

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: P226114

Luminaire Tested: **MRZ-1-REC-X-1-L27-97-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P226114  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14882)  
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-L27-97-WFL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 1  
Light Source: (1) 2700K CCT, 97 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 291.1 lumens  
Efficiency: N/A  
Efficacy: 53.9 lumens/watt  
Spacing Criteria (0/90/45): 0.88 / 0.83 / 0.87  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

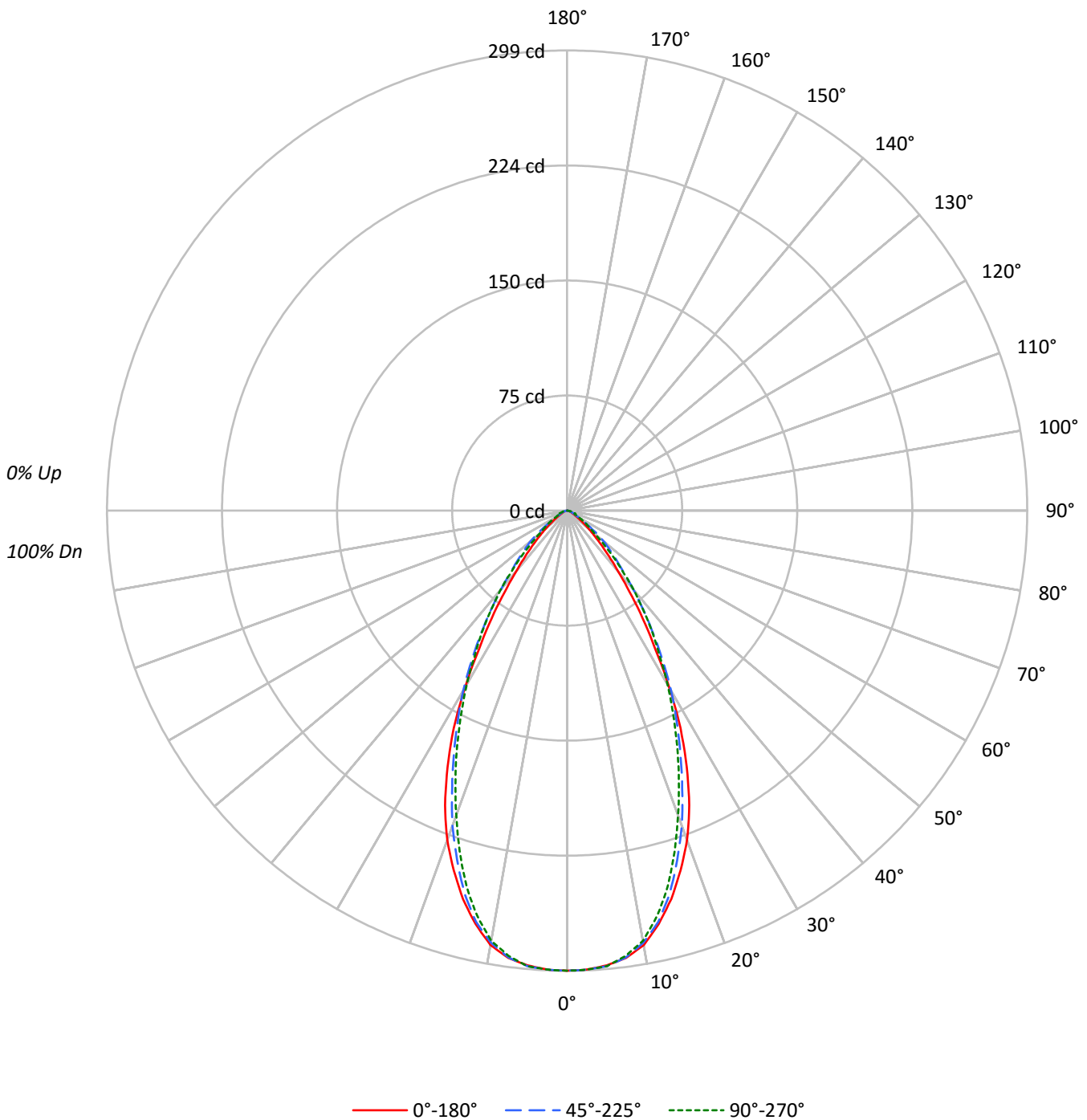
Input Watts (W): 5.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94				92	
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86				84	
3	100	93	88	84	98	92	87	83	89	85	81	87	83	80	84	81	79				77	
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	76	73				71	
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67				65	
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62				61	
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	66	61	58				56	
8	76	66	59	55	75	65	59	55	64	58	54	63	58	54	62	57	54				52	
9	72	62	55	51	71	61	55	51	60	55	51	59	54	51	58	54	50				49	
10	68	58	52	48	67	58	52	48	57	51	48	56	51	47	55	51	47				46	

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

	0°	45°	90°
0°	147520	147520	147520
5°	146895	147143	147143
10°	143584	142832	142131
15°	133468	131527	129075
20°	119605	114354	110627
25°	100112	94668	92055
30°	75657	77024	74290
35°	51497	58725	58122
40°	33234	43088	43345
45°	21281	31329	29026
50°	13586	23871	17961
55°	8258	13591	13161
60°	5230	7598	8486
65°	3853	5604	6187
70°	3462	4760	8223
75°	2669	3622	5528
80°	1137	2841	3978
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	28.0	9.6
10°-20°	71.3	24.5
20°-30°	80.3	27.6
30°-40°	59.4	20.4
40°-50°	31.6	10.9
50°-60°	13.0	4.5
60°-70°	5.1	1.7
70°-80°	2.3	0.8
80°-90°	0.2	0.1
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°	179.5	61.7
0°-40°	238.9	82.1
0°-60°	283.5	97.4
0°-90°	291.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	291.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	299	299	299	299	299	
5°	297	297	297	297	297	28
15°	261	259	258	254	253	73
25°	184	182	174	170	169	83
35°	86	94	98	96	96	54
45°	30	34	45	44	42	25
55°	10	11	16	15	15	9
65°	3	5	5	6	5	4
75°	1	1	2	3	3	2
85°	0	0	0	0	0	0
90°	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°	299.0	299.0	299.0	299.0	299.0	299.0	299.0	299.0	299.0	299.0	299.0
2.5°	298.5	298.5	298.5	298.5	298.5	298.5	298.5	298.5	298.5	298.5	298.5
5°	296.6	296.6	296.6	296.6	296.6	296.6	296.6	297.1	296.6	297.1	297.1
7.5°	293.2	292.8	292.8	292.8	292.8	292.8	292.8	292.8	292.8	292.8	292.8
10°	286.6	286.1	286.1	285.1	285.7	285.1	285.1	285.1	285.1	285.1	285.1
12.5°	275.1	275.1	274.7	274.1	273.7	273.7	273.7	273.7	273.7	273.7	273.7
15°	261.3	261.3	260.8	259.9	259.4	258.9	258.4	258.4	257.9	257.9	257.5
17.5°	245.0	245.0	244.1	243.2	242.2	241.7	240.8	239.8	239.3	238.8	237.9
20°	227.8	227.8	226.4	225.9	224.1	223.5	222.1	220.7	218.8	218.3	217.8
22.5°	207.3	206.4	205.9	205.9	204.4	203.4	202.6	200.6	197.7	196.8	195.4
25°	183.9	183.4	183.4	182.9	182.5	181.5	182.0	180.6	178.2	176.2	173.9
27.5°	159.5	159.1	158.6	159.1	160.1	160.1	159.5	158.6	157.6	155.2	153.8
30°	132.8	132.8	133.7	135.2	136.6	137.1	137.6	137.1	136.6	135.2	135.2
32.5°	106.5	107.5	108.5	111.8	113.2	114.2	114.6	116.0	116.0	116.0	115.2
35°	85.5	85.5	87.4	89.8	91.7	93.6	94.1	96.1	97.5	97.5	97.5
37.5°	66.4	66.9	68.8	70.7	73.1	74.0	75.0	77.8	79.8	80.7	81.2
40°	51.6	52.6	53.5	55.4	57.8	58.3	59.3	61.6	64.0	65.9	66.9
42.5°	40.1	40.1	41.1	42.5	43.9	45.3	46.3	47.8	50.6	52.0	54.0
45°	30.5	31.1	31.5	32.5	33.9	34.4	35.4	37.2	39.2	41.1	44.9
47.5°	23.4	23.4	23.9	24.4	25.8	26.2	26.8	28.7	30.5	34.4	37.2
50°	17.7	17.7	17.7	18.1	19.1	20.1	20.5	22.0	25.8	28.7	31.1
52.5°	12.9	12.9	12.9	13.8	14.4	14.8	15.3	17.2	22.0	22.4	23.4
55°	9.6	9.6	9.6	10.0	11.0	11.4	12.0	15.3	16.2	17.7	15.8
57.5°	7.1	7.1	7.1	7.7	8.1	8.6	9.6	12.0	13.4	11.4	11.0
60°	5.3	5.3	5.3	5.7	6.7	7.1	8.1	9.1	9.1	8.1	7.7
62.5°	4.3	4.3	4.3	4.3	5.3	6.2	6.2	7.1	6.2	5.7	5.7
65°	3.3	3.3	3.3	3.8	4.3	4.8	5.3	4.8	4.3	4.3	4.8
67.5°	2.9	2.9	2.9	2.9	3.8	3.8	3.8	3.3	3.3	3.3	3.8
70°	2.4	2.4	2.4	2.4	2.9	2.9	2.9	2.4	2.4	2.9	3.3
72.5°	1.9	1.9	1.9	2.4	2.4	2.4	1.9	1.9	1.9	2.4	2.4
75°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.9	1.9	1.9
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.4	1.4	1.4
80°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.0
82.5°	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4
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°	299.0	299.0	299.0	299.0	299.0	299.0	299.0	299.0	299.0	299.0
2.5°	298.5	298.5	299.0	298.5	298.5	298.5	298.5	298.5	298.5	298.5
5°	297.1	297.1	297.1	297.1	297.1	297.1	297.1	297.1	297.1	297.1
7.5°	292.8	292.8	292.8	292.4	292.4	292.4	292.4	292.4	292.4	291.8
10°	285.1	285.1	284.7	284.2	284.7	283.7	283.7	283.2	283.2	283.7
12.5°	273.3	272.7	271.8	271.8	271.3	270.8	270.4	270.4	269.9	269.9
15°	257.5	256.5	255.6	255.0	254.1	254.6	254.1	253.2	253.2	252.7
17.5°	238.3	237.4	235.9	234.5	234.5	234.1	234.1	233.1	232.6	232.2
20°	216.4	215.9	215.4	214.0	213.5	212.5	211.6	211.6	210.1	210.7
22.5°	194.4	193.9	193.0	192.5	191.6	191.6	190.6	190.6	189.6	189.6
25°	173.4	172.9	171.9	171.5	170.5	170.5	169.6	170.1	169.1	169.1
27.5°	152.4	151.9	151.0	151.4	150.5	150.0	149.5	149.5	149.0	149.0
30°	133.3	131.8	131.8	131.4	130.9	130.9	130.9	129.9	129.9	130.4
32.5°	114.6	113.7	113.2	113.2	113.7	113.2	112.7	112.7	112.2	111.8
35°	97.5	96.9	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5
37.5°	81.2	81.7	81.2	81.7	82.1	81.7	81.2	80.7	80.7	80.7
40°	67.3	68.3	68.8	67.8	67.3	67.3	66.9	67.3	66.9	67.3
42.5°	56.3	56.9	55.9	56.3	56.9	56.9	55.9	54.5	53.5	53.0
45°	45.9	46.8	49.2	45.9	44.5	43.9	42.5	42.0	41.6	41.6
47.5°	39.2	41.1	36.3	34.9	33.9	33.9	32.9	32.0	32.0	31.5
50°	32.0	28.2	27.2	26.2	25.4	24.8	24.4	23.9	23.9	23.4
52.5°	21.5	20.5	19.5	19.1	18.7	18.7	18.7	18.7	18.7	18.7
55°	15.3	14.8	14.4	14.8	14.8	15.3	15.8	15.8	15.8	15.3
57.5°	10.5	10.5	11.4	12.4	12.4	12.4	12.4	12.0	12.0	12.0
60°	8.1	8.6	9.6	9.6	9.6	10.0	9.6	9.1	8.6	8.6
62.5°	6.2	7.1	7.7	7.7	7.1	7.1	6.7	6.7	6.7	6.7
65°	5.3	5.7	5.7	5.7	5.7	5.3	4.8	4.8	5.3	5.3
67.5°	4.3	4.3	4.3	3.8	3.8	4.3	4.8	5.3	5.3	5.7
70°	3.3	3.3	3.3	3.8	4.3	4.3	5.3	5.3	5.7	5.7
72.5°	2.4	2.4	3.3	3.8	4.3	4.3	4.3	3.8	3.8	3.8
75°	1.9	2.4	3.3	2.9	2.9	2.9	2.9	2.9	2.9	2.9
77.5°	1.4	1.9	1.9	1.4	1.9	1.9	1.9	2.4	2.4	2.9
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.4	1.4	1.4	1.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
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)