

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: P685429

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

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685429  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-5-UNV-M-L840-CD-U  
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @80 CRI and 4000K  
Light Source: (392) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

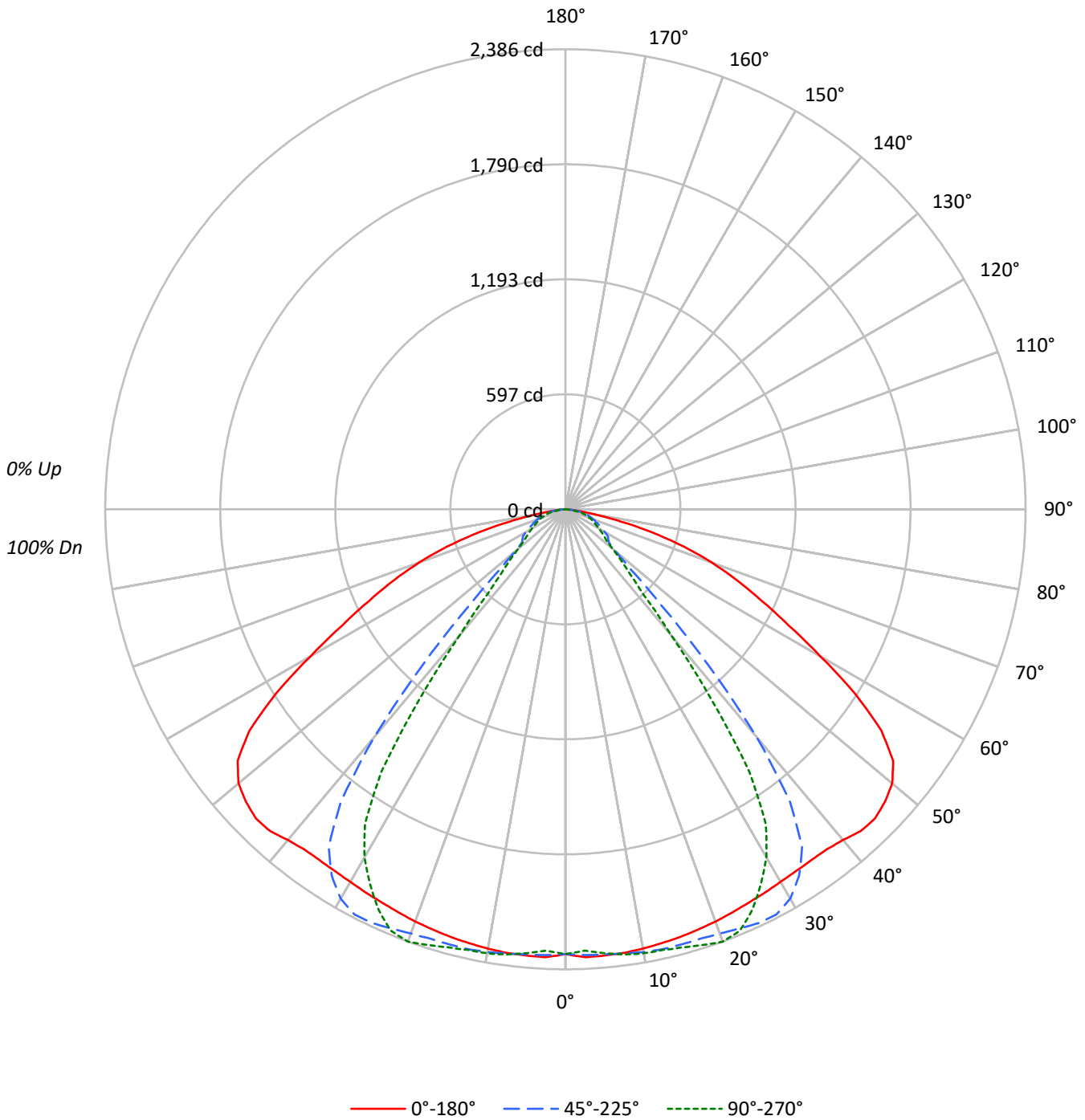
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4983.7 lumens  
Efficiency: N/A  
Efficacy: 160.8 lumens/watt  
Spacing Criteria (0/90/45): 1.48 / 1.28 / 1.22  
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	90	90	90	88
2	103	96	90	86	100	94	89	85	91	87	83	88	84	81	85	82	79	79	79	79	77
3	95	86	80	74	93	85	79	73	82	77	72	79	75	71	77	73	70	70	70	70	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	62	62	62	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	55	55	55	53
6	76	65	57	51	75	64	56	51	62	55	51	61	55	50	59	54	50	50	50	50	48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	45	45	45	43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	41	41	41	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	37	37	37	36
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	34	34	34	33

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

	0°	45°	90°
0°	7449	7449	7449
5°	7532	7511	7490
10°	7587	7646	7668
15°	7677	7808	7863
20°	7818	8047	8199
25°	8019	8439	8169
30°	8320	8693	7771
35°	8758	8433	6562
40°	9439	6504	3589
45°	10362	3197	2145
50°	11111	1671	1600
55°	11253	1525	1380
60°	9868	1520	1301
65°	8588	1460	1260
70°	7621	1479	1268
75°	5847	1520	1288
80°	2975	1543	1066
85°	1175	871	304



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	221.0	4.4
10°-20°	658.8	13.2
20°-30°	1063.2	21.3
30°-40°	1245.1	25.0
40°-50°	847.6	17.0
50°-60°	490.8	9.8
60°-70°	280.6	5.6
70°-80°	144.4	2.9
80°-90°	32.2	0.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1942.9	39.0
0°-40°	3188.1	64.0
0°-60°	4526.5	90.8
0°-90°	4983.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4983.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2307	2307	2307	2307	2307	
5°	2324	2301	2317	2314	2311	221
15°	2296	2293	2336	2342	2352	650
25°	2250	2282	2368	2332	2293	1042
35°	2222	2331	2139	1804	1665	1399
45°	2269	1688	700	472	470	1743
55°	1999	579	271	252	245	1742
65°	1124	207	191	169	165	1127
75°	469	128	122	106	103	498
85°	32	39	24	11	8	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2306.8	2306.8	2306.8	2306.8	2306.8	2306.8	2306.8	2306.8	2306.8	2306.8	2306.8
2.5°	2325.4	2318.8	2305.7	2300.2	2300.2	2314.4	2316.6	2307.9	2306.2	2298.6	2291.5
5°	2323.7	2317.2	2304.6	2299.7	2301.3	2317.2	2321.0	2313.9	2316.1	2313.9	2310.6
7.5°	2320.4	2313.3	2301.9	2298.6	2303.5	2323.7	2330.3	2326.4	2331.4	2330.3	2329.2
10°	2313.9	2308.4	2297.5	2297.0	2306.8	2331.9	2340.1	2335.2	2336.8	2336.3	2338.5
12.5°	2305.1	2300.2	2290.9	2295.9	2310.1	2336.8	2342.3	2334.6	2336.8	2337.4	2341.2
15°	2296.4	2290.4	2284.4	2295.9	2310.6	2335.7	2341.2	2340.1	2346.7	2347.2	2352.1
17.5°	2285.5	2281.7	2280.0	2295.3	2306.8	2334.6	2347.2	2353.8	2362.5	2364.7	2369.6
20°	2275.1	2271.8	2275.7	2292.6	2305.1	2341.7	2359.2	2369.0	2378.3	2381.1	2386.0
22.5°	2262.6	2260.4	2270.7	2288.8	2307.9	2352.7	2372.3	2373.4	2369.6	2362.5	2365.8
25°	2250.5	2250.5	2265.8	2287.7	2316.1	2368.5	2370.1	2339.0	2311.2	2292.6	2292.6
27.5°	2240.7	2242.9	2262.0	2292.6	2331.9	2369.6	2324.3	2262.6	2221.6	2194.8	2193.2
30°	2231.4	2235.2	2262.0	2306.2	2343.4	2331.4	2243.4	2168.6	2111.8	2086.2	2084.0
32.5°	2224.9	2230.9	2271.8	2327.0	2329.7	2254.4	2139.7	2045.2	1978.0	1939.8	1933.2
35°	2221.6	2228.7	2290.4	2345.0	2274.6	2139.1	1976.4	1830.6	1724.1	1674.9	1664.6
37.5°	2223.8	2236.3	2316.1	2329.7	2136.4	1912.5	1678.8	1469.6	1323.2	1276.8	1244.6
40°	2239.1	2260.4	2336.3	2205.2	1846.4	1542.8	1233.1	1008.1	907.1	873.8	851.4
42.5°	2264.7	2286.0	2283.3	1920.1	1442.3	1096.1	794.6	659.7	610.6	605.1	594.7
45°	2269.1	2277.3	2111.8	1547.1	1049.1	700.1	511.7	471.8	470.8	474.6	469.7
47.5°	2246.2	2230.3	1864.4	1183.4	722.5	452.7	385.0	391.6	394.8	392.1	388.3
50°	2211.8	2153.3	1587.0	870.0	481.7	332.6	335.9	341.9	330.4	322.8	318.4
52.5°	2141.9	2028.3	1279.0	616.6	333.1	284.0	310.2	292.7	276.3	272.0	271.4
55°	1998.8	1842.6	984.1	444.5	254.5	270.9	275.8	253.4	248.5	246.3	245.2
57.5°	1780.9	1611.6	740.0	321.1	223.4	261.6	239.7	231.0	226.1	224.5	222.8
60°	1528.0	1353.3	551.6	235.9	216.8	235.4	217.4	209.2	203.7	201.5	201.5
62.5°	1304.1	1120.1	407.9	191.7	215.2	212.4	196.1	187.3	184.0	182.9	181.9
65°	1123.9	901.1	294.4	177.5	201.0	191.1	175.3	169.3	167.1	164.9	164.9
67.5°	963.3	705.6	216.8	174.2	184.6	172.0	160.0	155.1	152.4	151.8	151.3
70°	807.2	519.9	164.9	170.4	175.3	156.7	145.3	139.3	136.0	134.3	134.3
72.5°	642.8	356.6	131.6	156.7	160.6	138.7	127.2	122.9	120.1	118.5	118.0
75°	468.6	223.9	115.8	131.6	138.2	121.8	110.3	106.5	105.4	103.8	103.2
77.5°	298.2	133.8	98.8	107.6	113.0	102.7	93.9	89.0	88.5	86.8	86.3
80°	160.0	85.7	79.2	84.6	87.9	83.0	72.6	62.8	60.1	57.9	57.3
82.5°	74.3	54.6	59.0	63.9	65.5	53.0	43.7	39.3	36.6	33.9	32.2
85°	31.7	29.5	36.6	39.3	32.2	23.5	15.3	11.5	9.3	8.7	8.2
87.5°	11.5	11.5	13.7	9.3	5.5	4.4	4.4	3.8	3.3	2.7	2.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)