

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: P685773

Luminaire Tested: **4CZL-16-UNV-N-LVR-L950-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685773  
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-L950-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @90 CRI and 5000K  
Light Source: (588) 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

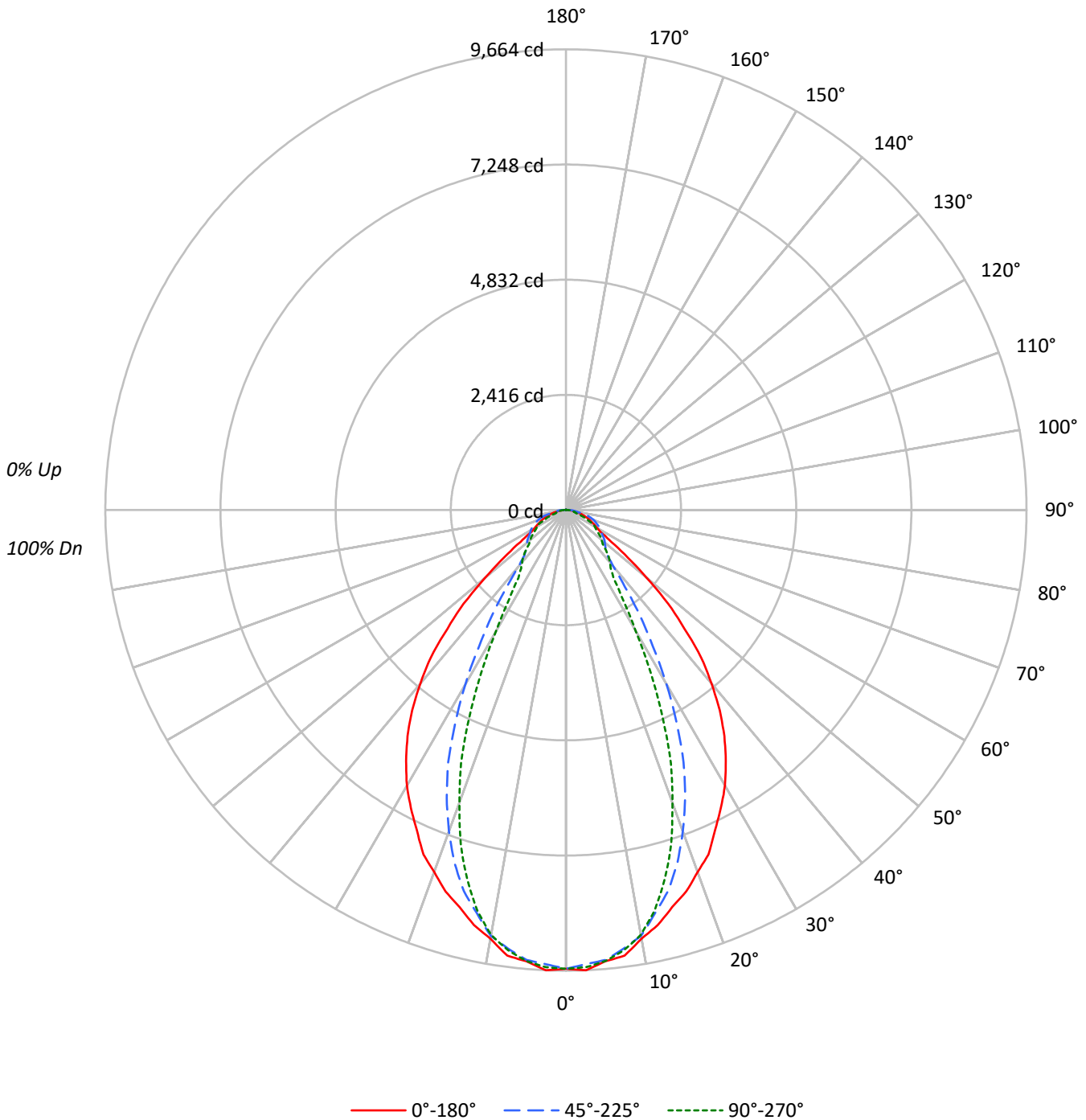
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11393.1 lumens  
Efficiency: N/A  
Efficacy: 110.6 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°	31074	31074	31074
5°	30799	30711	30791
10°	29930	29746	29674
15°	28820	27670	26792
20°	27759	24649	22439
25°	26379	20813	17110
30°	24882	15744	10932
35°	22838	10673	6868
40°	20029	6502	6025
45°	16047	5417	5399
50°	11095	5353	4874
55°	6536	5306	4590
60°	4870	5513	4534
65°	4610	5550	3987
70°	4434	5920	3010
75°	4181	5940	2574
80°	3881	4928	2910
85°	3442	5980	3594



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	893.9	7.8
10°-20°	2314.5	20.3
20°-30°	2703.9	23.7
30°-40°	2006.0	17.6
40°-50°	1329.9	11.7
50°-60°	882.0	7.7
60°-70°	658.0	5.8
70°-80°	388.4	3.4
80°-90°	163.5	1.4
90°-100°	35.3	0.3
100°-110°	4.8	0.0
110°-120°	2.4	0.0
120°-130°	2.2	0.0
130°-140°	2.1	0.0
140°-150°	2.2	0.0
150°-160°	2.0	0.0
160°-170°	1.4	0.0
170°-180°	0.5	0.0
0°-30°	5912.3	51.9
0°-40°	7918.3	69.5
0°-60°	10130.1	88.9
0°-90°	11340.1	99.5
90°-120°	42.5	0.4
90°-150°	49.1	0.4
90°-180°	53.0	0.5
0°-180°	11393.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9623	9623	9623	9623	9623	
5°	9501	9493	9474	9509	9499	899
15°	8621	8518	8277	8134	8014	2432
25°	7404	6871	5842	5011	4802	3410
35°	5793	4292	2708	1830	1742	3596
45°	3514	2073	1186	1231	1182	2705
55°	1161	1020	942	910	815	1142
65°	603	674	726	710	522	602
75°	335	375	476	346	206	354
85°	93	113	161	214	97	100
90°	2	34	81	139	28	6
95°	1	6	32	69	15	1
105°	1	2	3	6	5	1
115°	1	2	2	3	3	1
125°	2	2	2	3	3	1
135°	2	2	2	3	3	1
145°	2	3	3	4	4	2
155°	3	4	4	5	5	1
165°	4	5	5	6	6	1
175°	4	5	6	6	7	0
180°	6	6	6	6	6	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9622.8	9622.8	9622.8	9622.8	9622.8
2.5°	9664.3	9612.2	9537.2	9604.8	9599.1
5°	9501.3	9493.1	9474.4	9508.6	9498.8
7.5°	9427.9	9383.9	9279.5	9360.2	9314.6
10°	9127.9	9076.5	9071.6	9055.3	9049.6
12.5°	8915.1	8853.1	8655.0	8644.4	8600.4
15°	8620.8	8518.1	8276.7	8134.1	8014.2
17.5°	8392.5	8169.1	7766.4	7500.6	7346.5
20°	8077.8	7831.6	7172.8	6708.9	6529.6
22.5°	7818.5	7382.4	6535.3	5879.0	5755.9
25°	7403.6	6871.2	5841.5	5010.7	4802.0
27.5°	7043.2	6308.6	5022.9	4111.5	3855.5
30°	6673.1	5678.4	4222.3	3229.3	2931.8
32.5°	6241.8	5043.3	3398.1	2423.0	2207.8
35°	5793.4	4292.5	2707.5	1830.3	1742.3
37.5°	5299.3	3617.4	2034.9	1528.7	1543.3
40°	4751.5	3028.8	1542.5	1401.5	1429.2
42.5°	4205.2	2533.1	1283.3	1318.3	1326.5
45°	3513.9	2073.3	1186.2	1231.1	1182.2
47.5°	2909.7	1694.2	1117.8	1112.9	1043.6
50°	2208.6	1381.1	1065.6	1006.9	970.2
52.5°	1635.5	1165.0	1015.8	951.4	913.9
55°	1161.0	1019.9	942.5	909.9	815.3
57.5°	872.4	917.2	886.2	812.8	746.8
60°	754.1	826.7	853.6	766.4	702.0
62.5°	680.8	749.2	800.6	738.6	642.4
65°	603.3	674.2	726.4	710.1	521.8
67.5°	535.6	614.7	679.1	609.0	426.4
70°	469.6	543.0	627.0	516.9	318.8
72.5°	398.7	454.1	555.2	401.9	232.4
75°	335.1	375.0	476.1	345.7	206.3
77.5°	268.2	301.7	326.1	314.7	181.8
80°	208.7	242.1	265.0	286.2	156.5
82.5°	151.6	173.7	210.3	253.6	130.4
85°	92.9	113.3	161.4	214.4	97.0
87.5°	39.9	69.3	118.2	177.7	63.6
90°	1.6	34.2	80.7	138.6	28.5
92.5°	0.8	14.7	52.2	101.9	18.8
95°	0.8	5.7	31.8	69.3	14.7
97.5°	0.8	2.4	16.3	44.8	10.6
100°	0.8	1.6	9.0	26.1	7.3
102.5°	0.8	1.6	4.1	13.0	5.7
105°	0.8	1.6	3.3	5.7	4.9
107.5°	0.8	1.6	2.4	4.1	4.1
110°	0.8	1.6	2.4	4.1	4.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	1.6	2.4	4.1	4.1
115°	0.8	1.6	2.4	3.3	3.3
117.5°	0.8	1.6	2.4	3.3	3.3
120°	0.8	1.6	2.4	3.3	3.3
122.5°	0.8	1.6	2.4	3.3	3.3
125°	1.6	1.6	2.4	3.3	3.3
127.5°	1.6	2.4	2.4	3.3	3.3
130°	1.6	2.4	2.4	3.3	3.3
132.5°	1.6	2.4	2.4	3.3	3.3
135°	1.6	2.4	2.4	3.3	3.3
137.5°	1.6	2.4	3.3	3.3	3.3
140°	2.4	3.3	3.3	3.3	3.3
142.5°	2.4	3.3	3.3	4.1	3.3
145°	2.4	3.3	3.3	4.1	4.1
147.5°	2.4	3.3	4.1	4.1	4.1
150°	2.4	3.3	4.1	4.9	4.9
152.5°	3.3	3.3	4.1	4.9	4.9
155°	3.3	4.1	4.1	4.9	4.9
157.5°	3.3	4.1	4.1	4.9	5.7
160°	3.3	4.1	4.9	5.7	5.7
162.5°	3.3	4.1	4.9	5.7	5.7
165°	4.1	4.9	4.9	5.7	5.7
167.5°	4.1	4.9	5.7	5.7	6.5
170°	4.1	4.9	5.7	6.5	6.5
172.5°	4.1	4.9	5.7	6.5	6.5
175°	4.1	4.9	5.7	6.5	7.3
177.5°	4.1	4.9	5.7	6.5	7.3
180°	5.7	5.7	5.7	5.7	5.7

(END OF REPORT)