

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: RSA

Report Number: P219646

Luminaire Tested: **MRZ-1-REC-X-2-L40-80-NFL-UNV-X-STD-SFL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219646
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14873)
Test Lab: INNOVATION CENTER (G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: RSA
Catalog Number: MRZ-1-REC-X-2-L40-80-NFL-UNV-X-STD-SFL
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SOFT FOCUS LENS, LIGHT LEVEL2
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 935.0 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Spacing Criteria (0/90/45): 0.41 / 0.41 / 0.4
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

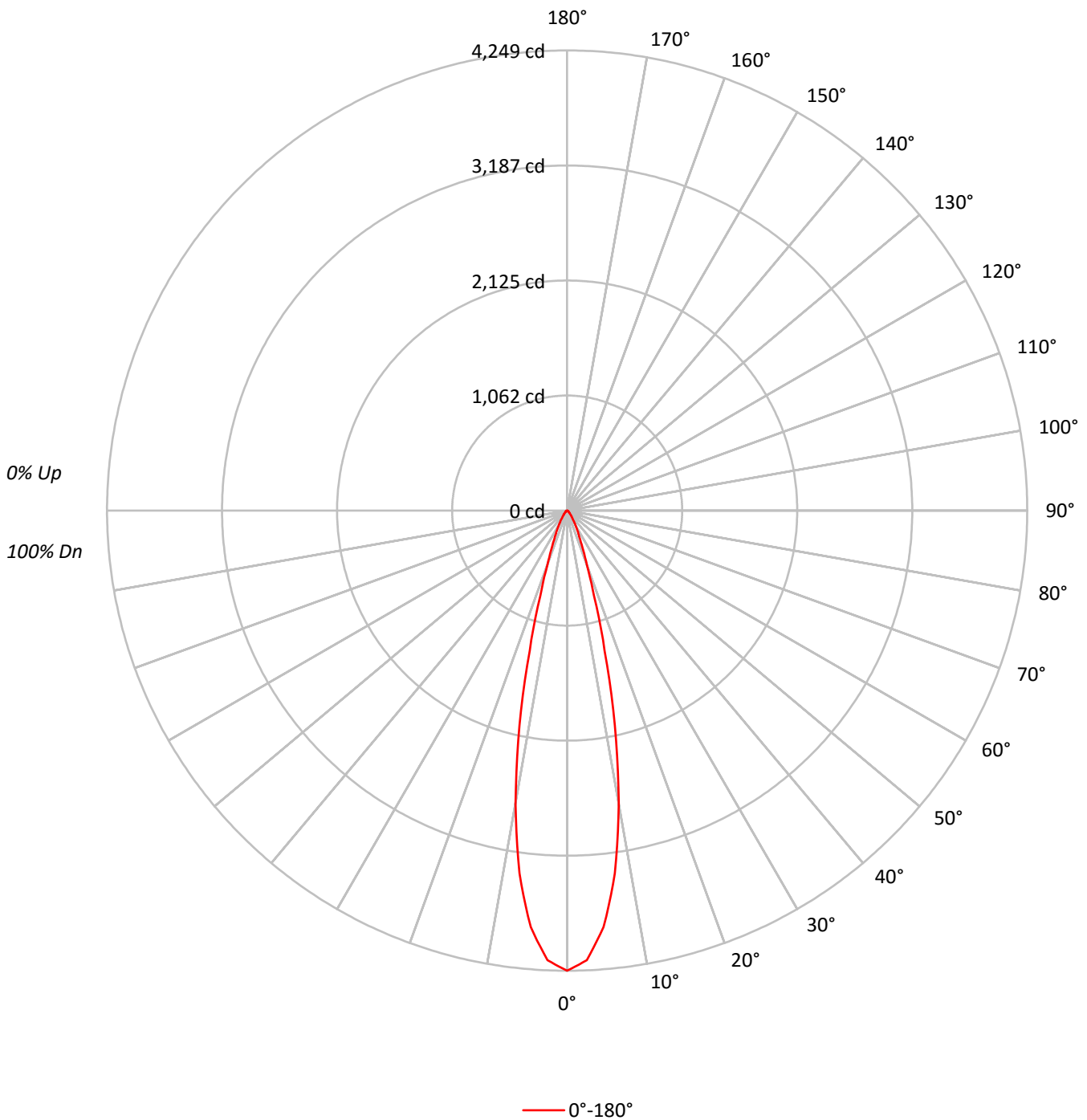
Input Watts (W): 8.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | | 106 | 106 | 106 | | 102 | 102 | 102 | 100 |
| 1 | 115 | 113 | 111 | 109 | 112 | 110 | 109 | 107 | 106 | 105 | 104 | | 103 | 102 | 101 | | 99 | 99 | 98 | 96 |
| 2 | 111 | 107 | 104 | 101 | 109 | 105 | 102 | 100 | 102 | 100 | 98 | | 99 | 97 | 96 | | 97 | 95 | 94 | 92 |
| 3 | 107 | 102 | 98 | 95 | 105 | 101 | 97 | 95 | 98 | 95 | 93 | | 96 | 94 | 92 | | 94 | 92 | 90 | 89 |
| 4 | 103 | 98 | 94 | 91 | 102 | 97 | 93 | 90 | 95 | 92 | 89 | | 93 | 90 | 88 | | 91 | 89 | 87 | 86 |
| 5 | 100 | 94 | 90 | 87 | 99 | 93 | 89 | 86 | 92 | 88 | 85 | | 90 | 87 | 85 | | 89 | 86 | 84 | 83 |
| 6 | 97 | 91 | 86 | 83 | 96 | 90 | 86 | 83 | 89 | 85 | 82 | | 87 | 84 | 82 | | 86 | 83 | 81 | 80 |
| 7 | 94 | 88 | 83 | 80 | 93 | 87 | 83 | 80 | 86 | 82 | 80 | | 85 | 82 | 79 | | 84 | 81 | 79 | 78 |
| 8 | 92 | 85 | 80 | 77 | 91 | 84 | 80 | 77 | 83 | 80 | 77 | | 82 | 79 | 77 | | 82 | 79 | 76 | 75 |
| 9 | 89 | 82 | 78 | 75 | 88 | 82 | 78 | 75 | 81 | 77 | 75 | | 80 | 77 | 74 | | 79 | 76 | 74 | 73 |
| 10 | 87 | 80 | 76 | 73 | 86 | 79 | 75 | 73 | 79 | 75 | 73 | | 78 | 75 | 72 | | 77 | 74 | 72 | 71 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|---------|
| | 0° |
| 0° | 2096222 |
| 5° | 1912215 |
| 10° | 1375670 |
| 15° | 683378 |
| 20° | 278378 |
| 25° | 143717 |
| 30° | 84430 |
| 35° | 48967 |
| 40° | 30851 |
| 45° | 21002 |
| 50° | 13663 |
| 55° | 8602 |
| 60° | 5526 |
| 65° | 5253 |
| 70° | 3174 |
| 75° | 2097 |
| 80° | 3125 |
| 85° | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 332.7 | 35.6 |
| 10°-20° | 380.2 | 40.7 |
| 20°-30° | 129.4 | 13.8 |
| 30°-40° | 53.9 | 5.8 |
| 40°-50° | 23.5 | 2.5 |
| 50°-60° | 9.5 | 1.0 |
| 60°-70° | 4.0 | 0.4 |
| 70°-80° | 1.6 | 0.2 |
| 80°-90° | 0.1 | 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° | 842.3 | 90.1 |
| 0°-40° | 896.2 | 95.8 |
| 0°-60° | 929.3 | 99.4 |
| 0°-90° | 935.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 935.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 4249 | |
| 5° | 3861 | 333 |
| 15° | 1338 | 380 |
| 25° | 264 | 129 |
| 35° | 81 | 54 |
| 45° | 30 | 24 |
| 55° | 10 | 10 |
| 65° | 4 | 4 |
| 75° | 1 | 2 |
| 85° | 0 | 0 |
| 90° | 0 | |

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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 4248.7 |
| 2.5° | 4155.1 |
| 5° | 3861.0 |
| 7.5° | 3378.7 |
| 10° | 2745.9 |
| 12.5° | 2029.7 |
| 15° | 1337.9 |
| 17.5° | 826.6 |
| 20° | 530.2 |
| 22.5° | 359.8 |
| 25° | 264.0 |
| 27.5° | 197.2 |
| 30° | 148.2 |
| 32.5° | 110.3 |
| 35° | 81.3 |
| 37.5° | 61.3 |
| 40° | 47.9 |
| 42.5° | 36.8 |
| 45° | 30.1 |
| 47.5° | 23.4 |
| 50° | 17.8 |
| 52.5° | 13.4 |
| 55° | 10.0 |
| 57.5° | 7.8 |
| 60° | 5.6 |
| 62.5° | 4.5 |
| 65° | 4.5 |
| 67.5° | 3.3 |
| 70° | 2.2 |
| 72.5° | 2.2 |
| 75° | 1.1 |
| 77.5° | 1.1 |
| 80° | 1.1 |
| 82.5° | 0.0 |
| 85° | 0.0 |
| 87.5° | 0.0 |
| 90° | 0.0 |

(END OF REPORT)