

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: P219903

Luminaire Tested: **MRZ-1-REC-X-3-L30-97-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219903
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-L30-97-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) 3000K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 666.3 lumens
Efficiency: N/A
Efficacy: 55.1 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

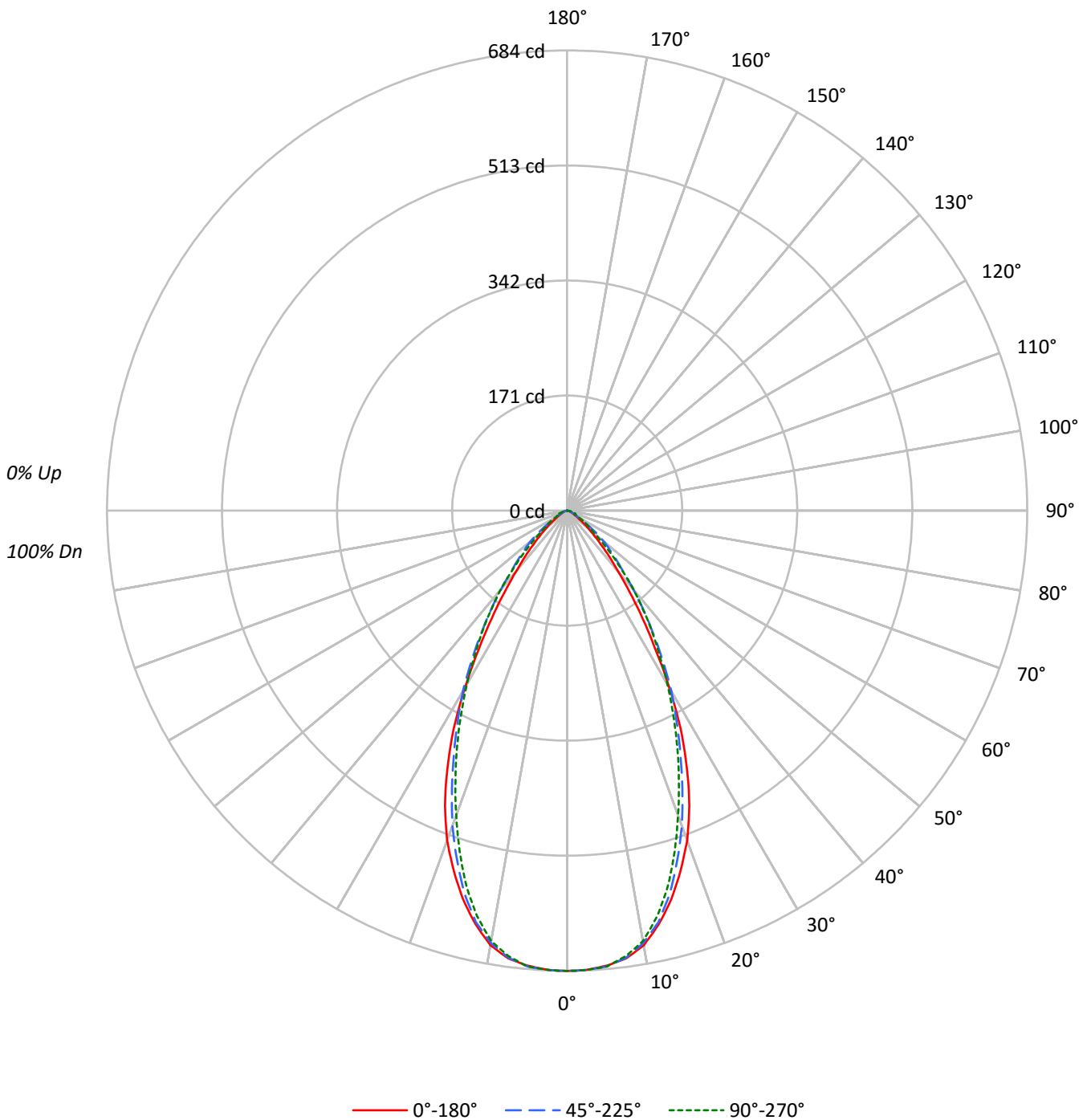
Input Watts (W): 12.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P219903

CATALOG NUMBER: MRZ-1-REC-X-3-L30-97-WFL-UNV-X-STD-LSL

Luminous Intensity Polar Plot





TEST NUMBER: P219903

CATALOG NUMBER: MRZ-1-REC-X-3-L30-97-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	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	96	95	94	92		
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	92	92	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	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	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	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	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	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	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	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	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	46	46	46		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	337669	337669	337669
5°	336235	336780	336780
10°	328650	326997	325343
15°	305449	301005	295386
20°	273810	261734	253123
25°	229131	216665	210677
30°	173134	176267	170057
35°	117871	134314	132989
40°	76064	98606	99314
45°	48842	71728	66355
50°	31086	54574	41141
55°	18838	31053	30106
60°	11841	17268	19439
65°	8989	12725	14009
70°	7934	11108	18897
75°	6291	8388	12581
80°	3125	6251	9376
85°	0	0	0



TEST NUMBER: P219903

CATALOG NUMBER: MRZ-1-REC-X-3-L30-97-WFL-UNV-X-STD-LSL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.0	9.6
10°-20°	163.2	24.5
20°-30°	183.7	27.6
30°-40°	135.9	20.4
40°-50°	72.4	10.9
50°-60°	29.8	4.5
60°-70°	11.6	1.7
70°-80°	5.2	0.8
80°-90°	0.5	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°	410.9	61.7
0°-40°	546.8	82.1
0°-60°	649.0	97.4
0°-90°	666.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	666.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	684	684	684	684	684	
5°	679	679	680	680	680	64
15°	598	593	589	582	578	167
25°	421	415	398	390	387	191
35°	196	214	223	221	221	124
45°	70	79	103	102	95	56
55°	22	26	36	34	35	21
65°	8	11	11	13	12	8
75°	3	3	4	7	7	3
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P219903

CATALOG NUMBER: MRZ-1-REC-X-3-L30-97-WFL-UNV-X-STD-LSL

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4
2.5°	683.3	683.3	683.3	683.3	683.3	683.3	683.3	683.3	683.3	683.3	683.3
5°	678.9	678.9	678.9	678.9	678.9	678.9	678.9	680.0	678.9	680.0	680.0
7.5°	671.3	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2
10°	656.0	654.9	654.9	652.7	653.8	652.7	652.7	652.7	652.7	652.7	652.7
12.5°	629.7	629.7	628.6	627.5	626.5	626.5	626.5	626.5	626.5	626.5	626.5
15°	598.0	598.0	596.9	594.7	593.7	592.6	591.5	591.5	590.4	590.4	589.3
17.5°	560.9	560.9	558.7	556.5	554.3	553.2	551.0	548.8	547.7	546.6	544.5
20°	521.5	521.5	518.2	517.1	512.8	511.7	508.4	505.1	500.7	499.6	498.5
22.5°	474.5	472.3	471.2	471.2	467.9	465.7	463.6	459.2	452.6	450.4	447.2
25°	420.9	419.8	419.8	418.7	417.6	415.4	416.5	413.3	407.8	403.4	398.0
27.5°	365.2	364.1	363.0	364.1	366.3	366.3	365.2	363.0	360.8	355.3	352.0
30°	303.9	303.9	306.1	309.4	312.7	313.8	314.9	313.8	312.7	309.4	309.4
32.5°	243.8	246.0	248.2	255.8	259.1	261.3	262.4	265.7	265.7	265.7	263.5
35°	195.7	195.7	200.1	205.5	209.9	214.3	215.4	219.8	223.0	223.0	223.0
37.5°	152.0	153.1	157.4	161.8	167.3	169.5	171.6	178.2	182.6	184.8	185.9
40°	118.1	120.3	122.4	126.8	132.3	133.4	135.6	141.0	146.5	150.9	153.1
42.5°	91.8	91.8	94.0	97.3	100.6	103.9	106.0	109.3	115.9	119.2	123.5
45°	70.0	71.1	72.2	74.3	77.6	78.7	80.9	85.3	89.6	94.0	102.8
47.5°	53.6	53.6	54.7	55.8	59.0	60.1	61.2	65.6	70.0	78.7	85.3
50°	40.5	40.5	40.5	41.5	43.7	45.9	47.0	50.3	59.0	65.6	71.1
52.5°	29.5	29.5	29.5	31.7	32.8	33.9	35.0	39.4	50.3	51.4	53.6
55°	21.9	21.9	21.9	23.0	25.1	26.2	27.3	35.0	37.2	40.5	36.1
57.5°	16.4	16.4	16.4	17.5	18.6	19.7	21.9	27.3	30.6	26.2	25.1
60°	12.0	12.0	12.0	13.1	15.3	16.4	18.6	20.8	20.8	18.6	17.5
62.5°	9.8	9.8	9.8	9.8	12.0	14.2	14.2	16.4	14.2	13.1	13.1
65°	7.7	7.7	7.7	8.7	9.8	10.9	12.0	10.9	9.8	9.8	10.9
67.5°	6.6	6.6	6.6	6.6	8.7	8.7	8.7	7.7	7.7	7.7	8.7
70°	5.5	5.5	5.5	5.5	6.6	6.6	6.6	5.5	5.5	6.6	7.7
72.5°	4.4	4.4	4.4	5.5	5.5	5.5	4.4	4.4	4.4	5.5	5.5
75°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	4.4	4.4	4.4
77.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	3.3	3.3	3.3
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2
82.5°	0.0	1.1	1.1	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1
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: P219903

CATALOG NUMBER: MRZ-1-REC-X-3-L30-97-WFL-UNV-X-STD-LSL

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4
2.5°	683.3	683.3	684.4	683.3	683.3	683.3	683.3	683.3	683.3	683.3
5°	680.0	680.0	680.0	680.0	680.0	680.0	680.0	680.0	680.0	680.0
7.5°	670.2	670.2	670.2	669.1	669.1	669.1	669.1	669.1	669.1	668.0
10°	652.7	652.7	651.6	650.5	651.6	649.4	649.4	648.3	648.3	649.4
12.5°	625.4	624.3	622.1	622.1	621.0	619.9	618.8	618.8	617.7	617.7
15°	589.3	587.1	584.9	583.8	581.6	582.7	581.6	579.4	579.4	578.3
17.5°	545.5	543.4	540.1	536.8	536.8	535.7	535.7	533.5	532.4	531.3
20°	495.3	494.2	493.1	489.8	488.7	486.5	484.3	484.3	481.0	482.1
22.5°	445.0	443.9	441.7	440.6	438.4	438.4	436.2	436.2	434.0	434.0
25°	396.9	395.8	393.6	392.5	390.3	390.3	388.1	389.2	387.0	387.0
27.5°	348.8	347.7	345.5	346.6	344.4	343.3	342.2	342.2	341.1	341.1
30°	305.0	301.7	301.7	300.7	299.6	299.6	299.6	297.4	297.4	298.5
32.5°	262.4	260.2	259.1	259.1	260.2	259.1	258.0	258.0	256.9	255.8
35°	223.0	221.9	220.8	220.8	220.8	220.8	220.8	220.8	220.8	220.8
37.5°	185.9	187.0	185.9	187.0	188.0	187.0	185.9	184.8	184.8	184.8
40°	154.2	156.3	157.4	155.2	154.2	154.2	153.1	154.2	153.1	154.2
42.5°	129.0	130.1	127.9	129.0	130.1	130.1	127.9	124.6	122.4	121.4
45°	105.0	107.1	112.6	105.0	101.7	100.6	97.3	96.2	95.1	95.1
47.5°	89.6	94.0	83.1	79.8	77.6	77.6	75.4	73.3	73.3	72.2
50°	73.3	64.5	62.3	60.1	57.9	56.9	55.8	54.7	54.7	53.6
52.5°	49.2	47.0	44.8	43.7	42.6	42.6	42.6	42.6	42.6	42.6
55°	35.0	33.9	32.8	33.9	33.9	35.0	36.1	36.1	36.1	35.0
57.5°	24.1	24.1	26.2	28.4	28.4	28.4	28.4	27.3	27.3	27.3
60°	18.6	19.7	21.9	21.9	21.9	23.0	21.9	20.8	19.7	19.7
62.5°	14.2	16.4	17.5	17.5	16.4	16.4	15.3	15.3	15.3	15.3
65°	12.0	13.1	13.1	13.1	13.1	12.0	10.9	10.9	12.0	12.0
67.5°	9.8	9.8	9.8	8.7	8.7	9.8	10.9	12.0	12.0	13.1
70°	7.7	7.7	7.7	8.7	9.8	9.8	12.0	12.0	13.1	13.1
72.5°	5.5	5.5	7.7	8.7	9.8	9.8	9.8	8.7	8.7	8.7
75°	4.4	5.5	7.7	6.6	6.6	6.6	6.6	6.6	6.6	6.6
77.5°	3.3	4.4	4.4	3.3	4.4	4.4	4.4	5.5	5.5	6.6
80°	2.2	2.2	2.2	2.2	2.2	2.2	3.3	3.3	3.3	3.3
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)