

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: P219681

Luminaire Tested: **MRZ-1-REC-X-2-L40-97-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219681
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14874)
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-L40-97-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL2
Light Source: (1) 4000K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 712.4 lumens
Efficiency: N/A
Efficacy: 81.0 lumens/watt
Spacing Criteria (0/90/45): 0.42 / 0.41 / 0.38
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

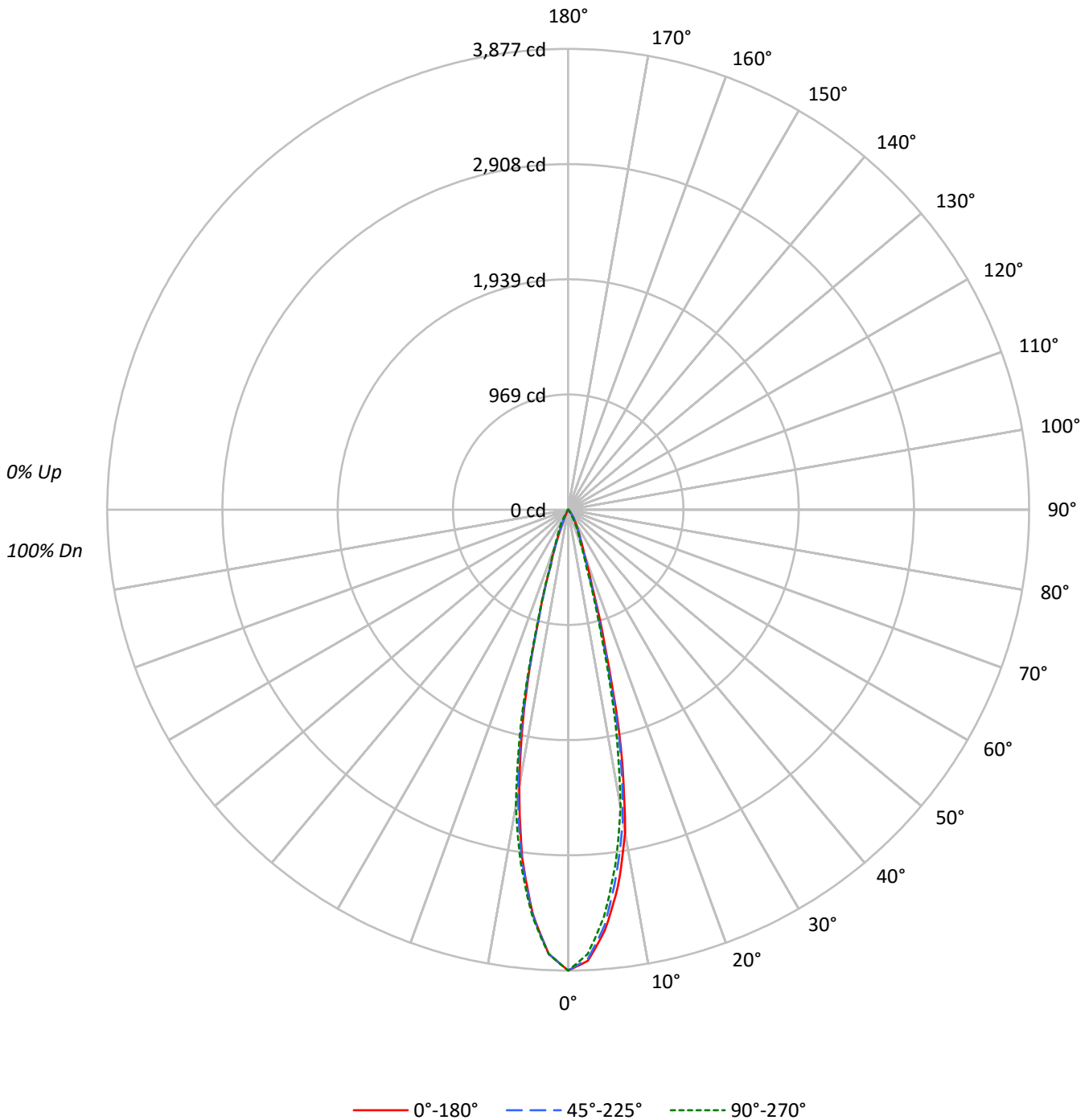
Input Watts (W): 8.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	
1	115	113	111	110	113	111	110	108	107	106	105	104	103	102	100	99	99	97	97	97	97	
2	112	108	105	103	110	107	104	102	104	102	100	101	99	98	98	97	96	94	94	94	94	
3	108	104	101	98	107	103	100	97	100	98	96	98	96	94	96	94	93	92	92	92	92	
4	105	100	97	94	104	99	96	93	97	95	92	96	93	91	94	92	90	89	89	89	89	
5	103	97	93	90	101	96	93	90	95	92	89	93	91	89	92	90	88	87	87	87	87	
6	100	94	90	88	99	94	90	87	92	89	87	91	88	86	90	88	86	85	85	85	85	
7	98	92	88	85	96	91	87	85	90	87	84	89	86	84	88	85	84	83	83	83	83	
8	95	89	85	83	94	89	85	83	88	85	82	87	84	82	86	84	82	81	81	81	81	
9	93	87	83	81	92	86	83	80	86	82	80	85	82	80	84	82	80	79	79	79	79	
10	91	85	81	79	90	84	81	79	84	81	78	83	80	78	83	80	78	77	77	77	77	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	1912833	1912833	1912833
5°	1758386	1703758	1689990
10°	1380931	1269961	1186396
15°	612788	521357	498321
20°	203874	166019	149585
25°	113014	95049	31193
30°	65345	34125	9913
35°	37162	9938	3674
40°	19579	5603	2254
45°	9699	3628	628
50°	5296	1996	0
55°	3699	1462	0
60°	2566	888	0
65°	1985	1051	0
70°	1298	0	0
75°	1716	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	301.0	42.3
10°-20°	310.9	43.6
20°-30°	71.4	10.0
30°-40°	20.6	2.9
40°-50°	5.8	0.8
50°-60°	1.8	0.2
60°-70°	0.7	0.1
70°-80°	0.3	0.0
80°-90°	0.0	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°	683.3	95.9
0°-40°	703.8	98.8
0°-60°	711.4	99.9
0°-90°	712.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	712.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3877	3877	3877	3877	3877	
5°	3550	3510	3440	3423	3412	314
15°	1200	1094	1021	965	976	350
25°	208	200	175	64	57	100
35°	62	57	16	7	6	40
45°	14	13	5	2	1	12
55°	4	4	2	0	0	4
65°	2	2	1	0	0	1
75°	1	1	0	0	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	3877.0	3877.0	3877.0	3877.0	3877.0	3877.0	3877.0	3877.0	3877.0
2.5°	3798.8	3798.0	3781.5	3764.1	3741.5	3743.2	3739.8	3745.0	3742.4
5°	3550.4	3531.3	3510.4	3472.2	3440.1	3426.2	3422.7	3411.4	3412.3
7.5°	3200.3	3159.5	3100.4	3050.0	3023.1	2988.3	2973.6	2942.3	2955.3
10°	2756.4	2703.4	2650.4	2587.9	2534.9	2477.5	2433.2	2404.6	2368.1
12.5°	2046.7	2004.1	1982.4	1900.7	1837.3	1793.0	1768.7	1699.2	1700.0
15°	1199.7	1146.7	1093.7	1052.0	1020.7	1004.2	965.1	955.6	975.6
17.5°	641.1	617.6	582.9	544.7	523.0	507.3	494.3	489.1	481.3
20°	388.3	381.4	361.4	336.2	316.2	302.3	289.3	285.8	284.9
22.5°	280.6	277.1	264.1	245.8	226.7	194.6	155.5	147.7	150.3
25°	207.6	205.0	199.8	185.9	174.6	96.4	64.3	61.7	57.3
27.5°	155.5	153.8	147.7	138.1	117.3	42.6	35.6	33.0	33.0
30°	114.7	113.8	110.3	100.8	59.9	24.3	20.0	18.2	17.4
32.5°	84.3	84.3	80.8	72.1	26.9	15.6	12.2	11.3	10.4
35°	61.7	61.7	57.3	49.5	16.5	10.4	6.9	6.9	6.1
37.5°	44.3	43.4	40.8	31.3	12.2	6.9	5.2	5.2	4.3
40°	30.4	30.4	27.8	19.1	8.7	5.2	4.3	3.5	3.5
42.5°	20.8	20.8	19.1	12.2	6.9	4.3	2.6	2.6	2.6
45°	13.9	13.9	13.0	8.7	5.2	2.6	1.7	1.7	0.9
47.5°	9.6	9.6	8.7	6.1	3.5	1.7	0.9	0.9	0.9
50°	6.9	6.9	6.1	4.3	2.6	1.7	0.9	0.9	0.0
52.5°	5.2	5.2	5.2	3.5	1.7	0.9	0.0	0.0	0.0
55°	4.3	4.3	3.5	2.6	1.7	0.9	0.0	0.0	0.0
57.5°	3.5	3.5	2.6	1.7	0.9	0.9	0.0	0.0	0.0
60°	2.6	2.6	2.6	1.7	0.9	0.0	0.0	0.0	0.0
62.5°	1.7	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0
65°	1.7	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0
67.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0
70°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
72.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
75°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
77.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	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
87.5°	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

(END OF REPORT)