

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: P219668

Luminaire Tested: **MRZ-1-REC-X-1H-L35-80-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219668
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-1H-L35-80-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 1
Light Source: (1) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 658.7 lumens
Efficiency: N/A
Efficacy: 96.9 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

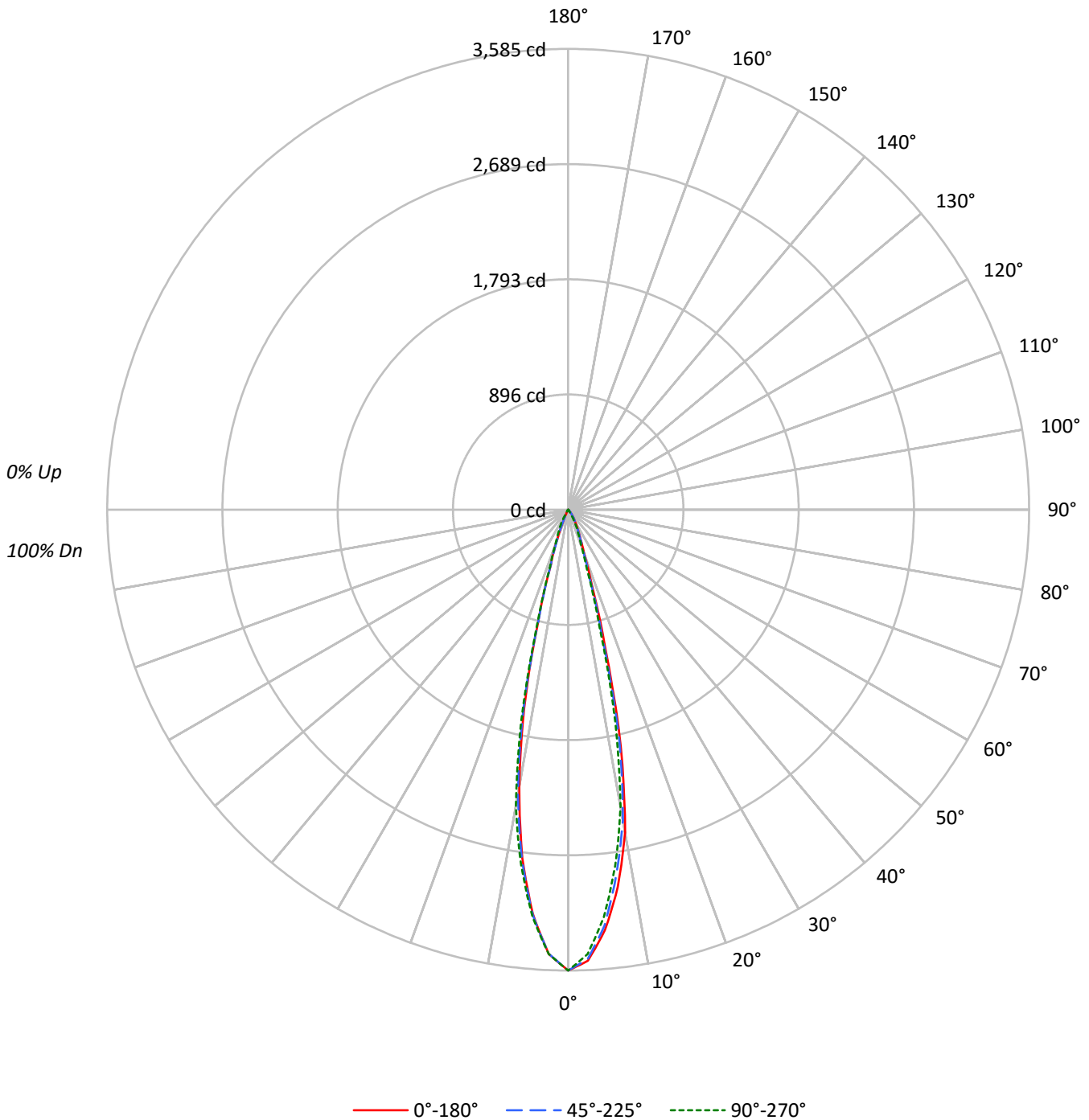
Input Watts (W): 6.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1768667	1768667	1768667
5°	1625853	1575336	1562608
10°	1276825	1174222	1096969
15°	566613	482078	460727
20°	188491	153523	138349
25°	104522	87864	28852
30°	60389	31562	9172
35°	34331	9215	3373
40°	18098	5152	2061
45°	9001	3349	558
50°	4912	1842	0
55°	3441	1376	0
60°	2368	789	0
65°	1868	934	0
70°	1154	0	0
75°	1525	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	278.3	42.3
10°-20°	287.5	43.6
20°-30°	66.0	10.0
30°-40°	19.0	2.9
40°-50°	5.3	0.8
50°-60°	1.6	0.2
60°-70°	0.6	0.1
70°-80°	0.3	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°	631.8	95.9
0°-40°	650.8	98.8
0°-60°	657.7	99.9
0°-90°	658.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	658.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3585	3585	3585	3585	3585	
5°	3283	3246	3181	3165	3155	290
15°	1109	1011	944	892	902	324
25°	192	185	161	59	53	92
35°	57	53	15	6	6	37
45°	13	12	5	2	1	11
55°	4	3	2	0	0	4
65°	2	2	1	0	0	1
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°	3584.8	3584.8	3584.8	3584.8	3584.8	3584.8	3584.8	3584.8	3584.8
2.5°	3512.5	3511.7	3496.4	3480.4	3459.5	3461.1	3457.9	3462.7	3460.3
5°	3282.8	3265.1	3245.8	3210.5	3180.8	3167.9	3164.7	3154.3	3155.1
7.5°	2959.1	2921.3	2866.7	2820.1	2795.2	2763.1	2749.4	2720.5	2732.6
10°	2548.6	2499.6	2450.6	2392.8	2343.8	2290.8	2249.8	2223.3	2189.6
12.5°	1892.4	1853.0	1833.0	1757.5	1698.8	1657.9	1635.4	1571.1	1571.9
15°	1109.3	1060.3	1011.3	972.7	943.8	928.5	892.4	883.5	902.0
17.5°	592.8	571.1	539.0	503.6	483.5	469.1	457.0	452.2	445.0
20°	359.0	352.6	334.1	310.8	292.4	279.5	267.5	264.3	263.5
22.5°	259.4	256.2	244.2	227.3	209.6	179.9	143.8	136.5	139.0
25°	192.0	189.6	184.7	171.9	161.4	89.2	59.4	57.0	53.0
27.5°	143.8	142.2	136.5	127.7	108.4	39.4	32.9	30.5	30.5
30°	106.0	105.2	102.0	93.2	55.4	22.5	18.5	16.9	16.1
32.5°	77.9	77.9	74.7	66.7	24.9	14.5	11.2	10.4	9.6
35°	57.0	57.0	53.0	45.8	15.3	9.6	6.4	6.4	5.6
37.5°	41.0	40.2	37.8	28.9	11.2	6.4	4.8	4.8	4.0
40°	28.1	28.1	25.7	17.7	8.0	4.8	4.0	3.2	3.2
42.5°	19.3	19.3	17.7	11.2	6.4	4.0	2.4	2.4	2.4
45°	12.9	12.9	12.0	8.0	4.8	2.4	1.6	1.6	0.8
47.5°	8.8	8.8	8.0	5.6	3.2	1.6	0.8	0.8	0.8
50°	6.4	6.4	5.6	4.0	2.4	1.6	0.8	0.8	0.0
52.5°	4.8	4.8	4.8	3.2	1.6	0.8	0.0	0.0	0.0
55°	4.0	4.0	3.2	2.4	1.6	0.8	0.0	0.0	0.0
57.5°	3.2	3.2	2.4	1.6	0.8	0.8	0.0	0.0	0.0
60°	2.4	2.4	2.4	1.6	0.8	0.0	0.0	0.0	0.0
62.5°	1.6	1.6	1.6	0.8	0.8	0.0	0.0	0.0	0.0
65°	1.6	1.6	1.6	0.8	0.8	0.0	0.0	0.0	0.0
67.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0
70°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
72.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
75°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
77.5°	0.8	0.8	0.8	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)