

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: P219768

Luminaire Tested: **MRZ-1-REC-X-2-L30-80-FL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219768  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14877)  
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-L30-80-FL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
40 DEGREE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL2  
Light Source: (1) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 704.5 lumens  
Efficiency: N/A  
Efficacy: 80.1 lumens/watt  
Spacing Criteria (0/90/45): 0.61 / 0.69 / 0.7  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

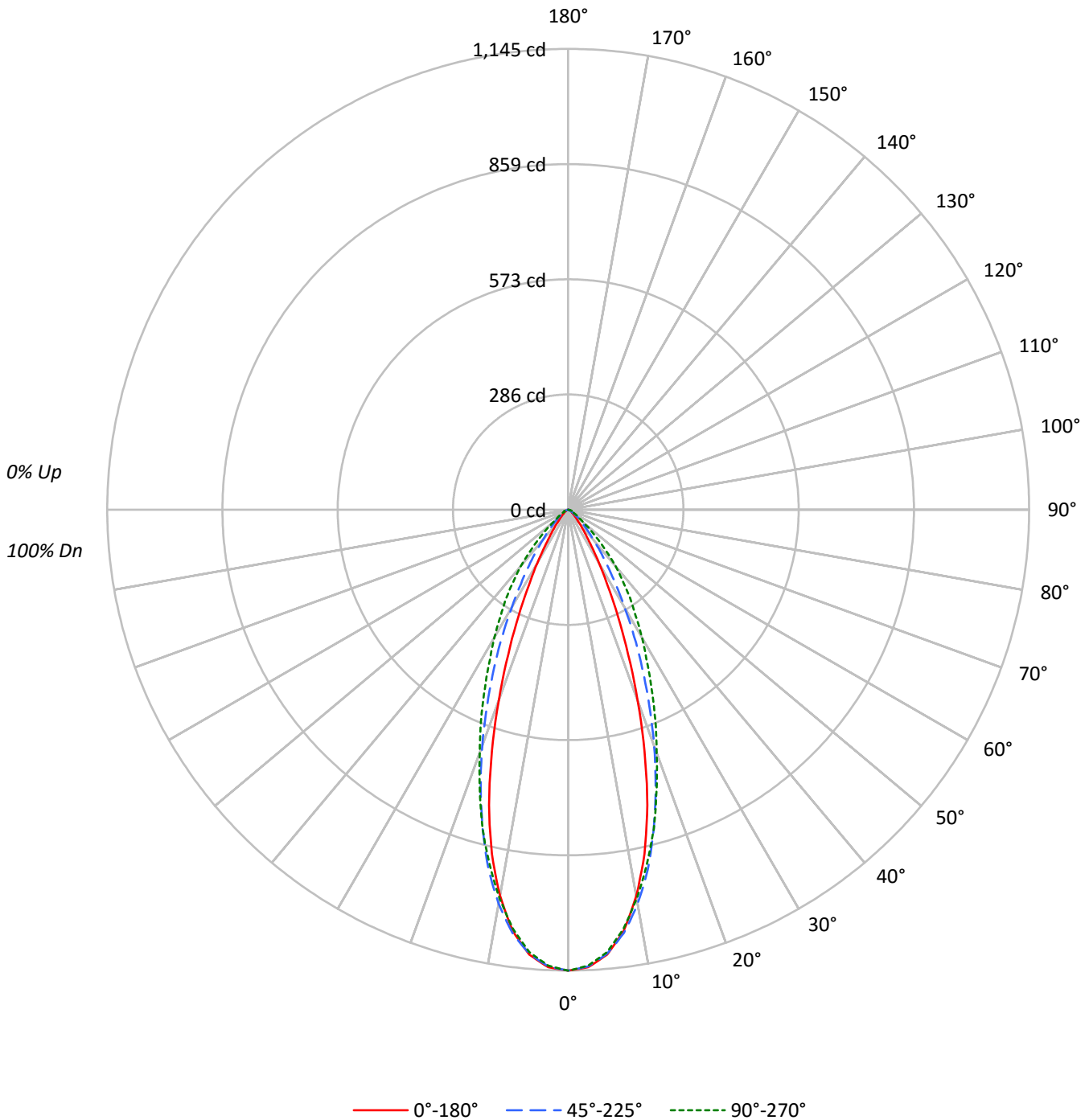
Input Watts (W): 8.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	93
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	92	90	89	87
3	103	96	91	87	101	95	90	87	92	88	85	90	87	84	88	85	83	81
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	77	76
5	93	85	79	75	91	84	78	74	82	77	74	80	76	73	79	75	72	71
6	88	80	74	70	87	79	74	70	78	73	69	76	72	69	75	71	68	67
7	84	75	70	65	83	75	69	65	73	68	65	72	68	65	71	67	64	63
8	81	71	66	62	79	71	65	61	70	65	61	69	64	61	68	64	61	59
9	77	68	62	58	76	67	62	58	66	61	58	65	61	58	65	61	57	56
10	74	64	59	55	73	64	59	55	63	58	55	62	58	55	62	58	55	53

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	565018	565018	565018
5°	549644	548604	546524
10°	488115	498035	491272
15°	388043	419405	419405
20°	264832	327732	337550
25°	158252	237134	266639
30°	87279	159119	208398
35°	45835	102332	161297
40°	26149	62410	118121
45°	16746	39981	73403
50°	11974	26404	38378
55°	9892	15225	24171
60°	8190	9276	15393
65°	7355	7355	12141
70°	6059	6059	16589
75°	5909	4003	9913
80°	2841	2841	5967
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.8	14.4
10°-20°	221.2	31.4
20°-30°	191.3	27.2
30°-40°	110.6	15.7
40°-50°	50.1	7.1
50°-60°	17.7	2.5
60°-70°	7.8	1.1
70°-80°	3.7	0.5
80°-90°	0.3	0.0
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°	514.3	73.0
0°-40°	624.9	88.7
0°-60°	692.6	98.3
0°-90°	704.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	704.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1145	1145	1145	1145	1145	
5°	1110	1109	1108	1104	1104	102
15°	760	783	821	828	821	206
25°	291	334	436	499	490	136
35°	76	99	170	253	268	51
45°	24	29	57	100	105	20
55°	12	12	18	23	28	10
65°	6	7	6	9	10	6
75°	3	3	2	4	5	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°	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2
2.5°	1137.9	1135.8	1135.8	1135.8	1136.9	1136.9	1135.8	1135.8	1135.8	1135.8	1135.8
5°	1109.8	1107.7	1107.7	1108.7	1107.7	1108.7	1107.7	1109.8	1108.7	1107.7	1107.7
7.5°	1055.6	1055.6	1055.6	1056.6	1057.7	1057.7	1057.7	1059.8	1059.8	1061.8	1060.8
10°	974.3	976.4	976.4	979.5	982.7	980.6	981.6	987.9	989.9	992.0	994.1
12.5°	875.3	878.4	880.5	882.6	885.7	888.9	889.9	900.3	903.5	907.6	914.9
15°	759.7	758.6	764.9	768.0	777.4	782.6	785.7	796.1	806.5	812.8	821.1
17.5°	629.4	632.5	635.6	644.0	655.4	662.7	666.9	679.4	696.1	709.6	722.1
20°	504.4	510.6	513.7	523.1	534.6	538.7	550.2	566.9	588.8	607.5	624.2
22.5°	388.7	391.8	400.1	410.6	423.1	432.4	443.9	460.6	483.5	502.3	525.2
25°	290.7	291.8	302.2	311.6	325.1	334.5	340.7	362.6	386.6	410.6	435.6
27.5°	211.5	213.6	219.9	229.3	243.8	250.1	260.5	279.3	302.2	328.2	354.3
30°	153.2	153.2	157.3	167.8	178.2	186.5	193.8	211.5	233.4	255.3	279.3
32.5°	107.3	108.4	112.5	119.8	130.3	136.5	141.7	158.4	176.1	198.0	218.8
35°	76.1	77.1	81.3	85.4	93.8	99.0	103.2	115.7	131.3	150.1	169.9
37.5°	55.2	56.3	58.4	61.5	67.7	70.9	75.0	85.4	98.0	112.5	130.3
40°	40.6	41.7	42.7	45.9	50.0	52.1	55.2	62.5	71.9	84.4	96.9
42.5°	31.3	31.3	32.3	34.4	36.5	38.6	40.6	45.9	53.1	62.5	74.0
45°	24.0	24.0	25.0	27.1	28.1	29.2	31.3	34.4	39.6	46.9	57.3
47.5°	19.8	19.8	19.8	20.8	21.9	22.9	24.0	27.1	30.2	37.5	43.8
50°	15.6	15.6	16.7	16.7	17.7	17.7	18.8	20.8	25.0	30.2	34.4
52.5°	13.5	13.5	13.5	13.5	13.5	14.6	14.6	16.7	20.8	22.9	25.0
55°	11.5	11.5	11.5	11.5	11.5	11.5	12.5	14.6	16.7	18.8	17.7
57.5°	9.4	9.4	9.4	9.4	9.4	10.4	10.4	12.5	13.5	12.5	12.5
60°	8.3	8.3	7.3	7.3	8.3	8.3	9.4	10.4	10.4	9.4	9.4
62.5°	7.3	6.3	6.3	6.3	7.3	8.3	8.3	8.3	7.3	7.3	7.3
65°	6.3	5.2	5.2	6.3	6.3	7.3	7.3	6.3	6.3	6.3	6.3
67.5°	5.2	5.2	5.2	5.2	6.3	6.3	6.3	5.2	5.2	5.2	5.2
70°	4.2	4.2	4.2	4.2	5.2	5.2	4.2	4.2	4.2	4.2	4.2
72.5°	3.1	3.1	3.1	4.2	4.2	4.2	3.1	3.1	3.1	4.2	3.1
75°	3.1	3.1	3.1	3.1	3.1	3.1	2.1	2.1	3.1	3.1	2.1
77.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2	1145.2
2.5°	1134.8	1134.8	1133.7	1134.8	1134.8	1134.8	1134.8	1133.7	1134.8	1133.7
5°	1106.7	1106.7	1106.7	1104.6	1103.5	1104.6	1103.5	1102.5	1102.5	1103.5
7.5°	1058.7	1058.7	1057.7	1055.6	1055.6	1054.6	1052.5	1051.4	1050.4	1050.4
10°	996.2	995.2	992.0	991.0	991.0	987.9	983.7	983.7	979.5	980.6
12.5°	918.0	916.0	914.9	914.9	910.7	910.7	907.6	906.6	904.5	902.4
15°	824.3	827.4	829.5	828.4	828.4	825.3	824.3	822.2	819.0	821.1
17.5°	731.5	738.8	740.9	744.0	745.1	743.0	739.9	734.6	731.5	729.4
20°	639.8	650.2	657.5	659.6	659.6	658.6	657.5	649.2	648.2	642.9
22.5°	545.0	559.6	572.1	576.3	577.3	578.3	574.2	567.9	565.8	564.8
25°	456.4	476.2	488.7	497.1	499.1	502.3	500.2	497.1	490.8	489.8
27.5°	376.2	397.0	413.7	424.1	429.3	431.4	433.5	428.3	426.2	422.0
30°	304.3	328.2	346.0	360.5	363.7	367.8	368.9	369.9	365.8	365.8
32.5°	242.8	262.6	284.5	299.1	305.3	308.4	313.7	312.6	312.6	311.6
35°	190.7	210.5	230.3	245.9	253.2	257.4	263.6	266.8	267.8	267.8
37.5°	146.9	166.7	184.4	203.2	210.5	215.7	219.9	220.9	222.0	220.9
40°	112.5	131.3	149.0	161.5	166.7	170.9	176.1	180.3	182.4	183.4
42.5°	88.6	102.1	113.6	126.1	134.4	140.7	141.7	140.7	140.7	139.6
45°	66.7	77.1	94.8	98.0	100.0	101.1	104.2	105.2	105.2	105.2
47.5°	53.1	64.6	64.6	68.8	70.9	74.0	75.0	75.0	75.0	75.0
50°	39.6	41.7	44.8	47.9	49.0	49.0	50.0	50.0	50.0	50.0
52.5°	26.1	29.2	30.2	31.3	32.3	33.3	35.4	36.5	35.4	35.4
55°	18.8	19.8	20.8	22.9	22.9	24.0	28.1	28.1	28.1	28.1
57.5°	12.5	13.5	15.6	18.8	18.8	19.8	20.8	20.8	21.9	21.9
60°	10.4	11.5	12.5	13.5	14.6	16.7	18.8	15.6	15.6	15.6
62.5°	8.3	9.4	10.4	11.5	10.4	11.5	12.5	12.5	12.5	12.5
65°	7.3	8.3	7.3	8.3	9.4	9.4	8.3	9.4	9.4	10.4
67.5°	6.3	6.3	6.3	6.3	6.3	7.3	9.4	10.4	11.5	11.5
70°	4.2	4.2	4.2	6.3	6.3	7.3	8.3	10.4	10.4	11.5
72.5°	3.1	3.1	4.2	5.2	6.3	6.3	7.3	7.3	8.3	8.3
75°	3.1	3.1	4.2	4.2	4.2	4.2	5.2	5.2	5.2	5.2
77.5°	2.1	2.1	2.1	2.1	3.1	3.1	3.1	4.2	4.2	4.2
80°	1.0	1.0	1.0	1.0	2.1	2.1	2.1	2.1	2.1	2.1
82.5°	1.0	1.0	1.0	1.0	1.0	0.0	0.0	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)