

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: PORTFOLIO

Report Number: P431654

Luminaire Tested: **LAMR4B312R459050DE01021MMS**

Issue Date: 11/23/2020

Test Information

Test Method: LM-41-14
Report Number: P431654
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-908-8)
Test Lab: INNOVATION CENTER (G2)
Issue Date: 11/23/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LAMR4B312R459050DE01021MMS
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 45 DEG TIR OPTIC
Light Source: HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3766.1 lumens
Efficiency: N/A
Efficacy: 92.1 lumens/watt
Spacing Criteria (0/90/45): 0.73 / 0.73 / 0.66
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

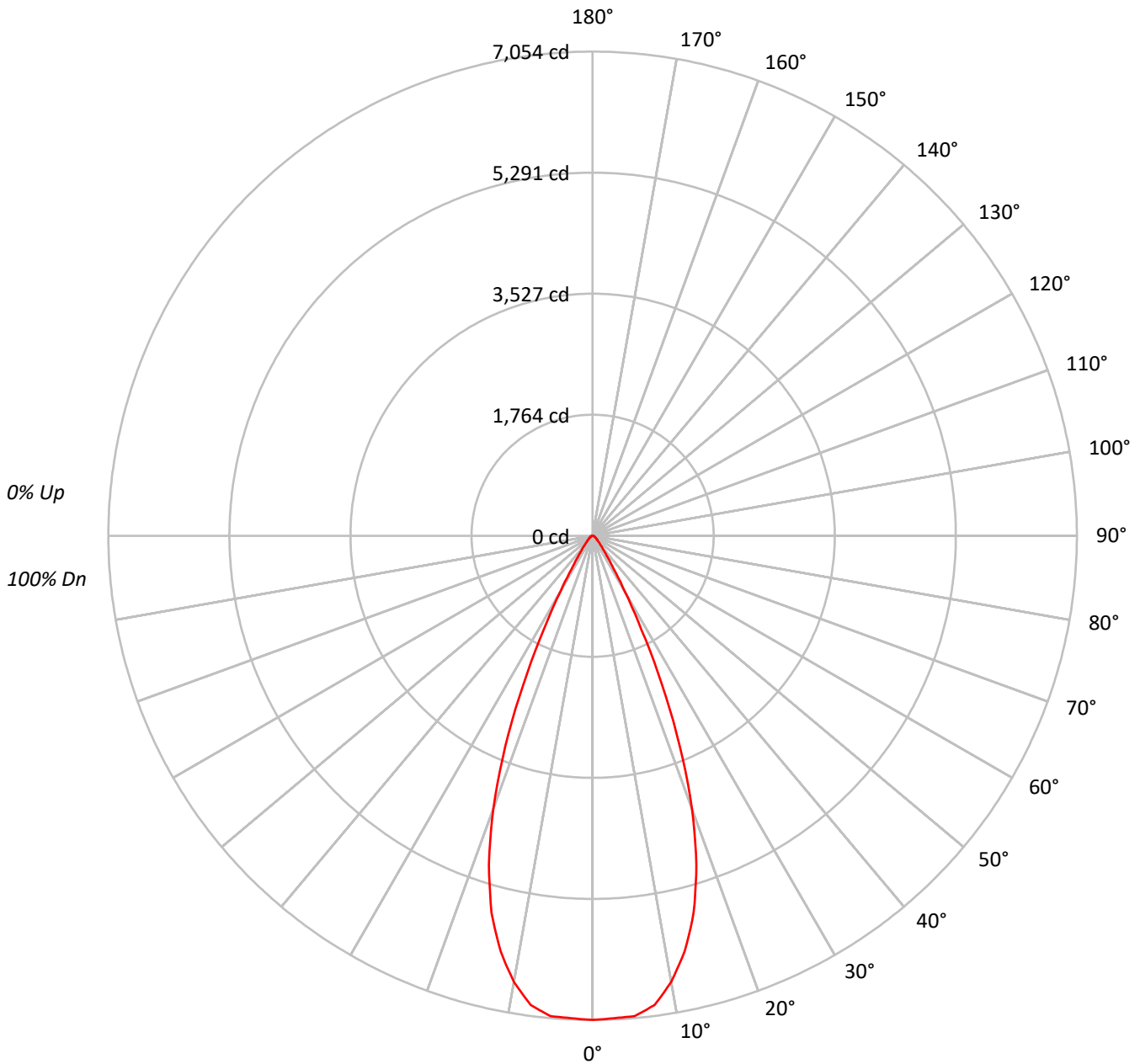
Input Watts (W): 40.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

| | 0° |
|-----|---------|
| 0° | 3480151 |
| 5° | 3478983 |
| 10° | 3306839 |
| 15° | 2904778 |
| 20° | 2222089 |
| 25° | 1297213 |
| 30° | 530966 |
| 35° | 224539 |
| 40° | 122372 |
| 45° | 79054 |
| 50° | 61712 |
| 55° | 53417 |
| 60° | 43319 |
| 65° | 34089 |
| 70° | 31592 |
| 75° | 27832 |
| 80° | 31254 |
| 85° | 20945 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 657.3 | 17.5 |
| 10°-20° | 1548.2 | 41.1 |
| 20°-30° | 1090.9 | 29.0 |
| 30°-40° | 268.5 | 7.1 |
| 40°-50° | 93.7 | 2.5 |
| 50°-60° | 55.4 | 1.5 |
| 60°-70° | 30.7 | 0.8 |
| 70°-80° | 16.9 | 0.4 |
| 80°-90° | 4.5 | 0.1 |
| 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° | 3296.4 | 87.5 |
| 0°-40° | 3564.9 | 94.7 |
| 0°-60° | 3714.0 | 98.6 |
| 0°-90° | 3766.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3766.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 7054 | |
| 5° | 7024 | 657 |
| 15° | 5687 | 1548 |
| 25° | 2383 | 1091 |
| 35° | 373 | 268 |
| 45° | 113 | 94 |
| 55° | 62 | 55 |
| 65° | 29 | 31 |
| 75° | 15 | 17 |
| 85° | 4 | 4 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 7053.7 |
| 2.5° | 7035.5 |
| 5° | 7024.5 |
| 7.5° | 6896.6 |
| 10° | 6600.6 |
| 12.5° | 6198.5 |
| 15° | 5686.9 |
| 17.5° | 5025.3 |
| 20° | 4232.2 |
| 22.5° | 3322.2 |
| 25° | 2382.9 |
| 27.5° | 1538.7 |
| 30° | 932.0 |
| 32.5° | 566.5 |
| 35° | 372.8 |
| 37.5° | 263.1 |
| 40° | 190.0 |
| 42.5° | 146.2 |
| 45° | 113.3 |
| 47.5° | 95.0 |
| 50° | 80.4 |
| 52.5° | 69.4 |
| 55° | 62.1 |
| 57.5° | 54.8 |
| 60° | 43.9 |
| 62.5° | 36.5 |
| 65° | 29.2 |
| 67.5° | 25.6 |
| 70° | 21.9 |
| 72.5° | 18.3 |
| 75° | 14.6 |
| 77.5° | 14.6 |
| 80° | 11.0 |
| 82.5° | 7.3 |
| 85° | 3.7 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)