

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: P389566

Luminaire Tested: **24CZ2-120VHE-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: P389566  
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: 24CZ2-120VHE-S-UNV-L930-CD2-SWPD1-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: 10454.8 lumens  
Efficiency: N/A  
Efficacy: 125.1 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

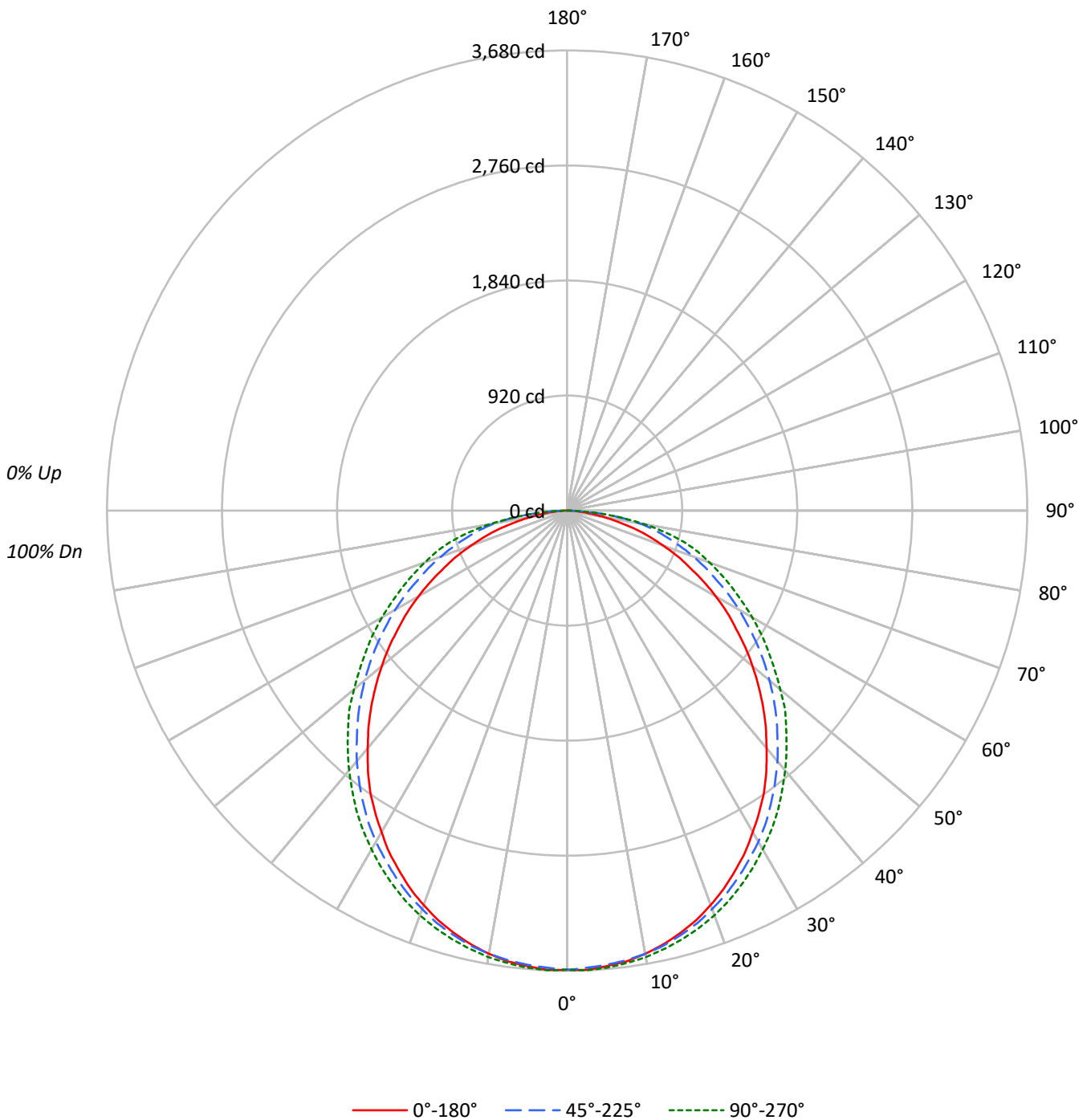
Input Watts (W): 83.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4942	4942	4942
5°	4938	4925	4956
10°	4918	4918	4954
15°	4871	4894	4945
20°	4807	4855	4931
25°	4718	4807	4900
30°	4612	4752	4860
35°	4511	4675	4822
40°	4357	4596	4765
45°	4215	4505	4714
50°	4052	4421	4657
55°	3872	4339	4612
60°	3691	4272	4602
65°	3457	4197	4631
70°	3201	4220	4755
75°	2866	4299	5024
80°	2316	4554	4915
85°	1743	3998	3896



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	347.7	3.3
10°-20°	993.5	9.5
20°-30°	1493.5	14.3
30°-40°	1779.0	17.0
40°-50°	1820.7	17.4
50°-60°	1639.2	15.7
60°-70°	1287.3	12.3
70°-80°	835.5	8.0
80°-90°	258.4	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°	2834.7	27.1
0°-40°	4613.7	44.1
0°-60°	8073.6	77.2
0°-90°	10454.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10454.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3673	3673	3673	3673	3673	
5°	3656	3663	3646	3666	3670	347
15°	3497	3507	3513	3543	3550	986
25°	3178	3205	3238	3291	3301	1464
35°	2746	2780	2846	2916	2936	1713
45°	2215	2268	2368	2457	2477	1708
55°	1650	1724	1850	1946	1966	1480
65°	1086	1169	1318	1428	1454	1081
75°	551	658	827	940	966	583
85°	113	209	259	252	252	136
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3672.8	3672.8	3672.8	3672.8	3672.8
2.5°	3676.2	3676.2	3659.6	3676.2	3679.5
5°	3656.2	3662.9	3646.3	3666.2	3669.5
7.5°	3636.3	3636.3	3626.3	3646.3	3649.6
10°	3599.8	3603.1	3599.8	3623.0	3626.3
12.5°	3553.3	3559.9	3563.3	3586.5	3589.8
15°	3496.8	3506.8	3513.4	3543.3	3550.0
17.5°	3433.7	3443.7	3460.3	3493.5	3500.2
20°	3357.4	3370.6	3390.6	3433.7	3443.7
22.5°	3274.3	3287.6	3320.8	3360.7	3377.3
25°	3178.0	3204.6	3237.8	3290.9	3300.9
27.5°	3081.7	3105.0	3148.1	3204.6	3217.9
30°	2968.8	3005.4	3058.5	3114.9	3128.2
32.5°	2859.2	2895.8	2958.9	3018.6	3035.2
35°	2746.3	2779.5	2846.0	2915.7	2935.6
37.5°	2616.8	2660.0	2733.0	2802.8	2822.7
40°	2480.7	2533.8	2616.8	2689.9	2713.1
42.5°	2351.1	2407.6	2490.6	2570.3	2596.9
45°	2215.0	2268.1	2367.8	2457.4	2477.3
47.5°	2075.5	2135.3	2241.6	2331.2	2364.4
50°	1936.0	1999.1	2112.0	2205.0	2225.0
52.5°	1796.6	1863.0	1982.5	2082.2	2092.1
55°	1650.5	1723.5	1849.7	1946.0	1965.9
57.5°	1517.6	1580.7	1716.9	1816.5	1839.7
60°	1371.5	1441.2	1587.4	1680.3	1710.2
62.5°	1232.0	1305.1	1457.8	1550.8	1577.4
65°	1085.9	1168.9	1318.4	1428.0	1454.5
67.5°	959.7	1039.4	1198.8	1305.1	1331.7
70°	813.6	903.3	1072.6	1182.2	1208.8
72.5°	687.4	780.4	949.8	1056.0	1095.9
75°	551.3	657.5	826.9	939.8	966.4
77.5°	418.4	541.3	714.0	800.3	800.3
80°	298.9	428.4	587.8	627.6	634.3
82.5°	195.9	322.1	435.0	431.7	431.7
85°	112.9	209.2	259.0	252.4	252.4
87.5°	43.2	86.3	93.0	93.0	89.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)