

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: P226140

Luminaire Tested: **MRZ-1-REC-X-1-L30-97-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P226140  
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-1-L30-97-WFL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 1  
Light Source: (1) 3000K CCT, 97 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 318.2 lumens  
Efficiency: N/A  
Efficacy: 58.9 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

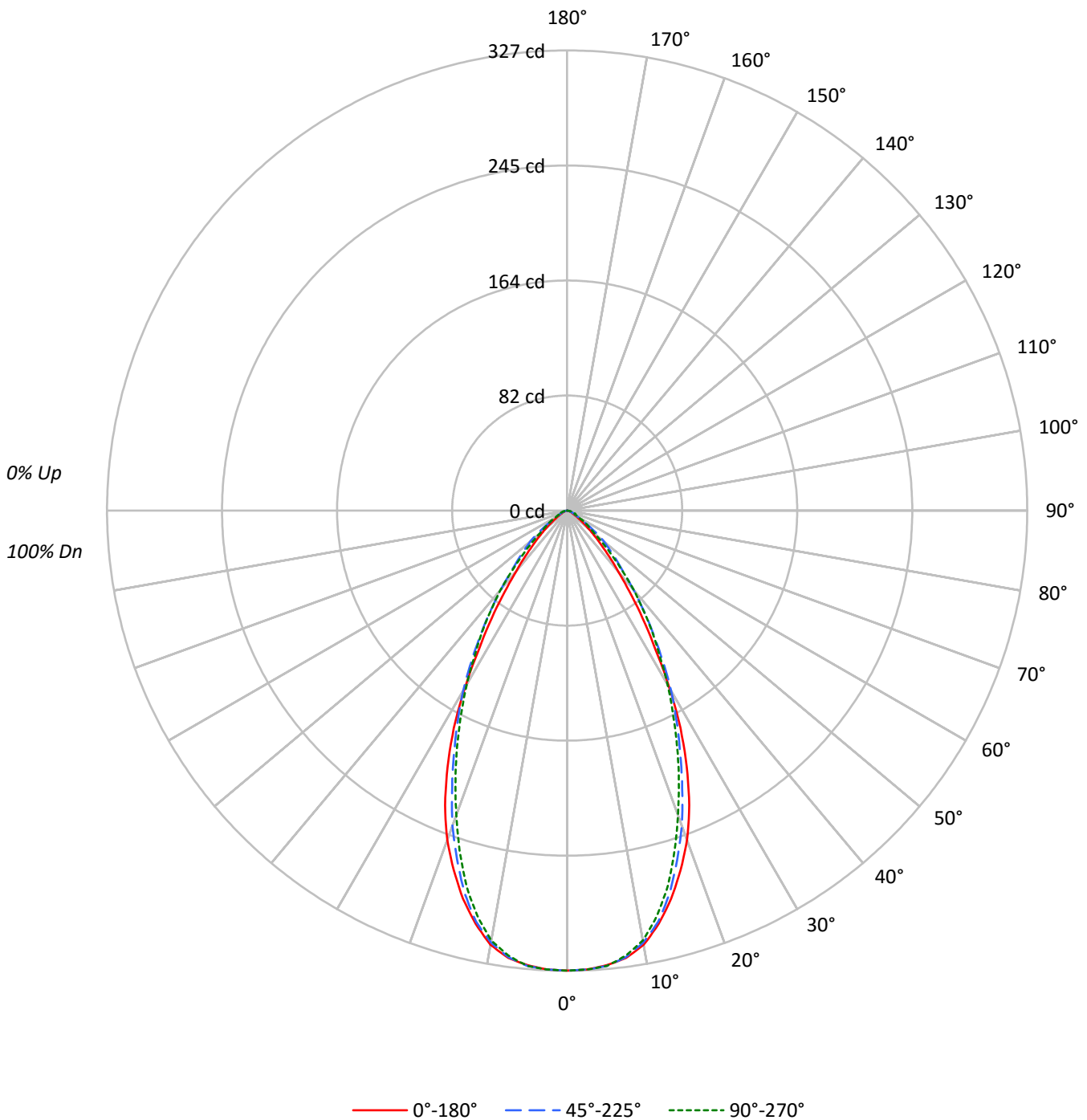
Input Watts (W): 5.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	161286	161286	161286
5°	160614	160862	160862
10°	156960	156159	155407
15°	145931	143786	141130
20°	130788	125065	120918
25°	109421	103487	100657
30°	82721	84202	81240
35°	56316	64146	63543
40°	36325	47081	47403
45°	23305	34259	31678
50°	14814	26020	19650
55°	8946	14795	14365
60°	5625	8289	9276
65°	4320	6187	6654
70°	3751	5337	8944
75°	3050	4003	5909
80°	1421	3125	4546
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.6	9.6
10°-20°	77.9	24.5
20°-30°	87.7	27.6
30°-40°	64.9	20.4
40°-50°	34.6	10.9
50°-60°	14.2	4.5
60°-70°	5.5	1.7
70°-80°	2.5	0.8
80°-90°	0.2	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°	196.3	61.7
0°-40°	261.2	82.1
0°-60°	310.0	97.4
0°-90°	318.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	318.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	327	327	327	327	327	
5°	324	324	325	325	325	31
15°	286	283	282	278	276	80
25°	201	198	190	186	185	91
35°	94	102	106	106	106	59
45°	33	38	49	49	45	27
55°	10	12	17	16	17	10
65°	4	5	5	6	6	4
75°	2	2	2	3	3	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°	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9
2.5°	326.4	326.4	326.4	326.4	326.4	326.4	326.4	326.4	326.4	326.4	326.4
5°	324.3	324.3	324.3	324.3	324.3	324.3	324.3	324.8	324.3	324.8	324.8
7.5°	320.7	320.1	320.1	320.1	320.1	320.1	320.1	320.1	320.1	320.1	320.1
10°	313.3	312.8	312.8	311.7	312.3	311.7	311.7	311.7	311.7	311.7	311.7
12.5°	300.8	300.8	300.3	299.8	299.2	299.2	299.2	299.2	299.2	299.2	299.2
15°	285.7	285.7	285.1	284.1	283.6	283.1	282.5	282.5	282.0	282.0	281.5
17.5°	267.9	267.9	266.8	265.8	264.8	264.2	263.2	262.2	261.6	261.1	260.0
20°	249.1	249.1	247.5	247.0	245.0	244.4	242.8	241.3	239.2	238.6	238.2
22.5°	226.7	225.6	225.0	225.0	223.5	222.5	221.4	219.3	216.2	215.1	213.6
25°	201.0	200.5	200.5	200.1	199.5	198.4	199.0	197.4	194.8	192.7	190.1
27.5°	174.4	173.9	173.4	173.9	175.0	175.0	174.4	173.4	172.4	169.7	168.2
30°	145.2	145.2	146.2	147.8	149.3	149.9	150.4	149.9	149.3	147.8	147.8
32.5°	116.5	117.5	118.5	122.2	123.7	124.8	125.3	126.9	126.9	126.9	125.9
35°	93.5	93.5	95.6	98.2	100.2	102.4	102.8	105.0	106.5	106.5	106.5
37.5°	72.6	73.1	75.2	77.3	79.9	81.0	81.9	85.2	87.2	88.3	88.8
40°	56.4	57.5	58.5	60.6	63.2	63.7	64.7	67.4	70.0	72.0	73.1
42.5°	43.8	43.8	44.9	46.5	48.0	49.6	50.6	52.2	55.3	57.0	59.0
45°	33.4	33.9	34.5	35.5	37.0	37.6	38.7	40.7	42.8	44.9	49.1
47.5°	25.6	25.6	26.2	26.6	28.2	28.7	29.3	31.3	33.4	37.6	40.7
50°	19.3	19.3	19.3	19.8	20.9	22.0	22.5	24.0	28.2	31.3	33.9
52.5°	14.1	14.1	14.1	15.2	15.7	16.2	16.7	18.8	24.0	24.5	25.6
55°	10.4	10.4	10.4	11.0	12.1	12.5	13.0	16.7	17.8	19.3	17.2
57.5°	7.9	7.9	7.9	8.4	8.8	9.4	10.4	13.0	14.6	12.5	12.1
60°	5.7	5.7	5.7	6.2	7.3	7.9	8.8	9.9	9.9	8.8	8.4
62.5°	4.7	4.7	4.7	4.7	5.7	6.8	6.8	7.9	6.8	6.2	6.2
65°	3.7	3.7	3.7	4.2	4.7	5.3	5.7	5.3	4.7	4.7	5.3
67.5°	3.1	3.1	3.1	3.1	4.2	4.2	4.2	3.7	3.7	3.7	4.2
70°	2.6	2.6	2.6	2.6	3.1	3.1	3.1	2.6	2.6	3.1	3.7
72.5°	2.1	2.1	2.1	2.6	2.6	2.6	2.1	2.1	2.1	2.6	2.6
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.1	2.1	2.1
77.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.6	1.6	1.6
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1
82.5°	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5
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°	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9
2.5°	326.4	326.4	326.9	326.4	326.4	326.4	326.4	326.4	326.4	326.4
5°	324.8	324.8	324.8	324.8	324.8	324.8	324.8	324.8	324.8	324.8
7.5°	320.1	320.1	320.1	319.6	319.6	319.6	319.6	319.6	319.6	319.0
10°	311.7	311.7	311.3	310.7	311.3	310.2	310.2	309.7	309.7	310.2
12.5°	298.7	298.2	297.2	297.2	296.6	296.1	295.6	295.6	295.0	295.0
15°	281.5	280.4	279.4	278.9	277.8	278.3	277.8	276.8	276.8	276.3
17.5°	260.6	259.5	258.0	256.4	256.4	255.9	255.9	254.9	254.3	253.8
20°	236.6	236.0	235.5	234.0	233.4	232.4	231.4	231.4	229.8	230.3
22.5°	212.5	212.0	210.9	210.5	209.4	209.4	208.4	208.4	207.3	207.3
25°	189.6	189.1	188.0	187.5	186.4	186.4	185.4	185.9	184.9	184.9
27.5°	166.6	166.0	165.1	165.5	164.5	164.0	163.5	163.5	162.9	162.9
30°	145.7	144.2	144.2	143.6	143.1	143.1	143.1	142.0	142.0	142.6
32.5°	125.3	124.3	123.7	123.7	124.3	123.7	123.3	123.3	122.7	122.2
35°	106.5	106.1	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5
37.5°	88.8	89.3	88.8	89.3	89.8	89.3	88.8	88.3	88.3	88.3
40°	73.6	74.7	75.2	74.2	73.6	73.6	73.1	73.6	73.1	73.6
42.5°	61.6	62.1	61.1	61.6	62.1	62.1	61.1	59.5	58.5	57.9
45°	50.2	51.2	53.8	50.2	48.6	48.0	46.5	46.0	45.4	45.4
47.5°	42.8	44.9	39.7	38.1	37.0	37.0	36.1	35.0	35.0	34.5
50°	35.0	30.8	29.7	28.7	27.7	27.1	26.6	26.2	26.2	25.6
52.5°	23.5	22.5	21.4	20.9	20.4	20.4	20.4	20.4	20.4	20.4
55°	16.7	16.2	15.7	16.2	16.2	16.7	17.2	17.2	17.2	16.7
57.5°	11.5	11.5	12.5	13.6	13.6	13.6	13.6	13.0	13.0	13.0
60°	8.8	9.4	10.4	10.4	10.4	11.0	10.4	9.9	9.4	9.4
62.5°	6.8	7.9	8.4	8.4	7.9	7.9	7.3	7.3	7.3	7.3
65°	5.7	6.2	6.2	6.2	6.2	5.7	5.3	5.3	5.7	5.7
67.5°	4.7	4.7	4.7	4.2	4.2	4.7	5.3	5.7	5.7	6.2
70°	3.7	3.7	3.7	4.2	4.7	4.7	5.7	5.7	6.2	6.2
72.5°	2.6	2.6	3.7	4.2	4.7	4.7	4.7	4.2	4.2	4.2
75°	2.1	2.6	3.7	3.1	3.1	3.1	3.1	3.1	3.1	3.1
77.5°	1.6	2.1	2.1	1.6	2.1	2.1	2.1	2.6	2.6	3.1
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.6	1.6	1.6	1.6
82.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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)