

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: P219680

Luminaire Tested: **MRZ-1-REC-X-2-L35-97-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219680
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-L35-97-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL2
Light Source: (1) 3500K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 685.6 lumens
Efficiency: N/A
Efficacy: 77.9 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

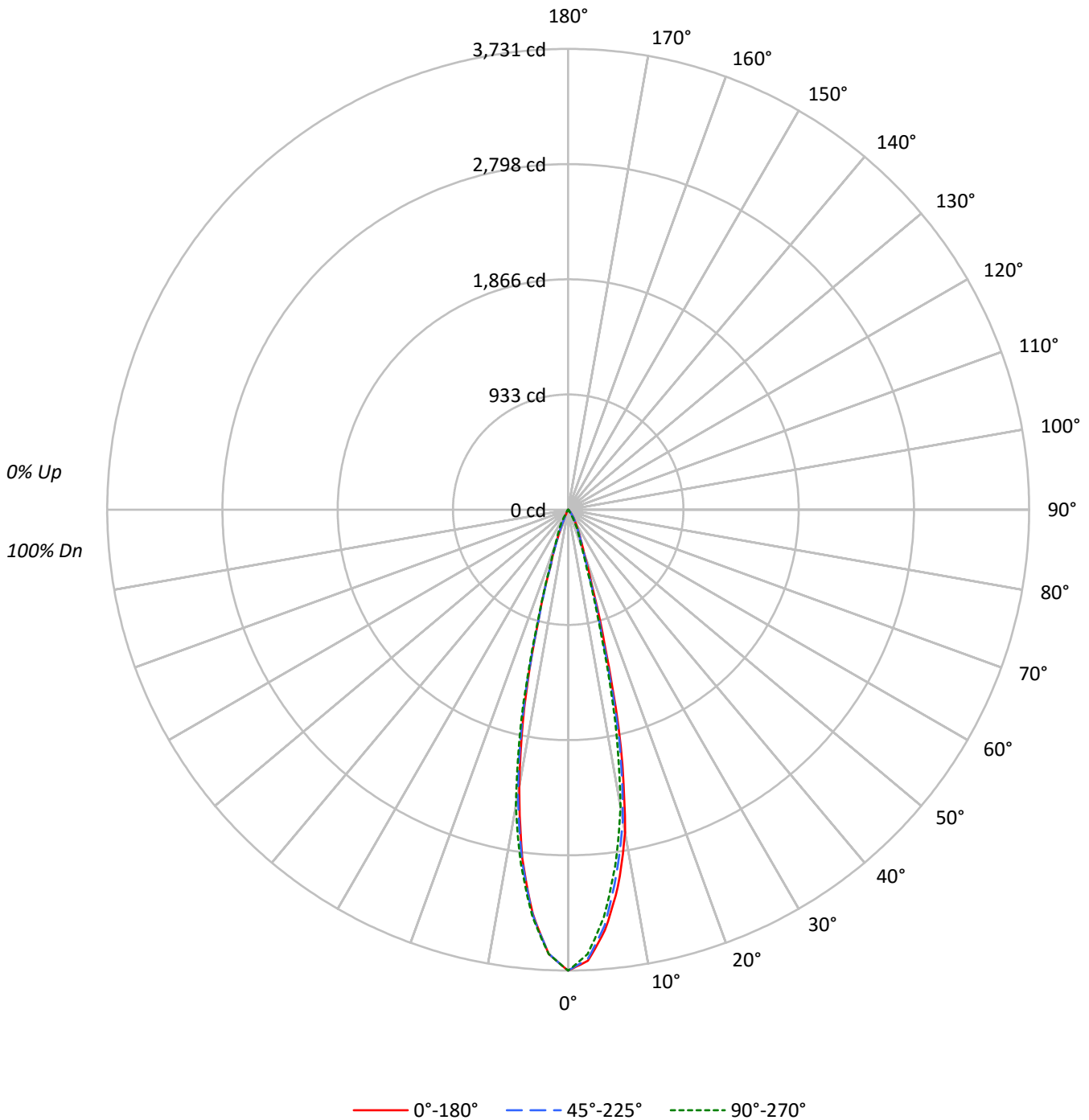
Input Watts (W): 8.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1840996	1840996	1840996
5°	1692318	1639721	1626497
10°	1329028	1222267	1141808
15°	589751	501794	479575
20°	196209	159771	143967
25°	108768	91511	30050
30°	62896	32872	9514
35°	35777	9577	3554
40°	18871	5410	2125
45°	9350	3489	558
50°	5143	1919	0
55°	3613	1462	0
60°	2467	789	0
65°	1985	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°	289.7	42.3
10°-20°	299.2	43.6
20°-30°	68.7	10.0
30°-40°	19.8	2.9
40°-50°	5.5	0.8
50°-60°	1.7	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°	657.6	95.9
0°-40°	677.4	98.8
0°-60°	684.6	99.9
0°-90°	685.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	685.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3731	3731	3731	3731	3731	
5°	3417	3379	3311	3294	3284	302
15°	1155	1053	982	929	939	337
25°	200	192	168	62	55	96
35°	59	55	16	7	6	39
45°	13	12	5	2	1	12
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	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	3731.4	3731.4	3731.4	3731.4	3731.4	3731.4	3731.4	3731.4	3731.4
2.5°	3656.1	3655.3	3639.4	3622.7	3601.0	3602.6	3599.3	3604.3	3601.8
5°	3417.0	3398.6	3378.6	3341.8	3310.8	3297.5	3294.1	3283.2	3284.1
7.5°	3080.1	3040.8	2983.9	2935.4	2909.5	2876.1	2861.9	2831.8	2844.3
10°	2652.8	2601.8	2550.8	2490.7	2439.7	2384.5	2341.8	2314.2	2279.1
12.5°	1969.8	1928.8	1907.9	1829.3	1768.3	1725.6	1702.2	1635.4	1636.2
15°	1154.6	1103.6	1052.6	1012.5	982.4	966.5	928.9	919.7	938.9
17.5°	617.0	594.4	561.0	524.2	503.3	488.3	475.7	470.7	463.2
20°	373.7	367.0	347.8	323.6	304.3	291.0	278.4	275.1	274.2
22.5°	270.1	266.7	254.2	236.6	218.2	187.3	149.7	142.1	144.6
25°	199.8	197.3	192.3	178.9	168.1	92.8	61.9	59.4	55.2
27.5°	149.7	148.0	142.1	132.9	112.9	41.0	34.3	31.8	31.8
30°	110.4	109.5	106.2	97.0	57.7	23.4	19.2	17.6	16.7
32.5°	81.1	81.1	77.8	69.4	25.9	15.0	11.7	10.9	10.0
35°	59.4	59.4	55.2	47.7	15.9	10.0	6.7	6.7	5.9
37.5°	42.6	41.8	39.3	30.1	11.7	6.7	5.0	5.0	4.2
40°	29.3	29.3	26.8	18.4	8.4	5.0	4.2	3.3	3.3
42.5°	20.1	20.1	18.4	11.7	6.7	4.2	2.5	2.5	2.5
45°	13.4	13.4	12.5	8.4	5.0	2.5	1.7	1.7	0.8
47.5°	9.2	9.2	8.4	5.9	3.3	1.7	0.8	0.8	0.8
50°	6.7	6.7	5.9	4.2	2.5	1.7	0.8	0.8	0.0
52.5°	5.0	5.0	5.0	3.3	1.7	0.8	0.0	0.0	0.0
55°	4.2	4.2	3.3	2.5	1.7	0.8	0.0	0.0	0.0
57.5°	3.3	3.3	2.5	1.7	0.8	0.8	0.0	0.0	0.0
60°	2.5	2.5	2.5	1.7	0.8	0.0	0.0	0.0	0.0
62.5°	1.7	1.7	1.7	0.8	0.8	0.0	0.0	0.0	0.0
65°	1.7	1.7	1.7	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)