

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: P685933

Luminaire Tested: **4CZL-16-UNV-LVRF-L935-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685933  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-16-UNV-LVRF-L935-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH FROSTED LAY-IN @90 CRI and 3500K  
Light Source: (588) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

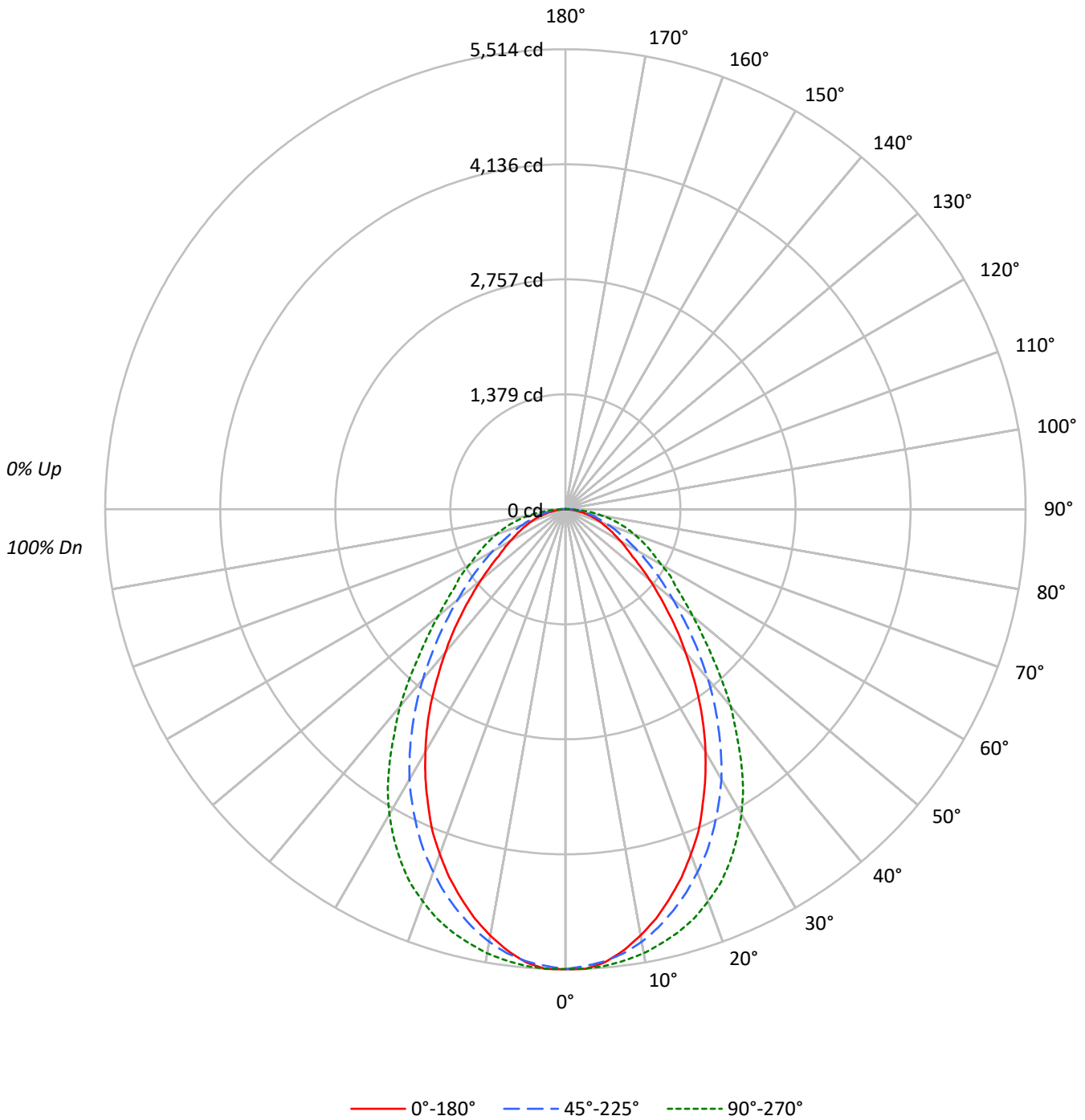
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10167.3 lumens  
Efficiency: N/A  
Efficacy: 98.7 lumens/watt  
Spacing Criteria (0/90/45): 0.97 / 1.15 / 1.12  
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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	82	79	76	76	76	76	74
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	74	70	67	67	67	67	65
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	59	59	59	57
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	53	53	53	51
6	75	63	55	49	73	62	54	48	60	53	48	58	52	48	57	51	47	47	47	47	45
7	70	57	49	44	68	57	49	44	55	48	43	54	48	43	52	47	43	43	43	43	41
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	39	39	39	37
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	36	36	36	34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	33	33	33	31

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

	0°	45°	90°
0°	17798	17798	17798
5°	17669	17627	17804
10°	17008	17260	17717
15°	16138	16657	17531
20°	15113	15897	17182
25°	13878	14998	16613
30°	12509	13938	15731
35°	11017	12606	14449
40°	9430	11193	12993
45°	7944	9756	11316
50°	6634	8456	10004
55°	5490	7430	9071
60°	4947	6513	8553
65°	4497	5731	8365
70°	4188	5146	8302
75°	3884	4803	8470
80°	3520	4759	8485
85°	3023	5576	8392



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	515.7	5.1
10°-20°	1409.4	13.9
20°-30°	1947.4	19.2
30°-40°	2003.3	19.7
40°-50°	1642.3	16.2
50°-60°	1178.5	11.6
60°-70°	792.6	7.8
70°-80°	462.6	4.6
80°-90°	178.3	1.8
90°-100°	30.9	0.3
100°-110°	2.6	0.0
110°-120°	0.5	0.0
120°-130°	0.4	0.0
130°-140°	0.7	0.0
140°-150°	0.8	0.0
150°-160°	0.7	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	3872.5	38.1
0°-40°	5875.7	57.8
0°-60°	8696.5	85.5
0°-90°	10130.0	99.6
90°-120°	34.0	0.3
90°-150°	35.9	0.4
90°-180°	37.0	0.4
0°-180°	10167.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5512	5512	5512	5512	5512	
5°	5451	5455	5438	5489	5493	512
15°	4827	4876	4982	5176	5244	1354
25°	3895	3986	4209	4502	4662	1788
35°	2795	2924	3198	3497	3665	1741
45°	1740	1875	2136	2346	2478	1350
55°	975	1092	1320	1500	1611	898
65°	589	623	750	963	1095	586
75°	311	322	385	535	679	331
85°	82	101	150	225	226	88
90°	1	34	77	117	25	5
95°	1	6	32	56	10	0
105°	0	1	2	3	2	0
115°	1	1	1	0	0	1
125°	1	1	1	0	0	1
135°	1	2	1	1	0	1
145°	2	2	2	1	1	1
155°	2	2	2	1	1	1
165°	2	2	2	2	1	1
175°	2	3	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°	5511.6	5511.6	5511.6	5511.6	5511.6
2.5°	5514.0	5509.3	5478.4	5514.0	5512.4
5°	5450.7	5454.6	5438.0	5488.7	5492.6
7.5°	5332.6	5348.5	5366.7	5441.1	5454.6
10°	5186.9	5210.6	5263.7	5374.6	5403.1
12.5°	5022.9	5049.0	5135.4	5288.3	5327.9
15°	4827.2	4876.4	4982.5	5175.8	5243.9
17.5°	4625.3	4685.5	4816.9	5045.9	5137.8
20°	4397.9	4458.1	4626.0	4881.1	4999.9
22.5°	4169.8	4228.4	4433.6	4705.3	4853.4
25°	3894.9	3986.0	4209.4	4502.5	4662.5
27.5°	3631.9	3728.6	3977.3	4291.8	4451.0
30°	3354.7	3468.0	3738.1	4038.3	4218.9
32.5°	3079.8	3194.7	3470.3	3783.2	3962.2
35°	2794.6	2923.8	3197.8	3497.3	3665.2
37.5°	2505.5	2646.5	2928.5	3223.2	3358.6
40°	2237.0	2375.6	2655.2	2919.0	3082.2
42.5°	1989.0	2125.3	2384.3	2623.5	2770.1
45°	1739.5	1875.0	2136.4	2346.3	2477.8
47.5°	1516.1	1654.8	1897.9	2110.2	2220.3
50°	1320.5	1446.4	1683.3	1875.8	1991.4
52.5°	1141.5	1256.3	1490.8	1677.7	1789.4
55°	975.1	1091.6	1319.7	1500.3	1611.2
57.5°	863.4	946.6	1151.8	1352.2	1494.8
60°	766.0	817.5	1008.4	1246.0	1324.4
62.5°	667.0	713.7	870.6	1079.7	1201.7
65°	588.6	623.4	750.1	963.2	1094.7
67.5°	510.9	537.1	645.6	850.7	983.8
70°	443.6	460.2	545.0	739.9	879.3
72.5°	379.4	388.1	464.2	638.5	777.1
75°	311.3	322.4	385.0	534.7	678.9
77.5°	246.4	262.2	317.6	446.0	566.4
80°	189.3	202.0	255.9	366.8	456.3
82.5°	131.5	148.9	199.6	289.9	349.3
85°	81.6	101.4	150.5	225.0	226.5
87.5°	34.1	63.4	110.1	166.3	115.7
90°	0.8	34.1	76.8	117.2	24.6
92.5°	0.0	15.8	52.3	84.0	14.3
95°	0.8	5.5	32.5	56.2	10.3
97.5°	0.0	1.6	17.4	35.6	6.3
100°	0.0	0.8	7.1	19.8	4.0
102.5°	0.0	0.8	3.2	8.7	2.4
105°	0.0	0.8	1.6	3.2	1.6
107.5°	0.0	0.8	0.8	0.8	0.8
110°	0.8	0.8	0.8	0.8	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.8	0.8	0.0	0.0
115°	0.8	0.8	0.8	0.0	0.0
117.5°	0.8	0.8	0.8	0.0	0.0
120°	0.8	0.8	0.8	0.0	0.0
122.5°	0.8	0.8	0.8	0.0	0.0
125°	0.8	0.8	0.8	0.0	0.0
127.5°	0.8	0.8	0.8	0.0	0.0
130°	0.8	0.8	0.8	0.0	0.0
132.5°	0.8	1.6	0.8	0.8	0.0
135°	0.8	1.6	0.8	0.8	0.0
137.5°	0.8	1.6	0.8	0.8	0.0
140°	0.8	1.6	0.8	0.8	0.8
142.5°	1.6	1.6	1.6	0.8	0.8
145°	1.6	1.6	1.6	0.8	0.8
147.5°	1.6	1.6	1.6	0.8	0.8
150°	1.6	1.6	1.6	0.8	0.8
152.5°	1.6	2.4	1.6	0.8	0.8
155°	1.6	2.4	1.6	0.8	0.8
157.5°	1.6	2.4	1.6	0.8	0.8
160°	1.6	2.4	1.6	0.8	0.8
162.5°	2.4	2.4	1.6	1.6	0.8
165°	2.4	2.4	2.4	1.6	0.8
167.5°	2.4	2.4	2.4	1.6	0.8
170°	2.4	2.4	2.4	1.6	1.6
172.5°	2.4	2.4	2.4	1.6	1.6
175°	2.4	3.2	2.4	1.6	1.6
177.5°	2.4	3.2	2.4	1.6	1.6
180°	2.4	2.4	2.4	2.4	2.4

(END OF REPORT)