

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: P391797

Luminaire Tested: **24CZ2-90VHE-HRP-UNV-L930-CD1-SDWPD1-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: P391797
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-L930-CD1-SDWPD1-U
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND HRP LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6186.1 lumens
Efficiency: N/A
Efficacy: 100.1 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

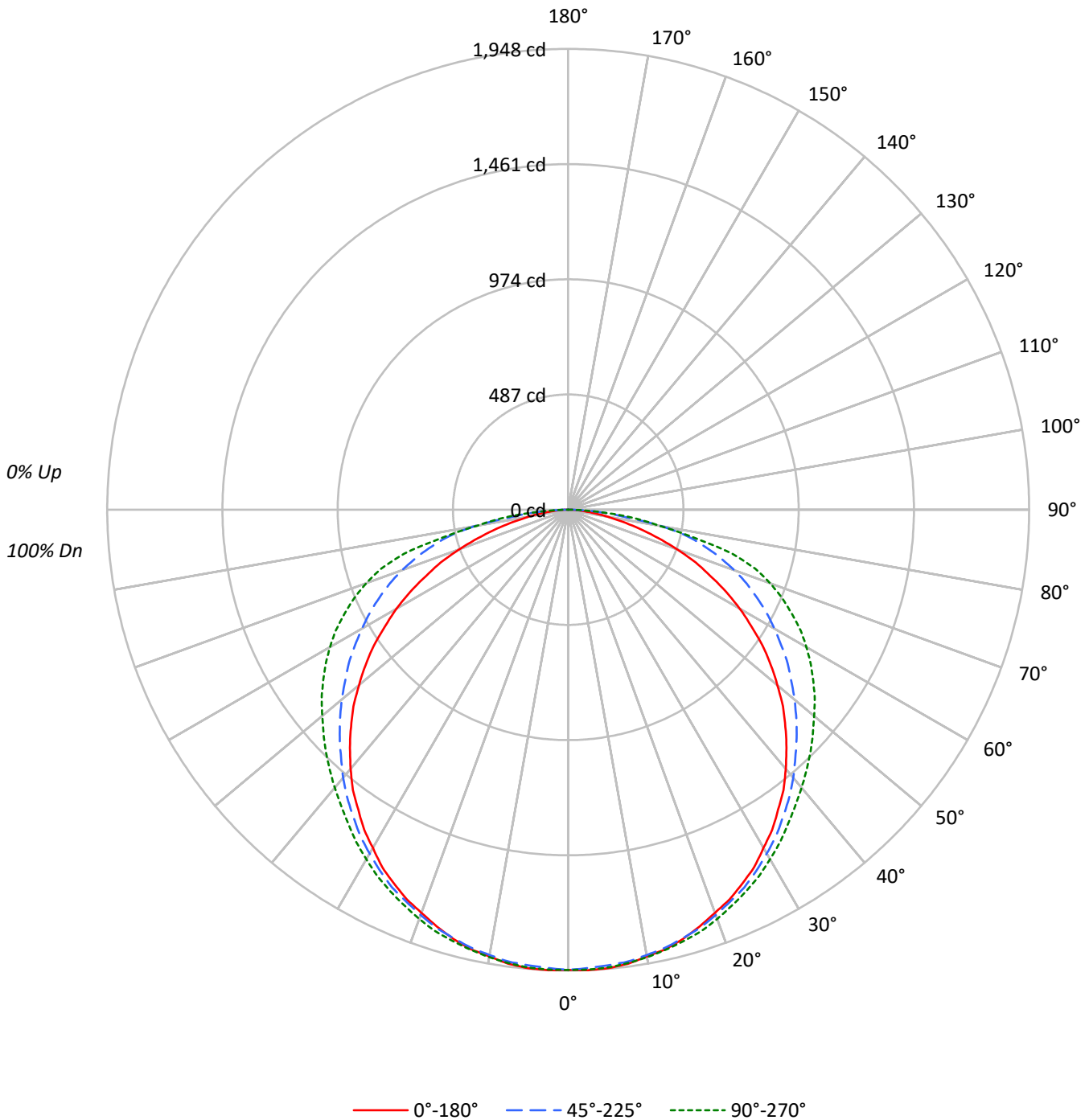
Input Watts (W): 61.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2618	2618	2618
5°	2628	2611	2623
10°	2620	2612	2624
15°	2616	2612	2629
20°	2596	2610	2636
25°	2587	2615	2642
30°	2565	2608	2651
35°	2540	2601	2661
40°	2511	2598	2695
45°	2470	2598	2756
50°	2415	2614	2839
55°	2354	2656	2966
60°	2254	2708	3129
65°	2110	2804	3321
70°	1919	2933	3573
75°	1627	3095	3733
80°	1284	3115	3020
85°	948	2368	2652



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.5	3.0
10°-20°	531.1	8.6
20°-30°	812.1	13.1
30°-40°	992.8	16.0
40°-50°	1058.2	17.1
50°-60°	1011.7	16.4
60°-70°	857.1	13.9
70°-80°	576.0	9.3
80°-90°	162.5	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°	1527.8	24.7
0°-40°	2520.6	40.7
0°-60°	4590.5	74.2
0°-90°	6186.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6186.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1945	1945	1945	1945	1945	
5°	1945	1942	1933	1942	1942	185
15°	1878	1878	1875	1890	1887	529
25°	1743	1749	1761	1777	1780	803
35°	1546	1559	1583	1614	1620	969
45°	1298	1319	1365	1424	1448	1001
55°	1003	1040	1132	1221	1264	894
65°	663	730	881	997	1043	658
75°	313	426	595	696	718	335
85°	61	126	153	166	172	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1945.4	1945.4	1945.4	1945.4	1945.4
2.5°	1948.4	1948.4	1939.2	1945.4	1945.4
5°	1945.4	1942.3	1933.1	1942.3	1942.3
7.5°	1936.1	1933.1	1926.9	1936.1	1933.1
10°	1917.7	1917.7	1911.6	1920.8	1920.8
12.5°	1902.4	1899.3	1896.3	1908.5	1905.5
15°	1877.8	1877.8	1874.8	1890.1	1887.1
17.5°	1847.2	1850.2	1853.3	1865.6	1868.6
20°	1813.4	1819.5	1822.6	1841.0	1841.0
22.5°	1782.7	1785.8	1791.9	1810.3	1810.3
25°	1742.8	1749.0	1761.2	1776.6	1779.7
27.5°	1702.9	1706.0	1721.4	1742.8	1745.9
30°	1650.8	1660.0	1678.4	1702.9	1706.0
32.5°	1604.8	1614.0	1635.4	1660.0	1666.1
35°	1546.5	1558.7	1583.3	1614.0	1620.1
37.5°	1494.3	1503.5	1534.2	1567.9	1577.1
40°	1429.9	1448.3	1479.0	1518.8	1534.2
42.5°	1365.4	1383.8	1420.7	1472.8	1491.2
45°	1297.9	1319.4	1365.4	1423.7	1448.3
47.5°	1230.4	1255.0	1307.1	1374.6	1402.2
50°	1153.7	1184.4	1248.8	1325.5	1356.2
52.5°	1080.1	1116.9	1187.5	1273.4	1313.3
55°	1003.4	1040.2	1132.2	1221.2	1264.2
57.5°	917.4	966.5	1067.8	1169.1	1215.1
60°	837.7	883.7	1006.4	1116.9	1162.9
62.5°	751.8	813.1	945.1	1061.7	1107.7
65°	662.8	730.3	880.6	997.2	1043.2
67.5°	583.0	656.6	816.2	932.8	978.8
70°	487.9	579.9	745.6	862.2	908.2
72.5°	398.9	500.1	672.0	785.5	828.5
75°	313.0	426.5	595.3	696.5	718.0
77.5°	233.2	352.9	515.5	558.4	543.1
80°	165.7	282.3	402.0	380.5	389.7
82.5°	107.4	214.8	248.5	282.3	291.5
85°	61.4	125.8	153.4	165.7	171.8
87.5°	27.6	46.0	61.4	61.4	58.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)