

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: P685441

Luminaire Tested: **4CZL-9-UNV-M-L850-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685441
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-L850-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @80 CRI and 5000K
Light Source: (588) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

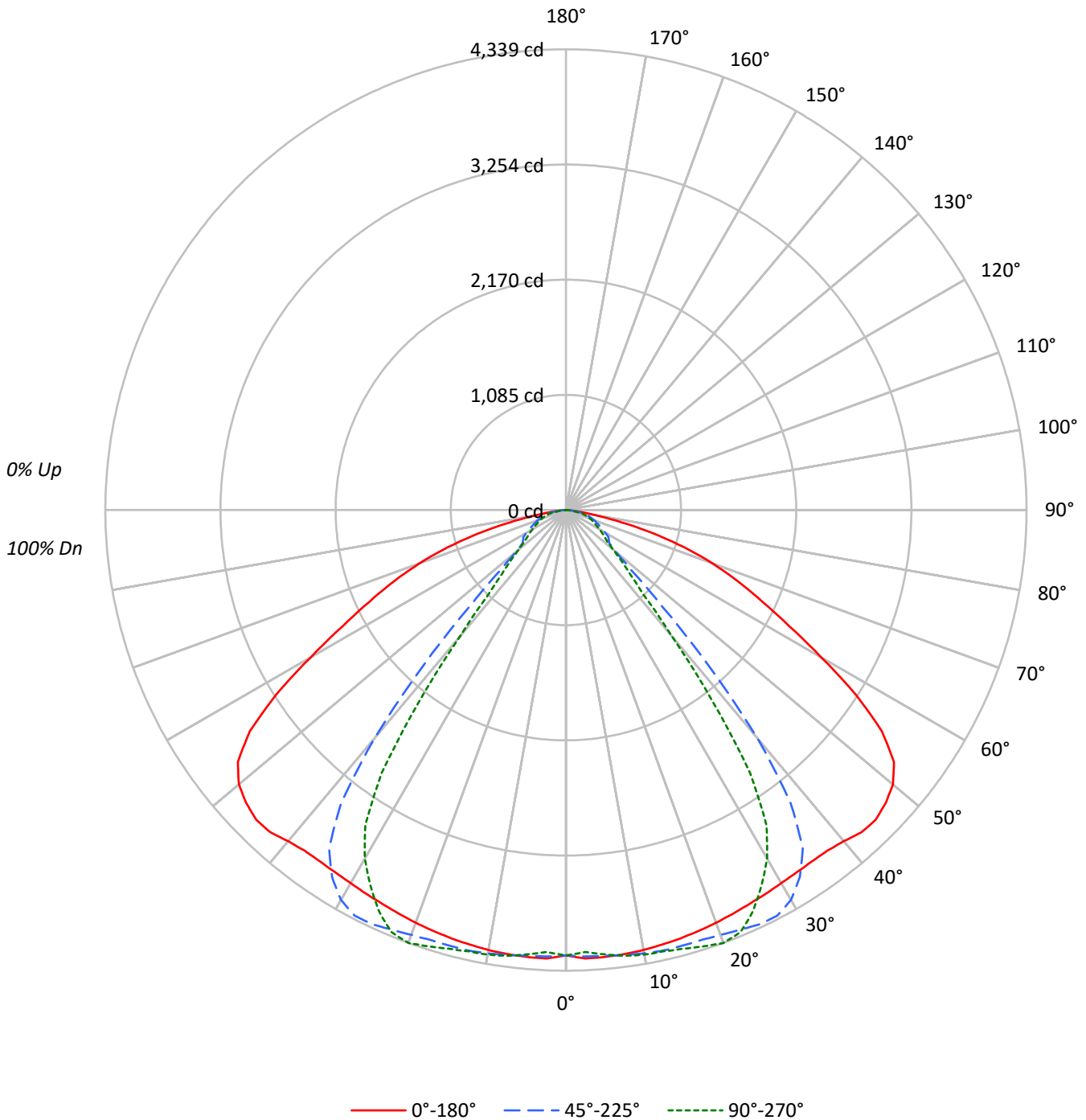
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9062.5 lumens
Efficiency: N/A
Efficacy: 167.8 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): 54
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				
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°	13545	13545	13545
5°	13697	13658	13620
10°	13797	13904	13943
15°	13960	14199	14299
20°	14217	14633	14910
25°	14581	15346	14854
30°	15130	15808	14130
35°	15925	15334	11932
40°	17163	11826	6526
45°	18843	5814	3900
50°	20205	3038	2909
55°	20462	2773	2510
60°	17945	2764	2366
65°	15616	2656	2292
70°	13858	2691	2307
75°	10631	2764	2342
80°	5411	2806	1940
85°	2134	1582	552



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	401.9	4.4
10°-20°	1197.9	13.2
20°-30°	1933.3	21.3
30°-40°	2264.2	25.0
40°-50°	1541.4	17.0
50°-60°	892.5	9.8
60°-70°	510.3	5.6
70°-80°	262.6	2.9
80°-90°	58.5	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°	3533.1	39.0
0°-40°	5797.3	64.0
0°-60°	8231.1	90.8
0°-90°	9062.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9062.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4195	4195	4195	4195	4195	
5°	4226	4184	4214	4209	4202	403
15°	4176	4170	4247	4258	4277	1182
25°	4092	4150	4307	4241	4169	1894
35°	4040	4239	3890	3280	3027	2543
45°	4126	3070	1273	858	854	3170
55°	3635	1054	493	459	446	3167
65°	2044	376	348	307	300	2049
75°	852	232	222	193	188	906
85°	58	70	43	20	15	98
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°	4194.7	4194.7	4194.7	4194.7	4194.7	4194.7	4194.7	4194.7	4194.7	4194.7	4194.7
2.5°	4228.5	4216.6	4192.7	4182.8	4182.8	4208.6	4212.6	4196.7	4193.7	4179.8	4166.9
5°	4225.5	4213.6	4190.7	4181.8	4184.8	4213.6	4220.5	4207.6	4211.6	4207.6	4201.7
7.5°	4219.5	4206.6	4185.8	4179.8	4188.8	4225.5	4237.4	4230.5	4239.4	4237.4	4235.4
10°	4207.6	4197.7	4177.8	4176.8	4194.7	4240.4	4255.3	4246.3	4249.3	4248.3	4252.3
12.5°	4191.7	4182.8	4165.9	4174.8	4200.7	4249.3	4259.3	4245.4	4249.3	4250.3	4257.3
15°	4175.8	4164.9	4154.0	4174.8	4201.7	4247.3	4257.3	4255.3	4267.2	4268.2	4277.1
17.5°	4156.0	4149.0	4146.1	4173.9	4194.7	4245.4	4268.2	4280.1	4296.0	4300.0	4308.9
20°	4137.1	4131.2	4138.1	4168.9	4191.7	4258.3	4290.0	4307.9	4324.8	4329.8	4338.7
22.5°	4114.3	4110.3	4129.2	4161.9	4196.7	4278.1	4313.9	4315.9	4308.9	4296.0	4302.0
25°	4092.4	4092.4	4120.2	4160.0	4211.6	4306.9	4309.9	4253.3	4202.7	4168.9	4168.9
27.5°	4074.5	4078.5	4113.3	4168.9	4240.4	4308.9	4226.5	4114.3	4039.8	3991.1	3988.2
30°	4057.7	4064.6	4113.3	4193.7	4261.2	4239.4	4079.5	3943.5	3840.2	3793.5	3789.5
32.5°	4045.8	4056.7	4131.2	4231.5	4236.4	4099.4	3890.8	3719.0	3596.9	3527.4	3515.5
35°	4039.8	4052.7	4164.9	4264.2	4136.1	3889.8	3593.9	3328.8	3135.1	3045.7	3026.9
37.5°	4043.8	4066.6	4211.6	4236.4	3884.9	3477.7	3052.7	2672.3	2406.2	2321.8	2263.2
40°	4071.6	4110.3	4248.3	4010.0	3357.6	2805.4	2242.3	1833.2	1649.5	1588.9	1548.2
42.5°	4118.2	4157.0	4152.0	3491.6	2622.7	1993.1	1444.9	1199.6	1110.2	1100.3	1081.4
45°	4126.2	4141.1	3840.2	2813.4	1907.7	1273.1	930.5	858.0	856.0	863.0	854.0
47.5°	4084.5	4055.7	3390.3	2152.0	1313.8	823.3	700.1	712.0	718.0	713.0	706.1
50°	4021.9	3915.7	2885.8	1582.0	875.9	604.8	610.7	621.7	600.8	586.9	579.0
52.5°	3894.8	3688.2	2325.8	1121.2	605.8	516.4	564.1	532.3	502.5	494.5	493.6
55°	3634.6	3350.6	1789.5	808.4	462.8	492.6	501.5	460.8	451.8	447.9	445.9
57.5°	3238.4	2930.5	1345.6	583.9	406.2	475.7	436.0	420.1	411.1	408.2	405.2
60°	2778.6	2460.8	1003.0	429.0	394.2	428.0	395.2	380.3	370.4	366.4	366.4
62.5°	2371.4	2036.8	741.8	348.6	391.3	386.3	356.5	340.6	334.7	332.7	330.7
65°	2043.7	1638.6	535.3	322.7	365.4	347.6	318.8	307.9	303.9	299.9	299.9
67.5°	1751.8	1283.0	394.2	316.8	335.7	312.8	291.0	282.0	277.1	276.1	275.1
70°	1467.8	945.4	299.9	309.8	318.8	285.0	264.2	253.2	247.3	244.3	244.3
72.5°	1168.8	648.5	239.3	285.0	292.0	252.2	231.4	223.4	218.5	215.5	214.5
75°	852.1	407.2	210.5	239.3	251.2	221.5	200.6	193.6	191.7	188.7	187.7
77.5°	542.2	243.3	179.7	195.6	205.6	186.7	170.8	161.9	160.9	157.9	156.9
80°	291.0	155.9	144.0	153.9	159.9	150.9	132.1	114.2	109.2	105.3	104.3
82.5°	135.1	99.3	107.3	116.2	119.2	96.3	79.4	71.5	66.5	61.6	58.6
85°	57.6	53.6	66.5	71.5	58.6	42.7	27.8	20.9	16.9	15.9	14.9
87.5°	20.9	20.9	24.8	16.9	9.9	7.9	7.9	7.0	6.0	5.0	5.0
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)