

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: P219655

Luminaire Tested: **MRZ-1-REC-X-3-L30-97-NFL-UNV-X-STD-SFL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219655
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-3-L30-97-NFL-UNV-X-STD-SFL
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SOFT FOCUS LENS, LIGHT LEVEL 3
Light Source: (1) 3000K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 917.7 lumens
Efficiency: N/A
Efficacy: 75.8 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

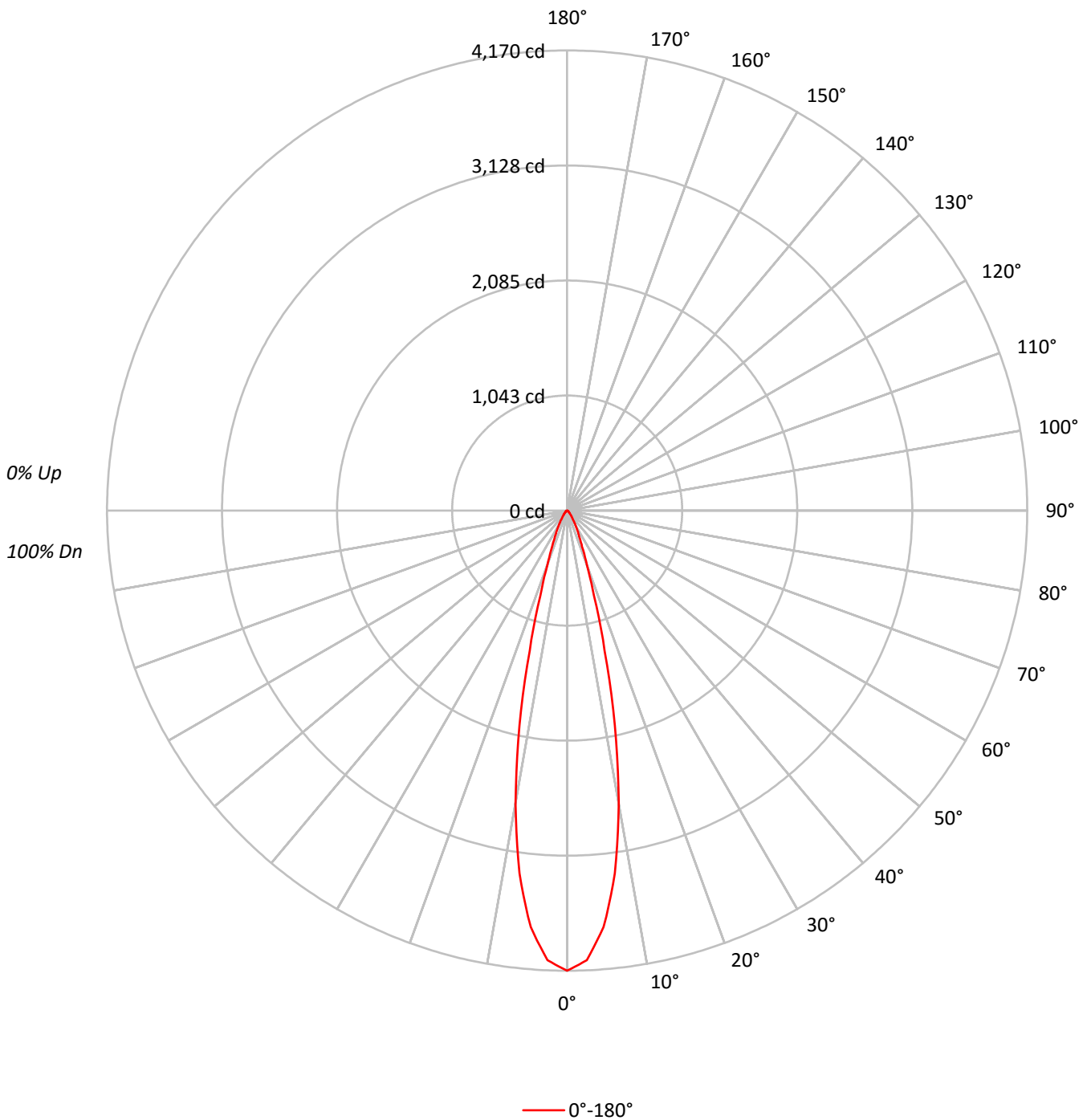
Input Watts (W): 12.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 2057245 |
| 5° | 1876705 |
| 10° | 1350120 |
| 15° | 670660 |
| 20° | 273233 |
| 25° | 141050 |
| 30° | 82835 |
| 35° | 48064 |
| 40° | 30271 |
| 45° | 20583 |
| 50° | 13432 |
| 55° | 8430 |
| 60° | 5427 |
| 65° | 5137 |
| 70° | 3174 |
| 75° | 2097 |
| 80° | 3125 |
| 85° | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 326.5 | 35.6 |
| 10°-20° | 373.1 | 40.7 |
| 20°-30° | 127.0 | 13.8 |
| 30°-40° | 52.9 | 5.8 |
| 40°-50° | 23.1 | 2.5 |
| 50°-60° | 9.3 | 1.0 |
| 60°-70° | 3.9 | 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° | 826.7 | 90.1 |
| 0°-40° | 879.5 | 95.8 |
| 0°-60° | 912.0 | 99.4 |
| 0°-90° | 917.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 917.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 4170 | |
| 5° | 3789 | 327 |
| 15° | 1313 | 373 |
| 25° | 259 | 127 |
| 35° | 80 | 53 |
| 45° | 30 | 23 |
| 55° | 10 | 9 |
| 65° | 4 | 4 |
| 75° | 1 | 2 |
| 85° | 0 | 0 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|--------|
| 0° | 4169.7 |
| 2.5° | 4077.9 |
| 5° | 3789.3 |
| 7.5° | 3315.9 |
| 10° | 2694.9 |
| 12.5° | 1991.9 |
| 15° | 1313.0 |
| 17.5° | 811.2 |
| 20° | 520.4 |
| 22.5° | 353.1 |
| 25° | 259.1 |
| 27.5° | 193.5 |
| 30° | 145.4 |
| 32.5° | 108.2 |
| 35° | 79.8 |
| 37.5° | 60.1 |
| 40° | 47.0 |
| 42.5° | 36.1 |
| 45° | 29.5 |
| 47.5° | 23.0 |
| 50° | 17.5 |
| 52.5° | 13.1 |
| 55° | 9.8 |
| 57.5° | 7.7 |
| 60° | 5.5 |
| 62.5° | 4.4 |
| 65° | 4.4 |
| 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)