

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: P219883

Luminaire Tested: **MRZ-1-REC-X-1H-L27-80-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219883
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-1H-L27-80-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, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 456.9 lumens
Efficiency: N/A
Efficacy: 67.2 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

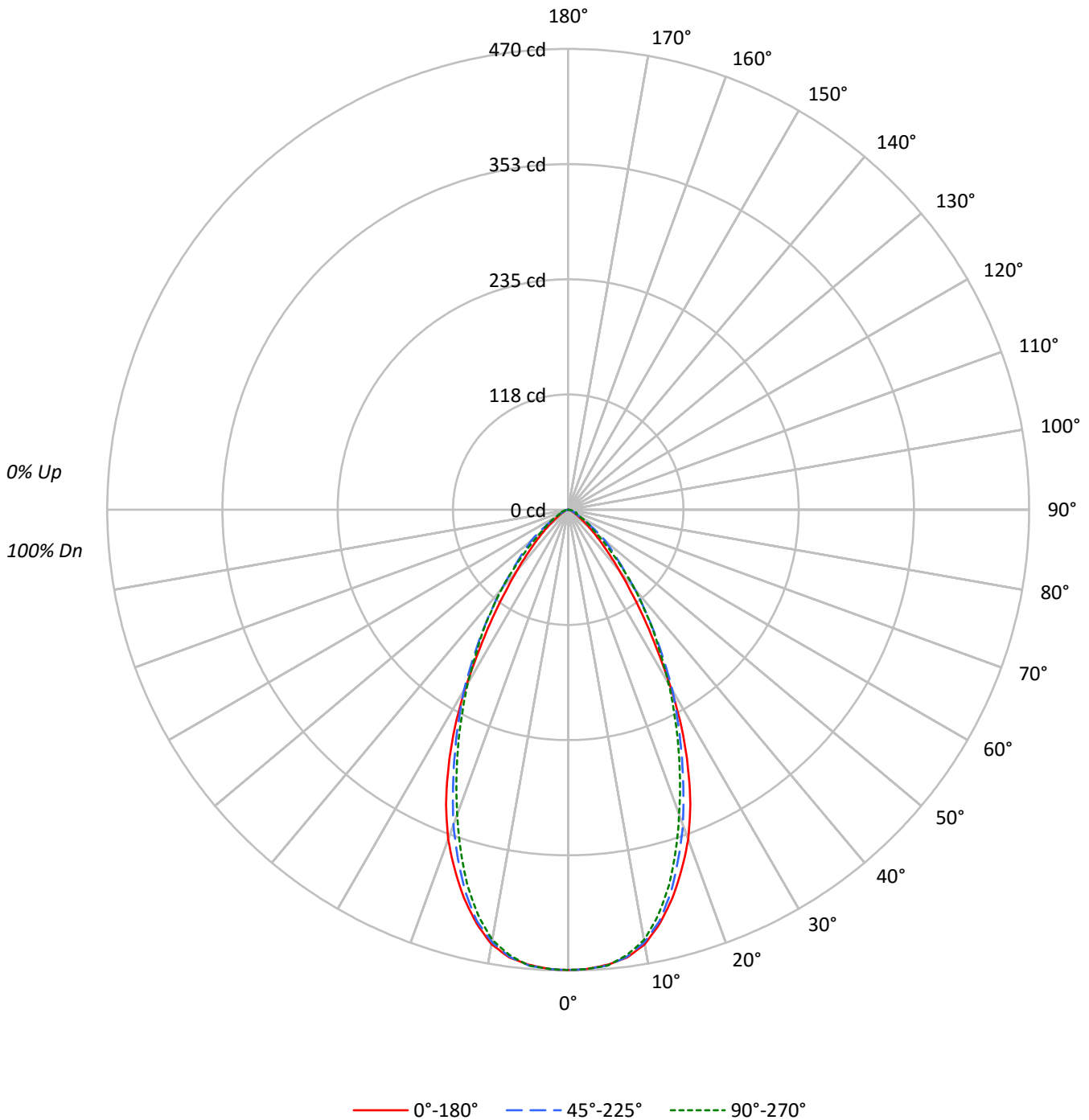
Input Watts (W): 6.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	96	95	94	92		
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	92	92	88	86	84	84		
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84	84	84	81	79	77	77		
3	100	93	88	84	98	92	87	83	89	85	81	87	83	80	84	81	79	77	77	77	74	73	71	71		
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	76	73	71	71	71	68	67	65	65		
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	65	65	65	62	61	59	59		
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61	61	61	58	57	55	55		
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	66	61	58	56	56	56	53	52	50	50		
8	76	66	59	55	75	65	59	55	64	58	54	63	58	54	62	57	54	52	52	52	49	48	46	46		
9	72	62	55	51	71	61	55	51	60	55	51	59	54	51	58	54	50	49	49	49	46	45	43	43		
10	68	58	52	48	67	58	52	48	57	51	48	56	51	47	55	51	47	46	46	46	43	42	40	40		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	231642	231642	231642
5°	230645	231041	231041
10°	225446	224294	223191
15°	209524	206459	202628
20°	187808	179565	173632
25°	157164	148617	144534
30°	118784	120892	116619
35°	80829	92153	91249
40°	52169	67626	68077
45°	33492	49191	45493
50°	21261	37380	28170
55°	12903	21246	20644
60°	8091	11841	13321
65°	6071	8756	9573
70°	5337	7501	12983
75°	4194	5719	8578
80°	1989	4262	6251
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.9	9.6
10°-20°	111.9	24.5
20°-30°	126.0	27.6
30°-40°	93.2	20.4
40°-50°	49.7	10.9
50°-60°	20.4	4.5
60°-70°	7.9	1.7
70°-80°	3.5	0.8
80°-90°	0.3	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°	281.8	61.7
0°-40°	375.0	82.1
0°-60°	445.1	97.4
0°-90°	456.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	456.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	470	470	470	470	470	
5°	466	466	466	466	466	44
15°	410	406	404	399	397	114
25°	289	285	273	268	266	131
35°	134	147	153	152	152	85
45°	48	54	70	70	65	39
55°	15	18	25	23	24	14
65°	5	8	8	9	8	6
75°	2	2	3	4	4	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°	469.5	469.5	469.5	469.5	469.5	469.5	469.5	469.5	469.5	469.5	469.5
2.5°	468.7	468.7	468.7	468.7	468.7	468.7	468.7	468.7	468.7	468.7	468.7
5°	465.7	465.7	465.7	465.7	465.7	465.7	465.7	466.5	465.7	466.5	466.5
7.5°	460.5	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7
10°	450.0	449.2	449.2	447.7	448.5	447.7	447.7	447.7	447.7	447.7	447.7
12.5°	432.0	432.0	431.2	430.5	429.7	429.7	429.7	429.7	429.7	429.7	429.7
15°	410.2	410.2	409.5	408.0	407.2	406.5	405.7	405.7	405.0	405.0	404.2
17.5°	384.7	384.7	383.2	381.7	380.2	379.5	378.0	376.5	375.7	375.0	373.5
20°	357.7	357.7	355.5	354.7	351.7	351.0	348.7	346.5	343.5	342.7	342.0
22.5°	325.5	324.0	323.2	323.2	321.0	319.5	318.0	315.0	310.5	309.0	306.7
25°	288.7	288.0	288.0	287.2	286.5	285.0	285.7	283.5	279.7	276.7	273.0
27.5°	250.5	249.7	249.0	249.7	251.2	251.2	250.5	249.0	247.5	243.7	241.5
30°	208.5	208.5	210.0	212.2	214.5	215.2	216.0	215.2	214.5	212.2	212.2
32.5°	167.2	168.7	170.2	175.5	177.7	179.2	180.0	182.2	182.2	182.2	180.7
35°	134.2	134.2	137.2	141.0	144.0	147.0	147.7	150.7	153.0	153.0	153.0
37.5°	104.2	105.0	108.0	111.0	114.7	116.2	117.7	122.2	125.2	126.7	127.5
40°	81.0	82.5	84.0	87.0	90.7	91.5	93.0	96.7	100.5	103.5	105.0
42.5°	63.0	63.0	64.5	66.7	69.0	71.2	72.7	75.0	79.5	81.7	84.7
45°	48.0	48.7	49.5	51.0	53.2	54.0	55.5	58.5	61.5	64.5	70.5
47.5°	36.7	36.7	37.5	38.2	40.5	41.2	42.0	45.0	48.0	54.0	58.5
50°	27.7	27.7	27.7	28.5	30.0	31.5	32.2	34.5	40.5	45.0	48.7
52.5°	20.2	20.2	20.2	21.7	22.5	23.2	24.0	27.0	34.5	35.2	36.7
55°	15.0	15.0	15.0	15.7	17.2	18.0	18.7	24.0	25.5	27.7	24.7
57.5°	11.2	11.2	11.2	12.0	12.7	13.5	15.0	18.7	21.0	18.0	17.2
60°	8.2	8.2	8.2	9.0	10.5	11.2	12.7	14.2	14.2	12.7	12.0
62.5°	6.7	6.7	6.7	6.7	8.2	9.7	9.7	11.2	9.7	9.0	9.0
65°	5.2	5.2	5.2	6.0	6.7	7.5	8.2	7.5	6.7	6.7	7.5
67.5°	4.5	4.5	4.5	4.5	6.0	6.0	6.0	5.2	5.2	5.2	6.0
70°	3.7	3.7	3.7	3.7	4.5	4.5	4.5	3.7	3.7	4.5	5.2
72.5°	3.0	3.0	3.0	3.7	3.7	3.7	3.0	3.0	3.0	3.7	3.7
75°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	3.0	3.0	3.0
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.2	2.2	2.2
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.5
82.5°	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.7	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	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°	469.5	469.5	469.5	469.5	469.5	469.5	469.5	469.5	469.5	469.5
2.5°	468.7	468.7	469.5	468.7	468.7	468.7	468.7	468.7	468.7	468.7
5°	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5
7.5°	459.7	459.7	459.7	459.0	459.0	459.0	459.0	459.0	459.0	458.2
10°	447.7	447.7	447.0	446.2	447.0	445.5	445.5	444.7	444.7	445.5
12.5°	429.0	428.2	426.7	426.7	426.0	425.2	424.5	424.5	423.7	423.7
15°	404.2	402.7	401.2	400.5	399.0	399.7	399.0	397.5	397.5	396.7
17.5°	374.2	372.7	370.5	368.2	368.2	367.5	367.5	366.0	365.2	364.5
20°	339.7	339.0	338.2	336.0	335.2	333.7	332.2	332.2	330.0	330.7
22.5°	305.2	304.5	303.0	302.2	300.7	300.7	299.2	299.2	297.7	297.7
25°	272.2	271.5	270.0	269.2	267.7	267.7	266.2	267.0	265.5	265.5
27.5°	239.2	238.5	237.0	237.7	236.2	235.5	234.7	234.7	234.0	234.0
30°	209.2	207.0	207.0	206.2	205.5	205.5	205.5	204.0	204.0	204.7
32.5°	180.0	178.5	177.7	177.7	178.5	177.7	177.0	177.0	176.2	175.5
35°	153.0	152.2	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.5
37.5°	127.5	128.2	127.5	128.2	129.0	128.2	127.5	126.7	126.7	126.7
40°	105.7	107.2	108.0	106.5	105.7	105.7	105.0	105.7	105.0	105.7
42.5°	88.5	89.2	87.7	88.5	89.2	89.2	87.7	85.5	84.0	83.2
45°	72.0	73.5	77.2	72.0	69.7	69.0	66.7	66.0	65.2	65.2
47.5°	61.5	64.5	57.0	54.7	53.2	53.2	51.7	50.2	50.2	49.5
50°	50.2	44.2	42.7	41.2	39.7	39.0	38.2	37.5	37.5	36.7
52.5°	33.7	32.2	30.7	30.0	29.2	29.2	29.2	29.2	29.2	29.2
55°	24.0	23.2	22.5	23.2	23.2	24.0	24.7	24.7	24.7	24.0
57.5°	16.5	16.5	18.0	19.5	19.5	19.5	19.5	18.7	18.7	18.7
60°	12.7	13.5	15.0	15.0	15.0	15.7	15.0	14.2	13.5	13.5
62.5°	9.7	11.2	12.0	12.0	11.2	11.2	10.5	10.5	10.5	10.5
65°	8.2	9.0	9.0	9.0	9.0	8.2	7.5	7.5	8.2	8.2
67.5°	6.7	6.7	6.7	6.0	6.0	6.7	7.5	8.2	8.2	9.0
70°	5.2	5.2	5.2	6.0	6.7	6.7	8.2	8.2	9.0	9.0
72.5°	3.7	3.7	5.2	6.0	6.7	6.7	6.7	6.0	6.0	6.0
75°	3.0	3.7	5.2	4.5	4.5	4.5	4.5	4.5	4.5	4.5
77.5°	2.2	3.0	3.0	2.2	3.0	3.0	3.0	3.7	3.7	4.5
80°	1.5	1.5	1.5	1.5	1.5	1.5	2.2	2.2	2.2	2.2
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	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)