

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: P685619

Luminaire Tested: **4CZL-5-UNV-FUL-L850-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685619
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-5-UNV-FUL-L850-CD-U
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI and 5000K
Light Source: (392) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

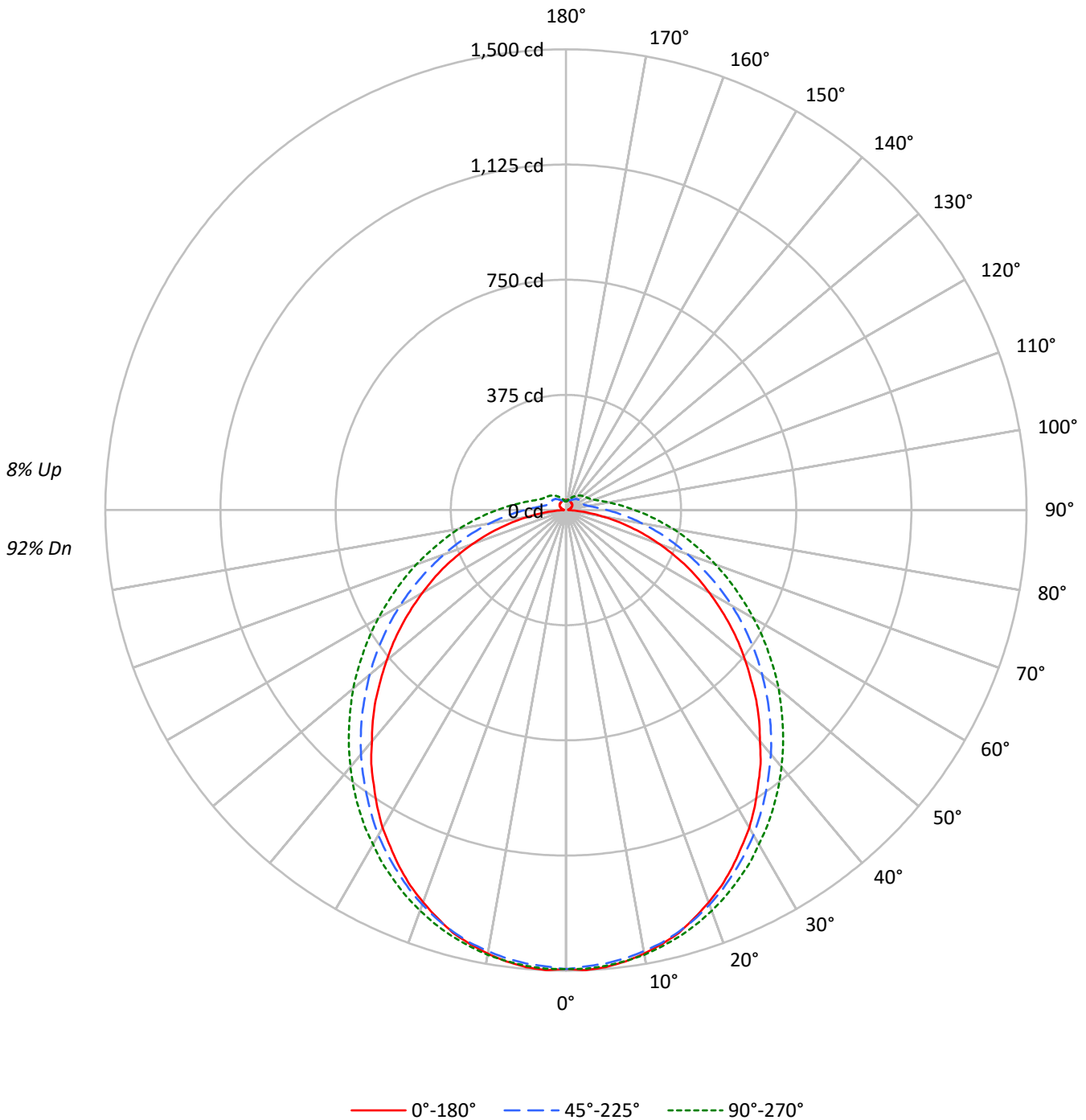
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4662.8 lumens
Efficiency: N/A
Efficacy: 150.4 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): 31
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	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°	4827	4827	4827
5°	4825	4733	4746
10°	4774	4644	4658
15°	4710	4543	4558
20°	4602	4424	4448
25°	4482	4286	4329
30°	4349	4148	4201
35°	4180	3985	4077
40°	4003	3829	3941
45°	3842	3658	3803
50°	3649	3483	3669
55°	3461	3301	3523
60°	3250	3110	3386
65°	3040	2911	3257
70°	2740	2717	3159
75°	2369	2535	3073
80°	1844	2389	3095
85°	1077	2320	3186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.4	3.0
10°-20°	402.3	8.6
20°-30°	600.7	12.9
30°-40°	710.1	15.2
40°-50°	723.6	15.5
50°-60°	652.4	14.0
60°-70°	516.2	11.1
70°-80°	348.9	7.5
80°-90°	195.1	4.2
90°-100°	106.2	2.3
100°-110°	69.6	1.5
110°-120°	55.2	1.2
120°-130°	47.0	1.0
130°-140°	37.6	0.8
140°-150°	26.9	0.6
150°-160°	17.4	0.4
160°-170°	9.4	0.2
170°-180°	2.9	0.1
0°-30°	1144.3	24.5
0°-40°	1854.4	39.8
0°-60°	3230.4	69.3
0°-90°	4290.6	92.0
90°-120°	231.0	5.0
90°-150°	342.5	7.3
90°-180°	372.0	8.0
0°-180°	4662.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1495	1495	1495	1495	1495	
5°	1494	1491	1482	1490	1490	142
15°	1424	1423	1421	1434	1436	401
25°	1282	1288	1299	1323	1328	590
35°	1091	1106	1132	1168	1179	683
45°	876	894	938	982	999	675
55°	651	676	730	785	804	583
65°	433	455	521	585	609	428
75°	219	250	333	406	430	233
85°	43	96	185	257	283	53
90°	7	53	133	199	223	5
95°	7	35	98	156	178	6
105°	12	31	64	101	116	13
115°	19	33	57	78	87	19
125°	26	34	54	70	76	23
135°	28	34	50	63	67	22
145°	29	32	42	53	56	18
155°	32	32	35	44	45	15
165°	33	32	32	33	36	9
175°	33	32	31	27	28	3
180°	31	31	31	31	31	

TEST NUMBER: P685619

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1494.7	1494.7	1494.7	1494.7	1494.7
2.5°	1499.5	1497.1	1487.2	1495.0	1494.7
5°	1493.8	1491.4	1482.1	1490.5	1489.9
7.5°	1482.7	1481.2	1472.5	1481.8	1481.5
10°	1466.5	1466.5	1459.0	1469.8	1470.7
12.5°	1447.0	1446.7	1442.8	1453.9	1453.9
15°	1424.5	1422.7	1421.2	1433.5	1436.5
17.5°	1392.5	1393.7	1396.4	1411.0	1414.0
20°	1359.5	1362.2	1367.3	1384.7	1388.6
22.5°	1324.1	1327.1	1335.2	1354.1	1360.4
25°	1282.5	1288.5	1298.9	1323.2	1328.3
27.5°	1237.5	1248.0	1261.5	1287.3	1295.9
30°	1194.3	1202.7	1222.2	1249.2	1256.7
32.5°	1144.6	1154.8	1177.6	1209.9	1220.1
35°	1091.2	1106.2	1131.7	1167.7	1179.1
37.5°	1041.5	1053.5	1085.0	1123.3	1136.8
40°	982.8	1002.2	1038.5	1076.3	1091.8
42.5°	931.2	948.0	988.7	1030.4	1046.6
45°	876.4	893.7	937.8	981.6	999.2
47.5°	817.6	838.3	885.3	934.2	950.7
50°	762.5	784.0	834.4	883.8	904.5
52.5°	708.2	730.7	782.8	835.0	854.2
55°	651.3	675.5	729.5	784.6	804.4
57.5°	595.5	619.8	677.3	734.3	755.6
60°	539.5	562.3	624.0	682.4	705.8
62.5°	487.0	509.2	572.7	635.7	656.1
65°	433.4	455.3	520.6	584.7	609.0
67.5°	377.9	404.3	469.9	537.1	562.9
70°	323.4	350.4	422.9	492.7	518.5
72.5°	271.8	302.4	375.5	446.9	473.2
75°	219.4	249.7	332.7	406.4	430.1
77.5°	169.9	205.3	290.7	365.0	392.9
80°	122.6	162.7	253.0	325.8	355.2
82.5°	80.6	126.5	217.9	290.1	316.5
85°	42.9	96.2	184.9	256.9	282.6
87.5°	16.8	71.3	157.3	226.6	252.4
90°	6.6	53.0	133.1	198.7	223.3
92.5°	6.6	41.4	113.3	176.2	199.3
95°	7.2	34.8	97.7	156.1	178.0
97.5°	7.8	31.5	85.4	138.5	157.9
100°	9.0	30.3	76.1	124.1	141.8
102.5°	10.5	30.3	68.6	110.9	127.7
105°	12.3	30.9	63.8	100.7	115.7
107.5°	13.8	31.5	60.5	92.3	105.8
110°	15.6	32.4	58.7	86.0	97.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	17.4	33.0	57.5	81.5	91.7
115°	19.2	33.3	56.9	77.9	86.6
117.5°	21.0	33.9	56.3	75.5	83.0
120°	22.8	34.2	55.7	73.7	80.3
122.5°	24.3	34.2	55.1	71.9	77.9
125°	25.5	34.5	54.2	70.1	75.8
127.5°	26.4	34.8	53.6	68.3	73.4
130°	27.3	34.5	52.7	66.5	71.3
132.5°	27.9	34.2	51.6	64.7	69.2
135°	28.2	33.9	50.4	62.6	66.8
137.5°	28.5	33.6	48.6	60.5	64.4
140°	28.5	33.3	46.5	58.1	61.7
142.5°	28.8	32.7	44.4	55.7	59.0
145°	29.4	32.4	42.3	53.3	56.3
147.5°	30.0	31.8	40.5	50.7	53.3
150°	30.6	31.8	38.7	48.3	50.7
152.5°	30.9	31.8	36.9	46.2	48.0
155°	31.5	31.8	35.1	44.1	45.3
157.5°	31.8	31.8	33.9	41.4	42.6
160°	32.1	32.1	32.7	38.4	40.2
162.5°	32.7	32.1	32.1	35.4	37.8
165°	32.7	32.1	31.5	33.0	35.7
167.5°	33.0	32.4	31.2	31.2	33.9
170°	33.0	32.4	31.2	29.7	31.2
172.5°	33.0	32.4	31.2	28.5	29.1
175°	33.0	32.4	31.2	27.3	27.6
177.5°	33.0	32.4	30.9	26.4	27.6
180°	30.6	30.6	30.6	30.6	30.6

(END OF REPORT)