

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: P388347

Luminaire Tested: **24CZ2-120VHE-SQR-UNV-L935-CD2-SDWPD1-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: P388347  
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-L935-CD2-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9674.0 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

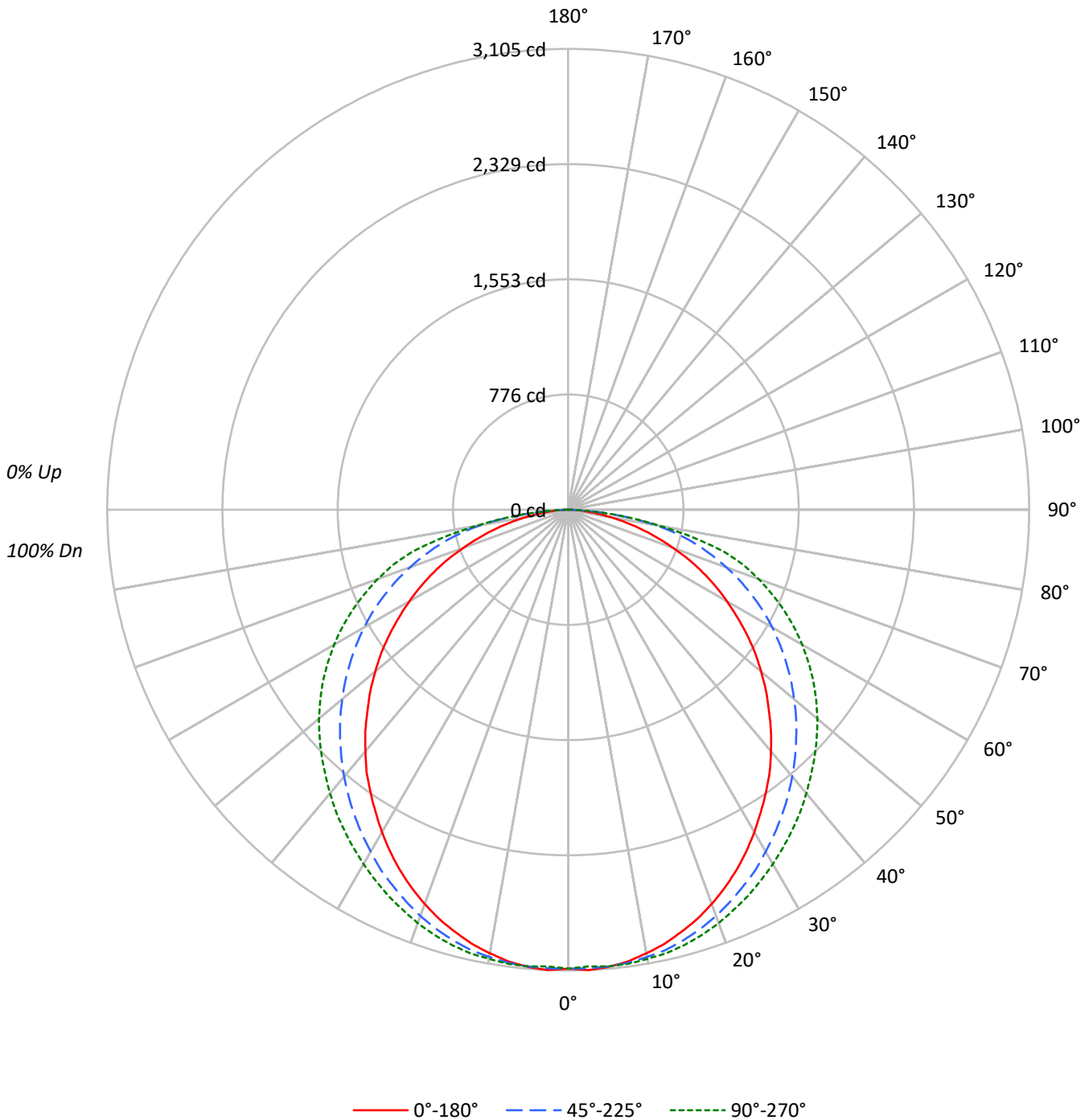
Input Watts (W): 83.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	4172	4172
10°	4146	4181	4199
15°	4103	4183	4227
20°	4048	4172	4245
25°	3979	4150	4259
30°	3896	4134	4283
35°	3815	4124	4324
40°	3731	4124	4382
45°	3635	4133	4468
50°	3551	4159	4587
55°	3447	4204	4728
60°	3327	4272	4900
65°	3183	4353	5105
70°	2953	4461	5366
75°	2674	4617	5613
80°	2252	4629	4826
85°	1726	3501	3501



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	293.5	3.0
10°-20°	844.5	8.7
20°-30°	1282.8	13.3
30°-40°	1560.3	16.1
40°-50°	1661.2	17.2
50°-60°	1582.2	16.4
60°-70°	1323.2	13.7
70°-80°	882.2	9.1
80°-90°	244.1	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°	2420.8	25.0
0°-40°	3981.1	41.2
0°-60°	7224.5	74.7
0°-90°	9674.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9674.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3092	3092	3092	3092	3092	
5°	3092	3073	3089	3089	3089	293
15°	2945	2952	3003	3025	3035	831
25°	2680	2715	2795	2843	2869	1234
35°	2322	2390	2511	2594	2632	1453
45°	1910	2012	2172	2294	2348	1477
55°	1470	1597	1792	1949	2016	1314
65°	1000	1147	1367	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°	3092.3	3092.3	3092.3	3092.3	3092.3
2.5°	3105.1	3082.7	3092.3	3092.3	3079.5
5°	3092.3	3073.1	3089.1	3089.1	3089.1
7.5°	3069.9	3053.9	3079.5	3085.9	3085.9
10°	3034.8	3028.4	3060.3	3069.9	3073.1
12.5°	2996.4	2993.3	3038.0	3050.8	3060.3
15°	2945.3	2951.7	3002.8	3025.2	3034.8
17.5°	2891.0	2903.8	2961.3	2993.3	3002.8
20°	2827.1	2846.3	2913.4	2945.3	2964.5
22.5°	2756.9	2785.6	2855.9	2894.2	2916.6
25°	2680.2	2715.3	2795.2	2843.1	2868.7
27.5°	2597.1	2641.9	2734.5	2788.8	2814.4
30°	2507.7	2558.8	2661.0	2724.9	2756.9
32.5°	2415.0	2475.7	2587.5	2657.8	2696.2
35°	2322.4	2389.5	2510.9	2593.9	2632.3
37.5°	2229.8	2296.8	2431.0	2520.5	2568.4
40°	2124.3	2204.2	2348.0	2447.0	2494.9
42.5°	2022.1	2108.4	2261.7	2370.3	2421.4
45°	1910.3	2012.5	2172.3	2293.7	2348.0
47.5°	1808.1	1910.3	2082.8	2210.6	2271.3
50°	1696.3	1804.9	1987.0	2127.5	2191.4
52.5°	1587.7	1699.5	1891.1	2041.3	2105.2
55°	1469.5	1597.3	1792.1	1948.6	2015.7
57.5°	1351.3	1488.6	1689.9	1852.8	1919.9
60°	1236.3	1376.8	1587.7	1750.6	1820.9
62.5°	1121.3	1261.8	1482.3	1648.4	1715.4
65°	999.9	1146.8	1367.2	1536.6	1603.6
67.5°	878.5	1031.8	1252.2	1421.6	1485.4
70°	750.7	913.6	1134.0	1300.2	1364.1
72.5°	632.5	795.4	1012.7	1175.6	1236.3
75°	514.3	677.2	888.1	1038.2	1079.7
77.5°	399.3	562.2	750.7	849.7	859.3
80°	290.7	444.0	597.4	626.1	622.9
82.5°	194.9	332.2	412.1	415.3	424.9
85°	111.8	207.6	226.8	223.6	226.8
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)