

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: P219625

Luminaire Tested: **MRZ-1-REC-X-3-L35-97-NFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219625
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14872)
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-L35-97-NFL-UNV-X-STD-LSL
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 3
Light Source: (1) 3500K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 809.0 lumens
Efficiency: N/A
Efficacy: 68.0 lumens/watt
Spacing Criteria (0/90/45): 0.4 / 0.87 / 0.54
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

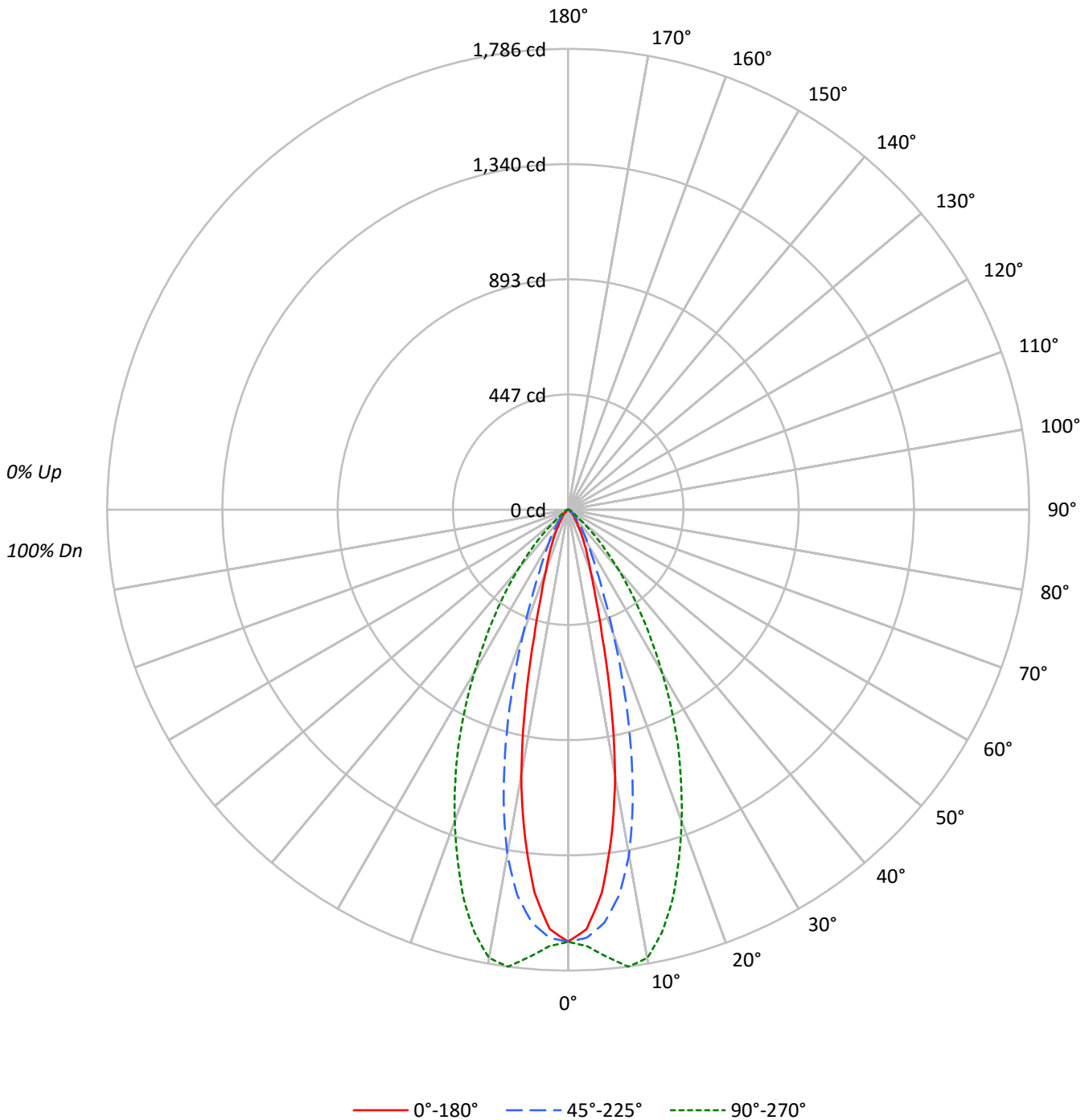
Input Watts (W): 11.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88
3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	84	83
4	99	92	87	83	97	91	86	82	89	85	81	87	83	80	85	82	80	78
5	95	87	81	77	93	86	81	77	84	80	76	83	79	76	81	78	75	74
6	90	82	77	73	89	81	76	72	80	75	72	79	75	72	77	74	71	70
7	87	78	73	69	85	77	72	68	76	71	68	75	71	68	74	70	67	66
8	83	74	69	65	82	74	68	65	73	68	65	72	67	64	71	67	64	63
9	80	71	65	62	79	70	65	62	69	65	61	69	64	61	68	64	61	60
10	77	68	62	59	76	67	62	59	66	62	59	66	61	58	65	61	58	57

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	825967	825967	825967
5°	737993	795741	861958
10°	524387	680145	883948
15°	259172	476306	798509
20°	132573	265199	674996
25°	83345	142465	547433
30°	50134	87222	413378
35°	32344	56436	295250
40°	22800	36776	195022
45°	17513	25537	109267
50°	10516	17577	46514
55°	7828	11784	24601
60°	6809	7894	15788
65°	6654	6654	13309
70°	6636	4905	18176
75°	6481	4384	13153
80°	3125	3125	6535
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.6	18.1
10°-20°	273.4	33.8
20°-30°	205.3	25.4
30°-40°	112.9	14.0
40°-50°	45.8	5.7
50°-60°	14.6	1.8
60°-70°	6.9	0.9
70°-80°	3.4	0.4
80°-90°	0.2	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°	625.3	77.3
0°-40°	738.1	91.2
0°-60°	798.5	98.7
0°-90°	809.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	809.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1674	1674	1674	1674	1674	
5°	1490	1524	1607	1702	1740	128
15°	507	596	932	1387	1563	149
25°	153	171	262	763	1006	71
35°	54	64	94	283	490	35
45°	25	24	37	70	157	19
55°	9	10	14	17	29	9
65°	6	7	6	7	11	6
75°	3	2	2	2	7	3
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1
2.5°	1627.3	1627.3	1626.1	1629.5	1636.4	1636.4	1639.8	1643.3	1646.7	1653.5	1660.4
5°	1490.1	1492.4	1491.3	1503.8	1513.0	1524.4	1527.8	1547.3	1562.1	1585.0	1606.7
7.5°	1282.2	1283.3	1293.6	1308.4	1331.3	1343.9	1361.0	1388.4	1421.6	1465.0	1507.3
10°	1046.7	1046.7	1062.7	1084.5	1102.7	1127.9	1140.5	1185.0	1233.0	1293.6	1357.6
12.5°	762.2	762.2	789.6	805.6	838.8	860.5	878.8	930.2	993.0	1070.7	1155.3
15°	507.4	516.5	526.8	548.5	578.2	596.5	609.1	661.6	735.9	822.8	932.5
17.5°	345.1	350.8	357.7	374.8	389.7	398.8	410.2	454.8	508.5	593.1	708.5
20°	252.5	258.3	264.0	272.0	281.1	285.7	293.7	316.5	355.4	414.8	505.1
22.5°	195.4	200.0	204.5	209.1	216.0	219.4	224.0	238.8	259.4	297.1	362.2
25°	153.1	153.1	158.8	162.3	168.0	171.4	177.1	187.4	203.4	225.1	261.7
27.5°	116.6	117.7	121.1	125.7	130.3	133.7	139.4	148.6	158.8	173.7	196.6
30°	88.0	90.3	92.6	96.0	101.7	105.1	108.6	116.6	125.7	137.1	153.1
32.5°	67.4	69.7	70.8	74.3	78.8	81.1	84.6	91.4	99.4	110.8	121.1
35°	53.7	53.7	56.0	57.1	61.7	64.0	66.3	70.8	78.8	85.7	93.7
37.5°	42.3	43.4	44.6	45.7	49.1	50.3	51.4	54.9	59.4	66.3	73.1
40°	35.4	36.6	36.6	36.6	37.7	37.7	38.9	41.1	45.7	50.3	57.1
42.5°	29.7	29.7	29.7	29.7	29.7	29.7	30.9	32.0	35.4	40.0	45.7
45°	25.1	24.0	24.0	24.0	24.0	24.0	24.0	26.3	28.6	32.0	36.6
47.5°	18.3	19.4	19.4	19.4	19.4	19.4	20.6	20.6	22.9	26.3	28.6
50°	13.7	14.9	14.9	16.0	16.0	16.0	16.0	17.1	19.4	21.7	22.9
52.5°	11.4	11.4	11.4	12.6	12.6	12.6	12.6	13.7	16.0	17.1	18.3
55°	9.1	9.1	9.1	9.1	10.3	10.3	11.4	12.6	13.7	13.7	13.7
57.5°	8.0	8.0	8.0	8.0	8.0	9.1	9.1	10.3	11.4	10.3	10.3
60°	6.9	6.9	6.9	6.9	6.9	8.0	8.0	9.1	8.0	8.0	8.0
62.5°	6.9	6.9	5.7	5.7	6.9	6.9	6.9	6.9	6.9	6.9	5.7
65°	5.7	5.7	5.7	5.7	5.7	6.9	6.9	5.7	5.7	4.6	5.7
67.5°	5.7	5.7	4.6	5.7	5.7	5.7	5.7	4.6	4.6	4.6	4.6
70°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	3.4	3.4	3.4	3.4
72.5°	3.4	3.4	3.4	4.6	3.4	3.4	3.4	3.4	3.4	3.4	3.4
75°	3.4	3.4	3.4	3.4	3.4	2.3	2.3	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.1	1.1
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	0.0	1.1	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	0.0	0.0
87.5°	0.0	0.0	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	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1	1674.1
2.5°	1666.1	1670.7	1676.4	1682.1	1684.4	1686.7	1690.1	1692.4	1693.5	1693.5
5°	1629.5	1652.4	1674.1	1692.4	1701.5	1709.5	1723.2	1732.4	1740.4	1740.4
7.5°	1551.8	1599.8	1644.4	1683.3	1700.4	1718.7	1747.2	1769.0	1780.4	1786.1
10°	1425.0	1497.0	1564.4	1623.8	1651.3	1674.1	1715.2	1743.8	1757.5	1764.4
12.5°	1252.4	1347.3	1433.0	1507.3	1540.4	1567.8	1610.1	1647.8	1667.3	1677.5
15°	1051.3	1163.3	1265.0	1349.6	1387.3	1421.6	1477.6	1523.3	1550.7	1563.3
17.5°	838.8	977.0	1092.5	1189.6	1223.9	1261.6	1326.7	1379.3	1415.9	1425.0
20°	642.2	791.9	923.3	1023.9	1063.9	1101.6	1174.7	1230.7	1270.7	1285.6
22.5°	467.4	612.5	757.6	865.1	910.8	951.9	1025.0	1085.6	1127.9	1142.7
25°	333.7	451.4	595.4	717.6	763.3	804.5	877.6	939.3	982.8	1005.6
27.5°	243.4	323.4	450.2	575.9	625.1	668.5	735.9	799.9	841.1	862.8
30°	178.3	230.8	325.7	448.0	501.7	543.9	615.9	669.6	714.2	725.6
32.5°	136.0	165.7	230.8	330.3	385.1	429.7	499.4	550.8	586.2	598.8
35°	104.0	122.3	161.1	236.5	283.4	329.1	395.4	448.0	478.8	490.2
37.5°	81.1	93.7	116.6	166.8	203.4	243.4	308.5	352.0	377.1	392.0
40°	65.1	74.3	89.1	118.8	144.0	173.7	228.5	269.7	294.8	302.8
42.5°	52.6	59.4	67.4	84.6	101.7	123.4	168.0	196.6	217.1	221.7
45°	41.1	45.7	54.9	62.9	69.7	81.1	112.0	138.3	150.8	156.6
47.5°	33.1	38.9	38.9	43.4	48.0	56.0	75.4	90.3	99.4	101.7
50°	25.1	26.3	28.6	30.9	33.1	35.4	45.7	54.9	60.6	60.6
52.5°	18.3	19.4	19.4	20.6	21.7	24.0	29.7	34.3	37.7	38.9
55°	13.7	13.7	14.9	16.0	17.1	18.3	21.7	26.3	27.4	28.6
57.5°	10.3	10.3	11.4	12.6	13.7	13.7	17.1	19.4	21.7	24.0
60°	8.0	8.0	9.1	9.1	10.3	11.4	14.9	16.0	16.0	16.0
62.5°	6.9	6.9	6.9	8.0	8.0	8.0	10.3	13.7	14.9	14.9
65°	5.7	5.7	5.7	5.7	6.9	6.9	8.0	9.1	11.4	11.4
67.5°	4.6	4.6	4.6	4.6	5.7	5.7	8.0	9.1	11.4	12.6
70°	3.4	3.4	3.4	4.6	4.6	5.7	6.9	9.1	11.4	12.6
72.5°	2.3	2.3	3.4	3.4	3.4	4.6	5.7	6.9	8.0	8.0
75°	2.3	2.3	2.3	2.3	2.3	2.3	3.4	5.7	5.7	6.9
77.5°	2.3	2.3	1.1	2.3	2.3	2.3	2.3	3.4	4.6	4.6
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.3
82.5°	0.0	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	0.0
87.5°	0.0	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	0.0

(END OF REPORT)