

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: P205818

Luminaire Tested: **LD4B20D010 EU4B10209727 4LBSWH1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P205818  
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 EU4B10209727 4LBSWH1  
Description: PORTFOLIO 4 INCH SHALLOW RECESSED DOWNLIGHT  
SHALLOW DISTRIBUTION WITH WHEAT 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: 1428.3 lumens  
Efficiency: N/A  
Efficacy: 68.7 lumens/watt  
Spacing Criteria (0/90/45): 0.94 / 0.94 / 1.08  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

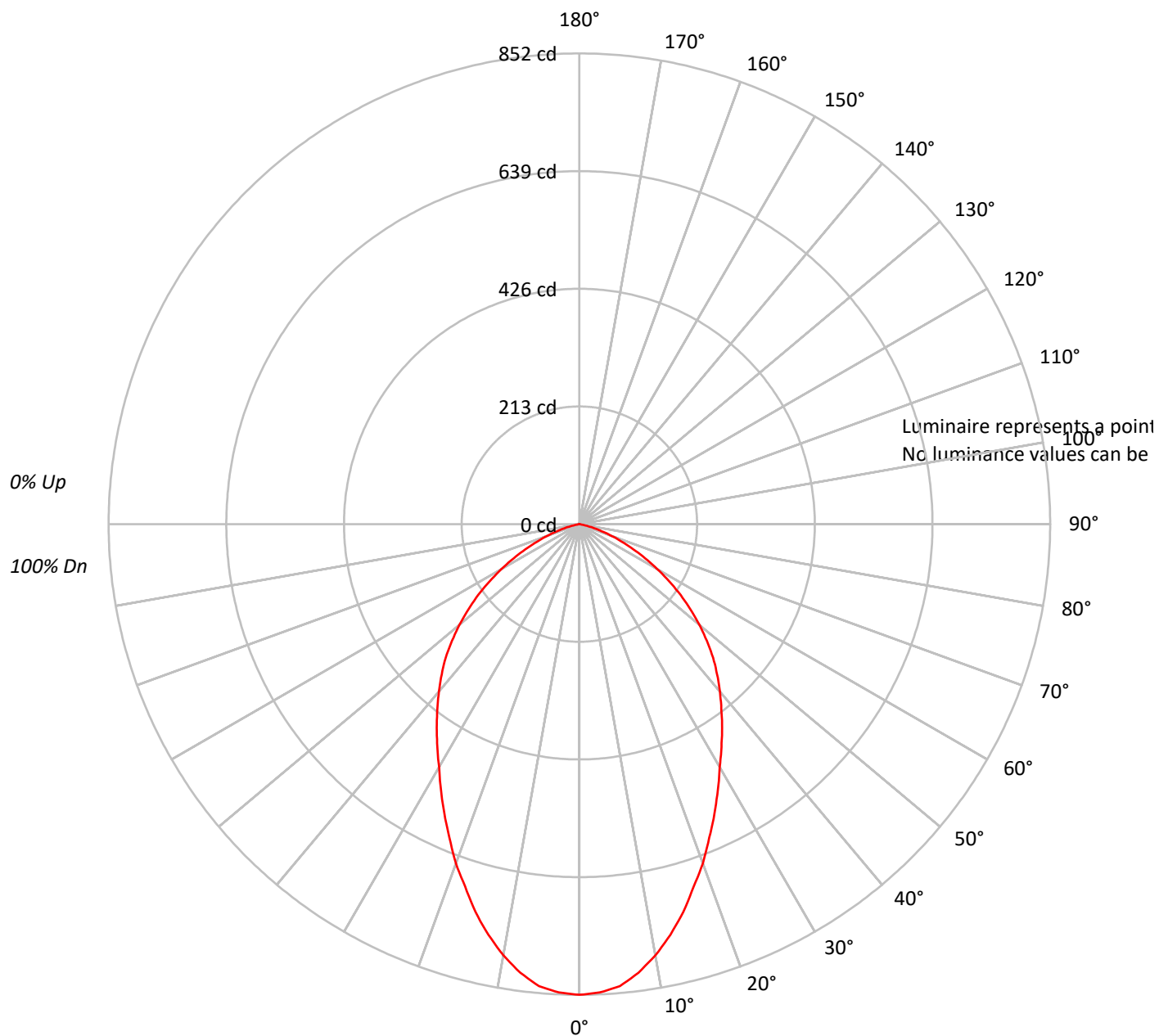
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





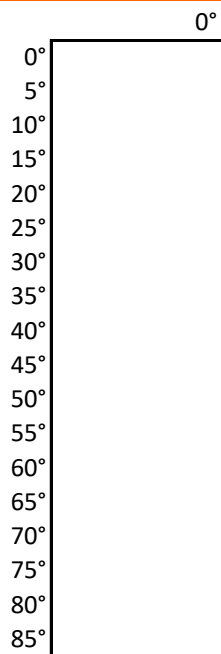
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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |  |     |     |     |  |  |     |     |     |  |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|--|-----|-----|-----|--|--|-----|
| 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  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |  |     |     |     |  |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  |  | 106 | 106 | 106 |  |  | 102 |
| 1   | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99  |  | 101 | 98  | 96  |  |  | 97  | 95  | 93  |  |  | 94  |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 84  |  | 91  | 86  | 83  |  |  | 87  | 84  | 81  |  |  | 85  |
| 3   | 95  | 86  | 79  | 73  | 93  | 84  | 78  | 73  |  | 82  | 76  | 72  |  |  | 79  | 74  | 70  |  |  | 76  |
| 4   | 88  | 77  | 70  | 64  | 86  | 76  | 69  | 63  |  | 74  | 68  | 63  |  |  | 72  | 66  | 62  |  |  | 69  |
| 5   | 81  | 70  | 62  | 56  | 79  | 69  | 62  | 56  |  | 67  | 60  | 55  |  |  | 65  | 59  | 55  |  |  | 63  |
| 6   | 76  | 64  | 56  | 50  | 74  | 63  | 55  | 50  |  | 61  | 54  | 49  |  |  | 60  | 54  | 49  |  |  | 58  |
| 7   | 71  | 58  | 51  | 45  | 69  | 58  | 50  | 45  |  | 56  | 49  | 45  |  |  | 55  | 49  | 44  |  |  | 54  |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  |  | 52  | 45  | 40  |  |  | 51  | 45  | 40  |  |  | 50  |
| 9   | 62  | 50  | 42  | 37  | 61  | 49  | 42  | 37  |  | 48  | 41  | 37  |  |  | 47  | 41  | 37  |  |  | 46  |
| 10  | 58  | 46  | 39  | 34  | 57  | 46  | 39  | 34  |  | 45  | 38  | 34  |  |  | 44  | 38  | 34  |  |  | 43  |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 78.6   | 5.5       |
| 10°-20°   | 203.4  | 14.2      |
| 20°-30°   | 266.0  | 18.6      |
| 30°-40°   | 281.7  | 19.7      |
| 40°-50°   | 262.7  | 18.4      |
| 50°-60°   | 199.0  | 13.9      |
| 60°-70°   | 107.7  | 7.5       |
| 70°-80°   | 28.9   | 2.0       |
| 80°-90°   | 0.4    | 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°    | 547.9  | 38.4      |
| 0°-40°    | 829.6  | 58.1      |
| 0°-60°    | 1291.3 | 90.4      |
| 0°-90°    | 1428.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1428.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | Flux |
|-----|-----|------|
| 0°  | 852 |      |
| 5°  | 839 | 79   |
| 15° | 727 | 203  |
| 25° | 578 | 266  |
| 35° | 450 | 282  |
| 45° | 342 | 263  |
| 55° | 224 | 199  |
| 65° | 108 | 108  |
| 75° | 25  | 29   |
| 85° | 0   | 0    |
| 90° | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |       |
|-------|-------|
| 0°    | 851.9 |
| 2.5°  | 848.7 |
| 5°    | 839.4 |
| 7.5°  | 819.0 |
| 10°   | 792.5 |
| 12.5° | 761.2 |
| 15°   | 726.8 |
| 17.5° | 687.7 |
| 20°   | 653.3 |
| 22.5° | 614.3 |
| 25°   | 578.3 |
| 27.5° | 542.4 |
| 30°   | 508.0 |
| 32.5° | 478.3 |
| 35°   | 450.2 |
| 37.5° | 422.0 |
| 40°   | 395.4 |
| 42.5° | 368.9 |
| 45°   | 342.3 |
| 47.5° | 312.6 |
| 50°   | 282.9 |
| 52.5° | 253.2 |
| 55°   | 223.5 |
| 57.5° | 192.3 |
| 60°   | 162.6 |
| 62.5° | 134.4 |
| 65°   | 107.8 |
| 67.5° | 82.8  |
| 70°   | 61.0  |
| 72.5° | 42.2  |
| 75°   | 25.0  |
| 77.5° | 10.9  |
| 80°   | 3.1   |
| 82.5° | 0.0   |
| 85°   | 0.0   |
| 87.5° | 0.0   |
| 90°   | 0.0   |



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— 0°-180°







(END OF REPORT)