

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: **LDA2B058027D010 EU2B05SP158027 2LBALSQC1MW**

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: LDA2B058027D010 EU2B05SP158027 2LBALSQC1MW  
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ Cast Trim w/lens, MW  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 781.4 lumens  
Efficiency: N/A  
Efficacy: 111.6 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

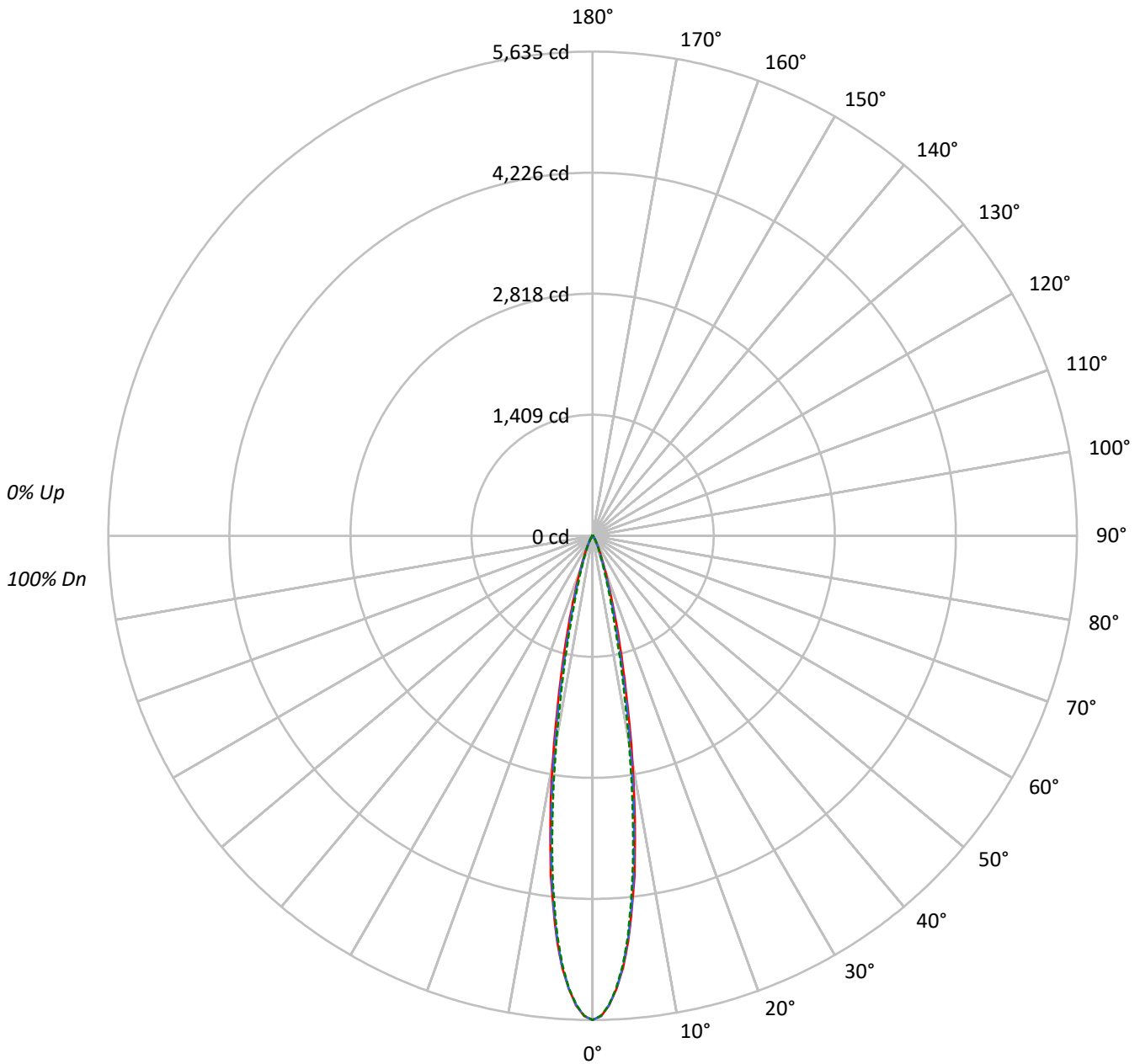
Input Watts (W): 7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 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°  | 2779995 | 2779995 | 2779995 |
| 5°  | 2348805 | 2336275 | 2319041 |
| 10° | 1336946 | 1278082 | 1213055 |
| 15° | 553619  | 490386  | 432006  |
| 20° | 210587  | 184441  | 168848  |
| 25° | 93032   | 89385   | 79477   |
| 30° | 43068   | 47569   | 37884   |
| 35° | 22646   | 26681   | 21200   |
| 40° | 9918    | 11464   | 6634    |
| 45° | 3837    | 3070    | 4396    |
| 50° | 1842    | 2149    | 3070    |
| 55° | 0       | 1376    | 0       |
| 60° | 0       | 0       | 789     |
| 65° | 0       | 0       | 0       |
| 70° | 0       | 577     | 0       |
| 75° | 0       | 0       | 0       |
| 80° | 2273    | 0       | 0       |
| 85° | 22643   | 20378   | 9057    |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 376.8  | 48.2      |
| 10°-20°   | 288.0  | 36.9      |
| 20°-30°   | 80.1   | 10.3      |
| 30°-40°   | 26.0   | 3.3       |
| 40°-50°   | 5.7    | 0.7       |
| 50°-60°   | 1.8    | 0.2       |
| 60°-70°   | 1.0    | 0.1       |
| 70°-80°   | 0.6    | 0.1       |
| 80°-90°   | 1.3    | 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°    | 744.9  | 95.3      |
| 0°-40°    | 770.9  | 98.7      |
| 0°-60°    | 778.4  | 99.6      |
| 0°-90°    | 781.4  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 781.4  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 5635 | 5635  | 5635 | 5635  | 5635 |      |
| 5°  | 4743 | 4708  | 4717 | 4682  | 4683 | 383  |
| 15° | 1084 | 1046  | 960  | 886   | 846  | 316  |
| 25° | 171  | 173   | 164  | 155   | 146  | 86   |
| 35° | 38   | 41    | 44   | 34    | 35   | 25   |
| 45° | 6    | 8     | 4    | 4     | 6    | 6    |
| 55° | 0    | 2     | 2    | 1     | 0    | 1    |
| 65° | 0    | 2     | 0    | 0     | 0    | 1    |
| 75° | 0    | 0     | 0    | 1     | 0    | 0    |
| 85° | 4    | 2     | 4    | 2     | 2    | 1    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 5634.8 | 5634.8 | 5634.8 | 5634.8 | 5634.8 |
| 1°    | 5591.7 | 5570.7 | 5590.9 | 5579.0 | 5585.8 |
| 2°    | 5470.2 | 5444.1 | 5465.1 | 5448.5 | 5462.3 |
| 3°    | 5281.1 | 5261.0 | 5279.6 | 5258.6 | 5269.7 |
| 4°    | 5044.2 | 5014.9 | 5033.5 | 5005.4 | 5012.1 |
| 5°    | 4742.7 | 4707.9 | 4717.4 | 4682.2 | 4682.6 |
| 6°    | 4363.0 | 4338.8 | 4344.4 | 4289.4 | 4285.4 |
| 7°    | 3991.5 | 3934.6 | 3928.6 | 3865.7 | 3853.5 |
| 8°    | 3540.5 | 3488.7 | 3471.7 | 3397.7 | 3371.6 |
| 9°    | 3108.2 | 3043.7 | 3008.9 | 2923.0 | 2892.6 |
| 10°   | 2668.7 | 2603.4 | 2551.2 | 2454.3 | 2421.4 |
| 11°   | 2262.0 | 2203.0 | 2138.2 | 2034.5 | 2002.5 |
| 12°   | 1884.6 | 1838.3 | 1767.1 | 1667.0 | 1633.4 |
| 13°   | 1576.4 | 1523.0 | 1446.7 | 1353.7 | 1324.8 |
| 14°   | 1309.4 | 1252.0 | 1175.7 | 1096.2 | 1040.0 |
| 15°   | 1083.9 | 1046.3 | 960.1  | 886.1  | 845.8  |
| 16°   | 885.7  | 853.7  | 779.3  | 715.2  | 686.7  |
| 17°   | 726.3  | 700.6  | 637.3  | 587.1  | 563.3  |
| 18°   | 599.3  | 567.3  | 517.4  | 484.6  | 466.0  |
| 19°   | 486.2  | 461.3  | 424.9  | 399.5  | 381.0  |
| 20°   | 401.1  | 380.6  | 351.3  | 328.7  | 321.6  |
| 22.5° | 259.1  | 255.6  | 236.6  | 224.3  | 218.4  |
| 25°   | 170.9  | 172.9  | 164.2  | 154.7  | 146.0  |
| 26°   | 146.0  | 147.2  | 139.2  | 133.7  | 122.6  |
| 27°   | 125.0  | 125.4  | 125.4  | 115.1  | 104.4  |
| 28°   | 102.1  | 106.4  | 102.5  | 97.7   | 87.4   |
| 29°   | 87.4   | 93.0   | 91.0   | 86.2   | 76.3   |
| 30°   | 75.6   | 79.5   | 83.5   | 76.0   | 66.5   |
| 32.5° | 53.0   | 56.6   | 60.9   | 57.0   | 49.1   |
| 35°   | 37.6   | 40.7   | 44.3   | 33.6   | 35.2   |
| 37.5° | 25.7   | 31.3   | 30.1   | 27.3   | 23.3   |
| 40°   | 15.4   | 16.2   | 17.8   | 19.0   | 10.3   |
| 42.5° | 11.1   | 13.1   | 11.9   | 13.5   | 4.7    |
| 45°   | 5.5    | 7.9    | 4.4    | 4.4    | 6.3    |
| 47.5° | 4.0    | 6.7    | 2.4    | 2.4    | 0.8    |
| 50°   | 2.4    | 5.1    | 2.8    | 1.2    | 4.0    |
| 52.5° | 4.0    | 4.7    | 3.2    | 3.6    | 0.8    |
| 55°   | 0.0    | 2.4    | 1.6    | 0.8    | 0.0    |
| 57.5° | 1.6    | 2.8    | 1.6    | 0.8    | 1.6    |
| 60°   | 0.0    | 0.0    | 0.0    | 0.4    | 0.8    |
| 62.5° | 0.0    | 0.8    | 0.0    | 1.2    | 1.6    |
| 65°   | 0.0    | 1.6    | 0.0    | 0.0    | 0.0    |
| 67.5° | 2.4    | 2.8    | 1.6    | 3.2    | 4.7    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.0   | 0.0 | 0.8   | 0.0 |
| 77.5° | 0.0 | 4.0   | 1.2 | 1.2   | 1.6 |
| 80°   | 0.8 | 0.0   | 0.0 | 0.4   | 0.0 |
| 82.5° | 0.0 | 3.2   | 0.4 | 1.6   | 2.4 |
| 85°   | 4.0 | 2.0   | 3.6 | 2.0   | 1.6 |
| 87.5° | 0.0 | 0.4   | 0.8 | 0.4   | 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 | 0.4 | 0.4 | 0.0 |
| 72.5° | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)