

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: P391607

Luminaire Tested: **24CZ2-70VHE-HRP-UNV-L930-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: P391607
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: 24CZ2-70VHE-HRP-UNV-L930-CD1-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: 4943.7 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

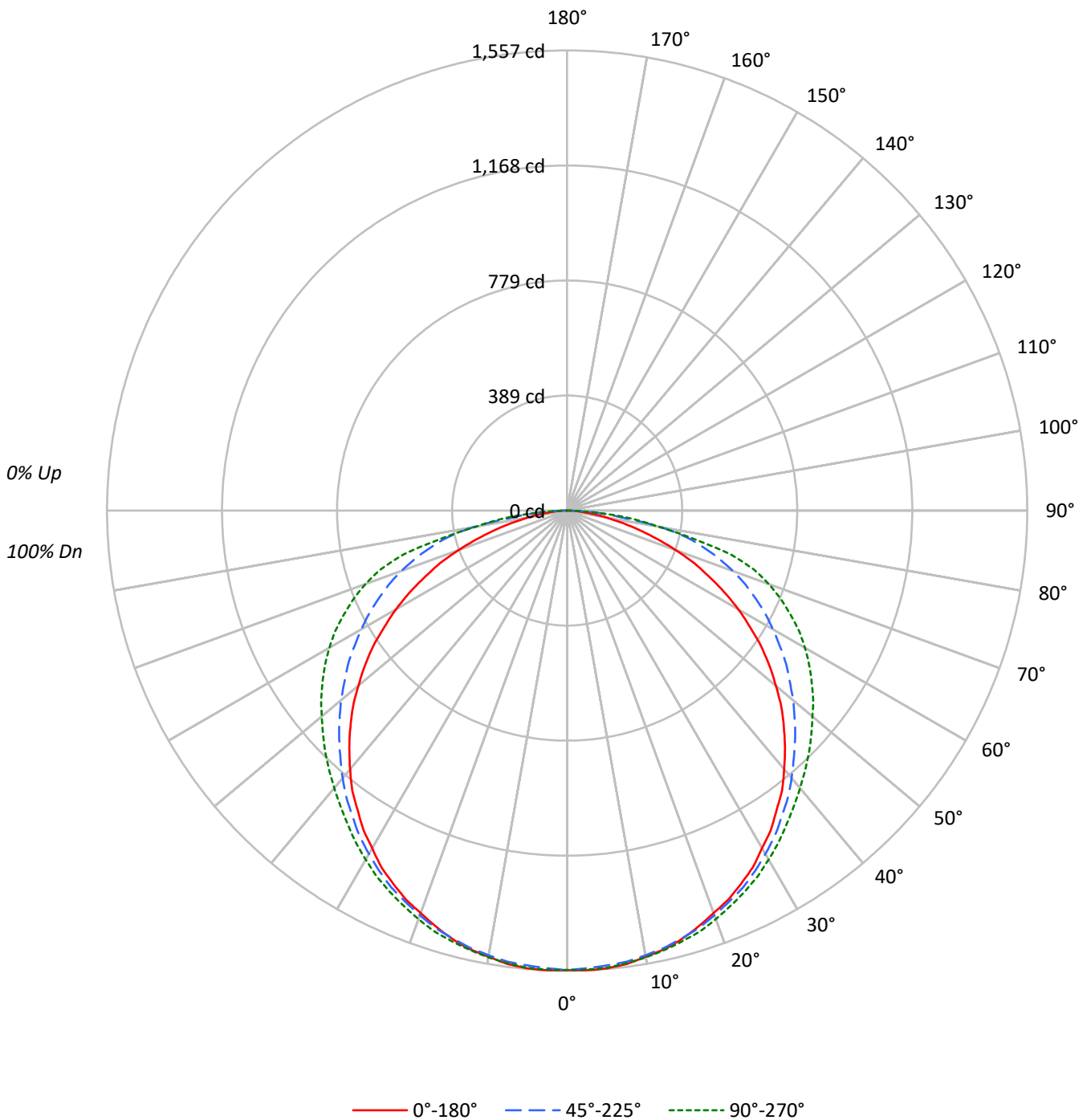
Input Watts (W): 45.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2092	2092	2092
5°	2100	2086	2096
10°	2094	2087	2097
15°	2090	2087	2101
20°	2075	2086	2107
25°	2068	2090	2111
30°	2050	2084	2118
35°	2030	2078	2127
40°	2007	2076	2154
45°	1974	2076	2202
50°	1930	2089	2269
55°	1881	2122	2370
60°	1801	2164	2501
65°	1686	2241	2654
70°	1534	2344	2855
75°	1300	2473	2983
80°	1026	2489	2413
85°	756	1893	2120



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.5	3.0
10°-20°	424.4	8.6
20°-30°	649.0	13.1
30°-40°	793.4	16.0
40°-50°	845.6	17.1
50°-60°	808.5	16.4
60°-70°	684.9	13.9
70°-80°	460.3	9.3
80°-90°	129.8	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°	1220.9	24.7
0°-40°	2014.4	40.7
0°-60°	3668.5	74.2
0°-90°	4943.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4943.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1555	1555	1555	1555	1555	
5°	1555	1552	1545	1552	1552	148
15°	1501	1501	1498	1510	1508	423
25°	1393	1398	1408	1420	1422	642
35°	1236	1246	1265	1290	1295	774
45°	1037	1054	1091	1138	1157	800
55°	802	831	905	976	1010	714
65°	530	584	704	797	834	526
75°	250	341	476	557	574	268
85°	49	100	123	132	137	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1554.7	1554.7	1554.7	1554.7	1554.7
2.5°	1557.1	1557.1	1549.7	1554.7	1554.7
5°	1554.7	1552.2	1544.8	1552.2	1552.2
7.5°	1547.3	1544.8	1539.9	1547.3	1544.8
10°	1532.6	1532.6	1527.7	1535.0	1535.0
12.5°	1520.3	1517.9	1515.4	1525.2	1522.8
15°	1500.7	1500.7	1498.3	1510.5	1508.1
17.5°	1476.2	1478.6	1481.1	1490.9	1493.3
20°	1449.2	1454.1	1456.6	1471.3	1471.3
22.5°	1424.7	1427.1	1432.0	1446.8	1446.8
25°	1392.8	1397.7	1407.5	1419.8	1422.2
27.5°	1360.9	1363.4	1375.6	1392.8	1395.3
30°	1319.2	1326.6	1341.3	1360.9	1363.4
32.5°	1282.5	1289.8	1307.0	1326.6	1331.5
35°	1235.9	1245.7	1265.3	1289.8	1294.7
37.5°	1194.2	1201.5	1226.1	1253.0	1260.4
40°	1142.7	1157.4	1181.9	1213.8	1226.1
42.5°	1091.2	1105.9	1135.3	1177.0	1191.7
45°	1037.3	1054.4	1091.2	1137.8	1157.4
47.5°	983.3	1002.9	1044.6	1098.6	1120.6
50°	922.0	946.5	998.0	1059.3	1083.8
52.5°	863.2	892.6	949.0	1017.6	1049.5
55°	801.8	831.3	904.8	975.9	1010.3
57.5°	733.2	772.4	853.3	934.3	971.0
60°	669.4	706.2	804.3	892.6	929.4
62.5°	600.8	649.8	755.3	848.4	885.2
65°	529.7	583.6	703.8	796.9	833.7
67.5°	465.9	524.8	652.3	745.4	782.2
70°	389.9	463.5	595.9	689.0	725.8
72.5°	318.8	399.7	537.0	627.7	662.1
75°	250.1	340.8	475.7	556.6	573.8
77.5°	186.4	282.0	412.0	446.3	434.0
80°	132.4	225.6	321.2	304.1	311.4
82.5°	85.8	171.6	198.6	225.6	233.0
85°	49.0	100.5	122.6	132.4	137.3
87.5°	22.1	36.8	49.0	49.0	46.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)