

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: P219687

Luminaire Tested: **MRZ-1-REC-X-3-L35-97-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219687
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-3-L35-97-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 3
Light Source: (1) 3500K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 937.0 lumens
Efficiency: N/A
Efficacy: 78.7 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

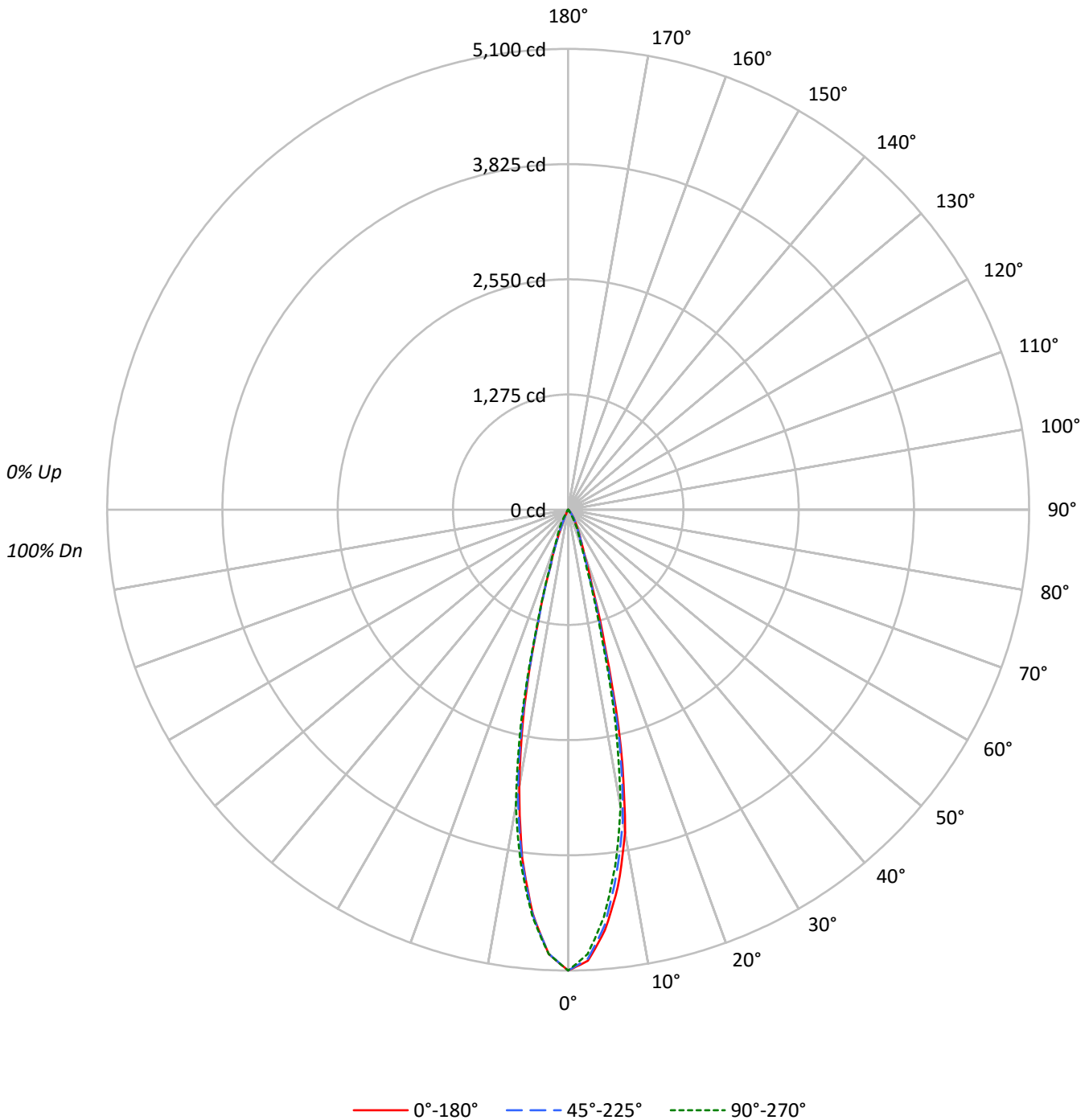
Input Watts (W): 11.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2516236	2516236	2516236
5°	2313032	2241169	2223043
10°	1816542	1670554	1560636
15°	806068	685830	655489
20°	268192	218418	196786
25°	148671	125045	41047
30°	85912	44893	13046
35°	48847	13070	4818
40°	25762	7342	2963
45°	12769	4814	768
50°	6985	2610	0
55°	4903	1978	0
60°	3355	1085	0
65°	2685	1284	0
70°	1587	0	0
75°	2097	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	396.0	42.3
10°-20°	409.0	43.6
20°-30°	93.9	10.0
30°-40°	27.1	2.9
40°-50°	7.6	0.8
50°-60°	2.3	0.2
60°-70°	0.9	0.1
70°-80°	0.4	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°	898.8	95.9
0°-40°	925.9	98.8
0°-60°	935.8	99.9
0°-90°	937.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	937.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5100	5100	5100	5100	5100	
5°	4670	4618	4525	4502	4489	413
15°	1578	1439	1343	1270	1283	461
25°	273	263	230	85	75	132
35°	81	75	22	9	8	53
45°	18	17	7	2	1	16
55°	6	5	2	0	0	5
65°	2	2	1	0	0	2
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°	5100.0	5100.0	5100.0	5100.0	5100.0	5100.0	5100.0	5100.0	5100.0
2.5°	4997.2	4996.0	4974.3	4951.4	4921.7	4924.0	4919.5	4926.3	4922.9
5°	4670.3	4645.2	4617.8	4567.5	4525.2	4506.9	4502.4	4487.5	4488.6
7.5°	4209.8	4156.1	4078.4	4012.1	3976.7	3931.0	3911.6	3870.4	3887.6
10°	3625.9	3556.2	3486.5	3404.2	3334.5	3259.1	3200.8	3163.1	3115.1
12.5°	2692.3	2636.3	2607.7	2500.3	2416.9	2358.6	2326.6	2235.2	2236.3
15°	1578.1	1508.4	1438.7	1383.8	1342.7	1321.0	1269.6	1257.0	1283.3
17.5°	843.3	812.5	766.8	716.5	687.9	667.4	650.2	643.4	633.1
20°	510.8	501.7	475.4	442.2	416.0	397.7	380.5	376.0	374.8
22.5°	369.1	364.5	347.4	323.4	298.3	256.0	204.5	194.3	197.7
25°	273.1	269.7	262.8	244.5	229.7	126.8	84.6	81.1	75.4
27.5°	204.5	202.3	194.3	181.7	154.3	56.0	46.9	43.4	43.4
30°	150.8	149.7	145.1	132.6	78.8	32.0	26.3	24.0	22.9
32.5°	110.8	110.8	106.3	94.8	35.4	20.6	16.0	14.9	13.7
35°	81.1	81.1	75.4	65.1	21.7	13.7	9.1	9.1	8.0
37.5°	58.3	57.1	53.7	41.1	16.0	9.1	6.9	6.9	5.7
40°	40.0	40.0	36.6	25.1	11.4	6.9	5.7	4.6	4.6
42.5°	27.4	27.4	25.1	16.0	9.1	5.7	3.4	3.4	3.4
45°	18.3	18.3	17.1	11.4	6.9	3.4	2.3	2.3	1.1
47.5°	12.6	12.6	11.4	8.0	4.6	2.3	1.1	1.1	1.1
50°	9.1	9.1	8.0	5.7	3.4	2.3	1.1	1.1	0.0
52.5°	6.9	6.9	6.9	4.6	2.3	1.1	0.0	0.0	0.0
55°	5.7	5.7	4.6	3.4	2.3	1.1	0.0	0.0	0.0
57.5°	4.6	4.6	3.4	2.3	1.1	1.1	0.0	0.0	0.0
60°	3.4	3.4	3.4	2.3	1.1	0.0	0.0	0.0	0.0
62.5°	2.3	2.3	2.3	1.1	1.1	0.0	0.0	0.0	0.0
65°	2.3	2.3	2.3	1.1	1.1	0.0	0.0	0.0	0.0
67.5°	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0
70°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
72.5°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
75°	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
77.5°	1.1	1.1	1.1	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)