

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: P388705

Luminaire Tested: **24CZ2-170VHE-UNV-L935-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: P388705  
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-SWPD1-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: 14212.4 lumens  
Efficiency: N/A  
Efficacy: 115.2 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

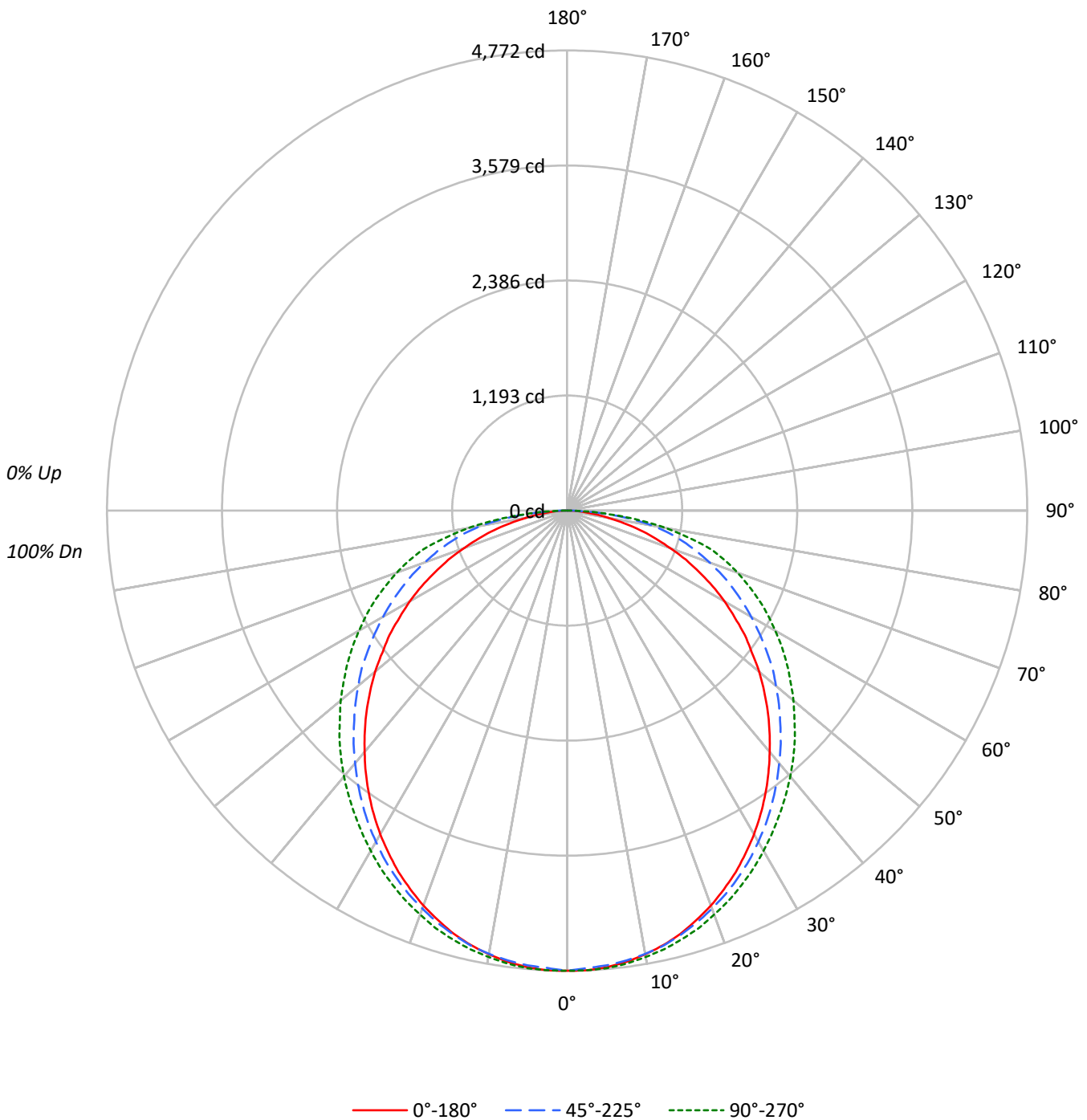
Input Watts (W): 123.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	6420	6420	6420
5°	6419	6394	6432
10°	6383	6377	6422
15°	6330	6343	6409
20°	6242	6289	6384
25°	6141	6232	6359
30°	6021	6161	6330
35°	5890	6085	6311
40°	5740	6007	6323
45°	5596	5948	6354
50°	5441	5918	6414
55°	5274	5908	6531
60°	5067	5935	6701
65°	4802	6025	6992
70°	4460	6176	7389
75°	4068	6485	8014
80°	3344	6983	8012
85°	2563	6444	6884



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	451.3	3.2
10°-20°	1288.4	9.1
20°-30°	1938.8	13.6
30°-40°	2323.5	16.3
40°-50°	2421.3	17.0
50°-60°	2252.8	15.9
60°-70°	1855.4	13.1
70°-80°	1263.6	8.9
80°-90°	417.2	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°	3678.6	25.9
0°-40°	6002.1	42.2
0°-60°	10676.2	75.1
0°-90°	14212.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14212.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4772	4772	4772	4772	4772	
5°	4753	4753	4734	4758	4762	451
15°	4544	4549	4554	4596	4601	1280
25°	4136	4155	4198	4269	4283	1904
35°	3586	3629	3704	3804	3842	2242
45°	2941	3002	3126	3282	3339	2268
55°	2248	2324	2519	2718	2784	2004
65°	1508	1636	1893	2116	2196	1497
75°	783	958	1248	1470	1542	825
85°	166	322	417	446	446	206
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4771.8	4771.8	4771.8	4771.8	4771.8
2.5°	4771.8	4771.8	4748.0	4771.8	4771.8
5°	4752.8	4752.8	4733.8	4757.5	4762.3
7.5°	4719.6	4724.3	4705.4	4733.8	4738.6
10°	4672.2	4676.9	4667.4	4695.9	4700.6
12.5°	4615.2	4620.0	4620.0	4653.2	4657.9
15°	4544.1	4548.8	4553.6	4596.3	4601.0
17.5°	4454.0	4468.2	4477.7	4529.9	4539.3
20°	4359.1	4373.3	4392.3	4449.2	4458.7
22.5°	4250.0	4269.0	4302.2	4363.8	4378.1
25°	4136.2	4155.1	4197.8	4269.0	4283.2
27.5°	4008.1	4036.6	4088.7	4164.6	4183.6
30°	3875.3	3903.7	3965.4	4046.0	4074.5
32.5°	3733.0	3770.9	3842.1	3932.2	3960.7
35°	3585.9	3628.6	3704.5	3804.1	3842.1
37.5°	3429.4	3476.8	3567.0	3676.1	3723.5
40°	3268.1	3325.1	3419.9	3548.0	3600.2
42.5°	3106.9	3159.0	3277.6	3415.2	3472.1
45°	2940.8	3002.5	3125.8	3282.4	3339.3
47.5°	2770.1	2831.8	2978.8	3144.8	3197.0
50°	2599.3	2661.0	2827.0	3002.5	3064.2
52.5°	2414.3	2495.0	2684.7	2860.2	2921.9
55°	2248.3	2324.2	2518.7	2717.9	2784.3
57.5°	2058.6	2148.7	2362.2	2570.9	2642.0
60°	1883.1	1978.0	2205.6	2419.1	2490.2
62.5°	1702.8	1807.2	2049.1	2267.3	2347.9
65°	1508.4	1636.4	1892.6	2115.5	2196.1
67.5°	1332.9	1465.7	1736.0	1963.7	2034.9
70°	1133.6	1294.9	1570.0	1797.7	1878.3
72.5°	962.9	1124.2	1413.5	1636.4	1717.1
75°	782.6	958.1	1247.5	1470.4	1541.6
77.5°	602.4	796.9	1086.2	1257.0	1280.7
80°	431.6	635.6	901.2	1000.8	1034.0
82.5°	303.6	488.6	664.1	730.5	749.4
85°	166.0	322.5	417.4	445.9	445.9
87.5°	71.1	137.6	166.0	170.8	175.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)