

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: P389885

Luminaire Tested: **24CZ2-70VHE-S-UNV-L940-CD1-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: P389885  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-70VHE-S-UNV-L940-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6335.9 lumens  
Efficiency: N/A  
Efficacy: 138.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

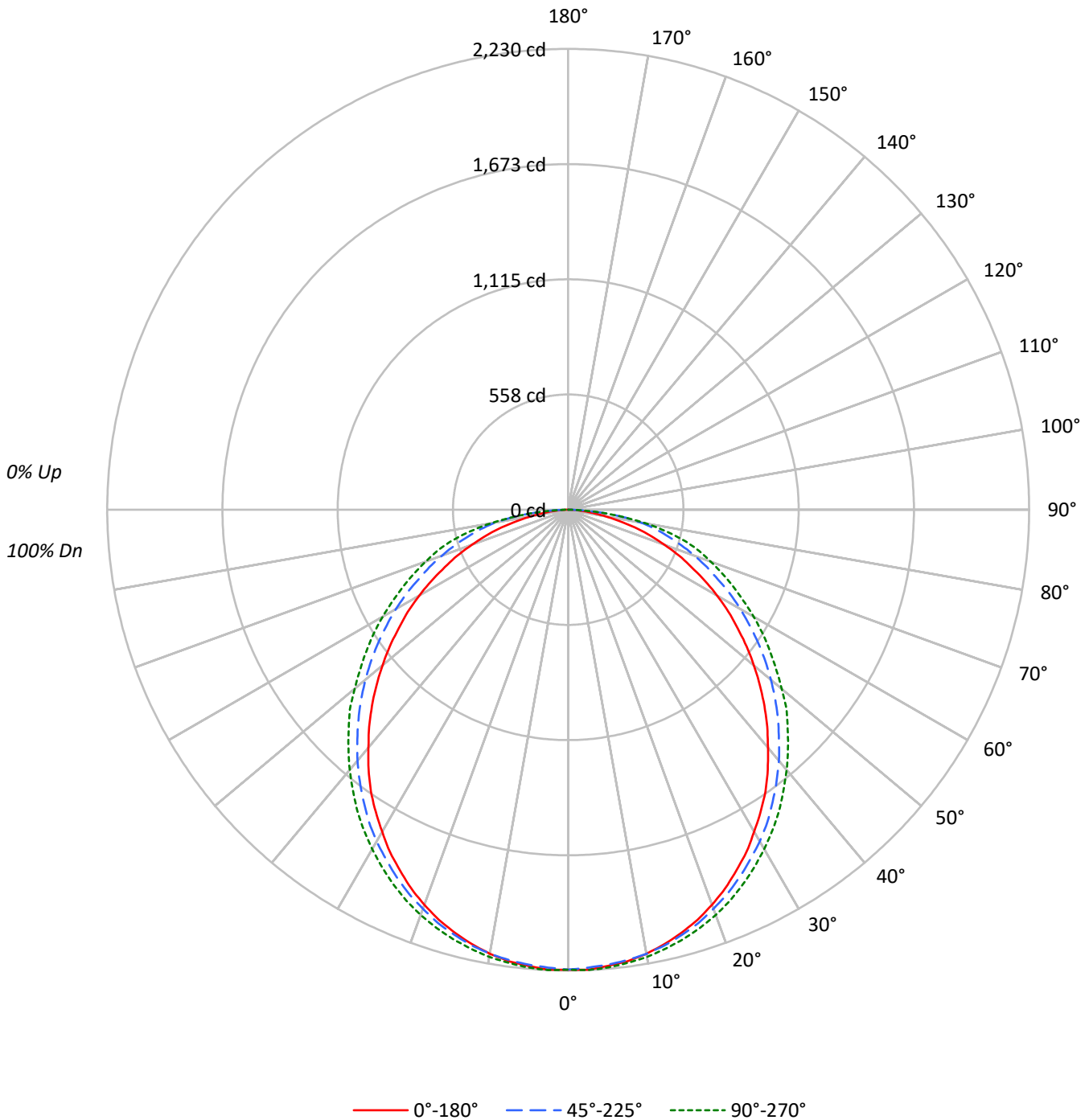
Input Watts (W): 45.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90		93	90	88		89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36	30	26	24

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

	0°	45°	90°
0°	2995	2995	2995
5°	2993	2984	3004
10°	2981	2981	3003
15°	2952	2966	2997
20°	2913	2942	2988
25°	2859	2913	2970
30°	2795	2880	2945
35°	2734	2833	2922
40°	2640	2785	2888
45°	2554	2730	2857
50°	2456	2679	2822
55°	2346	2630	2795
60°	2237	2589	2789
65°	2095	2544	2806
70°	1940	2557	2882
75°	1737	2605	3044
80°	1403	2760	2978
85°	1056	2424	2362



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	210.7	3.3
10°-20°	602.1	9.5
20°-30°	905.1	14.3
30°-40°	1078.1	17.0
40°-50°	1103.4	17.4
50°-60°	993.4	15.7
60°-70°	780.1	12.3
70°-80°	506.3	8.0
80°-90°	156.6	2.5
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°	1717.9	27.1
0°-40°	2796.1	44.1
0°-60°	4892.8	77.2
0°-90°	6335.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6335.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2226	2226	2226	2226	2226	
5°	2216	2220	2210	2222	2224	211
15°	2119	2125	2129	2147	2151	598
25°	1926	1942	1962	1994	2000	887
35°	1664	1684	1725	1767	1779	1038
45°	1342	1374	1435	1489	1501	1035
55°	1000	1044	1121	1179	1191	897
65°	658	708	799	865	882	655
75°	334	398	501	570	586	354
85°	68	127	157	153	153	83
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2225.8	2225.8	2225.8	2225.8	2225.8
2.5°	2227.9	2227.9	2217.8	2227.9	2229.9
5°	2215.8	2219.8	2209.7	2221.8	2223.8
7.5°	2203.7	2203.7	2197.7	2209.7	2211.8
10°	2181.6	2183.6	2181.6	2195.7	2197.7
12.5°	2153.4	2157.4	2159.4	2173.5	2175.5
15°	2119.2	2125.2	2129.2	2147.4	2151.4
17.5°	2080.9	2087.0	2097.0	2117.2	2121.2
20°	2034.7	2042.7	2054.8	2080.9	2087.0
22.5°	1984.3	1992.4	2012.5	2036.7	2046.7
25°	1926.0	1942.1	1962.2	1994.4	2000.4
27.5°	1867.6	1881.7	1907.9	1942.1	1950.1
30°	1799.2	1821.3	1853.5	1887.7	1895.8
32.5°	1732.8	1754.9	1793.2	1829.4	1839.4
35°	1664.4	1684.5	1724.7	1767.0	1779.1
37.5°	1585.9	1612.0	1656.3	1698.6	1710.6
40°	1503.3	1535.5	1585.9	1630.1	1644.2
42.5°	1424.9	1459.1	1509.4	1557.7	1573.8
45°	1342.3	1374.5	1434.9	1489.3	1501.3
47.5°	1257.8	1294.0	1358.4	1412.8	1432.9
50°	1173.3	1211.5	1280.0	1336.3	1348.4
52.5°	1088.8	1129.0	1201.5	1261.8	1267.9
55°	1000.2	1044.5	1121.0	1179.3	1191.4
57.5°	919.7	958.0	1040.5	1100.8	1114.9
60°	831.2	873.4	962.0	1018.3	1036.4
62.5°	746.6	790.9	883.5	939.8	955.9
65°	658.1	708.4	799.0	865.4	881.5
67.5°	581.6	629.9	726.5	790.9	807.0
70°	493.1	547.4	650.0	716.5	732.6
72.5°	416.6	472.9	575.6	640.0	664.1
75°	334.1	398.5	501.1	569.5	585.6
77.5°	253.6	328.0	432.7	485.0	485.0
80°	181.1	259.6	356.2	380.4	384.4
82.5°	118.7	195.2	263.6	261.6	261.6
85°	68.4	126.8	157.0	153.0	153.0
87.5°	26.2	52.3	56.4	56.4	54.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)