

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: P391804

Luminaire Tested: **24CZ2-90VHE-HRP-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: P391804
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATIONS CENTER(G3)
Issue Date: 2/28/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-90VHE-HRP-UNV-L940-CD1-SWPD1-U
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND HRP LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6482.8 lumens
Efficiency: N/A
Efficacy: 104.9 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

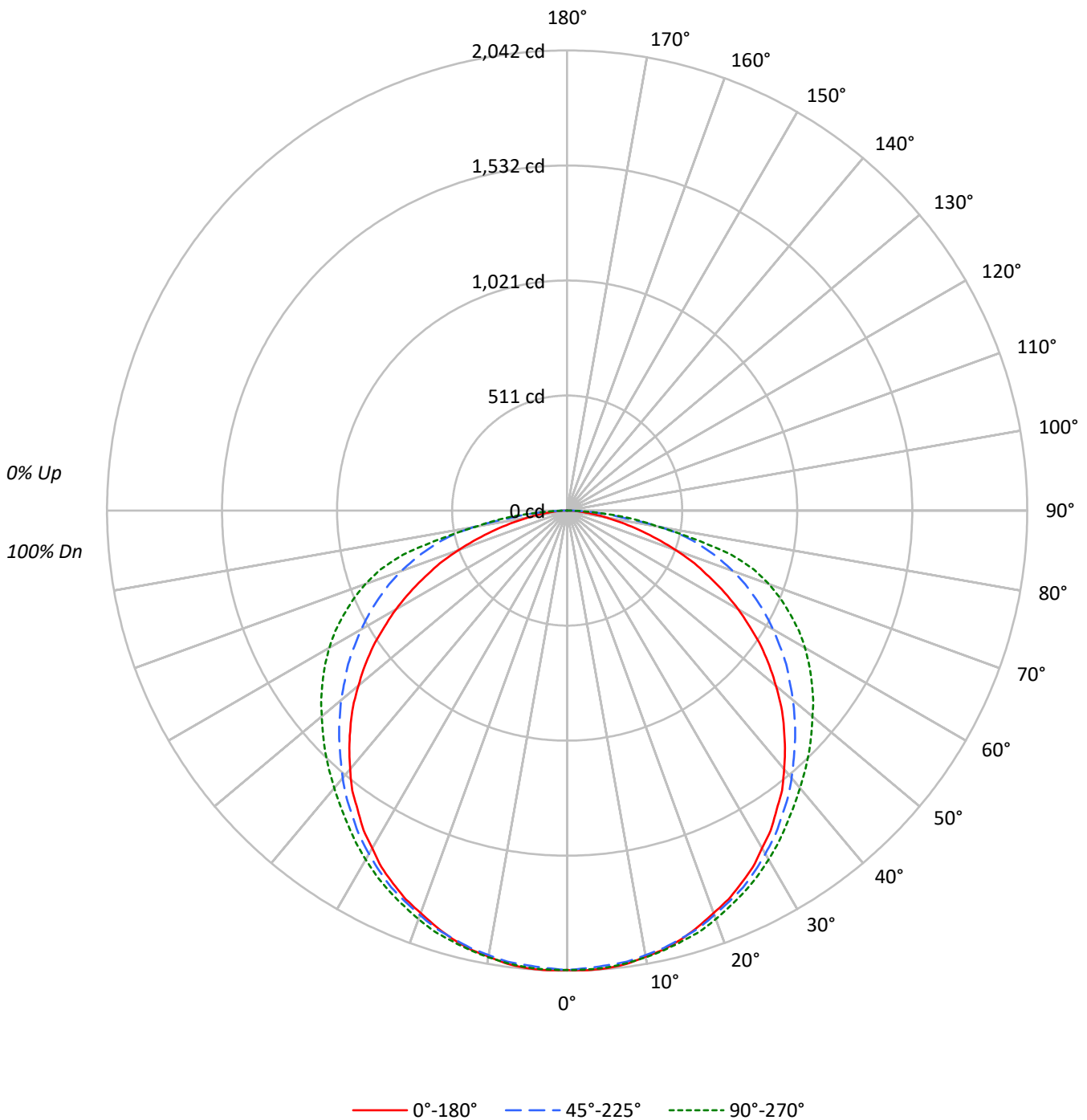
Input Watts (W): 61.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2743	2743	2743
5°	2754	2736	2749
10°	2746	2737	2750
15°	2741	2737	2755
20°	2721	2735	2762
25°	2711	2740	2769
30°	2688	2733	2778
35°	2662	2725	2789
40°	2632	2722	2824
45°	2588	2723	2888
50°	2531	2739	2975
55°	2467	2783	3108
60°	2362	2838	3279
65°	2211	2938	3481
70°	2011	3074	3744
75°	1705	3243	3911
80°	1345	3264	3164
85°	993	2482	2780



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.4	3.0
10°-20°	556.6	8.6
20°-30°	851.1	13.1
30°-40°	1040.5	16.0
40°-50°	1108.9	17.1
50°-60°	1060.3	16.4
60°-70°	898.2	13.9
70°-80°	603.6	9.3
80°-90°	170.3	2.6
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°	1601.0	24.7
0°-40°	2641.5	40.7
0°-60°	4810.7	74.2
0°-90°	6482.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6482.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2039	2039	2039	2039	2039	
5°	2039	2035	2026	2035	2035	194
15°	1968	1968	1965	1981	1978	555
25°	1826	1833	1846	1862	1865	842
35°	1621	1634	1659	1691	1698	1015
45°	1360	1383	1431	1492	1518	1049
55°	1052	1090	1186	1280	1325	937
65°	695	765	923	1045	1093	690
75°	328	447	624	730	752	351
85°	64	132	161	174	180	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2038.7	2038.7	2038.7	2038.7	2038.7
2.5°	2041.9	2041.9	2032.2	2038.7	2038.7
5°	2038.7	2035.4	2025.8	2035.4	2035.4
7.5°	2029.0	2025.8	2019.4	2029.0	2025.8
10°	2009.7	2009.7	2003.3	2012.9	2012.9
12.5°	1993.6	1990.4	1987.2	2000.1	1996.9
15°	1967.9	1967.9	1964.7	1980.8	1977.6
17.5°	1935.8	1939.0	1942.2	1955.1	1958.3
20°	1900.4	1906.8	1910.0	1929.3	1929.3
22.5°	1868.2	1871.4	1877.9	1897.2	1897.2
25°	1826.4	1832.9	1845.7	1861.8	1865.0
27.5°	1784.6	1787.8	1803.9	1826.4	1829.6
30°	1730.0	1739.6	1758.9	1784.6	1787.8
32.5°	1681.7	1691.4	1713.9	1739.6	1746.0
35°	1620.6	1633.5	1659.2	1691.4	1697.8
37.5°	1566.0	1575.6	1607.8	1643.1	1652.8
40°	1498.4	1517.7	1549.9	1591.7	1607.8
42.5°	1430.9	1450.2	1488.8	1543.5	1562.8
45°	1360.2	1382.7	1430.9	1492.0	1517.7
47.5°	1289.4	1315.2	1369.8	1440.6	1469.5
50°	1209.0	1241.2	1308.7	1389.1	1421.3
52.5°	1131.9	1170.5	1244.4	1334.5	1376.3
55°	1051.5	1090.1	1186.5	1279.8	1324.8
57.5°	961.4	1012.9	1119.0	1225.1	1273.4
60°	877.8	926.1	1054.7	1170.5	1218.7
62.5°	787.8	852.1	990.4	1112.6	1160.8
65°	694.6	765.3	922.9	1045.1	1093.3
67.5°	611.0	688.1	855.3	977.5	1025.8
70°	511.3	607.7	781.4	903.6	951.8
72.5°	418.0	524.1	704.2	823.2	868.2
75°	328.0	447.0	623.8	729.9	752.4
77.5°	244.4	369.8	540.2	585.2	569.2
80°	173.6	295.8	421.2	398.7	408.4
82.5°	112.5	225.1	260.5	295.8	305.5
85°	64.3	131.8	160.8	173.6	180.1
87.5°	28.9	48.2	64.3	64.3	61.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)