

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: P314767

Luminaire Tested: **LDA2B10SP9030D010 PIN1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P314767  
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: LDA2B10SP9030D010 PIN1MMS  
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in  
Adj PinHole, Black oculus, matte metallic silver finish  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 872.7 lumens  
Efficiency: N/A  
Efficacy: 87.3 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

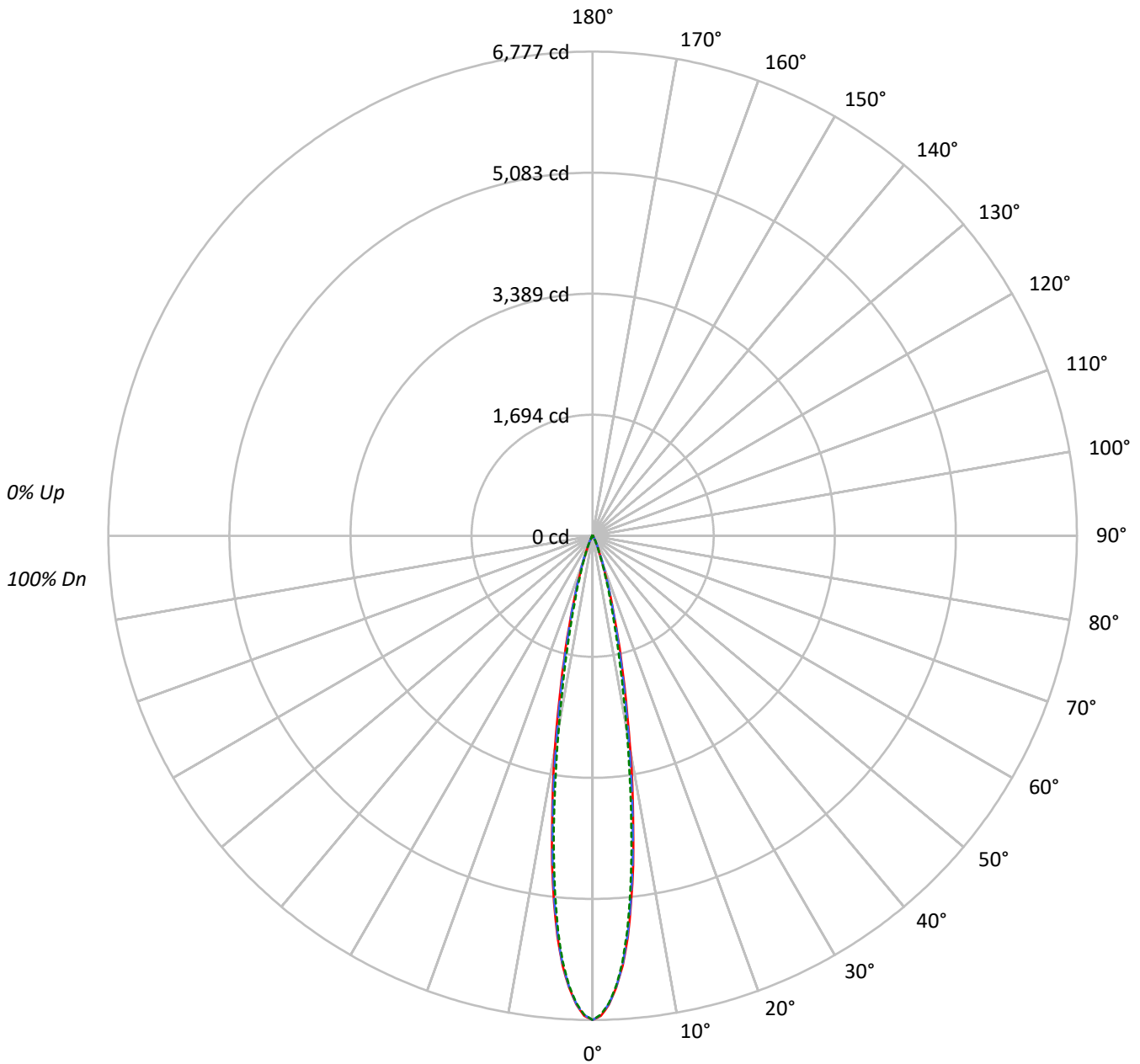
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 3343513 | 3343513 | 3343513 |
| 5°  | 2793338 | 2779966 | 2747082 |
| 10° | 1521905 | 1462590 | 1369008 |
| 15° | 603368  | 587993  | 504739  |
| 20° | 202765  | 216625  | 179033  |
| 25° | 70332   | 75993   | 67501   |
| 30° | 25750   | 28085   | 27516   |
| 35° | 16563   | 19394   | 14696   |
| 40° | 8695    | 10369   | 10691   |
| 45° | 7954    | 6140    | 5791    |
| 50° | 4759    | 3224    | 2379    |
| 55° | 0       | 0       | 0       |
| 60° | 3059    | 3059    | 987     |
| 65° | 2452    | 584     | 0       |
| 70° | 0       | 2308    | 3029    |
| 75° | 0       | 4956    | 0       |
| 80° | 0       | 0       | 0       |
| 85° | 0       | 2830    | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 443.1  | 50.8      |
| 10°-20°   | 329.8  | 37.8      |
| 20°-30°   | 72.9   | 8.4       |
| 30°-40°   | 16.2   | 1.9       |
| 40°-50°   | 6.6    | 0.8       |
| 50°-60°   | 1.1    | 0.1       |
| 60°-70°   | 1.1    | 0.1       |
| 70°-80°   | 0.9    | 0.1       |
| 80°-90°   | 0.9    | 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°    | 845.8  | 96.9      |
| 0°-40°    | 862.1  | 98.8      |
| 0°-60°    | 869.8  | 99.7      |
| 0°-90°    | 872.7  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 872.7  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 6777 | 6777  | 6777 | 6777  | 6777 |      |
| 5°  | 5640 | 5617  | 5613 | 5592  | 5547 | 450  |
| 15° | 1181 | 1178  | 1151 | 1044  | 988  | 347  |
| 25° | 129  | 144   | 140  | 129   | 124  | 70   |
| 35° | 28   | 28    | 32   | 26    | 24   | 16   |
| 45° | 11   | 9     | 9    | 9     | 8    | 7    |
| 55° | 0    | 0     | 0    | 0     | 0    | 1    |
| 65° | 2    | 1     | 0    | 0     | 0    | 2    |
| 75° | 0    | 0     | 3    | 0     | 0    | 1    |
| 85° | 0    | 0     | 0    | 2     | 0    | 0    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 6777.0 | 6777.0 | 6777.0 | 6777.0 | 6777.0 |
| 1°    | 6721.4 | 6693.9 | 6707.4 | 6715.2 | 6703.8 |
| 2°    | 6564.7 | 6531.5 | 6552.8 | 6554.8 | 6543.4 |
| 3°    | 6331.1 | 6316.1 | 6322.8 | 6325.4 | 6302.6 |
| 4°    | 6032.2 | 6010.4 | 6015.0 | 6009.3 | 5981.3 |
| 5°    | 5640.3 | 5616.9 | 5613.3 | 5592.0 | 5546.9 |
| 6°    | 5161.2 | 5147.7 | 5123.3 | 5087.0 | 5026.8 |
| 7°    | 4647.9 | 4637.0 | 4595.0 | 4529.6 | 4460.0 |
| 8°    | 4085.3 | 4085.3 | 4024.6 | 3934.2 | 3854.8 |
| 9°    | 3552.8 | 3533.0 | 3455.7 | 3346.7 | 3269.9 |
| 10°   | 3037.9 | 3011.4 | 2919.5 | 2809.0 | 2732.7 |
| 11°   | 2550.5 | 2522.5 | 2434.3 | 2321.1 | 2250.5 |
| 12°   | 2129.6 | 2114.5 | 2046.0 | 1921.4 | 1850.9 |
| 13°   | 1774.0 | 1754.3 | 1694.1 | 1576.3 | 1516.1 |
| 14°   | 1464.2 | 1439.3 | 1391.0 | 1283.0 | 1224.4 |
| 15°   | 1181.3 | 1177.7 | 1151.2 | 1043.8 | 988.2  |
| 16°   | 965.4  | 963.3  | 938.4  | 833.6  | 810.7  |
| 17°   | 774.9  | 785.8  | 778.5  | 682.0  | 656.1  |
| 18°   | 603.1  | 624.9  | 630.1  | 542.9  | 517.0  |
| 19°   | 485.3  | 506.1  | 514.9  | 438.6  | 416.8  |
| 20°   | 386.2  | 405.9  | 412.6  | 355.5  | 341.0  |
| 22.5° | 219.0  | 245.5  | 246.5  | 217.0  | 201.9  |
| 25°   | 129.2  | 144.3  | 139.6  | 129.2  | 124.0  |
| 26°   | 108.5  | 123.0  | 115.7  | 112.6  | 108.5  |
| 27°   | 91.3   | 101.2  | 95.5   | 90.3   | 93.9   |
| 28°   | 75.8   | 82.5   | 76.8   | 78.4   | 72.7   |
| 29°   | 60.2   | 71.6   | 63.3   | 64.9   | 60.2   |
| 30°   | 45.2   | 55.5   | 49.3   | 51.9   | 48.3   |
| 32.5° | 33.7   | 36.9   | 32.7   | 36.9   | 36.9   |
| 35°   | 27.5   | 27.5   | 32.2   | 26.0   | 24.4   |
| 37.5° | 12.5   | 9.9    | 10.9   | 8.8    | 10.4   |
| 40°   | 13.5   | 15.1   | 16.1   | 13.5   | 16.6   |
| 42.5° | 9.3    | 12.5   | 12.5   | 8.3    | 14.5   |
| 45°   | 11.4   | 9.3    | 8.8    | 8.8    | 8.3    |
| 47.5° | 5.2    | 3.6    | 4.2    | 4.7    | 7.3    |
| 50°   | 6.2    | 2.6    | 4.2    | 6.2    | 3.1    |
| 52.5° | 2.1    | 0.0    | 2.6    | 0.0    | 1.0    |
| 55°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 57.5° | 0.0    | 0.0    | 0.5    | 1.0    | 0.0    |
| 60°   | 3.1    | 3.6    | 3.1    | 2.1    | 1.0    |
| 62.5° | 5.2    | 1.0    | 1.6    | 2.1    | 0.0    |
| 65°   | 2.1    | 1.0    | 0.5    | 0.0    | 0.0    |
| 67.5° | 0.0    | 0.0    | 1.6    | 0.0    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.0   | 2.6 | 0.0   | 0.0 |
| 77.5° | 1.0 | 0.0   | 2.1 | 0.0   | 0.0 |
| 80°   | 0.0 | 1.0   | 0.0 | 0.0   | 0.0 |
| 82.5° | 0.0 | 0.0   | 2.6 | 2.1   | 0.0 |
| 85°   | 0.0 | 0.5   | 0.5 | 1.6   | 0.0 |
| 87.5° | 0.0 | 1.6   | 2.1 | 0.5   | 1.0 |
| 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 | 1.6 | 1.0 | 2.1 |
| 72.5° | 0.0 | 0.5 | 2.1 | 3.1 | 1.0 |



(END OF REPORT)