

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: P685802

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

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685802  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-12-UNV-M-LVR-L850-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH MEDIUM LENS @80 CRI and 5000K  
Light Source: (588) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

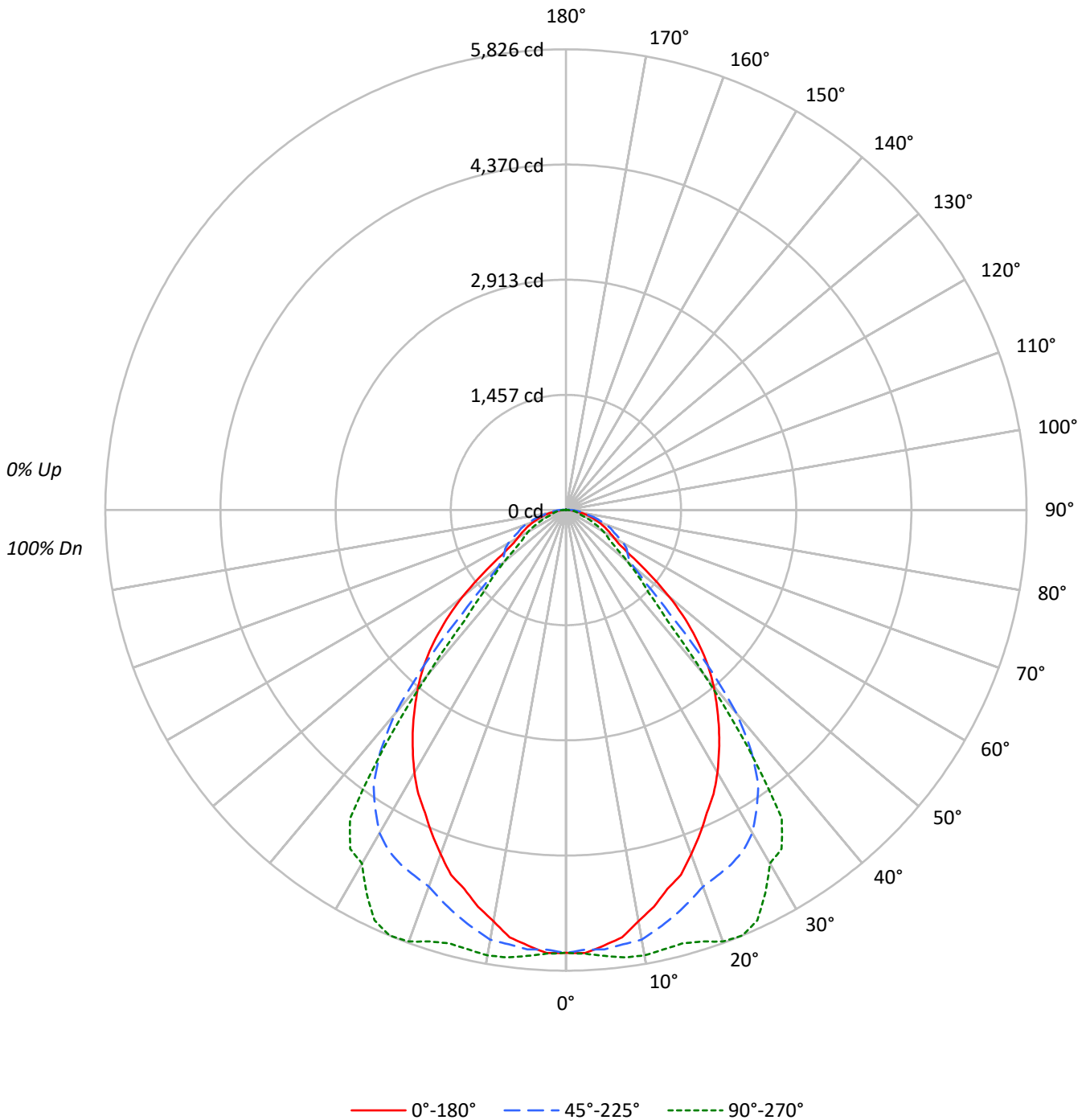
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10360.2 lumens  
Efficiency: N/A  
Efficacy: 134.5 lumens/watt  
Spacing Criteria (0/90/45): 1.05 / 1.34 / 1.2  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88
2	103	96	90	86	100	94	89	84	91	86	83	87	84	81	84	81	79	77
3	95	87	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	70	66	62	60
5	83	72	64	58	81	70	63	58	68	62	57	67	61	57	65	60	56	54
6	77	65	58	52	75	65	57	52	63	56	51	61	55	51	60	55	51	49
7	72	60	53	47	70	59	52	47	58	51	47	57	51	46	55	50	46	44
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	40
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	37
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	34

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

	0°	45°	90°
0°	18085	18085	18085
5°	17918	18079	18348
10°	17311	18089	18750
15°	16582	17752	18970
20°	15913	17414	19956
25°	15034	17621	20400
30°	14290	17583	19241
35°	13306	16720	18762
40°	12249	14173	11433
45°	10792	8448	6777
50°	8566	5609	5114
55°	5547	5337	3881
60°	4528	5424	3566
65°	4313	5111	2913
70°	4096	5130	2303
75°	3890	4802	2141
80°	3598	4536	2404
85°	3220	5547	2949



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	531.5	5.1
10°-20°	1507.5	14.6
20°-30°	2273.2	21.9
30°-40°	2511.8	24.2
40°-50°	1574.9	15.2
50°-60°	847.9	8.2
60°-70°	575.8	5.6
70°-80°	343.9	3.3
80°-90°	149.4	1.4
90°-100°	32.7	0.3
100°-110°	3.8	0.0
110°-120°	1.4	0.0
120°-130°	1.3	0.0
130°-140°	1.5	0.0
140°-150°	1.4	0.0
150°-160°	1.1	0.0
160°-170°	0.8	0.0
170°-180°	0.3	0.0
0°-30°	4312.1	41.6
0°-40°	6823.9	65.9
0°-60°	9246.7	89.3
0°-90°	10316.0	99.6
90°-120°	37.9	0.4
90°-150°	42.0	0.4
90°-180°	44.0	0.4
0°-180°	10360.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5600	5600	5600	5600	5600	
5°	5528	5537	5577	5643	5660	521
15°	4960	5134	5310	5567	5674	1400
25°	4220	4476	4946	5473	5725	1948
35°	3375	3772	4242	4563	4759	2106
45°	2363	2573	1850	1508	1484	1803
55°	985	1030	948	820	689	957
65°	564	621	669	543	381	558
75°	312	347	385	316	172	329
85°	87	107	150	197	80	94
90°	2	33	76	126	23	6
95°	1	5	30	65	12	1
105°	1	2	2	5	2	1
115°	1	2	2	2	2	1
125°	1	2	2	2	2	1
135°	2	2	2	2	2	1
145°	2	2	2	2	3	1
155°	2	2	2	2	2	1
165°	2	3	3	3	3	1
175°	3	3	3	4	4	0
180°	4	4	4	4	4	

TEST NUMBER: P685802

CATALOG NUMBER: 4CZL-12-UNV-M-LVR-L850-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5600.5	5600.5	5600.5	5600.5	5600.5
2.5°	5607.8	5592.5	5564.0	5615.1	5615.9
5°	5527.5	5537.0	5577.2	5642.9	5660.4
7.5°	5449.4	5485.9	5539.9	5698.4	5706.4
10°	5279.2	5355.2	5516.6	5669.2	5718.1
12.5°	5137.5	5250.0	5416.5	5617.3	5693.3
15°	4960.1	5133.9	5309.9	5566.9	5674.3
17.5°	4835.9	4975.4	5190.8	5543.6	5719.6
20°	4630.7	4827.2	5067.4	5559.6	5807.2
22.5°	4431.4	4670.2	5005.4	5565.5	5825.5
25°	4219.6	4475.9	4945.5	5472.7	5725.4
27.5°	4044.3	4259.0	4856.4	5279.2	5461.8
30°	3832.5	4085.2	4715.4	4983.4	5160.2
32.5°	3604.7	3925.3	4486.9	4757.1	5078.4
35°	3375.4	3771.9	4241.5	4562.8	4759.3
37.5°	3135.8	3645.6	3855.9	3907.7	3773.4
40°	2905.8	3469.6	3362.2	2860.5	2712.3
42.5°	2654.6	3091.3	2622.4	1968.1	1901.7
45°	2363.2	2572.8	1849.8	1508.0	1483.9
47.5°	2052.8	1992.2	1379.5	1260.5	1246.6
50°	1705.2	1592.7	1116.6	1112.2	1018.0
52.5°	1329.1	1264.8	1001.2	964.7	815.0
55°	985.2	1030.4	947.9	820.1	689.4
57.5°	788.7	893.9	910.7	716.4	616.4
60°	701.1	782.1	839.8	658.7	552.1
62.5°	628.8	693.0	752.2	611.2	476.1
65°	564.5	620.7	668.9	543.3	381.2
67.5°	496.6	555.0	614.2	466.7	324.2
70°	433.8	495.9	543.3	414.1	243.9
72.5°	368.8	433.1	454.2	346.2	195.0
75°	311.8	346.9	384.9	316.2	171.6
77.5°	251.9	281.9	297.2	289.9	151.2
80°	193.5	217.6	243.9	263.6	129.3
82.5°	141.7	159.2	195.0	232.2	103.7
85°	86.9	106.6	149.7	197.2	79.6
87.5°	38.7	63.5	110.3	162.9	51.1
90°	2.2	32.9	75.9	126.3	23.4
92.5°	0.7	14.6	49.7	93.5	16.1
95°	0.7	5.1	29.9	65.0	11.7
97.5°	0.7	2.2	16.8	41.6	7.3
100°	0.7	1.5	8.0	24.1	5.1
102.5°	0.7	1.5	3.7	11.7	3.7
105°	0.7	1.5	2.2	5.1	2.2
107.5°	0.7	1.5	1.5	2.2	1.5
110°	0.7	1.5	1.5	1.5	1.5



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CATALOG NUMBER: 4CZL-12-UNV-M-LVR-L850-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	1.5	1.5	1.5	1.5
115°	0.7	1.5	1.5	1.5	1.5
117.5°	0.7	1.5	1.5	1.5	1.5
120°	0.7	1.5	1.5	1.5	1.5
122.5°	0.7	1.5	1.5	1.5	1.5
125°	0.7	1.5	1.5	1.5	1.5
127.5°	0.7	1.5	1.5	1.5	1.5
130°	0.7	1.5	1.5	1.5	1.5
132.5°	1.5	1.5	2.2	2.2	2.2
135°	1.5	1.5	2.2	2.2	2.2
137.5°	1.5	2.2	2.2	2.2	2.2
140°	1.5	2.2	2.2	2.2	2.2
142.5°	1.5	2.2	2.2	2.2	2.2
145°	1.5	2.2	2.2	2.2	2.9
147.5°	1.5	2.2	2.2	2.2	2.9
150°	1.5	2.2	2.2	2.2	2.2
152.5°	2.2	2.2	2.2	2.2	2.2
155°	2.2	2.2	2.2	2.2	2.2
157.5°	2.2	2.2	2.2	2.9	2.9
160°	2.2	2.9	2.9	2.9	2.9
162.5°	2.2	2.9	2.9	2.9	2.9
165°	2.2	2.9	2.9	2.9	2.9
167.5°	2.2	2.9	2.9	2.9	3.7
170°	2.9	2.9	2.9	3.7	3.7
172.5°	2.9	2.9	2.9	3.7	3.7
175°	2.9	2.9	2.9	3.7	3.7
177.5°	2.9	3.7	2.9	3.7	4.4
180°	3.7	3.7	3.7	3.7	3.7

(END OF REPORT)