

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: P685683

Luminaire Tested: **4CZL-16-UNV-LVR-L850-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685683  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-16-UNV-LVR-L850-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL @80 CRI and 5000K  
Light Source: (588) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

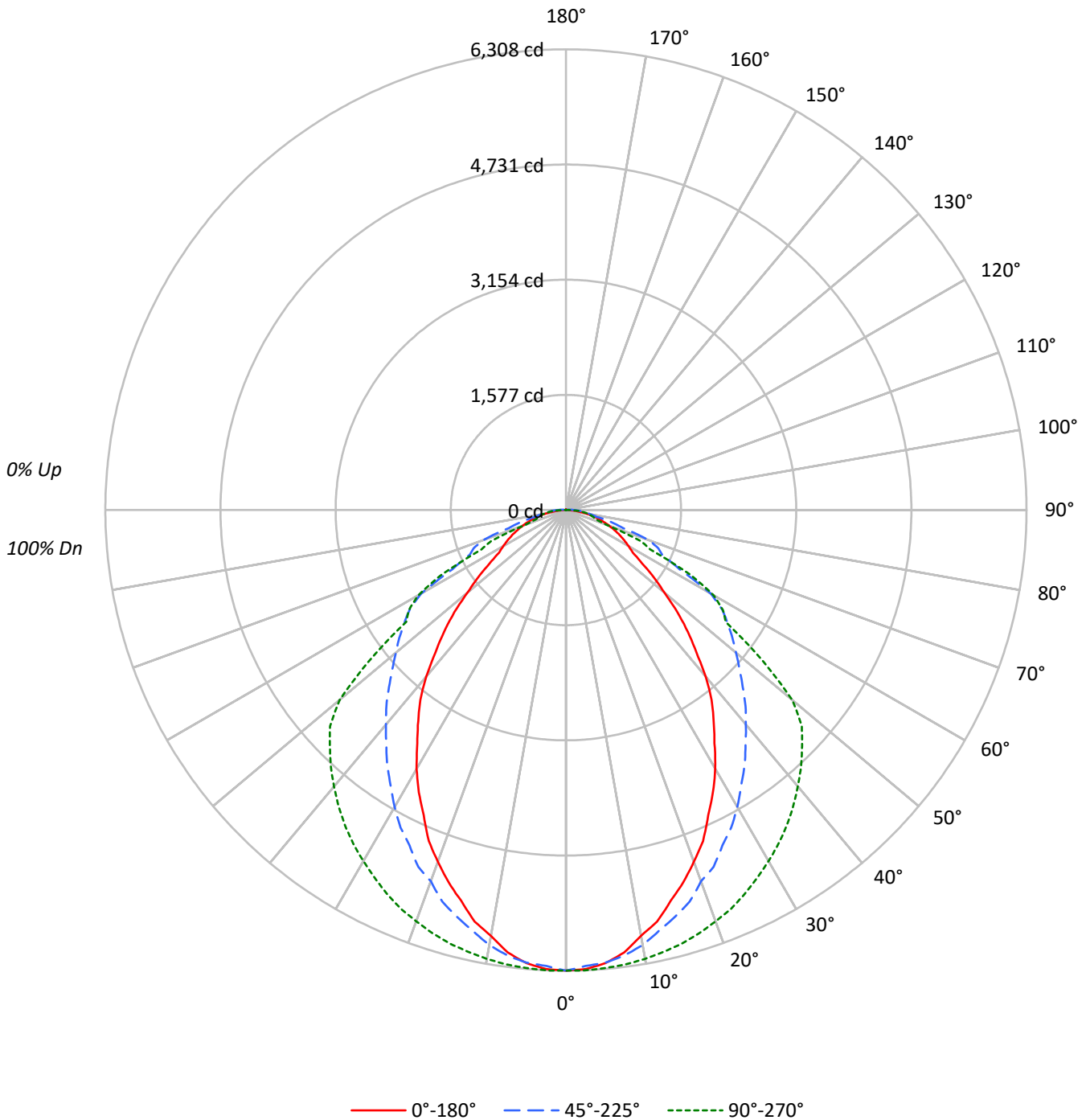
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14283.6 lumens  
Efficiency: N/A  
Efficacy: 138.7 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 1.31 / 1.26  
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 103  
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				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	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	88	88	88	88	85
2	101	93	87	81	98	91	85	80	88	83	78	84	80	77	81	78	75	75	75	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	65	65	65	63
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	60	56	56	56	56	54
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	49	49	49	49	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	44	44	44	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	39	39	39	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	35	35	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	32	32	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	29	29	29	28

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

	0°	45°	90°
0°	20367	20367	20367
5°	20190	20162	20403
10°	19406	19833	20463
15°	18524	19278	20545
20°	17614	18594	20593
25°	16428	18057	20661
30°	15252	17502	20694
35°	13905	16816	20790
40°	12544	16161	20827
45°	10789	15643	20881
50°	8818	15274	20333
55°	7180	15215	15038
60°	6402	14790	15087
65°	6190	11099	9730
70°	5946	11375	5530
75°	5732	8017	4937
80°	5227	6522	5884
85°	4683	8129	7332



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	590.8	4.1
10°-20°	1637.7	11.5
20°-30°	2369.4	16.6
30°-40°	2704.3	18.9
40°-50°	2657.2	18.6
50°-60°	2119.5	14.8
60°-70°	1335.1	9.3
70°-80°	591.5	4.1
80°-90°	226.8	1.6
90°-100°	45.0	0.3
100°-110°	3.0	0.0
110°-120°	0.4	0.0
120°-130°	0.4	0.0
130°-140°	0.7	0.0
140°-150°	0.6	0.0
150°-160°	0.5	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	4597.9	32.2
0°-40°	7302.2	51.1
0°-60°	12078.9	84.6
0°-90°	14232.2	99.6
90°-120°	48.4	0.3
90°-150°	50.1	0.4
90°-180°	51.0	0.4
0°-180°	14283.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6307	6307	6307	6307	6307	
5°	6229	6242	6220	6272	6294	585
15°	5541	5596	5766	6037	6146	1560
25°	4611	4759	5068	5532	5799	2125
35°	3527	3741	4266	4895	5274	2205
45°	2363	2706	3425	4192	4572	1816
55°	1275	1727	2702	2914	2671	1173
65°	810	1103	1453	1548	1273	803
75°	459	531	643	487	396	482
85°	126	154	219	283	198	133
90°	1	53	116	168	32	7
95°	1	8	48	82	11	1
105°	1	1	1	3	0	1
115°	1	1	0	0	0	1
125°	1	2	0	0	0	1
135°	1	2	1	0	0	1
145°	2	2	1	0	0	1
155°	2	2	1	0	0	1
165°	3	3	2	1	0	1
175°	3	3	2	1	1	0
180°	2	2	2	2	2	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6307.1	6307.1	6307.1	6307.1	6307.1
2.5°	6290.4	6286.5	6248.3	6302.2	6308.1
5°	6228.7	6242.4	6219.9	6271.8	6294.3
7.5°	6110.2	6124.9	6151.3	6246.3	6273.8
10°	5918.2	5955.4	6048.5	6181.7	6240.5
12.5°	5771.3	5817.3	5900.6	6126.8	6194.4
15°	5541.1	5596.0	5766.4	6036.7	6145.5
17.5°	5345.2	5445.1	5626.3	5923.1	6074.9
20°	5125.8	5206.1	5410.8	5811.4	5992.7
22.5°	4906.4	5008.2	5287.4	5662.6	5909.4
25°	4610.6	4759.4	5068.0	5532.3	5798.7
27.5°	4359.8	4547.9	4902.5	5378.5	5675.3
30°	4090.4	4236.4	4693.8	5221.8	5549.9
32.5°	3786.8	4016.0	4468.5	5042.5	5418.7
35°	3527.2	3740.8	4265.8	4894.6	5273.7
37.5°	3276.5	3477.3	4041.5	4727.1	5113.1
40°	2975.8	3240.2	3833.8	4536.1	4940.7
42.5°	2642.7	2966.9	3640.8	4355.9	4765.3
45°	2362.6	2706.4	3425.4	4192.3	4572.4
47.5°	2071.7	2434.1	3223.6	3993.5	4381.4
50°	1755.3	2196.1	3040.4	3809.3	4047.3
52.5°	1524.1	1948.2	2875.8	3476.3	3411.6
55°	1275.3	1726.9	2702.5	2914.0	2671.1
57.5°	1086.3	1527.1	2539.9	2288.1	2549.7
60°	991.3	1367.4	2290.1	2178.4	2336.1
62.5°	902.1	1227.3	1751.4	2043.3	1921.8
65°	810.1	1102.9	1452.6	1547.6	1273.4
67.5°	720.9	995.2	1369.4	1155.8	1108.8
70°	629.8	911.9	1204.8	985.4	585.7
72.5°	543.6	815.9	823.8	545.6	434.9
75°	459.4	530.9	642.6	486.8	395.7
77.5°	367.3	455.5	430.0	435.9	358.5
80°	281.1	313.4	350.7	389.8	316.4
82.5°	198.8	233.1	284.1	340.9	259.6
85°	126.4	153.8	219.4	283.1	197.9
87.5°	50.0	97.0	163.6	228.2	116.6
90°	1.0	52.9	115.6	168.5	32.3
92.5°	1.0	24.5	77.4	123.4	16.7
95°	1.0	7.8	48.0	82.3	10.8
97.5°	1.0	2.9	25.5	50.9	5.9
100°	1.0	1.0	10.8	27.4	2.9
102.5°	1.0	1.0	3.9	10.8	1.0
105°	1.0	1.0	1.0	2.9	0.0
107.5°	1.0	1.0	0.0	0.0	0.0
110°	1.0	1.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.0	0.0	0.0	0.0
115°	1.0	1.0	0.0	0.0	0.0
117.5°	1.0	1.0	0.0	0.0	0.0
120°	1.0	1.0	0.0	0.0	0.0
122.5°	1.0	1.0	0.0	0.0	0.0
125°	1.0	2.0	0.0	0.0	0.0
127.5°	1.0	1.0	0.0	0.0	0.0
130°	1.0	2.0	1.0	0.0	0.0
132.5°	1.0	2.0	1.0	0.0	0.0
135°	1.0	2.0	1.0	0.0	0.0
137.5°	1.0	2.0	1.0	0.0	0.0
140°	2.0	2.0	1.0	0.0	0.0
142.5°	2.0	2.0	1.0	0.0	0.0
145°	2.0	2.0	1.0	0.0	0.0
147.5°	2.0	2.0	1.0	0.0	0.0
150°	2.0	2.0	1.0	0.0	0.0
152.5°	2.0	2.0	1.0	0.0	0.0
155°	2.0	2.0	1.0	0.0	0.0
157.5°	2.0	2.9	1.0	0.0	0.0
160°	2.9	2.9	1.0	0.0	0.0
162.5°	2.9	2.9	2.0	1.0	0.0
165°	2.9	2.9	2.0	1.0	0.0
167.5°	2.9	2.9	2.0	1.0	0.0
170°	2.9	2.9	2.0	1.0	1.0
172.5°	2.9	2.9	2.0	1.0	1.0
175°	2.9	2.9	2.0	1.0	1.0
177.5°	2.9	2.9	2.0	1.0	1.0
180°	2.0	2.0	2.0	2.0	2.0

(END OF REPORT)