

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: P282260

Luminaire Tested: **LDA2B109050D010 EU2B10NFL259050 2LBAPINSQ1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P282260
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: LDA2B109050D010 EU2B10NFL259050 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: 871.8 lumens
Efficiency: N/A
Efficacy: 87.2 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

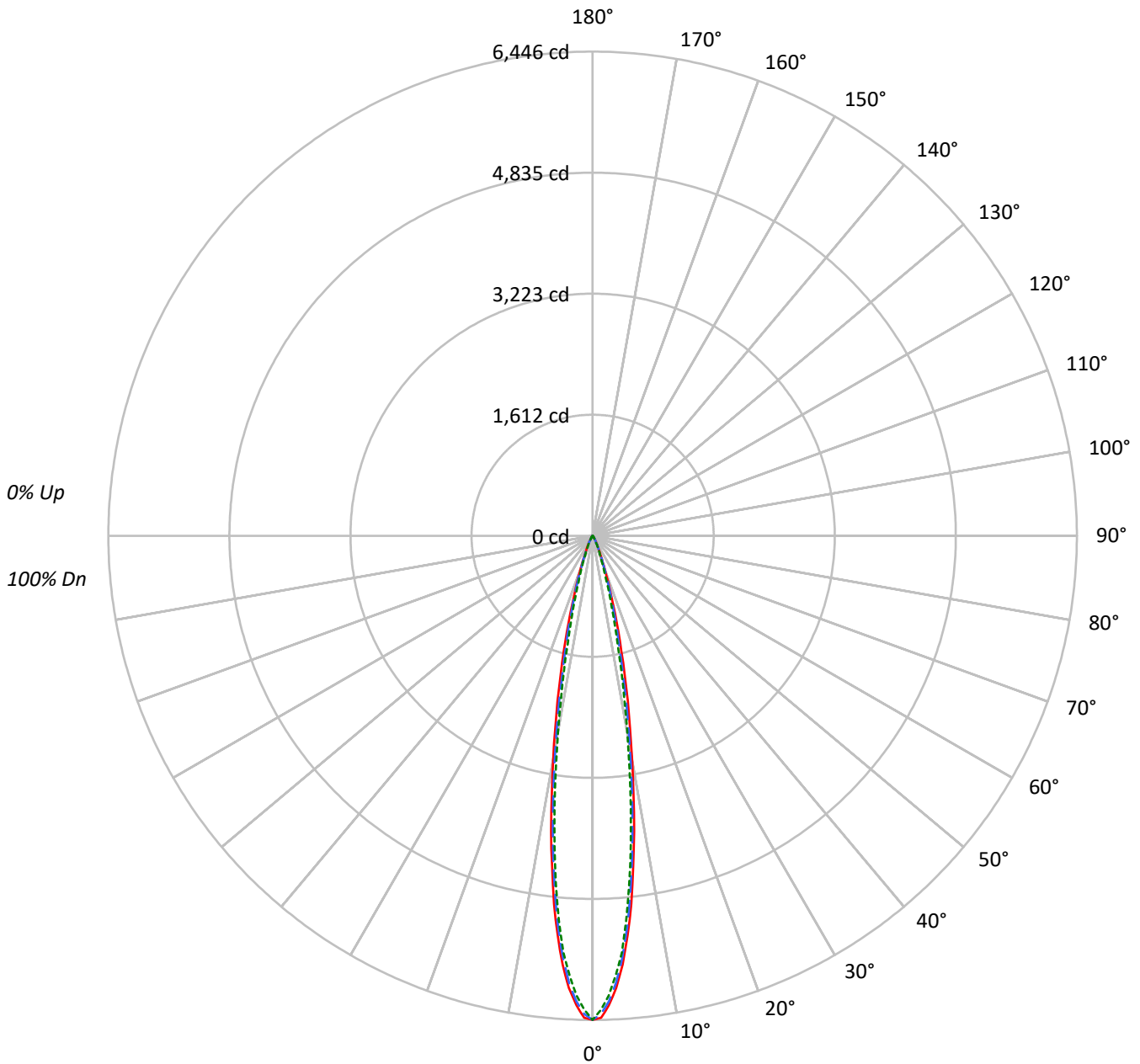
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 3180062 | 3180062 | 3180062 |
| 5° | 2646151 | 2597666 | 2545220 |
| 10° | 1515693 | 1422312 | 1327427 |
| 15° | 674160 | 598720 | 501725 |
| 20° | 244556 | 229961 | 182184 |
| 25° | 93903 | 87697 | 75503 |
| 30° | 40505 | 37656 | 33441 |
| 35° | 19153 | 19153 | 15840 |
| 40° | 9596 | 9918 | 7986 |
| 45° | 5582 | 5233 | 4884 |
| 50° | 3838 | 3454 | 3454 |
| 55° | 3011 | 2150 | 2580 |
| 60° | 2467 | 1480 | 1973 |
| 65° | 1751 | 1167 | 1751 |
| 70° | 1442 | 721 | 1442 |
| 75° | 953 | 953 | 953 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 419.2 | 48.1 |
| 10°-20° | 339.3 | 38.9 |
| 20°-30° | 81.8 | 9.4 |
| 30°-40° | 20.8 | 2.4 |
| 40°-50° | 6.2 | 0.7 |
| 50°-60° | 2.7 | 0.3 |
| 60°-70° | 1.3 | 0.1 |
| 70°-80° | 0.4 | 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° | 840.3 | 96.4 |
| 0°-40° | 861.1 | 98.8 |
| 0°-60° | 870.0 | 99.8 |
| 0°-90° | 871.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 871.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 6446 | 6446 | 6446 | 6446 | 6446 | |
| 5° | 5343 | 5294 | 5245 | 5199 | 5139 | 432 |
| 15° | 1320 | 1288 | 1172 | 1056 | 982 | 376 |
| 25° | 172 | 174 | 161 | 146 | 139 | 89 |
| 35° | 32 | 32 | 32 | 29 | 26 | 22 |
| 45° | 8 | 8 | 8 | 7 | 7 | 7 |
| 55° | 4 | 3 | 2 | 2 | 3 | 3 |
| 65° | 2 | 2 | 1 | 1 | 2 | 2 |
| 75° | 0 | 0 | 0 | 0 | 0 | 1 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P282260

CATALOG NUMBER: LDA2B109050D010 EU2B10NFL259050 2LBAPINSQ1MW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 6445.7 | 6445.7 | 6445.7 | 6445.7 | 6445.7 |
| 1° | 6416.9 | 6372.1 | 6366.7 | 6394.5 | 6312.5 |
| 2° | 6252.8 | 6221.0 | 6202.6 | 6219.0 | 6126.1 |
| 3° | 6027.6 | 5996.8 | 5963.5 | 5964.0 | 5860.1 |
| 4° | 5720.9 | 5696.5 | 5640.4 | 5623.5 | 5563.3 |
| 5° | 5343.1 | 5293.9 | 5245.2 | 5199.4 | 5139.3 |
| 6° | 4925.5 | 4861.9 | 4792.3 | 4724.2 | 4662.5 |
| 7° | 4434.3 | 4392.1 | 4300.1 | 4207.2 | 4155.0 |
| 8° | 3972.5 | 3904.4 | 3797.0 | 3680.7 | 3636.5 |
| 9° | 3475.9 | 3427.2 | 3303.9 | 3168.7 | 3124.4 |
| 10° | 3025.5 | 2974.8 | 2839.1 | 2688.4 | 2649.7 |
| 11° | 2602.9 | 2555.2 | 2414.0 | 2256.0 | 2214.7 |
| 12° | 2245.5 | 2177.9 | 2015.8 | 1878.6 | 1838.4 |
| 13° | 1889.6 | 1843.3 | 1689.7 | 1554.0 | 1476.0 |
| 14° | 1586.8 | 1548.5 | 1409.3 | 1290.0 | 1207.5 |
| 15° | 1319.9 | 1288.5 | 1172.2 | 1055.9 | 982.3 |
| 16° | 1082.7 | 1063.3 | 971.4 | 859.0 | 798.9 |
| 17° | 878.4 | 860.5 | 801.9 | 698.5 | 647.8 |
| 18° | 709.4 | 706.9 | 658.2 | 568.7 | 523.5 |
| 19° | 583.6 | 582.6 | 537.9 | 462.8 | 425.5 |
| 20° | 465.8 | 472.3 | 438.0 | 372.3 | 347.0 |
| 21° | 379.8 | 383.3 | 355.9 | 306.2 | 283.4 |
| 22° | 309.2 | 311.7 | 293.8 | 253.0 | 240.6 |
| 23° | 253.5 | 255.0 | 240.1 | 209.8 | 198.8 |
| 24° | 208.8 | 209.8 | 196.4 | 175.0 | 165.5 |
| 25° | 172.5 | 173.5 | 161.1 | 146.2 | 138.7 |
| 26° | 143.2 | 144.2 | 133.2 | 122.8 | 115.3 |
| 27° | 118.8 | 120.8 | 109.9 | 103.4 | 95.4 |
| 28° | 101.4 | 101.9 | 92.0 | 88.0 | 80.5 |
| 29° | 83.0 | 86.0 | 77.6 | 74.1 | 68.6 |
| 30° | 71.1 | 72.6 | 66.1 | 63.6 | 58.7 |
| 32.5° | 47.2 | 48.2 | 45.2 | 43.2 | 39.3 |
| 35° | 31.8 | 32.3 | 31.8 | 28.8 | 26.3 |
| 37.5° | 21.9 | 21.9 | 22.4 | 18.9 | 17.9 |
| 40° | 14.9 | 14.9 | 15.4 | 12.9 | 12.4 |
| 42.5° | 10.9 | 10.9 | 10.4 | 8.9 | 8.9 |
| 45° | 8.0 | 8.0 | 7.5 | 7.0 | 7.0 |
| 47.5° | 6.5 | 6.0 | 5.5 | 5.5 | 5.5 |
| 50° | 5.0 | 5.0 | 4.5 | 4.0 | 4.5 |
| 52.5° | 4.0 | 4.0 | 3.5 | 3.5 | 3.5 |
| 55° | 3.5 | 3.0 | 2.5 | 2.5 | 3.0 |
| 57.5° | 2.5 | 2.5 | 2.0 | 2.0 | 2.5 |
| 60° | 2.5 | 2.0 | 1.5 | 2.0 | 2.0 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 67.5° | 1.5 | 1.0 | 1.0 | 1.0 | 1.0 |
| 70° | 1.0 | 1.0 | 0.5 | 0.5 | 1.0 |
| 72.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 75° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 77.5° | 0.5 | 0.5 | 0.0 | 0.0 | 0.5 |
| 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° | 2.0 | 1.5 | 1.5 | 1.5 | 1.5 |
| 65° | 1.5 | 1.5 | 1.0 | 1.0 | 1.5 |



(END OF REPORT)