

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: P208390

Luminaire Tested: **LD4B20D010 EU4B10209040 4LBSLI1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P208390  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35319)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B20D010 EU4B10209040 4LBSLI1  
Description: PORTFOLIO 4 INCH SHALLOW RECESSED DOWNLIGHT  
SHALLOW DISTRIBUTION WITH SPECULAR CLEAR TRIM  
WATTAGE D010TR-21.86W DE010-20.46W D5LT-21.24W DMX-20.89W DL2-22.5W  
DL3-21.8 6W DLE-22.46W  
Light Source: HIGH LUMEN LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1799.5 lumens  
Efficiency: N/A  
Efficacy: 86.5 lumens/watt  
Spacing Criteria (0/90/45): 0.91 / 0.91 / 1  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

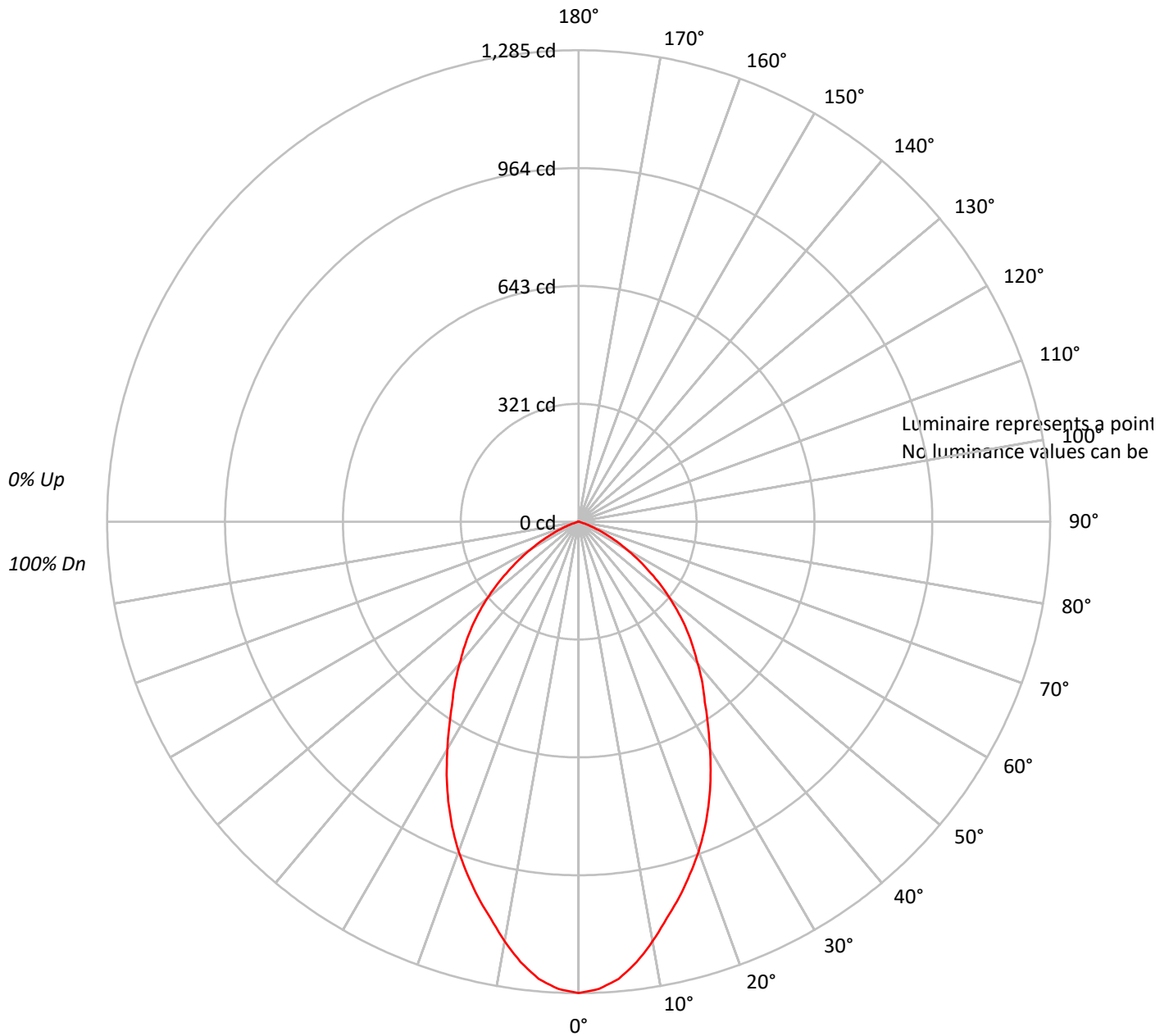
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





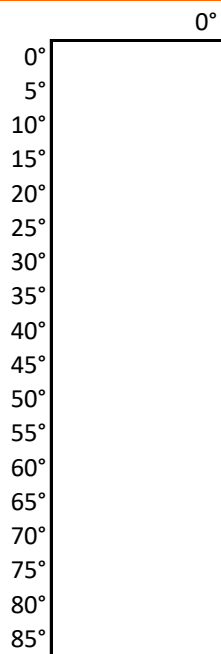
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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     |  | 20  |     |     |  |     | 20  |     |  |     |     | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     |  | 50  |     |     |  |     | 30  |     |  |     |     | 10  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 |
| 1   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 101 |  | 102 | 100 | 98  |  | 98  | 96  | 95  |  | 95  | 93  | 92  |
| 2   | 104 | 98  | 93  | 88  | 102 | 96  | 91  | 87  |  | 93  | 89  | 85  |  | 90  | 86  | 84  |  | 87  | 84  | 82  |
| 3   | 97  | 89  | 82  | 77  | 95  | 87  | 81  | 77  |  | 84  | 79  | 75  |  | 82  | 78  | 74  |  | 79  | 76  | 73  |
| 4   | 90  | 81  | 73  | 68  | 88  | 79  | 73  | 68  |  | 77  | 71  | 67  |  | 75  | 70  | 66  |  | 73  | 69  | 65  |
| 5   | 84  | 73  | 66  | 61  | 82  | 72  | 65  | 60  |  | 70  | 64  | 60  |  | 69  | 63  | 59  |  | 67  | 62  | 59  |
| 6   | 79  | 67  | 60  | 54  | 77  | 66  | 59  | 54  |  | 65  | 58  | 54  |  | 63  | 58  | 53  |  | 62  | 57  | 53  |
| 7   | 74  | 62  | 54  | 49  | 72  | 61  | 54  | 49  |  | 60  | 53  | 49  |  | 58  | 53  | 48  |  | 57  | 52  | 48  |
| 8   | 69  | 57  | 50  | 45  | 68  | 57  | 50  | 45  |  | 55  | 49  | 45  |  | 54  | 49  | 44  |  | 53  | 48  | 44  |
| 9   | 65  | 53  | 46  | 41  | 64  | 53  | 46  | 41  |  | 52  | 45  | 41  |  | 51  | 45  | 41  |  | 50  | 44  | 41  |
| 10  | 61  | 50  | 43  | 38  | 60  | 49  | 42  | 38  |  | 48  | 42  | 38  |  | 47  | 42  | 38  |  | 46  | 41  | 37  |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 116.5  | 6.5       |
| 10°-20°   | 297.1  | 16.5      |
| 20°-30°   | 385.0  | 21.4      |
| 30°-40°   | 377.3  | 21.0      |
| 40°-50°   | 319.8  | 17.8      |
| 50°-60°   | 209.6  | 11.6      |
| 60°-70°   | 84.3   | 4.7       |
| 70°-80°   | 9.6    | 0.5       |
| 80°-90°   | 0.3    | 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°    | 798.6  | 44.4      |
| 0°-40°    | 1175.9 | 65.3      |
| 0°-60°    | 1705.3 | 94.8      |
| 0°-90°    | 1799.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1799.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1285 |      |
| 5°  | 1251 | 117  |
| 15° | 1060 | 297  |
| 25° | 841  | 385  |
| 35° | 600  | 377  |
| 45° | 416  | 320  |
| 55° | 233  | 210  |
| 65° | 82   | 84   |
| 75° | 4    | 10   |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 1284.8 |
| 2.5°  | 1274.9 |
| 5°    | 1251.0 |
| 7.5°  | 1211.1 |
| 10°   | 1161.3 |
| 12.5° | 1107.6 |
| 15°   | 1059.7 |
| 17.5° | 1008.0 |
| 20°   | 956.2  |
| 22.5° | 900.4  |
| 25°   | 840.6  |
| 27.5° | 778.9  |
| 30°   | 715.1  |
| 32.5° | 655.4  |
| 35°   | 599.6  |
| 37.5° | 553.8  |
| 40°   | 504.0  |
| 42.5° | 460.2  |
| 45°   | 416.3  |
| 47.5° | 370.5  |
| 50°   | 324.7  |
| 52.5° | 278.9  |
| 55°   | 233.1  |
| 57.5° | 191.2  |
| 60°   | 151.4  |
| 62.5° | 115.5  |
| 65°   | 81.7   |
| 67.5° | 53.8   |
| 70°   | 31.9   |
| 72.5° | 13.9   |
| 75°   | 4.0    |
| 77.5° | 2.0    |
| 80°   | 2.0    |
| 82.5° | 0.0    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)