

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: P219677

Luminaire Tested: **MRZ-1-REC-X-2-L40-80-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219677
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-L40-80-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL2
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 913.5 lumens
Efficiency: N/A
Efficacy: 103.8 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

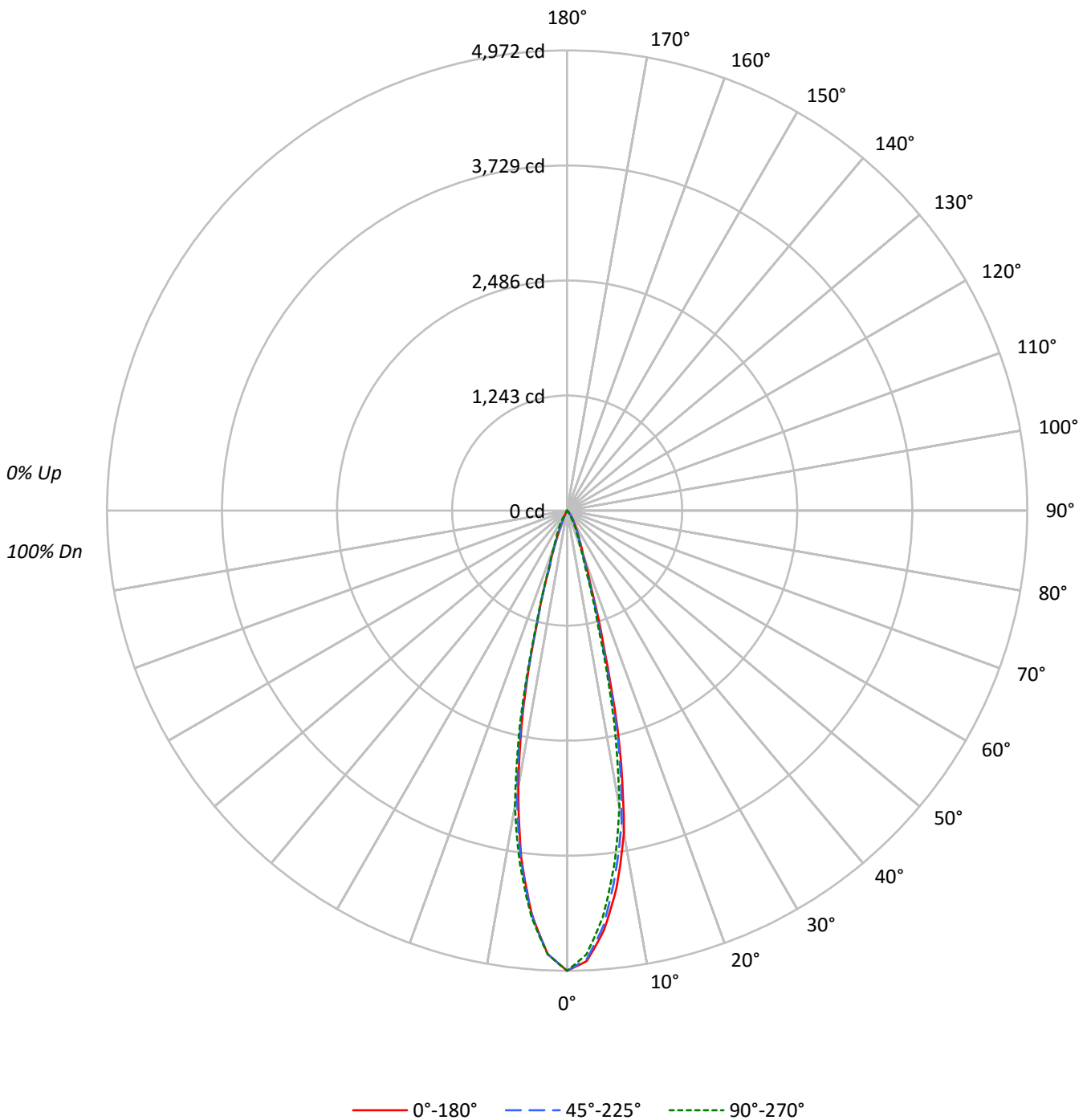
Input Watts (W): 8.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	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°	2452935	2452935	2452935
5°	2254839	2184759	2167127
10°	1770802	1628520	1521359
15°	785790	668565	638991
20°	261419	212905	191851
25°	144915	121888	40012
30°	83747	43810	12704
35°	47642	12769	4698
40°	25118	7149	2898
45°	12420	4675	768
50°	6831	2533	0
55°	4817	1892	0
60°	3256	1085	0
65°	2568	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°	386.0	42.3
10°-20°	398.7	43.6
20°-30°	91.5	10.0
30°-40°	26.4	2.9
40°-50°	7.4	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°	876.2	95.9
0°-40°	902.6	98.8
0°-60°	912.2	99.9
0°-90°	913.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	913.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4972	4972	4972	4972	4972	
5°	4553	4502	4411	4389	4376	402
15°	1538	1402	1309	1238	1251	449
25°	266	256	224	82	74	128
35°	79	74	21	9	8	52
45°	18	17	7	2	1	15
55°	6	4	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	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	4971.7	4971.7	4971.7	4971.7	4971.7	4971.7	4971.7	4971.7	4971.7
2.5°	4871.4	4870.3	4849.1	4826.8	4797.9	4800.1	4795.6	4802.3	4799.0
5°	4552.8	4528.3	4501.6	4452.5	4411.3	4393.5	4389.1	4374.6	4375.7
7.5°	4103.9	4051.5	3975.8	3911.2	3876.6	3832.1	3813.1	3773.0	3789.7
10°	3534.6	3466.7	3398.7	3318.5	3250.6	3177.0	3120.2	3083.5	3036.7
12.5°	2624.5	2569.9	2542.1	2437.4	2356.1	2299.2	2268.0	2178.9	2180.0
15°	1538.4	1470.4	1402.5	1349.0	1308.9	1287.8	1237.6	1225.4	1251.0
17.5°	822.1	792.0	747.5	698.5	670.6	650.6	633.9	627.2	617.1
20°	497.9	489.0	463.4	431.1	405.5	387.7	371.0	366.5	365.4
22.5°	359.8	355.4	338.6	315.3	290.7	249.5	199.4	189.4	192.7
25°	266.2	262.9	256.2	238.4	223.9	123.7	82.4	79.1	73.5
27.5°	199.4	197.2	189.4	177.1	150.4	54.6	45.7	42.3	42.3
30°	147.0	145.9	141.5	129.2	76.9	31.2	25.6	23.4	22.3
32.5°	108.1	108.1	103.6	92.5	34.5	20.1	15.6	14.5	13.4
35°	79.1	79.1	73.5	63.5	21.2	13.4	8.9	8.9	7.8
37.5°	56.8	55.7	52.4	40.1	15.6	8.9	6.7	6.7	5.6
40°	39.0	39.0	35.6	24.5	11.1	6.7	5.6	4.5	4.5
42.5°	26.7	26.7	24.5	15.6	8.9	5.6	3.3	3.3	3.3
45°	17.8	17.8	16.7	11.1	6.7	3.3	2.2	2.2	1.1
47.5°	12.3	12.3	11.1	7.8	4.5	2.2	1.1	1.1	1.1
50°	8.9	8.9	7.8	5.6	3.3	2.2	1.1	1.1	0.0
52.5°	6.7	6.7	6.7	4.5	2.2	1.1	0.0	0.0	0.0
55°	5.6	5.6	4.5	3.3	2.2	1.1	0.0	0.0	0.0
57.5°	4.5	4.5	3.3	2.2	1.1	1.1	0.0	0.0	0.0
60°	3.3	3.3	3.3	2.2	1.1	0.0	0.0	0.0	0.0
62.5°	2.2	2.2	2.2	1.1	1.1	0.0	0.0	0.0	0.0
65°	2.2	2.2	2.2	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)