

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: P281489

Luminaire Tested: **LDA2B108030D010 EU2B10SP158030 2LBASQC1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281489
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: LDA2B108030D010 EU2B10SP158030 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: 1081.9 lumens
Efficiency: N/A
Efficacy: 108.2 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

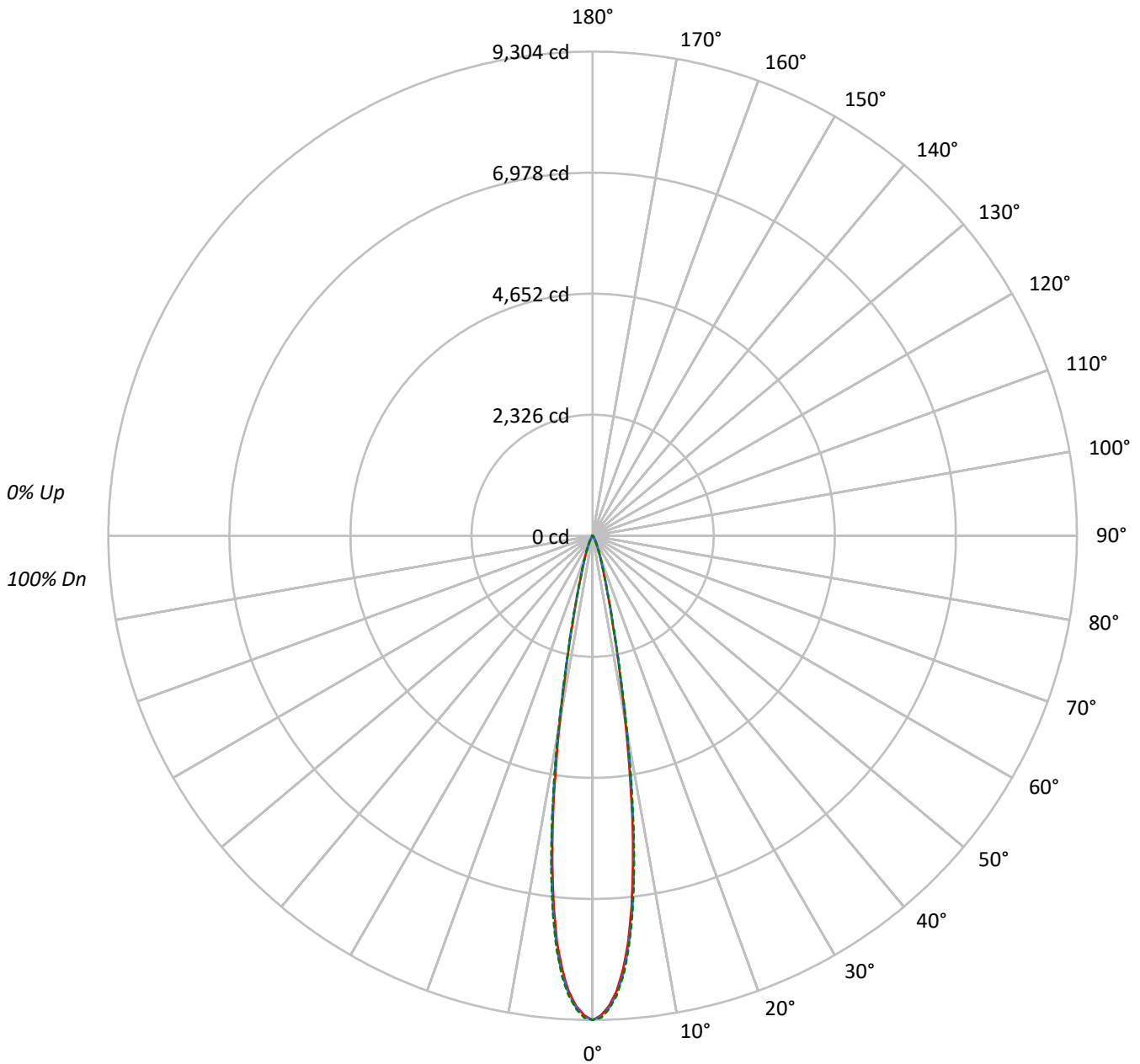
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 4590139 | 4590139 | 4590139 |
| 5° | 3885010 | 3925620 | 3942706 |
| 10° | 1816677 | 1885511 | 1889168 |
| 15° | 532116 | 539828 | 539573 |
| 20° | 213685 | 213948 | 214210 |
| 25° | 95264 | 104953 | 97550 |
| 30° | 40505 | 55658 | 36916 |
| 35° | 18550 | 25778 | 17286 |
| 40° | 6054 | 10111 | 5410 |
| 45° | 0 | 3628 | 0 |
| 50° | 0 | 0 | 0 |
| 55° | 1806 | 860 | 0 |
| 60° | 0 | 0 | 0 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 0 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 2841 | 0 | 0 |
| 85° | 5661 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 614.9 | 56.8 |
| 10°-20° | 348.5 | 32.2 |
| 20°-30° | 91.0 | 8.4 |
| 30°-40° | 23.5 | 2.2 |
| 40°-50° | 2.3 | 0.2 |
| 50°-60° | 0.7 | 0.1 |
| 60°-70° | 0.1 | 0.0 |
| 70°-80° | 0.8 | 0.1 |
| 80°-90° | 0.2 | 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° | 1054.3 | 97.5 |
| 0°-40° | 1077.8 | 99.6 |
| 0°-60° | 1080.8 | 99.9 |
| 0°-90° | 1081.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1081.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 9304 | 9304 | 9304 | 9304 | 9304 | |
| 5° | 7845 | 7915 | 7927 | 7876 | 7961 | 607 |
| 15° | 1042 | 1056 | 1057 | 1045 | 1056 | 342 |
| 25° | 175 | 190 | 193 | 184 | 179 | 87 |
| 35° | 31 | 33 | 43 | 29 | 29 | 21 |
| 45° | 0 | 2 | 5 | 0 | 0 | 2 |
| 55° | 2 | 3 | 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° | 9303.8 | 9303.8 | 9303.8 | 9303.8 | 9303.8 |
| 1° | 9216.5 | 9253.1 | 9242.1 | 9229.1 | 9265.7 |
| 2° | 9038.9 | 9074.4 | 9071.3 | 9054.1 | 9096.9 |
| 3° | 8765.1 | 8814.8 | 8814.8 | 8789.2 | 8842.5 |
| 4° | 8357.1 | 8432.9 | 8440.2 | 8404.1 | 8470.5 |
| 5° | 7844.6 | 7914.6 | 7926.6 | 7876.5 | 7961.1 |
| 6° | 7150.3 | 7245.9 | 7273.0 | 7215.0 | 7301.8 |
| 7° | 6352.5 | 6452.8 | 6494.1 | 6429.3 | 6526.4 |
| 8° | 5492.0 | 5564.1 | 5613.7 | 5539.5 | 5638.3 |
| 9° | 4529.1 | 4633.1 | 4678.5 | 4606.4 | 4702.6 |
| 10° | 3626.3 | 3721.9 | 3763.7 | 3746.5 | 3771.0 |
| 11° | 2816.5 | 2901.2 | 2929.4 | 2905.9 | 2917.4 |
| 12° | 2205.3 | 2239.2 | 2257.5 | 2241.8 | 2249.7 |
| 13° | 1674.5 | 1719.9 | 1728.3 | 1721.5 | 1725.1 |
| 14° | 1307.7 | 1329.6 | 1339.0 | 1335.9 | 1337.5 |
| 15° | 1041.8 | 1055.9 | 1056.9 | 1044.9 | 1056.4 |
| 16° | 839.1 | 850.0 | 854.7 | 842.2 | 857.3 |
| 17° | 687.5 | 696.4 | 701.7 | 689.1 | 695.4 |
| 18° | 565.8 | 572.6 | 579.9 | 568.9 | 578.4 |
| 19° | 474.9 | 479.1 | 479.6 | 476.5 | 479.1 |
| 20° | 407.0 | 404.9 | 407.5 | 401.8 | 408.0 |
| 22.5° | 268.0 | 273.2 | 279.5 | 272.7 | 275.3 |
| 25° | 175.0 | 189.6 | 192.8 | 183.9 | 179.2 |
| 26° | 144.2 | 163.0 | 171.4 | 157.3 | 142.1 |
| 27° | 119.6 | 133.2 | 144.2 | 125.4 | 113.4 |
| 28° | 105.0 | 116.5 | 127.5 | 109.7 | 95.6 |
| 29° | 87.8 | 99.3 | 118.1 | 97.7 | 88.8 |
| 30° | 71.1 | 79.4 | 97.7 | 74.2 | 64.8 |
| 32.5° | 40.2 | 47.0 | 63.2 | 43.9 | 36.0 |
| 35° | 30.8 | 32.9 | 42.8 | 29.3 | 28.7 |
| 37.5° | 26.6 | 24.0 | 33.4 | 24.0 | 19.3 |
| 40° | 9.4 | 14.1 | 15.7 | 10.4 | 8.4 |
| 42.5° | 4.2 | 4.2 | 6.8 | 2.1 | 2.1 |
| 45° | 0.0 | 2.1 | 5.2 | 0.5 | 0.0 |
| 47.5° | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| 50° | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 52.5° | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55° | 2.1 | 2.6 | 1.0 | 0.5 | 0.0 |
| 57.5° | 3.1 | 2.6 | 1.0 | 1.0 | 1.0 |
| 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° | 1.0 | 0.5 | 0.0 | 0.0 | 0.0 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| 77.5° | 5.2 | 1.0 | 1.6 | 1.0 | 2.1 |
| 80° | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.5 | 0.0 | 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 | 0.0 | 0.0 | 0.0 |
| 72.5° | 2.1 | 1.6 | 0.0 | 0.0 | 2.1 |



(END OF REPORT)