

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: P685451

Luminaire Tested: **4CZL-9-UNV-M-L935-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685451
Test Lab: INNOVATION CENTER(G2)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-9-UNV-M-L935-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @90 CRI and 3500K
Light Source: (588) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

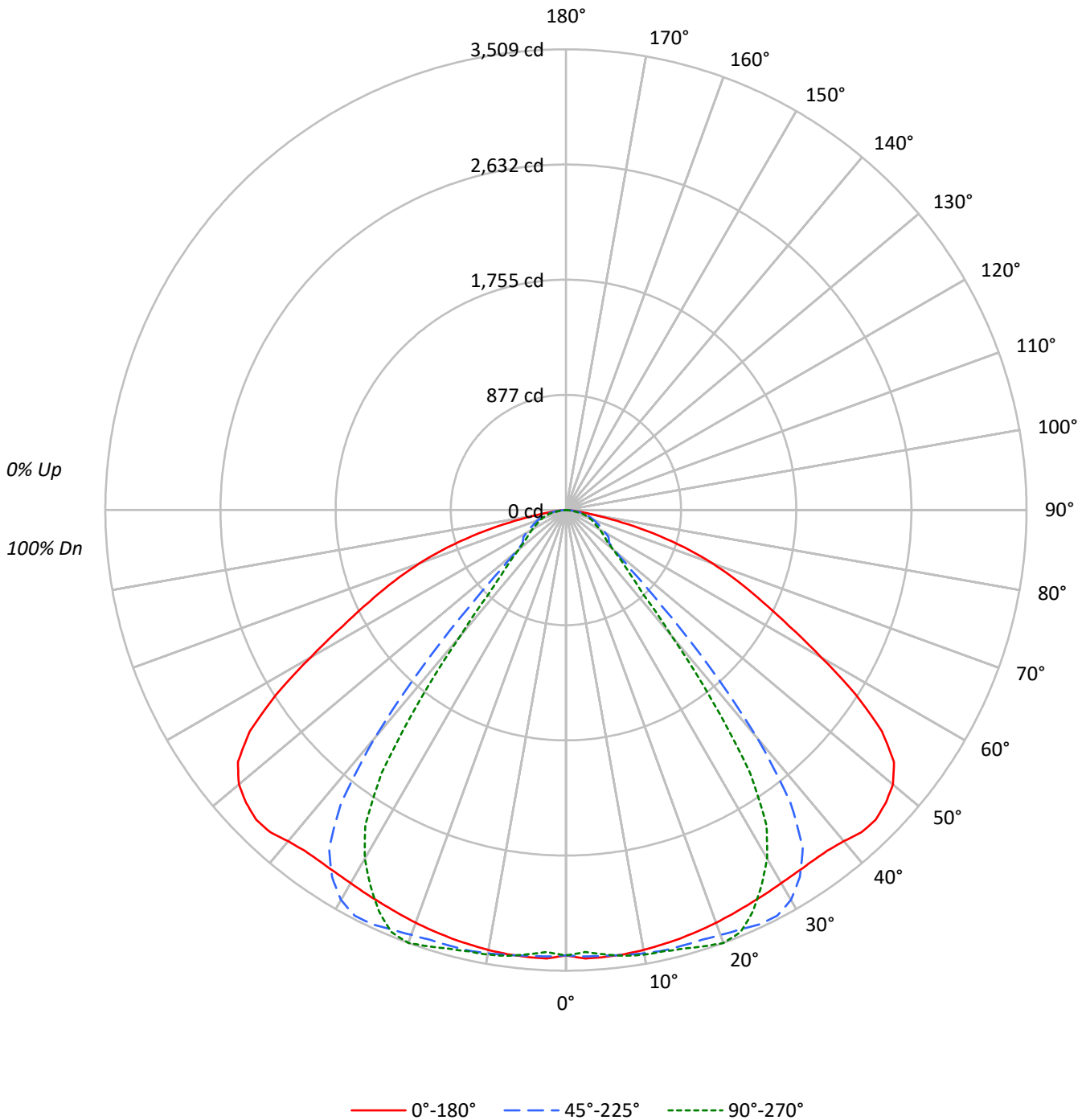
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7328.8 lumens
Efficiency: N/A
Efficacy: 135.7 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): 54
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°	10954	10954	10954
5°	11077	11045	11014
10°	11157	11244	11276
15°	11290	11483	11563
20°	11497	11834	12057
25°	11792	12410	12012
30°	12236	12784	11427
35°	12879	12401	9649
40°	13880	9563	5278
45°	15239	4702	3154
50°	16340	2457	2352
55°	16548	2242	2030
60°	14513	2235	1914
65°	12629	2148	1853
70°	11207	2176	1866
75°	8598	2235	1894
80°	4376	2271	1568
85°	1727	1278	445



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	325.0	4.4
10°-20°	968.8	13.2
20°-30°	1563.4	21.3
30°-40°	1831.0	25.0
40°-50°	1246.5	17.0
50°-60°	721.8	9.8
60°-70°	412.6	5.6
70°-80°	212.4	2.9
80°-90°	47.3	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°	2857.2	39.0
0°-40°	4688.3	64.0
0°-60°	6656.5	90.8
0°-90°	7328.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7328.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3392	3392	3392	3392	3392	
5°	3417	3384	3408	3404	3398	326
15°	3377	3372	3435	3444	3459	956
25°	3310	3356	3483	3429	3371	1532
35°	3267	3428	3146	2653	2448	2057
45°	3337	2483	1030	694	691	2564
55°	2939	852	398	371	361	2561
65°	1653	304	281	248	242	1657
75°	689	188	179	156	152	733
85°	47	57	34	16	12	79
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°	3392.3	3392.3	3392.3	3392.3	3392.3	3392.3	3392.3	3392.3	3392.3	3392.3	3392.3
2.5°	3419.6	3409.9	3390.7	3382.6	3382.6	3403.5	3406.7	3393.9	3391.5	3380.2	3369.8
5°	3417.2	3407.5	3389.1	3381.8	3384.2	3407.5	3413.2	3402.7	3405.9	3402.7	3397.9
7.5°	3412.4	3401.9	3385.0	3380.2	3387.5	3417.2	3426.8	3421.2	3428.4	3426.8	3425.2
10°	3402.7	3394.7	3378.6	3377.8	3392.3	3429.2	3441.3	3434.0	3436.4	3435.6	3438.9
12.5°	3389.9	3382.6	3369.0	3376.2	3397.1	3436.4	3444.5	3433.2	3436.4	3437.3	3442.9
15°	3377.0	3368.2	3359.3	3376.2	3397.9	3434.8	3442.9	3441.3	3450.9	3451.7	3458.9
17.5°	3361.0	3355.3	3352.9	3375.4	3392.3	3433.2	3451.7	3461.3	3474.2	3477.4	3484.6
20°	3345.7	3340.9	3346.5	3371.4	3389.9	3443.7	3469.4	3483.8	3497.5	3501.5	3508.7
22.5°	3327.2	3324.0	3339.3	3365.8	3393.9	3459.7	3488.6	3490.3	3484.6	3474.2	3479.0
25°	3309.6	3309.6	3332.0	3364.2	3405.9	3483.0	3485.4	3439.7	3398.7	3371.4	3371.4
27.5°	3295.1	3298.3	3326.4	3371.4	3429.2	3484.6	3418.0	3327.2	3267.0	3227.6	3225.2
30°	3281.4	3287.1	3326.4	3391.5	3446.1	3428.4	3299.1	3189.1	3105.6	3067.8	3064.6
32.5°	3271.8	3280.6	3340.9	3422.0	3426.0	3315.2	3146.5	3007.6	2908.8	2852.6	2843.0
35°	3267.0	3277.4	3368.2	3448.5	3344.9	3145.7	2906.4	2692.0	2535.4	2463.1	2447.8
37.5°	3270.2	3288.7	3405.9	3426.0	3141.7	2812.4	2468.7	2161.1	1945.9	1877.6	1830.3
40°	3292.7	3324.0	3435.6	3242.9	2715.3	2268.7	1813.4	1482.5	1333.9	1285.0	1252.0
42.5°	3330.4	3361.8	3357.7	2823.7	2121.0	1611.8	1168.5	970.1	897.9	889.8	874.6
45°	3336.9	3348.9	3105.6	2275.2	1542.7	1029.6	752.5	693.9	692.3	697.9	690.7
47.5°	3303.1	3279.8	2741.8	1740.3	1062.5	665.8	566.2	575.8	580.6	576.6	571.0
50°	3252.5	3166.6	2333.8	1279.3	708.3	489.1	493.9	502.7	485.9	474.6	468.2
52.5°	3149.7	2982.7	1880.9	906.7	489.9	417.6	456.2	430.5	406.4	399.9	399.1
55°	2939.3	2709.6	1447.2	653.7	374.2	398.3	405.6	372.6	365.4	362.2	360.6
57.5°	2618.9	2369.9	1088.2	472.2	328.5	384.7	352.6	339.7	332.5	330.1	327.7
60°	2247.1	1990.1	811.1	346.9	318.8	346.1	319.6	307.6	299.6	296.3	296.3
62.5°	1917.8	1647.1	599.9	281.9	316.4	312.4	288.3	275.5	270.6	269.0	267.4
65°	1652.8	1325.1	432.9	261.0	295.5	281.1	257.8	249.0	245.7	242.5	242.5
67.5°	1416.7	1037.6	318.8	256.2	271.4	253.0	235.3	228.1	224.1	223.3	222.5
70°	1187.0	764.5	242.5	250.6	257.8	230.5	213.6	204.8	200.0	197.6	197.6
72.5°	945.2	524.4	193.5	230.5	236.1	204.0	187.1	180.7	176.7	174.3	173.5
75°	689.1	329.3	170.3	193.5	203.2	179.1	162.2	156.6	155.0	152.6	151.8
77.5°	438.5	196.8	145.4	158.2	166.2	151.0	138.1	130.9	130.1	127.7	126.9
80°	235.3	126.1	116.4	124.5	129.3	122.1	106.8	92.4	88.3	85.1	84.3
82.5°	109.2	80.3	86.7	94.0	96.4	77.9	64.2	57.8	53.8	49.8	47.4
85°	46.6	43.4	53.8	57.8	47.4	34.5	22.5	16.9	13.7	12.8	12.0
87.5°	16.9	16.9	20.1	13.7	8.0	6.4	6.4	5.6	4.8	4.0	4.0
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)