

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: P388709

Luminaire Tested: **24CZ2-170VHE-UNV-L940-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: P388709
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: 24CZ2-170VHE-UNV-L940-CD2-U
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RIBBED LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14539.8 lumens
Efficiency: N/A
Efficacy: 117.8 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

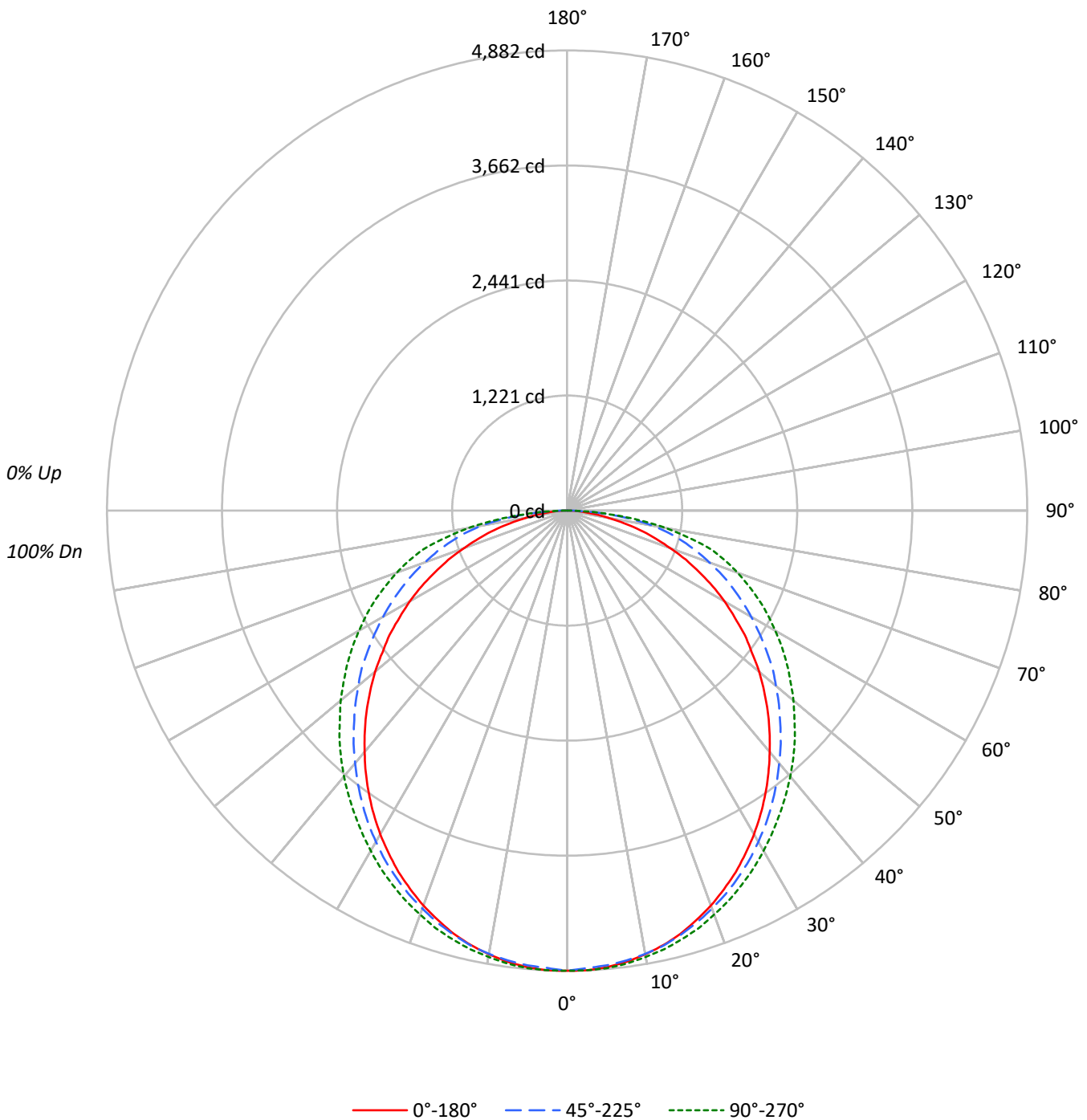
Input Watts (W): 123.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	6568	6568	6568
5°	6567	6541	6580
10°	6530	6524	6570
15°	6476	6489	6557
20°	6385	6434	6531
25°	6282	6376	6505
30°	6160	6303	6476
35°	6026	6225	6456
40°	5872	6145	6469
45°	5725	6085	6500
50°	5566	6054	6562
55°	5396	6044	6682
60°	5184	6072	6856
65°	4913	6164	7153
70°	4563	6319	7559
75°	4162	6634	8199
80°	3422	7144	8197
85°	2621	6592	7041



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	461.7	3.2
10°-20°	1318.1	9.1
20°-30°	1983.5	13.6
30°-40°	2377.0	16.3
40°-50°	2477.1	17.0
50°-60°	2304.7	15.9
60°-70°	1898.2	13.1
70°-80°	1292.7	8.9
80°-90°	426.8	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°	3763.3	25.9
0°-40°	6140.3	42.2
0°-60°	10922.1	75.1
0°-90°	14539.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14539.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4882	4882	4882	4882	4882	
5°	4862	4862	4843	4867	4872	461
15°	4649	4654	4658	4702	4707	1310
25°	4231	4251	4294	4367	4382	1948
35°	3668	3712	3790	3892	3931	2293
45°	3009	3072	3198	3358	3416	2320
55°	2300	2378	2577	2780	2848	2050
65°	1543	1674	1936	2164	2247	1532
75°	801	980	1276	1504	1577	844
85°	170	330	427	456	456	211
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4881.7	4881.7	4881.7	4881.7	4881.7
2.5°	4881.7	4881.7	4857.4	4881.7	4881.7
5°	4862.3	4862.3	4842.9	4867.1	4872.0
7.5°	4828.3	4833.2	4813.8	4842.9	4847.7
10°	4779.8	4784.6	4774.9	4804.0	4808.9
12.5°	4721.6	4726.4	4726.4	4760.4	4765.2
15°	4648.8	4653.6	4658.5	4702.1	4707.0
17.5°	4556.6	4571.1	4580.8	4634.2	4643.9
20°	4459.5	4474.1	4493.5	4551.7	4561.4
22.5°	4347.9	4367.3	4401.3	4464.4	4478.9
25°	4231.4	4250.9	4294.5	4367.3	4381.9
27.5°	4100.4	4129.5	4182.9	4260.6	4280.0
30°	3964.6	3993.7	4056.7	4139.2	4168.4
32.5°	3819.0	3857.8	3930.6	4022.8	4051.9
35°	3668.5	3712.2	3789.9	3891.8	3930.6
37.5°	3508.4	3556.9	3649.1	3760.7	3809.3
40°	3343.4	3401.7	3498.7	3629.7	3683.1
42.5°	3178.4	3231.8	3353.1	3493.9	3552.1
45°	3008.6	3071.7	3197.8	3358.0	3416.2
47.5°	2833.9	2897.0	3047.4	3217.3	3270.6
50°	2659.2	2722.3	2892.1	3071.7	3134.8
52.5°	2470.0	2552.5	2746.6	2926.1	2989.2
55°	2300.1	2377.8	2576.7	2780.5	2848.5
57.5°	2106.0	2198.2	2416.6	2630.1	2702.9
60°	1926.5	2023.5	2256.4	2474.8	2547.6
62.5°	1742.1	1848.8	2096.3	2319.5	2402.0
65°	1543.1	1674.1	1936.2	2164.2	2246.7
67.5°	1363.6	1499.4	1776.0	2009.0	2081.8
70°	1159.8	1324.8	1606.2	1839.1	1921.6
72.5°	985.1	1150.1	1446.1	1674.1	1756.6
75°	800.7	980.2	1276.2	1504.3	1577.1
77.5°	616.3	815.2	1111.2	1285.9	1310.2
80°	441.6	650.2	922.0	1023.9	1057.9
82.5°	310.6	499.8	679.4	747.3	766.7
85°	169.8	330.0	427.0	456.1	456.1
87.5°	72.8	140.7	169.8	174.7	179.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)