

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: P388605

Luminaire Tested: **24CZ2-110VHE-UNV-L930-CD2-SDWPD1-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: P388605  
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-L930-CD2-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8934.0 lumens  
Efficiency: N/A  
Efficacy: 115.4 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

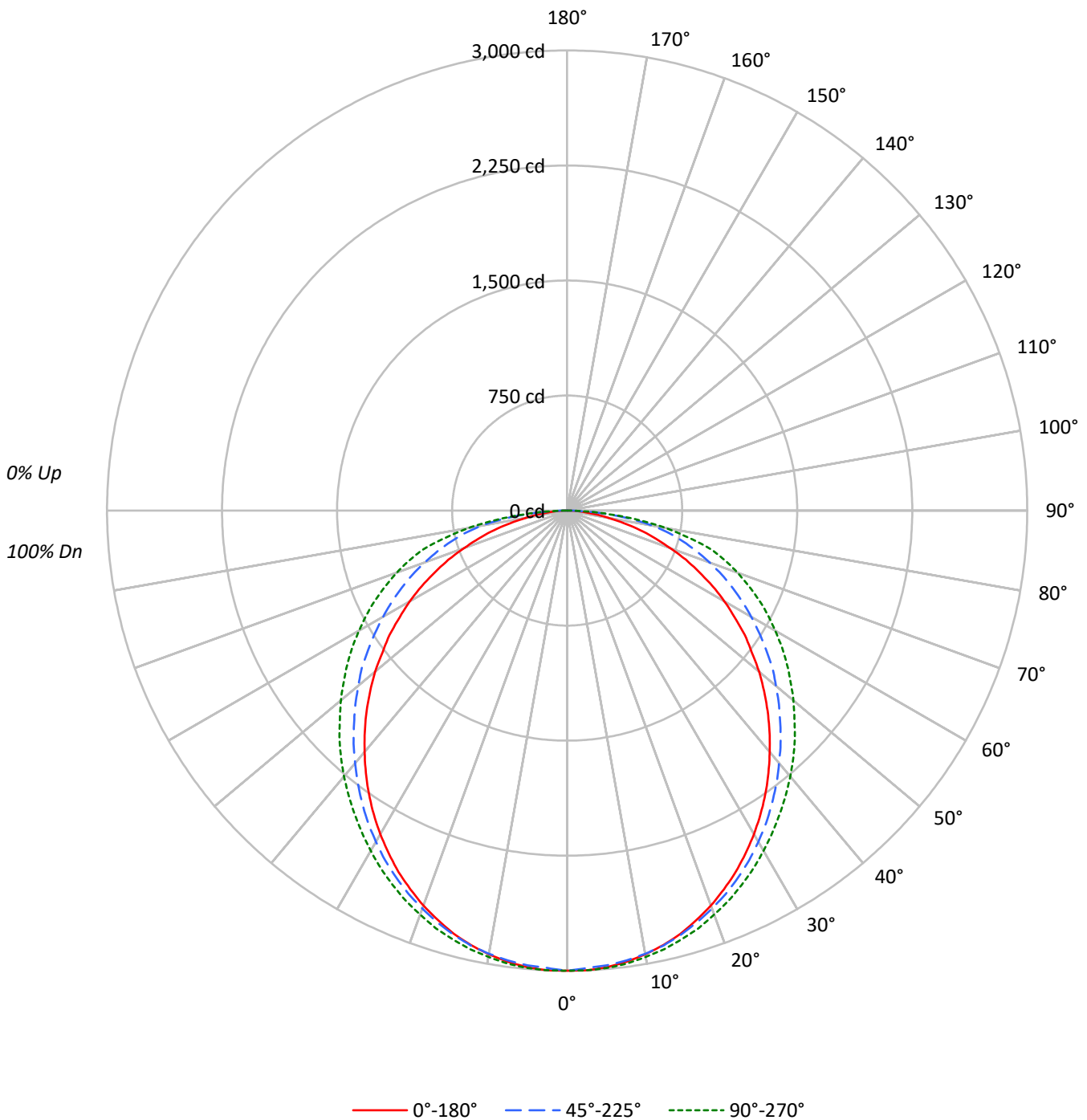
Input Watts (W): 77.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	45°	90°
0°	4036	4036	4036
5°	4035	4019	4043
10°	4013	4009	4037
15°	3979	3987	4029
20°	3924	3953	4013
25°	3860	3918	3997
30°	3785	3873	3979
35°	3702	3825	3967
40°	3608	3776	3975
45°	3518	3739	3994
50°	3420	3720	4032
55°	3315	3714	4106
60°	3185	3731	4212
65°	3019	3788	4395
70°	2803	3882	4645
75°	2558	4077	5037
80°	2102	4389	5036
85°	1612	4051	4327



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	283.7	3.2
10°-20°	809.9	9.1
20°-30°	1218.8	13.6
30°-40°	1460.6	16.3
40°-50°	1522.1	17.0
50°-60°	1416.1	15.9
60°-70°	1166.3	13.1
70°-80°	794.3	8.9
80°-90°	262.2	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°	2312.4	25.9
0°-40°	3772.9	42.2
0°-60°	6711.1	75.1
0°-90°	8934.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8934.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3000	3000	3000	3000	3000	
5°	2988	2988	2976	2991	2994	284
15°	2856	2859	2862	2889	2892	805
25°	2600	2612	2639	2684	2692	1197
35°	2254	2281	2329	2391	2415	1409
45°	1849	1887	1965	2063	2099	1426
55°	1413	1461	1583	1708	1750	1260
65°	948	1029	1190	1330	1380	941
75°	492	602	784	924	969	519
85°	104	203	262	280	280	129
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2999.6	2999.6	2999.6	2999.6	2999.6
2.5°	2999.6	2999.6	2984.7	2999.6	2999.6
5°	2987.6	2987.6	2975.7	2990.6	2993.6
7.5°	2966.8	2969.7	2957.8	2975.7	2978.7
10°	2936.9	2939.9	2934.0	2951.9	2954.8
12.5°	2901.2	2904.1	2904.1	2925.0	2928.0
15°	2856.4	2859.4	2862.4	2889.2	2892.2
17.5°	2799.8	2808.7	2814.7	2847.5	2853.5
20°	2740.2	2749.1	2761.0	2796.8	2802.8
22.5°	2671.6	2683.5	2704.4	2743.1	2752.1
25°	2600.0	2611.9	2638.8	2683.5	2692.4
27.5°	2519.5	2537.4	2570.2	2617.9	2629.8
30°	2436.0	2453.9	2492.7	2543.4	2561.3
32.5°	2346.6	2370.4	2415.2	2471.8	2489.7
35°	2254.1	2281.0	2328.7	2391.3	2415.2
37.5°	2155.7	2185.6	2242.2	2310.8	2340.6
40°	2054.4	2090.2	2149.8	2230.3	2263.1
42.5°	1953.0	1985.8	2060.3	2146.8	2182.6
45°	1848.6	1887.4	1964.9	2063.3	2099.1
47.5°	1741.3	1780.1	1872.5	1976.8	2009.6
50°	1634.0	1672.7	1777.1	1887.4	1926.2
52.5°	1517.7	1568.4	1687.6	1797.9	1836.7
55°	1413.3	1461.0	1583.3	1708.5	1750.2
57.5°	1294.0	1350.7	1484.9	1616.1	1660.8
60°	1183.7	1243.4	1386.5	1520.7	1565.4
62.5°	1070.4	1136.0	1288.1	1425.2	1475.9
65°	948.2	1028.7	1189.7	1329.8	1380.5
67.5°	837.8	921.3	1091.3	1234.4	1279.1
70°	712.6	814.0	986.9	1130.1	1180.7
72.5°	605.3	706.7	888.5	1028.7	1079.4
75°	492.0	602.3	784.2	924.3	969.0
77.5°	378.7	500.9	682.8	790.1	805.1
80°	271.3	399.5	566.5	629.1	650.0
82.5°	190.8	307.1	417.4	459.2	471.1
85°	104.4	202.8	262.4	280.3	280.3
87.5°	44.7	86.5	104.4	107.3	110.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)