

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: P389935

Luminaire Tested: **24CZ2-80VHE-S-UNV-L950-CD1-SWPD1-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: P389935  
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: 24CZ2-80VHE-S-UNV-L950-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7647.5 lumens  
Efficiency: N/A  
Efficacy: 142.1 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

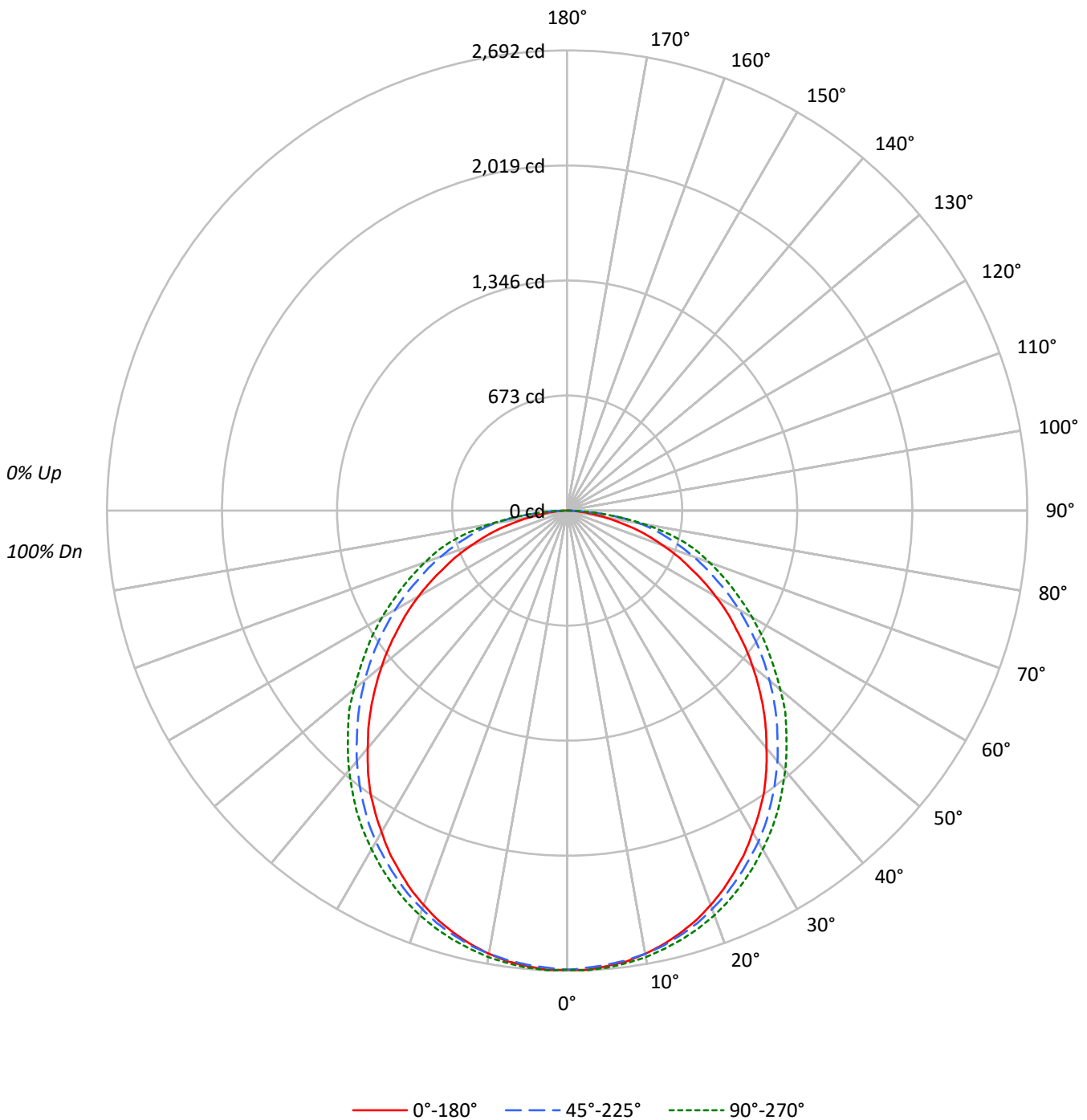
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3615	3615	3615
5°	3612	3602	3625
10°	3598	3598	3624
15°	3563	3580	3617
20°	3516	3551	3607
25°	3451	3516	3585
30°	3374	3476	3555
35°	3300	3419	3527
40°	3187	3362	3486
45°	3083	3296	3448
50°	2964	3234	3407
55°	2832	3174	3373
60°	2700	3124	3366
65°	2529	3070	3387
70°	2341	3087	3478
75°	2096	3145	3675
80°	1694	3332	3595
85°	1275	2925	2850



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	254.3	3.3
10°-20°	726.8	9.5
20°-30°	1092.5	14.3
30°-40°	1301.3	17.0
40°-50°	1331.8	17.4
50°-60°	1199.0	15.7
60°-70°	941.6	12.3
70°-80°	611.1	8.0
80°-90°	189.0	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°	2073.6	27.1
0°-40°	3374.9	44.1
0°-60°	5905.7	77.2
0°-90°	7647.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7647.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2687	2687	2687	2687	2687	
5°	2674	2679	2667	2682	2684	254
15°	2558	2565	2570	2592	2597	721
25°	2325	2344	2368	2407	2415	1071
35°	2009	2033	2082	2133	2147	1253
45°	1620	1659	1732	1798	1812	1249
55°	1207	1261	1353	1424	1438	1082
65°	794	855	964	1044	1064	791
75°	403	481	605	687	707	427
85°	83	153	190	185	185	100
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2686.6	2686.6	2686.6	2686.6	2686.6
2.5°	2689.0	2689.0	2676.9	2689.0	2691.5
5°	2674.5	2679.3	2667.2	2681.8	2684.2
7.5°	2659.9	2659.9	2652.6	2667.2	2669.6
10°	2633.2	2635.6	2633.2	2650.2	2652.6
12.5°	2599.2	2604.0	2606.5	2623.5	2625.9
15°	2557.9	2565.2	2570.0	2591.9	2596.7
17.5°	2511.7	2519.0	2531.2	2555.4	2560.3
20°	2455.8	2465.6	2480.1	2511.7	2519.0
22.5°	2395.1	2404.8	2429.1	2458.3	2470.4
25°	2324.7	2344.1	2368.4	2407.3	2414.6
27.5°	2254.2	2271.2	2302.8	2344.1	2353.8
30°	2171.6	2198.4	2237.2	2278.5	2288.2
32.5°	2091.5	2118.2	2164.4	2208.1	2220.2
35°	2008.9	2033.2	2081.8	2132.8	2147.4
37.5°	1914.2	1945.7	1999.2	2050.2	2064.8
40°	1814.6	1853.4	1914.2	1967.6	1984.6
42.5°	1719.8	1761.1	1821.8	1880.1	1899.6
45°	1620.2	1659.1	1732.0	1797.6	1812.1
47.5°	1518.2	1561.9	1639.7	1705.2	1729.5
50°	1416.2	1462.3	1544.9	1612.9	1627.5
52.5°	1314.2	1362.7	1450.2	1523.1	1530.4
55°	1207.3	1260.7	1353.0	1423.5	1438.0
57.5°	1110.1	1156.3	1255.9	1328.7	1345.7
60°	1003.2	1054.2	1161.1	1229.1	1251.0
62.5°	901.2	954.6	1066.4	1134.4	1153.8
65°	794.3	855.1	964.4	1044.5	1064.0
67.5°	702.0	760.3	876.9	954.6	974.1
70°	595.1	660.7	784.6	864.8	884.2
72.5°	502.8	570.8	694.7	772.5	801.6
75°	403.2	481.0	604.9	687.4	706.9
77.5°	306.1	395.9	522.3	585.4	585.4
80°	218.6	313.4	430.0	459.1	464.0
82.5°	143.3	235.6	318.2	315.8	315.8
85°	82.6	153.0	189.5	184.6	184.6
87.5°	31.6	63.2	68.0	68.0	65.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)