

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: P685922

Luminaire Tested: **4CZL-12-UNV-LVRF-L850-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685922  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-12-UNV-LVRF-L850-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH FROSTED LAY-IN @80 CRI and 5000K  
Light Source: (588) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

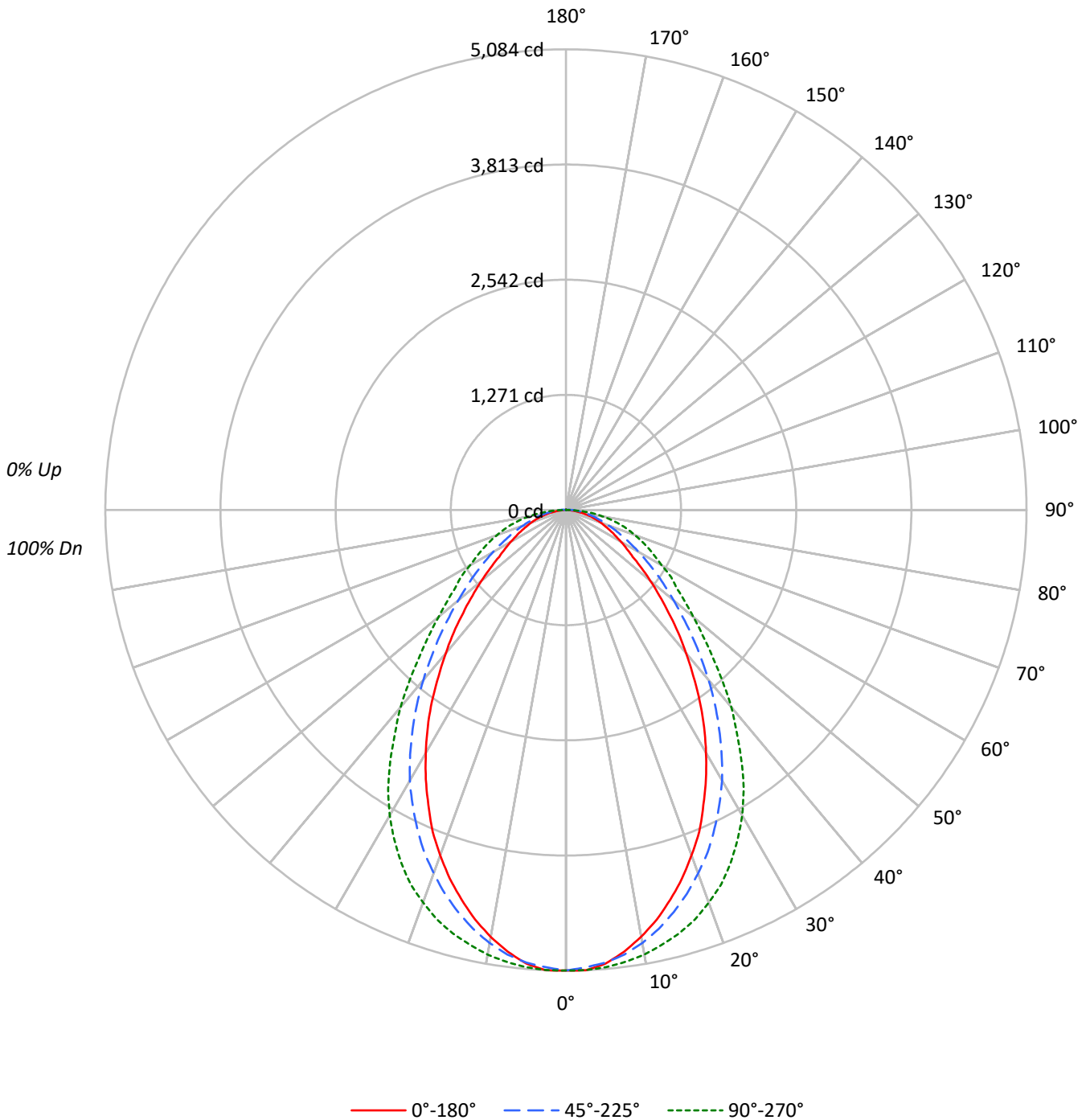
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9373.5 lumens  
Efficiency: N/A  
Efficacy: 121.7 lumens/watt  
Spacing Criteria (0/90/45): 0.97 / 1.15 / 1.12  
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 77  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	82	79	76	76	76	76	74
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	74	70	67	67	67	67	65
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	59	59	59	57
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	53	53	53	51
6	75	63	55	49	73	62	54	48	60	53	48	58	52	48	57	51	47	47	47	47	45
7	70	57	49	44	68	57	49	44	55	48	43	54	48	43	52	47	43	43	43	43	41
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	39	39	39	37
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	36	36	36	34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	33	33	33	31

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

	0°	45°	90°
0°	16409	16409	16409
5°	16289	16251	16415
10°	15680	15912	16334
15°	14878	15357	16162
20°	13933	14656	15841
25°	12794	13827	15316
30°	11532	12850	14503
35°	10157	11622	13321
40°	8694	10319	11978
45°	7324	8995	10432
50°	6116	7796	9224
55°	5061	6850	8363
60°	4561	6004	7886
65°	4146	5284	7712
70°	3862	4743	7653
75°	3581	4428	7809
80°	3245	4387	7822
85°	2786	5143	7740



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	475.5	5.1
10°-20°	1299.4	13.9
20°-30°	1795.3	19.2
30°-40°	1846.9	19.7
40°-50°	1514.1	16.2
50°-60°	1086.5	11.6
60°-70°	730.8	7.8
70°-80°	426.5	4.6
80°-90°	164.3	1.8
90°-100°	28.5	0.3
100°-110°	2.4	0.0
110°-120°	0.4	0.0
120°-130°	0.4	0.0
130°-140°	0.6	0.0
140°-150°	0.7	0.0
150°-160°	0.6	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
<b>0°-30°</b>	<b>3570.1</b>	<b>38.1</b>
<b>0°-40°</b>	<b>5417.0</b>	<b>57.8</b>
<b>0°-60°</b>	<b>8017.6</b>	<b>85.5</b>
<b>0°-90°</b>	<b>9339.2</b>	<b>99.6</b>
90°-120°	31.3	0.3
90°-150°	33.0	0.4
<b>90°-180°</b>	<b>34.0</b>	<b>0.4</b>
<b>0°-180°</b>	<b>9373.5</b>	<b>100.0</b>

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5081	5081	5081	5081	5081	
5°	5025	5029	5014	5060	5064	472
15°	4450	4496	4594	4772	4834	1248
25°	3591	3675	3881	4151	4298	1648
35°	2576	2696	2948	3224	3379	1605
45°	1604	1729	1970	2163	2284	1245
55°	899	1006	1217	1383	1485	828
65°	543	575	692	888	1009	541
75°	287	297	355	493	626	305
85°	75	94	139	207	209	81
90°	1	31	71	108	23	4
95°	1	5	30	52	10	0
105°	0	1	2	3	2	0
115°	1	1	1	0	0	1
125°	1	1	1	0	0	1
135°	1	2	1	1	0	1
145°	2	2	2	1	1	1
155°	2	2	2	1	1	1
165°	2	2	2	2	1	1
175°	2	3	2	2	2	0
180°	2	2	2	2	2	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5081.4	5081.4	5081.4	5081.4	5081.4
2.5°	5083.6	5079.2	5050.7	5083.6	5082.1
5°	5025.2	5028.8	5013.5	5060.2	5063.9
7.5°	4916.3	4930.9	4947.7	5016.4	5028.8
10°	4782.0	4803.9	4852.8	4955.0	4981.3
12.5°	4630.8	4654.9	4734.5	4875.4	4912.0
15°	4450.4	4495.7	4593.6	4771.7	4834.5
17.5°	4264.2	4319.7	4440.9	4652.0	4736.7
20°	4054.6	4110.1	4264.9	4500.1	4609.6
22.5°	3844.3	3898.3	4087.5	4337.9	4474.5
25°	3590.9	3674.8	3880.8	4151.0	4298.5
27.5°	3348.4	3437.5	3666.8	3956.7	4103.5
30°	3092.8	3197.2	3446.3	3723.0	3889.5
32.5°	2839.4	2945.3	3199.4	3487.9	3652.9
35°	2576.5	2695.5	2948.2	3224.2	3379.1
37.5°	2309.9	2439.9	2699.9	2971.6	3096.4
40°	2062.4	2190.2	2447.9	2691.1	2841.6
42.5°	1833.8	1959.4	2198.2	2418.7	2553.8
45°	1603.7	1728.6	1969.6	2163.1	2284.4
47.5°	1397.8	1525.6	1749.8	1945.5	2047.0
50°	1217.4	1333.5	1551.9	1729.3	1836.0
52.5°	1052.4	1158.2	1374.4	1546.8	1649.7
55°	899.0	1006.3	1216.7	1383.2	1485.4
57.5°	796.0	872.7	1061.8	1246.6	1378.1
60°	706.2	753.7	929.7	1148.8	1221.1
62.5°	614.9	658.0	802.6	995.4	1107.9
65°	542.6	574.7	691.6	888.0	1009.3
67.5°	471.0	495.1	595.2	784.3	907.0
70°	409.0	424.3	502.4	682.1	810.6
72.5°	349.8	357.8	428.0	588.6	716.4
75°	287.0	297.2	354.9	492.9	625.9
77.5°	227.1	241.7	292.8	411.2	522.2
80°	174.5	186.2	235.9	338.1	420.6
82.5°	121.2	137.3	184.0	267.3	322.1
85°	75.2	93.5	138.8	207.4	208.9
87.5°	31.4	58.4	101.5	153.4	106.6
90°	0.7	31.4	70.8	108.1	22.6
92.5°	0.0	14.6	48.2	77.4	13.1
95°	0.7	5.1	29.9	51.9	9.5
97.5°	0.0	1.5	16.1	32.9	5.8
100°	0.0	0.7	6.6	18.3	3.7
102.5°	0.0	0.7	2.9	8.0	2.2
105°	0.0	0.7	1.5	2.9	1.5
107.5°	0.0	0.7	0.7	0.7	0.7
110°	0.7	0.7	0.7	0.7	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.7	0.7	0.0	0.0
115°	0.7	0.7	0.7	0.0	0.0
117.5°	0.7	0.7	0.7	0.0	0.0
120°	0.7	0.7	0.7	0.0	0.0
122.5°	0.7	0.7	0.7	0.0	0.0
125°	0.7	0.7	0.7	0.0	0.0
127.5°	0.7	0.7	0.7	0.0	0.0
130°	0.7	0.7	0.7	0.0	0.0
132.5°	0.7	1.5	0.7	0.7	0.0
135°	0.7	1.5	0.7	0.7	0.0
137.5°	0.7	1.5	0.7	0.7	0.0
140°	0.7	1.5	0.7	0.7	0.7
142.5°	1.5	1.5	1.5	0.7	0.7
145°	1.5	1.5	1.5	0.7	0.7
147.5°	1.5	1.5	1.5	0.7	0.7
150°	1.5	1.5	1.5	0.7	0.7
152.5°	1.5	2.2	1.5	0.7	0.7
155°	1.5	2.2	1.5	0.7	0.7
157.5°	1.5	2.2	1.5	0.7	0.7
160°	1.5	2.2	1.5	0.7	0.7
162.5°	2.2	2.2	1.5	1.5	0.7
165°	2.2	2.2	2.2	1.5	0.7
167.5°	2.2	2.2	2.2	1.5	0.7
170°	2.2	2.2	2.2	1.5	1.5
172.5°	2.2	2.2	2.2	1.5	1.5
175°	2.2	2.9	2.2	1.5	1.5
177.5°	2.2	2.9	2.2	1.5	1.5
180°	2.2	2.2	2.2	2.2	2.2

(END OF REPORT)