

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: P182486

Luminaire Tested: **LDSQA4A09827D010TE LAR35FL 4LSQA1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P182486
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26795)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA4A09827D010TE LAR35FL 4LSQA1H
Description: PORTFOLIO 4" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 35° FLOOD
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1227.0 lumens
Efficiency: N/A
Efficacy: 88.7 lumens/watt
Spacing Criteria (0/90/45): 0.62 / 0.63 / 0.57
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

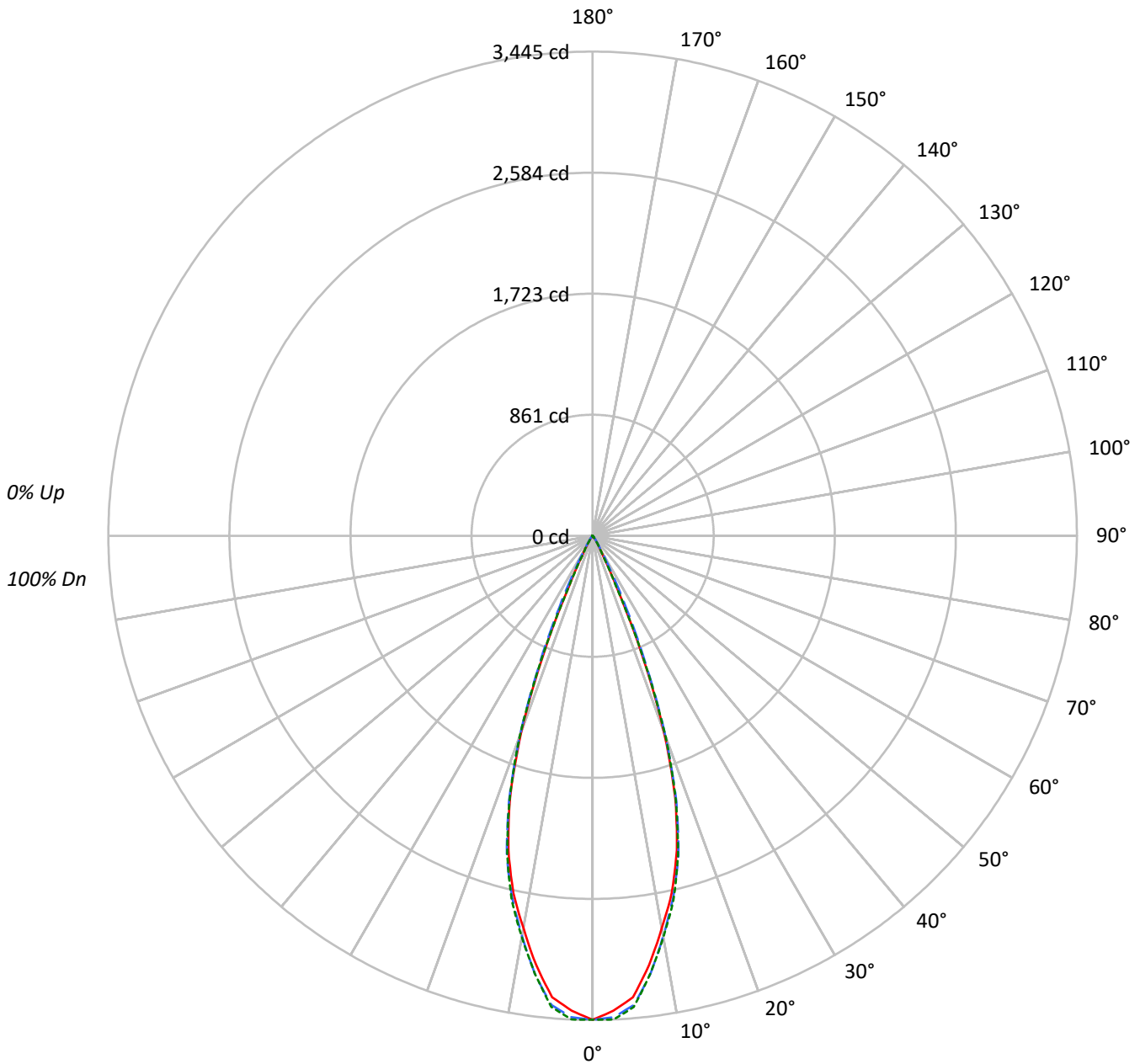
Input Watts (W): 13.84
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | | | | | | | | | | | | | | | | | |
| 1 | 115 | 113 | 111 | 109 | 112 | 110 | 109 | 107 | 107 | 105 | 104 | 103 | 102 | 101 | 99 | 99 | 98 | 96 | | | | | | | | | | | | | | | | | | | |
| 2 | 111 | 107 | 104 | 101 | 109 | 105 | 103 | 100 | 102 | 100 | 98 | 99 | 98 | 96 | 97 | 95 | 94 | 93 | | | | | | | | | | | | | | | | | | | |
| 3 | 107 | 102 | 98 | 95 | 105 | 101 | 97 | 95 | 98 | 96 | 93 | 96 | 94 | 92 | 94 | 92 | 90 | 89 | | | | | | | | | | | | | | | | | | | |
| 4 | 103 | 98 | 94 | 91 | 102 | 97 | 93 | 90 | 95 | 92 | 89 | 93 | 90 | 88 | 91 | 89 | 87 | 86 | | | | | | | | | | | | | | | | | | | |
| 5 | 100 | 94 | 90 | 86 | 99 | 93 | 89 | 86 | 91 | 88 | 85 | 90 | 87 | 85 | 88 | 86 | 84 | 83 | | | | | | | | | | | | | | | | | | | |
| 6 | 97 | 90 | 86 | 83 | 96 | 90 | 85 | 82 | 88 | 85 | 82 | 87 | 84 | 81 | 86 | 83 | 81 | 80 | | | | | | | | | | | | | | | | | | | |
| 7 | 94 | 87 | 83 | 79 | 93 | 86 | 82 | 79 | 85 | 82 | 79 | 84 | 81 | 79 | 83 | 80 | 78 | 77 | | | | | | | | | | | | | | | | | | | |
| 8 | 91 | 84 | 80 | 77 | 90 | 83 | 79 | 76 | 82 | 79 | 76 | 82 | 78 | 76 | 81 | 78 | 76 | 74 | | | | | | | | | | | | | | | | | | | |
| 9 | 88 | 81 | 77 | 74 | 87 | 81 | 77 | 74 | 80 | 76 | 73 | 79 | 76 | 73 | 78 | 75 | 73 | 72 | | | | | | | | | | | | | | | | | | | |
| 10 | 86 | 78 | 74 | 71 | 85 | 78 | 74 | 71 | 77 | 74 | 71 | 77 | 73 | 71 | 76 | 73 | 71 | 70 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 333591 | 333591 | 333591 |
| 5° | 320560 | 325938 | 327260 |
| 10° | 278751 | 284446 | 285263 |
| 15° | 232198 | 236531 | 235488 |
| 20° | 152577 | 156020 | 156227 |
| 25° | 42318 | 59495 | 41655 |
| 30° | 10157 | 12898 | 10325 |
| 35° | 2720 | 4683 | 2649 |
| 40° | 986 | 1783 | 923 |
| 45° | 507 | 644 | 425 |
| 50° | 316 | 316 | 241 |
| 55° | 169 | 169 | 84 |
| 60° | 194 | 97 | 97 |
| 65° | 115 | 115 | 115 |
| 70° | 142 | 142 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 302.6 | 24.7 |
| 10°-20° | 627.5 | 51.1 |
| 20°-30° | 268.0 | 21.8 |
| 30°-40° | 23.7 | 1.9 |
| 40°-50° | 3.5 | 0.3 |
| 50°-60° | 1.0 | 0.1 |
| 60°-70° | 0.5 | 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° | 1198.1 | 97.6 |
| 0°-40° | 1221.7 | 99.6 |
| 0°-60° | 1226.2 | 99.9 |
| 0°-90° | 1227.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1227.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 3444 | 3444 | 3444 | 3444 | 3444 | |
| 5° | 3296 | 3324 | 3352 | 3346 | 3365 | 299 |
| 15° | 2315 | 2338 | 2358 | 2341 | 2348 | 621 |
| 25° | 396 | 539 | 557 | 533 | 390 | 243 |
| 35° | 23 | 29 | 40 | 28 | 22 | 19 |
| 45° | 4 | 4 | 5 | 4 | 3 | 3 |
| 55° | 1 | 1 | 1 | 1 | 0 | 1 |
| 65° | 0 | 0 | 0 | 0 | 0 | 1 |
| 75° | 0 | 0 | 0 | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 3443.5 | 3443.5 | 3443.5 | 3443.5 | 3443.5 |
| 2.5° | 3383.0 | 3407.0 | 3428.4 | 3426.8 | 3444.6 |
| 5° | 3296.4 | 3323.5 | 3351.7 | 3346.5 | 3365.3 |
| 7.5° | 3080.4 | 3108.1 | 3144.6 | 3130.5 | 3143.0 |
| 10° | 2833.7 | 2862.9 | 2891.6 | 2882.7 | 2899.9 |
| 12.5° | 2602.6 | 2619.3 | 2640.1 | 2638.6 | 2656.8 |
| 15° | 2315.2 | 2337.6 | 2358.4 | 2341.2 | 2348.0 |
| 17.5° | 1955.2 | 1964.1 | 1979.7 | 1962.5 | 1967.2 |
| 20° | 1480.0 | 1504.5 | 1513.4 | 1493.5 | 1515.4 |
| 22.5° | 926.0 | 984.9 | 989.6 | 979.2 | 946.3 |
| 25° | 395.9 | 539.4 | 556.6 | 532.6 | 389.7 |
| 27.5° | 160.2 | 204.5 | 265.0 | 200.3 | 156.0 |
| 30° | 90.8 | 98.6 | 115.3 | 97.0 | 92.3 |
| 32.5° | 43.3 | 55.3 | 66.3 | 53.7 | 43.8 |
| 35° | 23.0 | 28.7 | 39.6 | 28.2 | 22.4 |
| 37.5° | 13.0 | 16.7 | 24.0 | 15.6 | 13.0 |
| 40° | 7.8 | 9.9 | 14.1 | 9.4 | 7.3 |
| 42.5° | 5.2 | 6.3 | 7.8 | 5.7 | 4.7 |
| 45° | 3.7 | 3.7 | 4.7 | 3.7 | 3.1 |
| 47.5° | 2.6 | 2.6 | 3.1 | 2.1 | 2.1 |
| 50° | 2.1 | 2.1 | 2.1 | 1.6 | 1.6 |
| 52.5° | 1.6 | 1.6 | 1.6 | 1.0 | 1.0 |
| 55° | 1.0 | 1.0 | 1.0 | 1.0 | 0.5 |
| 57.5° | 1.0 | 1.0 | 1.0 | 0.5 | 0.5 |
| 60° | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 |
| 62.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 65° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 67.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 70° | 0.5 | 0.5 | 0.5 | 0.5 | 0.0 |
| 72.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 75° | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| 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 |



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







(END OF REPORT)