

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: P211483

Luminaire Tested: **LSR4B20D010BZ EC4B10208027 4LBNWH1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P211483
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: LSR4B20D010BZ EC4B10208027 4LBNWH1
Description: PORTFOLIO 4 INCH CYLINDER
NARROW DISTRIBUTION WITH WHEAT 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: 1272.5 lumens
Efficiency: N/A
Efficacy: 61.2 lumens/watt
Spacing Criteria (0/90/45): 0.53 / 0.53 / 0.62
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

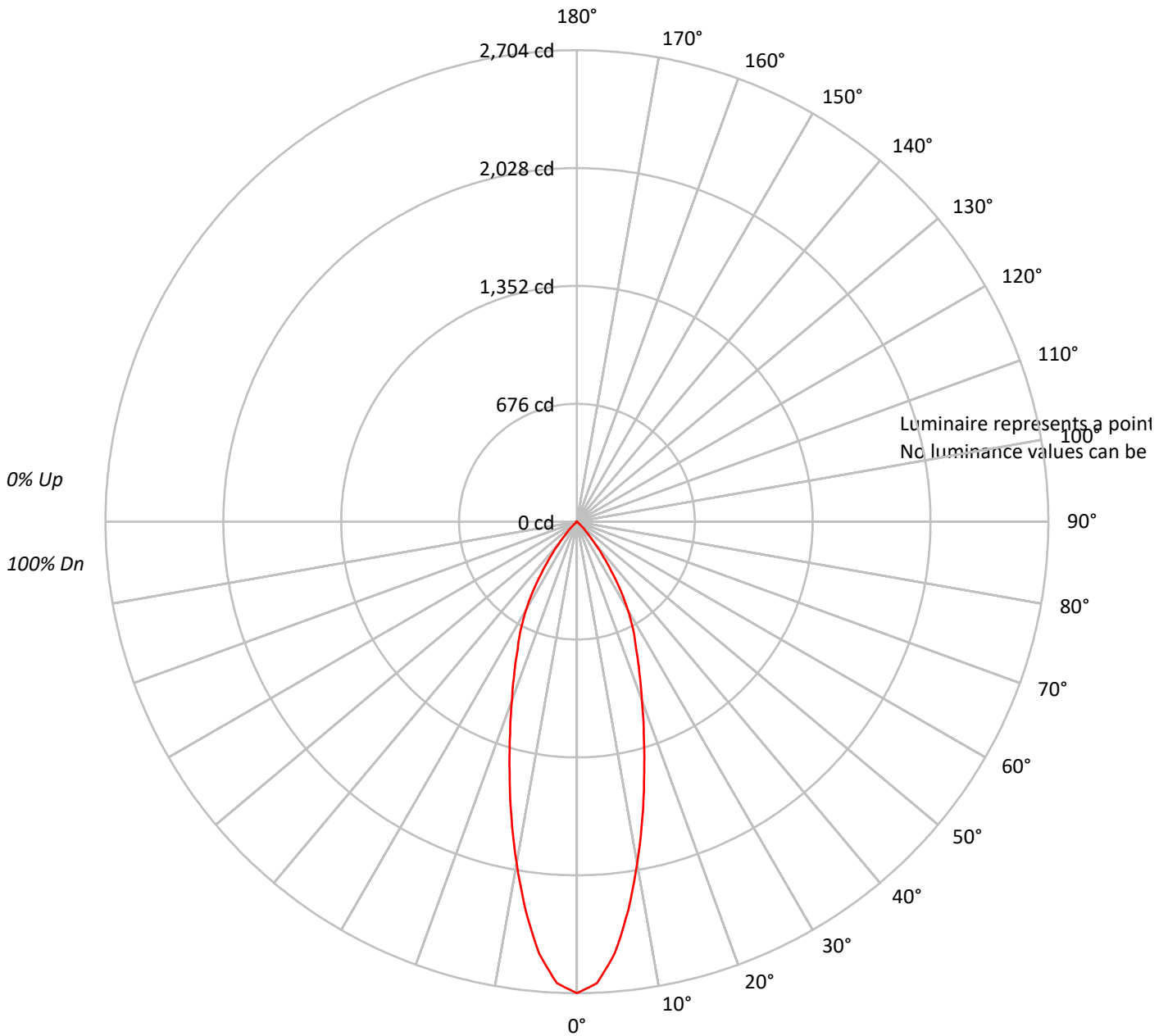
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | |
| 1 | 114 | 111 | 109 | 107 | 112 | 109 | 107 | 105 | 105 | 104 | 102 | 102 | 100 | 99 | 98 | 97 | 96 | 95 | | | | | | | | | | | | | | | | | | | |
| 2 | 109 | 105 | 101 | 98 | 107 | 103 | 100 | 97 | 100 | 97 | 95 | 97 | 95 | 93 | 94 | 92 | 91 | 89 | | | | | | | | | | | | | | | | | | | |
| 3 | 104 | 98 | 94 | 90 | 102 | 97 | 93 | 90 | 94 | 91 | 88 | 92 | 89 | 87 | 90 | 87 | 85 | 84 | | | | | | | | | | | | | | | | | | | |
| 4 | 100 | 93 | 88 | 84 | 98 | 92 | 87 | 83 | 90 | 86 | 82 | 88 | 84 | 82 | 86 | 83 | 81 | 79 | | | | | | | | | | | | | | | | | | | |
| 5 | 95 | 88 | 82 | 78 | 94 | 87 | 82 | 78 | 85 | 81 | 77 | 83 | 80 | 77 | 82 | 79 | 76 | 75 | | | | | | | | | | | | | | | | | | | |
| 6 | 91 | 83 | 78 | 74 | 90 | 82 | 77 | 74 | 81 | 76 | 73 | 79 | 76 | 73 | 78 | 75 | 72 | 71 | | | | | | | | | | | | | | | | | | | |
| 7 | 87 | 79 | 73 | 70 | 86 | 78 | 73 | 69 | 77 | 72 | 69 | 76 | 72 | 69 | 75 | 71 | 68 | 67 | | | | | | | | | | | | | | | | | | | |
| 8 | 84 | 75 | 70 | 66 | 82 | 74 | 69 | 66 | 73 | 69 | 65 | 72 | 68 | 65 | 71 | 68 | 65 | 64 | | | | | | | | | | | | | | | | | | | |
| 9 | 80 | 71 | 66 | 62 | 79 | 71 | 66 | 62 | 70 | 65 | 62 | 69 | 65 | 62 | 68 | 65 | 62 | 61 | | | | | | | | | | | | | | | | | | | |
| 10 | 77 | 68 | 63 | 59 | 76 | 68 | 63 | 59 | 67 | 62 | 59 | 66 | 62 | 59 | 66 | 62 | 59 | 58 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 221.1 | 17.4 |
| 10°-20° | 414.8 | 32.6 |
| 20°-30° | 372.2 | 29.2 |
| 30°-40° | 213.6 | 16.8 |
| 40°-50° | 42.6 | 3.3 |
| 50°-60° | 5.4 | 0.4 |
| 60°-70° | 2.4 | 0.2 |
| 70°-80° | 0.3 | 0.0 |
| 80°-90° | 0.0 | 0.0 |
| 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° | 1008.2 | 79.2 |
| 0°-40° | 1221.7 | 96.0 |
| 0°-60° | 1269.7 | 99.8 |
| 0°-90° | 1272.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1272.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 2704 | |
| 5° | 2487 | 221 |
| 15° | 1489 | 415 |
| 25° | 804 | 372 |
| 35° | 338 | 214 |
| 45° | 46 | 43 |
| 55° | 7 | 5 |
| 65° | 2 | 2 |
| 75° | 0 | 0 |
| 85° | 0 | 0 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 2704.3 |
| 2.5° | 2649.3 |
| 5° | 2486.8 |
| 7.5° | 2249.5 |
| 10° | 1990.3 |
| 12.5° | 1735.5 |
| 15° | 1489.4 |
| 17.5° | 1274.1 |
| 20° | 1089.6 |
| 22.5° | 935.8 |
| 25° | 804.0 |
| 27.5° | 698.6 |
| 30° | 582.2 |
| 32.5° | 463.5 |
| 35° | 338.3 |
| 37.5° | 230.7 |
| 40° | 142.8 |
| 42.5° | 85.7 |
| 45° | 46.1 |
| 47.5° | 19.8 |
| 50° | 8.8 |
| 52.5° | 6.6 |
| 55° | 6.6 |
| 57.5° | 4.4 |
| 60° | 4.4 |
| 62.5° | 2.2 |
| 65° | 2.2 |
| 67.5° | 2.2 |
| 70° | 2.2 |
| 72.5° | 0.0 |
| 75° | 0.0 |
| 77.5° | 0.0 |
| 80° | 0.0 |
| 82.5° | 0.0 |
| 85° | 0.0 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)