

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: P389047

Luminaire Tested: **24CZ2-90VHE-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: P389047  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-90VHE-UNV-L950-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8106.6 lumens  
Efficiency: N/A  
Efficacy: 131.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

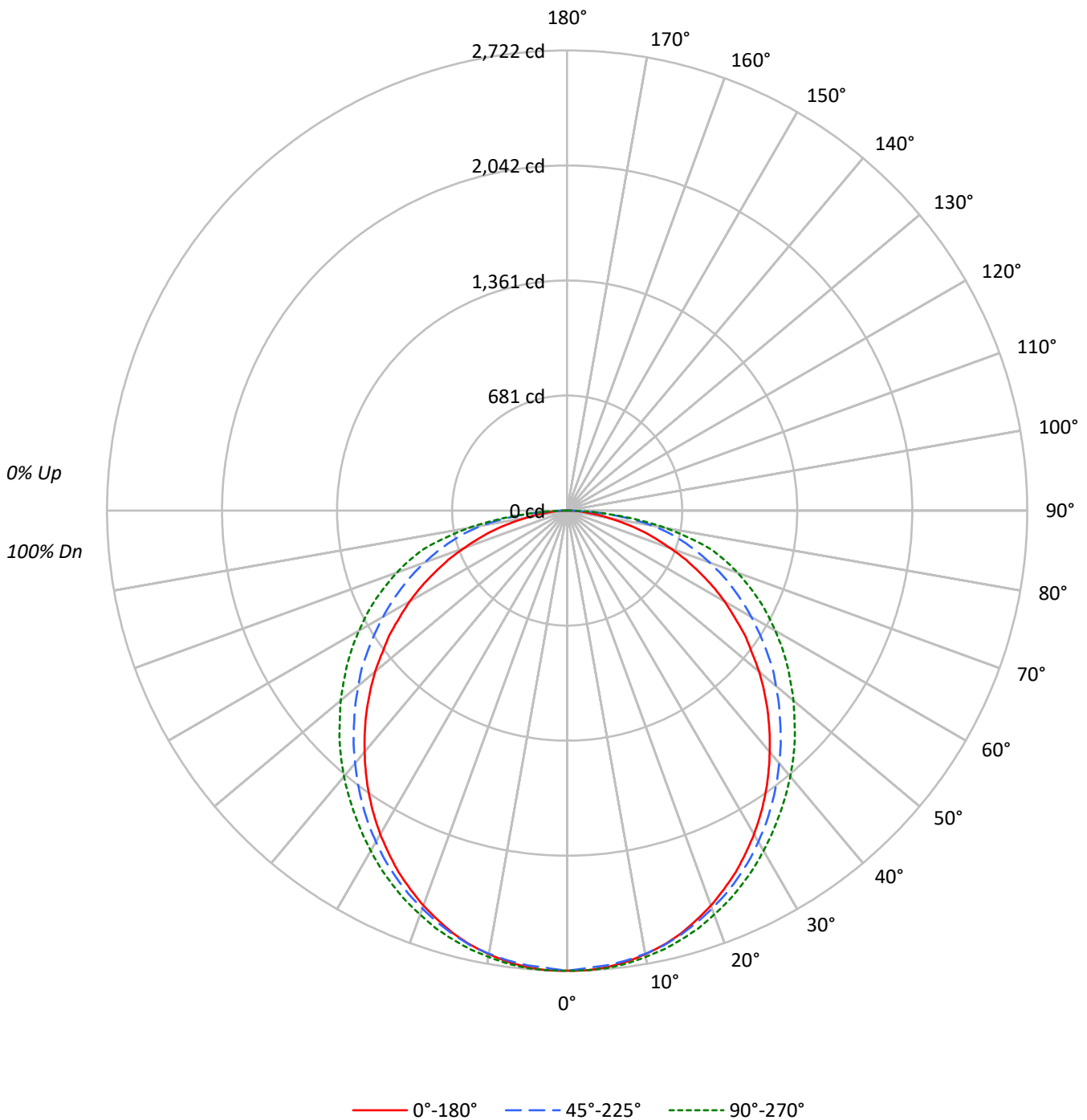
Input Watts (W): 61.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	58	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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

	0°	45°	90°
0°	3662	3662	3662
5°	3661	3647	3669
10°	3641	3637	3663
15°	3610	3618	3656
20°	3560	3587	3641
25°	3502	3555	3627
30°	3434	3514	3611
35°	3360	3471	3600
40°	3274	3426	3607
45°	3192	3393	3624
50°	3103	3375	3659
55°	3008	3370	3725
60°	2890	3386	3822
65°	2739	3437	3988
70°	2544	3523	4215
75°	2321	3699	4571
80°	1908	3983	4570
85°	1462	3676	3926



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	257.4	3.2
10°-20°	734.9	9.1
20°-30°	1105.9	13.6
30°-40°	1325.3	16.3
40°-50°	1381.1	17.0
50°-60°	1285.0	15.9
60°-70°	1058.3	13.1
70°-80°	720.8	8.9
80°-90°	238.0	2.9
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°	2098.2	25.9
0°-40°	3423.5	42.2
0°-60°	6089.6	75.1
0°-90°	8106.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8106.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2722	2722	2722	2722	2722	
5°	2711	2711	2700	2714	2716	257
15°	2592	2595	2597	2622	2624	730
25°	2359	2370	2394	2435	2443	1086
35°	2045	2070	2113	2170	2192	1279
45°	1677	1713	1783	1872	1905	1294
55°	1282	1326	1437	1550	1588	1143
65°	860	933	1080	1207	1253	854
75°	446	546	712	839	879	471
85°	95	184	238	254	254	117
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2721.8	2721.8	2721.8	2721.8	2721.8
2.5°	2721.8	2721.8	2708.2	2721.8	2721.8
5°	2710.9	2710.9	2700.1	2713.6	2716.4
7.5°	2692.0	2694.7	2683.9	2700.1	2702.8
10°	2664.9	2667.7	2662.2	2678.5	2681.2
12.5°	2632.5	2635.2	2635.2	2654.1	2656.8
15°	2591.9	2594.6	2597.3	2621.7	2624.4
17.5°	2540.5	2548.6	2554.0	2583.8	2589.2
20°	2486.4	2494.5	2505.3	2537.8	2543.2
22.5°	2424.2	2435.0	2453.9	2489.1	2497.2
25°	2359.2	2370.0	2394.4	2435.0	2443.1
27.5°	2286.2	2302.4	2332.2	2375.5	2386.3
30°	2210.4	2226.7	2261.8	2307.8	2324.0
32.5°	2129.3	2150.9	2191.5	2242.9	2259.1
35°	2045.4	2069.7	2113.0	2169.8	2191.5
37.5°	1956.1	1983.2	2034.6	2096.8	2123.8
40°	1864.1	1896.6	1950.7	2023.7	2053.5
42.5°	1772.1	1801.9	1869.5	1948.0	1980.4
45°	1677.4	1712.6	1782.9	1872.2	1904.7
47.5°	1580.0	1615.2	1699.1	1793.8	1823.5
50°	1482.6	1517.8	1612.5	1712.6	1747.8
52.5°	1377.1	1423.1	1531.3	1631.4	1666.6
55°	1282.4	1325.7	1436.6	1550.3	1588.1
57.5°	1174.2	1225.6	1347.4	1466.4	1507.0
60°	1074.1	1128.2	1258.1	1379.8	1420.4
62.5°	971.3	1030.8	1168.8	1293.2	1339.2
65°	860.4	933.4	1079.5	1206.7	1252.7
67.5°	760.3	836.0	990.2	1120.1	1160.7
70°	646.6	738.6	895.5	1025.4	1071.4
72.5°	549.2	641.2	806.2	933.4	979.4
75°	446.4	546.5	711.6	838.7	879.3
77.5°	343.6	454.5	619.6	717.0	730.5
80°	246.2	362.5	514.1	570.9	589.8
82.5°	173.2	278.7	378.8	416.7	427.5
85°	94.7	184.0	238.1	254.3	254.3
87.5°	40.6	78.5	94.7	97.4	100.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)