

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: P14882

Luminaire Tested: **MRZ-1-REC-X-3-L27-97-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: 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-L27-97-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) 2700K CCT, 97 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 609.4 lumens  
Efficiency: N/A  
Efficacy: 51.2 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

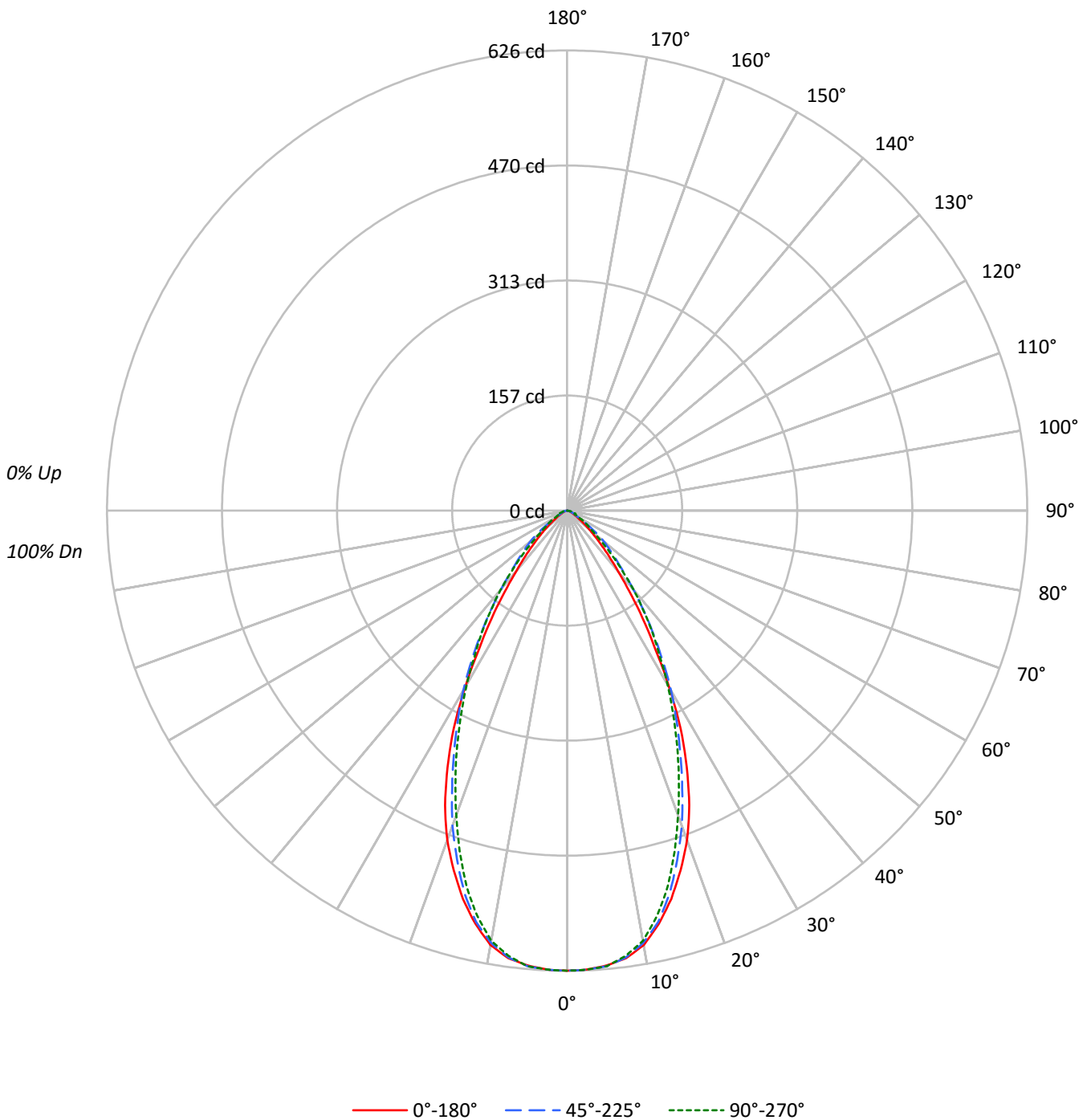
Input Watts (W): 11.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	308856	308856	308856
5°	307559	308054	308054
10°	300594	299091	297588
15°	279399	275313	270205
20°	250446	239420	231544
25°	209588	198156	192712
30°	158378	161227	155530
35°	107813	122870	121666
40°	69559	90169	90813
45°	44656	65588	60704
50°	28400	49892	37611
55°	17204	28386	27526
60°	10854	15788	17762
65°	8172	11674	12842
70°	7213	10098	17311
75°	5719	7625	11438
80°	2841	5683	8524
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.5	9.6
10°-20°	149.3	24.5
20°-30°	168.0	27.6
30°-40°	124.3	20.4
40°-50°	66.3	10.9
50°-60°	27.2	4.5
60°-70°	10.6	1.7
70°-80°	4.7	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°	375.8	61.7
0°-40°	500.1	82.1
0°-60°	593.6	97.4
0°-90°	609.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	609.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	626	626	626	626	626	
5°	621	621	622	622	622	59
15°	547	542	539	532	529	152
25°	385	380	364	357	354	174
35°	179	196	204	202	202	113
45°	64	72	94	93	87	51
55°	20	24	33	31	32	19
65°	7	10	10	12	11	7
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°	626	626	626	626	626	626	626	626	626	626	626
2.5°	625	625	625	625	625	625	625	625	625	625	625
5°	621	621	621	621	621	621	621	622	621	622	622
7.5°	614	613	613	613	613	613	613	613	613	613	613
10°	600	599	599	597	598	597	597	597	597	597	597
12.5°	576	576	575	574	573	573	573	573	573	573	573
15°	547	547	546	544	543	542	541	541	540	540	539
17.5°	513	513	511	509	507	506	504	502	501	500	498
20°	477	477	474	473	469	468	465	462	458	457	456
22.5°	434	432	431	431	428	426	424	420	414	412	409
25°	385	384	384	383	382	380	381	378	373	369	364
27.5°	334	333	332	333	335	335	334	332	330	325	322
30°	278	278	280	283	286	287	288	287	286	283	283
32.5°	223	225	227	234	237	239	240	243	243	243	241
35°	179	179	183	188	192	196	197	201	204	204	204
37.5°	139	140	144	148	153	155	157	163	167	169	170
40°	108	110	112	116	121	122	124	129	134	138	140
42.5°	84	84	86	89	92	95	97	100	106	109	113
45°	64	65	66	68	71	72	74	78	82	86	94
47.5°	49	49	50	51	54	55	56	60	64	72	78
50°	37	37	37	38	40	42	43	46	54	60	65
52.5°	27	27	27	29	30	31	32	36	46	47	49
55°	20	20	20	21	23	24	25	32	34	37	33
57.5°	15	15	15	16	17	18	20	25	28	24	23
60°	11	11	11	12	14	15	17	19	19	17	16
62.5°	9	9	9	9	11	13	13	15	13	12	12
65°	7	7	7	8	9	10	11	10	9	9	10
67.5°	6	6	6	6	8	8	8	7	7	7	8
70°	5	5	5	5	6	6	6	5	5	6	7
72.5°	4	4	4	5	5	5	4	4	4	5	5
75°	3	3	3	3	3	3	3	3	4	4	4
77.5°	2	2	2	2	2	2	2	2	3	3	3
80°	1	1	1	1	1	1	1	1	1	1	2
82.5°	0	1	1	0	0	0	0	1	1	1	1
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	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°	626	626	626	626	626	626	626	626	626	626
2.5°	625	625	626	625	625	625	625	625	625	625
5°	622	622	622	622	622	622	622	622	622	622
7.5°	613	613	613	612	612	612	612	612	612	611
10°	597	597	596	595	596	594	594	593	593	594
12.5°	572	571	569	569	568	567	566	566	565	565
15°	539	537	535	534	532	533	532	530	530	529
17.5°	499	497	494	491	491	490	490	488	487	486
20°	453	452	451	448	447	445	443	443	440	441
22.5°	407	406	404	403	401	401	399	399	397	397
25°	363	362	360	359	357	357	355	356	354	354
27.5°	319	318	316	317	315	314	313	313	312	312
30°	279	276	276	275	274	274	274	272	272	273
32.5°	240	238	237	237	238	237	236	236	235	234
35°	204	203	202	202	202	202	202	202	202	202
37.5°	170	171	170	171	172	171	170	169	169	169
40°	141	143	144	142	141	141	140	141	140	141
42.5°	118	119	117	118	119	119	117	114	112	111
45°	96	98	103	96	93	92	89	88	87	87
47.5°	82	86	76	73	71	71	69	67	67	66
50°	67	59	57	55	53	52	51	50	50	49
52.5°	45	43	41	40	39	39	39	39	39	39
55°	32	31	30	31	31	32	33	33	33	32
57.5°	22	22	24	26	26	26	26	25	25	25
60°	17	18	20	20	20	21	20	19	18	18
62.5°	13	15	16	16	15	15	14	14	14	14
65°	11	12	12	12	12	11	10	10	11	11
67.5°	9	9	9	8	8	9	10	11	11	12
70°	7	7	7	8	9	9	11	11	12	12
72.5°	5	5	7	8	9	9	9	8	8	8
75°	4	5	7	6	6	6	6	6	6	6
77.5°	3	4	4	3	4	4	4	5	5	6
80°	2	2	2	2	2	2	3	3	3	3
82.5°	1	1	1	1	1	1	1	1	1	1
85°	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0

(END OF REPORT)