

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: P219759

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219759
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-1H-L27-80-FL-UNV-X-STD-LSL
Description: MRZ INTEGRAL LED DOWNLIGHT
40 DEGREE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 1
Light Source: (1) 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 506.9 lumens
Efficiency: N/A
Efficacy: 74.5 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

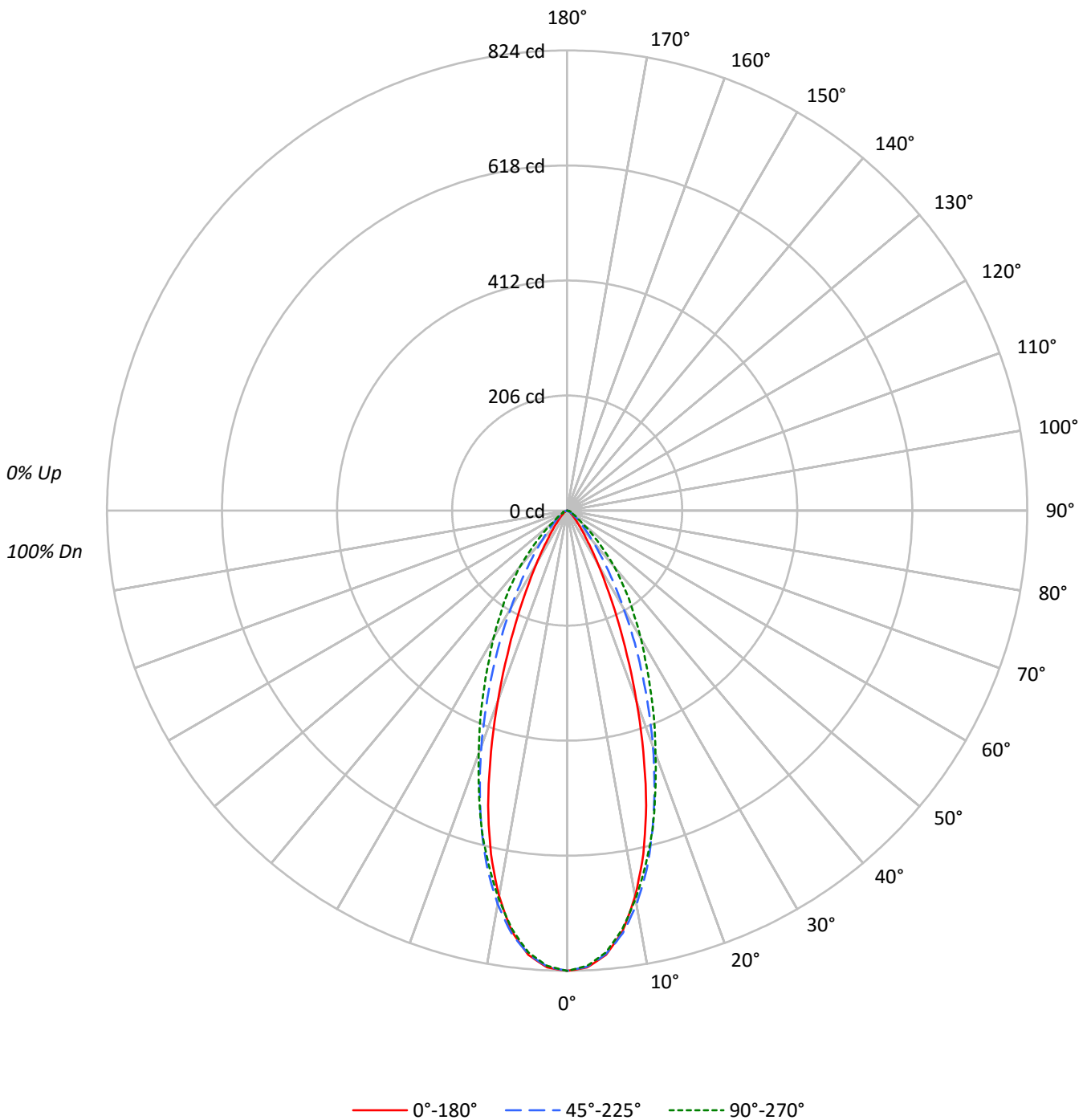
Input Watts (W): 6.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P219759

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

Luminous Intensity Polar Plot





TEST NUMBER: P219759

CATALOG NUMBER: MRZ-1-REC-X-1H-L27-80-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°	406643	406643	406643
5°	395567	394825	393339
10°	351295	358459	353549
15°	279246	301873	301873
20°	190591	235850	242938
25°	113885	170664	191895
30°	62782	114511	149947
35°	32946	73602	116064
40°	18807	44891	85016
45°	12001	28747	52819
50°	8597	18959	27632
55°	7053	10924	17376
60°	5921	6611	11052
65°	5253	5253	8756
70°	4328	4328	11829
75°	4194	2859	7053
80°	1989	1989	4262
85°	0	0	0



TEST NUMBER: P219759

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.3	14.5
10°-20°	159.2	31.4
20°-30°	137.7	27.2
30°-40°	79.6	15.7
40°-50°	36.0	7.1
50°-60°	12.7	2.5
60°-70°	5.6	1.1
70°-80°	2.6	0.5
80°-90°	0.2	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°	370.1	73.0
0°-40°	449.7	88.7
0°-60°	498.4	98.3
0°-90°	506.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	506.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	824	824	824	824	824	
5°	799	798	797	794	794	73
15°	547	563	591	596	591	148
25°	209	241	314	359	352	98
35°	55	71	122	182	193	37
45°	17	21	41	72	76	14
55°	8	8	13	16	20	7
65°	4	5	4	7	8	4
75°	2	2	2	3	4	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P219759

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	824.2	824.2	824.2	824.2	824.2	824.2	824.2	824.2	824.2	824.2	824.2
2.5°	818.9	817.4	817.4	817.4	818.2	818.2	817.4	817.4	817.4	817.4	817.4
5°	798.7	797.2	797.2	797.9	797.2	797.9	797.2	798.7	797.9	797.2	797.2
7.5°	759.7	759.7	759.7	760.4	761.2	761.2	761.2	762.7	762.7	764.2	763.4
10°	701.2	702.7	702.7	705.0	707.2	705.7	706.5	711.0	712.5	714.0	715.5
12.5°	630.0	632.2	633.7	635.2	637.5	639.7	640.5	648.0	650.2	653.2	658.5
15°	546.7	546.0	550.5	552.7	559.5	563.2	565.5	573.0	580.5	585.0	591.0
17.5°	453.0	455.2	457.5	463.5	471.7	477.0	480.0	489.0	501.0	510.7	519.7
20°	363.0	367.5	369.7	376.5	384.7	387.7	396.0	408.0	423.7	437.2	449.2
22.5°	279.7	282.0	288.0	295.5	304.5	311.2	319.5	331.5	348.0	361.5	378.0
25°	209.2	210.0	217.5	224.2	234.0	240.7	245.2	261.0	278.2	295.5	313.5
27.5°	152.2	153.7	158.2	165.0	175.5	180.0	187.5	201.0	217.5	236.2	255.0
30°	110.2	110.2	113.2	120.7	128.2	134.2	139.5	152.2	168.0	183.7	201.0
32.5°	77.2	78.0	81.0	86.2	93.7	98.2	102.0	114.0	126.7	142.5	157.5
35°	54.7	55.5	58.5	61.5	67.5	71.2	74.2	83.2	94.5	108.0	122.2
37.5°	39.7	40.5	42.0	44.2	48.7	51.0	54.0	61.5	70.5	81.0	93.7
40°	29.2	30.0	30.7	33.0	36.0	37.5	39.7	45.0	51.7	60.7	69.7
42.5°	22.5	22.5	23.2	24.7	26.2	27.7	29.2	33.0	38.2	45.0	53.2
45°	17.2	17.2	18.0	19.5	20.2	21.0	22.5	24.7	28.5	33.7	41.2
47.5°	14.2	14.2	14.2	15.0	15.7	16.5	17.2	19.5	21.7	27.0	31.5
50°	11.2	11.2	12.0	12.0	12.7	12.7	13.5	15.0	18.0	21.7	24.7
52.5°	9.7	9.7	9.7	9.7	9.7	10.5	10.5	12.0	15.0	16.5	18.0
55°	8.2	8.2	8.2	8.2	8.2	8.2	9.0	10.5	12.0	13.5	12.7
57.5°	6.7	6.7	6.7	6.7	6.7	7.5	7.5	9.0	9.7	9.0	9.0
60°	6.0	6.0	5.2	5.2	6.0	6.0	6.7	7.5	7.5	6.7	6.7
62.5°	5.2	4.5	4.5	4.5	5.2	6.0	6.0	6.0	5.2	5.2	5.2
65°	4.5	3.7	3.7	4.5	4.5	5.2	5.2	4.5	4.5	4.5	4.5
67.5°	3.7	3.7	3.7	3.7	4.5	4.5	4.5	3.7	3.7	3.7	3.7
70°	3.0	3.0	3.0	3.0	3.7	3.7	3.0	3.0	3.0	3.0	3.0
72.5°	2.2	2.2	2.2	3.0	3.0	3.0	2.2	2.2	2.2	3.0	2.2
75°	2.2	2.2	2.2	2.2	2.2	2.2	1.5	1.5	2.2	2.2	1.5
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
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: P219759

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	824.2	824.2	824.2	824.2	824.2	824.2	824.2	824.2	824.2	824.2
2.5°	816.7	816.7	815.9	816.7	816.7	816.7	816.7	815.9	816.7	815.9
5°	796.4	796.4	796.4	794.9	794.2	794.9	794.2	793.4	793.4	794.2
7.5°	761.9	761.9	761.2	759.7	759.7	758.9	757.4	756.7	755.9	755.9
10°	717.0	716.2	714.0	713.2	713.2	711.0	708.0	708.0	705.0	705.7
12.5°	660.7	659.2	658.5	658.5	655.5	655.5	653.2	652.5	651.0	649.5
15°	593.2	595.5	597.0	596.2	596.2	594.0	593.2	591.7	589.5	591.0
17.5°	526.5	531.7	533.2	535.5	536.2	534.7	532.5	528.7	526.5	525.0
20°	460.5	468.0	473.2	474.7	474.7	474.0	473.2	467.2	466.5	462.7
22.5°	392.2	402.7	411.7	414.7	415.5	416.2	413.2	408.7	407.2	406.5
25°	328.5	342.7	351.7	357.7	359.2	361.5	360.0	357.7	353.2	352.5
27.5°	270.7	285.7	297.7	305.2	309.0	310.5	312.0	308.2	306.7	303.7
30°	219.0	236.2	249.0	259.5	261.7	264.7	265.5	266.2	263.2	263.2
32.5°	174.7	189.0	204.7	215.2	219.7	222.0	225.7	225.0	225.0	224.2
35°	137.2	151.5	165.7	177.0	182.2	185.2	189.7	192.0	192.7	192.7
37.5°	105.7	120.0	132.7	146.2	151.5	155.2	158.2	159.0	159.7	159.0
40°	81.0	94.5	107.2	116.2	120.0	123.0	126.7	129.7	131.2	132.0
42.5°	63.7	73.5	81.7	90.7	96.7	101.2	102.0	101.2	101.2	100.5
45°	48.0	55.5	68.2	70.5	72.0	72.7	75.0	75.7	75.7	75.7
47.5°	38.2	46.5	46.5	49.5	51.0	53.2	54.0	54.0	54.0	54.0
50°	28.5	30.0	32.2	34.5	35.2	35.2	36.0	36.0	36.0	36.0
52.5°	18.7	21.0	21.7	22.5	23.2	24.0	25.5	26.2	25.5	25.5
55°	13.5	14.2	15.0	16.5	16.5	17.2	20.2	20.2	20.2	20.2
57.5°	9.0	9.7	11.2	13.5	13.5	14.2	15.0	15.0	15.7	15.7
60°	7.5	8.2	9.0	9.7	10.5	12.0	13.5	11.2	11.2	11.2
62.5°	6.0	6.7	7.5	8.2	7.5	8.2	9.0	9.0	9.0	9.0
65°	5.2	6.0	5.2	6.0	6.7	6.7	6.0	6.7	6.7	7.5
67.5°	4.5	4.5	4.5	4.5	4.5	5.2	6.7	7.5	8.2	8.2
70°	3.0	3.0	3.0	4.5	4.5	5.2	6.0	7.5	7.5	8.2
72.5°	2.2	2.2	3.0	3.7	4.5	4.5	5.2	5.2	6.0	6.0
75°	2.2	2.2	3.0	3.0	3.0	3.0	3.7	3.7	3.7	3.7
77.5°	1.5	1.5	1.5	1.5	2.2	2.2	2.2	3.0	3.0	3.0
80°	0.7	0.7	0.7	0.7	1.5	1.5	1.5	1.5	1.5	1.5
82.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.7	0.7	0.7
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)