

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: P226157

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P226157  
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-1-L35-97-FL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
40 DEGREE 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: 369.0 lumens  
Efficiency: N/A  
Efficacy: 68.3 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

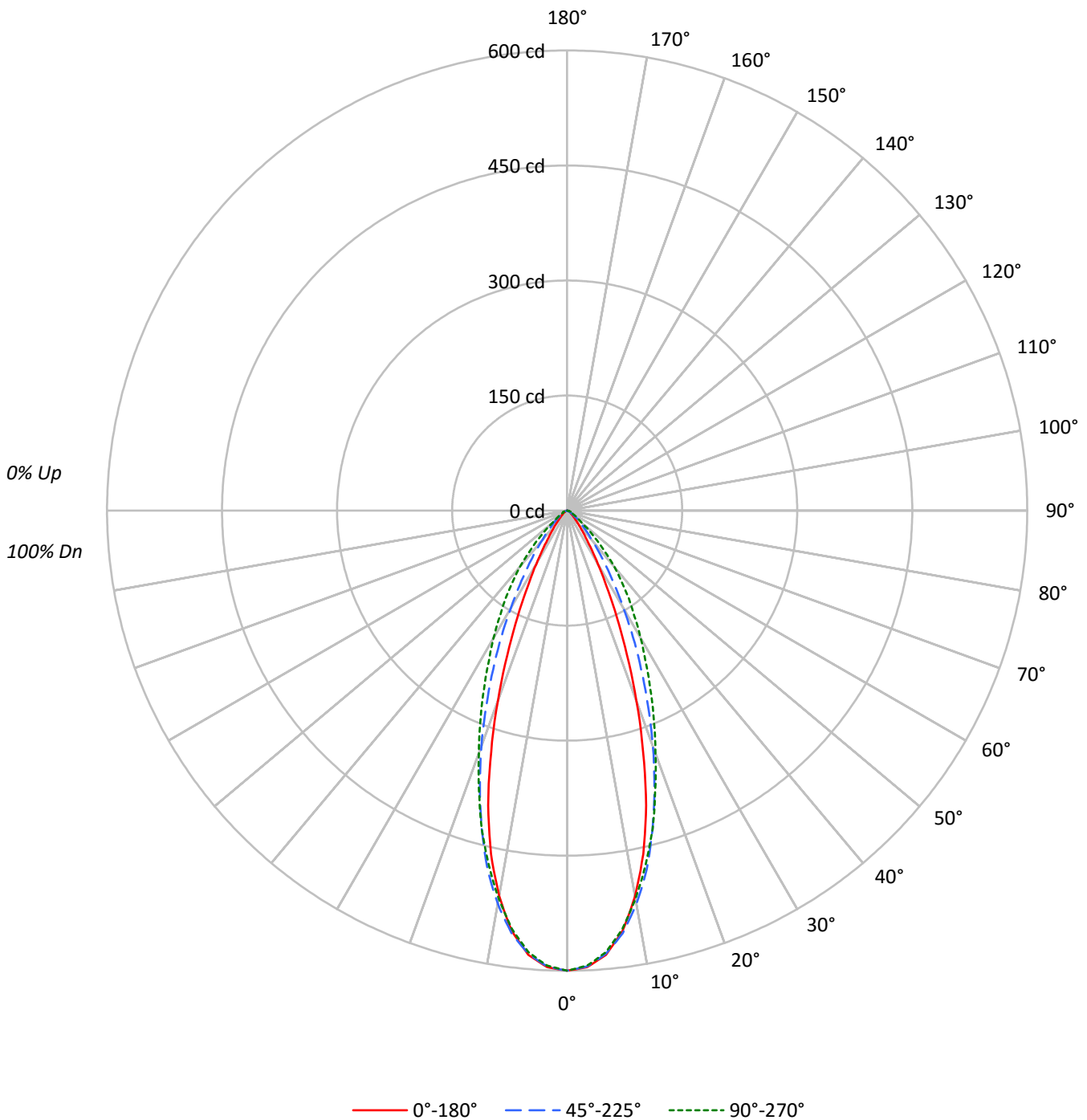
Input Watts (W): 5.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P226157

CATALOG NUMBER: MRZ-1-REC-X-1-L35-97-FL-UNV-X-STD-LSL

### Luminous Intensity Polar Plot





TEST NUMBER: P226157

CATALOG NUMBER: MRZ-1-REC-X-1-L35-97-FL-UNV-X-STD-LSL

**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	69	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°	295978	295978	295978
5°	287897	287352	286263
10°	255656	260866	257359
15°	203292	219688	219688
20°	138664	171689	176835
25°	82910	124228	139689
30°	45747	83348	109156
35°	23972	53605	84443
40°	13654	32718	61894
45°	8792	20932	38515
50°	6294	13816	20110
55°	5161	8000	12645
60°	4342	4835	8091
65°	3853	3853	6304
70°	3029	3029	8655
75°	3050	2097	5338
80°	1421	1421	3125
85°	0	0	0



TEST NUMBER: P226157

CATALOG NUMBER: MRZ-1-REC-X-1-L35-97-FL-UNV-X-STD-LSL

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.3	14.5
10°-20°	115.9	31.4
20°-30°	100.2	27.2
30°-40°	57.9	15.7
40°-50°	26.2	7.1
50°-60°	9.3	2.5
60°-70°	4.1	1.1
70°-80°	1.9	0.5
80°-90°	0.1	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°	269.4	73.0
0°-40°	327.3	88.7
0°-60°	362.8	98.3
0°-90°	369.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	369.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	600	600	600	600	600	
5°	581	581	580	578	578	53
15°	398	410	430	434	430	108
25°	152	175	228	262	257	71
35°	40	52	89	133	140	27
45°	13	15	30	52	55	10
55°	6	6	9	12	15	5
65°	3	4	3	5	5	3
75°	2	2	1	2	3	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P226157

CATALOG NUMBER: MRZ-1-REC-X-1-L35-97-FL-UNV-X-STD-LSL

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	599.9	599.9	599.9	599.9	599.9	599.9	599.9	599.9	599.9	599.9	599.9
2.5°	596.0	595.0	595.0	595.0	595.5	595.5	595.0	595.0	595.0	595.0	595.0
5°	581.3	580.2	580.2	580.8	580.2	580.8	580.2	581.3	580.8	580.2	580.2
7.5°	552.9	552.9	552.9	553.5	554.0	554.0	554.0	555.2	555.2	556.2	555.7
10°	510.3	511.4	511.4	513.1	514.7	513.7	514.2	517.5	518.6	519.6	520.7
12.5°	458.5	460.2	461.3	462.3	463.9	465.6	466.2	471.6	473.2	475.4	479.3
15°	398.0	397.3	400.6	402.2	407.2	409.9	411.5	417.1	422.5	425.7	430.1
17.5°	329.7	331.4	333.0	337.3	343.3	347.2	349.3	355.9	364.7	371.7	378.2
20°	264.1	267.4	269.1	274.1	280.0	282.2	288.2	296.9	308.4	318.2	327.0
22.5°	203.6	205.2	209.6	215.0	221.7	226.6	232.5	241.3	253.3	263.1	275.1
25°	152.3	152.8	158.3	163.2	170.3	175.2	178.4	190.0	202.6	215.0	228.2
27.5°	110.8	111.9	115.2	120.1	127.7	131.0	136.5	146.3	158.3	171.9	185.6
30°	80.3	80.3	82.4	87.8	93.4	97.7	101.5	110.8	122.3	133.7	146.3
32.5°	56.2	56.8	58.9	62.8	68.2	71.5	74.3	82.9	92.2	103.7	114.6
35°	39.8	40.3	42.6	44.7	49.1	51.9	54.0	60.6	68.7	78.6	89.0
37.5°	28.9	29.5	30.5	32.2	35.4	37.1	39.3	44.7	51.3	58.9	68.2
40°	21.2	21.9	22.4	24.0	26.2	27.3	28.9	32.8	37.7	44.2	50.8
42.5°	16.3	16.3	17.0	18.0	19.1	20.2	21.2	24.0	27.9	32.8	38.7
45°	12.6	12.6	13.1	14.2	14.7	15.3	16.3	18.0	20.7	24.5	30.0
47.5°	10.4	10.4	10.4	10.9	11.4	12.1	12.6	14.2	15.8	19.6	22.9
50°	8.2	8.2	8.7	8.7	9.3	9.3	9.8	10.9	13.1	15.8	18.0
52.5°	7.1	7.1	7.1	7.1	7.1	7.7	7.7	8.7	10.9	12.1	13.1
55°	6.0	6.0	6.0	6.0	6.0	6.0	6.5	7.7	8.7	9.8	9.3
57.5°	4.9	4.9	4.9	4.9	4.9	5.4	5.4	6.5	7.1	6.5	6.5
60°	4.4	4.4	3.8	3.8	4.4	4.4	4.9	5.4	5.4	4.9	4.9
62.5°	3.8	3.3	3.3	3.3	3.8	4.4	4.4	4.4	3.8	3.8	3.8
65°	3.3	2.8	2.8	3.3	3.3	3.8	3.8	3.3	3.3	3.3	3.3
67.5°	2.8	2.8	2.8	2.8	3.3	3.3	3.3	2.8	2.8	2.8	2.8
70°	2.1	2.1	2.1	2.1	2.8	2.8	2.1	2.1	2.1	2.1	2.1
72.5°	1.6	1.6	1.6	2.1	2.1	2.1	1.6	1.6	1.6	2.1	1.6
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.1	1.1	1.6	1.6	1.1
77.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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



TEST NUMBER: P226157

CATALOG NUMBER: MRZ-1-REC-X-1-L35-97-FL-UNV-X-STD-LSL

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	599.9	599.9	599.9	599.9	599.9	599.9	599.9	599.9	599.9	599.9
2.5°	594.4	594.4	593.9	594.4	594.4	594.4	594.4	593.9	594.4	593.9
5°	579.7	579.7	579.7	578.5	578.0	578.5	578.0	577.5	577.5	578.0
7.5°	554.5	554.5	554.0	552.9	552.9	552.4	551.3	550.8	550.3	550.3
10°	521.9	521.2	519.6	519.1	519.1	517.5	515.3	515.3	513.1	513.7
12.5°	480.9	479.8	479.3	479.3	477.1	477.1	475.4	474.9	473.7	472.7
15°	431.8	433.4	434.5	433.9	433.9	432.3	431.8	430.6	429.0	430.1
17.5°	383.1	387.0	388.1	389.7	390.3	389.2	387.5	384.8	383.1	382.1
20°	335.1	340.6	344.4	345.6	345.6	344.9	344.4	340.0	339.5	336.8
22.5°	285.5	293.2	299.7	301.8	302.4	303.0	300.7	297.4	296.4	295.8
25°	239.1	249.4	256.0	260.4	261.5	263.1	262.0	260.4	257.1	256.6
27.5°	197.0	208.0	216.7	222.2	224.9	225.9	227.1	224.3	223.3	221.0
30°	159.3	171.9	181.2	188.9	190.5	192.6	193.3	193.8	191.6	191.6
32.5°	127.2	137.6	149.0	156.7	160.0	161.6	164.3	163.7	163.7	163.2
35°	99.9	110.2	120.6	128.8	132.7	134.8	138.1	139.7	140.2	140.2
37.5°	76.9	87.3	96.6	106.4	110.2	113.0	115.2	115.7	116.2	115.7
40°	58.9	68.7	78.0	84.6	87.3	89.5	92.2	94.4	95.5	96.1
42.5°	46.4	53.5	59.5	66.1	70.4	73.6	74.3	73.6	73.6	73.1
45°	34.9	40.3	49.6	51.3	52.4	52.9	54.5	55.2	55.2	55.2
47.5°	27.9	33.8	33.8	36.1	37.1	38.7	39.3	39.3	39.3	39.3
50°	20.7	21.9	23.5	25.1	25.6	25.6	26.2	26.2	26.2	26.2
52.5°	13.7	15.3	15.8	16.3	17.0	17.5	18.6	19.1	18.6	18.6
55°	9.8	10.4	10.9	12.1	12.1	12.6	14.7	14.7	14.7	14.7
57.5°	6.5	7.1	8.2	9.8	9.8	10.4	10.9	10.9	11.4	11.4
60°	5.4	6.0	6.5	7.1	7.7	8.7	9.8	8.2	8.2	8.2
62.5°	4.4	4.9	5.4	6.0	5.4	6.0	6.5	6.5	6.5	6.5
65°	3.8	4.4	3.8	4.4	4.9	4.9	4.4	4.9	4.9	5.4
67.5°	3.3	3.3	3.3	3.3	3.3	3.8	4.9	5.4	6.0	6.0
70°	2.1	2.1	2.1	3.3	3.3	3.8	4.4	5.4	5.4	6.0
72.5°	1.6	1.6	2.1	2.8	3.3	3.3	3.8	3.8	4.4	4.4
75°	1.6	1.6	2.1	2.1	2.1	2.1	2.8	2.8	2.8	2.8
77.5°	1.1	1.1	1.1	1.1	1.6	1.6	1.6	2.1	2.1	2.1
80°	0.5	0.5	0.5	0.5	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	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)