

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: P219669

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219669  
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-1H-L40-80-NFL-UNV-X-STD-SNT  
Description: MRZ INTEGRAL LED DOWNLIGHT  
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 1  
Light Source: (1) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 668.1 lumens  
Efficiency: N/A  
Efficacy: 98.2 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

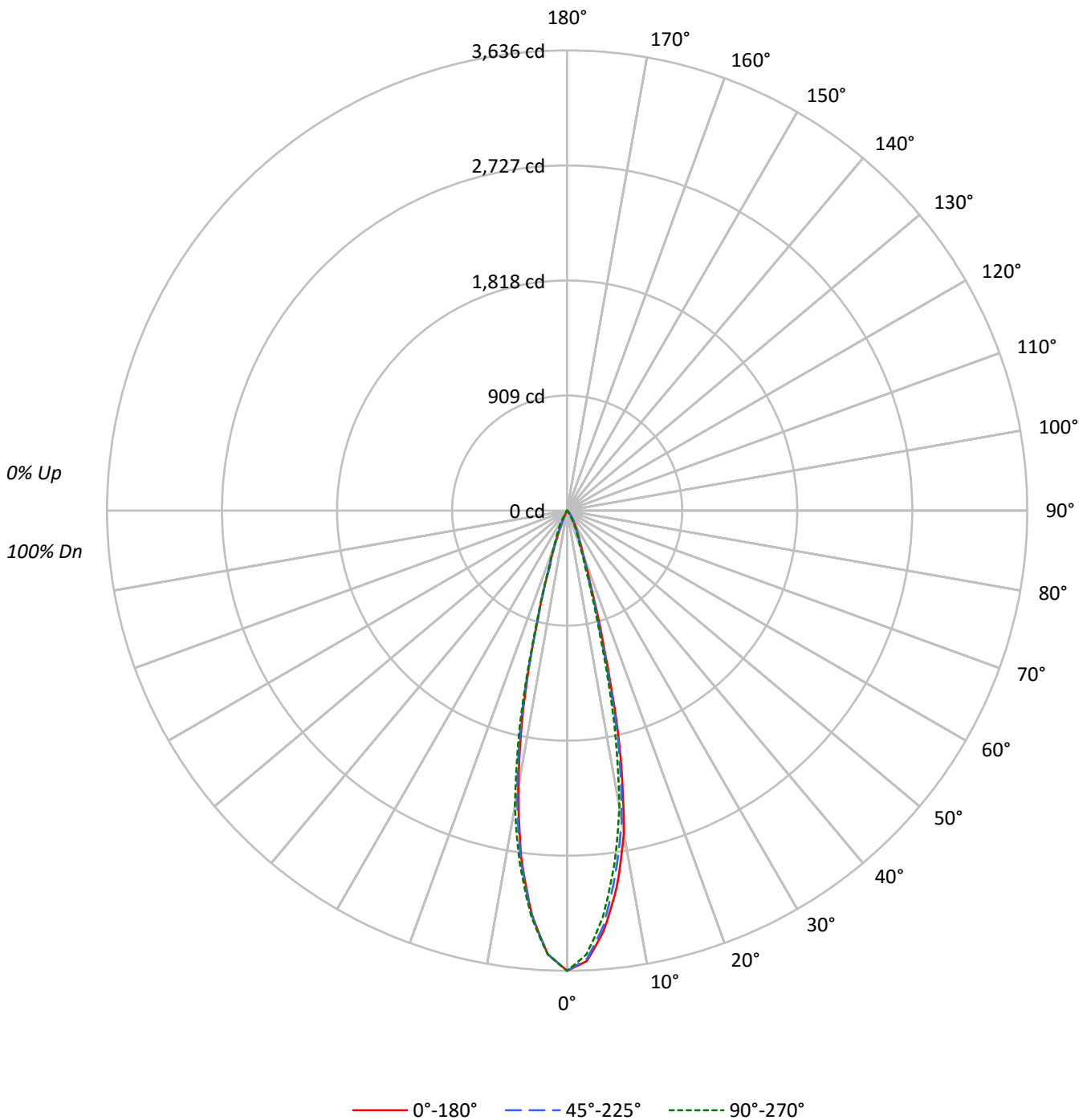
Input Watts (W): 6.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	86	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	83	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°	1793928	1793928	1793928
5°	1649081	1597821	1584944
10°	1295111	1191005	1112650
15°	574683	488974	467316
20°	191221	155728	140292
25°	105992	89170	29288
30°	61243	32017	9286
35°	34813	9336	3433
40°	18356	5217	2125
45°	9071	3419	558
50°	4989	1842	0
55°	3527	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°	282.3	42.3
10°-20°	291.6	43.6
20°-30°	66.9	10.0
30°-40°	19.3	2.9
40°-50°	5.4	0.8
50°-60°	1.7	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°	640.8	95.9
0°-40°	660.1	98.8
0°-60°	667.1	99.9
0°-90°	668.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	668.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3636	3636	3636	3636	3636	
5°	3330	3292	3226	3210	3200	294
15°	1125	1026	957	905	915	328
25°	195	187	164	60	54	94
35°	58	54	16	6	6	38
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°	3636.0	3636.0	3636.0	3636.0	3636.0	3636.0	3636.0	3636.0	3636.0
2.5°	3562.7	3561.9	3546.4	3530.1	3508.9	3510.6	3507.3	3512.2	3509.7
5°	3329.7	3311.8	3292.2	3256.4	3226.2	3213.2	3209.9	3199.3	3200.2
7.5°	3001.4	2963.1	2907.7	2860.4	2835.2	2802.6	2788.7	2759.4	2771.6
10°	2585.1	2535.4	2485.7	2427.0	2377.3	2323.5	2282.0	2255.1	2220.9
12.5°	1919.4	1879.5	1859.2	1782.6	1723.1	1681.6	1658.7	1593.6	1594.4
15°	1125.1	1075.4	1025.7	986.6	957.3	941.8	905.1	896.2	914.9
17.5°	601.3	579.3	546.7	510.8	490.5	475.8	463.6	458.7	451.3
20°	364.2	357.7	338.9	315.3	296.6	283.5	271.3	268.0	267.2
22.5°	263.1	259.9	247.7	230.6	212.6	182.5	145.8	138.5	140.9
25°	194.7	192.3	187.4	174.3	163.8	90.4	60.3	57.8	53.8
27.5°	145.8	144.2	138.5	129.5	110.0	39.9	33.4	31.0	31.0
30°	107.5	106.7	103.5	94.5	56.2	22.8	18.7	17.1	16.3
32.5°	79.0	79.0	75.8	67.6	25.3	14.7	11.4	10.6	9.8
35°	57.8	57.8	53.8	46.4	15.5	9.8	6.5	6.5	5.7
37.5°	41.5	40.7	38.3	29.3	11.4	6.5	4.9	4.9	4.1
40°	28.5	28.5	26.1	17.9	8.1	4.9	4.1	3.3	3.3
42.5°	19.6	19.6	17.9	11.4	6.5	4.1	2.4	2.4	2.4
45°	13.0	13.0	12.2	8.1	4.9	2.4	1.6	1.6	0.8
47.5°	9.0	9.0	8.1	5.7	3.3	1.6	0.8	0.8	0.8
50°	6.5	6.5	5.7	4.1	2.4	1.6	0.8	0.8	0.0
52.5°	4.9	4.9	4.9	3.3	1.6	0.8	0.0	0.0	0.0
55°	4.1	4.1	3.3	2.4	1.6	0.8	0.0	0.0	0.0
57.5°	3.3	3.3	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)