

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: P432038

Luminaire Tested: **LAMR4B412R659050DE01021MMS**

Issue Date: 11/23/2020

Test Information

Test Method: LM-41-14
Report Number: P432038
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-908-22)
Test Lab: INNOVATION CENTER (G2)
Issue Date: 11/23/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LAMR4B412R659050DE01021MMS
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 65 DEG TIR OPTIC
Light Source: HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5657.0 lumens
Efficiency: N/A
Efficacy: 104.6 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 0.97
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

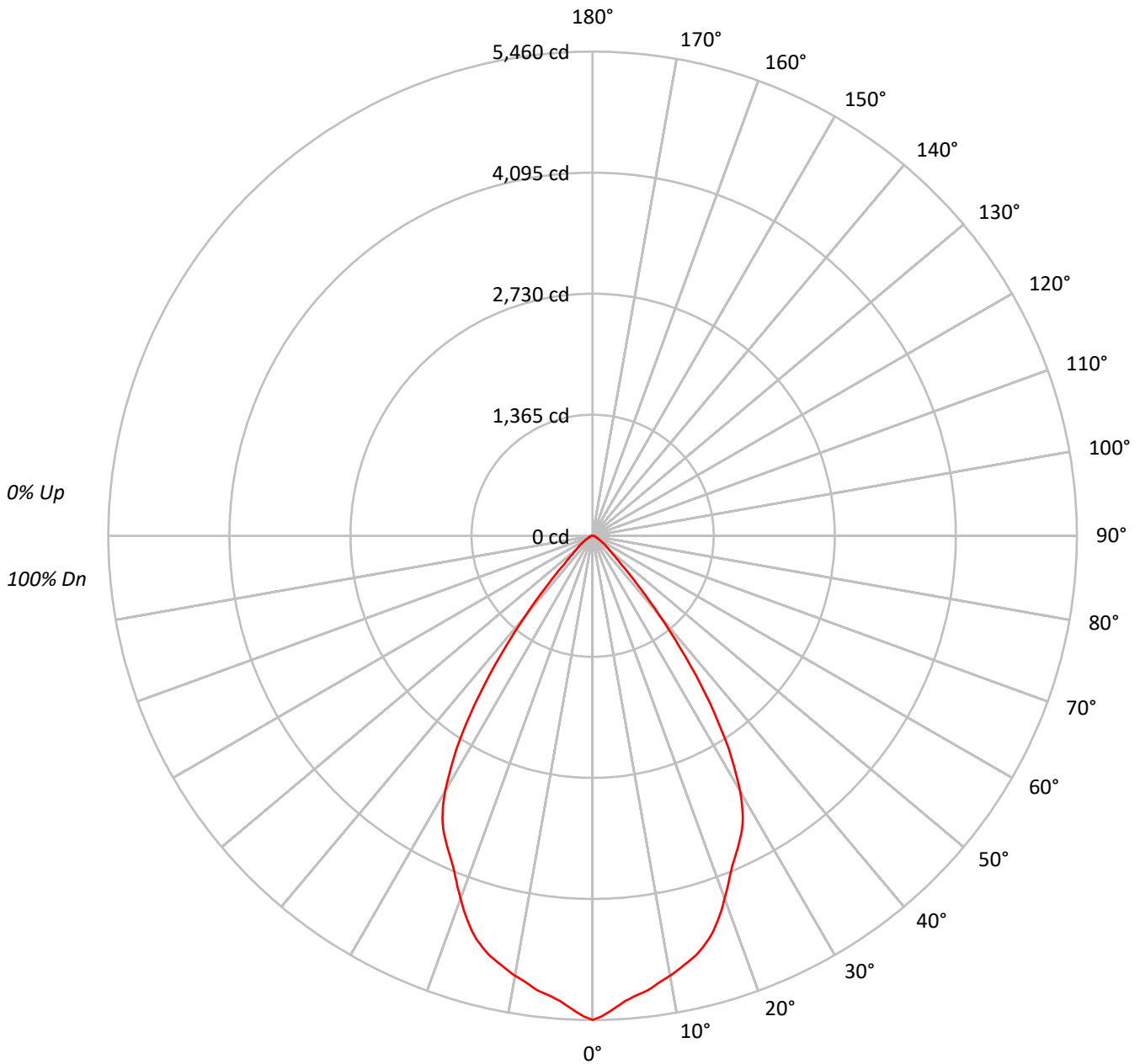
Input Watts (W): 54.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 100 | 100 |
| 1 | 113 | 110 | 107 | 105 | 111 | 108 | 106 | 103 | 104 | 102 | 100 | 100 | 99 | 97 | 97 | 96 | 94 | 93 | 93 | 93 | 93 |
| 2 | 107 | 102 | 98 | 94 | 105 | 100 | 96 | 93 | 97 | 94 | 91 | 94 | 91 | 89 | 91 | 89 | 87 | 85 | 85 | 85 | 85 |
| 3 | 101 | 94 | 89 | 85 | 99 | 93 | 88 | 84 | 90 | 86 | 83 | 88 | 84 | 81 | 86 | 83 | 80 | 79 | 79 | 79 | 79 |
| 4 | 96 | 88 | 82 | 77 | 94 | 86 | 81 | 77 | 84 | 80 | 76 | 82 | 78 | 75 | 80 | 77 | 74 | 72 | 72 | 72 | 72 |
| 5 | 90 | 82 | 75 | 71 | 89 | 81 | 75 | 70 | 79 | 74 | 70 | 77 | 73 | 69 | 75 | 72 | 68 | 67 | 67 | 67 | 67 |
| 6 | 85 | 76 | 70 | 65 | 84 | 75 | 69 | 65 | 74 | 68 | 64 | 72 | 68 | 64 | 71 | 67 | 64 | 62 | 62 | 62 | 62 |
| 7 | 81 | 71 | 65 | 60 | 80 | 70 | 64 | 60 | 69 | 64 | 60 | 68 | 63 | 59 | 67 | 62 | 59 | 58 | 58 | 58 | 58 |
| 8 | 77 | 67 | 60 | 56 | 75 | 66 | 60 | 56 | 65 | 59 | 56 | 64 | 59 | 55 | 63 | 58 | 55 | 54 | 54 | 54 | 54 |
| 9 | 73 | 63 | 56 | 52 | 72 | 62 | 56 | 52 | 61 | 56 | 52 | 60 | 55 | 52 | 59 | 55 | 51 | 50 | 50 | 50 | 50 |
| 10 | 69 | 59 | 53 | 49 | 68 | 58 | 53 | 49 | 58 | 52 | 48 | 57 | 52 | 48 | 56 | 51 | 48 | 47 | 47 | 47 | 47 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|---------|
| | 0° |
| 0° | 2694050 |
| 5° | 2585229 |
| 10° | 2524041 |
| 15° | 2453551 |
| 20° | 2284937 |
| 25° | 2110468 |
| 30° | 1894556 |
| 35° | 1391807 |
| 40° | 751684 |
| 45° | 323265 |
| 50° | 180070 |
| 55° | 126103 |
| 60° | 81013 |
| 65° | 61641 |
| 70° | 50778 |
| 75° | 44797 |
| 80° | 50006 |
| 85° | 33399 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 493.3 | 8.7 |
| 10°-20° | 1340.3 | 23.7 |
| 20°-30° | 1776.8 | 31.4 |
| 30°-40° | 1407.0 | 24.9 |
| 40°-50° | 419.1 | 7.4 |
| 50°-60° | 134.2 | 2.4 |
| 60°-70° | 53.6 | 0.9 |
| 70°-80° | 25.5 | 0.5 |
| 80°-90° | 7.2 | 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° | 3610.4 | 63.8 |
| 0°-40° | 5017.5 | 88.7 |
| 0°-60° | 5570.7 | 98.5 |
| 0°-90° | 5657.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5657.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 5460 | |
| 5° | 5220 | 493 |
| 15° | 4804 | 1340 |
| 25° | 3877 | 1777 |
| 35° | 2311 | 1407 |
| 45° | 463 | 419 |
| 55° | 147 | 134 |
| 65° | 53 | 54 |
| 75° | 24 | 26 |
| 85° | 6 | 7 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|--------|
| 0° | 5460.4 |
| 1° | 5425.2 |
| 2° | 5372.4 |
| 3° | 5313.7 |
| 4° | 5260.9 |
| 5° | 5219.9 |
| 6° | 5190.6 |
| 7° | 5161.2 |
| 8° | 5114.3 |
| 9° | 5073.3 |
| 10° | 5038.1 |
| 11° | 4997.0 |
| 12° | 4950.1 |
| 13° | 4909.0 |
| 14° | 4862.1 |
| 15° | 4803.5 |
| 16° | 4739.0 |
| 17° | 4656.8 |
| 18° | 4563.0 |
| 19° | 4463.3 |
| 20° | 4351.9 |
| 21° | 4246.3 |
| 22° | 4134.9 |
| 23° | 4035.2 |
| 24° | 3953.0 |
| 25° | 3876.8 |
| 26° | 3794.7 |
| 27° | 3712.6 |
| 28° | 3607.0 |
| 29° | 3478.0 |
| 30° | 3325.5 |
| 32.5° | 2862.1 |
| 35° | 2310.8 |
| 37.5° | 1712.6 |
| 40° | 1167.1 |
| 42.5° | 739.0 |
| 45° | 463.3 |
| 47.5° | 310.8 |
| 50° | 234.6 |
| 52.5° | 187.7 |
| 55° | 146.6 |
| 57.5° | 111.4 |
| 60° | 82.1 |



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CANDELA DISTRIBUTION (continued):

| | 0° |
|-------|------|
| 67.5° | 41.1 |
| 70° | 35.2 |
| 72.5° | 29.3 |
| 75° | 23.5 |
| 77.5° | 17.6 |
| 80° | 17.6 |
| 82.5° | 11.7 |
| 85° | 5.9 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







| | | |
|-------|--|------|
| 62.5° | | 64.5 |
| 65° | | 52.8 |



(END OF REPORT)