

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: P316011

Luminaire Tested: **LDA2B20SP8035D010 PINW1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P316011
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: LDA2B20SP8035D010 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: 2025.0 lumens
Efficiency: N/A
Efficacy: 98.3 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

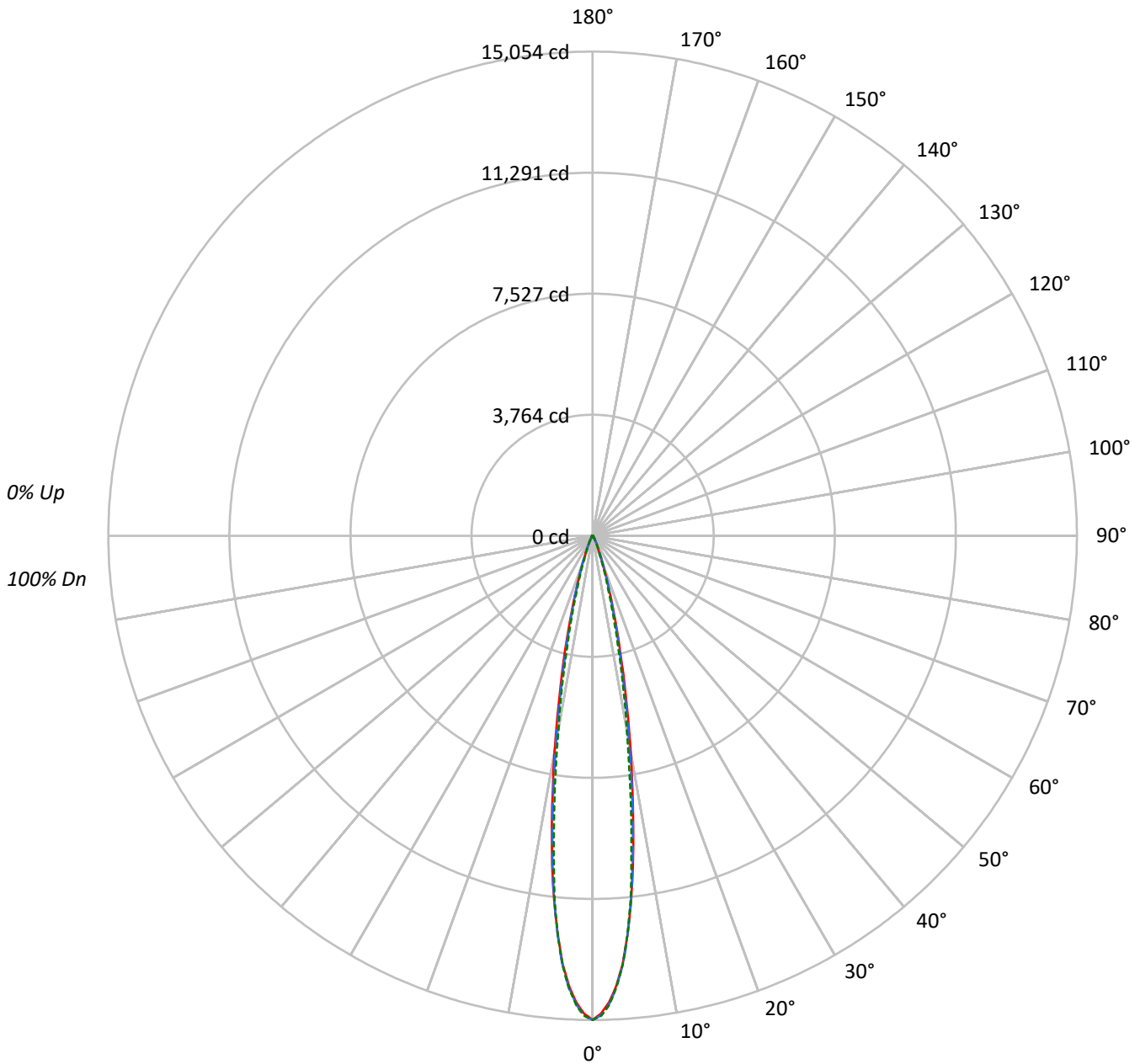
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: LDA2B2OSP8035D010 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 | 98 | 99 | 98 | 96 | | | | | | | | | | | | | | | |
| 2 | 111 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 103 | 101 | 99 | 100 | 98 | 97 | 98 | 96 | 95 | 94 | 98 | 96 | 95 | 94 | | | | | | | | | | | | | | | |
| 3 | 108 | 104 | 100 | 97 | 106 | 102 | 99 | 97 | 100 | 97 | 95 | 98 | 95 | 94 | 96 | 94 | 92 | 91 | 96 | 94 | 92 | 91 | | | | | | | | | | | | | | | |
| 4 | 105 | 100 | 96 | 93 | 104 | 99 | 96 | 93 | 97 | 94 | 92 | 95 | 93 | 91 | 94 | 92 | 90 | 89 | 94 | 92 | 90 | 89 | | | | | | | | | | | | | | | |
| 5 | 102 | 97 | 93 | 90 | 101 | 96 | 93 | 90 | 95 | 91 | 89 | 93 | 90 | 88 | 92 | 89 | 88 | 87 | 92 | 89 | 88 | 87 | | | | | | | | | | | | | | | |
| 6 | 100 | 94 | 90 | 88 | 99 | 94 | 90 | 87 | 92 | 89 | 87 | 91 | 88 | 86 | 90 | 88 | 86 | 85 | 90 | 88 | 86 | 85 | | | | | | | | | | | | | | | |
| 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° | 7426970 | 7426970 | 7426970 |
| 5° | 6161409 | 6181417 | 6157992 |
| 10° | 3410121 | 3286932 | 3061945 |
| 15° | 1380446 | 1320329 | 1172309 |
| 20° | 462494 | 490373 | 397024 |
| 25° | 175993 | 176592 | 167174 |
| 30° | 78901 | 77591 | 74971 |
| 35° | 38245 | 34089 | 27103 |
| 40° | 25311 | 31944 | 22284 |
| 45° | 6419 | 10466 | 9698 |
| 50° | 1765 | 2686 | 3531 |
| 55° | 15913 | 13934 | 21848 |
| 60° | 22793 | 18254 | 29602 |
| 65° | 10740 | 28251 | 26967 |
| 70° | 9953 | 8366 | 9953 |
| 75° | 4384 | 11056 | 30880 |
| 80° | 52561 | 72165 | 65631 |
| 85° | 0 | 32832 | 39059 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 985.9 | 48.7 |
| 10°-20° | 746.8 | 36.9 |
| 20°-30° | 169.8 | 8.4 |
| 30°-40° | 50.2 | 2.5 |
| 40°-50° | 16.7 | 0.8 |
| 50°-60° | 14.7 | 0.7 |
| 60°-70° | 17.7 | 0.9 |
| 70°-80° | 11.3 | 0.6 |
| 80°-90° | 11.8 | 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° | 1902.5 | 94.0 |
| 0°-40° | 1952.7 | 96.4 |
| 0°-60° | 1984.2 | 98.0 |
| 0°-90° | 2025.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2025.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 15054 | 15054 | 15054 | 15054 | 15054 | |
| 5° | 12441 | 12539 | 12482 | 12319 | 12434 | 998 |
| 15° | 2703 | 2740 | 2585 | 2342 | 2295 | 785 |
| 25° | 323 | 348 | 324 | 321 | 307 | 169 |
| 35° | 64 | 70 | 57 | 66 | 45 | 50 |
| 45° | 9 | 27 | 15 | 27 | 14 | 14 |
| 55° | 18 | 27 | 16 | 24 | 25 | 8 |
| 65° | 9 | 20 | 24 | 23 | 23 | 9 |
| 75° | 2 | 8 | 6 | 10 | 16 | 5 |
| 85° | 0 | 0 | 6 | 6 | 7 | 7 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P316011

CATALOG NUMBER: LDA2B2OSP8035D010 PINW1MW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 15053.8 | 15053.8 | 15053.8 | 15053.8 | 15053.8 |
| 1° | 14859.8 | 14919.8 | 14914.1 | 14889.8 | 14932.5 |
| 2° | 14518.1 | 14590.8 | 14583.9 | 14530.8 | 14607.0 |
| 3° | 14017.0 | 14081.7 | 14071.3 | 13995.1 | 14078.2 |
| 4° | 13347.4 | 13421.3 | 13392.4 | 13278.1 | 13384.3 |
| 5° | 12441.1 | 12539.2 | 12481.5 | 12318.7 | 12434.2 |
| 6° | 11436.7 | 11519.8 | 11428.6 | 11212.7 | 11325.8 |
| 7° | 10312.2 | 10364.1 | 10244.0 | 9967.0 | 9890.8 |
| 8° | 9084.9 | 9153.0 | 8985.6 | 8662.4 | 8579.2 |
| 9° | 7911.9 | 7935.0 | 7731.8 | 7387.8 | 7282.7 |
| 10° | 6807.0 | 6789.7 | 6561.1 | 6212.5 | 6112.0 |
| 11° | 5759.9 | 5736.8 | 5495.5 | 5173.4 | 5205.7 |
| 12° | 4807.4 | 4852.4 | 4571.9 | 4279.8 | 4285.6 |
| 13° | 4024.7 | 4029.3 | 3788.0 | 3509.7 | 3493.6 |
| 14° | 3295.0 | 3337.7 | 3131.1 | 2881.7 | 2835.5 |
| 15° | 2702.7 | 2739.7 | 2585.0 | 2342.5 | 2295.2 |
| 16° | 2163.6 | 2209.7 | 2098.9 | 1879.6 | 1817.2 |
| 17° | 1742.2 | 1801.0 | 1728.3 | 1544.7 | 1473.2 |
| 18° | 1393.5 | 1438.5 | 1421.2 | 1231.9 | 1173.0 |
| 19° | 1100.3 | 1162.6 | 1167.2 | 1009.0 | 938.6 |
| 20° | 880.9 | 937.5 | 934.0 | 811.6 | 756.2 |
| 22.5° | 505.7 | 535.7 | 536.9 | 479.1 | 446.8 |
| 25° | 323.3 | 347.5 | 324.4 | 321.0 | 307.1 |
| 26° | 280.5 | 300.2 | 274.8 | 274.8 | 262.1 |
| 27° | 227.4 | 244.8 | 220.5 | 230.9 | 213.6 |
| 28° | 191.7 | 210.1 | 189.3 | 187.0 | 184.7 |
| 29° | 159.3 | 176.6 | 150.1 | 161.6 | 154.7 |
| 30° | 138.5 | 151.2 | 136.2 | 153.6 | 131.6 |
| 32.5° | 107.4 | 117.8 | 91.2 | 115.5 | 86.6 |
| 35° | 63.5 | 70.4 | 56.6 | 65.8 | 45.0 |
| 37.5° | 65.8 | 68.1 | 61.2 | 68.1 | 63.5 |
| 40° | 39.3 | 40.4 | 49.6 | 49.6 | 34.6 |
| 42.5° | 36.9 | 35.8 | 21.9 | 34.6 | 27.7 |
| 45° | 9.2 | 26.6 | 15.0 | 26.6 | 13.9 |
| 47.5° | 6.9 | 9.2 | 9.2 | 18.5 | 18.5 |
| 50° | 2.3 | 9.2 | 3.5 | 6.9 | 4.6 |
| 52.5° | 0.0 | 21.9 | 4.6 | 16.2 | 13.9 |
| 55° | 18.5 | 26.6 | 16.2 | 24.2 | 25.4 |
| 57.5° | 2.3 | 18.5 | 9.2 | 19.6 | 13.9 |
| 60° | 23.1 | 31.2 | 18.5 | 33.5 | 30.0 |
| 62.5° | 2.3 | 20.8 | 24.2 | 18.5 | 16.2 |
| 65° | 9.2 | 19.6 | 24.2 | 23.1 | 23.1 |
| 67.5° | 11.5 | 19.6 | 15.0 | 15.0 | 20.8 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|------|-------|------|-------|------|
| 75° | 2.3 | 8.1 | 5.8 | 10.4 | 16.2 |
| 77.5° | 2.3 | 9.2 | 8.1 | 18.5 | 13.9 |
| 80° | 18.5 | 20.8 | 25.4 | 33.5 | 23.1 |
| 82.5° | 16.2 | 16.2 | 25.4 | 18.5 | 13.9 |
| 85° | 0.0 | 0.0 | 5.8 | 5.8 | 6.9 |
| 87.5° | 0.0 | 4.6 | 11.5 | 9.2 | 16.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







| | | | | | |
|-------|-----|------|-----|-----|------|
| 70° | 6.9 | 2.3 | 5.8 | 5.8 | 6.9 |
| 72.5° | 2.3 | 10.4 | 9.2 | 5.8 | 11.5 |



(END OF REPORT)