

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: P388348

Luminaire Tested: **24CZ2-120VHE-SQR-UNV-L935-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: P388348  
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-SWPD1-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: 9792.1 lumens  
Efficiency: N/A  
Efficacy: 117.1 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

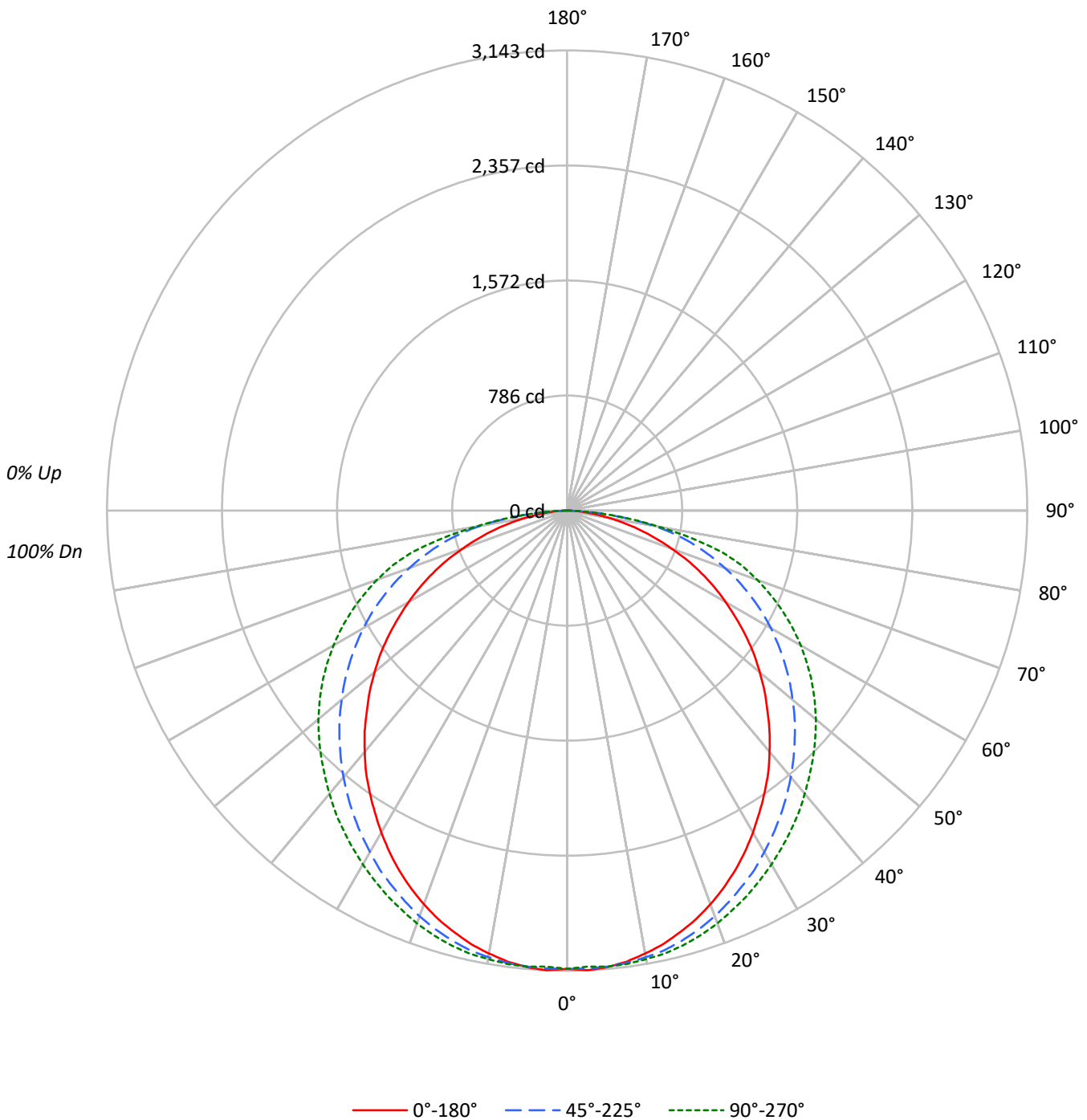
Input Watts (W): 83.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4211	4211	4211
5°	4227	4223	4223
10°	4197	4232	4250
15°	4153	4234	4279
20°	4097	4222	4297
25°	4028	4200	4311
30°	3944	4185	4335
35°	3861	4175	4376
40°	3777	4174	4436
45°	3679	4184	4522
50°	3594	4210	4643
55°	3489	4255	4786
60°	3367	4325	4960
65°	3222	4406	5168
70°	2989	4516	5432
75°	2706	4673	5682
80°	2280	4685	4885
85°	1748	3545	3545



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	297.1	3.0
10°-20°	854.8	8.7
20°-30°	1298.4	13.3
30°-40°	1579.3	16.1
40°-50°	1681.5	17.2
50°-60°	1601.5	16.4
60°-70°	1339.3	13.7
70°-80°	893.0	9.1
80°-90°	247.1	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°	2450.4	25.0
0°-40°	4029.7	41.2
0°-60°	7312.7	74.7
0°-90°	9792.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9792.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3130	3130	3130	3130	3130	
5°	3130	3111	3127	3127	3127	297
15°	2981	2988	3040	3062	3072	841
25°	2713	2748	2829	2878	2904	1249
35°	2351	2419	2542	2626	2664	1471
45°	1934	2037	2199	2322	2377	1495
55°	1487	1617	1814	1972	2040	1330
65°	1012	1161	1384	1555	1623	1000
75°	521	686	899	1051	1093	551
85°	113	210	230	226	230	137
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3130.0	3130.0	3130.0	3130.0	3130.0
2.5°	3143.0	3120.3	3130.0	3130.0	3117.1
5°	3130.0	3110.6	3126.8	3126.8	3126.8
7.5°	3107.4	3091.2	3117.1	3123.6	3123.6
10°	3071.8	3065.4	3097.7	3107.4	3110.6
12.5°	3033.0	3029.8	3075.1	3088.0	3097.7
15°	2981.3	2987.8	3039.5	3062.1	3071.8
17.5°	2926.3	2939.3	2997.5	3029.8	3039.5
20°	2861.7	2881.1	2949.0	2981.3	3000.7
22.5°	2790.5	2819.6	2890.8	2929.6	2952.2
25°	2712.9	2748.5	2829.3	2877.8	2903.7
27.5°	2628.8	2674.1	2767.9	2822.8	2848.7
30°	2538.3	2590.0	2693.5	2758.2	2790.5
32.5°	2444.5	2506.0	2619.1	2690.3	2729.1
35°	2350.8	2418.7	2541.5	2625.6	2664.4
37.5°	2257.0	2324.9	2460.7	2551.2	2599.7
40°	2150.3	2231.1	2376.6	2476.9	2525.4
42.5°	2046.8	2134.1	2289.3	2399.3	2451.0
45°	1933.6	2037.1	2198.8	2321.7	2376.6
47.5°	1830.2	1933.6	2108.2	2237.6	2299.0
50°	1717.0	1826.9	2011.2	2153.5	2218.2
52.5°	1607.1	1720.2	1914.2	2066.2	2130.9
55°	1487.4	1616.8	1814.0	1972.4	2040.3
57.5°	1367.8	1506.8	1710.5	1875.4	1943.3
60°	1251.4	1393.6	1607.1	1772.0	1843.1
62.5°	1135.0	1277.2	1500.3	1668.5	1736.4
65°	1012.1	1160.8	1383.9	1555.3	1623.2
67.5°	889.2	1044.4	1267.5	1438.9	1503.6
70°	759.9	924.8	1147.9	1316.0	1380.7
72.5°	640.2	805.1	1025.0	1189.9	1251.4
75°	520.6	685.5	898.9	1050.9	1092.9
77.5°	404.2	569.1	759.9	860.1	869.8
80°	294.2	449.5	604.7	633.8	630.5
82.5°	197.2	336.3	417.1	420.4	430.1
85°	113.2	210.2	229.6	226.3	229.6
87.5°	45.3	74.4	64.7	48.5	48.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)