

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: P170509

Luminaire Tested: **LDA4A28827D010TE LAR15SP 4LAL1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P170509  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26144)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA4A28827D010TE LAR15SP 4LAL1  
Description: PORTFOLIO 4" Lensed Adjustable, Self-flange Trim Ring, 15° Spot  
Optic, at 0° tilt  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2406.4 lumens  
Efficiency: N/A  
Efficacy: 54.1 lumens/watt  
Spacing Criteria (0/90/45): 0.29 / 0.29 / 0.34  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

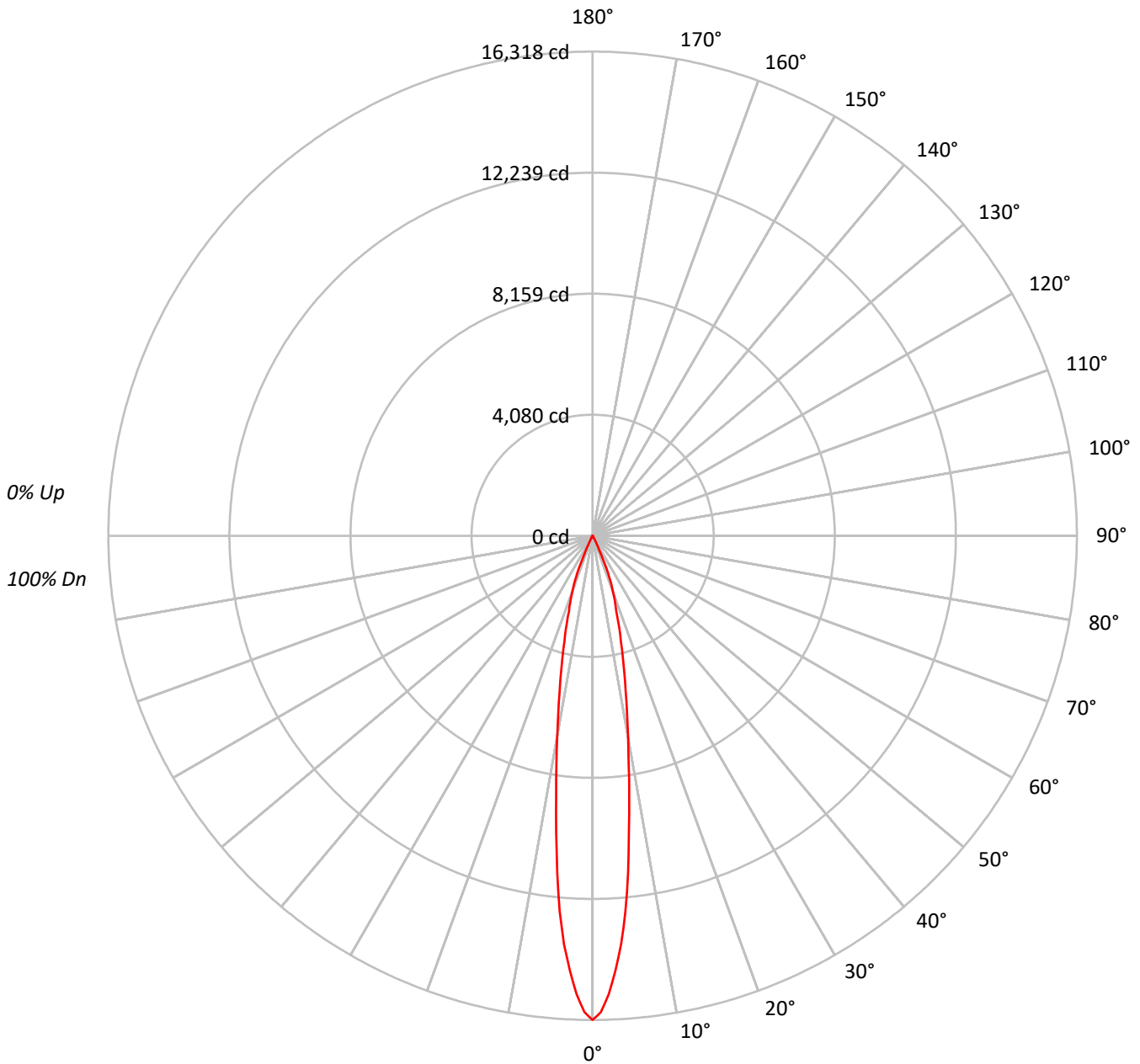
Input Watts (W): 44.49  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |   |     |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|-----|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF  | 20  |     |     |     |     |     |     |     |     | 20  |     |     |     |     |     |     |     |     | 20 |    |   |     |  |  |  |  |  | 20 |  |  |  |  |  |  |  |  |   |
| 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 | 108 | 106 | 103 | 110 | 107 | 104 | 102 | 104 | 102 | 100 | 101 | 99  | 98  | 98  | 97  | 96  | 95  |    |    |   | 95  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 109 | 104 | 101 | 98  | 107 | 103 | 100 | 98  | 101 | 98  | 96  | 98  | 96  | 95  | 96  | 95  | 93  | 92  |    |    |   | 92  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 106 | 101 | 97  | 94  | 104 | 100 | 96  | 94  | 98  | 95  | 93  | 96  | 94  | 92  | 94  | 92  | 91  | 90  |    |    |   | 90  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 103 | 97  | 94  | 91  | 102 | 97  | 93  | 90  | 95  | 92  | 90  | 94  | 91  | 89  | 92  | 90  | 88  | 87  |    |    |   | 87  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 100 | 95  | 91  | 88  | 99  | 94  | 90  | 88  | 93  | 89  | 87  | 91  | 89  | 87  | 90  | 88  | 86  | 85  |    |    |   | 85  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 98  | 92  | 88  | 85  | 97  | 91  | 88  | 85  | 90  | 87  | 85  | 89  | 86  | 84  | 88  | 86  | 84  | 83  |    |    |   | 83  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 95  | 89  | 86  | 83  | 95  | 89  | 85  | 83  | 88  | 85  | 83  | 87  | 84  | 82  | 86  | 84  | 82  | 81  |    |    |   | 81  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 93  | 87  | 83  | 81  | 92  | 87  | 83  | 81  | 86  | 83  | 81  | 85  | 82  | 80  | 85  | 82  | 80  | 79  |    |    |   | 79  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 91  | 85  | 81  | 79  | 90  | 85  | 81  | 79  | 84  | 81  | 79  | 83  | 81  | 79  | 83  | 80  | 78  | 78  |    |    |   | 78  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°      |
|-----|---------|
| 0°  | 2012742 |
| 5°  | 1573129 |
| 10° | 859092  |
| 15° | 469222  |
| 20° | 264098  |
| 25° | 67055   |
| 30° | 12747   |
| 35° | 4562    |
| 40° | 2222    |
| 45° | 1204    |
| 50° | 269     |
| 55° | 301     |
| 60° | 345     |
| 65° | 409     |
| 70° | 0       |
| 75° | 0       |
| 80° | 0       |
| 85° | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1004.3 | 41.7      |
| 10°-20°   | 1043.9 | 43.4      |
| 20°-30°   | 327.4  | 13.6      |
| 30°-40°   | 23.0   | 1.0       |
| 40°-50°   | 5.3    | 0.2       |
| 50°-60°   | 1.3    | 0.1       |
| 60°-70°   | 1.2    | 0.1       |
| 70°-80°   | 0.0    | 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°    | 2375.6 | 98.7      |
| 0°-40°    | 2398.6 | 99.7      |
| 0°-60°    | 2405.2 | 99.9      |
| 0°-90°    | 2406.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2406.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | Flux |
|-----|-------|------|
| 0°  | 16318 |      |
| 5°  | 12705 | ###  |
| 15° | 3674  | 1044 |
| 25° | 493   | 327  |
| 35° | 30    | 23   |
| 45° | 7     | 5    |
| 55° | 1     | 1    |
| 65° | 1     | 1    |
| 75° | 0     | 0    |
| 85° | 0     | 0    |
| 90° | 0     |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      |
|-------|---------|
| 0°    | 16317.9 |
| 1°    | 16057.8 |
| 2°    | 15464.6 |
| 3°    | 14674.7 |
| 4°    | 13800.8 |
| 5°    | 12705.3 |
| 6°    | 11408.9 |
| 7°    | 10053.3 |
| 8°    | 8834.0  |
| 9°    | 7772.9  |
| 10°   | 6859.1  |
| 11°   | 6059.5  |
| 12°   | 5357.6  |
| 13°   | 4737.0  |
| 14°   | 4178.2  |
| 15°   | 3674.5  |
| 17.5° | 2653.4  |
| 20°   | 2012.0  |
| 22.5° | 1369.3  |
| 25°   | 492.7   |
| 27.5° | 165.1   |
| 30°   | 89.5    |
| 32.5° | 49.5    |
| 35°   | 30.3    |
| 37.5° | 20.6    |
| 40°   | 13.8    |
| 42.5° | 9.6     |
| 45°   | 6.9     |
| 47.5° | 4.1     |
| 50°   | 1.4     |
| 52.5° | 1.4     |
| 55°   | 1.4     |
| 57.5° | 1.4     |
| 60°   | 1.4     |
| 62.5° | 1.4     |
| 65°   | 1.4     |
| 67.5° | 1.4     |
| 70°   | 0.0     |
| 72.5° | 0.0     |
| 75°   | 0.0     |
| 77.5° | 0.0     |
| 80°   | 0.0     |
| 82.5° | 0.0     |



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**CANDELA DISTRIBUTION (continued):**

0°  
90° | 0.0



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— 0°-180°







|       |  |     |
|-------|--|-----|
| 85°   |  | 0.0 |
| 87.5° |  | 0.0 |



(END OF REPORT)