

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: P219782

Luminaire Tested: **MRZ-1-REC-X-4-L27-80-FL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219782  
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-4-L27-80-FL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
40 DEGREE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 4  
Light Source: (1) 2700K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1211.8 lumens  
Efficiency: N/A  
Efficacy: 76.7 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

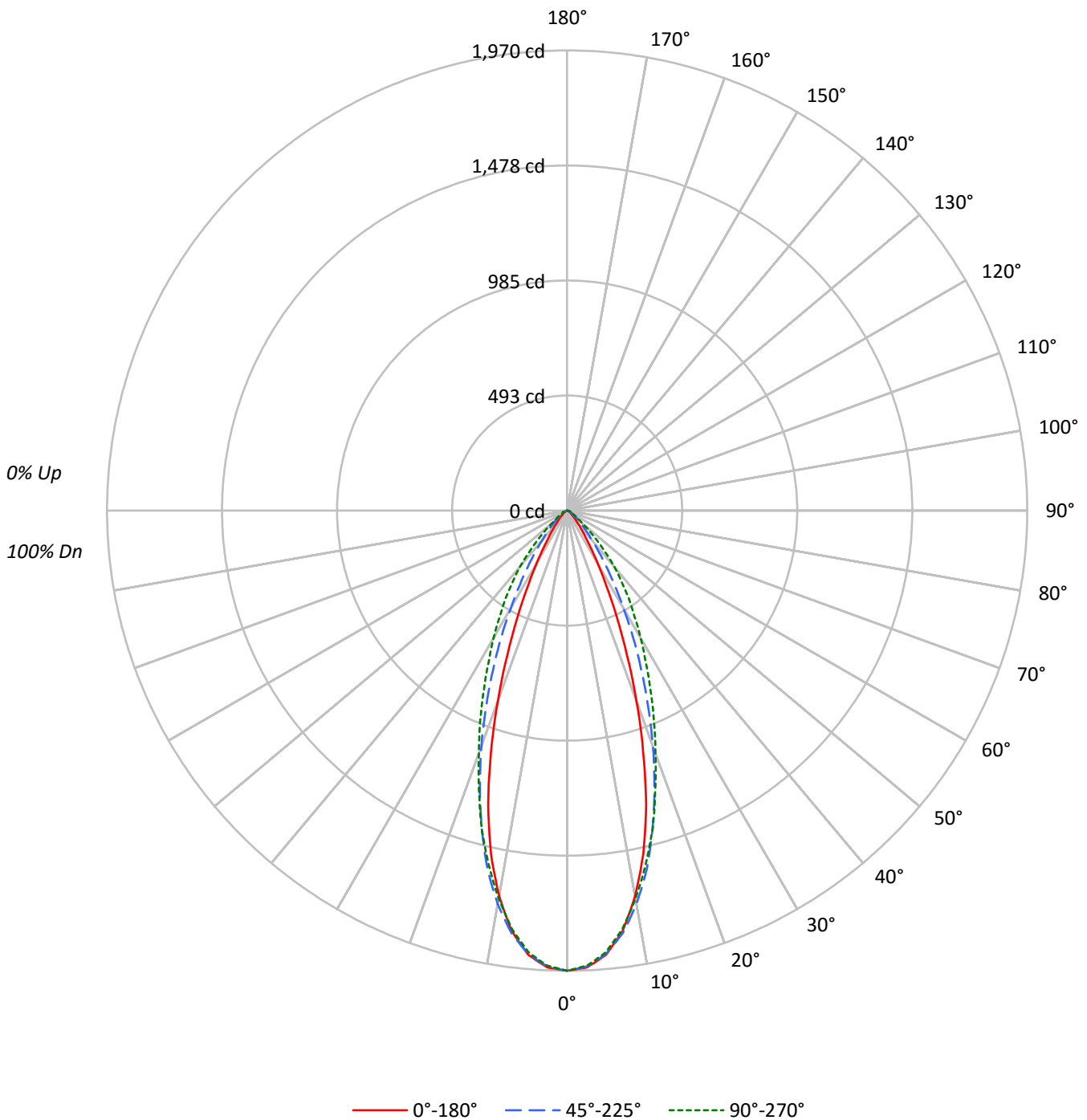
Input Watts (W): 15.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				
1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	93				
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	92	90	89	87				
3	103	96	91	87	101	95	90	87	92	88	85	90	87	84	88	85	83	81				
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	77	76				
5	93	85	79	75	91	84	78	74	82	77	74	80	76	73	79	75	72	71				
6	88	80	74	70	87	79	74	70	78	73	69	76	72	69	75	71	68	67				
7	84	75	70	65	83	75	69	65	73	68	65	72	68	65	71	67	64	63				
8	81	71	66	62	79	71	65	61	70	65	61	69	64	61	68	64	61	59				
9	77	68	62	58	76	67	62	58	66	61	58	65	61	58	65	61	57	56				
10	74	64	59	55	73	64	59	55	63	58	55	62	58	55	62	58	55	53				

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

	0°	45°	90°
0°	971908	971908	971908
5°	945410	943627	940110
10°	839610	856694	845021
15°	667442	721431	721431
20°	455475	563739	580646
25°	272246	407853	458589
30°	150117	273687	358402
35°	78782	175994	277422
40°	45020	107365	203201
45°	28747	68798	126292
50°	20647	45363	66010
55°	16946	26236	41633
60°	14111	15887	26544
65°	12608	12608	20897
70°	10386	10386	28418
75°	10294	6863	17156
80°	5114	5114	10229
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.1	14.4
10°-20°	380.5	31.4
20°-30°	329.1	27.2
30°-40°	190.2	15.7
40°-50°	86.1	7.1
50°-60°	30.4	2.5
60°-70°	13.4	1.1
70°-80°	6.4	0.5
80°-90°	0.5	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°	884.7	73.0
0°-40°	1074.8	88.7
0°-60°	1191.4	98.3
0°-90°	1211.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1211.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1970	1970	1970	1970	1970	
5°	1909	1907	1905	1898	1898	175
15°	1307	1346	1412	1425	1412	354
25°	500	575	749	859	842	235
35°	131	170	292	436	461	88
45°	41	50	99	172	181	34
55°	20	20	30	39	48	18
65°	11	12	11	16	18	11
75°	5	5	4	7	9	5
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P219782

CATALOG NUMBER: MRZ-1-REC-X-4-L27-80-FL-UNV-X-STD-LSL

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9
2.5°	1957.3	1953.7	1953.7	1953.7	1955.5	1955.5	1953.7	1953.7	1953.7	1953.7	1953.7
5°	1908.9	1905.3	1905.3	1907.1	1905.3	1907.1	1905.3	1908.9	1907.1	1905.3	1905.3
7.5°	1815.7	1815.7	1815.7	1817.5	1819.3	1819.3	1819.3	1822.9	1822.9	1826.5	1824.7
10°	1675.9	1679.5	1679.5	1684.9	1690.2	1686.7	1688.5	1699.2	1702.8	1706.4	1710.0
12.5°	1505.6	1511.0	1514.6	1518.2	1523.5	1528.9	1530.7	1548.6	1554.0	1561.2	1573.7
15°	1306.7	1304.9	1315.6	1321.0	1337.1	1346.1	1351.5	1369.4	1387.3	1398.1	1412.4
17.5°	1082.6	1088.0	1093.4	1107.7	1127.4	1140.0	1147.1	1168.7	1197.3	1220.6	1242.1
20°	867.5	878.3	883.7	899.8	919.5	926.7	946.4	975.1	1012.7	1045.0	1073.7
22.5°	668.6	673.9	688.3	706.2	727.7	743.9	763.6	792.2	831.7	863.9	903.4
25°	500.1	501.9	519.8	535.9	559.2	575.4	586.1	623.8	665.0	706.2	749.2
27.5°	363.9	367.4	378.2	394.3	419.4	430.2	448.1	480.4	519.8	564.6	609.4
30°	263.5	263.5	270.7	288.6	306.5	320.8	333.4	363.9	401.5	439.1	480.4
32.5°	184.6	186.4	193.6	206.1	224.1	234.8	243.8	272.4	302.9	340.6	376.4
35°	130.8	132.6	139.8	147.0	161.3	170.3	177.4	199.0	225.8	258.1	292.2
37.5°	95.0	96.8	100.4	105.8	116.5	121.9	129.1	147.0	168.5	193.6	224.1
40°	69.9	71.7	73.5	78.9	86.0	89.6	95.0	107.5	123.7	145.2	166.7
42.5°	53.8	53.8	55.6	59.1	62.7	66.3	69.9	78.9	91.4	107.5	127.3
45°	41.2	41.2	43.0	46.6	48.4	50.2	53.8	59.1	68.1	80.7	98.6
47.5°	34.1	34.1	34.1	35.8	37.6	39.4	41.2	46.6	52.0	64.5	75.3
50°	26.9	26.9	28.7	28.7	30.5	30.5	32.3	35.8	43.0	52.0	59.1
52.5°	23.3	23.3	23.3	23.3	23.3	25.1	25.1	28.7	35.8	39.4	43.0
55°	19.7	19.7	19.7	19.7	19.7	19.7	21.5	25.1	28.7	32.3	30.5
57.5°	16.1	16.1	16.1	16.1	16.1	17.9	17.9	21.5	23.3	21.5	21.5
60°	14.3	14.3	12.5	12.5	14.3	14.3	16.1	17.9	17.9	16.1	16.1
62.5°	12.5	10.8	10.8	10.8	12.5	14.3	14.3	14.3	12.5	12.5	12.5
65°	10.8	9.0	9.0	10.8	10.8	12.5	12.5	10.8	10.8	10.8	10.8
67.5°	9.0	9.0	9.0	9.0	10.8	10.8	10.8	9.0	9.0	9.0	9.0
70°	7.2	7.2	7.2	7.2	9.0	9.0	7.2	7.2	7.2	7.2	7.2
72.5°	5.4	5.4	5.4	7.2	7.2	7.2	5.4	5.4	5.4	7.2	5.4
75°	5.4	5.4	5.4	5.4	5.4	5.4	3.6	3.6	5.4	5.4	3.6
77.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
80°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
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°	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9	1969.9
2.5°	1951.9	1951.9	1950.1	1951.9	1951.9	1951.9	1951.9	1950.1	1951.9	1950.1
5°	1903.5	1903.5	1903.5	1900.0	1898.2	1900.0	1898.2	1896.4	1896.4	1898.2
7.5°	1821.1	1821.1	1819.3	1815.7	1815.7	1813.9	1810.3	1808.5	1806.8	1806.8
10°	1713.5	1711.8	1706.4	1704.6	1704.6	1699.2	1692.0	1692.0	1684.9	1686.7
12.5°	1579.1	1575.5	1573.7	1573.7	1566.6	1566.6	1561.2	1559.4	1555.8	1552.2
15°	1417.8	1423.2	1426.8	1425.0	1425.0	1419.6	1417.8	1414.2	1408.8	1412.4
17.5°	1258.3	1270.8	1274.4	1279.8	1281.6	1278.0	1272.6	1263.6	1258.3	1254.7
20°	1100.5	1118.5	1131.0	1134.6	1134.6	1132.8	1131.0	1116.7	1114.9	1105.9
22.5°	937.4	962.5	984.0	991.2	993.0	994.8	987.6	976.9	973.3	971.5
25°	785.1	819.1	840.6	855.0	858.6	863.9	860.4	855.0	844.2	842.4
27.5°	647.1	682.9	711.6	729.5	738.5	742.1	745.6	736.7	733.1	725.9
30°	523.4	564.6	595.1	620.2	625.6	632.7	634.5	636.3	629.1	629.1
32.5°	417.6	451.7	489.3	514.4	525.2	530.6	539.5	537.7	537.7	535.9
35°	328.0	362.1	396.1	423.0	435.6	442.7	453.5	458.9	460.6	460.6
37.5°	252.7	286.8	317.3	349.5	362.1	371.0	378.2	380.0	381.8	380.0
40°	193.6	225.8	256.3	277.8	286.8	294.0	302.9	310.1	313.7	315.5
42.5°	152.4	175.7	195.4	216.9	231.2	242.0	243.8	242.0	242.0	240.2
45°	114.7	132.6	163.1	168.5	172.1	173.9	179.2	181.0	181.0	181.0
47.5°	91.4	111.1	111.1	118.3	121.9	127.3	129.1	129.1	129.1	129.1
50°	68.1	71.7	77.1	82.5	84.2	84.2	86.0	86.0	86.0	86.0
52.5°	44.8	50.2	52.0	53.8	55.6	57.4	60.9	62.7	60.9	60.9
55°	32.3	34.1	35.8	39.4	39.4	41.2	48.4	48.4	48.4	48.4
57.5°	21.5	23.3	26.9	32.3	32.3	34.1	35.8	35.8	37.6	37.6
60°	17.9	19.7	21.5	23.3	25.1	28.7	32.3	26.9	26.9	26.9
62.5°	14.3	16.1	17.9	19.7	17.9	19.7	21.5	21.5	21.5	21.5
65°	12.5	14.3	12.5	14.3	16.1	16.1	14.3	16.1	16.1	17.9
67.5°	10.8	10.8	10.8	10.8	10.8	12.5	16.1	17.9	19.7	19.7
70°	7.2	7.2	7.2	10.8	10.8	12.5	14.3	17.9	17.9	19.7
72.5°	5.4	5.4	7.2	9.0	10.8	10.8	12.5	12.5	14.3	14.3
75°	5.4	5.4	7.2	7.2	7.2	7.2	9.0	9.0	9.0	9.0
77.5°	3.6	3.6	3.6	3.6	5.4	5.4	5.4	7.2	7.2	7.2
80°	1.8	1.8	1.8	1.8	3.6	3.6	3.6	3.6	3.6	3.6
82.5°	1.8	1.8	1.8	1.8	1.8	0.0	0.0	1.8	1.8	1.8
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)