

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: P388416

Luminaire Tested: **24CZ2-170VHE-SQR-UNV-L930-CD2-SDWPD1-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: P388416
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: 24CZ2-170VHE-SQR-UNV-L930-CD2-SDWPD1-U
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SQUARE LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13159.2 lumens
Efficiency: N/A
Efficacy: 106.6 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

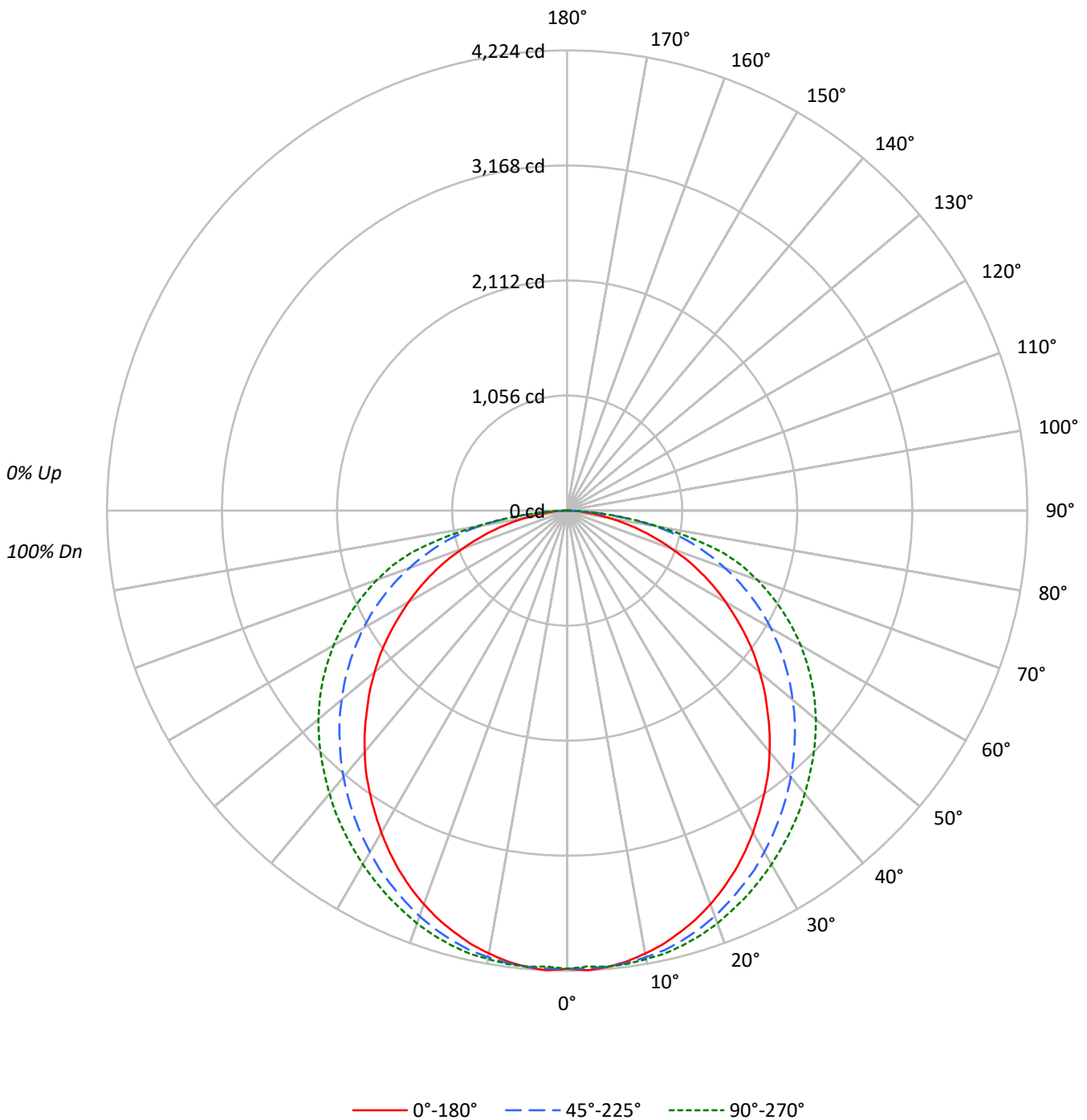
Input Watts (W): 123.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	5660	5660	5660
5°	5681	5675	5675
10°	5640	5688	5711
15°	5581	5690	5750
20°	5506	5674	5774
25°	5412	5645	5793
30°	5300	5624	5826
35°	5189	5610	5881
40°	5076	5610	5961
45°	4944	5623	6077
50°	4830	5658	6240
55°	4689	5719	6432
60°	4525	5812	6665
65°	4330	5921	6945
70°	4017	6069	7299
75°	3637	6280	7635
80°	3064	6296	6565
85°	2348	4763	4763



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	399.3	3.0
10°-20°	1148.8	8.7
20°-30°	1744.9	13.3
30°-40°	2122.4	16.1
40°-50°	2259.7	17.2
50°-60°	2152.3	16.4
60°-70°	1799.9	13.7
70°-80°	1200.0	9.1
80°-90°	332.0	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°	3292.9	25.0
0°-40°	5415.3	41.2
0°-60°	9827.3	74.7
0°-90°	13159.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13159.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4206	4206	4206	4206	4206	
5°	4206	4180	4202	4202	4202	399
15°	4006	4015	4085	4115	4128	1130
25°	3646	3694	3802	3867	3902	1679
35°	3159	3250	3416	3528	3581	1977
45°	2598	2738	2955	3120	3194	2009
55°	1999	2173	2438	2651	2742	1787
65°	1360	1560	1860	2090	2181	1344
75°	700	921	1208	1412	1469	741
85°	152	282	308	304	308	184
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4206.3	4206.3	4206.3	4206.3	4206.3
2.5°	4223.7	4193.3	4206.3	4206.3	4188.9
5°	4206.3	4180.2	4202.0	4202.0	4202.0
7.5°	4175.9	4154.2	4188.9	4197.6	4197.6
10°	4128.1	4119.4	4162.9	4175.9	4180.2
12.5°	4076.0	4071.6	4132.4	4149.8	4162.9
15°	4006.4	4015.1	4084.7	4115.1	4128.1
17.5°	3932.6	3949.9	4028.2	4071.6	4084.7
20°	3845.7	3871.7	3963.0	4006.4	4032.5
22.5°	3750.1	3789.2	3884.8	3936.9	3967.3
25°	3645.8	3693.6	3802.2	3867.4	3902.1
27.5°	3532.8	3593.6	3719.6	3793.5	3828.3
30°	3411.1	3480.6	3619.7	3706.6	3750.1
32.5°	3285.1	3367.7	3519.8	3615.3	3667.5
35°	3159.1	3250.3	3415.5	3528.4	3580.6
37.5°	3033.1	3124.3	3306.8	3428.5	3493.7
40°	2889.7	2998.3	3193.8	3328.6	3393.7
42.5°	2750.6	2867.9	3076.5	3224.3	3293.8
45°	2598.5	2737.6	2954.9	3120.0	3193.8
47.5°	2459.5	2598.5	2833.2	3007.0	3089.6
50°	2307.4	2455.1	2702.8	2894.0	2980.9
52.5°	2159.7	2311.7	2572.5	2776.7	2863.6
55°	1998.9	2172.7	2437.8	2650.7	2741.9
57.5°	1838.1	2024.9	2298.7	2520.3	2611.6
60°	1681.7	1872.9	2159.7	2381.3	2476.9
62.5°	1525.2	1716.4	2016.3	2242.2	2333.5
65°	1360.1	1560.0	1859.8	2090.1	2181.4
67.5°	1195.0	1403.6	1703.4	1933.7	2020.6
70°	1021.2	1242.8	1542.6	1768.6	1855.5
72.5°	860.4	1082.0	1377.5	1599.1	1681.7
75°	699.6	921.2	1208.0	1412.2	1468.7
77.5°	543.2	764.8	1021.2	1155.9	1168.9
80°	395.4	604.0	812.6	851.7	847.3
82.5°	265.1	451.9	560.6	564.9	577.9
85°	152.1	282.4	308.5	304.2	308.5
87.5°	60.8	99.9	86.9	65.2	65.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)