

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: P211544

Luminaire Tested: **LSR4B20D010BZ EC4B10209727 4LBSGPH1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P211544
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 EC4B10209727 4LBSGPH1
Description: PORTFOLIO 4 INCH CYLINDER
SHALLOW DISTRIBUTION WITH GRAPHITE HAZE 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: 1303.3 lumens
Efficiency: N/A
Efficacy: 62.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.16 / 1.26
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

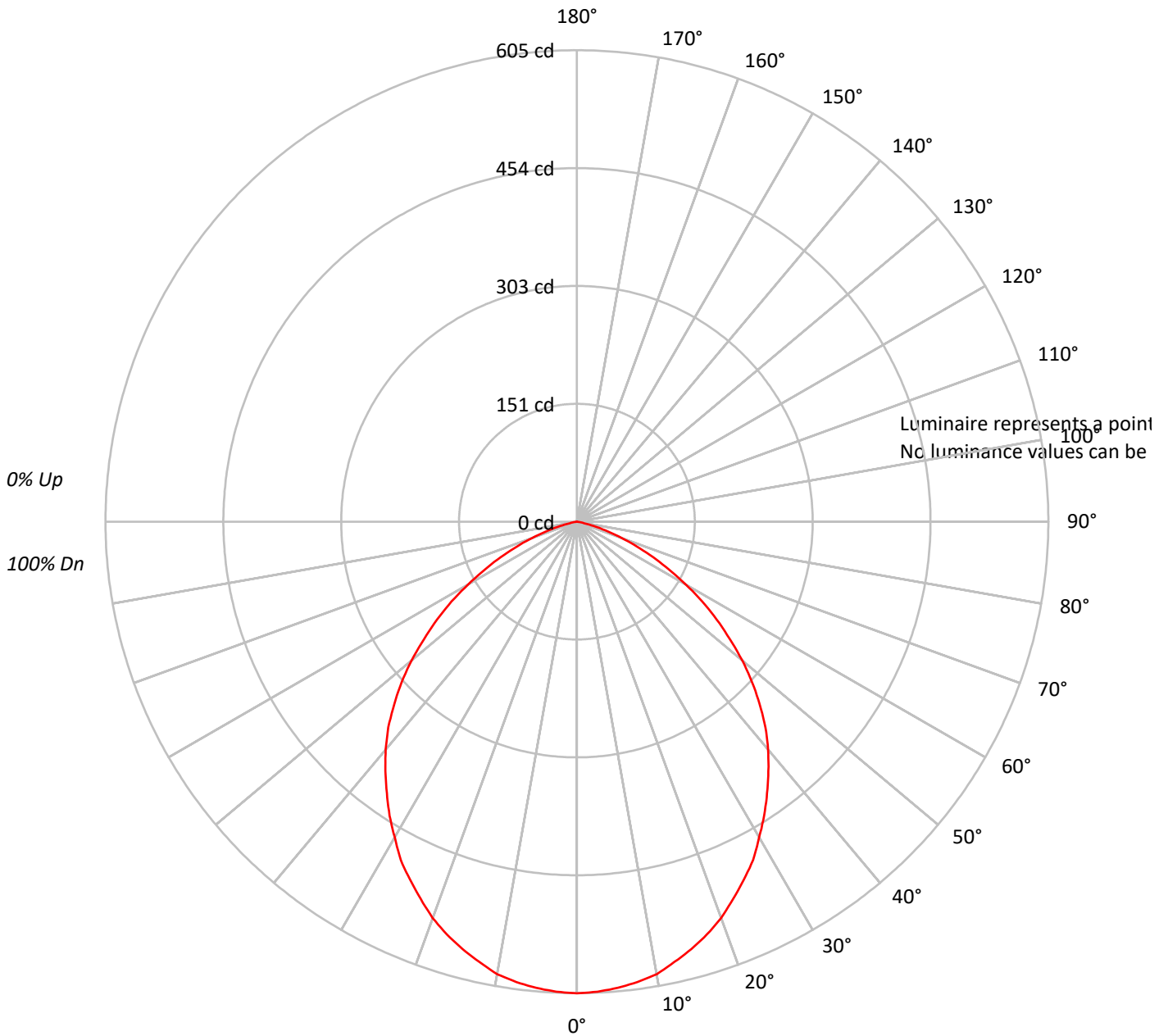
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | 100 |
| 1 | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | 88 |
| 2 | 102 | 95 | 89 | 84 | 100 | 93 | 88 | 83 | 90 | 85 | 82 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | 76 |
| 3 | 94 | 85 | 78 | 72 | 92 | 83 | 77 | 71 | 80 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 68 | 66 | | | 66 |
| 4 | 87 | 76 | 68 | 62 | 85 | 75 | 67 | 62 | 72 | 66 | 61 | 70 | 65 | 60 | 68 | 63 | 59 | 57 | | | 57 |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 60 | 54 | 65 | 59 | 53 | 63 | 58 | 53 | 62 | 56 | 52 | 50 | | | 50 |
| 6 | 74 | 62 | 54 | 48 | 73 | 61 | 53 | 48 | 59 | 52 | 47 | 58 | 52 | 47 | 56 | 51 | 47 | 45 | | | 45 |
| 7 | 69 | 57 | 48 | 43 | 68 | 56 | 48 | 43 | 54 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 40 | | | 40 |
| 8 | 65 | 52 | 44 | 38 | 63 | 51 | 44 | 38 | 50 | 43 | 38 | 49 | 42 | 38 | 48 | 42 | 38 | 36 | | | 36 |
| 9 | 60 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 34 | 44 | 38 | 34 | 32 | | | 32 |
| 10 | 57 | 44 | 37 | 32 | 56 | 44 | 36 | 32 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 30 | | | 30 |

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 57.0 | 4.4 |
| 10°-20° | 160.0 | 12.3 |
| 20°-30° | 233.3 | 17.9 |
| 30°-40° | 266.1 | 20.4 |
| 40°-50° | 255.2 | 19.6 |
| 50°-60° | 195.5 | 15.0 |
| 60°-70° | 107.3 | 8.2 |
| 70°-80° | 28.5 | 2.2 |
| 80°-90° | 0.4 | 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° | 450.3 | 34.6 |
| 0°-40° | 716.4 | 55.0 |
| 0°-60° | 1167.1 | 89.5 |
| 0°-90° | 1303.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1303.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 605 | |
| 5° | 601 | 57 |
| 15° | 568 | 160 |
| 25° | 507 | 233 |
| 35° | 425 | 266 |
| 45° | 332 | 255 |
| 55° | 219 | 195 |
| 65° | 108 | 107 |
| 75° | 25 | 29 |
| 85° | 0 | 0 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|-------|
| 0° | 605.3 |
| 2.5° | 603.8 |
| 5° | 600.6 |
| 7.5° | 595.9 |
| 10° | 589.7 |
| 12.5° | 578.7 |
| 15° | 567.8 |
| 17.5° | 555.3 |
| 20° | 541.2 |
| 22.5° | 524.0 |
| 25° | 506.8 |
| 27.5° | 489.6 |
| 30° | 467.7 |
| 32.5° | 447.3 |
| 35° | 425.4 |
| 37.5° | 403.6 |
| 40° | 381.7 |
| 42.5° | 358.2 |
| 45° | 331.6 |
| 47.5° | 305.0 |
| 50° | 276.9 |
| 52.5° | 247.1 |
| 55° | 219.0 |
| 57.5° | 190.8 |
| 60° | 161.1 |
| 62.5° | 133.0 |
| 65° | 107.9 |
| 67.5° | 82.9 |
| 70° | 61.0 |
| 72.5° | 40.7 |
| 75° | 25.0 |
| 77.5° | 10.9 |
| 80° | 3.1 |
| 82.5° | 0.0 |
| 85° | 0.0 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)