

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: P685749

Luminaire Tested: **4CZL-5-UNV-N-LVR-L935-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685749  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-5-UNV-N-LVR-L935-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @90 CRI and 3500K  
Light Source: (392) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

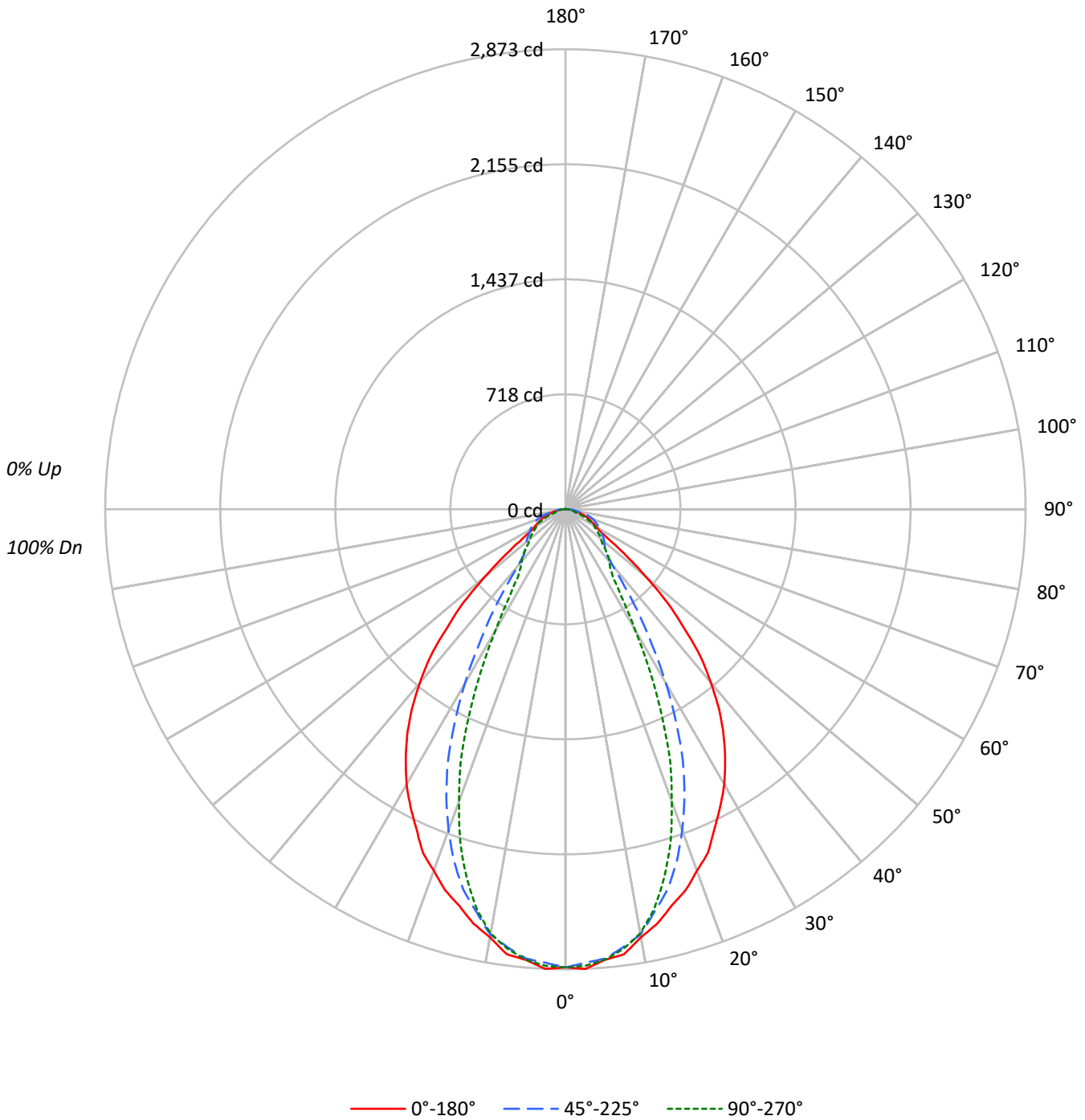
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3386.9 lumens  
Efficiency: N/A  
Efficacy: 109.3 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): 31  
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				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°	9237	9237	9237
5°	9156	9130	9153
10°	8898	8843	8821
15°	8567	8226	7965
20°	8252	7327	6670
25°	7842	6187	5086
30°	7397	4680	3250
35°	6789	3173	2042
40°	5954	1933	1791
45°	4770	1610	1605
50°	3299	1592	1449
55°	1943	1578	1365
60°	1448	1639	1348
65°	1370	1650	1185
70°	1318	1760	895
75°	1243	1765	765
80°	1153	1465	865
85°	1023	1778	1067



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	265.7	7.8
10°-20°	688.0	20.3
20°-30°	803.8	23.7
30°-40°	596.3	17.6
40°-50°	395.3	11.7
50°-60°	262.2	7.7
60°-70°	195.6	5.8
70°-80°	115.5	3.4
80°-90°	48.6	1.4
90°-100°	10.5	0.3
100°-110°	1.4	0.0
110°-120°	0.7	0.0
120°-130°	0.7	0.0
130°-140°	0.6	0.0
140°-150°	0.7	0.0
150°-160°	0.6	0.0
160°-170°	0.4	0.0
170°-180°	0.2	0.0
0°-30°	1757.6	51.9
0°-40°	2353.9	69.5
0°-60°	3011.4	88.9
0°-90°	3371.1	99.5
90°-120°	12.6	0.4
90°-150°	14.6	0.4
90°-180°	16.0	0.5
0°-180°	3386.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2861	2861	2861	2861	2861	
5°	2824	2822	2816	2827	2824	267
15°	2563	2532	2460	2418	2382	723
25°	2201	2043	1736	1490	1428	1014
35°	1722	1276	805	544	518	1069
45°	1045	616	353	366	351	804
55°	345	303	280	270	242	340
65°	179	200	216	211	155	179
75°	100	112	142	103	61	105
85°	28	34	48	64	29	30
90°	0	10	24	41	8	2
95°	0	2	10	21	4	0
105°	0	0	1	2	2	0
115°	0	0	1	1	1	0
125°	0	0	1	1	1	0
135°	0	1	1	1	1	0
145°	1	1	1	1	1	0
155°	1	1	1	2	2	0
165°	1	2	2	2	2	0
175°	1	2	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°	2860.6	2860.6	2860.6	2860.6	2860.6
2.5°	2873.0	2857.4	2835.1	2855.3	2853.6
5°	2824.5	2822.1	2816.5	2826.7	2823.8
7.5°	2802.7	2789.6	2758.6	2782.6	2769.0
10°	2713.5	2698.2	2696.8	2691.9	2690.2
12.5°	2650.2	2631.8	2572.9	2569.8	2556.7
15°	2562.7	2532.2	2460.5	2418.0	2382.4
17.5°	2494.9	2428.5	2308.7	2229.7	2183.9
20°	2401.3	2328.1	2132.3	1994.4	1941.1
22.5°	2324.3	2194.6	1942.8	1747.7	1711.1
25°	2200.9	2042.6	1736.5	1489.6	1427.5
27.5°	2093.8	1875.4	1493.2	1222.2	1146.1
30°	1983.7	1688.1	1255.2	960.0	871.5
32.5°	1855.5	1499.3	1010.2	720.3	656.3
35°	1722.2	1276.0	804.9	544.1	517.9
37.5°	1575.4	1075.4	604.9	454.4	458.8
40°	1412.5	900.4	458.5	416.6	424.9
42.5°	1250.1	753.0	381.5	391.9	394.3
45°	1044.6	616.3	352.6	366.0	351.4
47.5°	865.0	503.6	332.3	330.8	310.2
50°	656.6	410.6	316.8	299.3	288.4
52.5°	486.2	346.3	302.0	282.8	271.7
55°	345.1	303.2	280.2	270.5	242.4
57.5°	259.3	272.7	263.4	241.6	222.0
60°	224.2	245.8	253.8	227.8	208.7
62.5°	202.4	222.7	238.0	219.6	191.0
65°	179.3	200.4	215.9	211.1	155.1
67.5°	159.2	182.7	201.9	181.0	126.8
70°	139.6	161.4	186.4	153.7	94.8
72.5°	118.5	135.0	165.0	119.5	69.1
75°	99.6	111.5	141.5	102.8	61.3
77.5°	79.7	89.7	96.9	93.6	54.0
80°	62.0	72.0	78.8	85.1	46.5
82.5°	45.1	51.6	62.5	75.4	38.8
85°	27.6	33.7	48.0	63.7	28.8
87.5°	11.9	20.6	35.1	52.8	18.9
90°	0.5	10.2	24.0	41.2	8.5
92.5°	0.2	4.4	15.5	30.3	5.6
95°	0.2	1.7	9.5	20.6	4.4
97.5°	0.2	0.7	4.8	13.3	3.2
100°	0.2	0.5	2.7	7.8	2.2
102.5°	0.2	0.5	1.2	3.9	1.7
105°	0.2	0.5	1.0	1.7	1.5
107.5°	0.2	0.5	0.7	1.2	1.2
110°	0.2	0.5	0.7	1.2	1.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.5	0.7	1.2	1.2
115°	0.2	0.5	0.7	1.0	1.0
117.5°	0.2	0.5	0.7	1.0	1.0
120°	0.2	0.5	0.7	1.0	1.0
122.5°	0.2	0.5	0.7	1.0	1.0
125°	0.5	0.5	0.7	1.0	1.0
127.5°	0.5	0.7	0.7	1.0	1.0
130°	0.5	0.7	0.7	1.0	1.0
132.5°	0.5	0.7	0.7	1.0	1.0
135°	0.5	0.7	0.7	1.0	1.0
137.5°	0.5	0.7	1.0	1.0	1.0
140°	0.7	1.0	1.0	1.0	1.0
142.5°	0.7	1.0	1.0	1.2	1.0
145°	0.7	1.0	1.0	1.2	1.2
147.5°	0.7	1.0	1.2	1.2	1.2
150°	0.7	1.0	1.2	1.5	1.5
152.5°	1.0	1.0	1.2	1.5	1.5
155°	1.0	1.2	1.2	1.5	1.5
157.5°	1.0	1.2	1.2	1.5	1.7
160°	1.0	1.2	1.5	1.7	1.7
162.5°	1.0	1.2	1.5	1.7	1.7
165°	1.2	1.5	1.5	1.7	1.7
167.5°	1.2	1.5	1.7	1.7	1.9
170°	1.2	1.5	1.7	1.9	1.9
172.5°	1.2	1.5	1.7	1.9	1.9
175°	1.2	1.5	1.7	1.9	2.2
177.5°	1.2	1.5	1.7	1.9	2.2
180°	1.7	1.7	1.7	1.7	1.7

(END OF REPORT)