555  | 1427 | 1317  | 1257 | 470  |
| 25° | 254  | 257   | 244  | 230   | 217  | 127  |
| 35° | 56   | 61    | 66   | 50    | 52   | 37   |
| 45° | 8    | 12    | 6    | 6     | 9    | 8    |
| 55° | 0    | 4     | 2    | 1     | 0    | 2    |
| 65° | 0    | 2     | 0    | 0     | 0    | 2    |
| 75° | 0    | 0     | 0    | 1     | 0    | 0    |
| 85° | 6    | 3     | 5    | 3     | 2    | 2    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 8374.5 | 8374.5 | 8374.5 | 8374.5 | 8374.5 |
| 1°    | 8310.4 | 8279.3 | 8309.3 | 8291.6 | 8301.6 |
| 2°    | 8129.9 | 8091.1 | 8122.3 | 8097.6 | 8118.2 |
| 3°    | 7848.9 | 7818.9 | 7846.6 | 7815.4 | 7831.9 |
| 4°    | 7496.7 | 7453.2 | 7480.9 | 7439.1 | 7449.1 |
| 5°    | 7048.7 | 6997.0 | 7011.1 | 6958.8 | 6959.4 |
| 6°    | 6484.3 | 6448.4 | 6456.7 | 6375.0 | 6369.1 |
| 7°    | 5932.2 | 5847.6 | 5838.8 | 5745.3 | 5727.1 |
| 8°    | 5262.0 | 5185.0 | 5159.7 | 5049.8 | 5011.0 |
| 9°    | 4619.4 | 4523.6 | 4471.8 | 4344.2 | 4299.0 |
| 10°   | 3966.2 | 3869.2 | 3791.6 | 3647.5 | 3598.7 |
| 11°   | 3361.8 | 3274.2 | 3177.8 | 3023.7 | 2976.1 |
| 12°   | 2800.9 | 2732.1 | 2626.3 | 2477.5 | 2427.6 |
| 13°   | 2342.9 | 2263.5 | 2150.1 | 2011.9 | 1969.0 |
| 14°   | 1946.1 | 1860.8 | 1747.3 | 1629.2 | 1545.7 |
| 15°   | 1610.9 | 1555.1 | 1426.9 | 1317.0 | 1257.0 |
| 16°   | 1316.4 | 1268.8 | 1158.2 | 1063.0 | 1020.7 |
| 17°   | 1079.4 | 1041.2 | 947.2  | 872.5  | 837.2  |
| 18°   | 890.7  | 843.1  | 769.0  | 720.2  | 692.6  |
| 19°   | 722.6  | 685.5  | 631.4  | 593.8  | 566.2  |
| 20°   | 596.2  | 565.6  | 522.1  | 488.6  | 478.0  |
| 22.5° | 385.1  | 379.8  | 351.6  | 333.4  | 324.5  |
| 25°   | 254.0  | 256.9  | 244.0  | 229.9  | 216.9  |
| 26°   | 216.9  | 218.7  | 207.0  | 198.7  | 182.3  |
| 27°   | 185.8  | 186.4  | 186.4  | 171.1  | 155.2  |
| 28°   | 151.7  | 158.2  | 152.3  | 145.2  | 129.9  |
| 29°   | 129.9  | 138.2  | 135.2  | 128.2  | 113.5  |
| 30°   | 112.3  | 118.2  | 124.1  | 112.9  | 98.8   |
| 32.5° | 78.8   | 84.1   | 90.5   | 84.7   | 72.9   |
| 35°   | 55.9   | 60.6   | 65.8   | 50.0   | 52.3   |
| 37.5° | 38.2   | 46.4   | 44.7   | 40.6   | 34.7   |
| 40°   | 22.9   | 24.1   | 26.5   | 28.2   | 15.3   |
| 42.5° | 16.5   | 19.4   | 17.6   | 20.0   | 7.1    |
| 45°   | 8.2    | 11.8   | 6.5    | 6.5    | 9.4    |
| 47.5° | 5.9    | 10.0   | 3.5    | 3.5    | 1.2    |
| 50°   | 3.5    | 7.6    | 4.1    | 1.8    | 5.9    |
| 52.5° | 5.9    | 7.1    | 4.7    | 5.3    | 1.2    |
| 55°   | 0.0    | 3.5    | 2.4    | 1.2    | 0.0    |
| 57.5° | 2.4    | 4.1    | 2.4    | 1.2    | 2.4    |
| 60°   | 0.0    | 0.0    | 0.0    | 0.6    | 1.2    |
| 62.5° | 0.0    | 1.2    | 0.0    | 1.8    | 2.4    |
| 65°   | 0.0    | 2.4    | 0.0    | 0.0    | 0.0    |
| 67.5° | 3.5    | 4.1    | 2.4    | 4.7    | 7.1    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.0   | 0.0 | 1.2   | 0.0 |
| 77.5° | 0.0 | 5.9   | 1.8 | 1.8   | 2.4 |
| 80°   | 1.2 | 0.0   | 0.0 | 0.6   | 0.0 |
| 82.5° | 0.0 | 4.7   | 0.6 | 2.4   | 3.5 |
| 85°   | 5.9 | 2.9   | 5.3 | 2.9   | 2.4 |
| 87.5° | 0.0 | 0.6   | 1.2 | 0.6   | 0.0 |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |



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







|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| 70°   | 0.0 | 0.0 | 0.6 | 0.6 | 0.0 |
| 72.5° | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)