

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: P685452

Luminaire Tested: **4CZL-12-UNV-M-L935-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685452
Test Lab: INNOVATION CENTER(G2)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-12-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

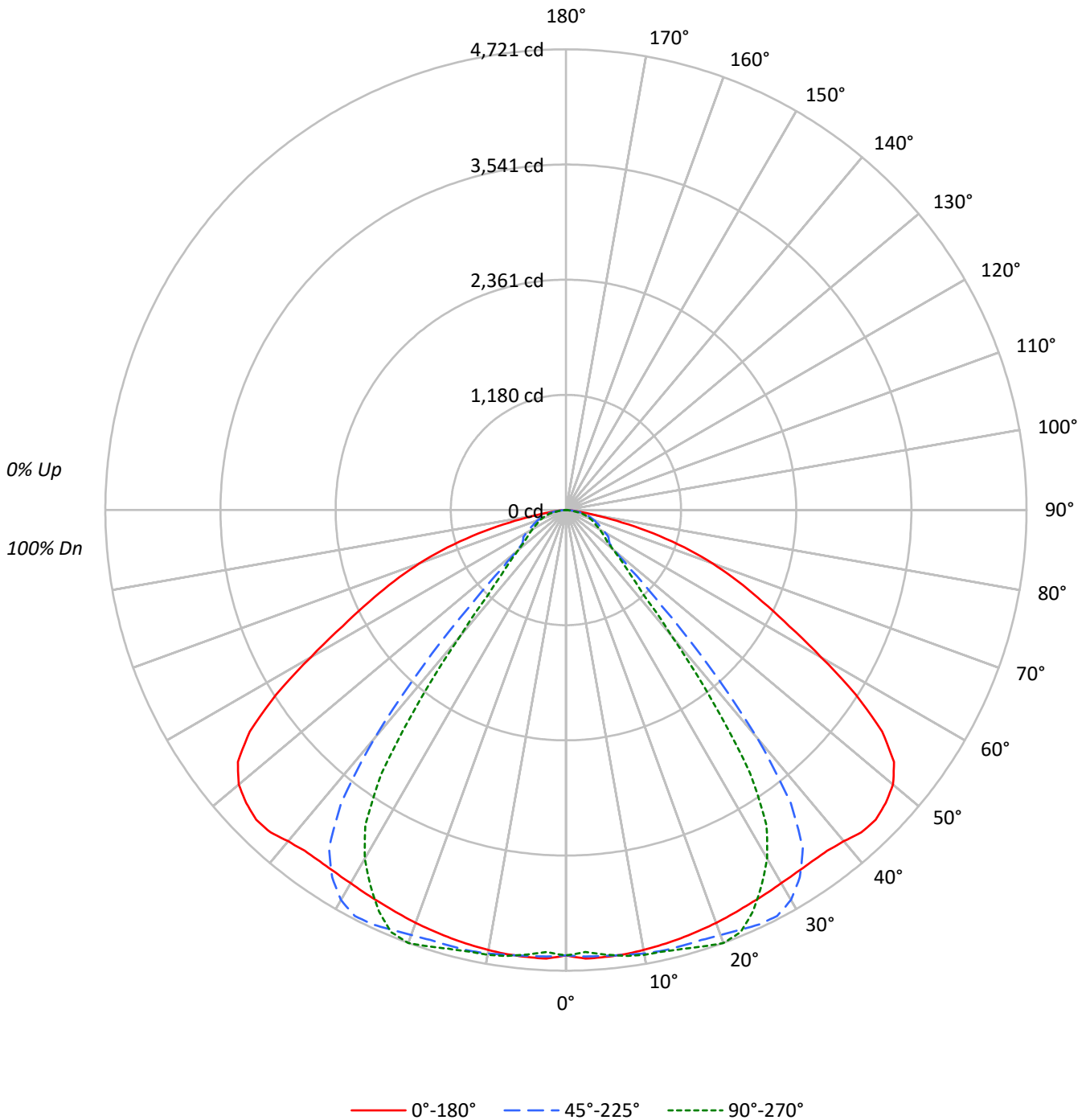
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9861.7 lumens
Efficiency: N/A
Efficacy: 128.1 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): 77
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°	14740	14740	14740
5°	14905	14863	14821
10°	15014	15130	15173
15°	15191	15451	15560
20°	15470	15924	16224
25°	15867	16699	16164
30°	16464	17202	15376
35°	17330	16687	12985
40°	18677	12869	7102
45°	20505	6327	4244
50°	21987	3306	3165
55°	22267	3018	2732
60°	19528	3008	2576
65°	16993	2890	2494
70°	15080	2928	2510
75°	11568	3007	2548
80°	5888	3055	2111
85°	2323	1723	600



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	437.4	4.4
10°-20°	1303.5	13.2
20°-30°	2103.8	21.3
30°-40°	2463.8	25.0
40°-50°	1677.3	17.0
50°-60°	971.2	9.8
60°-70°	555.3	5.6
70°-80°	285.8	2.9
80°-90°	63.7	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°	3844.7	39.0
0°-40°	6308.5	64.0
0°-60°	8957.0	90.8
0°-90°	9861.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9861.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4565	4565	4565	4565	4565	
5°	4598	4553	4585	4580	4572	438
15°	4544	4537	4622	4634	4654	1286
25°	4453	4516	4687	4615	4536	2061
35°	4396	4613	4233	3570	3294	2768
45°	4490	3341	1385	933	929	3449
55°	3955	1147	536	499	485	3446
65°	2224	409	378	334	326	2230
75°	927	253	241	210	204	986
85°	63	76	46	22	16	106
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°	4564.6	4564.6	4564.6	4564.6	4564.6	4564.6	4564.6	4564.6	4564.6	4564.6	4564.6
2.5°	4601.4	4588.4	4562.5	4551.7	4551.7	4579.8	4584.1	4566.8	4563.5	4548.4	4534.4
5°	4598.1	4585.2	4560.3	4550.6	4553.8	4585.2	4592.7	4578.7	4583.0	4578.7	4572.2
7.5°	4591.6	4577.6	4554.9	4548.4	4558.1	4598.1	4611.1	4603.5	4613.3	4611.1	4608.9
10°	4578.7	4567.9	4546.3	4545.2	4564.6	4614.3	4630.5	4620.8	4624.1	4623.0	4627.3
12.5°	4561.4	4551.7	4533.3	4543.0	4571.1	4624.1	4634.9	4619.7	4624.1	4625.1	4632.7
15°	4544.1	4532.2	4520.3	4543.0	4572.2	4621.9	4632.7	4630.5	4643.5	4644.6	4654.3
17.5°	4522.5	4514.9	4511.7	4541.9	4564.6	4619.7	4644.6	4657.6	4674.9	4679.2	4688.9
20°	4501.9	4495.5	4503.0	4536.5	4561.4	4633.8	4668.4	4687.8	4706.2	4711.6	4721.3
22.5°	4477.1	4472.8	4493.3	4529.0	4566.8	4655.4	4694.3	4696.5	4688.9	4674.9	4681.3
25°	4453.3	4453.3	4483.6	4526.8	4583.0	4686.7	4690.0	4628.4	4573.3	4536.5	4536.5
27.5°	4433.9	4438.2	4476.0	4536.5	4614.3	4688.9	4599.2	4477.1	4396.0	4343.1	4339.9
30°	4415.5	4423.1	4476.0	4563.5	4637.0	4613.3	4439.3	4291.2	4178.8	4128.0	4123.7
32.5°	4402.5	4414.4	4495.5	4604.6	4610.0	4460.9	4233.9	4047.0	3914.1	3838.4	3825.5
35°	4396.0	4410.1	4532.2	4640.3	4500.9	4232.9	3910.8	3622.3	3411.6	3314.3	3293.8
37.5°	4400.4	4425.2	4583.0	4610.0	4227.5	3784.4	3321.9	2908.0	2618.4	2526.5	2462.8
40°	4430.6	4472.8	4623.0	4363.6	3653.6	3052.8	2440.1	1994.9	1794.9	1729.0	1684.7
42.5°	4481.4	4523.6	4518.2	3799.5	2854.0	2168.8	1572.3	1305.4	1208.2	1197.3	1176.8
45°	4490.1	4506.3	4178.8	3061.5	2075.9	1385.4	1012.6	933.7	931.5	939.1	929.4
47.5°	4444.7	4413.3	3689.3	2341.7	1429.7	895.9	761.9	774.8	781.3	775.9	768.3
50°	4376.6	4261.0	3140.3	1721.5	953.1	658.1	664.6	676.5	653.8	638.7	630.0
52.5°	4238.3	4013.5	2530.9	1220.0	659.2	561.9	613.8	579.2	546.8	538.2	537.1
55°	3955.1	3646.1	1947.3	879.6	503.6	536.0	545.7	501.4	491.7	487.4	485.2
57.5°	3524.0	3189.0	1464.3	635.4	442.0	517.6	474.4	457.1	447.4	444.1	440.9
60°	3023.6	2677.8	1091.4	466.8	429.0	465.8	430.1	413.9	403.1	398.8	398.8
62.5°	2580.6	2216.4	807.2	379.3	425.8	420.4	387.9	370.7	364.2	362.0	359.9
65°	2224.0	1783.1	582.5	351.2	397.7	378.2	346.9	335.0	330.7	326.4	326.4
67.5°	1906.3	1396.2	429.0	344.7	365.3	340.4	316.6	306.9	301.5	300.4	299.3
70°	1597.2	1028.8	326.4	337.2	346.9	310.1	287.5	275.6	269.1	265.8	265.8
72.5°	1271.9	705.7	260.4	310.1	317.7	274.5	251.8	243.1	237.7	234.5	233.4
75°	927.2	443.1	229.1	260.4	273.4	241.0	218.3	210.7	208.6	205.3	204.2
77.5°	590.0	264.8	195.6	212.9	223.7	203.2	185.9	176.1	175.1	171.8	170.7
80°	316.6	169.7	156.7	167.5	174.0	164.3	143.7	124.3	118.9	114.5	113.5
82.5°	147.0	108.1	116.7	126.4	129.7	104.8	86.5	77.8	72.4	67.0	63.8
85°	62.7	58.4	72.4	77.8	63.8	46.5	30.3	22.7	18.4	17.3	16.2
87.5°	22.7	22.7	27.0	18.4	10.8	8.6	8.6	7.6	6.5	5.4	5.4
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)