

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: P388180

Luminaire Tested: **22CZ2-110VHE-UNV-L940-CD2-SWPD1-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: P388180
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-27)
Test Lab: INNOVATIONS CENTER(G3)
Issue Date: 2/28/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-110VHE-UNV-L940-CD2-SWPD1-U
Description: 2x2 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RIBBED LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9334.8 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.27 / 1.36
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

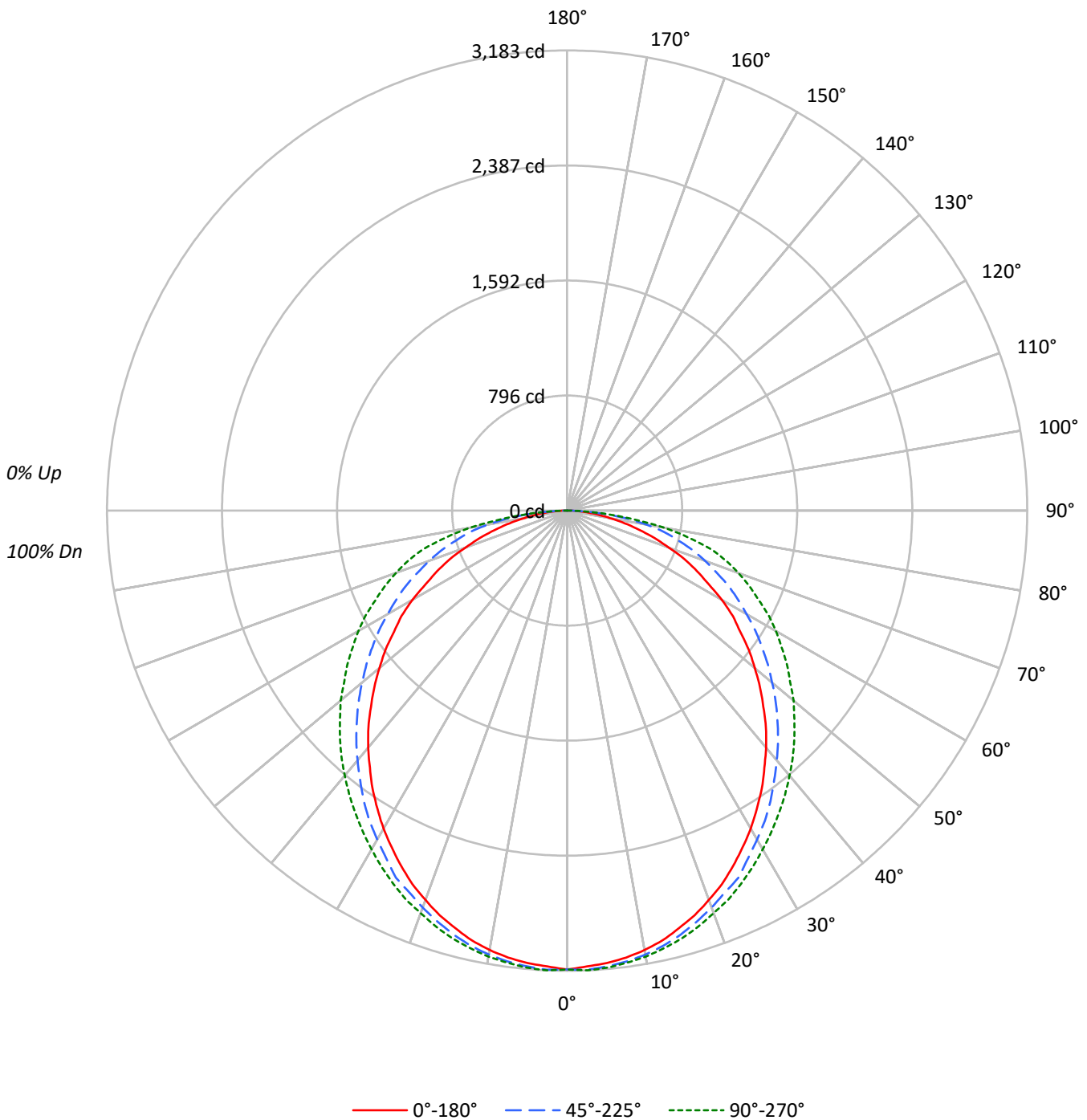
Input Watts (W): 87.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P388180

CATALOG NUMBER: 22CZ2-110VHE-UNV-L940-CD2-SWPD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P388180

CATALOG NUMBER: 22CZ2-110VHE-UNV-L940-CD2-SWPD1-U

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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	63	86	76	68	62	73	66	61	70	65	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	52	63	56	51	60	55	50	48
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	44	41
6	69	55	46	39	67	54	46	39	52	45	39	51	44	39	49	43	38	36
7	64	50	41	35	62	49	41	35	48	40	34	46	39	34	45	39	34	32
8	59	46	37	31	58	45	37	31	44	36	31	42	35	30	41	35	30	28
9	56	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27	25
10	52	39	31	25	51	38	30	25	37	30	25	36	30	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8541	8541	8541
5°	8487	8549	8574
10°	8434	8522	8560
15°	8331	8459	8535
20°	8208	8366	8484
25°	8060	8319	8456
30°	7893	8164	8407
35°	7711	8058	8390
40°	7519	7922	8407
45°	7307	7831	8461
50°	7096	7749	8557
55°	6853	7715	8706
60°	6650	7713	8974
65°	6318	7838	9301
70°	5891	7987	9903
75°	5396	8262	10698
80°	4699	8613	10535
85°	4113	7657	8367



TEST NUMBER: P388180

CATALOG NUMBER: 22CZ2-110VHE-UNV-L940-CD2-SWPD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	300.2	3.2
10°-20°	855.0	9.2
20°-30°	1283.5	13.7
30°-40°	1533.7	16.4
40°-50°	1594.8	17.1
50°-60°	1478.1	15.8
60°-70°	1212.4	13.0
70°-80°	819.6	8.8
80°-90°	257.5	2.8
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°	2438.7	26.1
0°-40°	3972.3	42.6
0°-60°	7045.2	75.5
0°-90°	9334.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9334.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3174	3174	3174	3174	3174	
5°	3142	3146	3165	3169	3174	298
15°	2990	3004	3036	3055	3064	843
25°	2715	2738	2802	2834	2848	1250
35°	2347	2379	2453	2526	2554	1467
45°	1920	1957	2058	2177	2223	1483
55°	1461	1507	1644	1791	1856	1313
65°	992	1047	1231	1392	1461	981
75°	519	606	795	955	1029	550
85°	133	184	248	276	271	151
90°	0	0	0	0	0	



TEST NUMBER: P388180

CATALOG NUMBER: 22CZ2-110VHE-UNV-L940-CD2-SWPD1-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3174.0	3174.0	3174.0	3174.0	3174.0
2.5°	3155.6	3164.8	3178.6	3183.2	3183.2
5°	3141.9	3146.4	3164.8	3169.4	3174.0
7.5°	3118.9	3128.1	3146.4	3151.0	3155.6
10°	3086.7	3095.9	3118.9	3128.1	3132.7
12.5°	3045.4	3054.6	3082.1	3095.9	3100.5
15°	2990.3	3004.1	3036.2	3054.6	3063.8
17.5°	2935.1	2948.9	2981.1	3008.6	3017.8
20°	2866.2	2898.4	2921.4	2958.1	2962.7
22.5°	2797.3	2815.7	2857.1	2893.8	2912.2
25°	2714.7	2737.6	2801.9	2834.1	2847.9
27.5°	2627.4	2659.5	2710.1	2760.6	2779.0
30°	2540.1	2563.1	2627.4	2687.1	2705.5
32.5°	2443.7	2475.8	2544.7	2604.4	2632.0
35°	2347.2	2379.4	2452.8	2526.3	2553.9
37.5°	2241.6	2278.3	2351.8	2439.1	2475.8
40°	2140.5	2168.1	2255.3	2361.0	2393.1
42.5°	2034.9	2067.0	2158.9	2273.7	2310.5
45°	1920.0	1956.8	2057.8	2177.2	2223.2
47.5°	1809.8	1846.5	1956.8	2076.2	2131.3
50°	1694.9	1740.9	1851.1	1988.9	2044.0
52.5°	1584.7	1626.0	1750.1	1892.5	1943.0
55°	1460.7	1506.6	1644.4	1791.4	1855.7
57.5°	1359.6	1391.8	1543.4	1694.9	1759.3
60°	1235.6	1277.0	1433.1	1593.9	1667.4
62.5°	1102.4	1171.3	1332.1	1497.4	1570.9
65°	992.2	1047.3	1231.0	1391.8	1460.7
67.5°	877.3	937.0	1116.2	1286.1	1364.2
70°	748.7	826.8	1015.1	1185.1	1258.6
72.5°	633.9	716.6	909.5	1074.8	1152.9
75°	519.0	606.3	794.6	955.4	1028.9
77.5°	408.8	505.3	689.0	813.0	859.0
80°	303.2	395.0	555.8	643.1	679.8
82.5°	211.3	289.4	408.8	454.7	463.9
85°	133.2	183.7	248.0	275.6	271.0
87.5°	59.7	73.5	91.9	101.1	96.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)