

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: P280997

Luminaire Tested: **LDA2B058027D010 EU2B05SP158027 2LBALD1B**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P280997
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: LDA2B058027D010 EU2B05SP158027 2LBALD1B
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in
ADJ spun Refl w/lens Self-Flanged, B
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 781.4 lumens
Efficiency: N/A
Efficacy: 111.6 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

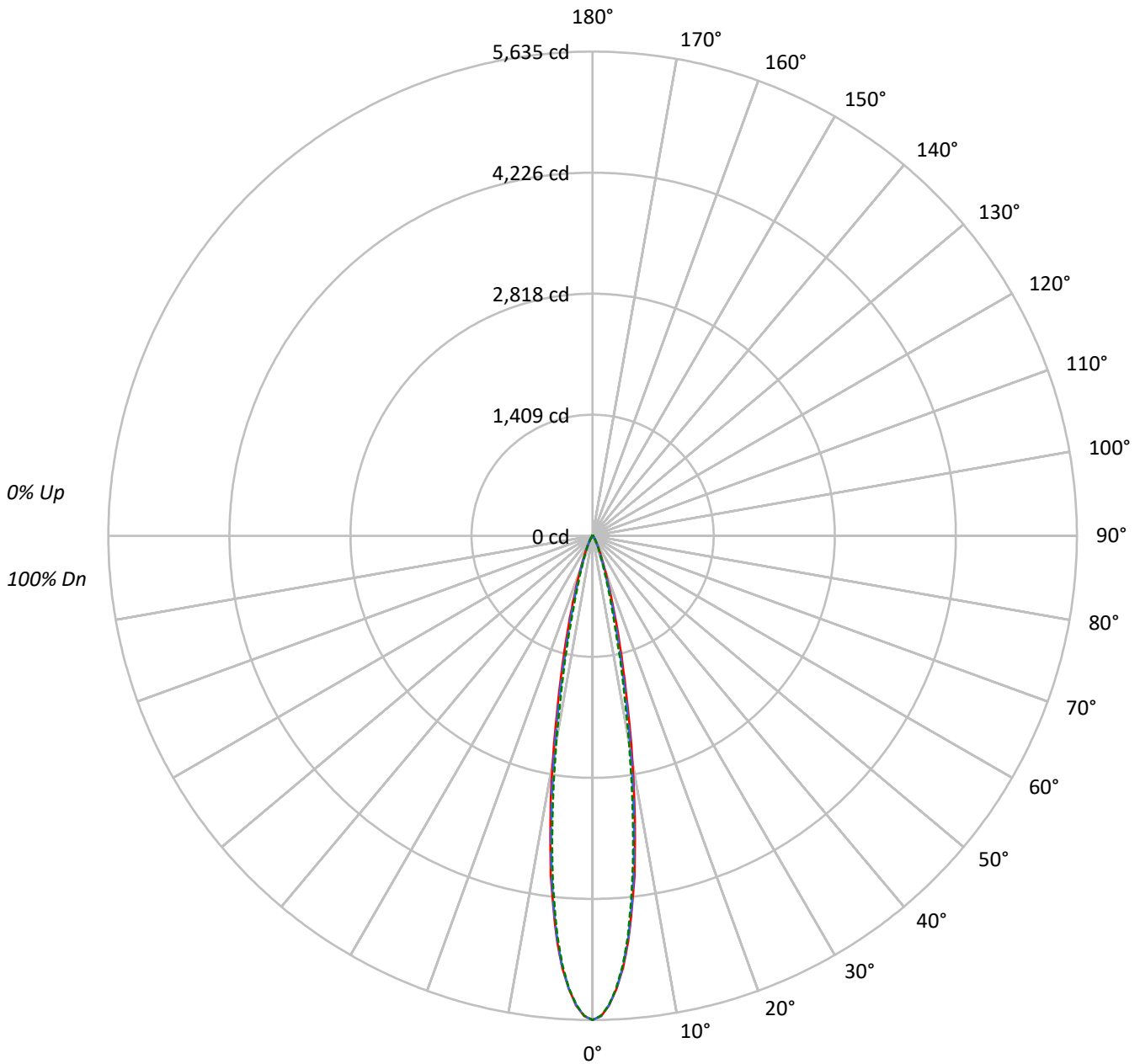
Input Watts (W): 7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P280997

CATALOG NUMBER: LDA2B058027D010 EU2B05SP158027 2LBALD1B

Luminous Intensity Polar Plot





TEST NUMBER: P280997

CATALOG NUMBER: LDA2B058027D010 EU2B05SP158027 2LBALD1B

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° | 2779995 | 2779995 | 2779995 |
| 5° | 2348805 | 2336275 | 2319041 |
| 10° | 1336946 | 1278082 | 1213055 |
| 15° | 553619 | 490386 | 432006 |
| 20° | 210587 | 184441 | 168848 |
| 25° | 93032 | 89385 | 79477 |
| 30° | 43068 | 47569 | 37884 |
| 35° | 22646 | 26681 | 21200 |
| 40° | 9918 | 11464 | 6634 |
| 45° | 3837 | 3070 | 4396 |
| 50° | 1842 | 2149 | 3070 |
| 55° | 0 | 1376 | 0 |
| 60° | 0 | 0 | 789 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 577 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 2273 | 0 | 0 |
| 85° | 22643 | 20378 | 9057 |



TEST NUMBER: P280997

CATALOG NUMBER: LDA2B058027D010 EU2B05SP158027 2LBALD1B

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 376.8 | 48.2 |
| 10°-20° | 288.0 | 36.9 |
| 20°-30° | 80.1 | 10.3 |
| 30°-40° | 26.0 | 3.3 |
| 40°-50° | 5.7 | 0.7 |
| 50°-60° | 1.8 | 0.2 |
| 60°-70° | 1.0 | 0.1 |
| 70°-80° | 0.6 | 0.1 |
| 80°-90° | 1.3 | 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° | 744.9 | 95.3 |
| 0°-40° | 770.9 | 98.7 |
| 0°-60° | 778.4 | 99.6 |
| 0°-90° | 781.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 781.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 5635 | 5635 | 5635 | 5635 | 5635 | |
| 5° | 4743 | 4708 | 4717 | 4682 | 4683 | 383 |
| 15° | 1084 | 1046 | 960 | 886 | 846 | 316 |
| 25° | 171 | 173 | 164 | 155 | 146 | 86 |
| 35° | 38 | 41 | 44 | 34 | 35 | 25 |
| 45° | 6 | 8 | 4 | 4 | 6 | 6 |
| 55° | 0 | 2 | 2 | 1 | 0 | 1 |
| 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: P280997

CATALOG NUMBER: LDA2B058027D010 EU2B05SP158027 2LBALD1B

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 5634.8 | 5634.8 | 5634.8 | 5634.8 | 5634.8 |
| 1° | 5591.7 | 5570.7 | 5590.9 | 5579.0 | 5585.8 |
| 2° | 5470.2 | 5444.1 | 5465.1 | 5448.5 | 5462.3 |
| 3° | 5281.1 | 5261.0 | 5279.6 | 5258.6 | 5269.7 |
| 4° | 5044.2 | 5014.9 | 5033.5 | 5005.4 | 5012.1 |
| 5° | 4742.7 | 4707.9 | 4717.4 | 4682.2 | 4682.6 |
| 6° | 4363.0 | 4338.8 | 4344.4 | 4289.4 | 4285.4 |
| 7° | 3991.5 | 3934.6 | 3928.6 | 3865.7 | 3853.5 |
| 8° | 3540.5 | 3488.7 | 3471.7 | 3397.7 | 3371.6 |
| 9° | 3108.2 | 3043.7 | 3008.9 | 2923.0 | 2892.6 |
| 10° | 2668.7 | 2603.4 | 2551.2 | 2454.3 | 2421.4 |
| 11° | 2262.0 | 2203.0 | 2138.2 | 2034.5 | 2002.5 |
| 12° | 1884.6 | 1838.3 | 1767.1 | 1667.0 | 1633.4 |
| 13° | 1576.4 | 1523.0 | 1446.7 | 1353.7 | 1324.8 |
| 14° | 1309.4 | 1252.0 | 1175.7 | 1096.2 | 1040.0 |
| 15° | 1083.9 | 1046.3 | 960.1 | 886.1 | 845.8 |
| 16° | 885.7 | 853.7 | 779.3 | 715.2 | 686.7 |
| 17° | 726.3 | 700.6 | 637.3 | 587.1 | 563.3 |
| 18° | 599.3 | 567.3 | 517.4 | 484.6 | 466.0 |
| 19° | 486.2 | 461.3 | 424.9 | 399.5 | 381.0 |
| 20° | 401.1 | 380.6 | 351.3 | 328.7 | 321.6 |
| 22.5° | 259.1 | 255.6 | 236.6 | 224.3 | 218.4 |
| 25° | 170.9 | 172.9 | 164.2 | 154.7 | 146.0 |
| 26° | 146.0 | 147.2 | 139.2 | 133.7 | 122.6 |
| 27° | 125.0 | 125.4 | 125.4 | 115.1 | 104.4 |
| 28° | 102.1 | 106.4 | 102.5 | 97.7 | 87.4 |
| 29° | 87.4 | 93.0 | 91.0 | 86.2 | 76.3 |
| 30° | 75.6 | 79.5 | 83.5 | 76.0 | 66.5 |
| 32.5° | 53.0 | 56.6 | 60.9 | 57.0 | 49.1 |
| 35° | 37.6 | 40.7 | 44.3 | 33.6 | 35.2 |
| 37.5° | 25.7 | 31.3 | 30.1 | 27.3 | 23.3 |
| 40° | 15.4 | 16.2 | 17.8 | 19.0 | 10.3 |
| 42.5° | 11.1 | 13.1 | 11.9 | 13.5 | 4.7 |
| 45° | 5.5 | 7.9 | 4.4 | 4.4 | 6.3 |
| 47.5° | 4.0 | 6.7 | 2.4 | 2.4 | 0.8 |
| 50° | 2.4 | 5.1 | 2.8 | 1.2 | 4.0 |
| 52.5° | 4.0 | 4.7 | 3.2 | 3.6 | 0.8 |
| 55° | 0.0 | 2.4 | 1.6 | 0.8 | 0.0 |
| 57.5° | 1.6 | 2.8 | 1.6 | 0.8 | 1.6 |
| 60° | 0.0 | 0.0 | 0.0 | 0.4 | 0.8 |
| 62.5° | 0.0 | 0.8 | 0.0 | 1.2 | 1.6 |
| 65° | 0.0 | 1.6 | 0.0 | 0.0 | 0.0 |
| 67.5° | 2.4 | 2.8 | 1.6 | 3.2 | 4.7 |



TEST NUMBER: P280997

CATALOG NUMBER: LDA2B058027D010 EU2B05SP158027 2LBALD1B

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 |
| 77.5° | 0.0 | 4.0 | 1.2 | 1.2 | 1.6 |
| 80° | 0.8 | 0.0 | 0.0 | 0.4 | 0.0 |
| 82.5° | 0.0 | 3.2 | 0.4 | 1.6 | 2.4 |
| 85° | 4.0 | 2.0 | 3.6 | 2.0 | 1.6 |
| 87.5° | 0.0 | 0.4 | 0.8 | 0.4 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Report Generated By E9808895 / USPTCWHP6082093





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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 70° | 0.0 | 0.0 | 0.4 | 0.4 | 0.0 |
| 72.5° | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)