

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: P281522

Luminaire Tested: **LDA2B109730D010 EU2B10SP159730 2LBASQC1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281522
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-6)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA2B109730D010 EU2B10SP159730 2LBASQC1MMS
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ Cast Trim, MMS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 801.0 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 0.31 / 0.31 / 0.29
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

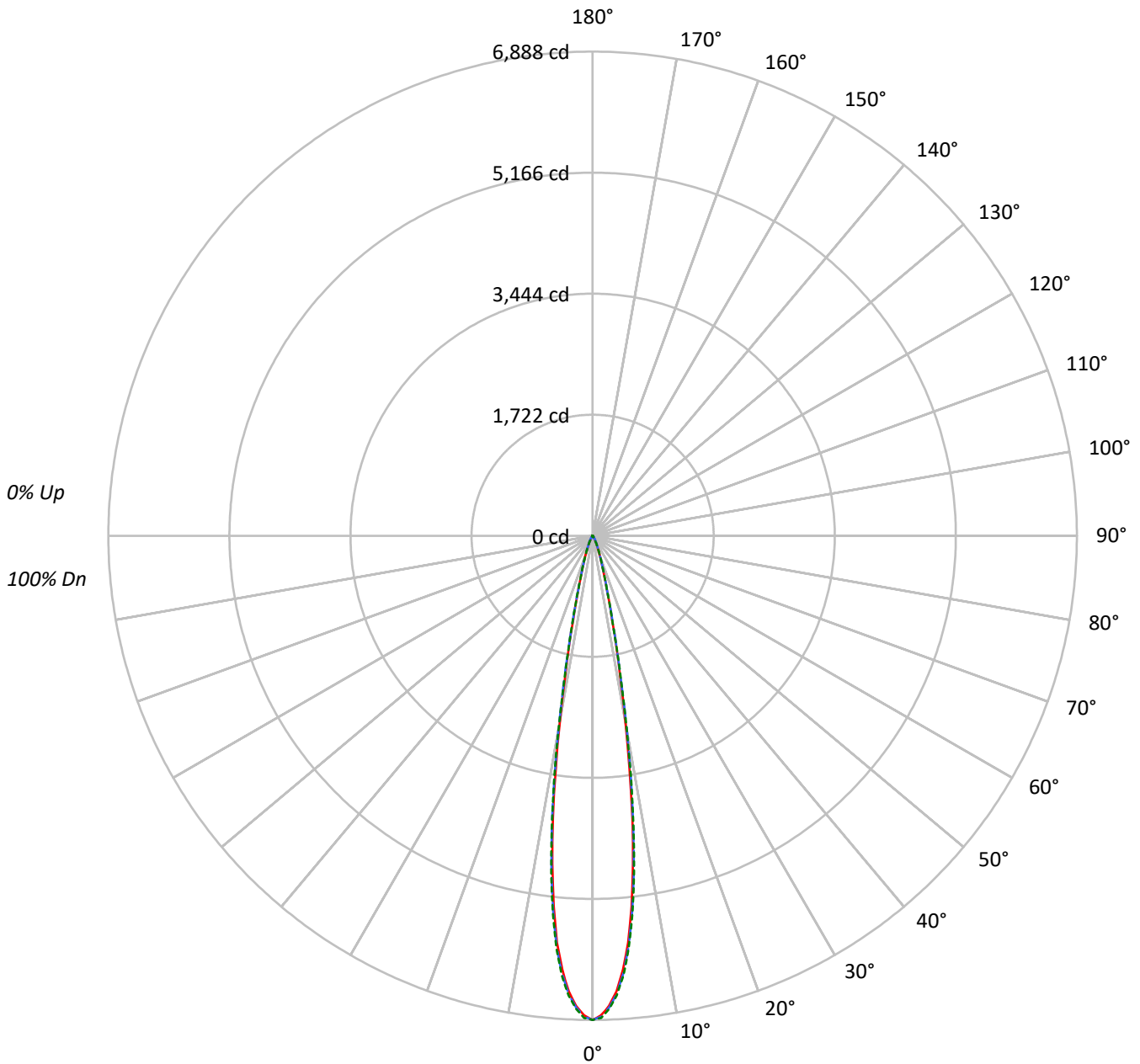
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 116 | 114 | 112 | 111 | 113 | 112 | 110 | 109 | 108 | 107 | 106 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 98 | 98 | 98 | | | | | | | | | | | | | | | | |
| 2 | 113 | 109 | 107 | 105 | 111 | 108 | 105 | 103 | 105 | 103 | 101 | 102 | 100 | 99 | 99 | 98 | 97 | 96 | 96 | 96 | 96 | | | | | | | | | | | | | | | | |
| 3 | 110 | 106 | 103 | 100 | 108 | 104 | 102 | 99 | 102 | 100 | 98 | 100 | 98 | 96 | 98 | 96 | 95 | 94 | 94 | 94 | 94 | | | | | | | | | | | | | | | | |
| 4 | 107 | 103 | 99 | 97 | 106 | 102 | 99 | 96 | 100 | 97 | 95 | 98 | 96 | 94 | 96 | 95 | 93 | 92 | 92 | 92 | 92 | | | | | | | | | | | | | | | | |
| 5 | 105 | 100 | 96 | 94 | 103 | 99 | 96 | 93 | 97 | 95 | 93 | 96 | 94 | 92 | 95 | 93 | 91 | 90 | 90 | 90 | 90 | | | | | | | | | | | | | | | | |
| 6 | 103 | 97 | 94 | 91 | 101 | 97 | 94 | 91 | 96 | 93 | 91 | 94 | 92 | 90 | 93 | 91 | 90 | 89 | 89 | 89 | 89 | | | | | | | | | | | | | | | | |
| 7 | 100 | 95 | 92 | 89 | 100 | 95 | 91 | 89 | 94 | 91 | 89 | 93 | 90 | 88 | 92 | 90 | 88 | 87 | 87 | 87 | 87 | | | | | | | | | | | | | | | | |
| 8 | 99 | 93 | 90 | 88 | 98 | 93 | 90 | 87 | 92 | 89 | 87 | 91 | 89 | 87 | 90 | 88 | 86 | 86 | 86 | 86 | 86 | | | | | | | | | | | | | | | | |
| 9 | 97 | 91 | 88 | 86 | 96 | 91 | 88 | 86 | 90 | 88 | 86 | 90 | 87 | 85 | 89 | 87 | 85 | 84 | 84 | 84 | 84 | | | | | | | | | | | | | | | | |
| 10 | 95 | 90 | 87 | 84 | 94 | 89 | 86 | 84 | 89 | 86 | 84 | 88 | 86 | 84 | 88 | 85 | 84 | 83 | 83 | 83 | 83 | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 3398424 | 3398424 | 3398424 |
| 5° | 2876341 | 2906403 | 2919081 |
| 10° | 1345011 | 1396010 | 1398716 |
| 15° | 393954 | 399674 | 399470 |
| 20° | 158190 | 158400 | 158610 |
| 25° | 70550 | 77681 | 72237 |
| 30° | 29965 | 41188 | 27345 |
| 35° | 13732 | 19092 | 12829 |
| 40° | 4508 | 7471 | 3993 |
| 45° | 0 | 2721 | 0 |
| 50° | 0 | 0 | 0 |
| 55° | 1290 | 688 | 0 |
| 60° | 0 | 0 | 0 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 0 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 2273 | 0 | 0 |
| 85° | 4529 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 455.2 | 56.8 |
| 10°-20° | 258.0 | 32.2 |
| 20°-30° | 67.4 | 8.4 |
| 30°-40° | 17.4 | 2.2 |
| 40°-50° | 1.7 | 0.2 |
| 50°-60° | 0.6 | 0.1 |
| 60°-70° | 0.1 | 0.0 |
| 70°-80° | 0.6 | 0.1 |
| 80°-90° | 0.1 | 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° | 780.6 | 97.5 |
| 0°-40° | 798.0 | 99.6 |
| 0°-60° | 800.2 | 99.9 |
| 0°-90° | 801.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 801.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 6888 | 6888 | 6888 | 6888 | 6888 | |
| 5° | 5808 | 5860 | 5869 | 5832 | 5894 | 449 |
| 15° | 771 | 782 | 782 | 774 | 782 | 253 |
| 25° | 130 | 140 | 143 | 136 | 133 | 64 |
| 35° | 23 | 24 | 32 | 22 | 21 | 16 |
| 45° | 0 | 2 | 4 | 0 | 0 | 1 |
| 55° | 2 | 2 | 1 | 0 | 0 | 1 |
| 65° | 0 | 0 | 0 | 0 | 0 | 0 |
| 75° | 0 | 0 | 0 | 0 | 0 | 2 |
| 85° | 1 | 0 | 0 | 0 | 0 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 6888.3 | 6888.3 | 6888.3 | 6888.3 | 6888.3 |
| 1° | 6823.7 | 6850.7 | 6842.6 | 6833.0 | 6860.0 |
| 2° | 6692.2 | 6718.5 | 6716.1 | 6703.4 | 6735.1 |
| 3° | 6489.5 | 6526.2 | 6526.2 | 6507.3 | 6546.7 |
| 4° | 6187.4 | 6243.5 | 6248.9 | 6222.2 | 6271.3 |
| 5° | 5807.9 | 5859.7 | 5868.6 | 5831.5 | 5894.2 |
| 6° | 5293.8 | 5364.6 | 5384.7 | 5341.8 | 5406.0 |
| 7° | 4703.2 | 4777.5 | 4808.0 | 4760.1 | 4832.0 |
| 8° | 4066.1 | 4119.5 | 4156.2 | 4101.3 | 4174.4 |
| 9° | 3353.2 | 3430.2 | 3463.9 | 3410.5 | 3481.7 |
| 10° | 2684.8 | 2755.6 | 2786.6 | 2773.8 | 2792.0 |
| 11° | 2085.3 | 2147.9 | 2168.8 | 2151.4 | 2159.9 |
| 12° | 1632.7 | 1657.9 | 1671.4 | 1659.8 | 1665.6 |
| 13° | 1239.7 | 1273.4 | 1279.6 | 1274.5 | 1277.2 |
| 14° | 968.2 | 984.4 | 991.4 | 989.1 | 990.2 |
| 15° | 771.3 | 781.7 | 782.5 | 773.6 | 782.1 |
| 16° | 621.2 | 629.3 | 632.8 | 623.5 | 634.8 |
| 17° | 509.0 | 515.6 | 519.5 | 510.2 | 514.8 |
| 18° | 418.9 | 423.9 | 429.4 | 421.2 | 428.2 |
| 19° | 351.6 | 354.7 | 355.1 | 352.8 | 354.7 |
| 20° | 301.3 | 299.8 | 301.7 | 297.5 | 302.1 |
| 22.5° | 198.4 | 202.3 | 206.9 | 201.9 | 203.8 |
| 25° | 129.6 | 140.4 | 142.7 | 136.2 | 132.7 |
| 26° | 106.8 | 120.7 | 126.9 | 116.4 | 105.2 |
| 27° | 88.6 | 98.6 | 106.8 | 92.8 | 83.9 |
| 28° | 77.7 | 86.3 | 94.4 | 81.2 | 70.8 |
| 29° | 65.0 | 73.5 | 87.4 | 72.3 | 65.8 |
| 30° | 52.6 | 58.8 | 72.3 | 54.9 | 48.0 |
| 32.5° | 29.8 | 34.8 | 46.8 | 32.5 | 26.7 |
| 35° | 22.8 | 24.4 | 31.7 | 21.7 | 21.3 |
| 37.5° | 19.7 | 17.8 | 24.8 | 17.8 | 14.3 |
| 40° | 7.0 | 10.4 | 11.6 | 7.7 | 6.2 |
| 42.5° | 3.1 | 3.1 | 5.0 | 1.5 | 1.5 |
| 45° | 0.0 | 1.5 | 3.9 | 0.4 | 0.0 |
| 47.5° | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| 50° | 0.0 | 0.8 | 0.0 | 0.0 | 0.0 |
| 52.5° | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55° | 1.5 | 1.9 | 0.8 | 0.4 | 0.0 |
| 57.5° | 2.3 | 1.9 | 0.8 | 0.8 | 0.8 |
| 60° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 0.8 | 0.4 | 0.0 | 0.0 | 0.0 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 |
| 77.5° | 3.9 | 0.8 | 1.2 | 0.8 | 1.5 |
| 80° | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.4 | 0.0 | 0.4 | 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 | 0.0 | 0.0 | 0.0 |
| 72.5° | 1.5 | 1.2 | 0.0 | 0.0 | 1.5 |



(END OF REPORT)