

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: P685643

Luminaire Tested: **4CZL-16-UNV-FUL-L940-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685643
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-L940-CD-U
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @90 CRI and 4000K
Light Source: (588) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

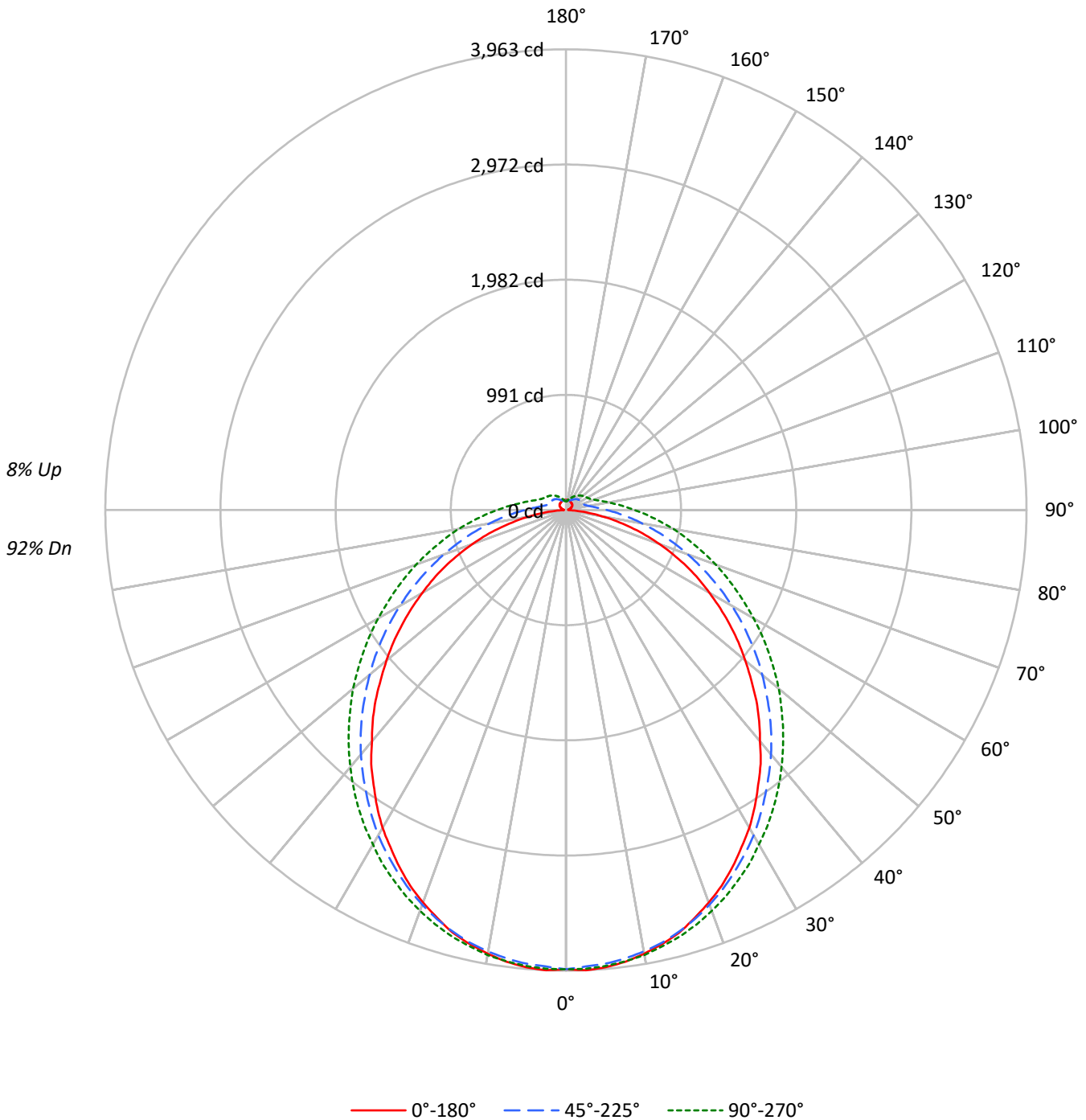
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12323.5 lumens
Efficiency: N/A
Efficacy: 119.6 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 (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	95
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°	12756	12756	12756
5°	12751	12510	12544
10°	12616	12274	12311
15°	12447	12008	12047
20°	12163	11691	11756
25°	11847	11329	11442
30°	11494	10963	11102
35°	11047	10531	10775
40°	10579	10119	10416
45°	10154	9667	10050
50°	9644	9204	9698
55°	9147	8725	9310
60°	8589	8219	8948
65°	8034	7694	8607
70°	7241	7181	8350
75°	6260	6699	8121
80°	4874	6313	8179
85°	2844	6131	8423



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	373.7	3.0
10°-20°	1063.2	8.6
20°-30°	1587.5	12.9
30°-40°	1876.7	15.2
40°-50°	1912.4	15.5
50°-60°	1724.3	14.0
60°-70°	1364.4	11.1
70°-80°	922.1	7.5
80°-90°	515.7	4.2
90°-100°	280.6	2.3
100°-110°	184.1	1.5
110°-120°	146.0	1.2
120°-130°	124.2	1.0
130°-140°	99.3	0.8
140°-150°	71.1	0.6
150°-160°	45.8	0.4
160°-170°	24.8	0.2
170°-180°	7.7	0.1
0°-30°	3024.3	24.5
0°-40°	4901.0	39.8
0°-60°	8537.7	69.3
0°-90°	11339.9	92.0
90°-120°	610.6	5.0
90°-150°	905.3	7.3
90°-180°	984.0	8.0
0°-180°	12323.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3950	3950	3950	3950	3950	
5°	3948	3942	3917	3939	3938	374
15°	3765	3760	3756	3789	3797	1059
25°	3390	3405	3433	3497	3511	1560
35°	2884	2924	2991	3086	3116	1805
45°	2316	2362	2478	2594	2641	1784
55°	1721	1785	1928	2074	2126	1540
65°	1145	1203	1376	1545	1610	1131
75°	580	660	879	1074	1137	616
85°	113	254	489	679	747	139
90°	17	140	352	525	590	13
95°	19	92	258	413	470	16
105°	32	82	169	266	306	34
115°	51	88	150	206	229	50
125°	67	91	143	185	200	60
135°	74	90	133	166	177	58
145°	78	86	112	141	149	49
155°	83	84	93	116	120	38
165°	86	85	83	87	94	24
175°	87	86	82	72	73	8
180°	81	81	81	81	81	

TEST NUMBER: P685643

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3950.3	3950.3	3950.3	3950.3	3950.3
2.5°	3963.0	3956.6	3930.5	3951.1	3950.3
5°	3947.9	3941.6	3917.0	3939.2	3937.6
7.5°	3918.6	3914.6	3891.7	3916.2	3915.4
10°	3875.8	3875.8	3856.0	3884.5	3886.9
12.5°	3824.3	3823.6	3813.3	3842.6	3842.6
15°	3764.9	3760.2	3756.2	3788.7	3796.6
17.5°	3680.2	3683.3	3690.5	3729.3	3737.2
20°	3593.0	3600.2	3613.6	3659.6	3669.9
22.5°	3499.6	3507.5	3528.9	3578.8	3595.4
25°	3389.5	3405.3	3433.0	3497.2	3510.7
27.5°	3270.7	3298.4	3334.0	3402.1	3425.1
30°	3156.6	3178.8	3230.3	3301.5	3321.3
32.5°	3025.1	3052.0	3112.2	3197.8	3224.7
35°	2884.1	2923.7	2991.0	3086.1	3116.2
37.5°	2752.6	2784.3	2867.5	2968.9	3004.5
40°	2597.4	2648.8	2744.7	2844.5	2885.7
42.5°	2461.1	2505.5	2613.2	2723.3	2766.1
45°	2316.2	2362.1	2478.5	2594.2	2640.9
47.5°	2160.9	2215.6	2339.9	2469.0	2512.6
50°	2015.1	2072.2	2205.3	2336.0	2390.6
52.5°	1871.8	1931.2	2069.0	2206.8	2257.5
55°	1721.3	1785.4	1928.0	2073.8	2126.0
57.5°	1573.9	1638.1	1790.2	1940.7	1996.9
60°	1425.8	1486.0	1649.2	1803.7	1865.4
62.5°	1287.2	1345.8	1513.7	1680.1	1733.9
65°	1145.4	1203.2	1375.9	1545.4	1609.6
67.5°	998.9	1068.6	1242.0	1419.5	1487.6
70°	854.7	926.0	1117.7	1302.2	1370.4
72.5°	718.5	799.2	992.5	1181.0	1250.8
75°	579.8	659.8	879.3	1074.1	1136.7
77.5°	449.1	542.6	768.4	964.8	1038.5
80°	324.0	430.1	668.5	861.0	938.7
82.5°	213.1	334.3	575.9	766.8	836.5
85°	113.3	254.3	488.7	678.8	747.0
87.5°	44.4	188.5	415.9	598.8	667.0
90°	17.4	140.2	351.7	525.2	590.1
92.5°	17.4	109.3	299.4	465.8	526.8
95°	19.0	91.9	258.2	412.7	470.5
97.5°	20.6	83.2	225.8	366.0	417.4
100°	23.8	80.0	201.2	327.9	374.7
102.5°	27.7	80.0	181.4	293.1	337.4
105°	32.5	81.6	168.7	266.2	305.8
107.5°	36.4	83.2	160.0	244.0	279.6
110°	41.2	85.5	155.3	227.3	258.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	45.9	87.1	152.1	215.5	242.4
115°	50.7	87.9	150.5	206.0	228.9
117.5°	55.4	89.5	148.9	199.6	219.4
120°	60.2	90.3	147.3	194.9	212.3
122.5°	64.2	90.3	145.7	190.1	206.0
125°	67.3	91.1	143.4	185.4	200.4
127.5°	69.7	91.9	141.8	180.6	194.1
130°	72.1	91.1	139.4	175.9	188.5
132.5°	73.7	90.3	136.2	171.1	183.0
135°	74.5	89.5	133.1	165.6	176.6
137.5°	75.3	88.7	128.3	160.0	170.3
140°	75.3	87.9	122.8	153.7	163.2
142.5°	76.0	86.3	117.2	147.3	156.0
145°	77.6	85.5	111.7	141.0	148.9
147.5°	79.2	84.0	106.9	133.9	141.0
150°	80.8	84.0	102.2	127.5	133.9
152.5°	81.6	84.0	97.4	122.0	126.7
155°	83.2	84.0	92.7	116.4	119.6
157.5°	84.0	84.0	89.5	109.3	112.5
160°	84.8	84.8	86.3	101.4	106.1
162.5°	86.3	84.8	84.8	93.5	99.8
165°	86.3	84.8	83.2	87.1	94.3
167.5°	87.1	85.5	82.4	82.4	89.5
170°	87.1	85.5	82.4	78.4	82.4
172.5°	87.1	85.5	82.4	75.3	76.8
175°	87.1	85.5	82.4	72.1	72.9
177.5°	87.1	85.5	81.6	69.7	72.9
180°	80.8	80.8	80.8	80.8	80.8

(END OF REPORT)