

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: P219760

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219760  
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-1H-L30-80-FL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
40 DEGREE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 1  
Light Source: (1) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 515.2 lumens  
Efficiency: N/A  
Efficacy: 75.8 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

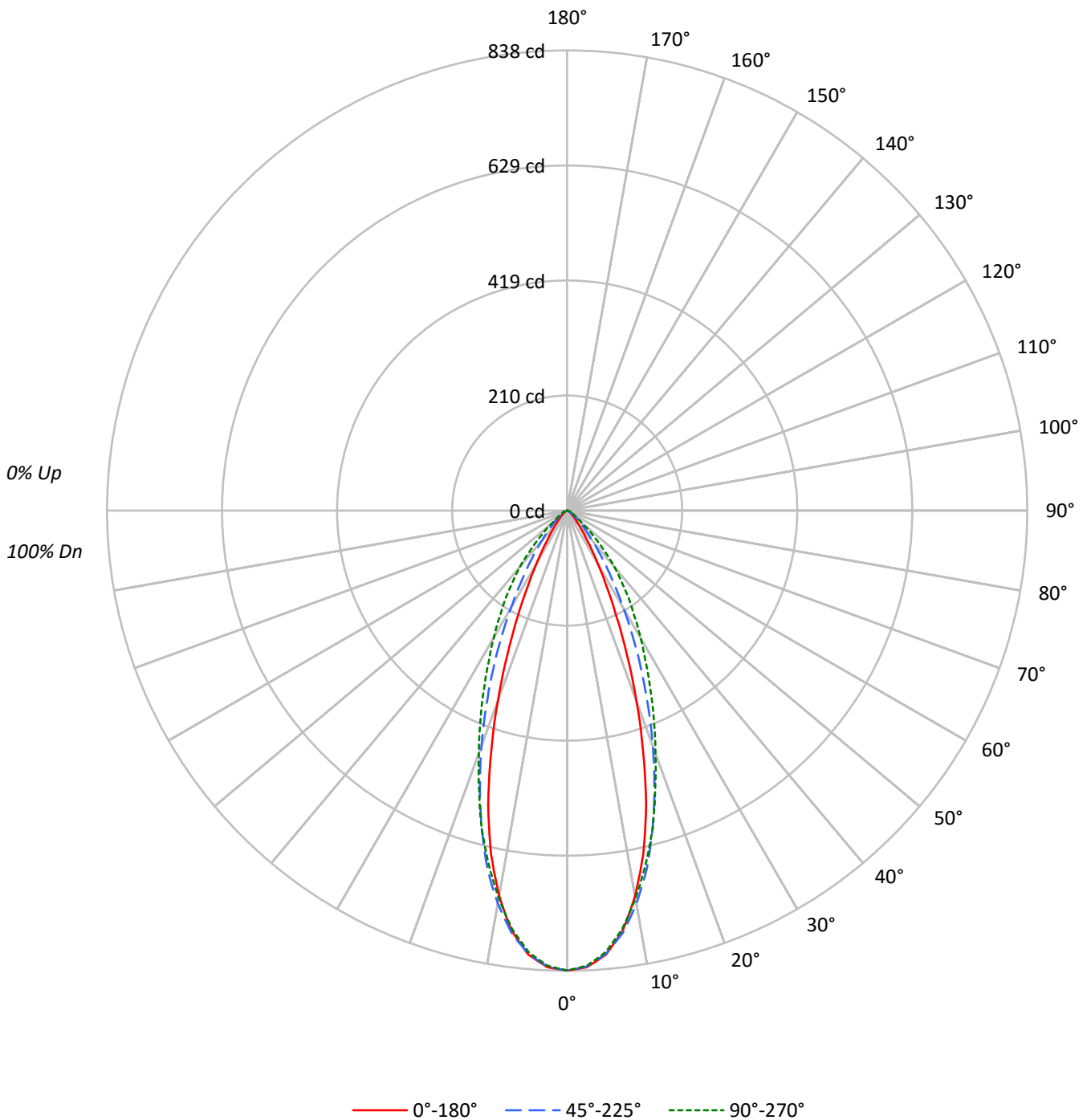
Input Watts (W): 6.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	45°	90°
0°	413255	413255	413255
5°	401956	401214	399728
10°	357006	364220	359260
15°	283792	306726	306726
20°	193689	239682	246875
25°	115736	173441	194998
30°	63807	116334	152396
35°	33488	74806	117992
40°	19129	45664	86369
45°	12211	29235	53726
50°	8750	19266	28093
55°	7226	11182	17720
60°	6019	6809	11249
65°	5370	5370	8873
70°	4328	4328	12117
75°	4384	2859	7244
80°	2273	2273	4262
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.4	14.4
10°-20°	161.8	31.4
20°-30°	139.9	27.2
30°-40°	80.9	15.7
40°-50°	36.6	7.1
50°-60°	12.9	2.5
60°-70°	5.7	1.1
70°-80°	2.7	0.5
80°-90°	0.2	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°	376.1	73.0
0°-40°	457.0	88.7
0°-60°	506.6	98.3
0°-90°	515.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	515.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	838	838	838	838	838	
5°	812	811	810	807	807	74
15°	556	572	600	606	600	151
25°	213	245	319	365	358	100
35°	56	72	124	185	196	38
45°	18	21	42	73	77	14
55°	8	8	13	17	21	8
65°	5	5	5	7	8	5
75°	2	2	2	3	4	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°	837.6	837.6	837.6	837.6	837.6	837.6	837.6	837.6	837.6	837.6	837.6
2.5°	832.2	830.7	830.7	830.7	831.5	831.5	830.7	830.7	830.7	830.7	830.7
5°	811.6	810.1	810.1	810.9	810.1	810.9	810.1	811.6	810.9	810.1	810.1
7.5°	772.0	772.0	772.0	772.8	773.5	773.5	773.5	775.1	775.1	776.6	775.8
10°	712.6	714.1	714.1	716.4	718.7	717.1	717.9	722.5	724.0	725.5	727.0
12.5°	640.2	642.5	644.0	645.5	647.8	650.1	650.8	658.5	660.7	663.8	669.1
15°	555.6	554.8	559.4	561.7	568.5	572.3	574.6	582.2	589.9	594.4	600.5
17.5°	460.3	462.6	464.9	471.0	479.4	484.7	487.7	496.9	509.1	519.0	528.1
20°	368.9	373.4	375.7	382.6	391.0	394.0	402.4	414.6	430.6	444.3	456.5
22.5°	284.3	286.6	292.6	300.3	309.4	316.3	324.7	336.8	353.6	367.3	384.1
25°	212.6	213.4	221.0	227.9	237.8	244.6	249.2	265.2	282.7	300.3	318.6
27.5°	154.7	156.2	160.8	167.7	178.3	182.9	190.5	204.2	221.0	240.1	259.1
30°	112.0	112.0	115.1	122.7	130.3	136.4	141.8	154.7	170.7	186.7	204.2
32.5°	78.5	79.3	82.3	87.6	95.3	99.8	103.6	115.8	128.8	144.8	160.0
35°	55.6	56.4	59.4	62.5	68.6	72.4	75.4	84.6	96.0	109.7	124.2
37.5°	40.4	41.2	42.7	45.0	49.5	51.8	54.9	62.5	71.6	82.3	95.3
40°	29.7	30.5	31.2	33.5	36.6	38.1	40.4	45.7	52.6	61.7	70.9
42.5°	22.9	22.9	23.6	25.1	26.7	28.2	29.7	33.5	38.9	45.7	54.1
45°	17.5	17.5	18.3	19.8	20.6	21.3	22.9	25.1	29.0	34.3	41.9
47.5°	14.5	14.5	14.5	15.2	16.0	16.8	17.5	19.8	22.1	27.4	32.0
50°	11.4	11.4	12.2	12.2	13.0	13.0	13.7	15.2	18.3	22.1	25.1
52.5°	9.9	9.9	9.9	9.9	9.9	10.7	10.7	12.2	15.2	16.8	18.3
55°	8.4	8.4	8.4	8.4	8.4	8.4	9.1	10.7	12.2	13.7	13.0
57.5°	6.9	6.9	6.9	6.9	6.9	7.6	7.6	9.1	9.9	9.1	9.1
60°	6.1	6.1	5.3	5.3	6.1	6.1	6.9	7.6	7.6	6.9	6.9
62.5°	5.3	4.6	4.6	4.6	5.3	6.1	6.1	6.1	5.3	5.3	5.3
65°	4.6	3.8	3.8	4.6	4.6	5.3	5.3	4.6	4.6	4.6	4.6
67.5°	3.8	3.8	3.8	3.8	4.6	4.6	4.6	3.8	3.8	3.8	3.8
70°	3.0	3.0	3.0	3.0	3.8	3.8	3.0	3.0	3.0	3.0	3.0
72.5°	2.3	2.3	2.3	3.0	3.0	3.0	2.3	2.3	2.3	3.0	2.3
75°	2.3	2.3	2.3	2.3	2.3	2.3	1.5	1.5	2.3	2.3	1.5
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
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°	837.6	837.6	837.6	837.6	837.6	837.6	837.6	837.6	837.6	837.6
2.5°	829.9	829.9	829.2	829.9	829.9	829.9	829.9	829.2	829.9	829.2
5°	809.4	809.4	809.4	807.8	807.1	807.8	807.1	806.3	806.3	807.1
7.5°	774.3	774.3	773.5	772.0	772.0	771.2	769.7	769.0	768.2	768.2
10°	728.6	727.8	725.5	724.8	724.8	722.5	719.4	719.4	716.4	717.1
12.5°	671.4	669.9	669.1	669.1	666.1	666.1	663.8	663.0	661.5	660.0
15°	602.8	605.1	606.6	605.9	605.9	603.6	602.8	601.3	599.0	600.5
17.5°	535.0	540.3	541.9	544.1	544.9	543.4	541.1	537.3	535.0	533.5
20°	467.9	475.6	480.9	482.4	482.4	481.6	480.9	474.8	474.0	470.2
22.5°	398.6	409.2	418.4	421.4	422.2	423.0	419.9	415.3	413.8	413.1
25°	333.8	348.3	357.4	363.5	365.0	367.3	365.8	363.5	359.0	358.2
27.5°	275.1	290.4	302.6	310.2	314.0	315.5	317.0	313.2	311.7	308.7
30°	222.5	240.1	253.0	263.7	266.0	269.0	269.8	270.5	267.5	267.5
32.5°	177.6	192.0	208.1	218.7	223.3	225.6	229.4	228.6	228.6	227.9
35°	139.5	153.9	168.4	179.9	185.2	188.2	192.8	195.1	195.9	195.9
37.5°	107.5	121.9	134.9	148.6	153.9	157.8	160.8	161.6	162.3	161.6
40°	82.3	96.0	109.0	118.1	121.9	125.0	128.8	131.8	133.4	134.1
42.5°	64.8	74.7	83.1	92.2	98.3	102.9	103.6	102.9	102.9	102.1
45°	48.8	56.4	69.4	71.6	73.2	73.9	76.2	77.0	77.0	77.0
47.5°	38.9	47.3	47.3	50.3	51.8	54.1	54.9	54.9	54.9	54.9
50°	29.0	30.5	32.8	35.1	35.8	35.8	36.6	36.6	36.6	36.6
52.5°	19.1	21.3	22.1	22.9	23.6	24.4	25.9	26.7	25.9	25.9
55°	13.7	14.5	15.2	16.8	16.8	17.5	20.6	20.6	20.6	20.6
57.5°	9.1	9.9	11.4	13.7	13.7	14.5	15.2	15.2	16.0	16.0
60°	7.6	8.4	9.1	9.9	10.7	12.2	13.7	11.4	11.4	11.4
62.5°	6.1	6.9	7.6	8.4	7.6	8.4	9.1	9.1	9.1	9.1
65°	5.3	6.1	5.3	6.1	6.9	6.9	6.1	6.9	6.9	7.6
67.5°	4.6	4.6	4.6	4.6	4.6	5.3	6.9	7.6	8.4	8.4
70°	3.0	3.0	3.0	4.6	4.6	5.3	6.1	7.6	7.6	8.4
72.5°	2.3	2.3	3.0	3.8	4.6	4.6	5.3	5.3	6.1	6.1
75°	2.3	2.3	3.0	3.0	3.0	3.0	3.8	3.8	3.8	3.8
77.5°	1.5	1.5	1.5	1.5	2.3	2.3	2.3	3.0	3.0	3.0
80°	0.8	0.8	0.8	0.8	1.5	1.5	1.5	1.5	1.5	1.5
82.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.8	0.8	0.8
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)