

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: P206120

Luminaire Tested: **LD4B20D010 EU4B10208030 4LBSMW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P206120
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35319)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B20D010 EU4B10208030 4LBSMW1
Description: PORTFOLIO 4 INCH SHALLOW RECESSED DOWNLIGHT
SHALLOW DISTRIBUTION WITH MATTE WHITE TRIM
WATTAGE D010TR-21.86W DE010-20.46W D5LT-21.24W DMX-20.89W DL2-22.5W
DL3-21.8 6W DLE-22.46W
Light Source: HIGH LUMEN LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2074.2 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.24 / 1.34
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

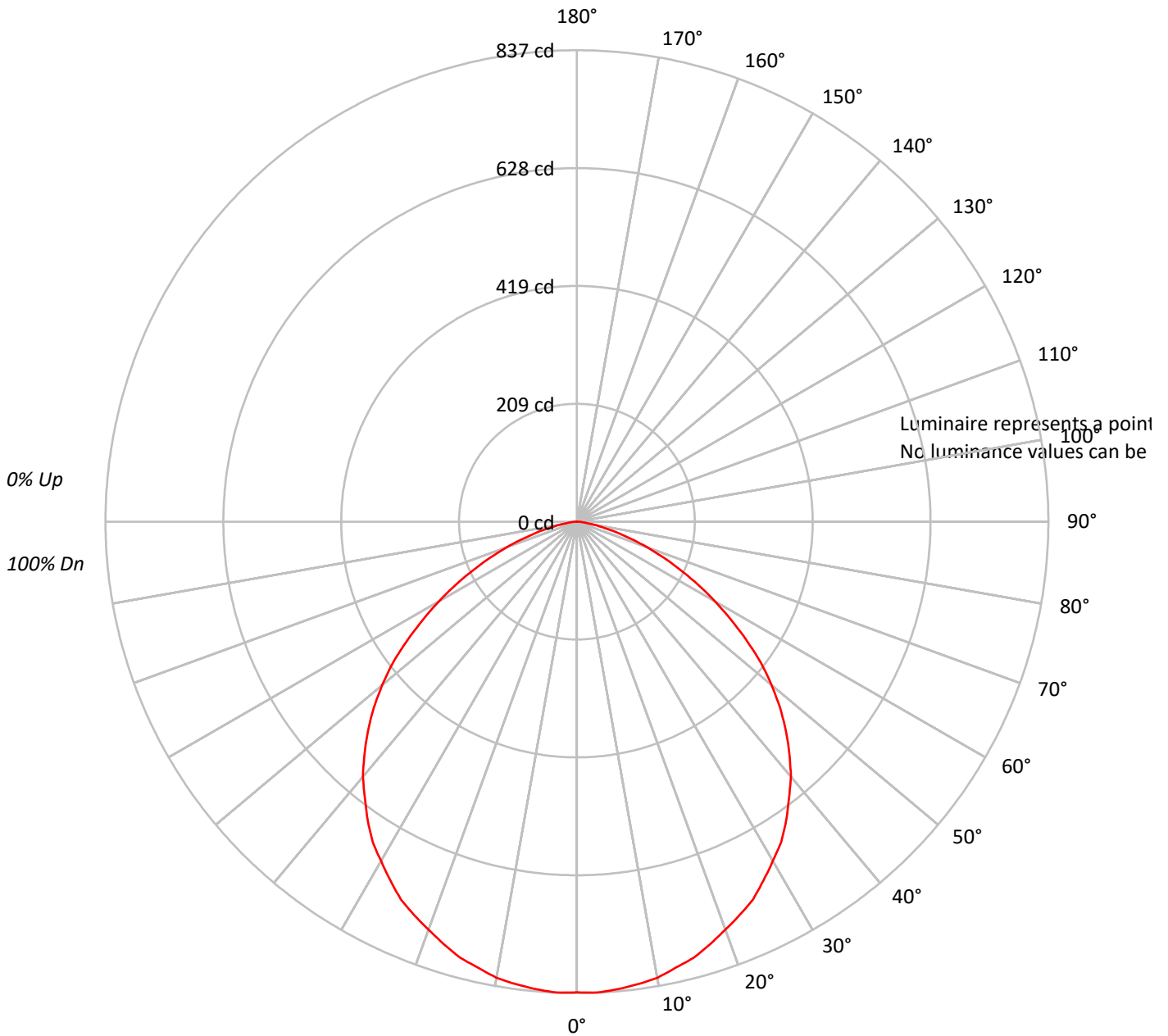
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | |
| RC | 80 | | | | 70 | | | | 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 | 110 | 106 | 102 | 99 | 107 | 104 | 100 | 97 | 99 | 97 | 94 | 96 | 93 | 91 | 92 | 90 | 88 | 86 | | | | 86 |
| 2 | 101 | 93 | 87 | 82 | 98 | 92 | 86 | 81 | 88 | 83 | 79 | 85 | 81 | 77 | 82 | 79 | 76 | 74 | | | | 74 |
| 3 | 93 | 83 | 75 | 69 | 90 | 81 | 74 | 69 | 78 | 72 | 67 | 76 | 70 | 66 | 73 | 69 | 65 | 63 | | | | 63 |
| 4 | 85 | 74 | 66 | 59 | 83 | 72 | 65 | 59 | 70 | 63 | 58 | 68 | 62 | 57 | 66 | 61 | 56 | 54 | | | | 54 |
| 5 | 78 | 66 | 58 | 51 | 76 | 65 | 57 | 51 | 63 | 56 | 51 | 61 | 55 | 50 | 59 | 54 | 49 | 47 | | | | 47 |
| 6 | 73 | 60 | 51 | 45 | 71 | 59 | 51 | 45 | 57 | 50 | 44 | 55 | 49 | 44 | 54 | 48 | 44 | 42 | | | | 42 |
| 7 | 67 | 54 | 46 | 40 | 66 | 54 | 46 | 40 | 52 | 45 | 40 | 51 | 44 | 39 | 49 | 43 | 39 | 37 | | | | 37 |
| 8 | 63 | 50 | 41 | 36 | 61 | 49 | 41 | 36 | 48 | 41 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 33 | | | | 33 |
| 9 | 59 | 46 | 38 | 32 | 57 | 45 | 37 | 32 | 44 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 32 | 30 | | | | 30 |
| 10 | 55 | 42 | 34 | 29 | 54 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 27 | | | | 27 |

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 79.2 | 3.8 |
| 10°-20° | 225.7 | 10.9 |
| 20°-30° | 339.9 | 16.4 |
| 30°-40° | 404.5 | 19.5 |
| 40°-50° | 403.7 | 19.5 |
| 50°-60° | 328.3 | 15.8 |
| 60°-70° | 202.0 | 9.7 |
| 70°-80° | 78.3 | 3.8 |
| 80°-90° | 12.5 | 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° | 644.8 | 31.1 |
| 0°-40° | 1049.3 | 50.6 |
| 0°-60° | 1781.4 | 85.9 |
| 0°-90° | 2074.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2074.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 836 | |
| 5° | 833 | 79 |
| 15° | 801 | 226 |
| 25° | 740 | 340 |
| 35° | 648 | 404 |
| 45° | 525 | 404 |
| 55° | 368 | 328 |
| 65° | 203 | 202 |
| 75° | 71 | 78 |
| 85° | 10 | 13 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|-------|
| 0° | 835.7 |
| 2.5° | 836.9 |
| 5° | 833.2 |
| 7.5° | 828.3 |
| 10° | 822.2 |
| 12.5° | 811.1 |
| 15° | 801.3 |
| 17.5° | 786.5 |
| 20° | 770.6 |
| 22.5° | 755.8 |
| 25° | 739.8 |
| 27.5° | 717.7 |
| 30° | 695.6 |
| 32.5° | 674.7 |
| 35° | 647.7 |
| 37.5° | 618.2 |
| 40° | 591.1 |
| 42.5° | 558.0 |
| 45° | 524.8 |
| 47.5° | 489.1 |
| 50° | 451.0 |
| 52.5° | 411.7 |
| 55° | 367.5 |
| 57.5° | 324.4 |
| 60° | 282.7 |
| 62.5° | 242.1 |
| 65° | 202.8 |
| 67.5° | 165.9 |
| 70° | 131.5 |
| 72.5° | 99.5 |
| 75° | 71.3 |
| 77.5° | 46.7 |
| 80° | 28.3 |
| 82.5° | 17.2 |
| 85° | 9.8 |
| 87.5° | 4.9 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)