

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: P685652

Luminaire Tested: **4CZL-12-UNV-FUL-L950-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685652
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-12-UNV-FUL-L950-CD-U
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @90 CRI
and 5000K
Light Source: (588) 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

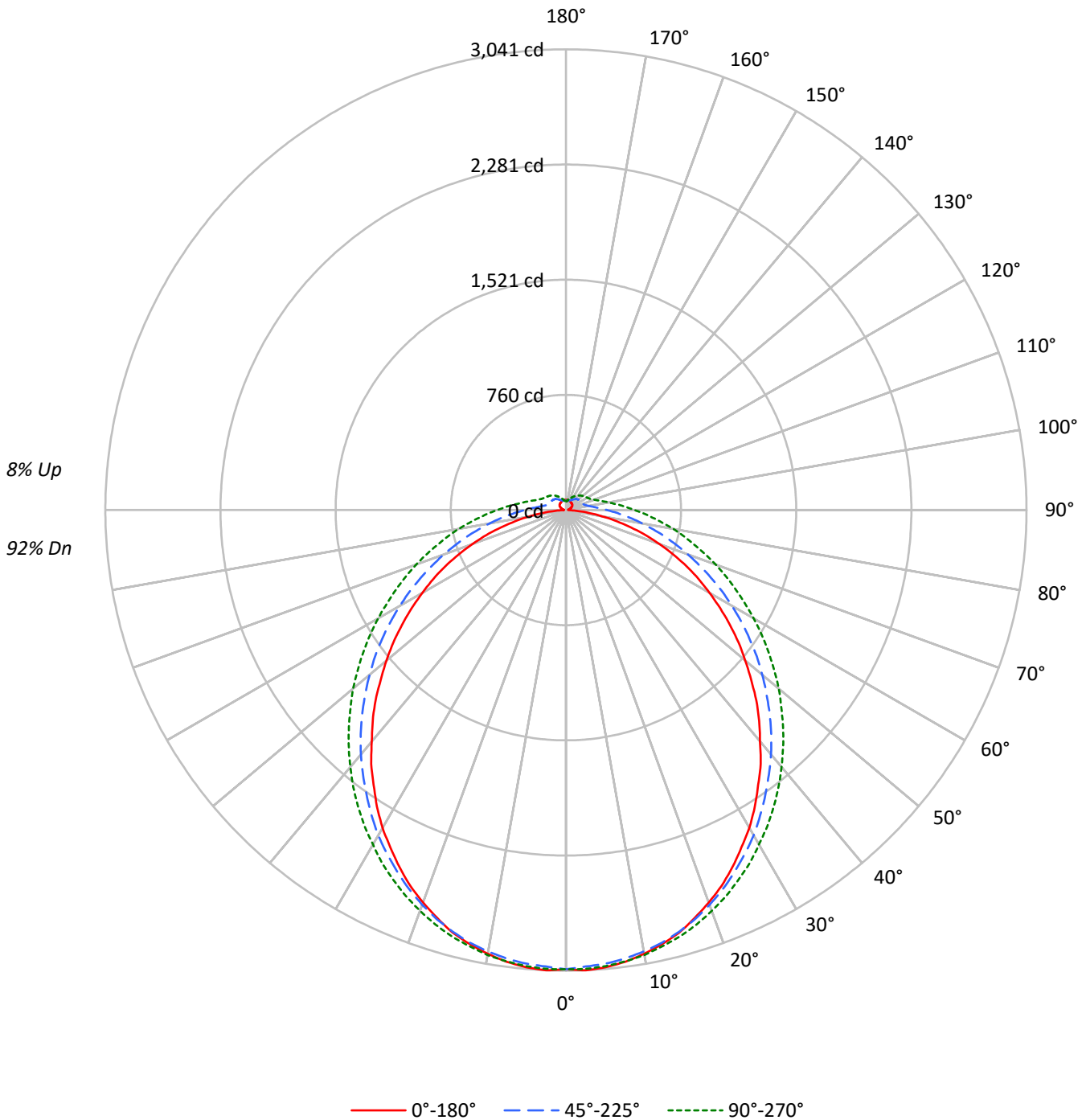
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9457.3 lumens
Efficiency: N/A
Efficacy: 122.8 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): 77
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°	9789	9789	9789
5°	9785	9600	9627
10°	9682	9419	9448
15°	9553	9215	9245
20°	9334	8972	9022
25°	9091	8694	8781
30°	8820	8413	8520
35°	8478	8082	8269
40°	8119	7765	7994
45°	7793	7419	7713
50°	7402	7064	7443
55°	7019	6696	7145
60°	6591	6307	6867
65°	6165	5904	6605
70°	5557	5511	6408
75°	4805	5141	6232
80°	3739	4846	6276
85°	2181	4706	6463



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	286.8	3.0
10°-20°	815.9	8.6
20°-30°	1218.3	12.9
30°-40°	1440.2	15.2
40°-50°	1467.6	15.5
50°-60°	1323.3	14.0
60°-70°	1047.1	11.1
70°-80°	707.6	7.5
80°-90°	395.7	4.2
90°-100°	215.3	2.3
100°-110°	141.2	1.5
110°-120°	112.0	1.2
120°-130°	95.3	1.0
130°-140°	76.2	0.8
140°-150°	54.6	0.6
150°-160°	35.2	0.4
160°-170°	19.0	0.2
170°-180°	5.9	0.1
0°-30°	2320.9	24.5
0°-40°	3761.1	39.8
0°-60°	6552.0	69.3
0°-90°	8702.5	92.0
90°-120°	468.6	5.0
90°-150°	694.7	7.3
90°-180°	755.0	8.0
0°-180°	9457.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3032	3032	3032	3032	3032	
5°	3030	3025	3006	3023	3022	287
15°	2889	2886	2883	2908	2914	813
25°	2601	2613	2635	2684	2694	1197
35°	2213	2244	2295	2368	2391	1385
45°	1778	1813	1902	1991	2027	1369
55°	1321	1370	1480	1592	1632	1182
65°	879	923	1056	1186	1235	868
75°	445	506	675	824	872	473
85°	87	195	375	521	573	106
90°	13	108	270	403	453	10
95°	15	70	198	317	361	13
105°	25	63	130	204	235	26
115°	39	68	116	158	176	39
125°	52	70	110	142	154	46
135°	57	69	102	127	136	44
145°	60	66	86	108	114	37
155°	64	64	71	89	92	29
165°	66	65	64	67	72	19
175°	67	66	63	55	56	6
180°	62	62	62	62	62	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3031.5	3031.5	3031.5	3031.5	3031.5
2.5°	3041.3	3036.4	3016.3	3032.2	3031.5
5°	3029.7	3024.9	3006.0	3023.0	3021.8
7.5°	3007.2	3004.2	2986.6	3005.4	3004.8
10°	2974.4	2974.4	2959.2	2981.1	2982.9
12.5°	2934.9	2934.3	2926.4	2948.9	2948.9
15°	2889.3	2885.7	2882.6	2907.5	2913.6
17.5°	2824.3	2826.7	2832.2	2861.9	2868.0
20°	2757.4	2762.9	2773.2	2808.4	2816.4
22.5°	2685.7	2691.7	2708.1	2746.4	2759.2
25°	2601.2	2613.3	2634.6	2683.8	2694.2
27.5°	2510.0	2531.3	2558.6	2610.9	2628.5
30°	2422.4	2439.5	2479.0	2533.7	2548.9
32.5°	2321.5	2342.2	2388.4	2454.0	2474.7
35°	2213.3	2243.7	2295.4	2368.3	2391.4
37.5°	2112.4	2136.7	2200.6	2278.4	2305.7
40°	1993.3	2032.8	2106.3	2182.9	2214.5
42.5°	1888.7	1922.8	2005.4	2089.9	2122.7
45°	1777.5	1812.7	1902.1	1990.8	2026.7
47.5°	1658.3	1700.3	1795.7	1894.8	1928.2
50°	1546.5	1590.2	1692.4	1792.7	1834.6
52.5°	1436.4	1482.0	1587.8	1693.6	1732.5
55°	1320.9	1370.2	1479.6	1591.5	1631.6
57.5°	1207.9	1257.1	1373.8	1489.3	1532.5
60°	1094.2	1140.4	1265.6	1384.2	1431.6
62.5°	987.8	1032.8	1161.7	1289.3	1330.7
65°	879.0	923.4	1055.9	1186.0	1235.2
67.5°	766.5	820.0	953.2	1089.3	1141.6
70°	655.9	710.6	857.7	999.4	1051.6
72.5°	551.4	613.4	761.7	906.4	959.9
75°	445.0	506.4	674.8	824.3	872.3
77.5°	344.7	416.4	589.7	740.4	796.9
80°	248.6	330.1	513.1	660.8	720.3
82.5°	163.5	256.5	441.9	588.4	641.9
85°	86.9	195.1	375.1	521.0	573.2
87.5°	34.0	144.7	319.1	459.6	511.8
90°	13.4	107.6	269.9	403.0	452.9
92.5°	13.4	83.9	229.8	357.4	404.2
95°	14.6	70.5	198.2	316.7	361.1
97.5°	15.8	63.8	173.2	280.8	320.4
100°	18.2	61.4	154.4	251.7	287.5
102.5°	21.3	61.4	139.2	224.9	259.0
105°	24.9	62.6	129.5	204.3	234.6
107.5°	28.0	63.8	122.8	187.2	214.6
110°	31.6	65.7	119.1	174.5	198.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	35.3	66.9	116.7	165.3	186.0
115°	38.9	67.5	115.5	158.1	175.7
117.5°	42.6	68.7	114.3	153.2	168.4
120°	46.2	69.3	113.1	149.5	162.9
122.5°	49.2	69.3	111.9	145.9	158.1
125°	51.7	69.9	110.0	142.2	153.8
127.5°	53.5	70.5	108.8	138.6	148.9
130°	55.3	69.9	107.0	135.0	144.7
132.5°	56.5	69.3	104.6	131.3	140.4
135°	57.1	68.7	102.1	127.0	135.6
137.5°	57.7	68.1	98.5	122.8	130.7
140°	57.7	67.5	94.2	117.9	125.2
142.5°	58.4	66.3	90.0	113.1	119.8
145°	59.6	65.7	85.7	108.2	114.3
147.5°	60.8	64.4	82.1	102.7	108.2
150°	62.0	64.4	78.4	97.9	102.7
152.5°	62.6	64.4	74.8	93.6	97.3
155°	63.8	64.4	71.1	89.4	91.8
157.5°	64.4	64.4	68.7	83.9	86.3
160°	65.0	65.0	66.3	77.8	81.5
162.5°	66.3	65.0	65.0	71.7	76.6
165°	66.3	65.0	63.8	66.9	72.3
167.5°	66.9	65.7	63.2	63.2	68.7
170°	66.9	65.7	63.2	60.2	63.2
172.5°	66.9	65.7	63.2	57.7	59.0
175°	66.9	65.7	63.2	55.3	55.9
177.5°	66.9	65.7	62.6	53.5	55.9
180°	62.0	62.0	62.0	62.0	62.0

(END OF REPORT)