

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: P219679

Luminaire Tested: **MRZ-1-REC-X-2-L30-97-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219679  
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-L30-97-NFL-UNV-X-STD-SNT  
Description: MRZ INTEGRAL LED DOWNLIGHT  
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL2  
Light Source: (1) 3000K CCT, 97 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 656.0 lumens  
Efficiency: N/A  
Efficacy: 74.5 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

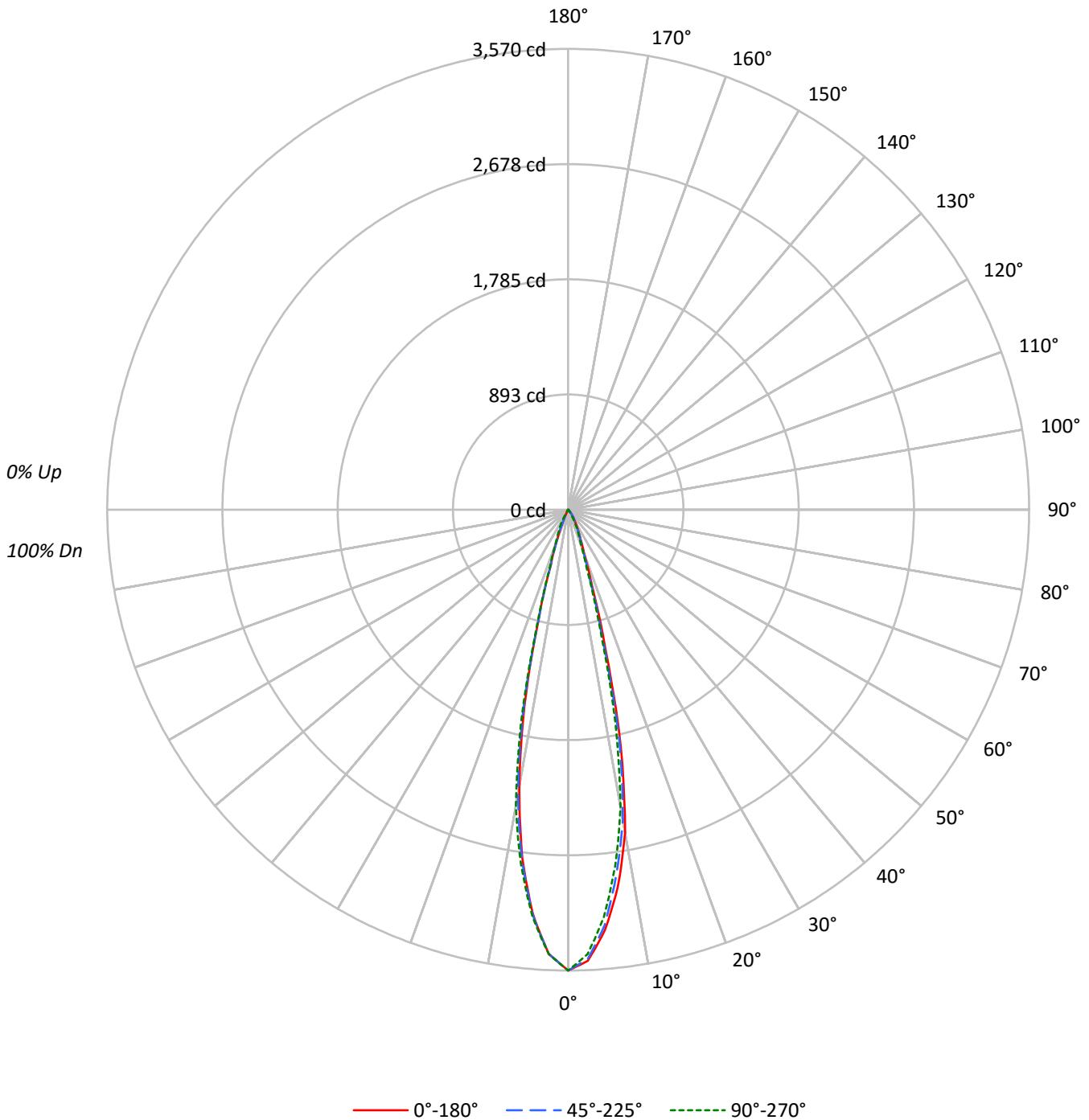
Input Watts (W): 8.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	97	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°	1761316	1761316	1761316
5°	1619068	1568749	1556120
10°	1271514	1169362	1092410
15°	564212	480086	458837
20°	187703	152893	137771
25°	104086	87537	28743
30°	60161	31448	9115
35°	34211	9155	3373
40°	18034	5152	2061
45°	8931	3349	558
50°	4912	1842	0
55°	3441	1376	0
60°	2368	789	0
65°	1868	934	0
70°	1154	0	0
75°	1525	0	0
80°	0	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	277.2	42.3
10°-20°	286.3	43.6
20°-30°	65.7	10.0
30°-40°	18.9	2.9
40°-50°	5.3	0.8
50°-60°	1.6	0.2
60°-70°	0.6	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°	629.2	95.9
0°-40°	648.1	98.8
0°-60°	655.0	99.9
0°-90°	656.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	656.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3570	3570	3570	3570	3570	
5°	3269	3232	3168	3152	3142	289
15°	1105	1007	940	889	898	322
25°	191	184	161	59	53	92
35°	57	53	15	6	6	37
45°	13	12	5	2	1	11
55°	4	3	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°	3569.9	3569.9	3569.9	3569.9	3569.9	3569.9	3569.9	3569.9	3569.9
2.5°	3497.9	3497.1	3481.9	3465.9	3445.1	3446.7	3443.5	3448.3	3445.9
5°	3269.1	3251.5	3232.3	3197.1	3167.5	3154.7	3151.5	3141.2	3142.0
7.5°	2946.8	2909.2	2854.8	2808.4	2783.6	2751.6	2738.0	2709.2	2721.2
10°	2538.0	2489.2	2440.5	2382.9	2334.1	2281.3	2240.5	2214.1	2180.5
12.5°	1884.5	1845.3	1825.3	1750.1	1691.8	1651.0	1628.6	1564.6	1565.4
15°	1104.6	1055.8	1007.1	968.7	939.9	924.7	888.7	879.9	898.3
17.5°	590.3	568.7	536.7	501.5	481.5	467.1	455.1	450.3	443.1
20°	357.5	351.1	332.8	309.6	291.2	278.4	266.4	263.2	262.4
22.5°	258.4	255.2	243.2	226.4	208.8	179.2	143.2	136.0	138.4
25°	191.2	188.8	184.0	171.2	160.8	88.8	59.2	56.8	52.8
27.5°	143.2	141.6	136.0	127.2	108.0	39.2	32.8	30.4	30.4
30°	105.6	104.8	101.6	92.8	55.2	22.4	18.4	16.8	16.0
32.5°	77.6	77.6	74.4	66.4	24.8	14.4	11.2	10.4	9.6
35°	56.8	56.8	52.8	45.6	15.2	9.6	6.4	6.4	5.6
37.5°	40.8	40.0	37.6	28.8	11.2	6.4	4.8	4.8	4.0
40°	28.0	28.0	25.6	17.6	8.0	4.8	4.0	3.2	3.2
42.5°	19.2	19.2	17.6	11.2	6.4	4.0	2.4	2.4	2.4
45°	12.8	12.8	12.0	8.0	4.8	2.4	1.6	1.6	0.8
47.5°	8.8	8.8	8.0	5.6	3.2	1.6	0.8	0.8	0.8
50°	6.4	6.4	5.6	4.0	2.4	1.6	0.8	0.8	0.0
52.5°	4.8	4.8	4.8	3.2	1.6	0.8	0.0	0.0	0.0
55°	4.0	4.0	3.2	2.4	1.6	0.8	0.0	0.0	0.0
57.5°	3.2	3.2	2.4	1.6	0.8	0.8	0.0	0.0	0.0
60°	2.4	2.4	2.4	1.6	0.8	0.0	0.0	0.0	0.0
62.5°	1.6	1.6	1.6	0.8	0.8	0.0	0.0	0.0	0.0
65°	1.6	1.6	1.6	0.8	0.8	0.0	0.0	0.0	0.0
67.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0
70°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
72.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
75°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
77.5°	0.8	0.8	0.8	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)