

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: P219673

Luminaire Tested: **MRZ-1-REC-X-1H-L40-97-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219673
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-L40-97-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 1
Light Source: (1) 4000K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 521.0 lumens
Efficiency: N/A
Efficacy: 76.6 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

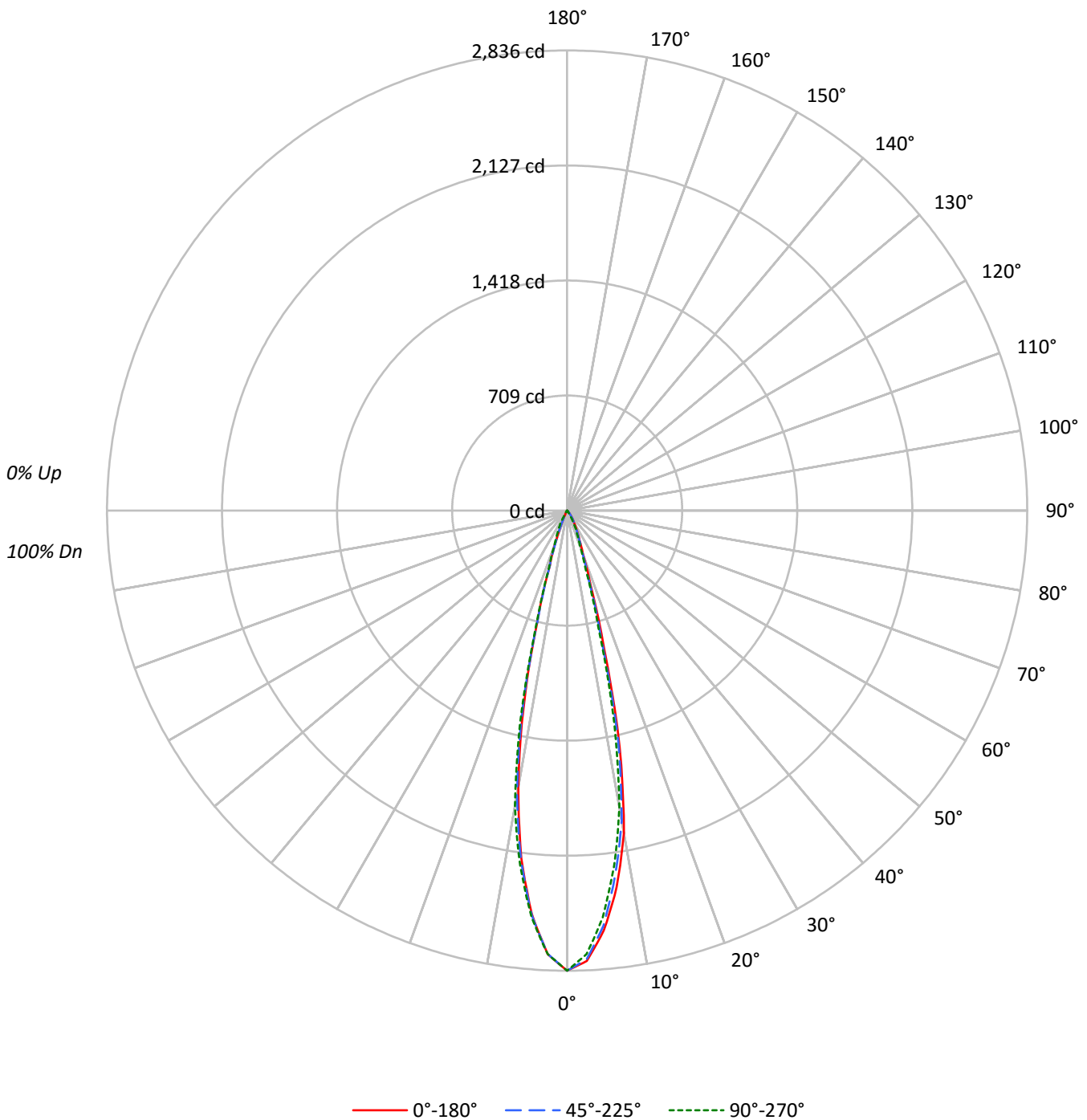
Input Watts (W): 6.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1398978	1398978	1398978
5°	1286003	1246035	1235981
10°	1009947	928787	867666
15°	448162	381300	364444
20°	149112	121443	109419
25°	82638	69518	22810
30°	47798	24953	7235
35°	27164	7288	2650
40°	14298	4122	1610
45°	7117	2651	419
50°	3915	1458	0
55°	2753	1118	0
60°	1875	592	0
65°	1518	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°	220.2	42.3
10°-20°	227.4	43.6
20°-30°	52.2	10.0
30°-40°	15.0	2.9
40°-50°	4.2	0.8
50°-60°	1.3	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°	499.7	95.9
0°-40°	514.8	98.8
0°-60°	520.2	99.9
0°-90°	521.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	521.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2836	2836	2836	2836	2836	
5°	2597	2567	2516	2503	2496	229
15°	877	800	746	706	714	256
25°	152	146	128	47	42	73
35°	45	42	12	5	4	29
45°	10	10	4	1	1	9
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°	2835.5	2835.5	2835.5	2835.5	2835.5	2835.5	2835.5	2835.5	2835.5
2.5°	2778.3	2777.6	2765.6	2752.9	2736.3	2737.6	2735.1	2738.9	2737.0
5°	2596.6	2582.6	2567.4	2539.4	2515.9	2505.7	2503.2	2494.9	2495.6
7.5°	2340.5	2310.7	2267.5	2230.6	2210.9	2185.5	2174.7	2151.8	2161.4
10°	2015.9	1977.1	1938.4	1892.6	1853.9	1811.9	1779.5	1758.6	1731.9
12.5°	1496.8	1465.7	1449.8	1390.1	1343.7	1311.3	1293.5	1242.7	1243.3
15°	877.4	838.6	799.9	769.4	746.5	734.4	705.8	698.9	713.5
17.5°	468.9	451.7	426.3	398.3	382.5	371.0	361.5	357.7	352.0
20°	284.0	278.9	264.3	245.9	231.3	221.1	211.6	209.0	208.4
22.5°	205.2	202.7	193.1	179.8	165.8	142.3	113.7	108.0	109.9
25°	151.8	149.9	146.1	136.0	127.7	70.5	47.0	45.1	41.9
27.5°	113.7	112.5	108.0	101.0	85.8	31.1	26.0	24.1	24.1
30°	83.9	83.2	80.7	73.7	43.8	17.8	14.6	13.3	12.7
32.5°	61.6	61.6	59.1	52.7	19.7	11.4	8.9	8.3	7.6
35°	45.1	45.1	41.9	36.2	12.1	7.6	5.1	5.1	4.4
37.5°	32.4	31.8	29.9	22.9	8.9	5.1	3.8	3.8	3.2
40°	22.2	22.2	20.3	14.0	6.4	3.8	3.2	2.5	2.5
42.5°	15.2	15.2	14.0	8.9	5.1	3.2	1.9	1.9	1.9
45°	10.2	10.2	9.5	6.4	3.8	1.9	1.3	1.3	0.6
47.5°	7.0	7.0	6.4	4.4	2.5	1.3	0.6	0.6	0.6
50°	5.1	5.1	4.4	3.2	1.9	1.3	0.6	0.6	0.0
52.5°	3.8	3.8	3.8	2.5	1.3	0.6	0.0	0.0	0.0
55°	3.2	3.2	2.5	1.9	1.3	0.6	0.0	0.0	0.0
57.5°	2.5	2.5	1.9	1.3	0.6	0.6	0.0	0.0	0.0
60°	1.9	1.9	1.9	1.3	0.6	0.0	0.0	0.0	0.0
62.5°	1.3	1.3	1.3	0.6	0.6	0.0	0.0	0.0	0.0
65°	1.3	1.3	1.3	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)