

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: P389116

Luminaire Tested: **22CZ2-110VHE-S-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: P389116
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-SWPD1-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: 9808.4 lumens
Efficiency: N/A
Efficacy: 111.8 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

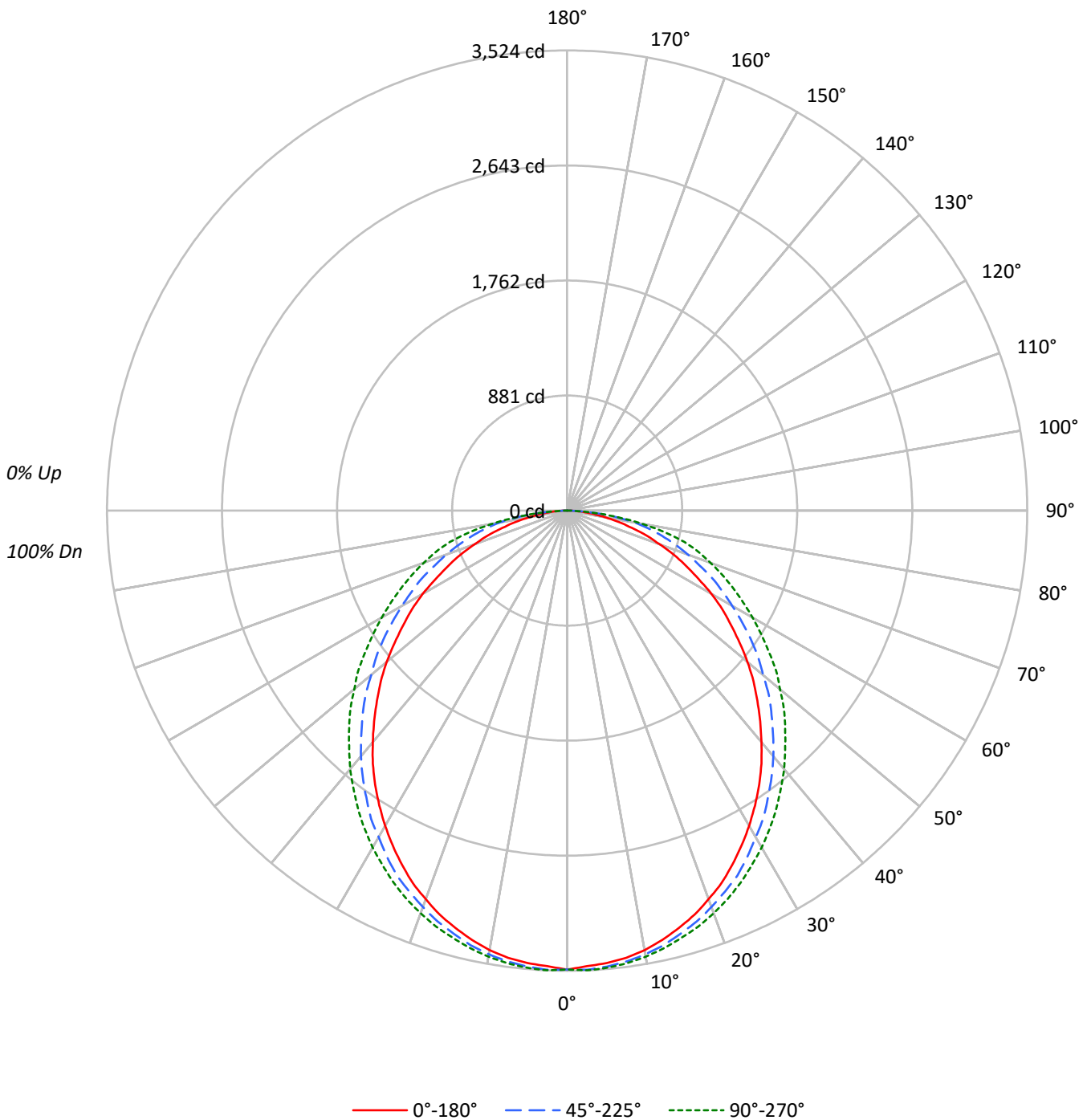
Input Watts (W): 87.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P389116

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

Luminous Intensity Polar Plot





TEST NUMBER: P389116

CATALOG NUMBER: 22CZ2-110VHE-S-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	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					100			
1	108	103	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83					83			
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69					69			
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58					58			
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49					49			
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43					43			
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37					37			
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33					33			
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30					30			
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27					27			
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24					24			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9458	9458	9458
5°	9395	9469	9494
10°	9341	9429	9479
15°	9218	9345	9434
20°	9069	9252	9397
25°	8886	9158	9335
30°	8660	8973	9257
35°	8419	8810	9171
40°	8134	8633	9083
45°	7837	8429	8987
50°	7549	8200	8909
55°	7193	8051	8846
60°	6872	7857	8817
65°	6411	7810	8917
70°	5905	7741	9182
75°	5330	7851	9659
80°	4610	8085	9078
85°	3816	6783	6783



TEST NUMBER: P389116

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	332.4	3.4
10°-20°	945.9	9.6
20°-30°	1415.3	14.4
30°-40°	1676.0	17.1
40°-50°	1708.1	17.4
50°-60°	1530.9	15.6
60°-70°	1198.6	12.2
70°-80°	772.9	7.9
80°-90°	228.3	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°	2693.5	27.5
0°-40°	4369.6	44.5
0°-60°	7608.6	77.6
0°-90°	9808.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9808.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3515	3515	3515	3515	3515	
5°	3478	3487	3506	3510	3515	330
15°	3309	3327	3354	3382	3386	933
25°	2993	3020	3084	3126	3144	1378
35°	2563	2595	2682	2764	2792	1602
45°	2059	2105	2215	2329	2361	1590
55°	1533	1583	1716	1835	1886	1375
65°	1007	1066	1226	1346	1400	1000
75°	513	590	755	883	929	550
85°	124	169	220	220	220	145
90°	0	0	0	0	0	



TEST NUMBER: P389116

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3514.7	3514.7	3514.7	3514.7	3514.7
2.5°	3491.8	3500.9	3519.2	3523.8	3523.8
5°	3478.0	3487.2	3505.5	3510.1	3514.7
7.5°	3455.2	3459.7	3482.6	3491.8	3496.4
10°	3418.6	3427.7	3450.6	3464.3	3468.9
12.5°	3368.2	3381.9	3409.4	3427.7	3432.3
15°	3308.7	3327.0	3354.5	3381.9	3386.5
17.5°	3244.6	3263.0	3299.6	3331.6	3340.8
20°	3166.9	3189.7	3230.9	3267.5	3281.3
22.5°	3089.1	3107.4	3157.7	3203.5	3217.2
25°	2992.9	3020.4	3084.5	3125.7	3144.0
27.5°	2892.3	2924.3	2988.4	3043.3	3061.6
30°	2787.0	2819.0	2887.7	2956.3	2979.2
32.5°	2677.2	2713.8	2796.2	2864.8	2887.7
35°	2562.8	2594.8	2681.8	2764.1	2791.6
37.5°	2443.8	2471.2	2571.9	2658.9	2686.3
40°	2315.6	2352.3	2457.5	2558.2	2585.7
42.5°	2187.5	2228.7	2334.0	2443.8	2471.2
45°	2059.4	2105.1	2215.0	2329.4	2361.4
47.5°	1935.8	1972.4	2096.0	2205.8	2251.6
50°	1803.1	1839.7	1958.7	2082.3	2128.0
52.5°	1665.8	1716.1	1844.3	1963.3	2018.2
55°	1533.1	1583.4	1716.1	1835.1	1885.5
57.5°	1409.5	1450.7	1588.0	1711.6	1761.9
60°	1276.8	1313.4	1459.9	1592.6	1638.3
62.5°	1134.9	1189.9	1340.9	1464.4	1519.4
65°	1006.8	1066.3	1226.5	1345.5	1400.4
67.5°	887.8	942.7	1098.3	1226.5	1286.0
70°	750.5	823.7	983.9	1112.1	1167.0
72.5°	640.7	704.8	869.5	997.6	1057.1
75°	512.6	590.4	755.1	883.2	929.0
77.5°	407.3	485.1	640.7	741.4	764.3
80°	297.5	375.3	521.7	572.0	585.8
82.5°	201.4	274.6	375.3	389.0	393.6
85°	123.6	169.3	219.7	219.7	219.7
87.5°	59.5	68.6	77.8	73.2	73.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)