

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: P685623

Luminaire Tested: **4CZL-16-UNV-FUL-L850-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685623
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-FUL-L850-CD-U
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI and 5000K
Light Source: (588) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

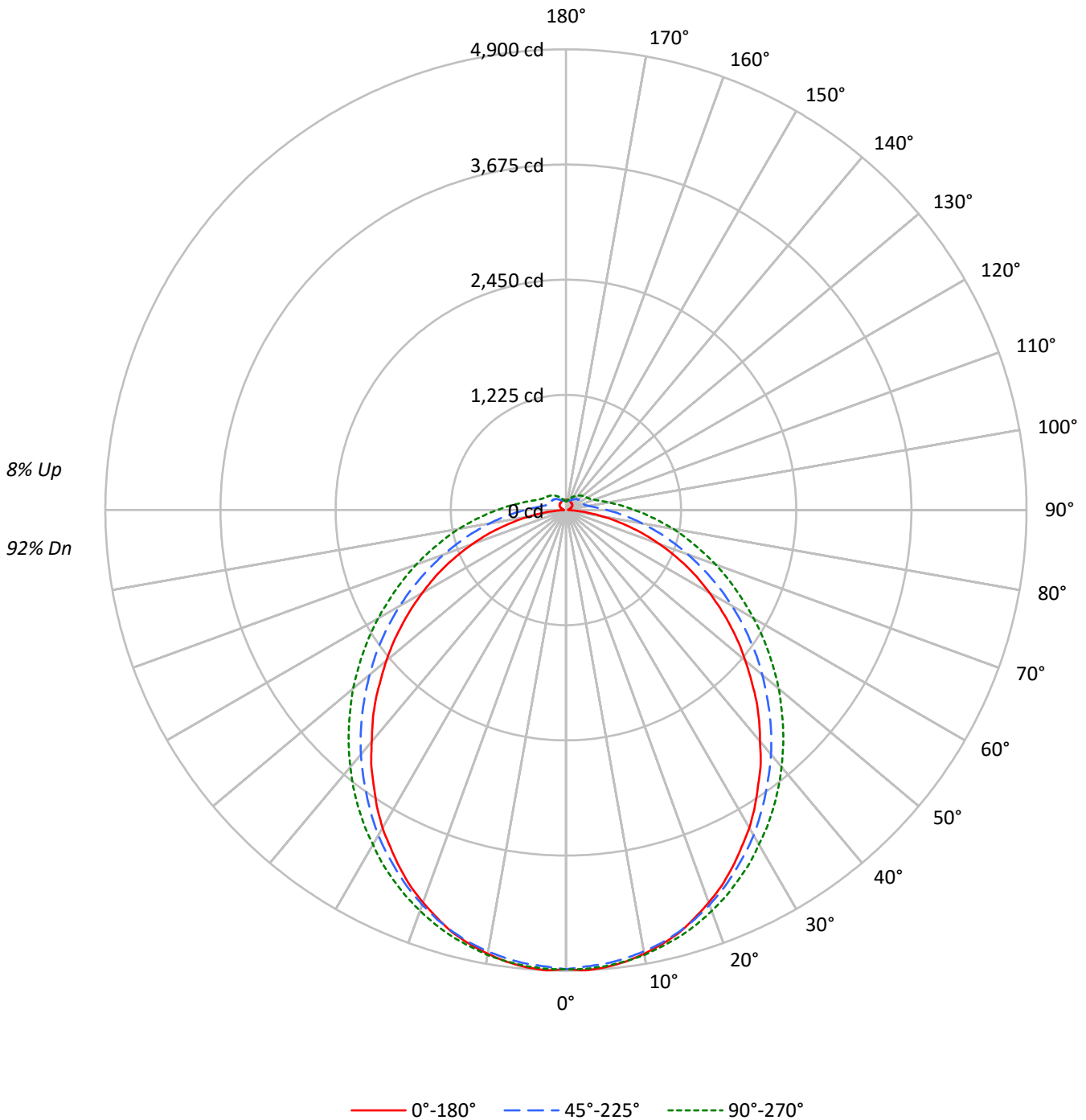
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15238.5 lumens
Efficiency: N/A
Efficacy: 147.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.34
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 4' x H: 0.17')
CIE Type: Direct

Input Watts (W): 103
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

TEST NUMBER: P685623
CATALOG NUMBER: 4CZL-16-UNV-FUL-L850-CD-U

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	117	117	117	117	113	113	113	113	107	107	107	100	100	100	95	95	95	95	95	95	92
1	106	101	96	92	102	98	93	90	92	88	85	87	84	81	82	79	77	77	77	77	75
2	96	87	80	74	93	85	78	73	80	74	70	75	71	67	71	68	64	64	64	64	62
3	87	77	68	61	84	74	67	60	70	64	58	66	61	56	63	58	54	54	54	54	52
4	80	68	59	52	77	66	58	51	62	55	50	59	53	48	56	51	47	47	47	47	44
5	74	61	51	45	71	59	50	44	56	49	43	53	47	42	50	45	41	41	41	41	38
6	68	54	45	39	65	53	45	38	50	43	38	48	42	37	46	40	36	36	36	36	33
7	63	49	41	34	61	48	40	34	46	39	33	44	37	32	42	36	32	32	32	32	30
8	59	45	37	31	57	44	36	30	42	35	30	40	34	29	38	33	28	28	28	28	26
9	55	41	33	28	53	40	33	27	39	32	27	37	31	26	35	30	26	26	26	26	24
10	51	38	30	25	50	37	30	25	36	29	24	34	28	24	33	27	23	23	23	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15774	15774	15774
5°	15767	15469	15512
10°	15600	15178	15223
15°	15392	14848	14897
20°	15040	14456	14536
25°	14649	14009	14148
30°	14213	13557	13729
35°	13660	13022	13324
40°	13082	12513	12880
45°	12556	11954	12428
50°	11926	11381	11992
55°	11310	10789	11513
60°	10620	10163	11065
65°	9934	9514	10643
70°	8954	8880	10325
75°	7742	8282	10042
80°	6026	7807	10113
85°	3516	7581	10415



TEST NUMBER: P685623
 CATALOG NUMBER: 4CZL-16-UNV-FUL-L850-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	462.1	3.0
10°-20°	1314.6	8.6
20°-30°	1963.0	12.9
30°-40°	2320.6	15.2
40°-50°	2364.7	15.5
50°-60°	2132.2	14.0
60°-70°	1687.1	11.1
70°-80°	1140.2	7.5
80°-90°	637.7	4.2
90°-100°	347.0	2.3
100°-110°	227.6	1.5
110°-120°	180.5	1.2
120°-130°	153.6	1.0
130°-140°	122.9	0.8
140°-150°	87.9	0.6
150°-160°	56.7	0.4
160°-170°	30.6	0.2
170°-180°	9.6	0.1
0°-30°	3739.7	24.5
0°-40°	6060.3	39.8
0°-60°	10557.3	69.3
0°-90°	14022.2	92.0
90°-120°	755.1	5.0
90°-150°	1119.4	7.3
90°-180°	1216.0	8.0
0°-180°	15238.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4885	4885	4885	4885	4885	
5°	4882	4874	4844	4871	4869	463
15°	4656	4650	4645	4685	4695	1310
25°	4191	4211	4245	4324	4341	1929
35°	3566	3615	3699	3816	3853	2232
45°	2864	2921	3065	3208	3266	2206
55°	2128	2208	2384	2564	2629	1904
65°	1416	1488	1701	1911	1990	1398
75°	717	816	1087	1328	1406	762
85°	140	314	604	839	924	172
90°	22	173	435	649	730	16
95°	24	114	319	510	582	20
105°	40	101	209	329	378	42
115°	63	109	186	255	283	62
125°	83	113	177	229	248	74
135°	92	111	165	205	218	71
145°	96	106	138	174	184	60
155°	103	104	115	144	148	47
165°	107	105	103	108	117	30
175°	108	106	102	89	90	10
180°	100	100	100	100	100	



TEST NUMBER: P685623

CATALOG NUMBER: 4CZL-16-UNV-FUL-L850-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4884.7	4884.7	4884.7	4884.7	4884.7
2.5°	4900.4	4892.6	4860.2	4885.7	4884.7
5°	4881.8	4873.9	4843.6	4871.0	4869.0
7.5°	4845.5	4840.6	4812.2	4842.6	4841.6
10°	4792.6	4792.6	4768.2	4803.4	4806.4
12.5°	4729.0	4728.0	4715.3	4751.5	4751.5
15°	4655.5	4649.6	4644.7	4684.9	4694.7
17.5°	4550.7	4554.6	4563.4	4611.4	4621.2
20°	4443.0	4451.8	4468.4	4525.2	4538.0
22.5°	4327.4	4337.2	4363.6	4425.3	4445.9
25°	4191.2	4210.8	4245.1	4324.5	4341.1
27.5°	4044.3	4078.6	4122.7	4206.9	4235.3
30°	3903.3	3930.7	3994.4	4082.5	4107.0
32.5°	3740.7	3774.0	3848.4	3954.2	3987.5
35°	3566.3	3615.3	3698.6	3816.1	3853.3
37.5°	3403.7	3442.9	3545.8	3671.1	3715.2
40°	3211.8	3275.4	3393.9	3517.4	3568.3
42.5°	3043.3	3098.1	3231.3	3367.5	3420.4
45°	2864.0	2920.8	3064.8	3207.8	3265.6
47.5°	2672.1	2739.6	2893.4	3053.1	3106.9
50°	2491.8	2562.3	2726.9	2888.5	2956.1
52.5°	2314.5	2388.0	2558.4	2728.9	2791.5
55°	2128.4	2207.8	2384.1	2564.3	2629.0
57.5°	1946.2	2025.6	2213.6	2399.8	2469.3
60°	1763.1	1837.5	2039.3	2230.3	2306.7
62.5°	1591.7	1664.2	1871.8	2077.5	2144.1
65°	1416.3	1487.8	1701.4	1911.0	1990.3
67.5°	1235.1	1321.3	1535.8	1755.2	1839.5
70°	1056.9	1145.0	1382.1	1610.3	1694.5
72.5°	888.4	988.3	1227.3	1460.4	1546.6
75°	717.0	815.9	1087.2	1328.2	1405.6
77.5°	555.4	671.0	950.1	1193.0	1284.1
80°	400.6	531.9	826.7	1064.7	1160.7
82.5°	263.5	413.3	712.1	948.1	1034.3
85°	140.1	314.4	604.3	839.4	923.7
87.5°	54.9	233.1	514.2	740.5	824.7
90°	21.5	173.4	434.9	649.4	729.7
92.5°	21.5	135.2	370.2	575.9	651.4
95°	23.5	113.6	319.3	510.3	581.8
97.5°	25.5	102.8	279.2	452.5	516.2
100°	29.4	98.9	248.8	405.5	463.3
102.5°	34.3	98.9	224.3	362.4	417.3
105°	40.2	100.9	208.6	329.1	378.1
107.5°	45.1	102.8	197.9	301.7	345.8
110°	50.9	105.8	192.0	281.1	319.3



TEST NUMBER: P685623

CATALOG NUMBER: 4CZL-16-UNV-FUL-L850-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	56.8	107.7	188.1	266.4	299.7
115°	62.7	108.7	186.1	254.7	283.1
117.5°	68.6	110.7	184.1	246.8	271.3
120°	74.4	111.7	182.2	241.0	262.5
122.5°	79.3	111.7	180.2	235.1	254.7
125°	83.3	112.6	177.3	229.2	247.8
127.5°	86.2	113.6	175.3	223.3	240.0
130°	89.1	112.6	172.4	217.4	233.1
132.5°	91.1	111.7	168.5	211.6	226.3
135°	92.1	110.7	164.6	204.7	218.4
137.5°	93.1	109.7	158.7	197.9	210.6
140°	93.1	108.7	151.8	190.0	201.8
142.5°	94.0	106.8	145.0	182.2	193.0
145°	96.0	105.8	138.1	174.3	184.1
147.5°	97.9	103.8	132.2	165.5	174.3
150°	99.9	103.8	126.4	157.7	165.5
152.5°	100.9	103.8	120.5	150.8	156.7
155°	102.8	103.8	114.6	144.0	147.9
157.5°	103.8	103.8	110.7	135.2	139.1
160°	104.8	104.8	106.8	125.4	131.3
162.5°	106.8	104.8	104.8	115.6	123.4
165°	106.8	104.8	102.8	107.7	116.6
167.5°	107.7	105.8	101.9	101.9	110.7
170°	107.7	105.8	101.9	97.0	101.9
172.5°	107.7	105.8	101.9	93.1	95.0
175°	107.7	105.8	101.9	89.1	90.1
177.5°	107.7	105.8	100.9	86.2	90.1
180°	99.9	99.9	99.9	99.9	99.9

(END OF REPORT)