

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: P219690

Luminaire Tested: **MRZ-1-REC-X-4-L30-80-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219690
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-L30-80-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 4
Light Source: (1) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1493.6 lumens
Efficiency: N/A
Efficacy: 94.5 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

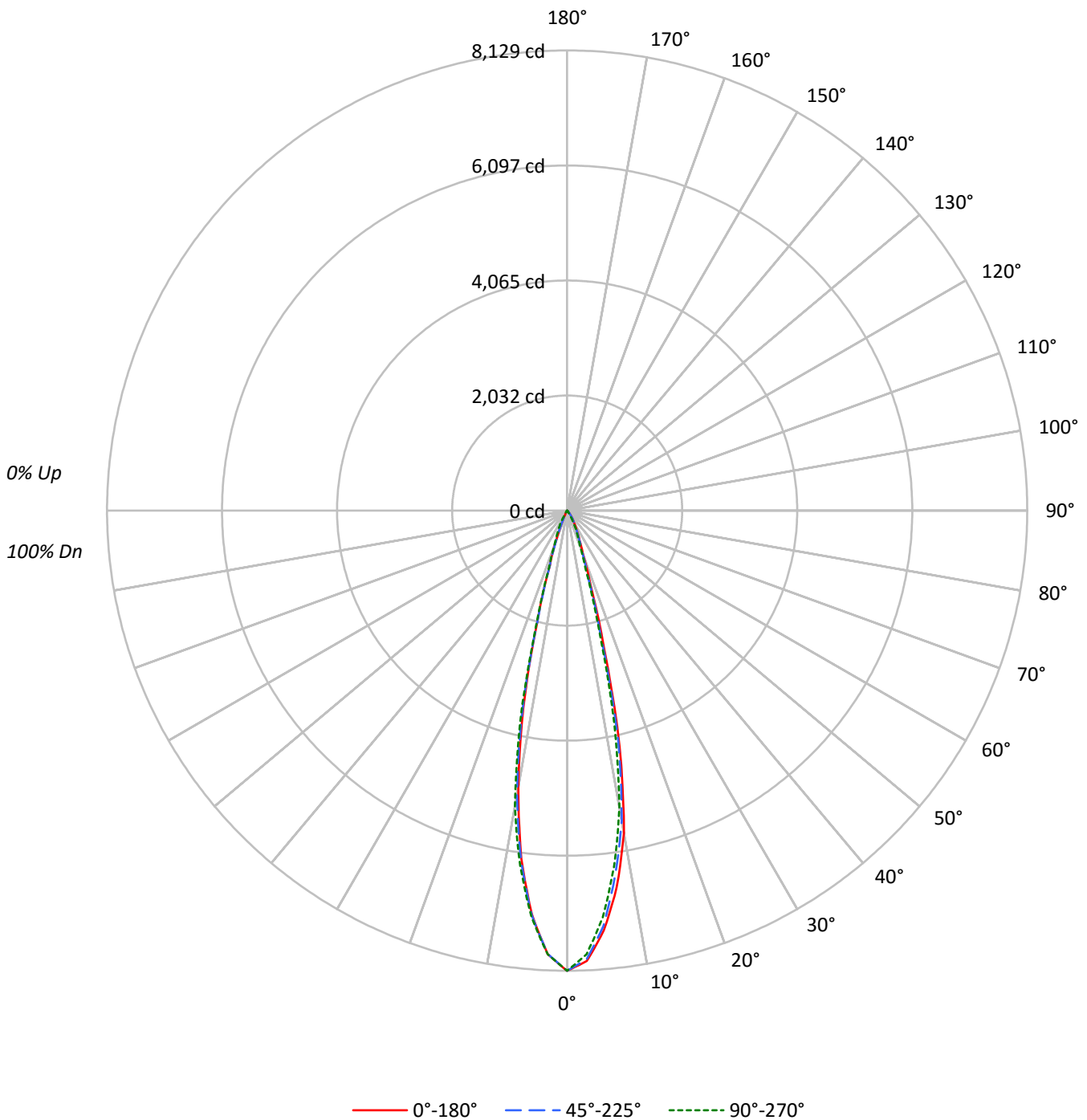
Input Watts (W): 15.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	4010781	4010781	4010781
5°	3686895	3572341	3543467
10°	2895476	2662766	2487569
15°	1284826	1093180	1044809
20°	427490	348104	313661
25°	236970	199299	65435
30°	136957	71612	20737
35°	77878	20840	7710
40°	41091	11722	4702
45°	20304	7605	1256
50°	11206	4222	0
55°	7828	3097	0
60°	5427	1776	0
65°	4203	2101	0
70°	2597	0	0
75°	3431	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	631.2	42.3
10°-20°	651.9	43.6
20°-30°	149.6	10.0
30°-40°	43.1	2.9
40°-50°	12.1	0.8
50°-60°	3.7	0.2
60°-70°	1.4	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°	1432.7	95.9
0°-40°	1475.8	98.8
0°-60°	1491.6	99.9
0°-90°	1493.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1493.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	8129	8129	8129	8129	8129	
5°	7444	7360	7213	7176	7155	658
15°	2515	2293	2140	2024	2046	734
25°	435	419	366	135	120	210
35°	129	120	35	15	13	84
45°	29	27	11	4	2	25
55°	9	7	4	0	0	8
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°	8129.2	8129.2	8129.2	8129.2	8129.2	8129.2	8129.2	8129.2	8129.2
2.5°	7965.2	7963.4	7928.8	7892.4	7845.0	7848.7	7841.4	7852.3	7846.8
5°	7444.3	7404.2	7360.5	7280.4	7213.0	7183.8	7176.5	7152.9	7154.7
7.5°	6710.3	6624.6	6500.8	6395.1	6338.7	6265.8	6234.9	6169.3	6196.6
10°	5779.5	5668.4	5557.3	5426.1	5315.0	5194.8	5101.9	5041.8	4965.3
12.5°	4291.4	4202.1	4156.6	3985.4	3852.4	3759.5	3708.5	3562.8	3564.6
15°	2515.4	2404.3	2293.2	2205.8	2140.2	2105.6	2023.6	2003.6	2045.5
17.5°	1344.2	1295.1	1222.2	1142.1	1096.5	1063.7	1036.4	1025.5	1009.1
20°	814.2	799.6	757.7	704.9	663.0	633.9	606.5	599.3	597.4
22.5°	588.3	581.0	553.7	515.5	475.4	408.0	326.0	309.6	315.1
25°	435.3	429.9	418.9	389.8	366.1	202.2	134.8	129.3	120.2
27.5°	326.0	322.4	309.6	289.6	245.9	89.3	74.7	69.2	69.2
30°	240.4	238.6	231.3	211.3	125.7	51.0	41.9	38.3	36.4
32.5°	176.7	176.7	169.4	151.2	56.5	32.8	25.5	23.7	21.9
35°	129.3	129.3	120.2	103.8	34.6	21.9	14.6	14.6	12.8
37.5°	92.9	91.1	85.6	65.6	25.5	14.6	10.9	10.9	9.1
40°	63.8	63.8	58.3	40.1	18.2	10.9	9.1	7.3	7.3
42.5°	43.7	43.7	40.1	25.5	14.6	9.1	5.5	5.5	5.5
45°	29.1	29.1	27.3	18.2	10.9	5.5	3.6	3.6	1.8
47.5°	20.0	20.0	18.2	12.8	7.3	3.6	1.8	1.8	1.8
50°	14.6	14.6	12.8	9.1	5.5	3.6	1.8	1.8	0.0
52.5°	10.9	10.9	10.9	7.3	3.6	1.8	0.0	0.0	0.0
55°	9.1	9.1	7.3	5.5	3.6	1.8	0.0	0.0	0.0
57.5°	7.3	7.3	5.5	3.6	1.8	1.8	0.0	0.0	0.0
60°	5.5	5.5	5.5	3.6	1.8	0.0	0.0	0.0	0.0
62.5°	3.6	3.6	3.6	1.8	1.8	0.0	0.0	0.0	0.0
65°	3.6	3.6	3.6	1.8	1.8	0.0	0.0	0.0	0.0
67.5°	1.8	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0
70°	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0
72.5°	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0
75°	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0
77.5°	1.8	1.8	1.8	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)