

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: P219786

Luminaire Tested: **MRZ-1-REC-X-4-L27-97-FL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219786
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-L27-97-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, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 864.6 lumens
Efficiency: N/A
Efficacy: 54.7 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

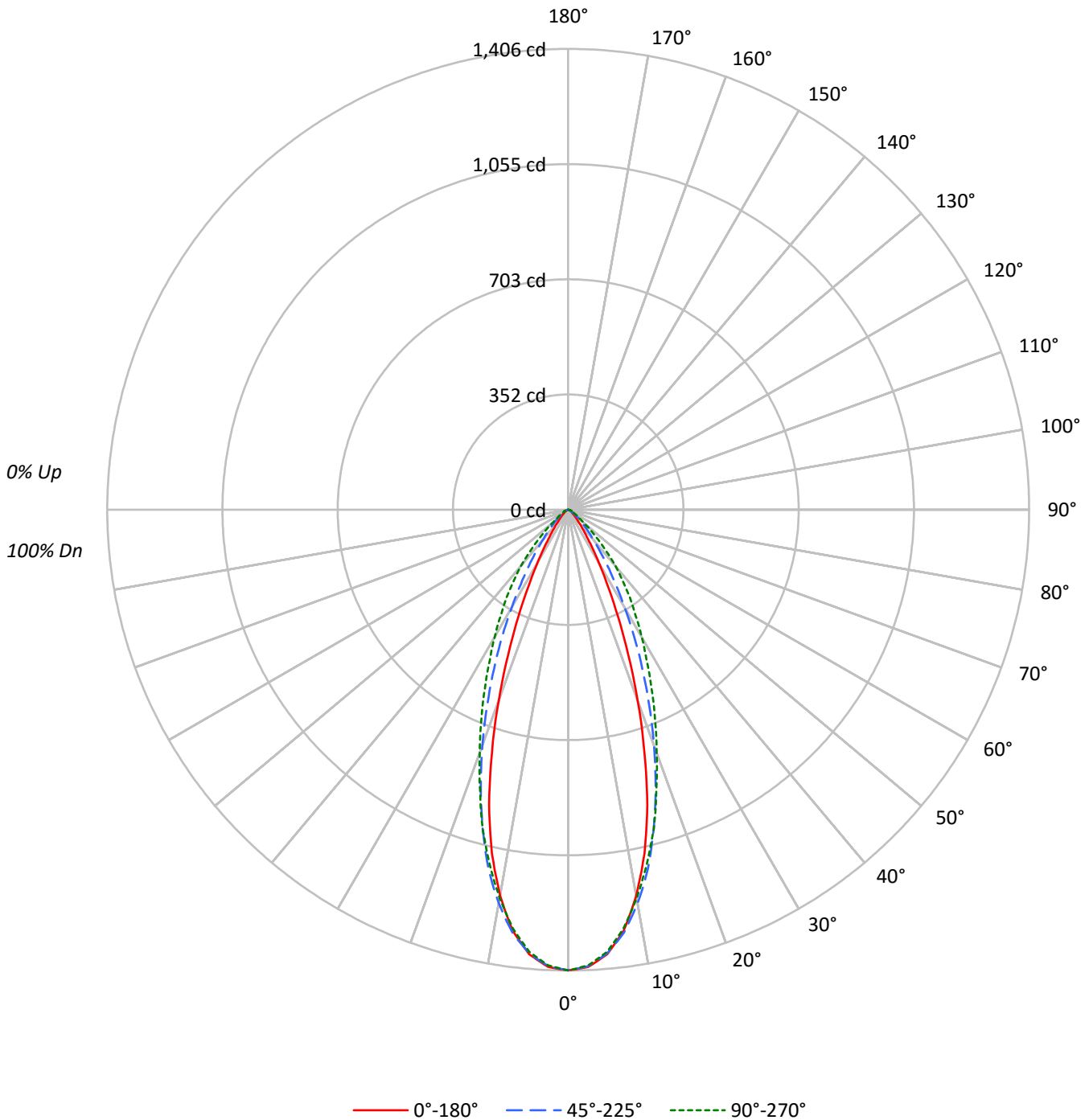
Input Watts (W): 15.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P219786

CATALOG NUMBER: MRZ-1-REC-X-4-L27-97-FL-UNV-X-STD-LSL

Luminous Intensity Polar Plot





TEST NUMBER: P219786

CATALOG NUMBER: MRZ-1-REC-X-4-L27-97-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	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°	693445	693445	693445
5°	674550	673262	670736
10°	599035	611209	602892
15°	476204	514768	514768
20°	325002	402183	414312
25°	194236	291028	327229
30°	107105	195238	255741
35°	56255	125581	197978
40°	32139	76579	144978
45°	20514	49051	90149
50°	14737	32391	47128
55°	12129	18666	29676
60°	10065	11348	18946
65°	8989	8989	14943
70°	7357	7357	20340
75°	7244	4956	12200
80°	3694	3694	7387
85°	0	0	0



TEST NUMBER: P219786

CATALOG NUMBER: MRZ-1-REC-X-4-L27-97-FL-UNV-X-STD-LSL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.9	14.4
10°-20°	271.5	31.4
20°-30°	234.8	27.2
30°-40°	135.7	15.7
40°-50°	61.5	7.1
50°-60°	21.7	2.5
60°-70°	9.6	1.1
70°-80°	4.6	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°	631.2	73.0
0°-40°	766.9	88.7
0°-60°	850.1	98.3
0°-90°	864.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	864.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1406	1406	1406	1406	1406	
5°	1362	1361	1359	1354	1354	125
15°	932	960	1008	1017	1008	253
25°	357	410	535	613	601	167
35°	93	122	208	311	329	63
45°	29	36	70	123	129	24
55°	14	14	22	28	34	13
65°	8	9	8	12	13	8
75°	4	4	3	5	6	4
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P219786

CATALOG NUMBER: MRZ-1-REC-X-4-L27-97-FL-UNV-X-STD-LSL

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5
2.5°	1396.5	1394.0	1394.0	1394.0	1395.3	1395.3	1394.0	1394.0	1394.0	1394.0	1394.0
5°	1362.0	1359.4	1359.4	1360.7	1359.4	1360.7	1359.4	1362.0	1360.7	1359.4	1359.4
7.5°	1295.5	1295.5	1295.5	1296.8	1298.1	1298.1	1298.1	1300.6	1300.6	1303.2	1301.9
10°	1195.7	1198.3	1198.3	1202.1	1206.0	1203.4	1204.7	1212.4	1214.9	1217.5	1220.0
12.5°	1074.3	1078.1	1080.7	1083.2	1087.0	1090.9	1092.2	1104.9	1108.8	1113.9	1122.9
15°	932.3	931.0	938.7	942.5	954.0	960.4	964.3	977.1	989.9	997.5	1007.8
17.5°	772.4	776.3	780.1	790.3	804.4	813.4	818.5	833.8	854.3	870.9	886.3
20°	619.0	626.6	630.5	642.0	656.1	661.2	675.2	695.7	722.6	745.6	766.0
22.5°	477.0	480.9	491.1	503.9	519.2	530.7	544.8	565.3	593.4	616.4	644.6
25°	356.8	358.1	370.9	382.4	399.0	410.5	418.2	445.0	474.5	503.9	534.6
27.5°	259.6	262.2	269.8	281.4	299.3	306.9	319.7	342.7	370.9	402.8	434.8
30°	188.0	188.0	193.1	205.9	218.7	228.9	237.9	259.6	286.5	313.3	342.7
32.5°	131.7	133.0	138.1	147.1	159.9	167.5	173.9	194.4	216.1	243.0	268.6
35°	93.4	94.6	99.8	104.9	115.1	121.5	126.6	142.0	161.1	184.2	208.5
37.5°	67.8	69.1	71.6	75.5	83.1	87.0	92.1	104.9	120.2	138.1	159.9
40°	49.9	51.2	52.4	56.3	61.4	63.9	67.8	76.7	88.2	103.6	118.9
42.5°	38.4	38.4	39.6	42.2	44.8	47.3	49.9	56.3	65.2	76.7	90.8
45°	29.4	29.4	30.7	33.3	34.5	35.8	38.4	42.2	48.6	57.5	70.3
47.5°	24.3	24.3	24.3	25.6	26.9	28.1	29.4	33.3	37.1	46.0	53.7
50°	19.2	19.2	20.5	20.5	21.7	21.7	23.0	25.6	30.7	37.1	42.2
52.5°	16.6	16.6	16.6	16.6	16.6	17.9	17.9	20.5	25.6	28.1	30.7
55°	14.1	14.1	14.1	14.1	14.1	14.1	15.3	17.9	20.5	23.0	21.7
57.5°	11.5	11.5	11.5	11.5	11.5	12.8	12.8	15.3	16.6	15.3	15.3
60°	10.2	10.2	9.0	9.0	10.2	10.2	11.5	12.8	12.8	11.5	11.5
62.5°	9.0	7.7	7.7	7.7	9.0	10.2	10.2	10.2	9.0	9.0	9.0
65°	7.7	6.4	6.4	7.7	7.7	9.0	9.0	7.7	7.7	7.7	7.7
67.5°	6.4	6.4	6.4	6.4	7.7	7.7	7.7	6.4	6.4	6.4	6.4
70°	5.1	5.1	5.1	5.1	6.4	6.4	5.1	5.1	5.1	5.1	5.1
72.5°	3.8	3.8	3.8	5.1	5.1	5.1	3.8	3.8	3.8	5.1	3.8
75°	3.8	3.8	3.8	3.8	3.8	3.8	2.6	2.6	3.8	3.8	2.6
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
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: P219786

CATALOG NUMBER: MRZ-1-REC-X-4-L27-97-FL-UNV-X-STD-LSL

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5
2.5°	1392.7	1392.7	1391.4	1392.7	1392.7	1392.7	1392.7	1391.4	1392.7	1391.4
5°	1358.2	1358.2	1358.2	1355.6	1354.3	1355.6	1354.3	1353.1	1353.1	1354.3
7.5°	1299.3	1299.3	1298.1	1295.5	1295.5	1294.2	1291.7	1290.4	1289.1	1289.1
10°	1222.6	1221.3	1217.5	1216.2	1216.2	1212.4	1207.3	1207.3	1202.1	1203.4
12.5°	1126.7	1124.1	1122.9	1122.9	1117.7	1117.7	1113.9	1112.6	1110.1	1107.5
15°	1011.6	1015.4	1018.0	1016.7	1016.7	1012.9	1011.6	1009.0	1005.2	1007.8
17.5°	897.8	906.7	909.3	913.1	914.4	911.8	908.0	901.6	897.8	895.2
20°	785.2	798.0	807.0	809.5	809.5	808.3	807.0	796.7	795.5	789.1
22.5°	668.9	686.8	702.1	707.2	708.5	709.8	704.7	697.0	694.4	693.2
25°	560.1	584.4	599.8	610.0	612.6	616.4	613.9	610.0	602.4	601.1
27.5°	461.7	487.3	507.7	520.5	526.9	529.5	532.0	525.6	523.1	517.9
30°	373.4	402.8	424.6	442.5	446.3	451.4	452.7	454.0	448.9	448.9
32.5°	298.0	322.3	349.1	367.0	374.7	378.5	384.9	383.7	383.7	382.4
35°	234.0	258.3	282.6	301.8	310.8	315.9	323.6	327.4	328.7	328.7
37.5°	180.3	204.6	226.4	249.4	258.3	264.7	269.8	271.1	272.4	271.1
40°	138.1	161.1	182.9	198.2	204.6	209.7	216.1	221.2	223.8	225.1
42.5°	108.7	125.3	139.4	154.7	165.0	172.6	173.9	172.6	172.6	171.4
45°	81.8	94.6	116.4	120.2	122.8	124.1	127.9	129.2	129.2	129.2
47.5°	65.2	79.3	79.3	84.4	87.0	90.8	92.1	92.1	92.1	92.1
50°	48.6	51.2	55.0	58.8	60.1	60.1	61.4	61.4	61.4	61.4
52.5°	32.0	35.8	37.1	38.4	39.6	40.9	43.5	44.8	43.5	43.5
55°	23.0	24.3	25.6	28.1	28.1	29.4	34.5	34.5	34.5	34.5
57.5°	15.3	16.6	19.2	23.0	23.0	24.3	25.6	25.6	26.9	26.9
60°	12.8	14.1	15.3	16.6	17.9	20.5	23.0	19.2	19.2	19.2
62.5°	10.2	11.5	12.8	14.1	12.8	14.1	15.3	15.3	15.3	15.3
65°	9.0	10.2	9.0	10.2	11.5	11.5	10.2	11.5	11.5	12.8
67.5°	7.7	7.7	7.7	7.7	7.7	9.0	11.5	12.8	14.1	14.1
70°	5.1	5.1	5.1	7.7	7.7	9.0	10.2	12.8	12.8	14.1
72.5°	3.8	3.8	5.1	6.4	7.7	7.7	9.0	9.0	10.2	10.2
75°	3.8	3.8	5.1	5.1	5.1	5.1	6.4	6.4	6.4	6.4
77.5°	2.6	2.6	2.6	2.6	3.8	3.8	3.8	5.1	5.1	5.1
80°	1.3	1.3	1.3	1.3	2.6	2.6	2.6	2.6	2.6	2.6
82.5°	1.3	1.3	1.3	1.3	1.3	0.0	0.0	1.3	1.3	1.3
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)