

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: P388999

Luminaire Tested: **24CZ2-65HE-SQR-UNV-L940-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: P388999  
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-SWPD1-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: 5339.3 lumens  
Efficiency: N/A  
Efficacy: 109.2 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

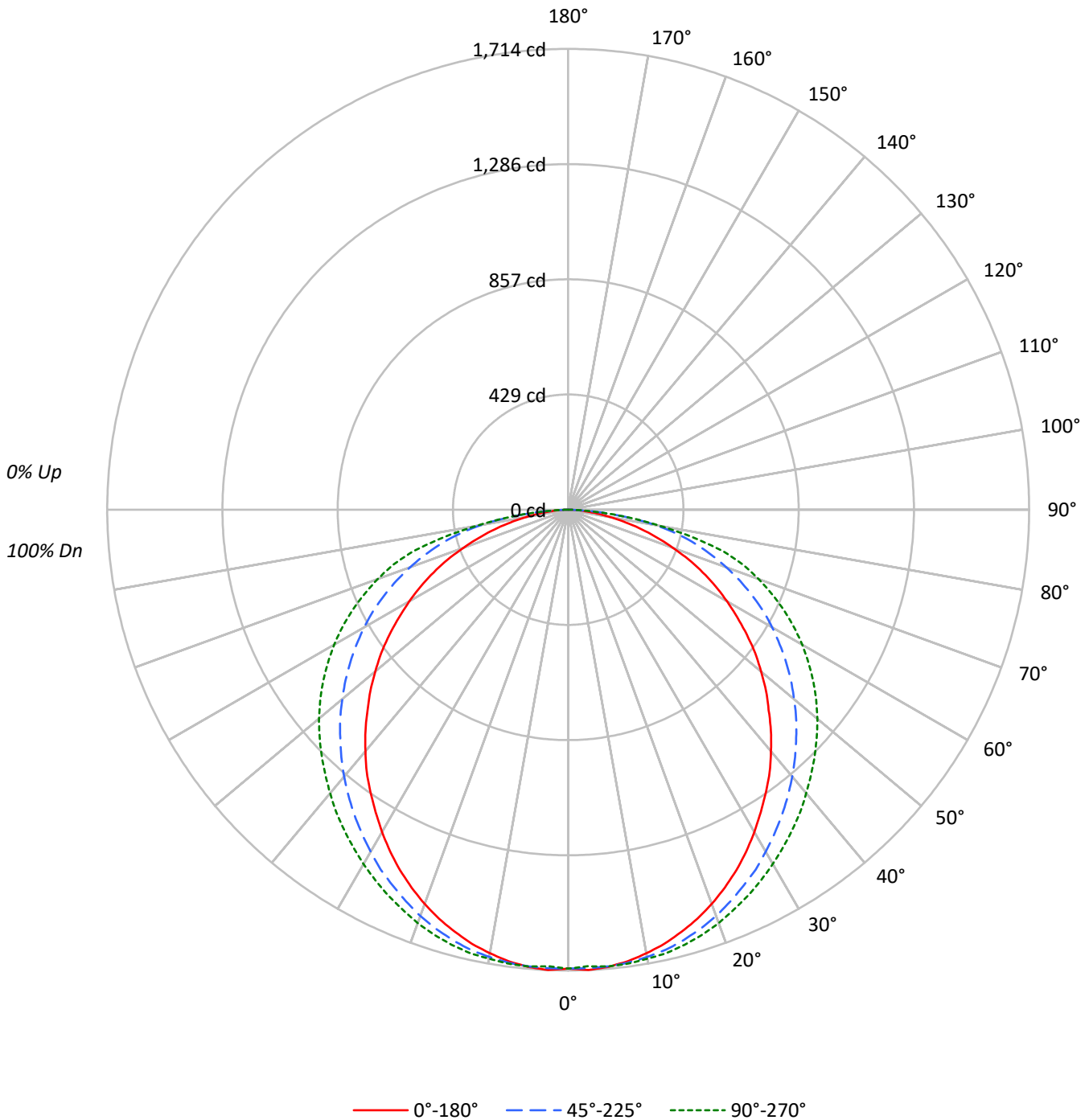
Input Watts (W): 48.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2296	2296	2296
5°	2305	2303	2303
10°	2288	2308	2317
15°	2264	2309	2333
20°	2234	2302	2343
25°	2196	2290	2351
30°	2150	2282	2364
35°	2105	2276	2386
40°	2059	2276	2419
45°	2006	2281	2466
50°	1960	2296	2532
55°	1902	2320	2610
60°	1836	2358	2704
65°	1757	2402	2818
70°	1630	2462	2962
75°	1476	2548	3098
80°	1243	2555	2664
85°	953	1933	1933



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	162.0	3.0
10°-20°	466.1	8.7
20°-30°	708.0	13.3
30°-40°	861.2	16.1
40°-50°	916.9	17.2
50°-60°	873.3	16.4
60°-70°	730.3	13.7
70°-80°	486.9	9.1
80°-90°	134.7	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°	1336.1	25.0
0°-40°	2197.3	41.2
0°-60°	3987.4	74.7
0°-90°	5339.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5339.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1707	1707	1707	1707	1707	
5°	1707	1696	1705	1705	1705	162
15°	1626	1629	1657	1670	1675	458
25°	1479	1499	1543	1569	1583	681
35°	1282	1319	1386	1432	1453	802
45°	1054	1111	1199	1266	1296	815
55°	811	882	989	1076	1112	725
65°	552	633	755	848	885	545
75°	284	374	490	573	596	301
85°	62	115	125	123	125	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1706.7	1706.7	1706.7	1706.7	1706.7
2.5°	1713.8	1701.4	1706.7	1706.7	1699.6
5°	1706.7	1696.1	1704.9	1704.9	1704.9
7.5°	1694.4	1685.5	1699.6	1703.2	1703.2
10°	1675.0	1671.4	1689.1	1694.4	1696.1
12.5°	1653.8	1652.0	1676.7	1683.8	1689.1
15°	1625.6	1629.1	1657.3	1669.7	1675.0
17.5°	1595.6	1602.7	1634.4	1652.0	1657.3
20°	1560.4	1570.9	1608.0	1625.6	1636.2
22.5°	1521.6	1537.4	1576.2	1597.4	1609.7
25°	1479.3	1498.7	1542.7	1569.2	1583.3
27.5°	1433.4	1458.1	1509.2	1539.2	1553.3
30°	1384.0	1412.3	1468.7	1503.9	1521.6
32.5°	1332.9	1366.4	1428.1	1466.9	1488.1
35°	1281.8	1318.8	1385.8	1431.7	1452.8
37.5°	1230.7	1267.7	1341.7	1391.1	1417.5
40°	1172.5	1216.6	1295.9	1350.5	1377.0
42.5°	1116.1	1163.7	1248.3	1308.2	1336.4
45°	1054.3	1110.8	1198.9	1265.9	1295.9
47.5°	997.9	1054.3	1149.6	1220.1	1253.6
50°	936.2	996.2	1096.7	1174.2	1209.5
52.5°	876.3	938.0	1043.8	1126.6	1161.9
55°	811.0	881.6	989.1	1075.5	1112.5
57.5°	745.8	821.6	932.7	1022.6	1059.6
60°	682.3	759.9	876.3	966.2	1005.0
62.5°	618.9	696.4	818.1	909.8	946.8
65°	551.9	633.0	754.6	848.1	885.1
67.5°	484.9	569.5	691.1	784.6	819.9
70°	414.3	504.3	625.9	717.6	752.9
72.5°	349.1	439.0	558.9	648.8	682.3
75°	283.9	373.8	490.1	573.0	595.9
77.5°	220.4	310.3	414.3	469.0	474.3
80°	160.4	245.1	329.7	345.6	343.8
82.5°	107.6	183.4	227.4	229.2	234.5
85°	61.7	114.6	125.2	123.4	125.2
87.5°	24.7	40.6	35.3	26.4	26.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)