

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: P391154

Luminaire Tested: **24CZ2-170VHE-RDP-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: P391154  
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-RDP-UNV-L935-CD2-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND RDP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9678.8 lumens  
Efficiency: N/A  
Efficacy: 78.4 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

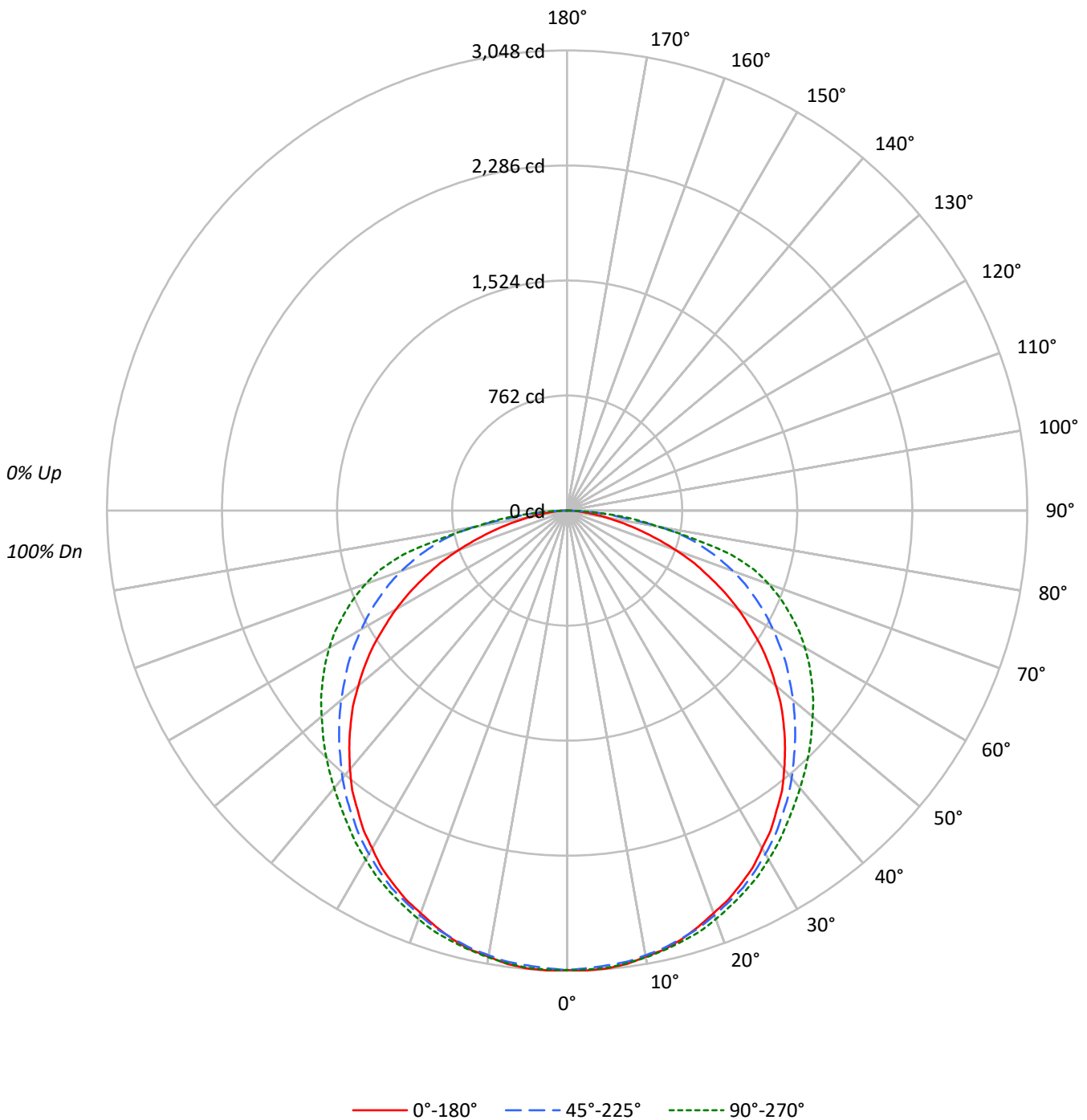
Input Watts (W): 123.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4095	4095	4095
5°	4111	4085	4104
10°	4099	4086	4106
15°	4093	4086	4113
20°	4063	4083	4124
25°	4048	4091	4134
30°	4013	4080	4147
35°	3974	4069	4164
40°	3929	4064	4216
45°	3864	4065	4312
50°	3778	4090	4442
55°	3683	4156	4640
60°	3527	4237	4896
65°	3301	4387	5197
70°	3003	4589	5590
75°	2546	4842	5840
80°	2008	4873	4724
85°	1482	3705	4150



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	288.7	3.0
10°-20°	830.9	8.6
20°-30°	1270.7	13.1
30°-40°	1553.4	16.0
40°-50°	1655.6	17.1
50°-60°	1583.0	16.4
60°-70°	1341.0	13.9
70°-80°	901.2	9.3
80°-90°	254.2	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°	2390.4	24.7
0°-40°	3943.8	40.7
0°-60°	7182.4	74.2
0°-90°	9678.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9678.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3044	3044	3044	3044	3044	
5°	3044	3039	3024	3039	3039	289
15°	2938	2938	2933	2957	2952	828
25°	2727	2736	2756	2780	2784	1257
35°	2420	2439	2477	2525	2535	1516
45°	2031	2064	2136	2228	2266	1566
55°	1570	1628	1772	1911	1978	1398
65°	1037	1143	1378	1560	1632	1029
75°	490	667	931	1090	1123	524
85°	96	197	240	259	269	119
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3043.7	3043.7	3043.7	3043.7	3043.7
2.5°	3048.5	3048.5	3034.1	3043.7	3043.7
5°	3043.7	3038.9	3024.5	3038.9	3038.9
7.5°	3029.3	3024.5	3014.9	3029.3	3024.5
10°	3000.5	3000.5	2990.9	3005.3	3005.3
12.5°	2976.5	2971.7	2966.9	2986.1	2981.3
15°	2938.1	2938.1	2933.3	2957.3	2952.5
17.5°	2890.1	2894.9	2899.7	2918.9	2923.7
20°	2837.3	2846.9	2851.7	2880.5	2880.5
22.5°	2789.3	2794.1	2803.7	2832.5	2832.5
25°	2726.9	2736.5	2755.7	2779.7	2784.5
27.5°	2664.4	2669.2	2693.2	2726.9	2731.7
30°	2582.8	2597.2	2626.0	2664.4	2669.2
32.5°	2510.8	2525.2	2558.8	2597.2	2606.8
35°	2419.6	2438.8	2477.2	2525.2	2534.8
37.5°	2338.0	2352.4	2400.4	2453.2	2467.6
40°	2237.2	2266.0	2314.0	2376.4	2400.4
42.5°	2136.4	2165.2	2222.8	2304.4	2333.2
45°	2030.7	2064.3	2136.4	2227.6	2266.0
47.5°	1925.1	1963.5	2045.1	2150.8	2194.0
50°	1805.1	1853.1	1953.9	2073.9	2122.0
52.5°	1689.9	1747.5	1857.9	1992.3	2054.7
55°	1569.9	1627.5	1771.5	1910.7	1977.9
57.5°	1435.4	1512.3	1670.7	1829.1	1901.1
60°	1310.6	1382.6	1574.7	1747.5	1819.5
62.5°	1176.2	1272.2	1478.6	1661.1	1733.1
65°	1037.0	1142.6	1377.8	1560.3	1632.3
67.5°	912.2	1027.4	1277.0	1459.4	1531.5
70°	763.3	907.4	1166.6	1349.0	1421.0
72.5°	624.1	782.5	1051.4	1229.0	1296.2
75°	489.7	667.3	931.4	1089.8	1123.4
77.5°	364.9	552.1	806.5	873.7	849.7
80°	259.2	441.7	628.9	595.3	609.7
82.5°	168.0	336.1	388.9	441.7	456.1
85°	96.0	196.8	240.0	259.2	268.8
87.5°	43.2	72.0	96.0	96.0	91.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)