

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: P1212099

Luminaire Tested: **LDSQA4A10935D010TE LAR25NF 4LSQAL1H**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: P1212099  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26797)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQA4A10935D010TE LAR25NF 4LSQAL1H  
Description: PORTFOLIO 4" SQUARE LENSED ADJUSTABLE, SELF-FLANGED, 25° NARROW FLOOD  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

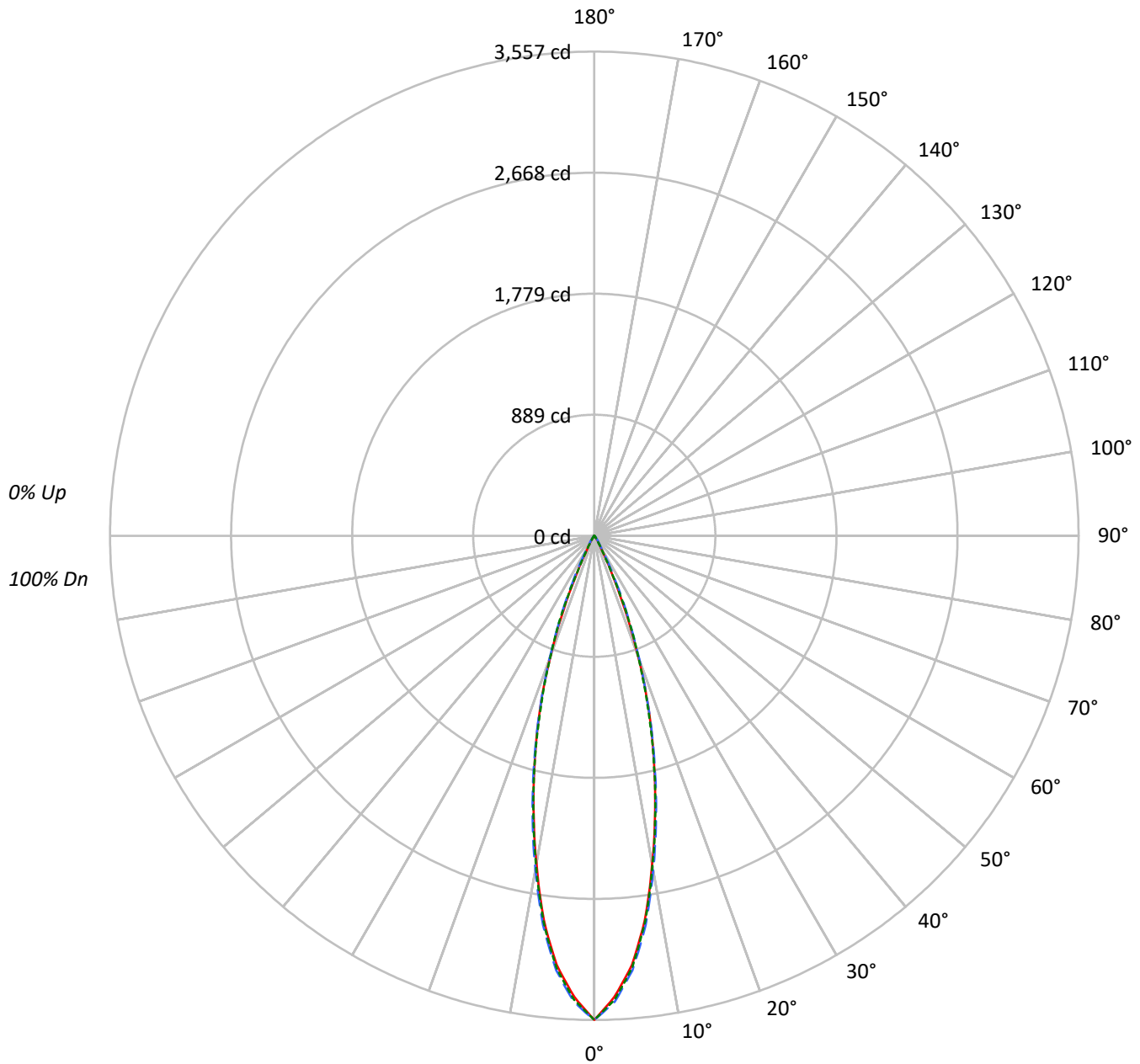
Lumens per Lamp: N/A  
Luminaire Lumens: 948.7 lumens  
Efficiency: N/A  
Efficacy: 76.5 lumens/watt  
Spacing Criteria (0/90/45): 0.48 / 0.48 / 0.5  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 12.4  
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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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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  | 50  | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |
| 1   | 115 | 113 | 111 | 109 | 113 | 111 | 109 | 107 | 107 | 105 | 104 | 103 | 102 | 101 | 100 | 99  | 98  | 96  |    |    |
| 2   | 111 | 107 | 104 | 102 | 109 | 106 | 103 | 101 | 103 | 100 | 99  | 100 | 98  | 96  | 97  | 96  | 94  | 93  |    |    |
| 3   | 107 | 103 | 99  | 96  | 106 | 101 | 98  | 95  | 99  | 96  | 94  | 97  | 94  | 92  | 95  | 93  | 91  | 90  |    |    |
| 4   | 104 | 99  | 95  | 91  | 102 | 97  | 94  | 91  | 95  | 92  | 90  | 94  | 91  | 89  | 92  | 90  | 88  | 87  |    |    |
| 5   | 101 | 95  | 91  | 87  | 99  | 94  | 90  | 87  | 92  | 89  | 86  | 91  | 88  | 86  | 89  | 87  | 85  | 84  |    |    |
| 6   | 98  | 91  | 87  | 84  | 97  | 91  | 87  | 84  | 89  | 86  | 83  | 88  | 85  | 83  | 87  | 84  | 82  | 81  |    |    |
| 7   | 95  | 88  | 84  | 81  | 94  | 88  | 84  | 81  | 87  | 83  | 80  | 86  | 82  | 80  | 85  | 82  | 80  | 79  |    |    |
| 8   | 92  | 85  | 81  | 78  | 91  | 85  | 81  | 78  | 84  | 80  | 78  | 83  | 80  | 77  | 82  | 79  | 77  | 76  |    |    |
| 9   | 89  | 83  | 78  | 76  | 89  | 82  | 78  | 76  | 81  | 78  | 75  | 81  | 77  | 75  | 80  | 77  | 75  | 74  |    |    |
| 10  | 87  | 80  | 76  | 73  | 86  | 80  | 76  | 73  | 79  | 76  | 73  | 78  | 75  | 73  | 78  | 75  | 73  | 72  |    |    |

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

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 344586 | 344586 | 344586 |
| 5°  | 307743 | 311613 | 309678 |
| 10° | 240898 | 245207 | 242206 |
| 15° | 169164 | 170408 | 168231 |
| 20° | 97093  | 99093  | 97000  |
| 25° | 30731  | 40426  | 31725  |
| 30° | 8166   | 10146  | 7864   |
| 35° | 2767   | 5026   | 2826   |
| 40° | 1227   | 2011   | 1227   |
| 45° | 671    | 904    | 548    |
| 50° | 407    | 467    | 271    |
| 55° | 220    | 220    | 152    |
| 60° | 174    | 174    | 78     |
| 65° | 92     | 92     | 92     |
| 70° | 113    | 113    | 113    |
| 75° | 0      | 150    | 150    |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 282.1  | 29.7      |
| 10°-20°   | 460.0  | 48.5      |
| 20°-30°   | 178.2  | 18.8      |
| 30°-40°   | 21.8   | 2.3       |
| 40°-50°   | 4.6    | 0.5       |
| 50°-60°   | 1.2    | 0.1       |
| 60°-70°   | 0.4    | 0.0       |
| 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°    | 920.3  | 97.0      |
| 0°-40°    | 942.2  | 99.3      |
| 0°-60°    | 948.0  | 99.9      |
| 0°-90°    | 948.7  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 948.7  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3557 | 3557  | 3557 | 3557  | 3557 |      |
| 5°  | 3165 | 3211  | 3204 | 3185  | 3184 | 280  |
| 15° | 1687 | 1709  | 1699 | 1687  | 1677 | 457  |
| 25° | 288  | 360   | 378  | 372   | 297  | 161  |
| 35° | 23   | 28    | 42   | 28    | 24   | 18   |
| 45° | 5    | 5     | 7    | 5     | 4    | 4    |
| 55° | 1    | 1     | 1    | 1     | 1    | 1    |
| 65° | 0    | 0     | 0    | 0     | 0    | 0    |
| 75° | 0    | 0     | 0    | 0     | 0    | 0    |
| 85° | 0    | 0     | 0    | 0     | 0    | 0    |
| 90° | 0    | 0     | 0    | 0     | 0    | 0    |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 3557.0 | 3557.0 | 3557.0 | 3557.0 | 3557.0 |
| 2.5°  | 3390.7 | 3438.0 | 3426.9 | 3404.8 | 3410.6 |
| 5°    | 3164.6 | 3210.6 | 3204.4 | 3185.0 | 3184.5 |
| 7.5°  | 2845.7 | 2890.8 | 2885.5 | 2862.0 | 2859.8 |
| 10°   | 2448.9 | 2490.0 | 2492.7 | 2458.6 | 2462.2 |
| 12.5° | 2061.4 | 2095.0 | 2096.3 | 2072.9 | 2068.0 |
| 15°   | 1686.7 | 1709.3 | 1699.1 | 1686.7 | 1677.4 |
| 17.5° | 1317.3 | 1322.2 | 1320.0 | 1301.9 | 1295.2 |
| 20°   | 941.8  | 963.0  | 961.2  | 945.8  | 940.9  |
| 22.5° | 586.6  | 625.0  | 642.7  | 628.6  | 636.1  |
| 25°   | 287.5  | 360.1  | 378.2  | 371.6  | 296.8  |
| 27.5° | 116.8  | 152.6  | 190.2  | 150.4  | 112.8  |
| 30°   | 73.0   | 79.6   | 90.7   | 76.5   | 70.3   |
| 32.5° | 38.5   | 48.2   | 61.5   | 46.9   | 38.5   |
| 35°   | 23.4   | 28.3   | 42.5   | 27.9   | 23.9   |
| 37.5° | 15.0   | 17.7   | 24.8   | 17.7   | 15.5   |
| 40°   | 9.7    | 11.5   | 15.9   | 11.5   | 9.7    |
| 42.5° | 6.6    | 7.5    | 10.2   | 7.5    | 6.2    |
| 45°   | 4.9    | 5.3    | 6.6    | 4.9    | 4.0    |
| 47.5° | 3.5    | 4.0    | 4.4    | 3.1    | 2.7    |
| 50°   | 2.7    | 2.7    | 3.1    | 2.2    | 1.8    |
| 52.5° | 1.8    | 2.2    | 2.2    | 1.3    | 1.3    |
| 55°   | 1.3    | 1.3    | 1.3    | 0.9    | 0.9    |
| 57.5° | 1.3    | 0.9    | 0.9    | 0.9    | 0.9    |
| 60°   | 0.9    | 0.9    | 0.9    | 0.4    | 0.4    |
| 62.5° | 0.4    | 0.4    | 0.4    | 0.4    | 0.4    |
| 65°   | 0.4    | 0.4    | 0.4    | 0.4    | 0.4    |
| 67.5° | 0.4    | 0.4    | 0.4    | 0.4    | 0.4    |
| 70°   | 0.4    | 0.4    | 0.4    | 0.4    | 0.4    |
| 72.5° | 0.4    | 0.4    | 0.4    | 0.4    | 0.0    |
| 75°   | 0.0    | 0.4    | 0.4    | 0.4    | 0.4    |
| 77.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 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    |

Classified

Scaled Data Report

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1121 Highway 74 South

Peachtree City, GA 30269



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— 0°-180°    - - 45°-225°    - - - 90°-270°

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