

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: P388710

Luminaire Tested: **24CZ2-45HE-SQR-UNV-L940-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: P388710  
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-L940-CD1-SDWPD1-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: 3667.6 lumens  
Efficiency: N/A  
Efficacy: 103.9 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

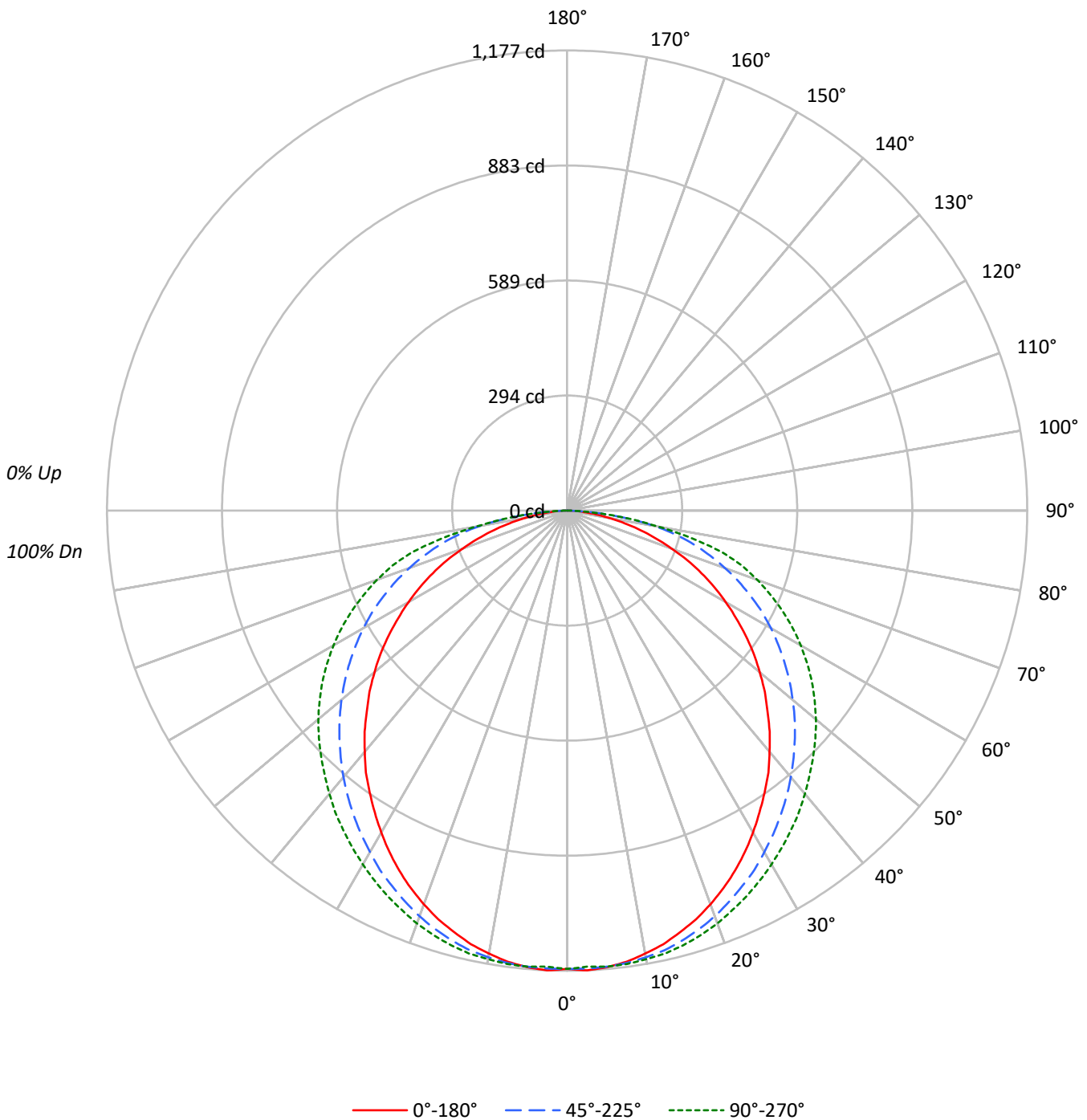
Input Watts (W): 35.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P388710

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L940-CD1-SDWPD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P388710

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L940-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°	1577	1577	1577
5°	1583	1582	1582
10°	1572	1585	1592
15°	1555	1586	1603
20°	1535	1581	1609
25°	1508	1573	1615
30°	1477	1567	1624
35°	1446	1564	1639
40°	1415	1564	1661
45°	1378	1567	1694
50°	1346	1577	1739
55°	1307	1594	1793
60°	1261	1620	1858
65°	1207	1650	1936
70°	1120	1691	2034
75°	1014	1750	2128
80°	854	1755	1830
85°	655	1328	1328



TEST NUMBER: P388710

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L940-CD1-SDWPD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.3	3.0
10°-20°	320.2	8.7
20°-30°	486.3	13.3
30°-40°	591.5	16.1
40°-50°	629.8	17.2
50°-60°	599.9	16.4
60°-70°	501.6	13.7
70°-80°	334.5	9.1
80°-90°	92.6	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°	917.8	25.0
0°-40°	1509.3	41.2
0°-60°	2739.0	74.7
0°-90°	3667.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3667.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1172	1172	1172	1172	1172	
5°	1172	1165	1171	1171	1171	111
15°	1117	1119	1138	1147	1150	315
25°	1016	1029	1060	1078	1088	468
35°	880	906	952	983	998	551
45°	724	763	824	870	890	560
55°	557	606	679	739	764	498
65°	379	435	518	582	608	375
75°	195	257	337	394	409	207
85°	42	79	86	85	86	51
90°	0	0	0	0	0	



TEST NUMBER: P388710

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L940-CD1-SDWPD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1172.3	1172.3	1172.3	1172.3	1172.3
2.5°	1177.2	1168.7	1172.3	1172.3	1167.5
5°	1172.3	1165.1	1171.1	1171.1	1171.1
7.5°	1163.9	1157.8	1167.5	1169.9	1169.9
10°	1150.5	1148.1	1160.2	1163.9	1165.1
12.5°	1136.0	1134.8	1151.8	1156.6	1160.2
15°	1116.6	1119.1	1138.4	1146.9	1150.5
17.5°	1096.0	1100.9	1122.7	1134.8	1138.4
20°	1071.8	1079.1	1104.5	1116.6	1123.9
22.5°	1045.2	1056.1	1082.7	1097.3	1105.7
25°	1016.1	1029.4	1059.7	1077.9	1087.6
27.5°	984.6	1001.6	1036.7	1057.3	1067.0
30°	950.7	970.1	1008.8	1033.1	1045.2
32.5°	915.6	938.6	981.0	1007.6	1022.2
35°	880.5	905.9	951.9	983.4	997.9
37.5°	845.3	870.8	921.6	955.6	973.7
40°	805.4	835.7	890.2	927.7	945.9
42.5°	766.6	799.3	857.5	898.6	918.0
45°	724.2	763.0	823.5	869.6	890.2
47.5°	685.5	724.2	789.6	838.1	861.1
50°	643.1	684.3	753.3	806.6	830.8
52.5°	601.9	644.3	717.0	773.9	798.1
55°	557.1	605.5	679.4	738.8	764.2
57.5°	512.3	564.4	640.7	702.4	727.9
60°	468.7	522.0	601.9	663.7	690.3
62.5°	425.1	478.4	561.9	624.9	650.4
65°	379.1	434.8	518.4	582.5	608.0
67.5°	333.1	391.2	474.8	538.9	563.2
70°	284.6	346.4	429.9	492.9	517.1
72.5°	239.8	301.6	383.9	445.7	468.7
75°	195.0	256.8	336.7	393.6	409.4
77.5°	151.4	213.2	284.6	322.2	325.8
80°	110.2	168.3	226.5	237.4	236.2
82.5°	73.9	126.0	156.2	157.4	161.1
85°	42.4	78.7	86.0	84.8	86.0
87.5°	17.0	27.9	24.2	18.2	18.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)