

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: P685439

Luminaire Tested: **4CZL-5-UNV-M-L850-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685439
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-L850-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @80 CRI and 5000K
Light Source: (392) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

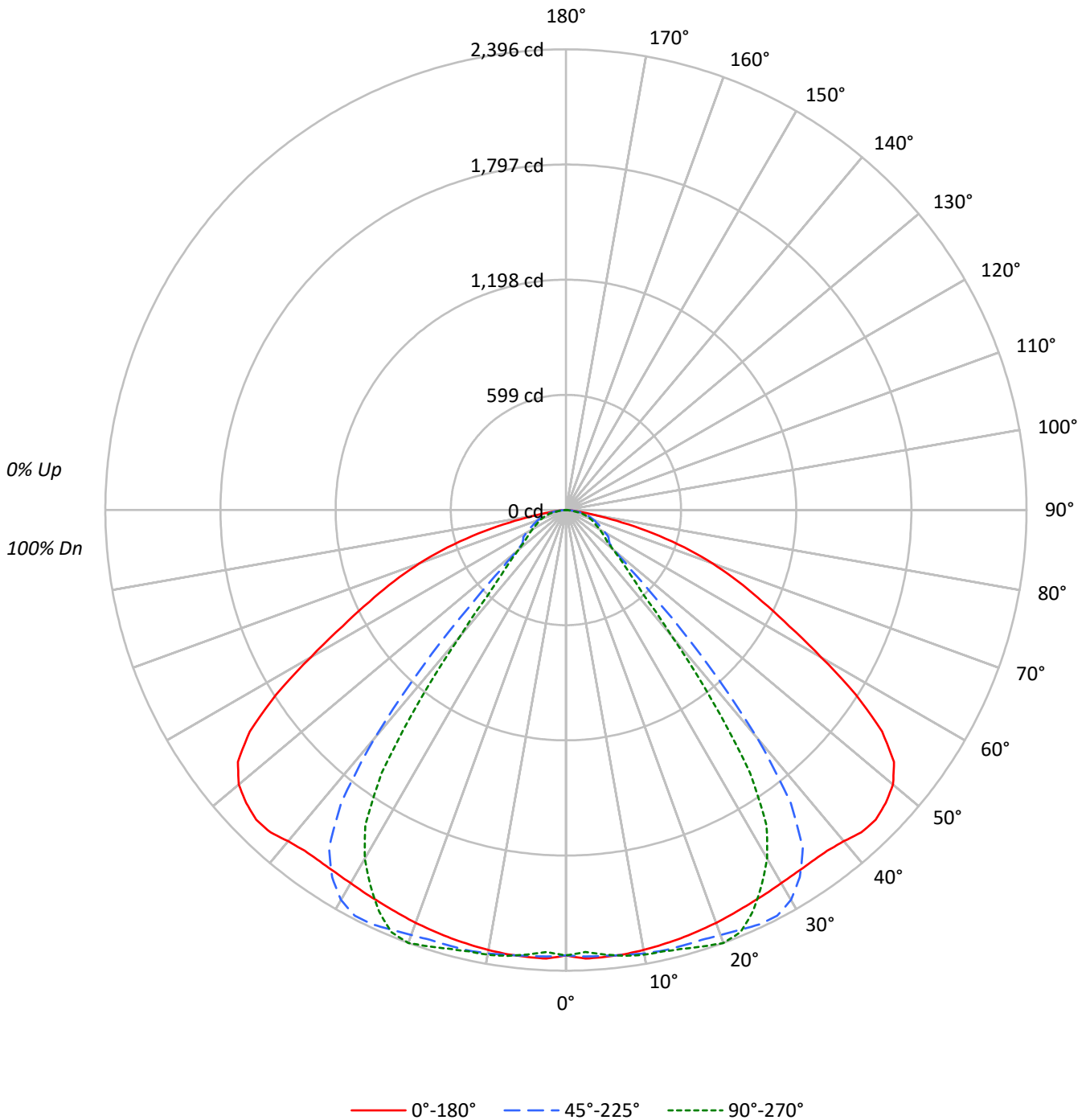
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5004.6 lumens
Efficiency: N/A
Efficacy: 161.4 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_{in}): 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	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°	7480	7480	7480
5°	7564	7543	7521
10°	7619	7678	7700
15°	7710	7841	7896
20°	7851	8081	8234
25°	8052	8474	8203
30°	8355	8730	7803
35°	8794	8468	6589
40°	9478	6531	3604
45°	10406	3211	2154
50°	11158	1678	1606
55°	11300	1531	1386
60°	9910	1527	1307
65°	8624	1466	1265
70°	7652	1486	1274
75°	5870	1526	1293
80°	2988	1551	1071
85°	1178	874	304



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.0	4.4
10°-20°	661.5	13.2
20°-30°	1067.6	21.3
30°-40°	1250.4	25.0
40°-50°	851.2	17.0
50°-60°	492.9	9.8
60°-70°	281.8	5.6
70°-80°	145.0	2.9
80°-90°	32.3	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°	1951.1	39.0
0°-40°	3201.5	64.0
0°-60°	4545.5	90.8
0°-90°	5004.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5004.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2316	2316	2316	2316	2316	
5°	2334	2311	2327	2324	2320	222
15°	2306	2303	2346	2352	2362	653
25°	2260	2292	2378	2342	2302	1046
35°	2231	2341	2148	1812	1672	1405
45°	2279	1695	703	474	472	1751
55°	2007	582	272	253	246	1749
65°	1129	208	192	169	166	1132
75°	470	128	122	107	104	500
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°	2316.5	2316.5	2316.5	2316.5	2316.5	2316.5	2316.5	2316.5	2316.5	2316.5	2316.5
2.5°	2335.1	2328.5	2315.4	2309.9	2309.9	2324.2	2326.3	2317.6	2315.9	2308.2	2301.1
5°	2333.5	2326.9	2314.3	2309.3	2311.0	2326.9	2330.7	2323.6	2325.8	2323.6	2320.3
7.5°	2330.2	2323.1	2311.5	2308.2	2313.2	2333.5	2340.1	2336.2	2341.2	2340.1	2339.0
10°	2323.6	2318.1	2307.2	2306.6	2316.5	2341.7	2349.9	2345.0	2346.6	2346.1	2348.3
12.5°	2314.8	2309.9	2300.6	2305.5	2319.8	2346.6	2352.1	2344.4	2346.6	2347.2	2351.0
15°	2306.1	2300.0	2294.0	2305.5	2320.3	2345.5	2351.0	2349.9	2356.5	2357.1	2362.0
17.5°	2295.1	2291.2	2289.6	2305.0	2316.5	2344.4	2357.1	2363.6	2372.4	2374.6	2379.5
20°	2284.7	2281.4	2285.2	2302.2	2314.8	2351.6	2369.1	2379.0	2388.3	2391.1	2396.0
22.5°	2272.1	2269.9	2280.3	2298.4	2317.6	2362.5	2382.3	2383.4	2379.5	2372.4	2375.7
25°	2260.0	2260.0	2275.3	2297.3	2325.8	2378.4	2380.1	2348.8	2320.9	2302.2	2302.2
27.5°	2250.1	2252.3	2271.5	2302.2	2341.7	2379.5	2334.0	2272.1	2230.9	2204.1	2202.4
30°	2240.8	2244.6	2271.5	2315.9	2353.2	2341.2	2252.9	2177.7	2120.7	2094.9	2092.7
32.5°	2234.2	2240.2	2281.4	2336.8	2339.5	2263.8	2148.7	2053.8	1986.3	1947.9	1941.4
35°	2230.9	2238.1	2300.0	2354.9	2284.1	2148.1	1984.7	1838.3	1731.3	1682.0	1671.5
37.5°	2233.1	2245.7	2325.8	2339.5	2145.4	1920.5	1685.8	1475.8	1328.8	1282.2	1249.8
40°	2248.5	2269.9	2346.1	2214.5	1854.2	1549.3	1238.3	1012.4	910.9	877.5	855.0
42.5°	2274.2	2295.6	2292.9	1928.2	1448.3	1100.7	797.9	662.5	613.1	607.6	597.2
45°	2278.6	2286.9	2120.7	1553.6	1053.5	703.1	513.9	473.8	472.7	476.6	471.6
47.5°	2255.6	2239.7	1872.3	1188.4	725.5	454.6	386.6	393.2	396.5	393.8	389.9
50°	2221.1	2162.4	1593.7	873.6	483.7	334.0	337.3	343.3	331.8	324.1	319.7
52.5°	2150.9	2036.8	1284.4	619.2	334.5	285.2	311.5	293.9	277.5	273.1	272.6
55°	2007.2	1850.3	988.2	446.4	255.6	272.0	276.9	254.5	249.5	247.3	246.2
57.5°	1788.4	1618.4	743.1	322.5	224.3	262.7	240.8	232.0	227.0	225.4	223.8
60°	1534.4	1359.0	553.9	236.9	217.7	236.4	218.3	210.0	204.6	202.4	202.4
62.5°	1309.6	1124.8	409.7	192.5	216.1	213.3	196.9	188.1	184.8	183.7	182.6
65°	1128.6	904.9	295.6	178.2	201.8	191.9	176.0	170.0	167.8	165.6	165.6
67.5°	967.4	708.5	217.7	174.9	185.4	172.7	160.7	155.7	153.0	152.5	151.9
70°	810.5	522.1	165.6	171.1	176.0	157.4	145.9	139.8	136.6	134.9	134.9
72.5°	645.5	358.1	132.2	157.4	161.2	139.3	127.8	123.4	120.6	119.0	118.5
75°	470.5	224.8	116.3	132.2	138.7	122.3	110.8	106.9	105.8	104.2	103.6
77.5°	299.4	134.4	99.3	108.0	113.5	103.1	94.3	89.4	88.8	87.2	86.6
80°	160.7	86.1	79.5	85.0	88.3	83.4	72.9	63.1	60.3	58.1	57.6
82.5°	74.6	54.8	59.2	64.2	65.8	53.2	43.9	39.5	36.7	34.0	32.4
85°	31.8	29.6	36.7	39.5	32.4	23.6	15.4	11.5	9.3	8.8	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)