

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: P282236

Luminaire Tested: **LDA2B109027D010 EU2B10NFL259027 2LBAPINSQ1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P282236
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1809-951-26)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA2B109027D010 EU2B10NFL259027 2LBAPINSQ1MW
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH NARROW FLOOD OPTIC AND 2in Adj SQ PinHole, MW
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 767.1 lumens
Efficiency: N/A
Efficacy: 76.7 lumens/watt
Spacing Criteria (0/90/45): 0.33 / 0.3 / 0.32
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

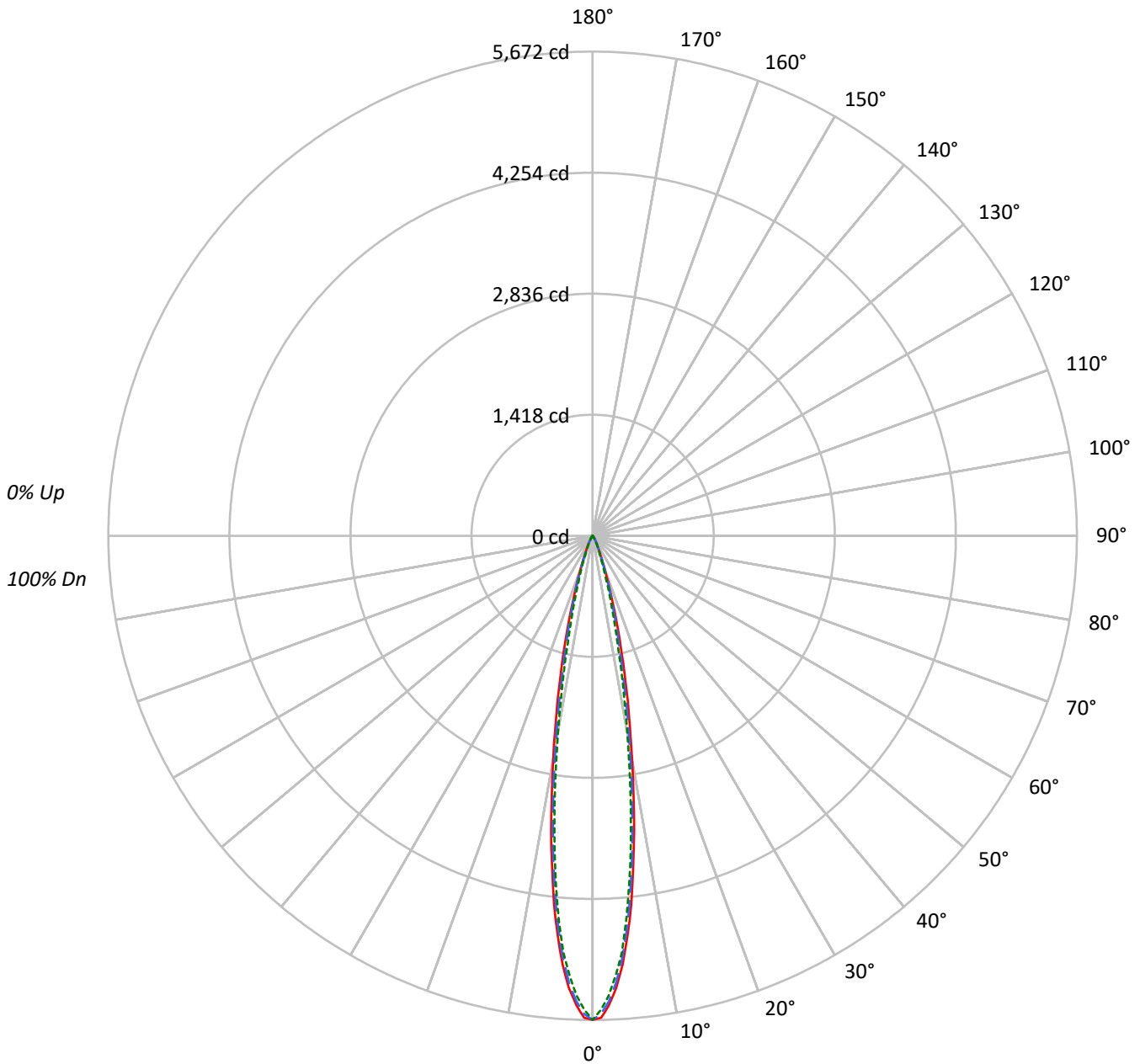
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 112 | 110 | 113 | 111 | 110 | 108 | 107 | 106 | 105 | 104 | 103 | 102 | 100 | 100 | 99 | 97 | | | | | | | | | | | | | | | | | | | |
| 2 | 112 | 109 | 106 | 104 | 110 | 107 | 105 | 103 | 104 | 102 | 100 | 101 | 100 | 98 | 99 | 97 | 96 | 95 | | | | | | | | | | | | | | | | | | | |
| 3 | 109 | 105 | 101 | 99 | 107 | 103 | 100 | 98 | 101 | 99 | 97 | 99 | 97 | 95 | 97 | 95 | 94 | 92 | | | | | | | | | | | | | | | | | | | |
| 4 | 106 | 101 | 98 | 95 | 105 | 100 | 97 | 94 | 98 | 96 | 93 | 96 | 94 | 92 | 95 | 93 | 91 | 90 | | | | | | | | | | | | | | | | | | | |
| 5 | 103 | 98 | 94 | 92 | 102 | 97 | 94 | 91 | 96 | 93 | 91 | 94 | 92 | 90 | 93 | 91 | 89 | 88 | | | | | | | | | | | | | | | | | | | |
| 6 | 101 | 95 | 92 | 89 | 100 | 95 | 91 | 89 | 93 | 90 | 88 | 92 | 90 | 88 | 91 | 89 | 87 | 86 | | | | | | | | | | | | | | | | | | | |
| 7 | 99 | 93 | 89 | 87 | 98 | 92 | 89 | 86 | 91 | 88 | 86 | 90 | 88 | 86 | 89 | 87 | 85 | 84 | | | | | | | | | | | | | | | | | | | |
| 8 | 96 | 91 | 87 | 85 | 96 | 90 | 87 | 84 | 89 | 86 | 84 | 88 | 86 | 84 | 88 | 85 | 83 | 83 | | | | | | | | | | | | | | | | | | | |
| 9 | 94 | 89 | 85 | 83 | 94 | 88 | 85 | 82 | 87 | 84 | 82 | 87 | 84 | 82 | 86 | 84 | 82 | 81 | | | | | | | | | | | | | | | | | | | |
| 10 | 93 | 87 | 83 | 81 | 92 | 86 | 83 | 81 | 86 | 83 | 81 | 85 | 82 | 80 | 85 | 82 | 80 | 79 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 2798348 | 2798348 | 2798348 |
| 5° | 2328549 | 2285859 | 2239702 |
| 10° | 1333740 | 1251580 | 1168068 |
| 15° | 593203 | 526855 | 441506 |
| 20° | 215208 | 202344 | 160290 |
| 25° | 82635 | 77136 | 66412 |
| 30° | 35662 | 33156 | 29396 |
| 35° | 16864 | 16864 | 13973 |
| 40° | 8437 | 8759 | 7020 |
| 45° | 4884 | 4605 | 4256 |
| 50° | 3377 | 2993 | 2993 |
| 55° | 2666 | 1892 | 2236 |
| 60° | 2171 | 1283 | 1677 |
| 65° | 1518 | 1051 | 1518 |
| 70° | 1298 | 577 | 1298 |
| 75° | 762 | 762 | 762 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 368.9 | 48.1 |
| 10°-20° | 298.5 | 38.9 |
| 20°-30° | 72.0 | 9.4 |
| 30°-40° | 18.4 | 2.4 |
| 40°-50° | 5.5 | 0.7 |
| 50°-60° | 2.3 | 0.3 |
| 60°-70° | 1.1 | 0.1 |
| 70°-80° | 0.3 | 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° | 739.4 | 96.4 |
| 0°-40° | 757.8 | 98.8 |
| 0°-60° | 765.6 | 99.8 |
| 0°-90° | 767.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 767.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 5672 | 5672 | 5672 | 5672 | 5672 | |
| 5° | 4702 | 4658 | 4616 | 4575 | 4522 | 380 |
| 15° | 1161 | 1134 | 1032 | 929 | 864 | 331 |
| 25° | 152 | 153 | 142 | 129 | 122 | 78 |
| 35° | 28 | 28 | 28 | 25 | 23 | 19 |
| 45° | 7 | 7 | 7 | 6 | 6 | 6 |
| 55° | 3 | 3 | 2 | 2 | 3 | 3 |
| 65° | 1 | 1 | 1 | 1 | 1 | 1 |
| 75° | 0 | 0 | 0 | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P282236

CATALOG NUMBER: LDA2B109027D010 EU2B10NFL259027 2LBAPINSQ1MW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 5672.0 | 5672.0 | 5672.0 | 5672.0 | 5672.0 |
| 1° | 5646.7 | 5607.3 | 5602.5 | 5627.0 | 5554.8 |
| 2° | 5502.3 | 5474.3 | 5458.1 | 5472.6 | 5390.7 |
| 3° | 5304.1 | 5277.0 | 5247.7 | 5248.1 | 5156.7 |
| 4° | 5034.2 | 5012.8 | 4963.4 | 4948.5 | 4895.5 |
| 5° | 4701.8 | 4658.4 | 4615.6 | 4575.3 | 4522.4 |
| 6° | 4334.3 | 4278.3 | 4217.1 | 4157.1 | 4102.9 |
| 7° | 3902.1 | 3864.9 | 3784.0 | 3702.2 | 3656.2 |
| 8° | 3495.7 | 3435.8 | 3341.3 | 3238.9 | 3200.0 |
| 9° | 3058.7 | 3015.8 | 2907.3 | 2788.3 | 2749.4 |
| 10° | 2662.3 | 2617.7 | 2498.3 | 2365.8 | 2331.6 |
| 11° | 2290.5 | 2248.5 | 2124.3 | 1985.2 | 1948.9 |
| 12° | 1976.0 | 1916.5 | 1773.9 | 1653.1 | 1617.7 |
| 13° | 1662.8 | 1622.1 | 1486.9 | 1367.5 | 1298.8 |
| 14° | 1396.4 | 1362.7 | 1240.2 | 1135.2 | 1062.6 |
| 15° | 1161.4 | 1133.9 | 1031.5 | 929.2 | 864.4 |
| 16° | 952.8 | 935.7 | 854.8 | 755.9 | 703.0 |
| 17° | 773.0 | 757.2 | 705.6 | 614.6 | 570.0 |
| 18° | 624.2 | 622.1 | 579.2 | 500.4 | 460.6 |
| 19° | 513.6 | 512.7 | 473.3 | 407.3 | 374.5 |
| 20° | 409.9 | 415.6 | 385.4 | 327.7 | 305.3 |
| 21° | 334.2 | 337.3 | 313.2 | 269.5 | 249.3 |
| 22° | 272.1 | 274.3 | 258.5 | 222.7 | 211.7 |
| 23° | 223.1 | 224.4 | 211.3 | 184.6 | 175.0 |
| 24° | 183.7 | 184.6 | 172.8 | 154.0 | 145.7 |
| 25° | 151.8 | 152.7 | 141.7 | 128.6 | 122.0 |
| 26° | 126.0 | 126.9 | 117.2 | 108.1 | 101.5 |
| 27° | 104.6 | 106.3 | 96.7 | 91.0 | 84.0 |
| 28° | 89.2 | 89.7 | 80.9 | 77.4 | 70.9 |
| 29° | 73.1 | 75.7 | 68.2 | 65.2 | 60.4 |
| 30° | 62.6 | 63.9 | 58.2 | 56.0 | 51.6 |
| 32.5° | 41.6 | 42.4 | 39.8 | 38.1 | 34.6 |
| 35° | 28.0 | 28.4 | 28.0 | 25.4 | 23.2 |
| 37.5° | 19.2 | 19.2 | 19.7 | 16.6 | 15.7 |
| 40° | 13.1 | 13.1 | 13.6 | 11.4 | 10.9 |
| 42.5° | 9.6 | 9.6 | 9.2 | 7.9 | 7.9 |
| 45° | 7.0 | 7.0 | 6.6 | 6.1 | 6.1 |
| 47.5° | 5.7 | 5.2 | 4.8 | 4.8 | 4.8 |
| 50° | 4.4 | 4.4 | 3.9 | 3.5 | 3.9 |
| 52.5° | 3.5 | 3.5 | 3.1 | 3.1 | 3.1 |
| 55° | 3.1 | 2.6 | 2.2 | 2.2 | 2.6 |
| 57.5° | 2.2 | 2.2 | 1.7 | 1.7 | 2.2 |
| 60° | 2.2 | 1.7 | 1.3 | 1.7 | 1.7 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 67.5° | 1.3 | 0.9 | 0.9 | 0.9 | 0.9 |
| 70° | 0.9 | 0.9 | 0.4 | 0.4 | 0.9 |
| 72.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 75° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 77.5° | 0.4 | 0.4 | 0.0 | 0.0 | 0.4 |
| 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°







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 62.5° | 1.7 | 1.3 | 1.3 | 1.3 | 1.3 |
| 65° | 1.3 | 1.3 | 0.9 | 0.9 | 1.3 |



(END OF REPORT)