

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: P219672

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219672
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-L35-97-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, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 501.4 lumens
Efficiency: N/A
Efficacy: 73.7 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

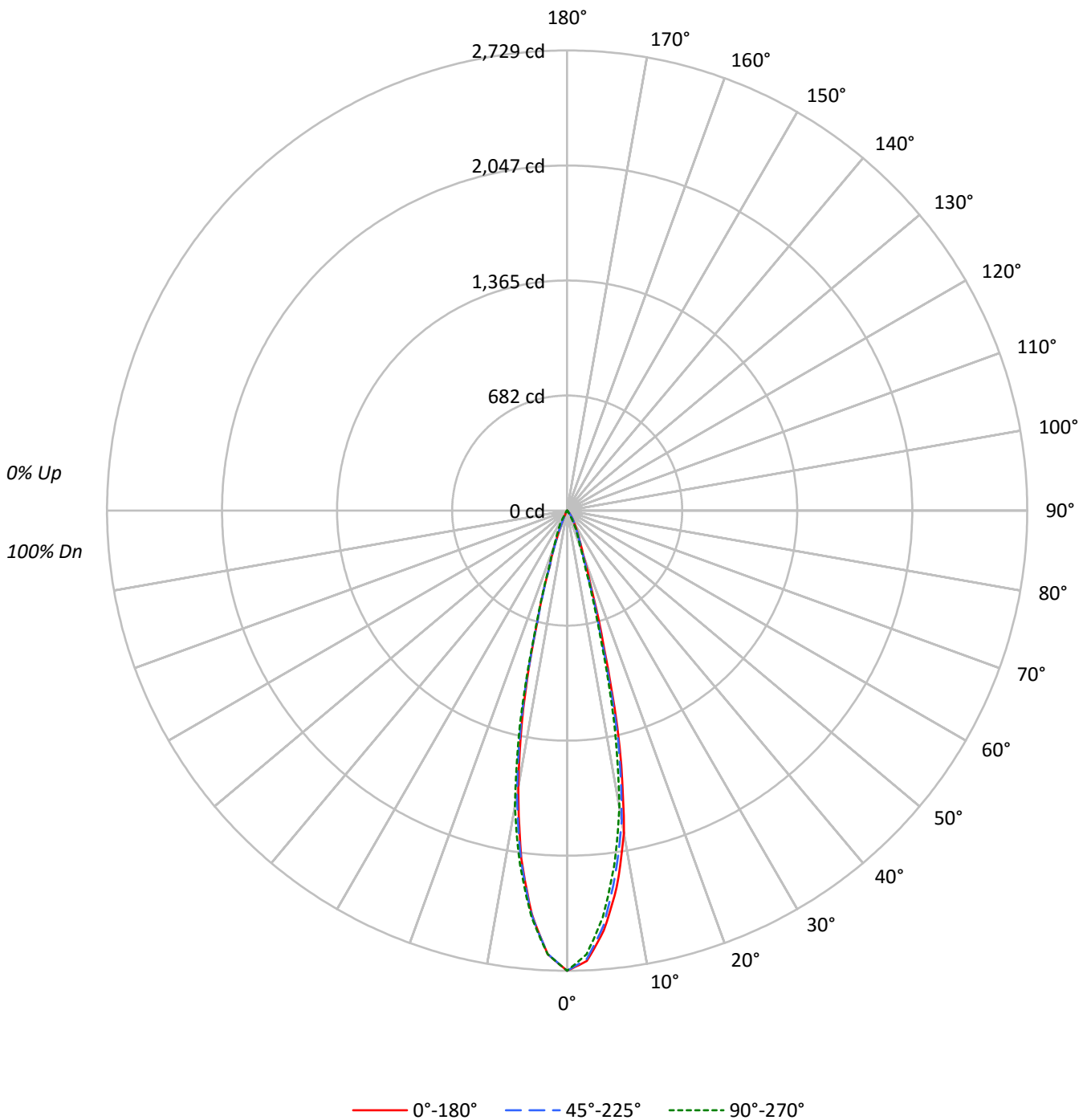
Input Watts (W): 6.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	83	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°	1346433	1346433	1346433
5°	1237665	1199233	1189526
10°	972022	893868	835051
15°	431306	366998	350755
20°	143494	116875	105324
25°	79535	66905	21993
30°	45975	24042	6950
35°	26140	6987	2590
40°	13783	3929	1546
45°	6838	2582	419
50°	3761	1382	0
55°	2667	1032	0
60°	1776	592	0
65°	1401	700	0
70°	866	0	0
75°	1144	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.9	42.3
10°-20°	218.8	43.6
20°-30°	50.2	10.0
30°-40°	14.5	2.9
40°-50°	4.0	0.8
50°-60°	1.2	0.2
60°-70°	0.5	0.1
70°-80°	0.2	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°	480.9	95.9
0°-40°	495.4	98.8
0°-60°	500.7	99.9
0°-90°	501.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	501.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2729	2729	2729	2729	2729	
5°	2499	2471	2421	2409	2402	221
15°	844	770	718	679	687	246
25°	146	141	123	45	40	70
35°	43	40	12	5	4	28
45°	10	9	4	1	1	8
55°	3	2	1	0	0	3
65°	1	1	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°	2729.0	2729.0	2729.0	2729.0	2729.0	2729.0	2729.0	2729.0	2729.0
2.5°	2673.9	2673.3	2661.7	2649.5	2633.6	2634.8	2632.3	2636.0	2634.2
5°	2499.0	2485.6	2470.9	2444.0	2421.4	2411.6	2409.2	2401.2	2401.8
7.5°	2252.6	2223.9	2182.3	2146.8	2127.9	2103.4	2093.0	2071.0	2080.2
10°	1940.2	1902.9	1865.6	1821.5	1784.2	1743.9	1712.7	1692.5	1666.8
12.5°	1440.6	1410.6	1395.4	1337.9	1293.2	1262.1	1244.9	1196.0	1196.6
15°	844.4	807.1	769.8	740.5	718.5	706.8	679.3	672.6	686.7
17.5°	451.3	434.7	410.3	383.4	368.1	357.1	347.9	344.3	338.7
20°	273.3	268.4	254.4	236.6	222.6	212.8	203.6	201.2	200.6
22.5°	197.5	195.1	185.9	173.0	159.6	137.0	109.5	103.9	105.8
25°	146.1	144.3	140.6	130.9	122.9	67.9	45.2	43.4	40.4
27.5°	109.5	108.2	103.9	97.2	82.5	30.0	25.1	23.2	23.2
30°	80.7	80.1	77.7	70.9	42.2	17.1	14.1	12.8	12.2
32.5°	59.3	59.3	56.9	50.8	19.0	11.0	8.6	7.9	7.3
35°	43.4	43.4	40.4	34.9	11.6	7.3	4.9	4.9	4.3
37.5°	31.2	30.6	28.7	22.0	8.6	4.9	3.7	3.7	3.1
40°	21.4	21.4	19.6	13.5	6.1	3.7	3.1	2.4	2.4
42.5°	14.7	14.7	13.5	8.6	4.9	3.1	1.8	1.8	1.8
45°	9.8	9.8	9.2	6.1	3.7	1.8	1.2	1.2	0.6
47.5°	6.7	6.7	6.1	4.3	2.4	1.2	0.6	0.6	0.6
50°	4.9	4.9	4.3	3.1	1.8	1.2	0.6	0.6	0.0
52.5°	3.7	3.7	3.7	2.4	1.2	0.6	0.0	0.0	0.0
55°	3.1	3.1	2.4	1.8	1.2	0.6	0.0	0.0	0.0
57.5°	2.4	2.4	1.8	1.2	0.6	0.6	0.0	0.0	0.0
60°	1.8	1.8	1.8	1.2	0.6	0.0	0.0	0.0	0.0
62.5°	1.2	1.2	1.2	0.6	0.6	0.0	0.0	0.0	0.0
65°	1.2	1.2	1.2	0.6	0.6	0.0	0.0	0.0	0.0
67.5°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
70°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
72.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
75°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
77.5°	0.6	0.6	0.6	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)