

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: P391708

Luminaire Tested: **24CZ2-80VHE-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: P391708
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: 24CZ2-80VHE-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: 5820.4 lumens
Efficiency: N/A
Efficacy: 108.2 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

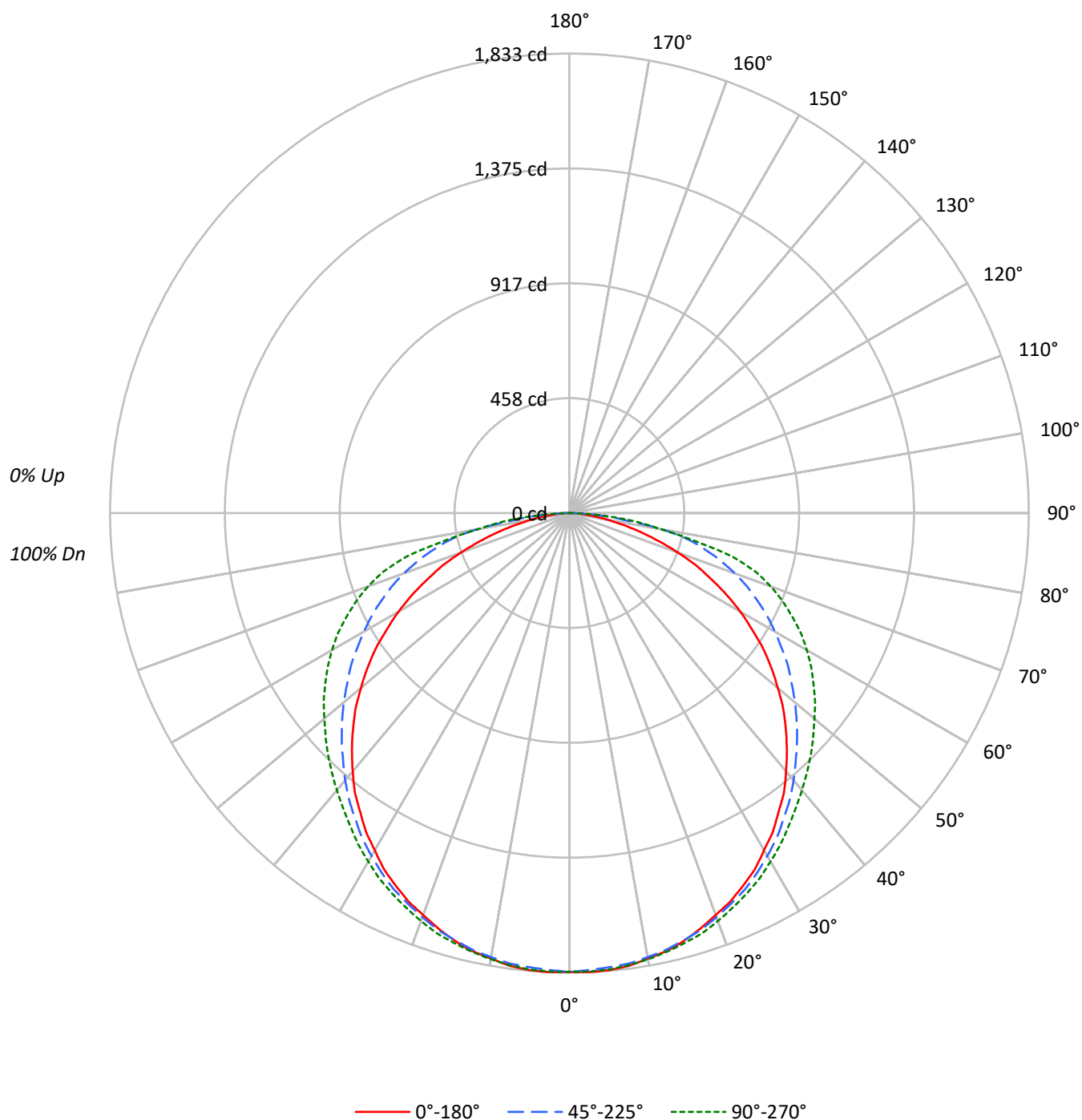
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2463	2463	2463
5°	2472	2457	2468
10°	2465	2457	2469
15°	2461	2457	2473
20°	2443	2455	2480
25°	2434	2460	2486
30°	2413	2454	2494
35°	2390	2447	2504
40°	2363	2444	2535
45°	2324	2445	2593
50°	2272	2460	2671
55°	2214	2499	2790
60°	2121	2548	2944
65°	1985	2638	3125
70°	1806	2760	3362
75°	1531	2912	3512
80°	1208	2930	2841
85°	891	2228	2496



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.6	3.0
10°-20°	499.7	8.6
20°-30°	764.1	13.1
30°-40°	934.2	16.0
40°-50°	995.6	17.1
50°-60°	951.9	16.4
60°-70°	806.4	13.9
70°-80°	542.0	9.3
80°-90°	152.9	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°	1437.5	24.7
0°-40°	2371.6	40.7
0°-60°	4319.2	74.2
0°-90°	5820.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5820.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1830	1830	1830	1830	1830	
5°	1830	1828	1819	1828	1828	174
15°	1767	1767	1764	1778	1776	498
25°	1640	1646	1657	1672	1674	756
35°	1455	1467	1490	1519	1524	912
45°	1221	1241	1285	1340	1363	942
55°	944	979	1065	1149	1189	841
65°	624	687	829	938	982	619
75°	294	401	560	655	676	315
85°	58	118	144	156	162	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1830.3	1830.3	1830.3	1830.3	1830.3
2.5°	1833.2	1833.2	1824.6	1830.3	1830.3
5°	1830.3	1827.5	1818.8	1827.5	1827.5
7.5°	1821.7	1818.8	1813.0	1821.7	1818.8
10°	1804.4	1804.4	1798.6	1807.3	1807.3
12.5°	1789.9	1787.0	1784.2	1795.7	1792.8
15°	1766.8	1766.8	1763.9	1778.4	1775.5
17.5°	1738.0	1740.9	1743.7	1755.3	1758.2
20°	1706.2	1712.0	1714.9	1732.2	1732.2
22.5°	1677.3	1680.2	1686.0	1703.3	1703.3
25°	1639.8	1645.6	1657.1	1671.6	1674.5
27.5°	1602.3	1605.2	1619.6	1639.8	1642.7
30°	1553.2	1561.9	1579.2	1602.3	1605.2
32.5°	1509.9	1518.6	1538.8	1561.9	1567.6
35°	1455.0	1466.6	1489.7	1518.6	1524.3
37.5°	1406.0	1414.6	1443.5	1475.3	1483.9
40°	1345.3	1362.7	1391.5	1429.1	1443.5
42.5°	1284.7	1302.0	1336.7	1385.8	1403.1
45°	1221.2	1241.4	1284.7	1339.6	1362.7
47.5°	1157.7	1180.8	1229.9	1293.4	1319.4
50°	1085.5	1114.4	1175.0	1247.2	1276.0
52.5°	1016.2	1050.9	1117.3	1198.1	1235.6
55°	944.0	978.7	1065.3	1149.0	1189.4
57.5°	863.2	909.4	1004.7	1099.9	1143.2
60°	788.1	831.5	946.9	1050.9	1094.2
62.5°	707.3	765.1	889.2	998.9	1042.2
65°	623.6	687.1	828.6	938.3	981.6
67.5°	548.5	617.8	767.9	877.6	920.9
70°	459.0	545.6	701.5	811.2	854.5
72.5°	375.3	470.6	632.3	739.1	779.5
75°	294.5	401.3	560.1	655.3	675.6
77.5°	219.4	332.0	485.0	525.4	511.0
80°	155.9	265.6	378.2	358.0	366.6
82.5°	101.0	202.1	233.8	265.6	274.3
85°	57.7	118.4	144.3	155.9	161.7
87.5°	26.0	43.3	57.7	57.7	54.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)