

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: P208490

Luminaire Tested: **LD4B20D010 EU4B10209027 4LBNWH1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P208490  
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 EU4B10209027 4LBNWH1  
Description: PORTFOLIO 4 INCH 50 DEGREE CUTOFF RECESSED DOWNLIGHT  
NARROW 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: 1092.2 lumens  
Efficiency: N/A  
Efficacy: 52.5 lumens/watt  
Spacing Criteria (0/90/45): 0.53 / 0.53 / 0.62  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

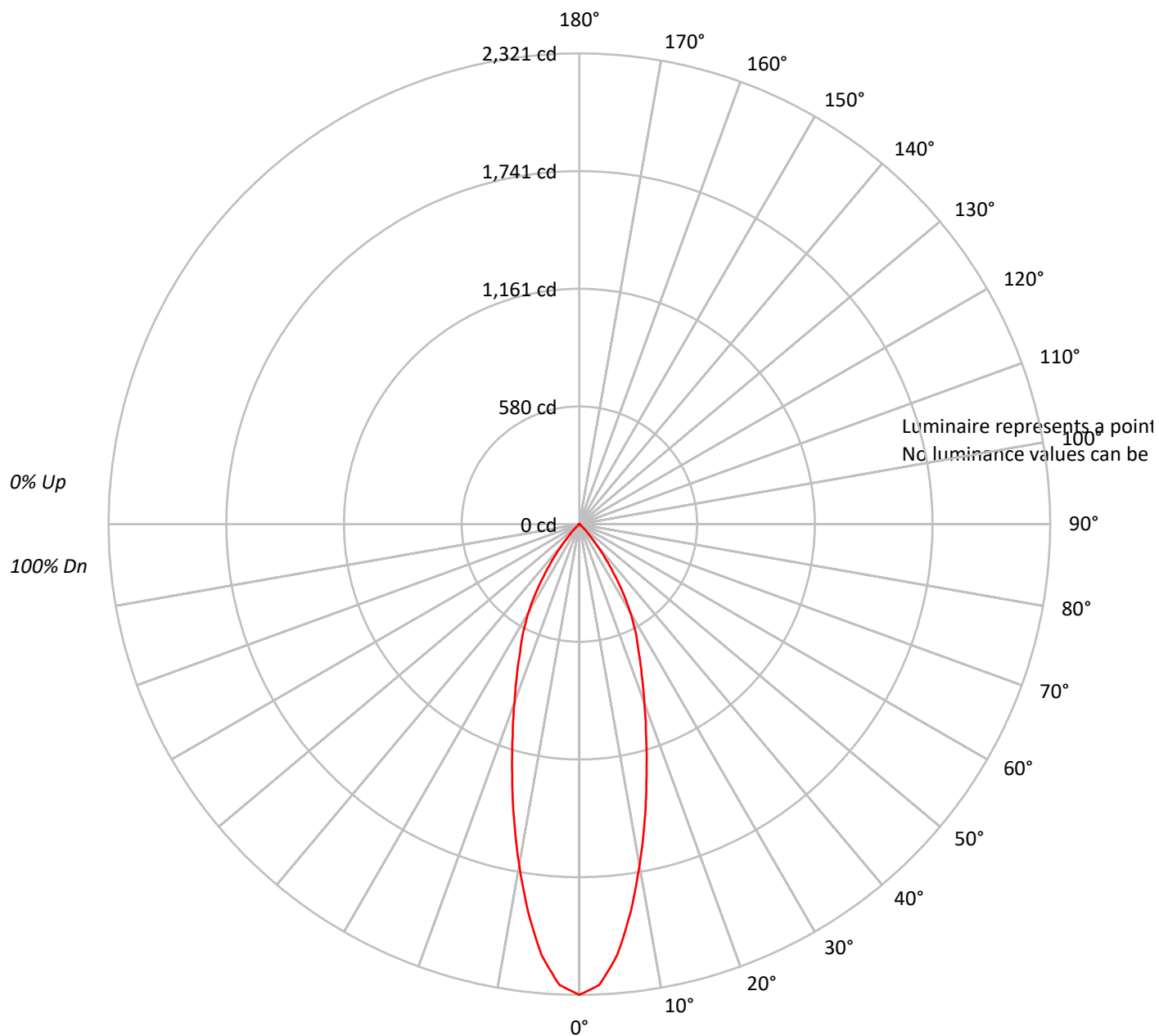
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |   |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |    |    |   |  |  |  |
| RC  | 80  |     |     |     | 70  |     |     |     | 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   | 114 | 111 | 109 | 107 | 112 | 109 | 107 | 105 | 105 | 104 | 102 | 102 | 100 | 99  | 98  | 97  | 96  | 95  |    |    |   |  |  |  |
| 2   | 109 | 105 | 101 | 98  | 107 | 103 | 100 | 97  | 100 | 97  | 95  | 97  | 95  | 93  | 94  | 92  | 91  | 89  |    |    |   |  |  |  |
| 3   | 104 | 98  | 94  | 90  | 102 | 97  | 93  | 90  | 94  | 91  | 88  | 92  | 89  | 87  | 90  | 87  | 85  | 84  |    |    |   |  |  |  |
| 4   | 100 | 93  | 88  | 84  | 98  | 92  | 87  | 83  | 90  | 86  | 82  | 88  | 84  | 82  | 86  | 83  | 81  | 79  |    |    |   |  |  |  |
| 5   | 95  | 88  | 82  | 78  | 94  | 87  | 82  | 78  | 85  | 81  | 77  | 83  | 80  | 77  | 82  | 79  | 76  | 75  |    |    |   |  |  |  |
| 6   | 91  | 83  | 78  | 74  | 90  | 82  | 77  | 74  | 81  | 76  | 73  | 79  | 76  | 73  | 78  | 75  | 72  | 71  |    |    |   |  |  |  |
| 7   | 87  | 79  | 73  | 70  | 86  | 78  | 73  | 69  | 77  | 72  | 69  | 76  | 72  | 69  | 75  | 71  | 68  | 67  |    |    |   |  |  |  |
| 8   | 84  | 75  | 70  | 66  | 82  | 74  | 69  | 66  | 73  | 69  | 65  | 72  | 68  | 65  | 71  | 68  | 65  | 64  |    |    |   |  |  |  |
| 9   | 80  | 71  | 66  | 62  | 79  | 71  | 66  | 62  | 70  | 65  | 62  | 69  | 65  | 62  | 68  | 65  | 62  | 61  |    |    |   |  |  |  |
| 10  | 77  | 68  | 63  | 59  | 76  | 68  | 63  | 59  | 67  | 62  | 59  | 66  | 62  | 59  | 66  | 62  | 59  | 58  |    |    |   |  |  |  |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 189.8  | 17.4      |
| 10°-20°   | 356.0  | 32.6      |
| 20°-30°   | 319.4  | 29.2      |
| 30°-40°   | 183.3  | 16.8      |
| 40°-50°   | 36.6   | 3.3       |
| 50°-60°   | 4.6    | 0.4       |
| 60°-70°   | 2.1    | 0.2       |
| 70°-80°   | 0.2    | 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°    | 865.3  | 79.2      |
| 0°-40°    | 1048.6 | 96.0      |
| 0°-60°    | 1089.8 | 99.8      |
| 0°-90°    | 1092.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1092.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 2321 |      |
| 5°  | 2134 | 190  |
| 15° | 1278 | 356  |
| 25° | 690  | 319  |
| 35° | 290  | 183  |
| 45° | 40   | 37   |
| 55° | 6    | 5    |
| 65° | 2    | 2    |
| 75° | 0    | 0    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 2321.0 |
| 2.5°  | 2273.8 |
| 5°    | 2134.3 |
| 7.5°  | 1930.7 |
| 10°   | 1708.2 |
| 12.5° | 1489.5 |
| 15°   | 1278.3 |
| 17.5° | 1093.5 |
| 20°   | 935.2  |
| 22.5° | 803.2  |
| 25°   | 690.1  |
| 27.5° | 599.6  |
| 30°   | 499.6  |
| 32.5° | 397.8  |
| 35°   | 290.4  |
| 37.5° | 198.0  |
| 40°   | 122.6  |
| 42.5° | 73.5   |
| 45°   | 39.6   |
| 47.5° | 17.0   |
| 50°   | 7.5    |
| 52.5° | 5.7    |
| 55°   | 5.7    |
| 57.5° | 3.8    |
| 60°   | 3.8    |
| 62.5° | 1.9    |
| 65°   | 1.9    |
| 67.5° | 1.9    |
| 70°   | 1.9    |
| 72.5° | 0.0    |
| 75°   | 0.0    |
| 77.5° | 0.0    |
| 80°   | 0.0    |
| 82.5° | 0.0    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)