

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: P219907

Luminaire Tested: **MRZ-1-REC-X-4-L30-80-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219907  
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-4-L30-80-WFL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 4  
Light Source: (1) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1110.0 lumens  
Efficiency: N/A  
Efficacy: 70.3 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

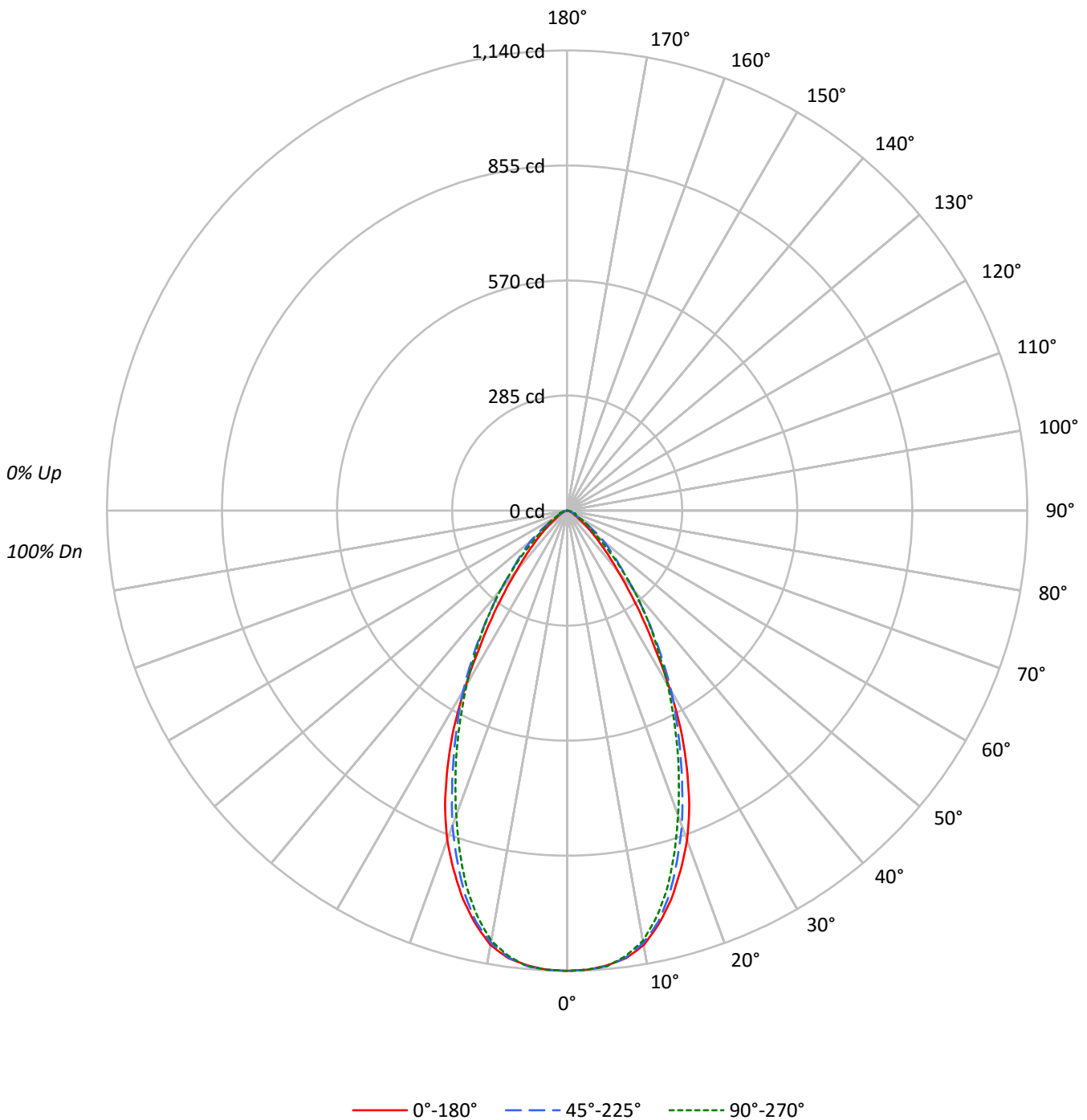
Input Watts (W): 15.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P219907

CATALOG NUMBER: MRZ-1-REC-X-4-L30-80-WFL-UNV-X-STD-LSL

### Luminous Intensity Polar Plot





TEST NUMBER: P219907

CATALOG NUMBER: MRZ-1-REC-X-4-L30-80-WFL-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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	92	92	92	
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84	84	84	84	
3	100	93	88	83	98	92	87	83	89	85	81	87	83	80	84	81	79	77	77	77	77	
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	76	73	71	71	71	71	
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65	65	65	65	
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61	61	61	61	
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	66	61	58	56	56	56	56	
8	76	66	59	55	75	65	59	55	64	58	54	63	58	54	62	57	54	52	52	52	52	
9	72	62	55	51	71	61	55	51	60	55	51	59	54	51	58	54	50	49	49	49	49	
10	68	58	52	48	67	58	52	48	57	51	48	56	51	47	55	51	47	46	46	46	46	

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

	0°	45°	90°
0°	562551	562551	562551
5°	560193	561134	561134
10°	547533	544777	542072
15°	508894	501488	492192
20°	456158	436101	421767
25°	381777	360927	351019
30°	288499	293683	283315
35°	196352	223817	221588
40°	126687	164236	165395
45°	81357	119454	110592
50°	51734	90879	68543
55°	31311	51697	50149
60°	19735	28715	32366
65°	14943	21247	23349
70°	13127	18465	31592
75°	10484	13916	20778
80°	5114	10229	15627
85°	0	0	0



TEST NUMBER: P219907

CATALOG NUMBER: MRZ-1-REC-X-4-L30-80-WFL-UNV-X-STD-LSL

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.6	9.6
10°-20°	271.9	24.5
20°-30°	306.0	27.6
30°-40°	226.4	20.4
40°-50°	120.7	10.9
50°-60°	49.6	4.5
60°-70°	19.3	1.7
70°-80°	8.6	0.8
80°-90°	0.8	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°	684.5	61.7
0°-40°	910.9	82.1
0°-60°	1081.2	97.4
0°-90°	1110.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1110.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1140	1140	1140	1140	1140	
5°	1131	1131	1133	1133	1133	107
15°	996	987	982	969	964	277
25°	701	692	663	650	645	318
35°	326	357	372	368	368	206
45°	117	131	171	169	158	94
55°	36	44	60	56	58	35
65°	13	18	18	22	20	13
75°	6	6	7	11	11	6
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P219907

CATALOG NUMBER: MRZ-1-REC-X-4-L30-80-WFL-UNV-X-STD-LSL

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2
2.5°	1138.4	1138.4	1138.4	1138.4	1138.4	1138.4	1138.4	1138.4	1138.4	1138.4	1138.4
5°	1131.1	1131.1	1131.1	1131.1	1131.1	1131.1	1131.1	1133.0	1131.1	1133.0	1133.0
7.5°	1118.4	1116.6	1116.6	1116.6	1116.6	1116.6	1116.6	1116.6	1116.6	1116.6	1116.6
10°	1092.9	1091.1	1091.1	1087.4	1089.2	1087.4	1087.4	1087.4	1087.4	1087.4	1087.4
12.5°	1049.2	1049.2	1047.4	1045.5	1043.7	1043.7	1043.7	1043.7	1043.7	1043.7	1043.7
15°	996.3	996.3	994.5	990.9	989.1	987.2	985.4	985.4	983.6	983.6	981.8
17.5°	934.4	934.4	930.8	927.1	923.5	921.7	918.0	914.4	912.6	910.7	907.1
20°	868.8	868.8	863.4	861.6	854.3	852.5	847.0	841.5	834.2	832.4	830.6
22.5°	790.5	786.9	785.1	785.1	779.6	776.0	772.3	765.0	754.1	750.4	745.0
25°	701.3	699.4	699.4	697.6	695.8	692.2	694.0	688.5	679.4	672.1	663.0
27.5°	608.4	606.6	604.7	606.6	610.2	610.2	608.4	604.7	601.1	592.0	586.5
30°	506.4	506.4	510.0	515.5	520.9	522.8	524.6	522.8	520.9	515.5	515.5
32.5°	406.2	409.8	413.5	426.2	431.7	435.3	437.2	442.6	442.6	442.6	439.0
35°	326.0	326.0	333.3	342.4	349.7	357.0	358.8	366.1	371.6	371.6	371.6
37.5°	253.2	255.0	262.3	269.6	278.7	282.3	286.0	296.9	304.2	307.8	309.7
40°	196.7	200.4	204.0	211.3	220.4	222.2	225.9	235.0	244.1	251.4	255.0
42.5°	153.0	153.0	156.6	162.1	167.6	173.0	176.7	182.1	193.1	198.5	205.8
45°	116.6	118.4	120.2	123.9	129.3	131.1	134.8	142.1	149.4	156.6	171.2
47.5°	89.3	89.3	91.1	92.9	98.4	100.2	102.0	109.3	116.6	131.1	142.1
50°	67.4	67.4	67.4	69.2	72.9	76.5	78.3	83.8	98.4	109.3	118.4
52.5°	49.2	49.2	49.2	52.8	54.6	56.5	58.3	65.6	83.8	85.6	89.3
55°	36.4	36.4	36.4	38.3	41.9	43.7	45.5	58.3	61.9	67.4	60.1
57.5°	27.3	27.3	27.3	29.1	31.0	32.8	36.4	45.5	51.0	43.7	41.9
60°	20.0	20.0	20.0	21.9	25.5	27.3	31.0	34.6	34.6	31.0	29.1
62.5°	16.4	16.4	16.4	16.4	20.0	23.7	23.7	27.3	23.7	21.9	21.9
65°	12.8	12.8	12.8	14.6	16.4	18.2	20.0	18.2	16.4	16.4	18.2
67.5°	10.9	10.9	10.9	10.9	14.6	14.6	14.6	12.8	12.8	12.8	14.6
70°	9.1	9.1	9.1	9.1	10.9	10.9	10.9	9.1	9.1	10.9	12.8
72.5°	7.3	7.3	7.3	9.1	9.1	9.1	7.3	7.3	7.3	9.1	9.1
75°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	7.3	7.3	7.3
77.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	5.5	5.5	5.5
80°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.6
82.5°	0.0	1.8	1.8	0.0	0.0	0.0	0.0	1.8	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	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: P219907

CATALOG NUMBER: MRZ-1-REC-X-4-L30-80-WFL-UNV-X-STD-LSL

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2
2.5°	1138.4	1138.4	1140.2	1138.4	1138.4	1138.4	1138.4	1138.4	1138.4	1138.4
5°	1133.0	1133.0	1133.0	1133.0	1133.0	1133.0	1133.0	1133.0	1133.0	1133.0
7.5°	1116.6	1116.6	1116.6	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1112.9
10°	1087.4	1087.4	1085.6	1083.8	1085.6	1082.0	1082.0	1080.1	1080.1	1082.0
12.5°	1041.9	1040.1	1036.4	1036.4	1034.6	1032.8	1031.0	1031.0	1029.1	1029.1
15°	981.8	978.1	974.5	972.7	969.0	970.8	969.0	965.4	965.4	963.6
17.5°	908.9	905.3	899.8	894.3	894.3	892.5	892.5	888.9	887.1	885.2
20°	825.1	823.3	821.5	816.0	814.2	810.6	806.9	806.9	801.5	803.3
22.5°	741.3	739.5	735.9	734.1	730.4	730.4	726.8	726.8	723.1	723.1
25°	661.2	659.4	655.7	653.9	650.3	650.3	646.6	648.4	644.8	644.8
27.5°	581.1	579.2	575.6	577.4	573.8	571.9	570.1	570.1	568.3	568.3
30°	508.2	502.7	502.7	500.9	499.1	499.1	499.1	495.4	495.4	497.3
32.5°	437.2	433.5	431.7	431.7	433.5	431.7	429.9	429.9	428.0	426.2
35°	371.6	369.8	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9
37.5°	309.7	311.5	309.7	311.5	313.3	311.5	309.7	307.8	307.8	307.8
40°	256.8	260.5	262.3	258.7	256.8	256.8	255.0	256.8	255.0	256.8
42.5°	214.9	216.8	213.1	214.9	216.8	216.8	213.1	207.6	204.0	202.2
45°	174.9	178.5	187.6	174.9	169.4	167.6	162.1	160.3	158.5	158.5
47.5°	149.4	156.6	138.4	133.0	129.3	129.3	125.7	122.0	122.0	120.2
50°	122.0	107.5	103.8	100.2	96.5	94.7	92.9	91.1	91.1	89.3
52.5°	82.0	78.3	74.7	72.9	71.0	71.0	71.0	71.0	71.0	71.0
55°	58.3	56.5	54.6	56.5	56.5	58.3	60.1	60.1	60.1	58.3
57.5°	40.1	40.1	43.7	47.4	47.4	47.4	47.4	45.5	45.5	45.5
60°	31.0	32.8	36.4	36.4	36.4	38.3	36.4	34.6	32.8	32.8
62.5°	23.7	27.3	29.1	29.1	27.3	27.3	25.5	25.5	25.5	25.5
65°	20.0	21.9	21.9	21.9	21.9	20.0	18.2	18.2	20.0	20.0
67.5°	16.4	16.4	16.4	14.6	14.6	16.4	18.2	20.0	20.0	21.9
70°	12.8	12.8	12.8	14.6	16.4	16.4	20.0	20.0	21.9	21.9
72.5°	9.1	9.1	12.8	14.6	16.4	16.4	16.4	14.6	14.6	14.6
75°	7.3	9.1	12.8	10.9	10.9	10.9	10.9	10.9	10.9	10.9
77.5°	5.5	7.3	7.3	5.5	7.3	7.3	7.3	9.1	9.1	10.9
80°	3.6	3.6	3.6	3.6	3.6	3.6	5.5	5.5	5.5	5.5
82.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	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)