

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: P281778

Luminaire Tested: **LDA2B109050D010 EU2B10SP159050 2LBALSQC1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281778
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-5)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA2B109050D010 EU2B10SP159050 2LBALSQC1MMS
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ Cast Trim w/lens, MMS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 950.6 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 0.33 / 0.31 / 0.32
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

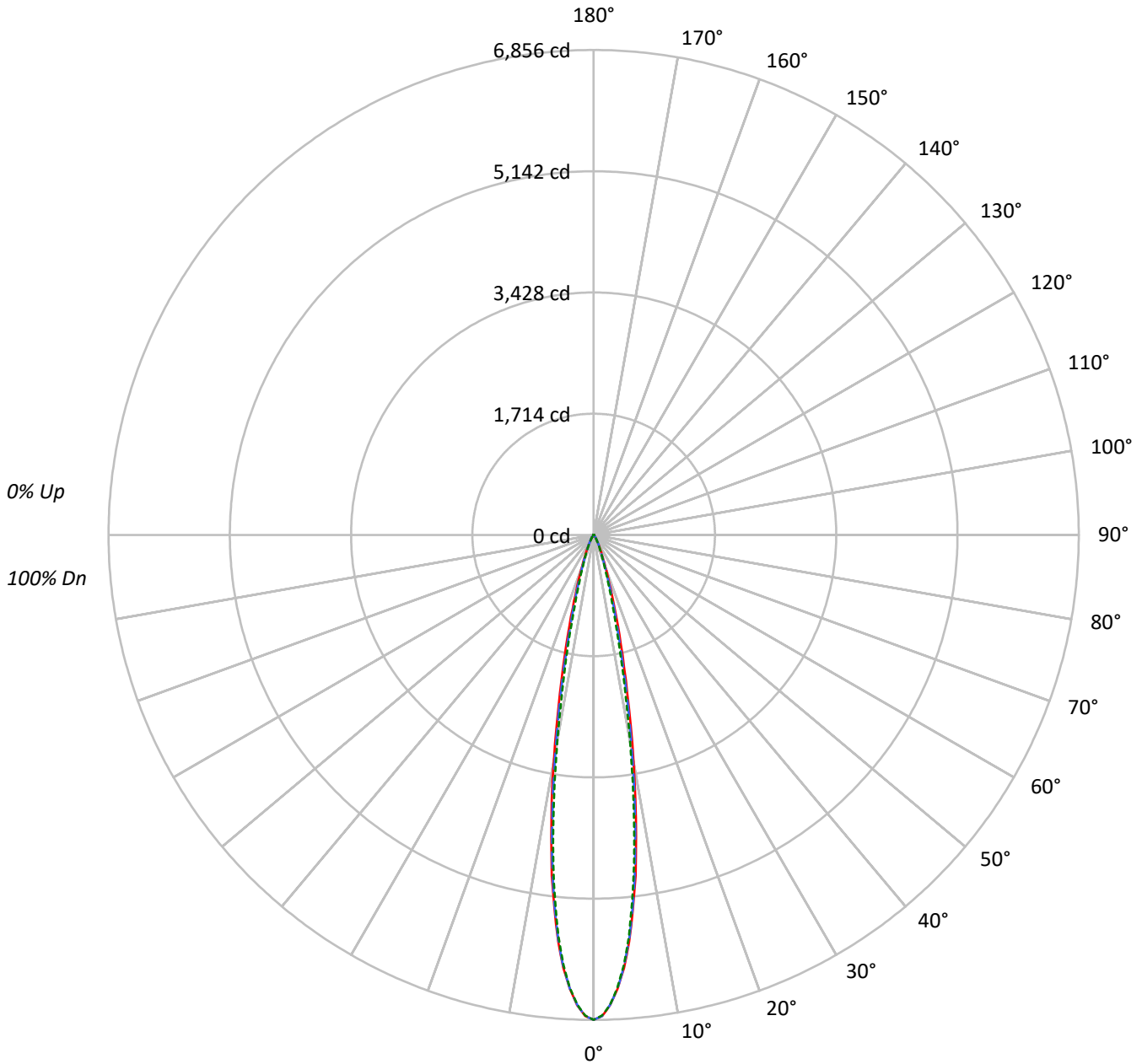
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 3382242 | 3382242 | 3382242 |
| 5° | 2857670 | 2842417 | 2821418 |
| 10° | 1626558 | 1554919 | 1475866 |
| 15° | 673547 | 596625 | 525578 |
| 20° | 256212 | 224396 | 205442 |
| 25° | 113173 | 108710 | 96679 |
| 30° | 52354 | 57880 | 46088 |
| 35° | 27524 | 32463 | 25778 |
| 40° | 12108 | 13976 | 8050 |
| 45° | 4675 | 3698 | 5372 |
| 50° | 2226 | 2610 | 3684 |
| 55° | 0 | 1634 | 0 |
| 60° | 0 | 0 | 987 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 721 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 2841 | 0 | 0 |
| 85° | 27171 | 24341 | 10755 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 458.4 | 48.2 |
| 10°-20° | 350.4 | 36.9 |
| 20°-30° | 97.4 | 10.3 |
| 30°-40° | 31.7 | 3.3 |
| 40°-50° | 7.0 | 0.7 |
| 50°-60° | 2.1 | 0.2 |
| 60°-70° | 1.2 | 0.1 |
| 70°-80° | 0.7 | 0.1 |
| 80°-90° | 1.5 | 0.2 |
| 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° | 906.3 | 95.3 |
| 0°-40° | 937.9 | 98.7 |
| 0°-60° | 947.1 | 99.6 |
| 0°-90° | 950.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 950.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 6856 | 6856 | 6856 | 6856 | 6856 | |
| 5° | 5770 | 5728 | 5739 | 5697 | 5697 | 466 |
| 15° | 1319 | 1273 | 1168 | 1078 | 1029 | 385 |
| 25° | 208 | 210 | 200 | 188 | 178 | 104 |
| 35° | 46 | 50 | 54 | 41 | 43 | 30 |
| 45° | 7 | 10 | 5 | 5 | 8 | 7 |
| 55° | 0 | 3 | 2 | 1 | 0 | 2 |
| 65° | 0 | 2 | 0 | 0 | 0 | 1 |
| 75° | 0 | 0 | 0 | 1 | 0 | 0 |
| 85° | 5 | 2 | 4 | 2 | 2 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 6855.5 | 6855.5 | 6855.5 | 6855.5 | 6855.5 |
| 1° | 6803.0 | 6777.5 | 6802.1 | 6787.6 | 6795.8 |
| 2° | 6655.3 | 6623.5 | 6649.0 | 6628.8 | 6645.7 |
| 3° | 6425.2 | 6400.7 | 6423.3 | 6397.8 | 6411.3 |
| 4° | 6136.9 | 6101.3 | 6123.9 | 6089.8 | 6098.0 |
| 5° | 5770.2 | 5727.8 | 5739.4 | 5696.6 | 5697.0 |
| 6° | 5308.2 | 5278.8 | 5285.5 | 5218.6 | 5213.8 |
| 7° | 4856.2 | 4786.9 | 4779.7 | 4703.2 | 4688.3 |
| 8° | 4307.6 | 4244.5 | 4223.8 | 4133.8 | 4102.0 |
| 9° | 3781.5 | 3703.1 | 3660.7 | 3556.3 | 3519.2 |
| 10° | 3246.8 | 3167.4 | 3103.8 | 2985.9 | 2946.0 |
| 11° | 2752.0 | 2680.3 | 2601.4 | 2475.3 | 2436.3 |
| 12° | 2292.9 | 2236.6 | 2149.9 | 2028.2 | 1987.2 |
| 13° | 1917.9 | 1853.0 | 1760.1 | 1647.0 | 1611.8 |
| 14° | 1593.1 | 1523.3 | 1430.4 | 1333.7 | 1265.3 |
| 15° | 1318.7 | 1273.0 | 1168.1 | 1078.1 | 1029.0 |
| 16° | 1077.6 | 1038.6 | 948.1 | 870.2 | 835.5 |
| 17° | 883.6 | 852.4 | 775.4 | 714.2 | 685.4 |
| 18° | 729.2 | 690.2 | 629.5 | 589.6 | 567.0 |
| 19° | 591.5 | 561.2 | 516.9 | 486.1 | 463.5 |
| 20° | 488.0 | 463.0 | 427.4 | 400.0 | 391.3 |
| 22.5° | 315.2 | 310.9 | 287.8 | 272.9 | 265.7 |
| 25° | 207.9 | 210.3 | 199.7 | 188.2 | 177.6 |
| 26° | 177.6 | 179.0 | 169.4 | 162.7 | 149.2 |
| 27° | 152.1 | 152.6 | 152.6 | 140.1 | 127.1 |
| 28° | 124.2 | 129.5 | 124.7 | 118.9 | 106.4 |
| 29° | 106.4 | 113.1 | 110.7 | 104.9 | 92.9 |
| 30° | 91.9 | 96.7 | 101.6 | 92.4 | 80.9 |
| 32.5° | 64.5 | 68.8 | 74.1 | 69.3 | 59.7 |
| 35° | 45.7 | 49.6 | 53.9 | 40.9 | 42.8 |
| 37.5° | 31.3 | 38.0 | 36.6 | 33.2 | 28.4 |
| 40° | 18.8 | 19.7 | 21.7 | 23.1 | 12.5 |
| 42.5° | 13.5 | 15.9 | 14.4 | 16.4 | 5.8 |
| 45° | 6.7 | 9.6 | 5.3 | 5.3 | 7.7 |
| 47.5° | 4.8 | 8.2 | 2.9 | 2.9 | 1.0 |
| 50° | 2.9 | 6.3 | 3.4 | 1.4 | 4.8 |
| 52.5° | 4.8 | 5.8 | 3.9 | 4.3 | 1.0 |
| 55° | 0.0 | 2.9 | 1.9 | 1.0 | 0.0 |
| 57.5° | 1.9 | 3.4 | 1.9 | 1.0 | 1.9 |
| 60° | 0.0 | 0.0 | 0.0 | 0.5 | 1.0 |
| 62.5° | 0.0 | 1.0 | 0.0 | 1.4 | 1.9 |
| 65° | 0.0 | 1.9 | 0.0 | 0.0 | 0.0 |
| 67.5° | 2.9 | 3.4 | 1.9 | 3.9 | 5.8 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| 77.5° | 0.0 | 4.8 | 1.4 | 1.4 | 1.9 |
| 80° | 1.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| 82.5° | 0.0 | 3.9 | 0.5 | 1.9 | 2.9 |
| 85° | 4.8 | 2.4 | 4.3 | 2.4 | 1.9 |
| 87.5° | 0.0 | 0.5 | 1.0 | 0.5 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 70° | 0.0 | 0.0 | 0.5 | 0.5 | 0.0 |
| 72.5° | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)