

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: P316005

Luminaire Tested: **LDA2B20SP8027D010 PINW1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P316005
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-7)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA2B20SP8027D010 PINW1MW
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in
Adj PinHole, Black oculus, matte white finish
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1964.9 lumens
Efficiency: N/A
Efficacy: 95.4 lumens/watt
Spacing Criteria (0/90/45): 0.32 / 0.3 / 0.32
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

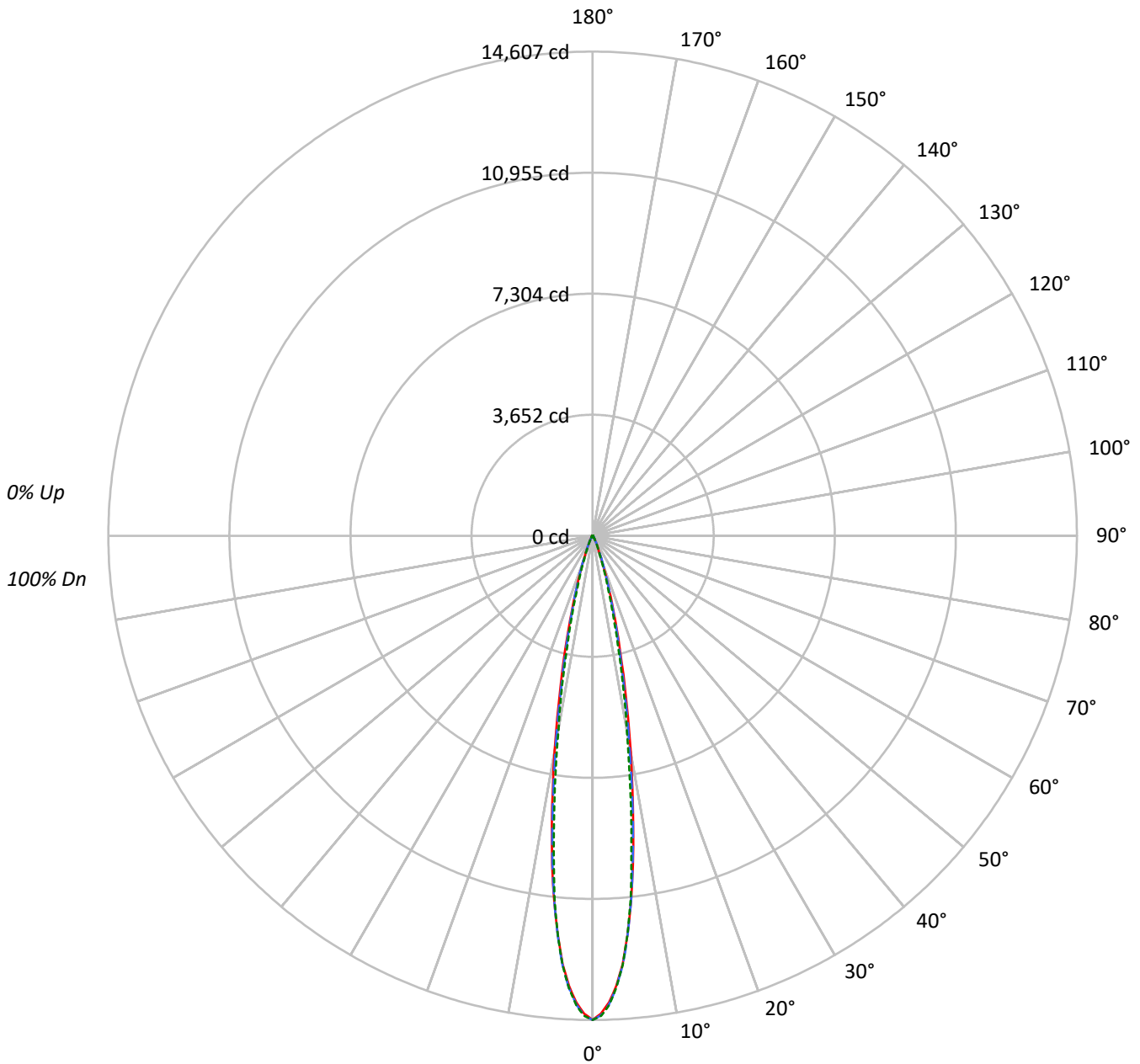
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: LDA2B2OSP8027D010 PINW1MW

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 | 109 | 113 | 111 | 109 | 107 | 107 | 105 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 96 | 96 | 98 | 96 | 96 | | | | | | | | | | | | | | | |
| 2 | 111 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 103 | 101 | 99 | 100 | 98 | 97 | 98 | 96 | 95 | 94 | 94 | 96 | 95 | 94 | | | | | | | | | | | | | | | |
| 3 | 108 | 104 | 100 | 97 | 106 | 102 | 99 | 97 | 100 | 97 | 95 | 98 | 95 | 94 | 96 | 94 | 92 | 91 | 94 | 92 | 90 | 89 | | | | | | | | | | | | | | | |
| 4 | 105 | 100 | 96 | 93 | 104 | 99 | 96 | 93 | 97 | 94 | 92 | 95 | 93 | 91 | 94 | 92 | 90 | 89 | 92 | 89 | 88 | 87 | | | | | | | | | | | | | | | |
| 5 | 102 | 97 | 93 | 90 | 101 | 96 | 93 | 90 | 95 | 91 | 89 | 93 | 90 | 88 | 92 | 89 | 88 | 87 | 90 | 88 | 86 | 85 | | | | | | | | | | | | | | | |
| 6 | 100 | 94 | 90 | 88 | 99 | 94 | 90 | 87 | 92 | 89 | 87 | 91 | 88 | 86 | 90 | 88 | 86 | 85 | 88 | 86 | 84 | 83 | | | | | | | | | | | | | | | |
| 7 | 98 | 92 | 88 | 85 | 97 | 91 | 88 | 85 | 90 | 87 | 85 | 89 | 86 | 84 | 88 | 86 | 84 | 83 | 88 | 86 | 84 | 83 | | | | | | | | | | | | | | | |
| 8 | 96 | 90 | 86 | 83 | 95 | 89 | 86 | 83 | 88 | 85 | 83 | 87 | 85 | 82 | 87 | 84 | 82 | 81 | 87 | 84 | 82 | 81 | | | | | | | | | | | | | | | |
| 9 | 94 | 88 | 84 | 81 | 93 | 87 | 84 | 81 | 86 | 83 | 81 | 86 | 83 | 81 | 85 | 82 | 81 | 80 | 85 | 82 | 81 | 80 | | | | | | | | | | | | | | | |
| 10 | 92 | 86 | 82 | 80 | 91 | 85 | 82 | 80 | 85 | 82 | 79 | 84 | 81 | 79 | 84 | 81 | 79 | 78 | 84 | 81 | 79 | 78 | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 7206486 | 7206486 | 7206486 |
| 5° | 5978515 | 5997929 | 5975197 |
| 10° | 3308925 | 3189393 | 2971069 |
| 15° | 1339483 | 1281103 | 1137526 |
| 20° | 448791 | 475830 | 385263 |
| 25° | 170767 | 171366 | 162221 |
| 30° | 76566 | 75312 | 72749 |
| 35° | 37101 | 33065 | 26320 |
| 40° | 24538 | 31043 | 21640 |
| 45° | 6279 | 10187 | 9349 |
| 50° | 1689 | 2610 | 3454 |
| 55° | 15397 | 13504 | 21160 |
| 60° | 22103 | 17662 | 28714 |
| 65° | 10507 | 27434 | 26150 |
| 70° | 9665 | 8078 | 9665 |
| 75° | 4194 | 10675 | 29927 |
| 80° | 50857 | 69892 | 63642 |
| 85° | 0 | 31700 | 37927 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 956.7 | 48.7 |
| 10°-20° | 724.7 | 36.9 |
| 20°-30° | 164.7 | 8.4 |
| 30°-40° | 48.7 | 2.5 |
| 40°-50° | 16.2 | 0.8 |
| 50°-60° | 14.3 | 0.7 |
| 60°-70° | 17.2 | 0.9 |
| 70°-80° | 11.0 | 0.6 |
| 80°-90° | 11.5 | 0.6 |
| 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° | 1846.1 | 94.0 |
| 0°-40° | 1894.8 | 96.4 |
| 0°-60° | 1925.3 | 98.0 |
| 0°-90° | 1964.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1964.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 14607 | 14607 | 14607 | 14607 | 14607 | |
| 5° | 12072 | 12167 | 12111 | 11953 | 12065 | 968 |
| 15° | 2622 | 2658 | 2508 | 2273 | 2227 | 762 |
| 25° | 314 | 337 | 315 | 311 | 298 | 164 |
| 35° | 62 | 68 | 55 | 64 | 44 | 49 |
| 45° | 9 | 26 | 15 | 26 | 13 | 13 |
| 55° | 18 | 26 | 16 | 24 | 25 | 7 |
| 65° | 9 | 19 | 24 | 22 | 22 | 9 |
| 75° | 2 | 8 | 6 | 10 | 16 | 5 |
| 85° | 0 | 0 | 6 | 6 | 7 | 7 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P316005

CATALOG NUMBER: LDA2B2OSP8027D010 PINW1MW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 14606.9 | 14606.9 | 14606.9 | 14606.9 | 14606.9 |
| 1° | 14418.7 | 14477.0 | 14471.4 | 14447.9 | 14489.3 |
| 2° | 14087.1 | 14157.7 | 14151.0 | 14099.5 | 14173.4 |
| 3° | 13600.9 | 13663.7 | 13653.6 | 13579.7 | 13660.3 |
| 4° | 12951.2 | 13022.9 | 12994.9 | 12884.0 | 12987.1 |
| 5° | 12071.8 | 12167.0 | 12111.0 | 11953.1 | 12065.1 |
| 6° | 11097.2 | 11177.8 | 11089.3 | 10879.9 | 10989.6 |
| 7° | 10006.1 | 10056.5 | 9940.0 | 9671.1 | 9597.2 |
| 8° | 8815.2 | 8881.3 | 8718.9 | 8405.2 | 8324.6 |
| 9° | 7677.1 | 7699.5 | 7502.3 | 7168.5 | 7066.5 |
| 10° | 6605.0 | 6588.2 | 6366.4 | 6028.1 | 5930.6 |
| 11° | 5588.9 | 5566.5 | 5332.4 | 5019.8 | 5051.2 |
| 12° | 4664.7 | 4708.4 | 4436.2 | 4152.8 | 4158.4 |
| 13° | 3905.2 | 3909.7 | 3675.5 | 3405.6 | 3389.9 |
| 14° | 3197.2 | 3238.6 | 3038.1 | 2796.1 | 2751.3 |
| 15° | 2622.5 | 2658.4 | 2508.2 | 2273.0 | 2227.1 |
| 16° | 2099.3 | 2144.2 | 2036.6 | 1823.8 | 1763.3 |
| 17° | 1690.5 | 1747.6 | 1677.0 | 1498.9 | 1429.4 |
| 18° | 1352.1 | 1395.8 | 1379.0 | 1195.3 | 1138.2 |
| 19° | 1067.6 | 1128.1 | 1132.6 | 979.1 | 910.8 |
| 20° | 854.8 | 909.6 | 906.3 | 787.5 | 733.8 |
| 22.5° | 490.7 | 519.8 | 520.9 | 464.9 | 433.5 |
| 25° | 313.7 | 337.2 | 314.8 | 311.4 | 298.0 |
| 26° | 272.2 | 291.3 | 266.6 | 266.6 | 254.3 |
| 27° | 220.7 | 237.5 | 214.0 | 224.0 | 207.2 |
| 28° | 186.0 | 203.9 | 183.7 | 181.5 | 179.2 |
| 29° | 154.6 | 171.4 | 145.6 | 156.8 | 150.1 |
| 30° | 134.4 | 146.8 | 132.2 | 149.0 | 127.7 |
| 32.5° | 104.2 | 114.3 | 88.5 | 112.0 | 84.0 |
| 35° | 61.6 | 68.3 | 54.9 | 63.9 | 43.7 |
| 37.5° | 63.9 | 66.1 | 59.4 | 66.1 | 61.6 |
| 40° | 38.1 | 39.2 | 48.2 | 48.2 | 33.6 |
| 42.5° | 35.8 | 34.7 | 21.3 | 33.6 | 26.9 |
| 45° | 9.0 | 25.8 | 14.6 | 25.8 | 13.4 |
| 47.5° | 6.7 | 9.0 | 9.0 | 17.9 | 17.9 |
| 50° | 2.2 | 9.0 | 3.4 | 6.7 | 4.5 |
| 52.5° | 0.0 | 21.3 | 4.5 | 15.7 | 13.4 |
| 55° | 17.9 | 25.8 | 15.7 | 23.5 | 24.6 |
| 57.5° | 2.2 | 17.9 | 9.0 | 19.0 | 13.4 |
| 60° | 22.4 | 30.2 | 17.9 | 32.5 | 29.1 |
| 62.5° | 2.2 | 20.2 | 23.5 | 17.9 | 15.7 |
| 65° | 9.0 | 19.0 | 23.5 | 22.4 | 22.4 |
| 67.5° | 11.2 | 19.0 | 14.6 | 14.6 | 20.2 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|------|-------|------|-------|------|
| 75° | 2.2 | 7.8 | 5.6 | 10.1 | 15.7 |
| 77.5° | 2.2 | 9.0 | 7.8 | 17.9 | 13.4 |
| 80° | 17.9 | 20.2 | 24.6 | 32.5 | 22.4 |
| 82.5° | 15.7 | 15.7 | 24.6 | 17.9 | 13.4 |
| 85° | 0.0 | 0.0 | 5.6 | 5.6 | 6.7 |
| 87.5° | 0.0 | 4.5 | 11.2 | 9.0 | 15.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







| | | | | | |
|-------|-----|------|-----|-----|------|
| 70° | 6.7 | 2.2 | 5.6 | 5.6 | 6.7 |
| 72.5° | 2.2 | 10.1 | 9.0 | 5.6 | 11.2 |



(END OF REPORT)