

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: P219689

Luminaire Tested: **MRZ-1-REC-X-4-L27-80-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219689
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-4-L27-80-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 4
Light Source: (1) 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1469.9 lumens
Efficiency: N/A
Efficacy: 93.0 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

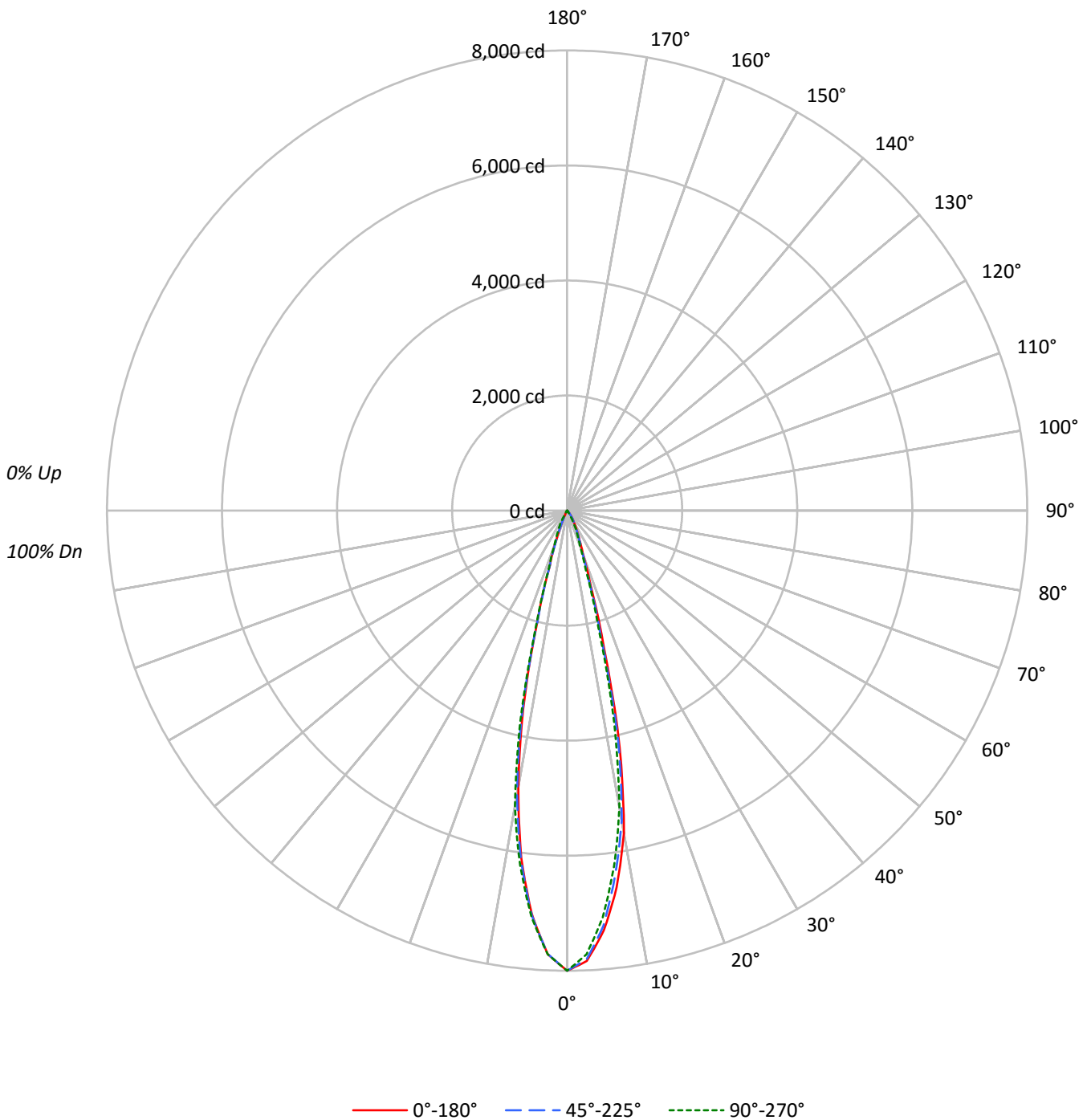
Input Watts (W): 15.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3946790	3946790	3946790
5°	3628107	3515385	3486957
10°	2849285	2620332	2447891
15°	1264344	1075762	1028157
20°	420665	342538	308673
25°	233214	196142	64401
30°	134792	70473	20395
35°	76673	20539	7529
40°	40383	11529	4637
45°	20025	7536	1256
50°	10976	4145	0
55°	7742	3097	0
60°	5328	1776	0
65°	4203	2101	0
70°	2597	0	0
75°	3431	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	621.1	42.3
10°-20°	641.5	43.6
20°-30°	147.2	10.0
30°-40°	42.4	2.9
40°-50°	11.9	0.8
50°-60°	3.7	0.2
60°-70°	1.4	0.1
70°-80°	0.7	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°	1409.8	95.9
0°-40°	1452.3	98.8
0°-60°	1467.8	99.9
0°-90°	1469.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1469.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	8000	8000	8000	8000	8000	
5°	7326	7243	7098	7062	7041	647
15°	2475	2257	2106	1991	2013	722
25°	428	412	360	133	118	206
35°	127	118	34	14	12	83
45°	29	27	11	4	2	25
55°	9	7	4	0	0	8
65°	4	4	2	0	0	3
75°	2	2	0	0	0	2
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°	7999.5	7999.5	7999.5	7999.5	7999.5	7999.5	7999.5	7999.5	7999.5
2.5°	7838.2	7836.4	7802.4	7766.5	7719.9	7723.5	7716.3	7727.1	7721.7
5°	7325.6	7286.2	7243.1	7164.3	7098.0	7069.3	7062.1	7038.8	7040.6
7.5°	6603.2	6519.0	6397.1	6293.2	6237.6	6165.9	6135.4	6070.9	6097.8
10°	5687.3	5578.0	5468.6	5339.6	5230.3	5112.0	5020.5	4961.4	4886.1
12.5°	4222.9	4135.1	4090.3	3921.8	3791.0	3699.5	3649.4	3506.0	3507.8
15°	2475.3	2366.0	2256.6	2170.6	2106.1	2072.0	1991.4	1971.7	2012.9
17.5°	1322.8	1274.4	1202.7	1123.8	1079.0	1046.8	1019.9	1009.1	993.0
20°	801.2	786.9	745.6	693.7	652.4	623.8	596.9	589.7	587.9
22.5°	578.9	571.8	544.9	507.3	467.8	401.5	320.8	304.7	310.1
25°	428.4	423.0	412.3	383.6	360.3	199.0	132.6	127.3	118.3
27.5°	320.8	317.3	304.7	285.0	242.0	87.8	73.5	68.1	68.1
30°	236.6	234.8	227.6	207.9	123.7	50.2	41.2	37.6	35.8
32.5°	173.9	173.9	166.7	148.8	55.6	32.3	25.1	23.3	21.5
35°	127.3	127.3	118.3	102.2	34.1	21.5	14.3	14.3	12.5
37.5°	91.4	89.6	84.2	64.5	25.1	14.3	10.8	10.8	9.0
40°	62.7	62.7	57.4	39.4	17.9	10.8	9.0	7.2	7.2
42.5°	43.0	43.0	39.4	25.1	14.3	9.0	5.4	5.4	5.4
45°	28.7	28.7	26.9	17.9	10.8	5.4	3.6	3.6	1.8
47.5°	19.7	19.7	17.9	12.5	7.2	3.6	1.8	1.8	1.8
50°	14.3	14.3	12.5	9.0	5.4	3.6	1.8	1.8	0.0
52.5°	10.8	10.8	10.8	7.2	3.6	1.8	0.0	0.0	0.0
55°	9.0	9.0	7.2	5.4	3.6	1.8	0.0	0.0	0.0
57.5°	7.2	7.2	5.4	3.6	1.8	1.8	0.0	0.0	0.0
60°	5.4	5.4	5.4	3.6	1.8	0.0	0.0	0.0	0.0
62.5°	3.6	3.6	3.6	1.8	1.8	0.0	0.0	0.0	0.0
65°	3.6	3.6	3.6	1.8	1.8	0.0	0.0	0.0	0.0
67.5°	1.8	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0
70°	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0
72.5°	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0
75°	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0
77.5°	1.8	1.8	1.8	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)