

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: P281616

Luminaire Tested: **LDA2B058035D010 EU2B05SP158035 2LBAPINSQ1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P281616  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-10)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA2B058035D010 EU2B05SP158035 2LBAPINSQ1MW  
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ PinHole, MW  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 805.1 lumens  
Efficiency: N/A  
Efficacy: 115.0 lumens/watt  
Spacing Criteria (0/90/45): 0.3 / 0.3 / 0.29  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

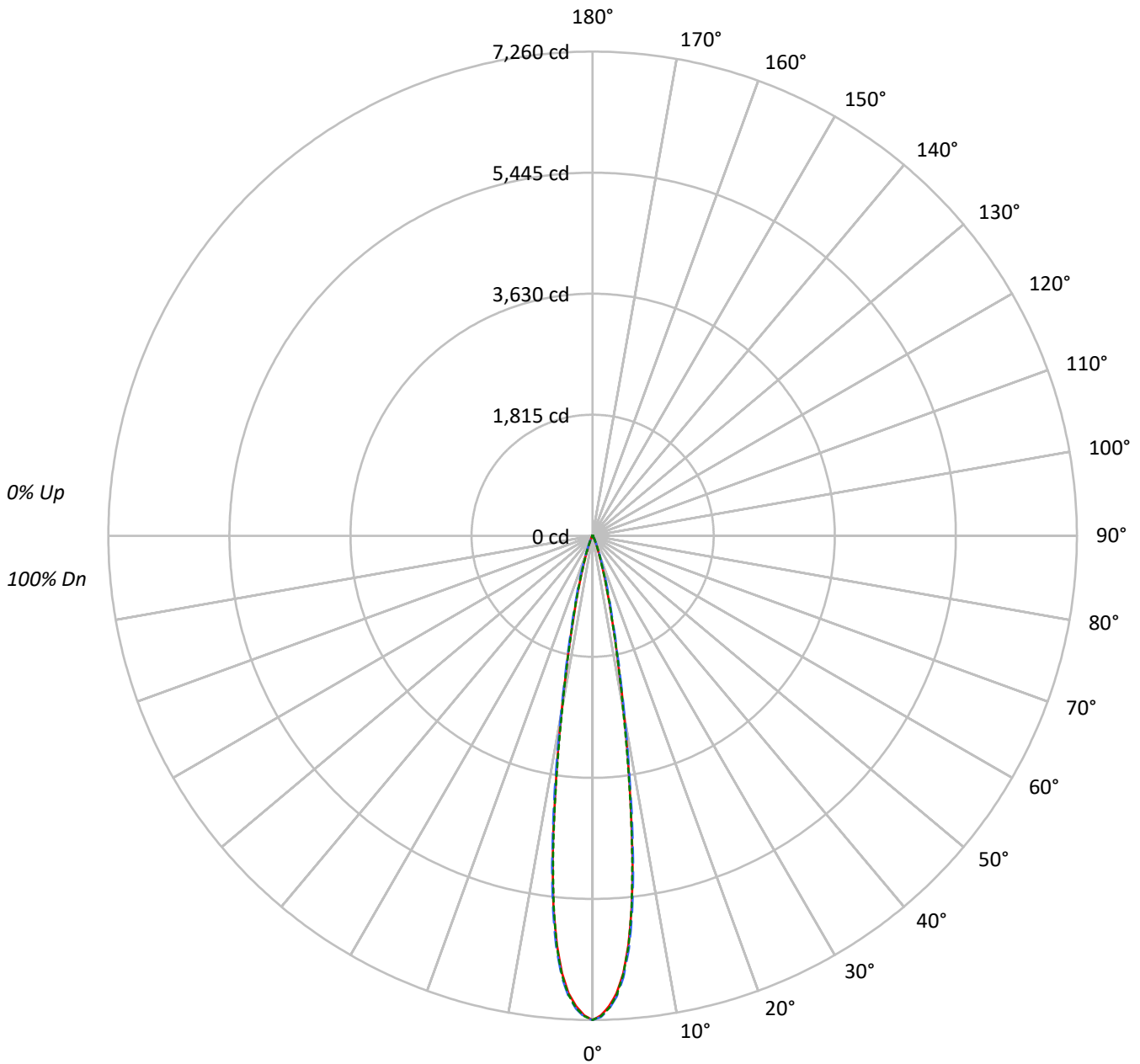
Input Watts (W): 7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 116 | 114 | 112 | 111 | 113 | 112 | 110 | 109 | 108 | 107 | 106 | 104 | 103 | 103 | 101 | 100 | 100 | 98  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 113 | 110 | 107 | 105 | 111 | 108 | 106 | 104 | 105 | 103 | 102 | 102 | 101 | 99  | 99  | 98  | 97  | 96  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 110 | 106 | 103 | 101 | 108 | 105 | 102 | 100 | 102 | 100 | 98  | 100 | 98  | 97  | 98  | 97  | 95  | 94  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 107 | 103 | 100 | 97  | 106 | 102 | 99  | 97  | 100 | 98  | 96  | 98  | 96  | 95  | 97  | 95  | 94  | 93  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 105 | 100 | 97  | 95  | 104 | 100 | 96  | 94  | 98  | 95  | 93  | 97  | 94  | 93  | 95  | 93  | 92  | 91  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 103 | 98  | 95  | 92  | 102 | 97  | 94  | 92  | 96  | 93  | 91  | 95  | 93  | 91  | 94  | 92  | 90  | 89  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 101 | 96  | 93  | 90  | 100 | 95  | 92  | 90  | 94  | 92  | 90  | 93  | 91  | 89  | 93  | 90  | 89  | 88  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 99  | 94  | 91  | 89  | 98  | 94  | 91  | 88  | 93  | 90  | 88  | 92  | 90  | 88  | 91  | 89  | 88  | 87  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 98  | 92  | 89  | 87  | 97  | 92  | 89  | 87  | 91  | 89  | 87  | 91  | 88  | 86  | 90  | 88  | 86  | 85  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 96  | 91  | 88  | 86  | 95  | 90  | 88  | 86  | 90  | 87  | 85  | 89  | 87  | 85  | 89  | 87  | 85  | 84  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 3581807 | 3581807 | 3581807 |
| 5°  | 3050024 | 3081769 | 3055769 |
| 10° | 1346514 | 1377324 | 1315053 |
| 15° | 408561  | 468628  | 414997  |
| 20° | 122226  | 163020  | 136611  |
| 25° | 47632   | 46870   | 50082   |
| 30° | 21192   | 19141   | 20167   |
| 35° | 4336    | 3794    | 3794    |
| 40° | 0       | 258     | 1159    |
| 45° | 3768    | 3140    | 5652    |
| 50° | 0       | 998     | 3454    |
| 55° | 0       | 0       | 1548    |
| 60° | 0       | 395     | 1776    |
| 65° | 0       | 0       | 1051    |
| 70° | 0       | 2596    | 5193    |
| 75° | 0       | 0       | 0       |
| 80° | 0       | 0       | 0       |
| 85° | 0       | 2264    | 10189   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 470.6  | 58.5      |
| 10°-20°   | 268.8  | 33.4      |
| 20°-30°   | 51.0   | 6.3       |
| 30°-40°   | 9.3    | 1.2       |
| 40°-50°   | 2.4    | 0.3       |
| 50°-60°   | 1.8    | 0.2       |
| 60°-70°   | 0.3    | 0.0       |
| 70°-80°   | 0.4    | 0.0       |
| 80°-90°   | 0.5    | 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°    | 790.5  | 98.2      |
| 0°-40°    | 799.7  | 99.3      |
| 0°-60°    | 803.9  | 99.8      |
| 0°-90°    | 805.1  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 805.1  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 7260 | 7260  | 7260 | 7260  | 7260 |      |
| 5°  | 6159 | 6199  | 6223 | 6212  | 6170 | 468  |
| 15° | 800  | 870   | 918  | 862   | 812  | 254  |
| 25° | 88   | 94    | 86   | 98    | 92   | 46   |
| 35° | 7    | 9     | 6    | 8     | 6    | 10   |
| 45° | 5    | 8     | 4    | 5     | 8    | 3    |
| 55° | 0    | 0     | 0    | 0     | 2    | 1    |
| 65° | 0    | 0     | 0    | 0     | 1    | 0    |
| 75° | 0    | 0     | 0    | 0     | 0    | 0    |
| 85° | 0    | 0     | 0    | 0     | 2    | 0    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 7260.0 | 7260.0 | 7260.0 | 7260.0 | 7260.0 |
| 1°    | 7191.3 | 7199.0 | 7215.1 | 7231.7 | 7205.7 |
| 2°    | 7056.8 | 7075.1 | 7098.0 | 7113.3 | 7085.0 |
| 3°    | 6868.3 | 6893.9 | 6918.1 | 6921.3 | 6894.8 |
| 4°    | 6577.2 | 6608.6 | 6634.1 | 6631.0 | 6597.8 |
| 5°    | 6158.6 | 6198.9 | 6222.7 | 6212.0 | 6170.2 |
| 6°    | 5605.4 | 5644.4 | 5674.9 | 5644.0 | 5587.9 |
| 7°    | 4916.3 | 4961.1 | 4993.4 | 4940.5 | 4871.8 |
| 8°    | 4117.7 | 4180.5 | 4212.8 | 4138.8 | 4068.3 |
| 9°    | 3361.3 | 3404.8 | 3437.5 | 3356.8 | 3285.0 |
| 10°   | 2687.8 | 2767.7 | 2749.3 | 2686.9 | 2625.0 |
| 11°   | 2114.0 | 2186.3 | 2189.4 | 2147.2 | 2086.7 |
| 12°   | 1655.1 | 1731.3 | 1750.6 | 1718.3 | 1664.5 |
| 13°   | 1307.8 | 1364.8 | 1396.6 | 1363.4 | 1312.3 |
| 14°   | 1040.9 | 1091.6 | 1132.4 | 1089.3 | 1038.2 |
| 15°   | 799.9  | 869.9  | 917.5  | 861.8  | 812.5  |
| 16°   | 636.2  | 694.1  | 750.6  | 687.3  | 647.8  |
| 17°   | 488.6  | 540.2  | 598.5  | 541.1  | 508.8  |
| 18°   | 386.7  | 427.6  | 491.7  | 432.5  | 404.2  |
| 19°   | 302.8  | 333.8  | 393.5  | 341.4  | 318.5  |
| 20°   | 232.8  | 266.9  | 310.5  | 275.0  | 260.2  |
| 22.5° | 140.9  | 159.7  | 172.3  | 161.5  | 153.9  |
| 25°   | 87.5   | 94.2   | 86.1   | 98.3   | 92.0   |
| 26°   | 76.3   | 81.2   | 79.4   | 87.5   | 79.9   |
| 27°   | 61.0   | 67.3   | 62.4   | 68.6   | 66.4   |
| 28°   | 55.6   | 63.3   | 53.4   | 61.0   | 57.4   |
| 29°   | 39.0   | 42.2   | 38.1   | 40.8   | 40.8   |
| 30°   | 37.2   | 38.1   | 33.6   | 36.8   | 35.4   |
| 32.5° | 29.2   | 27.4   | 22.4   | 23.8   | 22.9   |
| 35°   | 7.2    | 9.0    | 6.3    | 7.6    | 6.3    |
| 37.5° | 10.8   | 9.9    | 11.7   | 11.2   | 10.8   |
| 40°   | 0.0    | 0.4    | 0.4    | 0.4    | 1.8    |
| 42.5° | 8.1    | 4.9    | 4.5    | 3.1    | 5.4    |
| 45°   | 5.4    | 8.5    | 4.5    | 4.9    | 8.1    |
| 47.5° | 0.0    | 0.4    | 0.0    | 0.9    | 0.9    |
| 50°   | 0.0    | 0.9    | 1.3    | 1.8    | 4.5    |
| 52.5° | 0.9    | 5.4    | 2.7    | 4.9    | 7.2    |
| 55°   | 0.0    | 0.4    | 0.0    | 0.4    | 1.8    |
| 57.5° | 1.8    | 0.9    | 1.8    | 1.8    | 8.1    |
| 60°   | 0.0    | 0.9    | 0.4    | 0.4    | 1.8    |
| 62.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 65°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.9    |
| 67.5° | 0.0    | 0.4    | 0.0    | 0.0    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 77.5° | 0.0 | 0.0   | 0.4 | 0.0   | 0.0 |
| 80°   | 0.0 | 0.4   | 0.0 | 0.0   | 0.0 |
| 82.5° | 0.0 | 0.4   | 0.9 | 1.3   | 0.9 |
| 85°   | 0.0 | 0.4   | 0.4 | 0.4   | 1.8 |
| 87.5° | 0.0 | 0.9   | 1.3 | 0.0   | 0.9 |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |



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







|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| 70°   | 0.0 | 1.3 | 1.8 | 0.0 | 3.6 |
| 72.5° | 0.0 | 2.2 | 0.4 | 0.4 | 0.0 |



(END OF REPORT)