

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: P219775

Luminaire Tested: **MRZ-1-REC-X-3-L27-80-FL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219775  
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-3-L27-80-FL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
40 DEGREE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 3  
Light Source: (1) 2700K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 947.5 lumens  
Efficiency: N/A  
Efficacy: 78.3 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

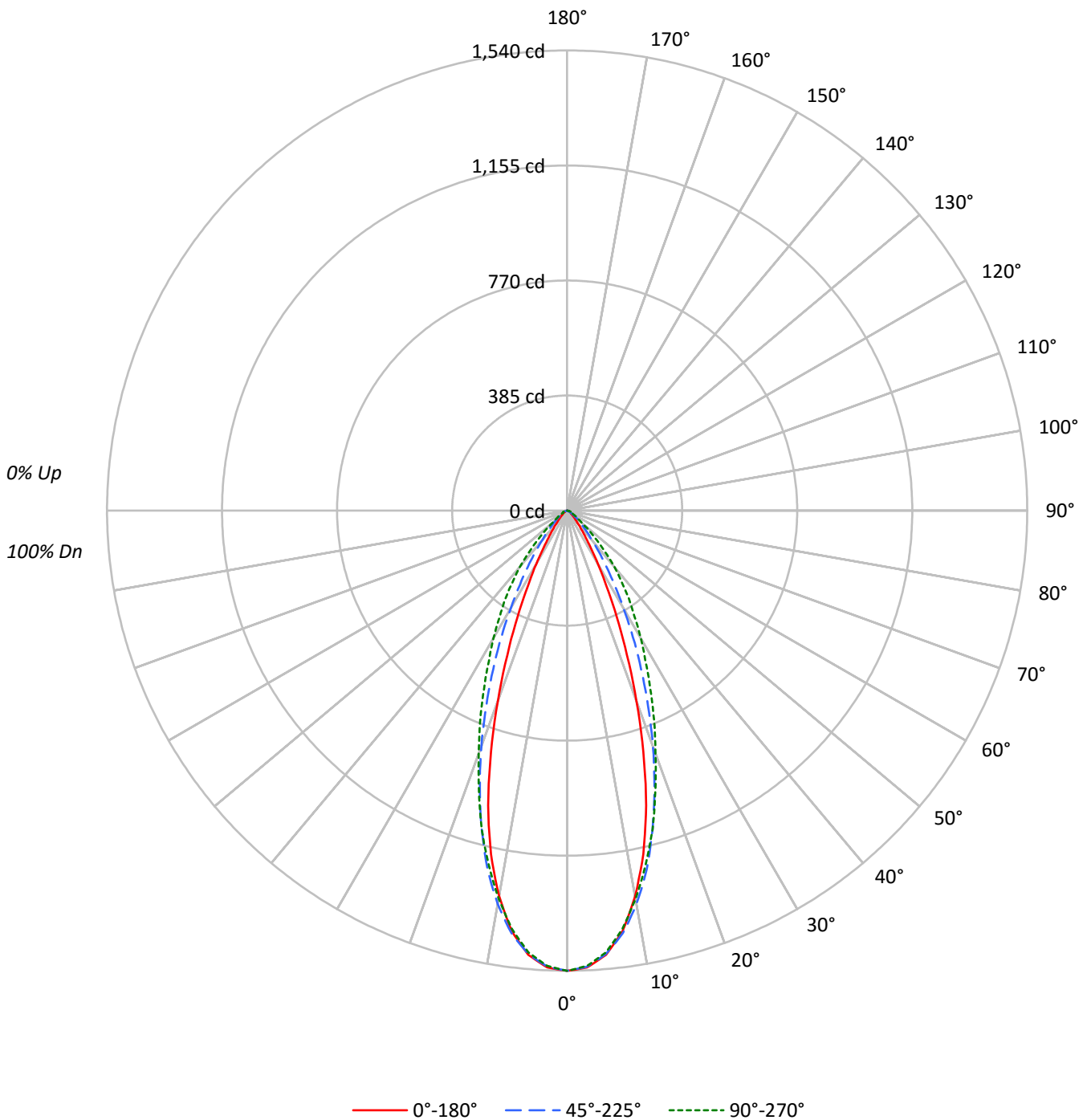
Input Watts (W): 12.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	759953	759953	759953
5°	739231	737845	735071
10°	656498	669875	660757
15°	521868	564110	564110
20°	356137	440774	454058
25°	212854	318900	358586
30°	117359	213981	280238
35°	61616	137627	216950
40°	35230	83921	158890
45°	22467	53796	98801
50°	16119	35538	51657
55°	13247	20472	32515
60°	11052	12433	20722
65°	9806	9806	16344
70°	8078	8078	22215
75°	8006	5338	13344
80°	3978	3978	7956
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.9	14.4
10°-20°	297.5	31.4
20°-30°	257.3	27.2
30°-40°	148.7	15.7
40°-50°	67.4	7.1
50°-60°	23.8	2.5
60°-70°	10.5	1.1
70°-80°	5.0	0.5
80°-90°	0.4	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°	691.7	73.0
0°-40°	840.4	88.7
0°-60°	931.6	98.3
0°-90°	947.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	947.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1540	1540	1540	1540	1540	
5°	1493	1491	1490	1484	1484	137
15°	1022	1053	1104	1114	1104	277
25°	391	450	586	671	659	183
35°	102	133	228	341	360	69
45°	32	39	77	134	142	26
55°	15	15	24	31	38	14
65°	8	10	8	13	14	8
75°	4	4	3	6	7	4
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°	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3
2.5°	1530.5	1527.7	1527.7	1527.7	1529.1	1529.1	1527.7	1527.7	1527.7	1527.7	1527.7
5°	1492.6	1489.8	1489.8	1491.2	1489.8	1491.2	1489.8	1492.6	1491.2	1489.8	1489.8
7.5°	1419.8	1419.8	1419.8	1421.2	1422.6	1422.6	1422.6	1425.4	1425.4	1428.2	1426.8
10°	1310.4	1313.2	1313.2	1317.5	1321.7	1318.9	1320.3	1328.7	1331.5	1334.3	1337.1
12.5°	1177.3	1181.5	1184.3	1187.1	1191.3	1195.5	1196.9	1210.9	1215.1	1220.7	1230.6
15°	1021.7	1020.3	1028.7	1032.9	1045.6	1052.6	1056.8	1070.8	1084.8	1093.2	1104.4
17.5°	846.5	850.7	854.9	866.2	881.6	891.4	897.0	913.8	936.2	954.5	971.3
20°	678.3	686.8	691.0	703.6	719.0	724.6	740.0	762.4	791.9	817.1	839.5
22.5°	522.8	527.0	538.2	552.2	569.0	581.6	597.1	619.5	650.3	675.5	706.4
25°	391.0	392.4	406.4	419.1	437.3	449.9	458.3	487.7	520.0	552.2	585.8
27.5°	284.5	287.3	295.7	308.3	328.0	336.4	350.4	375.6	406.4	441.5	476.5
30°	206.0	206.0	211.6	225.6	239.7	250.9	260.7	284.5	313.9	343.4	375.6
32.5°	144.4	145.8	151.4	161.2	175.2	183.6	190.6	213.0	236.9	266.3	294.3
35°	102.3	103.7	109.3	114.9	126.1	133.1	138.8	155.6	176.6	201.8	228.5
37.5°	74.3	75.7	78.5	82.7	91.1	95.3	100.9	114.9	131.7	151.4	175.2
40°	54.7	56.1	57.5	61.7	67.3	70.1	74.3	84.1	96.7	113.5	130.3
42.5°	42.0	42.0	43.4	46.3	49.1	51.9	54.7	61.7	71.5	84.1	99.5
45°	32.2	32.2	33.6	36.4	37.8	39.2	42.0	46.3	53.3	63.1	77.1
47.5°	26.6	26.6	26.6	28.0	29.4	30.8	32.2	36.4	40.6	50.5	58.9
50°	21.0	21.0	22.4	22.4	23.8	23.8	25.2	28.0	33.6	40.6	46.3
52.5°	18.2	18.2	18.2	18.2	18.2	19.6	19.6	22.4	28.0	30.8	33.6
55°	15.4	15.4	15.4	15.4	15.4	15.4	16.8	19.6	22.4	25.2	23.8
57.5°	12.6	12.6	12.6	12.6	12.6	14.0	14.0	16.8	18.2	16.8	16.8
60°	11.2	11.2	9.8	9.8	11.2	11.2	12.6	14.0	14.0	12.6	12.6
62.5°	9.8	8.4	8.4	8.4	9.8	11.2	11.2	11.2	9.8	9.8	9.8
65°	8.4	7.0	7.0	8.4	8.4	9.8	9.8	8.4	8.4	8.4	8.4
67.5°	7.0	7.0	7.0	7.0	8.4	8.4	8.4	7.0	7.0	7.0	7.0
70°	5.6	5.6	5.6	5.6	7.0	7.0	5.6	5.6	5.6	5.6	5.6
72.5°	4.2	4.2	4.2	5.6	5.6	5.6	4.2	4.2	4.2	5.6	4.2
75°	4.2	4.2	4.2	4.2	4.2	4.2	2.8	2.8	4.2	4.2	2.8
77.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
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°	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3	1540.3
2.5°	1526.3	1526.3	1524.9	1526.3	1526.3	1526.3	1526.3	1524.9	1526.3	1524.9
5°	1488.4	1488.4	1488.4	1485.6	1484.2	1485.6	1484.2	1482.8	1482.8	1484.2
7.5°	1424.0	1424.0	1422.6	1419.8	1419.8	1418.4	1415.6	1414.2	1412.8	1412.8
10°	1339.9	1338.5	1334.3	1332.9	1332.9	1328.7	1323.1	1323.1	1317.5	1318.9
12.5°	1234.8	1232.0	1230.6	1230.6	1224.9	1224.9	1220.7	1219.3	1216.5	1213.7
15°	1108.6	1112.8	1115.6	1114.2	1114.2	1110.0	1108.6	1105.8	1101.6	1104.4
17.5°	983.9	993.7	996.5	1000.7	1002.1	999.3	995.1	988.1	983.9	981.1
20°	860.5	874.6	884.4	887.2	887.2	885.8	884.4	873.2	871.8	864.8
22.5°	733.0	752.6	769.4	775.1	776.5	777.9	772.3	763.8	761.0	759.6
25°	613.9	640.5	657.3	668.5	671.3	675.5	672.7	668.5	660.1	658.7
27.5°	506.0	534.0	556.4	570.4	577.4	580.2	583.0	576.0	573.2	567.6
30°	409.3	441.5	465.3	484.9	489.1	494.7	496.1	497.5	491.9	491.9
32.5°	326.6	353.2	382.6	402.2	410.7	414.9	421.9	420.5	420.5	419.1
35°	256.5	283.1	309.7	330.8	340.6	346.2	354.6	358.8	360.2	360.2
37.5°	197.6	224.2	248.1	273.3	283.1	290.1	295.7	297.1	298.5	297.1
40°	151.4	176.6	200.4	217.2	224.2	229.9	236.9	242.5	245.3	246.7
42.5°	119.1	137.4	152.8	169.6	180.8	189.2	190.6	189.2	189.2	187.8
45°	89.7	103.7	127.5	131.7	134.5	135.9	140.2	141.6	141.6	141.6
47.5°	71.5	86.9	86.9	92.5	95.3	99.5	100.9	100.9	100.9	100.9
50°	53.3	56.1	60.3	64.5	65.9	65.9	67.3	67.3	67.3	67.3
52.5°	35.0	39.2	40.6	42.0	43.4	44.8	47.7	49.1	47.7	47.7
55°	25.2	26.6	28.0	30.8	30.8	32.2	37.8	37.8	37.8	37.8
57.5°	16.8	18.2	21.0	25.2	25.2	26.6	28.0	28.0	29.4	29.4
60°	14.0	15.4	16.8	18.2	19.6	22.4	25.2	21.0	21.0	21.0
62.5°	11.2	12.6	14.0	15.4	14.0	15.4	16.8	16.8	16.8	16.8
65°	9.8	11.2	9.8	11.2	12.6	12.6	11.2	12.6	12.6	14.0
67.5°	8.4	8.4	8.4	8.4	8.4	9.8	12.6	14.0	15.4	15.4
70°	5.6	5.6	5.6	8.4	8.4	9.8	11.2	14.0	14.0	15.4
72.5°	4.2	4.2	5.6	7.0	8.4	8.4	9.8	9.8	11.2	11.2
75°	4.2	4.2	5.6	5.6	5.6	5.6	7.0	7.0	7.0	7.0
77.5°	2.8	2.8	2.8	2.8	4.2	4.2	4.2	5.6	5.6	5.6
80°	1.4	1.4	1.4	1.4	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	1.4	1.4	1.4	1.4	1.4	0.0	0.0	1.4	1.4	1.4
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)