

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: P431165

Luminaire Tested: **LAMR4B112R659030DE010x1MMS**

Issue Date: 11/23/2020

Test Information

Test Method: LM-41-14
Report Number: P431165
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: LAMR4B112R659030DE010x1MMS
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 65 DEG TIR OPTIC
Light Source: HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1143.6 lumens
Efficiency: N/A
Efficacy: 80.0 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

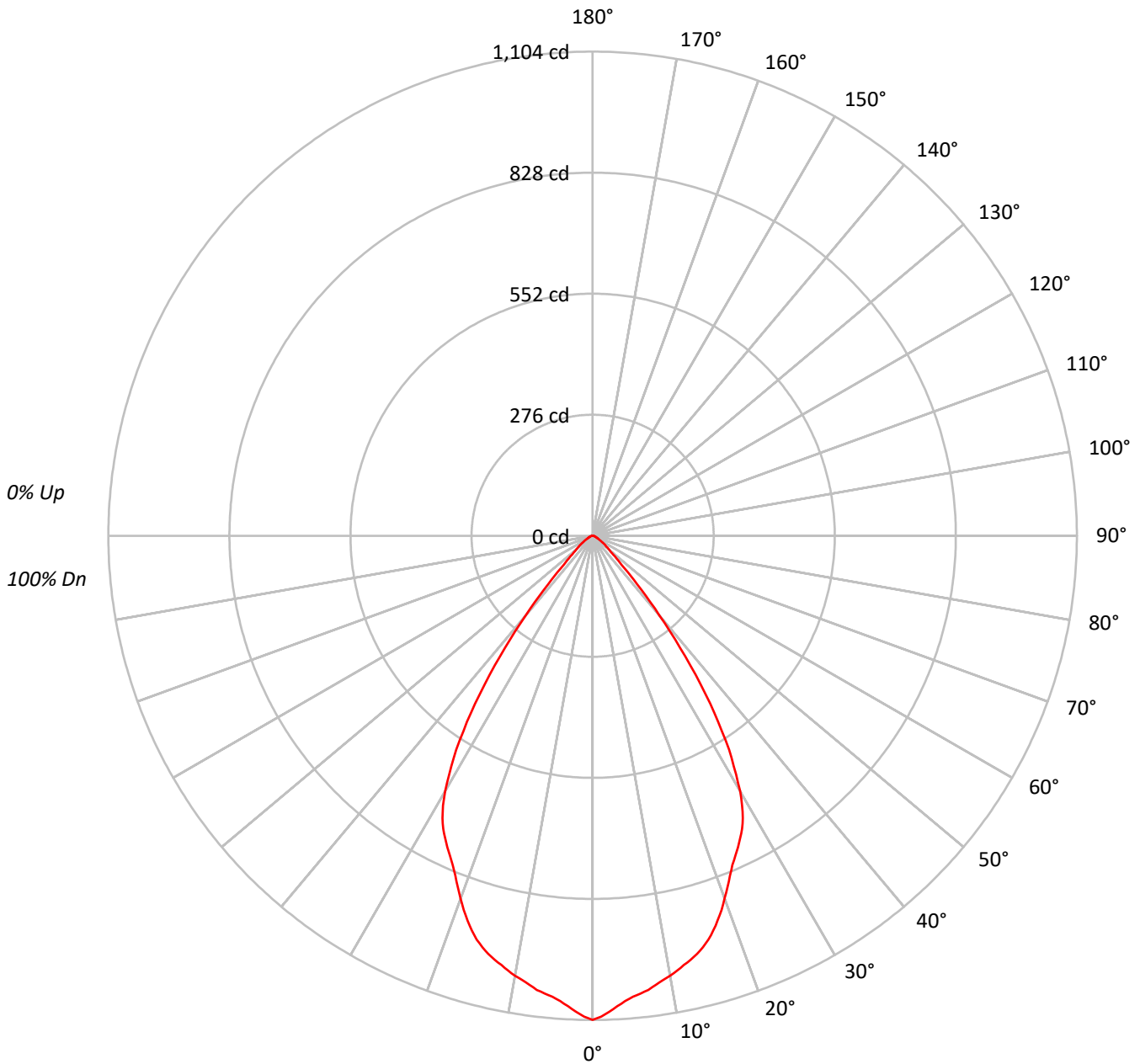
Input Watts (W): 14.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 544642 |
| 5° | 522652 |
| 10° | 510259 |
| 15° | 496022 |
| 20° | 461933 |
| 25° | 426634 |
| 30° | 383013 |
| 35° | 281397 |
| 40° | 151998 |
| 45° | 65379 |
| 50° | 36382 |
| 55° | 25461 |
| 60° | 16380 |
| 65° | 12492 |
| 70° | 10242 |
| 75° | 8959 |
| 80° | 10229 |
| 85° | 6793 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 99.7 | 8.7 |
| 10°-20° | 271.0 | 23.7 |
| 20°-30° | 359.2 | 31.4 |
| 30°-40° | 284.5 | 24.9 |
| 40°-50° | 84.7 | 7.4 |
| 50°-60° | 27.1 | 2.4 |
| 60°-70° | 10.8 | 0.9 |
| 70°-80° | 5.2 | 0.5 |
| 80°-90° | 1.5 | 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° | 729.9 | 63.8 |
| 0°-40° | 1014.3 | 88.7 |
| 0°-60° | 1126.2 | 98.5 |
| 0°-90° | 1143.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1143.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 1104 | |
| 5° | 1055 | 100 |
| 15° | 971 | 271 |
| 25° | 784 | 359 |
| 35° | 467 | 284 |
| 45° | 94 | 85 |
| 55° | 30 | 27 |
| 65° | 11 | 11 |
| 75° | 5 | 5 |
| 85° | 1 | 1 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 1103.9 |
| 1° | 1096.8 |
| 2° | 1086.1 |
| 3° | 1074.2 |
| 4° | 1063.6 |
| 5° | 1055.3 |
| 6° | 1049.3 |
| 7° | 1043.4 |
| 8° | 1033.9 |
| 9° | 1025.6 |
| 10° | 1018.5 |
| 11° | 1010.2 |
| 12° | 1000.7 |
| 13° | 992.4 |
| 14° | 982.9 |
| 15° | 971.1 |
| 16° | 958.0 |
| 17° | 941.4 |
| 18° | 922.5 |
| 19° | 902.3 |
| 20° | 879.8 |
| 21° | 858.4 |
| 22° | 835.9 |
| 23° | 815.8 |
| 24° | 799.2 |
| 25° | 783.7 |
| 26° | 767.1 |
| 27° | 750.5 |
| 28° | 729.2 |
| 29° | 703.1 |
| 30° | 672.3 |
| 32.5° | 578.6 |
| 35° | 467.2 |
| 37.5° | 346.2 |
| 40° | 236.0 |
| 42.5° | 149.4 |
| 45° | 93.7 |
| 47.5° | 62.8 |
| 50° | 47.4 |
| 52.5° | 37.9 |
| 55° | 29.6 |
| 57.5° | 22.5 |
| 60° | 16.6 |



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CANDELA DISTRIBUTION (continued):

| | 0° |
|-------|-----|
| 67.5° | 8.3 |
| 70° | 7.1 |
| 72.5° | 5.9 |
| 75° | 4.7 |
| 77.5° | 3.6 |
| 80° | 3.6 |
| 82.5° | 2.4 |
| 85° | 1.2 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







| | | |
|-------|--|------|
| 62.5° | | 13.0 |
| 65° | | 10.7 |



(END OF REPORT)