

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: P219902

Luminaire Tested: **MRZ-1-REC-X-3-L40-80-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219902
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-3-L40-80-WFL-UNV-X-STD-LSL
Description: MRZ INTEGRAL LED DOWNLIGHT
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 3
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 927.9 lumens
Efficiency: N/A
Efficacy: 77.3 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

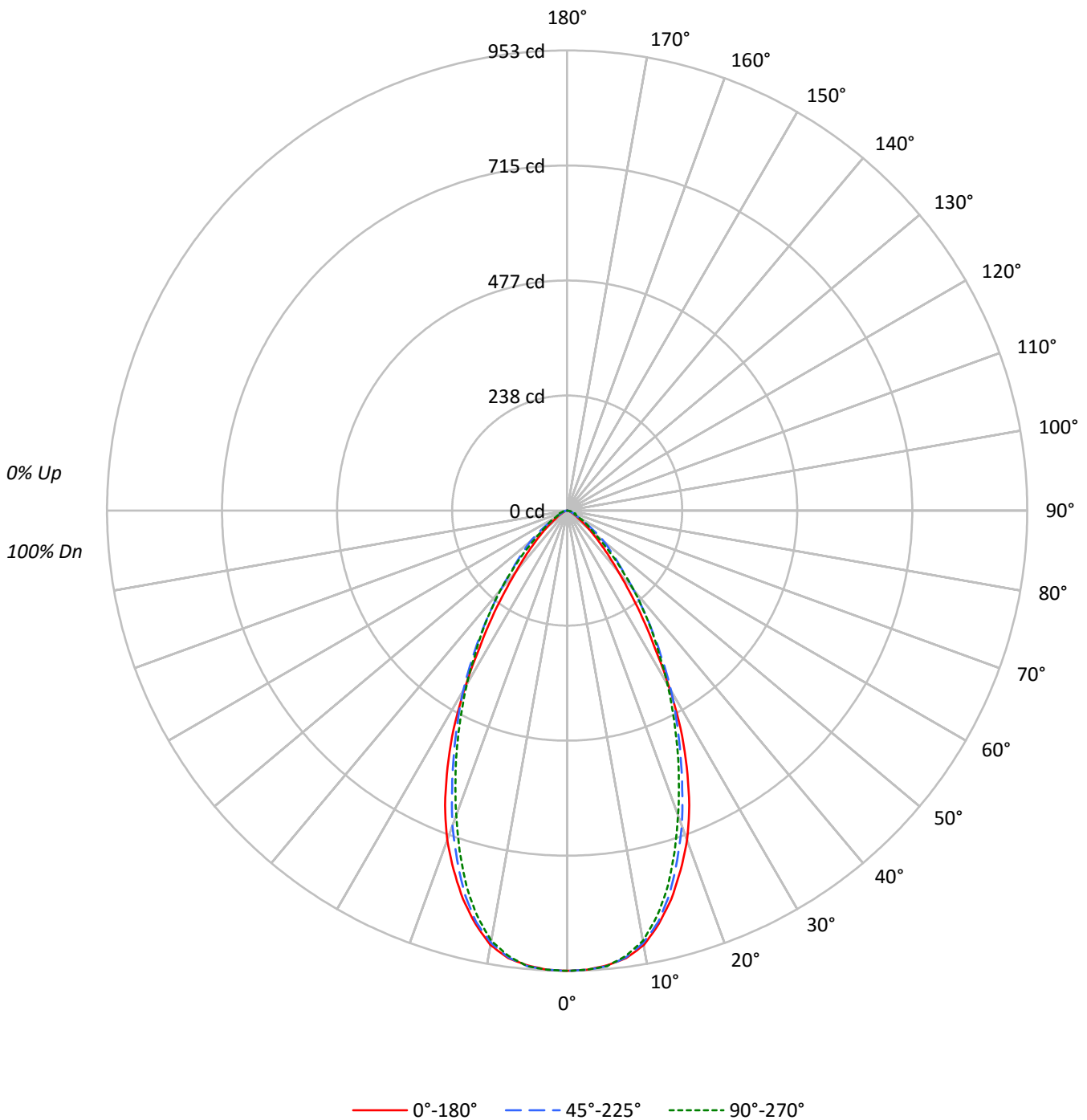
Input Watts (W): 12
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86				84	
3	100	93	88	83	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°	470240	470240	470240
5°	468272	469015	469015
10°	457655	455401	453096
15°	425432	419201	411386
20°	381339	364538	352567
25°	319118	301698	293423
30°	241156	245486	236827
35°	164128	187076	185269
40°	105884	137314	138280
45°	67960	99847	92451
50°	43214	75989	57260
55°	26236	43181	41891
60°	16479	24077	27037
65°	12492	17745	19496
70°	10963	15435	26399
75°	8769	11628	17347
80°	4262	8524	13070
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.1	9.6
10°-20°	227.3	24.5
20°-30°	255.8	27.6
30°-40°	189.2	20.4
40°-50°	100.9	10.9
50°-60°	41.5	4.5
60°-70°	16.2	1.7
70°-80°	7.2	0.8
80°-90°	0.7	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°	572.2	61.7
0°-40°	761.4	82.1
0°-60°	903.8	97.4
0°-90°	927.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	927.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	953	953	953	953	953	
5°	946	946	947	947	947	89
15°	833	825	821	810	805	232
25°	586	579	554	544	539	266
35°	272	298	311	308	308	172
45°	97	110	143	142	132	78
55°	30	36	50	47	49	29
65°	11	15	15	18	17	11
75°	5	5	6	9	9	5
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°	953.1	953.1	953.1	953.1	953.1	953.1	953.1	953.1	953.1	953.1	953.1
2.5°	951.6	951.6	951.6	951.6	951.6	951.6	951.6	951.6	951.6	951.6	951.6
5°	945.5	945.5	945.5	945.5	945.5	945.5	945.5	947.0	945.5	947.0	947.0
7.5°	934.9	933.3	933.3	933.3	933.3	933.3	933.3	933.3	933.3	933.3	933.3
10°	913.5	912.0	912.0	909.0	910.5	909.0	909.0	909.0	909.0	909.0	909.0
12.5°	877.0	877.0	875.5	874.0	872.4	872.4	872.4	872.4	872.4	872.4	872.4
15°	832.9	832.9	831.3	828.3	826.8	825.2	823.7	823.7	822.2	822.2	820.7
17.5°	781.1	781.1	778.0	775.0	771.9	770.4	767.4	764.3	762.8	761.3	758.2
20°	726.3	726.3	721.7	720.2	714.1	712.6	708.0	703.4	697.3	695.8	694.3
22.5°	660.8	657.8	656.2	656.2	651.7	648.6	645.6	639.5	630.3	627.3	622.7
25°	586.2	584.7	584.7	583.1	581.6	578.6	580.1	575.5	567.9	561.8	554.2
27.5°	508.5	507.0	505.5	507.0	510.1	510.1	508.5	505.5	502.5	494.8	490.3
30°	423.3	423.3	426.3	430.9	435.5	437.0	438.5	437.0	435.5	430.9	430.9
32.5°	339.5	342.6	345.6	356.3	360.9	363.9	365.4	370.0	370.0	370.0	366.9
35°	272.5	272.5	278.6	286.2	292.3	298.4	299.9	306.0	310.6	310.6	310.6
37.5°	211.6	213.2	219.3	225.3	233.0	236.0	239.0	248.2	254.3	257.3	258.8
40°	164.4	167.5	170.5	176.6	184.2	185.8	188.8	196.4	204.0	210.1	213.2
42.5°	127.9	127.9	130.9	135.5	140.1	144.6	147.7	152.3	161.4	166.0	172.1
45°	97.4	99.0	100.5	103.5	108.1	109.6	112.7	118.8	124.9	130.9	143.1
47.5°	74.6	74.6	76.1	77.7	82.2	83.7	85.3	91.4	97.4	109.6	118.8
50°	56.3	56.3	56.3	57.9	60.9	63.9	65.5	70.0	82.2	91.4	99.0
52.5°	41.1	41.1	41.1	44.2	45.7	47.2	48.7	54.8	70.0	71.6	74.6
55°	30.5	30.5	30.5	32.0	35.0	36.5	38.1	48.7	51.8	56.3	50.2
57.5°	22.8	22.8	22.8	24.4	25.9	27.4	30.5	38.1	42.6	36.5	35.0
60°	16.7	16.7	16.7	18.3	21.3	22.8	25.9	28.9	28.9	25.9	24.4
62.5°	13.7	13.7	13.7	13.7	16.7	19.8	19.8	22.8	19.8	18.3	18.3
65°	10.7	10.7	10.7	12.2	13.7	15.2	16.7	15.2	13.7	13.7	15.2
67.5°	9.1	9.1	9.1	9.1	12.2	12.2	12.2	10.7	10.7	10.7	12.2
70°	7.6	7.6	7.6	7.6	9.1	9.1	9.1	7.6	7.6	9.1	10.7
72.5°	6.1	6.1	6.1	7.6	7.6	7.6	6.1	6.1	6.1	7.6	7.6
75°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	6.1	6.1	6.1
77.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.6	4.6	4.6
80°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0
82.5°	0.0	1.5	1.5	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5
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°	953.1	953.1	953.1	953.1	953.1	953.1	953.1	953.1	953.1	953.1
2.5°	951.6	951.6	953.1	951.6	951.6	951.6	951.6	951.6	951.6	951.6
5°	947.0	947.0	947.0	947.0	947.0	947.0	947.0	947.0	947.0	947.0
7.5°	933.3	933.3	933.3	931.8	931.8	931.8	931.8	931.8	931.8	930.3
10°	909.0	909.0	907.5	905.9	907.5	904.4	904.4	902.9	902.9	904.4
12.5°	870.9	869.4	866.3	866.3	864.8	863.3	861.8	861.8	860.3	860.3
15°	820.7	817.6	814.6	813.1	810.0	811.5	810.0	807.0	807.0	805.4
17.5°	759.8	756.7	752.2	747.6	747.6	746.1	746.1	743.0	741.5	740.0
20°	689.7	688.2	686.7	682.1	680.6	677.5	674.5	674.5	669.9	671.5
22.5°	619.7	618.2	615.1	613.6	610.6	610.6	607.5	607.5	604.5	604.5
25°	552.7	551.2	548.1	546.6	543.6	543.6	540.5	542.0	539.0	539.0
27.5°	485.7	484.2	481.1	482.7	479.6	478.1	476.6	476.6	475.0	475.0
30°	424.8	420.2	420.2	418.7	417.2	417.2	417.2	414.1	414.1	415.7
32.5°	365.4	362.4	360.9	360.9	362.4	360.9	359.3	359.3	357.8	356.3
35°	310.6	309.1	307.6	307.6	307.6	307.6	307.6	307.6	307.6	307.6
37.5°	258.8	260.4	258.8	260.4	261.9	260.4	258.8	257.3	257.3	257.3
40°	214.7	217.7	219.3	216.2	214.7	214.7	213.2	214.7	213.2	214.7
42.5°	179.7	181.2	178.1	179.7	181.2	181.2	178.1	173.6	170.5	169.0
45°	146.2	149.2	156.8	146.2	141.6	140.1	135.5	134.0	132.5	132.5
47.5°	124.9	130.9	115.7	111.1	108.1	108.1	105.1	102.0	102.0	100.5
50°	102.0	89.8	86.8	83.7	80.7	79.2	77.7	76.1	76.1	74.6
52.5°	68.5	65.5	62.4	60.9	59.4	59.4	59.4	59.4	59.4	59.4
55°	48.7	47.2	45.7	47.2	47.2	48.7	50.2	50.2	50.2	48.7
57.5°	33.5	33.5	36.5	39.6	39.6	39.6	39.6	38.1	38.1	38.1
60°	25.9	27.4	30.5	30.5	30.5	32.0	30.5	28.9	27.4	27.4
62.5°	19.8	22.8	24.4	24.4	22.8	22.8	21.3	21.3	21.3	21.3
65°	16.7	18.3	18.3	18.3	18.3	16.7	15.2	15.2	16.7	16.7
67.5°	13.7	13.7	13.7	12.2	12.2	13.7	15.2	16.7	16.7	18.3
70°	10.7	10.7	10.7	12.2	13.7	13.7	16.7	16.7	18.3	18.3
72.5°	7.6	7.6	10.7	12.2	13.7	13.7	13.7	12.2	12.2	12.2
75°	6.1	7.6	10.7	9.1	9.1	9.1	9.1	9.1	9.1	9.1
77.5°	4.6	6.1	6.1	4.6	6.1	6.1	6.1	7.6	7.6	9.1
80°	3.0	3.0	3.0	3.0	3.0	3.0	4.6	4.6	4.6	4.6
82.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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)