

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: P388346

Luminaire Tested: **24CZ2-120VHE-SQR-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: P388346  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2002-678-2)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-120VHE-SQR-UNV-L930-CD2-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9675.8 lumens  
Efficiency: N/A  
Efficacy: 115.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

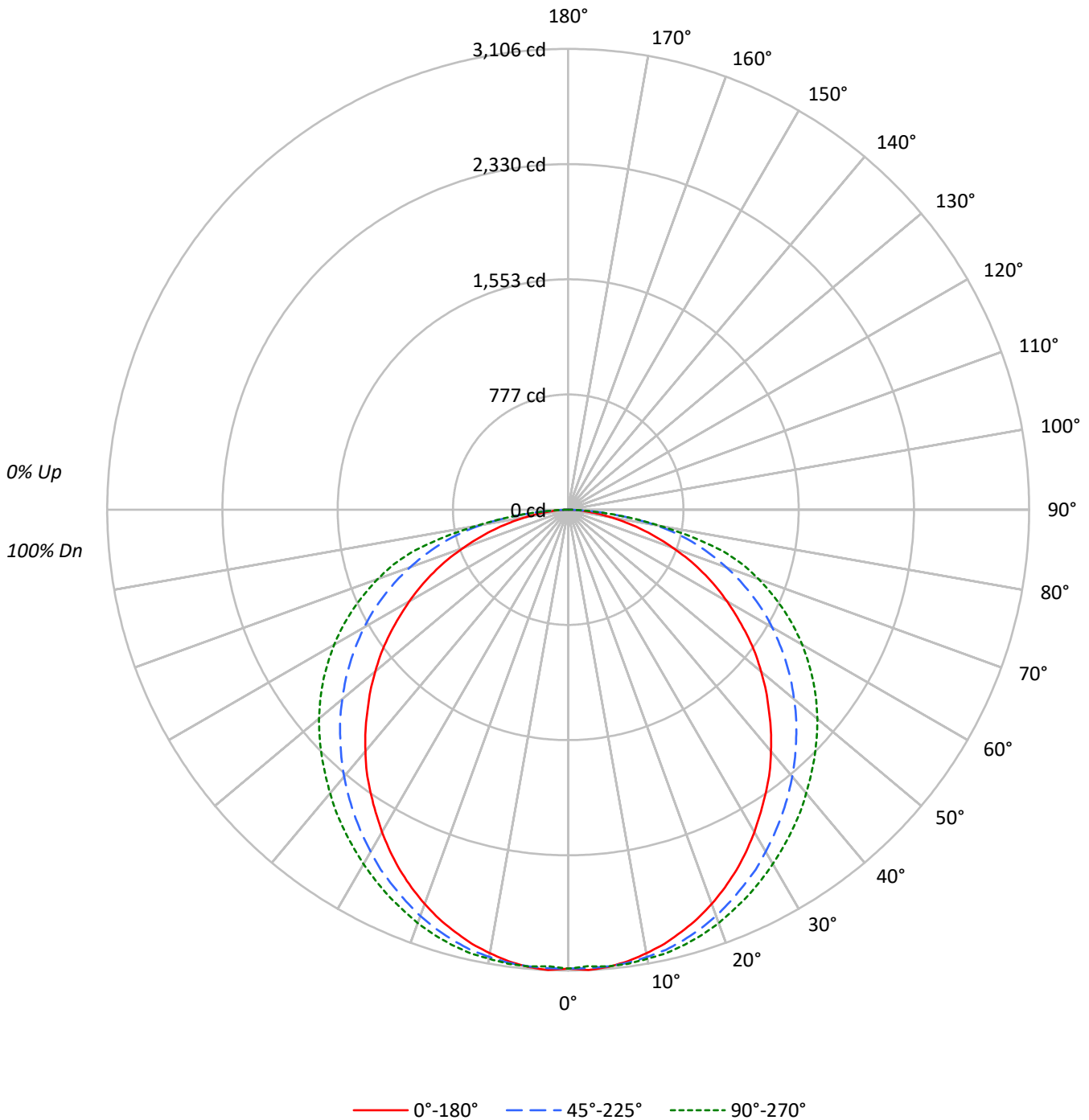
Input Watts (W): 83.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22

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

	0°	45°	90°
0°	4161	4161	4161
5°	4177	4173	4173
10°	4147	4182	4199
15°	4104	4184	4228
20°	4049	4172	4246
25°	3980	4150	4260
30°	3897	4135	4284
35°	3815	4125	4324
40°	3732	4125	4383
45°	3636	4134	4469
50°	3551	4160	4588
55°	3448	4205	4729
60°	3327	4273	4901
65°	3184	4354	5106
70°	2954	4462	5367
75°	2674	4617	5614
80°	2253	4630	4827
85°	1726	3503	3503



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	293.6	3.0
10°-20°	844.7	8.7
20°-30°	1283.0	13.3
30°-40°	1560.6	16.1
40°-50°	1661.5	17.2
50°-60°	1582.5	16.4
60°-70°	1323.4	13.7
70°-80°	882.3	9.1
80°-90°	244.2	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°	2421.2	25.0
0°-40°	3981.8	41.2
0°-60°	7225.9	74.7
0°-90°	9675.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9675.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3093	3093	3093	3093	3093	
5°	3093	3074	3090	3090	3090	293
15°	2946	2952	3003	3026	3035	831
25°	2681	2716	2796	2844	2869	1234
35°	2323	2390	2511	2594	2633	1454
45°	1911	2013	2173	2294	2348	1477
55°	1470	1598	1792	1949	2016	1314
65°	1000	1147	1368	1537	1604	988
75°	514	677	888	1038	1080	545
85°	112	208	227	224	227	135
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3092.9	3092.9	3092.9	3092.9	3092.9
2.5°	3105.6	3083.3	3092.9	3092.9	3080.1
5°	3092.9	3073.7	3089.7	3089.7	3089.7
7.5°	3070.5	3054.5	3080.1	3086.5	3086.5
10°	3035.3	3029.0	3060.9	3070.5	3073.7
12.5°	2997.0	2993.8	3038.5	3051.3	3060.9
15°	2945.9	2952.3	3003.4	3025.8	3035.3
17.5°	2891.6	2904.3	2961.9	2993.8	3003.4
20°	2827.7	2846.8	2913.9	2945.9	2965.1
22.5°	2757.4	2786.1	2856.4	2894.8	2917.1
25°	2680.7	2715.8	2795.7	2843.6	2869.2
27.5°	2597.6	2642.3	2735.0	2789.3	2814.9
30°	2508.2	2559.3	2661.5	2725.4	2757.4
32.5°	2415.5	2476.2	2588.0	2658.3	2696.7
35°	2322.8	2389.9	2511.3	2594.4	2632.8
37.5°	2230.2	2297.3	2431.5	2520.9	2568.9
40°	2124.7	2204.6	2348.4	2447.4	2495.4
42.5°	2022.5	2108.8	2262.1	2370.8	2421.9
45°	1910.7	2012.9	2172.7	2294.1	2348.4
47.5°	1808.4	1910.7	2083.2	2211.0	2271.7
50°	1696.6	1805.2	1987.4	2127.9	2191.8
52.5°	1588.0	1699.8	1891.5	2041.7	2105.6
55°	1469.7	1597.5	1792.5	1949.0	2016.1
57.5°	1351.5	1488.9	1690.2	1853.2	1920.3
60°	1236.5	1377.1	1588.0	1750.9	1821.2
62.5°	1121.5	1262.1	1482.5	1648.7	1715.8
65°	1000.1	1147.0	1367.5	1536.8	1603.9
67.5°	878.7	1032.0	1252.5	1421.8	1485.7
70°	750.8	913.8	1134.3	1300.4	1364.3
72.5°	632.6	795.6	1012.8	1175.8	1236.5
75°	514.4	677.4	888.2	1038.4	1079.9
77.5°	399.4	562.3	750.8	849.9	859.5
80°	290.8	444.1	597.5	626.2	623.0
82.5°	194.9	332.3	412.2	415.4	424.9
85°	111.8	207.7	226.9	223.7	226.9
87.5°	44.7	73.5	63.9	47.9	47.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)