

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: P432011

Luminaire Tested: **LAMR4B412R609040DE01021MMS**

Issue Date: 11/23/2020

Test Information

Test Method: LM-41-14
Report Number: P432011
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2009-969-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 11/23/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LAMR4B412R609040DE01021MMS
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 60 DEG TIR OPTIC
Light Source: HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5689.1 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.89
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

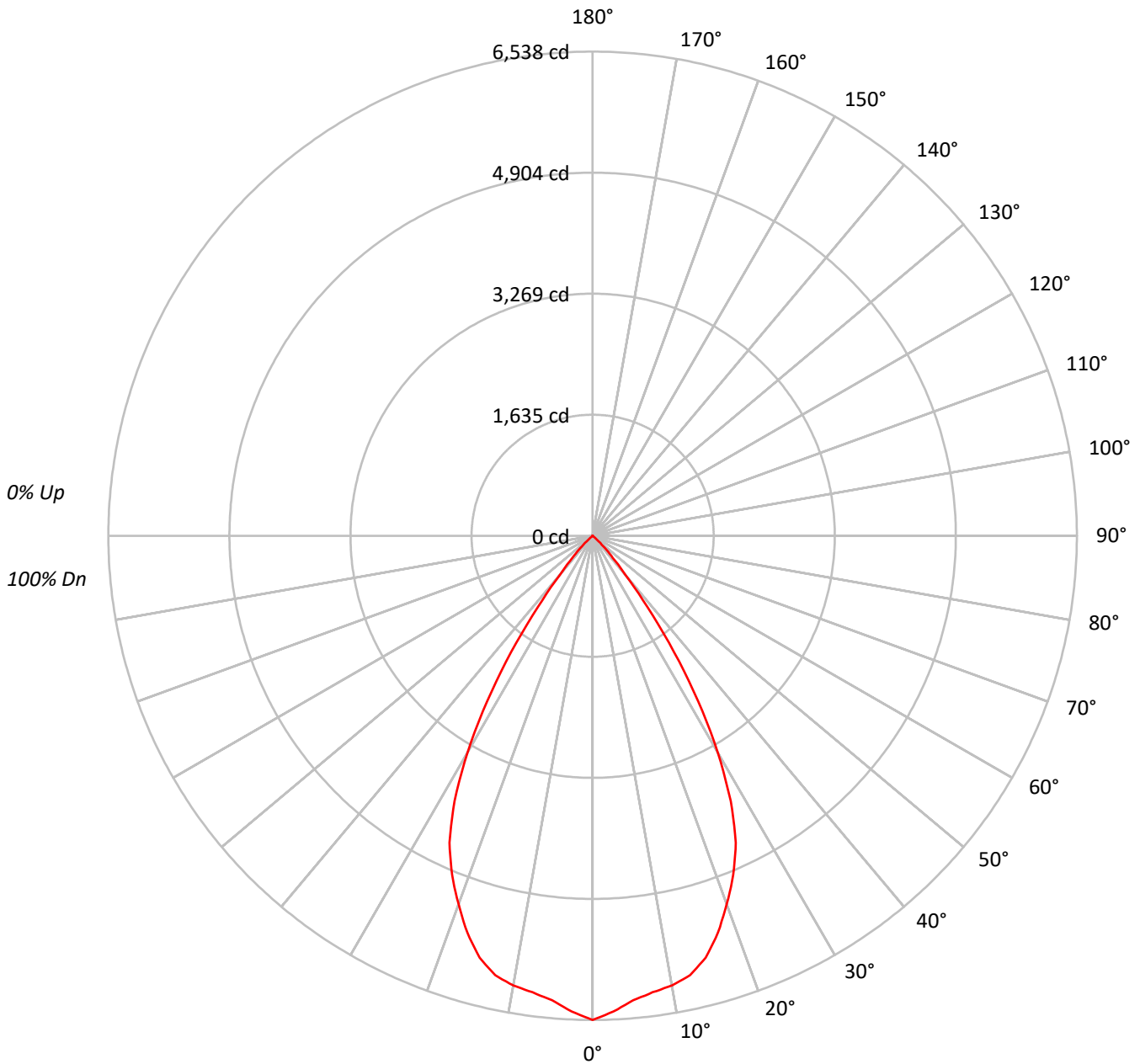
Input Watts (W): 54.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | |
| 1 | 114 | 111 | 109 | 106 | 111 | 109 | 107 | 105 | 105 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 96 | 94 | | | |
| 2 | 108 | 104 | 100 | 96 | 106 | 102 | 98 | 95 | 99 | 96 | 93 | 96 | 93 | 91 | 93 | 91 | 89 | 88 | | | |
| 3 | 103 | 97 | 92 | 88 | 101 | 96 | 91 | 88 | 93 | 89 | 86 | 91 | 87 | 85 | 88 | 86 | 84 | 82 | | | |
| 4 | 98 | 91 | 85 | 81 | 96 | 90 | 85 | 81 | 88 | 83 | 80 | 86 | 82 | 79 | 84 | 81 | 78 | 77 | | | |
| 5 | 93 | 85 | 80 | 75 | 92 | 84 | 79 | 75 | 83 | 78 | 74 | 81 | 77 | 74 | 79 | 76 | 73 | 72 | | | |
| 6 | 89 | 80 | 74 | 70 | 87 | 79 | 74 | 70 | 78 | 73 | 69 | 76 | 72 | 69 | 75 | 71 | 69 | 67 | | | |
| 7 | 84 | 75 | 70 | 66 | 83 | 75 | 69 | 65 | 74 | 69 | 65 | 72 | 68 | 65 | 71 | 67 | 64 | 63 | | | |
| 8 | 80 | 71 | 65 | 61 | 79 | 71 | 65 | 61 | 70 | 65 | 61 | 69 | 64 | 61 | 68 | 64 | 60 | 59 | | | |
| 9 | 77 | 67 | 62 | 58 | 76 | 67 | 61 | 58 | 66 | 61 | 57 | 65 | 60 | 57 | 64 | 60 | 57 | 56 | | | |
| 10 | 73 | 64 | 58 | 54 | 72 | 63 | 58 | 54 | 62 | 58 | 54 | 62 | 57 | 54 | 61 | 57 | 54 | 53 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|---------|
| | 0° |
| 0° | 3225913 |
| 5° | 3117738 |
| 10° | 3088658 |
| 15° | 3012094 |
| 20° | 2779738 |
| 25° | 2489305 |
| 30° | 1926232 |
| 35° | 1153957 |
| 40° | 443372 |
| 45° | 162016 |
| 50° | 6371 |
| 55° | 4731 |
| 60° | 5427 |
| 65° | 3269 |
| 70° | 4039 |
| 75° | 5338 |
| 80° | 7956 |
| 85° | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 597.8 | 10.5 |
| 10°-20° | 1640.5 | 28.8 |
| 20°-30° | 2046.6 | 36.0 |
| 30°-40° | 1192.2 | 21.0 |
| 40°-50° | 199.0 | 3.5 |
| 50°-60° | 5.2 | 0.1 |
| 60°-70° | 3.8 | 0.1 |
| 70°-80° | 3.0 | 0.1 |
| 80°-90° | 1.1 | 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° | 4284.8 | 75.3 |
| 0°-40° | 5477.0 | 96.3 |
| 0°-60° | 5681.3 | 99.9 |
| 0°-90° | 5689.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5689.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 6538 | |
| 5° | 6295 | 598 |
| 15° | 5897 | 1640 |
| 25° | 4573 | 2047 |
| 35° | 1916 | 1192 |
| 45° | 232 | 199 |
| 55° | 6 | 5 |
| 65° | 3 | 4 |
| 75° | 3 | 3 |
| 85° | 0 | 1 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|--------|
| 0° | 6538.4 |
| 2.5° | 6430.5 |
| 5° | 6295.1 |
| 7.5° | 6217.7 |
| 10° | 6165.1 |
| 12.5° | 6079.4 |
| 15° | 5897.0 |
| 17.5° | 5623.3 |
| 20° | 5294.3 |
| 22.5° | 4959.7 |
| 25° | 4572.7 |
| 27.5° | 4036.4 |
| 30° | 3381.1 |
| 32.5° | 2648.5 |
| 35° | 1915.9 |
| 37.5° | 1208.1 |
| 40° | 688.4 |
| 42.5° | 403.6 |
| 45° | 232.2 |
| 47.5° | 80.2 |
| 50° | 8.3 |
| 52.5° | 5.5 |
| 55° | 5.5 |
| 57.5° | 5.5 |
| 60° | 5.5 |
| 62.5° | 5.5 |
| 65° | 2.8 |
| 67.5° | 2.8 |
| 70° | 2.8 |
| 72.5° | 2.8 |
| 75° | 2.8 |
| 77.5° | 2.8 |
| 80° | 2.8 |
| 82.5° | 2.8 |
| 85° | 0.0 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)