

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: P389473

Luminaire Tested: **22CZ2-90VHE-S-UNV-L935-CD1-SWPD1-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: P389473  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-90VHE-S-UNV-L935-CD1-SWPD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8005.9 lumens  
Efficiency: N/A  
Efficacy: 117.4 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

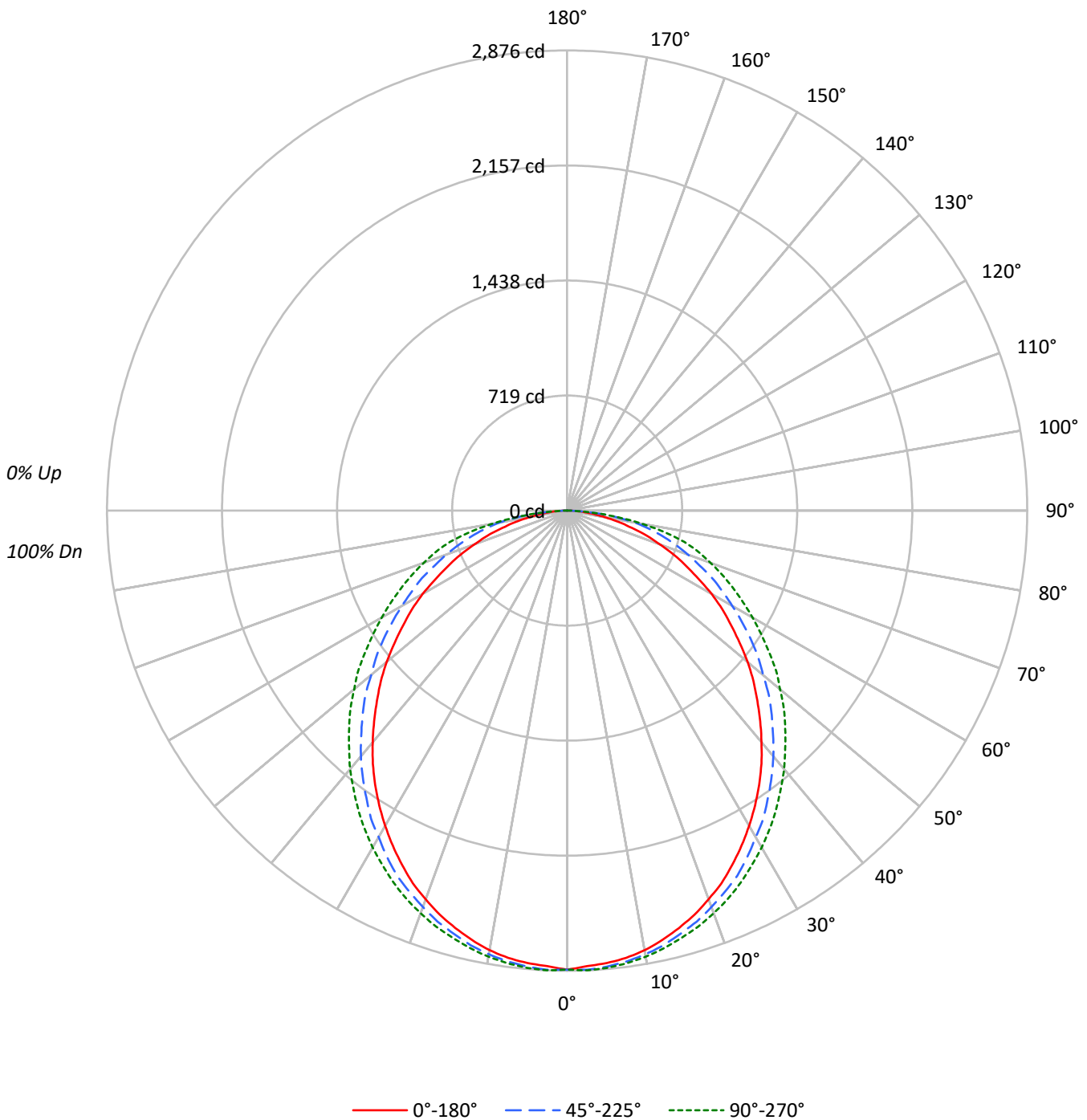
Input Watts (W): 68.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

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

	0°	45°	90°
0°	7720	7720	7720
5°	7669	7729	7749
10°	7624	7696	7737
15°	7524	7628	7701
20°	7402	7552	7670
25°	7253	7475	7619
30°	7068	7324	7556
35°	6872	7191	7485
40°	6640	7046	7414
45°	6397	6880	7335
50°	6161	6693	7271
55°	5871	6572	7220
60°	5609	6413	7197
65°	5233	6374	7278
70°	4820	6319	7494
75°	4350	6408	7884
80°	3763	6599	7409
85°	3115	5536	5536



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	271.3	3.4
10°-20°	772.1	9.6
20°-30°	1155.2	14.4
30°-40°	1368.0	17.1
40°-50°	1394.2	17.4
50°-60°	1249.6	15.6
60°-70°	978.3	12.2
70°-80°	630.8	7.9
80°-90°	186.4	2.3
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°	2198.5	27.5
0°-40°	3566.6	44.5
0°-60°	6210.4	77.6
0°-90°	8005.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8005.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2869	2869	2869	2869	2869	
5°	2839	2846	2861	2865	2869	270
15°	2701	2716	2738	2760	2764	761
25°	2443	2465	2518	2551	2566	1125
35°	2092	2118	2189	2256	2279	1307
45°	1681	1718	1808	1901	1928	1298
55°	1251	1292	1401	1498	1539	1122
65°	822	870	1001	1098	1143	816
75°	418	482	616	721	758	449
85°	101	138	179	179	179	118
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2868.8	2868.8	2868.8	2868.8	2868.8
2.5°	2850.1	2857.6	2872.5	2876.2	2876.2
5°	2838.9	2846.4	2861.3	2865.0	2868.8
7.5°	2820.2	2823.9	2842.6	2850.1	2853.8
10°	2790.3	2797.8	2816.5	2827.7	2831.4
12.5°	2749.2	2760.4	2782.9	2797.8	2801.5
15°	2700.7	2715.6	2738.0	2760.4	2764.2
17.5°	2648.4	2663.3	2693.2	2719.3	2726.8
20°	2584.9	2603.6	2637.2	2667.1	2678.3
22.5°	2521.4	2536.3	2577.4	2614.8	2626.0
25°	2442.9	2465.3	2517.6	2551.3	2566.2
27.5°	2360.8	2386.9	2439.2	2484.0	2499.0
30°	2274.8	2301.0	2357.0	2413.0	2431.7
32.5°	2185.2	2215.1	2282.3	2338.3	2357.0
35°	2091.8	2118.0	2188.9	2256.2	2278.6
37.5°	1994.7	2017.1	2099.3	2170.2	2192.7
40°	1890.1	1920.0	2005.9	2088.1	2110.5
42.5°	1785.5	1819.1	1905.0	1994.7	2017.1
45°	1680.9	1718.3	1807.9	1901.3	1927.5
47.5°	1580.1	1609.9	1710.8	1800.4	1837.8
50°	1471.7	1501.6	1598.7	1699.6	1736.9
52.5°	1359.7	1400.8	1505.4	1602.5	1647.3
55°	1251.3	1292.4	1400.8	1497.9	1539.0
57.5°	1150.5	1184.1	1296.2	1397.0	1438.1
60°	1042.2	1072.1	1191.6	1299.9	1337.3
62.5°	926.4	971.2	1094.5	1195.3	1240.1
65°	821.8	870.3	1001.1	1098.2	1143.0
67.5°	724.7	769.5	896.5	1001.1	1049.6
70°	612.6	672.4	803.1	907.7	952.5
72.5°	523.0	575.2	709.7	814.3	862.9
75°	418.4	481.9	616.3	720.9	758.3
77.5°	332.4	395.9	523.0	605.1	623.8
80°	242.8	306.3	425.8	466.9	478.1
82.5°	164.4	224.1	306.3	317.5	321.2
85°	100.9	138.2	179.3	179.3	179.3
87.5°	48.6	56.0	63.5	59.8	59.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)