

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: P219545

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219545
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14859)
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-1H-L40-80-NFL-UNV-X-STD
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC, LIGHT LEVEL 1
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 711.3 lumens
Efficiency: N/A
Efficacy: 104.6 lumens/watt
Spacing Criteria (0/90/45): 0.41 / 0.41 / 0.37
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

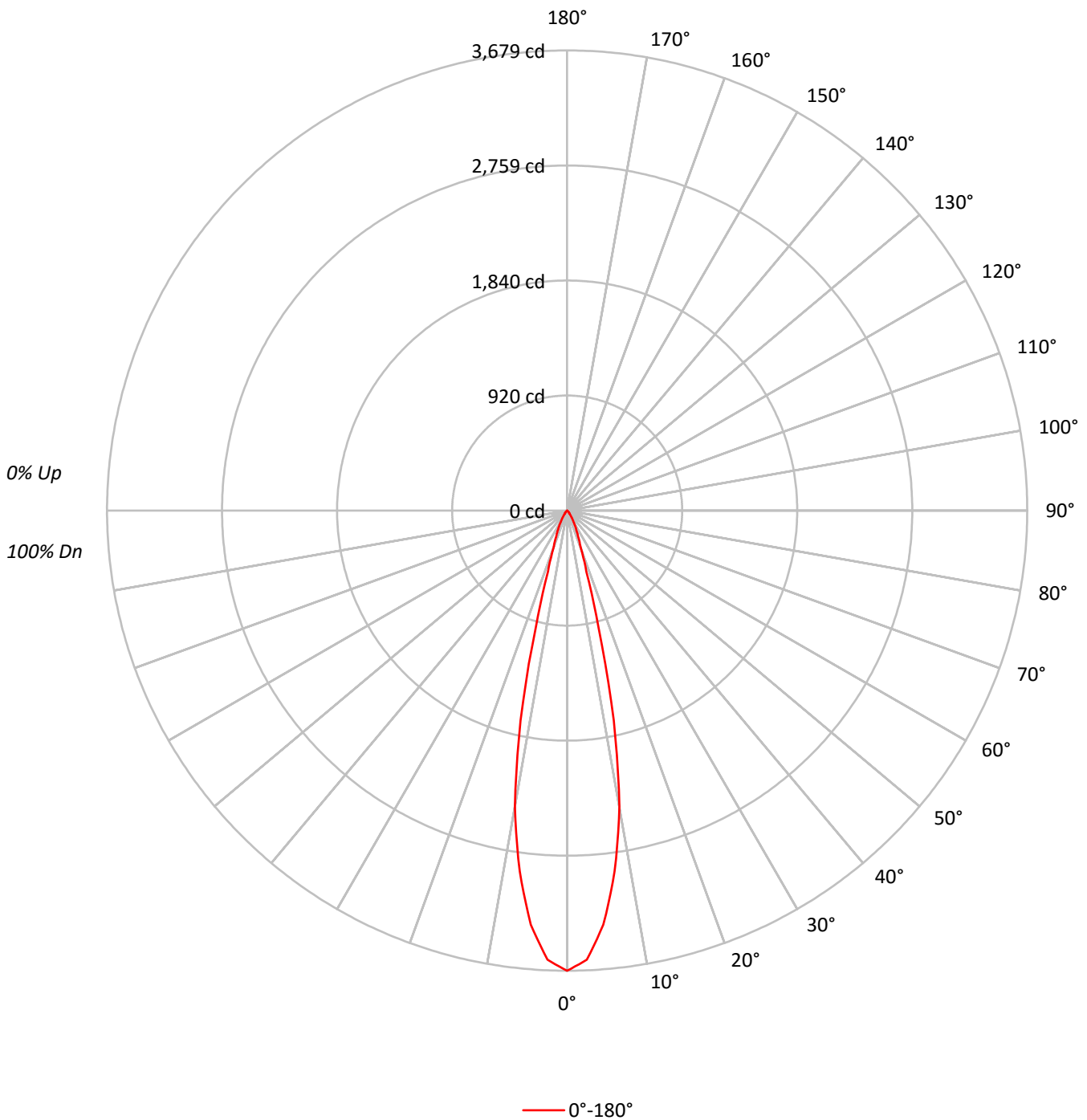
Input Watts (W): 6.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | | | | | |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 111 | 106 | 106 | 106 | 106 | 102 | 102 | 102 | 102 | 100 | 100 | 100 | 100 |
| 1 | 115 | 113 | 111 | 109 | 113 | 111 | 109 | 108 | 107 | 106 | 104 | 104 | 103 | 102 | 101 | 101 | 100 | 99 | 98 | 98 | 97 | 97 | 97 | 97 |
| 2 | 111 | 108 | 105 | 102 | 109 | 106 | 104 | 101 | 103 | 101 | 99 | 99 | 100 | 99 | 97 | 97 | 98 | 96 | 95 | 95 | 94 | 94 | 94 | 94 |
| 3 | 108 | 103 | 100 | 97 | 106 | 102 | 99 | 96 | 100 | 97 | 95 | 95 | 97 | 95 | 93 | 93 | 95 | 93 | 92 | 92 | 91 | 91 | 91 | 91 |
| 4 | 105 | 99 | 96 | 93 | 103 | 98 | 95 | 92 | 96 | 93 | 91 | 91 | 95 | 92 | 90 | 90 | 93 | 91 | 89 | 89 | 88 | 88 | 88 | 88 |
| 5 | 102 | 96 | 92 | 89 | 100 | 95 | 91 | 89 | 94 | 90 | 88 | 88 | 92 | 89 | 87 | 87 | 91 | 88 | 86 | 86 | 85 | 85 | 85 | 85 |
| 6 | 99 | 93 | 89 | 86 | 98 | 92 | 88 | 86 | 91 | 88 | 85 | 85 | 90 | 87 | 85 | 85 | 88 | 86 | 84 | 84 | 83 | 83 | 83 | 83 |
| 7 | 96 | 90 | 86 | 83 | 95 | 89 | 86 | 83 | 88 | 85 | 83 | 83 | 87 | 84 | 82 | 82 | 86 | 84 | 82 | 82 | 81 | 81 | 81 | 81 |
| 8 | 94 | 87 | 83 | 81 | 93 | 87 | 83 | 81 | 86 | 83 | 80 | 80 | 85 | 82 | 80 | 80 | 84 | 82 | 80 | 80 | 79 | 79 | 79 | 79 |
| 9 | 91 | 85 | 81 | 78 | 91 | 85 | 81 | 78 | 84 | 80 | 78 | 78 | 83 | 80 | 78 | 78 | 82 | 80 | 78 | 78 | 77 | 77 | 77 | 77 |
| 10 | 89 | 83 | 79 | 76 | 89 | 83 | 79 | 76 | 82 | 78 | 76 | 76 | 81 | 78 | 76 | 76 | 81 | 78 | 76 | 76 | 75 | 75 | 75 | 75 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° |
|-----|---------|
| 0° | 1815242 |
| 5° | 1645862 |
| 10° | 1205283 |
| 15° | 491476 |
| 20° | 167699 |
| 25° | 97989 |
| 30° | 54749 |
| 35° | 29453 |
| 40° | 15715 |
| 45° | 10257 |
| 50° | 4375 |
| 55° | 2839 |
| 60° | 1579 |
| 65° | 934 |
| 70° | 1154 |
| 75° | 1525 |
| 80° | 0 |
| 85° | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 287.6 | 40.4 |
| 10°-20° | 290.7 | 40.9 |
| 20°-30° | 84.9 | 11.9 |
| 30°-40° | 32.5 | 4.6 |
| 40°-50° | 10.9 | 1.5 |
| 50°-60° | 3.0 | 0.4 |
| 60°-70° | 1.1 | 0.2 |
| 70°-80° | 0.5 | 0.1 |
| 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° | 663.2 | 93.2 |
| 0°-40° | 695.8 | 97.8 |
| 0°-60° | 709.7 | 99.8 |
| 0°-90° | 711.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 711.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 3679 | |
| 5° | 3323 | 288 |
| 15° | 962 | 291 |
| 25° | 180 | 85 |
| 35° | 49 | 33 |
| 45° | 15 | 11 |
| 55° | 3 | 3 |
| 65° | 1 | 1 |
| 75° | 1 | 1 |
| 85° | 0 | 0 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|--------|
| 0° | 3679.2 |
| 2.5° | 3594.5 |
| 5° | 3323.2 |
| 7.5° | 2909.3 |
| 10° | 2405.8 |
| 12.5° | 1719.0 |
| 15° | 962.2 |
| 17.5° | 510.8 |
| 20° | 319.4 |
| 22.5° | 237.1 |
| 25° | 180.0 |
| 27.5° | 134.4 |
| 30° | 96.1 |
| 32.5° | 69.2 |
| 35° | 48.9 |
| 37.5° | 34.2 |
| 40° | 24.4 |
| 42.5° | 18.7 |
| 45° | 14.7 |
| 47.5° | 9.0 |
| 50° | 5.7 |
| 52.5° | 4.1 |
| 55° | 3.3 |
| 57.5° | 2.4 |
| 60° | 1.6 |
| 62.5° | 1.6 |
| 65° | 0.8 |
| 67.5° | 0.8 |
| 70° | 0.8 |
| 72.5° | 0.8 |
| 75° | 0.8 |
| 77.5° | 0.0 |
| 80° | 0.0 |
| 82.5° | 0.0 |
| 85° | 0.0 |
| 87.5° | 0.0 |
| 90° | 0.0 |

(END OF REPORT)