

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: P281706

Luminaire Tested: **LDA2B158050D010 EU2B15SP158050 2LBAPINSQ1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P281706  
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: LDA2B158050D010 EU2B15SP158050 2LBAPINSQ1MW  
Description: PORTFOLIO 2IN ADJ 1500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ PinHole, MW  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1505.2 lumens  
Efficiency: N/A  
Efficacy: 106.8 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

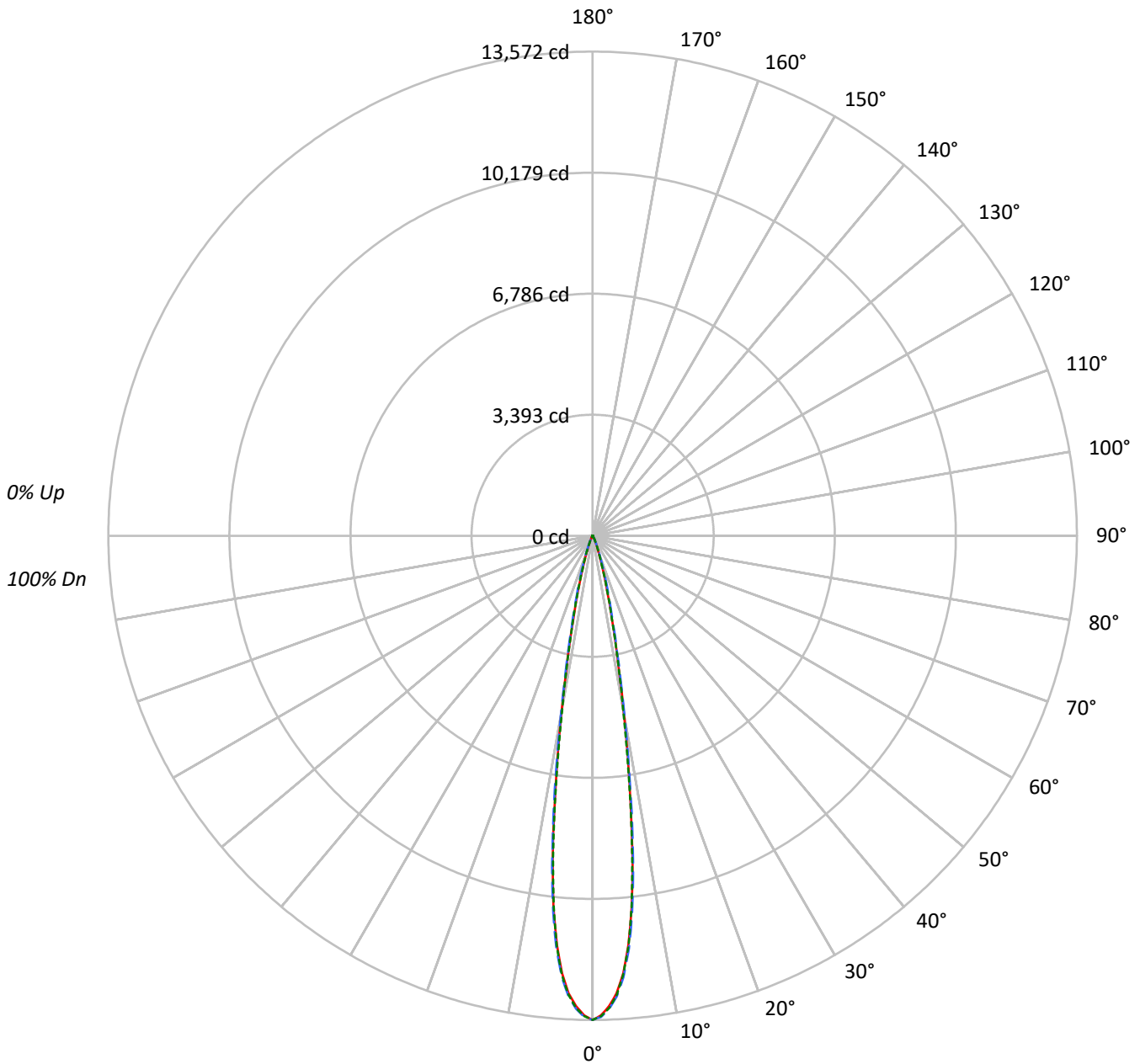
Input Watts (W): 14.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 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°  | 6695660 | 6695660 | 6695660 |
| 5°  | 5701573 | 5760953 | 5712369 |
| 10° | 2517137 | 2574699 | 2458323 |
| 15° | 763799  | 876014  | 775802  |
| 20° | 228543  | 304724  | 255372  |
| 25° | 89004   | 87643   | 93576   |
| 30° | 39650   | 35833   | 37770   |
| 35° | 8071    | 7047    | 7047    |
| 40° | 0       | 515     | 2190    |
| 45° | 7047    | 5861    | 10536   |
| 50° | 0       | 1919    | 6447    |
| 55° | 0       | 0       | 2925    |
| 60° | 0       | 789     | 3355    |
| 65° | 0       | 0       | 1985    |
| 70° | 0       | 4904    | 9665    |
| 75° | 0       | 0       | 0       |
| 80° | 0       | 0       | 0       |
| 85° | 0       | 4529    | 19246   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 879.8  | 58.4      |
| 10°-20°   | 502.5  | 33.4      |
| 20°-30°   | 95.4   | 6.3       |
| 30°-40°   | 17.3   | 1.2       |
| 40°-50°   | 4.5    | 0.3       |
| 50°-60°   | 3.4    | 0.2       |
| 60°-70°   | 0.5    | 0.0       |
| 70°-80°   | 0.8    | 0.1       |
| 80°-90°   | 1.1    | 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°    | 1477.6 | 98.2      |
| 0°-40°    | 1495.0 | 99.3      |
| 0°-60°    | 1502.9 | 99.8      |
| 0°-90°    | 1505.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1505.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0°  | 13572 | 13572 | 13572 | 13572 | 13572 |      |
| 5°  | 11513 | 11588 | 11632 | 11612 | 11534 | 874  |
| 15° | 1495  | 1626  | 1715  | 1611  | 1519  | 476  |
| 25° | 164   | 176   | 161   | 184   | 172   | 86   |
| 35° | 13    | 17    | 12    | 14    | 12    | 18   |
| 45° | 10    | 16    | 8     | 9     | 15    | 5    |
| 55° | 0     | 1     | 0     | 1     | 3     | 1    |
| 65° | 0     | 0     | 0     | 0     | 2     | 0    |
| 75° | 0     | 0     | 0     | 0     | 0     | 0    |
| 85° | 0     | 1     | 1     | 1     | 3     | 0    |
| 90° | 0     | 0     | 0     | 0     | 0     |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 13571.5 | 13571.5 | 13571.5 | 13571.5 | 13571.5 |
| 1°    | 13443.2 | 13457.5 | 13487.7 | 13518.7 | 13470.1 |
| 2°    | 13191.6 | 13226.0 | 13268.8 | 13297.3 | 13244.5 |
| 3°    | 12839.4 | 12887.2 | 12932.5 | 12938.3 | 12888.9 |
| 4°    | 12295.1 | 12353.8 | 12401.6 | 12395.7 | 12333.7 |
| 5°    | 11512.6 | 11588.1 | 11632.5 | 11612.4 | 11534.4 |
| 6°    | 10478.5 | 10551.5 | 10608.5 | 10550.6 | 10445.8 |
| 7°    | 9190.3  | 9274.1  | 9334.5  | 9235.6  | 9107.2  |
| 8°    | 7697.4  | 7814.8  | 7875.2  | 7736.8  | 7605.2  |
| 9°    | 6283.4  | 6364.8  | 6426.0  | 6275.0  | 6140.8  |
| 10°   | 5024.5  | 5173.8  | 5139.4  | 5022.9  | 4907.1  |
| 11°   | 3951.9  | 4086.9  | 4092.8  | 4013.9  | 3900.7  |
| 12°   | 3093.9  | 3236.5  | 3272.5  | 3212.2  | 3111.5  |
| 13°   | 2444.8  | 2551.3  | 2610.8  | 2548.8  | 2453.1  |
| 14°   | 1945.7  | 2040.5  | 2116.8  | 2036.3  | 1940.7  |
| 15°   | 1495.4  | 1626.2  | 1715.1  | 1611.1  | 1518.9  |
| 16°   | 1189.3  | 1297.4  | 1403.1  | 1284.9  | 1211.1  |
| 17°   | 913.3   | 1009.8  | 1118.8  | 1011.5  | 951.1   |
| 18°   | 722.9   | 799.3   | 919.2   | 808.5   | 755.7   |
| 19°   | 566.1   | 624.0   | 735.5   | 638.2   | 595.5   |
| 20°   | 435.3   | 499.0   | 580.4   | 514.1   | 486.4   |
| 22.5° | 263.3   | 298.6   | 322.1   | 301.9   | 287.7   |
| 25°   | 163.5   | 176.1   | 161.0   | 183.7   | 171.9   |
| 26°   | 142.6   | 151.8   | 148.4   | 163.5   | 149.3   |
| 27°   | 114.1   | 125.8   | 116.6   | 128.3   | 124.1   |
| 28°   | 104.0   | 118.3   | 99.8    | 114.1   | 107.4   |
| 29°   | 73.0    | 78.8    | 71.3    | 76.3    | 76.3    |
| 30°   | 69.6    | 71.3    | 62.9    | 68.8    | 66.3    |
| 32.5° | 54.5    | 51.2    | 41.9    | 44.5    | 42.8    |
| 35°   | 13.4    | 16.8    | 11.7    | 14.3    | 11.7    |
| 37.5° | 20.1    | 18.5    | 21.8    | 21.0    | 20.1    |
| 40°   | 0.0     | 0.8     | 0.8     | 0.8     | 3.4     |
| 42.5° | 15.1    | 9.2     | 8.4     | 5.9     | 10.1    |
| 45°   | 10.1    | 15.9    | 8.4     | 9.2     | 15.1    |
| 47.5° | 0.0     | 0.8     | 0.0     | 1.7     | 1.7     |
| 50°   | 0.0     | 1.7     | 2.5     | 3.4     | 8.4     |
| 52.5° | 1.7     | 10.1    | 5.0     | 9.2     | 13.4    |
| 55°   | 0.0     | 0.8     | 0.0     | 0.8     | 3.4     |
| 57.5° | 3.4     | 1.7     | 3.4     | 3.4     | 15.1    |
| 60°   | 0.0     | 1.7     | 0.8     | 0.8     | 3.4     |
| 62.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 65°   | 0.0     | 0.0     | 0.0     | 0.0     | 1.7     |
| 67.5° | 0.0     | 0.8     | 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   | 0.8 | 0.0   | 0.0 |
| 80°   | 0.0 | 0.8   | 0.0 | 0.0   | 0.0 |
| 82.5° | 0.0 | 0.8   | 1.7 | 2.5   | 1.7 |
| 85°   | 0.0 | 0.8   | 0.8 | 0.8   | 3.4 |
| 87.5° | 0.0 | 1.7   | 2.5 | 0.0   | 1.7 |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |



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







|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| 70°   | 0.0 | 2.5 | 3.4 | 0.0 | 6.7 |
| 72.5° | 0.0 | 4.2 | 0.8 | 0.8 | 0.0 |



(END OF REPORT)