

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: METALUX

Report Number: P588653

Luminaire Tested: **FM9WRCCR-3000K**

Issue Date: 12/1/2021

Test Information

Test Method: LM-79-08
Report Number: P588653
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (MXL1053-9A)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 12/1/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: FM9WRCCR-3000K
Description: FM WR CCT SELECT
Light Source: (1) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

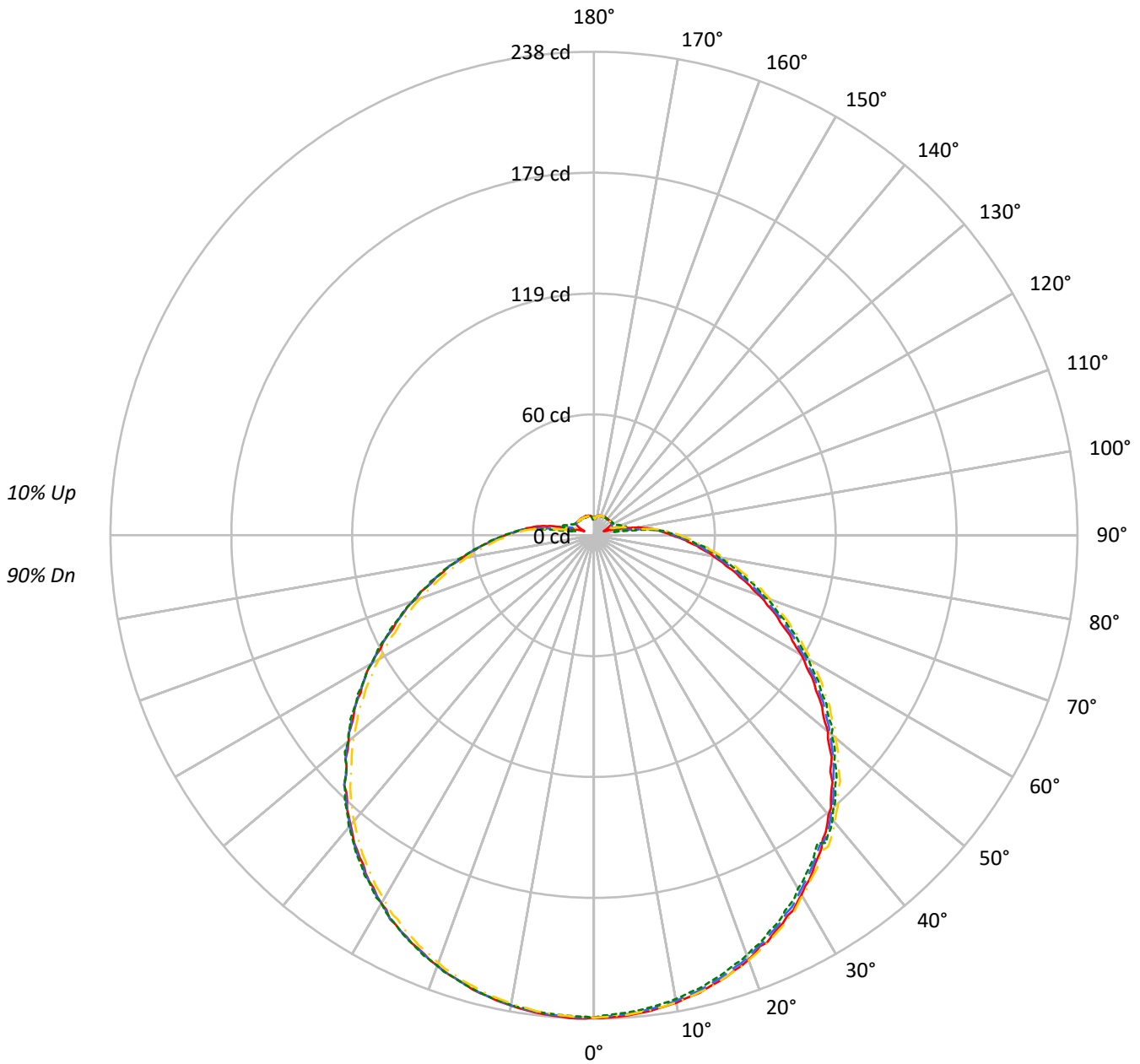
Lumens per Lamp: N/A
Luminaire Lumens: 900.0 lumens
Efficiency: N/A
Efficacy: 84.9 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.29 / 1.42
Luminous Opening: Vertical Cylinder (Dia: 0.75m x H: 0.25m)
CIE Type: Direct

Input Watts (W): 10.6
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: 24 FT



TEST NUMBER: P588653
CATALOG NUMBER: FM9WRCCR-3000K

Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - · - · 90°-270° - · - · 135°-315°



TEST NUMBER: P588653

CATALOG NUMBER: FM9WRCCR-3000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	93	93	93	90
1	104	98	93	89	100	95	90	86	89	85	82	83	80	77	78	76	73	78	76	73	70
2	94	85	77	70	90	82	75	69	76	71	66	72	67	63	67	63	60	67	63	60	57
3	85	74	65	58	82	71	63	56	67	60	54	63	57	52	59	54	50	59	54	50	47
4	78	65	55	48	74	63	54	47	59	52	46	55	49	44	52	47	42	52	47	42	40
5	71	58	48	41	68	56	47	40	53	45	39	50	43	38	47	41	36	47	41	36	34
6	66	52	42	36	63	50	41	35	47	40	34	45	38	33	42	36	32	42	36	32	29
7	61	47	38	31	58	45	37	31	43	35	30	41	34	29	38	33	28	38	33	28	26
8	56	43	34	28	54	41	33	27	39	32	27	37	31	26	35	29	25	35	29	25	23
9	53	39	31	25	51	38	30	25	36	29	24	34	28	23	33	27	23	33	27	23	21
10	49	36	28	22	48	35	27	22	33	26	22	32	25	21	30	25	20	30	25	20	19

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	537	537	537	537
5°	518	515	520	518
10°	500	496	503	502
15°	481	477	487	486
20°	464	459	470	471
25°	446	441	455	456
30°	429	422	439	439
35°	411	404	422	424
40°	392	398	406	409
45°	370	380	391	390
50°	352	357	369	369
55°	328	338	350	351
60°	308	319	330	330
65°	284	296	306	312
70°	265	277	288	290
75°	246	258	272	272
80°	228	239	254	258
85°	215	227	242	242



TEST NUMBER: P588653
 CATALOG NUMBER: FM9WRCCR-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.5	2.5
10°-20°	64.8	7.2
20°-30°	99.4	11.0
30°-40°	122.4	13.6
40°-50°	131.2	14.6
50°-60°	124.6	13.8
60°-70°	106.1	11.8
70°-80°	81.9	9.1
80°-90°	57.3	6.4
90°-100°	33.4	3.7
100°-110°	14.6	1.6
110°-120°	9.5	1.1
120°-130°	9.5	1.1
130°-140°	8.0	0.9
140°-150°	6.4	0.7
150°-160°	4.7	0.5
160°-170°	2.8	0.3
170°-180°	0.9	0.1
0°-30°	186.7	20.7
0°-40°	309.1	34.3
0°-60°	564.9	62.8
0°-90°	810.3	90.0
90°-120°	57.6	6.4
90°-150°	81.4	9.0
90°-180°	90.0	10.0
0°-180°	900.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	237	237	237	237	237	
5°	236	235	237	236	236	22
15°	229	227	232	231	229	65
25°	214	212	218	219	214	99
35°	193	190	198	199	193	121
45°	165	169	174	174	165	128
55°	134	138	142	143	134	120
65°	101	105	109	111	101	101
75°	73	76	80	80	73	77
85°	48	51	55	55	48	42
90°	38	41	44	44	38	21
95°	30	30	34	33	30	23
105°	12	16	14	16	12	13
115°	6	12	6	12	6	7
125°	11	11	11	10	11	9
135°	10	10	10	10	10	8
145°	10	10	10	10	10	7
155°	10	10	10	10	10	5
165°	10	10	10	10	10	3
175°	8	8	9	8	8	1
180°	9	9	9	9	9	



TEST NUMBER: P588653

CATALOG NUMBER: FM9WRCCR-3000K

CANDELA DISTRIBUTION (FULL):

	0°	90°	180°	270°	360°
0°	237.4	237.4	237.4	237.4	237.4
1°	237.8	236.5	238.0	237.0	237.8
2°	237.5	236.2	238.0	237.0	237.5
3°	237.3	235.7	237.9	236.9	237.3
4°	237.0	235.6	237.6	236.7	237.0
5°	236.5	235.1	237.3	236.5	236.5
6°	236.1	234.5	237.1	236.4	236.1
7°	235.7	234.0	236.7	236.1	235.7
8°	234.9	233.2	236.2	235.4	234.9
9°	234.3	232.6	235.8	235.3	234.3
10°	233.7	231.9	235.1	234.8	233.7
11°	232.6	230.9	234.5	234.0	232.6
12°	231.8	229.8	233.9	233.4	231.8
13°	231.2	229.1	232.8	232.9	231.2
14°	229.8	227.9	232.3	231.9	229.8
15°	228.7	226.6	231.5	231.0	228.7
16°	227.7	225.5	229.9	230.2	227.7
17°	226.6	224.1	228.9	229.1	226.6
18°	225.0	222.5	228.0	227.9	225.0
19°	223.9	221.6	226.9	227.2	223.9
20°	222.4	220.0	225.4	225.5	222.4
21°	220.6	218.1	224.4	224.2	220.6
22°	218.2	217.0	222.5	223.3	218.2
23°	217.9	215.1	221.1	221.7	217.9
24°	215.7	213.0	220.0	220.1	215.7
25°	213.8	211.7	218.1	218.7	213.8
26°	212.4	209.9	216.8	217.1	212.4
27°	210.0	207.3	215.1	214.9	210.0
28°	209.1	205.8	214.0	213.5	209.1
29°	206.5	203.9	210.8	211.8	206.5
30°	204.4	200.9	209.2	209.2	204.4
31°	201.7	199.2	207.3	208.0	201.7
32°	200.1	196.9	204.7	205.8	200.1
33°	197.6	194.7	203.1	203.3	197.6
34°	194.9	192.8	200.9	202.0	194.9
35°	192.8	189.8	197.9	199.2	192.8
36°	190.5	187.3	196.2	197.1	190.5
37°	187.2	189.7	193.8	195.0	187.2
38°	185.4	187.1	191.9	192.2	185.4
39°	182.6	185.4	188.9	189.7	182.6
40°	179.7	182.7	186.3	187.6	179.7
41°	177.8	179.5	183.8	184.5	177.8
42°	174.4	177.3	181.6	181.8	174.4
43°	171.4	174.3	178.2	179.7	171.4
44°	169.1	170.9	175.5	176.4	169.1



TEST NUMBER: P588653

CATALOG NUMBER: FM9WRCCR-3000K

CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
45°	164.6	168.9	173.9	173.6	164.6
46°	162.3	165.7	169.6	169.9	162.3
47°	160.0	161.9	166.6	166.3	160.0
48°	156.1	159.7	164.4	164.7	156.1
49°	152.7	156.7	160.6	162.4	152.7
50°	150.4	152.7	157.7	157.8	150.4
51°	146.3	151.2	155.3	155.4	146.3
52°	143.1	147.1	151.3	152.4	143.1
53°	140.7	143.7	148.2	150.1	140.7
54°	137.3	141.5	145.7	146.1	137.3
55°	133.5	137.6	142.5	142.7	133.5
56°	130.9	134.3	138.5	140.3	130.9
57°	127.8	131.8	136.0	136.2	127.8
58°	123.7	127.9	132.9	133.0	123.7
59°	121.0	124.4	130.3	130.5	121.0
60°	118.0	122.1	126.4	126.5	118.0
61°	113.9	118.2	123.1	123.1	113.9
62°	110.6	114.9	119.0	120.6	110.6
63°	108.3	112.4	116.5	117.5	108.3
64°	104.3	109.4	113.3	113.3	104.3
65°	101.2	105.4	109.3	111.1	101.2
66°	98.9	102.9	106.8	107.8	98.9
67°	95.9	98.9	103.8	104.0	95.9
68°	92.1	96.1	100.7	101.6	92.1
69°	89.9	93.7	98.3	98.3	89.9
70°	86.8	90.6	94.4	94.8	86.8
71°	83.2	87.0	91.4	92.6	83.2
72°	80.8	84.7	89.3	89.5	80.8
73°	78.1	81.9	85.4	85.7	78.1
74°	74.6	78.3	82.5	84.3	74.6
75°	72.6	76.3	80.5	80.5	72.6
76°	69.8	73.4	77.0	77.8	69.8
77°	66.6	70.3	74.9	75.6	66.6
78°	64.9	68.3	72.9	72.3	64.9
79°	62.2	65.5	68.9	69.6	62.2
80°	59.7	62.5	66.3	67.5	59.7
81°	57.9	61.4	64.3	64.4	57.9
82°	55.1	58.2	61.9	61.9	55.1
83°	52.9	55.9	58.7	60.0	52.9
84°	51.1	54.8	57.0	56.9	51.1
85°	48.5	51.1	54.6	54.6	48.5
86°	46.4	49.1	51.8	52.7	46.4
87°	44.9	47.3	50.1	50.7	44.9
88°	42.5	45.0	47.9	47.9	42.5
89°	40.4	42.7	45.3	45.8	40.4



TEST NUMBER: P588653

CATALOG NUMBER: FM9WRCCR-3000K

CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
90°	38.2	41.2	43.7	44.5	38.2
91°	36.8	38.9	41.7	41.9	36.8
92°	35.1	36.9	39.3	39.8	35.1
93°	33.3	35.7	37.7	38.3	33.3
94°	32.2	33.0	36.3	36.0	32.2
95°	30.3	29.9	34.4	33.1	30.3
96°	29.2	26.2	33.3	29.8	29.2
97°	27.5	20.4	31.1	22.9	27.5
98°	25.4	14.3	29.7	17.7	25.4
99°	24.0	10.6	28.2	14.0	24.0
100°	22.1	9.1	25.9	10.9	22.1
101°	19.4	9.1	23.4	9.0	19.4
102°	17.5	10.5	21.8	9.5	17.5
103°	15.9	13.1	18.6	11.8	15.9
104°	13.4	15.6	16.5	14.8	13.4
105°	11.7	16.4	13.9	16.5	11.7
106°	10.6	16.1	12.3	17.1	10.6
107°	9.2	15.5	10.4	16.1	9.2
108°	8.1	15.1	9.3	15.8	8.1
109°	6.8	14.7	7.7	15.3	6.8
110°	6.0	14.0	6.6	14.4	6.0
111°	5.5	13.7	5.5	13.7	5.5
112°	5.3	13.4	5.2	13.5	5.3
113°	5.2	12.9	5.1	13.1	5.2
114°	5.7	12.5	5.5	12.8	5.7
115°	6.3	12.3	6.0	12.5	6.3
116°	7.1	12.3	6.7	12.1	7.1
117°	7.6	11.9	7.9	11.9	7.6
118°	8.2	11.7	8.4	11.4	8.2
119°	9.0	11.4	9.0	11.2	9.0
120°	9.3	11.3	9.5	11.2	9.3
121°	9.7	11.1	10.1	11.0	9.7
122°	10.1	11.1	10.4	10.7	10.1
123°	10.5	11.0	10.6	10.7	10.5
124°	10.6	10.9	10.6	10.5	10.6
125°	10.7	10.9	10.6	10.5	10.7
126°	10.7	10.9	10.7	10.3	10.7
127°	10.7	10.6	10.4	10.3	10.7
128°	10.7	10.6	10.5	10.3	10.7
129°	10.6	10.6	10.4	10.3	10.6
130°	10.6	10.6	10.4	10.1	10.6
131°	10.6	10.6	10.3	10.1	10.6
132°	10.6	10.5	10.5	10.1	10.6
133°	10.6	10.4	10.4	10.1	10.6
134°	10.6	10.4	10.4	10.1	10.6



TEST NUMBER: P588653

CATALOG NUMBER: FM9WRCCR-3000K

CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
135°	10.4	10.3	10.3	10.1	10.4
136°	10.5	10.4	10.4	10.1	10.5
137°	10.4	10.4	10.3	9.9	10.4
138°	10.4	10.4	10.3	9.9	10.4
139°	10.4	10.3	10.3	9.8	10.4
140°	10.3	10.3	10.3	9.9	10.3
141°	10.5	10.1	10.4	9.8	10.5
142°	10.3	10.3	10.3	9.6	10.3
143°	10.5	10.3	10.3	9.8	10.5
144°	10.4	10.3	10.4	9.7	10.4
145°	10.4	10.3	10.1	9.7	10.4
146°	10.3	10.3	10.1	9.6	10.3
147°	10.1	10.3	10.4	9.6	10.1
148°	10.4	10.3	10.1	9.7	10.4
149°	10.4	10.3	10.1	9.6	10.4
150°	10.4	10.3	10.1	9.7	10.4
151°	10.4	10.3	10.1	9.6	10.4
152°	10.3	10.4	10.3	9.7	10.3
153°	10.3	10.3	10.1	9.6	10.3
154°	10.1	10.1	10.3	9.6	10.1
155°	10.1	10.3	10.1	9.6	10.1
156°	10.3	10.3	10.3	9.7	10.3
157°	10.1	10.1	10.3	9.5	10.1
158°	10.1	10.1	10.3	9.7	10.1
159°	10.1	9.9	10.1	9.6	10.1
160°	10.1	10.1	10.1	9.7	10.1
161°	10.1	10.1	10.1	9.6	10.1
162°	10.1	9.9	10.1	9.6	10.1
163°	9.9	9.8	10.1	9.6	9.9
164°	10.1	9.9	10.1	9.6	10.1
165°	10.1	9.8	10.1	9.6	10.1
166°	9.9	9.8	9.8	9.7	9.9
167°	9.8	9.8	9.8	9.5	9.8
168°	9.8	9.7	9.8	9.6	9.8
169°	9.9	9.7	9.8	9.6	9.9
170°	9.7	9.6	9.8	9.5	9.7
171°	9.6	9.5	9.6	9.5	9.6
172°	9.3	9.0	9.5	9.2	9.3
173°	8.9	8.8	9.3	9.1	8.9
174°	8.5	8.3	9.0	8.8	8.5
175°	8.4	8.1	8.7	8.2	8.4
176°	8.1	8.0	8.2	8.0	8.1
177°	8.3	8.5	7.6	8.0	8.3
178°	8.9	9.2	7.9	8.0	8.9
179°	9.1	9.0	9.0	8.2	9.1



TEST NUMBER: P588653
CATALOG NUMBER: FM9WRCCR-3000K

CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
180°	9.0	9.0	9.0	9.0	9.0

(END OF REPORT)