

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: P389117

Luminaire Tested: **22CZ2-110VHE-S-UNV-L940-CD2-U**

Issue Date: 2/28/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P389117  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-110VHE-S-UNV-L940-CD2-U  
Description: 2x2 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9931.6 lumens  
Efficiency: N/A  
Efficacy: 113.2 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

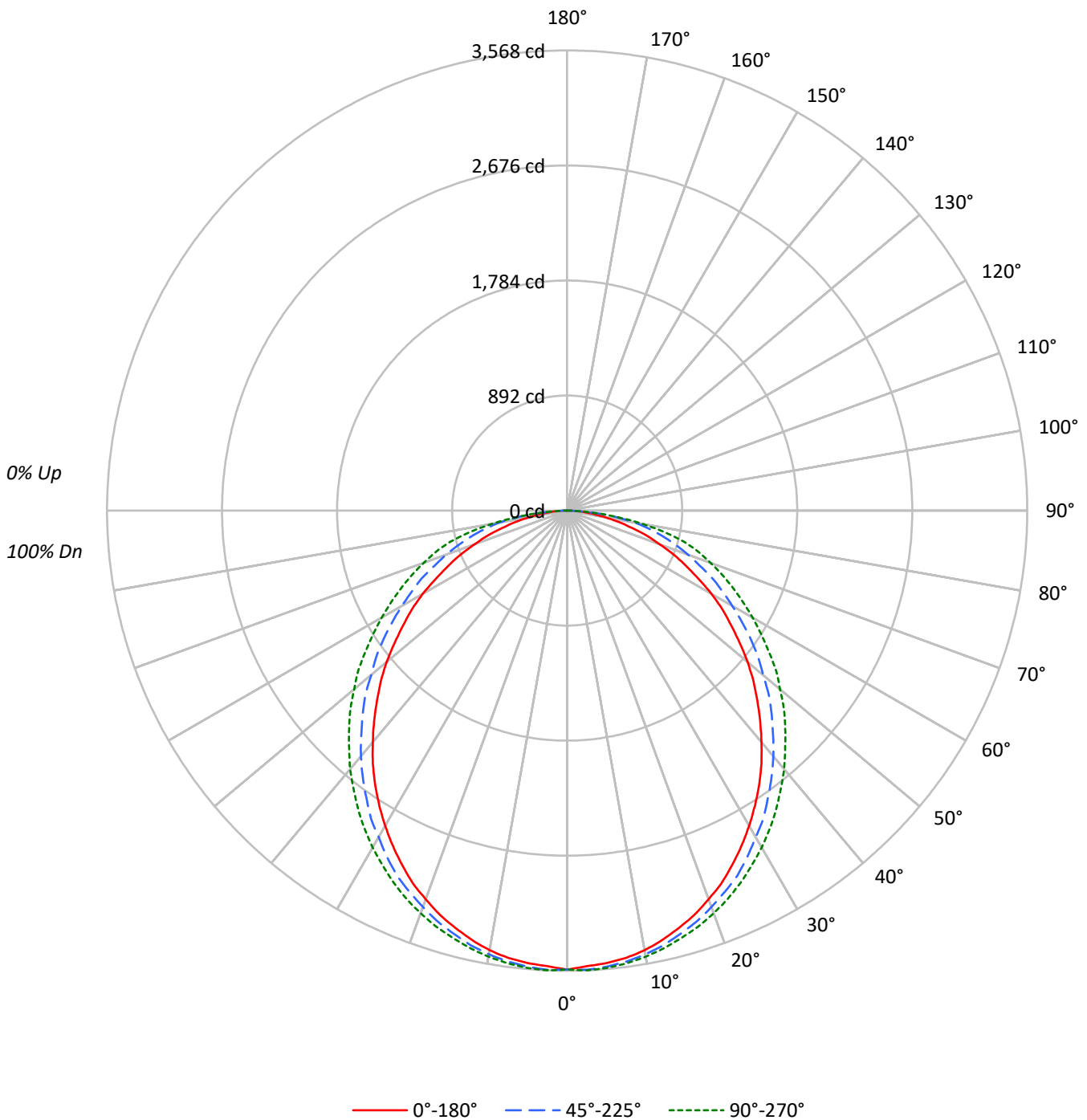
Input Watts (W): 87.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9577	9577	9577
5°	9513	9588	9613
10°	9459	9547	9598
15°	9334	9463	9553
20°	9183	9369	9515
25°	8998	9273	9452
30°	8769	9086	9373
35°	8525	8920	9286
40°	8237	8741	9197
45°	7935	8535	9100
50°	7643	8303	9020
55°	7283	8153	8957
60°	6958	7956	8928
65°	6491	7908	9029
70°	5980	7839	9297
75°	5396	7950	9781
80°	4668	8187	9191
85°	3863	6867	6867



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	336.5	3.4
10°-20°	957.8	9.6
20°-30°	1433.1	14.4
30°-40°	1697.1	17.1
40°-50°	1729.6	17.4
50°-60°	1550.1	15.6
60°-70°	1213.6	12.2
70°-80°	782.6	7.9
80°-90°	231.2	2.3
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°	2727.4	27.5
0°-40°	4424.5	44.5
0°-60°	7704.2	77.6
0°-90°	9931.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9931.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3559	3559	3559	3559	3559	
5°	3522	3531	3550	3554	3559	334
15°	3350	3369	3397	3424	3429	945
25°	3030	3058	3123	3165	3184	1395
35°	2595	2627	2715	2799	2827	1622
45°	2085	2132	2243	2359	2391	1610
55°	1552	1603	1738	1858	1909	1392
65°	1019	1080	1242	1362	1418	1013
75°	519	598	765	894	941	556
85°	125	172	222	222	222	147
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3558.8	3558.8	3558.8	3558.8	3558.8
2.5°	3535.6	3544.9	3563.4	3568.1	3568.1
5°	3521.7	3531.0	3549.5	3554.2	3558.8
7.5°	3498.6	3503.2	3526.4	3535.6	3540.3
10°	3461.5	3470.8	3493.9	3507.8	3512.5
12.5°	3410.5	3424.4	3452.2	3470.8	3475.4
15°	3350.3	3368.8	3396.6	3424.4	3429.1
17.5°	3285.4	3303.9	3341.0	3373.4	3382.7
20°	3206.6	3229.8	3271.5	3308.6	3322.5
22.5°	3127.9	3146.4	3197.4	3243.7	3257.6
25°	3030.5	3058.3	3123.2	3164.9	3183.5
27.5°	2928.6	2961.0	3025.9	3081.5	3100.1
30°	2822.0	2854.5	2924.0	2993.5	3016.6
32.5°	2710.8	2747.9	2831.3	2900.8	2924.0
35°	2595.0	2627.4	2715.4	2798.8	2826.7
37.5°	2474.5	2502.3	2604.2	2692.3	2720.1
40°	2344.7	2381.8	2488.4	2590.3	2618.1
42.5°	2215.0	2256.7	2363.3	2474.5	2502.3
45°	2085.2	2131.6	2242.8	2358.6	2391.1
47.5°	1960.1	1997.2	2122.3	2233.5	2279.9
50°	1825.7	1862.8	1983.3	2108.4	2154.7
52.5°	1686.7	1737.7	1867.4	1987.9	2043.5
55°	1552.3	1603.3	1737.7	1858.2	1909.1
57.5°	1427.2	1468.9	1607.9	1733.1	1784.0
60°	1292.8	1329.9	1478.2	1612.6	1658.9
62.5°	1149.2	1204.8	1357.7	1482.8	1538.4
65°	1019.4	1079.7	1241.9	1362.4	1418.0
67.5°	899.0	954.6	1112.1	1241.9	1302.1
70°	760.0	834.1	996.3	1126.0	1181.6
72.5°	648.7	713.6	880.4	1010.2	1070.4
75°	519.0	597.8	764.6	894.3	940.7
77.5°	412.4	491.2	648.7	750.7	773.9
80°	301.2	380.0	528.3	579.2	593.1
82.5°	203.9	278.0	380.0	393.9	398.5
85°	125.1	171.5	222.4	222.4	222.4
87.5°	60.2	69.5	78.8	74.1	74.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)