

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: P226166

Luminaire Tested: **MRZ-1-REC-X-1-L35-97-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P226166  
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-L35-97-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) 3500K CCT, 97 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 332.6 lumens  
Efficiency: N/A  
Efficacy: 61.6 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

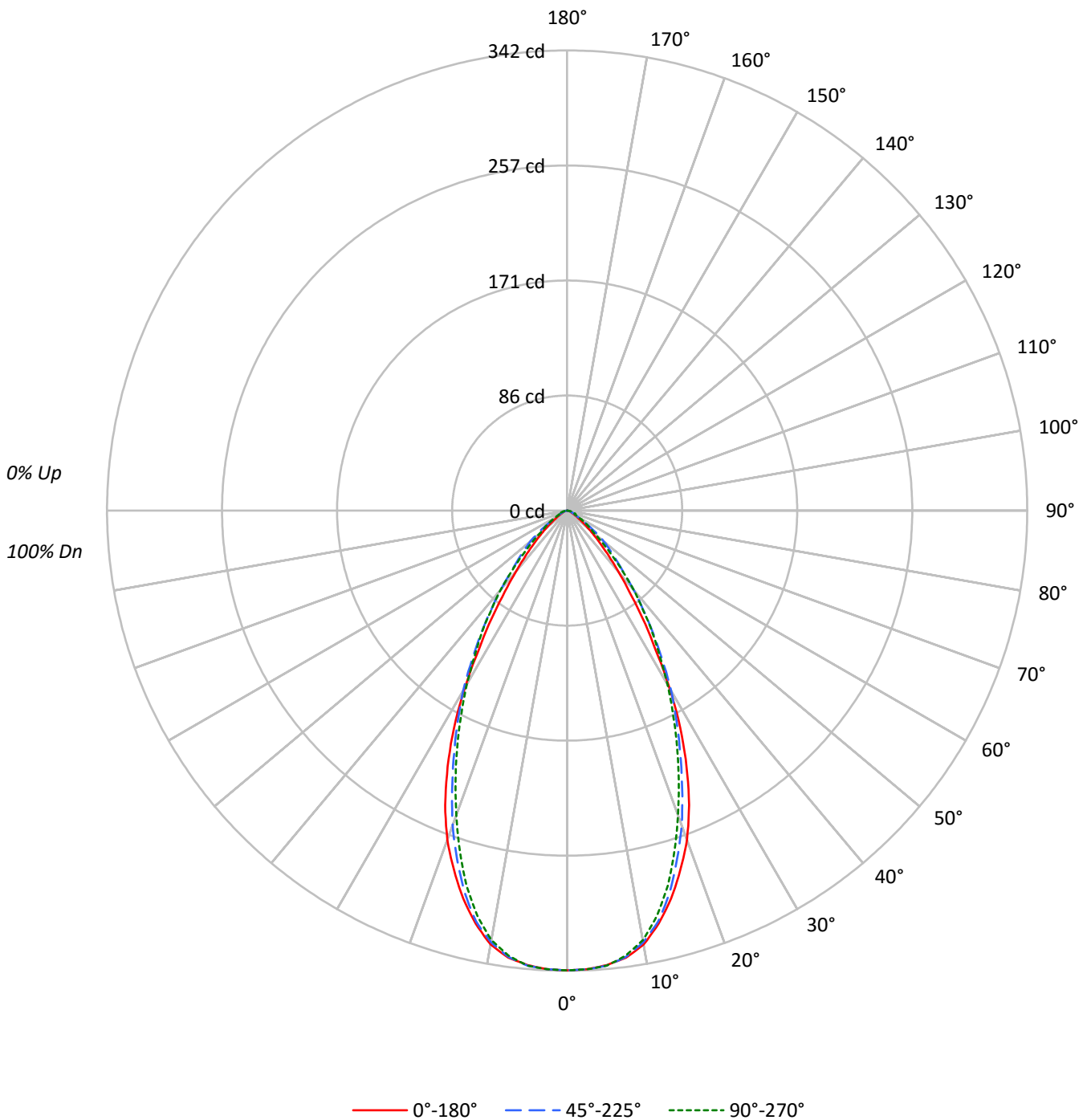
Input Watts (W): 5.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	84	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°	168588	168588	168588
5°	167895	168142	168142
10°	164074	163223	162421
15°	152520	150273	147514
20°	136721	130683	126430
25°	114375	108169	105229
30°	86481	87963	84886
35°	58845	67037	66374
40°	37935	49206	49528
45°	24351	35794	33143
50°	15505	27172	20571
55°	9376	15483	15053
60°	5921	8585	9670
65°	4436	6304	7005
70°	4039	5482	9377
75°	3050	4003	6291
80°	1421	3125	4546
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.0	9.6
10°-20°	81.5	24.5
20°-30°	91.7	27.6
30°-40°	67.8	20.4
40°-50°	36.2	10.9
50°-60°	14.9	4.5
60°-70°	5.8	1.7
70°-80°	2.6	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°	205.1	61.7
0°-40°	273.0	82.1
0°-60°	324.0	97.4
0°-90°	332.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	332.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	342	342	342	342	342	
5°	339	339	340	340	340	32
15°	299	296	294	290	289	83
25°	210	208	199	195	193	95
35°	98	107	111	110	110	62
45°	35	39	51	51	48	28
55°	11	13	18	17	18	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°	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7
2.5°	341.2	341.2	341.2	341.2	341.2	341.2	341.2	341.2	341.2	341.2	341.2
5°	339.0	339.0	339.0	339.0	339.0	339.0	339.0	339.5	339.0	339.5	339.5
7.5°	335.1	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6
10°	327.5	327.0	327.0	325.8	326.5	325.8	325.8	325.8	325.8	325.8	325.8
12.5°	314.4	314.4	313.9	313.3	312.8	312.8	312.8	312.8	312.8	312.8	312.8
15°	298.6	298.6	298.1	296.9	296.4	295.8	295.3	295.3	294.8	294.8	294.2
17.5°	280.0	280.0	279.0	277.8	276.7	276.2	275.1	274.1	273.4	272.9	271.8
20°	260.4	260.4	258.7	258.2	256.0	255.5	253.8	252.2	250.0	249.4	248.9
22.5°	236.9	235.8	235.2	235.2	233.6	232.5	231.5	229.2	225.9	224.9	223.3
25°	210.1	209.6	209.6	209.1	208.5	207.5	208.0	206.3	203.6	201.4	198.7
27.5°	182.3	181.8	181.2	181.8	182.8	182.8	182.3	181.2	180.1	177.4	175.8
30°	151.8	151.8	152.8	154.4	156.1	156.7	157.2	156.7	156.1	154.4	154.4
32.5°	121.8	122.8	123.9	127.7	129.4	130.4	131.0	132.7	132.7	132.7	131.6
35°	97.7	97.7	99.9	102.7	104.8	106.9	107.6	109.7	111.3	111.3	111.3
37.5°	75.9	76.4	78.6	80.8	83.6	84.6	85.7	89.0	91.1	92.2	92.8
40°	58.9	60.1	61.1	63.3	66.1	66.6	67.7	70.4	73.1	75.3	76.4
42.5°	45.9	45.9	47.0	48.6	50.3	51.9	52.9	54.5	57.8	59.5	61.7
45°	34.9	35.4	36.1	37.1	38.7	39.3	40.3	42.6	44.7	47.0	51.3
47.5°	26.8	26.8	27.3	27.9	29.5	30.0	30.5	32.8	34.9	39.3	42.6
50°	20.2	20.2	20.2	20.7	21.9	22.9	23.5	25.1	29.5	32.8	35.4
52.5°	14.7	14.7	14.7	15.8	16.3	17.0	17.5	19.6	25.1	25.6	26.8
55°	10.9	10.9	10.9	11.4	12.6	13.1	13.7	17.5	18.6	20.2	18.0
57.5°	8.2	8.2	8.2	8.7	9.3	9.8	10.9	13.7	15.3	13.1	12.6
60°	6.0	6.0	6.0	6.5	7.7	8.2	9.3	10.4	10.4	9.3	8.7
62.5°	4.9	4.9	4.9	4.9	6.0	7.1	7.1	8.2	7.1	6.5	6.5
65°	3.8	3.8	3.8	4.4	4.9	5.4	6.0	5.4	4.9	4.9	5.4
67.5°	3.3	3.3	3.3	3.3	4.4	4.4	4.4	3.8	3.8	3.8	4.4
70°	2.8	2.8	2.8	2.8	3.3	3.3	3.3	2.8	2.8	3.3	3.8
72.5°	2.1	2.1	2.1	2.8	2.8	2.8	2.1	2.1	2.1	2.8	2.8
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°	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7	341.7
2.5°	341.2	341.2	341.7	341.2	341.2	341.2	341.2	341.2	341.2	341.2
5°	339.5	339.5	339.5	339.5	339.5	339.5	339.5	339.5	339.5	339.5
7.5°	334.6	334.6	334.6	334.0	334.0	334.0	334.0	334.0	334.0	333.5
10°	325.8	325.8	325.3	324.8	325.3	324.2	324.2	323.7	323.7	324.2
12.5°	312.3	311.6	310.6	310.6	310.0	309.5	309.0	309.0	308.4	308.4
15°	294.2	293.2	292.0	291.5	290.4	290.9	290.4	289.3	289.3	288.8
17.5°	272.4	271.3	269.7	268.0	268.0	267.4	267.4	266.4	265.8	265.3
20°	247.3	246.7	246.2	244.5	244.0	242.9	241.8	241.8	240.1	240.8
22.5°	222.2	221.7	220.5	220.0	218.9	218.9	217.8	217.8	216.7	216.7
25°	198.2	197.6	196.5	195.9	194.9	194.9	193.8	194.3	193.3	193.3
27.5°	174.2	173.5	172.5	173.0	171.9	171.4	170.9	170.9	170.3	170.3
30°	152.3	150.7	150.7	150.1	149.5	149.5	149.5	148.5	148.5	149.0
32.5°	131.0	129.9	129.4	129.4	129.9	129.4	128.8	128.8	128.3	127.7
35°	111.3	110.8	110.2	110.2	110.2	110.2	110.2	110.2	110.2	110.2
37.5°	92.8	93.4	92.8	93.4	93.9	93.4	92.8	92.2	92.2	92.2
40°	76.9	78.0	78.6	77.5	76.9	76.9	76.4	76.9	76.4	76.9
42.5°	64.5	65.0	63.8	64.5	65.0	65.0	63.8	62.2	61.1	60.6
45°	52.4	53.5	56.2	52.4	50.8	50.3	48.6	48.0	47.5	47.5
47.5°	44.7	47.0	41.5	39.8	38.7	38.7	37.7	36.6	36.6	36.1
50°	36.6	32.2	31.2	30.0	28.9	28.4	27.9	27.3	27.3	26.8
52.5°	24.5	23.5	22.4	21.9	21.2	21.2	21.2	21.2	21.2	21.2
55°	17.5	17.0	16.3	17.0	17.0	17.5	18.0	18.0	18.0	17.5
57.5°	12.1	12.1	13.1	14.2	14.2	14.2	14.2	13.7	13.7	13.7
60°	9.3	9.8	10.9	10.9	10.9	11.4	10.9	10.4	9.8	9.8
62.5°	7.1	8.2	8.7	8.7	8.2	8.2	7.7	7.7	7.7	7.7
65°	6.0	6.5	6.5	6.5	6.5	6.0	5.4	5.4	6.0	6.0
67.5°	4.9	4.9	4.9	4.4	4.4	4.9	5.4	6.0	6.0	6.5
70°	3.8	3.8	3.8	4.4	4.9	4.9	6.0	6.0	6.5	6.5
72.5°	2.8	2.8	3.8	4.4	4.9	4.9	4.9	4.4	4.4	4.4
75°	2.1	2.8	3.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3
77.5°	1.6	2.1	2.1	1.6	2.1	2.1	2.1	2.8	2.8	3.3
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)