

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: P281142

Luminaire Tested: **LDA2B108050D010 EU2B10SP158050 2LBALD1WMH**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P281142  
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: LDA2B108050D010 EU2B10SP158050 2LBALD1WMH  
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in  
ADJ spun Refl w/lens Self-Flanged, WMH  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1131.2 lumens  
Efficiency: N/A  
Efficacy: 113.1 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

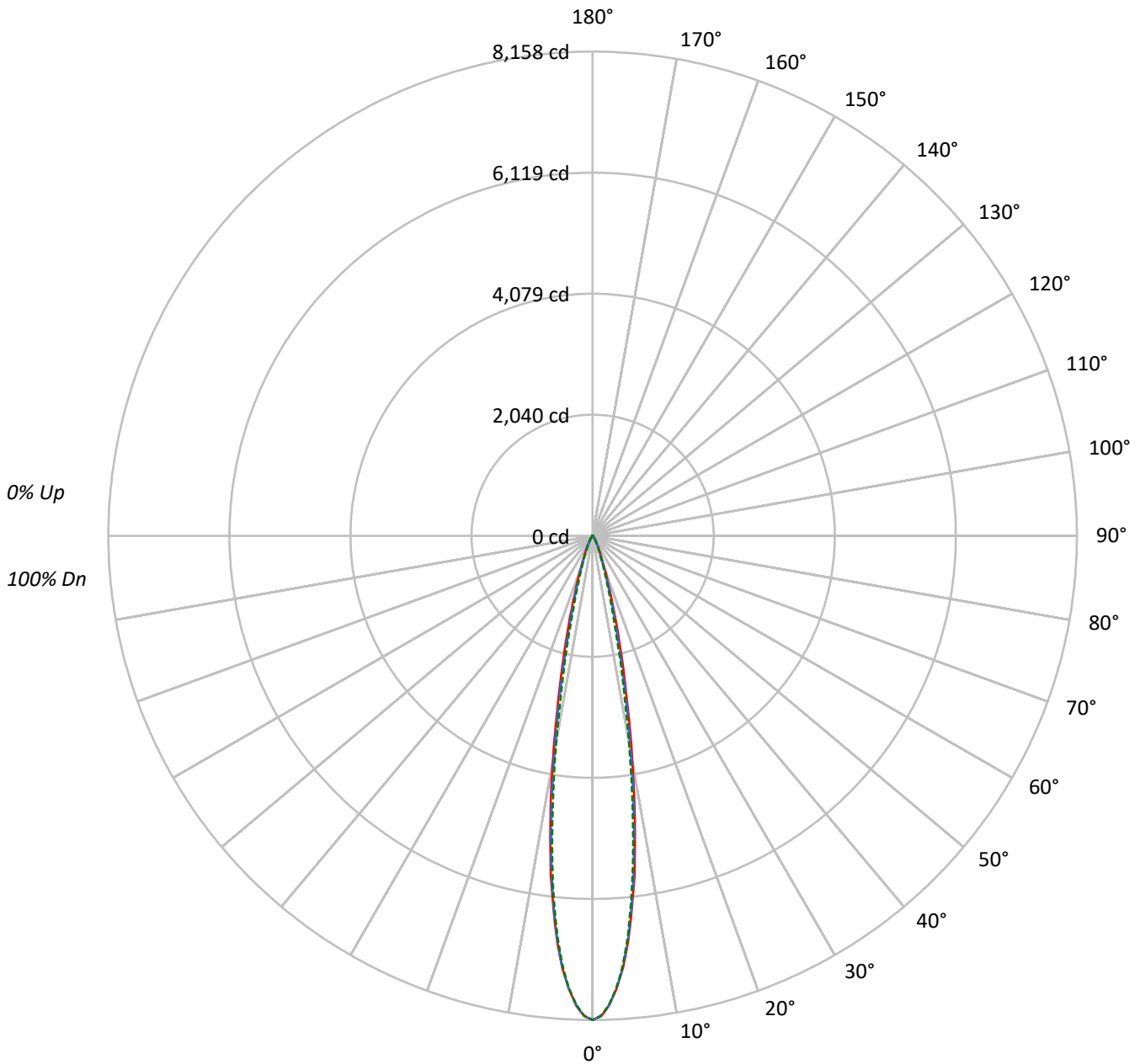
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 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°  | 4025092 | 4025092 | 4025092 |
| 5°  | 3400857 | 3382681 | 3357721 |
| 10° | 1935708 | 1850493 | 1756360 |
| 15° | 801596  | 710015  | 625484  |
| 20° | 304934  | 267028  | 244504  |
| 25° | 134676  | 129395  | 115079  |
| 30° | 62324   | 68875   | 54804   |
| 35° | 32764   | 38667   | 30716   |
| 40° | 14362   | 16616   | 9596    |
| 45° | 5582    | 4396    | 6419    |
| 50° | 2610    | 3070    | 4375    |
| 55° | 0       | 1978    | 0       |
| 60° | 0       | 0       | 1085    |
| 65° | 0       | 0       | 0       |
| 70° | 0       | 865     | 0       |
| 75° | 0       | 0       | 0       |
| 80° | 3125    | 0       | 0       |
| 85° | 32266   | 29436   | 13020   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 545.5  | 48.2      |
| 10°-20°   | 417.0  | 36.9      |
| 20°-30°   | 116.0  | 10.3      |
| 30°-40°   | 37.7   | 3.3       |
| 40°-50°   | 8.3    | 0.7       |
| 50°-60°   | 2.5    | 0.2       |
| 60°-70°   | 1.5    | 0.1       |
| 70°-80°   | 0.9    | 0.1       |
| 80°-90°   | 1.8    | 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°    | 1078.5 | 95.3      |
| 0°-40°    | 1116.2 | 98.7      |
| 0°-60°    | 1127.0 | 99.6      |
| 0°-90°    | 1131.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1131.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 8158 | 8158  | 8158 | 8158  | 8158 |      |
| 5°  | 6867 | 6816  | 6830 | 6779  | 6780 | 555  |
| 15° | 1569 | 1515  | 1390 | 1283  | 1225 | 458  |
| 25° | 247  | 250   | 238  | 224   | 211  | 124  |
| 35° | 54   | 59    | 64   | 49    | 51   | 36   |
| 45° | 8    | 12    | 6    | 6     | 9    | 8    |
| 55° | 0    | 3     | 2    | 1     | 0    | 2    |
| 65° | 0    | 2     | 0    | 0     | 0    | 2    |
| 75° | 0    | 0     | 0    | 1     | 0    | 0    |
| 85° | 6    | 3     | 5    | 3     | 2    | 2    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 8158.5 | 8158.5 | 8158.5 | 8158.5 | 8158.5 |
| 1°    | 8096.1 | 8065.8 | 8095.0 | 8077.8 | 8087.5 |
| 2°    | 7920.3 | 7882.5 | 7912.8 | 7888.8 | 7908.8 |
| 3°    | 7646.5 | 7617.3 | 7644.2 | 7613.8 | 7629.9 |
| 4°    | 7303.4 | 7261.0 | 7287.9 | 7247.3 | 7257.0 |
| 5°    | 6867.0 | 6816.5 | 6830.3 | 6779.3 | 6779.9 |
| 6°    | 6317.1 | 6282.2 | 6290.2 | 6210.6 | 6204.8 |
| 7°    | 5779.3 | 5696.8 | 5688.2 | 5597.1 | 5579.4 |
| 8°    | 5126.3 | 5051.3 | 5026.6 | 4919.5 | 4881.7 |
| 9°    | 4500.3 | 4406.9 | 4356.5 | 4232.2 | 4188.1 |
| 10°   | 3863.9 | 3769.4 | 3693.8 | 3553.5 | 3505.9 |
| 11°   | 3275.1 | 3189.8 | 3095.8 | 2945.8 | 2899.4 |
| 12°   | 2728.7 | 2661.7 | 2558.6 | 2413.7 | 2365.0 |
| 13°   | 2282.5 | 2205.2 | 2094.6 | 1960.0 | 1918.2 |
| 14°   | 1895.9 | 1812.8 | 1702.3 | 1587.1 | 1505.8 |
| 15°   | 1569.4 | 1515.0 | 1390.1 | 1283.0 | 1224.6 |
| 16°   | 1282.4 | 1236.0 | 1128.4 | 1035.6 | 994.3  |
| 17°   | 1051.6 | 1014.4 | 922.7  | 850.0  | 815.6  |
| 18°   | 867.7  | 821.4  | 749.2  | 701.6  | 674.7  |
| 19°   | 703.9  | 667.9  | 615.2  | 578.5  | 551.6  |
| 20°   | 580.8  | 551.0  | 508.6  | 476.0  | 465.7  |
| 22.5° | 375.2  | 370.0  | 342.5  | 324.8  | 316.2  |
| 25°   | 247.4  | 250.3  | 237.7  | 224.0  | 211.4  |
| 26°   | 211.4  | 213.1  | 201.6  | 193.6  | 177.6  |
| 27°   | 181.0  | 181.6  | 181.6  | 166.7  | 151.2  |
| 28°   | 147.8  | 154.1  | 148.3  | 141.5  | 126.6  |
| 29°   | 126.6  | 134.6  | 131.7  | 124.9  | 110.5  |
| 30°   | 109.4  | 115.1  | 120.9  | 110.0  | 96.2   |
| 32.5° | 76.8   | 81.9   | 88.2   | 82.5   | 71.0   |
| 35°   | 54.4   | 59.0   | 64.2   | 48.7   | 51.0   |
| 37.5° | 37.2   | 45.2   | 43.5   | 39.5   | 33.8   |
| 40°   | 22.3   | 23.5   | 25.8   | 27.5   | 14.9   |
| 42.5° | 16.0   | 18.9   | 17.2   | 19.5   | 6.9    |
| 45°   | 8.0    | 11.5   | 6.3    | 6.3    | 9.2    |
| 47.5° | 5.7    | 9.7    | 3.4    | 3.4    | 1.1    |
| 50°   | 3.4    | 7.4    | 4.0    | 1.7    | 5.7    |
| 52.5° | 5.7    | 6.9    | 4.6    | 5.2    | 1.1    |
| 55°   | 0.0    | 3.4    | 2.3    | 1.1    | 0.0    |
| 57.5° | 2.3    | 4.0    | 2.3    | 1.1    | 2.3    |
| 60°   | 0.0    | 0.0    | 0.0    | 0.6    | 1.1    |
| 62.5° | 0.0    | 1.1    | 0.0    | 1.7    | 2.3    |
| 65°   | 0.0    | 2.3    | 0.0    | 0.0    | 0.0    |
| 67.5° | 3.4    | 4.0    | 2.3    | 4.6    | 6.9    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.0   | 0.0 | 1.1   | 0.0 |
| 77.5° | 0.0 | 5.7   | 1.7 | 1.7   | 2.3 |
| 80°   | 1.1 | 0.0   | 0.0 | 0.6   | 0.0 |
| 82.5° | 0.0 | 4.6   | 0.6 | 2.3   | 3.4 |
| 85°   | 5.7 | 2.9   | 5.2 | 2.9   | 2.3 |
| 87.5° | 0.0 | 0.6   | 1.1 | 0.6   | 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 | 0.6 | 0.6 | 0.0 |
| 72.5° | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)