

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: P219874

Luminaire Tested: **MRZ-1-REC-X-3-L40-97-WFL-UNV-X-STD-HEX**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219874
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14881)
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-L40-97-WFL-UNV-X-STD-HEX
Description: MRZ INTEGRAL LED DOWNLIGHT
55 DEGREE WIDE FLOOD OPTIC WITH HEX LOUVER, LIGHT LEVEL 3
Light Source: (1) 4000K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 450.3 lumens
Efficiency: N/A
Efficacy: 37.2 lumens/watt
Spacing Criteria (0/90/45): 0.62 / 0.62 / 0.67
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

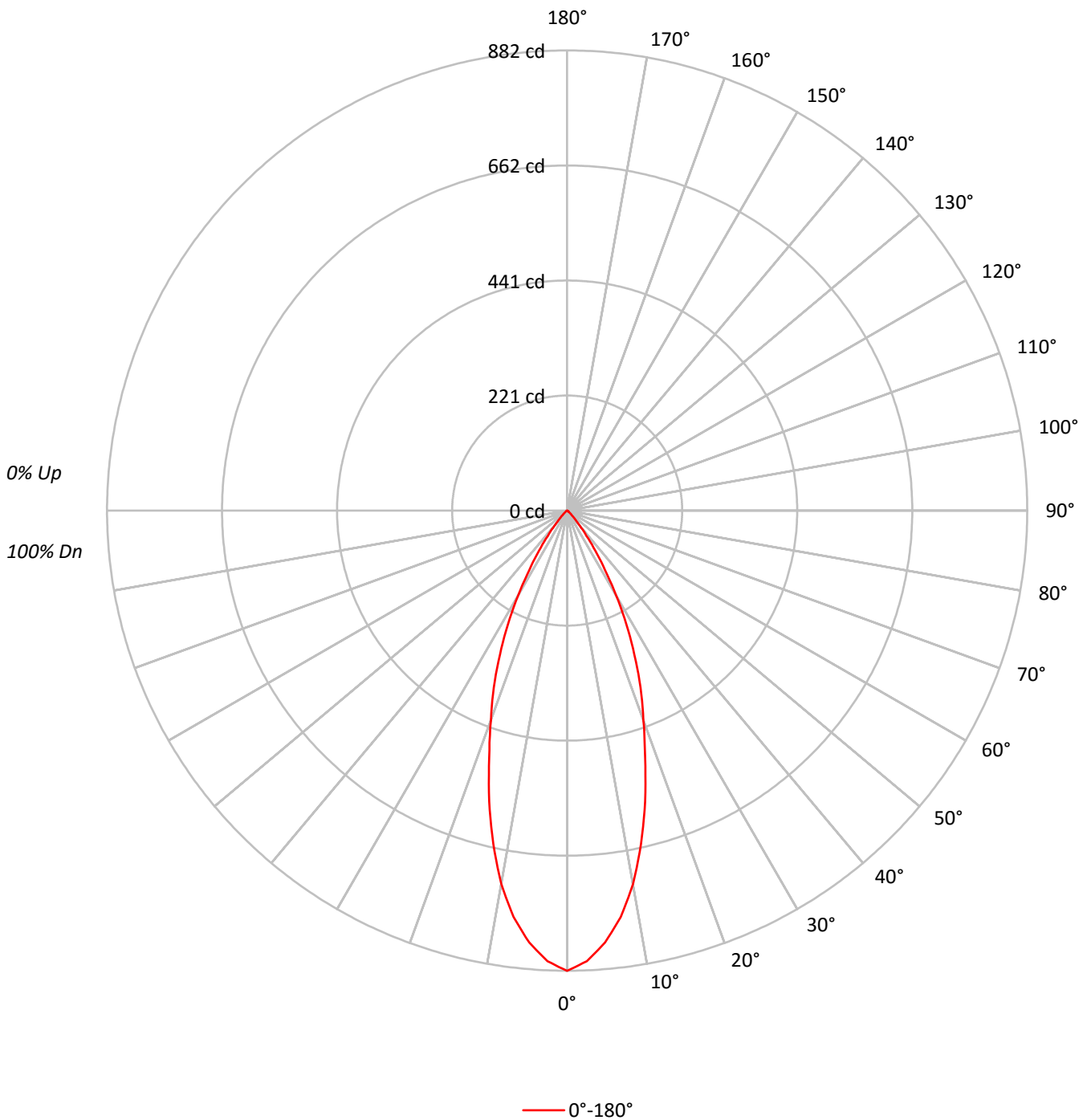
Input Watts (W): 12.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 114 | 112 | 109 | 107 | 112 | 109 | 107 | 106 | 105 | 104 | 102 | 102 | 100 | 99 | 98 | 97 | 96 | 95 |
| 2 | 109 | 105 | 101 | 98 | 107 | 103 | 100 | 97 | 100 | 97 | 95 | 97 | 95 | 93 | 94 | 93 | 91 | 89 |
| 3 | 104 | 99 | 94 | 91 | 103 | 97 | 93 | 90 | 95 | 91 | 89 | 92 | 90 | 87 | 90 | 88 | 86 | 84 |
| 4 | 100 | 93 | 88 | 85 | 98 | 92 | 88 | 84 | 90 | 86 | 83 | 88 | 85 | 82 | 86 | 84 | 81 | 80 |
| 5 | 96 | 88 | 83 | 79 | 94 | 87 | 83 | 79 | 86 | 81 | 78 | 84 | 80 | 78 | 83 | 79 | 77 | 76 |
| 6 | 92 | 84 | 78 | 75 | 90 | 83 | 78 | 74 | 82 | 77 | 74 | 80 | 76 | 73 | 79 | 76 | 73 | 72 |
| 7 | 88 | 80 | 74 | 71 | 87 | 79 | 74 | 70 | 78 | 73 | 70 | 77 | 73 | 70 | 76 | 72 | 69 | 68 |
| 8 | 84 | 76 | 71 | 67 | 83 | 75 | 70 | 67 | 74 | 70 | 66 | 73 | 69 | 66 | 72 | 69 | 66 | 65 |
| 9 | 81 | 72 | 67 | 64 | 80 | 72 | 67 | 63 | 71 | 66 | 63 | 70 | 66 | 63 | 69 | 66 | 63 | 62 |
| 10 | 78 | 69 | 64 | 61 | 77 | 69 | 64 | 60 | 68 | 63 | 60 | 67 | 63 | 60 | 67 | 63 | 60 | 59 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|--------|
| | 0° |
| 0° | 435259 |
| 5° | 411614 |
| 10° | 364020 |
| 15° | 294722 |
| 20° | 224404 |
| 25° | 166092 |
| 30° | 106877 |
| 35° | 56496 |
| 40° | 24474 |
| 45° | 9140 |
| 50° | 3608 |
| 55° | 2064 |
| 60° | 1184 |
| 65° | 1401 |
| 70° | 0 |
| 75° | 0 |
| 80° | 0 |
| 85° | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 76.1 | 16.9 |
| 10°-20° | 158.9 | 35.3 |
| 20°-30° | 138.5 | 30.8 |
| 30°-40° | 61.4 | 13.6 |
| 40°-50° | 12.1 | 2.7 |
| 50°-60° | 2.5 | 0.6 |
| 60°-70° | 0.7 | 0.2 |
| 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° | 373.5 | 83.0 |
| 0°-40° | 434.9 | 96.6 |
| 0°-60° | 449.5 | 99.8 |
| 0°-90° | 450.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 450.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 882 | |
| 5° | 831 | 76 |
| 15° | 577 | 159 |
| 25° | 305 | 139 |
| 35° | 94 | 61 |
| 45° | 13 | 12 |
| 55° | 2 | 3 |
| 65° | 1 | 1 |
| 75° | 0 | 0 |
| 85° | 0 | 0 |
| 90° | 0 | |

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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|-------|
| 0° | 882.2 |
| 2.5° | 864.4 |
| 5° | 831.1 |
| 7.5° | 786.0 |
| 10° | 726.6 |
| 12.5° | 654.2 |
| 15° | 577.0 |
| 17.5° | 496.3 |
| 20° | 427.4 |
| 22.5° | 366.9 |
| 25° | 305.1 |
| 27.5° | 245.8 |
| 30° | 187.6 |
| 32.5° | 135.4 |
| 35° | 93.8 |
| 37.5° | 60.6 |
| 40° | 38.0 |
| 42.5° | 21.4 |
| 45° | 13.1 |
| 47.5° | 8.3 |
| 50° | 4.7 |
| 52.5° | 3.6 |
| 55° | 2.4 |
| 57.5° | 2.4 |
| 60° | 1.2 |
| 62.5° | 1.2 |
| 65° | 1.2 |
| 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 |

(END OF REPORT)