

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: P431503

Luminaire Tested: **LAMR4B312R159035DE01021MB**

Issue Date: 11/23/2020

Test Information

Test Method: LM-41-14
Report Number: P431503
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1911-585-6)
Test Lab: INNOVATION CENTER (G1)
Issue Date: 11/23/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LAMR4B312R159035DE01021MB
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 15 DEG TIR OPTIC
Light Source: HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3805.8 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 0.3 / 0.3 / 0.29
Luminous Opening: Circular (Dia: 0.29' x H: 0')
CIE Type: Direct

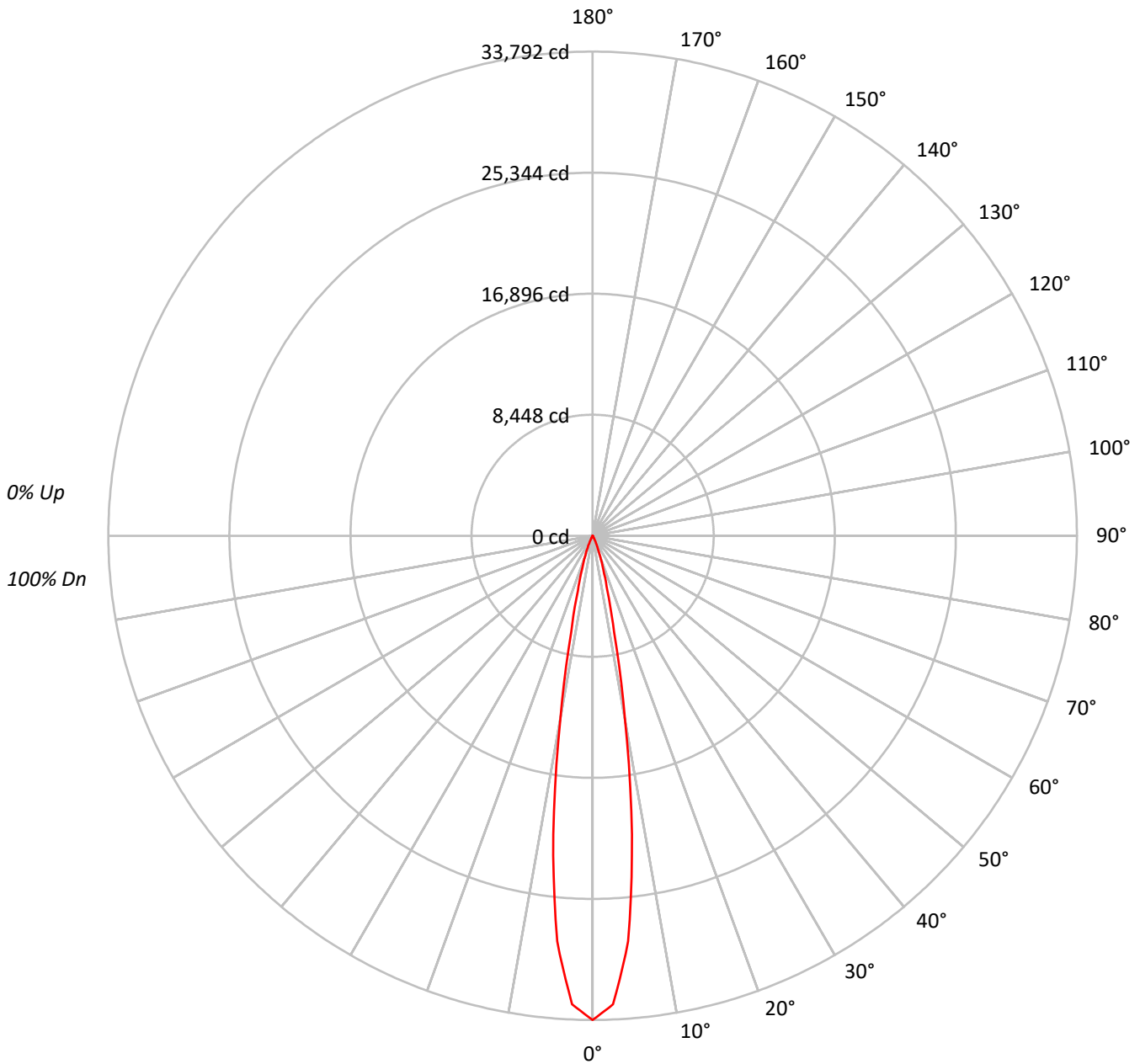
Input Watts (W): 40.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 100 | 100 |
| 1 | 116 | 114 | 112 | 111 | 113 | 112 | 110 | 109 | 108 | 107 | 106 | 104 | 103 | 103 | 101 | 100 | 100 | 98 | 98 | 98 | 98 |
| 2 | 113 | 110 | 107 | 105 | 111 | 108 | 106 | 104 | 105 | 103 | 102 | 102 | 101 | 100 | 100 | 99 | 98 | 96 | 96 | 96 | 96 |
| 3 | 110 | 106 | 103 | 101 | 108 | 105 | 102 | 100 | 103 | 100 | 98 | 100 | 99 | 97 | 98 | 97 | 96 | 94 | 94 | 94 | 94 |
| 4 | 108 | 103 | 100 | 97 | 106 | 102 | 99 | 97 | 100 | 98 | 96 | 98 | 96 | 95 | 97 | 95 | 94 | 93 | 93 | 93 | 93 |
| 5 | 105 | 101 | 97 | 95 | 104 | 100 | 97 | 94 | 98 | 96 | 94 | 97 | 95 | 93 | 95 | 94 | 92 | 91 | 91 | 91 | 91 |
| 6 | 103 | 98 | 95 | 92 | 102 | 98 | 94 | 92 | 96 | 94 | 92 | 95 | 93 | 91 | 94 | 92 | 91 | 90 | 90 | 90 | 90 |
| 7 | 101 | 96 | 93 | 90 | 100 | 96 | 92 | 90 | 95 | 92 | 90 | 94 | 91 | 89 | 93 | 91 | 89 | 88 | 88 | 88 | 88 |
| 8 | 99 | 94 | 91 | 89 | 99 | 94 | 91 | 89 | 93 | 90 | 88 | 92 | 90 | 88 | 91 | 89 | 88 | 87 | 87 | 87 | 87 |
| 9 | 98 | 92 | 89 | 87 | 97 | 92 | 89 | 87 | 91 | 89 | 87 | 91 | 88 | 87 | 90 | 88 | 86 | 86 | 86 | 86 | 86 |
| 10 | 96 | 91 | 88 | 86 | 95 | 91 | 88 | 86 | 90 | 87 | 85 | 89 | 87 | 85 | 89 | 87 | 85 | 84 | 84 | 84 | 84 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|---------|
| | 0° |
| 0° | 5444052 |
| 5° | 4594572 |
| 10° | 2110823 |
| 15° | 658191 |
| 20° | 268206 |
| 25° | 87990 |
| 30° | 27272 |
| 35° | 5762 |
| 40° | 1451 |
| 45° | 0 |
| 50° | 0 |
| 55° | 0 |
| 60° | 0 |
| 65° | 0 |
| 70° | 0 |
| 75° | 0 |
| 80° | 0 |
| 85° | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 2192.3 | 57.6 |
| 10°-20° | 1306.6 | 34.3 |
| 20°-30° | 276.9 | 7.3 |
| 30°-40° | 29.1 | 0.8 |
| 40°-50° | 0.9 | 0.0 |
| 50°-60° | 0.0 | 0.0 |
| 60°-70° | 0.0 | 0.0 |
| 70°-80° | 0.0 | 0.0 |
| 80°-90° | 0.0 | 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° | 3775.8 | 99.2 |
| 0°-40° | 3804.9 | 100.0 |
| 0°-60° | 3805.8 | 100.0 |
| 0°-90° | 3805.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3805.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-------|------|
| 0° | 33792 | |
| 5° | 28411 | ### |
| 15° | 3946 | 1307 |
| 25° | 495 | 277 |
| 35° | 29 | 29 |
| 45° | 0 | 1 |
| 55° | 0 | 0 |
| 65° | 0 | 0 |
| 75° | 0 | 0 |
| 85° | 0 | 0 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|---------|
| 0° | 33792.2 |
| 2.5° | 32724.5 |
| 5° | 28410.8 |
| 7.5° | 21032.2 |
| 10° | 12903.2 |
| 12.5° | 6885.4 |
| 15° | 3946.3 |
| 17.5° | 2478.5 |
| 20° | 1564.4 |
| 22.5° | 922.8 |
| 25° | 495.0 |
| 27.5° | 279.4 |
| 30° | 146.6 |
| 32.5° | 74.2 |
| 35° | 29.3 |
| 37.5° | 15.5 |
| 40° | 6.9 |
| 42.5° | 1.7 |
| 45° | 0.0 |
| 47.5° | 0.0 |
| 50° | 0.0 |
| 52.5° | 0.0 |
| 55° | 0.0 |
| 57.5° | 0.0 |
| 60° | 0.0 |
| 62.5° | 0.0 |
| 65° | 0.0 |
| 67.5° | 0.0 |
| 70° | 0.0 |
| 72.5° | 0.0 |
| 75° | 0.0 |
| 77.5° | 0.0 |
| 80° | 0.0 |
| 82.5° | 0.0 |
| 85° | 0.0 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)