

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: P431540

Luminaire Tested: **LAMR4B312R209730DE01021MMS**

Issue Date: 11/23/2020

Test Information

Test Method: LM-41-14
Report Number: P431540
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2007-857-3)
Test Lab: INNOVATION CENTER (G1)
Issue Date: 11/23/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LAMR4B312R209730DE01021MMS
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 20 DEG TIR OPTIC
Light Source: HIGH LUMEN LED 97CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3398.3 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 0.34 / 0.34 / 0.33
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

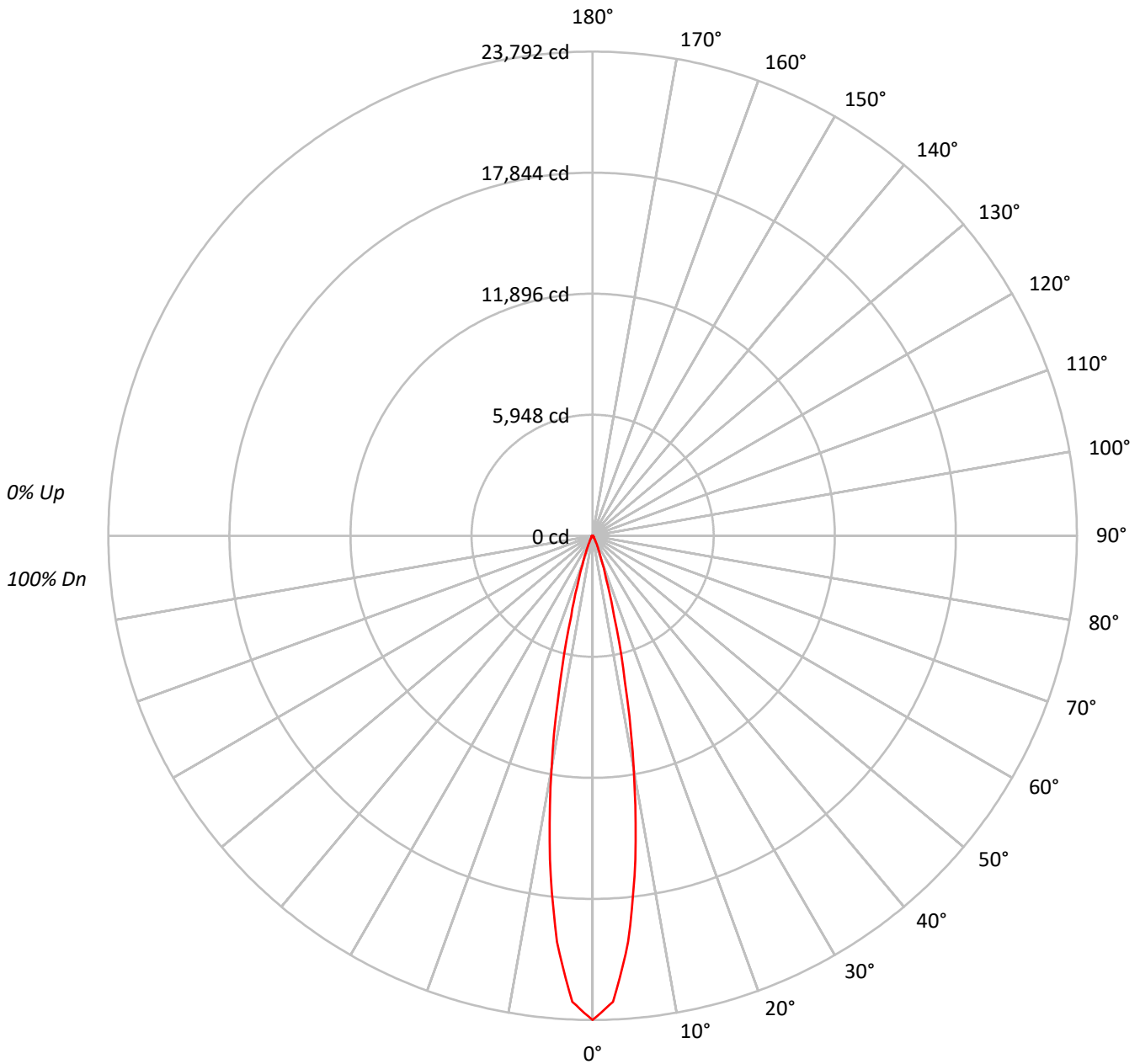
Input Watts (W): 40.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 100 | 100 |
| 1 | 115 | 113 | 111 | 110 | 113 | 111 | 109 | 108 | 107 | 106 | 105 | 103 | 102 | 102 | 100 | 99 | 99 | 97 | 97 | 97 | 97 |
| 2 | 112 | 108 | 105 | 103 | 110 | 106 | 104 | 102 | 103 | 101 | 100 | 101 | 99 | 97 | 98 | 97 | 95 | 94 | 94 | 94 | 94 |
| 3 | 108 | 104 | 100 | 98 | 107 | 103 | 100 | 97 | 100 | 98 | 96 | 98 | 96 | 94 | 96 | 94 | 93 | 91 | 91 | 91 | 91 |
| 4 | 105 | 100 | 97 | 94 | 104 | 99 | 96 | 93 | 97 | 94 | 92 | 96 | 93 | 91 | 94 | 92 | 90 | 89 | 89 | 89 | 89 |
| 5 | 103 | 97 | 93 | 90 | 101 | 96 | 93 | 90 | 95 | 92 | 89 | 93 | 91 | 89 | 92 | 90 | 88 | 87 | 87 | 87 | 87 |
| 6 | 100 | 94 | 90 | 88 | 99 | 94 | 90 | 87 | 92 | 89 | 87 | 91 | 88 | 86 | 90 | 88 | 86 | 85 | 85 | 85 | 85 |
| 7 | 98 | 92 | 88 | 85 | 97 | 91 | 88 | 85 | 90 | 87 | 85 | 89 | 86 | 84 | 88 | 86 | 84 | 83 | 83 | 83 | 83 |
| 8 | 96 | 90 | 86 | 83 | 95 | 89 | 86 | 83 | 88 | 85 | 83 | 87 | 85 | 82 | 87 | 84 | 82 | 81 | 81 | 81 | 81 |
| 9 | 94 | 88 | 84 | 81 | 93 | 87 | 84 | 81 | 86 | 83 | 81 | 86 | 83 | 81 | 85 | 82 | 81 | 80 | 80 | 80 | 80 |
| 10 | 92 | 86 | 82 | 80 | 91 | 85 | 82 | 80 | 85 | 82 | 79 | 84 | 81 | 79 | 83 | 81 | 79 | 78 | 78 | 78 | 78 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|----------|
| | 0° |
| 0° | 11738684 |
| 5° | 9922222 |
| 10° | 5827975 |
| 15° | 2086757 |
| 20° | 690432 |
| 25° | 274805 |
| 30° | 131374 |
| 35° | 75047 |
| 40° | 54166 |
| 45° | 45632 |
| 50° | 52655 |
| 55° | 42923 |
| 60° | 21511 |
| 65° | 18212 |
| 70° | 22504 |
| 75° | 23828 |
| 80° | 17616 |
| 85° | 17549 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 1640.5 | 48.3 |
| 10°-20° | 1279.3 | 37.6 |
| 20°-30° | 265.5 | 7.8 |
| 30°-40° | 83.7 | 2.5 |
| 40°-50° | 53.8 | 1.6 |
| 50°-60° | 43.2 | 1.3 |
| 60°-70° | 17.0 | 0.5 |
| 70°-80° | 12.7 | 0.4 |
| 80°-90° | 2.5 | 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° | 3185.3 | 93.7 |
| 0°-40° | 3269.0 | 96.2 |
| 0°-60° | 3366.0 | 99.1 |
| 0°-90° | 3398.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3398.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-------|------|
| 0° | 23792 | |
| 5° | 20034 | ### |
| 15° | 4085 | 1279 |
| 25° | 505 | 266 |
| 35° | 125 | 84 |
| 45° | 65 | 54 |
| 55° | 50 | 43 |
| 65° | 16 | 17 |
| 75° | 12 | 13 |
| 85° | 3 | 3 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|---------|
| 0° | 23792.4 |
| 2.5° | 22919.8 |
| 5° | 20034.2 |
| 7.5° | 16051.7 |
| 10° | 11632.9 |
| 12.5° | 7338.7 |
| 15° | 4085.4 |
| 17.5° | 2246.8 |
| 20° | 1315.0 |
| 22.5° | 804.0 |
| 25° | 504.8 |
| 27.5° | 333.4 |
| 30° | 230.6 |
| 32.5° | 162.0 |
| 35° | 124.6 |
| 37.5° | 99.7 |
| 40° | 84.1 |
| 42.5° | 71.7 |
| 45° | 65.4 |
| 47.5° | 65.4 |
| 50° | 68.6 |
| 52.5° | 65.4 |
| 55° | 49.9 |
| 57.5° | 34.3 |
| 60° | 21.8 |
| 62.5° | 18.7 |
| 65° | 15.6 |
| 67.5° | 15.6 |
| 70° | 15.6 |
| 72.5° | 15.6 |
| 75° | 12.5 |
| 77.5° | 9.3 |
| 80° | 6.2 |
| 82.5° | 3.1 |
| 85° | 3.1 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)