

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: P389110

Luminaire Tested: **22CZ2-110VHE-S-UNV-L930-CD2-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: P389110  
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: 22CZ2-110VHE-S-UNV-L930-CD2-SWPD1-U  
Description: 2x2 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: 9473.6 lumens  
Efficiency: N/A  
Efficacy: 108.0 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

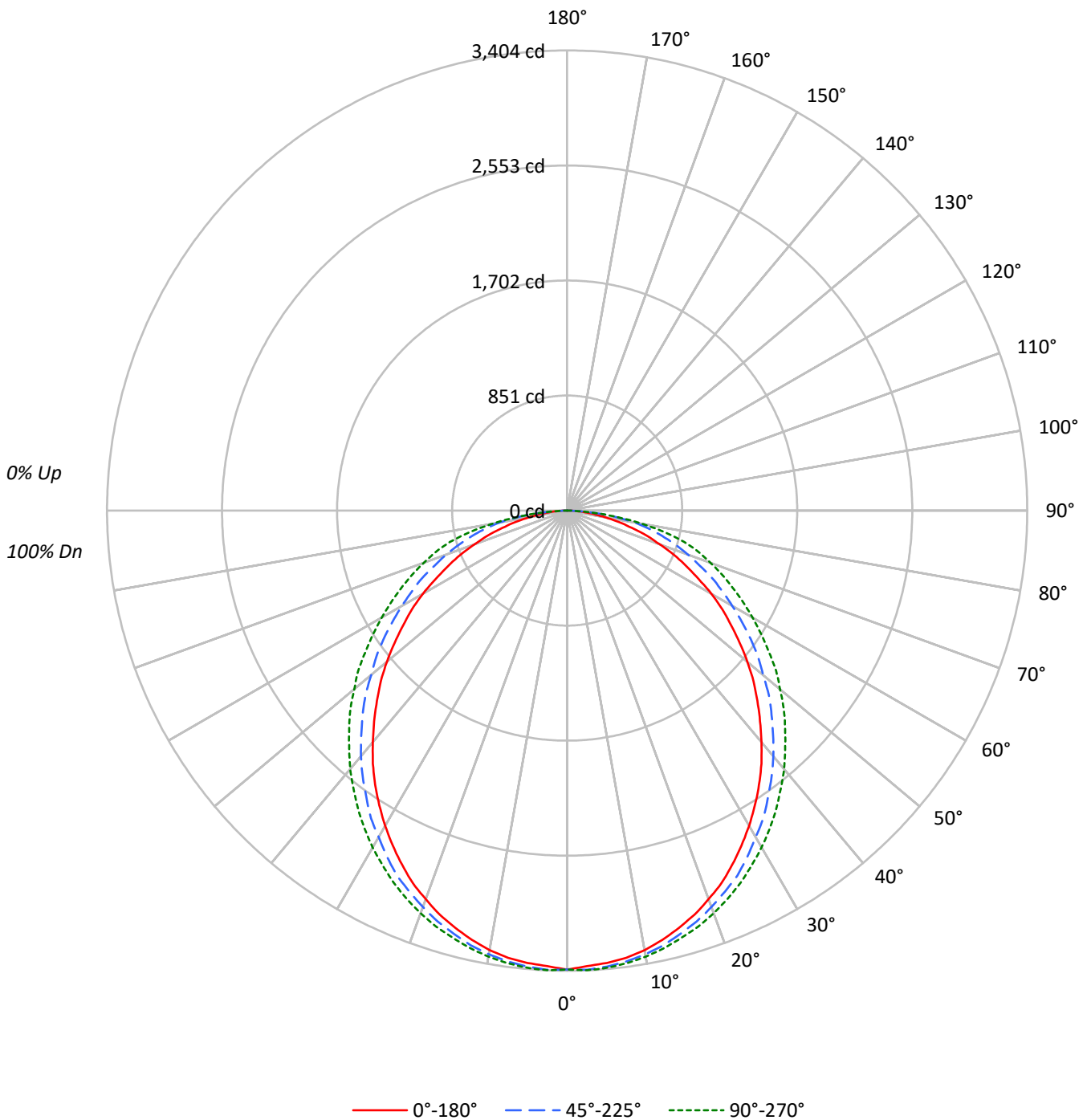
Input Watts (W): 87.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	45°	90°
0°	9135	9135	9135
5°	9074	9146	9170
10°	9022	9107	9155
15°	8903	9026	9112
20°	8759	8936	9076
25°	8583	8846	9016
30°	8364	8666	8941
35°	8132	8509	8858
40°	7857	8338	8773
45°	7570	8142	8680
50°	7291	7920	8605
55°	6947	7777	8544
60°	6637	7589	8516
65°	6192	7543	8613
70°	5703	7477	8868
75°	5148	7583	9329
80°	4452	7809	8768
85°	3683	6552	6552



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	321.0	3.4
10°-20°	913.6	9.6
20°-30°	1367.0	14.4
30°-40°	1618.8	17.1
40°-50°	1649.8	17.4
50°-60°	1478.7	15.6
60°-70°	1157.7	12.2
70°-80°	746.5	7.9
80°-90°	220.5	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°	2601.6	27.5
0°-40°	4220.4	44.5
0°-60°	7348.9	77.6
0°-90°	9473.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9473.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3395	3395	3395	3395	3395	
5°	3359	3368	3386	3390	3395	319
15°	3196	3214	3240	3266	3271	901
25°	2891	2917	2979	3019	3037	1331
35°	2475	2506	2590	2670	2696	1547
45°	1989	2033	2139	2250	2281	1536
55°	1481	1529	1658	1772	1821	1328
65°	972	1030	1185	1300	1353	966
75°	495	570	729	853	897	531
85°	119	164	212	212	212	140
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3394.7	3394.7	3394.7	3394.7	3394.7
2.5°	3372.6	3381.4	3399.1	3403.5	3403.5
5°	3359.3	3368.2	3385.8	3390.3	3394.7
7.5°	3337.2	3341.6	3363.7	3372.6	3377.0
10°	3301.9	3310.7	3332.8	3346.1	3350.5
12.5°	3253.2	3266.5	3293.0	3310.7	3315.1
15°	3195.8	3213.5	3240.0	3266.5	3270.9
17.5°	3133.9	3151.6	3186.9	3217.9	3226.7
20°	3058.8	3080.9	3120.6	3156.0	3169.3
22.5°	2983.6	3001.3	3049.9	3094.1	3107.4
25°	2890.8	2917.3	2979.2	3019.0	3036.7
27.5°	2793.5	2824.5	2886.4	2939.4	2957.1
30°	2691.9	2722.8	2789.1	2855.4	2877.5
32.5°	2585.8	2621.2	2700.7	2767.0	2789.1
35°	2475.3	2506.2	2590.2	2669.8	2696.3
37.5°	2360.4	2386.9	2484.1	2568.1	2594.6
40°	2236.6	2272.0	2373.6	2470.9	2497.4
42.5°	2112.8	2152.6	2254.3	2360.4	2386.9
45°	1989.1	2033.3	2139.4	2249.9	2280.8
47.5°	1869.7	1905.1	2024.4	2130.5	2174.7
50°	1741.5	1776.9	1891.8	2011.2	2055.4
52.5°	1608.9	1657.6	1781.3	1896.3	1949.3
55°	1480.8	1529.4	1657.6	1772.5	1821.1
57.5°	1361.4	1401.2	1533.8	1653.1	1701.8
60°	1233.2	1268.6	1410.0	1538.2	1582.4
62.5°	1096.2	1149.2	1295.1	1414.5	1467.5
65°	972.4	1029.9	1184.6	1299.5	1352.6
67.5°	857.5	910.6	1060.8	1184.6	1242.1
70°	724.9	795.6	950.3	1074.1	1127.1
72.5°	618.8	680.7	839.8	963.6	1021.1
75°	495.1	570.2	729.3	853.1	897.3
77.5°	393.4	468.5	618.8	716.1	738.2
80°	287.3	362.5	503.9	552.5	565.8
82.5°	194.5	265.2	362.5	375.7	380.1
85°	119.3	163.5	212.2	212.2	212.2
87.5°	57.5	66.3	75.1	70.7	70.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)