

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: P283714

Luminaire Tested: **LDA2B208027D010 EU2B20FL408027 2LBAPINSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P283714
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1809-951-15)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA2B208027D010 EU2B20FL408027 2LBAPINSQ1MMS
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj SQ PinHole, MMS

Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1709.7 lumens
Efficiency: N/A
Efficacy: 83.0 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 0.55 / 0.55
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

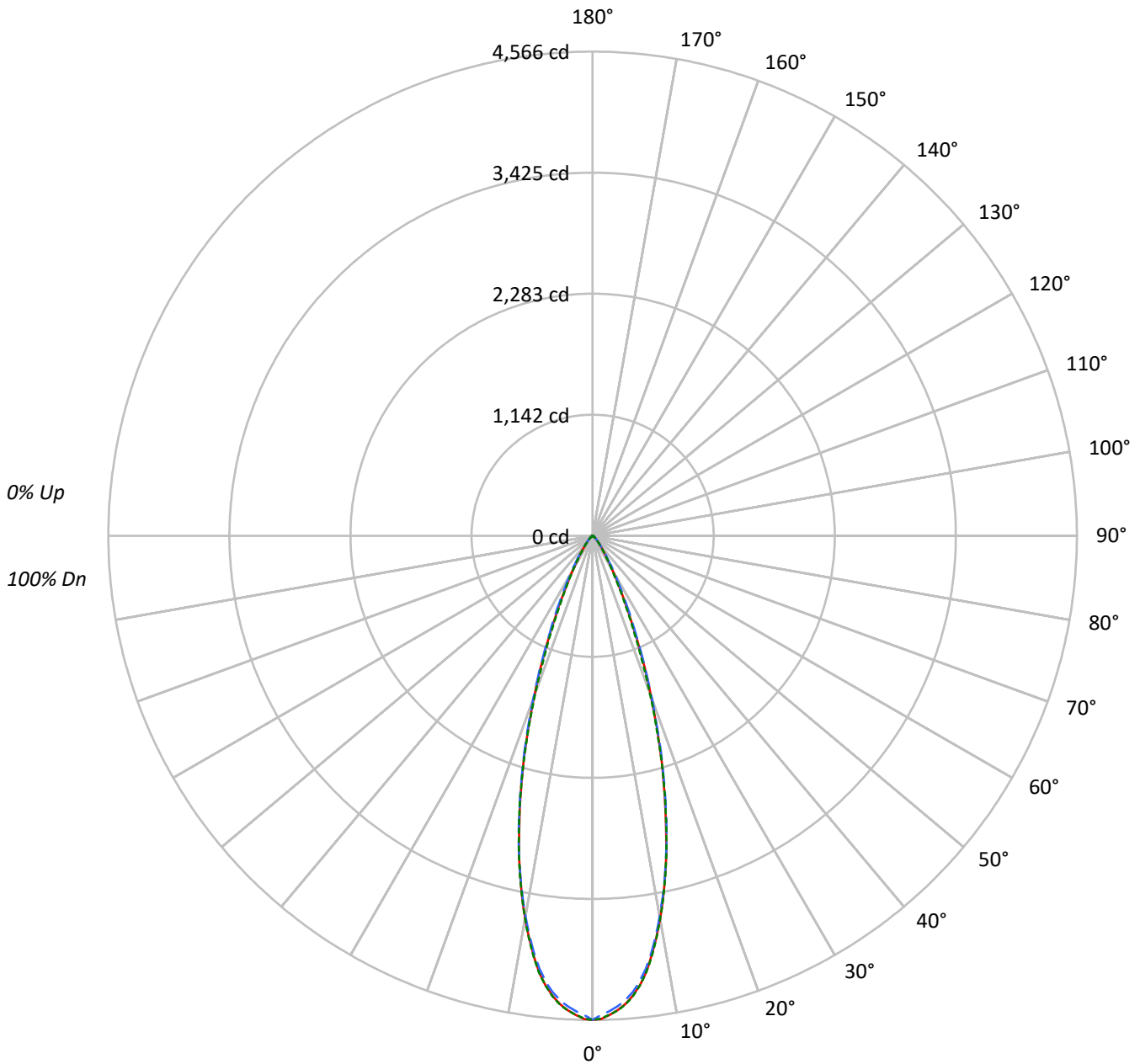
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | | | | | | | | | | | | | | | | | |
| 1 | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 95 | | | | | | | | | | | | | | | | | | | |
| 2 | 110 | 106 | 102 | 99 | 108 | 104 | 101 | 98 | 101 | 98 | 96 | 98 | 96 | 94 | 95 | 93 | 92 | 90 | | | | | | | | | | | | | | | | | | | |
| 3 | 105 | 100 | 96 | 92 | 104 | 99 | 95 | 92 | 96 | 93 | 90 | 94 | 91 | 89 | 92 | 89 | 88 | 86 | | | | | | | | | | | | | | | | | | | |
| 4 | 101 | 95 | 90 | 87 | 100 | 94 | 90 | 86 | 92 | 88 | 85 | 90 | 87 | 84 | 88 | 86 | 83 | 82 | | | | | | | | | | | | | | | | | | | |
| 5 | 98 | 91 | 86 | 82 | 96 | 90 | 85 | 82 | 88 | 84 | 81 | 86 | 83 | 80 | 85 | 82 | 80 | 79 | | | | | | | | | | | | | | | | | | | |
| 6 | 94 | 87 | 82 | 78 | 93 | 86 | 81 | 78 | 84 | 80 | 77 | 83 | 80 | 77 | 82 | 79 | 76 | 75 | | | | | | | | | | | | | | | | | | | |
| 7 | 91 | 83 | 78 | 75 | 89 | 82 | 78 | 74 | 81 | 77 | 74 | 80 | 76 | 74 | 79 | 76 | 73 | 72 | | | | | | | | | | | | | | | | | | | |
| 8 | 87 | 80 | 75 | 71 | 86 | 79 | 74 | 71 | 78 | 74 | 71 | 77 | 73 | 71 | 76 | 73 | 70 | 69 | | | | | | | | | | | | | | | | | | | |
| 9 | 84 | 77 | 72 | 69 | 83 | 76 | 72 | 68 | 75 | 71 | 68 | 74 | 71 | 68 | 74 | 70 | 68 | 67 | | | | | | | | | | | | | | | | | | | |
| 10 | 82 | 74 | 69 | 66 | 81 | 73 | 69 | 66 | 73 | 69 | 66 | 72 | 68 | 65 | 71 | 68 | 65 | 64 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 2252591 | 2252591 | 2252591 |
| 5° | 2155758 | 2139613 | 2159076 |
| 10° | 1836616 | 1825094 | 1838520 |
| 15° | 1353682 | 1362519 | 1358075 |
| 20° | 845080 | 860673 | 826441 |
| 25° | 436526 | 468371 | 414588 |
| 30° | 209302 | 239894 | 199447 |
| 35° | 108050 | 119614 | 101123 |
| 40° | 60540 | 63631 | 57448 |
| 45° | 36840 | 36840 | 35444 |
| 50° | 19112 | 23563 | 19112 |
| 55° | 9892 | 15655 | 10752 |
| 60° | 11347 | 11347 | 11347 |
| 65° | 12374 | 12374 | 12374 |
| 70° | 15290 | 13848 | 15290 |
| 75° | 14678 | 14678 | 14678 |
| 80° | 13638 | 13638 | 13638 |
| 85° | 10755 | 10755 | 10755 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 392.7 | 23.0 |
| 10°-20° | 721.4 | 42.2 |
| 20°-30° | 391.1 | 22.9 |
| 30°-40° | 125.5 | 7.3 |
| 40°-50° | 42.8 | 2.5 |
| 50°-60° | 15.0 | 0.9 |
| 60°-70° | 10.9 | 0.6 |
| 70°-80° | 8.0 | 0.5 |
| 80°-90° | 2.3 | 0.1 |
| 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° | 1505.2 | 88.0 |
| 0°-40° | 1630.8 | 95.4 |
| 0°-60° | 1688.5 | 98.8 |
| 0°-90° | 1709.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1709.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 4566 | 4566 | 4566 | 4566 | 4566 | |
| 5° | 4353 | 4326 | 4320 | 4364 | 4360 | 394 |
| 15° | 2650 | 2672 | 2668 | 2680 | 2659 | 718 |
| 25° | 802 | 838 | 860 | 801 | 762 | 384 |
| 35° | 179 | 187 | 199 | 180 | 168 | 121 |
| 45° | 53 | 54 | 53 | 53 | 51 | 42 |
| 55° | 12 | 14 | 18 | 14 | 12 | 13 |
| 65° | 11 | 12 | 11 | 12 | 11 | 11 |
| 75° | 8 | 8 | 8 | 8 | 8 | 8 |
| 85° | 2 | 2 | 2 | 2 | 2 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 4565.8 | 4565.8 | 4565.8 | 4565.8 | 4565.8 |
| 1° | 4558.2 | 4525.6 | 4520.8 | 4563.0 | 4553.4 |
| 2° | 4521.7 | 4491.0 | 4486.2 | 4528.4 | 4519.8 |
| 3° | 4481.4 | 4453.6 | 4444.0 | 4488.2 | 4482.4 |
| 4° | 4427.7 | 4401.8 | 4393.2 | 4437.3 | 4432.5 |
| 5° | 4352.9 | 4326.0 | 4320.3 | 4363.5 | 4359.6 |
| 6° | 4260.8 | 4238.8 | 4228.2 | 4271.4 | 4263.7 |
| 7° | 4145.7 | 4125.6 | 4114.1 | 4145.7 | 4149.5 |
| 8° | 3996.1 | 3986.5 | 3973.1 | 4004.7 | 4004.7 |
| 9° | 3836.8 | 3828.2 | 3813.8 | 3842.6 | 3842.6 |
| 10° | 3666.1 | 3660.4 | 3643.1 | 3669.9 | 3669.9 |
| 11° | 3479.1 | 3476.2 | 3463.7 | 3485.8 | 3485.8 |
| 12° | 3282.4 | 3289.1 | 3277.6 | 3296.8 | 3290.1 |
| 13° | 3085.8 | 3082.9 | 3083.9 | 3098.3 | 3087.7 |
| 14° | 2863.2 | 2880.5 | 2883.4 | 2892.0 | 2875.7 |
| 15° | 2650.3 | 2672.4 | 2667.6 | 2680.0 | 2658.9 |
| 16° | 2432.6 | 2457.5 | 2456.5 | 2459.4 | 2439.3 |
| 17° | 2229.2 | 2243.6 | 2244.6 | 2241.7 | 2216.7 |
| 18° | 2012.4 | 2032.6 | 2032.6 | 2027.8 | 1998.0 |
| 19° | 1800.4 | 1815.8 | 1826.3 | 1815.8 | 1781.3 |
| 20° | 1609.6 | 1620.1 | 1639.3 | 1612.4 | 1574.1 |
| 21° | 1426.3 | 1435.9 | 1452.2 | 1420.6 | 1378.4 |
| 22° | 1250.8 | 1263.3 | 1278.6 | 1242.2 | 1198.1 |
| 23° | 1086.8 | 1115.6 | 1121.3 | 1071.4 | 1034.0 |
| 24° | 936.2 | 968.8 | 978.4 | 927.6 | 888.2 |
| 25° | 801.9 | 838.4 | 860.4 | 800.9 | 761.6 |
| 26° | 685.8 | 721.3 | 748.2 | 688.7 | 651.3 |
| 27° | 584.2 | 621.6 | 649.4 | 593.8 | 558.3 |
| 28° | 496.9 | 533.3 | 562.1 | 510.3 | 476.7 |
| 29° | 431.6 | 452.7 | 481.5 | 438.4 | 407.7 |
| 30° | 367.4 | 390.4 | 421.1 | 377.0 | 350.1 |
| 32.5° | 252.3 | 264.7 | 288.7 | 261.9 | 240.8 |
| 35° | 179.4 | 187.0 | 198.6 | 180.3 | 167.9 |
| 37.5° | 127.6 | 131.4 | 138.1 | 127.6 | 120.9 |
| 40° | 94.0 | 95.9 | 98.8 | 93.0 | 89.2 |
| 42.5° | 70.0 | 71.0 | 71.0 | 69.1 | 67.1 |
| 45° | 52.8 | 53.7 | 52.8 | 52.8 | 50.8 |
| 47.5° | 38.4 | 41.2 | 40.3 | 40.3 | 37.4 |
| 50° | 24.9 | 30.7 | 30.7 | 29.7 | 24.9 |
| 52.5° | 15.3 | 21.1 | 24.0 | 21.1 | 16.3 |
| 55° | 11.5 | 14.4 | 18.2 | 14.4 | 12.5 |
| 57.5° | 11.5 | 11.5 | 13.4 | 11.5 | 11.5 |
| 60° | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|------|-------|------|-------|------|
| 67.5° | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 |
| 70° | 10.6 | 10.6 | 9.6 | 10.6 | 10.6 |
| 72.5° | 9.6 | 9.6 | 8.6 | 9.6 | 8.6 |
| 75° | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| 77.5° | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 |
| 80° | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 |
| 82.5° | 2.9 | 2.9 | 2.9 | 3.8 | 2.9 |
| 85° | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| 87.5° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







| | | | | | |
|-------|------|------|------|------|------|
| 62.5° | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 65° | 10.6 | 11.5 | 10.6 | 11.5 | 10.6 |



(END OF REPORT)