

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: P685939

Luminaire Tested: **4CZL-5-UNV-LVRF-L940-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685939  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-5-UNV-LVRF-L940-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH FROSTED LAY-IN @90 CRI and 4000K  
Light Source: (392) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

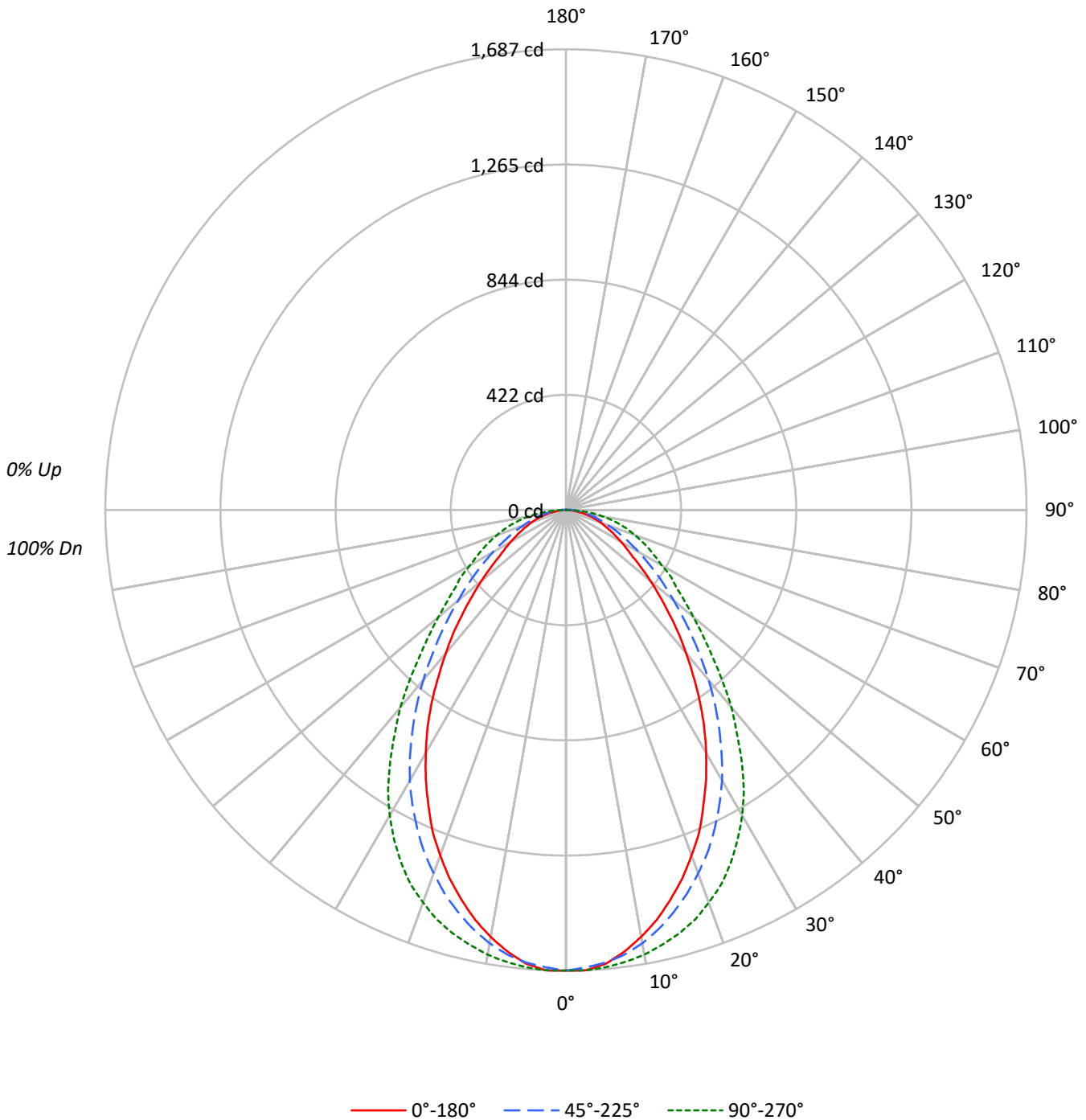
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3110.9 lumens  
Efficiency: N/A  
Efficacy: 100.4 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): 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			
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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86	86	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	82	79	76	74	74	74
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	74	70	67	65	65	65
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	57	57	57
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	51	51	51
6	75	63	55	49	73	62	54	48	60	53	48	58	52	48	57	51	47	45	45	45
7	70	57	49	44	68	57	49	44	55	48	43	54	48	43	52	47	43	41	41	41
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37	37	37
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34	34	34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31	31	31

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

	0°	45°	90°
0°	5446	5446	5446
5°	5406	5394	5448
10°	5204	5281	5421
15°	4938	5097	5364
20°	4624	4864	5257
25°	4246	4589	5083
30°	3828	4265	4813
35°	3371	3857	4421
40°	2885	3425	3976
45°	2431	2985	3463
50°	2030	2588	3061
55°	1680	2273	2776
60°	1514	1993	2618
65°	1376	1754	2560
70°	1281	1575	2540
75°	1189	1470	2591
80°	1077	1456	2596
85°	926	1708	2568



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.8	5.1
10°-20°	431.3	13.9
20°-30°	595.9	19.2
30°-40°	613.0	19.7
40°-50°	502.5	16.2
50°-60°	360.6	11.6
60°-70°	242.5	7.8
70°-80°	141.6	4.6
80°-90°	54.5	1.8
90°-100°	9.4	0.3
100°-110°	0.8	0.0
110°-120°	0.1	0.0
120°-130°	0.1	0.0
130°-140°	0.2	0.0
140°-150°	0.2	0.0
150°-160°	0.2	0.0
160°-170°	0.2	0.0
170°-180°	0.1	0.0
0°-30°	1184.9	38.1
0°-40°	1797.9	57.8
0°-60°	2661.0	85.5
0°-90°	3099.6	99.6
90°-120°	10.4	0.3
90°-150°	10.9	0.3
90°-180°	11.0	0.4
0°-180°	3110.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1686	1686	1686	1686	1686	
5°	1668	1669	1664	1680	1681	157
15°	1477	1492	1525	1584	1605	414
25°	1192	1220	1288	1378	1427	547
35°	855	895	978	1070	1122	533
45°	532	574	654	718	758	413
55°	298	334	404	459	493	275
65°	180	191	230	295	335	179
75°	95	99	118	164	208	101
85°	25	31	46	69	69	27
90°	0	10	24	36	8	1
95°	0	2	10	17	3	0
105°	0	0	0	1	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	1	0	0	0	0
165°	1	1	1	0	0	0
175°	1	1	1	0	0	0
180°	1	1	1	1	1	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1686.5	1686.5	1686.5	1686.5	1686.5
2.5°	1687.2	1685.8	1676.3	1687.2	1686.7
5°	1667.8	1669.0	1663.9	1679.5	1680.7
7.5°	1631.7	1636.6	1642.1	1664.9	1669.0
10°	1587.1	1594.4	1610.6	1644.6	1653.3
12.5°	1536.9	1544.9	1571.4	1618.1	1630.3
15°	1477.1	1492.1	1524.6	1583.7	1604.6
17.5°	1415.3	1433.7	1473.9	1544.0	1572.1
20°	1345.7	1364.1	1415.5	1493.6	1529.9
22.5°	1275.9	1293.8	1356.6	1439.7	1485.1
25°	1191.8	1219.7	1288.0	1377.7	1426.7
27.5°	1111.3	1140.9	1217.0	1313.2	1361.9
30°	1026.5	1061.1	1143.8	1235.7	1290.9
32.5°	942.4	977.5	1061.9	1157.6	1212.4
35°	855.1	894.6	978.5	1070.1	1121.5
37.5°	766.7	809.8	896.1	986.2	1027.7
40°	684.5	726.9	812.5	893.2	943.1
42.5°	608.6	650.3	729.6	802.8	847.6
45°	532.3	573.7	653.7	717.9	758.2
47.5°	463.9	506.3	580.7	645.7	679.4
50°	404.0	442.6	515.1	574.0	609.3
52.5°	349.3	384.4	456.2	513.4	547.5
55°	298.4	334.0	403.8	459.1	493.0
57.5°	264.2	289.6	352.4	413.7	457.4
60°	234.4	250.1	308.6	381.3	405.3
62.5°	204.1	218.4	266.4	330.4	367.7
65°	180.1	190.8	229.5	294.7	335.0
67.5°	156.3	164.3	197.5	260.3	301.0
70°	135.7	140.8	166.8	226.4	269.0
72.5°	116.1	118.8	142.0	195.4	237.8
75°	95.3	98.6	117.8	163.6	207.7
77.5°	75.4	80.2	97.2	136.5	173.3
80°	57.9	61.8	78.3	112.2	139.6
82.5°	40.2	45.6	61.1	88.7	106.9
85°	25.0	31.0	46.1	68.8	69.3
87.5°	10.4	19.4	33.7	50.9	35.4
90°	0.2	10.4	23.5	35.9	7.5
92.5°	0.0	4.8	16.0	25.7	4.4
95°	0.2	1.7	9.9	17.2	3.2
97.5°	0.0	0.5	5.3	10.9	1.9
100°	0.0	0.2	2.2	6.1	1.2
102.5°	0.0	0.2	1.0	2.7	0.7
105°	0.0	0.2	0.5	1.0	0.5
107.5°	0.0	0.2	0.2	0.2	0.2
110°	0.2	0.2	0.2	0.2	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.2	0.2	0.0	0.0
115°	0.2	0.2	0.2	0.0	0.0
117.5°	0.2	0.2	0.2	0.0	0.0
120°	0.2	0.2	0.2	0.0	0.0
122.5°	0.2	0.2	0.2	0.0	0.0
125°	0.2	0.2	0.2	0.0	0.0
127.5°	0.2	0.2	0.2	0.0	0.0
130°	0.2	0.2	0.2	0.0	0.0
132.5°	0.2	0.5	0.2	0.2	0.0
135°	0.2	0.5	0.2	0.2	0.0
137.5°	0.2	0.5	0.2	0.2	0.0
140°	0.2	0.5	0.2	0.2	0.2
142.5°	0.5	0.5	0.5	0.2	0.2
145°	0.5	0.5	0.5	0.2	0.2
147.5°	0.5	0.5	0.5	0.2	0.2
150°	0.5	0.5	0.5	0.2	0.2
152.5°	0.5	0.7	0.5	0.2	0.2
155°	0.5	0.7	0.5	0.2	0.2
157.5°	0.5	0.7	0.5	0.2	0.2
160°	0.5	0.7	0.5	0.2	0.2
162.5°	0.7	0.7	0.5	0.5	0.2
165°	0.7	0.7	0.7	0.5	0.2
167.5°	0.7	0.7	0.7	0.5	0.2
170°	0.7	0.7	0.7	0.5	0.5
172.5°	0.7	0.7	0.7	0.5	0.5
175°	0.7	1.0	0.7	0.5	0.5
177.5°	0.7	1.0	0.7	0.5	0.5
180°	0.7	0.7	0.7	0.7	0.7

(END OF REPORT)