

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: P219899

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219899
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-3-L27-80-WFL-UNV-X-STD-LSL
Description: MRZ INTEGRAL LED DOWNLIGHT
55 DEGREE WIDE 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: 854.1 lumens
Efficiency: N/A
Efficacy: 70.6 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

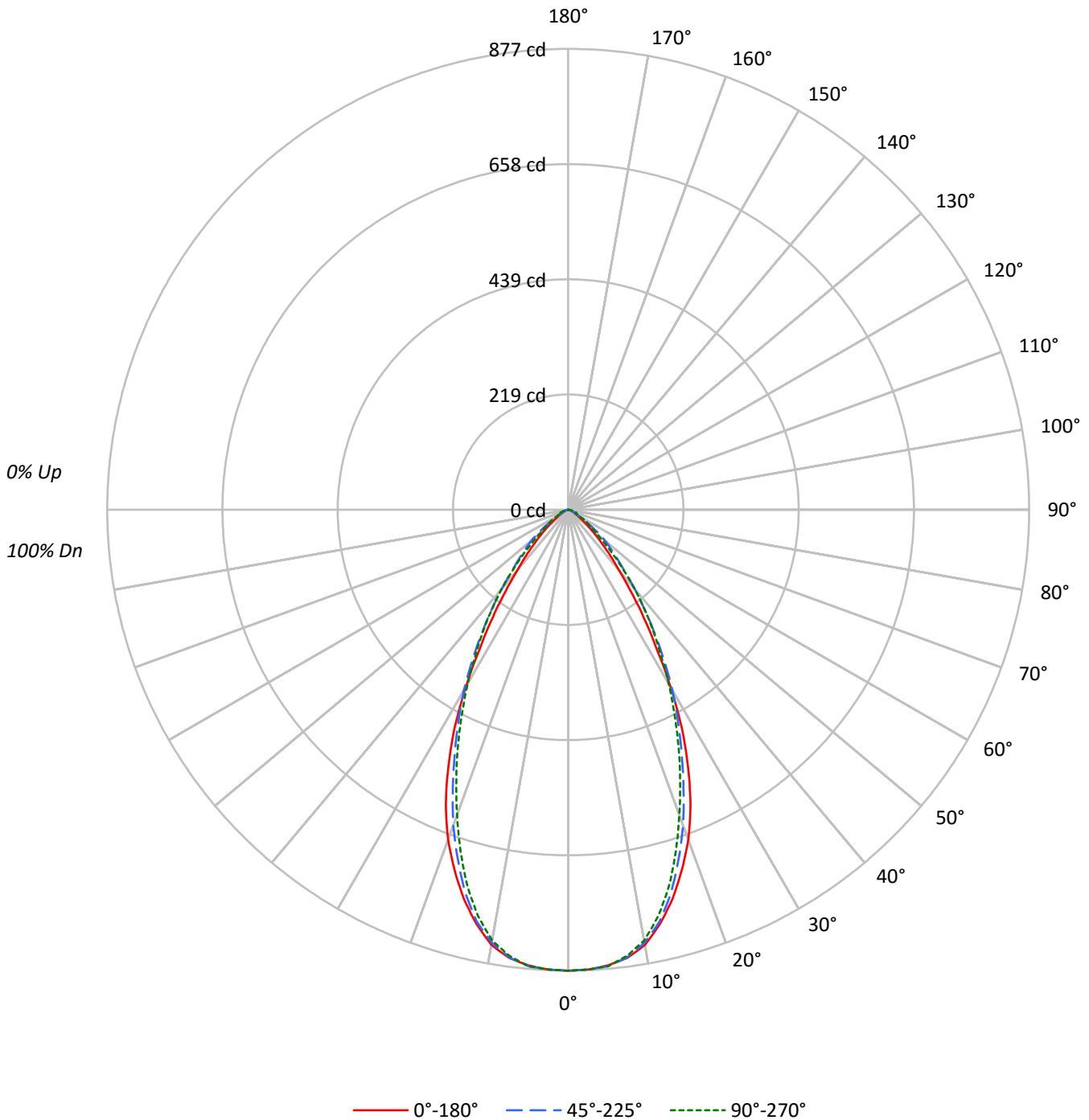
Input Watts (W): 12.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	432891	432891	432891
5°	431078	431771	431771
10°	421283	419179	417075
15°	391618	385846	378695
20°	350992	335555	324529
25°	293750	277745	270123
30°	221957	225945	217969
35°	151118	172199	170513
40°	97511	126365	127267
45°	62588	91893	85055
50°	39836	69925	52732
55°	24085	39826	38536
60°	15196	22103	24866
65°	11441	16344	17979
70°	10098	14137	24235
75°	8006	10675	16013
80°	3978	7956	11933
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.1	9.6
10°-20°	209.2	24.5
20°-30°	235.5	27.6
30°-40°	174.2	20.4
40°-50°	92.9	10.9
50°-60°	38.2	4.5
60°-70°	14.9	1.7
70°-80°	6.6	0.8
80°-90°	0.6	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°	526.7	61.7
0°-40°	700.9	82.1
0°-60°	831.9	97.4
0°-90°	854.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	854.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	877	877	877	877	877	
5°	870	870	872	872	872	82
15°	767	760	755	746	741	213
25°	540	533	510	500	496	244
35°	251	275	286	283	283	159
45°	90	101	132	130	122	72
55°	28	34	46	43	45	27
65°	10	14	14	17	15	10
75°	4	4	6	8	8	4
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P219899

CATALOG NUMBER: MRZ-1-REC-X-3-L27-80-WFL-UNV-X-STD-LSL

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	877.4	877.4	877.4	877.4	877.4	877.4	877.4	877.4	877.4	877.4	877.4
2.5°	876.0	876.0	876.0	876.0	876.0	876.0	876.0	876.0	876.0	876.0	876.0
5°	870.4	870.4	870.4	870.4	870.4	870.4	870.4	871.8	870.4	871.8	871.8
7.5°	860.6	859.2	859.2	859.2	859.2	859.2	859.2	859.2	859.2	859.2	859.2
10°	840.9	839.5	839.5	836.7	838.1	836.7	836.7	836.7	836.7	836.7	836.7
12.5°	807.3	807.3	805.9	804.5	803.1	803.1	803.1	803.1	803.1	803.1	803.1
15°	766.7	766.7	765.3	762.4	761.0	759.6	758.2	758.2	756.8	756.8	755.4
17.5°	719.0	719.0	716.2	713.4	710.6	709.2	706.4	703.6	702.2	700.8	698.0
20°	668.5	668.5	664.3	662.9	657.3	655.9	651.7	647.5	641.9	640.5	639.1
22.5°	608.3	605.5	604.1	604.1	599.9	597.1	594.3	588.7	580.2	577.4	573.2
25°	539.6	538.2	538.2	536.8	535.4	532.6	534.0	529.8	522.8	517.2	510.2
27.5°	468.1	466.7	465.3	466.7	469.5	469.5	468.1	465.3	462.5	455.5	451.3
30°	389.6	389.6	392.4	396.6	400.8	402.2	403.6	402.2	400.8	396.6	396.6
32.5°	312.5	315.4	318.2	328.0	332.2	335.0	336.4	340.6	340.6	340.6	337.8
35°	250.9	250.9	256.5	263.5	269.1	274.7	276.1	281.7	285.9	285.9	285.9
37.5°	194.8	196.2	201.8	207.4	214.4	217.2	220.0	228.5	234.1	236.9	238.3
40°	151.4	154.2	157.0	162.6	169.6	171.0	173.8	180.8	187.8	193.4	196.2
42.5°	117.7	117.7	120.5	124.7	128.9	133.1	136.0	140.2	148.6	152.8	158.4
45°	89.7	91.1	92.5	95.3	99.5	100.9	103.7	109.3	114.9	120.5	131.7
47.5°	68.7	68.7	70.1	71.5	75.7	77.1	78.5	84.1	89.7	100.9	109.3
50°	51.9	51.9	51.9	53.3	56.1	58.9	60.3	64.5	75.7	84.1	91.1
52.5°	37.8	37.8	37.8	40.6	42.0	43.4	44.8	50.5	64.5	65.9	68.7
55°	28.0	28.0	28.0	29.4	32.2	33.6	35.0	44.8	47.7	51.9	46.3
57.5°	21.0	21.0	21.0	22.4	23.8	25.2	28.0	35.0	39.2	33.6	32.2
60°	15.4	15.4	15.4	16.8	19.6	21.0	23.8	26.6	26.6	23.8	22.4
62.5°	12.6	12.6	12.6	12.6	15.4	18.2	18.2	21.0	18.2	16.8	16.8
65°	9.8	9.8	9.8	11.2	12.6	14.0	15.4	14.0	12.6	12.6	14.0
67.5°	8.4	8.4	8.4	8.4	11.2	11.2	11.2	9.8	9.8	9.8	11.2
70°	7.0	7.0	7.0	7.0	8.4	8.4	8.4	7.0	7.0	8.4	9.8
72.5°	5.6	5.6	5.6	7.0	7.0	7.0	5.6	5.6	5.6	7.0	7.0
75°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	5.6	5.6	5.6
77.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	4.2	4.2	4.2
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	2.8
82.5°	0.0	1.4	1.4	0.0	0.0	0.0	0.0	1.4	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	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°	877.4	877.4	877.4	877.4	877.4	877.4	877.4	877.4	877.4	877.4
2.5°	876.0	876.0	877.4	876.0	876.0	876.0	876.0	876.0	876.0	876.0
5°	871.8	871.8	871.8	871.8	871.8	871.8	871.8	871.8	871.8	871.8
7.5°	859.2	859.2	859.2	857.8	857.8	857.8	857.8	857.8	857.8	856.4
10°	836.7	836.7	835.3	833.9	835.3	832.5	832.5	831.1	831.1	832.5
12.5°	801.7	800.3	797.5	797.5	796.1	794.7	793.3	793.3	791.9	791.9
15°	755.4	752.6	749.8	748.4	745.6	747.0	745.6	742.8	742.8	741.4
17.5°	699.4	696.6	692.4	688.2	688.2	686.8	686.8	684.0	682.6	681.2
20°	634.9	633.5	632.1	627.9	626.5	623.7	620.9	620.9	616.7	618.1
22.5°	570.4	569.0	566.2	564.8	562.0	562.0	559.2	559.2	556.4	556.4
25°	508.8	507.4	504.6	503.2	500.4	500.4	497.6	499.0	496.2	496.2
27.5°	447.1	445.7	442.9	444.3	441.5	440.1	438.7	438.7	437.3	437.3
30°	391.0	386.8	386.8	385.4	384.0	384.0	384.0	381.2	381.2	382.6
32.5°	336.4	333.6	332.2	332.2	333.6	332.2	330.8	330.8	329.4	328.0
35°	285.9	284.5	283.1	283.1	283.1	283.1	283.1	283.1	283.1	283.1
37.5°	238.3	239.7	238.3	239.7	241.1	239.7	238.3	236.9	236.9	236.9
40°	197.6	200.4	201.8	199.0	197.6	197.6	196.2	197.6	196.2	197.6
42.5°	165.4	166.8	164.0	165.4	166.8	166.8	164.0	159.8	157.0	155.6
45°	134.5	137.4	144.4	134.5	130.3	128.9	124.7	123.3	121.9	121.9
47.5°	114.9	120.5	106.5	102.3	99.5	99.5	96.7	93.9	93.9	92.5
50°	93.9	82.7	79.9	77.1	74.3	72.9	71.5	70.1	70.1	68.7
52.5°	63.1	60.3	57.5	56.1	54.7	54.7	54.7	54.7	54.7	54.7
55°	44.8	43.4	42.0	43.4	43.4	44.8	46.3	46.3	46.3	44.8
57.5°	30.8	30.8	33.6	36.4	36.4	36.4	36.4	35.0	35.0	35.0
60°	23.8	25.2	28.0	28.0	28.0	29.4	28.0	26.6	25.2	25.2
62.5°	18.2	21.0	22.4	22.4	21.0	21.0	19.6	19.6	19.6	19.6
65°	15.4	16.8	16.8	16.8	16.8	15.4	14.0	14.0	15.4	15.4
67.5°	12.6	12.6	12.6	11.2	11.2	12.6	14.0	15.4	15.4	16.8
70°	9.8	9.8	9.8	11.2	12.6	12.6	15.4	15.4	16.8	16.8
72.5°	7.0	7.0	9.8	11.2	12.6	12.6	12.6	11.2	11.2	11.2
75°	5.6	7.0	9.8	8.4	8.4	8.4	8.4	8.4	8.4	8.4
77.5°	4.2	5.6	5.6	4.2	5.6	5.6	5.6	7.0	7.0	8.4
80°	2.8	2.8	2.8	2.8	2.8	2.8	4.2	4.2	4.2	4.2
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	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)