

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: P314867

Luminaire Tested: **LDA2B20SP9730D010 PIN1MB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P314867  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-8)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA2B20SP9730D010 PIN1MB  
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj PinHole, Black oculus black finish  
Light Source: -  
Ballast/Driver: -

**Summary**

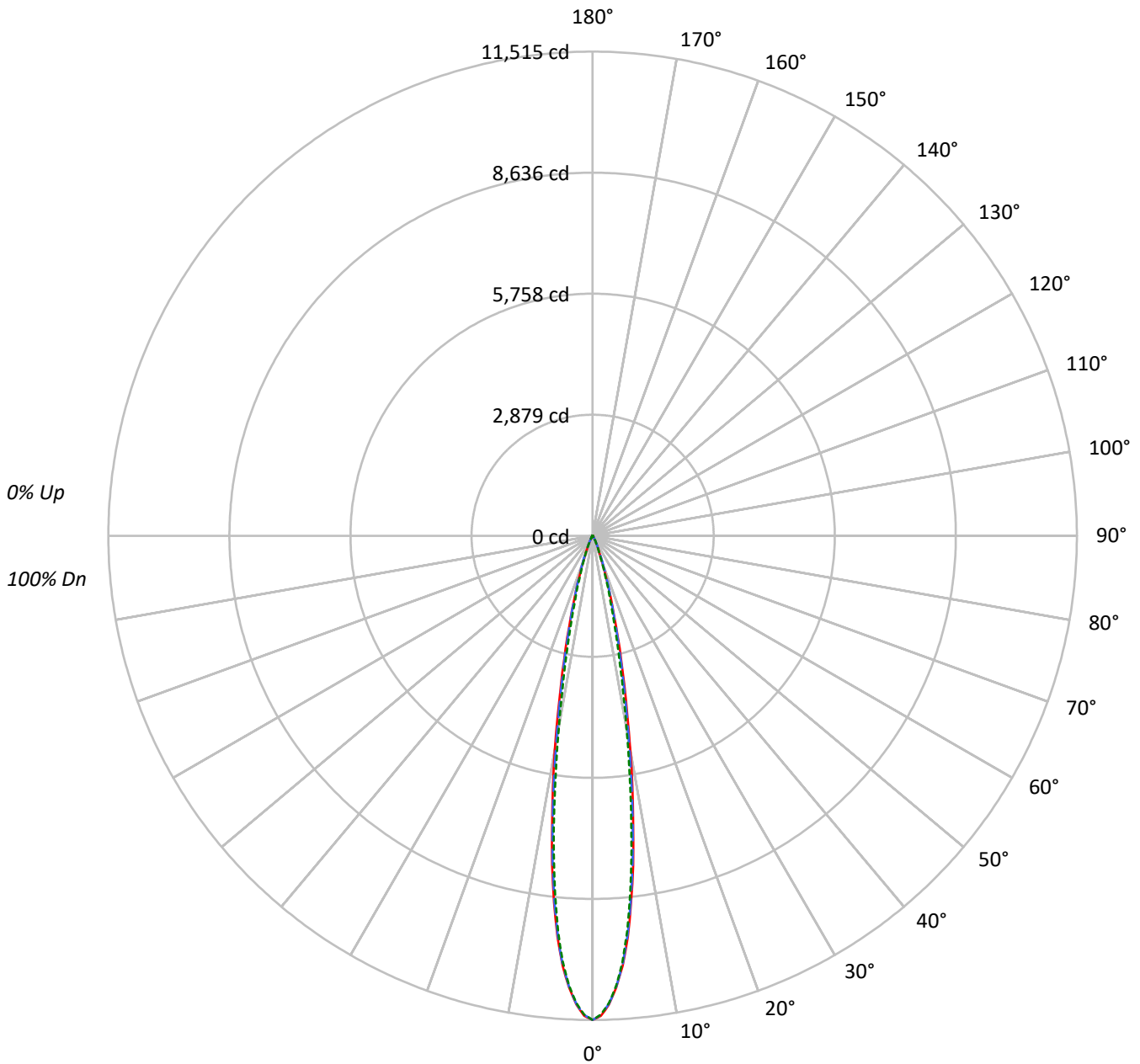
Lumens per Lamp: N/A  
Luminaire Lumens: 1482.8 lumens  
Efficiency: N/A  
Efficacy: 72.0 lumens/watt  
Spacing Criteria (0/90/45): 0.32 / 0.3 / 0.32  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 20.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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 |    |    |   | 100 |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 1   | 115 | 113 | 112 | 110 | 113 | 111 | 110 | 108 | 107 | 106 | 105 | 104 | 103 | 102 | 100 | 100 | 99  | 97  |    |    |   | 97  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 112 | 109 | 106 | 104 | 110 | 107 | 105 | 103 | 104 | 102 | 101 | 101 | 100 | 98  | 99  | 98  | 96  | 95  |    |    |   | 95  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 109 | 105 | 102 | 99  | 107 | 104 | 101 | 98  | 101 | 99  | 97  | 99  | 97  | 95  | 97  | 95  | 94  | 93  |    |    |   | 93  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 106 | 102 | 98  | 96  | 105 | 101 | 97  | 95  | 99  | 96  | 94  | 97  | 95  | 93  | 95  | 93  | 92  | 91  |    |    |   | 91  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 104 | 99  | 95  | 92  | 103 | 98  | 95  | 92  | 96  | 94  | 91  | 95  | 92  | 91  | 94  | 92  | 90  | 89  |    |    |   | 89  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 101 | 96  | 92  | 90  | 100 | 95  | 92  | 90  | 94  | 91  | 89  | 93  | 90  | 89  | 92  | 90  | 88  | 87  |    |    |   | 87  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 99  | 94  | 90  | 88  | 98  | 93  | 90  | 87  | 92  | 89  | 87  | 91  | 89  | 87  | 90  | 88  | 86  | 85  |    |    |   | 85  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 97  | 92  | 88  | 86  | 96  | 91  | 88  | 85  | 90  | 87  | 85  | 89  | 87  | 85  | 89  | 86  | 85  | 84  |    |    |   | 84  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 95  | 90  | 86  | 84  | 95  | 89  | 86  | 84  | 88  | 86  | 83  | 88  | 85  | 83  | 87  | 85  | 83  | 82  |    |    |   | 82  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 93  | 88  | 84  | 82  | 93  | 87  | 84  | 82  | 87  | 84  | 82  | 86  | 84  | 82  | 86  | 83  | 82  | 81  |    |    |   | 81  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 5681061 | 5681061 | 5681061 |
| 5°  | 4746243 | 4723561 | 4667647 |
| 10° | 2585921 | 2485175 | 2326116 |
| 15° | 1025209 | 999109  | 857627  |
| 20° | 344469  | 368095  | 304199  |
| 25° | 119542  | 129123  | 114752  |
| 30° | 43695   | 47740   | 46714   |
| 35° | 28127   | 32945   | 24935   |
| 40° | 14748   | 17582   | 18162   |
| 45° | 13536   | 10466   | 9838    |
| 50° | 8136    | 5449    | 4068    |
| 55° | 0       | 0       | 0       |
| 60° | 5230    | 5230    | 1776    |
| 65° | 4086    | 1051    | 0       |
| 70° | 0       | 3750    | 5049    |
| 75° | 0       | 8387    | 0       |
| 80° | 0       | 0       | 0       |
| 85° | 0       | 5095    | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 752.9  | 50.8      |
| 10°-20°   | 560.4  | 37.8      |
| 20°-30°   | 123.9  | 8.4       |
| 30°-40°   | 27.5   | 1.9       |
| 40°-50°   | 11.3   | 0.8       |
| 50°-60°   | 1.9    | 0.1       |
| 60°-70°   | 1.9    | 0.1       |
| 70°-80°   | 1.5    | 0.1       |
| 80°-90°   | 1.4    | 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°    | 1437.2 | 96.9      |
| 0°-40°    | 1464.7 | 98.8      |
| 0°-60°    | 1477.9 | 99.7      |
| 0°-90°    | 1482.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1482.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0°  | 11515 | 11515 | 11515 | 11515 | 11515 |      |
| 5°  | 9584  | 9544  | 9538  | 9502  | 9425  | 764  |
| 15° | 2007  | 2001  | 1956  | 1774  | 1679  | 590  |
| 25° | 220   | 245   | 237   | 220   | 211   | 120  |
| 35° | 47    | 47    | 55    | 44    | 41    | 27   |
| 45° | 19    | 16    | 15    | 15    | 14    | 12   |
| 55° | 0     | 0     | 0     | 0     | 0     | 3    |
| 65° | 4     | 2     | 1     | 0     | 0     | 4    |
| 75° | 0     | 0     | 4     | 0     | 0     | 1    |
| 85° | 0     | 1     | 1     | 3     | 0     | 0    |
| 90° | 0     | 0     | 0     | 0     | 0     |      |



TEST NUMBER: P314867

CATALOG NUMBER: LDA2B2OSP9730D010 PIN1MB

**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 11515.0 | 11515.0 | 11515.0 | 11515.0 | 11515.0 |
| 1°    | 11420.6 | 11373.9 | 11396.8 | 11410.0 | 11390.6 |
| 2°    | 11154.3 | 11097.8 | 11134.0 | 11137.5 | 11118.1 |
| 3°    | 10757.4 | 10731.8 | 10743.3 | 10747.7 | 10708.9 |
| 4°    | 10249.4 | 10212.4 | 10220.3 | 10210.6 | 10163.0 |
| 5°    | 9583.6  | 9543.9  | 9537.8  | 9501.6  | 9424.9  |
| 6°    | 8769.6  | 8746.7  | 8705.2  | 8643.5  | 8541.2  |
| 7°    | 7897.4  | 7878.9  | 7807.5  | 7696.3  | 7578.2  |
| 8°    | 6941.4  | 6941.4  | 6838.3  | 6684.8  | 6549.9  |
| 9°    | 6036.6  | 6003.1  | 5871.7  | 5686.5  | 5556.0  |
| 10°   | 5161.8  | 5116.8  | 4960.7  | 4772.8  | 4643.2  |
| 11°   | 4333.7  | 4286.0  | 4136.1  | 3943.9  | 3823.9  |
| 12°   | 3618.4  | 3592.9  | 3476.5  | 3264.8  | 3144.9  |
| 13°   | 3014.3  | 2980.8  | 2878.5  | 2678.3  | 2576.0  |
| 14°   | 2487.8  | 2445.5  | 2363.5  | 2180.1  | 2080.4  |
| 15°   | 2007.2  | 2001.0  | 1956.1  | 1773.5  | 1679.1  |
| 16°   | 1640.3  | 1636.8  | 1594.5  | 1416.3  | 1377.5  |
| 17°   | 1316.7  | 1335.2  | 1322.9  | 1158.8  | 1114.7  |
| 18°   | 1024.8  | 1061.8  | 1070.6  | 922.5   | 878.4   |
| 19°   | 824.6   | 859.9   | 874.8   | 745.2   | 708.2   |
| 20°   | 656.1   | 689.6   | 701.1   | 604.1   | 579.4   |
| 22.5° | 372.2   | 417.1   | 418.9   | 368.6   | 343.1   |
| 25°   | 219.6   | 245.2   | 237.2   | 219.6   | 210.8   |
| 26°   | 184.3   | 209.0   | 196.7   | 191.4   | 184.3   |
| 27°   | 155.2   | 172.0   | 162.3   | 153.5   | 159.6   |
| 28°   | 128.8   | 140.2   | 130.5   | 133.2   | 123.5   |
| 29°   | 102.3   | 121.7   | 107.6   | 110.2   | 102.3   |
| 30°   | 76.7    | 94.4    | 83.8    | 88.2    | 82.0    |
| 32.5° | 57.3    | 62.6    | 55.6    | 62.6    | 62.6    |
| 35°   | 46.7    | 46.7    | 54.7    | 44.1    | 41.4    |
| 37.5° | 21.2    | 16.8    | 18.5    | 15.0    | 17.6    |
| 40°   | 22.9    | 25.6    | 27.3    | 22.9    | 28.2    |
| 42.5° | 15.9    | 21.2    | 21.2    | 14.1    | 24.7    |
| 45°   | 19.4    | 15.9    | 15.0    | 15.0    | 14.1    |
| 47.5° | 8.8     | 6.2     | 7.1     | 7.9     | 12.3    |
| 50°   | 10.6    | 4.4     | 7.1     | 10.6    | 5.3     |
| 52.5° | 3.5     | 0.0     | 4.4     | 0.0     | 1.8     |
| 55°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 57.5° | 0.0     | 0.0     | 0.9     | 1.8     | 0.0     |
| 60°   | 5.3     | 6.2     | 5.3     | 3.5     | 1.8     |
| 62.5° | 8.8     | 1.8     | 2.6     | 3.5     | 0.0     |
| 65°   | 3.5     | 1.8     | 0.9     | 0.0     | 0.0     |
| 67.5° | 0.0     | 0.0     | 2.6     | 0.0     | 0.0     |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.0   | 4.4 | 0.0   | 0.0 |
| 77.5° | 1.8 | 0.0   | 3.5 | 0.0   | 0.0 |
| 80°   | 0.0 | 1.8   | 0.0 | 0.0   | 0.0 |
| 82.5° | 0.0 | 0.0   | 4.4 | 3.5   | 0.0 |
| 85°   | 0.0 | 0.9   | 0.9 | 2.6   | 0.0 |
| 87.5° | 0.0 | 2.6   | 3.5 | 0.9   | 1.8 |
| 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 | 2.6 | 1.8 | 3.5 |
| 72.5° | 0.0 | 0.9 | 3.5 | 5.3 | 1.8 |



(END OF REPORT)