

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: P388777

Luminaire Tested: **24CZ2-50HE-SQR-UNV-L930-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: P388777  
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: 24CZ2-50HE-SQR-UNV-L930-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3929.2 lumens  
Efficiency: N/A  
Efficacy: 101.8 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

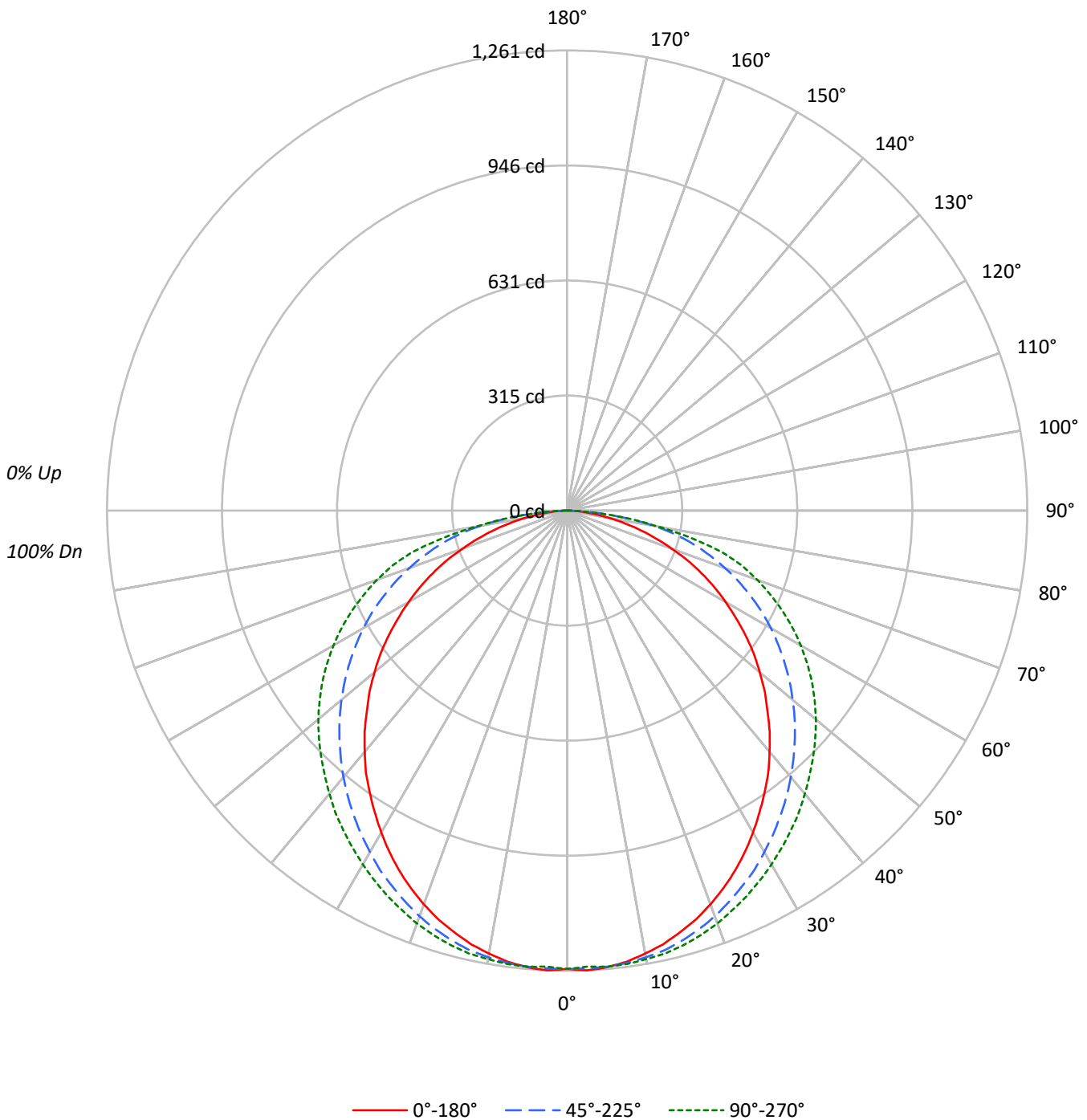
Input Watts (W): 38.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1690	1690	1690
5°	1696	1695	1695
10°	1684	1698	1705
15°	1666	1699	1717
20°	1644	1694	1724
25°	1616	1685	1730
30°	1582	1679	1740
35°	1549	1675	1756
40°	1515	1675	1780
45°	1476	1679	1815
50°	1442	1689	1863
55°	1400	1707	1920
60°	1351	1735	1990
65°	1293	1768	2074
70°	1199	1812	2179
75°	1086	1875	2280
80°	915	1880	1960
85°	701	1422	1422



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.2	3.0
10°-20°	343.0	8.7
20°-30°	521.0	13.3
30°-40°	633.7	16.1
40°-50°	674.7	17.2
50°-60°	642.6	16.4
60°-70°	537.4	13.7
70°-80°	358.3	9.1
80°-90°	99.1	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°	983.2	25.0
0°-40°	1617.0	41.2
0°-60°	2934.3	74.7
0°-90°	3929.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3929.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1256	1256	1256	1256	1256	
5°	1256	1248	1255	1255	1255	119
15°	1196	1199	1220	1229	1233	337
25°	1089	1103	1135	1155	1165	501
35°	943	970	1020	1054	1069	590
45°	776	817	882	932	954	600
55°	597	649	728	792	819	534
65°	406	466	555	624	651	401
75°	209	275	361	422	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°	1256.0	1256.0	1256.0	1256.0	1256.0
2.5°	1261.2	1252.1	1256.0	1256.0	1250.8
5°	1256.0	1248.2	1254.7	1254.7	1254.7
7.5°	1246.9	1240.4	1250.8	1253.4	1253.4
10°	1232.6	1230.0	1243.0	1246.9	1248.2
12.5°	1217.0	1215.7	1233.9	1239.1	1243.0
15°	1196.3	1198.9	1219.6	1228.7	1232.6
17.5°	1174.2	1179.4	1202.8	1215.7	1219.6
20°	1148.3	1156.1	1183.3	1196.3	1204.1
22.5°	1119.7	1131.4	1159.9	1175.5	1184.6
25°	1088.6	1102.9	1135.3	1154.8	1165.1
27.5°	1054.9	1073.0	1110.6	1132.7	1143.1
30°	1018.5	1039.3	1080.8	1106.8	1119.7
32.5°	980.9	1005.5	1051.0	1079.5	1095.1
35°	943.3	970.5	1019.8	1053.6	1069.1
37.5°	905.6	932.9	987.4	1023.7	1043.2
40°	862.8	895.3	953.6	993.9	1013.3
42.5°	821.3	856.3	918.6	962.7	983.5
45°	775.9	817.4	882.3	931.6	953.6
47.5°	734.4	775.9	846.0	897.9	922.5
50°	689.0	733.1	807.0	864.1	890.1
52.5°	644.8	690.3	768.1	829.1	855.0
55°	596.8	648.7	727.9	791.5	818.7
57.5°	548.8	604.6	686.4	752.5	779.8
60°	502.1	559.2	644.8	711.0	739.6
62.5°	455.4	512.5	602.0	669.5	696.7
65°	406.1	465.8	555.3	624.1	651.3
67.5°	356.8	419.1	508.6	577.4	603.3
70°	304.9	371.1	460.6	528.1	554.0
72.5°	256.9	323.1	411.3	477.5	502.1
75°	208.9	275.1	360.7	421.7	438.5
77.5°	162.2	228.4	304.9	345.1	349.0
80°	118.1	180.4	242.6	254.3	253.0
82.5°	79.1	134.9	167.4	168.7	172.6
85°	45.4	84.3	92.1	90.8	92.1
87.5°	18.2	29.8	25.9	19.5	19.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)