

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: P685909

Luminaire Tested: **4CZL-5-UNV-LVRF-L840-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685909  
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-L840-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH FROSTED LAY-IN @80 CRI and 4000K  
Light Source: (392) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

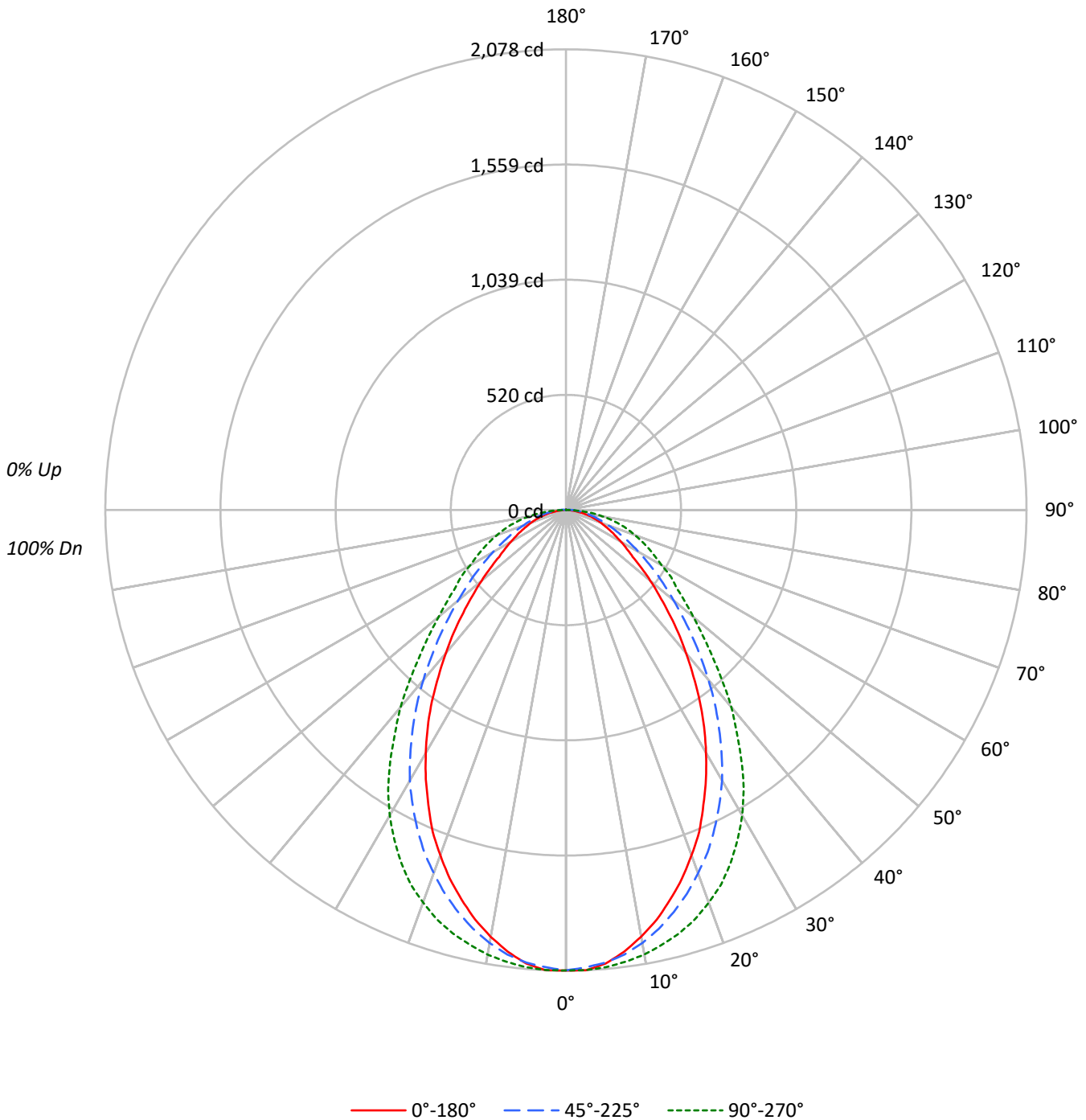
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3830.9 lumens  
Efficiency: N/A  
Efficacy: 123.6 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	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°	6706	6706	6706
5°	6657	6642	6708
10°	6408	6503	6675
15°	6080	6276	6605
20°	5695	5990	6474
25°	5229	5651	6259
30°	4713	5252	5927
35°	4151	4750	5444
40°	3553	4217	4895
45°	2993	3676	4264
50°	2499	3186	3769
55°	2068	2799	3418
60°	1864	2454	3223
65°	1695	2159	3152
70°	1578	1938	3128
75°	1464	1810	3192
80°	1326	1793	3197
85°	1137	2101	3164



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	194.3	5.1
10°-20°	531.0	13.9
20°-30°	733.7	19.2
30°-40°	754.8	19.7
40°-50°	618.8	16.2
50°-60°	444.0	11.6
60°-70°	298.6	7.8
70°-80°	174.3	4.6
80°-90°	67.2	1.8
90°-100°	11.6	0.3
100°-110°	1.0	0.0
110°-120°	0.2	0.0
120°-130°	0.2	0.0
130°-140°	0.2	0.0
140°-150°	0.3	0.0
150°-160°	0.3	0.0
160°-170°	0.2	0.0
170°-180°	0.1	0.0
0°-30°	1459.1	38.1
0°-40°	2213.9	57.8
0°-60°	3276.7	85.5
0°-90°	3816.8	99.6
90°-120°	12.8	0.3
90°-150°	13.5	0.4
90°-180°	14.0	0.4
0°-180°	3830.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2077	2077	2077	2077	2077	
5°	2054	2055	2049	2068	2070	193
15°	1819	1837	1877	1950	1976	510
25°	1468	1502	1586	1696	1757	674
35°	1053	1102	1205	1318	1381	656
45°	655	706	805	884	934	509
55°	367	411	497	565	607	338
65°	222	235	283	363	412	221
75°	117	122	145	202	256	125
85°	31	38	57	85	85	33
90°	0	13	29	44	9	2
95°	0	2	12	21	4	0
105°	0	0	1	1	1	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	1	0	0	0	0
145°	1	1	1	0	0	0
155°	1	1	1	0	0	0
165°	1	1	1	1	0	0
175°	1	1	1	1	1	0
180°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2076.7	2076.7	2076.7	2076.7	2076.7
2.5°	2077.6	2075.8	2064.2	2077.6	2077.0
5°	2053.7	2055.2	2048.9	2068.0	2069.5
7.5°	2009.2	2015.2	2022.1	2050.1	2055.2
10°	1954.3	1963.3	1983.3	2025.1	2035.8
12.5°	1892.5	1902.4	1934.9	1992.5	2007.5
15°	1818.8	1837.3	1877.3	1950.2	1975.8
17.5°	1742.7	1765.4	1814.9	1901.2	1935.8
20°	1657.1	1679.7	1743.0	1839.1	1883.9
22.5°	1571.1	1593.2	1670.5	1772.9	1828.7
25°	1467.5	1501.9	1586.0	1696.5	1756.7
27.5°	1368.4	1404.9	1498.6	1617.1	1677.1
30°	1264.0	1306.7	1408.4	1521.6	1589.6
32.5°	1160.4	1203.7	1307.6	1425.5	1492.9
35°	1053.0	1101.6	1204.9	1317.7	1381.0
37.5°	944.0	997.2	1103.4	1214.4	1265.5
40°	842.9	895.1	1000.4	1099.8	1161.3
42.5°	749.4	800.8	898.4	988.5	1043.7
45°	655.4	706.5	805.0	884.0	933.6
47.5°	571.3	623.5	715.1	795.1	836.6
50°	497.5	545.0	634.2	706.8	750.3
52.5°	430.1	473.4	561.7	632.1	674.2
55°	367.4	411.3	497.2	565.3	607.1
57.5°	325.3	356.7	434.0	509.5	563.2
60°	288.6	308.0	379.9	469.5	499.0
62.5°	251.3	268.9	328.0	406.8	452.8
65°	221.8	234.9	282.6	362.9	412.5
67.5°	192.5	202.4	243.2	320.5	370.7
70°	167.1	173.4	205.3	278.8	331.3
72.5°	143.0	146.2	174.9	240.6	292.8
75°	117.3	121.5	145.1	201.5	255.8
77.5°	92.8	98.8	119.7	168.0	213.4
80°	71.3	76.1	96.4	138.2	171.9
82.5°	49.5	56.1	75.2	109.2	131.6
85°	30.7	38.2	56.7	84.8	85.4
87.5°	12.8	23.9	41.5	62.7	43.6
90°	0.3	12.8	29.0	44.2	9.3
92.5°	0.0	6.0	19.7	31.6	5.4
95°	0.3	2.1	12.2	21.2	3.9
97.5°	0.0	0.6	6.6	13.4	2.4
100°	0.0	0.3	2.7	7.5	1.5
102.5°	0.0	0.3	1.2	3.3	0.9
105°	0.0	0.3	0.6	1.2	0.6
107.5°	0.0	0.3	0.3	0.3	0.3
110°	0.3	0.3	0.3	0.3	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.3	0.3	0.0	0.0
115°	0.3	0.3	0.3	0.0	0.0
117.5°	0.3	0.3	0.3	0.0	0.0
120°	0.3	0.3	0.3	0.0	0.0
122.5°	0.3	0.3	0.3	0.0	0.0
125°	0.3	0.3	0.3	0.0	0.0
127.5°	0.3	0.3	0.3	0.0	0.0
130°	0.3	0.3	0.3	0.0	0.0
132.5°	0.3	0.6	0.3	0.3	0.0
135°	0.3	0.6	0.3	0.3	0.0
137.5°	0.3	0.6	0.3	0.3	0.0
140°	0.3	0.6	0.3	0.3	0.3
142.5°	0.6	0.6	0.6	0.3	0.3
145°	0.6	0.6	0.6	0.3	0.3
147.5°	0.6	0.6	0.6	0.3	0.3
150°	0.6	0.6	0.6	0.3	0.3
152.5°	0.6	0.9	0.6	0.3	0.3
155°	0.6	0.9	0.6	0.3	0.3
157.5°	0.6	0.9	0.6	0.3	0.3
160°	0.6	0.9	0.6	0.3	0.3
162.5°	0.9	0.9	0.6	0.6	0.3
165°	0.9	0.9	0.9	0.6	0.3
167.5°	0.9	0.9	0.9	0.6	0.3
170°	0.9	0.9	0.9	0.6	0.6
172.5°	0.9	0.9	0.9	0.6	0.6
175°	0.9	1.2	0.9	0.6	0.6
177.5°	0.9	1.2	0.9	0.6	0.6
180°	0.9	0.9	0.9	0.9	0.9

(END OF REPORT)