

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: P219763

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219763  
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-1H-L27-97-FL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
40 DEGREE 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: 361.7 lumens  
Efficiency: N/A  
Efficacy: 53.2 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

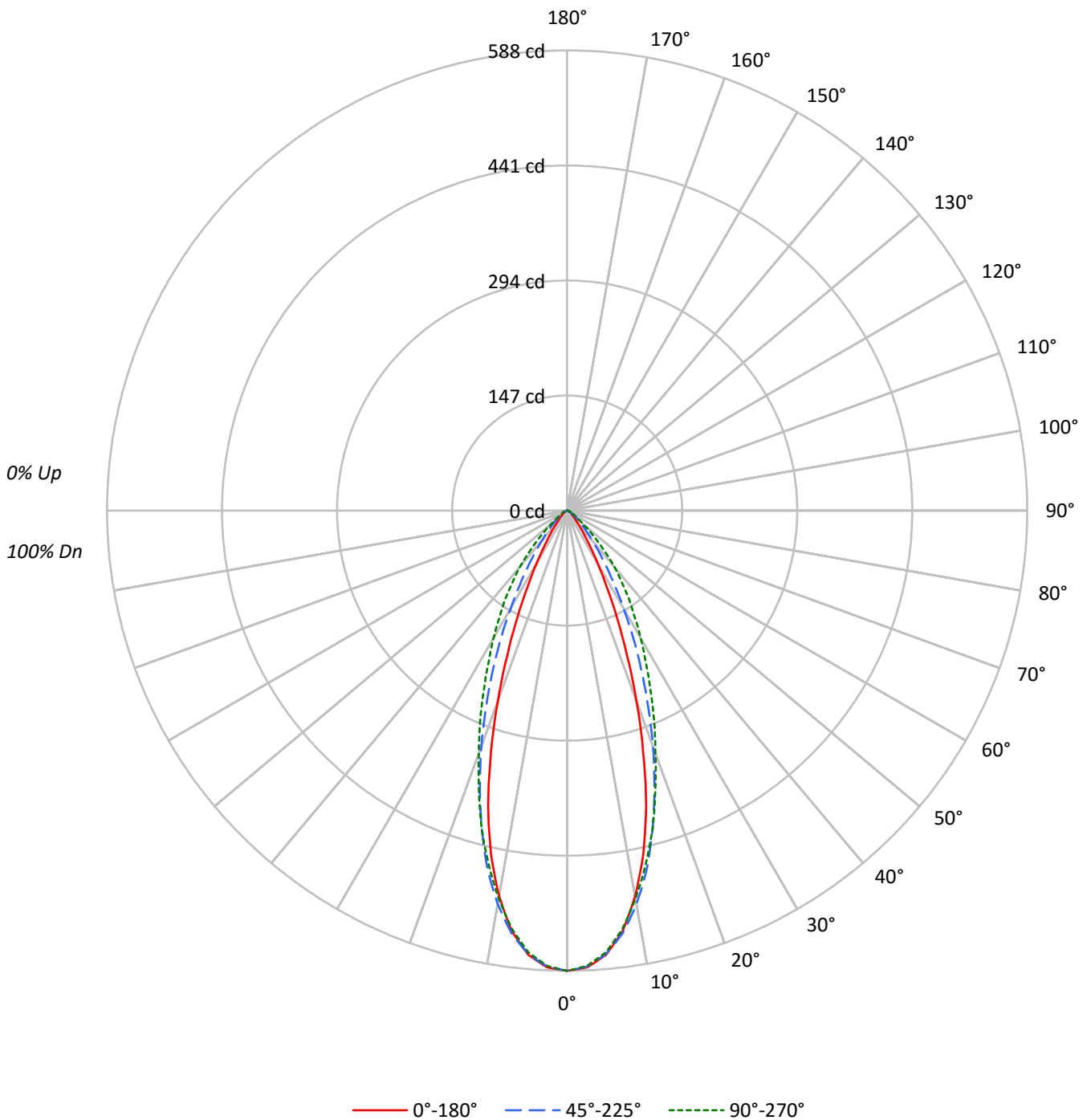
Input Watts (W): 6.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	290157	290157	290157
5°	282251	281706	280666
10°	250646	255756	252249
15°	199257	215347	215347
20°	135986	168276	173317
25°	81277	121779	136913
30°	44836	81696	106991
35°	23550	52521	82817
40°	13461	32074	60671
45°	8582	20514	37678
50°	6140	13586	19726
55°	5075	7828	12387
60°	4243	4736	7894
65°	3736	3736	6304
70°	3029	3029	8511
75°	3050	2097	5147
80°	1421	1421	3125
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.3	14.4
10°-20°	113.6	31.4
20°-30°	98.2	27.2
30°-40°	56.8	15.7
40°-50°	25.7	7.1
50°-60°	9.1	2.5
60°-70°	4.0	1.1
70°-80°	1.9	0.5
80°-90°	0.1	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°	264.1	73.0
0°-40°	320.9	88.7
0°-60°	355.7	98.3
0°-90°	361.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	361.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	588	588	588	588	588	
5°	570	569	569	567	567	52
15°	390	402	422	425	422	106
25°	149	172	224	256	252	70
35°	39	51	87	130	138	26
45°	12	15	29	51	54	10
55°	6	6	9	12	14	5
65°	3	4	3	5	5	3
75°	2	2	1	2	3	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CATALOG NUMBER: MRZ-1-REC-X-1H-L27-97-FL-UNV-X-STD-LSL

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	588.1	588.1	588.1	588.1	588.1	588.1	588.1	588.1	588.1	588.1	588.1
2.5°	584.3	583.2	583.2	583.2	583.8	583.8	583.2	583.2	583.2	583.2	583.2
5°	569.9	568.8	568.8	569.3	568.8	569.3	568.8	569.9	569.3	568.8	568.8
7.5°	542.0	542.0	542.0	542.6	543.1	543.1	543.1	544.2	544.2	545.3	544.7
10°	500.3	501.4	501.4	503.0	504.6	503.5	504.1	507.3	508.3	509.4	510.5
12.5°	449.5	451.1	452.1	453.2	454.8	456.4	457.0	462.3	463.9	466.1	469.8
15°	390.1	389.5	392.8	394.4	399.2	401.8	403.5	408.8	414.2	417.4	421.6
17.5°	323.2	324.8	326.4	330.7	336.6	340.3	342.5	348.9	357.4	364.4	370.8
20°	259.0	262.2	263.8	268.6	274.5	276.6	282.5	291.1	302.3	312.0	320.5
22.5°	199.6	201.2	205.5	210.8	217.2	222.1	227.9	236.5	248.3	257.9	269.7
25°	149.3	149.8	155.2	160.0	166.9	171.8	175.0	186.2	198.5	210.8	223.7
27.5°	108.6	109.7	112.9	117.7	125.2	128.4	133.8	143.4	155.2	168.6	181.9
30°	78.7	78.7	80.8	86.1	91.5	95.8	99.5	108.6	119.9	131.1	143.4
32.5°	55.1	55.6	57.8	61.5	66.9	70.1	72.8	81.3	90.4	101.7	112.4
35°	39.1	39.6	41.7	43.9	48.2	50.8	53.0	59.4	67.4	77.1	87.2
37.5°	28.4	28.9	30.0	31.6	34.8	36.4	38.5	43.9	50.3	57.8	66.9
40°	20.9	21.4	21.9	23.5	25.7	26.8	28.4	32.1	36.9	43.3	49.8
42.5°	16.1	16.1	16.6	17.7	18.7	19.8	20.9	23.5	27.3	32.1	38.0
45°	12.3	12.3	12.8	13.9	14.4	15.0	16.1	17.7	20.3	24.1	29.4
47.5°	10.2	10.2	10.2	10.7	11.2	11.8	12.3	13.9	15.5	19.3	22.5
50°	8.0	8.0	8.6	8.6	9.1	9.1	9.6	10.7	12.8	15.5	17.7
52.5°	7.0	7.0	7.0	7.0	7.0	7.5	7.5	8.6	10.7	11.8	12.8
55°	5.9	5.9	5.9	5.9	5.9	5.9	6.4	7.5	8.6	9.6	9.1
57.5°	4.8	4.8	4.8	4.8	4.8	5.4	5.4	6.4	7.0	6.4	6.4
60°	4.3	4.3	3.7	3.7	4.3	4.3	4.8	5.4	5.4	4.8	4.8
62.5°	3.7	3.2	3.2	3.2	3.7	4.3	4.3	4.3	3.7	3.7	3.7
65°	3.2	2.7	2.7	3.2	3.2	3.7	3.7	3.2	3.2	3.2	3.2
67.5°	2.7	2.7	2.7	2.7	3.2	3.2	3.2	2.7	2.7	2.7	2.7
70°	2.1	2.1	2.1	2.1	2.7	2.7	2.1	2.1	2.1	2.1	2.1
72.5°	1.6	1.6	1.6	2.1	2.1	2.1	1.6	1.6	1.6	2.1	1.6
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.1	1.1	1.6	1.6	1.1
77.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
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°	588.1	588.1	588.1	588.1	588.1	588.1	588.1	588.1	588.1	588.1
2.5°	582.7	582.7	582.2	582.7	582.7	582.7	582.7	582.2	582.7	582.2
5°	568.3	568.3	568.3	567.2	566.7	567.2	566.7	566.1	566.1	566.7
7.5°	543.6	543.6	543.1	542.0	542.0	541.5	540.4	539.9	539.4	539.4
10°	511.5	511.0	509.4	508.9	508.9	507.3	505.1	505.1	503.0	503.5
12.5°	471.4	470.3	469.8	469.8	467.7	467.7	466.1	465.5	464.5	463.4
15°	423.3	424.9	425.9	425.4	425.4	423.8	423.3	422.2	420.6	421.6
17.5°	375.6	379.4	380.4	382.1	382.6	381.5	379.9	377.2	375.6	374.6
20°	328.5	333.9	337.6	338.7	338.7	338.2	337.6	333.4	332.8	330.1
22.5°	279.8	287.3	293.8	295.9	296.4	297.0	294.8	291.6	290.6	290.0
25°	234.4	244.5	251.0	255.2	256.3	257.9	256.8	255.2	252.0	251.5
27.5°	193.2	203.9	212.4	217.8	220.5	221.5	222.6	219.9	218.8	216.7
30°	156.2	168.6	177.6	185.1	186.7	188.9	189.4	190.0	187.8	187.8
32.5°	124.7	134.8	146.1	153.6	156.8	158.4	161.1	160.5	160.5	160.0
35°	97.9	108.1	118.3	126.3	130.0	132.2	135.4	137.0	137.5	137.5
37.5°	75.4	85.6	94.7	104.3	108.1	110.8	112.9	113.4	114.0	113.4
40°	57.8	67.4	76.5	82.9	85.6	87.8	90.4	92.6	93.6	94.2
42.5°	45.5	52.4	58.3	64.7	69.0	72.2	72.8	72.2	72.2	71.7
45°	34.2	39.6	48.7	50.3	51.4	51.9	53.5	54.0	54.0	54.0
47.5°	27.3	33.2	33.2	35.3	36.4	38.0	38.5	38.5	38.5	38.5
50°	20.3	21.4	23.0	24.6	25.1	25.1	25.7	25.7	25.7	25.7
52.5°	13.4	15.0	15.5	16.1	16.6	17.1	18.2	18.7	18.2	18.2
55°	9.6	10.2	10.7	11.8	11.8	12.3	14.4	14.4	14.4	14.4
57.5°	6.4	7.0	8.0	9.6	9.6	10.2	10.7	10.7	11.2	11.2
60°	5.4	5.9	6.4	7.0	7.5	8.6	9.6	8.0	8.0	8.0
62.5°	4.3	4.8	5.4	5.9	5.4	5.9	6.4	6.4	6.4	6.4
65°	3.7	4.3	3.7	4.3	4.8	4.8	4.3	4.8	4.8	5.4
67.5°	3.2	3.2	3.2	3.2	3.2	3.7	4.8	5.4	5.9	5.9
70°	2.1	2.1	2.1	3.2	3.2	3.7	4.3	5.4	5.4	5.9
72.5°	1.6	1.6	2.1	2.7	3.2	3.2	3.7	3.7	4.3	4.3
75°	1.6	1.6	2.1	2.1	2.1	2.1	2.7	2.7	2.7	2.7
77.5°	1.1	1.1	1.1	1.1	1.6	1.6	1.6	2.1	2.1	2.1
80°	0.5	0.5	0.5	0.5	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.5	0.5	0.5
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)