

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: P219692

Luminaire Tested: **MRZ-1-REC-X-4-L40-80-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219692
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-4-L40-80-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 4
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1596.7 lumens
Efficiency: N/A
Efficacy: 101.1 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

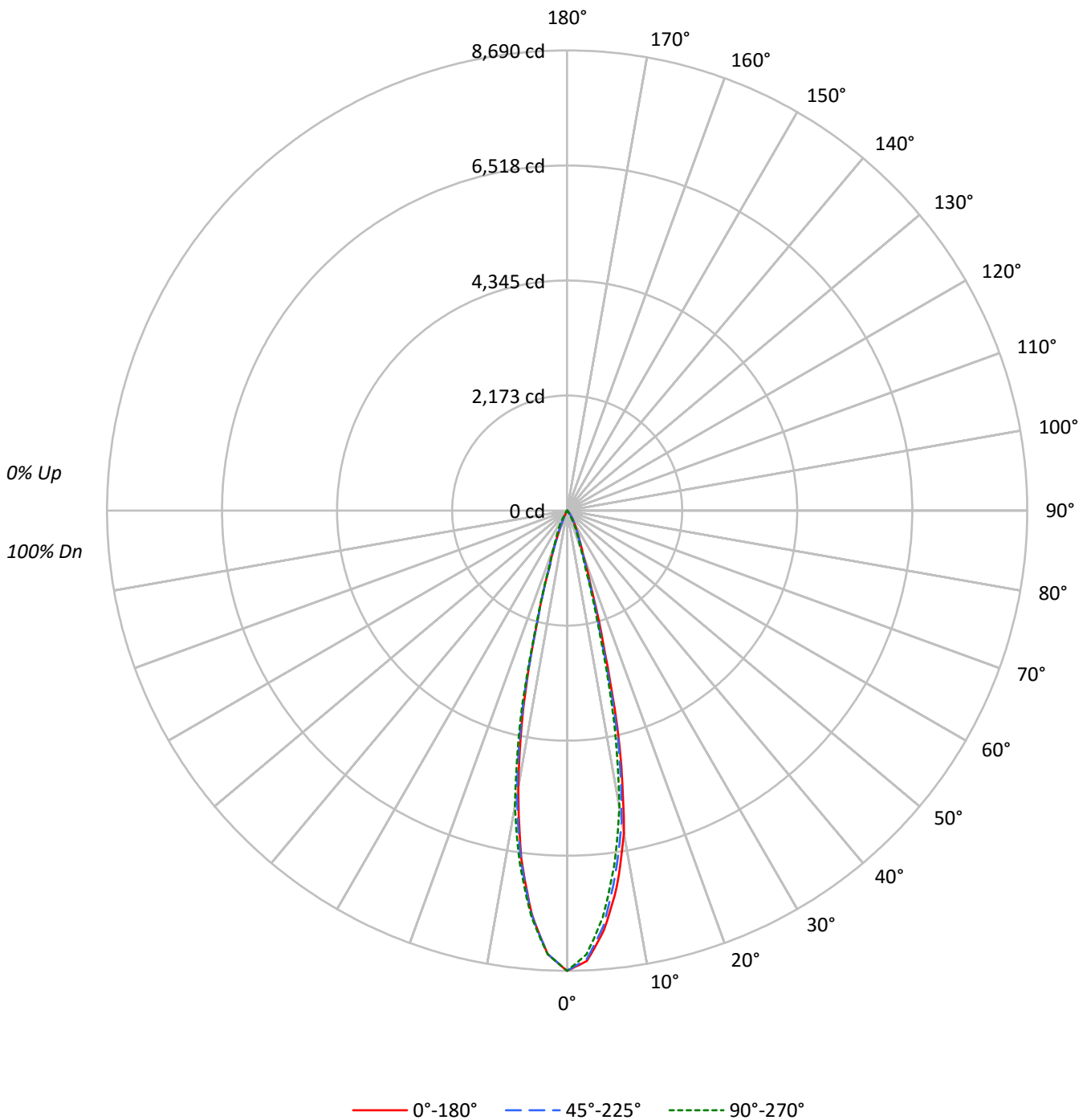
Input Watts (W): 15.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			
1	115	113	111	110	113	111	110	108	107	106	105	104	103	102	100	99	99	97					97			
2	112	108	105	103	110	107	104	102	104	102	100	101	99	98	98	97	96	94					94			
3	108	104	101	98	107	103	100	97	100	98	96	98	96	94	96	94	93	92					92			
4	105	100	97	94	104	99	96	93	97	95	92	96	93	91	94	92	90	89					89			
5	103	97	93	90	101	96	93	90	95	92	89	93	91	89	92	90	88	87					87			
6	100	94	90	88	99	94	90	87	92	89	87	91	88	86	90	88	86	85					85			
7	98	92	88	85	97	91	87	85	90	87	84	89	86	84	88	86	84	83					83			
8	95	89	85	83	94	89	85	83	88	85	82	87	84	82	86	84	82	81					81			
9	93	87	83	81	92	86	83	80	86	82	80	85	82	80	84	82	80	79					79			
10	91	85	81	79	90	84	81	79	84	81	78	83	80	78	83	80	78	77					77			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	4287616	4287616	4287616
5°	3941362	3818883	3788028
10°	3095321	2846579	2659259
15°	1373550	1168623	1116932
20°	456998	372151	335345
25°	253356	213072	69953
30°	146414	76568	22162
35°	83239	22285	8191
40°	43925	12559	5024
45°	21770	8164	1326
50°	11974	4452	0
55°	8344	3355	0
60°	5723	1875	0
65°	4553	2218	0
70°	2741	0	0
75°	3622	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	674.7	42.3
10°-20°	696.9	43.6
20°-30°	159.9	10.0
30°-40°	46.1	2.9
40°-50°	12.9	0.8
50°-60°	3.9	0.2
60°-70°	1.5	0.1
70°-80°	0.7	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°	1531.6	95.9
0°-40°	1577.7	98.8
0°-60°	1594.5	99.9
0°-90°	1596.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1596.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	8690	8690	8690	8690	8690	
5°	7958	7869	7711	7672	7648	703
15°	2689	2452	2288	2163	2187	785
25°	465	448	391	144	128	224
35°	138	128	37	16	14	90
45°	31	29	12	4	2	27
55°	10	8	4	0	0	9
65°	4	4	2	0	0	3
75°	2	2	0	0	0	2
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°	8690.3	8690.3	8690.3	8690.3	8690.3	8690.3	8690.3	8690.3	8690.3
2.5°	8515.0	8513.1	8476.1	8437.1	8386.5	8390.4	8382.6	8394.3	8388.5
5°	7958.1	7915.3	7868.6	7782.9	7710.8	7679.7	7671.9	7646.6	7648.5
7.5°	7173.4	7081.9	6949.5	6836.5	6776.2	6698.3	6665.2	6595.1	6624.3
10°	6178.4	6059.6	5940.8	5800.6	5681.9	5553.4	5454.1	5389.8	5308.0
12.5°	4587.6	4492.1	4443.5	4260.4	4118.3	4019.0	3964.5	3808.7	3810.6
15°	2689.1	2570.3	2451.5	2358.0	2287.9	2250.9	2163.3	2141.9	2186.7
17.5°	1437.0	1384.4	1306.6	1220.9	1172.2	1137.2	1107.9	1096.3	1078.7
20°	870.4	854.8	810.0	753.6	708.8	677.6	648.4	640.6	638.7
22.5°	628.9	621.2	591.9	551.1	508.2	436.2	348.5	331.0	336.9
25°	465.4	459.5	447.9	416.7	391.4	216.1	144.1	138.2	128.5
27.5°	348.5	344.7	331.0	309.6	262.9	95.4	79.8	74.0	74.0
30°	257.0	255.1	247.3	225.9	134.4	54.5	44.8	40.9	38.9
32.5°	188.9	188.9	181.1	161.6	60.4	35.0	27.3	25.3	23.4
35°	138.2	138.2	128.5	111.0	37.0	23.4	15.6	15.6	13.6
37.5°	99.3	97.4	91.5	70.1	27.3	15.6	11.7	11.7	9.7
40°	68.2	68.2	62.3	42.8	19.5	11.7	9.7	7.8	7.8
42.5°	46.7	46.7	42.8	27.3	15.6	9.7	5.8	5.8	5.8
45°	31.2	31.2	29.2	19.5	11.7	5.8	3.9	3.9	1.9
47.5°	21.4	21.4	19.5	13.6	7.8	3.9	1.9	1.9	1.9
50°	15.6	15.6	13.6	9.7	5.8	3.9	1.9	1.9	0.0
52.5°	11.7	11.7	11.7	7.8	3.9	1.9	0.0	0.0	0.0
55°	9.7	9.7	7.8	5.8	3.9	1.9	0.0	0.0	0.0
57.5°	7.8	7.8	5.8	3.9	1.9	1.9	0.0	0.0	0.0
60°	5.8	5.8	5.8	3.9	1.9	0.0	0.0	0.0	0.0
62.5°	3.9	3.9	3.9	1.9	1.9	0.0	0.0	0.0	0.0
65°	3.9	3.9	3.9	1.9	1.9	0.0	0.0	0.0	0.0
67.5°	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0
70°	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0
72.5°	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0
75°	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0
77.5°	1.9	1.9	1.9	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)