

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: P219691

Luminaire Tested: **MRZ-1-REC-X-4-L35-80-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219691
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14874)
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-4-L35-80-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 4
Light Source: (1) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1574.3 lumens
Efficiency: N/A
Efficacy: 99.6 lumens/watt
Spacing Criteria (0/90/45): 0.42 / 0.41 / 0.38
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

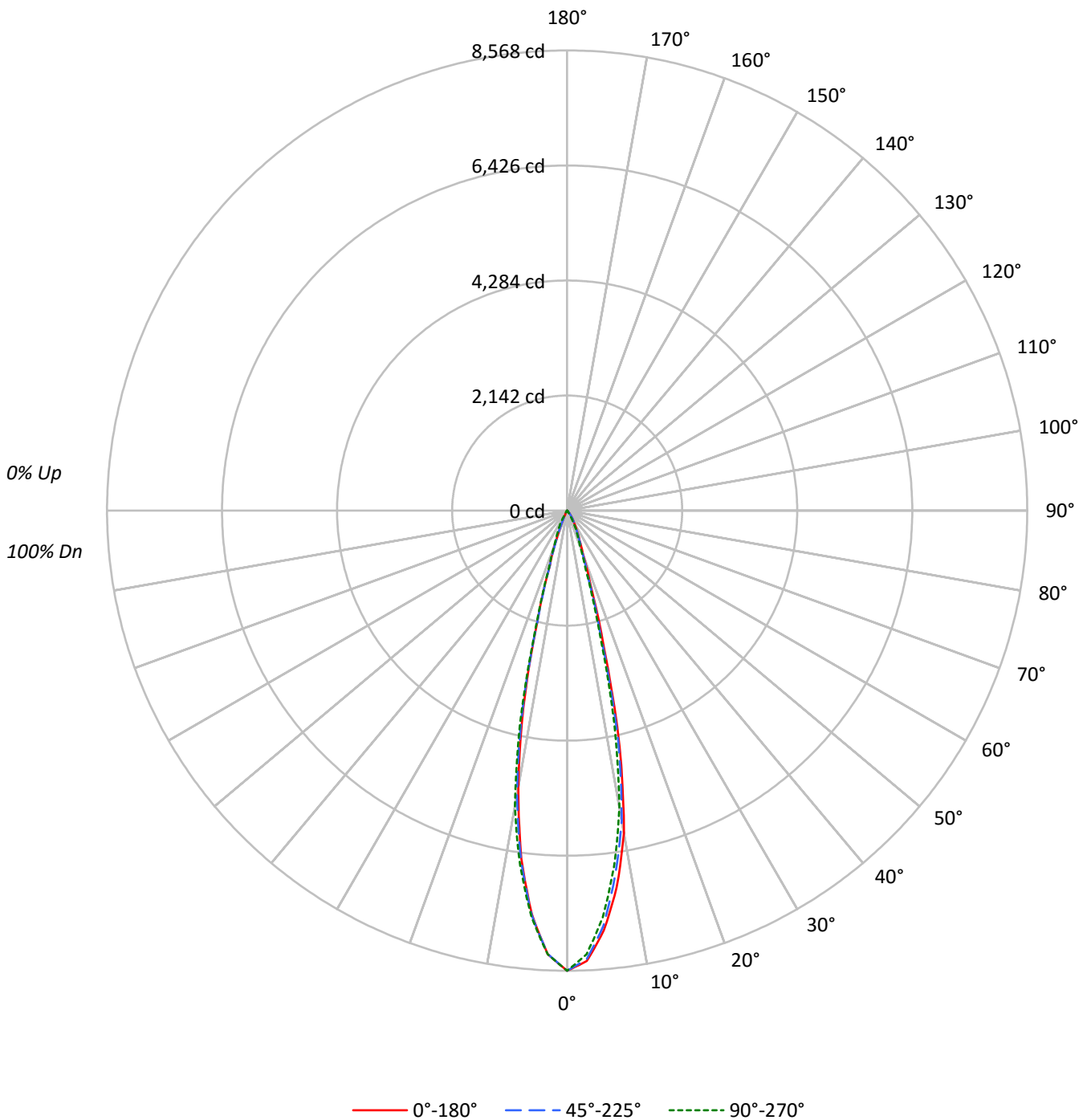
Input Watts (W): 15.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	108	107	106	105	104	103	102	100	99	99	97	97	97	97	
2	112	108	105	103	110	107	104	102	104	102	100	101	99	98	98	97	96	94	94	94	94	
3	108	104	101	98	107	103	100	97	100	98	96	98	96	94	96	94	93	92	92	92	92	
4	105	100	97	94	104	99	96	93	97	95	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	87	85	90	87	84	89	86	84	88	86	84	83	83	83	83	
8	95	89	85	83	94	89	85	83	88	85	82	87	84	82	86	84	82	81	81	81	81	
9	93	87	83	81	92	86	83	80	86	82	80	85	82	80	84	82	80	79	79	79	79	
10	91	85	81	79	90	84	81	79	84	81	78	83	80	78	83	80	78	77	77	77	77	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	4227177	4227177	4227177
5°	3885843	3765097	3734688
10°	3051685	2806450	2621785
15°	1354191	1152176	1101199
20°	450540	366900	330620
25°	249763	210078	68973
30°	144363	75486	21877
35°	82094	21984	8071
40°	43281	12366	4959
45°	21421	8024	1326
50°	11820	4452	0
55°	8258	3269	0
60°	5723	1875	0
65°	4436	2218	0
70°	2741	0	0
75°	3622	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	665.2	42.3
10°-20°	687.1	43.6
20°-30°	157.7	10.0
30°-40°	45.5	2.9
40°-50°	12.7	0.8
50°-60°	3.9	0.2
60°-70°	1.5	0.1
70°-80°	0.7	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°	1510.0	95.9
0°-40°	1555.4	98.8
0°-60°	1572.1	99.9
0°-90°	1574.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1574.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	8568	8568	8568	8568	8568	
5°	7846	7758	7602	7564	7541	693
15°	2651	2417	2256	2133	2156	774
25°	459	442	386	142	127	221
35°	136	127	36	15	13	89
45°	31	29	12	4	2	26
55°	10	8	4	0	0	9
65°	4	4	2	0	0	3
75°	2	2	0	0	0	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	8567.8	8567.8	8567.8	8567.8	8567.8	8567.8	8567.8	8567.8	8567.8
2.5°	8395.0	8393.1	8356.6	8318.3	8268.3	8272.2	8264.5	8276.0	8270.3
5°	7846.0	7803.8	7757.7	7673.2	7602.2	7571.5	7563.8	7538.8	7540.8
7.5°	7072.3	6982.1	6851.6	6740.2	6680.7	6603.9	6571.3	6502.2	6531.0
10°	6091.3	5974.2	5857.1	5718.9	5601.8	5475.1	5377.2	5313.9	5233.2
12.5°	4522.9	4428.9	4380.9	4200.4	4060.3	3962.4	3908.6	3755.0	3756.9
15°	2651.2	2534.1	2417.0	2324.8	2255.7	2219.2	2132.8	2111.7	2155.9
17.5°	1416.8	1364.9	1288.1	1203.7	1155.7	1121.1	1092.3	1080.8	1063.5
20°	858.1	842.8	798.6	742.9	698.8	668.1	639.3	631.6	629.7
22.5°	620.1	612.4	583.6	543.3	501.1	430.0	343.6	326.4	332.1
25°	458.8	453.1	441.5	410.8	385.9	213.1	142.1	136.3	126.7
27.5°	343.6	339.8	326.4	305.2	259.2	94.1	78.7	73.0	73.0
30°	253.4	251.5	243.8	222.7	132.5	53.8	44.2	40.3	38.4
32.5°	186.2	186.2	178.5	159.3	59.5	34.6	26.9	25.0	23.0
35°	136.3	136.3	126.7	109.4	36.5	23.0	15.4	15.4	13.4
37.5°	97.9	96.0	90.2	69.1	26.9	15.4	11.5	11.5	9.6
40°	67.2	67.2	61.4	42.2	19.2	11.5	9.6	7.7	7.7
42.5°	46.1	46.1	42.2	26.9	15.4	9.6	5.8	5.8	5.8
45°	30.7	30.7	28.8	19.2	11.5	5.8	3.8	3.8	1.9
47.5°	21.1	21.1	19.2	13.4	7.7	3.8	1.9	1.9	1.9
50°	15.4	15.4	13.4	9.6	5.8	3.8	1.9	1.9	0.0
52.5°	11.5	11.5	11.5	7.7	3.8	1.9	0.0	0.0	0.0
55°	9.6	9.6	7.7	5.8	3.8	1.9	0.0	0.0	0.0
57.5°	7.7	7.7	5.8	3.8	1.9	1.9	0.0	0.0	0.0
60°	5.8	5.8	5.8	3.8	1.9	0.0	0.0	0.0	0.0
62.5°	3.8	3.8	3.8	1.9	1.9	0.0	0.0	0.0	0.0
65°	3.8	3.8	3.8	1.9	1.9	0.0	0.0	0.0	0.0
67.5°	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0
70°	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0
72.5°	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0
75°	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0
77.5°	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)