

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: P388949

Luminaire Tested: **24CZ2-70VHE-UNV-L940-CD1-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: P388949  
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: 24CZ2-70VHE-UNV-L940-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

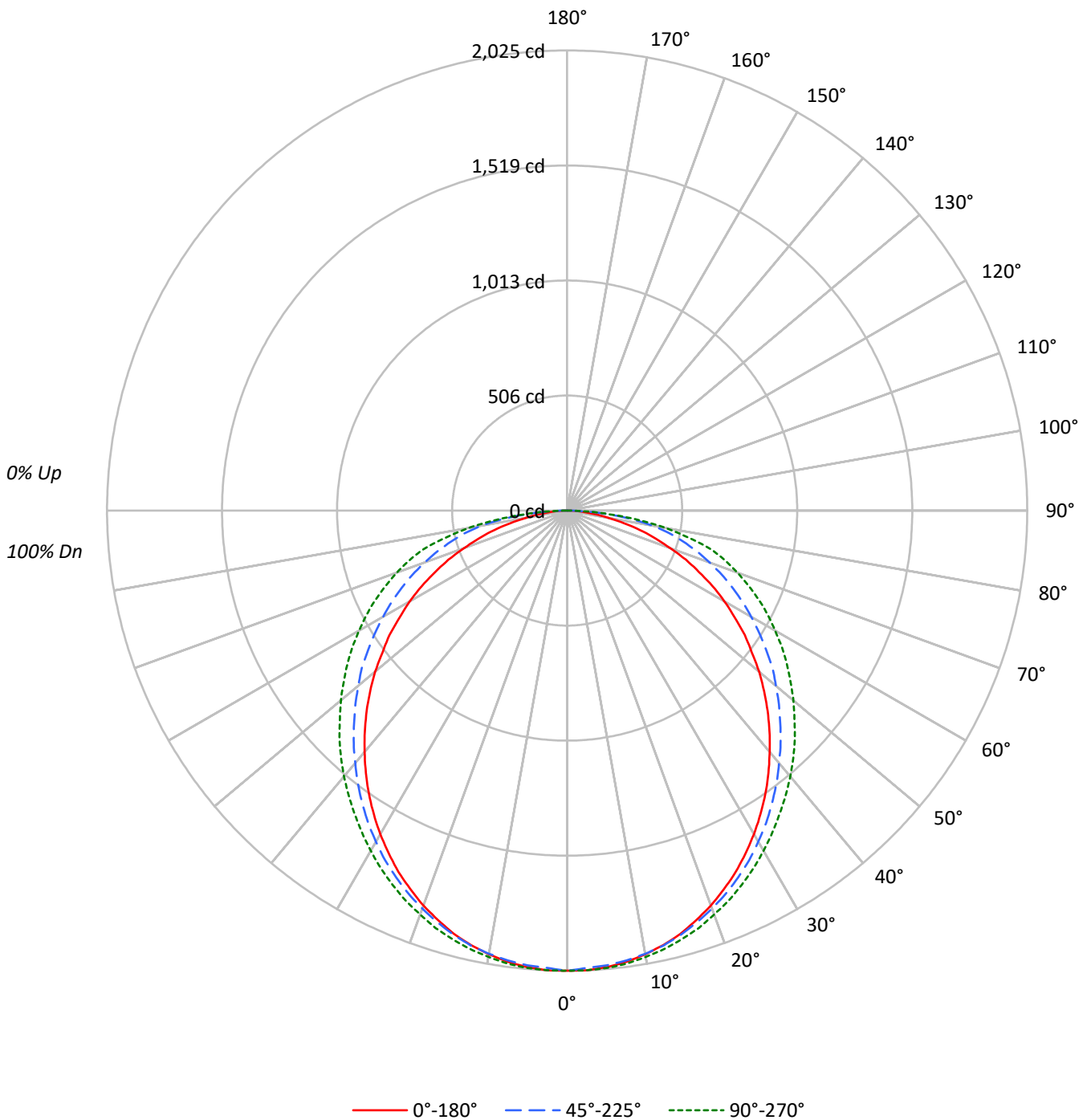
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6030.0 lumens  
Efficiency: N/A  
Efficacy: 131.9 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): 45.7  
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



TEST NUMBER: P388949  
CATALOG NUMBER: 24CZ2-70VHE-UNV-L940-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P388949

CATALOG NUMBER: 24CZ2-70VHE-UNV-L940-CD1-U

**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°	2724	2724	2724
5°	2724	2713	2729
10°	2708	2706	2725
15°	2686	2691	2719
20°	2648	2668	2709
25°	2605	2644	2698
30°	2554	2614	2686
35°	2499	2582	2678
40°	2435	2549	2683
45°	2374	2524	2696
50°	2308	2511	2721
55°	2238	2507	2771
60°	2150	2518	2843
65°	2038	2557	2967
70°	1892	2620	3135
75°	1726	2752	3400
80°	1419	2963	3399
85°	1087	2734	2921



TEST NUMBER: P388949

CATALOG NUMBER: 24CZ2-70VHE-UNV-L940-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	191.5	3.2
10°-20°	546.6	9.1
20°-30°	822.6	13.6
30°-40°	985.8	16.3
40°-50°	1027.3	17.0
50°-60°	955.8	15.9
60°-70°	787.2	13.1
70°-80°	536.1	8.9
80°-90°	177.0	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°	1560.7	25.9
0°-40°	2546.5	42.2
0°-60°	4529.6	75.1
0°-90°	6030.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6030.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2025	2025	2025	2025	2025	
5°	2016	2016	2008	2018	2020	191
15°	1928	1930	1932	1950	1952	543
25°	1755	1763	1781	1811	1817	808
35°	1521	1540	1572	1614	1630	951
45°	1248	1274	1326	1393	1417	962
55°	954	986	1069	1153	1181	850
65°	640	694	803	898	932	635
75°	332	406	529	624	654	350
85°	70	137	177	189	189	87
90°	0	0	0	0	0	



TEST NUMBER: P388949

CATALOG NUMBER: 24CZ2-70VHE-UNV-L940-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2024.6	2024.6	2024.6	2024.6	2024.6
2.5°	2024.6	2024.6	2014.5	2024.6	2024.6
5°	2016.5	2016.5	2008.5	2018.5	2020.5
7.5°	2002.4	2004.4	1996.4	2008.5	2010.5
10°	1982.3	1984.3	1980.3	1992.4	1994.4
12.5°	1958.1	1960.2	1960.2	1974.2	1976.3
15°	1928.0	1930.0	1932.0	1950.1	1952.1
17.5°	1889.7	1895.8	1899.8	1921.9	1925.9
20°	1849.5	1855.5	1863.6	1887.7	1891.7
22.5°	1803.2	1811.2	1825.3	1851.5	1857.5
25°	1754.9	1762.9	1781.0	1811.2	1817.3
27.5°	1700.5	1712.6	1734.8	1767.0	1775.0
30°	1644.2	1656.3	1682.4	1716.6	1728.7
32.5°	1583.8	1599.9	1630.1	1668.3	1680.4
35°	1521.4	1539.5	1571.7	1614.0	1630.1
37.5°	1455.0	1475.1	1513.4	1559.7	1579.8
40°	1386.6	1410.7	1451.0	1505.3	1527.5
42.5°	1318.2	1340.3	1390.6	1449.0	1473.1
45°	1247.7	1273.9	1326.2	1392.6	1416.8
47.5°	1175.3	1201.4	1263.8	1334.3	1356.4
50°	1102.8	1129.0	1199.4	1273.9	1300.1
52.5°	1024.4	1058.6	1139.1	1213.5	1239.7
55°	953.9	986.1	1068.6	1153.1	1181.3
57.5°	873.4	911.7	1002.2	1090.8	1120.9
60°	799.0	839.2	935.8	1026.4	1056.6
62.5°	722.5	766.8	869.4	962.0	996.2
65°	640.0	694.3	803.0	897.6	931.8
67.5°	565.5	621.9	736.6	833.2	863.4
70°	481.0	549.4	666.1	762.7	796.9
72.5°	408.5	477.0	599.7	694.3	728.5
75°	332.1	406.5	529.3	623.9	654.1
77.5°	255.6	338.1	460.9	533.3	543.4
80°	183.1	269.7	382.4	424.6	438.7
82.5°	128.8	207.3	281.7	309.9	318.0
85°	70.4	136.8	177.1	189.2	189.2
87.5°	30.2	58.4	70.4	72.4	74.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)