

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: P389541

Luminaire Tested: **24CZ2-110VHE-S-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: P389541  
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-SDWPD1-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: 9387.3 lumens  
Efficiency: N/A  
Efficacy: 121.3 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

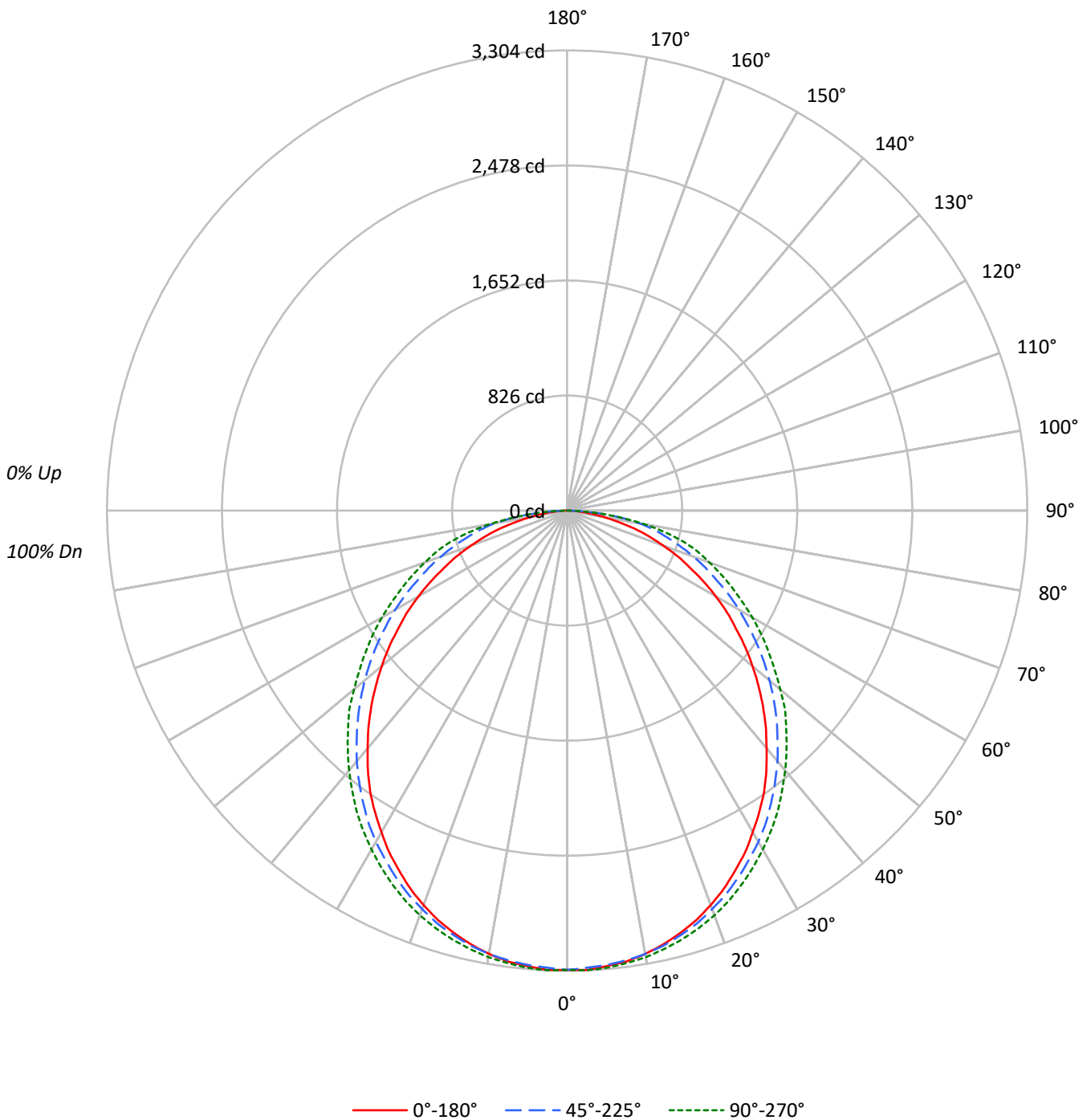
Input Watts (W): 77.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4437	4437	4437
5°	4434	4422	4450
10°	4416	4416	4449
15°	4374	4394	4440
20°	4316	4359	4427
25°	4236	4316	4400
30°	4142	4267	4364
35°	4050	4197	4330
40°	3912	4127	4279
45°	3784	4045	4233
50°	3639	3970	4182
55°	3476	3896	4141
60°	3314	3835	4132
65°	3104	3769	4158
70°	2874	3789	4270
75°	2573	3860	4511
80°	2080	4090	4413
85°	1565	3591	3498



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	312.2	3.3
10°-20°	892.1	9.5
20°-30°	1341.0	14.3
30°-40°	1597.4	17.0
40°-50°	1634.8	17.4
50°-60°	1471.8	15.7
60°-70°	1155.8	12.3
70°-80°	750.2	8.0
80°-90°	232.0	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°	2545.3	27.1
0°-40°	4142.6	44.1
0°-60°	7249.3	77.2
0°-90°	9387.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9387.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3298	3298	3298	3298	3298	
5°	3283	3289	3274	3292	3295	312
15°	3140	3149	3155	3182	3188	885
25°	2854	2877	2907	2955	2964	1315
35°	2466	2496	2555	2618	2636	1538
45°	1989	2036	2126	2206	2224	1533
55°	1482	1548	1661	1747	1765	1329
65°	975	1050	1184	1282	1306	971
75°	495	590	742	844	868	524
85°	101	188	233	227	227	122
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3297.8	3297.8	3297.8	3297.8	3297.8
2.5°	3300.8	3300.8	3285.9	3300.8	3303.8
5°	3282.9	3288.9	3274.0	3291.9	3294.8
7.5°	3265.0	3265.0	3256.1	3274.0	3276.9
10°	3232.2	3235.2	3232.2	3253.1	3256.1
12.5°	3190.5	3196.4	3199.4	3220.3	3223.3
15°	3139.8	3148.7	3154.7	3181.5	3187.5
17.5°	3083.1	3092.1	3107.0	3136.8	3142.8
20°	3014.6	3026.5	3044.4	3083.1	3092.1
22.5°	2940.0	2951.9	2981.8	3017.5	3032.4
25°	2853.5	2877.4	2907.2	2954.9	2963.9
27.5°	2767.1	2787.9	2826.7	2877.4	2889.3
30°	2665.7	2698.5	2746.2	2796.9	2808.8
32.5°	2567.3	2600.1	2656.7	2710.4	2725.3
35°	2465.9	2495.7	2555.4	2618.0	2635.9
37.5°	2349.6	2388.4	2454.0	2516.6	2534.5
40°	2227.4	2275.1	2349.6	2415.2	2436.1
42.5°	2111.1	2161.8	2236.3	2307.9	2331.7
45°	1988.8	2036.5	2126.0	2206.5	2224.4
47.5°	1863.6	1917.3	2012.7	2093.2	2123.0
50°	1738.4	1795.0	1896.4	1979.9	1997.8
52.5°	1613.1	1672.8	1780.1	1869.6	1878.5
55°	1481.9	1547.5	1660.8	1747.3	1765.2
57.5°	1362.7	1419.3	1541.6	1631.0	1651.9
60°	1231.5	1294.1	1425.3	1508.8	1535.6
62.5°	1106.2	1171.8	1309.0	1392.5	1416.3
65°	975.0	1049.6	1183.8	1282.2	1306.0
67.5°	861.7	933.3	1076.4	1171.8	1195.7
70°	730.5	811.0	963.1	1061.5	1085.4
72.5°	617.2	700.7	852.8	948.2	984.0
75°	495.0	590.4	742.5	843.8	867.7
77.5°	375.7	486.0	641.1	718.6	718.6
80°	268.4	384.6	527.8	563.6	569.5
82.5°	175.9	289.2	390.6	387.6	387.6
85°	101.4	187.9	232.6	226.6	226.6
87.5°	38.8	77.5	83.5	83.5	80.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)