

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: P219884

Luminaire Tested: **MRZ-1-REC-X-1H-L30-80-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219884
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14882)
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-L30-80-WFL-UNV-X-STD-LSL
Description: MRZ INTEGRAL LED DOWNLIGHT
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL 1
Light Source: (1) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 464.4 lumens
Efficiency: N/A
Efficacy: 68.3 lumens/watt
Spacing Criteria (0/90/45): 0.88 / 0.83 / 0.87
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

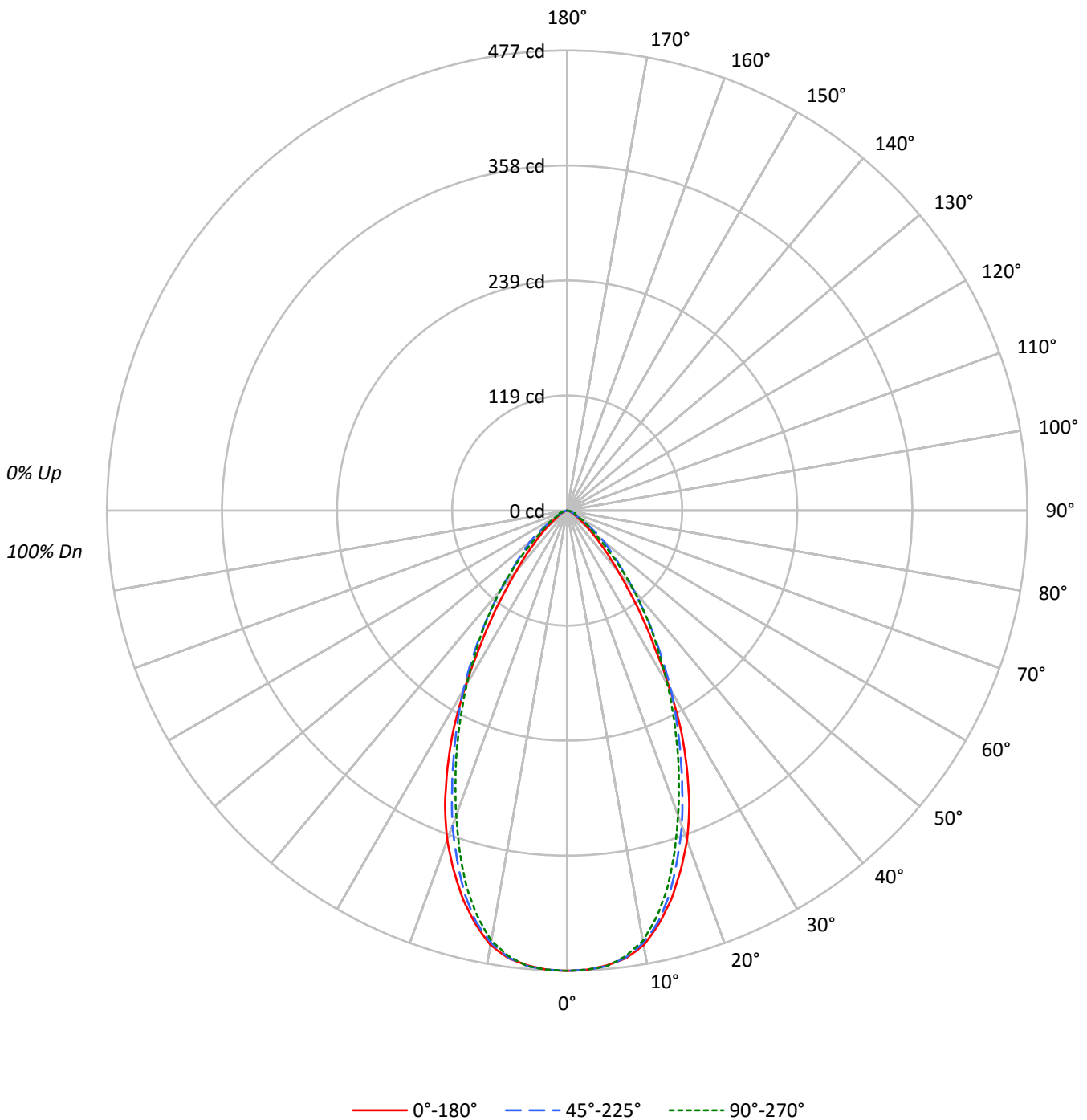
Input Watts (W): 6.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	96	95	94	92		
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	92	92	90	89	88	86	84	
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84	84	84	83	82	81	79	77	
3	100	93	88	83	98	92	87	83	89	85	81	87	83	80	84	81	79	77	77	77	76	75	74	73	71	
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	76	73	71	71	71	70	69	68	67	65	
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65	65	65	64	63	62	61	59	
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61	61	61	60	59	58	57	55	
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	66	61	58	57	57	57	56	55	54	53	51	
8	76	66	59	55	75	65	59	55	64	58	54	63	58	54	62	57	54	53	53	53	52	51	50	49	47	
9	72	62	55	51	71	61	55	51	60	55	51	59	54	51	58	54	50	49	49	49	48	47	46	45	43	
10	68	58	52	48	67	58	52	48	57	51	48	56	51	47	55	51	47	46	46	46	45	44	43	42	40	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	235391	235391	235391
5°	234409	234755	234755
10°	229103	227951	226799
15°	212946	209830	205948
20°	190853	182453	176467
25°	159722	151012	146875
30°	120721	122886	118556
35°	82154	93658	92695
40°	53006	68721	69237
45°	34050	49958	46260
50°	21645	37994	28630
55°	13075	21591	20988
60°	8289	12038	13519
65°	6187	8873	9806
70°	5482	7645	13127
75°	4384	5719	8769
80°	2273	4262	6535
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.6	9.6
10°-20°	113.7	24.5
20°-30°	128.1	27.6
30°-40°	94.7	20.4
40°-50°	50.5	10.9
50°-60°	20.8	4.5
60°-70°	8.1	1.7
70°-80°	3.6	0.8
80°-90°	0.4	0.1
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°	286.4	61.7
0°-40°	381.1	82.1
0°-60°	452.4	97.4
0°-90°	464.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	464.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	477	477	477	477	477	
5°	473	473	474	474	474	45
15°	417	413	411	405	403	116
25°	293	290	277	272	270	133
35°	136	149	156	154	154	86
45°	49	55	72	71	66	39
55°	15	18	25	24	24	15
65°	5	8	8	9	8	6
75°	2	2	3	5	5	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CATALOG NUMBER: MRZ-1-REC-X-1H-L30-80-WFL-UNV-X-STD-LSL

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	476.3	476.3	476.3	476.3	476.3	476.3	476.3	476.3	476.3	476.3	476.3
5°	473.3	473.3	473.3	473.3	473.3	473.3	473.3	474.0	473.3	474.0	474.0
7.5°	467.9	467.2	467.2	467.2	467.2	467.2	467.2	467.2	467.2	467.2	467.2
10°	457.3	456.5	456.5	455.0	455.7	455.0	455.0	455.0	455.0	455.0	455.0
12.5°	439.0	439.0	438.2	437.5	436.7	436.7	436.7	436.7	436.7	436.7	436.7
15°	416.9	416.9	416.1	414.6	413.8	413.1	412.3	412.3	411.5	411.5	410.8
17.5°	391.0	391.0	389.4	387.9	386.4	385.6	384.1	382.6	381.8	381.1	379.5
20°	363.5	363.5	361.2	360.5	357.4	356.7	354.4	352.1	349.0	348.3	347.5
22.5°	330.8	329.2	328.5	328.5	326.2	324.7	323.1	320.1	315.5	314.0	311.7
25°	293.4	292.7	292.7	291.9	291.1	289.6	290.4	288.1	284.3	281.2	277.4
27.5°	254.5	253.8	253.0	253.8	255.3	255.3	254.5	253.0	251.5	247.7	245.4
30°	211.9	211.9	213.4	215.7	218.0	218.7	219.5	218.7	218.0	215.7	215.7
32.5°	170.0	171.5	173.0	178.3	180.6	182.1	182.9	185.2	185.2	185.2	183.7
35°	136.4	136.4	139.5	143.3	146.3	149.4	150.1	153.2	155.5	155.5	155.5
37.5°	105.9	106.7	109.7	112.8	116.6	118.1	119.7	124.2	127.3	128.8	129.6
40°	82.3	83.8	85.4	88.4	92.2	93.0	94.5	98.3	102.1	105.2	106.7
42.5°	64.0	64.0	65.5	67.8	70.1	72.4	73.9	76.2	80.8	83.1	86.1
45°	48.8	49.5	50.3	51.8	54.1	54.9	56.4	59.4	62.5	65.5	71.6
47.5°	37.3	37.3	38.1	38.9	41.2	41.9	42.7	45.7	48.8	54.9	59.4
50°	28.2	28.2	28.2	29.0	30.5	32.0	32.8	35.1	41.2	45.7	49.5
52.5°	20.6	20.6	20.6	22.1	22.9	23.6	24.4	27.4	35.1	35.8	37.3
55°	15.2	15.2	15.2	16.0	17.5	18.3	19.1	24.4	25.9	28.2	25.1
57.5°	11.4	11.4	11.4	12.2	13.0	13.7	15.2	19.1	21.3	18.3	17.5
60°	8.4	8.4	8.4	9.1	10.7	11.4	13.0	14.5	14.5	13.0	12.2
62.5°	6.9	6.9	6.9	6.9	8.4	9.9	9.9	11.4	9.9	9.1	9.1
65°	5.3	5.3	5.3	6.1	6.9	7.6	8.4	7.6	6.9	6.9	7.6
67.5°	4.6	4.6	4.6	4.6	6.1	6.1	6.1	5.3	5.3	5.3	6.1
70°	3.8	3.8	3.8	3.8	4.6	4.6	4.6	3.8	3.8	4.6	5.3
72.5°	3.0	3.0	3.0	3.8	3.8	3.8	3.0	3.0	3.0	3.8	3.8
75°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.0	3.0	3.0
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.3	2.3	2.3
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.5
82.5°	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8
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°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	476.3	476.3	477.1	476.3	476.3	476.3	476.3	476.3	476.3	476.3
5°	474.0	474.0	474.0	474.0	474.0	474.0	474.0	474.0	474.0	474.0
7.5°	467.2	467.2	467.2	466.4	466.4	466.4	466.4	466.4	466.4	465.7
10°	455.0	455.0	454.2	453.5	454.2	452.7	452.7	451.9	451.9	452.7
12.5°	435.9	435.2	433.6	433.6	432.9	432.1	431.4	431.4	430.6	430.6
15°	410.8	409.3	407.7	407.0	405.4	406.2	405.4	403.9	403.9	403.2
17.5°	380.3	378.8	376.5	374.2	374.2	373.4	373.4	371.9	371.1	370.4
20°	345.2	344.5	343.7	341.4	340.7	339.1	337.6	337.6	335.3	336.1
22.5°	310.2	309.4	307.9	307.1	305.6	305.6	304.1	304.1	302.6	302.6
25°	276.6	275.9	274.4	273.6	272.1	272.1	270.5	271.3	269.8	269.8
27.5°	243.1	242.4	240.8	241.6	240.1	239.3	238.5	238.5	237.8	237.8
30°	212.6	210.3	210.3	209.6	208.8	208.8	208.8	207.3	207.3	208.1
32.5°	182.9	181.4	180.6	180.6	181.4	180.6	179.9	179.9	179.1	178.3
35°	155.5	154.7	153.9	153.9	153.9	153.9	153.9	153.9	153.9	153.9
37.5°	129.6	130.3	129.6	130.3	131.1	130.3	129.6	128.8	128.8	128.8
40°	107.5	109.0	109.7	108.2	107.5	107.5	106.7	107.5	106.7	107.5
42.5°	89.9	90.7	89.2	89.9	90.7	90.7	89.2	86.9	85.4	84.6
45°	73.2	74.7	78.5	73.2	70.9	70.1	67.8	67.1	66.3	66.3
47.5°	62.5	65.5	57.9	55.6	54.1	54.1	52.6	51.1	51.1	50.3
50°	51.1	45.0	43.4	41.9	40.4	39.6	38.9	38.1	38.1	37.3
52.5°	34.3	32.8	31.2	30.5	29.7	29.7	29.7	29.7	29.7	29.7
55°	24.4	23.6	22.9	23.6	23.6	24.4	25.1	25.1	25.1	24.4
57.5°	16.8	16.8	18.3	19.8	19.8	19.8	19.8	19.1	19.1	19.1
60°	13.0	13.7	15.2	15.2	15.2	16.0	15.2	14.5	13.7	13.7
62.5°	9.9	11.4	12.2	12.2	11.4	11.4	10.7	10.7	10.7	10.7
65°	8.4	9.1	9.1	9.1	9.1	8.4	7.6	7.6	8.4	8.4
67.5°	6.9	6.9	6.9	6.1	6.1	6.9	7.6	8.4	8.4	9.1
70°	5.3	5.3	5.3	6.1	6.9	6.9	8.4	8.4	9.1	9.1
72.5°	3.8	3.8	5.3	6.1	6.9	6.9	6.9	6.1	6.1	6.1
75°	3.0	3.8	5.3	4.6	4.6	4.6	4.6	4.6	4.6	4.6
77.5°	2.3	3.0	3.0	2.3	3.0	3.0	3.0	3.8	3.8	4.6
80°	1.5	1.5	1.5	1.5	1.5	1.5	2.3	2.3	2.3	2.3
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)