

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: P391134

Luminaire Tested: **24CZ2-170VHE-HRP-UNV-L950-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: P391134  
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-L950-CD2-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12781.5 lumens  
Efficiency: N/A  
Efficacy: 103.6 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

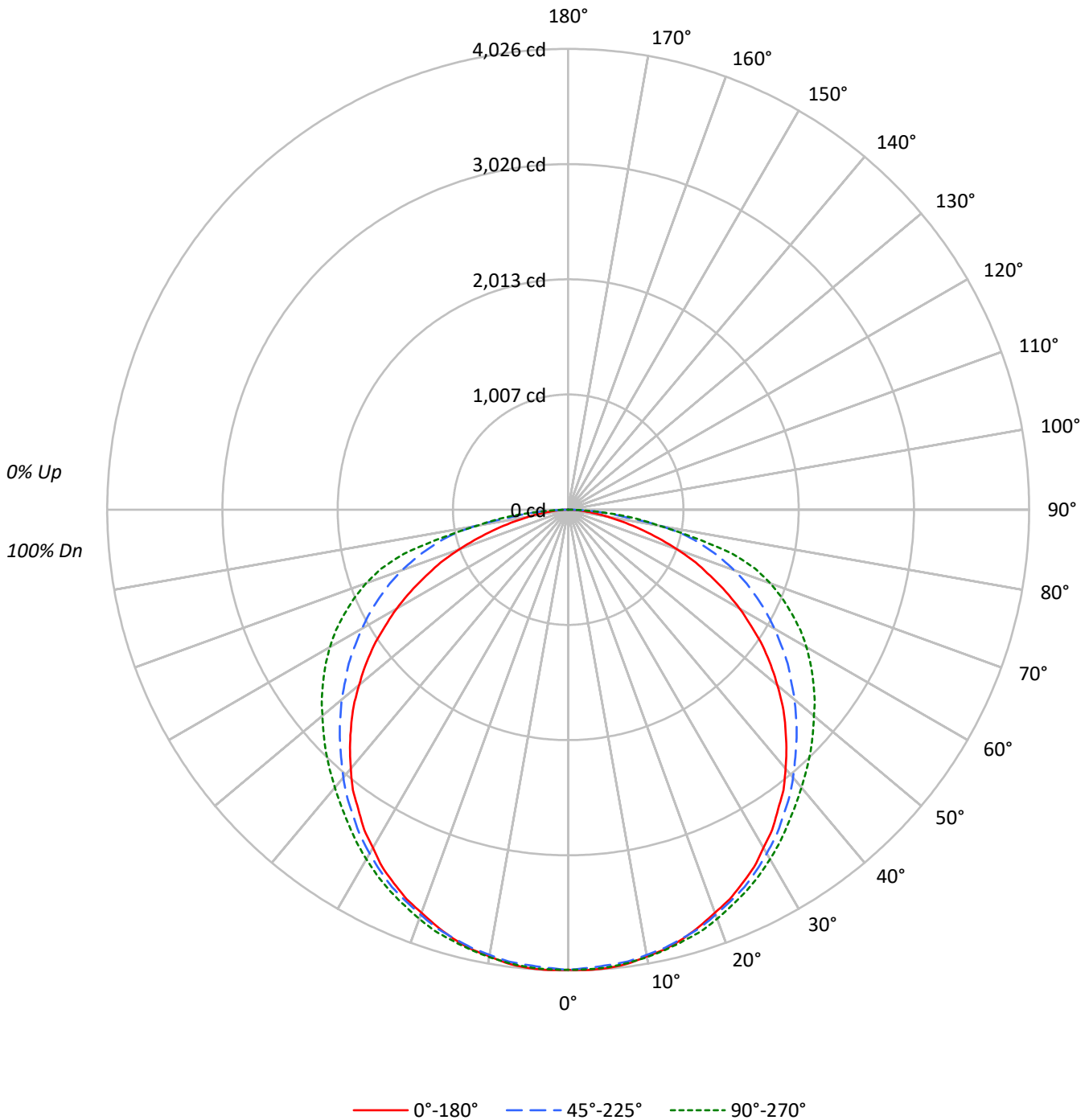
Input Watts (W): 123.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	5408	5408	5408
5°	5429	5395	5420
10°	5414	5396	5422
15°	5405	5396	5431
20°	5365	5392	5447
25°	5346	5402	5459
30°	5299	5388	5476
35°	5248	5373	5498
40°	5189	5367	5568
45°	5103	5368	5694
50°	4990	5401	5866
55°	4863	5488	6127
60°	4658	5596	6466
65°	4360	5793	6862
70°	3965	6061	7382
75°	3362	6394	7712
80°	2652	6435	6239
85°	1958	4894	5480



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	381.3	3.0
10°-20°	1097.3	8.6
20°-30°	1678.0	13.1
30°-40°	2051.4	16.0
40°-50°	2186.3	17.1
50°-60°	2090.4	16.4
60°-70°	1770.9	13.9
70°-80°	1190.2	9.3
80°-90°	335.7	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
0°-30°	3156.6	24.7
0°-40°	5208.0	40.7
0°-60°	9484.8	74.2
0°-90°	12781.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12781.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4019	4019	4019	4019	4019	
5°	4019	4013	3994	4013	4013	382
15°	3880	3880	3874	3905	3899	1094
25°	3601	3614	3639	3671	3677	1660
35°	3195	3221	3271	3335	3347	2002
45°	2682	2726	2821	2942	2992	2068
55°	2073	2149	2339	2523	2612	1846
65°	1369	1509	1820	2060	2156	1360
75°	647	881	1230	1439	1484	692
85°	127	260	317	342	355	157
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4019.4	4019.4	4019.4	4019.4	4019.4
2.5°	4025.8	4025.8	4006.7	4019.4	4019.4
5°	4019.4	4013.1	3994.1	4013.1	4013.1
7.5°	4000.4	3994.1	3981.4	4000.4	3994.1
10°	3962.4	3962.4	3949.7	3968.7	3968.7
12.5°	3930.7	3924.3	3918.0	3943.3	3937.0
15°	3879.9	3879.9	3873.6	3905.3	3899.0
17.5°	3816.5	3822.9	3829.2	3854.6	3860.9
20°	3746.8	3759.5	3765.8	3803.9	3803.9
22.5°	3683.4	3689.7	3702.4	3740.5	3740.5
25°	3601.0	3613.7	3639.0	3670.7	3677.1
27.5°	3518.6	3524.9	3556.6	3601.0	3607.3
30°	3410.8	3429.8	3467.9	3518.6	3524.9
32.5°	3315.7	3334.7	3379.1	3429.8	3442.5
35°	3195.2	3220.6	3271.3	3334.7	3347.4
37.5°	3087.5	3106.5	3169.9	3239.6	3258.6
40°	2954.3	2992.4	3055.8	3138.2	3169.9
42.5°	2821.2	2859.2	2935.3	3043.1	3081.1
45°	2681.7	2726.1	2821.2	2941.7	2992.4
47.5°	2542.2	2593.0	2700.7	2840.2	2897.3
50°	2383.8	2447.2	2580.3	2738.8	2802.2
52.5°	2231.6	2307.7	2453.5	2631.0	2713.4
55°	2073.1	2149.2	2339.4	2523.2	2612.0
57.5°	1895.6	1997.0	2206.2	2415.5	2510.6
60°	1730.8	1825.9	2079.4	2307.7	2402.8
62.5°	1553.2	1680.0	1952.7	2193.6	2288.7
65°	1369.4	1508.9	1819.5	2060.4	2155.5
67.5°	1204.6	1356.7	1686.4	1927.3	2022.4
70°	1008.0	1198.2	1540.6	1781.5	1876.6
72.5°	824.2	1033.4	1388.4	1623.0	1711.7
75°	646.7	881.2	1229.9	1439.1	1483.5
77.5°	481.8	729.1	1065.1	1153.8	1122.1
80°	342.3	583.3	830.5	786.1	805.2
82.5°	221.9	443.8	513.5	583.3	602.3
85°	126.8	259.9	317.0	342.3	355.0
87.5°	57.1	95.1	126.8	126.8	120.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)