

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: P389044

Luminaire Tested: **24CZ2-90VHE-UNV-L940-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: P389044
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-L940-CD1-SWPD1-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: 7637.4 lumens
Efficiency: N/A
Efficacy: 123.6 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

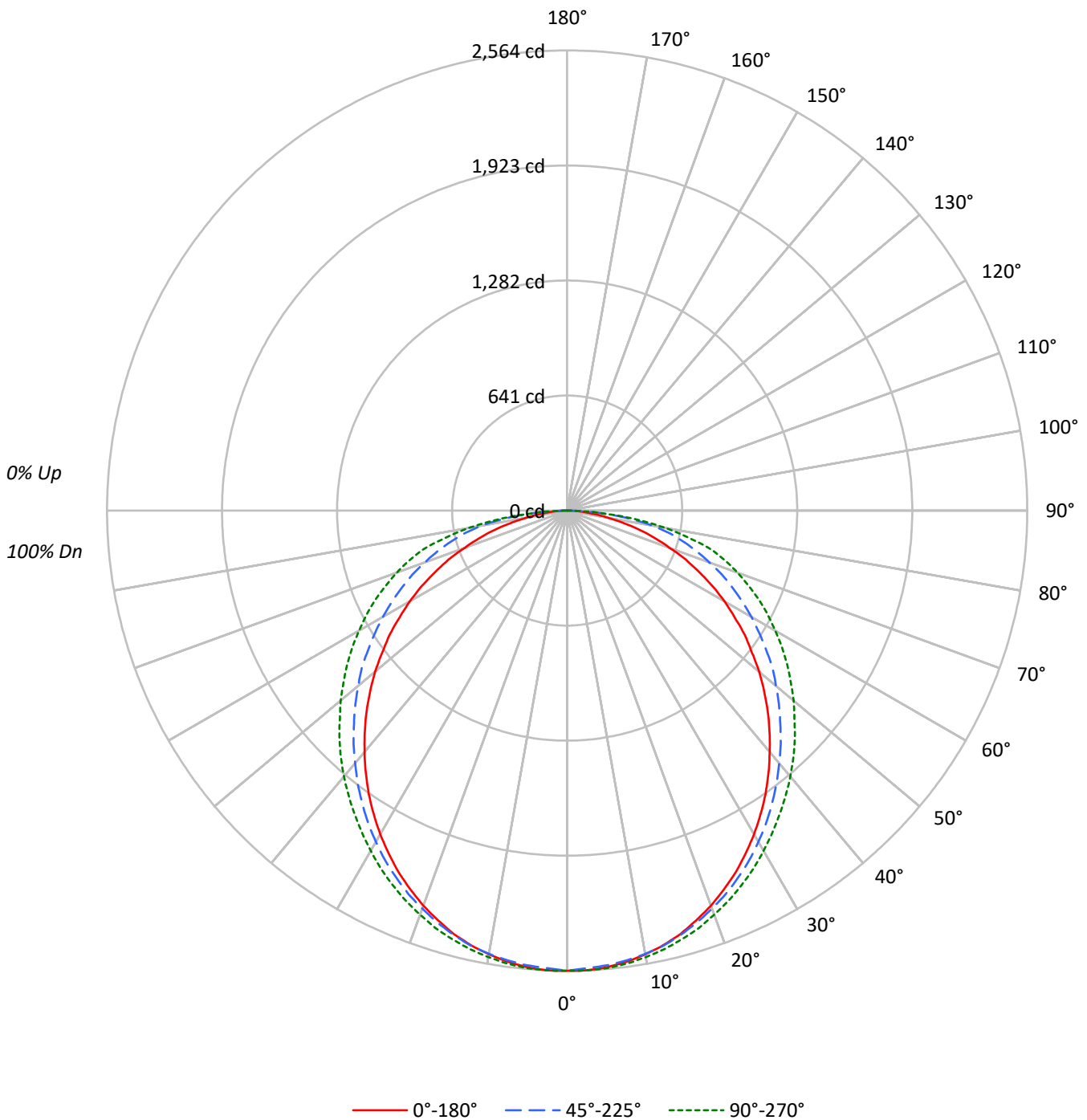
Input Watts (W): 61.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3450	3450	3450
5°	3450	3436	3456
10°	3430	3427	3451
15°	3401	3409	3444
20°	3354	3380	3431
25°	3300	3349	3417
30°	3235	3311	3402
35°	3165	3270	3391
40°	3085	3228	3398
45°	3007	3196	3415
50°	2924	3180	3447
55°	2834	3175	3510
60°	2723	3190	3601
65°	2581	3238	3757
70°	2397	3319	3971
75°	2187	3485	4306
80°	1798	3753	4306
85°	1377	3463	3699



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.5	3.2
10°-20°	692.4	9.1
20°-30°	1041.9	13.6
30°-40°	1248.6	16.3
40°-50°	1301.2	17.0
50°-60°	1210.6	15.9
60°-70°	997.1	13.1
70°-80°	679.1	8.9
80°-90°	224.2	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°	1976.8	25.9
0°-40°	3225.4	42.2
0°-60°	5737.1	75.1
0°-90°	7637.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7637.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2564	2564	2564	2564	2564	
5°	2554	2554	2544	2557	2559	242
15°	2442	2444	2447	2470	2472	688
25°	2223	2233	2256	2294	2302	1023
35°	1927	1950	1991	2044	2065	1205
45°	1580	1614	1680	1764	1794	1219
55°	1208	1249	1354	1460	1496	1077
65°	811	879	1017	1137	1180	805
75°	421	515	670	790	828	443
85°	89	173	224	240	240	111
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2564.2	2564.2	2564.2	2564.2	2564.2
2.5°	2564.2	2564.2	2551.5	2564.2	2564.2
5°	2554.0	2554.0	2543.8	2556.6	2559.1
7.5°	2536.2	2538.7	2528.5	2543.8	2546.4
10°	2510.7	2513.3	2508.2	2523.4	2526.0
12.5°	2480.1	2482.7	2482.7	2500.5	2503.1
15°	2441.9	2444.4	2447.0	2469.9	2472.5
17.5°	2393.5	2401.1	2406.2	2434.2	2439.3
20°	2342.5	2350.1	2360.3	2390.9	2396.0
22.5°	2283.8	2294.0	2311.9	2345.0	2352.7
25°	2222.7	2232.9	2255.8	2294.0	2301.7
27.5°	2153.9	2169.1	2197.2	2238.0	2248.2
30°	2082.5	2097.8	2130.9	2174.2	2189.5
32.5°	2006.0	2026.4	2064.6	2113.1	2128.4
35°	1927.0	1949.9	1990.7	2044.2	2064.6
37.5°	1842.9	1868.4	1916.8	1975.4	2000.9
40°	1756.2	1786.8	1837.8	1906.6	1934.6
42.5°	1669.6	1697.6	1761.3	1835.2	1865.8
45°	1580.3	1613.5	1679.7	1763.9	1794.5
47.5°	1488.6	1521.7	1600.7	1689.9	1718.0
50°	1396.8	1430.0	1519.2	1613.5	1646.6
52.5°	1297.4	1340.7	1442.7	1537.0	1570.1
55°	1208.2	1249.0	1353.5	1460.5	1496.2
57.5°	1106.2	1154.7	1269.4	1381.5	1419.8
60°	1011.9	1062.9	1185.3	1300.0	1338.2
62.5°	915.1	971.1	1101.1	1218.4	1261.7
65°	810.6	879.4	1017.0	1136.8	1180.2
67.5°	716.3	787.6	932.9	1055.3	1093.5
70°	609.2	695.9	843.7	966.0	1009.4
72.5°	517.4	604.1	759.6	879.4	922.7
75°	420.6	514.9	670.4	790.2	828.4
77.5°	323.7	428.2	583.7	675.5	688.2
80°	232.0	341.6	484.3	537.8	555.7
82.5°	163.1	262.5	356.9	392.5	402.7
85°	89.2	173.3	224.3	239.6	239.6
87.5°	38.2	73.9	89.2	91.8	94.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)