

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: P389642

Luminaire Tested: **24CZ2-170VHE-S-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: P389642  
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: 24CZ2-170VHE-S-UNV-L935-CD2-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15121.0 lumens  
Efficiency: N/A  
Efficacy: 122.5 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

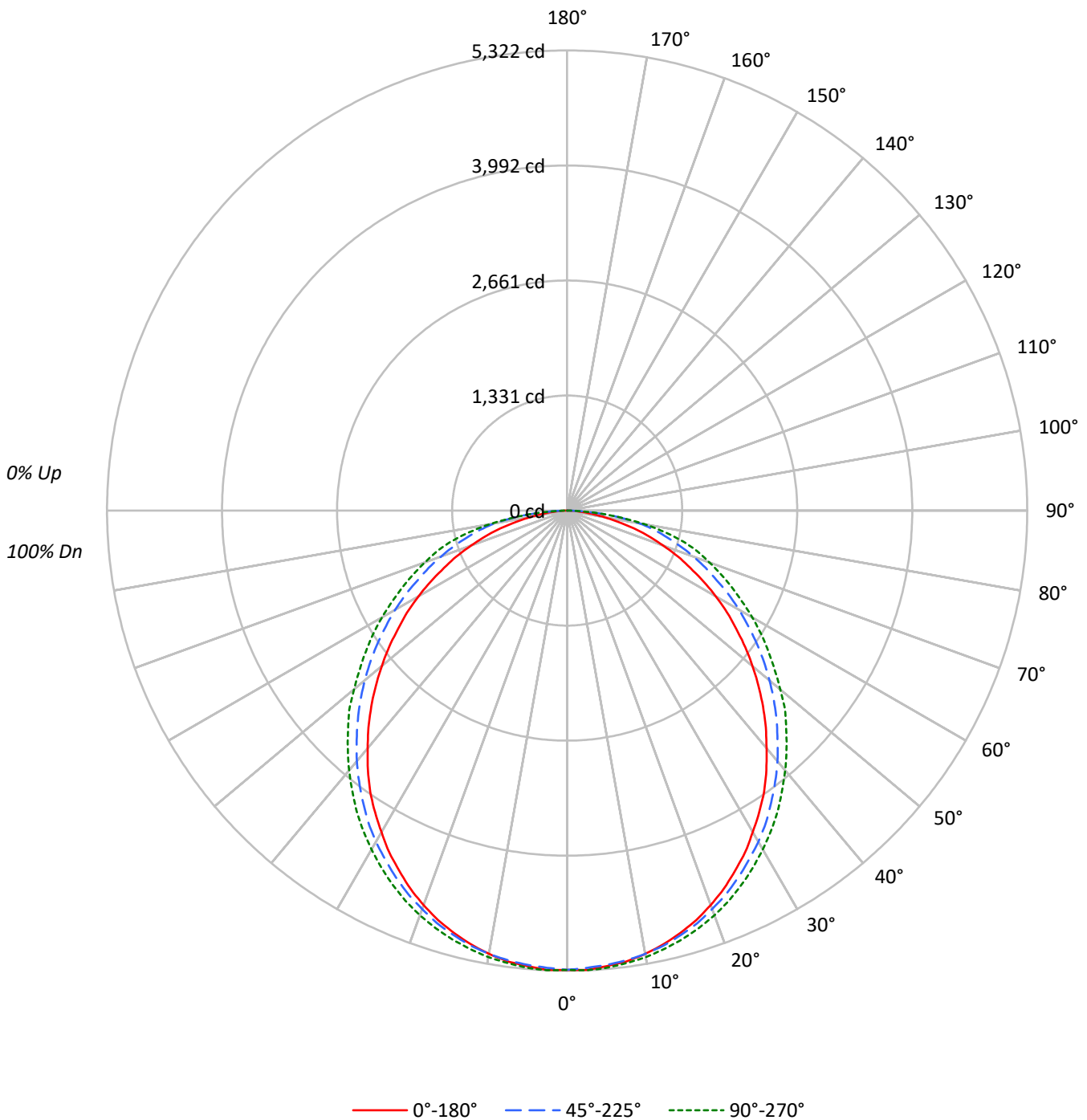
Input Watts (W): 123.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	7147	7147	7147
5°	7142	7123	7168
10°	7113	7113	7166
15°	7045	7078	7152
20°	6953	7022	7132
25°	6824	6952	7088
30°	6671	6873	7029
35°	6524	6761	6974
40°	6302	6648	6892
45°	6096	6516	6818
50°	5861	6394	6736
55°	5600	6276	6670
60°	5338	6178	6656
65°	5000	6071	6698
70°	4629	6103	6878
75°	4145	6217	7266
80°	3350	6587	7108
85°	2521	5783	5635



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	502.9	3.3
10°-20°	1437.0	9.5
20°-30°	2160.1	14.3
30°-40°	2573.0	17.0
40°-50°	2633.3	17.4
50°-60°	2370.8	15.7
60°-70°	1861.8	12.3
70°-80°	1208.4	8.0
80°-90°	373.7	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°	4100.0	27.1
0°-40°	6673.0	44.1
0°-60°	11677.1	77.2
0°-90°	15121.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15121.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5312	5312	5312	5312	5312	
5°	5288	5298	5274	5302	5307	502
15°	5058	5072	5082	5125	5134	1426
25°	4596	4635	4683	4760	4774	2117
35°	3972	4020	4116	4217	4246	2478
45°	3204	3280	3424	3554	3583	2470
55°	2387	2493	2675	2815	2843	2140
65°	1571	1691	1907	2065	2104	1563
75°	797	951	1196	1359	1398	844
85°	163	303	375	365	365	197
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5312.1	5312.1	5312.1	5312.1	5312.1
2.5°	5316.9	5316.9	5292.9	5316.9	5321.7
5°	5288.1	5297.7	5273.7	5302.5	5307.3
7.5°	5259.3	5259.3	5244.9	5273.7	5278.5
10°	5206.4	5211.2	5206.4	5240.1	5244.9
12.5°	5139.2	5148.8	5153.6	5187.2	5192.0
15°	5057.5	5072.0	5081.6	5124.8	5134.4
17.5°	4966.3	4980.7	5004.7	5052.7	5062.4
20°	4855.8	4875.0	4903.9	4966.3	4980.7
22.5°	4735.7	4755.0	4803.0	4860.6	4884.6
25°	4596.5	4634.9	4682.9	4759.8	4774.2
27.5°	4457.2	4490.8	4553.2	4634.9	4654.1
30°	4293.9	4346.7	4423.6	4505.2	4524.4
32.5°	4135.4	4188.2	4279.5	4365.9	4389.9
35°	3972.1	4020.1	4116.2	4217.0	4245.8
37.5°	3784.8	3847.2	3952.9	4053.7	4082.5
40°	3587.8	3664.7	3784.8	3890.4	3924.0
42.5°	3400.5	3482.2	3602.2	3717.5	3755.9
45°	3203.6	3280.4	3424.5	3554.2	3583.0
47.5°	3001.9	3088.3	3242.0	3371.7	3419.7
50°	2800.1	2891.4	3054.7	3189.2	3218.0
52.5°	2598.4	2694.5	2867.4	3011.5	3025.9
55°	2387.1	2492.8	2675.3	2814.6	2843.4
57.5°	2195.0	2286.2	2483.1	2627.2	2660.9
60°	1983.6	2084.5	2295.8	2430.3	2473.5
62.5°	1781.9	1887.6	2108.5	2243.0	2281.4
65°	1570.6	1690.7	1906.8	2065.3	2103.7
67.5°	1388.1	1503.3	1733.9	1887.6	1926.0
70°	1176.7	1306.4	1551.4	1709.9	1748.3
72.5°	994.2	1128.7	1373.7	1527.4	1585.0
75°	797.3	951.0	1195.9	1359.2	1397.7
77.5°	605.2	782.9	1032.6	1157.5	1157.5
80°	432.3	619.6	850.1	907.8	917.4
82.5°	283.4	465.9	629.2	624.4	624.4
85°	163.3	302.6	374.6	365.0	365.0
87.5°	62.4	124.9	134.5	134.5	129.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)