

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: P281168

Luminaire Tested: **LDA2B109030D010 EU2B10SP159030 2LBALD1WHH**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281168
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: LDA2B109030D010 EU2B10SP159030 2LBALD1WHH
Description: PORTFOLIO 2IN ADJ 1000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in
ADJ spun Refl w/lens Self-Flanged, WHH
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 872.7 lumens
Efficiency: N/A
Efficacy: 87.3 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

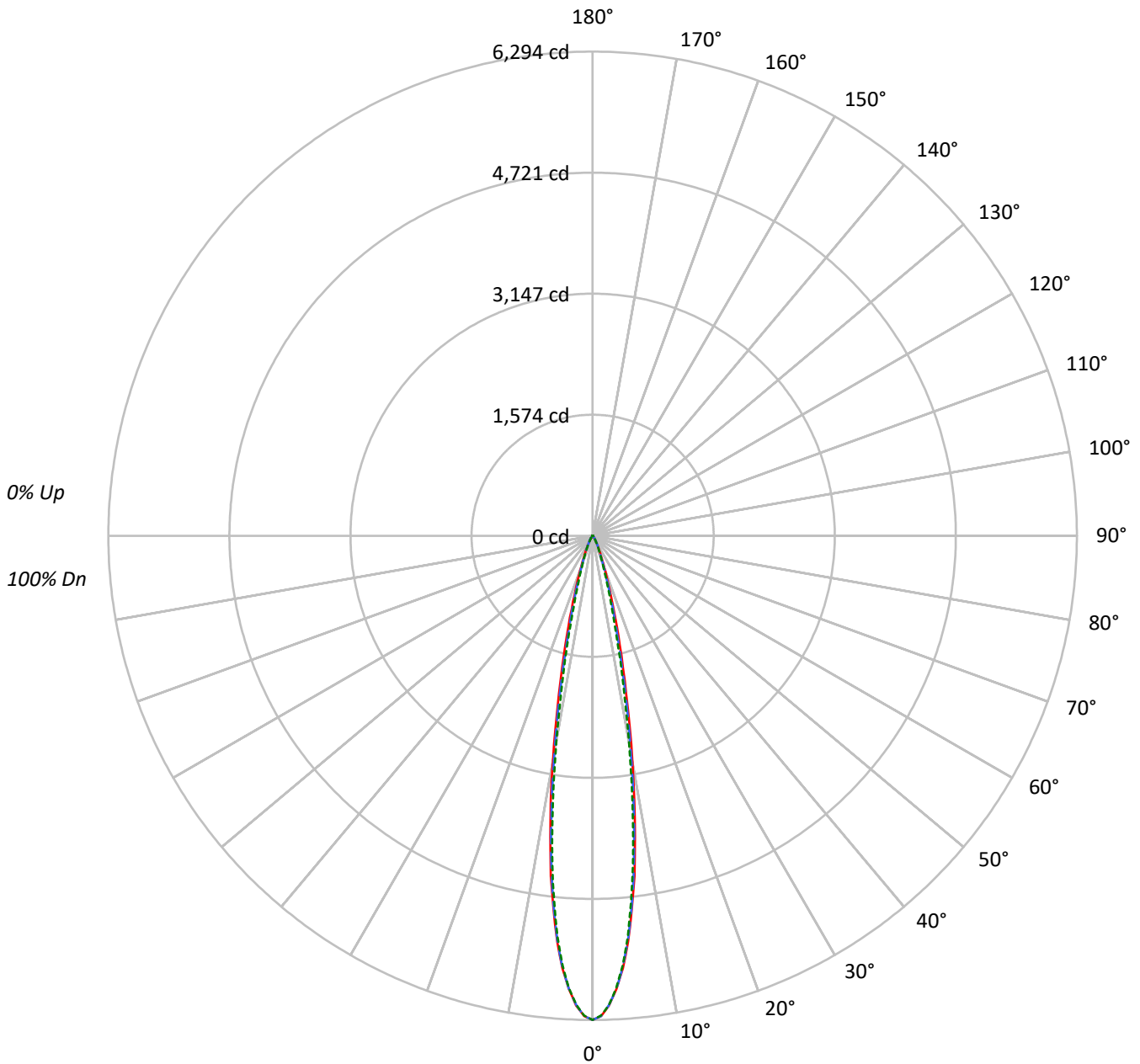
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | | 100 | | | | | | | | | | | | | | | |
| 1 | 115 | 113 | 111 | 110 | 113 | 111 | 110 | 108 | 107 | 106 | 105 | 104 | 103 | 102 | 100 | 99 | 99 | 97 | | | | 97 | | | | | | | | | | | | | | | |
| 2 | 112 | 108 | 106 | 103 | 110 | 107 | 104 | 102 | 104 | 102 | 100 | 101 | 99 | 98 | 98 | 97 | 96 | 95 | | | | 95 | | | | | | | | | | | | | | | |
| 3 | 109 | 104 | 101 | 98 | 107 | 103 | 100 | 98 | 101 | 98 | 96 | 98 | 96 | 95 | 96 | 95 | 93 | 92 | | | | 92 | | | | | | | | | | | | | | | |
| 4 | 106 | 101 | 97 | 95 | 104 | 100 | 97 | 94 | 98 | 95 | 93 | 96 | 94 | 92 | 94 | 93 | 91 | 90 | | | | 90 | | | | | | | | | | | | | | | |
| 5 | 103 | 98 | 94 | 91 | 102 | 97 | 93 | 91 | 95 | 92 | 90 | 94 | 91 | 89 | 93 | 90 | 89 | 88 | | | | 88 | | | | | | | | | | | | | | | |
| 6 | 101 | 95 | 91 | 88 | 99 | 94 | 91 | 88 | 93 | 90 | 88 | 92 | 89 | 87 | 91 | 88 | 87 | 86 | | | | 86 | | | | | | | | | | | | | | | |
| 7 | 98 | 92 | 89 | 86 | 97 | 92 | 88 | 86 | 91 | 88 | 85 | 90 | 87 | 85 | 89 | 87 | 85 | 84 | | | | 84 | | | | | | | | | | | | | | | |
| 8 | 96 | 90 | 86 | 84 | 95 | 90 | 86 | 84 | 89 | 86 | 83 | 88 | 85 | 83 | 87 | 85 | 83 | 82 | | | | 82 | | | | | | | | | | | | | | | |
| 9 | 94 | 88 | 84 | 82 | 93 | 88 | 84 | 82 | 87 | 84 | 82 | 86 | 83 | 81 | 86 | 83 | 81 | 80 | | | | 80 | | | | | | | | | | | | | | | |
| 10 | 92 | 86 | 83 | 80 | 91 | 86 | 82 | 80 | 85 | 82 | 80 | 85 | 82 | 80 | 84 | 81 | 80 | 79 | | | | 79 | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 3105120 | 3105120 | 3105120 |
| 5° | 2623518 | 2609552 | 2590287 |
| 10° | 1493299 | 1427522 | 1354931 |
| 15° | 618384 | 547745 | 482520 |
| 20° | 235211 | 206020 | 188589 |
| 25° | 103919 | 99836 | 88731 |
| 30° | 48081 | 53095 | 42271 |
| 35° | 25296 | 29813 | 23670 |
| 40° | 11077 | 12816 | 7406 |
| 45° | 4326 | 3419 | 4954 |
| 50° | 2072 | 2379 | 3377 |
| 55° | 0 | 1548 | 0 |
| 60° | 0 | 0 | 888 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 577 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 2557 | 0 | 0 |
| 85° | 24907 | 22643 | 10189 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 420.8 | 48.2 |
| 10°-20° | 321.7 | 36.9 |
| 20°-30° | 89.5 | 10.3 |
| 30°-40° | 29.1 | 3.3 |
| 40°-50° | 6.4 | 0.7 |
| 50°-60° | 2.0 | 0.2 |
| 60°-70° | 1.1 | 0.1 |
| 70°-80° | 0.7 | 0.1 |
| 80°-90° | 1.4 | 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° | 832.0 | 95.3 |
| 0°-40° | 861.1 | 98.7 |
| 0°-60° | 869.5 | 99.6 |
| 0°-90° | 872.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 872.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 6294 | 6294 | 6294 | 6294 | 6294 | |
| 5° | 5297 | 5258 | 5269 | 5230 | 5230 | 428 |
| 15° | 1211 | 1169 | 1072 | 990 | 945 | 353 |
| 25° | 191 | 193 | 183 | 173 | 163 | 96 |
| 35° | 42 | 46 | 50 | 38 | 39 | 28 |
| 45° | 6 | 9 | 5 | 5 | 7 | 6 |
| 55° | 0 | 3 | 2 | 1 | 0 | 2 |
| 65° | 0 | 2 | 0 | 0 | 0 | 1 |
| 75° | 0 | 0 | 0 | 1 | 0 | 0 |
| 85° | 4 | 2 | 4 | 2 | 2 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P281168

CATALOG NUMBER: LDA2B109030D010 EU2B10SP159030 2LBALD1WHH

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 6293.8 | 6293.8 | 6293.8 | 6293.8 | 6293.8 |
| 1° | 6245.7 | 6222.2 | 6244.8 | 6231.5 | 6239.0 |
| 2° | 6110.0 | 6080.8 | 6104.3 | 6085.7 | 6101.2 |
| 3° | 5898.8 | 5876.3 | 5897.0 | 5873.6 | 5886.0 |
| 4° | 5634.1 | 5601.4 | 5622.2 | 5590.8 | 5598.3 |
| 5° | 5297.4 | 5258.5 | 5269.2 | 5229.8 | 5230.3 |
| 6° | 4873.2 | 4846.3 | 4852.5 | 4791.1 | 4786.6 |
| 7° | 4458.3 | 4394.7 | 4388.1 | 4317.8 | 4304.1 |
| 8° | 3954.6 | 3896.7 | 3877.7 | 3795.1 | 3766.0 |
| 9° | 3471.7 | 3399.7 | 3360.8 | 3264.9 | 3230.9 |
| 10° | 2980.8 | 2907.9 | 2849.5 | 2741.3 | 2704.6 |
| 11° | 2526.5 | 2460.7 | 2388.2 | 2272.5 | 2236.7 |
| 12° | 2105.0 | 2053.3 | 1973.8 | 1862.0 | 1824.4 |
| 13° | 1760.8 | 1701.2 | 1615.9 | 1512.0 | 1479.8 |
| 14° | 1462.5 | 1398.5 | 1313.2 | 1224.4 | 1161.6 |
| 15° | 1210.7 | 1168.7 | 1072.4 | 989.8 | 944.7 |
| 16° | 989.3 | 953.5 | 870.5 | 798.9 | 767.1 |
| 17° | 811.3 | 782.5 | 711.8 | 655.7 | 629.2 |
| 18° | 669.4 | 633.6 | 577.9 | 541.3 | 520.5 |
| 19° | 543.0 | 515.2 | 474.6 | 446.3 | 425.5 |
| 20° | 448.0 | 425.1 | 392.4 | 367.2 | 359.2 |
| 22.5° | 289.4 | 285.4 | 264.2 | 250.5 | 243.9 |
| 25° | 190.9 | 193.1 | 183.4 | 172.8 | 163.0 |
| 26° | 163.0 | 164.4 | 155.5 | 149.3 | 137.0 |
| 27° | 139.6 | 140.1 | 140.1 | 128.6 | 116.7 |
| 28° | 114.0 | 118.9 | 114.4 | 109.1 | 97.7 |
| 29° | 97.7 | 103.8 | 101.6 | 96.3 | 85.3 |
| 30° | 84.4 | 88.8 | 93.2 | 84.8 | 74.2 |
| 32.5° | 59.2 | 63.2 | 68.0 | 63.6 | 54.8 |
| 35° | 42.0 | 45.5 | 49.5 | 37.6 | 39.3 |
| 37.5° | 28.7 | 34.9 | 33.6 | 30.5 | 26.1 |
| 40° | 17.2 | 18.1 | 19.9 | 21.2 | 11.5 |
| 42.5° | 12.4 | 14.6 | 13.3 | 15.0 | 5.3 |
| 45° | 6.2 | 8.8 | 4.9 | 4.9 | 7.1 |
| 47.5° | 4.4 | 7.5 | 2.7 | 2.7 | 0.9 |
| 50° | 2.7 | 5.7 | 3.1 | 1.3 | 4.4 |
| 52.5° | 4.4 | 5.3 | 3.5 | 4.0 | 0.9 |
| 55° | 0.0 | 2.7 | 1.8 | 0.9 | 0.0 |
| 57.5° | 1.8 | 3.1 | 1.8 | 0.9 | 1.8 |
| 60° | 0.0 | 0.0 | 0.0 | 0.4 | 0.9 |
| 62.5° | 0.0 | 0.9 | 0.0 | 1.3 | 1.8 |
| 65° | 0.0 | 1.8 | 0.0 | 0.0 | 0.0 |
| 67.5° | 2.7 | 3.1 | 1.8 | 3.5 | 5.3 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 |
| 77.5° | 0.0 | 4.4 | 1.3 | 1.3 | 1.8 |
| 80° | 0.9 | 0.0 | 0.0 | 0.4 | 0.0 |
| 82.5° | 0.0 | 3.5 | 0.4 | 1.8 | 2.7 |
| 85° | 4.4 | 2.2 | 4.0 | 2.2 | 1.8 |
| 87.5° | 0.0 | 0.4 | 0.9 | 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 | 0.4 | 0.4 | 0.0 |
| 72.5° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)