

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: P685743

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

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685743  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-16-UNV-N-LVR-L850-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @80 CRI and 5000K  
Light Source: (588) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

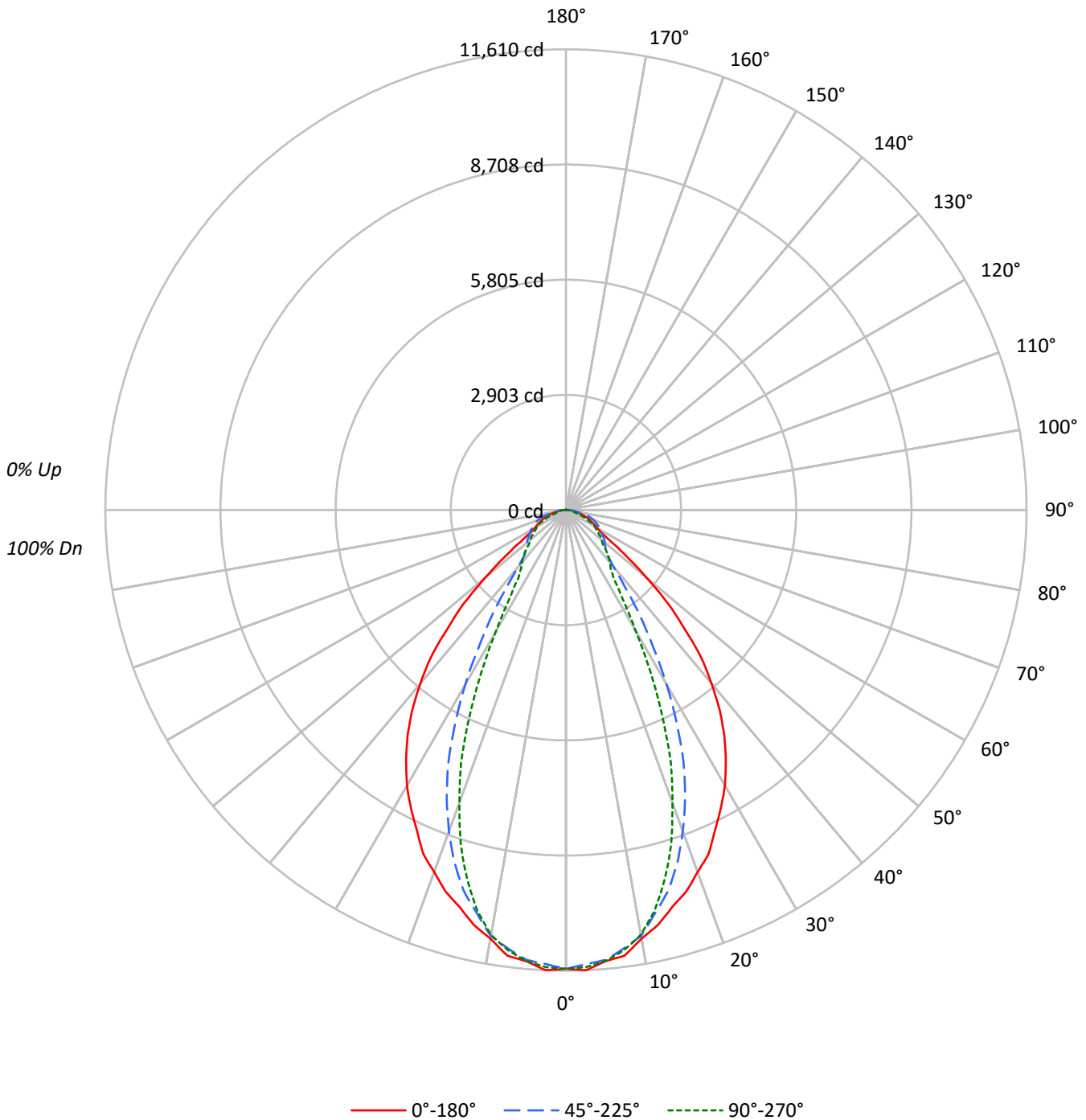
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13687.1 lumens  
Efficiency: N/A  
Efficacy: 132.9 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 0.8 / 0.85  
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 (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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	93	92	90	88
2	103	97	92	87	101	95	90	86	92	88	84	88	85	82	86	83	80	86	83	80	78
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	79	75	72	70
4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	73	69	65	63
5	85	74	67	62	83	73	66	61	71	65	61	69	64	60	68	63	59	68	63	59	58
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	55	63	58	55	53
7	75	64	57	51	73	63	56	51	62	55	51	60	55	51	59	54	50	59	54	50	49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	55	50	47	45
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	43	52	47	43	42
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	49	44	41	39

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

	0°	45°	90°
0°	37330	37330	37330
5°	37000	36895	36990
10°	35957	35735	35648
15°	34623	33241	32187
20°	33348	29612	26956
25°	31690	25004	20554
30°	29892	18914	13133
35°	27436	12823	8251
40°	24062	7812	7237
45°	19278	6508	6486
50°	13329	6431	5855
55°	7852	6374	5514
60°	5851	6623	5446
65°	5538	6668	4789
70°	5327	7111	3616
75°	5022	7137	3092
80°	4662	5919	3498
85°	4139	7184	4320



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1073.9	7.8
10°-20°	2780.5	20.3
20°-30°	3248.3	23.7
30°-40°	2409.9	17.6
40°-50°	1597.6	11.7
50°-60°	1059.5	7.7
60°-70°	790.5	5.8
70°-80°	466.6	3.4
80°-90°	196.5	1.4
90°-100°	42.5	0.3
100°-110°	5.7	0.0
110°-120°	2.9	0.0
120°-130°	2.7	0.0
130°-140°	2.6	0.0
140°-150°	2.6	0.0
150°-160°	2.4	0.0
160°-170°	1.7	0.0
170°-180°	0.6	0.0
0°-30°	7102.7	51.9
0°-40°	9512.6	69.5
0°-60°	12169.7	88.9
0°-90°	13623.3	99.5
90°-120°	51.1	0.4
90°-150°	59.0	0.4
90°-180°	64.0	0.5
0°-180°	13687.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	11560	11560	11560	11560	11560	
5°	11414	11404	11382	11423	11411	1080
15°	10356	10233	9943	9772	9628	2922
25°	8894	8255	7018	6020	5769	4097
35°	6960	5157	3253	2199	2093	4320
45°	4221	2491	1425	1479	1420	3249
55°	1395	1225	1132	1093	979	1372
65°	725	810	873	853	627	723
75°	402	450	572	415	248	425
85°	112	136	194	258	117	121
90°	2	41	97	166	34	7
95°	1	7	38	83	18	1
105°	1	2	4	7	6	1
115°	1	2	3	4	4	1
125°	2	2	3	4	4	1
135°	2	3	3	4	4	2
145°	3	4	4	5	5	2
155°	4	5	5	6	6	2
165°	5	6	6	7	7	1
175°	5	6	7	8	9	0
180°	7	7	7	7	7	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	11560.2	11560.2	11560.2	11560.2	11560.2
2.5°	11610.2	11547.5	11457.4	11538.7	11531.8
5°	11414.3	11404.5	11382.0	11423.1	11411.3
7.5°	11326.1	11273.2	11147.9	11244.8	11190.0
10°	10965.7	10904.0	10898.1	10878.5	10871.7
12.5°	10710.1	10635.6	10397.6	10384.9	10332.0
15°	10356.5	10233.1	9943.2	9771.8	9627.8
17.5°	10082.2	9813.9	9330.0	9010.8	8825.6
20°	9704.2	9408.4	8617.0	8059.7	7844.3
22.5°	9392.7	8868.7	7851.1	7062.7	6914.8
25°	8894.2	8254.6	7017.6	6019.6	5768.8
27.5°	8461.3	7578.8	6034.3	4939.3	4631.7
30°	8016.6	6821.7	5072.5	3879.5	3522.0
32.5°	7498.5	6058.8	4082.3	2910.9	2652.3
35°	6959.8	5156.7	3252.7	2198.8	2093.0
37.5°	6366.3	4345.7	2444.7	1836.4	1854.1
40°	5708.1	3638.6	1853.1	1683.6	1716.9
42.5°	5051.9	3043.1	1541.6	1583.7	1593.5
45°	4221.3	2490.7	1425.1	1478.9	1420.2
47.5°	3495.6	2035.3	1342.8	1336.9	1253.7
50°	2653.3	1659.2	1280.1	1209.6	1165.5
52.5°	1964.7	1399.6	1220.4	1143.0	1097.9
55°	1394.7	1225.3	1132.2	1093.0	979.4
57.5°	1048.0	1101.9	1064.6	976.5	897.2
60°	906.0	993.1	1025.5	920.7	843.3
62.5°	817.8	900.1	961.8	887.4	771.8
65°	724.8	810.0	872.7	853.1	626.8
67.5°	643.5	738.5	815.9	731.6	512.2
70°	564.2	652.3	753.2	621.0	383.0
72.5°	478.9	545.5	667.0	482.9	279.1
75°	402.5	450.5	572.0	415.3	247.8
77.5°	322.2	362.4	391.8	378.1	218.4
80°	250.7	290.9	318.3	343.8	188.1
82.5°	182.2	208.6	252.7	304.6	156.7
85°	111.7	136.1	193.9	257.6	116.6
87.5°	48.0	83.3	142.0	213.5	76.4
90°	2.0	41.1	97.0	166.5	34.3
92.5°	1.0	17.6	62.7	122.4	22.5
95°	1.0	6.9	38.2	83.3	17.6
97.5°	1.0	2.9	19.6	53.9	12.7
100°	1.0	2.0	10.8	31.3	8.8
102.5°	1.0	2.0	4.9	15.7	6.9
105°	1.0	2.0	3.9	6.9	5.9
107.5°	1.0	2.0	2.9	4.9	4.9
110°	1.0	2.0	2.9	4.9	4.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	2.0	2.9	4.9	4.9
115°	1.0	2.0	2.9	3.9	3.9
117.5°	1.0	2.0	2.9	3.9	3.9
120°	1.0	2.0	2.9	3.9	3.9
122.5°	1.0	2.0	2.9	3.9	3.9
125°	2.0	2.0	2.9	3.9	3.9
127.5°	2.0	2.9	2.9	3.9	3.9
130°	2.0	2.9	2.9	3.9	3.9
132.5°	2.0	2.9	2.9	3.9	3.9
135°	2.0	2.9	2.9	3.9	3.9
137.5°	2.0	2.9	3.9	3.9	3.9
140°	2.9	3.9	3.9	3.9	3.9
142.5°	2.9	3.9	3.9	4.9	3.9
145°	2.9	3.9	3.9	4.9	4.9
147.5°	2.9	3.9	4.9	4.9	4.9
150°	2.9	3.9	4.9	5.9	5.9
152.5°	3.9	3.9	4.9	5.9	5.9
155°	3.9	4.9	4.9	5.9	5.9
157.5°	3.9	4.9	4.9	5.9	6.9
160°	3.9	4.9	5.9	6.9	6.9
162.5°	3.9	4.9	5.9	6.9	6.9
165°	4.9	5.9	5.9	6.9	6.9
167.5°	4.9	5.9	6.9	6.9	7.8
170°	4.9	5.9	6.9	7.8	7.8
172.5°	4.9	5.9	6.9	7.8	7.8
175°	4.9	5.9	6.9	7.8	8.8
177.5°	4.9	5.9	6.9	7.8	8.8
180°	6.9	6.9	6.9	6.9	6.9

(END OF REPORT)