

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: P391709

Luminaire Tested: **24CZ2-80VHE-HRP-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: P391709
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-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: 5893.6 lumens
Efficiency: N/A
Efficacy: 109.5 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

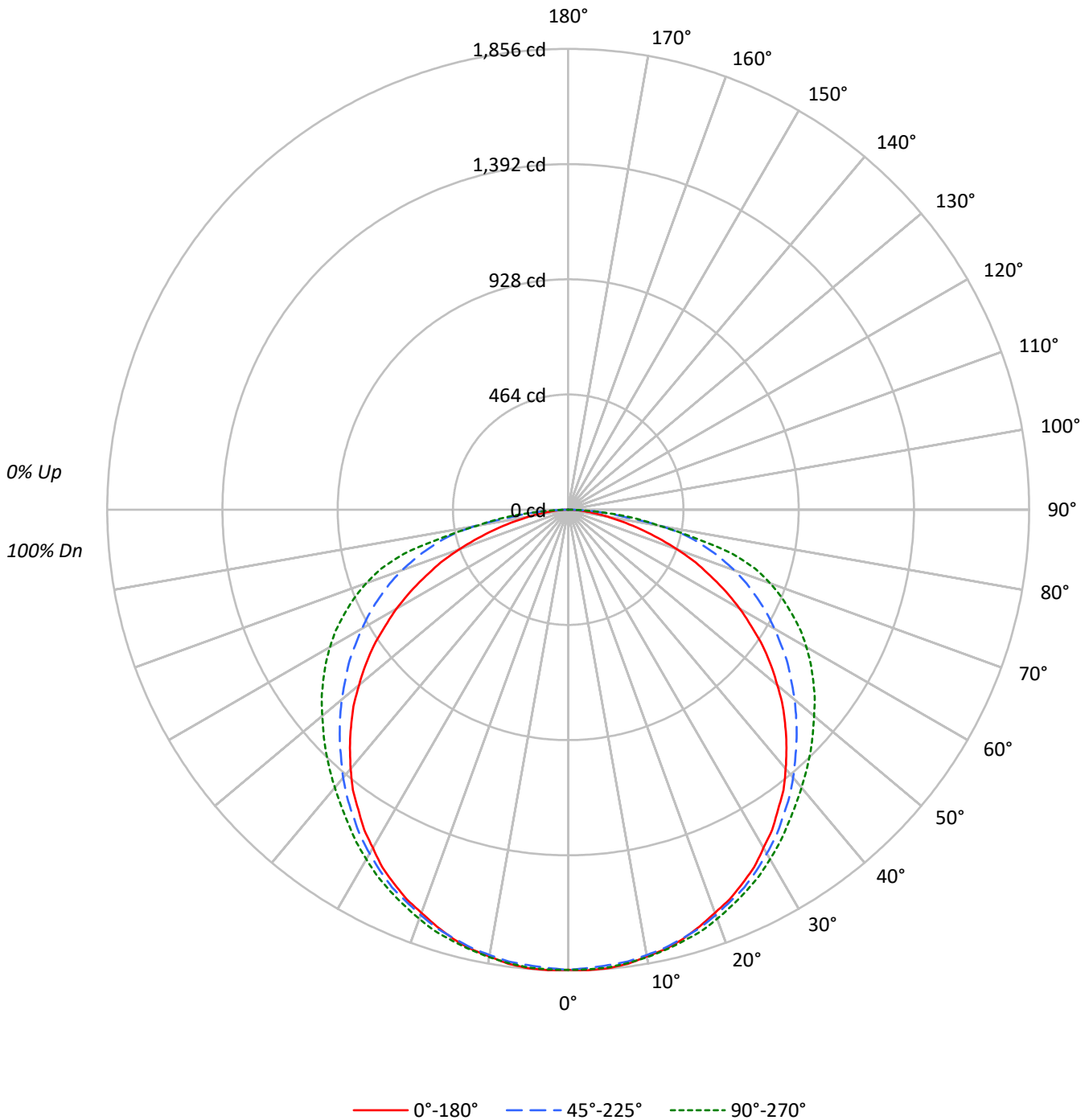
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	2494	2494	2494
5°	2503	2487	2499
10°	2496	2488	2500
15°	2492	2488	2504
20°	2474	2486	2511
25°	2465	2491	2517
30°	2443	2484	2525
35°	2420	2478	2535
40°	2393	2475	2567
45°	2353	2475	2625
50°	2301	2491	2705
55°	2242	2530	2825
60°	2148	2580	2981
65°	2010	2671	3164
70°	1828	2795	3404
75°	1550	2948	3556
80°	1223	2968	2877
85°	903	2257	2527



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.8	3.0
10°-20°	506.0	8.6
20°-30°	773.7	13.1
30°-40°	945.9	16.0
40°-50°	1008.1	17.1
50°-60°	963.9	16.4
60°-70°	816.6	13.9
70°-80°	548.8	9.3
80°-90°	154.8	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°	1455.5	24.7
0°-40°	2401.4	40.7
0°-60°	4373.5	74.2
0°-90°	5893.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5893.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1853	1853	1853	1853	1853	
5°	1853	1850	1842	1850	1850	176
15°	1789	1789	1786	1801	1798	504
25°	1660	1666	1678	1693	1696	765
35°	1473	1485	1508	1538	1544	923
45°	1237	1257	1301	1356	1380	954
55°	956	991	1079	1164	1204	851
65°	631	696	839	950	994	627
75°	298	406	567	664	684	319
85°	58	120	146	158	164	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1853.4	1853.4	1853.4	1853.4	1853.4
2.5°	1856.3	1856.3	1847.5	1853.4	1853.4
5°	1853.4	1850.4	1841.7	1850.4	1850.4
7.5°	1844.6	1841.7	1835.8	1844.6	1841.7
10°	1827.1	1827.1	1821.2	1830.0	1830.0
12.5°	1812.4	1809.5	1806.6	1818.3	1815.4
15°	1789.1	1789.1	1786.1	1800.7	1797.8
17.5°	1759.8	1762.7	1765.7	1777.4	1780.3
20°	1727.7	1733.5	1736.4	1754.0	1754.0
22.5°	1698.4	1701.4	1707.2	1724.7	1724.7
25°	1660.4	1666.3	1678.0	1692.6	1695.5
27.5°	1622.4	1625.4	1640.0	1660.4	1663.4
30°	1572.7	1581.5	1599.0	1622.4	1625.4
32.5°	1528.9	1537.7	1558.1	1581.5	1587.3
35°	1473.3	1485.0	1508.4	1537.7	1543.5
37.5°	1423.6	1432.4	1461.6	1493.8	1502.6
40°	1362.3	1379.8	1409.0	1447.0	1461.6
42.5°	1300.9	1318.4	1353.5	1403.2	1420.7
45°	1236.6	1257.0	1300.9	1356.4	1379.8
47.5°	1172.2	1195.6	1245.3	1309.6	1335.9
50°	1099.2	1128.4	1189.8	1262.9	1292.1
52.5°	1029.0	1064.1	1131.3	1213.2	1251.2
55°	955.9	991.0	1078.7	1163.5	1204.4
57.5°	874.1	920.8	1017.3	1113.8	1157.6
60°	798.1	841.9	958.8	1064.1	1107.9
62.5°	716.2	774.7	900.4	1011.5	1055.3
65°	631.4	695.7	839.0	950.1	993.9
67.5°	555.4	625.6	777.6	888.7	932.5
70°	464.8	552.5	710.4	821.4	865.3
72.5°	380.0	476.5	640.2	748.4	789.3
75°	298.2	406.3	567.1	663.6	684.1
77.5°	222.2	336.2	491.1	532.0	517.4
80°	157.9	268.9	383.0	362.5	371.3
82.5°	102.3	204.6	236.8	268.9	277.7
85°	58.5	119.9	146.2	157.9	163.7
87.5°	26.3	43.8	58.5	58.5	55.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)