

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: P388354

Luminaire Tested: **24CZ2-120VHE-SQR-UNV-L950-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: P388354  
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-L950-CD2-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10501.2 lumens  
Efficiency: N/A  
Efficacy: 125.6 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

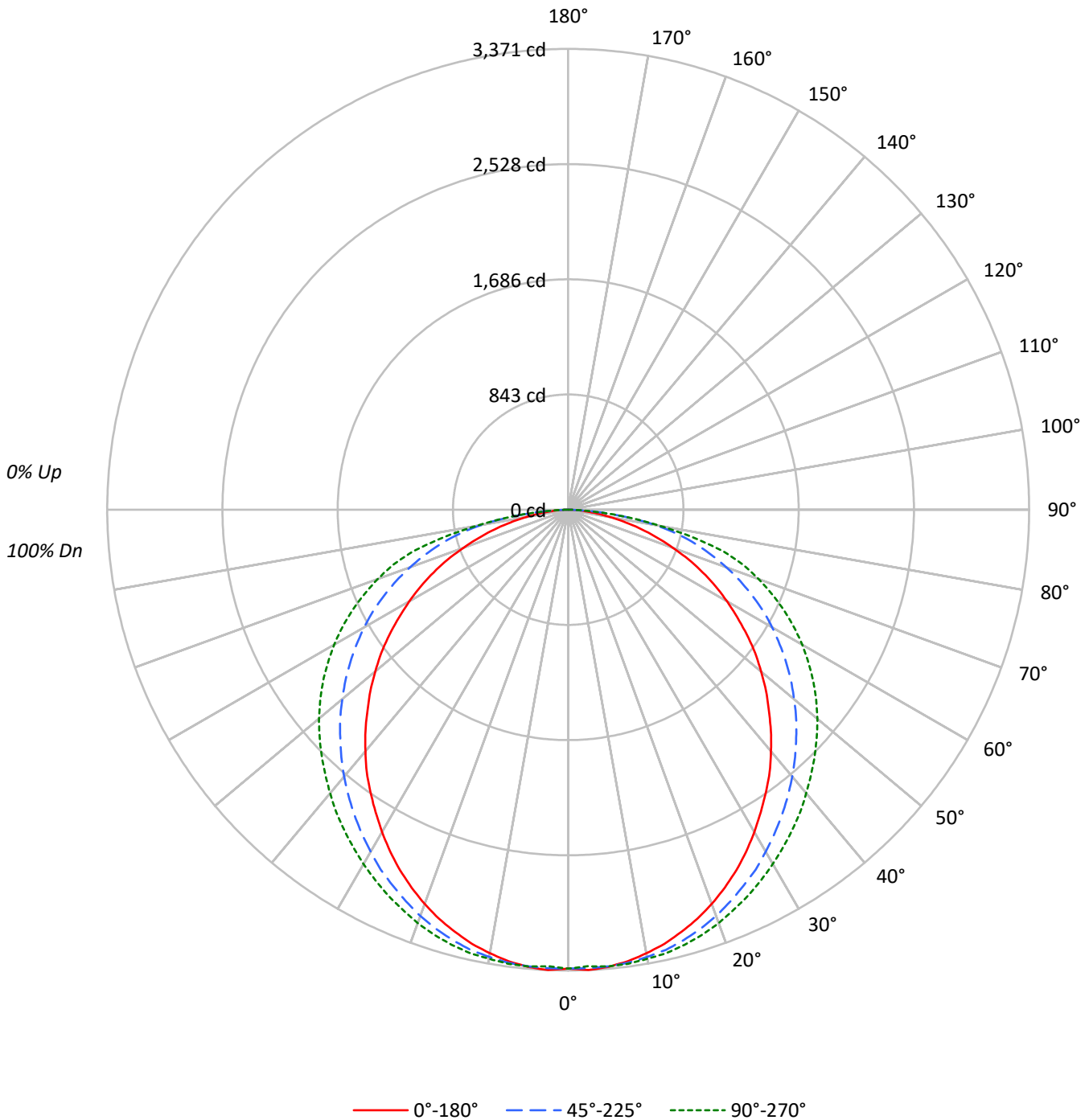
Input Watts (W): 83.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82					82			
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67					67			
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56					56			
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47					47			
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41					41			
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35					35			
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31					31			
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28					28			
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25					25			
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22					22			

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

	0°	45°	90°
0°	4516	4516	4516
5°	4534	4529	4529
10°	4501	4539	4558
15°	4454	4540	4589
20°	4394	4528	4608
25°	4319	4505	4623
30°	4229	4488	4649
35°	4141	4477	4693
40°	4050	4477	4757
45°	3946	4487	4850
50°	3854	4515	4979
55°	3742	4563	5133
60°	3611	4638	5319
65°	3456	4725	5542
70°	3206	4843	5825
75°	2902	5011	6093
80°	2445	5025	5239
85°	1874	3801	3801



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	318.6	3.0
10°-20°	916.7	8.7
20°-30°	1392.4	13.3
30°-40°	1693.7	16.1
40°-50°	1803.3	17.2
50°-60°	1717.5	16.4
60°-70°	1436.3	13.7
70°-80°	957.6	9.1
80°-90°	265.0	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°	2627.8	25.0
0°-40°	4321.5	41.2
0°-60°	7842.3	74.7
0°-90°	10501.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10501.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3357	3357	3357	3357	3357	
5°	3357	3336	3353	3353	3353	318
15°	3197	3204	3260	3284	3294	902
25°	2909	2948	3034	3086	3114	1340
35°	2521	2594	2726	2816	2857	1578
45°	2074	2185	2358	2490	2549	1603
55°	1595	1734	1945	2115	2188	1426
65°	1085	1245	1484	1668	1741	1072
75°	558	735	964	1127	1172	591
85°	121	225	246	243	246	147
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3356.7	3356.7	3356.7	3356.7	3356.7
2.5°	3370.6	3346.3	3356.7	3356.7	3342.8
5°	3356.7	3335.9	3353.2	3353.2	3353.2
7.5°	3332.4	3315.1	3342.8	3349.8	3349.8
10°	3294.3	3287.3	3322.0	3332.4	3335.9
12.5°	3252.7	3249.2	3297.7	3311.6	3322.0
15°	3197.2	3204.1	3259.6	3283.9	3294.3
17.5°	3138.2	3152.1	3214.5	3249.2	3259.6
20°	3068.9	3089.7	3162.5	3197.2	3218.0
22.5°	2992.6	3023.8	3100.1	3141.7	3166.0
25°	2909.4	2947.5	3034.2	3086.2	3114.0
27.5°	2819.2	2867.8	2968.3	3027.3	3055.0
30°	2722.1	2777.6	2888.6	2957.9	2992.6
32.5°	2621.6	2687.4	2808.8	2885.1	2926.7
35°	2521.0	2593.8	2725.6	2815.7	2857.4
37.5°	2420.4	2493.2	2638.9	2736.0	2788.0
40°	2306.0	2392.7	2548.7	2656.2	2708.2
42.5°	2195.0	2288.7	2455.1	2573.0	2628.5
45°	2073.7	2184.6	2358.0	2489.8	2548.7
47.5°	1962.7	2073.7	2260.9	2399.6	2465.5
50°	1841.3	1959.2	2156.9	2309.5	2378.8
52.5°	1723.4	1844.8	2052.9	2215.8	2285.2
55°	1595.1	1733.8	1945.4	2115.3	2188.1
57.5°	1466.8	1615.9	1834.4	2011.2	2084.1
60°	1342.0	1494.6	1723.4	1900.3	1976.6
62.5°	1217.1	1369.7	1609.0	1789.3	1862.1
65°	1085.4	1244.9	1484.2	1667.9	1740.8
67.5°	953.6	1120.1	1359.3	1543.1	1612.5
70°	814.9	991.8	1231.0	1411.3	1480.7
72.5°	686.6	863.4	1099.2	1276.1	1342.0
75°	558.3	735.1	964.0	1127.0	1172.1
77.5°	433.5	610.3	814.9	922.4	932.8
80°	315.6	482.0	648.5	679.7	676.2
82.5°	211.5	360.6	447.3	450.8	461.2
85°	121.4	225.4	246.2	242.7	246.2
87.5°	48.5	79.8	69.4	52.0	52.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)