

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: P391131

Luminaire Tested: **24CZ2-170VHE-HRP-UNV-L940-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: P391131  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-170VHE-HRP-UNV-L940-CD2-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12041.7 lumens  
Efficiency: N/A  
Efficacy: 97.6 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

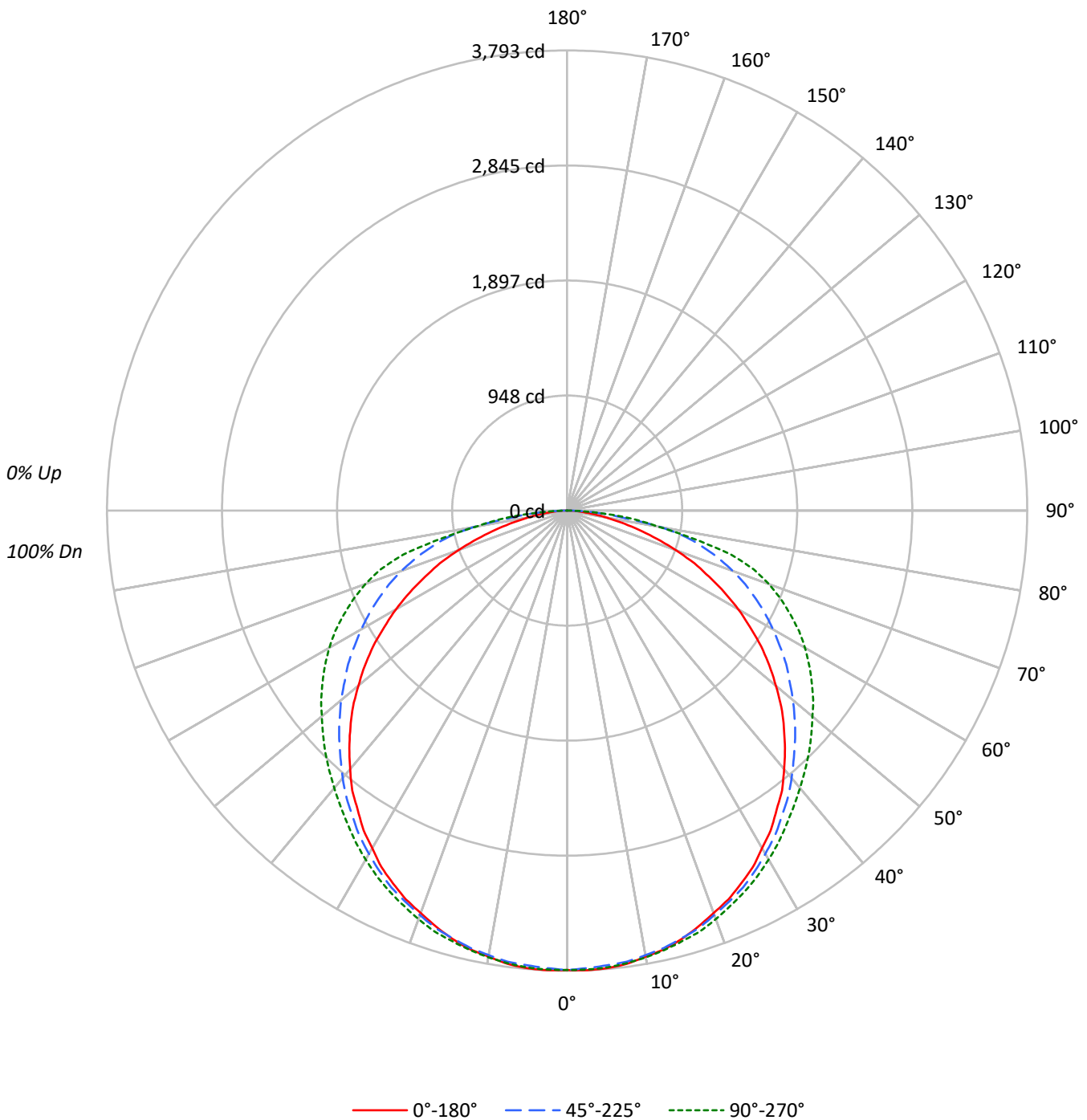
Input Watts (W): 123.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5095	5095	5095
5°	5115	5082	5106
10°	5100	5084	5108
15°	5092	5083	5117
20°	5054	5080	5131
25°	5037	5090	5143
30°	4992	5076	5159
35°	4945	5062	5180
40°	4889	5057	5245
45°	4807	5057	5364
50°	4701	5088	5526
55°	4582	5170	5773
60°	4388	5272	6092
65°	4107	5457	6465
70°	3736	5710	6955
75°	3167	6024	7266
80°	2499	6062	5877
85°	1845	4610	5164



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	359.2	3.0
10°-20°	1033.8	8.6
20°-30°	1580.9	13.1
30°-40°	1932.6	16.0
40°-50°	2059.8	17.1
50°-60°	1969.4	16.4
60°-70°	1668.4	13.9
70°-80°	1121.3	9.3
80°-90°	316.3	2.6
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
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0°-30°	2973.9	24.7
0°-40°	4906.6	40.7
0°-60°	8935.8	74.2
0°-90°	12041.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12041.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3787	3787	3787	3787	3787	
5°	3787	3781	3763	3781	3781	360
15°	3655	3655	3649	3679	3673	1031
25°	3393	3404	3428	3458	3464	1564
35°	3010	3034	3082	3142	3154	1886
45°	2526	2568	2658	2771	2819	1949
55°	1953	2025	2204	2377	2461	1740
65°	1290	1422	1714	1941	2031	1281
75°	609	830	1159	1356	1398	652
85°	120	245	299	322	334	148
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3786.8	3786.8	3786.8	3786.8	3786.8
2.5°	3792.7	3792.7	3774.8	3786.8	3786.8
5°	3786.8	3780.8	3762.9	3780.8	3780.8
7.5°	3768.9	3762.9	3750.9	3768.9	3762.9
10°	3733.0	3733.0	3721.1	3739.0	3739.0
12.5°	3703.2	3697.2	3691.2	3715.1	3709.1
15°	3655.4	3655.4	3649.4	3679.3	3673.3
17.5°	3595.6	3601.6	3607.6	3631.5	3637.5
20°	3529.9	3541.9	3547.9	3583.7	3583.7
22.5°	3470.2	3476.2	3488.1	3524.0	3524.0
25°	3392.6	3404.5	3428.4	3458.3	3464.2
27.5°	3314.9	3320.9	3350.8	3392.6	3398.5
30°	3213.4	3231.3	3267.1	3314.9	3320.9
32.5°	3123.8	3141.7	3183.5	3231.3	3243.2
35°	3010.3	3034.2	3082.0	3141.7	3153.7
37.5°	2908.8	2926.7	2986.4	3052.1	3070.0
40°	2783.3	2819.2	2878.9	2956.5	2986.4
42.5°	2657.9	2693.7	2765.4	2867.0	2902.8
45°	2526.5	2568.3	2657.9	2771.4	2819.2
47.5°	2395.1	2442.9	2544.4	2675.8	2729.6
50°	2245.8	2305.5	2430.9	2580.3	2640.0
52.5°	2102.4	2174.1	2311.5	2478.7	2556.4
55°	1953.1	2024.8	2204.0	2377.2	2460.8
57.5°	1785.9	1881.4	2078.5	2275.6	2365.2
60°	1630.6	1720.2	1959.1	2174.1	2263.7
62.5°	1463.3	1582.8	1839.6	2066.6	2156.2
65°	1290.1	1421.5	1714.2	1941.2	2030.8
67.5°	1134.8	1278.2	1588.8	1815.7	1905.3
70°	949.7	1128.9	1451.4	1678.4	1768.0
72.5°	776.5	973.6	1308.0	1529.0	1612.7
75°	609.2	830.2	1158.7	1355.8	1397.6
77.5°	453.9	686.9	1003.4	1087.1	1057.2
80°	322.5	549.5	782.4	740.6	758.5
82.5°	209.0	418.1	483.8	549.5	567.4
85°	119.5	244.9	298.6	322.5	334.5
87.5°	53.8	89.6	119.5	119.5	113.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)