

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: P219892

Luminaire Tested: **MRZ-1-REC-X-2-L30-80-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219892
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-L30-80-WFL-UNV-X-STD-LSL
Description: MRZ INTEGRAL LED DOWNLIGHT
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL2
Light Source: (1) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 635.0 lumens
Efficiency: N/A
Efficacy: 72.2 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

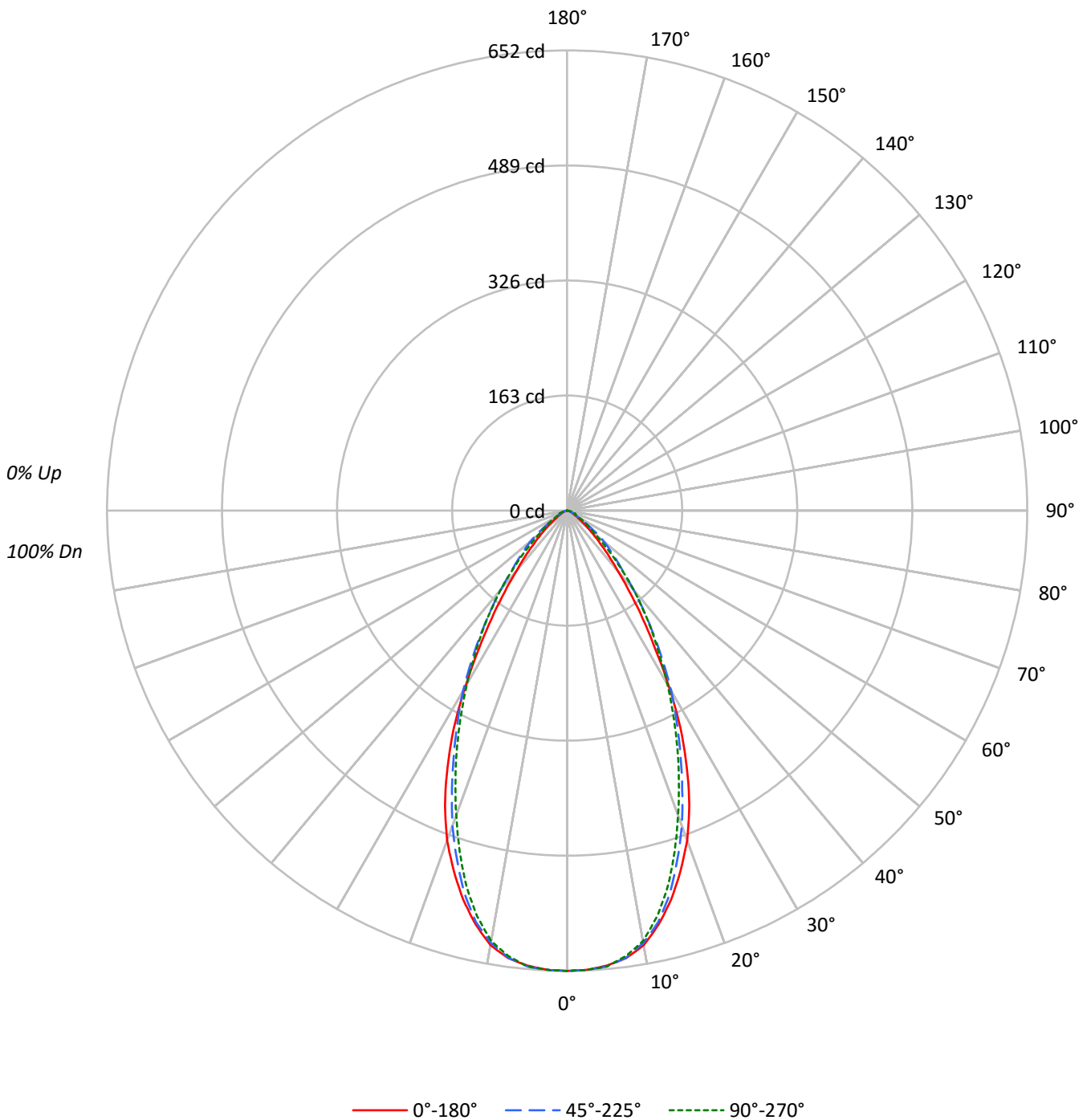
Input Watts (W): 8.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	321831	321831	321831
5°	320485	321030	321030
10°	313219	311666	310113
15°	291147	286907	281544
20°	260999	249501	241258
25°	218407	206485	200823
30°	165044	168006	162081
35°	112330	128050	126785
40°	72457	93969	94613
45°	46540	68379	63285
50°	29628	51964	39222
55°	17892	29590	28644
60°	11348	16479	18551
65°	8522	12141	13426
70°	7501	10531	18032
75°	5909	8006	12010
80°	2841	5967	8808
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.0	9.6
10°-20°	155.5	24.5
20°-30°	175.1	27.6
30°-40°	129.5	20.4
40°-50°	69.0	10.9
50°-60°	28.4	4.5
60°-70°	11.1	1.7
70°-80°	4.9	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°	391.6	61.7
0°-40°	521.1	82.1
0°-60°	618.6	97.4
0°-90°	635.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	635.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	652	652	652	652	652	
5°	647	647	648	648	648	61
15°	570	565	562	554	551	159
25°	401	396	379	372	369	182
35°	186	204	213	210	210	118
45°	67	75	98	97	91	54
55°	21	25	34	32	33	20
65°	7	10	10	12	12	8
75°	3	3	4	6	6	3
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	652.3	652.3	652.3	652.3	652.3	652.3	652.3	652.3	652.3	652.3	652.3
2.5°	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3
5°	647.1	647.1	647.1	647.1	647.1	647.1	647.1	648.2	647.1	648.2	648.2
7.5°	639.8	638.8	638.8	638.8	638.8	638.8	638.8	638.8	638.8	638.8	638.8
10°	625.2	624.2	624.2	622.1	623.2	622.1	622.1	622.1	622.1	622.1	622.1
12.5°	600.2	600.2	599.2	598.1	597.1	597.1	597.1	597.1	597.1	597.1	597.1
15°	570.0	570.0	569.0	566.9	565.8	564.8	563.8	563.8	562.7	562.7	561.7
17.5°	534.6	534.6	532.5	530.4	528.3	527.3	525.2	523.1	522.1	521.0	518.9
20°	497.1	497.1	493.9	492.9	488.7	487.7	484.6	481.4	477.3	476.2	475.2
22.5°	452.3	450.2	449.1	449.1	446.0	443.9	441.8	437.7	431.4	429.3	426.2
25°	401.2	400.2	400.2	399.1	398.1	396.0	397.0	393.9	388.7	384.5	379.3
27.5°	348.0	347.0	346.0	347.0	349.1	349.1	348.0	346.0	343.9	338.7	335.5
30°	289.7	289.7	291.8	294.9	298.0	299.1	300.1	299.1	298.0	294.9	294.9
32.5°	232.4	234.5	236.5	243.8	247.0	249.1	250.1	253.2	253.2	253.2	251.1
35°	186.5	186.5	190.7	195.9	200.1	204.2	205.3	209.5	212.6	212.6	212.6
37.5°	144.8	145.9	150.1	154.2	159.4	161.5	163.6	169.9	174.0	176.1	177.2
40°	112.5	114.6	116.7	120.9	126.1	127.1	129.2	134.4	139.6	143.8	145.9
42.5°	87.5	87.5	89.6	92.7	95.9	99.0	101.1	104.2	110.5	113.6	117.8
45°	66.7	67.7	68.8	70.9	74.0	75.0	77.1	81.3	85.4	89.6	98.0
47.5°	51.1	51.1	52.1	53.1	56.3	57.3	58.4	62.5	66.7	75.0	81.3
50°	38.6	38.6	38.6	39.6	41.7	43.8	44.8	47.9	56.3	62.5	67.7
52.5°	28.1	28.1	28.1	30.2	31.3	32.3	33.3	37.5	47.9	49.0	51.1
55°	20.8	20.8	20.8	21.9	24.0	25.0	26.1	33.3	35.4	38.6	34.4
57.5°	15.6	15.6	15.6	16.7	17.7	18.8	20.8	26.1	29.2	25.0	24.0
60°	11.5	11.5	11.5	12.5	14.6	15.6	17.7	19.8	19.8	17.7	16.7
62.5°	9.4	9.4	9.4	9.4	11.5	13.5	13.5	15.6	13.5	12.5	12.5
65°	7.3	7.3	7.3	8.3	9.4	10.4	11.5	10.4	9.4	9.4	10.4
67.5°	6.3	6.3	6.3	6.3	8.3	8.3	8.3	7.3	7.3	7.3	8.3
70°	5.2	5.2	5.2	5.2	6.3	6.3	6.3	5.2	5.2	6.3	7.3
72.5°	4.2	4.2	4.2	5.2	5.2	5.2	4.2	4.2	4.2	5.2	5.2
75°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	4.2	4.2	4.2
77.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.1	3.1	3.1
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.1
82.5°	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
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°	652.3	652.3	652.3	652.3	652.3	652.3	652.3	652.3	652.3	652.3
2.5°	651.3	651.3	652.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3
5°	648.2	648.2	648.2	648.2	648.2	648.2	648.2	648.2	648.2	648.2
7.5°	638.8	638.8	638.8	637.7	637.7	637.7	637.7	637.7	637.7	636.7
10°	622.1	622.1	621.1	620.0	621.1	619.0	619.0	617.9	617.9	619.0
12.5°	596.1	595.0	592.9	592.9	591.9	590.8	589.8	589.8	588.8	588.8
15°	561.7	559.6	557.5	556.5	554.4	555.4	554.4	552.3	552.3	551.2
17.5°	520.0	517.9	514.8	511.7	511.7	510.6	510.6	508.5	507.5	506.4
20°	472.1	471.0	470.0	466.8	465.8	463.7	461.6	461.6	458.5	459.5
22.5°	424.1	423.1	421.0	419.9	417.9	417.9	415.8	415.8	413.7	413.7
25°	378.3	377.2	375.1	374.1	372.0	372.0	369.9	371.0	368.9	368.9
27.5°	332.4	331.4	329.3	330.3	328.2	327.2	326.2	326.2	325.1	325.1
30°	290.7	287.6	287.6	286.6	285.5	285.5	285.5	283.4	283.4	284.5
32.5°	250.1	248.0	247.0	247.0	248.0	247.0	245.9	245.9	244.9	243.8
35°	212.6	211.5	210.5	210.5	210.5	210.5	210.5	210.5	210.5	210.5
37.5°	177.2	178.2	177.2	178.2	179.2	178.2	177.2	176.1	176.1	176.1
40°	146.9	149.0	150.1	148.0	146.9	146.9	145.9	146.9	145.9	146.9
42.5°	123.0	124.0	121.9	123.0	124.0	124.0	121.9	118.8	116.7	115.7
45°	100.0	102.1	107.3	100.0	96.9	95.9	92.7	91.7	90.7	90.7
47.5°	85.4	89.6	79.2	76.1	74.0	74.0	71.9	69.8	69.8	68.8
50°	69.8	61.5	59.4	57.3	55.2	54.2	53.1	52.1	52.1	51.1
52.5°	46.9	44.8	42.7	41.7	40.6	40.6	40.6	40.6	40.6	40.6
55°	33.3	32.3	31.3	32.3	32.3	33.3	34.4	34.4	34.4	33.3
57.5°	22.9	22.9	25.0	27.1	27.1	27.1	27.1	26.1	26.1	26.1
60°	17.7	18.8	20.8	20.8	20.8	21.9	20.8	19.8	18.8	18.8
62.5°	13.5	15.6	16.7	16.7	15.6	15.6	14.6	14.6	14.6	14.6
65°	11.5	12.5	12.5	12.5	12.5	11.5	10.4	10.4	11.5	11.5
67.5°	9.4	9.4	9.4	8.3	8.3	9.4	10.4	11.5	11.5	12.5
70°	7.3	7.3	7.3	8.3	9.4	9.4	11.5	11.5	12.5	12.5
72.5°	5.2	5.2	7.3	8.3	9.4	9.4	9.4	8.3	8.3	8.3
75°	4.2	5.2	7.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
77.5°	3.1	4.2	4.2	3.1	4.2	4.2	4.2	5.2	5.2	6.3
80°	2.1	2.1	2.1	2.1	2.1	2.1	3.1	3.1	3.1	3.1
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)