

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: P219906

Luminaire Tested: **MRZ-1-REC-X-4-L27-80-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219906
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-4-L27-80-WFL-UNV-X-STD-LSL
Description: MRZ INTEGRAL LED DOWNLIGHT
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 4
Light Source: (1) 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1092.3 lumens
Efficiency: N/A
Efficacy: 69.1 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

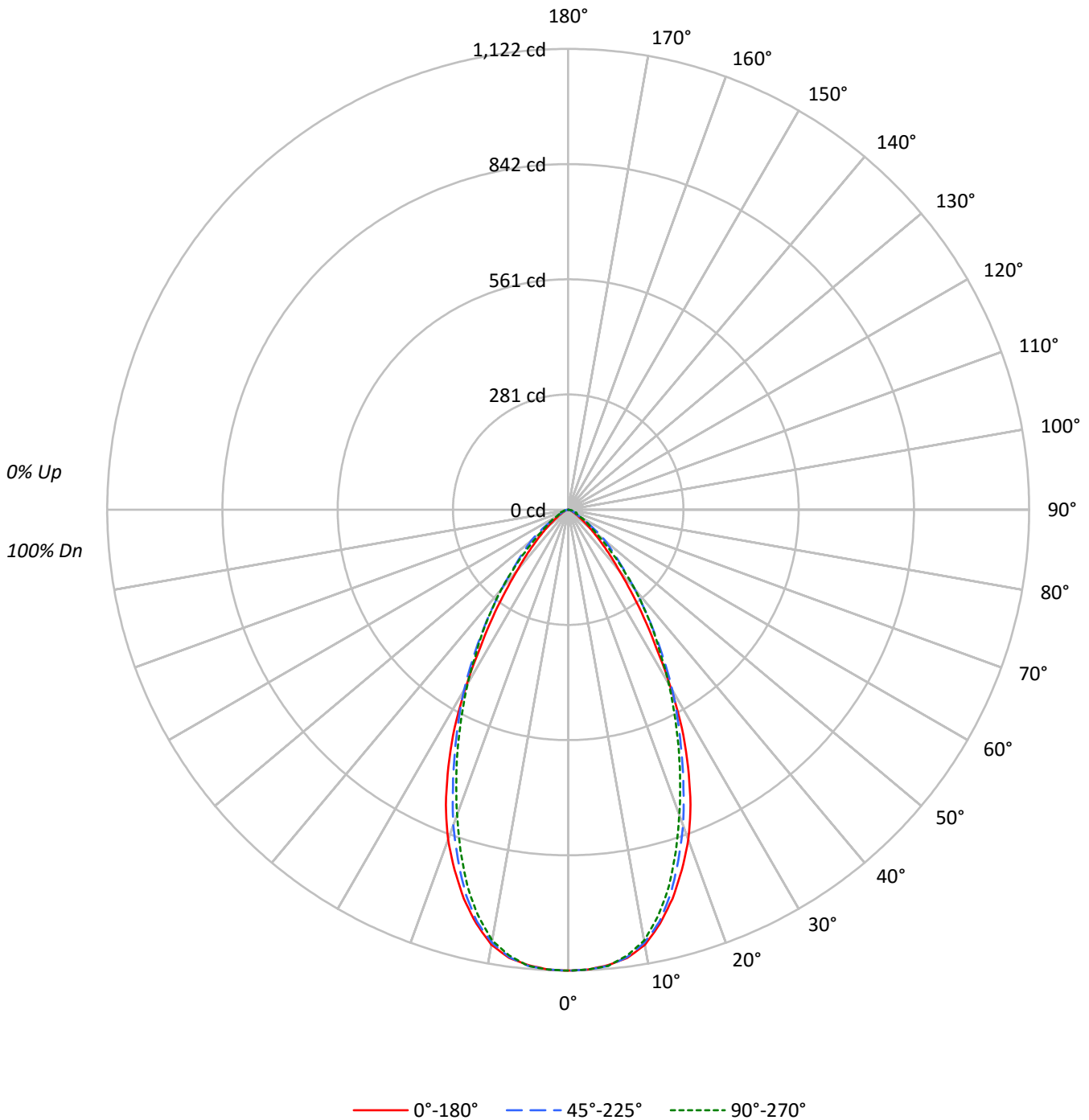
Input Watts (W): 15.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	553621	553621	553621
5°	551279	552170	552170
10°	538816	536110	533405
15°	500824	493469	484325
20°	448912	429118	415047
25°	375679	355156	345412
30°	283884	289012	278757
35°	193220	220263	218095
40°	124690	161595	162754
45°	80031	117570	108778
50°	50889	89421	67392
55°	30794	50923	49374
60°	19439	28320	31872
65°	14593	20897	22998
70°	12983	18032	31015
75°	10294	13725	20588
80°	5114	10229	15343
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.9	9.6
10°-20°	267.5	24.5
20°-30°	301.2	27.6
30°-40°	222.8	20.4
40°-50°	118.8	10.9
50°-60°	48.8	4.5
60°-70°	19.0	1.7
70°-80°	8.5	0.8
80°-90°	0.8	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°	673.6	61.7
0°-40°	896.4	82.1
0°-60°	1064.0	97.4
0°-90°	1092.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1092.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1122	1122	1122	1122	1122	
5°	1113	1113	1115	1115	1115	105
15°	980	972	966	954	948	273
25°	690	681	652	640	634	313
35°	321	351	366	362	362	203
45°	115	129	168	167	156	92
55°	36	43	59	56	57	34
65°	12	18	18	22	20	13
75°	5	5	7	11	11	6
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°	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1
2.5°	1120.3	1120.3	1120.3	1120.3	1120.3	1120.3	1120.3	1120.3	1120.3	1120.3	1120.3
5°	1113.1	1113.1	1113.1	1113.1	1113.1	1113.1	1113.1	1114.9	1113.1	1114.9	1114.9
7.5°	1100.6	1098.8	1098.8	1098.8	1098.8	1098.8	1098.8	1098.8	1098.8	1098.8	1098.8
10°	1075.5	1073.7	1073.7	1070.1	1071.9	1070.1	1070.1	1070.1	1070.1	1070.1	1070.1
12.5°	1032.4	1032.4	1030.6	1028.9	1027.1	1027.1	1027.1	1027.1	1027.1	1027.1	1027.1
15°	980.5	980.5	978.7	975.1	973.3	971.5	969.7	969.7	967.9	967.9	966.1
17.5°	919.5	919.5	915.9	912.3	908.8	907.0	903.4	899.8	898.0	896.2	892.6
20°	855.0	855.0	849.6	847.8	840.7	838.9	833.5	828.1	820.9	819.1	817.3
22.5°	777.9	774.3	772.5	772.5	767.2	763.6	760.0	752.8	742.1	738.5	733.1
25°	690.1	688.3	688.3	686.5	684.7	681.1	682.9	677.5	668.6	661.4	652.4
27.5°	598.7	596.9	595.1	596.9	600.5	600.5	598.7	595.1	591.5	582.5	577.2
30°	498.3	498.3	501.9	507.3	512.6	514.4	516.2	514.4	512.6	507.3	507.3
32.5°	399.7	403.3	406.9	419.4	424.8	428.4	430.2	435.6	435.6	435.6	432.0
35°	320.8	320.8	328.0	337.0	344.1	351.3	353.1	360.3	365.7	365.7	365.7
37.5°	249.1	250.9	258.1	265.3	274.2	277.8	281.4	292.2	299.3	302.9	304.7
40°	193.6	197.2	200.8	207.9	216.9	218.7	222.3	231.2	240.2	247.4	250.9
42.5°	150.6	150.6	154.1	159.5	164.9	170.3	173.9	179.2	190.0	195.4	202.5
45°	114.7	116.5	118.3	121.9	127.3	129.1	132.6	139.8	147.0	154.1	168.5
47.5°	87.8	87.8	89.6	91.4	96.8	98.6	100.4	107.5	114.7	129.1	139.8
50°	66.3	66.3	66.3	68.1	71.7	75.3	77.1	82.5	96.8	107.5	116.5
52.5°	48.4	48.4	48.4	52.0	53.8	55.6	57.4	64.5	82.5	84.2	87.8
55°	35.8	35.8	35.8	37.6	41.2	43.0	44.8	57.4	60.9	66.3	59.2
57.5°	26.9	26.9	26.9	28.7	30.5	32.3	35.8	44.8	50.2	43.0	41.2
60°	19.7	19.7	19.7	21.5	25.1	26.9	30.5	34.1	34.1	30.5	28.7
62.5°	16.1	16.1	16.1	16.1	19.7	23.3	23.3	26.9	23.3	21.5	21.5
65°	12.5	12.5	12.5	14.3	16.1	17.9	19.7	17.9	16.1	16.1	17.9
67.5°	10.8	10.8	10.8	10.8	14.3	14.3	14.3	12.5	12.5	12.5	14.3
70°	9.0	9.0	9.0	9.0	10.8	10.8	10.8	9.0	9.0	10.8	12.5
72.5°	7.2	7.2	7.2	9.0	9.0	9.0	7.2	7.2	7.2	9.0	9.0
75°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	7.2	7.2	7.2
77.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	5.4	5.4	5.4
80°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.6
82.5°	0.0	1.8	1.8	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8
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°	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1	1122.1
2.5°	1120.3	1120.3	1122.1	1120.3	1120.3	1120.3	1120.3	1120.3	1120.3	1120.3
5°	1114.9	1114.9	1114.9	1114.9	1114.9	1114.9	1114.9	1114.9	1114.9	1114.9
7.5°	1098.8	1098.8	1098.8	1097.0	1097.0	1097.0	1097.0	1097.0	1097.0	1095.2
10°	1070.1	1070.1	1068.3	1066.5	1068.3	1064.7	1064.7	1062.9	1062.9	1064.7
12.5°	1025.3	1023.5	1019.9	1019.9	1018.1	1016.3	1014.5	1014.5	1012.7	1012.7
15°	966.1	962.5	959.0	957.2	953.6	955.4	953.6	950.0	950.0	948.2
17.5°	894.4	890.8	885.5	880.1	880.1	878.3	878.3	874.7	872.9	871.1
20°	812.0	810.2	808.4	803.0	801.2	797.6	794.0	794.0	788.7	790.5
22.5°	729.5	727.7	724.1	722.4	718.8	718.8	715.2	715.2	711.6	711.6
25°	650.7	648.9	645.3	643.5	639.9	639.9	636.3	638.1	634.5	634.5
27.5°	571.8	570.0	566.4	568.2	564.6	562.8	561.0	561.0	559.2	559.2
30°	500.1	494.7	494.7	492.9	491.1	491.1	491.1	487.5	487.5	489.3
32.5°	430.2	426.6	424.8	424.8	426.6	424.8	423.0	423.0	421.2	419.4
35°	365.7	363.9	362.1	362.1	362.1	362.1	362.1	362.1	362.1	362.1
37.5°	304.7	306.5	304.7	306.5	308.3	306.5	304.7	302.9	302.9	302.9
40°	252.7	256.3	258.1	254.5	252.7	252.7	250.9	252.7	250.9	252.7
42.5°	211.5	213.3	209.7	211.5	213.3	213.3	209.7	204.3	200.8	199.0
45°	172.1	175.7	184.6	172.1	166.7	164.9	159.5	157.7	155.9	155.9
47.5°	147.0	154.1	136.2	130.8	127.3	127.3	123.7	120.1	120.1	118.3
50°	120.1	105.8	102.2	98.6	95.0	93.2	91.4	89.6	89.6	87.8
52.5°	80.7	77.1	73.5	71.7	69.9	69.9	69.9	69.9	69.9	69.9
55°	57.4	55.6	53.8	55.6	55.6	57.4	59.2	59.2	59.2	57.4
57.5°	39.4	39.4	43.0	46.6	46.6	46.6	46.6	44.8	44.8	44.8
60°	30.5	32.3	35.8	35.8	35.8	37.6	35.8	34.1	32.3	32.3
62.5°	23.3	26.9	28.7	28.7	26.9	26.9	25.1	25.1	25.1	25.1
65°	19.7	21.5	21.5	21.5	21.5	19.7	17.9	17.9	19.7	19.7
67.5°	16.1	16.1	16.1	14.3	14.3	16.1	17.9	19.7	19.7	21.5
70°	12.5	12.5	12.5	14.3	16.1	16.1	19.7	19.7	21.5	21.5
72.5°	9.0	9.0	12.5	14.3	16.1	16.1	16.1	14.3	14.3	14.3
75°	7.2	9.0	12.5	10.8	10.8	10.8	10.8	10.8	10.8	10.8
77.5°	5.4	7.2	7.2	5.4	7.2	7.2	7.2	9.0	9.0	10.8
80°	3.6	3.6	3.6	3.6	3.6	3.6	5.4	5.4	5.4	5.4
82.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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)