

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: P219895

Luminaire Tested: **MRZ-1-REC-X-2-L27-97-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219895
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-2-L27-97-WFL-UNV-X-STD-LSL
Description: MRZ INTEGRAL LED DOWNLIGHT
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL2
Light Source: (1) 2700K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 445.9 lumens
Efficiency: N/A
Efficacy: 50.7 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

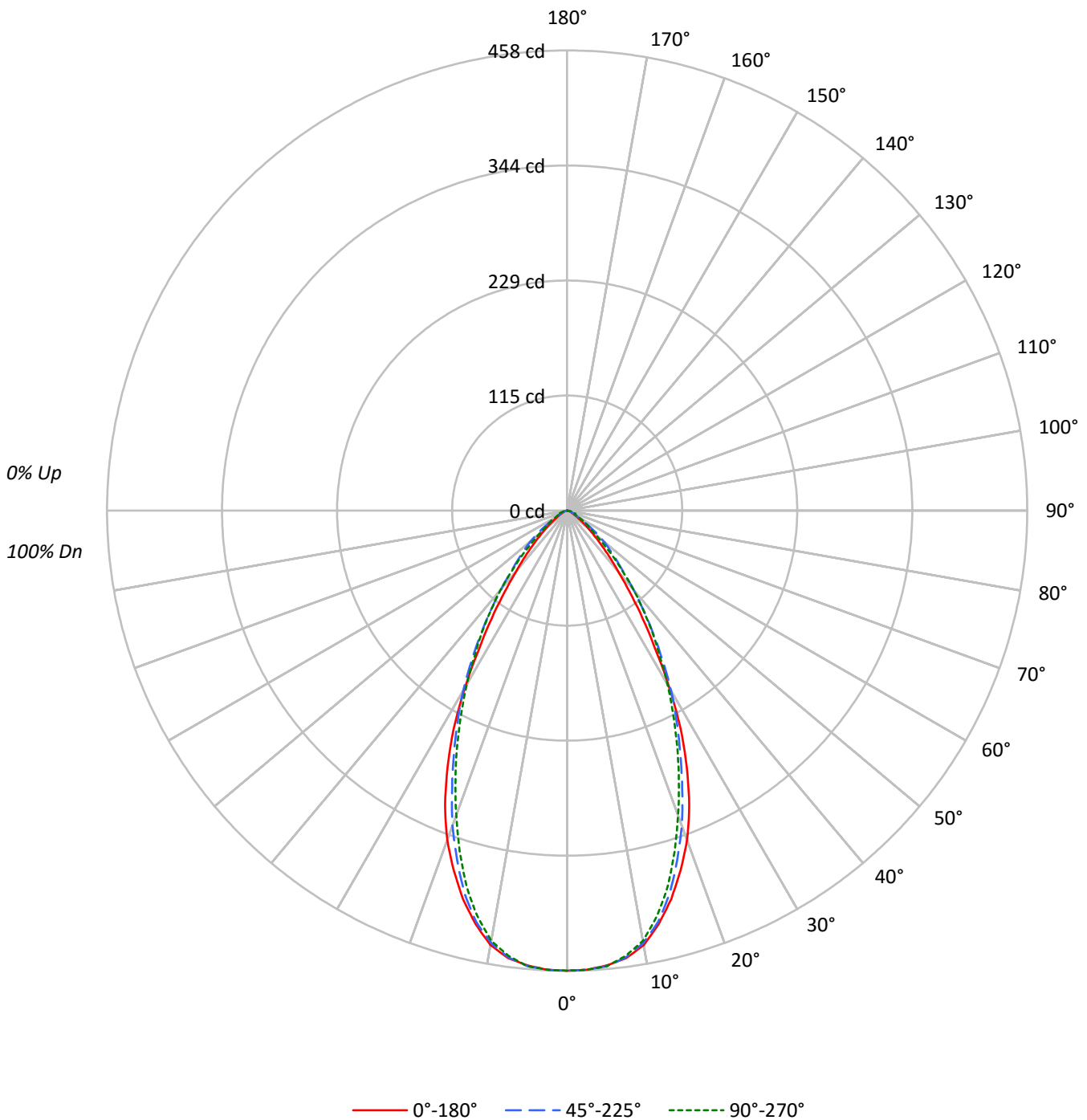
Input Watts (W): 8.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P219895

CATALOG NUMBER: MRZ-1-REC-X-2-L27-97-WFL-UNV-X-STD-LSL

Luminous Intensity Polar Plot





TEST NUMBER: P219895

CATALOG NUMBER: MRZ-1-REC-X-2-L27-97-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			
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	83	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°	225968	225968	225968
5°	225048	225395	225395
10°	219935	218833	217731
15°	204416	201453	197673
20°	183240	175155	169432
25°	153353	144969	140995
30°	115878	117986	113770
35°	78902	89924	89021
40°	50881	65952	66467
45°	32654	48005	44446
50°	20801	36536	27555
55°	12559	20730	20128
60°	7894	11545	13025
65°	5954	8522	9339
70°	5337	7357	12694
75°	4194	5528	8388
80°	1989	4262	6251
85°	0	0	0



TEST NUMBER: P219895

CATALOG NUMBER: MRZ-1-REC-X-2-L27-97-WFL-UNV-X-STD-LSL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.8	9.6
10°-20°	109.2	24.5
20°-30°	122.9	27.6
30°-40°	90.9	20.4
40°-50°	48.5	10.9
50°-60°	19.9	4.5
60°-70°	7.8	1.7
70°-80°	3.5	0.8
80°-90°	0.3	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°	275.0	61.7
0°-40°	365.9	82.1
0°-60°	434.3	97.4
0°-90°	445.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	445.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	458	458	458	458	458	
5°	454	454	455	455	455	43
15°	400	397	394	389	387	111
25°	282	278	266	261	259	128
35°	131	143	149	148	148	83
45°	47	53	69	68	64	38
55°	15	18	24	23	23	14
65°	5	7	7	9	8	5
75°	2	2	3	4	4	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P219895

CATALOG NUMBER: MRZ-1-REC-X-2-L27-97-WFL-UNV-X-STD-LSL

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	458.0	458.0	458.0	458.0	458.0	458.0	458.0	458.0	458.0	458.0	458.0
2.5°	457.3	457.3	457.3	457.3	457.3	457.3	457.3	457.3	457.3	457.3	457.3
5°	454.4	454.4	454.4	454.4	454.4	454.4	454.4	455.1	454.4	455.1	455.1
7.5°	449.2	448.5	448.5	448.5	448.5	448.5	448.5	448.5	448.5	448.5	448.5
10°	439.0	438.3	438.3	436.8	437.5	436.8	436.8	436.8	436.8	436.8	436.8
12.5°	421.4	421.4	420.7	420.0	419.2	419.2	419.2	419.2	419.2	419.2	419.2
15°	400.2	400.2	399.5	398.0	397.3	396.6	395.8	395.8	395.1	395.1	394.4
17.5°	375.3	375.3	373.9	372.4	370.9	370.2	368.8	367.3	366.6	365.8	364.4
20°	349.0	349.0	346.8	346.1	343.1	342.4	340.2	338.0	335.1	334.4	333.6
22.5°	317.5	316.1	315.3	315.3	313.1	311.7	310.2	307.3	302.9	301.4	299.2
25°	281.7	281.0	281.0	280.2	279.5	278.0	278.8	276.6	272.9	270.0	266.3
27.5°	244.4	243.6	242.9	243.6	245.1	245.1	244.4	242.9	241.4	237.8	235.6
30°	203.4	203.4	204.9	207.1	209.3	210.0	210.7	210.0	209.3	207.1	207.1
32.5°	163.2	164.6	166.1	171.2	173.4	174.9	175.6	177.8	177.8	177.8	176.3
35°	131.0	131.0	133.9	137.5	140.5	143.4	144.1	147.1	149.3	149.3	149.3
37.5°	101.7	102.4	105.4	108.3	111.9	113.4	114.9	119.3	122.2	123.6	124.4
40°	79.0	80.5	81.9	84.9	88.5	89.3	90.7	94.4	98.0	101.0	102.4
42.5°	61.5	61.5	62.9	65.1	67.3	69.5	71.0	73.2	77.6	79.7	82.7
45°	46.8	47.6	48.3	49.8	51.9	52.7	54.1	57.1	60.0	62.9	68.8
47.5°	35.9	35.9	36.6	37.3	39.5	40.2	41.0	43.9	46.8	52.7	57.1
50°	27.1	27.1	27.1	27.8	29.3	30.7	31.5	33.7	39.5	43.9	47.6
52.5°	19.8	19.8	19.8	21.2	21.9	22.7	23.4	26.3	33.7	34.4	35.9
55°	14.6	14.6	14.6	15.4	16.8	17.6	18.3	23.4	24.9	27.1	24.1
57.5°	11.0	11.0	11.0	11.7	12.4	13.2	14.6	18.3	20.5	17.6	16.8
60°	8.0	8.0	8.0	8.8	10.2	11.0	12.4	13.9	13.9	12.4	11.7
62.5°	6.6	6.6	6.6	6.6	8.0	9.5	9.5	11.0	9.5	8.8	8.8
65°	5.1	5.1	5.1	5.9	6.6	7.3	8.0	7.3	6.6	6.6	7.3
67.5°	4.4	4.4	4.4	4.4	5.9	5.9	5.9	5.1	5.1	5.1	5.9
70°	3.7	3.7	3.7	3.7	4.4	4.4	4.4	3.7	3.7	4.4	5.1
72.5°	2.9	2.9	2.9	3.7	3.7	3.7	2.9	2.9	2.9	3.7	3.7
75°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.9	2.9	2.9
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.2	2.2	2.2
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.5
82.5°	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.7	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	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: P219895

CATALOG NUMBER: MRZ-1-REC-X-2-L27-97-WFL-UNV-X-STD-LSL

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	458.0	458.0	458.0	458.0	458.0	458.0	458.0	458.0	458.0	458.0
2.5°	457.3	457.3	458.0	457.3	457.3	457.3	457.3	457.3	457.3	457.3
5°	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1
7.5°	448.5	448.5	448.5	447.8	447.8	447.8	447.8	447.8	447.8	447.0
10°	436.8	436.8	436.1	435.3	436.1	434.6	434.6	433.9	433.9	434.6
12.5°	418.5	417.8	416.3	416.3	415.6	414.8	414.1	414.1	413.4	413.4
15°	394.4	392.9	391.4	390.7	389.2	390.0	389.2	387.8	387.8	387.0
17.5°	365.1	363.6	361.4	359.2	359.2	358.5	358.5	357.0	356.3	355.6
20°	331.4	330.7	330.0	327.8	327.0	325.6	324.1	324.1	321.9	322.7
22.5°	297.8	297.0	295.6	294.9	293.4	293.4	291.9	291.9	290.5	290.5
25°	265.6	264.9	263.4	262.7	261.2	261.2	259.7	260.5	259.0	259.0
27.5°	233.4	232.7	231.2	231.9	230.5	229.7	229.0	229.0	228.3	228.3
30°	204.1	201.9	201.9	201.2	200.5	200.5	200.5	199.0	199.0	199.7
32.5°	175.6	174.1	173.4	173.4	174.1	173.4	172.7	172.7	171.9	171.2
35°	149.3	148.5	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8
37.5°	124.4	125.1	124.4	125.1	125.8	125.1	124.4	123.6	123.6	123.6
40°	103.2	104.6	105.4	103.9	103.2	103.2	102.4	103.2	102.4	103.2
42.5°	86.3	87.1	85.6	86.3	87.1	87.1	85.6	83.4	81.9	81.2
45°	70.2	71.7	75.4	70.2	68.0	67.3	65.1	64.4	63.7	63.7
47.5°	60.0	62.9	55.6	53.4	51.9	51.9	50.5	49.0	49.0	48.3
50°	49.0	43.2	41.7	40.2	38.8	38.0	37.3	36.6	36.6	35.9
52.5°	32.9	31.5	30.0	29.3	28.5	28.5	28.5	28.5	28.5	28.5
55°	23.4	22.7	21.9	22.7	22.7	23.4	24.1	24.1	24.1	23.4
57.5°	16.1	16.1	17.6	19.0	19.0	19.0	19.0	18.3	18.3	18.3
60°	12.4	13.2	14.6	14.6	14.6	15.4	14.6	13.9	13.2	13.2
62.5°	9.5	11.0	11.7	11.7	11.0	11.0	10.2	10.2	10.2	10.2
65°	8.0	8.8	8.8	8.8	8.8	8.0	7.3	7.3	8.0	8.0
67.5°	6.6	6.6	6.6	5.9	5.9	6.6	7.3	8.0	8.0	8.8
70°	5.1	5.1	5.1	5.9	6.6	6.6	8.0	8.0	8.8	8.8
72.5°	3.7	3.7	5.1	5.9	6.6	6.6	6.6	5.9	5.9	5.9
75°	2.9	3.7	5.1	4.4	4.4	4.4	4.4	4.4	4.4	4.4
77.5°	2.2	2.9	2.9	2.2	2.9	2.9	2.9	3.7	3.7	4.4
80°	1.5	1.5	1.5	1.5	1.5	1.5	2.2	2.2	2.2	2.2
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	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)