

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: P389975

Luminaire Tested: **24CZ2-90VHE-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: P389975  
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: 24CZ2-90VHE-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: 7848.3 lumens  
Efficiency: N/A  
Efficacy: 127.0 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

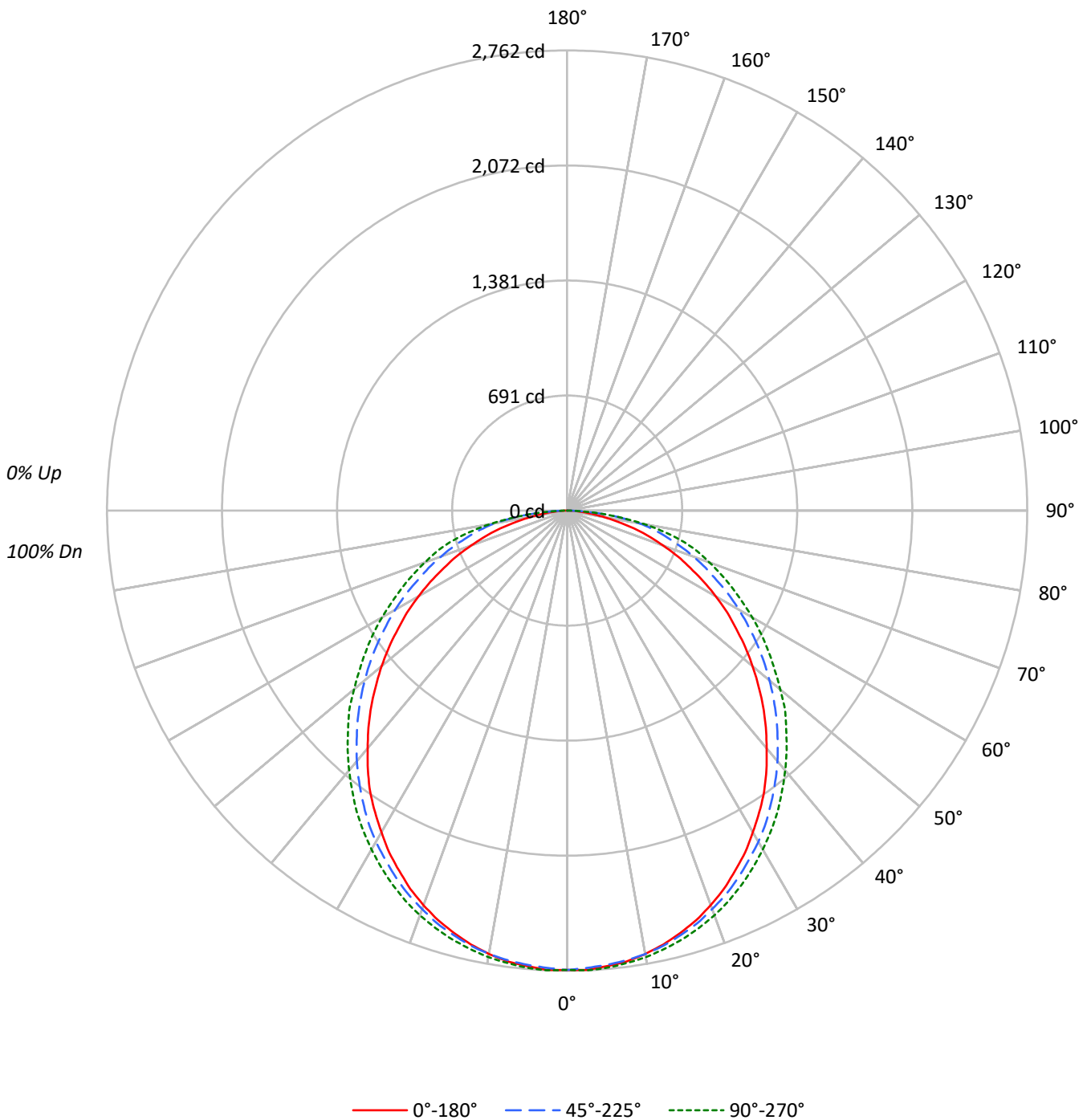
Input Watts (W): 61.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3710	3710	3710
5°	3707	3697	3721
10°	3692	3692	3719
15°	3657	3674	3712
20°	3609	3644	3701
25°	3542	3608	3679
30°	3463	3567	3648
35°	3386	3509	3620
40°	3271	3450	3577
45°	3164	3382	3539
50°	3042	3319	3496
55°	2906	3257	3462
60°	2771	3207	3455
65°	2595	3151	3476
70°	2403	3168	3570
75°	2151	3227	3771
80°	1739	3419	3689
85°	1309	3001	2925



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	261.0	3.3
10°-20°	745.8	9.5
20°-30°	1121.2	14.3
30°-40°	1335.5	17.0
40°-50°	1366.8	17.4
50°-60°	1230.5	15.7
60°-70°	966.4	12.3
70°-80°	627.2	8.0
80°-90°	194.0	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°	2128.0	27.1
0°-40°	3463.5	44.1
0°-60°	6060.8	77.2
0°-90°	7848.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7848.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2757	2757	2757	2757	2757	
5°	2745	2750	2737	2752	2755	261
15°	2625	2632	2638	2660	2665	740
25°	2386	2406	2431	2470	2478	1099
35°	2062	2087	2136	2189	2204	1286
45°	1663	1703	1777	1845	1860	1282
55°	1239	1294	1389	1461	1476	1111
65°	815	878	990	1072	1092	812
75°	414	494	621	706	725	438
85°	85	157	194	190	190	102
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2757.2	2757.2	2757.2	2757.2	2757.2
2.5°	2759.7	2759.7	2747.2	2759.7	2762.1
5°	2744.7	2749.7	2737.2	2752.2	2754.7
7.5°	2729.7	2729.7	2722.3	2737.2	2739.7
10°	2702.3	2704.8	2702.3	2719.8	2722.3
12.5°	2667.4	2672.4	2674.9	2692.3	2694.8
15°	2625.0	2632.5	2637.5	2659.9	2664.9
17.5°	2577.7	2585.1	2597.6	2622.5	2627.5
20°	2520.3	2530.3	2545.3	2577.7	2585.1
22.5°	2458.0	2468.0	2492.9	2522.8	2535.3
25°	2385.7	2405.7	2430.6	2470.5	2478.0
27.5°	2313.4	2330.9	2363.3	2405.7	2415.6
30°	2228.7	2256.1	2296.0	2338.4	2348.3
32.5°	2146.4	2173.8	2221.2	2266.1	2278.5
35°	2061.6	2086.6	2136.4	2188.8	2203.7
37.5°	1964.4	1996.8	2051.7	2104.0	2119.0
40°	1862.2	1902.1	1964.4	2019.3	2036.7
42.5°	1765.0	1807.4	1869.7	1929.5	1949.5
45°	1662.8	1702.7	1777.4	1844.8	1859.7
47.5°	1558.1	1602.9	1682.7	1750.0	1775.0
50°	1453.4	1500.7	1585.5	1655.3	1670.3
52.5°	1348.7	1398.5	1488.3	1563.1	1570.5
55°	1239.0	1293.8	1388.6	1460.8	1475.8
57.5°	1139.3	1186.6	1288.8	1363.6	1381.1
60°	1029.6	1081.9	1191.6	1261.4	1283.8
62.5°	924.9	979.7	1094.4	1164.2	1184.1
65°	815.2	877.5	989.7	1072.0	1091.9
67.5°	720.5	780.3	899.9	979.7	999.7
70°	610.8	678.1	805.2	887.5	907.4
72.5°	516.0	585.8	713.0	792.7	822.7
75°	413.8	493.6	620.7	705.5	725.4
77.5°	314.1	406.3	536.0	600.8	600.8
80°	224.4	321.6	441.2	471.2	476.1
82.5°	147.1	241.8	326.6	324.1	324.1
85°	84.8	157.1	194.4	189.5	189.5
87.5°	32.4	64.8	69.8	69.8	67.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)