

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: P388181

Luminaire Tested: **22CZ2-110VHE-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: P388181  
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-U  
Description: 2x2 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

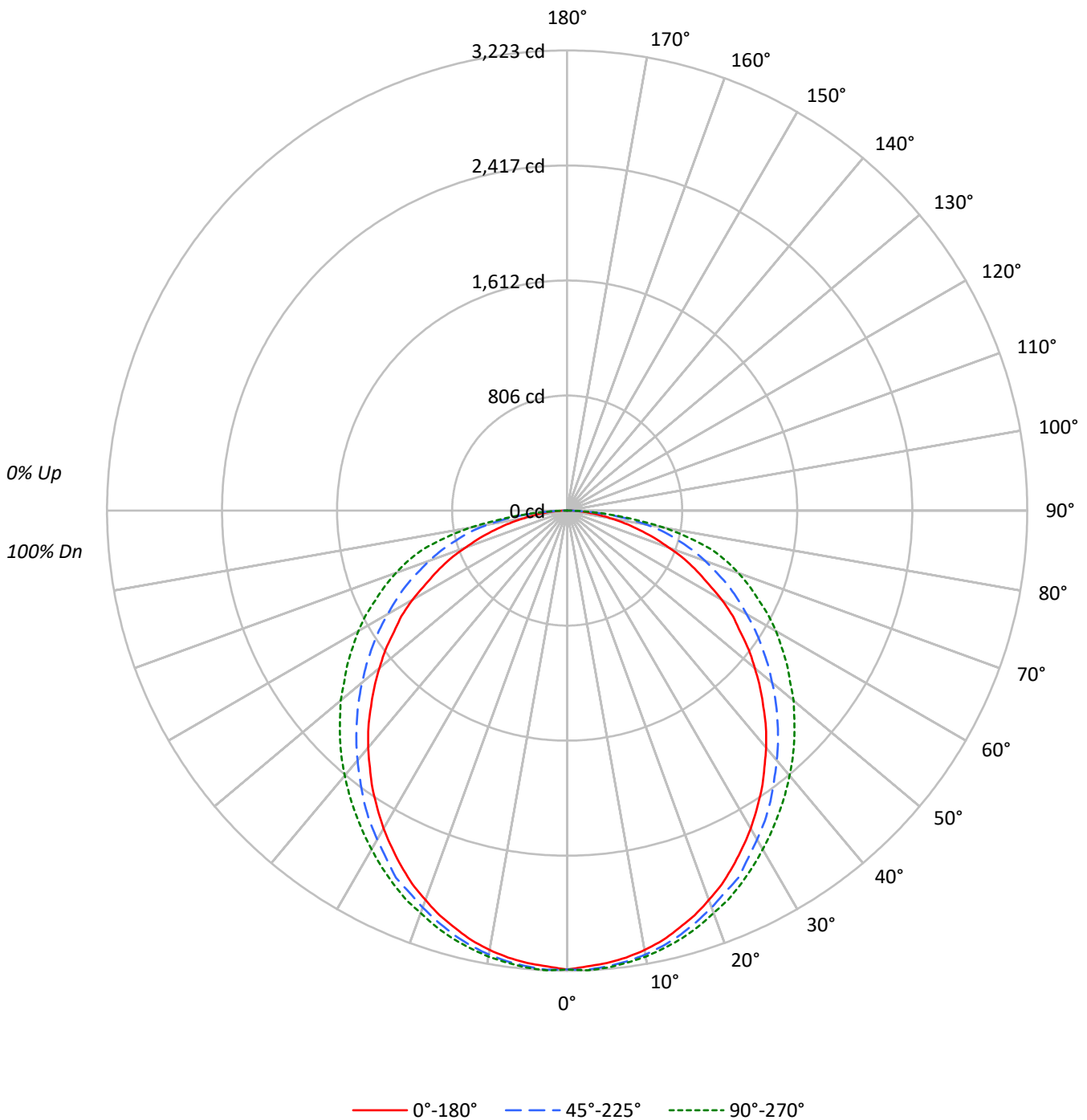
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9452.0 lumens  
Efficiency: N/A  
Efficacy: 107.8 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



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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	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°	8649	8649	8649
5°	8594	8656	8682
10°	8540	8629	8667
15°	8435	8565	8642
20°	8311	8471	8591
25°	8162	8424	8562
30°	7992	8267	8512
35°	7808	8159	8495
40°	7614	8022	8512
45°	7399	7930	8567
50°	7185	7847	8665
55°	6939	7812	8815
60°	6733	7810	9086
65°	6397	7937	9417
70°	5965	8087	10027
75°	5465	8366	10832
80°	4757	8722	10668
85°	4165	7756	8472



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	303.9	3.2
10°-20°	865.7	9.2
20°-30°	1299.6	13.7
30°-40°	1552.9	16.4
40°-50°	1614.8	17.1
50°-60°	1496.7	15.8
60°-70°	1227.6	13.0
70°-80°	829.9	8.8
80°-90°	260.8	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°	2469.3	26.1
0°-40°	4022.2	42.6
0°-60°	7133.7	75.5
0°-90°	9452.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9452.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3214	3214	3214	3214	3214	
5°	3181	3186	3205	3209	3214	302
15°	3028	3042	3074	3093	3102	854
25°	2749	2772	2837	2870	2884	1266
35°	2377	2409	2484	2558	2586	1485
45°	1944	1981	2084	2205	2251	1501
55°	1479	1526	1665	1814	1879	1329
65°	1005	1060	1246	1409	1479	993
75°	526	614	805	967	1042	557
85°	135	186	251	279	274	153
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3213.9	3213.9	3213.9	3213.9	3213.9
2.5°	3195.3	3204.6	3218.5	3223.2	3223.2
5°	3181.3	3185.9	3204.6	3209.2	3213.9
7.5°	3158.0	3167.3	3185.9	3190.6	3195.3
10°	3125.5	3134.8	3158.0	3167.3	3172.0
12.5°	3083.6	3092.9	3120.8	3134.8	3139.4
15°	3027.8	3041.8	3074.3	3092.9	3102.2
17.5°	2972.0	2986.0	3018.5	3046.4	3055.7
20°	2902.2	2934.8	2958.0	2995.3	2999.9
22.5°	2832.5	2851.1	2892.9	2930.1	2948.7
25°	2748.8	2772.0	2837.1	2869.7	2883.6
27.5°	2660.4	2692.9	2744.1	2795.3	2813.9
30°	2572.0	2595.3	2660.4	2720.8	2739.5
32.5°	2474.3	2506.9	2576.7	2637.1	2665.0
35°	2376.7	2409.2	2483.6	2558.1	2586.0
37.5°	2269.7	2306.9	2381.3	2469.7	2506.9
40°	2167.4	2195.3	2283.7	2390.6	2423.2
42.5°	2060.4	2093.0	2186.0	2302.3	2339.5
45°	1944.1	1981.3	2083.7	2204.6	2251.1
47.5°	1832.5	1869.7	1981.3	2102.3	2158.1
50°	1716.2	1762.7	1874.4	2013.9	2069.7
52.5°	1604.6	1646.5	1772.0	1916.2	1967.4
55°	1479.0	1525.5	1665.1	1813.9	1879.0
57.5°	1376.7	1409.3	1562.7	1716.2	1781.3
60°	1251.1	1293.0	1451.1	1613.9	1688.3
62.5°	1116.2	1186.0	1348.8	1516.2	1590.6
65°	1004.6	1060.4	1246.5	1409.3	1479.0
67.5°	888.3	948.8	1130.2	1302.3	1381.4
70°	758.1	837.2	1027.9	1200.0	1274.4
72.5°	641.8	725.6	920.9	1088.3	1167.4
75°	525.6	613.9	804.6	967.4	1041.8
77.5°	413.9	511.6	697.7	823.2	869.7
80°	307.0	400.0	562.8	651.1	688.4
82.5°	213.9	293.0	413.9	460.5	469.8
85°	134.9	186.0	251.2	279.1	274.4
87.5°	60.5	74.4	93.0	102.3	97.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)