

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: P391704

Luminaire Tested: **24CZ2-80VHE-HRP-UNV-L935-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: P391704
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-L935-CD1-SDWPD1-U
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND HRP LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5691.4 lumens
Efficiency: N/A
Efficacy: 105.8 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

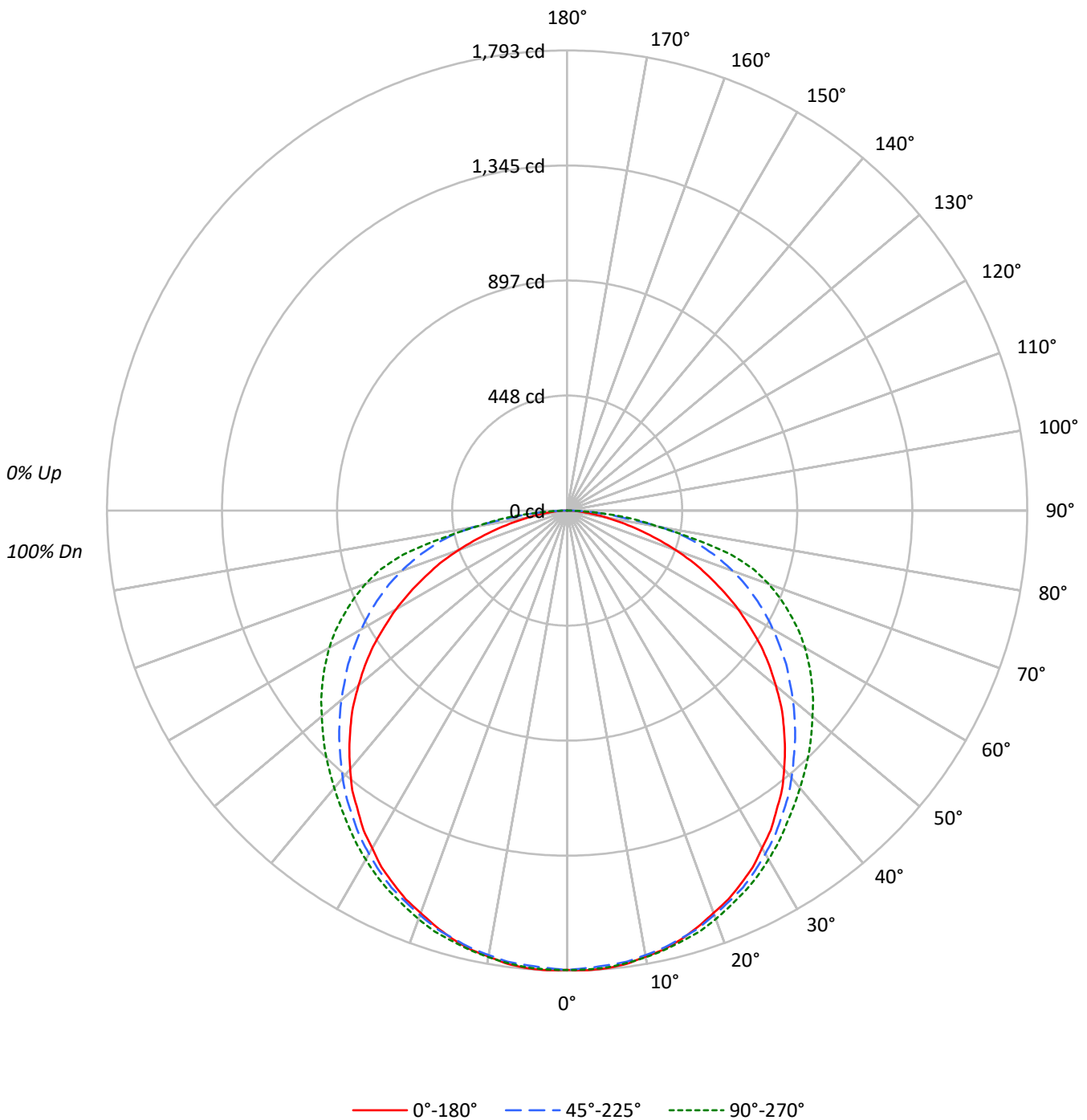
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2408	2408	2408
5°	2417	2402	2414
10°	2411	2403	2414
15°	2407	2403	2418
20°	2389	2401	2425
25°	2381	2406	2431
30°	2360	2399	2439
35°	2337	2393	2448
40°	2311	2390	2479
45°	2272	2390	2535
50°	2222	2405	2612
55°	2165	2444	2728
60°	2074	2492	2879
65°	1941	2579	3056
70°	1766	2699	3287
75°	1497	2847	3434
80°	1181	2865	2778
85°	872	2180	2441



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.8	3.0
10°-20°	488.6	8.6
20°-30°	747.2	13.1
30°-40°	913.4	16.0
40°-50°	973.5	17.1
50°-60°	930.8	16.4
60°-70°	788.5	13.9
70°-80°	530.0	9.3
80°-90°	149.5	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°	1405.6	24.7
0°-40°	2319.0	40.7
0°-60°	4223.4	74.2
0°-90°	5691.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5691.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1790	1790	1790	1790	1790	
5°	1790	1787	1778	1787	1787	170
15°	1728	1728	1725	1739	1736	487
25°	1604	1609	1620	1634	1637	739
35°	1423	1434	1457	1485	1490	891
45°	1194	1214	1256	1310	1332	921
55°	923	957	1042	1124	1163	822
65°	610	672	810	918	960	605
75°	288	392	548	641	661	308
85°	56	116	141	152	158	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1789.8	1789.8	1789.8	1789.8	1789.8
2.5°	1792.6	1792.6	1784.1	1789.8	1789.8
5°	1789.8	1787.0	1778.5	1787.0	1787.0
7.5°	1781.3	1778.5	1772.8	1781.3	1778.5
10°	1764.4	1764.4	1758.7	1767.2	1767.2
12.5°	1750.3	1747.4	1744.6	1755.9	1753.1
15°	1727.7	1727.7	1724.9	1739.0	1736.1
17.5°	1699.4	1702.3	1705.1	1716.4	1719.2
20°	1668.4	1674.0	1676.9	1693.8	1693.8
22.5°	1640.2	1643.0	1648.6	1665.6	1665.6
25°	1603.5	1609.1	1620.4	1634.5	1637.3
27.5°	1566.8	1569.6	1583.7	1603.5	1606.3
30°	1518.8	1527.2	1544.2	1566.8	1569.6
32.5°	1476.4	1484.9	1504.7	1527.2	1532.9
35°	1422.8	1434.1	1456.7	1484.9	1490.5
37.5°	1374.8	1383.3	1411.5	1442.6	1451.0
40°	1315.5	1332.5	1360.7	1397.4	1411.5
42.5°	1256.2	1273.2	1307.0	1355.0	1372.0
45°	1194.1	1213.9	1256.2	1309.9	1332.5
47.5°	1132.0	1154.6	1202.6	1264.7	1290.1
50°	1061.4	1089.7	1149.0	1219.5	1247.8
52.5°	993.7	1027.6	1092.5	1171.5	1208.2
55°	923.1	957.0	1041.7	1123.6	1163.1
57.5°	844.1	889.2	982.4	1075.6	1117.9
60°	770.7	813.0	925.9	1027.6	1069.9
62.5°	691.6	748.1	869.5	976.8	1019.1
65°	609.8	671.9	810.2	917.5	959.8
67.5°	536.4	604.1	750.9	858.2	900.5
70°	448.9	533.5	686.0	793.3	835.6
72.5°	367.0	460.1	618.2	722.7	762.2
75°	287.9	392.4	547.7	640.8	660.6
77.5°	214.5	324.6	474.3	513.8	499.7
80°	152.4	259.7	369.8	350.1	358.5
82.5°	98.8	197.6	228.7	259.7	268.2
85°	56.5	115.7	141.2	152.4	158.1
87.5°	25.4	42.3	56.5	56.5	53.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)