

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: P388419

Luminaire Tested: **24CZ2-170VHE-SQR-UNV-L935-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: P388419
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-L935-CD2-SDWPD1-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: 13484.7 lumens
Efficiency: N/A
Efficacy: 109.3 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

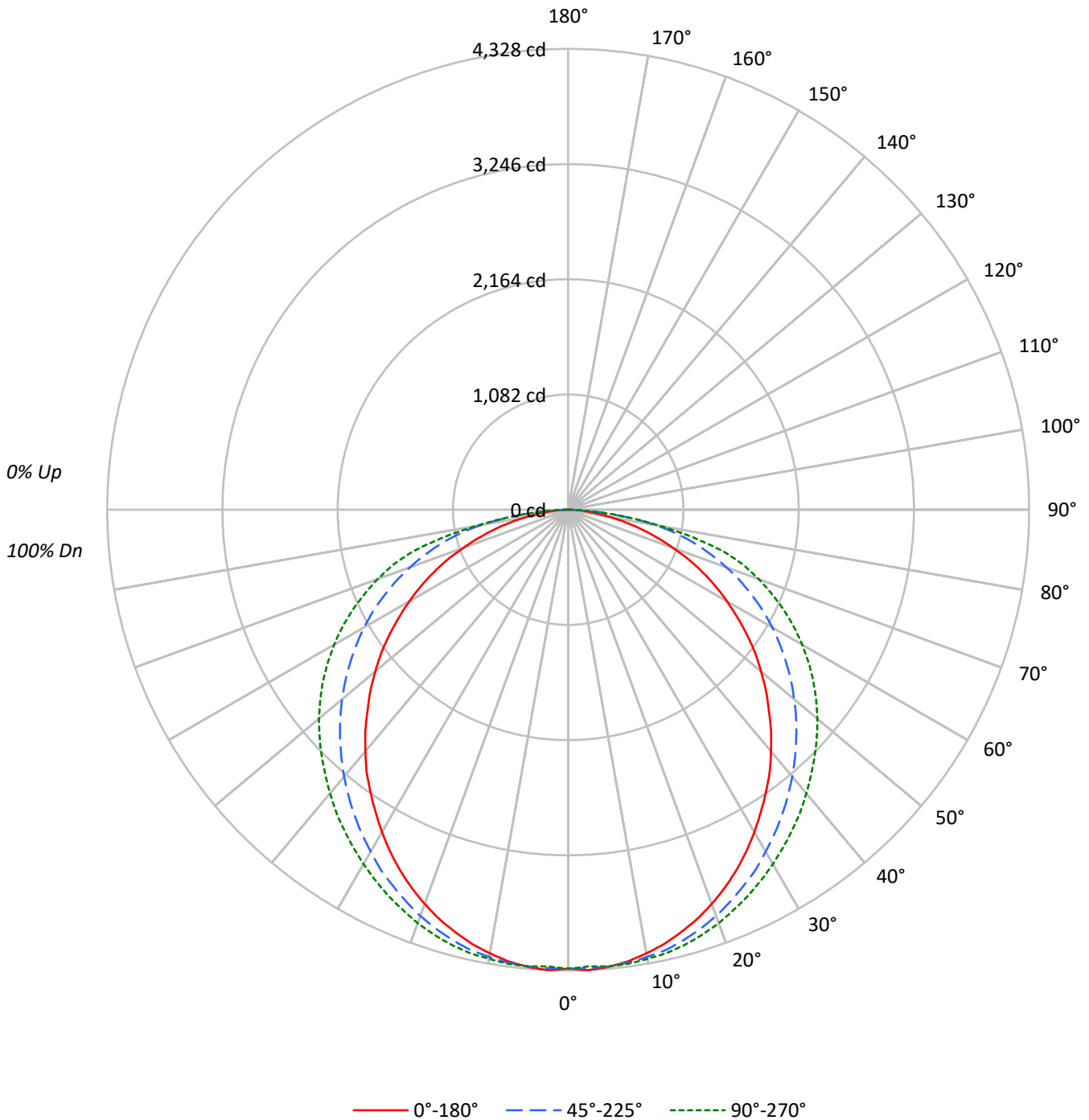
Input Watts (W): 123.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	5800	5800	5800
5°	5822	5816	5816
10°	5779	5828	5852
15°	5719	5830	5892
20°	5643	5815	5917
25°	5546	5784	5936
30°	5431	5763	5970
35°	5317	5749	6027
40°	5201	5749	6108
45°	5067	5762	6228
50°	4949	5798	6394
55°	4805	5860	6591
60°	4637	5955	6830
65°	4437	6067	7117
70°	4116	6219	7480
75°	3727	6435	7824
80°	3140	6452	6728
85°	2407	4881	4881



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	409.1	3.0
10°-20°	1177.2	8.7
20°-30°	1788.0	13.3
30°-40°	2174.9	16.1
40°-50°	2315.6	17.2
50°-60°	2205.5	16.4
60°-70°	1844.4	13.7
70°-80°	1229.7	9.1
80°-90°	340.3	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°	3374.4	25.0
0°-40°	5549.3	41.2
0°-60°	10070.4	74.7
0°-90°	13484.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13484.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4310	4310	4310	4310	4310	
5°	4310	4284	4306	4306	4306	409
15°	4106	4114	4186	4217	4230	1158
25°	3736	3785	3896	3963	3999	1720
35°	3237	3331	3500	3616	3669	2026
45°	2663	2805	3028	3197	3273	2058
55°	2048	2226	2498	2716	2810	1831
65°	1394	1599	1906	2142	2235	1377
75°	717	944	1238	1447	1505	759
85°	156	289	316	312	316	188
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4310.4	4310.4	4310.4	4310.4	4310.4
2.5°	4328.2	4297.0	4310.4	4310.4	4292.6
5°	4310.4	4283.6	4305.9	4305.9	4305.9
7.5°	4279.2	4256.9	4292.6	4301.5	4301.5
10°	4230.2	4221.3	4265.8	4279.2	4283.6
12.5°	4176.8	4172.3	4234.7	4252.5	4265.8
15°	4105.5	4114.4	4185.7	4216.9	4230.2
17.5°	4029.8	4047.6	4127.8	4172.3	4185.7
20°	3940.8	3967.5	4061.0	4105.5	4132.3
22.5°	3842.8	3882.9	3980.9	4034.3	4065.5
25°	3735.9	3784.9	3896.3	3963.0	3998.7
27.5°	3620.2	3682.5	3811.6	3887.3	3923.0
30°	3495.5	3566.7	3709.2	3798.3	3842.8
32.5°	3366.4	3451.0	3606.8	3704.8	3758.2
35°	3237.2	3330.7	3499.9	3615.7	3669.2
37.5°	3108.1	3201.6	3388.6	3513.3	3580.1
40°	2961.2	3072.5	3272.9	3410.9	3477.7
42.5°	2818.7	2938.9	3152.6	3304.0	3375.3
45°	2662.8	2805.3	3027.9	3197.2	3272.9
47.5°	2520.3	2662.8	2903.3	3081.4	3166.0
50°	2364.5	2515.9	2769.7	2965.6	3054.7
52.5°	2213.1	2368.9	2636.1	2845.4	2934.4
55°	2048.3	2226.4	2498.1	2716.2	2809.8
57.5°	1883.6	2075.0	2355.6	2582.7	2676.2
60°	1723.3	1919.2	2213.1	2440.2	2538.1
62.5°	1563.0	1758.9	2066.1	2297.7	2391.2
65°	1393.7	1598.6	1905.8	2141.8	2235.3
67.5°	1224.5	1438.3	1745.5	1981.5	2070.6
70°	1046.4	1273.5	1580.8	1812.3	1901.4
72.5°	881.7	1108.8	1411.6	1638.7	1723.3
75°	716.9	944.0	1237.9	1447.2	1505.1
77.5°	556.6	783.7	1046.4	1184.5	1197.8
80°	405.2	618.9	832.7	872.8	868.3
82.5°	271.6	463.1	574.4	578.9	592.2
85°	155.9	289.4	316.2	311.7	316.2
87.5°	62.3	102.4	89.1	66.8	66.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)