

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: P182576

Luminaire Tested: **LDSQA4A18835D010TE LAR35FL 4LSQAL1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P182576  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26798)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQA4A18835D010TE LAR35FL 4LSQAL1H  
Description: PORTFOLIO 4" SQUARE LENSED ADJUSTABLE, SELF-FLANGED, 35° FLOOD  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2184.0 lumens  
Efficiency: N/A  
Efficacy: 75.0 lumens/watt  
Spacing Criteria (0/90/45): 0.63 / 0.63 / 0.57  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

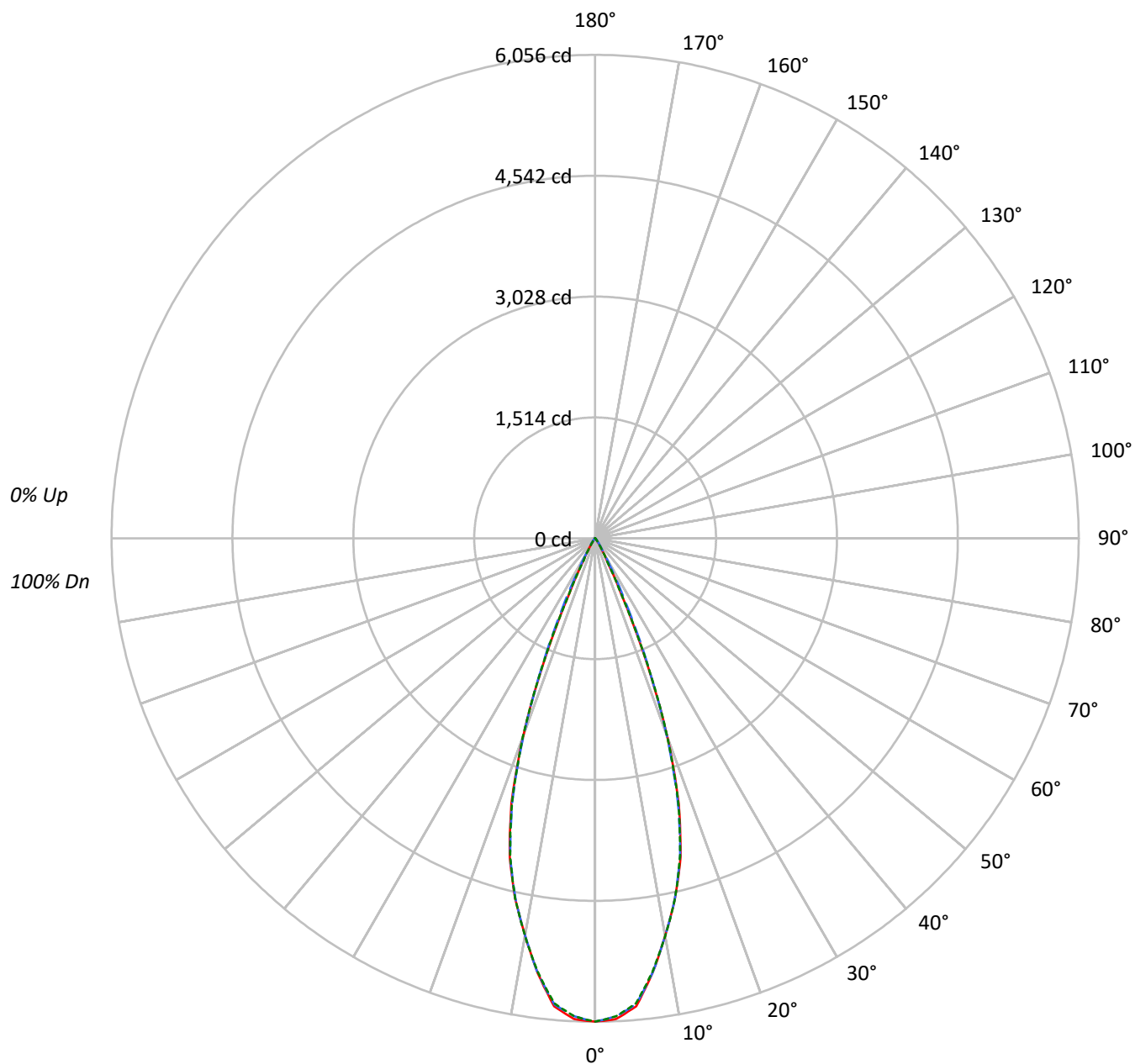
Input Watts (W): 29.12  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P182576

CATALOG NUMBER: LDSQA4A18835D010TE LAR35FL 4LSQAL1H

### Luminous Intensity Polar Plot





TEST NUMBER: P182576

CATALOG NUMBER: LDSQA4A18835D010TE LAR35FL 4LSQAL1H

**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   | 115 | 113 | 111 | 109 | 112 | 110 | 109 | 107 | 106 | 105 | 104 |  | 103 | 102 | 101 |  | 99  |
| 2   | 111 | 107 | 104 | 101 | 109 | 105 | 102 | 100 | 102 | 100 | 98  |  | 99  | 97  | 96  |  | 97  |
| 3   | 107 | 102 | 98  | 95  | 105 | 101 | 97  | 94  | 98  | 95  | 93  |  | 96  | 94  | 92  |  | 94  |
| 4   | 103 | 98  | 93  | 90  | 102 | 97  | 93  | 90  | 95  | 91  | 89  |  | 93  | 90  | 88  |  | 91  |
| 5   | 100 | 94  | 89  | 86  | 98  | 93  | 89  | 86  | 91  | 88  | 85  |  | 90  | 87  | 84  |  | 88  |
| 6   | 97  | 90  | 86  | 82  | 95  | 89  | 85  | 82  | 88  | 84  | 82  |  | 87  | 83  | 81  |  | 85  |
| 7   | 94  | 87  | 82  | 79  | 92  | 86  | 82  | 79  | 85  | 81  | 78  |  | 84  | 81  | 78  |  | 83  |
| 8   | 91  | 84  | 79  | 76  | 90  | 83  | 79  | 76  | 82  | 78  | 76  |  | 81  | 78  | 75  |  | 80  |
| 9   | 88  | 81  | 76  | 73  | 87  | 80  | 76  | 73  | 79  | 76  | 73  |  | 79  | 75  | 73  |  | 78  |
| 10  | 85  | 78  | 74  | 71  | 84  | 78  | 74  | 71  | 77  | 73  | 71  |  | 76  | 73  | 70  |  | 76  |

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

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 586639 | 586639 | 586639 |
| 5°  | 572445 | 569917 | 568847 |
| 10° | 497112 | 497014 | 497604 |
| 15° | 414651 | 412444 | 412244 |
| 20° | 271979 | 269814 | 272185 |
| 25° | 83171  | 105191 | 82851  |
| 30° | 20806  | 25169  | 20359  |
| 35° | 6741   | 10407  | 6623   |
| 40° | 3162   | 4932   | 2782   |
| 45° | 1644   | 2055   | 1233   |
| 50° | 904    | 1055   | 603    |
| 55° | 507    | 676    | 338    |
| 60° | 388    | 388    | 388    |
| 65° | 229    | 229    | 229    |
| 70° | 283    | 283    | 283    |
| 75° | 0      | 374    | 0      |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



TEST NUMBER: P182576

CATALOG NUMBER: LDSQA4A18835D010TE LAR35FL 4LSQAL1H

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 532.0  | 24.4      |
| 10°-20°   | 1102.3 | 50.5      |
| 20°-30°   | 481.4  | 22.0      |
| 30°-40°   | 52.5   | 2.4       |
| 40°-50°   | 10.9   | 0.5       |
| 50°-60°   | 3.0    | 0.1       |
| 60°-70°   | 1.2    | 0.1       |
| 70°-80°   | 0.7    | 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°    | 2115.7 | 96.9      |
| 0°-40°    | 2168.2 | 99.3      |
| 0°-60°    | 2182.0 | 99.9      |
| 0°-90°    | 2184.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2184.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 6056 | 6056  | 6056 | 6056  | 6056 |      |
| 5°  | 5887 | 5871  | 5861 | 5876  | 5850 | 533  |
| 15° | 4134 | 4116  | 4112 | 4118  | 4110 | 1106 |
| 25° | 778  | 959   | 984  | 968   | 775  | 450  |
| 35° | 57   | 68    | 88   | 67    | 56   | 45   |
| 45° | 12   | 13    | 15   | 11    | 9    | 10   |
| 55° | 3    | 3     | 4    | 2     | 2    | 3    |
| 65° | 1    | 1     | 1    | 1     | 1    | 1    |
| 75° | 0    | 1     | 1    | 0     | 0    | 0    |
| 85° | 0    | 0     | 0    | 0     | 0    | 0    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



TEST NUMBER: P182576

CATALOG NUMBER: LDSQA4A18835D010TE LAR35FL 4LSQAL1H

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 6055.6 | 6055.6 | 6055.6 | 6055.6 | 6055.6 |
| 2.5°  | 6028.6 | 6006.6 | 5994.6 | 6020.6 | 5994.6 |
| 5°    | 5886.6 | 5870.6 | 5860.6 | 5875.6 | 5849.6 |
| 7.5°  | 5497.5 | 5481.5 | 5495.5 | 5495.5 | 5482.5 |
| 10°   | 5053.5 | 5044.5 | 5052.5 | 5073.5 | 5058.5 |
| 12.5° | 4622.4 | 4615.4 | 4618.4 | 4640.4 | 4623.4 |
| 15°   | 4134.4 | 4116.4 | 4112.4 | 4118.4 | 4110.4 |
| 17.5° | 3484.3 | 3457.3 | 3440.3 | 3454.3 | 3458.3 |
| 20°   | 2638.2 | 2638.2 | 2617.2 | 2629.2 | 2640.2 |
| 22.5° | 1687.2 | 1726.2 | 1730.2 | 1728.2 | 1721.2 |
| 25°   | 778.1  | 959.1  | 984.1  | 968.1  | 775.1  |
| 27.5° | 315.0  | 389.0  | 484.0  | 401.0  | 304.0  |
| 30°   | 186.0  | 196.0  | 225.0  | 193.0  | 182.0  |
| 32.5° | 98.0   | 118.0  | 138.0  | 117.0  | 95.0   |
| 35°   | 57.0   | 68.0   | 88.0   | 67.0   | 56.0   |
| 37.5° | 37.0   | 43.0   | 59.0   | 43.0   | 35.0   |
| 40°   | 25.0   | 28.0   | 39.0   | 27.0   | 22.0   |
| 42.5° | 17.0   | 19.0   | 25.0   | 17.0   | 14.0   |
| 45°   | 12.0   | 13.0   | 15.0   | 11.0   | 9.0    |
| 47.5° | 8.0    | 9.0    | 10.0   | 7.0    | 6.0    |
| 50°   | 6.0    | 6.0    | 7.0    | 5.0    | 4.0    |
| 52.5° | 4.0    | 5.0    | 5.0    | 3.0    | 3.0    |
| 55°   | 3.0    | 3.0    | 4.0    | 2.0    | 2.0    |
| 57.5° | 3.0    | 3.0    | 3.0    | 2.0    | 2.0    |
| 60°   | 2.0    | 2.0    | 2.0    | 2.0    | 2.0    |
| 62.5° | 1.0    | 2.0    | 2.0    | 1.0    | 1.0    |
| 65°   | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    |
| 67.5° | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    |
| 70°   | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    |
| 72.5° | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    |
| 75°   | 0.0    | 1.0    | 1.0    | 0.0    | 0.0    |
| 77.5° | 0.0    | 1.0    | 1.0    | 1.0    | 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    |



Report Generated By E9808895 / USPTCWHP6082093





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







(END OF REPORT)