

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: P388708

Luminaire Tested: **24CZ2-170VHE-UNV-L940-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: P388708  
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-L940-CD2-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14359.4 lumens  
Efficiency: N/A  
Efficacy: 116.4 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

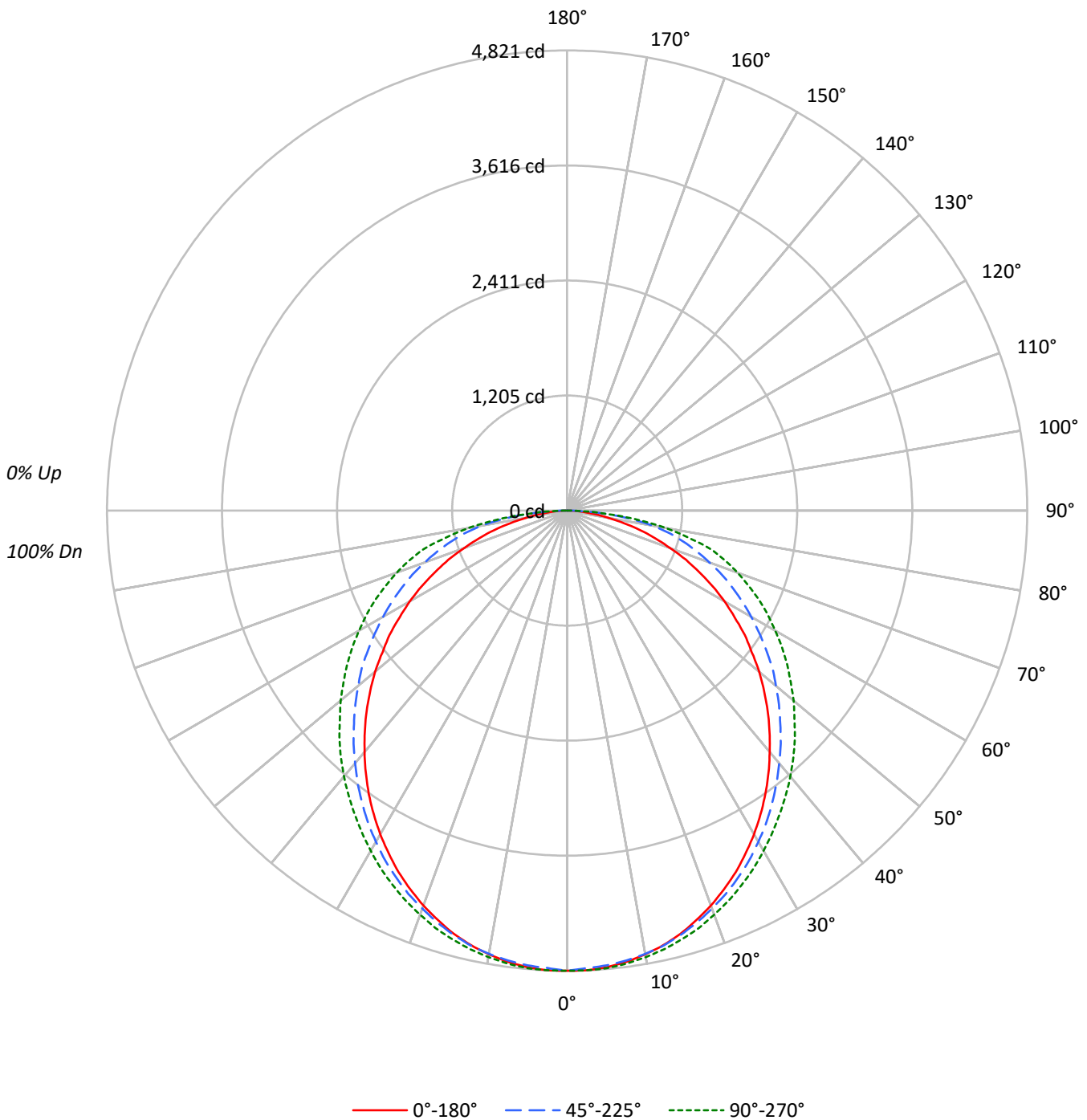
Input Watts (W): 123.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	6487	6487	6487
5°	6486	6460	6499
10°	6449	6443	6489
15°	6395	6409	6475
20°	6306	6354	6450
25°	6204	6296	6425
30°	6083	6224	6396
35°	5951	6148	6376
40°	5799	6069	6389
45°	5654	6009	6420
50°	5497	5979	6480
55°	5329	5969	6599
60°	5120	5997	6771
65°	4852	6088	7064
70°	4506	6240	7466
75°	4111	6552	8097
80°	3379	7055	8095
85°	2589	6510	6955



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	456.0	3.2
10°-20°	1301.7	9.1
20°-30°	1958.9	13.6
30°-40°	2347.5	16.3
40°-50°	2446.4	17.0
50°-60°	2276.1	15.9
60°-70°	1874.6	13.1
70°-80°	1276.7	8.9
80°-90°	421.5	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°	3716.6	25.9
0°-40°	6064.1	42.2
0°-60°	10786.6	75.1
0°-90°	14359.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14359.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4821	4821	4821	4821	4821	
5°	4802	4802	4783	4807	4812	456
15°	4591	4596	4601	4644	4649	1293
25°	4179	4198	4241	4313	4328	1924
35°	3623	3666	3743	3844	3882	2265
45°	2971	3034	3158	3316	3374	2292
55°	2272	2348	2545	2746	2813	2025
65°	1524	1653	1912	2137	2219	1513
75°	791	968	1260	1486	1558	834
85°	168	326	422	450	450	208
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4821.1	4821.1	4821.1	4821.1	4821.1
2.5°	4821.1	4821.1	4797.2	4821.1	4821.1
5°	4801.9	4801.9	4782.8	4806.7	4811.5
7.5°	4768.4	4773.2	4754.0	4782.8	4787.6
10°	4720.5	4725.3	4715.7	4744.4	4749.2
12.5°	4663.0	4667.8	4667.8	4701.3	4706.1
15°	4591.1	4595.9	4600.7	4643.8	4648.6
17.5°	4500.0	4514.4	4524.0	4576.7	4586.3
20°	4404.2	4418.6	4437.7	4495.2	4504.8
22.5°	4294.0	4313.1	4346.7	4409.0	4423.4
25°	4178.9	4198.1	4241.2	4313.1	4327.5
27.5°	4049.5	4078.3	4131.0	4207.7	4226.9
30°	3915.4	3944.1	4006.4	4087.9	4116.6
32.5°	3771.6	3809.9	3881.8	3972.9	4001.6
35°	3623.0	3666.2	3742.8	3843.5	3881.8
37.5°	3464.9	3512.8	3603.9	3714.1	3762.0
40°	3301.9	3359.4	3455.3	3584.7	3637.4
42.5°	3139.0	3191.7	3311.5	3450.5	3508.0
45°	2971.3	3033.6	3158.2	3316.3	3373.8
47.5°	2798.7	2861.0	3009.6	3177.3	3230.1
50°	2626.2	2688.5	2856.2	3033.6	3095.9
52.5°	2439.3	2520.8	2712.5	2889.8	2952.1
55°	2271.6	2348.3	2544.7	2746.0	2813.1
57.5°	2079.9	2170.9	2386.6	2597.5	2669.3
60°	1902.6	1998.4	2228.4	2444.1	2516.0
62.5°	1720.5	1825.9	2070.3	2290.8	2372.2
65°	1524.0	1653.4	1912.2	2137.4	2218.9
67.5°	1346.7	1480.8	1754.0	1984.0	2055.9
70°	1145.4	1308.3	1586.3	1816.3	1897.8
72.5°	972.8	1135.8	1428.1	1653.4	1734.8
75°	790.7	968.1	1260.4	1485.6	1557.5
77.5°	608.6	805.1	1097.5	1270.0	1293.9
80°	436.1	642.2	910.5	1011.2	1044.7
82.5°	306.7	493.6	670.9	738.0	757.2
85°	167.7	325.9	421.7	450.5	450.5
87.5°	71.9	139.0	167.7	172.5	177.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)