

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: P588642

Luminaire Tested: **FM15WRCCR-4000K**

Issue Date: 12/1/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P588642  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( MXL1053-15A)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 12/1/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: FM15WRCCR-4000K  
Description: FM WR CCT SELECT  
Light Source: (1) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

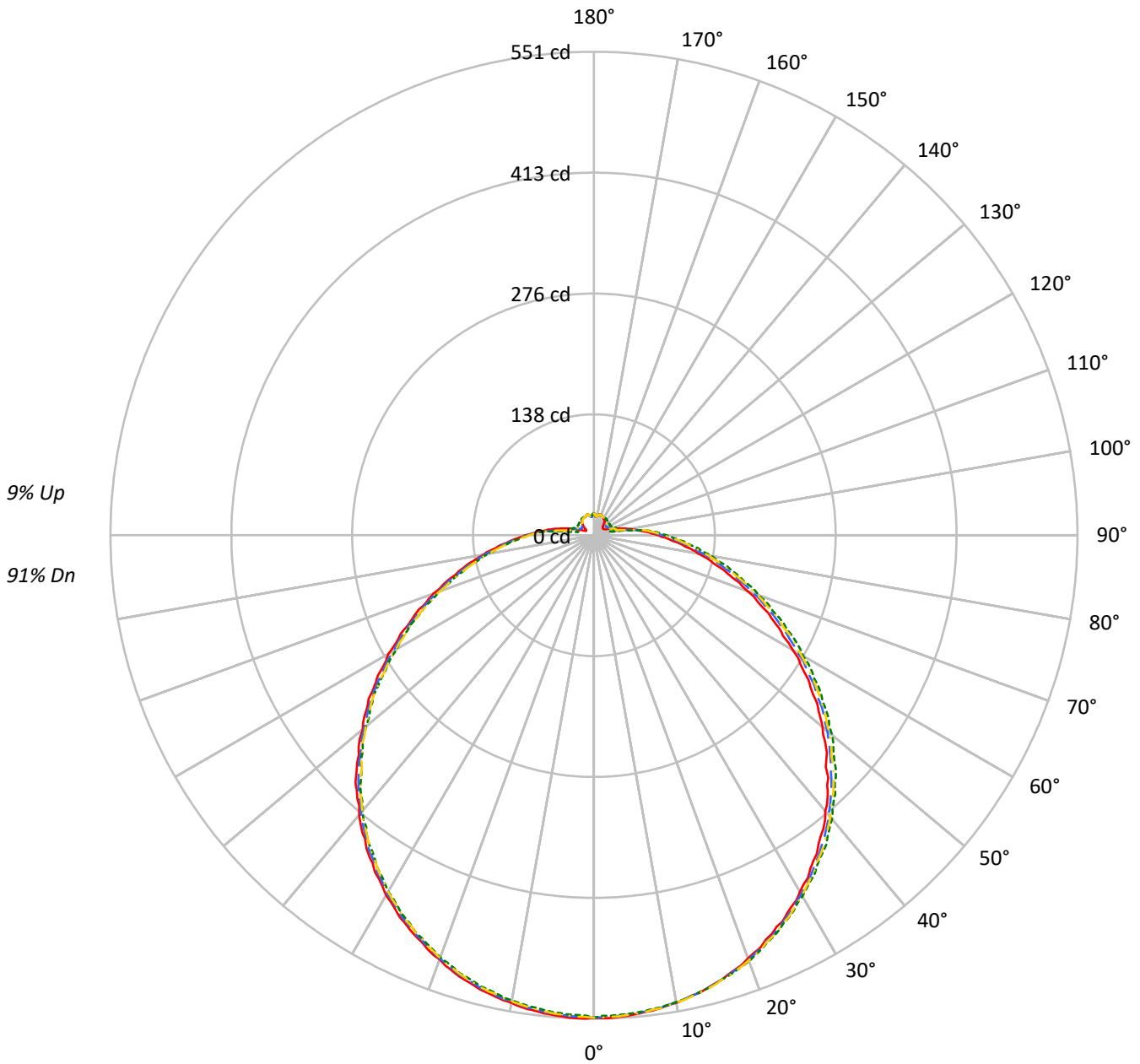
Lumens per Lamp: N/A  
Luminaire Lumens: 1951.0 lumens  
Efficiency: N/A  
Efficacy: 92.0 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.28 / 1.4  
Luminous Opening: Vertical Cylinder (Dia: 1.25m x H: 0.34m)  
CIE Type: Direct

Input Watts (W): 21.2  
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



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### Luminous Intensity Polar Plot



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



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CATALOG NUMBER: FM15WRCCR-4000K

**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	100	100	100	94	94	94	94	94	94	91
1	105	99	94	90	101	96	92	87	90	86	83	85	82	79	80	77	75	75	75	75	72
2	95	86	78	72	91	83	76	70	78	72	67	73	68	64	69	65	62	62	62	62	59
3	86	75	66	59	83	72	64	58	68	61	56	64	58	54	60	56	52	52	52	52	49
4	78	66	57	50	75	64	55	49	60	53	47	57	51	45	54	48	44	44	44	44	41
5	72	59	49	42	69	57	48	42	54	46	40	51	44	39	48	42	38	38	38	38	36
6	66	53	43	37	64	51	43	36	48	41	35	46	39	34	44	38	33	33	33	33	31
7	61	48	39	32	59	46	38	32	44	37	31	42	35	30	40	34	29	29	29	29	27
8	57	43	35	29	55	42	34	28	40	33	28	38	32	27	36	31	26	26	26	26	24
9	53	40	31	26	51	39	31	25	37	30	25	35	29	24	34	28	24	24	24	24	22
10	50	37	29	23	48	36	28	23	34	27	22	33	26	22	31	26	21	21	21	21	20

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	448	448	448	448
5°	435	434	436	433
10°	422	421	422	420
15°	409	409	410	407
20°	395	398	396	394
25°	381	385	384	380
30°	368	372	371	368
35°	354	359	357	352
40°	338	348	343	338
45°	320	333	327	320
50°	305	318	308	304
55°	286	300	292	286
60°	266	280	275	264
65°	246	264	254	246
70°	227	244	237	229
75°	210	228	219	209
80°	191	216	202	194
85°	180	200	189	181



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.0	2.7
10°-20°	149.5	7.7
20°-30°	228.0	11.7
30°-40°	278.3	14.3
40°-50°	293.8	15.1
50°-60°	274.1	14.0
60°-70°	226.9	11.6
70°-80°	167.3	8.6
80°-90°	109.5	5.6
90°-100°	60.5	3.1
100°-110°	28.1	1.4
110°-120°	18.9	1.0
120°-130°	15.3	0.8
130°-140°	15.1	0.8
140°-150°	14.0	0.7
150°-160°	10.8	0.6
160°-170°	6.8	0.3
170°-180°	2.1	0.1
0°-30°	429.5	22.0
0°-40°	707.9	36.3
0°-60°	1275.7	65.4
0°-90°	1779.3	91.2
90°-120°	107.4	5.5
90°-150°	151.9	7.8
90°-180°	172.0	8.8
0°-180°	1951.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	550	550	550	550	550	
5°	548	546	549	545	548	52
15°	529	530	531	527	529	149
25°	492	498	496	491	492	227
35°	443	449	447	440	443	277
45°	374	390	383	374	374	290
55°	301	316	308	301	301	270
65°	223	239	230	223	223	221
75°	153	166	160	152	153	161
85°	96	106	100	96	96	83
90°	73	83	78	74	73	40
95°	55	62	58	50	55	42
105°	30	21	30	24	30	32
115°	17	23	13	22	17	17
125°	13	22	11	22	13	12
135°	15	22	19	23	15	12
145°	21	23	23	24	21	13
155°	23	24	23	24	23	11
165°	24	25	24	24	24	7
175°	23	21	23	23	23	2
180°	24	24	24	24	24	



TEST NUMBER: P588642

CATALOG NUMBER: FM15WRCCR-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	90°	180°	270°	360°
0°	549.8	549.8	549.8	549.8	549.8
1°	550.7	547.9	551.1	547.6	550.7
2°	550.5	547.9	550.8	547.2	550.5
3°	549.7	547.5	550.5	546.9	549.7
4°	549.0	546.9	549.3	546.1	549.0
5°	547.9	546.4	548.6	545.4	547.9
6°	546.8	545.5	547.8	544.1	546.8
7°	545.8	544.1	546.1	542.6	545.8
8°	544.3	543.6	545.4	541.5	544.3
9°	542.3	541.8	543.7	540.0	542.3
10°	541.0	540.1	541.2	538.2	541.0
11°	539.0	538.7	540.0	536.8	539.0
12°	536.2	536.9	537.9	534.0	536.2
13°	535.3	534.4	535.7	531.9	535.3
14°	532.1	532.8	533.9	530.3	532.1
15°	529.4	530.4	530.8	526.9	529.4
16°	527.1	527.1	528.1	524.2	527.1
17°	523.5	525.1	525.8	522.2	523.5
18°	520.5	522.2	522.1	517.9	520.5
19°	517.9	519.5	518.9	514.7	517.9
20°	513.2	516.8	514.5	512.2	513.2
21°	509.7	512.7	511.9	507.5	509.7
22°	506.9	509.2	508.1	503.8	506.9
23°	500.9	504.5	503.2	499.8	500.9
24°	497.8	501.6	500.0	497.0	497.8
25°	492.4	497.5	495.9	491.4	492.4
26°	489.9	492.2	491.7	487.2	489.9
27°	484.2	489.1	488.0	483.4	484.2
28°	479.5	484.8	482.4	477.7	479.5
29°	475.7	478.9	477.7	472.8	475.7
30°	469.4	475.2	473.8	469.1	469.4
31°	464.1	470.1	467.3	462.7	464.1
32°	460.2	465.1	462.1	457.1	460.2
33°	452.9	461.3	458.1	453.0	452.9
34°	447.4	454.5	451.0	446.0	447.4
35°	443.0	449.1	446.6	440.2	443.0
36°	435.6	444.8	441.1	435.9	435.6
37°	429.4	440.6	433.4	429.5	429.4
38°	424.8	433.0	429.1	421.8	424.8
39°	418.3	427.3	422.7	417.1	418.3
40°	410.3	422.3	416.2	410.4	410.3
41°	405.1	414.7	407.9	402.2	405.1
42°	398.3	408.2	403.2	397.2	398.3
43°	389.9	403.2	396.5	390.4	389.9
44°	384.4	394.9	391.2	381.5	384.4



TEST NUMBER: P588642

CATALOG NUMBER: FM15WRCCR-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	90°	180°	270°	360°
45°	373.6	389.9	382.6	374.5	373.6
46°	368.2	383.1	375.3	369.3	368.2
47°	362.8	374.3	366.3	359.9	362.8
48°	355.2	367.1	361.0	354.6	355.2
49°	346.0	361.6	353.5	346.9	346.0
50°	340.2	354.5	344.0	339.1	340.2
51°	332.4	344.9	338.4	329.6	332.4
52°	324.8	339.5	330.8	323.8	324.8
53°	318.7	331.4	323.1	316.3	318.7
54°	308.8	322.2	317.2	310.4	308.8
55°	301.2	316.3	307.5	300.8	301.2
56°	295.1	308.6	299.8	292.6	295.1
57°	285.4	299.0	293.7	283.0	285.4
58°	277.4	293.1	284.0	276.9	277.4
59°	271.6	285.1	276.0	269.0	271.6
60°	261.8	275.4	270.4	259.2	261.8
61°	253.9	269.5	260.4	253.5	253.9
62°	243.9	261.9	252.8	245.9	243.9
63°	238.5	254.2	247.0	238.1	238.5
64°	230.7	244.6	237.1	232.4	230.7
65°	223.0	238.8	229.5	222.8	223.0
66°	217.4	231.2	223.8	215.5	217.4
67°	207.8	221.7	216.6	209.7	207.8
68°	200.6	216.0	207.0	200.5	200.6
69°	195.2	208.8	201.6	193.4	195.2
70°	186.2	199.8	194.5	187.7	186.2
71°	178.8	194.4	185.3	179.1	178.8
72°	173.8	187.3	180.1	171.9	173.8
73°	165.0	178.5	173.2	166.9	165.0
74°	158.3	173.5	164.7	158.6	158.3
75°	153.0	166.5	159.6	152.2	153.0
76°	145.0	160.2	153.0	147.5	145.0
77°	138.9	155.4	148.3	140.8	138.9
78°	134.2	147.2	140.4	133.1	134.2
79°	128.2	140.8	134.0	128.9	128.2
80°	120.8	136.4	128.1	122.8	120.8
81°	116.6	128.9	123.7	115.8	116.6
82°	111.1	122.9	116.6	111.6	111.1
83°	104.6	118.9	111.1	106.6	104.6
84°	100.6	111.7	107.1	100.0	100.6
85°	95.6	106.3	100.3	96.1	95.6
86°	89.5	102.5	95.7	91.4	89.5
87°	86.0	96.0	91.7	85.7	86.0
88°	81.4	91.0	85.9	83.4	81.4
89°	76.2	87.5	81.3	78.1	76.2



TEST NUMBER: P588642

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**CANDELA DISTRIBUTION (continued):**

	0°	90°	180°	270°	360°
90°	73.0	82.8	78.1	73.5	73.0
91°	69.1	77.4	72.8	70.7	69.1
92°	65.2	74.4	68.7	65.7	65.2
93°	62.7	70.4	66.0	61.9	62.7
94°	58.4	65.2	62.4	58.7	58.4
95°	55.2	62.0	58.1	50.2	55.2
96°	51.5	55.5	54.9	42.6	51.5
97°	49.4	45.9	52.4	36.9	49.4
98°	46.6	40.0	48.6	28.4	46.6
99°	44.4	32.9	46.5	23.7	44.4
100°	41.1	25.8	43.3	21.6	41.1
101°	38.4	22.7	39.7	19.6	38.4
102°	36.8	20.6	37.6	18.2	36.8
103°	34.1	19.0	34.8	18.7	34.1
104°	31.5	18.7	31.6	21.4	31.5
105°	30.0	21.2	29.5	23.7	30.0
106°	28.2	23.5	27.5	25.3	28.2
107°	25.9	24.8	25.1	26.5	25.9
108°	24.8	26.6	22.6	25.5	24.8
109°	23.3	26.6	20.9	25.0	23.3
110°	21.5	25.9	19.0	24.3	21.5
111°	20.8	24.8	16.8	23.6	20.8
112°	19.7	24.4	15.9	23.2	19.7
113°	18.3	24.0	14.7	22.9	18.3
114°	17.7	23.3	13.3	22.2	17.7
115°	16.6	22.9	12.8	21.9	16.6
116°	15.6	22.7	11.9	21.9	15.6
117°	15.1	22.2	11.1	21.6	15.1
118°	14.7	22.2	11.1	21.5	14.7
119°	14.3	21.9	10.4	21.5	14.3
120°	13.9	21.9	10.3	21.1	13.9
121°	13.6	21.8	10.3	21.2	13.6
122°	13.3	21.6	10.4	21.4	13.3
123°	13.0	21.5	10.4	21.5	13.0
124°	13.0	21.8	10.6	21.2	13.0
125°	12.9	21.8	11.4	21.5	12.9
126°	12.9	21.8	12.2	21.6	12.9
127°	12.9	21.9	12.8	21.5	12.9
128°	13.0	21.9	13.6	21.6	13.0
129°	12.9	22.1	14.4	21.8	12.9
130°	13.0	21.9	15.0	21.9	13.0
131°	13.5	22.2	15.9	22.1	13.5
132°	13.6	21.9	16.4	21.9	13.6
133°	13.9	22.5	17.2	22.1	13.9
134°	14.4	22.5	17.6	22.2	14.4





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**CANDELA DISTRIBUTION (continued):**

	0°	90°	180°	270°	360°
135°	15.0	22.5	18.6	22.6	15.0
136°	15.3	22.5	18.9	22.5	15.3
137°	15.9	22.5	19.8	22.6	15.9
138°	16.8	22.6	20.4	22.6	16.8
139°	17.2	22.7	20.9	22.9	17.2
140°	18.3	22.9	21.2	22.9	18.3
141°	18.5	23.0	21.8	23.0	18.5
142°	19.6	23.0	21.9	23.2	19.6
143°	20.0	23.0	22.5	23.0	20.0
144°	20.3	23.3	22.6	23.5	20.3
145°	20.8	23.0	22.9	23.5	20.8
146°	21.2	23.3	23.0	23.2	21.2
147°	21.5	23.2	22.9	23.5	21.5
148°	21.8	23.3	23.0	23.3	21.8
149°	21.9	23.3	22.9	23.3	21.9
150°	22.1	23.2	23.0	23.5	22.1
151°	22.6	23.3	22.9	23.6	22.6
152°	22.7	23.3	22.9	23.5	22.7
153°	23.0	23.6	23.0	23.6	23.0
154°	23.0	23.6	23.2	23.6	23.0
155°	23.3	23.6	23.3	23.6	23.3
156°	23.6	23.6	23.3	23.9	23.6
157°	23.5	23.7	23.3	23.7	23.5
158°	23.9	23.9	23.6	23.7	23.9
159°	23.6	24.0	24.0	23.9	23.6
160°	24.3	23.9	24.4	24.4	24.3
161°	24.5	24.0	24.4	24.7	24.5
162°	25.0	24.3	25.1	24.8	25.0
163°	25.0	24.5	25.0	24.7	25.0
164°	24.7	24.5	24.8	24.5	24.7
165°	23.9	24.8	24.0	23.7	23.9
166°	23.3	24.4	23.5	23.3	23.3
167°	23.0	24.0	23.0	23.0	23.0
168°	22.6	23.7	22.5	22.6	22.6
169°	22.1	23.2	22.1	21.9	22.1
170°	22.5	22.9	21.8	21.6	22.5
171°	22.1	22.5	21.4	21.1	22.1
172°	21.8	22.1	21.5	20.6	21.8
173°	21.4	21.6	21.1	20.4	21.4
174°	21.8	21.2	21.6	21.4	21.8
175°	23.2	21.1	22.7	23.3	23.2
176°	23.7	22.6	23.6	23.9	23.7
177°	24.5	23.2	24.0	24.3	24.5
178°	24.5	24.0	24.7	24.8	24.5
179°	24.7	24.4	24.5	24.8	24.7



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**CANDELA DISTRIBUTION (continued):**

	0°	90°	180°	270°	360°
180°	24.5	24.5	24.5	24.5	24.5

(END OF REPORT)