

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: P211525

Luminaire Tested: **LE_4B20D010 EC4B10209027 4LBW1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P211525
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: LE_4B20D010 EC4B10209027 4LBW1MW
Description: PORTFOLIO 4 INCH CYLINDER
WIDE 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: 1684.8 lumens
Efficiency: N/A
Efficacy: 81.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1.1 / 1.09
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

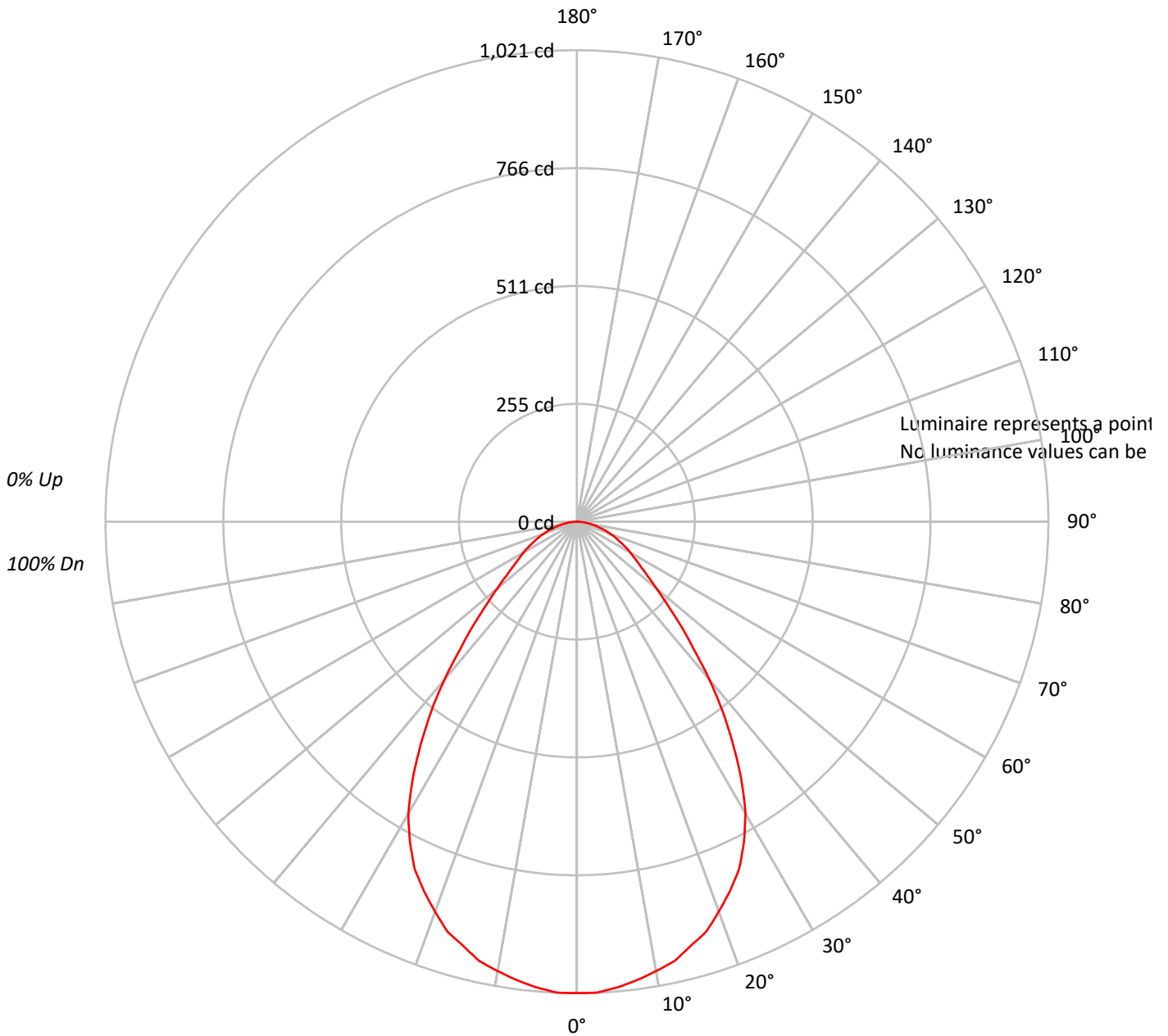
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | | | | |
| 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 | | | |
| 1 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | |
| 2 | 103 | 96 | 91 | 86 | 101 | 94 | 89 | 85 | 91 | 87 | 83 | 88 | 84 | 81 | 85 | 82 | 80 | 78 | | | |
| 3 | 96 | 87 | 80 | 75 | 93 | 85 | 79 | 74 | 83 | 77 | 73 | 80 | 76 | 72 | 78 | 74 | 71 | 69 | | | |
| 4 | 89 | 79 | 72 | 66 | 87 | 78 | 71 | 66 | 75 | 69 | 65 | 73 | 68 | 64 | 71 | 67 | 63 | 61 | | | |
| 5 | 83 | 72 | 64 | 59 | 81 | 71 | 64 | 58 | 69 | 63 | 58 | 67 | 62 | 57 | 65 | 61 | 57 | 55 | | | |
| 6 | 78 | 66 | 58 | 53 | 76 | 65 | 58 | 53 | 64 | 57 | 52 | 62 | 56 | 52 | 60 | 55 | 51 | 50 | | | |
| 7 | 73 | 61 | 53 | 48 | 71 | 60 | 53 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 56 | 51 | 47 | 45 | | | |
| 8 | 68 | 56 | 49 | 44 | 67 | 56 | 49 | 44 | 54 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 43 | 41 | | | |
| 9 | 64 | 52 | 45 | 40 | 63 | 52 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 40 | 49 | 43 | 39 | 38 | | | |
| 10 | 61 | 49 | 42 | 37 | 59 | 48 | 41 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 46 | 40 | 36 | 35 | | | |

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 95.9 | 5.7 |
| 10°-20° | 268.0 | 15.9 |
| 20°-30° | 378.8 | 22.5 |
| 30°-40° | 366.9 | 21.8 |
| 40°-50° | 247.6 | 14.7 |
| 50°-60° | 153.7 | 9.1 |
| 60°-70° | 102.8 | 6.1 |
| 70°-80° | 56.2 | 3.3 |
| 80°-90° | 14.9 | 0.9 |
| 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° | 742.7 | 44.1 |
| 0°-40° | 1109.7 | 65.9 |
| 0°-60° | 1511.0 | 89.7 |
| 0°-90° | 1684.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1684.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 1021 | |
| 5° | 1012 | 96 |
| 15° | 951 | 268 |
| 25° | 831 | 379 |
| 35° | 590 | 367 |
| 45° | 317 | 248 |
| 55° | 168 | 154 |
| 65° | 103 | 103 |
| 75° | 52 | 56 |
| 85° | 13 | 15 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 1020.9 |
| 2.5° | 1020.9 |
| 5° | 1012.2 |
| 7.5° | 1001.2 |
| 10° | 988.1 |
| 12.5° | 975.0 |
| 15° | 951.0 |
| 17.5° | 931.2 |
| 20° | 898.5 |
| 22.5° | 865.7 |
| 25° | 830.7 |
| 27.5° | 782.7 |
| 30° | 730.1 |
| 32.5° | 662.4 |
| 35° | 590.2 |
| 37.5° | 518.1 |
| 40° | 446.0 |
| 42.5° | 373.9 |
| 45° | 317.0 |
| 47.5° | 264.5 |
| 50° | 225.2 |
| 52.5° | 192.3 |
| 55° | 168.3 |
| 57.5° | 148.7 |
| 60° | 133.4 |
| 62.5° | 118.1 |
| 65° | 102.8 |
| 67.5° | 89.7 |
| 70° | 76.6 |
| 72.5° | 65.5 |
| 75° | 52.4 |
| 77.5° | 41.5 |
| 80° | 30.6 |
| 82.5° | 21.8 |
| 85° | 13.1 |
| 87.5° | 4.4 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)