

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: P282368

Luminaire Tested: **LDA2B208027D010 EU2B20NFL258027 2LBAPINSQ1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P282368  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1809-951-26)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA2B208027D010 EU2B20NFL258027 2LBAPINSQ1MW  
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH NARROW FLOOD OPTIC AND 2in Adj SQ PinHole, MW  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1801.9 lumens  
Efficiency: N/A  
Efficacy: 87.5 lumens/watt  
Spacing Criteria (0/90/45): 0.33 / 0.3 / 0.32  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

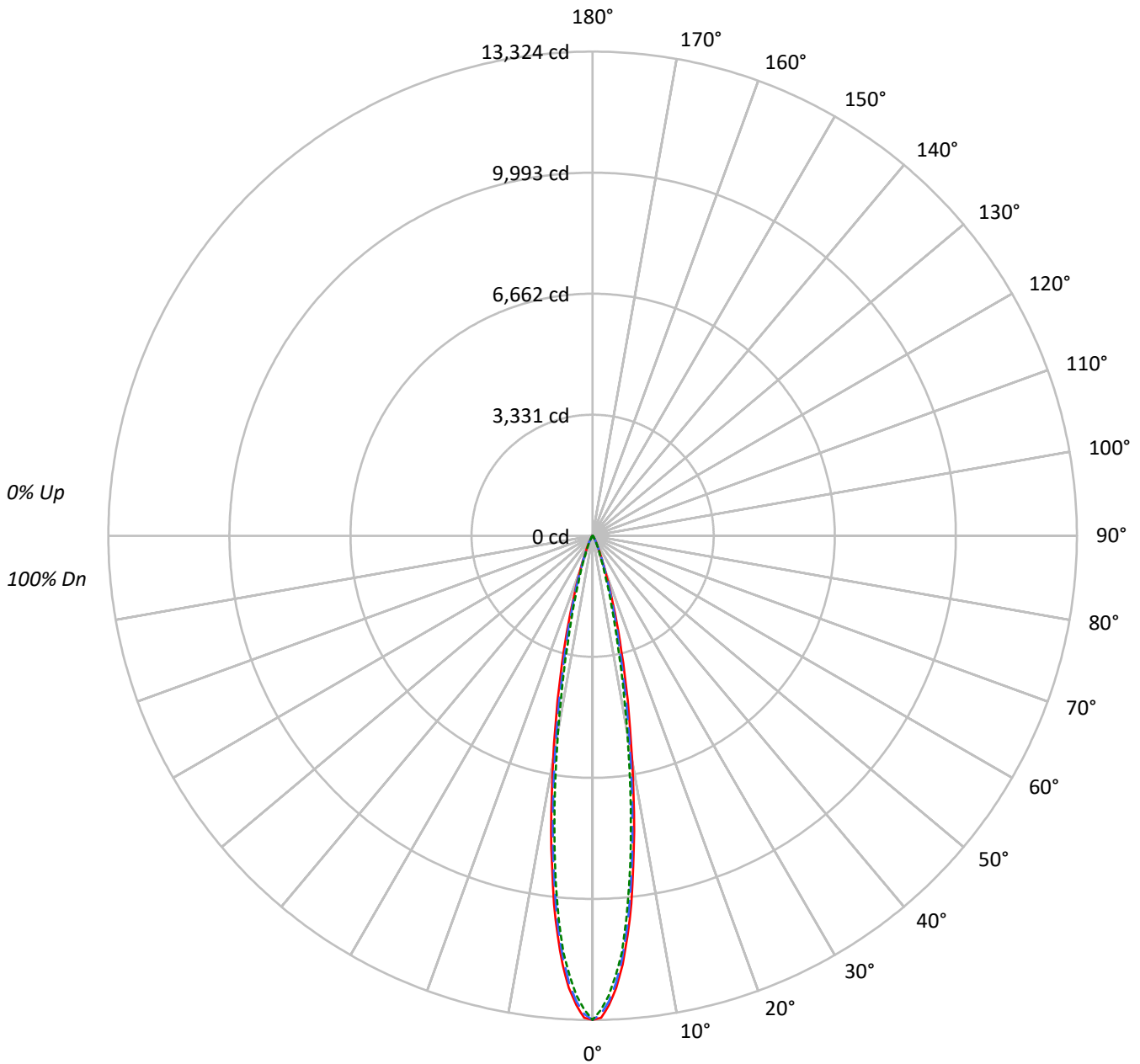
Input Watts (W): 20.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 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 | 100 | 101 | 100 | 98  | 99  | 97  | 96  | 95  |    |    |    |    |    | 95  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 109 | 105 | 101 | 99  | 107 | 103 | 100 | 98  | 101 | 99  | 97  | 99  | 97  | 95  | 97  | 95  | 94  | 92  |    |    |    |    |    | 92  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 106 | 101 | 98  | 95  | 105 | 100 | 97  | 94  | 98  | 96  | 93  | 96  | 94  | 92  | 95  | 93  | 91  | 90  |    |    |    |    |    | 90  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 103 | 98  | 94  | 92  | 102 | 97  | 94  | 91  | 96  | 93  | 91  | 94  | 92  | 90  | 93  | 91  | 89  | 88  |    |    |    |    |    | 88  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 101 | 95  | 92  | 89  | 100 | 95  | 91  | 89  | 93  | 90  | 88  | 92  | 90  | 88  | 91  | 89  | 87  | 86  |    |    |    |    |    | 86  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 99  | 93  | 89  | 87  | 98  | 92  | 89  | 86  | 91  | 88  | 86  | 90  | 88  | 86  | 89  | 87  | 85  | 84  |    |    |    |    |    | 84  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 96  | 91  | 87  | 85  | 96  | 90  | 87  | 84  | 89  | 86  | 84  | 88  | 86  | 84  | 88  | 85  | 83  | 83  |    |    |    |    |    | 83  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 94  | 89  | 85  | 83  | 94  | 88  | 85  | 82  | 87  | 84  | 82  | 87  | 84  | 82  | 86  | 84  | 82  | 81  |    |    |    |    |    | 81  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 93  | 87  | 83  | 81  | 92  | 86  | 83  | 81  | 86  | 83  | 81  | 85  | 82  | 80  | 85  | 82  | 80  | 79  |    |    |    |    |    | 79  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 6573454 | 6573454 | 6573454 |
| 5°  | 5469798 | 5369560 | 5261151 |
| 10° | 3133083 | 2940008 | 2743878 |
| 15° | 1393522 | 1237636 | 1037110 |
| 20° | 505546  | 475305  | 376600  |
| 25° | 194120  | 181219  | 156069  |
| 30° | 83687   | 77876   | 69103   |
| 35° | 39630   | 39630   | 32824   |
| 40° | 19836   | 20545   | 16552   |
| 45° | 11443   | 10745   | 10047   |
| 50° | 7906    | 7061    | 7061    |
| 55° | 6193    | 4387    | 5333    |
| 60° | 5032    | 3059    | 4046    |
| 65° | 3619    | 2452    | 3619    |
| 70° | 3029    | 1442    | 3029    |
| 75° | 1906    | 1906    | 1906    |
| 80° | 0       | 0       | 0       |
| 85° | 0       | 0       | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 866.6  | 48.1      |
| 10°-20°   | 701.3  | 38.9      |
| 20°-30°   | 169.1  | 9.4       |
| 30°-40°   | 43.1   | 2.4       |
| 40°-50°   | 12.8   | 0.7       |
| 50°-60°   | 5.5    | 0.3       |
| 60°-70°   | 2.7    | 0.1       |
| 70°-80°   | 0.9    | 0.0       |
| 80°-90°   | 0.0    | 0.0       |
| 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°    | 1737.0 | 96.4      |
| 0°-40°    | 1780.1 | 98.8      |
| 0°-60°    | 1798.4 | 99.8      |
| 0°-90°    | 1801.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1801.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0°  | 13324 | 13324 | 13324 | 13324 | 13324 |      |
| 5°  | 11045 | 10943 | 10842 | 10748 | 10623 | 893  |
| 15° | 2728  | 2664  | 2423  | 2183  | 2030  | 778  |
| 25° | 357   | 359   | 333   | 302   | 287   | 184  |
| 35° | 66    | 67    | 66    | 60    | 54    | 45   |
| 45° | 16    | 16    | 15    | 14    | 14    | 14   |
| 55° | 7     | 6     | 5     | 5     | 6     | 6    |
| 65° | 3     | 3     | 2     | 2     | 3     | 3    |
| 75° | 1     | 1     | 1     | 1     | 1     | 1    |
| 85° | 0     | 0     | 0     | 0     | 0     | 0    |
| 90° | 0     | 0     | 0     | 0     | 0     | 0    |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 13323.8 | 13323.8 | 13323.8 | 13323.8 | 13323.8 |
| 1°    | 13264.2 | 13171.8 | 13160.4 | 13218.0 | 13048.4 |
| 2°    | 12925.1 | 12859.4 | 12821.3 | 12855.3 | 12663.1 |
| 3°    | 12459.6 | 12395.9 | 12327.1 | 12328.1 | 12113.3 |
| 4°    | 11825.6 | 11775.2 | 11659.1 | 11624.2 | 11499.8 |
| 5°    | 11044.6 | 10942.9 | 10842.2 | 10747.6 | 10623.3 |
| 6°    | 10181.4 | 10049.9 | 9906.0  | 9765.3  | 9637.8  |
| 7°    | 9166.2  | 9078.8  | 8888.7  | 8696.6  | 8588.7  |
| 8°    | 8211.5  | 8070.8  | 7848.8  | 7608.3  | 7516.9  |
| 9°    | 7185.0  | 7084.3  | 6829.4  | 6549.9  | 6458.5  |
| 10°   | 6254.0  | 6149.1  | 5868.6  | 5557.2  | 5477.1  |
| 11°   | 5380.5  | 5281.9  | 4990.0  | 4663.2  | 4577.9  |
| 12°   | 4641.7  | 4501.9  | 4166.9  | 3883.3  | 3800.1  |
| 13°   | 3905.9  | 3810.3  | 3492.8  | 3212.3  | 3050.9  |
| 14°   | 3280.1  | 3201.0  | 2913.2  | 2666.6  | 2496.0  |
| 15°   | 2728.3  | 2663.5  | 2423.1  | 2182.6  | 2030.5  |
| 16°   | 2238.1  | 2198.0  | 2007.9  | 1775.7  | 1651.3  |
| 17°   | 1815.8  | 1778.8  | 1657.5  | 1443.8  | 1339.0  |
| 18°   | 1466.4  | 1461.2  | 1360.5  | 1175.6  | 1082.1  |
| 19°   | 1206.4  | 1204.3  | 1111.9  | 956.7   | 879.6   |
| 20°   | 962.9   | 976.2   | 905.3   | 769.7   | 717.3   |
| 21°   | 785.1   | 792.3   | 735.8   | 633.0   | 585.7   |
| 22°   | 639.2   | 644.3   | 607.3   | 523.0   | 497.4   |
| 23°   | 524.1   | 527.2   | 496.3   | 433.6   | 411.0   |
| 24°   | 431.6   | 433.6   | 405.9   | 361.7   | 342.2   |
| 25°   | 356.6   | 358.6   | 332.9   | 302.1   | 286.7   |
| 26°   | 295.9   | 298.0   | 275.4   | 253.8   | 238.4   |
| 27°   | 245.6   | 249.7   | 227.1   | 213.7   | 197.3   |
| 28°   | 209.6   | 210.7   | 190.1   | 181.9   | 166.5   |
| 29°   | 171.6   | 177.8   | 160.3   | 153.1   | 141.8   |
| 30°   | 146.9   | 150.0   | 136.7   | 131.5   | 121.3   |
| 32.5° | 97.6    | 99.7    | 93.5    | 89.4    | 81.2    |
| 35°   | 65.8    | 66.8    | 65.8    | 59.6    | 54.5    |
| 37.5° | 45.2    | 45.2    | 46.2    | 39.0    | 37.0    |
| 40°   | 30.8    | 30.8    | 31.9    | 26.7    | 25.7    |
| 42.5° | 22.6    | 22.6    | 21.6    | 18.5    | 18.5    |
| 45°   | 16.4    | 16.4    | 15.4    | 14.4    | 14.4    |
| 47.5° | 13.4    | 12.3    | 11.3    | 11.3    | 11.3    |
| 50°   | 10.3    | 10.3    | 9.2     | 8.2     | 9.2     |
| 52.5° | 8.2     | 8.2     | 7.2     | 7.2     | 7.2     |
| 55°   | 7.2     | 6.2     | 5.1     | 5.1     | 6.2     |
| 57.5° | 5.1     | 5.1     | 4.1     | 4.1     | 5.1     |
| 60°   | 5.1     | 4.1     | 3.1     | 4.1     | 4.1     |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 67.5° | 3.1 | 2.1   | 2.1 | 2.1   | 2.1 |
| 70°   | 2.1 | 2.1   | 1.0 | 1.0   | 2.1 |
| 72.5° | 1.0 | 1.0   | 1.0 | 1.0   | 1.0 |
| 75°   | 1.0 | 1.0   | 1.0 | 1.0   | 1.0 |
| 77.5° | 1.0 | 1.0   | 0.0 | 0.0   | 1.0 |
| 80°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 82.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 85°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 87.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |



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







|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| 62.5° | 4.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 65°   | 3.1 | 3.1 | 2.1 | 2.1 | 3.1 |



(END OF REPORT)