

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: P388612

Luminaire Tested: **24CZ2-110VHE-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: P388612  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-110VHE-UNV-L940-CD2-SWPD1-U  
Description: 2x4 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: 9362.6 lumens  
Efficiency: N/A  
Efficacy: 121.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

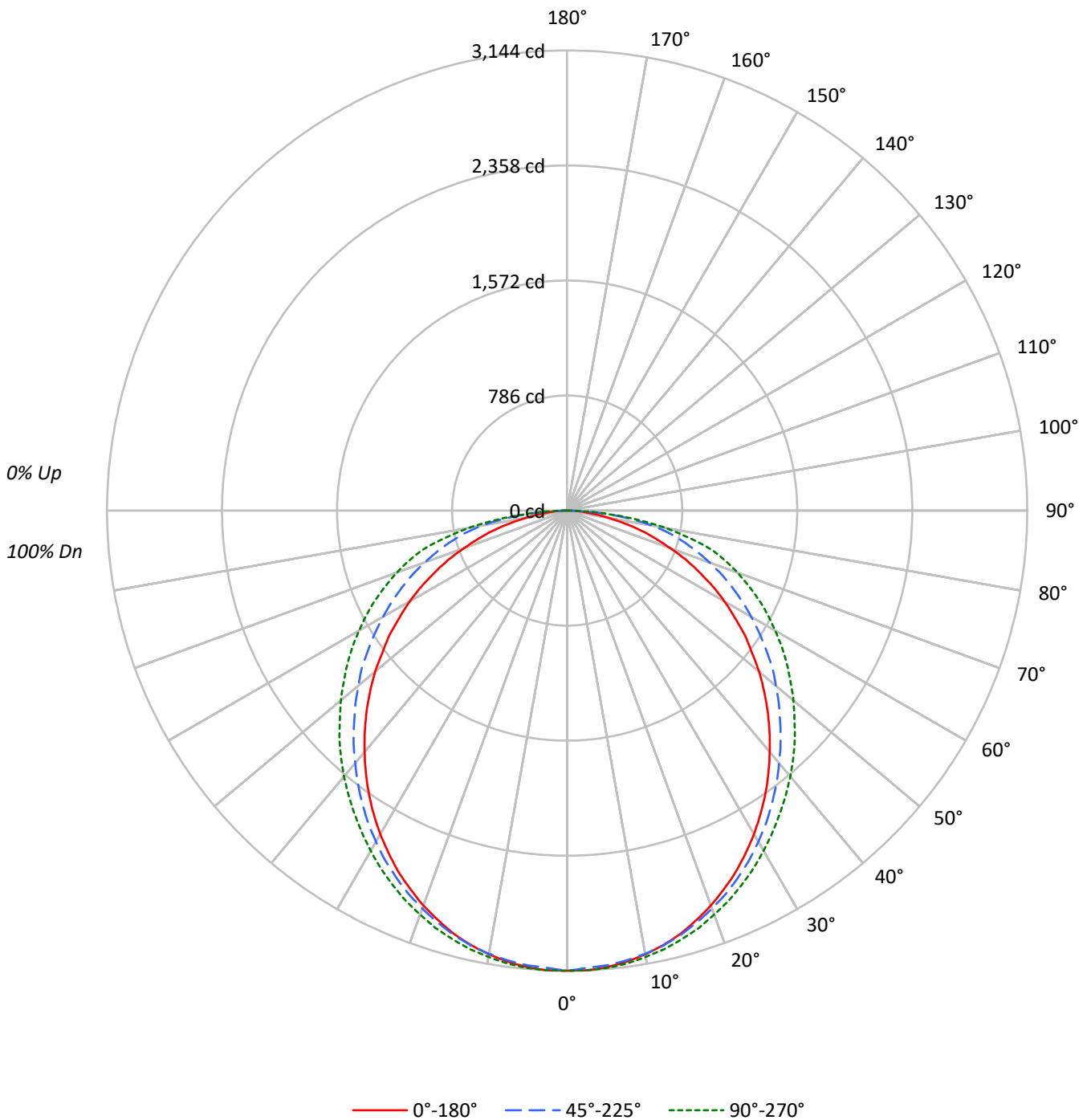
Input Watts (W): 77.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82					82			
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67					67			
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	58	56					56			
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48					48			
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41					41			
6	69	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38	36					36			
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32					32			
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28					28			
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25					25			
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23					23			

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

	0°	45°	90°
0°	4230	4230	4230
5°	4229	4212	4237
10°	4205	4201	4231
15°	4170	4178	4222
20°	4112	4143	4206
25°	4045	4105	4189
30°	3966	4059	4170
35°	3880	4008	4157
40°	3781	3957	4166
45°	3686	3918	4186
50°	3584	3898	4225
55°	3474	3892	4303
60°	3338	3910	4415
65°	3164	3969	4606
70°	2938	4069	4868
75°	2680	4272	5279
80°	2203	4600	5278
85°	1689	4245	4534



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	297.3	3.2
10°-20°	848.8	9.1
20°-30°	1277.2	13.6
30°-40°	1530.6	16.3
40°-50°	1595.1	17.0
50°-60°	1484.0	15.9
60°-70°	1222.3	13.1
70°-80°	832.4	8.9
80°-90°	274.8	2.9
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°	2423.3	25.9
0°-40°	3953.9	42.2
0°-60°	7033.0	75.1
0°-90°	9362.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9362.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3144	3144	3144	3144	3144	
5°	3131	3131	3118	3134	3137	297
15°	2994	2997	3000	3028	3031	843
25°	2725	2737	2765	2812	2822	1254
35°	2362	2390	2440	2506	2531	1477
45°	1937	1978	2059	2162	2200	1494
55°	1481	1531	1659	1790	1834	1320
65°	994	1078	1247	1394	1447	986
75°	516	631	822	969	1016	544
85°	109	212	275	294	294	136
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3143.5	3143.5	3143.5	3143.5	3143.5
2.5°	3143.5	3143.5	3127.8	3143.5	3143.5
5°	3131.0	3131.0	3118.5	3134.1	3137.2
7.5°	3109.1	3112.2	3099.7	3118.5	3121.6
10°	3077.8	3081.0	3074.7	3093.5	3096.6
12.5°	3040.3	3043.5	3043.5	3065.3	3068.5
15°	2993.5	2996.6	2999.7	3027.8	3031.0
17.5°	2934.1	2943.5	2949.7	2984.1	2990.3
20°	2871.6	2881.0	2893.5	2931.0	2937.2
22.5°	2799.7	2812.2	2834.1	2874.7	2884.1
25°	2724.7	2737.2	2765.4	2812.2	2821.6
27.5°	2640.4	2659.1	2693.5	2743.5	2756.0
30°	2552.9	2571.6	2612.3	2665.4	2684.1
32.5°	2459.1	2484.1	2531.0	2590.4	2609.1
35°	2362.3	2390.4	2440.4	2506.0	2531.0
37.5°	2259.2	2290.4	2349.8	2421.7	2452.9
40°	2152.9	2190.4	2252.9	2337.3	2371.7
42.5°	2046.7	2081.1	2159.2	2249.8	2287.3
45°	1937.3	1977.9	2059.2	2162.3	2199.8
47.5°	1824.8	1865.5	1962.3	2071.7	2106.1
50°	1712.3	1753.0	1862.3	1977.9	2018.6
52.5°	1590.5	1643.6	1768.6	1884.2	1924.8
55°	1481.1	1531.1	1659.2	1790.5	1834.2
57.5°	1356.1	1415.5	1556.1	1693.6	1740.5
60°	1240.5	1303.0	1453.0	1593.6	1640.5
62.5°	1121.8	1190.5	1349.9	1493.6	1546.7
65°	993.7	1078.0	1246.8	1393.6	1446.7
67.5°	878.0	965.5	1143.6	1293.6	1340.5
70°	746.8	853.0	1034.3	1184.3	1237.4
72.5°	634.3	740.6	931.2	1078.0	1131.1
75°	515.6	631.2	821.8	968.7	1015.5
77.5°	396.8	525.0	715.6	828.0	843.7
80°	284.3	418.7	593.7	659.3	681.2
82.5°	200.0	321.8	437.5	481.2	493.7
85°	109.4	212.5	275.0	293.7	293.7
87.5°	46.9	90.6	109.4	112.5	115.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)