

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: P219607

Luminaire Tested: **MRZ-1-REC-X-1H-L40-80-NFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219607
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14872)
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-1H-L40-80-NFL-UNV-X-STD-LSL
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 1
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 576.7 lumens
Efficiency: N/A
Efficacy: 84.8 lumens/watt
Spacing Criteria (0/90/45): 0.4 / 0.87 / 0.54
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

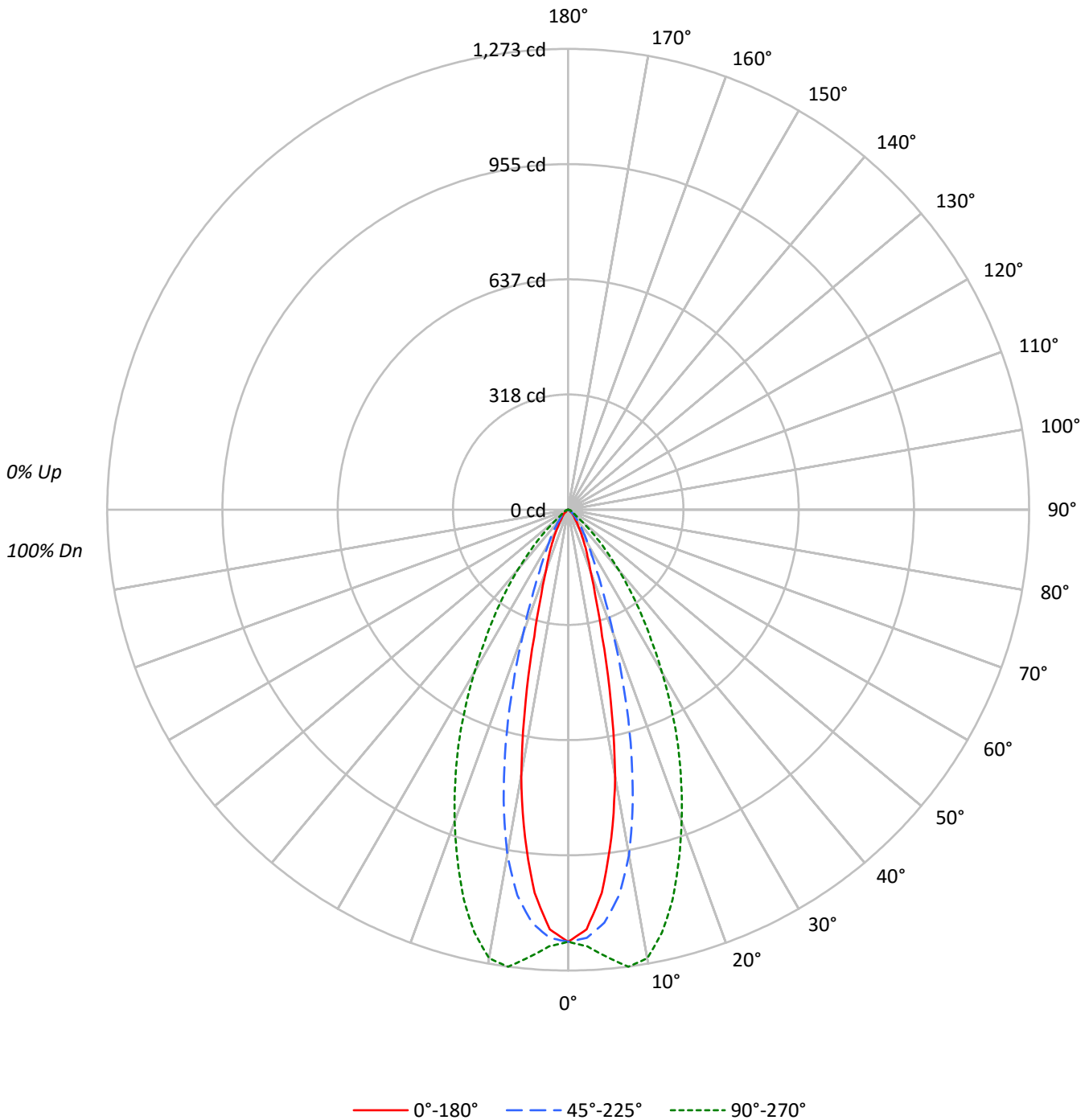
Input Watts (W): 6.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88
3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	84	83
4	99	92	87	83	97	91	86	82	89	85	81	87	83	80	85	82	80	78
5	95	87	81	77	93	86	81	77	84	80	76	83	79	76	81	78	75	74
6	90	82	77	73	89	81	76	72	80	75	72	79	75	72	77	74	71	70
7	87	78	73	69	85	77	72	68	76	71	68	75	71	68	74	70	67	66
8	83	74	69	65	82	74	68	65	73	68	65	72	67	64	71	67	64	63
9	80	71	65	62	79	70	65	62	69	65	61	69	64	61	68	64	61	60
10	77	68	62	59	76	67	62	59	66	62	59	66	61	58	65	61	58	57

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	588898	588898	588898
5°	526169	567325	614524
10°	373889	484909	630196
15°	184751	339569	569269
20°	94560	189068	481202
25°	59447	101582	390269
30°	35721	62212	294709
35°	23068	40234	210506
40°	16295	26213	139053
45°	12490	18211	77868
50°	7522	12511	33159
55°	5591	8430	17548
60°	4835	5625	11249
65°	4786	4786	9456
70°	4760	3462	12983
75°	4575	3050	9341
80°	2273	2273	4546
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.5	18.1
10°-20°	194.9	33.8
20°-30°	146.4	25.4
30°-40°	80.5	14.0
40°-50°	32.6	5.7
50°-60°	10.4	1.8
60°-70°	4.9	0.9
70°-80°	2.4	0.4
80°-90°	0.1	0.0
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°	445.8	77.3
0°-40°	526.3	91.2
0°-60°	569.3	98.7
0°-90°	576.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	576.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1194	1194	1194	1194	1194	
5°	1062	1087	1146	1213	1241	91
15°	362	425	665	989	1114	106
25°	109	122	187	544	717	51
35°	38	46	67	202	350	25
45°	18	17	26	50	112	13
55°	6	7	10	12	20	6
65°	4	5	4	5	8	4
75°	2	2	2	2	5	2
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°	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6
2.5°	1160.1	1160.1	1159.3	1161.8	1166.7	1166.7	1169.1	1171.6	1174.0	1178.9	1183.8
5°	1062.4	1064.0	1063.2	1072.2	1078.7	1086.8	1089.3	1103.1	1113.7	1130.0	1145.5
7.5°	914.1	914.9	922.3	932.8	949.1	958.1	970.3	989.9	1013.5	1044.5	1074.6
10°	746.3	746.3	757.7	773.2	786.2	804.1	813.1	844.9	879.1	922.3	967.9
12.5°	543.4	543.4	563.0	574.4	598.0	613.5	626.5	663.2	708.0	763.4	823.7
15°	361.7	368.2	375.6	391.1	412.2	425.3	434.2	471.7	524.7	586.6	664.8
17.5°	246.0	250.1	255.0	267.2	277.8	284.3	292.5	324.3	362.5	422.8	505.1
20°	180.1	184.1	188.2	193.9	200.4	203.7	209.4	225.7	253.4	295.7	360.1
22.5°	139.3	142.6	145.8	149.1	154.0	156.4	159.7	170.3	184.9	211.8	258.3
25°	109.2	109.2	113.2	115.7	119.8	122.2	126.3	133.6	145.0	160.5	186.6
27.5°	83.1	83.9	86.4	89.6	92.9	95.3	99.4	105.9	113.2	123.8	140.1
30°	62.7	64.4	66.0	68.4	72.5	75.0	77.4	83.1	89.6	97.8	109.2
32.5°	48.1	49.7	50.5	53.0	56.2	57.8	60.3	65.2	70.9	79.0	86.4
35°	38.3	38.3	39.9	40.7	44.0	45.6	47.3	50.5	56.2	61.1	66.8
37.5°	30.1	31.0	31.8	32.6	35.0	35.8	36.7	39.1	42.4	47.3	52.1
40°	25.3	26.1	26.1	26.1	26.9	26.9	27.7	29.3	32.6	35.8	40.7
42.5°	21.2	21.2	21.2	21.2	21.2	21.2	22.0	22.8	25.3	28.5	32.6
45°	17.9	17.1	17.1	17.1	17.1	17.1	17.1	18.7	20.4	22.8	26.1
47.5°	13.0	13.9	13.9	13.9	13.9	13.9	14.7	14.7	16.3	18.7	20.4
50°	9.8	10.6	10.6	11.4	11.4	11.4	11.4	12.2	13.9	15.5	16.3
52.5°	8.1	8.1	8.1	9.0	9.0	9.0	9.0	9.8	11.4	12.2	13.0
55°	6.5	6.5	6.5	6.5	7.3	7.3	8.1	9.0	9.8	9.8	9.8
57.5°	5.7	5.7	5.7	5.7	5.7	6.5	6.5	7.3	8.1	7.3	7.3
60°	4.9	4.9	4.9	4.9	4.9	5.7	5.7	6.5	5.7	5.7	5.7
62.5°	4.9	4.9	4.1	4.1	4.9	4.9	4.9	4.9	4.9	4.9	4.1
65°	4.1	4.1	4.1	4.1	4.1	4.9	4.9	4.1	4.1	3.3	4.1
67.5°	4.1	4.1	3.3	4.1	4.1	4.1	4.1	3.3	3.3	3.3	3.3
70°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.4	2.4	2.4	2.4
72.5°	2.4	2.4	2.4	3.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4
75°	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6	1193.6
2.5°	1187.8	1191.1	1195.2	1199.3	1200.9	1202.5	1205.0	1206.6	1207.4	1207.4
5°	1161.8	1178.1	1193.6	1206.6	1213.1	1218.8	1228.6	1235.1	1240.8	1240.8
7.5°	1106.4	1140.6	1172.4	1200.1	1212.3	1225.3	1245.7	1261.2	1269.3	1273.4
10°	1015.9	1067.3	1115.3	1157.7	1177.3	1193.6	1222.9	1243.2	1253.0	1257.9
12.5°	892.9	960.5	1021.6	1074.6	1098.2	1117.8	1147.9	1174.8	1188.7	1196.0
15°	749.5	829.4	901.9	962.2	989.1	1013.5	1053.4	1086.0	1105.6	1114.5
17.5°	598.0	696.6	778.9	848.1	872.6	899.4	945.9	983.4	1009.4	1015.9
20°	457.9	564.6	658.3	730.0	758.5	785.4	837.5	877.4	906.0	916.5
22.5°	333.2	436.7	540.2	616.7	649.3	678.7	730.8	774.0	804.1	814.7
25°	237.9	321.8	424.5	511.6	544.2	573.6	625.7	669.7	700.7	716.9
27.5°	173.5	230.6	321.0	410.6	445.6	476.6	524.7	570.3	599.6	615.1
30°	127.1	164.6	232.2	319.4	357.7	387.8	439.1	477.4	509.2	517.3
32.5°	97.0	118.1	164.6	235.5	274.6	306.3	356.0	392.7	417.9	426.9
35°	74.1	87.2	114.9	168.6	202.0	234.6	281.9	319.4	341.4	349.5
37.5°	57.8	66.8	83.1	118.9	145.0	173.5	220.0	250.9	268.9	279.4
40°	46.4	53.0	63.5	84.7	102.7	123.8	162.9	192.3	210.2	215.9
42.5°	37.5	42.4	48.1	60.3	72.5	88.0	119.8	140.1	154.8	158.1
45°	29.3	32.6	39.1	44.8	49.7	57.8	79.8	98.6	107.5	111.6
47.5°	23.6	27.7	27.7	31.0	34.2	39.9	53.8	64.4	70.9	72.5
50°	17.9	18.7	20.4	22.0	23.6	25.3	32.6	39.1	43.2	43.2
52.5°	13.0	13.9	13.9	14.7	15.5	17.1	21.2	24.4	26.9	27.7
55°	9.8	9.8	10.6	11.4	12.2	13.0	15.5	18.7	19.6	20.4
57.5°	7.3	7.3	8.1	9.0	9.8	9.8	12.2	13.9	15.5	17.1
60°	5.7	5.7	6.5	6.5	7.3	8.1	10.6	11.4	11.4	11.4
62.5°	4.9	4.9	4.9	5.7	5.7	5.7	7.3	9.8	10.6	10.6
65°	4.1	4.1	4.1	4.1	4.9	4.9	5.7	6.5	8.1	8.1
67.5°	3.3	3.3	3.3	3.3	4.1	4.1	5.7	6.5	8.1	9.0
70°	2.4	2.4	2.4	3.3	3.3	4.1	4.9	6.5	8.1	9.0
72.5°	1.6	1.6	2.4	2.4	2.4	3.3	4.1	4.9	5.7	5.7
75°	1.6	1.6	1.6	1.6	1.6	1.6	2.4	4.1	4.1	4.9
77.5°	1.6	1.6	0.8	1.6	1.6	1.6	1.6	2.4	3.3	3.3
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)