

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: P388706

Luminaire Tested: **24CZ2-45HE-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: P388706  
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-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: 3630.7 lumens  
Efficiency: N/A  
Efficacy: 102.9 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

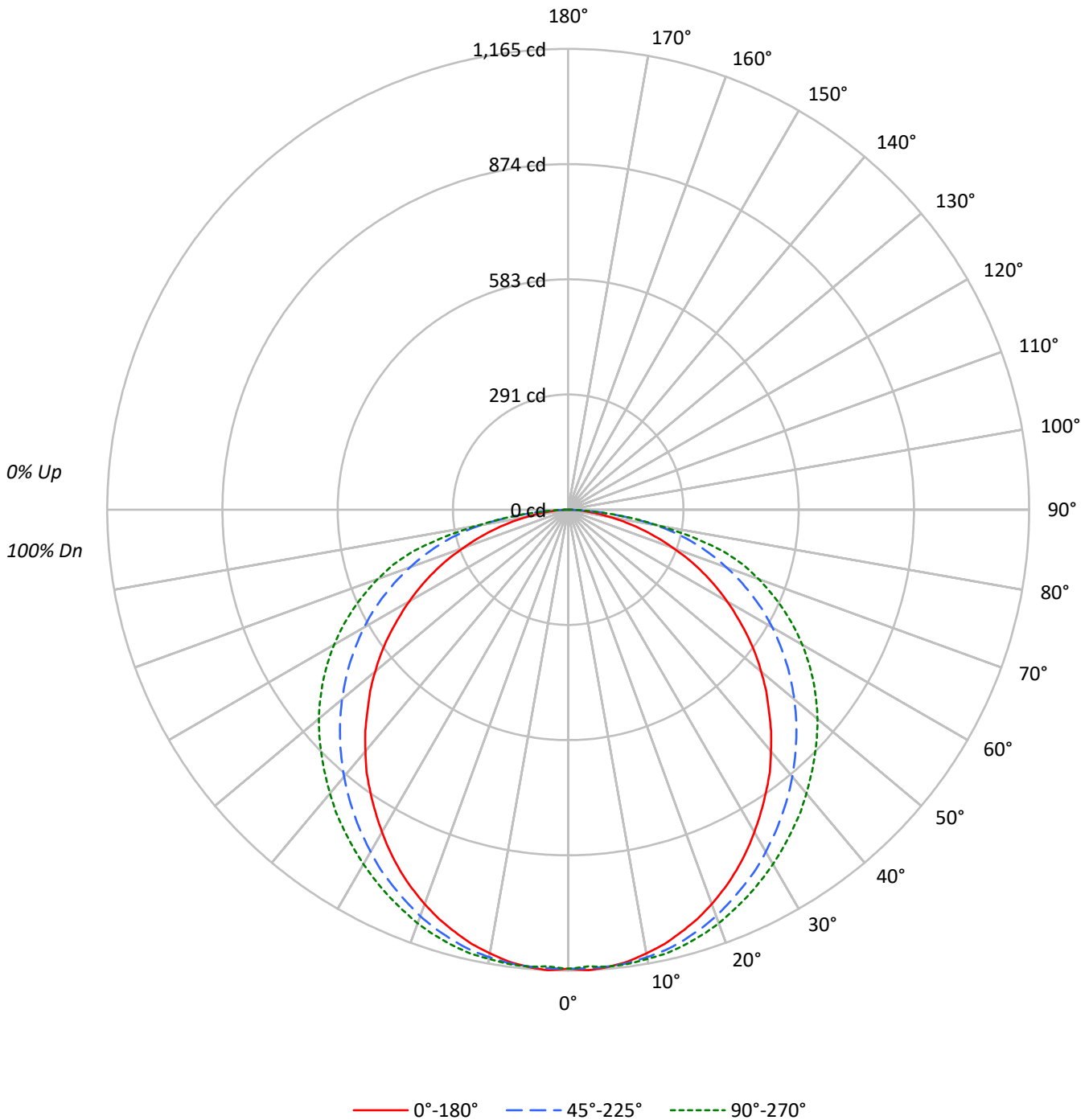
Input Watts (W): 35.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P388706

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L930-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P388706

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L930-CD1-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°	1561	1561	1561
5°	1567	1566	1566
10°	1556	1569	1576
15°	1540	1570	1587
20°	1519	1566	1593
25°	1493	1557	1598
30°	1462	1552	1608
35°	1432	1548	1623
40°	1400	1548	1645
45°	1364	1551	1677
50°	1333	1561	1722
55°	1294	1578	1775
60°	1249	1604	1839
65°	1195	1634	1916
70°	1108	1674	2014
75°	1003	1733	2106
80°	845	1737	1812
85°	648	1314	1314



TEST NUMBER: P388706

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L930-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.2	3.0
10°-20°	317.0	8.7
20°-30°	481.4	13.3
30°-40°	585.6	16.1
40°-50°	623.5	17.2
50°-60°	593.8	16.4
60°-70°	496.6	13.7
70°-80°	331.1	9.1
80°-90°	91.6	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°	908.5	25.0
0°-40°	1494.1	41.2
0°-60°	2711.4	74.7
0°-90°	3630.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3630.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1160	1160	1160	1160	1160	
5°	1160	1153	1159	1159	1159	110
15°	1105	1108	1127	1135	1139	312
25°	1006	1019	1049	1067	1077	463
35°	872	897	942	974	988	545
45°	717	755	815	861	881	554
55°	552	600	673	731	756	493
65°	375	430	513	577	602	371
75°	193	254	333	390	405	204
85°	42	78	85	84	85	51
90°	0	0	0	0	0	



TEST NUMBER: P388706

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1160.5	1160.5	1160.5	1160.5	1160.5
2.5°	1165.3	1157.0	1160.5	1160.5	1155.8
5°	1160.5	1153.4	1159.3	1159.3	1159.3
7.5°	1152.2	1146.2	1155.8	1158.2	1158.2
10°	1139.0	1136.6	1148.6	1152.2	1153.4
12.5°	1124.6	1123.4	1140.2	1145.0	1148.6
15°	1105.4	1107.8	1127.0	1135.4	1139.0
17.5°	1085.0	1089.8	1111.4	1123.4	1127.0
20°	1061.0	1068.2	1093.4	1105.4	1112.6
22.5°	1034.7	1045.5	1071.8	1086.2	1094.6
25°	1005.9	1019.1	1049.0	1067.0	1076.6
27.5°	974.7	991.5	1026.3	1046.7	1056.2
30°	941.1	960.3	998.7	1022.7	1034.7
32.5°	906.4	929.2	971.1	997.5	1011.9
35°	871.6	896.8	942.3	973.5	987.9
37.5°	836.8	862.0	912.4	945.9	963.9
40°	797.3	827.3	881.2	918.4	936.4
42.5°	758.9	791.3	848.8	889.6	908.8
45°	717.0	755.3	815.3	860.8	881.2
47.5°	678.6	717.0	781.7	829.6	852.4
50°	636.6	677.4	745.7	798.5	822.5
52.5°	595.9	637.8	709.8	766.1	790.1
55°	551.5	599.5	672.6	731.3	756.5
57.5°	507.1	558.7	634.2	695.4	720.5
60°	464.0	516.7	595.9	657.0	683.4
62.5°	420.8	473.6	556.3	618.6	643.8
65°	375.3	430.4	513.1	576.7	601.9
67.5°	329.7	387.2	470.0	533.5	557.5
70°	281.7	342.9	425.6	488.0	511.9
72.5°	237.4	298.5	380.1	441.2	464.0
75°	193.0	254.2	333.3	389.6	405.2
77.5°	149.9	211.0	281.7	318.9	322.5
80°	109.1	166.6	224.2	235.0	233.8
82.5°	73.1	124.7	154.7	155.9	159.5
85°	42.0	77.9	85.1	83.9	85.1
87.5°	16.8	27.6	24.0	18.0	18.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)