

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: P389645

Luminaire Tested: **24CZ2-170VHE-S-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: P389645  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-170VHE-S-UNV-L940-CD2-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

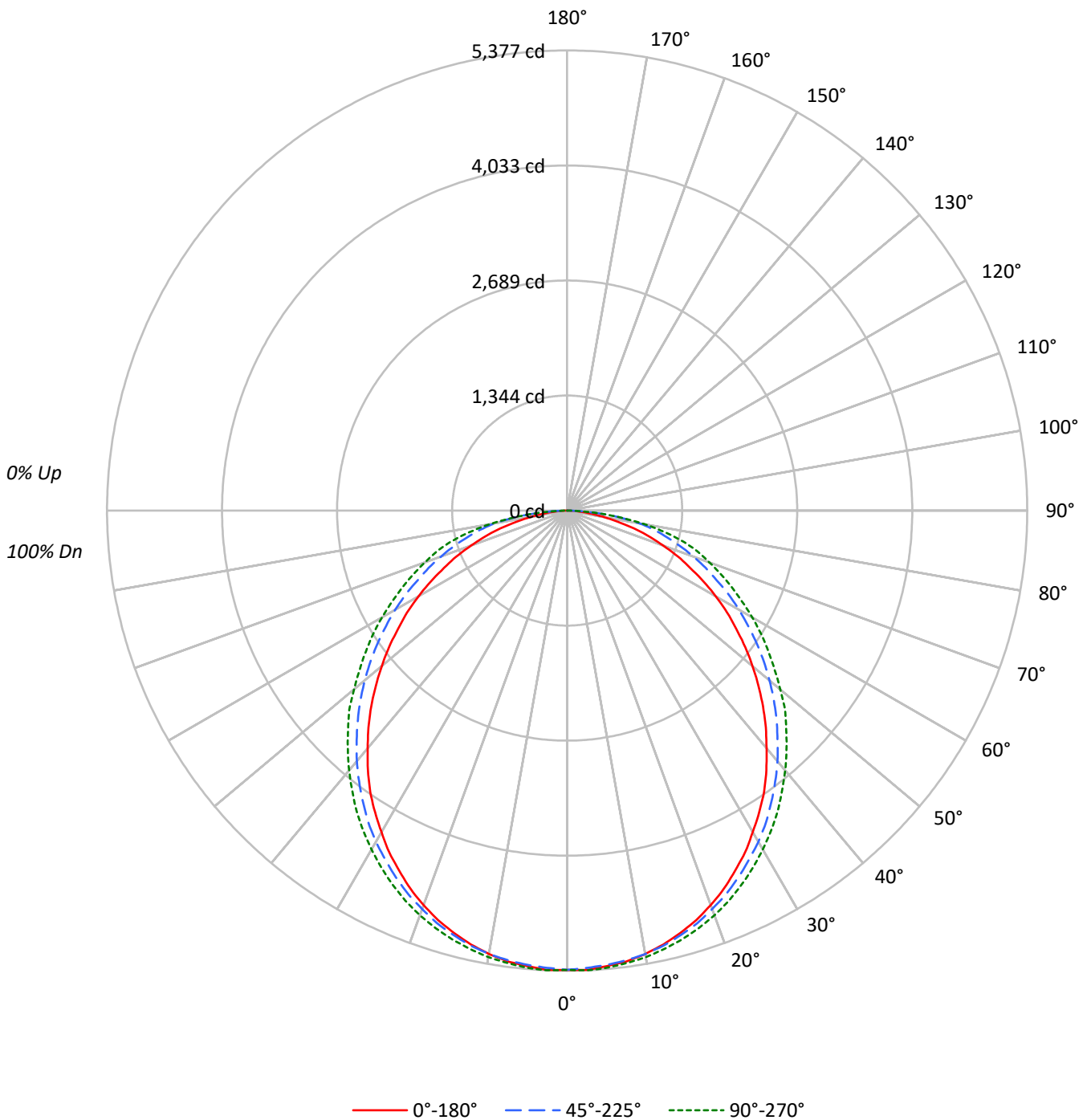
Lumens per Lamp: N/A  
Luminaire Lumens: 15277.5 lumens  
Efficiency: N/A  
Efficacy: 123.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 123.4  
Input Voltage (V): NR  
Input Current (Ain): 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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	7221	7221	7221
5°	7216	7197	7242
10°	7187	7187	7240
15°	7118	7152	7226
20°	7025	7094	7205
25°	6894	7024	7161
30°	6740	6944	7102
35°	6592	6831	7046
40°	6367	6716	6964
45°	6159	6584	6888
50°	5922	6460	6806
55°	5658	6341	6739
60°	5393	6242	6725
65°	5052	6133	6767
70°	4677	6166	6949
75°	4187	6281	7341
80°	3384	6655	7182
85°	2547	5843	5693



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	508.1	3.3
10°-20°	1451.8	9.5
20°-30°	2182.4	14.3
30°-40°	2599.6	17.0
40°-50°	2660.6	17.4
50°-60°	2395.3	15.7
60°-70°	1881.1	12.3
70°-80°	1220.9	8.0
80°-90°	377.6	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°	4142.4	27.1
0°-40°	6742.0	44.1
0°-60°	11798.0	77.2
0°-90°	15277.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15277.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5367	5367	5367	5367	5367	
5°	5343	5352	5328	5357	5362	508
15°	5110	5124	5134	5178	5188	1441
25°	4644	4683	4731	4809	4824	2139
35°	4013	4062	4159	4261	4290	2504
45°	3237	3314	3460	3591	3620	2495
55°	2412	2519	2703	2844	2873	2162
65°	1587	1708	1926	2087	2126	1580
75°	806	961	1208	1373	1412	852
85°	165	306	378	369	369	199
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5367.1	5367.1	5367.1	5367.1	5367.1
2.5°	5371.9	5371.9	5347.7	5371.9	5376.8
5°	5342.8	5352.5	5328.3	5357.4	5362.2
7.5°	5313.7	5313.7	5299.1	5328.3	5333.1
10°	5260.3	5265.2	5260.3	5294.3	5299.1
12.5°	5192.4	5202.1	5206.9	5240.9	5245.8
15°	5109.9	5124.5	5134.2	5177.8	5187.5
17.5°	5017.7	5032.2	5056.5	5105.0	5114.7
20°	4906.1	4925.5	4954.6	5017.7	5032.2
22.5°	4784.8	4804.2	4852.7	4910.9	4935.2
25°	4644.0	4682.9	4731.4	4809.0	4823.6
27.5°	4503.3	4537.3	4600.4	4682.9	4702.3
30°	4338.3	4391.7	4469.3	4551.8	4571.2
32.5°	4178.2	4231.6	4323.8	4411.1	4435.4
35°	4013.2	4061.7	4158.8	4260.7	4289.8
37.5°	3823.9	3887.0	3993.8	4095.7	4124.8
40°	3625.0	3702.6	3823.9	3930.7	3964.7
42.5°	3435.7	3518.2	3639.5	3756.0	3794.8
45°	3236.8	3314.4	3460.0	3591.0	3620.1
47.5°	3032.9	3120.3	3275.6	3406.6	3455.1
50°	2829.1	2921.3	3086.3	3222.2	3251.3
52.5°	2625.3	2722.4	2897.1	3042.6	3057.2
55°	2411.8	2518.6	2703.0	2843.7	2872.8
57.5°	2217.7	2309.9	2508.8	2654.4	2688.4
60°	2004.2	2106.1	2319.6	2455.5	2499.1
62.5°	1800.4	1907.1	2130.3	2266.2	2305.0
65°	1586.8	1708.2	1926.5	2086.7	2125.5
67.5°	1402.4	1518.9	1751.8	1907.1	1945.9
70°	1188.9	1319.9	1567.4	1727.6	1766.4
72.5°	1004.5	1140.4	1387.9	1543.2	1601.4
75°	805.5	960.8	1208.3	1373.3	1412.1
77.5°	611.4	791.0	1043.3	1169.5	1169.5
80°	436.7	626.0	858.9	917.2	926.9
82.5°	286.3	470.7	635.7	630.9	630.9
85°	165.0	305.7	378.5	368.8	368.8
87.5°	63.1	126.2	135.9	135.9	131.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)