

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: P389759

Luminaire Tested: **24CZ2-45VHE-S-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: P389759  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45VHE-S-UNV-L930-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3952.3 lumens  
Efficiency: N/A  
Efficacy: 133.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

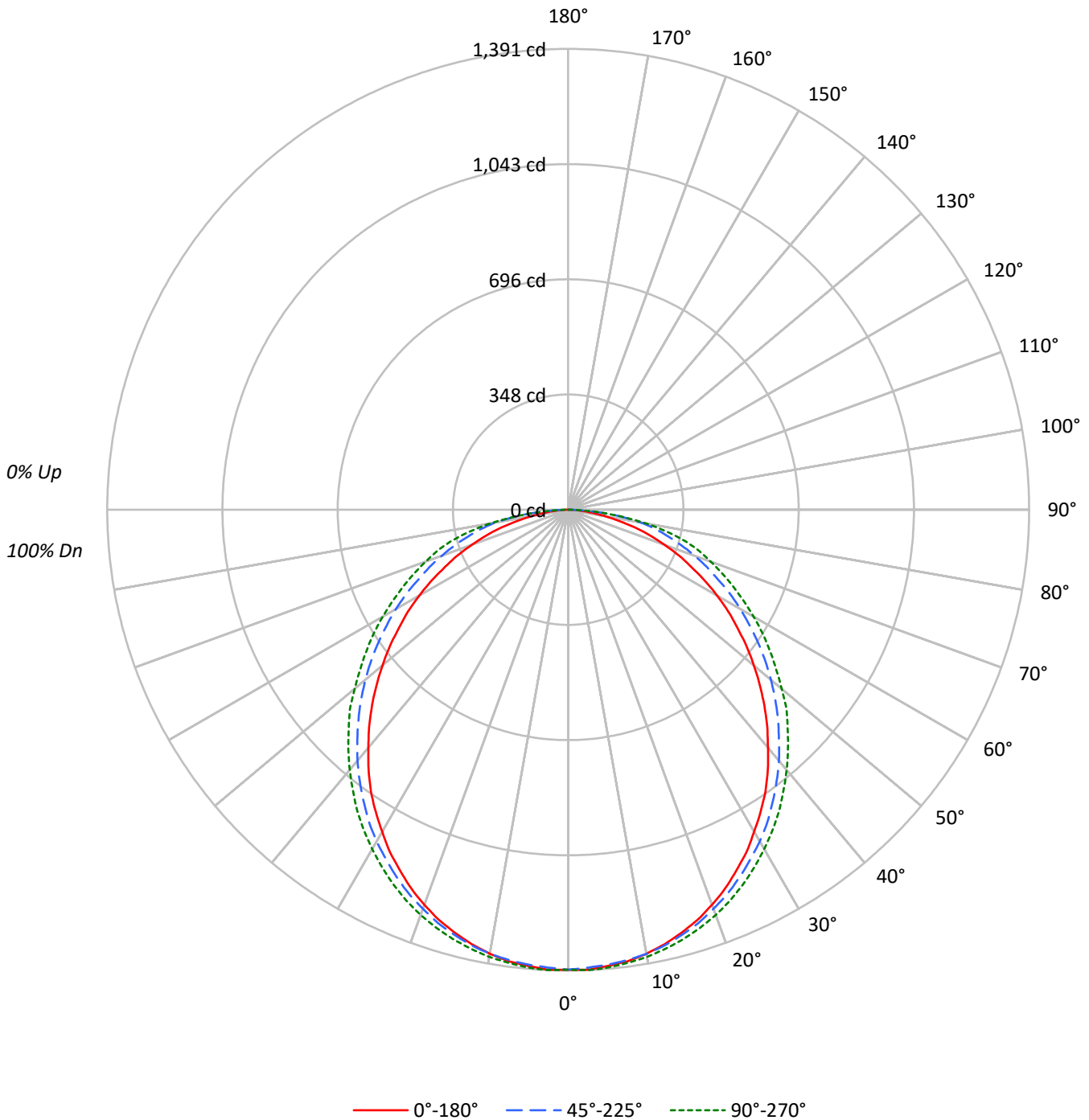
Input Watts (W): 29.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90		93	90	88		89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1868	1868	1868
5°	1867	1862	1874
10°	1859	1859	1873
15°	1841	1850	1869
20°	1817	1835	1864
25°	1784	1817	1853
30°	1744	1796	1837
35°	1705	1767	1823
40°	1647	1738	1802
45°	1593	1703	1782
50°	1532	1671	1761
55°	1464	1640	1743
60°	1395	1615	1740
65°	1307	1587	1751
70°	1210	1595	1798
75°	1083	1625	1899
80°	876	1722	1858
85°	659	1511	1473



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.4	3.3
10°-20°	375.6	9.5
20°-30°	564.6	14.3
30°-40°	672.5	17.0
40°-50°	688.3	17.4
50°-60°	619.7	15.7
60°-70°	486.6	12.3
70°-80°	315.8	8.0
80°-90°	97.7	2.5
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°	1071.6	27.1
0°-40°	1744.2	44.1
0°-60°	3052.1	77.2
0°-90°	3952.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3952.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1382	1385	1378	1386	1387	131
15°	1322	1326	1328	1340	1342	373
25°	1201	1212	1224	1244	1248	553
35°	1038	1051	1076	1102	1110	648
45°	837	857	895	929	936	646
55°	624	652	699	736	743	559
65°	410	442	498	540	550	409
75°	208	249	313	355	365	221
85°	43	79	98	95	95	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1388.5	1388.5	1388.5	1388.5	1388.5
2.5°	1389.7	1389.7	1383.4	1389.7	1391.0
5°	1382.2	1384.7	1378.4	1386.0	1387.2
7.5°	1374.7	1374.7	1370.9	1378.4	1379.7
10°	1360.9	1362.1	1360.9	1369.6	1370.9
12.5°	1343.3	1345.8	1347.0	1355.8	1357.1
15°	1321.9	1325.7	1328.2	1339.5	1342.0
17.5°	1298.1	1301.8	1308.1	1320.7	1323.2
20°	1269.2	1274.2	1281.8	1298.1	1301.8
22.5°	1237.8	1242.8	1255.4	1270.5	1276.7
25°	1201.4	1211.5	1224.0	1244.1	1247.9
27.5°	1165.0	1173.8	1190.1	1211.5	1216.5
30°	1122.3	1136.1	1156.2	1177.6	1182.6
32.5°	1080.9	1094.7	1118.6	1141.2	1147.4
35°	1038.2	1050.8	1075.9	1102.2	1109.8
37.5°	989.3	1005.6	1033.2	1059.6	1067.1
40°	937.8	957.9	989.3	1016.9	1025.7
42.5°	888.8	910.2	941.5	971.7	981.7
45°	837.3	857.4	895.1	929.0	936.5
47.5°	784.6	807.2	847.4	881.3	893.8
50°	731.9	755.7	798.4	833.6	841.1
52.5°	679.2	704.3	749.5	787.1	790.9
55°	623.9	651.6	699.3	735.7	743.2
57.5°	573.7	597.6	649.0	686.7	695.5
60°	518.5	544.8	600.1	635.2	646.5
62.5°	465.8	493.4	551.1	586.3	596.3
65°	410.5	441.9	498.4	539.8	549.9
67.5°	362.8	392.9	453.2	493.4	503.4
70°	307.6	341.5	405.5	446.9	457.0
72.5°	259.9	295.0	359.0	399.2	414.3
75°	208.4	248.6	312.6	355.3	365.3
77.5°	158.2	204.6	269.9	302.6	302.6
80°	113.0	161.9	222.2	237.3	239.8
82.5°	74.1	121.8	164.5	163.2	163.2
85°	42.7	79.1	97.9	95.4	95.4
87.5°	16.3	32.6	35.2	35.2	33.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)