

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: P389877

Luminaire Tested: **24CZ2-70VHE-S-UNV-L930-CD1-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: P389877  
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-L930-CD1-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5970.9 lumens  
Efficiency: N/A  
Efficacy: 130.7 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

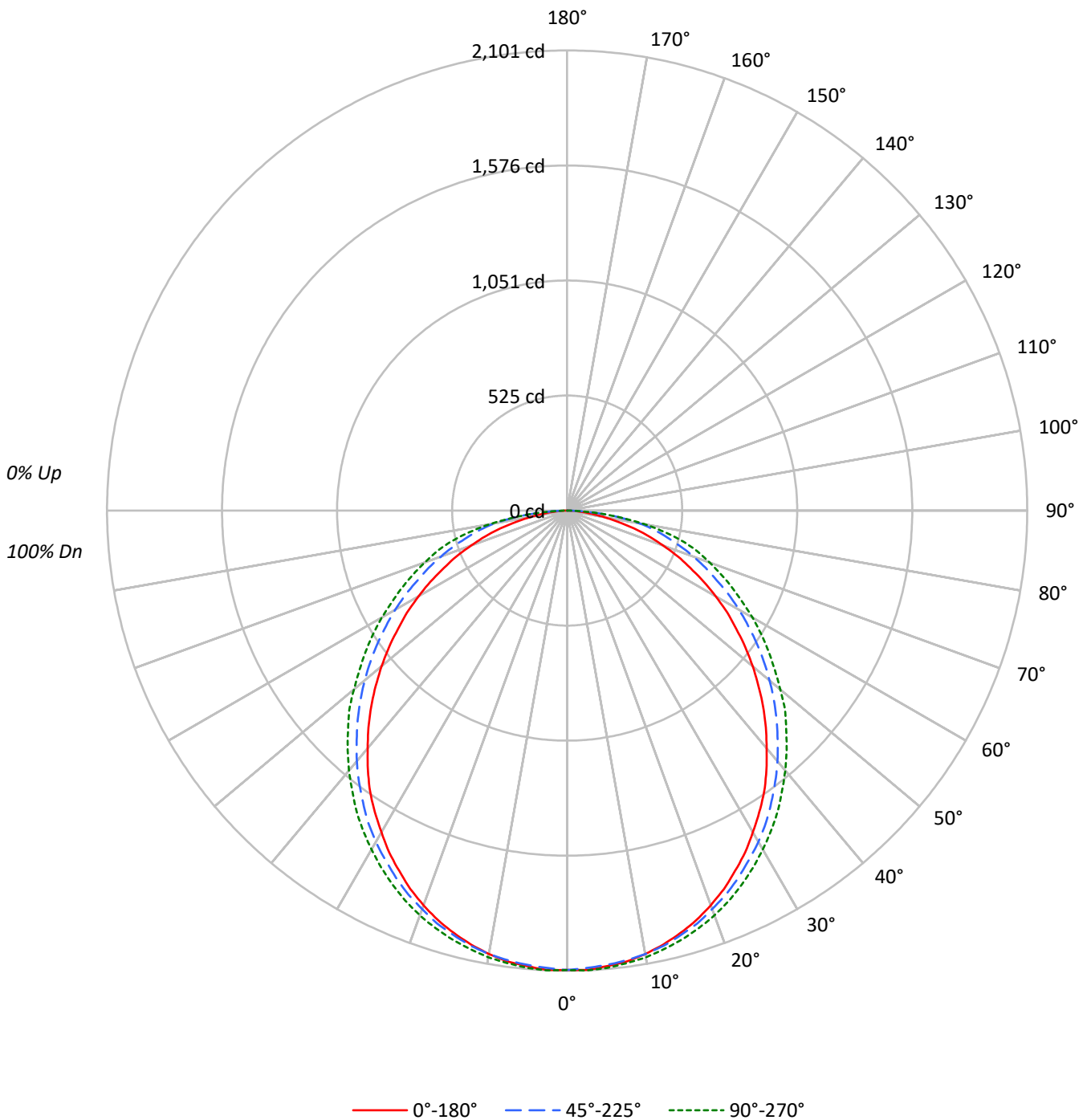
Input Watts (W): 45.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83					83			
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69					69			
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58					58			
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49					49			
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42					42			
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37					37			
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33					33			
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29					29			
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26					26			
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24					24			

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

	0°	45°	90°
0°	2822	2822	2822
5°	2820	2813	2831
10°	2809	2809	2830
15°	2782	2795	2824
20°	2745	2773	2816
25°	2695	2745	2799
30°	2634	2714	2776
35°	2576	2670	2754
40°	2488	2625	2722
45°	2407	2573	2692
50°	2314	2525	2660
55°	2211	2478	2634
60°	2108	2440	2628
65°	1975	2397	2645
70°	1828	2410	2716
75°	1637	2455	2869
80°	1323	2601	2806
85°	996	2283	2225



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	198.6	3.3
10°-20°	567.4	9.5
20°-30°	853.0	14.3
30°-40°	1016.0	17.0
40°-50°	1039.8	17.4
50°-60°	936.2	15.7
60°-70°	735.2	12.3
70°-80°	477.2	8.0
80°-90°	147.6	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°	1619.0	27.1
0°-40°	2635.0	44.1
0°-60°	4611.0	77.2
0°-90°	5970.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5970.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2098	2098	2098	2098	2098	
5°	2088	2092	2082	2094	2096	198
15°	1997	2003	2007	2024	2027	563
25°	1815	1830	1849	1880	1885	836
35°	1568	1587	1625	1665	1677	978
45°	1265	1295	1352	1404	1415	975
55°	943	984	1056	1111	1123	845
65°	620	668	753	816	831	617
75°	315	376	472	537	552	333
85°	64	120	148	144	144	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2097.6	2097.6	2097.6	2097.6	2097.6
2.5°	2099.5	2099.5	2090.0	2099.5	2101.4
5°	2088.1	2091.9	2082.4	2093.8	2095.7
7.5°	2076.8	2076.8	2071.1	2082.4	2084.3
10°	2055.9	2057.8	2055.9	2069.2	2071.1
12.5°	2029.3	2033.1	2035.0	2048.3	2050.2
15°	1997.1	2002.8	2006.6	2023.6	2027.4
17.5°	1961.1	1966.8	1976.2	1995.2	1999.0
20°	1917.4	1925.0	1936.4	1961.1	1966.8
22.5°	1870.0	1877.6	1896.6	1919.3	1928.8
25°	1815.0	1830.2	1849.2	1879.5	1885.2
27.5°	1760.0	1773.3	1798.0	1830.2	1837.8
30°	1695.5	1716.4	1746.7	1779.0	1786.6
32.5°	1633.0	1653.8	1689.9	1724.0	1733.5
35°	1568.5	1587.4	1625.4	1665.2	1676.6
37.5°	1494.5	1519.2	1560.9	1600.7	1612.1
40°	1416.7	1447.1	1494.5	1536.2	1549.5
42.5°	1342.8	1375.0	1422.4	1468.0	1483.1
45°	1265.0	1295.4	1352.3	1403.5	1414.8
47.5°	1185.4	1219.5	1280.2	1331.4	1350.4
50°	1105.7	1141.7	1206.2	1259.3	1270.7
52.5°	1026.0	1064.0	1132.3	1189.2	1194.8
55°	942.6	984.3	1056.4	1111.4	1122.8
57.5°	866.7	902.8	980.5	1037.4	1050.7
60°	783.3	823.1	906.6	959.7	976.7
62.5°	703.6	745.4	832.6	885.7	900.9
65°	620.2	667.6	752.9	815.5	830.7
67.5°	548.1	593.6	684.7	745.4	760.5
70°	464.7	515.9	612.6	675.2	690.4
72.5°	392.6	445.7	542.4	603.1	625.9
75°	314.8	375.5	472.2	536.7	551.9
77.5°	239.0	309.1	407.8	457.1	457.1
80°	170.7	244.7	335.7	358.5	362.2
82.5°	111.9	184.0	248.5	246.6	246.6
85°	64.5	119.5	147.9	144.1	144.1
87.5°	24.7	49.3	53.1	53.1	51.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)