

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: P219894

Luminaire Tested: **MRZ-1-REC-X-2-L40-80-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219894  
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-L40-80-WFL-UNV-X-STD-LSL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL2  
Light Source: (1) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 678.9 lumens  
Efficiency: N/A  
Efficacy: 77.1 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

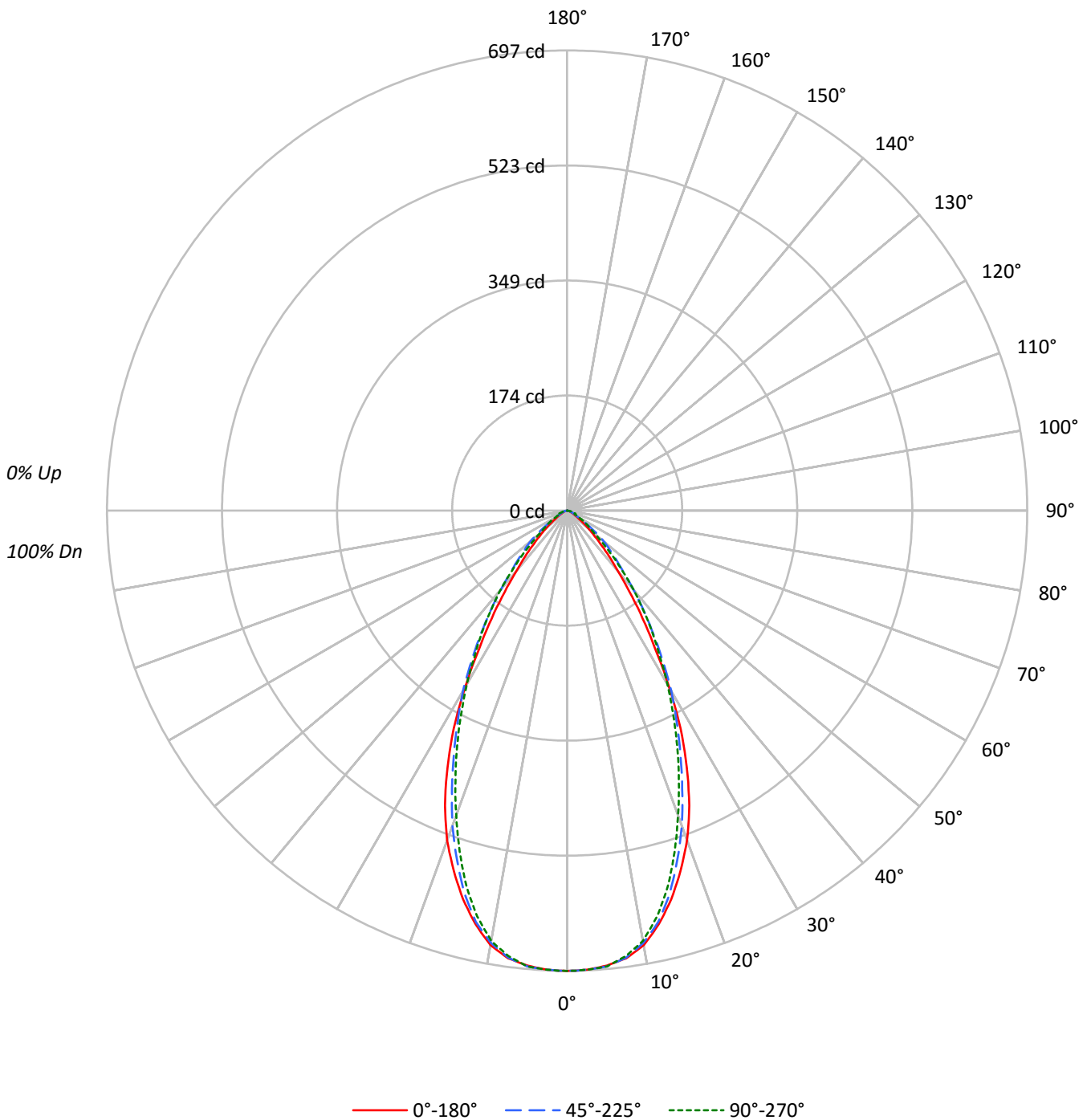
Input Watts (W): 8.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	344083	344083	344083
5°	342624	343169	343169
10°	334862	333159	331506
15°	311221	306675	301005
20°	279008	266722	257954
25°	233486	220748	214705
30°	176438	179628	173247
35°	120100	136904	135519
40°	77481	100474	101182
45°	49749	73054	67611
50°	31624	55572	41909
55°	19182	31655	30622
60°	12137	17564	19834
65°	9106	12959	14359
70°	8078	11252	19330
75°	6291	8578	12772
80°	3125	6251	9376
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.2	9.6
10°-20°	166.3	24.5
20°-30°	187.2	27.6
30°-40°	138.4	20.4
40°-50°	73.8	10.9
50°-60°	30.3	4.5
60°-70°	11.8	1.7
70°-80°	5.3	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°	418.7	61.7
0°-40°	557.1	82.1
0°-60°	661.3	97.4
0°-90°	678.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	678.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	697	697	697	697	697	
5°	692	692	693	693	693	65
15°	609	604	600	593	589	170
25°	429	423	406	398	394	194
35°	199	218	227	225	225	126
45°	71	80	105	104	97	57
55°	22	27	37	34	36	21
65°	8	11	11	13	12	8
75°	3	3	4	7	7	4
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°	697.4	697.4	697.4	697.4	697.4	697.4	697.4	697.4	697.4	697.4	697.4
2.5°	696.2	696.2	696.2	696.2	696.2	696.2	696.2	696.2	696.2	696.2	696.2
5°	691.8	691.8	691.8	691.8	691.8	691.8	691.8	692.9	691.8	692.9	692.9
7.5°	684.0	682.9	682.9	682.9	682.9	682.9	682.9	682.9	682.9	682.9	682.9
10°	668.4	667.3	667.3	665.0	666.2	665.0	665.0	665.0	665.0	665.0	665.0
12.5°	641.7	641.7	640.5	639.4	638.3	638.3	638.3	638.3	638.3	638.3	638.3
15°	609.3	609.3	608.2	606.0	604.9	603.8	602.7	602.7	601.6	601.6	600.4
17.5°	571.5	571.5	569.2	567.0	564.8	563.7	561.4	559.2	558.1	557.0	554.8
20°	531.4	531.4	528.0	526.9	522.5	521.3	518.0	514.7	510.2	509.1	508.0
22.5°	483.5	481.2	480.1	480.1	476.8	474.6	472.3	467.9	461.2	459.0	455.6
25°	428.9	427.8	427.8	426.7	425.5	423.3	424.4	421.1	415.5	411.1	405.5
27.5°	372.1	371.0	369.8	371.0	373.2	373.2	372.1	369.8	367.6	362.0	358.7
30°	309.7	309.7	311.9	315.3	318.6	319.7	320.8	319.7	318.6	315.3	315.3
32.5°	248.4	250.6	252.9	260.7	264.0	266.2	267.4	270.7	270.7	270.7	268.5
35°	199.4	199.4	203.9	209.4	213.9	218.3	219.5	223.9	227.3	227.3	227.3
37.5°	154.8	156.0	160.4	164.9	170.4	172.7	174.9	181.6	186.0	188.3	189.4
40°	120.3	122.5	124.8	129.2	134.8	135.9	138.1	143.7	149.3	153.7	156.0
42.5°	93.6	93.6	95.8	99.1	102.5	105.8	108.1	111.4	118.1	121.4	125.9
45°	71.3	72.4	73.5	75.8	79.1	80.2	82.4	86.9	91.3	95.8	104.7
47.5°	54.6	54.6	55.7	56.8	60.2	61.3	62.4	66.8	71.3	80.2	86.9
50°	41.2	41.2	41.2	42.3	44.6	46.8	47.9	51.2	60.2	66.8	72.4
52.5°	30.1	30.1	30.1	32.3	33.4	34.5	35.6	40.1	51.2	52.4	54.6
55°	22.3	22.3	22.3	23.4	25.6	26.7	27.8	35.6	37.9	41.2	36.8
57.5°	16.7	16.7	16.7	17.8	18.9	20.1	22.3	27.8	31.2	26.7	25.6
60°	12.3	12.3	12.3	13.4	15.6	16.7	18.9	21.2	21.2	18.9	17.8
62.5°	10.0	10.0	10.0	10.0	12.3	14.5	14.5	16.7	14.5	13.4	13.4
65°	7.8	7.8	7.8	8.9	10.0	11.1	12.3	11.1	10.0	10.0	11.1
67.5°	6.7	6.7	6.7	6.7	8.9	8.9	8.9	7.8	7.8	7.8	8.9
70°	5.6	5.6	5.6	5.6	6.7	6.7	6.7	5.6	5.6	6.7	7.8
72.5°	4.5	4.5	4.5	5.6	5.6	5.6	4.5	4.5	4.5	5.6	5.6
75°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	4.5	4.5	4.5
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



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	697.4	697.4	697.4	697.4	697.4	697.4	697.4	697.4	697.4	697.4
2.5°	696.2	696.2	697.4	696.2	696.2	696.2	696.2	696.2	696.2	696.2
5°	692.9	692.9	692.9	692.9	692.9	692.9	692.9	692.9	692.9	692.9
7.5°	682.9	682.9	682.9	681.8	681.8	681.8	681.8	681.8	681.8	680.6
10°	665.0	665.0	663.9	662.8	663.9	661.7	661.7	660.6	660.6	661.7
12.5°	637.2	636.1	633.9	633.9	632.7	631.6	630.5	630.5	629.4	629.4
15°	600.4	598.2	596.0	594.9	592.6	593.8	592.6	590.4	590.4	589.3
17.5°	555.9	553.7	550.3	547.0	547.0	545.9	545.9	543.6	542.5	541.4
20°	504.6	503.5	502.4	499.1	498.0	495.7	493.5	493.5	490.2	491.3
22.5°	453.4	452.3	450.0	448.9	446.7	446.7	444.5	444.5	442.3	442.3
25°	404.4	403.3	401.0	399.9	397.7	397.7	395.5	396.6	394.4	394.4
27.5°	355.4	354.2	352.0	353.1	350.9	349.8	348.7	348.7	347.6	347.6
30°	310.8	307.5	307.5	306.3	305.2	305.2	305.2	303.0	303.0	304.1
32.5°	267.4	265.1	264.0	264.0	265.1	264.0	262.9	262.9	261.8	260.7
35°	227.3	226.1	225.0	225.0	225.0	225.0	225.0	225.0	225.0	225.0
37.5°	189.4	190.5	189.4	190.5	191.6	190.5	189.4	188.3	188.3	188.3
40°	157.1	159.3	160.4	158.2	157.1	157.1	156.0	157.1	156.0	157.1
42.5°	131.5	132.6	130.3	131.5	132.6	132.6	130.3	127.0	124.8	123.7
45°	106.9	109.2	114.7	106.9	103.6	102.5	99.1	98.0	96.9	96.9
47.5°	91.3	95.8	84.7	81.3	79.1	79.1	76.9	74.6	74.6	73.5
50°	74.6	65.7	63.5	61.3	59.0	57.9	56.8	55.7	55.7	54.6
52.5°	50.1	47.9	45.7	44.6	43.4	43.4	43.4	43.4	43.4	43.4
55°	35.6	34.5	33.4	34.5	34.5	35.6	36.8	36.8	36.8	35.6
57.5°	24.5	24.5	26.7	29.0	29.0	29.0	29.0	27.8	27.8	27.8
60°	18.9	20.1	22.3	22.3	22.3	23.4	22.3	21.2	20.1	20.1
62.5°	14.5	16.7	17.8	17.8	16.7	16.7	15.6	15.6	15.6	15.6
65°	12.3	13.4	13.4	13.4	13.4	12.3	11.1	11.1	12.3	12.3
67.5°	10.0	10.0	10.0	8.9	8.9	10.0	11.1	12.3	12.3	13.4
70°	7.8	7.8	7.8	8.9	10.0	10.0	12.3	12.3	13.4	13.4
72.5°	5.6	5.6	7.8	8.9	10.0	10.0	10.0	8.9	8.9	8.9
75°	4.5	5.6	7.8	6.7	6.7	6.7	6.7	6.7	6.7	6.7
77.5°	3.3	4.5	4.5	3.3	4.5	4.5	4.5	5.6	5.6	6.7
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)