

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: P685419

Luminaire Tested: **4CZL-5-UNV-M-L835-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685419
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-L835-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @80 CRI and 3500K
Light Source: (392) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

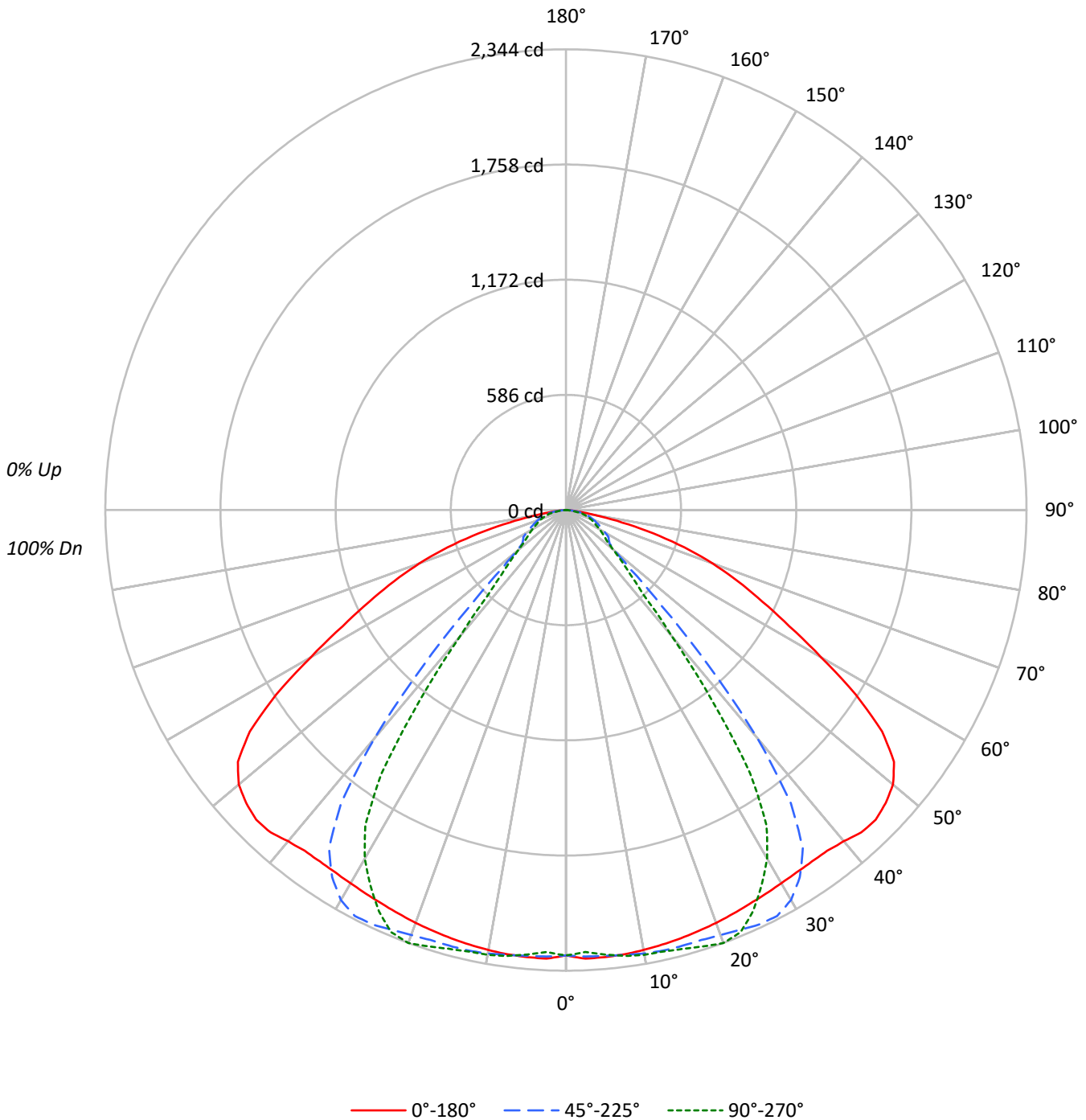
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4896.5 lumens
Efficiency: N/A
Efficacy: 158.0 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				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°	7319	7319	7319
5°	7401	7380	7359
10°	7454	7513	7534
15°	7543	7672	7726
20°	7681	7907	8056
25°	7879	8291	8026
30°	8175	8541	7635
35°	8604	8285	6447
40°	9273	6390	3526
45°	10181	3141	2107
50°	10917	1642	1571
55°	11056	1498	1356
60°	9696	1494	1279
65°	8437	1435	1238
70°	7487	1454	1246
75°	5744	1493	1265
80°	2923	1517	1047
85°	1152	856	296



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	217.2	4.4
10°-20°	647.2	13.2
20°-30°	1044.6	21.3
30°-40°	1223.3	25.0
40°-50°	832.8	17.0
50°-60°	482.2	9.8
60°-70°	275.7	5.6
70°-80°	141.9	2.9
80°-90°	31.6	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°	1908.9	39.0
0°-40°	3132.3	64.0
0°-60°	4447.3	90.8
0°-90°	4896.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4896.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2266	2266	2266	2266	2266	
5°	2283	2261	2277	2274	2270	218
15°	2256	2253	2295	2301	2311	639
25°	2211	2242	2327	2291	2252	1023
35°	2183	2291	2102	1772	1635	1374
45°	2229	1659	688	463	461	1713
55°	1964	569	266	248	241	1711
65°	1104	203	188	166	162	1107
75°	460	125	120	104	101	489
85°	31	38	23	11	8	53
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°	2266.4	2266.4	2266.4	2266.4	2266.4	2266.4	2266.4	2266.4	2266.4	2266.4	2266.4
2.5°	2284.7	2278.2	2265.3	2260.0	2260.0	2273.9	2276.1	2267.5	2265.9	2258.4	2251.4
5°	2283.1	2276.6	2264.3	2259.4	2261.1	2276.6	2280.4	2273.4	2275.5	2273.4	2270.2
7.5°	2279.8	2272.9	2261.6	2258.4	2263.2	2283.1	2289.5	2285.7	2290.6	2289.5	2288.4
10°	2273.4	2268.0	2257.3	2256.8	2266.4	2291.1	2299.1	2294.3	2295.9	2295.4	2297.5
12.5°	2264.8	2260.0	2250.9	2255.7	2269.6	2295.9	2301.3	2293.8	2295.9	2296.5	2300.2
15°	2256.2	2250.3	2244.4	2255.7	2270.2	2294.9	2300.2	2299.1	2305.6	2306.1	2311.0
17.5°	2245.5	2241.7	2240.1	2255.2	2266.4	2293.8	2306.1	2312.6	2321.1	2323.3	2328.1
20°	2235.3	2232.1	2235.8	2252.5	2264.8	2300.8	2317.9	2327.6	2336.7	2339.4	2344.2
22.5°	2223.0	2220.8	2231.0	2248.7	2267.5	2311.5	2330.8	2331.9	2328.1	2321.1	2324.4
25°	2211.2	2211.2	2226.2	2247.6	2275.5	2327.0	2328.7	2298.1	2270.7	2252.5	2252.5
27.5°	2201.5	2203.6	2222.4	2252.5	2291.1	2328.1	2283.6	2223.0	2182.7	2156.4	2154.8
30°	2192.4	2196.1	2222.4	2265.9	2302.4	2290.6	2204.2	2130.7	2074.9	2049.6	2047.5
32.5°	2185.9	2191.8	2232.1	2286.3	2289.0	2214.9	2102.2	2009.4	1943.4	1905.9	1899.4
35°	2182.7	2189.7	2250.3	2304.0	2234.8	2101.7	1941.8	1798.5	1693.9	1645.6	1635.4
37.5°	2184.9	2197.2	2275.5	2289.0	2099.0	1879.0	1649.4	1443.9	1300.1	1254.5	1222.8
40°	2199.9	2220.8	2295.4	2166.6	1814.1	1515.8	1211.5	990.5	891.2	858.5	836.5
42.5°	2225.1	2246.0	2243.3	1886.5	1417.0	1076.9	780.7	648.2	599.9	594.5	584.3
45°	2229.4	2237.4	2074.9	1520.1	1030.7	687.9	502.8	463.6	462.5	466.3	461.4
47.5°	2206.9	2191.3	1831.8	1162.7	709.9	444.8	378.3	384.7	387.9	385.2	381.5
50°	2173.1	2115.6	1559.2	854.7	473.2	326.8	330.0	335.9	324.6	317.1	312.8
52.5°	2104.4	1992.8	1256.6	605.8	327.3	279.0	304.8	287.6	271.5	267.2	266.7
55°	1963.8	1810.3	966.9	436.8	250.0	266.1	271.0	249.0	244.1	242.0	240.9
57.5°	1749.7	1583.4	727.0	315.5	219.5	257.0	235.5	227.0	222.1	220.5	218.9
60°	1501.3	1329.6	541.9	231.8	213.0	231.3	213.5	205.5	200.1	198.0	198.0
62.5°	1281.3	1100.5	400.8	188.3	211.4	208.7	192.6	184.0	180.8	179.7	178.7
65°	1104.2	885.3	289.2	174.4	197.5	187.8	172.2	166.3	164.2	162.0	162.0
67.5°	946.5	693.2	213.0	171.2	181.4	169.0	157.2	152.4	149.7	149.2	148.6
70°	793.0	510.8	162.0	167.4	172.2	154.0	142.7	136.8	133.6	132.0	132.0
72.5°	631.5	350.4	129.3	154.0	157.7	136.3	125.0	120.7	118.0	116.4	115.9
75°	460.4	220.0	113.8	129.3	135.7	119.7	108.4	104.6	103.6	101.9	101.4
77.5°	293.0	131.5	97.1	105.7	111.1	100.9	92.3	87.5	86.9	85.3	84.8
80°	157.2	84.2	77.8	83.2	86.4	81.6	71.4	61.7	59.0	56.9	56.3
82.5°	73.0	53.7	57.9	62.8	64.4	52.0	42.9	38.6	35.9	33.3	31.7
85°	31.1	29.0	35.9	38.6	31.7	23.1	15.0	11.3	9.1	8.6	8.0
87.5°	11.3	11.3	13.4	9.1	5.4	4.3	4.3	3.8	3.2	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)