

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: P315889

Luminaire Tested: **LDA2B05SP8040D010 PINW1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P315889
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: LDA2B05SP8040D010 PINW1MMS
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in
Adj PinHole, White oculus, matte metallic silver finish
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 838.1 lumens
Efficiency: N/A
Efficacy: 119.7 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

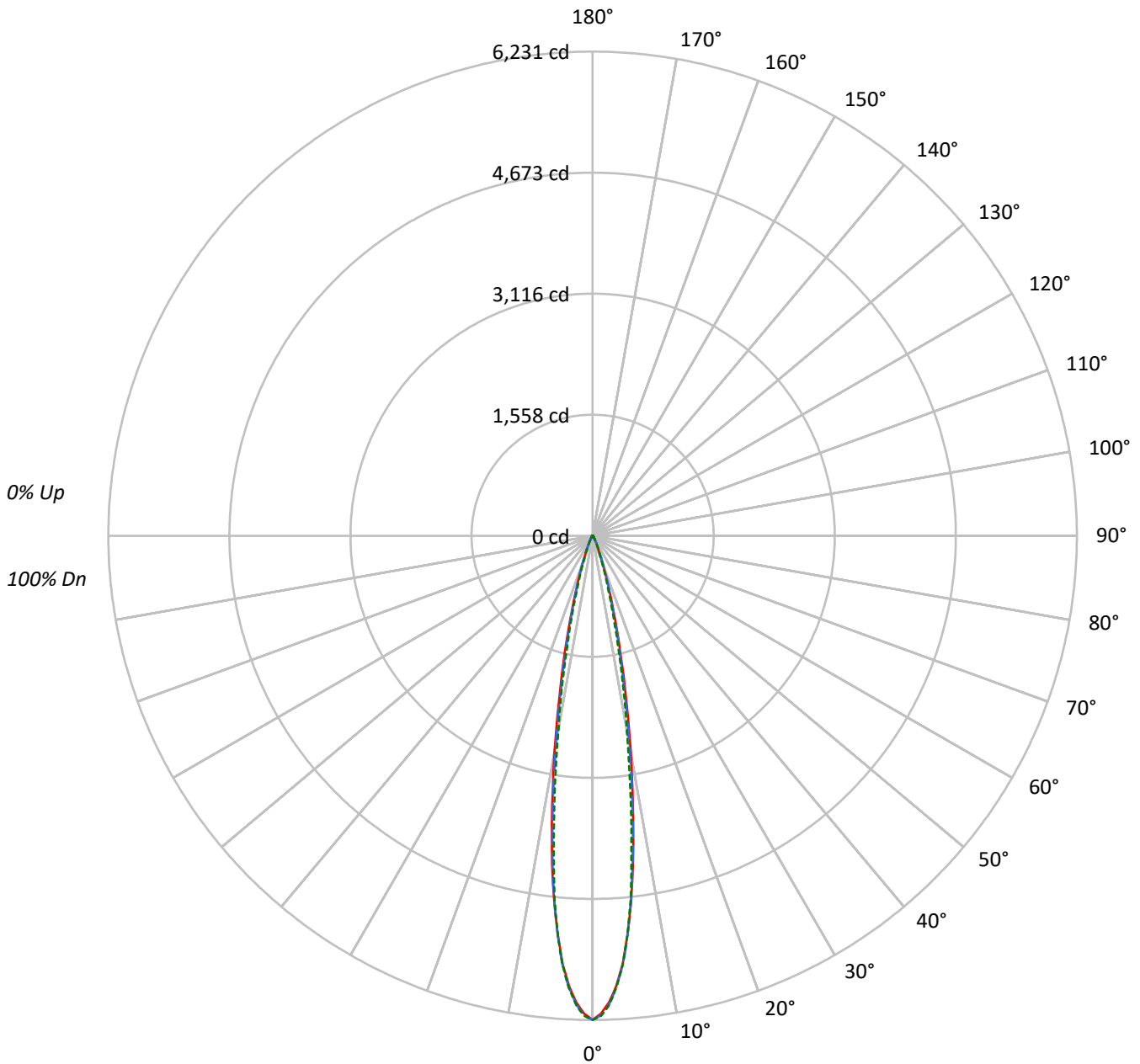
Input Watts (W): 7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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° | 3073989 | 3073989 | 3073989 |
| 5° | 2550172 | 2558443 | 2548736 |
| 10° | 1411440 | 1360441 | 1267311 |
| 15° | 571343 | 546468 | 485227 |
| 20° | 191424 | 202975 | 164333 |
| 25° | 72836 | 73108 | 69189 |
| 30° | 32643 | 32130 | 31048 |
| 35° | 15840 | 14093 | 11202 |
| 40° | 10433 | 13203 | 9210 |
| 45° | 2651 | 4326 | 3977 |
| 50° | 768 | 1075 | 1458 |
| 55° | 6537 | 5763 | 9032 |
| 60° | 9473 | 7499 | 12235 |
| 65° | 4436 | 11674 | 11207 |
| 70° | 4183 | 3462 | 4183 |
| 75° | 1906 | 4575 | 12772 |
| 80° | 21593 | 29832 | 27275 |
| 85° | 0 | 13586 | 16416 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 408.1 | 48.7 |
| 10°-20° | 309.1 | 36.9 |
| 20°-30° | 70.3 | 8.4 |
| 30°-40° | 20.8 | 2.5 |
| 40°-50° | 6.9 | 0.8 |
| 50°-60° | 6.1 | 0.7 |
| 60°-70° | 7.3 | 0.9 |
| 70°-80° | 4.7 | 0.6 |
| 80°-90° | 4.9 | 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° | 787.4 | 94.0 |
| 0°-40° | 808.2 | 96.4 |
| 0°-60° | 821.2 | 98.0 |
| 0°-90° | 838.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 838.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 6231 | 6231 | 6231 | 6231 | 6231 | |
| 5° | 5149 | 5190 | 5166 | 5099 | 5146 | 413 |
| 15° | 1119 | 1134 | 1070 | 970 | 950 | 325 |
| 25° | 134 | 144 | 134 | 133 | 127 | 70 |
| 35° | 26 | 29 | 23 | 27 | 19 | 21 |
| 45° | 4 | 11 | 6 | 11 | 6 | 6 |
| 55° | 8 | 11 | 7 | 10 | 10 | 3 |
| 65° | 4 | 8 | 10 | 10 | 10 | 4 |
| 75° | 1 | 3 | 2 | 4 | 7 | 2 |
| 85° | 0 | 0 | 2 | 2 | 3 | 3 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 6230.7 | 6230.7 | 6230.7 | 6230.7 | 6230.7 |
| 1° | 6150.4 | 6175.3 | 6172.9 | 6162.8 | 6180.5 |
| 2° | 6009.0 | 6039.1 | 6036.2 | 6014.2 | 6045.8 |
| 3° | 5801.6 | 5828.3 | 5824.0 | 5792.5 | 5826.9 |
| 4° | 5524.4 | 5555.0 | 5543.1 | 5495.8 | 5539.7 |
| 5° | 5149.3 | 5189.9 | 5166.0 | 5098.7 | 5146.4 |
| 6° | 4733.6 | 4768.0 | 4730.2 | 4640.9 | 4687.7 |
| 7° | 4268.2 | 4289.7 | 4240.0 | 4125.3 | 4093.7 |
| 8° | 3760.2 | 3788.4 | 3719.1 | 3585.3 | 3550.9 |
| 9° | 3274.7 | 3284.3 | 3200.2 | 3057.8 | 3014.3 |
| 10° | 2817.4 | 2810.2 | 2715.6 | 2571.3 | 2529.7 |
| 11° | 2384.0 | 2374.4 | 2274.6 | 2141.2 | 2154.6 |
| 12° | 1989.8 | 2008.4 | 1892.3 | 1771.4 | 1773.8 |
| 13° | 1665.8 | 1667.7 | 1567.8 | 1452.7 | 1446.0 |
| 14° | 1363.8 | 1381.5 | 1295.9 | 1192.7 | 1173.6 |
| 15° | 1118.6 | 1133.9 | 1069.9 | 969.6 | 950.0 |
| 16° | 895.5 | 914.6 | 868.7 | 777.9 | 752.1 |
| 17° | 721.1 | 745.4 | 715.3 | 639.4 | 609.7 |
| 18° | 576.8 | 595.4 | 588.2 | 509.9 | 485.5 |
| 19° | 455.4 | 481.2 | 483.1 | 417.6 | 388.5 |
| 20° | 364.6 | 388.0 | 386.6 | 335.9 | 313.0 |
| 22.5° | 209.3 | 221.7 | 222.2 | 198.3 | 184.9 |
| 25° | 133.8 | 143.8 | 134.3 | 132.8 | 127.1 |
| 26° | 116.1 | 124.2 | 113.7 | 113.7 | 108.5 |
| 27° | 94.1 | 101.3 | 91.3 | 95.6 | 88.4 |
| 28° | 79.3 | 87.0 | 78.4 | 77.4 | 76.5 |
| 29° | 65.9 | 73.1 | 62.1 | 66.9 | 64.0 |
| 30° | 57.3 | 62.6 | 56.4 | 63.6 | 54.5 |
| 32.5° | 44.4 | 48.7 | 37.8 | 47.8 | 35.8 |
| 35° | 26.3 | 29.1 | 23.4 | 27.2 | 18.6 |
| 37.5° | 27.2 | 28.2 | 25.3 | 28.2 | 26.3 |
| 40° | 16.2 | 16.7 | 20.5 | 20.5 | 14.3 |
| 42.5° | 15.3 | 14.8 | 9.1 | 14.3 | 11.5 |
| 45° | 3.8 | 11.0 | 6.2 | 11.0 | 5.7 |
| 47.5° | 2.9 | 3.8 | 3.8 | 7.6 | 7.6 |
| 50° | 1.0 | 3.8 | 1.4 | 2.9 | 1.9 |
| 52.5° | 0.0 | 9.1 | 1.9 | 6.7 | 5.7 |
| 55° | 7.6 | 11.0 | 6.7 | 10.0 | 10.5 |
| 57.5° | 1.0 | 7.6 | 3.8 | 8.1 | 5.7 |
| 60° | 9.6 | 12.9 | 7.6 | 13.9 | 12.4 |
| 62.5° | 1.0 | 8.6 | 10.0 | 7.6 | 6.7 |
| 65° | 3.8 | 8.1 | 10.0 | 9.6 | 9.6 |
| 67.5° | 4.8 | 8.1 | 6.2 | 6.2 | 8.6 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|------|-------|-----|
| 75° | 1.0 | 3.3 | 2.4 | 4.3 | 6.7 |
| 77.5° | 1.0 | 3.8 | 3.3 | 7.6 | 5.7 |
| 80° | 7.6 | 8.6 | 10.5 | 13.9 | 9.6 |
| 82.5° | 6.7 | 6.7 | 10.5 | 7.6 | 5.7 |
| 85° | 0.0 | 0.0 | 2.4 | 2.4 | 2.9 |
| 87.5° | 0.0 | 1.9 | 4.8 | 3.8 | 6.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 70° | 2.9 | 1.0 | 2.4 | 2.4 | 2.9 |
| 72.5° | 1.0 | 4.3 | 3.8 | 2.4 | 4.8 |



(END OF REPORT)