

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: P388738

Luminaire Tested: **24CZ2-45VHE-SQR-UNV-L950-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: P388738  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2002-678-2)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45VHE-SQR-UNV-L950-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3920.6 lumens  
Efficiency: N/A  
Efficacy: 132.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

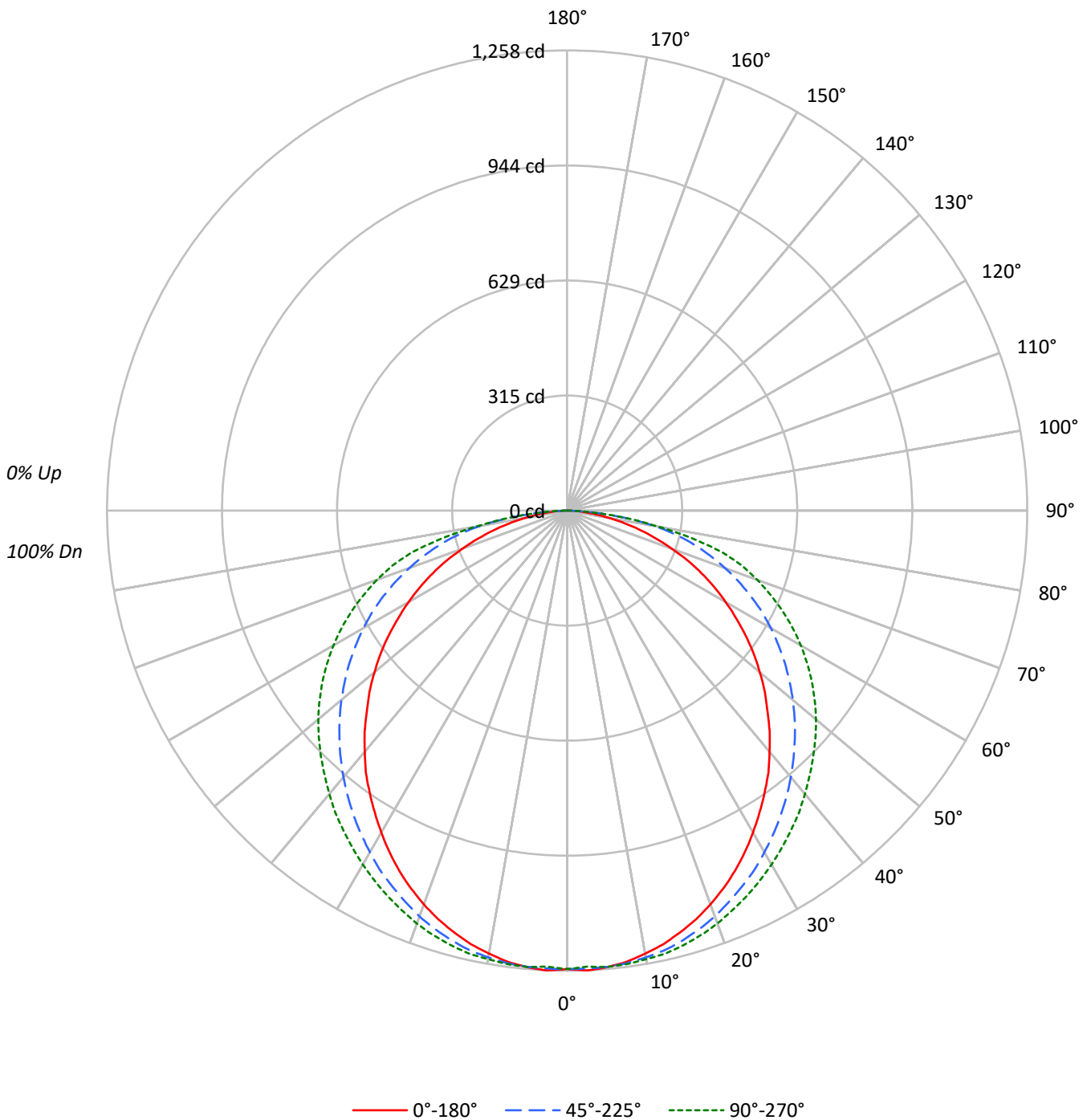
Input Watts (W): 29.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22

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

	0°	45°	90°
0°	1686	1686	1686
5°	1693	1691	1691
10°	1680	1695	1702
15°	1663	1695	1713
20°	1641	1691	1720
25°	1613	1682	1726
30°	1579	1675	1736
35°	1546	1671	1752
40°	1512	1671	1776
45°	1473	1675	1811
50°	1439	1686	1859
55°	1397	1704	1916
60°	1348	1731	1986
65°	1290	1764	2069
70°	1197	1808	2175
75°	1083	1871	2275
80°	913	1876	1956
85°	699	1419	1419



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.0	3.0
10°-20°	342.3	8.7
20°-30°	519.9	13.3
30°-40°	632.3	16.1
40°-50°	673.2	17.2
50°-60°	641.2	16.4
60°-70°	536.2	13.7
70°-80°	357.5	9.1
80°-90°	98.9	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°	981.1	25.0
0°-40°	1613.4	41.2
0°-60°	2927.9	74.7
0°-90°	3920.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3920.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1253	1253	1253	1253	1253	
5°	1253	1245	1252	1252	1252	119
15°	1194	1196	1217	1226	1230	337
25°	1086	1100	1133	1152	1163	500
35°	941	968	1018	1051	1067	589
45°	774	816	880	930	952	598
55°	596	647	726	790	817	532
65°	405	465	554	623	650	400
75°	208	274	360	421	438	221
85°	45	84	92	91	92	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1253.2	1253.2	1253.2	1253.2	1253.2
2.5°	1258.4	1249.3	1253.2	1253.2	1248.0
5°	1253.2	1245.4	1251.9	1251.9	1251.9
7.5°	1244.2	1237.7	1248.0	1250.6	1250.6
10°	1229.9	1227.3	1240.3	1244.2	1245.4
12.5°	1214.4	1213.1	1231.2	1236.4	1240.3
15°	1193.7	1196.3	1217.0	1226.0	1229.9
17.5°	1171.7	1176.8	1200.1	1213.1	1217.0
20°	1145.8	1153.5	1180.7	1193.7	1201.4
22.5°	1117.3	1128.9	1157.4	1172.9	1182.0
25°	1086.2	1100.4	1132.8	1152.2	1162.6
27.5°	1052.5	1070.7	1108.2	1130.2	1140.6
30°	1016.3	1037.0	1078.4	1104.3	1117.3
32.5°	978.8	1003.3	1048.7	1077.1	1092.7
35°	941.2	968.4	1017.6	1051.3	1066.8
37.5°	903.7	930.8	985.2	1021.5	1040.9
40°	860.9	893.3	951.6	991.7	1011.1
42.5°	819.5	854.5	916.6	960.6	981.3
45°	774.2	815.6	880.4	929.6	951.6
47.5°	732.8	774.2	844.1	895.9	920.5
50°	687.5	731.5	805.3	862.2	888.1
52.5°	643.4	688.8	766.4	827.3	853.2
55°	595.5	647.3	726.3	789.7	816.9
57.5°	547.6	603.3	684.9	750.9	778.1
60°	501.0	558.0	643.4	709.5	737.9
62.5°	454.4	511.4	600.7	668.0	695.2
65°	405.2	464.8	554.1	622.7	649.9
67.5°	356.0	418.2	507.5	576.1	602.0
70°	304.2	370.3	459.6	526.9	552.8
72.5°	256.3	322.4	410.4	476.4	501.0
75°	208.4	274.5	359.9	420.8	437.6
77.5°	161.8	227.9	304.2	344.4	348.3
80°	117.8	180.0	242.1	253.8	252.5
82.5°	79.0	134.6	167.0	168.3	172.2
85°	45.3	84.2	91.9	90.6	91.9
87.5°	18.1	29.8	25.9	19.4	19.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)