

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: P226111

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P226111
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-1-L27-97-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 1
Light Source: (1) 2700K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 391.6 lumens
Efficiency: N/A
Efficacy: 72.5 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

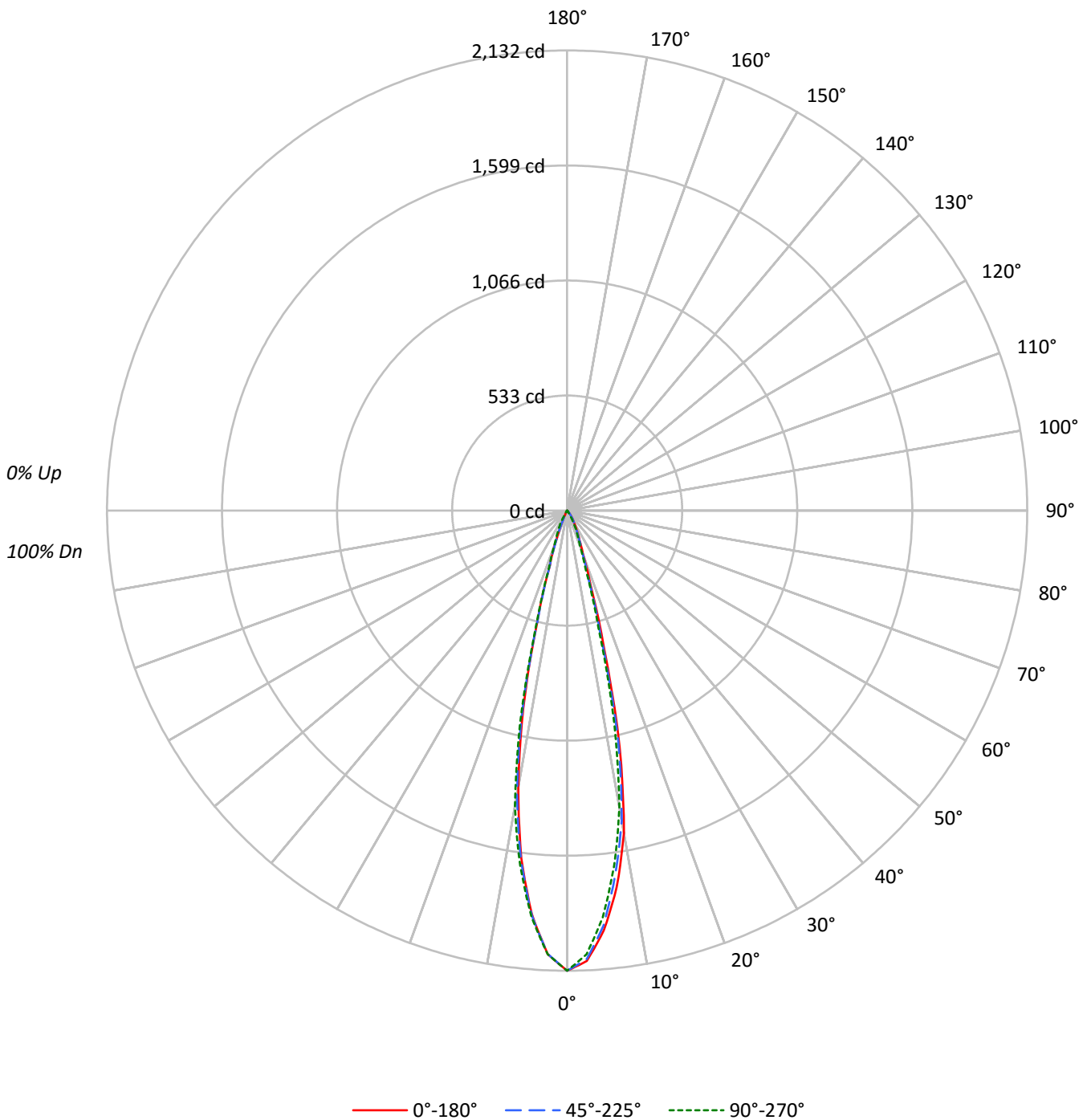
Input Watts (W): 5.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	103	110	107	104	102	104	102	100	101	99	98	98	97	96	94	94	94	94	94	94	94		
3	109	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	91	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°	1051787	1051787	1051787
5°	966855	936792	929215
10°	759302	698281	652340
15°	336964	286652	273985
20°	112097	91305	82274
25°	62169	52315	17148
30°	35891	18743	5469
35°	20418	5481	1988
40°	10756	3091	1224
45°	5373	2023	279
50°	2917	1075	0
55°	2064	860	0
60°	1381	395	0
65°	1167	467	0
70°	577	0	0
75°	763	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.5	42.3
10°-20°	171.0	43.7
20°-30°	39.2	10.0
30°-40°	11.3	2.9
40°-50°	3.2	0.8
50°-60°	1.0	0.2
60°-70°	0.4	0.1
70°-80°	0.1	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°	375.7	95.9
0°-40°	387.0	98.8
0°-60°	391.1	99.9
0°-90°	391.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	391.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2132	2132	2132	2132	2132	
5°	1952	1930	1892	1882	1876	173
15°	660	601	561	531	536	193
25°	114	110	96	35	32	55
35°	34	32	9	4	3	22
45°	8	7	3	1	0	7
55°	2	2	1	0	0	2
65°	1	1	0	0	0	1
75°	0	0	0	0	0	0
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°	2131.8	2131.8	2131.8	2131.8	2131.8	2131.8	2131.8	2131.8	2131.8
2.5°	2088.8	2088.3	2079.2	2069.7	2057.3	2058.3	2056.3	2059.2	2057.7
5°	1952.2	1941.7	1930.3	1909.2	1891.5	1883.9	1882.0	1875.8	1876.2
7.5°	1759.8	1737.3	1704.8	1677.1	1662.3	1643.2	1635.0	1617.8	1625.0
10°	1515.6	1486.5	1457.3	1422.9	1393.8	1362.3	1338.0	1322.2	1302.1
12.5°	1125.4	1101.9	1090.1	1045.2	1010.3	985.9	972.5	934.3	934.8
15°	659.7	630.5	601.4	578.5	561.2	552.2	530.7	525.4	536.4
17.5°	352.5	339.6	320.5	299.5	287.5	279.0	271.8	269.0	264.6
20°	213.5	209.7	198.7	184.9	173.9	166.2	159.1	157.1	156.7
22.5°	154.3	152.4	145.2	135.2	124.7	107.0	85.5	81.2	82.7
25°	114.2	112.7	109.9	102.2	96.1	53.0	35.4	33.9	31.5
27.5°	85.5	84.5	81.2	76.0	64.5	23.4	19.5	18.1	18.1
30°	63.0	62.6	60.7	55.4	32.9	13.4	11.0	10.0	9.6
32.5°	46.3	46.3	44.5	39.6	14.8	8.6	6.7	6.2	5.7
35°	33.9	33.9	31.5	27.2	9.1	5.7	3.8	3.8	3.3
37.5°	24.4	23.9	22.4	17.2	6.7	3.8	2.9	2.9	2.4
40°	16.7	16.7	15.3	10.5	4.8	2.9	2.4	1.9	1.9
42.5°	11.4	11.4	10.5	6.7	3.8	2.4	1.4	1.4	1.4
45°	7.7	7.7	7.1	4.8	2.9	1.4	1.0	1.0	0.4
47.5°	5.3	5.3	4.8	3.3	1.9	1.0	0.4	0.4	0.4
50°	3.8	3.8	3.3	2.4	1.4	1.0	0.4	0.4	0.0
52.5°	2.9	2.9	2.9	1.9	1.0	0.4	0.0	0.0	0.0
55°	2.4	2.4	1.9	1.4	1.0	0.4	0.0	0.0	0.0
57.5°	1.9	1.9	1.4	1.0	0.4	0.4	0.0	0.0	0.0
60°	1.4	1.4	1.4	1.0	0.4	0.0	0.0	0.0	0.0
62.5°	1.0	1.0	1.0	0.4	0.4	0.0	0.0	0.0	0.0
65°	1.0	1.0	1.0	0.4	0.4	0.0	0.0	0.0	0.0
67.5°	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
70°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0
72.5°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0
75°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0
77.5°	0.4	0.4	0.4	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)