

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: P685420

Luminaire Tested: **4CZL-7-UNV-M-L835-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685420
Test Lab: INNOVATION CENTER(G2)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-7-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

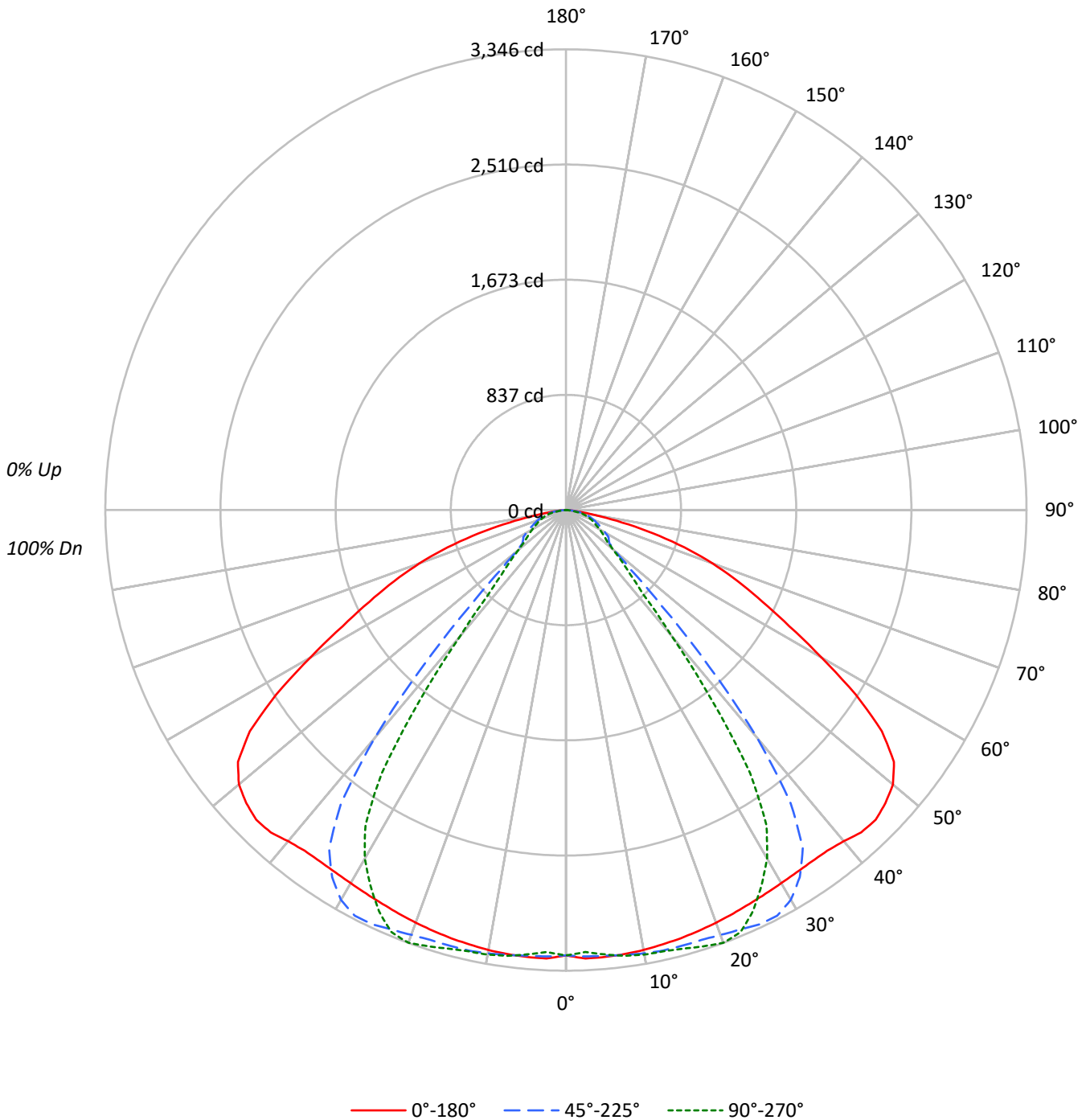
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6988.0 lumens
Efficiency: N/A
Efficacy: 158.8 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): 44
Input Voltage (V): 120
Input Current (Ain): 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°	10445	10445	10445
5°	10562	10532	10502
10°	10638	10721	10752
15°	10764	10949	11026
20°	10963	11284	11497
25°	11243	11833	11454
30°	11666	12189	10896
35°	12280	11824	9201
40°	13234	9119	5032
45°	14530	4483	3007
50°	15580	2343	2243
55°	15778	2138	1936
60°	13837	2131	1825
65°	12041	2048	1767
70°	10686	2075	1779
75°	8197	2131	1805
80°	4173	2165	1495
85°	1645	1219	426



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.9	4.4
10°-20°	923.7	13.2
20°-30°	1490.7	21.3
30°-40°	1745.9	25.0
40°-50°	1188.5	17.0
50°-60°	688.2	9.8
60°-70°	393.5	5.6
70°-80°	202.5	2.9
80°-90°	45.1	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°	2724.3	39.0
0°-40°	4470.2	64.0
0°-60°	6346.9	90.8
0°-90°	6988.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6988.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3234	3234	3234	3234	3234	
5°	3258	3226	3249	3245	3240	311
15°	3220	3215	3275	3284	3298	912
25°	3156	3200	3321	3270	3215	1461
35°	3115	3269	2999	2529	2334	1961
45°	3182	2367	982	661	658	2444
55°	2803	812	380	354	344	2442
65°	1576	290	268	237	231	1580
75°	657	179	171	149	145	698
85°	44	54	33	15	12	75
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°	3234.5	3234.5	3234.5	3234.5	3234.5	3234.5	3234.5	3234.5	3234.5	3234.5	3234.5
2.5°	3260.5	3251.3	3233.0	3225.3	3225.3	3245.2	3248.3	3236.0	3233.7	3223.0	3213.0
5°	3258.2	3249.0	3231.4	3224.5	3226.8	3249.0	3254.4	3244.4	3247.5	3244.4	3239.8
7.5°	3253.6	3243.7	3227.6	3223.0	3229.9	3258.2	3267.4	3262.1	3268.9	3267.4	3265.9
10°	3244.4	3236.8	3221.5	3220.7	3234.5	3269.7	3281.2	3274.3	3276.6	3275.8	3278.9
12.5°	3232.2	3225.3	3212.3	3219.2	3239.1	3276.6	3284.3	3273.5	3276.6	3277.4	3282.7
15°	3219.9	3211.5	3203.1	3219.2	3239.8	3275.1	3282.7	3281.2	3290.4	3291.1	3298.0
17.5°	3204.6	3199.3	3197.0	3218.4	3234.5	3273.5	3291.1	3300.3	3312.6	3315.7	3322.5
20°	3190.1	3185.5	3190.8	3214.6	3232.2	3283.5	3308.0	3321.8	3334.8	3338.6	3345.5
22.5°	3172.5	3169.4	3183.9	3209.2	3236.0	3298.8	3326.4	3327.9	3322.5	3312.6	3317.2
25°	3155.6	3155.6	3177.1	3207.7	3247.5	3321.0	3323.3	3279.7	3240.6	3214.6	3214.6
27.5°	3141.8	3144.9	3171.7	3214.6	3269.7	3322.5	3259.0	3172.5	3115.0	3077.5	3075.2
30°	3128.8	3134.2	3171.7	3233.7	3285.8	3268.9	3145.7	3040.8	2961.1	2925.1	2922.1
32.5°	3119.6	3128.0	3185.5	3262.8	3266.6	3161.0	3000.2	2867.7	2773.5	2719.9	2710.7
35°	3115.0	3125.0	3211.5	3288.1	3189.3	2999.4	2771.2	2566.8	2417.4	2348.5	2334.0
37.5°	3118.1	3135.7	3247.5	3266.6	2995.6	2681.6	2353.9	2060.6	1855.4	1790.3	1745.1
40°	3139.5	3169.4	3275.8	3092.1	2589.0	2163.2	1729.0	1413.6	1271.9	1225.2	1193.8
42.5°	3175.5	3205.4	3201.6	2692.3	2022.3	1536.8	1114.2	925.0	856.1	848.4	833.9
45°	3181.6	3193.1	2961.1	2169.3	1471.0	981.7	717.5	661.6	660.1	665.4	658.5
47.5°	3149.5	3127.3	2614.2	1659.4	1013.1	634.8	539.8	549.0	553.6	549.8	544.4
50°	3101.2	3019.3	2225.2	1219.8	675.4	466.3	470.9	479.4	463.3	452.6	446.4
52.5°	3003.2	2844.0	1793.4	864.5	467.1	398.2	434.9	410.4	387.5	381.3	380.6
55°	2802.6	2583.6	1379.9	623.3	356.8	379.8	386.7	355.3	348.4	345.3	343.8
57.5°	2497.1	2259.7	1037.6	450.3	313.2	366.8	336.2	323.9	317.0	314.7	312.4
60°	2142.5	1897.5	773.4	330.8	304.0	330.0	304.8	293.3	285.6	282.6	282.6
62.5°	1828.6	1570.5	572.0	268.8	301.7	297.9	274.9	262.6	258.1	256.5	255.0
65°	1575.9	1263.5	412.7	248.9	281.8	268.0	245.8	237.4	234.3	231.3	231.3
67.5°	1350.8	989.3	304.0	244.3	258.8	241.2	224.4	217.5	213.6	212.9	212.1
70°	1131.8	729.0	231.3	238.9	245.8	219.8	203.7	195.3	190.7	188.4	188.4
72.5°	901.3	500.0	184.5	219.8	225.1	194.5	178.4	172.3	168.5	166.2	165.4
75°	657.0	314.0	162.3	184.5	193.7	170.8	154.7	149.3	147.8	145.5	144.7
77.5°	418.1	187.6	138.6	150.9	158.5	144.0	131.7	124.8	124.0	121.8	121.0
80°	224.4	120.2	111.0	118.7	123.3	116.4	101.8	88.1	84.2	81.2	80.4
82.5°	104.1	76.6	82.7	89.6	91.9	74.3	61.3	55.1	51.3	47.5	45.2
85°	44.4	41.3	51.3	55.1	45.2	32.9	21.4	16.1	13.0	12.3	11.5
87.5°	16.1	16.1	19.1	13.0	7.7	6.1	6.1	5.4	4.6	3.8	3.8
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)