

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: P685440

Luminaire Tested: **4CZL-7-UNV-M-L850-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685440
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-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

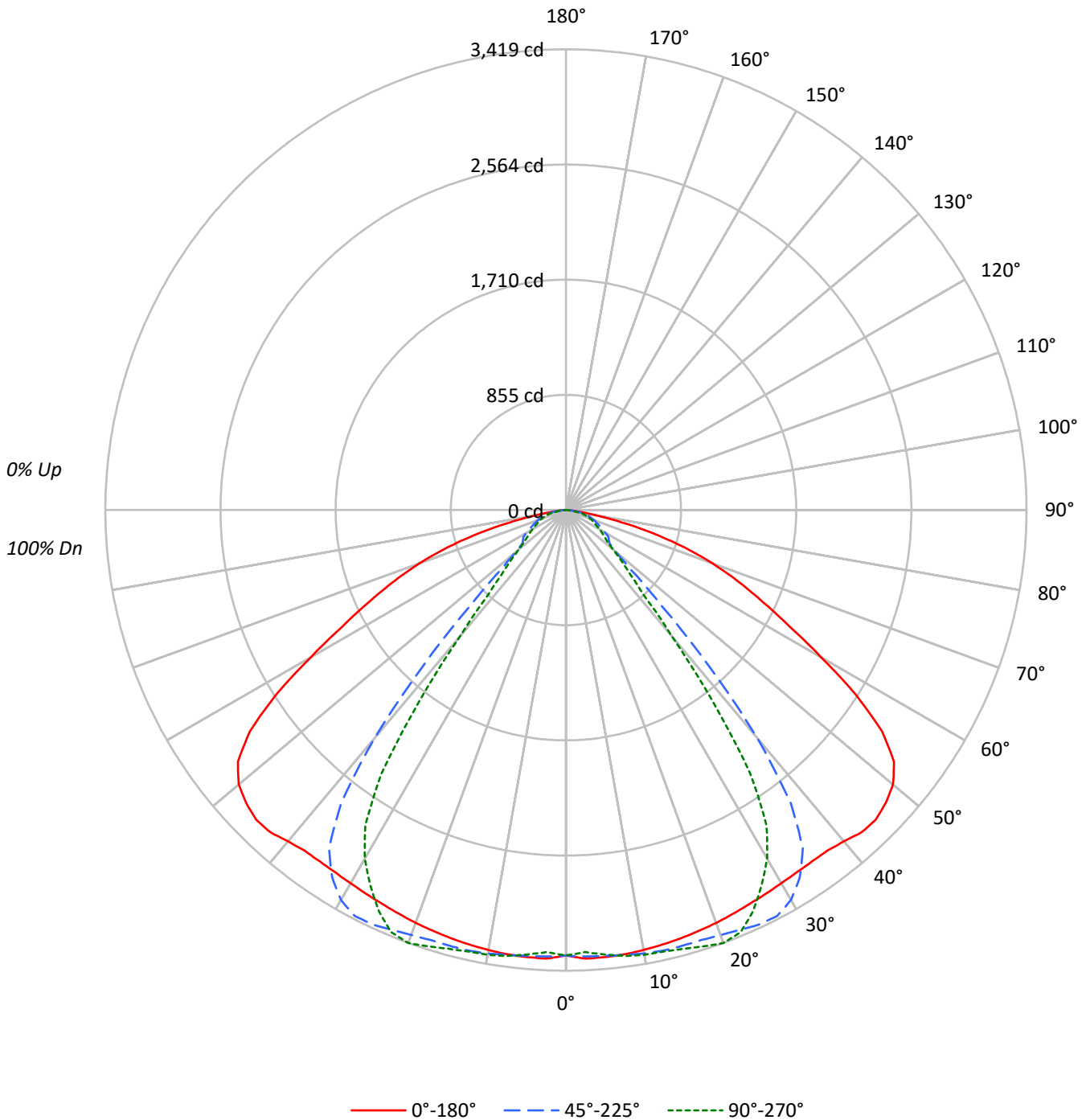
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7142.3 lumens
Efficiency: N/A
Efficacy: 162.3 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 (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°	10675	10675	10675
5°	10795	10764	10734
10°	10874	10958	10989
15°	11002	11191	11269
20°	11204	11533	11751
25°	11492	12094	11707
30°	11924	12458	11136
35°	12551	12085	9404
40°	13527	9320	5144
45°	14851	4582	3074
50°	15924	2394	2292
55°	16127	2186	1978
60°	14143	2178	1865
65°	12307	2093	1806
70°	10922	2121	1817
75°	8378	2177	1845
80°	4264	2213	1529
85°	1682	1249	433



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	316.8	4.4
10°-20°	944.1	13.2
20°-30°	1523.6	21.3
30°-40°	1784.4	25.0
40°-50°	1214.8	17.0
50°-60°	703.4	9.8
60°-70°	402.1	5.6
70°-80°	207.0	2.9
80°-90°	46.1	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°	2784.5	39.0
0°-40°	4568.9	64.0
0°-60°	6487.1	90.8
0°-90°	7142.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7142.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3306	3306	3306	3306	3306	
5°	3330	3297	3321	3317	3311	317
15°	3291	3286	3347	3356	3371	932
25°	3225	3271	3394	3342	3286	1493
35°	3184	3341	3066	2585	2386	2004
45°	3252	2420	1003	676	673	2498
55°	2864	830	388	361	351	2496
65°	1611	296	274	242	236	1615
75°	672	183	174	152	148	714
85°	45	55	34	16	12	77
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°	3305.9	3305.9	3305.9	3305.9	3305.9	3305.9	3305.9	3305.9	3305.9	3305.9	3305.9
2.5°	3332.5	3323.1	3304.4	3296.5	3296.5	3316.9	3320.0	3307.5	3305.1	3294.2	3284.0
5°	3330.2	3320.8	3302.8	3295.7	3298.1	3320.8	3326.3	3316.1	3319.2	3316.1	3311.4
7.5°	3325.5	3315.3	3298.9	3294.2	3301.2	3330.2	3339.6	3334.1	3341.1	3339.6	3338.0
10°	3316.1	3308.3	3292.6	3291.8	3305.9	3341.9	3353.7	3346.6	3349.0	3348.2	3351.3
12.5°	3303.6	3296.5	3283.2	3290.3	3310.6	3349.0	3356.8	3345.8	3349.0	3349.8	3355.2
15°	3291.1	3282.4	3273.8	3290.3	3311.4	3347.4	3355.2	3353.7	3363.1	3363.8	3370.9
17.5°	3275.4	3269.9	3267.6	3289.5	3305.9	3345.8	3363.8	3373.2	3385.8	3388.9	3395.9
20°	3260.5	3255.8	3261.3	3285.6	3303.6	3356.0	3381.1	3395.1	3408.4	3412.4	3419.4
22.5°	3242.5	3239.4	3254.3	3280.1	3307.5	3371.7	3399.8	3401.4	3395.9	3385.8	3390.4
25°	3225.3	3225.3	3247.2	3278.5	3319.2	3394.4	3396.7	3352.1	3312.2	3285.6	3285.6
27.5°	3211.2	3214.4	3241.7	3285.6	3341.9	3395.9	3331.0	3242.5	3183.8	3145.5	3143.1
30°	3197.9	3203.4	3241.7	3305.1	3358.4	3341.1	3215.1	3107.9	3026.5	2989.7	2986.6
32.5°	3188.5	3197.1	3255.8	3334.9	3338.8	3230.8	3066.4	2931.0	2834.8	2780.0	2770.6
35°	3183.8	3194.0	3282.4	3360.7	3259.7	3065.6	2832.4	2623.4	2470.8	2400.4	2385.5
37.5°	3187.0	3205.0	3319.2	3338.8	3061.7	2740.8	2405.9	2106.1	1896.4	1829.8	1783.7
40°	3208.9	3239.4	3348.2	3160.3	2646.1	2211.0	1767.2	1444.8	1300.0	1252.2	1220.2
42.5°	3245.7	3276.2	3272.3	2751.8	2067.0	1570.8	1138.8	945.4	875.0	867.2	852.3
45°	3251.9	3263.7	3026.5	2217.3	1503.5	1003.4	733.3	676.2	674.6	680.1	673.1
47.5°	3219.0	3196.4	2672.0	1696.0	1035.4	648.8	551.8	561.2	565.9	561.9	556.5
50°	3169.7	3086.0	2274.4	1246.8	690.3	476.6	481.3	489.9	473.5	462.5	456.3
52.5°	3069.6	2906.8	1833.0	883.6	477.4	407.0	444.5	419.5	396.0	389.8	389.0
55°	2864.5	2640.7	1410.3	637.1	364.7	388.2	395.2	363.2	356.1	353.0	351.4
57.5°	2552.2	2309.6	1060.5	460.2	320.1	374.9	343.6	331.1	324.0	321.7	319.3
60°	2189.9	1939.4	790.5	338.1	310.7	337.3	311.5	299.8	291.9	288.8	288.8
62.5°	1869.0	1605.2	584.6	274.7	308.4	304.5	281.0	268.4	263.8	262.2	260.6
65°	1610.7	1291.4	421.8	254.4	288.0	273.9	251.2	242.6	239.5	236.4	236.4
67.5°	1380.6	1011.2	310.7	249.7	264.5	246.5	229.3	222.3	218.4	217.6	216.8
70°	1156.8	745.1	236.4	244.2	251.2	224.6	208.2	199.6	194.9	192.5	192.5
72.5°	921.2	511.1	188.6	224.6	230.1	198.8	182.4	176.1	172.2	169.8	169.1
75°	671.5	320.9	165.9	188.6	198.0	174.5	158.1	152.6	151.1	148.7	147.9
77.5°	427.3	191.7	141.7	154.2	162.0	147.1	134.6	127.6	126.8	124.4	123.7
80°	229.3	122.9	113.5	121.3	126.0	119.0	104.1	90.0	86.1	83.0	82.2
82.5°	106.4	78.3	84.5	91.6	93.9	75.9	62.6	56.4	52.4	48.5	46.2
85°	45.4	42.3	52.4	56.4	46.2	33.7	21.9	16.4	13.3	12.5	11.7
87.5°	16.4	16.4	19.6	13.3	7.8	6.3	6.3	5.5	4.7	3.9	3.9
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)