

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: P388704

Luminaire Tested: **24CZ2-45HE-SQR-UNV-L930-CD1-SDWPD1-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: P388704  
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-SDWPD1-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: 3542.4 lumens  
Efficiency: N/A  
Efficacy: 100.4 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

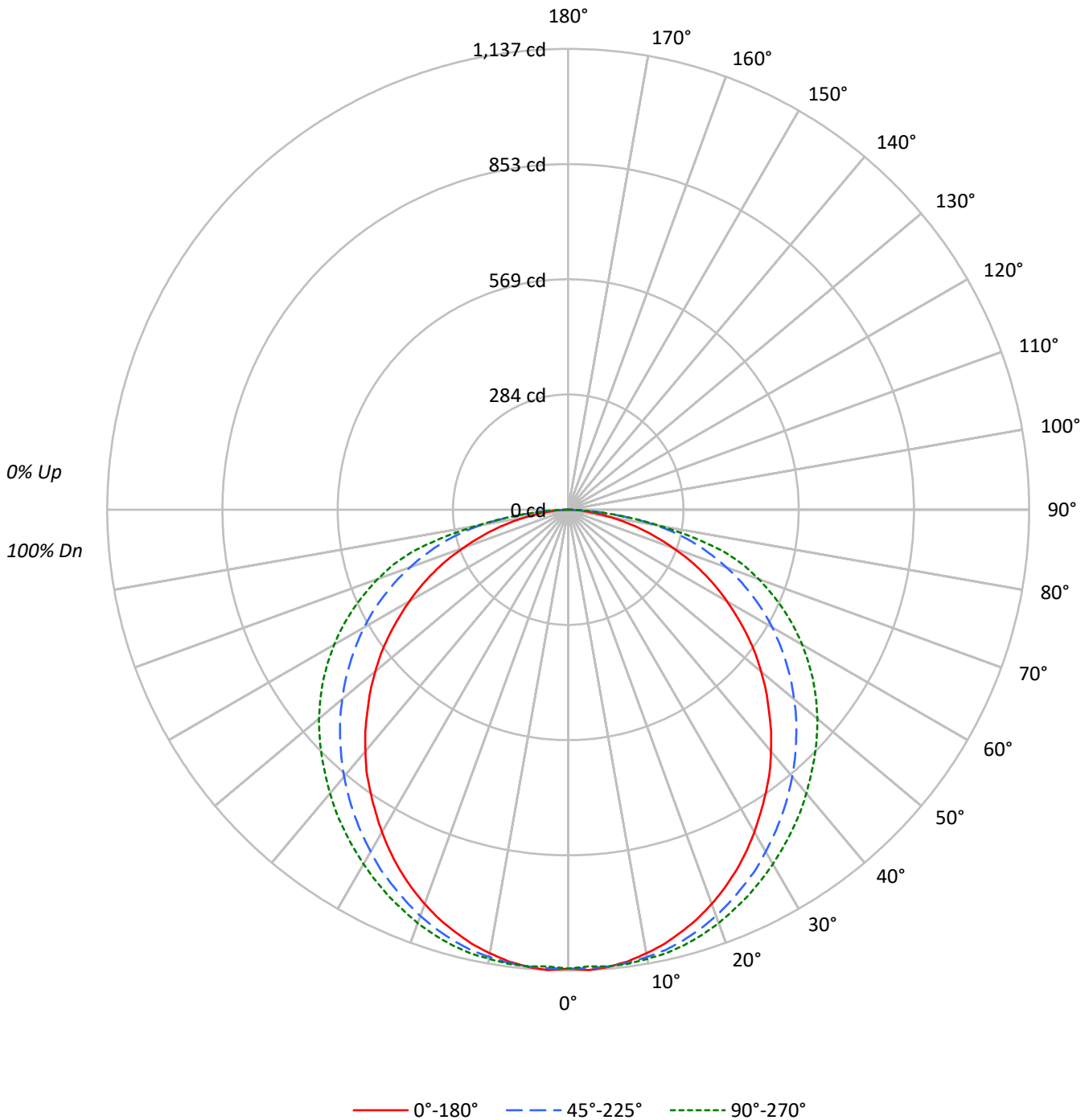
Input Watts (W): 35.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P388704

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L930-CD1-SDWPD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P388704

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L930-CD1-SDWPD1-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°	1523	1523	1523
5°	1529	1528	1528
10°	1518	1531	1537
15°	1502	1532	1548
20°	1482	1527	1554
25°	1457	1519	1559
30°	1427	1514	1568
35°	1397	1510	1583
40°	1366	1510	1605
45°	1331	1513	1636
50°	1300	1523	1680
55°	1262	1539	1731
60°	1218	1565	1794
65°	1166	1594	1869
70°	1081	1634	1965
75°	979	1691	2056
80°	824	1695	1767
85°	631	1283	1283



TEST NUMBER: P388704

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L930-CD1-SDWPD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.5	3.0
10°-20°	309.2	8.7
20°-30°	469.7	13.3
30°-40°	571.3	16.1
40°-50°	608.3	17.2
50°-60°	579.4	16.4
60°-70°	484.5	13.7
70°-80°	323.1	9.1
80°-90°	89.4	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°	886.4	25.0
0°-40°	1457.8	41.2
0°-60°	2645.5	74.7
0°-90°	3542.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3542.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1132	1132	1132	1132	1132	
5°	1132	1125	1131	1131	1131	107
15°	1078	1081	1100	1108	1111	304
25°	981	994	1024	1041	1050	452
35°	850	875	919	950	964	532
45°	700	737	795	840	860	541
55°	538	585	656	714	738	481
65°	366	420	501	563	587	362
75°	188	248	325	380	395	199
85°	41	76	83	82	83	49
90°	0	0	0	0	0	



TEST NUMBER: P388704

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L930-CD1-SDWPD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1132.3	1132.3	1132.3	1132.3	1132.3
2.5°	1137.0	1128.8	1132.3	1132.3	1127.6
5°	1132.3	1125.3	1131.2	1131.2	1131.2
7.5°	1124.1	1118.3	1127.6	1130.0	1130.0
10°	1111.3	1108.9	1120.6	1124.1	1125.3
12.5°	1097.2	1096.1	1112.4	1117.1	1120.6
15°	1078.5	1080.9	1099.6	1107.8	1111.3
17.5°	1058.6	1063.3	1084.4	1096.1	1099.6
20°	1035.2	1042.3	1066.8	1078.5	1085.5
22.5°	1009.5	1020.0	1045.8	1059.8	1068.0
25°	981.4	994.3	1023.5	1041.1	1050.4
27.5°	951.0	967.4	1001.3	1021.2	1030.6
30°	918.3	937.0	974.4	997.8	1009.5
32.5°	884.3	906.6	947.5	973.2	987.3
35°	850.4	875.0	919.4	949.8	963.9
37.5°	816.5	841.1	890.2	922.9	940.5
40°	777.9	807.1	859.8	896.0	913.6
42.5°	740.5	772.0	828.2	868.0	886.7
45°	699.5	736.9	795.4	839.9	859.8
47.5°	662.1	699.5	762.7	809.5	831.7
50°	621.1	660.9	727.6	779.1	802.5
52.5°	581.4	622.3	692.5	747.5	770.9
55°	538.1	584.9	656.2	713.6	738.1
57.5°	494.8	545.1	618.8	678.5	703.0
60°	452.7	504.2	581.4	641.0	666.8
62.5°	410.6	462.1	542.8	603.6	628.2
65°	366.1	419.9	500.7	562.7	587.2
67.5°	321.7	377.8	458.5	520.5	543.9
70°	274.9	334.6	415.3	476.1	499.5
72.5°	231.6	291.3	370.8	430.5	452.7
75°	188.3	248.0	325.2	380.2	395.4
77.5°	146.2	205.9	274.9	311.2	314.7
80°	106.4	162.6	218.7	229.3	228.1
82.5°	71.4	121.7	150.9	152.1	155.6
85°	40.9	76.0	83.1	81.9	83.1
87.5°	16.4	26.9	23.4	17.5	17.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)