

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: P219696

Luminaire Tested: **MRZ-1-REC-X-4-L40-97-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219696  
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-L40-97-NFL-UNV-X-STD-SNT  
Description: MRZ INTEGRAL LED DOWNLIGHT  
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 4  
Light Source: (1) 4000K CCT, 97 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1245.2 lumens  
Efficiency: N/A  
Efficacy: 78.8 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

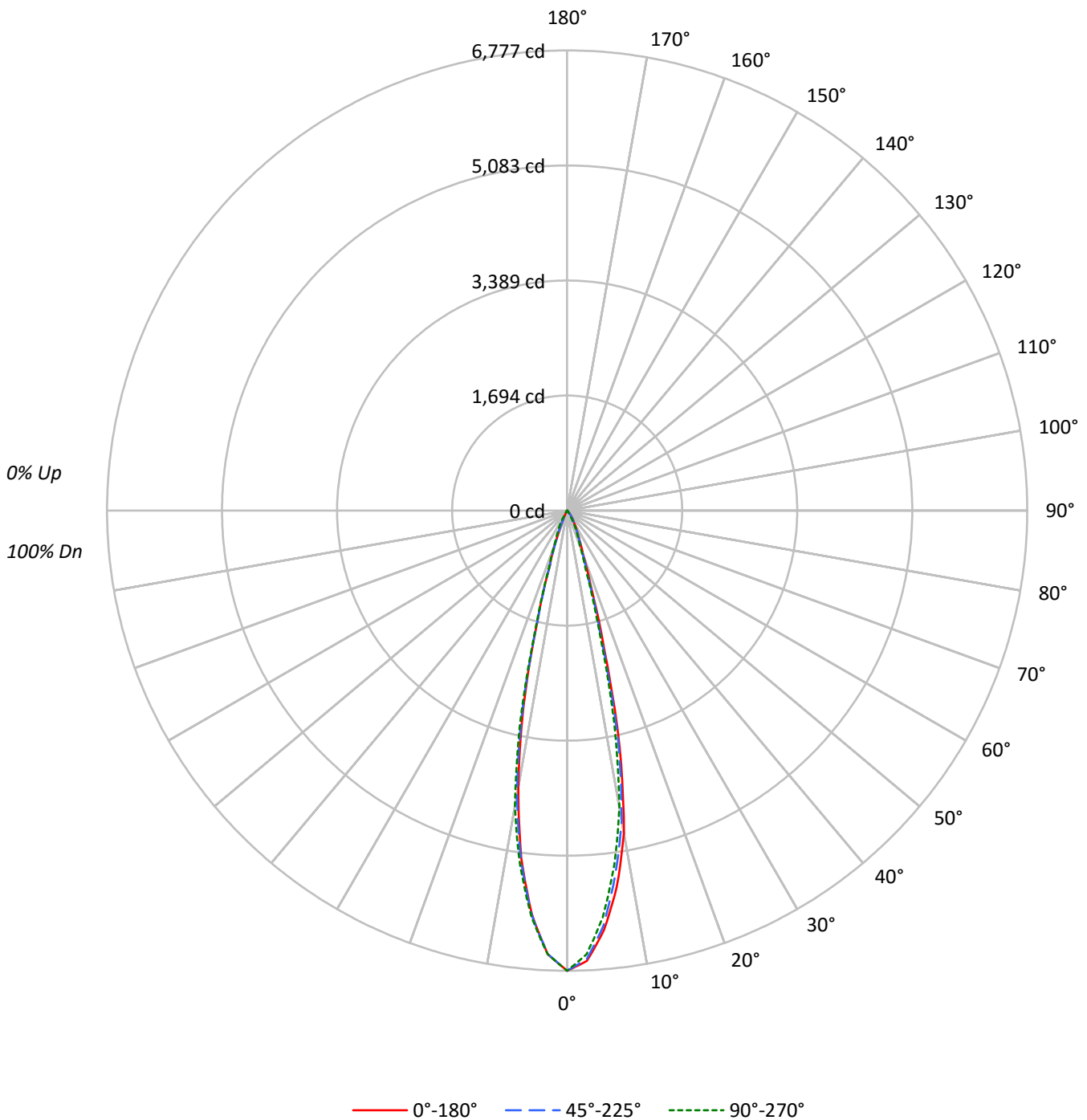
Input Watts (W): 15.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	97	91	87	85	90	87	84	89	86	84	88	86	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°	3343584	3343584	3343584
5°	3073560	2978073	2954003
10°	2413823	2219840	2073751
15°	1071114	911341	870989
20°	356347	290192	261524
25°	197557	166146	54547
30°	114169	59705	17319
35°	64929	17407	6384
40°	34200	9790	3929
45°	16955	6349	1047
50°	9288	3531	0
55°	6537	2581	0
60°	4539	1480	0
65°	3502	1751	0
70°	2164	0	0
75°	2859	0	0
80°	0	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	526.2	42.3
10°-20°	543.5	43.6
20°-30°	124.7	10.0
30°-40°	36.0	2.9
40°-50°	10.1	0.8
50°-60°	3.1	0.2
60°-70°	1.2	0.1
70°-80°	0.6	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°	1194.3	95.9
0°-40°	1230.3	98.8
0°-60°	1243.4	99.9
0°-90°	1245.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1245.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	6777	6777	6777	6777	6777	
5°	6206	6136	6013	5983	5964	548
15°	2097	1912	1784	1687	1705	612
25°	363	349	305	112	100	175
35°	108	100	29	12	11	70
45°	24	23	9	3	2	21
55°	8	6	3	0	0	7
65°	3	3	2	0	0	3
75°	2	2	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°	6776.9	6776.9	6776.9	6776.9	6776.9	6776.9	6776.9	6776.9	6776.9
2.5°	6640.2	6638.7	6609.8	6579.5	6540.0	6543.0	6537.0	6546.1	6541.5
5°	6205.9	6172.5	6136.1	6069.3	6013.1	5988.8	5982.7	5963.0	5964.5
7.5°	5594.0	5522.6	5419.4	5331.3	5284.2	5223.5	5197.7	5143.0	5165.8
10°	4818.1	4725.4	4632.8	4523.5	4430.9	4330.6	4253.2	4203.1	4139.3
12.5°	3577.5	3503.1	3465.1	3322.4	3211.5	3134.1	3091.6	2970.1	2971.6
15°	2097.0	2004.4	1911.7	1838.8	1784.2	1755.3	1687.0	1670.3	1705.2
17.5°	1120.6	1079.6	1018.9	952.1	914.1	886.8	864.0	854.9	841.2
20°	678.7	666.6	631.7	587.6	552.7	528.4	505.6	499.6	498.1
22.5°	490.5	484.4	461.6	429.7	396.3	340.1	271.8	258.1	262.7
25°	362.9	358.4	349.2	324.9	305.2	168.5	112.4	107.8	100.2
27.5°	271.8	268.8	258.1	241.4	205.0	74.4	62.3	57.7	57.7
30°	200.4	198.9	192.8	176.1	104.8	42.5	34.9	31.9	30.4
32.5°	147.3	147.3	141.2	126.0	47.1	27.3	21.3	19.7	18.2
35°	107.8	107.8	100.2	86.6	28.9	18.2	12.1	12.1	10.6
37.5°	77.4	75.9	71.4	54.7	21.3	12.1	9.1	9.1	7.6
40°	53.1	53.1	48.6	33.4	15.2	9.1	7.6	6.1	6.1
42.5°	36.4	36.4	33.4	21.3	12.1	7.6	4.6	4.6	4.6
45°	24.3	24.3	22.8	15.2	9.1	4.6	3.0	3.0	1.5
47.5°	16.7	16.7	15.2	10.6	6.1	3.0	1.5	1.5	1.5
50°	12.1	12.1	10.6	7.6	4.6	3.0	1.5	1.5	0.0
52.5°	9.1	9.1	9.1	6.1	3.0	1.5	0.0	0.0	0.0
55°	7.6	7.6	6.1	4.6	3.0	1.5	0.0	0.0	0.0
57.5°	6.1	6.1	4.6	3.0	1.5	1.5	0.0	0.0	0.0
60°	4.6	4.6	4.6	3.0	1.5	0.0	0.0	0.0	0.0
62.5°	3.0	3.0	3.0	1.5	1.5	0.0	0.0	0.0	0.0
65°	3.0	3.0	3.0	1.5	1.5	0.0	0.0	0.0	0.0
67.5°	1.5	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0
70°	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0
72.5°	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0
75°	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0
77.5°	1.5	1.5	1.5	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)