

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: P219685

Luminaire Tested: **MRZ-1-REC-X-3-L40-80-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219685
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-3-L40-80-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 3
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1248.5 lumens
Efficiency: N/A
Efficacy: 104.0 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

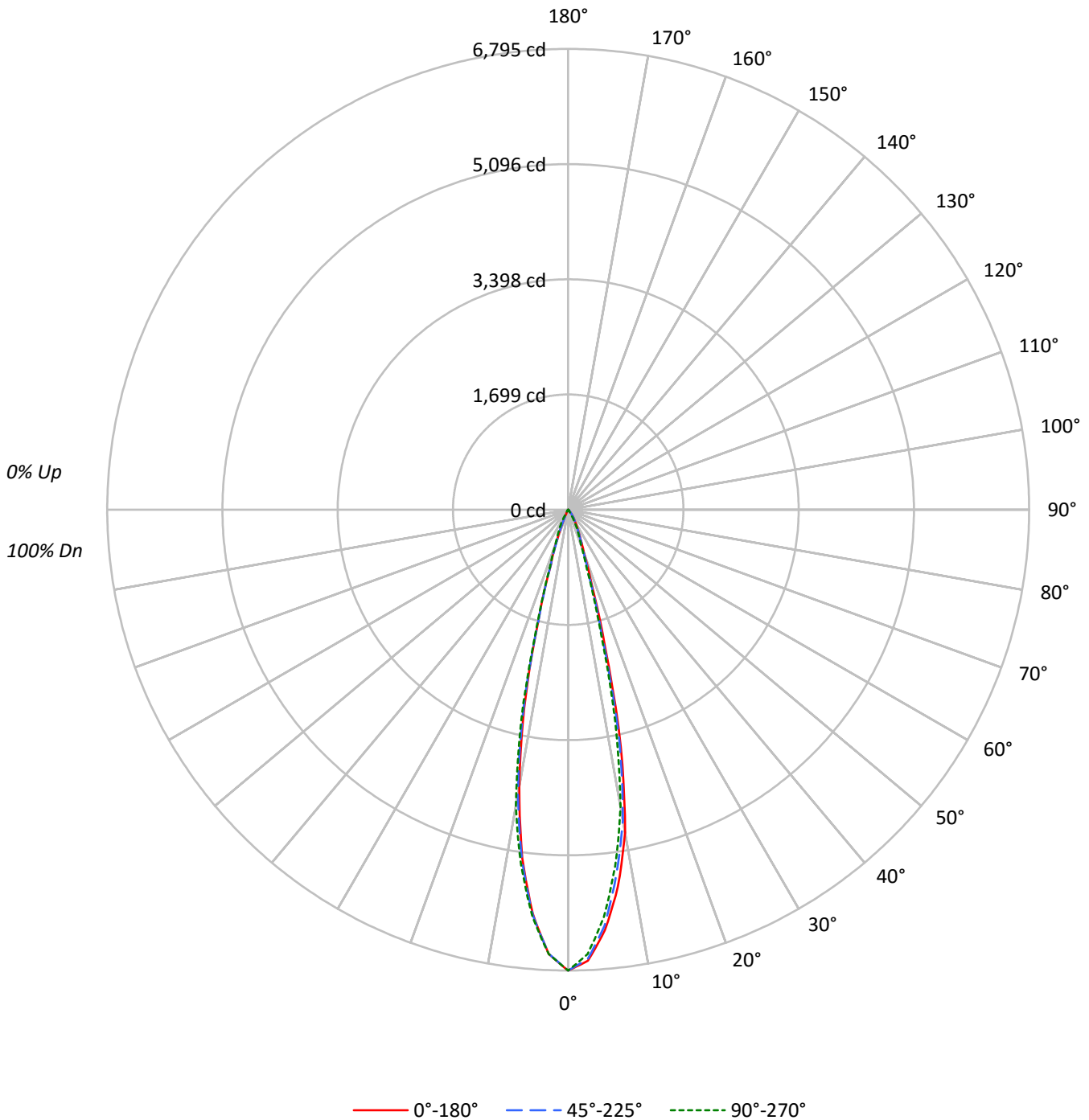
Input Watts (W): 12
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	115	113	111	110	113	111	110	108	107	106	105	104	103	102	100	99	99	97				97
2	112	108	105	103	110	107	104	102	104	102	100	101	99	98	98	97	96	94				94
3	108	104	101	98	107	103	100	97	100	98	96	98	96	94	96	94	93	92				92
4	105	100	97	94	104	99	96	93	97	95	92	96	93	91	94	92	90	89				89
5	103	97	93	90	101	96	93	90	95	92	89	93	91	89	92	90	88	87				87
6	100	94	90	88	99	94	90	87	92	89	87	91	88	86	90	88	86	85				85
7	98	92	88	85	97	91	87	85	90	87	84	89	86	84	88	86	84	83				83
8	95	89	85	83	94	89	85	83	88	85	82	87	84	82	86	84	82	81				81
9	93	87	83	81	92	86	83	80	86	82	80	85	82	80	84	82	80	79				79
10	91	85	81	79	90	84	81	79	84	81	78	83	80	78	83	80	78	77				77

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3352613	3352613	3352613
5°	3081880	2986096	2961977
10°	2420336	2225802	2079362
15°	1074026	913793	873339
20°	357345	290979	262207
25°	198101	166582	54711
30°	114511	59876	17376
35°	65109	17407	6445
40°	34328	9790	3929
45°	17025	6349	1047
50°	9364	3531	0
55°	6537	2581	0
60°	4539	1480	0
65°	3502	1751	0
70°	2164	0	0
75°	2859	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	527.6	42.3
10°-20°	544.9	43.6
20°-30°	125.1	10.0
30°-40°	36.1	2.9
40°-50°	10.1	0.8
50°-60°	3.1	0.2
60°-70°	1.2	0.1
70°-80°	0.6	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°	1197.6	95.9
0°-40°	1233.6	98.8
0°-60°	1246.8	99.9
0°-90°	1248.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1248.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6795	6795	6795	6795	6795	
5°	6223	6153	6029	5999	5981	550
15°	2103	1917	1789	1692	1710	614
25°	364	350	306	113	100	175
35°	108	100	29	12	11	71
45°	24	23	9	3	2	21
55°	8	6	3	0	0	7
65°	3	3	2	0	0	3
75°	2	2	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°	6795.2	6795.2	6795.2	6795.2	6795.2	6795.2	6795.2	6795.2	6795.2
2.5°	6658.2	6656.6	6627.7	6597.3	6557.7	6560.7	6554.6	6563.8	6559.2
5°	6222.7	6189.2	6152.7	6085.7	6029.3	6005.0	5998.9	5979.1	5980.6
7.5°	5609.1	5537.6	5434.0	5345.7	5298.5	5237.6	5211.7	5156.9	5179.8
10°	4831.1	4738.2	4645.3	4535.7	4442.8	4342.3	4264.7	4214.5	4150.5
12.5°	3587.2	3512.6	3474.5	3331.4	3220.2	3142.6	3099.9	2978.1	2979.7
15°	2102.7	2009.8	1916.9	1843.8	1789.0	1760.1	1691.6	1674.8	1709.8
17.5°	1123.7	1082.5	1021.6	954.6	916.6	889.2	866.3	857.2	843.5
20°	680.6	668.4	633.4	589.2	554.2	529.9	507.0	500.9	499.4
22.5°	491.8	485.7	462.9	430.9	397.4	341.1	272.5	258.8	263.4
25°	363.9	359.3	350.2	325.8	306.0	169.0	112.7	108.1	100.5
27.5°	272.5	269.5	258.8	242.1	205.5	74.6	62.4	57.9	57.9
30°	201.0	199.5	193.4	176.6	105.1	42.6	35.0	32.0	30.5
32.5°	147.7	147.7	141.6	126.4	47.2	27.4	21.3	19.8	18.3
35°	108.1	108.1	100.5	86.8	28.9	18.3	12.2	12.2	10.7
37.5°	77.7	76.1	71.6	54.8	21.3	12.2	9.1	9.1	7.6
40°	53.3	53.3	48.7	33.5	15.2	9.1	7.6	6.1	6.1
42.5°	36.5	36.5	33.5	21.3	12.2	7.6	4.6	4.6	4.6
45°	24.4	24.4	22.8	15.2	9.1	4.6	3.0	3.0	1.5
47.5°	16.7	16.7	15.2	10.7	6.1	3.0	1.5	1.5	1.5
50°	12.2	12.2	10.7	7.6	4.6	3.0	1.5	1.5	0.0
52.5°	9.1	9.1	9.1	6.1	3.0	1.5	0.0	0.0	0.0
55°	7.6	7.6	6.1	4.6	3.0	1.5	0.0	0.0	0.0
57.5°	6.1	6.1	4.6	3.0	1.5	1.5	0.0	0.0	0.0
60°	4.6	4.6	4.6	3.0	1.5	0.0	0.0	0.0	0.0
62.5°	3.0	3.0	3.0	1.5	1.5	0.0	0.0	0.0	0.0
65°	3.0	3.0	3.0	1.5	1.5	0.0	0.0	0.0	0.0
67.5°	1.5	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0
70°	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0
72.5°	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0
75°	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0
77.5°	1.5	1.5	1.5	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)