

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: P226144

Luminaire Tested: **MRZ-1-REC-X-1-L35-80-FL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P226144  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14877)  
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-1-L35-80-FL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
40 DEGREE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 1  
Light Source: (1) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 484.7 lumens  
Efficiency: N/A  
Efficacy: 89.8 lumens/watt  
Spacing Criteria (0/90/45): 0.61 / 0.69 / 0.7  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

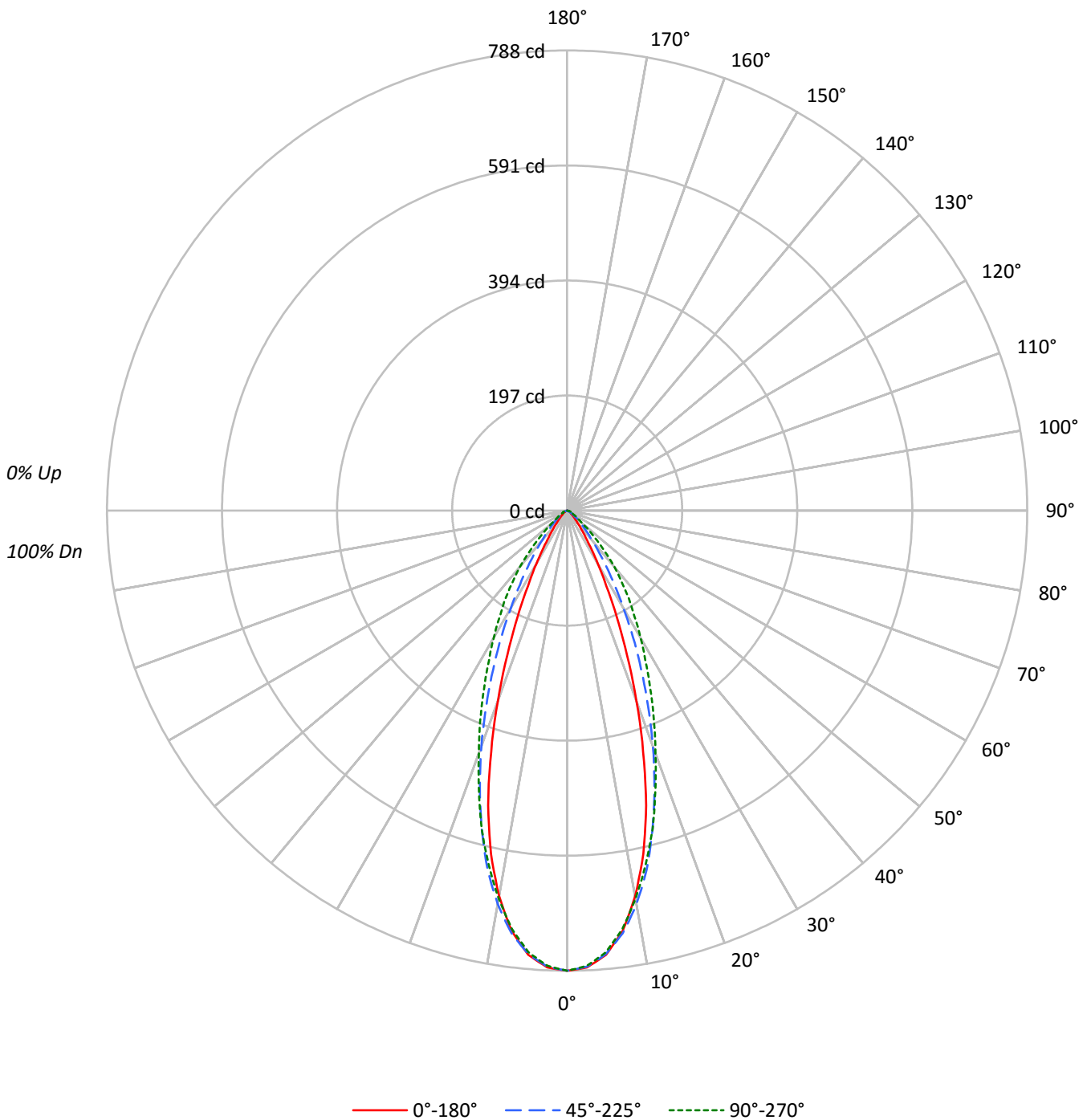
Input Watts (W): 5.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	93
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	92	90	89	87
3	103	96	91	87	101	95	90	87	92	88	85	90	87	84	88	85	83	81
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	77	76
5	93	85	79	75	91	84	78	74	82	77	74	80	76	73	79	75	72	71
6	88	80	74	70	87	79	74	70	78	73	69	76	72	69	75	71	68	67
7	84	75	70	65	83	75	69	65	73	68	65	72	68	65	71	67	64	63
8	81	71	66	62	79	71	65	61	70	65	61	69	64	61	68	64	61	59
9	77	68	62	58	76	67	62	58	66	61	58	65	61	58	65	61	57	56
10	74	64	59	55	73	64	59	55	63	58	55	62	58	55	62	58	55	53

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	388783	388783	388783
5°	378184	377490	376054
10°	335864	342728	338018
15°	267038	288593	288593
20°	182243	225506	232279
25°	108931	163152	183457
30°	60047	109497	143338
35°	31501	70409	111005
40°	17969	42959	81281
45°	11513	27561	50517
50°	8213	18191	26481
55°	6795	10494	16688
60°	5625	6315	10558
65°	5020	5020	8289
70°	4183	4183	11396
75°	4003	2669	6863
80°	1989	1989	3978
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.0	14.4
10°-20°	152.2	31.4
20°-30°	131.7	27.2
30°-40°	76.1	15.7
40°-50°	34.5	7.1
50°-60°	12.2	2.5
60°-70°	5.4	1.1
70°-80°	2.5	0.5
80°-90°	0.2	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°	353.9	73.0
0°-40°	430.0	88.7
0°-60°	476.6	98.3
0°-90°	484.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	484.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	788	788	788	788	788	
5°	764	763	762	759	759	70
15°	523	538	565	570	565	142
25°	200	230	300	343	337	94
35°	52	68	117	174	184	35
45°	16	20	40	69	72	14
55°	8	8	12	16	19	7
65°	4	5	4	6	7	4
75°	2	2	1	3	4	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	788.0	788.0	788.0	788.0	788.0	788.0	788.0	788.0	788.0	788.0	788.0
2.5°	783.0	781.5	781.5	781.5	782.3	782.3	781.5	781.5	781.5	781.5	781.5
5°	763.6	762.2	762.2	762.9	762.2	762.9	762.2	763.6	762.9	762.2	762.2
7.5°	726.4	726.4	726.4	727.1	727.8	727.8	727.8	729.2	729.2	730.7	729.9
10°	670.4	671.8	671.8	674.0	676.1	674.7	675.4	679.8	681.2	682.6	684.1
12.5°	602.3	604.4	605.9	607.3	609.4	611.7	612.4	619.5	621.7	624.5	629.5
15°	522.8	522.0	526.3	528.5	534.9	538.5	540.6	547.8	555.0	559.3	565.0
17.5°	433.0	435.3	437.4	443.1	451.0	456.1	458.9	467.5	479.0	488.3	496.9
20°	347.1	351.4	353.5	359.9	367.9	370.7	378.6	390.1	405.1	418.0	429.5
22.5°	267.4	269.6	275.3	282.5	291.1	297.5	305.5	316.9	332.7	345.6	361.4
25°	200.1	200.8	207.9	214.4	223.7	230.1	234.5	249.5	266.0	282.5	299.7
27.5°	145.6	147.0	151.3	157.7	167.8	172.1	179.3	192.2	207.9	225.8	243.8
30°	105.4	105.4	108.3	115.4	122.7	128.4	133.4	145.6	160.6	175.7	192.2
32.5°	73.8	74.5	77.4	82.5	89.6	93.9	97.5	109.0	121.1	136.2	150.6
35°	52.3	53.0	56.0	58.8	64.5	68.1	71.0	79.6	90.3	103.3	116.9
37.5°	38.0	38.7	40.2	42.3	46.6	48.7	51.6	58.8	67.4	77.4	89.6
40°	27.9	28.7	29.4	31.5	34.5	35.9	38.0	43.0	49.5	58.1	66.7
42.5°	21.5	21.5	22.2	23.7	25.1	26.5	27.9	31.5	36.6	43.0	50.9
45°	16.5	16.5	17.2	18.7	19.4	20.1	21.5	23.7	27.2	32.2	39.5
47.5°	13.7	13.7	13.7	14.4	15.1	15.8	16.5	18.7	20.8	25.8	30.1
50°	10.7	10.7	11.5	11.5	12.2	12.2	12.9	14.4	17.2	20.8	23.7
52.5°	9.3	9.3	9.3	9.3	9.3	10.0	10.0	11.5	14.4	15.8	17.2
55°	7.9	7.9	7.9	7.9	7.9	7.9	8.6	10.0	11.5	12.9	12.2
57.5°	6.4	6.4	6.4	6.4	6.4	7.1	7.1	8.6	9.3	8.6	8.6
60°	5.7	5.7	5.0	5.0	5.7	5.7	6.4	7.1	7.1	6.4	6.4
62.5°	5.0	4.3	4.3	4.3	5.0	5.7	5.7	5.7	5.0	5.0	5.0
65°	4.3	3.6	3.6	4.3	4.3	5.0	5.0	4.3	4.3	4.3	4.3
67.5°	3.6	3.6	3.6	3.6	4.3	4.3	4.3	3.6	3.6	3.6	3.6
70°	2.9	2.9	2.9	2.9	3.6	3.6	2.9	2.9	2.9	2.9	2.9
72.5°	2.1	2.1	2.1	2.9	2.9	2.9	2.1	2.1	2.1	2.9	2.1
75°	2.1	2.1	2.1	2.1	2.1	2.1	1.4	1.4	2.1	2.1	1.4
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
85°	0.0	0.0	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	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	788.0	788.0	788.0	788.0	788.0	788.0	788.0	788.0	788.0	788.0
2.5°	780.8	780.8	780.1	780.8	780.8	780.8	780.8	780.1	780.8	780.1
5°	761.5	761.5	761.5	760.0	759.3	760.0	759.3	758.6	758.6	759.3
7.5°	728.5	728.5	727.8	726.4	726.4	725.7	724.2	723.5	722.8	722.8
10°	685.5	684.8	682.6	681.9	681.9	679.8	676.8	676.8	674.0	674.7
12.5°	631.7	630.2	629.5	629.5	626.7	626.7	624.5	623.8	622.4	621.0
15°	567.2	569.4	570.8	570.1	570.1	567.9	567.2	565.7	563.6	565.0
17.5°	503.4	508.4	509.8	512.0	512.7	511.2	509.1	505.5	503.4	502.0
20°	440.3	447.4	452.4	453.8	453.8	453.1	452.4	446.7	446.0	442.4
22.5°	375.0	385.0	393.7	396.5	397.2	398.0	395.1	390.8	389.4	388.6
25°	314.0	327.7	336.3	342.0	343.4	345.6	344.1	342.0	337.7	337.0
27.5°	258.9	273.2	284.7	291.8	295.4	296.8	298.2	294.7	293.2	290.4
30°	209.3	225.8	238.1	248.1	250.2	253.1	253.8	254.5	251.6	251.6
32.5°	167.1	180.7	195.8	205.8	210.0	212.3	215.9	215.1	215.1	214.4
35°	131.2	144.9	158.5	169.3	174.3	177.1	181.4	183.5	184.3	184.3
37.5°	101.1	114.7	126.9	139.8	144.9	148.5	151.3	152.0	152.7	152.0
40°	77.4	90.3	102.6	111.1	114.7	117.6	121.1	124.1	125.5	126.2
42.5°	61.0	70.3	78.2	86.8	92.5	96.8	97.5	96.8	96.8	96.1
45°	45.9	53.0	65.3	67.4	68.8	69.5	71.7	72.4	72.4	72.4
47.5°	36.6	44.5	44.5	47.3	48.7	50.9	51.6	51.6	51.6	51.6
50°	27.2	28.7	30.8	32.9	33.7	33.7	34.5	34.5	34.5	34.5
52.5°	17.9	20.1	20.8	21.5	22.2	22.9	24.4	25.1	24.4	24.4
55°	12.9	13.7	14.4	15.8	15.8	16.5	19.4	19.4	19.4	19.4
57.5°	8.6	9.3	10.7	12.9	12.9	13.7	14.4	14.4	15.1	15.1
60°	7.1	7.9	8.6	9.3	10.0	11.5	12.9	10.7	10.7	10.7
62.5°	5.7	6.4	7.1	7.9	7.1	7.9	8.6	8.6	8.6	8.6
65°	5.0	5.7	5.0	5.7	6.4	6.4	5.7	6.4	6.4	7.1
67.5°	4.3	4.3	4.3	4.3	4.3	5.0	6.4	7.1	7.9	7.9
70°	2.9	2.9	2.9	4.3	4.3	5.0	5.7	7.1	7.1	7.9
72.5°	2.1	2.1	2.9	3.6	4.3	4.3	5.0	5.0	5.7	5.7
75°	2.1	2.1	2.9	2.9	2.9	2.9	3.6	3.6	3.6	3.6
77.5°	1.4	1.4	1.4	1.4	2.1	2.1	2.1	2.9	2.9	2.9
80°	0.7	0.7	0.7	0.7	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.7	0.7	0.7
85°	0.0	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	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)