

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: P219891

Luminaire Tested: **MRZ-1-REC-X-2-L27-80-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219891  
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-2-L27-80-WFL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL2  
Light Source: (1) 2700K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 624.9 lumens  
Efficiency: N/A  
Efficacy: 71.0 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

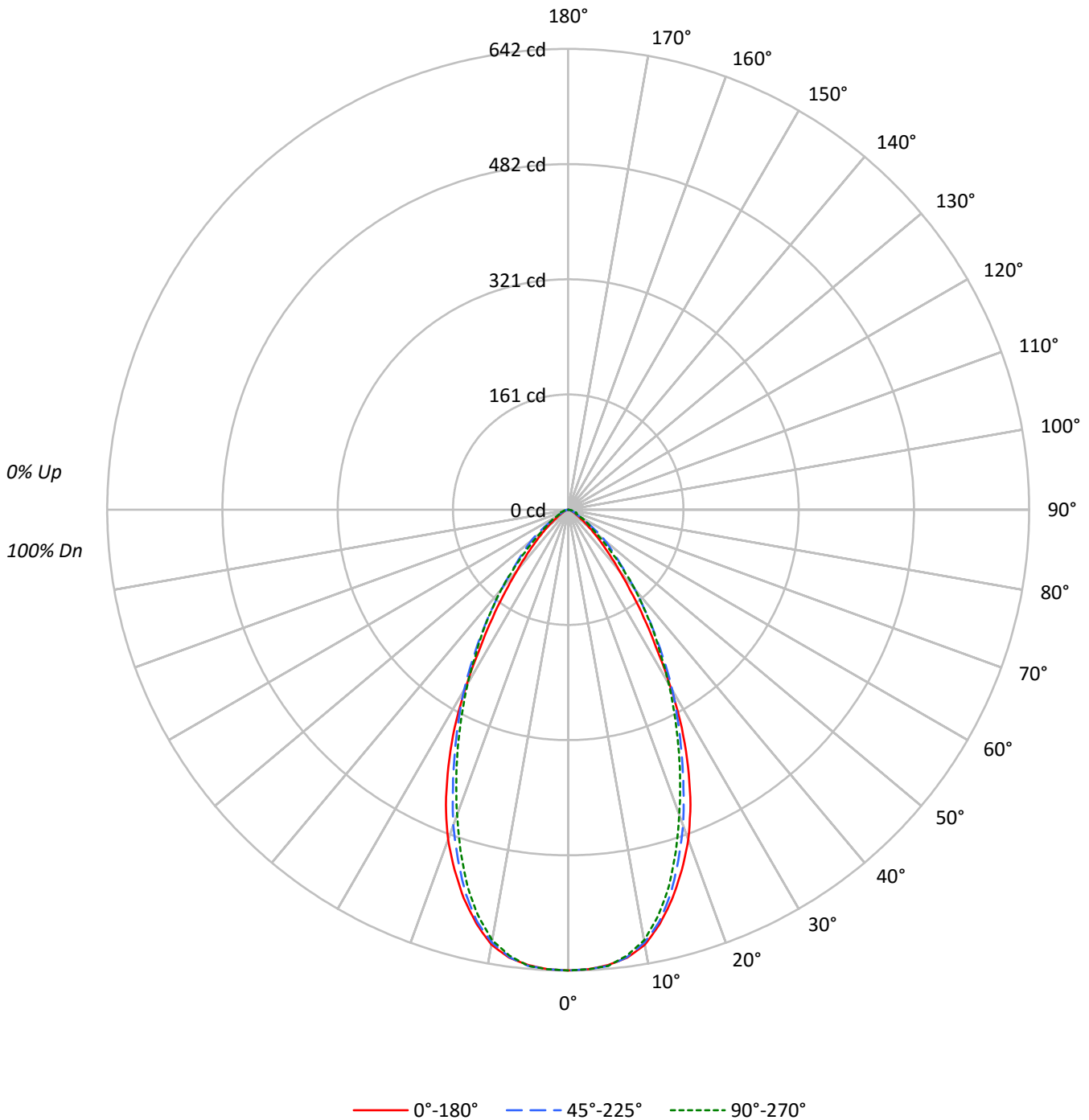
Input Watts (W): 8.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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			
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°	316700	316700	316700
5°	315384	315879	315879
10°	308260	306707	305153
15°	286499	282310	277100
20°	256799	245510	237425
25°	214923	203219	197611
30°	162423	165329	159461
35°	110583	126002	124737
40°	71298	92487	93131
45°	45772	67263	62239
50°	29091	51196	38532
55°	17634	29074	28214
60°	11150	16183	18255
65°	8406	12025	13192
70°	7357	10386	17743
75°	5909	7816	11819
80°	2841	5967	8808
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	60.0	9.6
10°-20°	153.1	24.5
20°-30°	172.3	27.6
30°-40°	127.4	20.4
40°-50°	67.9	10.9
50°-60°	27.9	4.5
60°-70°	10.9	1.7
70°-80°	4.9	0.8
80°-90°	0.5	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°	385.4	61.7
0°-40°	512.8	82.1
0°-60°	608.7	97.4
0°-90°	624.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	624.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	642	642	642	642	642	
5°	637	637	638	638	638	60
15°	561	556	553	546	542	156
25°	395	390	373	366	363	179
35°	184	201	209	207	207	116
45°	66	74	96	95	89	53
55°	20	25	34	32	33	20
65°	7	10	10	12	11	8
75°	3	3	4	6	6	3
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°	641.9	641.9	641.9	641.9	641.9	641.9	641.9	641.9	641.9	641.9	641.9
2.5°	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9
5°	636.8	636.8	636.8	636.8	636.8	636.8	636.8	637.8	636.8	637.8	637.8
7.5°	629.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6
10°	615.3	614.2	614.2	612.2	613.2	612.2	612.2	612.2	612.2	612.2	612.2
12.5°	590.7	590.7	589.6	588.6	587.6	587.6	587.6	587.6	587.6	587.6	587.6
15°	560.9	560.9	559.9	557.8	556.8	555.8	554.8	554.8	553.7	553.7	552.7
17.5°	526.1	526.1	524.0	521.9	519.9	518.9	516.8	514.8	513.7	512.7	510.7
20°	489.1	489.1	486.1	485.0	480.9	479.9	476.8	473.8	469.7	468.6	467.6
22.5°	445.0	443.0	442.0	442.0	438.9	436.8	434.8	430.7	424.5	422.5	419.4
25°	394.8	393.8	393.8	392.7	391.7	389.7	390.7	387.6	382.5	378.4	373.3
27.5°	342.5	341.5	340.4	341.5	343.5	343.5	342.5	340.4	338.4	333.3	330.2
30°	285.1	285.1	287.1	290.2	293.3	294.3	295.3	294.3	293.3	290.2	290.2
32.5°	228.7	230.7	232.8	240.0	243.0	245.1	246.1	249.2	249.2	249.2	247.1
35°	183.6	183.6	187.7	192.8	196.9	201.0	202.0	206.1	209.2	209.2	209.2
37.5°	142.5	143.6	147.7	151.8	156.9	158.9	161.0	167.1	171.2	173.3	174.3
40°	110.7	112.8	114.8	119.0	124.1	125.1	127.2	132.3	137.4	141.5	143.6
42.5°	86.1	86.1	88.2	91.3	94.3	97.4	99.5	102.5	108.7	111.8	115.9
45°	65.6	66.7	67.7	69.7	72.8	73.8	75.9	80.0	84.1	88.2	96.4
47.5°	50.2	50.2	51.3	52.3	55.4	56.4	57.4	61.5	65.6	73.8	80.0
50°	37.9	37.9	37.9	39.0	41.0	43.1	44.1	47.2	55.4	61.5	66.7
52.5°	27.7	27.7	27.7	29.7	30.8	31.8	32.8	36.9	47.2	48.2	50.2
55°	20.5	20.5	20.5	21.5	23.6	24.6	25.6	32.8	34.9	37.9	33.8
57.5°	15.4	15.4	15.4	16.4	17.4	18.5	20.5	25.6	28.7	24.6	23.6
60°	11.3	11.3	11.3	12.3	14.4	15.4	17.4	19.5	19.5	17.4	16.4
62.5°	9.2	9.2	9.2	9.2	11.3	13.3	13.3	15.4	13.3	12.3	12.3
65°	7.2	7.2	7.2	8.2	9.2	10.3	11.3	10.3	9.2	9.2	10.3
67.5°	6.2	6.2	6.2	6.2	8.2	8.2	8.2	7.2	7.2	7.2	8.2
70°	5.1	5.1	5.1	5.1	6.2	6.2	6.2	5.1	5.1	6.2	7.2
72.5°	4.1	4.1	4.1	5.1	5.1	5.1	4.1	4.1	4.1	5.1	5.1
75°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	4.1	4.1	4.1
77.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.1	3.1	3.1
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.1
82.5°	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
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°	641.9	641.9	641.9	641.9	641.9	641.9	641.9	641.9	641.9	641.9
2.5°	640.9	640.9	641.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9
5°	637.8	637.8	637.8	637.8	637.8	637.8	637.8	637.8	637.8	637.8
7.5°	628.6	628.6	628.6	627.6	627.6	627.6	627.6	627.6	627.6	626.5
10°	612.2	612.2	611.2	610.1	611.2	609.1	609.1	608.1	608.1	609.1
12.5°	586.6	585.5	583.5	583.5	582.5	581.4	580.4	580.4	579.4	579.4
15°	552.7	550.7	548.6	547.6	545.5	546.6	545.5	543.5	543.5	542.5
17.5°	511.7	509.6	506.6	503.5	503.5	502.5	502.5	500.4	499.4	498.4
20°	464.5	463.5	462.5	459.4	458.4	456.3	454.3	454.3	451.2	452.2
22.5°	417.4	416.3	414.3	413.3	411.2	411.2	409.2	409.2	407.1	407.1
25°	372.2	371.2	369.2	368.1	366.1	366.1	364.0	365.1	363.0	363.0
27.5°	327.1	326.1	324.0	325.1	323.0	322.0	321.0	321.0	319.9	319.9
30°	286.1	283.0	283.0	282.0	281.0	281.0	281.0	278.9	278.9	279.9
32.5°	246.1	244.1	243.0	243.0	244.1	243.0	242.0	242.0	241.0	240.0
35°	209.2	208.2	207.1	207.1	207.1	207.1	207.1	207.1	207.1	207.1
37.5°	174.3	175.4	174.3	175.4	176.4	175.4	174.3	173.3	173.3	173.3
40°	144.6	146.6	147.7	145.6	144.6	144.6	143.6	144.6	143.6	144.6
42.5°	121.0	122.0	120.0	121.0	122.0	122.0	120.0	116.9	114.8	113.8
45°	98.4	100.5	105.6	98.4	95.4	94.3	91.3	90.2	89.2	89.2
47.5°	84.1	88.2	77.9	74.9	72.8	72.8	70.8	68.7	68.7	67.7
50°	68.7	60.5	58.5	56.4	54.3	53.3	52.3	51.3	51.3	50.2
52.5°	46.1	44.1	42.0	41.0	40.0	40.0	40.0	40.0	40.0	40.0
55°	32.8	31.8	30.8	31.8	31.8	32.8	33.8	33.8	33.8	32.8
57.5°	22.6	22.6	24.6	26.7	26.7	26.7	26.7	25.6	25.6	25.6
60°	17.4	18.5	20.5	20.5	20.5	21.5	20.5	19.5	18.5	18.5
62.5°	13.3	15.4	16.4	16.4	15.4	15.4	14.4	14.4	14.4	14.4
65°	11.3	12.3	12.3	12.3	12.3	11.3	10.3	10.3	11.3	11.3
67.5°	9.2	9.2	9.2	8.2	8.2	9.2	10.3	11.3	11.3	12.3
70°	7.2	7.2	7.2	8.2	9.2	9.2	11.3	11.3	12.3	12.3
72.5°	5.1	5.1	7.2	8.2	9.2	9.2	9.2	8.2	8.2	8.2
75°	4.1	5.1	7.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
77.5°	3.1	4.1	4.1	3.1	4.1	4.1	4.1	5.1	5.1	6.2
80°	2.1	2.1	2.1	2.1	2.1	2.1	3.1	3.1	3.1	3.1
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)