

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: P685912

Luminaire Tested: **4CZL-12-UNV-LVRF-L840-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685912  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-12-UNV-LVRF-L840-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH FROSTED LAY-IN @80 CRI and 4000K  
Light Source: (588) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

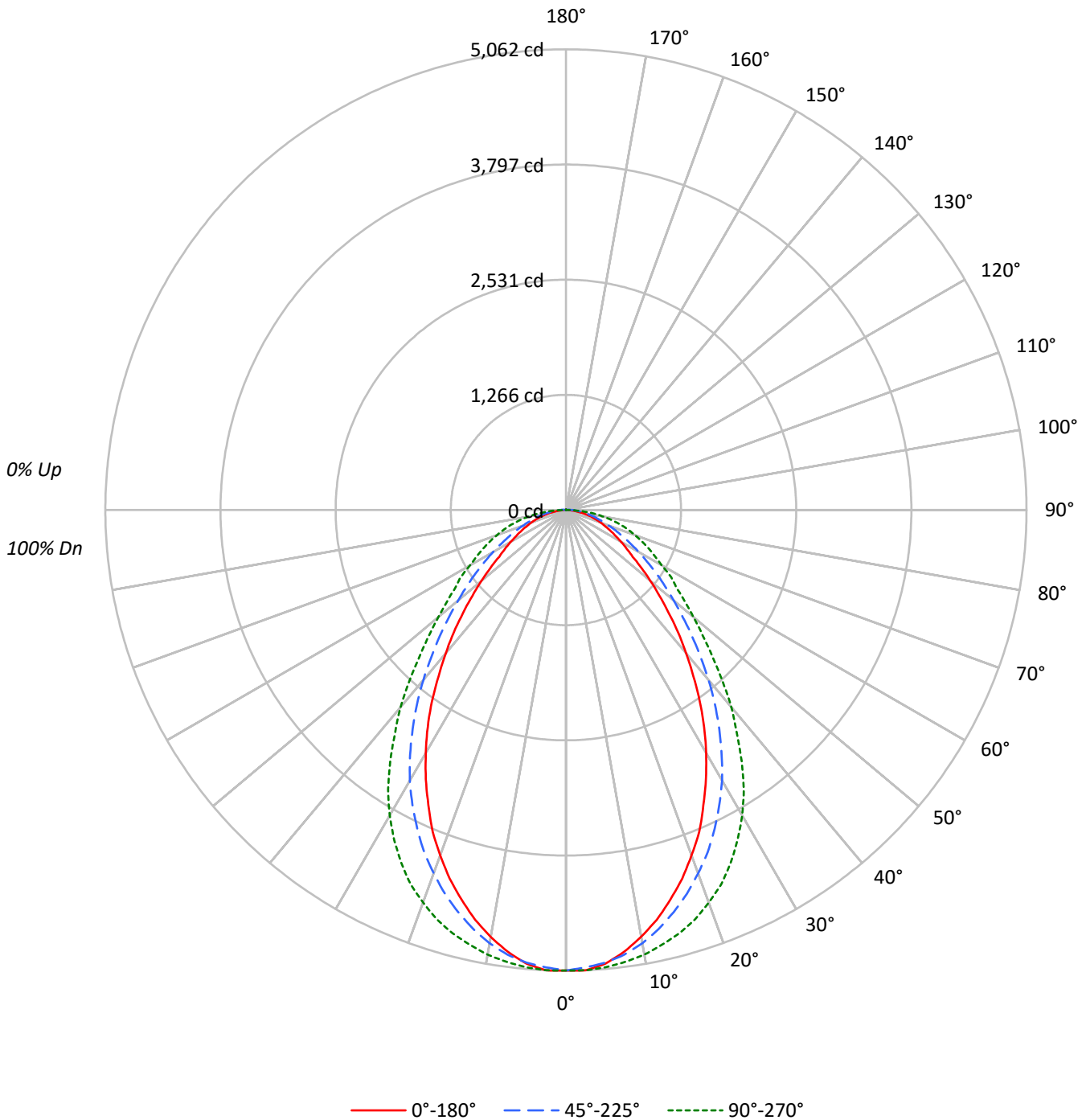
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9334.3 lumens  
Efficiency: N/A  
Efficacy: 121.2 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): 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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CATALOG NUMBER: 4CZL-12-UNV-LVRF-L840-CD-U

### 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°	16340	16340	16340
5°	16221	16183	16346
10°	15615	15846	16265
15°	14816	15292	16095
20°	13875	14595	15774
25°	12741	13770	15251
30°	11484	12796	14443
35°	10114	11574	13265
40°	8657	10276	11928
45°	7293	8957	10388
50°	6090	7764	9185
55°	5040	6821	8328
60°	4542	5979	7853
65°	4128	5262	7679
70°	3846	4724	7621
75°	3566	4409	7775
80°	3232	4368	7790
85°	2775	5120	7707



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	473.5	5.1
10°-20°	1293.9	13.9
20°-30°	1787.8	19.2
30°-40°	1839.1	19.7
40°-50°	1507.8	16.2
50°-60°	1081.9	11.6
60°-70°	727.7	7.8
70°-80°	424.7	4.6
80°-90°	163.7	1.8
90°-100°	28.4	0.3
100°-110°	2.4	0.0
110°-120°	0.4	0.0
120°-130°	0.4	0.0
130°-140°	0.6	0.0
140°-150°	0.7	0.0
150°-160°	0.6	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	3555.2	38.1
0°-40°	5394.4	57.8
0°-60°	7984.1	85.5
0°-90°	9300.1	99.6
90°-120°	31.2	0.3
90°-150°	32.9	0.4
90°-180°	34.0	0.4
0°-180°	9334.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5060	5060	5060	5060	5060	
5°	5004	5008	4992	5039	5043	470
15°	4432	4477	4574	4752	4814	1243
25°	3576	3660	3865	4134	4280	1641
35°	2566	2684	2936	3211	3365	1599
45°	1597	1721	1961	2154	2275	1239
55°	895	1002	1212	1377	1479	824
65°	540	572	689	884	1005	538
75°	286	296	353	491	623	303
85°	75	93	138	206	208	81
90°	1	31	70	108	22	4
95°	1	5	30	52	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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CATALOG NUMBER: 4CZL-12-UNV-LVRF-L840-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5060.1	5060.1	5060.1	5060.1	5060.1
2.5°	5062.3	5058.0	5029.6	5062.3	5060.9
5°	5004.1	5007.8	4992.5	5039.0	5042.7
7.5°	4895.8	4910.3	4927.0	4995.4	5007.8
10°	4762.0	4783.8	4832.5	4934.3	4960.5
12.5°	4611.4	4635.4	4714.7	4855.1	4891.4
15°	4431.8	4476.9	4574.3	4751.8	4814.3
17.5°	4246.4	4301.6	4422.3	4632.5	4716.9
20°	4037.6	4092.9	4247.1	4481.3	4590.3
22.5°	3828.2	3882.0	4070.4	4319.8	4455.8
25°	3575.8	3659.5	3864.6	4133.6	4280.5
27.5°	3334.4	3423.1	3651.5	3940.2	4086.4
30°	3079.9	3183.9	3431.8	3707.5	3873.3
32.5°	2827.5	2933.0	3186.0	3473.3	3637.7
35°	2565.7	2684.2	2935.9	3210.8	3364.9
37.5°	2300.3	2429.7	2688.6	2959.1	3083.5
40°	2053.7	2181.0	2437.7	2679.9	2829.7
42.5°	1826.1	1951.2	2189.0	2408.6	2543.2
45°	1597.0	1721.4	1961.4	2154.1	2274.8
47.5°	1391.9	1519.2	1742.5	1937.4	2038.5
50°	1212.3	1327.9	1545.4	1722.1	1828.3
52.5°	1048.0	1153.4	1368.7	1540.3	1642.8
55°	895.2	1002.1	1211.6	1377.4	1479.2
57.5°	792.7	869.1	1057.4	1241.4	1372.3
60°	703.2	750.5	925.8	1143.9	1215.9
62.5°	612.3	655.2	799.2	991.2	1103.2
65°	540.3	572.3	688.7	884.3	1005.0
67.5°	469.1	493.1	592.7	781.1	903.2
70°	407.3	422.5	500.3	679.2	807.2
72.5°	348.3	356.3	426.2	586.2	713.4
75°	285.8	296.0	353.4	490.9	623.2
77.5°	226.2	240.7	291.6	409.4	520.0
80°	173.8	185.4	234.9	336.7	418.9
82.5°	120.7	136.7	183.3	266.2	320.7
85°	74.9	93.1	138.2	206.5	208.0
87.5°	31.3	58.2	101.1	152.7	106.2
90°	0.7	31.3	70.5	107.6	22.5
92.5°	0.0	14.5	48.0	77.1	13.1
95°	0.7	5.1	29.8	51.6	9.5
97.5°	0.0	1.5	16.0	32.7	5.8
100°	0.0	0.7	6.5	18.2	3.6
102.5°	0.0	0.7	2.9	8.0	2.2
105°	0.0	0.7	1.5	2.9	1.5
107.5°	0.0	0.7	0.7	0.7	0.7
110°	0.7	0.7	0.7	0.7	0.0



TEST NUMBER: P685912  
 CATALOG NUMBER: 4CZL-12-UNV-LVRF-L840-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.7	0.7	0.0	0.0
115°	0.7	0.7	0.7	0.0	0.0
117.5°	0.7	0.7	0.7	0.0	0.0
120°	0.7	0.7	0.7	0.0	0.0
122.5°	0.7	0.7	0.7	0.0	0.0
125°	0.7	0.7	0.7	0.0	0.0
127.5°	0.7	0.7	0.7	0.0	0.0
130°	0.7	0.7	0.7	0.0	0.0
132.5°	0.7	1.5	0.7	0.7	0.0
135°	0.7	1.5	0.7	0.7	0.0
137.5°	0.7	1.5	0.7	0.7	0.0
140°	0.7	1.5	0.7	0.7	0.7
142.5°	1.5	1.5	1.5	0.7	0.7
145°	1.5	1.5	1.5	0.7	0.7
147.5°	1.5	1.5	1.5	0.7	0.7
150°	1.5	1.5	1.5	0.7	0.7
152.5°	1.5	2.2	1.5	0.7	0.7
155°	1.5	2.2	1.5	0.7	0.7
157.5°	1.5	2.2	1.5	0.7	0.7
160°	1.5	2.2	1.5	0.7	0.7
162.5°	2.2	2.2	1.5	1.5	0.7
165°	2.2	2.2	2.2	1.5	0.7
167.5°	2.2	2.2	2.2	1.5	0.7
170°	2.2	2.2	2.2	1.5	1.5
172.5°	2.2	2.2	2.2	1.5	1.5
175°	2.2	2.9	2.2	1.5	1.5
177.5°	2.2	2.9	2.2	1.5	1.5
180°	2.2	2.2	2.2	2.2	2.2

(END OF REPORT)