

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: P388703

Luminaire Tested: **24CZ2-170VHE-UNV-L930-CD2-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: P388703  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-170VHE-UNV-L930-CD2-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

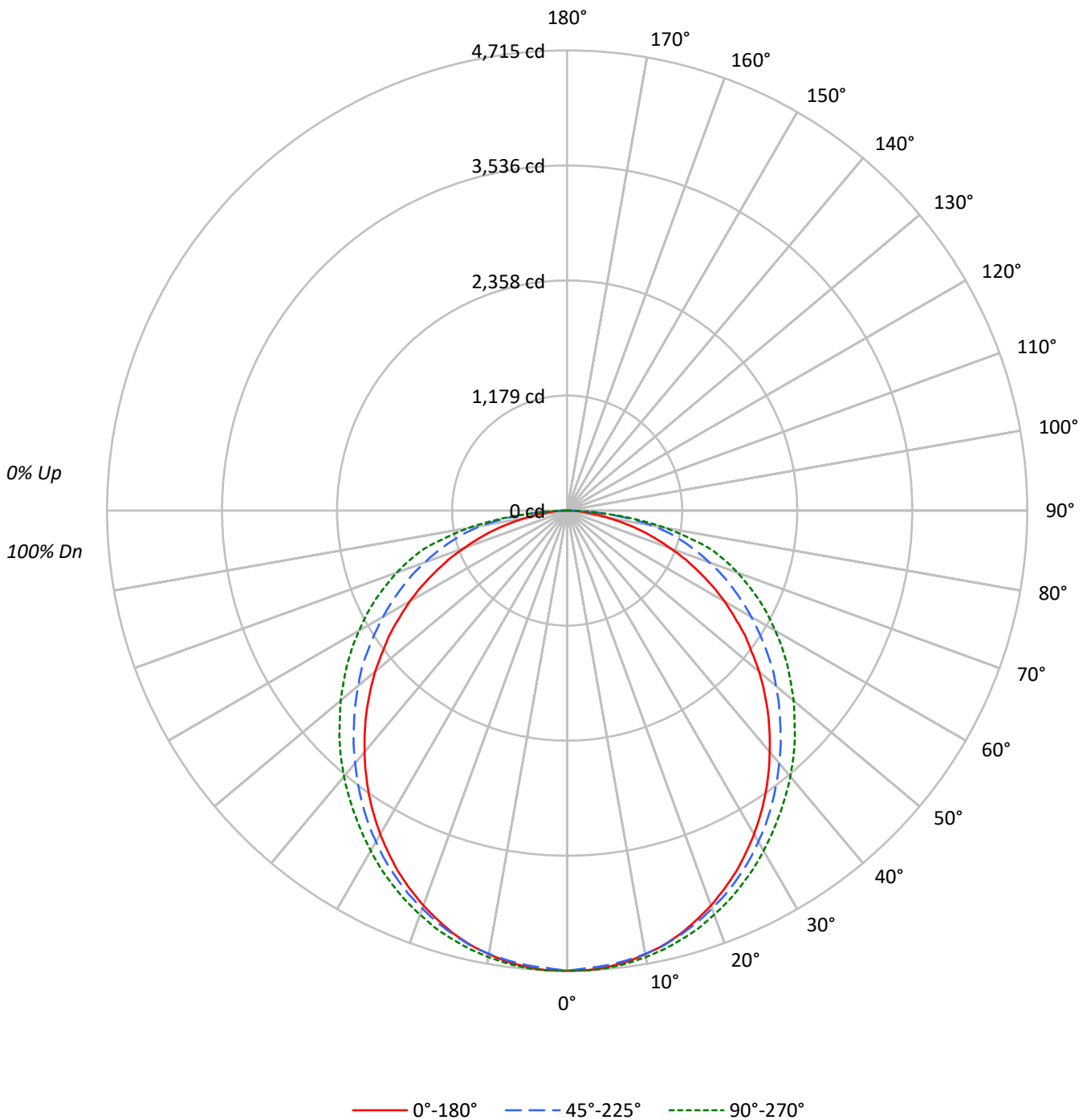
Lumens per Lamp: N/A  
Luminaire Lumens: 14043.6 lumens  
Efficiency: N/A  
Efficacy: 113.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 123.4  
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	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	58	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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

	0°	45°	90°
0°	6344	6344	6344
5°	6343	6318	6356
10°	6308	6301	6346
15°	6254	6268	6333
20°	6167	6214	6308
25°	6067	6158	6283
30°	5949	6088	6255
35°	5820	6013	6236
40°	5672	5935	6248
45°	5529	5877	6279
50°	5376	5847	6338
55°	5211	5838	6454
60°	5007	5865	6622
65°	4745	5954	6909
70°	4407	6103	7301
75°	4020	6408	7919
80°	3305	6900	7917
85°	2532	6368	6802



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	445.9	3.2
10°-20°	1273.1	9.1
20°-30°	1915.8	13.6
30°-40°	2295.9	16.3
40°-50°	2392.6	17.0
50°-60°	2226.0	15.9
60°-70°	1833.4	13.1
70°-80°	1248.6	8.9
80°-90°	412.2	2.9
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°	3634.9	25.9
0°-40°	5930.8	42.2
0°-60°	10549.3	75.1
0°-90°	14043.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14043.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4715	4715	4715	4715	4715	
5°	4696	4696	4678	4701	4706	446
15°	4490	4495	4500	4542	4546	1265
25°	4087	4106	4148	4218	4232	1881
35°	3543	3586	3660	3759	3796	2215
45°	2906	2967	3089	3243	3300	2241
55°	2222	2297	2489	2686	2751	1980
65°	1490	1617	1870	2090	2170	1479
75°	773	947	1233	1453	1523	815
85°	164	319	412	441	441	203
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4715.1	4715.1	4715.1	4715.1	4715.1
2.5°	4715.1	4715.1	4691.7	4715.1	4715.1
5°	4696.3	4696.3	4677.6	4701.0	4705.7
7.5°	4663.5	4668.2	4649.5	4677.6	4682.3
10°	4616.7	4621.4	4612.0	4640.1	4644.8
12.5°	4560.4	4565.1	4565.1	4597.9	4602.6
15°	4490.1	4494.8	4499.5	4541.7	4546.4
17.5°	4401.1	4415.1	4424.5	4476.1	4485.4
20°	4307.3	4321.4	4340.1	4396.4	4405.7
22.5°	4199.5	4218.3	4251.1	4312.0	4326.1
25°	4087.0	4105.8	4148.0	4218.3	4232.3
27.5°	3960.5	3988.6	4040.2	4115.2	4133.9
30°	3829.3	3857.4	3918.3	3998.0	4026.1
32.5°	3688.6	3726.1	3796.4	3885.5	3913.6
35°	3543.3	3585.5	3660.5	3758.9	3796.4
37.5°	3388.7	3435.5	3524.6	3632.4	3679.3
40°	3229.3	3285.6	3379.3	3505.9	3557.4
42.5°	3070.0	3121.5	3238.7	3374.6	3430.9
45°	2905.9	2966.9	3088.7	3243.4	3299.6
47.5°	2737.2	2798.1	2943.4	3107.5	3159.0
50°	2568.5	2629.4	2793.4	2966.9	3027.8
52.5°	2385.7	2465.3	2652.8	2826.2	2887.2
55°	2221.6	2296.6	2488.8	2685.6	2751.3
57.5°	2034.1	2123.2	2334.1	2540.3	2610.6
60°	1860.7	1954.5	2179.4	2390.4	2460.7
62.5°	1682.6	1785.7	2024.8	2240.4	2320.0
65°	1490.5	1617.0	1870.1	2090.4	2170.1
67.5°	1317.0	1448.3	1715.4	1940.4	2010.7
70°	1120.2	1279.5	1551.4	1776.4	1856.0
72.5°	951.5	1110.8	1396.7	1617.0	1696.7
75°	773.3	946.8	1232.7	1453.0	1523.3
77.5°	595.2	787.4	1073.3	1242.0	1265.5
80°	426.5	628.1	890.5	989.0	1021.8
82.5°	300.0	482.8	656.2	721.8	740.5
85°	164.0	318.7	412.5	440.6	440.6
87.5°	70.3	135.9	164.0	168.7	173.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)