

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: P388425

Luminaire Tested: **24CZ2-170VHE-SQR-UNV-L950-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: P388425  
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-L950-CD2-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

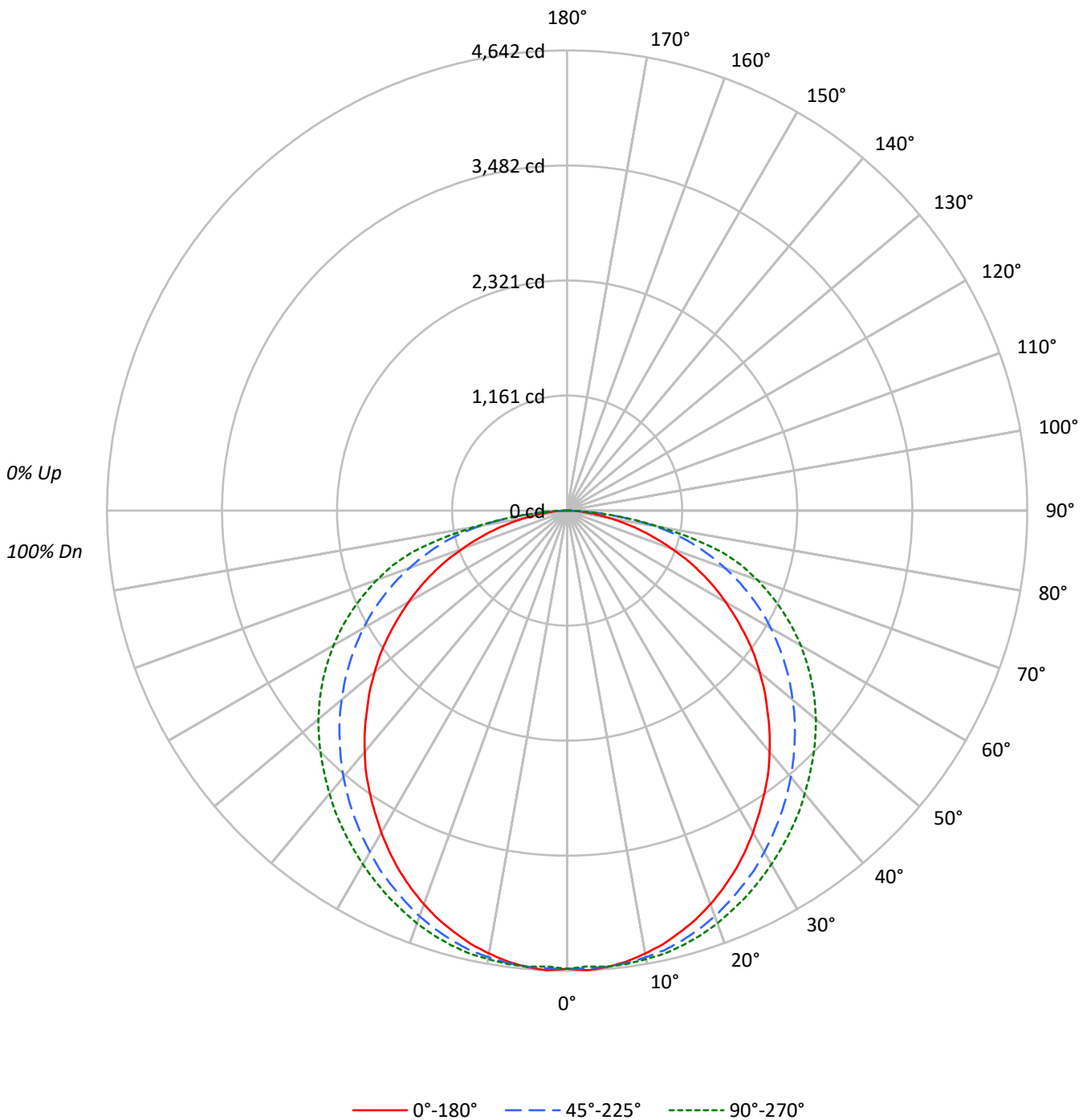
Lumens per Lamp: N/A  
Luminaire Lumens: 14461.2 lumens  
Efficiency: N/A  
Efficacy: 117.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 123.4  
Input Voltage (V): NR  
Input Current (Ain): 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°	6220	6220	6220
5°	6243	6237	6237
10°	6198	6250	6276
15°	6133	6253	6319
20°	6051	6236	6345
25°	5948	6203	6366
30°	5824	6180	6403
35°	5702	6165	6463
40°	5578	6165	6551
45°	5434	6179	6679
50°	5308	6217	6857
55°	5153	6284	7068
60°	4973	6386	7325
65°	4759	6507	7632
70°	4415	6669	8022
75°	3997	6901	8391
80°	3367	6919	7215
85°	2580	5233	5233



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	438.8	3.0
10°-20°	1262.4	8.7
20°-30°	1917.5	13.3
30°-40°	2332.4	16.1
40°-50°	2483.3	17.2
50°-60°	2365.2	16.4
60°-70°	1977.9	13.7
70°-80°	1318.8	9.1
80°-90°	364.9	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°	3618.7	25.0
0°-40°	5951.2	41.2
0°-60°	10799.6	74.7
0°-90°	14461.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14461.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4622	4622	4622	4622	4622	
5°	4622	4594	4618	4618	4618	438
15°	4403	4412	4489	4522	4536	1242
25°	4006	4059	4178	4250	4288	1845
35°	3472	3572	3753	3878	3935	2172
45°	2856	3008	3247	3429	3510	2208
55°	2197	2388	2679	2913	3013	1964
65°	1495	1714	2044	2297	2397	1477
75°	769	1012	1328	1552	1614	814
85°	167	310	339	334	339	202
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4622.5	4622.5	4622.5	4622.5	4622.5
2.5°	4641.6	4608.2	4622.5	4622.5	4603.4
5°	4622.5	4593.9	4617.7	4617.7	4617.7
7.5°	4589.1	4565.2	4603.4	4613.0	4613.0
10°	4536.5	4527.0	4574.8	4589.1	4593.9
12.5°	4479.2	4474.5	4541.3	4560.4	4574.8
15°	4402.8	4412.4	4488.8	4522.2	4536.5
17.5°	4321.7	4340.8	4426.7	4474.5	4488.8
20°	4226.2	4254.8	4355.1	4402.8	4431.5
22.5°	4121.1	4164.1	4269.1	4326.4	4359.9
25°	4006.5	4059.0	4178.4	4250.0	4288.2
27.5°	3882.3	3949.2	4087.7	4168.8	4207.1
30°	3748.6	3825.0	3977.8	4073.3	4121.1
32.5°	3610.1	3700.9	3868.0	3973.1	4030.4
35°	3471.7	3571.9	3753.4	3877.6	3934.9
37.5°	3333.2	3433.5	3634.0	3767.7	3839.4
40°	3175.6	3295.0	3509.9	3657.9	3729.5
42.5°	3022.8	3151.7	3380.9	3543.3	3619.7
45°	2855.6	3008.4	3247.2	3428.7	3509.9
47.5°	2702.8	2855.6	3113.5	3304.5	3395.2
50°	2535.7	2698.1	2970.2	3180.4	3275.9
52.5°	2373.3	2540.5	2827.0	3051.4	3146.9
55°	2196.6	2387.7	2679.0	2912.9	3013.2
57.5°	2020.0	2225.3	2526.1	2769.7	2870.0
60°	1848.0	2058.2	2373.3	2616.9	2721.9
62.5°	1676.1	1886.2	2215.7	2464.1	2564.3
65°	1494.7	1714.3	2043.8	2296.9	2397.2
67.5°	1313.2	1542.4	1871.9	2125.0	2220.5
70°	1122.2	1365.7	1695.2	1943.6	2039.1
72.5°	945.5	1189.1	1513.8	1757.3	1848.0
75°	768.8	1012.4	1327.5	1552.0	1614.1
77.5°	596.9	840.5	1122.2	1270.2	1284.6
80°	434.6	663.8	893.0	936.0	931.2
82.5°	291.3	496.6	616.0	620.8	635.1
85°	167.1	310.4	339.0	334.3	339.0
87.5°	66.9	109.8	95.5	71.6	71.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)