

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: P389542

Luminaire Tested: **24CZ2-110VHE-S-UNV-L930-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: P389542  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-110VHE-S-UNV-L930-CD2-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9501.8 lumens  
Efficiency: N/A  
Efficacy: 122.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

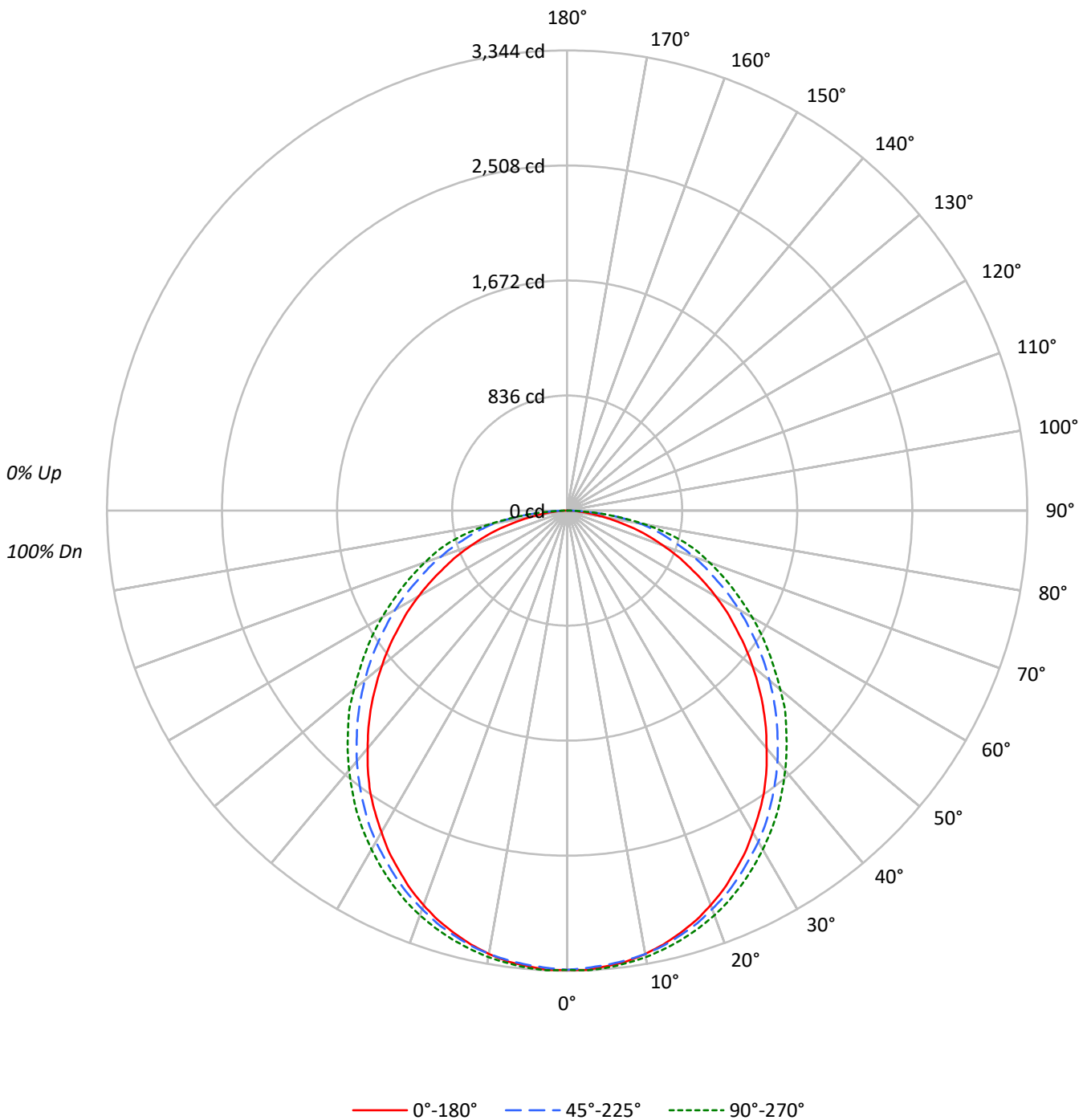
Input Watts (W): 77.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	4491	4491	4491
5°	4488	4476	4504
10°	4470	4470	4503
15°	4427	4448	4494
20°	4369	4412	4481
25°	4288	4369	4454
30°	4192	4319	4417
35°	4100	4248	4382
40°	3960	4177	4331
45°	3831	4095	4284
50°	3683	4018	4233
55°	3519	3944	4191
60°	3354	3882	4183
65°	3142	3815	4209
70°	2909	3835	4322
75°	2604	3907	4566
80°	2104	4139	4467
85°	1584	3634	3541



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	316.0	3.3
10°-20°	903.0	9.5
20°-30°	1357.4	14.3
30°-40°	1616.8	17.0
40°-50°	1654.8	17.4
50°-60°	1489.8	15.7
60°-70°	1169.9	12.3
70°-80°	759.3	8.0
80°-90°	234.8	2.5
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°	2576.3	27.1
0°-40°	4193.2	44.1
0°-60°	7337.7	77.2
0°-90°	9501.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9501.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3338	3338	3338	3338	3338	
5°	3323	3329	3314	3332	3335	316
15°	3178	3187	3193	3220	3226	896
25°	2888	2912	2943	2991	3000	1331
35°	2496	2526	2586	2650	2668	1557
45°	2013	2061	2152	2233	2252	1552
55°	1500	1566	1681	1769	1787	1345
65°	987	1062	1198	1298	1322	982
75°	501	598	752	854	878	530
85°	103	190	235	229	229	124
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3338.0	3338.0	3338.0	3338.0	3338.0
2.5°	3341.1	3341.1	3326.0	3341.1	3344.1
5°	3323.0	3329.0	3313.9	3332.0	3335.0
7.5°	3304.8	3304.8	3295.8	3313.9	3316.9
10°	3271.6	3274.7	3271.6	3292.8	3295.8
12.5°	3229.4	3235.4	3238.4	3259.6	3262.6
15°	3178.1	3187.1	3193.2	3220.3	3226.4
17.5°	3120.7	3129.8	3144.9	3175.1	3181.1
20°	3051.3	3063.4	3081.5	3120.7	3129.8
22.5°	2975.9	2987.9	3018.1	3054.3	3069.4
25°	2888.3	2912.5	2942.7	2991.0	3000.0
27.5°	2800.8	2821.9	2861.2	2912.5	2924.6
30°	2698.2	2731.4	2779.7	2831.0	2843.1
32.5°	2598.6	2631.8	2689.1	2743.5	2758.6
35°	2496.0	2526.2	2586.5	2649.9	2668.0
37.5°	2378.3	2417.5	2483.9	2547.3	2565.4
40°	2254.5	2302.8	2378.3	2444.7	2465.8
42.5°	2136.8	2188.1	2263.6	2336.0	2360.2
45°	2013.1	2061.4	2151.9	2233.4	2251.5
47.5°	1886.3	1940.7	2037.2	2118.7	2148.9
50°	1759.6	1816.9	1919.5	2004.0	2022.1
52.5°	1632.8	1693.2	1801.8	1892.4	1901.4
55°	1500.0	1566.4	1681.1	1768.6	1786.7
57.5°	1379.3	1436.6	1560.4	1650.9	1672.0
60°	1246.5	1309.9	1442.7	1527.2	1554.3
62.5°	1119.7	1186.1	1325.0	1409.5	1433.6
65°	986.9	1062.4	1198.2	1297.8	1321.9
67.5°	872.2	944.7	1089.5	1186.1	1210.3
70°	739.4	820.9	974.9	1074.5	1098.6
72.5°	624.8	709.3	863.2	959.8	996.0
75°	501.0	597.6	751.5	854.1	878.3
77.5°	380.3	492.0	648.9	727.4	727.4
80°	271.6	389.3	534.2	570.4	576.5
82.5°	178.1	292.8	395.4	392.4	392.4
85°	102.6	190.1	235.4	229.4	229.4
87.5°	39.2	78.5	84.5	84.5	81.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)