

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: P219693

Luminaire Tested: **MRZ-1-REC-X-4-L27-97-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219693  
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-4-L27-97-NFL-UNV-X-STD-SNT  
Description: MRZ INTEGRAL LED DOWNLIGHT  
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 4  
Light Source: (1) 2700K CCT, 97 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1048.8 lumens  
Efficiency: N/A  
Efficacy: 66.4 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

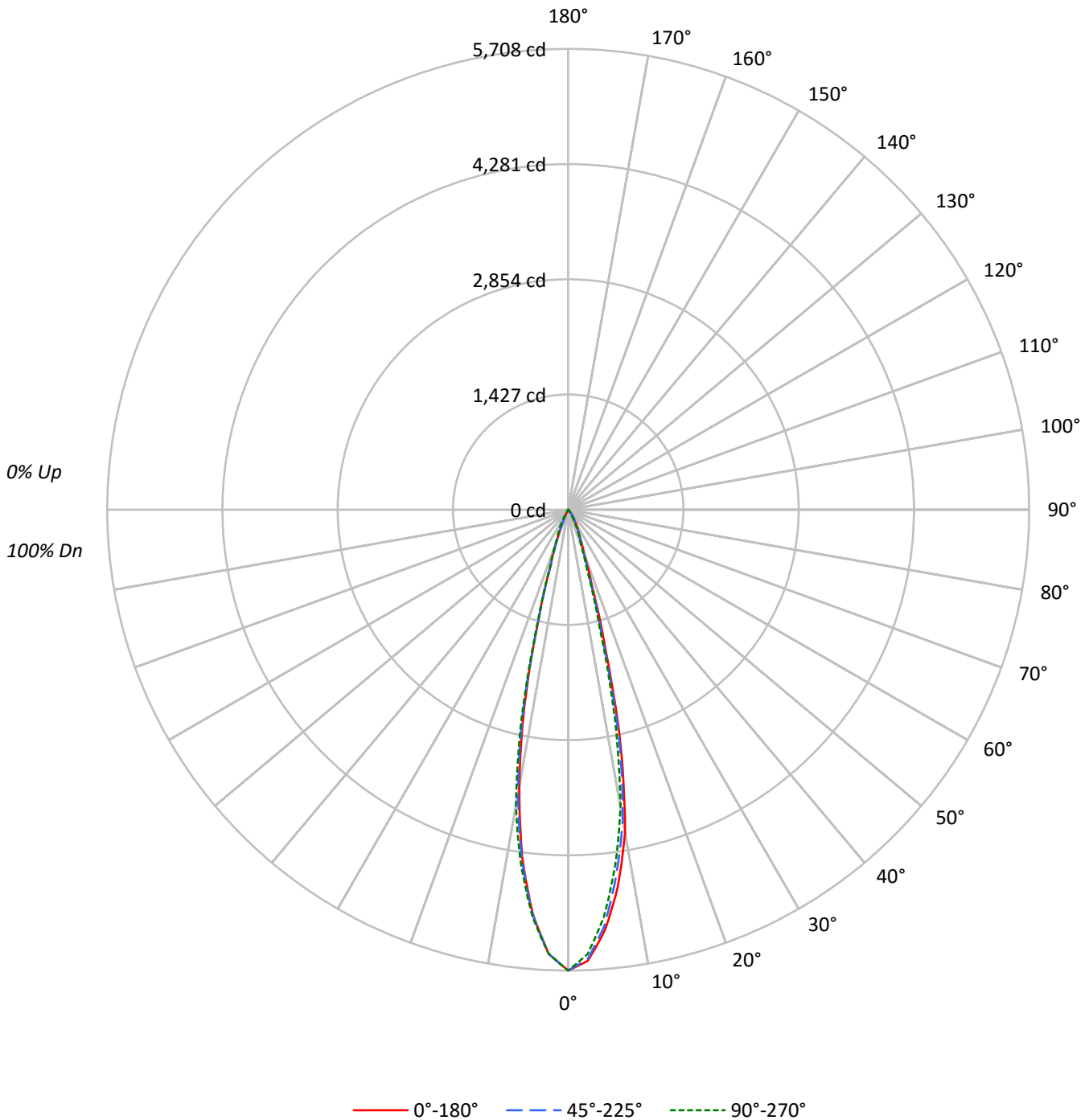
Input Watts (W): 15.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	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	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	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	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	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	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	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	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	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	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	77	77	77		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	2816013	2816013	2816013
5°	2588647	2508216	2487910
10°	2032970	1869597	1746554
15°	902096	767555	733588
20°	300167	244408	220256
25°	166418	139961	45946
30°	96166	50248	14584
35°	54689	14636	5421
40°	28854	8244	3285
45°	14304	5373	907
50°	7829	2917	0
55°	5505	2236	0
60°	3750	1283	0
65°	3035	1518	0
70°	1875	0	0
75°	2478	0	0
80°	0	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	443.2	42.3
10°-20°	457.7	43.6
20°-30°	105.0	10.0
30°-40°	30.3	2.9
40°-50°	8.5	0.8
50°-60°	2.6	0.2
60°-70°	1.0	0.1
70°-80°	0.5	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°	1005.9	95.9
0°-40°	1036.2	98.8
0°-60°	1047.3	99.9
0°-90°	1048.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1048.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	5708	5708	5708	5708	5708	
5°	5227	5168	5064	5039	5023	462
15°	1766	1610	1503	1421	1436	515
25°	306	294	257	95	84	147
35°	91	84	24	10	9	59
45°	20	19	8	3	1	18
55°	6	5	3	0	0	6
65°	3	3	1	0	0	2
75°	1	1	0	0	0	1
85°	0	0	0	0	0	0
90°	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°	5707.6	5707.6	5707.6	5707.6	5707.6	5707.6	5707.6	5707.6	5707.6
2.5°	5592.5	5591.3	5567.0	5541.4	5508.1	5510.7	5505.6	5513.2	5509.4
5°	5226.8	5198.6	5167.9	5111.7	5064.4	5043.9	5038.8	5022.2	5023.4
7.5°	4711.4	4651.3	4564.3	4490.1	4450.5	4399.3	4377.6	4331.6	4350.7
10°	4057.9	3979.9	3901.9	3809.8	3731.8	3647.4	3582.1	3539.9	3486.2
12.5°	3013.0	2950.4	2918.4	2798.2	2704.8	2639.6	2603.8	2501.5	2502.8
15°	1766.1	1688.1	1610.1	1548.7	1502.7	1478.4	1420.8	1406.8	1436.2
17.5°	943.8	909.3	858.1	801.9	769.9	746.9	727.7	720.0	708.5
20°	571.7	561.4	532.0	494.9	465.5	445.0	425.9	420.8	419.5
22.5°	413.1	408.0	388.8	361.9	333.8	286.5	228.9	217.4	221.2
25°	305.7	301.8	294.1	273.7	257.1	142.0	94.6	90.8	84.4
27.5°	228.9	226.4	217.4	203.3	172.6	62.7	52.4	48.6	48.6
30°	168.8	167.5	162.4	148.3	88.2	35.8	29.4	26.9	25.6
32.5°	124.1	124.1	118.9	106.1	39.6	23.0	17.9	16.6	15.3
35°	90.8	90.8	84.4	72.9	24.3	15.3	10.2	10.2	9.0
37.5°	65.2	63.9	60.1	46.0	17.9	10.2	7.7	7.7	6.4
40°	44.8	44.8	40.9	28.1	12.8	7.7	6.4	5.1	5.1
42.5°	30.7	30.7	28.1	17.9	10.2	6.4	3.8	3.8	3.8
45°	20.5	20.5	19.2	12.8	7.7	3.8	2.6	2.6	1.3
47.5°	14.1	14.1	12.8	9.0	5.1	2.6	1.3	1.3	1.3
50°	10.2	10.2	9.0	6.4	3.8	2.6	1.3	1.3	0.0
52.5°	7.7	7.7	7.7	5.1	2.6	1.3	0.0	0.0	0.0
55°	6.4	6.4	5.1	3.8	2.6	1.3	0.0	0.0	0.0
57.5°	5.1	5.1	3.8	2.6	1.3	1.3	0.0	0.0	0.0
60°	3.8	3.8	3.8	2.6	1.3	0.0	0.0	0.0	0.0
62.5°	2.6	2.6	2.6	1.3	1.3	0.0	0.0	0.0	0.0
65°	2.6	2.6	2.6	1.3	1.3	0.0	0.0	0.0	0.0
67.5°	1.3	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0
70°	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0
72.5°	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0
75°	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0
77.5°	1.3	1.3	1.3	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)