

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: P226176

Luminaire Tested: **MRZ-1-REC-X-1-L40-80-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P226176
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-1-L40-80-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, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 596.3 lumens
Efficiency: N/A
Efficacy: 110.4 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

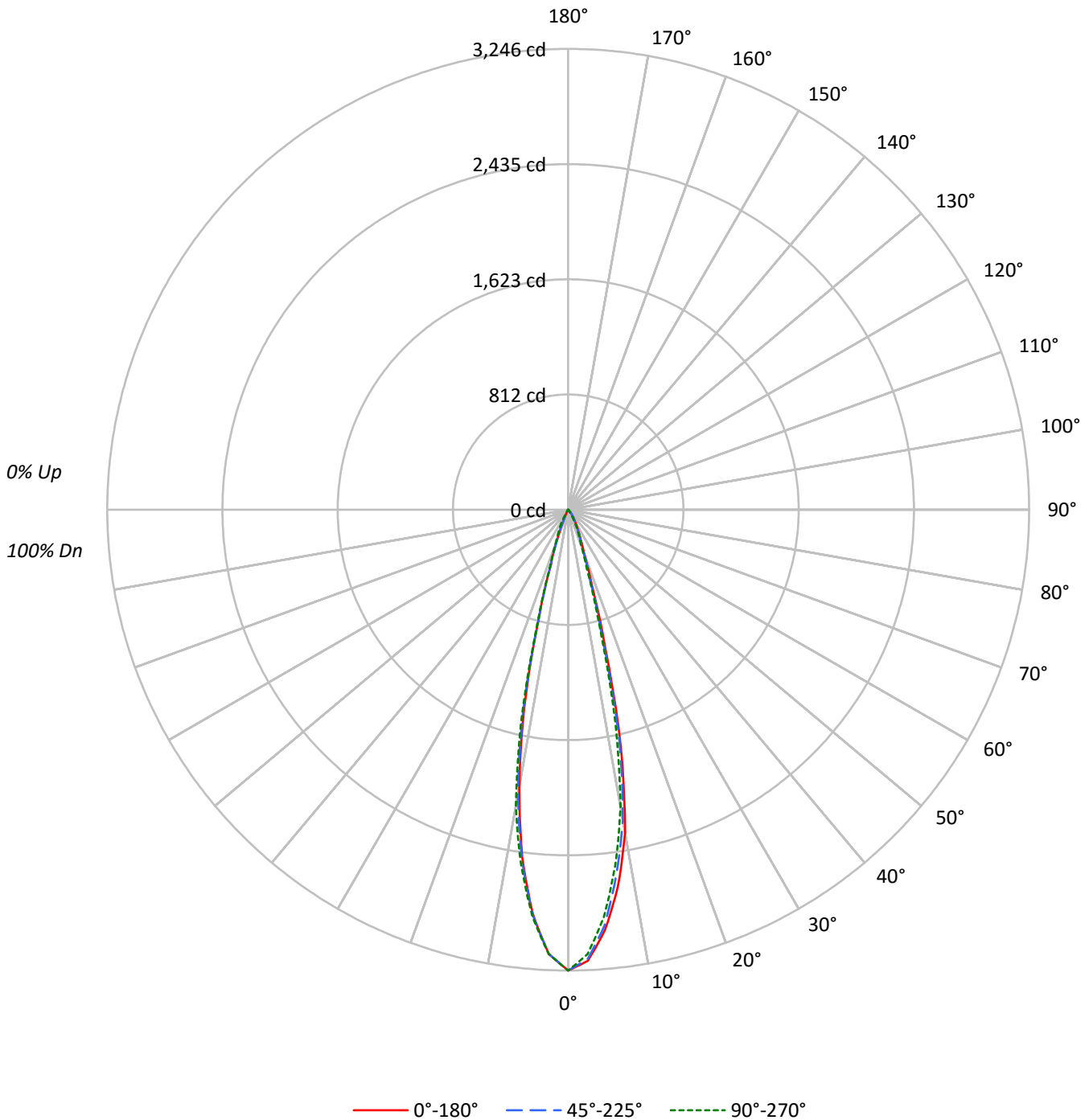
Input Watts (W): 5.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1601411	1601411	1601411
5°	1472123	1426361	1414871
10°	1156136	1063203	993264
15°	513032	436516	417157
20°	170692	139032	125223
25°	94614	79589	26130
30°	54692	28599	8318
35°	31079	8312	3072
40°	16359	4637	1868
45°	8094	3070	488
50°	4452	1612	0
55°	3183	1204	0
60°	2072	691	0
65°	1634	817	0
70°	1010	0	0
75°	1334	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.0	42.3
10°-20°	260.3	43.6
20°-30°	59.7	10.0
30°-40°	17.2	2.9
40°-50°	4.8	0.8
50°-60°	1.5	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°	572.0	95.9
0°-40°	589.3	98.8
0°-60°	595.5	99.9
0°-90°	596.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	596.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3246	3246	3246	3246	3246	
5°	2972	2939	2880	2865	2857	263
15°	1004	916	855	808	817	293
25°	174	167	146	54	48	84
35°	52	48	14	6	5	34
45°	12	11	4	1	1	10
55°	4	3	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	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	3245.8	3245.8	3245.8	3245.8	3245.8	3245.8	3245.8	3245.8	3245.8
2.5°	3180.4	3179.7	3165.8	3151.3	3132.3	3133.9	3130.9	3135.3	3133.1
5°	2972.4	2956.4	2938.9	2906.9	2880.0	2868.4	2865.4	2856.0	2856.8
7.5°	2679.3	2645.1	2595.7	2553.4	2530.9	2501.8	2489.4	2463.3	2474.2
10°	2307.7	2263.3	2218.9	2166.5	2122.2	2074.2	2037.1	2013.1	1982.6
12.5°	1713.4	1677.8	1659.7	1591.3	1538.2	1501.1	1480.7	1422.6	1423.3
15°	1004.4	960.0	915.6	880.7	854.6	840.7	808.0	800.0	816.7
17.5°	536.8	517.1	488.0	456.0	437.9	424.7	413.8	409.5	402.9
20°	325.1	319.3	302.5	281.5	264.8	253.1	242.2	239.2	238.5
22.5°	234.9	232.0	221.1	205.9	189.8	162.9	130.2	123.6	125.8
25°	173.8	171.7	167.3	155.6	146.2	80.7	53.8	51.6	48.0
27.5°	130.2	128.7	123.6	115.6	98.2	35.6	29.8	27.7	27.7
30°	96.0	95.2	92.4	84.4	50.2	20.4	16.7	15.3	14.6
32.5°	70.5	70.5	67.7	60.3	22.6	13.1	10.2	9.5	8.7
35°	51.6	51.6	48.0	41.4	13.8	8.7	5.8	5.8	5.1
37.5°	37.0	36.3	34.2	26.2	10.2	5.8	4.4	4.4	3.7
40°	25.4	25.4	23.3	16.0	7.2	4.4	3.7	2.9	2.9
42.5°	17.5	17.5	16.0	10.2	5.8	3.7	2.1	2.1	2.1
45°	11.6	11.6	10.9	7.2	4.4	2.1	1.4	1.4	0.7
47.5°	8.0	8.0	7.2	5.1	2.9	1.4	0.7	0.7	0.7
50°	5.8	5.8	5.1	3.7	2.1	1.4	0.7	0.7	0.0
52.5°	4.4	4.4	4.4	2.9	1.4	0.7	0.0	0.0	0.0
55°	3.7	3.7	2.9	2.1	1.4	0.7	0.0	0.0	0.0
57.5°	2.9	2.9	2.1	1.4	0.7	0.7	0.0	0.0	0.0
60°	2.1	2.1	2.1	1.4	0.7	0.0	0.0	0.0	0.0
62.5°	1.4	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0
65°	1.4	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0
67.5°	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0
70°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
72.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
75°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
77.5°	0.7	0.7	0.7	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)