

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: P282693

Luminaire Tested: **LDA2B109050D010 EU2B10NFL259050 2LBALPINSQ1MB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P282693  
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: LDA2B109050D010 EU2B10NFL259050 2LBALPINSQ1MB  
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH NARROW FLOOD OPTIC AND 2in Adj SQ Pinhole w-lens, MB  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 792.6 lumens  
Efficiency: N/A  
Efficacy: 79.3 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

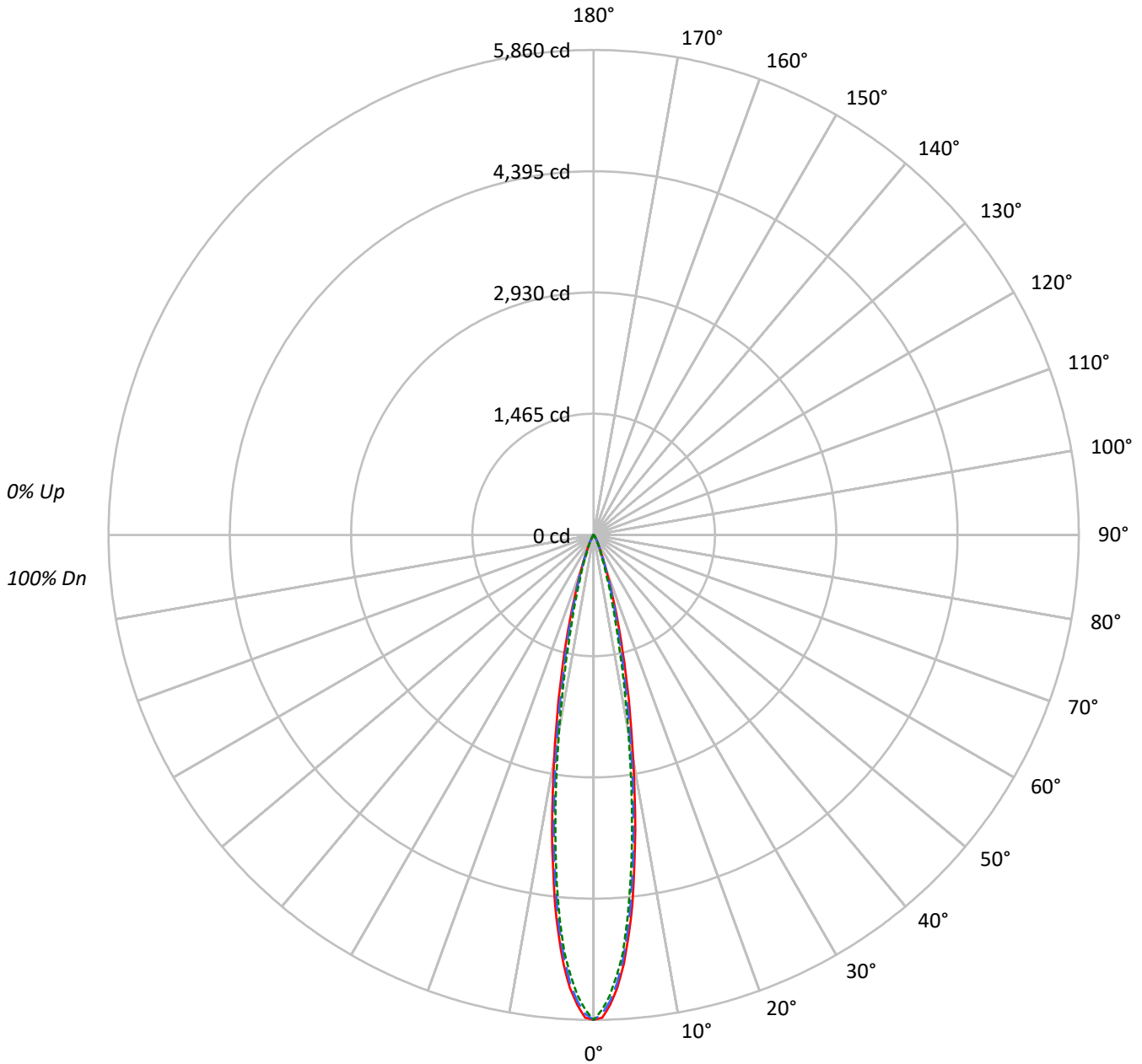
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 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  | 84  | 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°  | 2891297 | 2891297 | 2891297 |
| 5°  | 2405857 | 2361780 | 2314088 |
| 10° | 1378076 | 1293161 | 1206893 |
| 15° | 612919  | 544374  | 456165  |
| 20° | 222348  | 209065  | 165645  |
| 25° | 85356   | 79695   | 68644   |
| 30° | 36802   | 34238   | 30364   |
| 35° | 17406   | 17406   | 14455   |
| 40° | 8759    | 9017    | 7278    |
| 45° | 5024    | 4744    | 4396    |
| 50° | 3454    | 3147    | 3147    |
| 55° | 2752    | 1978    | 2322    |
| 60° | 2269    | 1381    | 1776    |
| 65° | 1634    | 1051    | 1634    |
| 70° | 1298    | 721     | 1298    |
| 75° | 953     | 953     | 953     |
| 80° | 0       | 0       | 0       |
| 85° | 0       | 0       | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 381.2  | 48.1      |
| 10°-20°   | 308.5  | 38.9      |
| 20°-30°   | 74.4   | 9.4       |
| 30°-40°   | 19.0   | 2.4       |
| 40°-50°   | 5.6    | 0.7       |
| 50°-60°   | 2.4    | 0.3       |
| 60°-70°   | 1.2    | 0.1       |
| 70°-80°   | 0.4    | 0.1       |
| 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°    | 764.0  | 96.4      |
| 0°-40°    | 782.9  | 98.8      |
| 0°-60°    | 791.0  | 99.8      |
| 0°-90°    | 792.6  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 792.6  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 5860 | 5860  | 5860 | 5860  | 5860 |      |
| 5°  | 4858 | 4813  | 4769 | 4727  | 4673 | 393  |
| 15° | 1200 | 1172  | 1066 | 960   | 893  | 342  |
| 25° | 157  | 158   | 146  | 133   | 126  | 81   |
| 35° | 29   | 29    | 29   | 26    | 24   | 20   |
| 45° | 7    | 7     | 7    | 6     | 6    | 6    |
| 55° | 3    | 3     | 2    | 2     | 3    | 3    |
| 65° | 1    | 1     | 1    | 1     | 1    | 2    |
| 75° | 0    | 0     | 0    | 0     | 0    | 1    |
| 85° | 0    | 0     | 0    | 0     | 0    | 0    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 5860.4 | 5860.4 | 5860.4 | 5860.4 | 5860.4 |
| 1°    | 5834.2 | 5793.5 | 5788.5 | 5813.8 | 5739.3 |
| 2°    | 5685.0 | 5656.1 | 5639.4 | 5654.3 | 5569.8 |
| 3°    | 5480.3 | 5452.3 | 5422.0 | 5422.4 | 5328.0 |
| 4°    | 5201.4 | 5179.3 | 5128.2 | 5112.8 | 5058.1 |
| 5°    | 4857.9 | 4813.2 | 4768.9 | 4727.3 | 4672.6 |
| 6°    | 4478.2 | 4420.4 | 4357.1 | 4295.2 | 4239.1 |
| 7°    | 4031.7 | 3993.3 | 3909.6 | 3825.1 | 3777.7 |
| 8°    | 3611.8 | 3549.9 | 3452.2 | 3346.5 | 3306.3 |
| 9°    | 3160.3 | 3116.0 | 3003.9 | 2880.9 | 2840.7 |
| 10°   | 2750.8 | 2704.7 | 2581.3 | 2444.3 | 2409.1 |
| 11°   | 2366.6 | 2323.2 | 2194.8 | 2051.1 | 2013.6 |
| 12°   | 2041.6 | 1980.1 | 1832.8 | 1708.0 | 1671.4 |
| 13°   | 1718.0 | 1676.0 | 1536.3 | 1412.9 | 1341.9 |
| 14°   | 1442.7 | 1407.9 | 1281.4 | 1172.9 | 1097.9 |
| 15°   | 1200.0 | 1171.5 | 1065.8 | 960.0  | 893.1  |
| 16°   | 984.4  | 966.8  | 883.2  | 781.0  | 726.3  |
| 17°   | 798.7  | 782.4  | 729.0  | 635.0  | 588.9  |
| 18°   | 645.0  | 642.7  | 598.4  | 517.1  | 475.9  |
| 19°   | 530.6  | 529.7  | 489.0  | 420.8  | 386.9  |
| 20°   | 423.5  | 429.4  | 398.2  | 338.5  | 315.5  |
| 21°   | 345.3  | 348.5  | 323.6  | 278.4  | 257.6  |
| 22°   | 281.1  | 283.4  | 267.1  | 230.1  | 218.8  |
| 23°   | 230.5  | 231.9  | 218.3  | 190.7  | 180.8  |
| 24°   | 189.8  | 190.7  | 178.5  | 159.1  | 150.5  |
| 25°   | 156.8  | 157.7  | 146.4  | 132.9  | 126.1  |
| 26°   | 130.2  | 131.1  | 121.1  | 111.6  | 104.9  |
| 27°   | 108.0  | 109.8  | 99.9   | 94.0   | 86.8   |
| 28°   | 92.2   | 92.7   | 83.6   | 80.0   | 73.2   |
| 29°   | 75.5   | 78.2   | 70.5   | 67.3   | 62.4   |
| 30°   | 64.6   | 66.0   | 60.1   | 57.9   | 53.3   |
| 32.5° | 42.9   | 43.8   | 41.1   | 39.3   | 35.7   |
| 35°   | 28.9   | 29.4   | 28.9   | 26.2   | 24.0   |
| 37.5° | 19.9   | 19.9   | 20.3   | 17.2   | 16.3   |
| 40°   | 13.6   | 13.6   | 14.0   | 11.8   | 11.3   |
| 42.5° | 9.9    | 9.9    | 9.5    | 8.1    | 8.1    |
| 45°   | 7.2    | 7.2    | 6.8    | 6.3    | 6.3    |
| 47.5° | 5.9    | 5.4    | 5.0    | 5.0    | 5.0    |
| 50°   | 4.5    | 4.5    | 4.1    | 3.6    | 4.1    |
| 52.5° | 3.6    | 3.6    | 3.2    | 3.2    | 3.2    |
| 55°   | 3.2    | 2.7    | 2.3    | 2.3    | 2.7    |
| 57.5° | 2.3    | 2.3    | 1.8    | 1.8    | 2.3    |
| 60°   | 2.3    | 1.8    | 1.4    | 1.8    | 1.8    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 67.5° | 1.4 | 0.9   | 0.9 | 0.9   | 0.9 |
| 70°   | 0.9 | 0.9   | 0.5 | 0.5   | 0.9 |
| 72.5° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 |
| 75°   | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 |
| 77.5° | 0.5 | 0.5   | 0.0 | 0.0   | 0.5 |
| 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° | 1.8 | 1.4 | 1.4 | 1.4 | 1.4 |
| 65°   | 1.4 | 1.4 | 0.9 | 0.9 | 1.4 |



(END OF REPORT)