

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: P281731

Luminaire Tested: **LDA2B159730D010 EU2B15SP159730 2LBAPINSQ1MB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281731
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-10)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA2B159730D010 EU2B15SP159730 2LBAPINSQ1MB
Description: PORTFOLIO 2IN ADJ 1500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ PinHole, MB
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1065.9 lumens
Efficiency: N/A
Efficacy: 75.6 lumens/watt
Spacing Criteria (0/90/45): 0.3 / 0.3 / 0.29
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

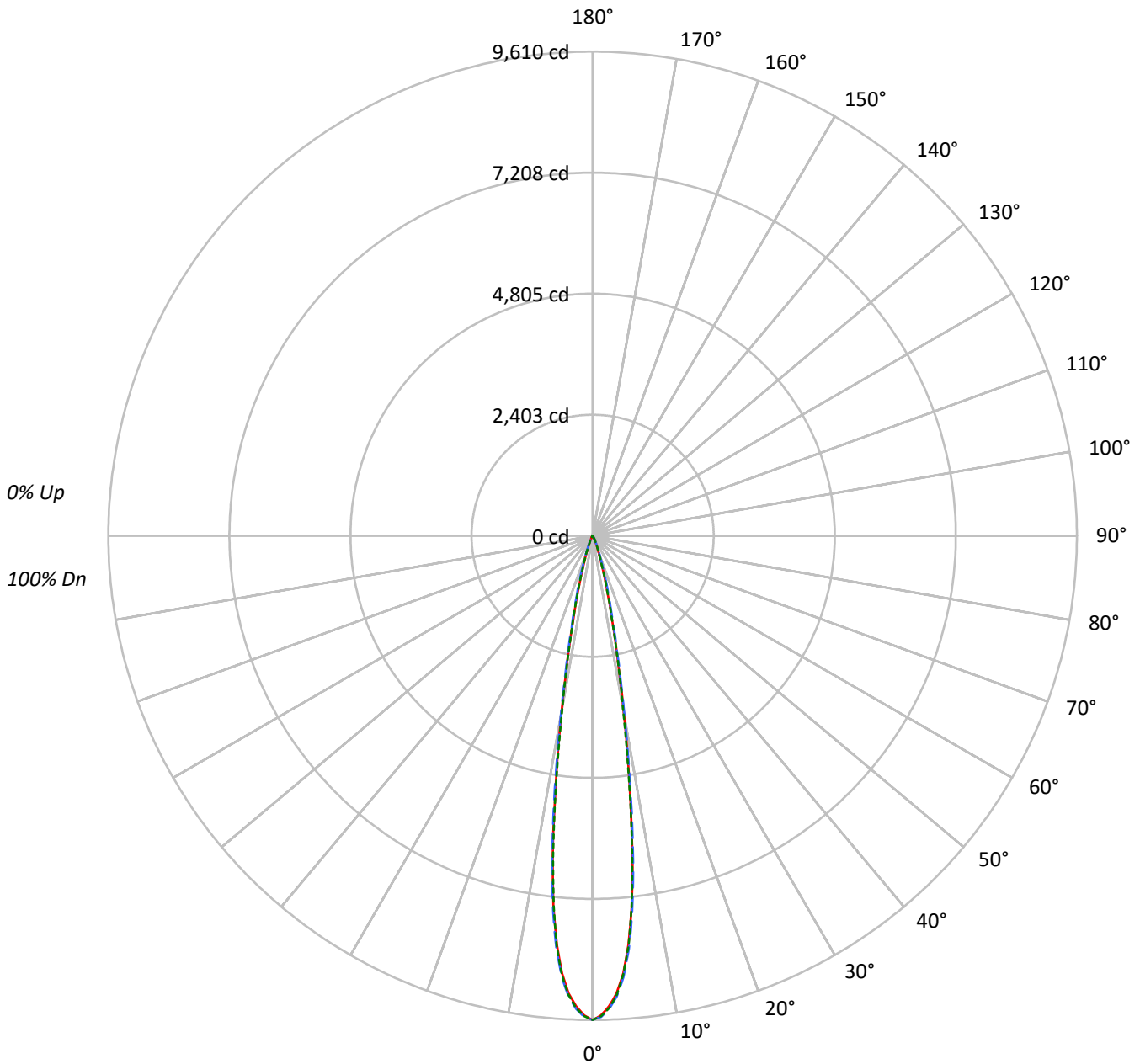
Input Watts (W): 14.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 4741157 | 4741157 | 4741157 |
| 5° | 4037248 | 4079295 | 4044875 |
| 10° | 1782361 | 1823140 | 1740730 |
| 15° | 540850 | 620274 | 549329 |
| 20° | 161813 | 215785 | 180818 |
| 25° | 63037 | 62058 | 66249 |
| 30° | 28085 | 25351 | 26718 |
| 35° | 5722 | 4999 | 4999 |
| 40° | 0 | 386 | 1546 |
| 45° | 4954 | 4117 | 7466 |
| 50° | 0 | 1382 | 4528 |
| 55° | 0 | 0 | 2064 |
| 60° | 0 | 592 | 2368 |
| 65° | 0 | 0 | 1401 |
| 70° | 0 | 3462 | 6924 |
| 75° | 0 | 0 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 3396 | 13586 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 623.0 | 58.4 |
| 10°-20° | 355.8 | 33.4 |
| 20°-30° | 67.5 | 6.3 |
| 30°-40° | 12.3 | 1.2 |
| 40°-50° | 3.2 | 0.3 |
| 50°-60° | 2.4 | 0.2 |
| 60°-70° | 0.4 | 0.0 |
| 70°-80° | 0.5 | 0.1 |
| 80°-90° | 0.8 | 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° | 1046.3 | 98.2 |
| 0°-40° | 1058.6 | 99.3 |
| 0°-60° | 1064.2 | 99.8 |
| 0°-90° | 1065.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1065.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 9610 | 9610 | 9610 | 9610 | 9610 | |
| 5° | 8152 | 8205 | 8237 | 8223 | 8167 | 619 |
| 15° | 1059 | 1152 | 1214 | 1141 | 1076 | 337 |
| 25° | 116 | 125 | 114 | 130 | 122 | 61 |
| 35° | 10 | 12 | 8 | 10 | 8 | 13 |
| 45° | 7 | 11 | 6 | 6 | 11 | 3 |
| 55° | 0 | 1 | 0 | 1 | 2 | 1 |
| 65° | 0 | 0 | 0 | 0 | 1 | 0 |
| 75° | 0 | 0 | 0 | 0 | 0 | 0 |
| 85° | 0 | 1 | 1 | 1 | 2 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 9609.9 | 9609.9 | 9609.9 | 9609.9 | 9609.9 |
| 1° | 9519.0 | 9529.1 | 9550.5 | 9572.5 | 9538.0 |
| 2° | 9340.9 | 9365.2 | 9395.5 | 9415.7 | 9378.3 |
| 3° | 9091.4 | 9125.3 | 9157.4 | 9161.5 | 9126.5 |
| 4° | 8706.0 | 8747.6 | 8781.4 | 8777.3 | 8733.3 |
| 5° | 8152.0 | 8205.4 | 8236.9 | 8222.6 | 8167.4 |
| 6° | 7419.7 | 7471.4 | 7511.8 | 7470.8 | 7396.6 |
| 7° | 6507.5 | 6566.9 | 6609.7 | 6539.6 | 6448.8 |
| 8° | 5450.5 | 5533.6 | 5576.4 | 5478.4 | 5385.1 |
| 9° | 4449.2 | 4506.8 | 4550.2 | 4443.3 | 4348.3 |
| 10° | 3557.8 | 3663.5 | 3639.2 | 3556.6 | 3474.7 |
| 11° | 2798.3 | 2893.9 | 2898.1 | 2842.2 | 2762.1 |
| 12° | 2190.8 | 2291.7 | 2317.3 | 2274.5 | 2203.2 |
| 13° | 1731.1 | 1806.5 | 1848.7 | 1804.7 | 1737.0 |
| 14° | 1377.8 | 1444.9 | 1498.9 | 1441.9 | 1374.2 |
| 15° | 1058.9 | 1151.5 | 1214.4 | 1140.8 | 1075.5 |
| 16° | 842.1 | 918.7 | 993.5 | 909.8 | 857.5 |
| 17° | 646.7 | 715.0 | 792.2 | 716.2 | 673.4 |
| 18° | 511.9 | 566.0 | 650.9 | 572.5 | 535.1 |
| 19° | 400.9 | 441.8 | 520.8 | 451.9 | 421.6 |
| 20° | 308.2 | 353.3 | 411.0 | 364.0 | 344.4 |
| 22.5° | 186.5 | 211.4 | 228.0 | 213.8 | 203.7 |
| 25° | 115.8 | 124.7 | 114.0 | 130.1 | 121.7 |
| 26° | 101.0 | 107.5 | 105.1 | 115.8 | 105.7 |
| 27° | 80.8 | 89.1 | 82.5 | 90.9 | 87.9 |
| 28° | 73.6 | 83.7 | 70.7 | 80.8 | 76.0 |
| 29° | 51.7 | 55.8 | 50.5 | 54.0 | 54.0 |
| 30° | 49.3 | 50.5 | 44.5 | 48.7 | 46.9 |
| 32.5° | 38.6 | 36.2 | 29.7 | 31.5 | 30.3 |
| 35° | 9.5 | 11.9 | 8.3 | 10.1 | 8.3 |
| 37.5° | 14.3 | 13.1 | 15.4 | 14.8 | 14.3 |
| 40° | 0.0 | 0.6 | 0.6 | 0.6 | 2.4 |
| 42.5° | 10.7 | 6.5 | 5.9 | 4.2 | 7.1 |
| 45° | 7.1 | 11.3 | 5.9 | 6.5 | 10.7 |
| 47.5° | 0.0 | 0.6 | 0.0 | 1.2 | 1.2 |
| 50° | 0.0 | 1.2 | 1.8 | 2.4 | 5.9 |
| 52.5° | 1.2 | 7.1 | 3.6 | 6.5 | 9.5 |
| 55° | 0.0 | 0.6 | 0.0 | 0.6 | 2.4 |
| 57.5° | 2.4 | 1.2 | 2.4 | 2.4 | 10.7 |
| 60° | 0.0 | 1.2 | 0.6 | 0.6 | 2.4 |
| 62.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65° | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 |
| 67.5° | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| 80° | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.6 | 1.2 | 1.8 | 1.2 |
| 85° | 0.0 | 0.6 | 0.6 | 0.6 | 2.4 |
| 87.5° | 0.0 | 1.2 | 1.8 | 0.0 | 1.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 70° | 0.0 | 1.8 | 2.4 | 0.0 | 4.8 |
| 72.5° | 0.0 | 3.0 | 0.6 | 0.6 | 0.0 |



(END OF REPORT)