

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: P389000

Luminaire Tested: **24CZ2-65HE-SQR-UNV-L940-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: P389000  
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: 24CZ2-65HE-SQR-UNV-L940-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

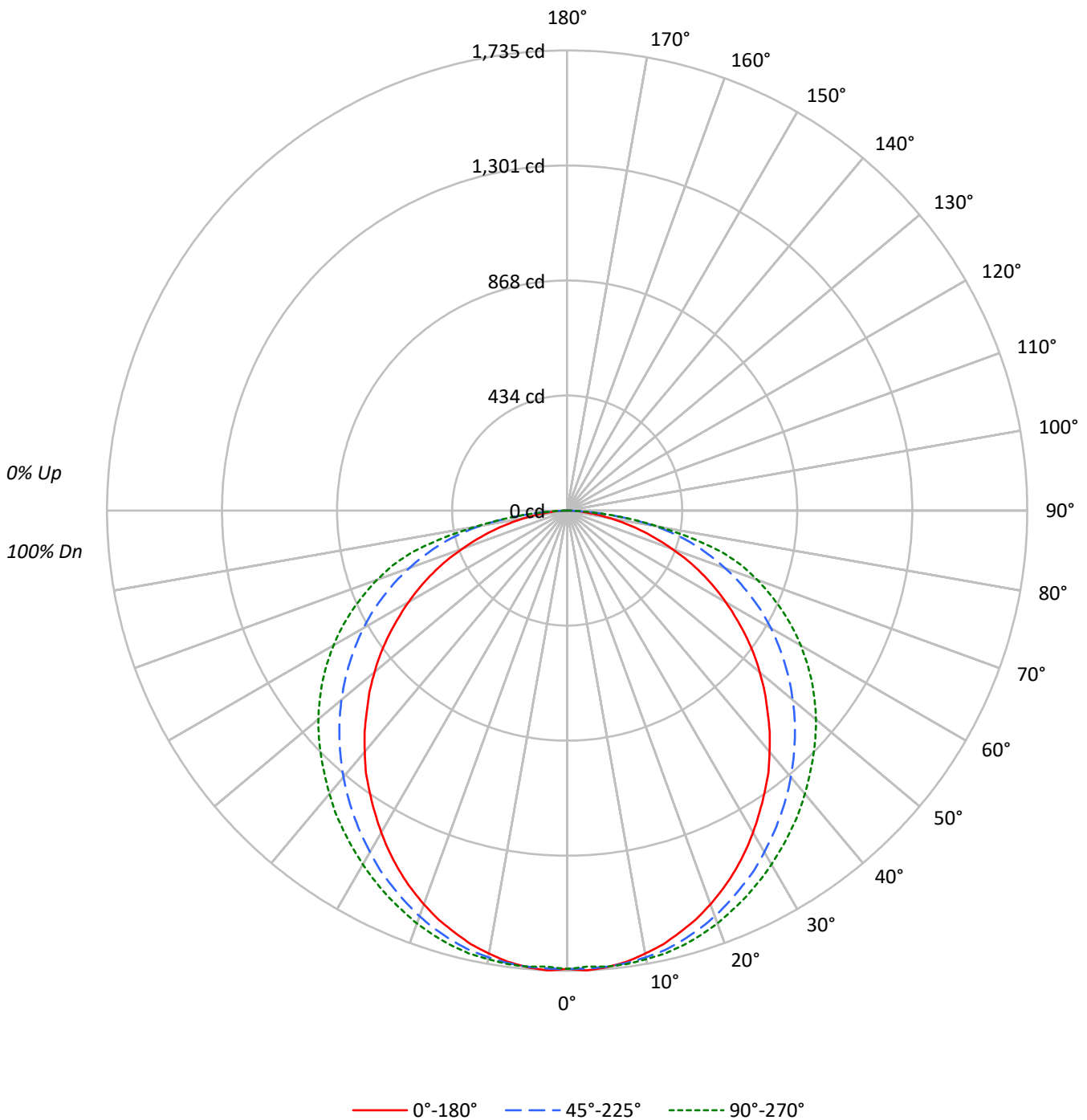
Lumens per Lamp: N/A  
Luminaire Lumens: 5406.3 lumens  
Efficiency: N/A  
Efficacy: 110.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 48.9  
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°	2325	2325	2325
5°	2334	2332	2332
10°	2317	2337	2346
15°	2293	2338	2362
20°	2262	2331	2372
25°	2224	2319	2380
30°	2177	2310	2394
35°	2132	2305	2416
40°	2085	2305	2449
45°	2031	2310	2497
50°	1984	2324	2564
55°	1926	2349	2643
60°	1859	2388	2738
65°	1779	2433	2853
70°	1650	2493	2999
75°	1494	2580	3137
80°	1259	2586	2697
85°	965	1958	1958



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.0	3.0
10°-20°	472.0	8.7
20°-30°	716.9	13.3
30°-40°	872.0	16.1
40°-50°	928.4	17.2
50°-60°	884.2	16.4
60°-70°	739.5	13.7
70°-80°	493.0	9.1
80°-90°	136.4	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°	1352.9	25.0
0°-40°	2224.8	41.2
0°-60°	4037.4	74.7
0°-90°	5406.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5406.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1728	1728	1728	1728	1728	
5°	1728	1717	1726	1726	1726	164
15°	1646	1650	1678	1691	1696	464
25°	1498	1518	1562	1589	1603	690
35°	1298	1335	1403	1450	1471	812
45°	1068	1125	1214	1282	1312	825
55°	821	893	1002	1089	1126	734
65°	559	641	764	859	896	552
75°	287	378	496	580	603	304
85°	62	116	127	125	127	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1728.1	1728.1	1728.1	1728.1	1728.1
2.5°	1735.3	1722.8	1728.1	1728.1	1721.0
5°	1728.1	1717.4	1726.3	1726.3	1726.3
7.5°	1715.6	1706.7	1721.0	1724.5	1724.5
10°	1696.0	1692.4	1710.3	1715.6	1717.4
12.5°	1674.6	1672.8	1697.8	1704.9	1710.3
15°	1646.0	1649.6	1678.1	1690.6	1696.0
17.5°	1615.6	1622.8	1654.9	1672.8	1678.1
20°	1579.9	1590.7	1628.1	1646.0	1656.7
22.5°	1540.7	1556.7	1596.0	1617.4	1629.9
25°	1497.8	1517.5	1562.1	1588.9	1603.1
27.5°	1451.4	1476.4	1528.2	1558.5	1572.8
30°	1401.4	1430.0	1487.1	1522.8	1540.7
32.5°	1349.6	1383.6	1446.0	1485.3	1506.7
35°	1297.9	1335.4	1403.2	1449.6	1471.0
37.5°	1246.1	1283.6	1358.6	1408.6	1435.3
40°	1187.2	1231.8	1312.2	1367.5	1394.3
42.5°	1130.1	1178.3	1264.0	1324.7	1353.2
45°	1067.6	1124.7	1214.0	1281.8	1312.2
47.5°	1010.4	1067.6	1164.0	1235.4	1269.3
50°	948.0	1008.7	1110.4	1189.0	1224.7
52.5°	887.3	949.8	1056.9	1140.8	1176.5
55°	821.2	892.6	1001.5	1089.0	1126.5
57.5°	755.2	831.9	944.4	1035.4	1072.9
60°	690.9	769.4	887.3	978.3	1017.6
62.5°	626.6	705.2	828.4	921.2	958.7
65°	558.8	640.9	764.1	858.7	896.2
67.5°	490.9	576.6	699.8	794.4	830.1
70°	419.5	510.6	633.8	726.6	762.3
72.5°	353.5	444.5	565.9	657.0	690.9
75°	287.4	378.5	496.3	580.2	603.4
77.5°	223.2	314.2	419.5	474.9	480.2
80°	162.5	248.1	333.8	349.9	348.1
82.5°	108.9	185.7	230.3	232.1	237.4
85°	62.5	116.0	126.8	125.0	126.8
87.5°	25.0	41.1	35.7	26.8	26.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)