

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: P388610

Luminaire Tested: **24CZ2-110VHE-UNV-L935-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: P388610
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: 24CZ2-110VHE-UNV-L935-CD2-U
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND RIBBED LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9383.1 lumens
Efficiency: N/A
Efficacy: 121.2 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

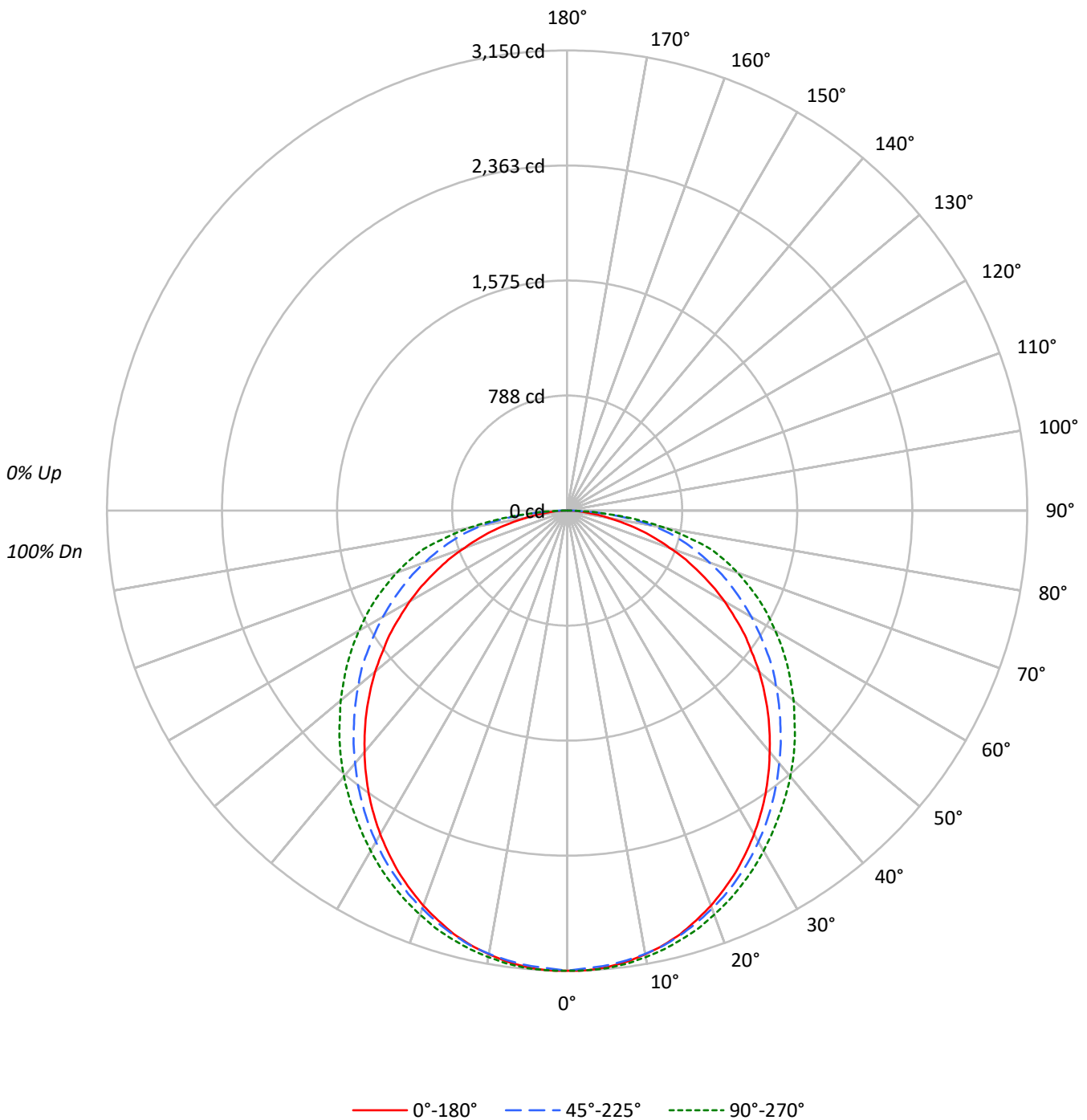
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	4239	4239	4239
5°	4238	4221	4247
10°	4214	4210	4240
15°	4179	4188	4231
20°	4121	4152	4215
25°	4054	4114	4198
30°	3975	4067	4179
35°	3889	4017	4166
40°	3790	3966	4175
45°	3694	3927	4195
50°	3592	3907	4235
55°	3482	3901	4312
60°	3345	3919	4424
65°	3170	3978	4616
70°	2944	4078	4878
75°	2686	4282	5291
80°	2208	4610	5290
85°	1692	4255	4545



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	297.9	3.2
10°-20°	850.6	9.1
20°-30°	1280.0	13.6
30°-40°	1534.0	16.3
40°-50°	1598.6	17.0
50°-60°	1487.3	15.9
60°-70°	1225.0	13.1
70°-80°	834.3	8.9
80°-90°	275.4	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°	2428.6	25.9
0°-40°	3962.6	42.2
0°-60°	7048.5	75.1
0°-90°	9383.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9383.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3150	3150	3150	3150	3150	
5°	3138	3138	3125	3141	3144	298
15°	3000	3003	3006	3034	3038	845
25°	2731	2743	2771	2818	2828	1257
35°	2368	2396	2446	2512	2537	1480
45°	1942	1982	2064	2167	2205	1497
55°	1484	1534	1663	1794	1838	1323
65°	996	1080	1250	1397	1450	988
75°	517	633	824	971	1018	545
85°	110	213	276	294	294	136
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3150.3	3150.3	3150.3	3150.3	3150.3
2.5°	3150.3	3150.3	3134.7	3150.3	3150.3
5°	3137.8	3137.8	3125.3	3140.9	3144.1
7.5°	3115.9	3119.0	3106.5	3125.3	3128.4
10°	3084.6	3087.7	3081.4	3100.2	3103.4
12.5°	3047.0	3050.1	3050.1	3072.1	3075.2
15°	3000.0	3003.2	3006.3	3034.5	3037.6
17.5°	2940.5	2949.9	2956.2	2990.6	2996.9
20°	2877.9	2887.3	2899.8	2937.4	2943.7
22.5°	2805.9	2818.4	2840.3	2881.0	2890.4
25°	2730.7	2743.2	2771.4	2818.4	2827.8
27.5°	2646.2	2665.0	2699.4	2749.5	2762.0
30°	2558.5	2577.3	2618.0	2671.2	2690.0
32.5°	2464.5	2489.6	2536.6	2596.1	2614.8
35°	2367.5	2395.6	2445.7	2511.5	2536.6
37.5°	2264.1	2295.4	2354.9	2427.0	2458.3
40°	2157.6	2195.2	2257.9	2342.4	2376.8
42.5°	2051.2	2085.6	2163.9	2254.7	2292.3
45°	1941.6	1982.3	2063.7	2167.0	2204.6
47.5°	1828.8	1869.5	1966.6	2076.2	2110.7
50°	1716.1	1756.8	1866.4	1982.3	2023.0
52.5°	1594.0	1647.2	1772.5	1888.3	1929.0
55°	1484.4	1534.5	1662.9	1794.4	1838.2
57.5°	1359.1	1418.6	1559.5	1697.3	1744.3
60°	1243.2	1305.9	1456.2	1597.1	1644.1
62.5°	1124.2	1193.1	1352.8	1496.9	1550.1
65°	995.8	1080.4	1249.5	1396.7	1449.9
67.5°	880.0	967.7	1146.1	1296.5	1343.4
70°	748.4	854.9	1036.5	1186.9	1240.1
72.5°	635.7	742.2	933.2	1080.4	1133.6
75°	516.7	632.6	823.6	970.8	1017.8
77.5°	397.7	526.1	717.1	829.9	845.5
80°	285.0	419.6	595.0	660.8	682.7
82.5°	200.4	322.6	438.4	482.3	494.8
85°	109.6	212.9	275.6	294.4	294.4
87.5°	47.0	90.8	109.6	112.7	115.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)