

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: P388706

Luminaire Tested: **24CZ2-170VHE-UNV-L935-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: P388706  
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: 24CZ2-170VHE-UNV-L935-CD2-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14390.9 lumens  
Efficiency: N/A  
Efficacy: 116.6 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

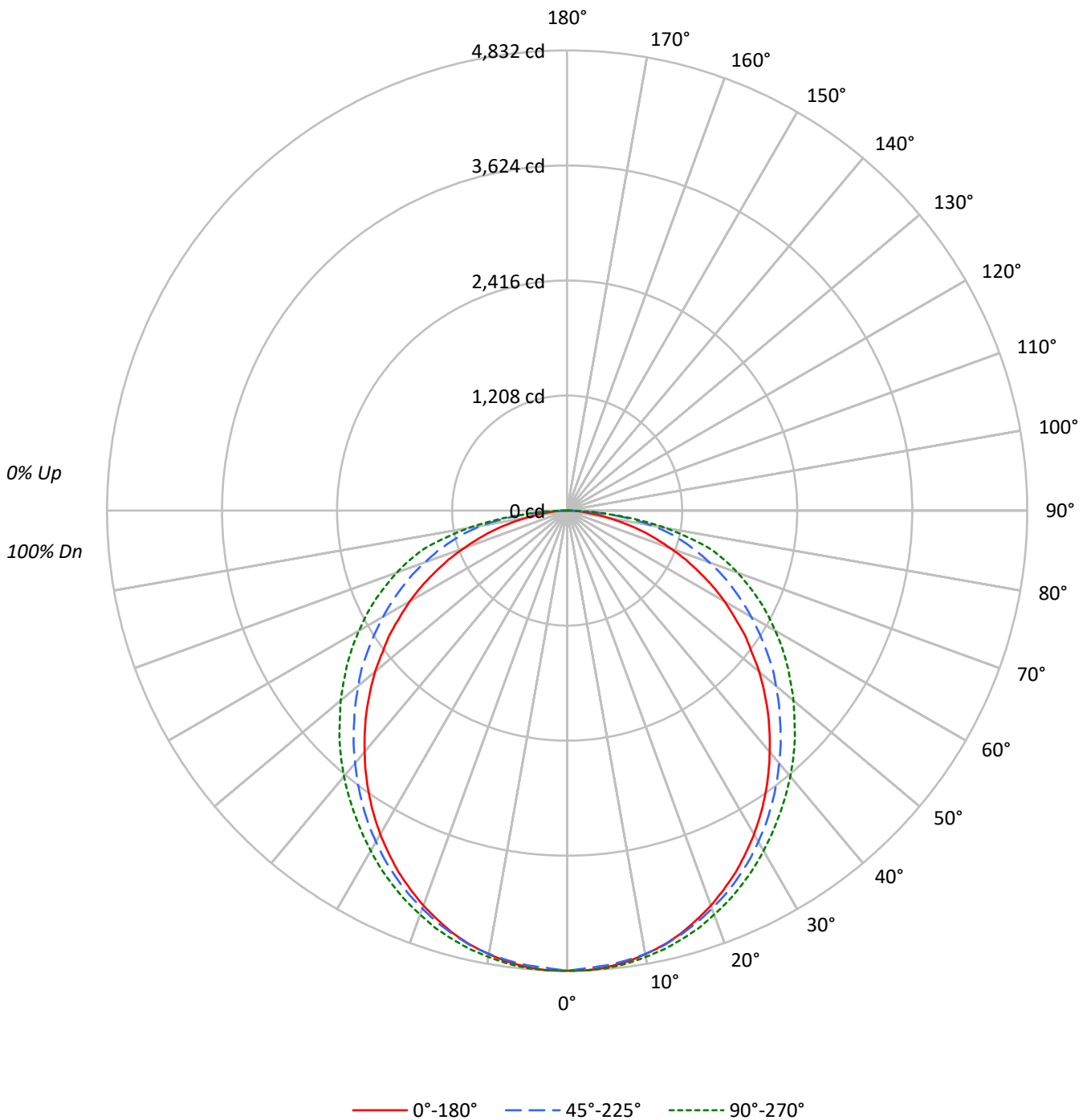
Input Watts (W): 123.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	6501	6501	6501
5°	6500	6474	6513
10°	6463	6457	6503
15°	6409	6423	6489
20°	6320	6368	6464
25°	6218	6310	6439
30°	6096	6238	6410
35°	5964	6161	6390
40°	5812	6082	6403
45°	5666	6023	6434
50°	5509	5992	6495
55°	5340	5982	6613
60°	5131	6010	6785
65°	4862	6101	7080
70°	4516	6254	7482
75°	4120	6567	8114
80°	3387	7070	8113
85°	2595	6526	6970



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	457.0	3.2
10°-20°	1304.6	9.1
20°-30°	1963.2	13.6
30°-40°	2352.7	16.3
40°-50°	2451.7	17.0
50°-60°	2281.1	15.9
60°-70°	1878.7	13.1
70°-80°	1279.5	8.9
80°-90°	422.4	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°	3724.7	25.9
0°-40°	6077.4	42.2
0°-60°	10810.2	75.1
0°-90°	14390.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14390.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4832	4832	4832	4832	4832	
5°	4812	4812	4793	4817	4822	457
15°	4601	4606	4611	4654	4659	1296
25°	4188	4207	4250	4323	4337	1928
35°	3631	3674	3751	3852	3890	2270
45°	2978	3040	3165	3324	3381	2297
55°	2277	2353	2550	2752	2819	2029
65°	1527	1657	1916	2142	2224	1516
75°	792	970	1263	1489	1561	836
85°	168	327	423	452	452	208
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4831.7	4831.7	4831.7	4831.7	4831.7
2.5°	4831.7	4831.7	4807.7	4831.7	4831.7
5°	4812.5	4812.5	4793.3	4817.3	4822.1
7.5°	4778.9	4783.7	4764.5	4793.3	4798.1
10°	4730.8	4735.6	4726.0	4754.8	4759.7
12.5°	4673.2	4678.0	4678.0	4711.6	4716.4
15°	4601.2	4606.0	4610.8	4654.0	4658.8
17.5°	4509.9	4524.3	4533.9	4586.7	4596.4
20°	4413.8	4428.3	4447.5	4505.1	4514.7
22.5°	4303.4	4322.6	4356.2	4418.6	4433.1
25°	4188.1	4207.3	4250.5	4322.6	4337.0
27.5°	4058.4	4087.2	4140.1	4216.9	4236.1
30°	3924.0	3952.8	4015.2	4096.9	4125.7
32.5°	3779.9	3818.3	3890.3	3981.6	4010.4
35°	3631.0	3674.2	3751.0	3851.9	3890.3
37.5°	3472.5	3520.5	3611.8	3722.2	3770.3
40°	3309.2	3366.8	3462.9	3592.6	3645.4
42.5°	3145.9	3198.7	3318.8	3458.1	3515.7
45°	2977.8	3040.2	3165.1	3323.6	3381.2
47.5°	2804.9	2867.3	3016.2	3184.3	3237.1
50°	2632.0	2694.4	2862.5	3040.2	3102.7
52.5°	2444.7	2526.3	2718.4	2896.1	2958.6
55°	2276.6	2353.4	2550.3	2752.0	2819.3
57.5°	2084.4	2175.7	2391.8	2603.2	2675.2
60°	1906.7	2002.8	2233.3	2449.5	2521.5
62.5°	1724.2	1829.9	2074.8	2295.8	2377.4
65°	1527.3	1657.0	1916.3	2142.1	2223.7
67.5°	1349.6	1484.1	1757.9	1988.4	2060.4
70°	1147.9	1311.2	1589.8	1820.3	1901.9
72.5°	975.0	1138.3	1431.3	1657.0	1738.6
75°	792.5	970.2	1263.2	1488.9	1560.9
77.5°	610.0	806.9	1099.9	1272.8	1296.8
80°	437.1	643.6	912.5	1013.4	1047.0
82.5°	307.4	494.7	672.4	739.6	758.9
85°	168.1	326.6	422.7	451.5	451.5
87.5°	72.0	139.3	168.1	172.9	177.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)