

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: P388714

Luminaire Tested: **24CZ2-45HE-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: P388714  
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: 24CZ2-45HE-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: 3940.4 lumens  
Efficiency: N/A  
Efficacy: 111.6 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

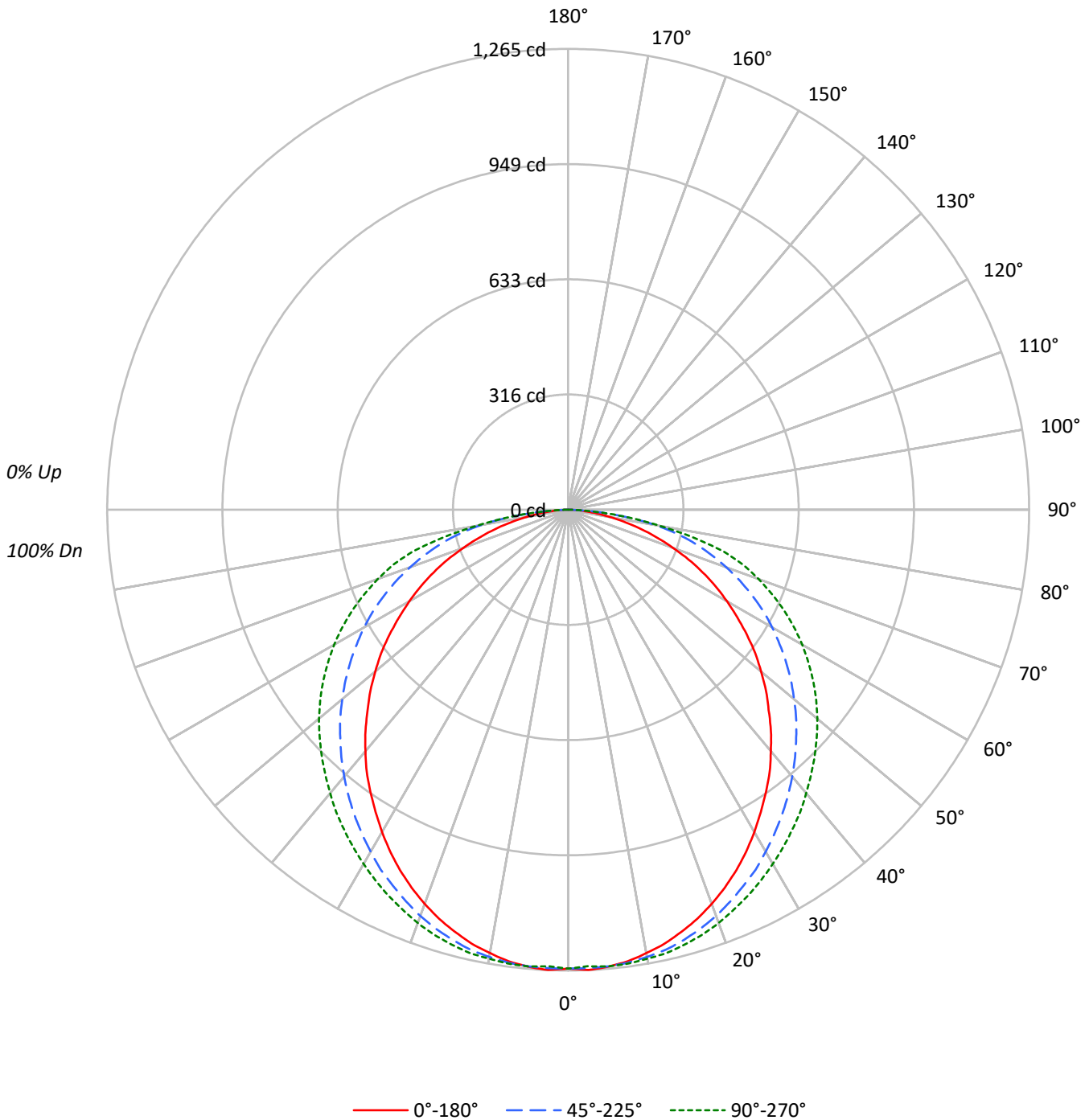
Input Watts (W): 35.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P388714

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L950-CD1-SWPD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P388714

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L950-CD1-SWPD1-U

**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°	1695	1695	1695
5°	1701	1699	1699
10°	1689	1703	1710
15°	1671	1704	1722
20°	1649	1699	1729
25°	1621	1690	1735
30°	1587	1684	1745
35°	1554	1680	1761
40°	1520	1680	1785
45°	1481	1684	1820
50°	1446	1694	1868
55°	1404	1712	1926
60°	1355	1740	1996
65°	1297	1773	2080
70°	1203	1817	2186
75°	1089	1880	2286
80°	917	1885	1966
85°	702	1426	1426



TEST NUMBER: P388714

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L950-CD1-SWPD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.6	3.0
10°-20°	344.0	8.7
20°-30°	522.5	13.3
30°-40°	635.5	16.1
40°-50°	676.6	17.2
50°-60°	644.5	16.4
60°-70°	539.0	13.7
70°-80°	359.3	9.1
80°-90°	99.4	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°	986.0	25.0
0°-40°	1621.6	41.2
0°-60°	2942.7	74.7
0°-90°	3940.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3940.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1260	1260	1260	1260	1260	
5°	1260	1252	1258	1258	1258	119
15°	1200	1202	1223	1232	1236	338
25°	1092	1106	1138	1158	1168	503
35°	946	973	1023	1057	1072	592
45°	778	820	885	934	956	602
55°	598	651	730	794	821	535
65°	407	467	557	626	653	402
75°	210	276	362	423	440	222
85°	46	85	92	91	92	55
90°	0	0	0	0	0	



TEST NUMBER: P388714

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L950-CD1-SWPD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1259.5	1259.5	1259.5	1259.5	1259.5
2.5°	1264.7	1255.6	1259.5	1259.5	1254.3
5°	1259.5	1251.7	1258.2	1258.2	1258.2
7.5°	1250.4	1243.9	1254.3	1256.9	1256.9
10°	1236.1	1233.5	1246.5	1250.4	1251.7
12.5°	1220.5	1219.2	1237.4	1242.6	1246.5
15°	1199.7	1202.3	1223.1	1232.2	1236.1
17.5°	1177.6	1182.8	1206.2	1219.2	1223.1
20°	1151.5	1159.4	1186.7	1199.7	1207.5
22.5°	1122.9	1134.6	1163.3	1178.9	1188.0
25°	1091.7	1106.0	1138.5	1158.1	1168.5
27.5°	1057.9	1076.1	1113.8	1135.9	1146.3
30°	1021.4	1042.2	1083.9	1109.9	1122.9
32.5°	983.7	1008.4	1054.0	1082.6	1098.2
35°	946.0	973.3	1022.7	1056.6	1072.2
37.5°	908.2	935.5	990.2	1026.6	1046.1
40°	865.3	897.8	956.4	996.7	1016.2
42.5°	823.6	858.8	921.2	965.5	986.3
45°	778.1	819.7	884.8	934.2	956.4
47.5°	736.5	778.1	848.4	900.4	925.1
50°	690.9	735.2	809.3	866.6	892.6
52.5°	646.7	692.2	770.3	831.5	857.5
55°	598.5	650.6	730.0	793.7	821.0
57.5°	550.4	606.4	688.3	754.7	782.0
60°	503.6	560.8	646.7	713.0	741.7
62.5°	456.7	514.0	603.7	671.4	698.7
65°	407.3	467.1	556.9	625.9	653.2
67.5°	357.8	420.3	510.1	579.0	605.0
70°	305.8	372.1	461.9	529.6	555.6
72.5°	257.6	324.0	412.5	478.8	503.6
75°	209.5	275.9	361.7	422.9	439.8
77.5°	162.6	229.0	305.8	346.1	350.0
80°	118.4	180.9	243.3	255.0	253.7
82.5°	79.4	135.3	167.9	169.2	173.1
85°	45.5	84.6	92.4	91.1	92.4
87.5°	18.2	29.9	26.0	19.5	19.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)