

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: P388970

Luminaire Tested: **24CZ2-65-SQR-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: P388970  
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: 24CZ2-65-SQR-UNV-L930-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

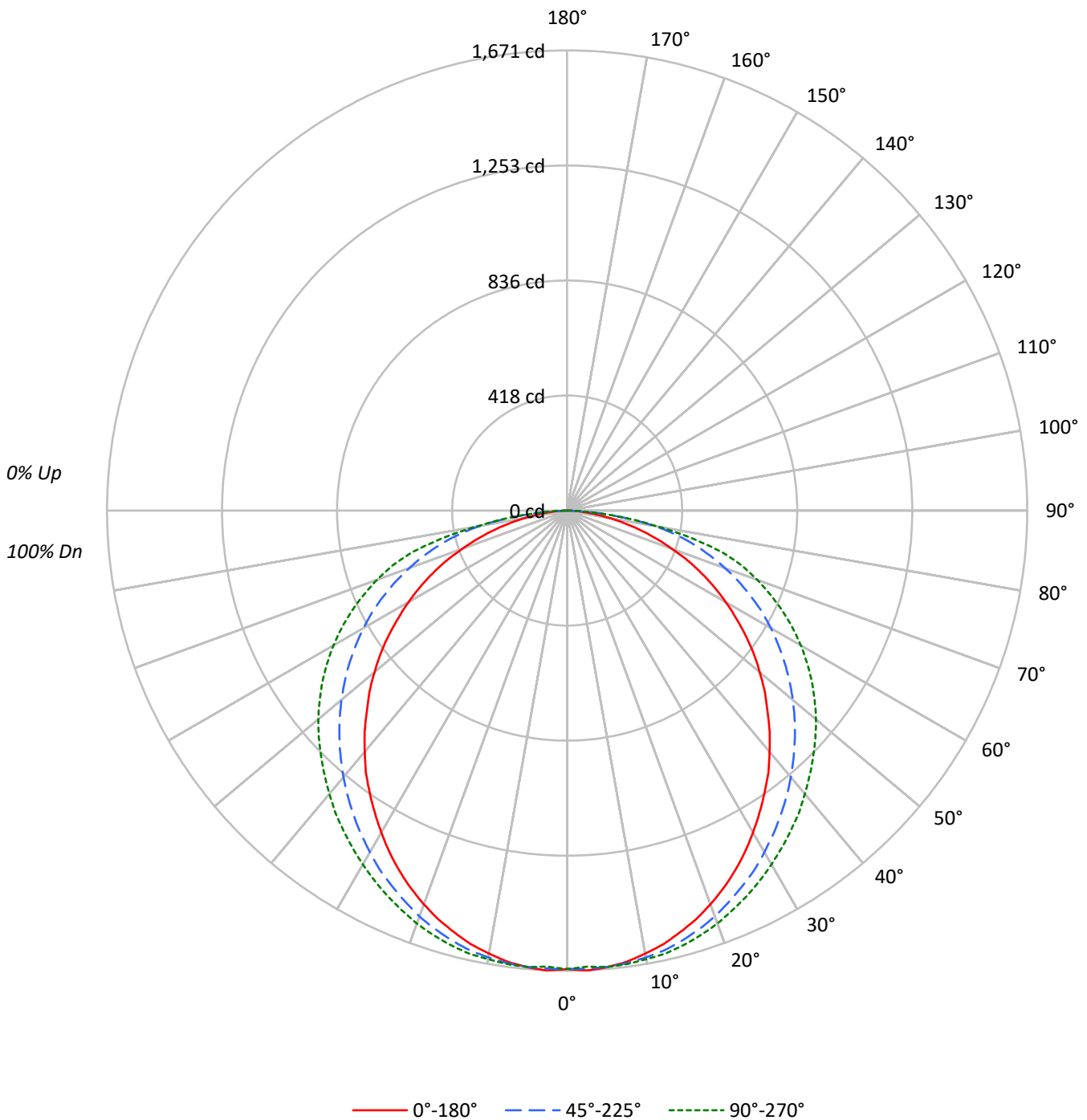
Lumens per Lamp: N/A  
Luminaire Lumens: 5207.5 lumens  
Efficiency: N/A  
Efficacy: 82.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 62.8  
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	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°	2240	2240	2240
5°	2248	2246	2246
10°	2232	2251	2260
15°	2209	2252	2276
20°	2179	2246	2285
25°	2142	2234	2292
30°	2097	2225	2306
35°	2053	2220	2327
40°	2008	2220	2359
45°	1957	2225	2405
50°	1911	2239	2469
55°	1856	2263	2545
60°	1791	2300	2638
65°	1713	2343	2748
70°	1590	2402	2889
75°	1439	2485	3021
80°	1213	2492	2598
85°	929	1885	1885



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.0	3.0
10°-20°	454.6	8.7
20°-30°	690.5	13.3
30°-40°	839.9	16.1
40°-50°	894.2	17.2
50°-60°	851.7	16.4
60°-70°	712.3	13.7
70°-80°	474.9	9.1
80°-90°	131.4	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°	1303.1	25.0
0°-40°	2143.0	41.2
0°-60°	3889.0	74.7
0°-90°	5207.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5207.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1665	1665	1665	1665	1665	
5°	1665	1654	1663	1663	1663	158
15°	1586	1589	1616	1628	1634	447
25°	1443	1462	1505	1530	1544	664
35°	1250	1286	1352	1396	1417	782
45°	1028	1083	1169	1235	1264	795
55°	791	860	965	1049	1085	707
65°	538	617	736	827	863	532
75°	277	365	478	559	581	293
85°	60	112	122	120	122	73
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1664.6	1664.6	1664.6	1664.6	1664.6
2.5°	1671.4	1659.4	1664.6	1664.6	1657.7
5°	1664.6	1654.3	1662.9	1662.9	1662.9
7.5°	1652.5	1643.9	1657.7	1661.1	1661.1
10°	1633.6	1630.2	1647.4	1652.5	1654.3
12.5°	1613.0	1611.3	1635.3	1642.2	1647.4
15°	1585.5	1588.9	1616.4	1628.5	1633.6
17.5°	1556.2	1563.1	1594.1	1611.3	1616.4
20°	1521.8	1532.2	1568.3	1585.5	1595.8
22.5°	1484.0	1499.5	1537.3	1558.0	1570.0
25°	1442.7	1461.7	1504.6	1530.4	1544.2
27.5°	1398.0	1422.1	1472.0	1501.2	1515.0
30°	1349.9	1377.4	1432.4	1466.8	1484.0
32.5°	1300.0	1332.7	1392.9	1430.7	1451.3
35°	1250.1	1286.3	1351.6	1396.3	1416.9
37.5°	1200.3	1236.4	1308.6	1356.8	1382.6
40°	1143.5	1186.5	1263.9	1317.2	1343.0
42.5°	1088.5	1134.9	1217.5	1275.9	1303.5
45°	1028.3	1083.3	1169.3	1234.7	1263.9
47.5°	973.3	1028.3	1121.2	1190.0	1222.6
50°	913.1	971.6	1069.6	1145.3	1179.6
52.5°	854.6	914.8	1018.0	1098.8	1133.2
55°	791.0	859.8	964.7	1049.0	1085.1
57.5°	727.4	801.3	909.7	997.4	1033.5
60°	665.5	741.1	854.6	942.3	980.2
62.5°	603.6	679.2	797.9	887.3	923.4
65°	538.2	617.3	736.0	827.1	863.2
67.5°	472.9	555.4	674.1	765.2	799.6
70°	404.1	491.8	610.5	699.9	734.3
72.5°	340.5	428.2	545.1	632.8	665.5
75°	276.9	364.6	478.0	558.9	581.2
77.5°	214.9	302.6	404.1	457.4	462.6
80°	156.5	239.0	321.6	337.0	335.3
82.5°	104.9	178.8	221.8	223.5	228.7
85°	60.2	111.8	122.1	120.4	122.1
87.5°	24.1	39.6	34.4	25.8	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)