

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: P389879

Luminaire Tested: **24CZ2-70VHE-S-UNV-L930-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: P389879  
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-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: 6119.7 lumens  
Efficiency: N/A  
Efficacy: 133.9 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

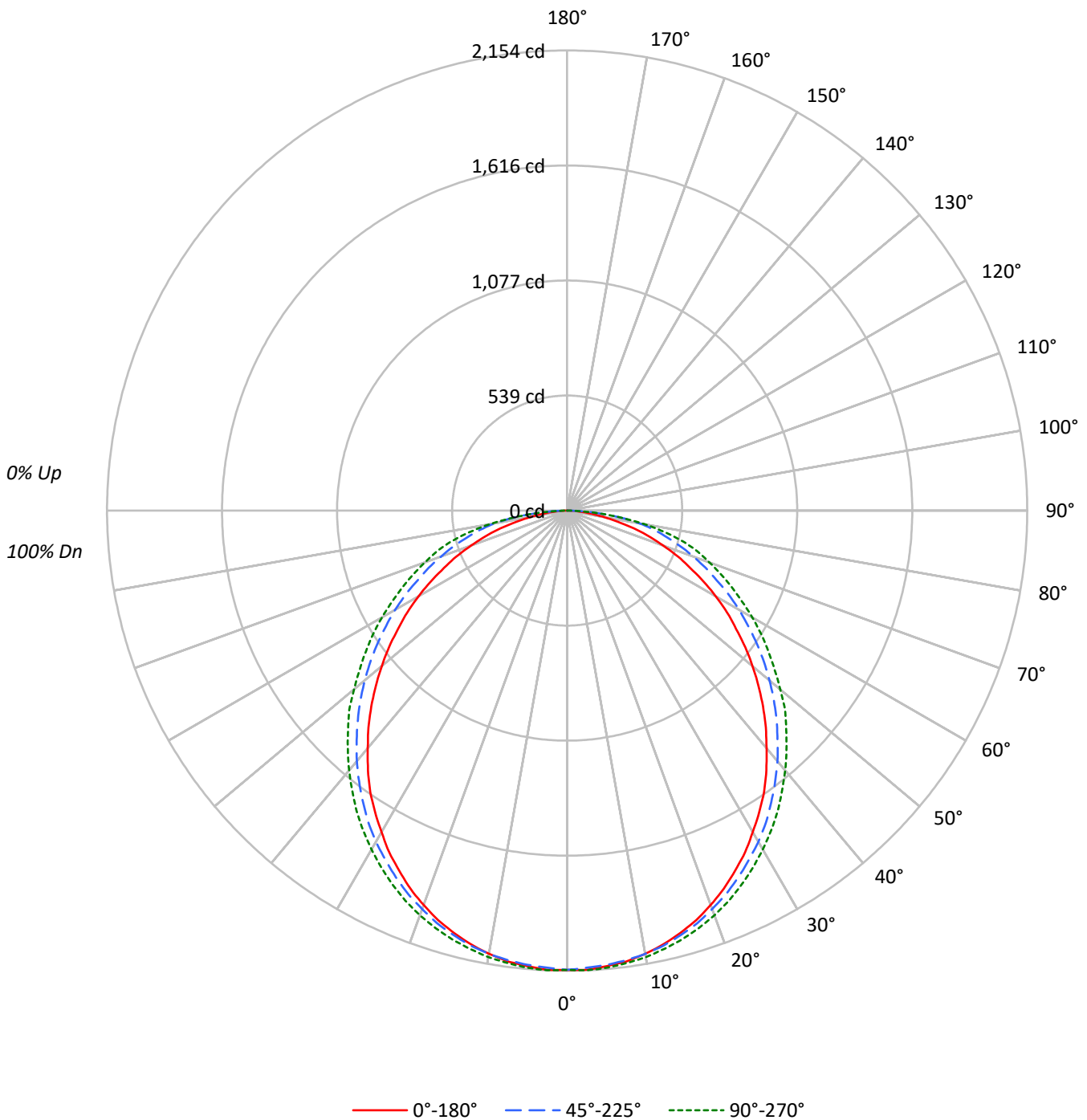
Input Watts (W): 45.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2893	2893	2893
5°	2891	2883	2901
10°	2879	2879	2900
15°	2851	2865	2895
20°	2814	2842	2886
25°	2762	2814	2869
30°	2700	2781	2845
35°	2641	2736	2823
40°	2550	2690	2789
45°	2467	2637	2759
50°	2372	2588	2726
55°	2266	2540	2700
60°	2160	2500	2694
65°	2024	2457	2711
70°	1873	2470	2784
75°	1678	2516	2941
80°	1355	2666	2877
85°	1020	2340	2280



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	203.5	3.3
10°-20°	581.6	9.5
20°-30°	874.2	14.3
30°-40°	1041.3	17.0
40°-50°	1065.8	17.4
50°-60°	959.5	15.7
60°-70°	753.5	12.3
70°-80°	489.0	8.0
80°-90°	151.2	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°	1659.3	27.1
0°-40°	2700.7	44.1
0°-60°	4725.9	77.2
0°-90°	6119.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6119.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2150	2150	2150	2150	2150	
5°	2140	2144	2134	2146	2148	203
15°	2047	2053	2057	2074	2078	577
25°	1860	1876	1895	1926	1932	857
35°	1608	1627	1666	1707	1718	1003
45°	1296	1328	1386	1438	1450	1000
55°	966	1009	1083	1139	1151	866
65°	636	684	772	836	851	633
75°	323	385	484	550	566	341
85°	66	122	152	148	148	80
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2149.9	2149.9	2149.9	2149.9	2149.9
2.5°	2151.8	2151.8	2142.1	2151.8	2153.8
5°	2140.2	2144.1	2134.3	2146.0	2147.9
7.5°	2128.5	2128.5	2122.7	2134.3	2136.3
10°	2107.1	2109.1	2107.1	2120.7	2122.7
12.5°	2079.9	2083.8	2085.7	2099.4	2101.3
15°	2046.9	2052.7	2056.6	2074.1	2078.0
17.5°	2009.9	2015.8	2025.5	2044.9	2048.8
20°	1965.2	1973.0	1984.7	2009.9	2015.8
22.5°	1916.6	1924.4	1943.8	1967.2	1976.9
25°	1860.3	1875.8	1895.2	1926.3	1932.2
27.5°	1803.9	1817.5	1842.8	1875.8	1883.6
30°	1737.8	1759.2	1790.3	1823.3	1831.1
32.5°	1673.6	1695.0	1732.0	1767.0	1776.7
35°	1607.6	1627.0	1665.9	1706.7	1718.4
37.5°	1531.7	1557.0	1599.8	1640.6	1652.3
40°	1452.1	1483.2	1531.7	1574.5	1588.1
42.5°	1376.2	1409.3	1457.9	1504.5	1520.1
45°	1296.5	1327.6	1386.0	1438.4	1450.1
47.5°	1214.9	1249.9	1312.1	1364.6	1384.0
50°	1133.3	1170.2	1236.3	1290.7	1302.4
52.5°	1051.6	1090.5	1160.5	1218.8	1224.6
55°	966.1	1008.9	1082.7	1139.1	1150.8
57.5°	888.3	925.3	1005.0	1063.3	1076.9
60°	802.8	843.6	929.2	983.6	1001.1
62.5°	721.2	763.9	853.3	907.8	923.3
65°	635.6	684.2	771.7	835.9	851.4
67.5°	561.8	608.4	701.7	763.9	779.5
70°	476.2	528.7	627.9	692.0	707.6
72.5°	402.4	456.8	555.9	618.1	641.5
75°	322.7	384.9	484.0	550.1	565.7
77.5°	244.9	316.8	417.9	468.5	468.5
80°	174.9	250.8	344.1	367.4	371.3
82.5°	114.7	188.6	254.6	252.7	252.7
85°	66.1	122.5	151.6	147.7	147.7
87.5°	25.3	50.5	54.4	54.4	52.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)