

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: P219887

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219887
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-L27-97-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: 326.1 lumens
Efficiency: N/A
Efficacy: 48.0 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

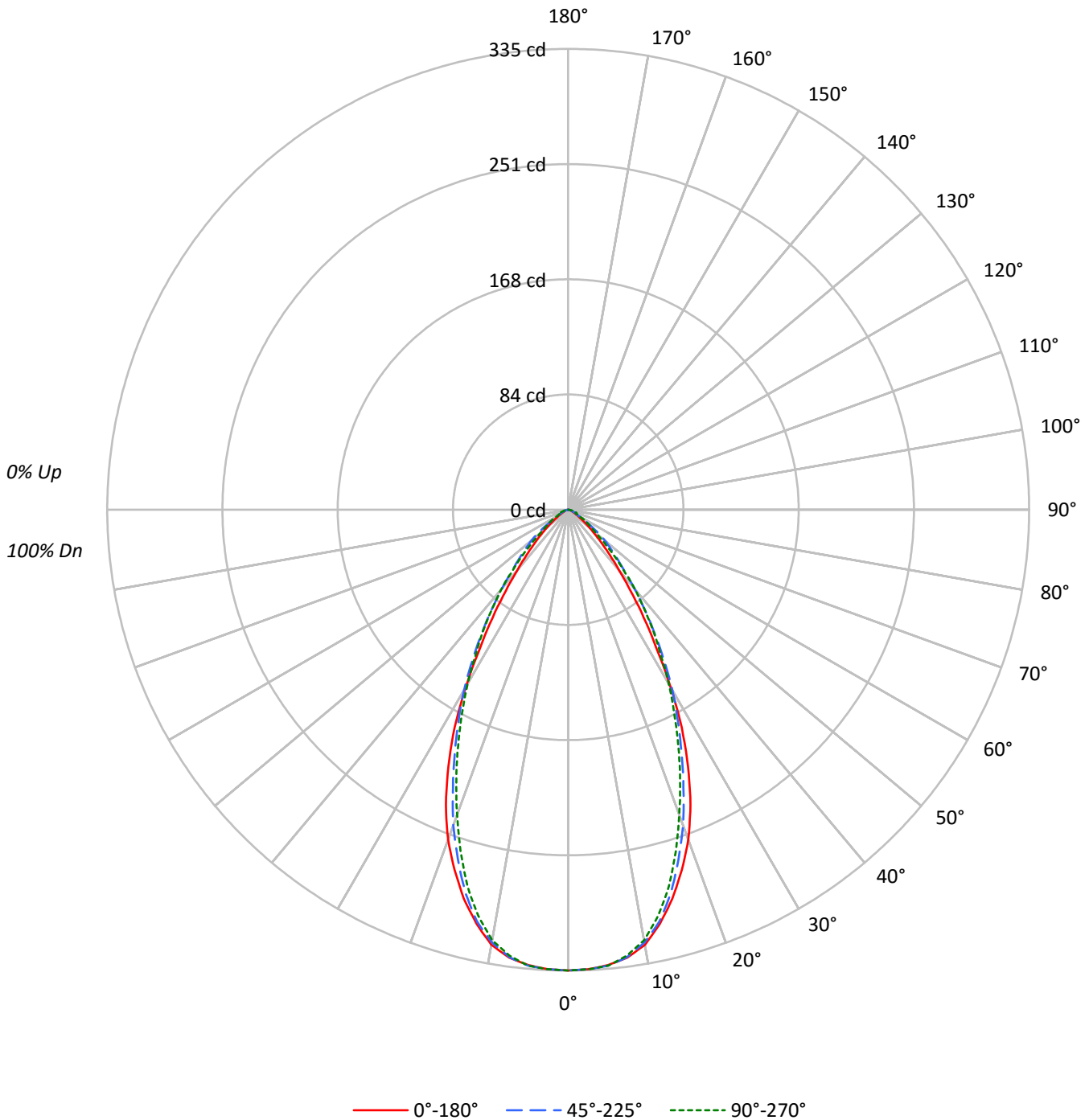
Input Watts (W): 6.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	165282	165282	165282
5°	164576	164824	164824
10°	160868	160016	159215
15°	149507	147310	144603
20°	133991	128111	123910
25°	112143	106046	103106
30°	84772	86253	83234
35°	57701	65772	65109
40°	37227	48240	48562
45°	23863	35097	32515
50°	15198	26711	20110
55°	9204	15225	14709
60°	5822	8486	9473
65°	4320	6304	6888
70°	3895	5337	9232
75°	3050	4003	6100
80°	1421	3125	4546
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.3	9.6
10°-20°	79.9	24.5
20°-30°	89.9	27.6
30°-40°	66.5	20.4
40°-50°	35.5	10.9
50°-60°	14.6	4.5
60°-70°	5.7	1.7
70°-80°	2.5	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°	201.1	61.7
0°-40°	267.6	82.1
0°-60°	317.6	97.4
0°-90°	326.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	326.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	332	332	333	333	333	31
15°	293	290	288	285	283	81
25°	206	203	195	191	189	93
35°	96	105	109	108	108	61
45°	34	38	50	50	47	27
55°	11	13	18	17	17	10
65°	4	5	5	6	6	4
75°	2	2	2	3	3	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°	335.0	335.0	335.0	335.0	335.0	335.0	335.0	335.0	335.0	335.0	335.0
2.5°	334.4	334.4	334.4	334.4	334.4	334.4	334.4	334.4	334.4	334.4	334.4
5°	332.3	332.3	332.3	332.3	332.3	332.3	332.3	332.8	332.3	332.8	332.8
7.5°	328.5	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0
10°	321.1	320.5	320.5	319.4	320.0	319.4	319.4	319.4	319.4	319.4	319.4
12.5°	308.2	308.2	307.7	307.1	306.6	306.6	306.6	306.6	306.6	306.6	306.6
15°	292.7	292.7	292.2	291.1	290.6	290.0	289.5	289.5	288.9	288.9	288.4
17.5°	274.5	274.5	273.4	272.4	271.3	270.8	269.7	268.6	268.1	267.5	266.5
20°	255.2	255.2	253.6	253.1	251.0	250.4	248.8	247.2	245.1	244.5	244.0
22.5°	232.2	231.2	230.6	230.6	229.0	227.9	226.9	224.7	221.5	220.5	218.9
25°	206.0	205.5	205.5	204.9	204.4	203.3	203.9	202.3	199.6	197.4	194.8
27.5°	178.7	178.2	177.7	178.2	179.3	179.3	178.7	177.7	176.6	173.9	172.3
30°	148.8	148.8	149.8	151.4	153.0	153.6	154.1	153.6	153.0	151.4	151.4
32.5°	119.3	120.4	121.5	125.2	126.8	127.9	128.4	130.0	130.0	130.0	129.0
35°	95.8	95.8	97.9	100.6	102.7	104.9	105.4	107.6	109.2	109.2	109.2
37.5°	74.4	74.9	77.1	79.2	81.9	82.9	84.0	87.2	89.4	90.4	91.0
40°	57.8	58.9	59.9	62.1	64.7	65.3	66.4	69.0	71.7	73.8	74.9
42.5°	44.9	44.9	46.0	47.6	49.2	50.8	51.9	53.5	56.7	58.3	60.5
45°	34.2	34.8	35.3	36.4	38.0	38.5	39.6	41.7	43.9	46.0	50.3
47.5°	26.2	26.2	26.8	27.3	28.9	29.4	30.0	32.1	34.2	38.5	41.7
50°	19.8	19.8	19.8	20.3	21.4	22.5	23.0	24.6	28.9	32.1	34.8
52.5°	14.4	14.4	14.4	15.5	16.1	16.6	17.1	19.3	24.6	25.1	26.2
55°	10.7	10.7	10.7	11.2	12.3	12.8	13.4	17.1	18.2	19.8	17.7
57.5°	8.0	8.0	8.0	8.6	9.1	9.6	10.7	13.4	15.0	12.8	12.3
60°	5.9	5.9	5.9	6.4	7.5	8.0	9.1	10.2	10.2	9.1	8.6
62.5°	4.8	4.8	4.8	4.8	5.9	7.0	7.0	8.0	7.0	6.4	6.4
65°	3.7	3.7	3.7	4.3	4.8	5.4	5.9	5.4	4.8	4.8	5.4
67.5°	3.2	3.2	3.2	3.2	4.3	4.3	4.3	3.7	3.7	3.7	4.3
70°	2.7	2.7	2.7	2.7	3.2	3.2	3.2	2.7	2.7	3.2	3.7
72.5°	2.1	2.1	2.1	2.7	2.7	2.7	2.1	2.1	2.1	2.7	2.7
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.1	2.1	2.1
77.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.6	1.6	1.6
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1
82.5°	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.5	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	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°	335.0	335.0	335.0	335.0	335.0	335.0	335.0	335.0	335.0	335.0
2.5°	334.4	334.4	335.0	334.4	334.4	334.4	334.4	334.4	334.4	334.4
5°	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8
7.5°	328.0	328.0	328.0	327.5	327.5	327.5	327.5	327.5	327.5	326.9
10°	319.4	319.4	318.9	318.4	318.9	317.8	317.8	317.3	317.3	317.8
12.5°	306.1	305.5	304.5	304.5	303.9	303.4	302.9	302.9	302.3	302.3
15°	288.4	287.3	286.3	285.7	284.7	285.2	284.7	283.6	283.6	283.1
17.5°	267.0	265.9	264.3	262.7	262.7	262.2	262.2	261.1	260.6	260.1
20°	242.4	241.9	241.3	239.7	239.2	238.1	237.0	237.0	235.4	236.0
22.5°	217.8	217.2	216.2	215.6	214.6	214.6	213.5	213.5	212.4	212.4
25°	194.2	193.7	192.6	192.1	191.0	191.0	190.0	190.5	189.4	189.4
27.5°	170.7	170.2	169.1	169.6	168.6	168.0	167.5	167.5	166.9	166.9
30°	149.3	147.7	147.7	147.2	146.6	146.6	146.6	145.5	145.5	146.1
32.5°	128.4	127.4	126.8	126.8	127.4	126.8	126.3	126.3	125.7	125.2
35°	109.2	108.6	108.1	108.1	108.1	108.1	108.1	108.1	108.1	108.1
37.5°	91.0	91.5	91.0	91.5	92.0	91.5	91.0	90.4	90.4	90.4
40°	75.4	76.5	77.1	76.0	75.4	75.4	74.9	75.4	74.9	75.4
42.5°	63.1	63.7	62.6	63.1	63.7	63.7	62.6	61.0	59.9	59.4
45°	51.4	52.4	55.1	51.4	49.8	49.2	47.6	47.1	46.6	46.6
47.5°	43.9	46.0	40.7	39.1	38.0	38.0	36.9	35.9	35.9	35.3
50°	35.9	31.6	30.5	29.4	28.4	27.8	27.3	26.8	26.8	26.2
52.5°	24.1	23.0	21.9	21.4	20.9	20.9	20.9	20.9	20.9	20.9
55°	17.1	16.6	16.1	16.6	16.6	17.1	17.7	17.7	17.7	17.1
57.5°	11.8	11.8	12.8	13.9	13.9	13.9	13.9	13.4	13.4	13.4
60°	9.1	9.6	10.7	10.7	10.7	11.2	10.7	10.2	9.6	9.6
62.5°	7.0	8.0	8.6	8.6	8.0	8.0	7.5	7.5	7.5	7.5
65°	5.9	6.4	6.4	6.4	6.4	5.9	5.4	5.4	5.9	5.9
67.5°	4.8	4.8	4.8	4.3	4.3	4.8	5.4	5.9	5.9	6.4
70°	3.7	3.7	3.7	4.3	4.8	4.8	5.9	5.9	6.4	6.4
72.5°	2.7	2.7	3.7	4.3	4.8	4.8	4.8	4.3	4.3	4.3
75°	2.1	2.7	3.7	3.2	3.2	3.2	3.2	3.2	3.2	3.2
77.5°	1.6	2.1	2.1	1.6	2.1	2.1	2.1	2.7	2.7	3.2
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.6	1.6	1.6	1.6
82.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	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)