

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: P388709

Luminaire Tested: **24CZ2-45HE-SQR-UNV-L935-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: P388709
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-L935-CD1-U
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SQUARE LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3720.5 lumens
Efficiency: N/A
Efficacy: 105.4 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

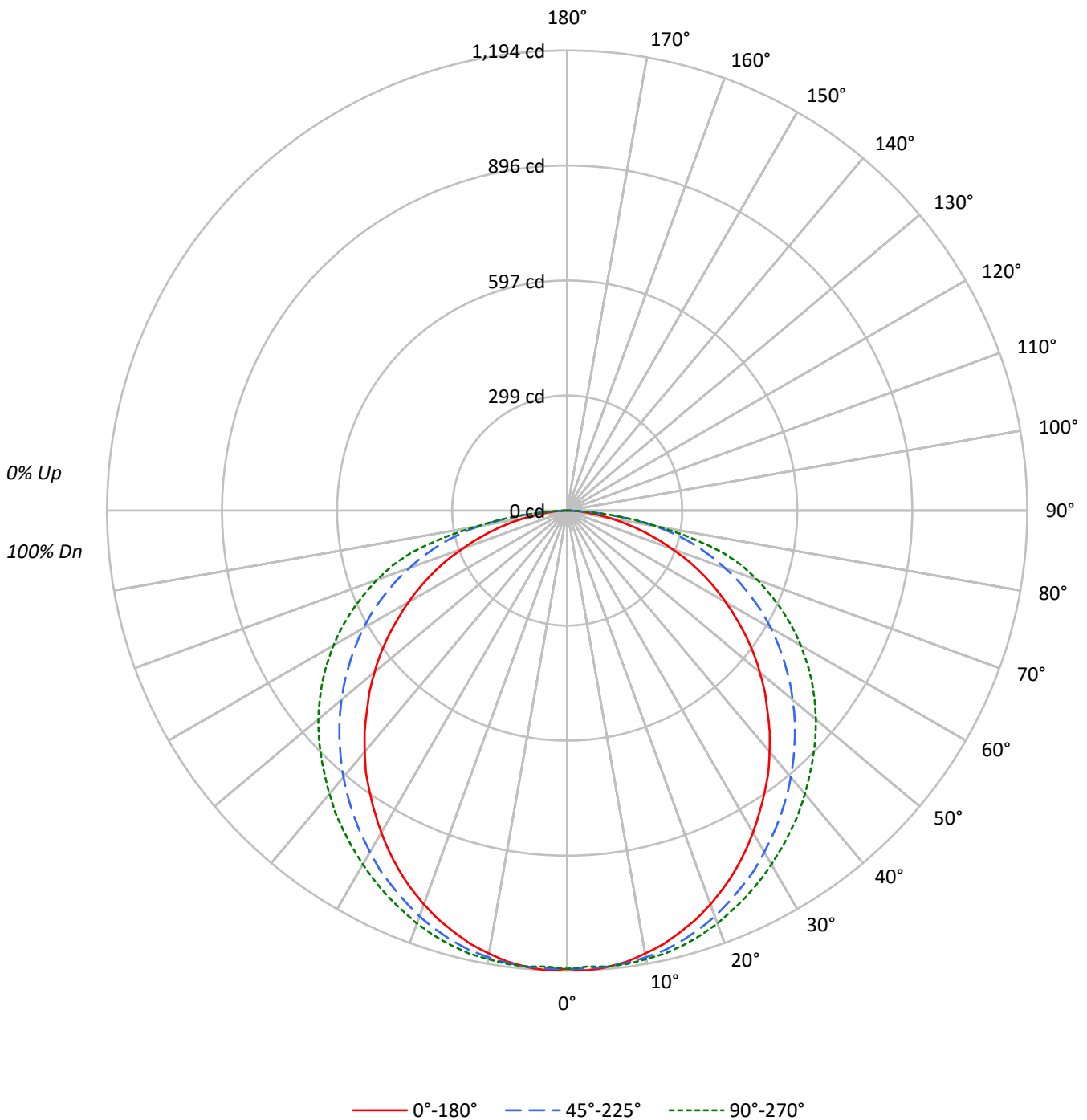
Input Watts (W): 35.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P388709

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L935-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P388709

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L935-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°	1600	1600	1600
5°	1606	1605	1605
10°	1595	1608	1615
15°	1578	1609	1626
20°	1557	1604	1632
25°	1530	1596	1638
30°	1498	1590	1647
35°	1467	1586	1663
40°	1435	1586	1685
45°	1398	1590	1718
50°	1366	1600	1764
55°	1326	1617	1818
60°	1280	1643	1884
65°	1224	1674	1963
70°	1136	1716	2064
75°	1028	1775	2159
80°	866	1780	1857
85°	664	1346	1346



TEST NUMBER: P388709

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L935-CD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.9	3.0
10°-20°	324.8	8.7
20°-30°	493.3	13.3
30°-40°	600.1	16.1
40°-50°	638.9	17.2
50°-60°	608.5	16.4
60°-70°	508.9	13.7
70°-80°	339.3	9.1
80°-90°	93.9	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°	931.0	25.0
0°-40°	1531.1	41.2
0°-60°	2778.5	74.7
0°-90°	3720.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3720.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1189	1189	1189	1189	1189	
5°	1189	1182	1188	1188	1188	113
15°	1133	1135	1155	1164	1167	319
25°	1031	1044	1075	1093	1103	475
35°	893	919	966	998	1012	559
45°	735	774	835	882	903	568
55°	565	614	689	749	775	505
65°	384	441	526	591	617	380
75°	198	260	342	399	415	210
85°	43	80	87	86	87	52
90°	0	0	0	0	0	



TEST NUMBER: P388709

CATALOG NUMBER: 24CZ2-45HE-SQR-UNV-L935-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1189.3	1189.3	1189.3	1189.3	1189.3
2.5°	1194.2	1185.6	1189.3	1189.3	1184.3
5°	1189.3	1181.9	1188.0	1188.0	1188.0
7.5°	1180.7	1174.5	1184.3	1186.8	1186.8
10°	1167.1	1164.7	1177.0	1180.7	1181.9
12.5°	1152.4	1151.2	1168.4	1173.3	1177.0
15°	1132.7	1135.2	1154.9	1163.5	1167.1
17.5°	1111.9	1116.8	1138.9	1151.2	1154.9
20°	1087.3	1094.7	1120.5	1132.7	1140.1
22.5°	1060.3	1071.3	1098.3	1113.1	1121.7
25°	1030.8	1044.3	1075.0	1093.4	1103.3
27.5°	998.8	1016.0	1051.7	1072.5	1082.4
30°	964.4	984.1	1023.4	1048.0	1060.3
32.5°	928.8	952.1	995.1	1022.2	1036.9
35°	893.2	919.0	965.7	997.6	1012.3
37.5°	857.5	883.3	934.9	969.3	987.8
40°	817.0	847.7	903.0	941.1	959.5
42.5°	777.7	810.9	869.8	911.6	931.3
45°	734.7	774.0	835.4	882.1	903.0
47.5°	695.4	734.7	801.0	850.2	873.5
50°	652.4	694.1	764.2	818.2	842.8
52.5°	610.6	653.6	727.3	785.1	809.6
55°	565.1	614.3	689.2	749.4	775.2
57.5°	519.7	572.5	649.9	712.6	738.4
60°	475.5	529.5	610.6	673.3	700.3
62.5°	431.2	485.3	570.1	633.9	659.7
65°	384.5	441.1	525.8	590.9	616.7
67.5°	337.9	396.8	481.6	546.7	571.3
70°	288.7	351.4	436.1	500.0	524.6
72.5°	243.3	305.9	389.5	452.1	475.5
75°	197.8	260.5	341.5	399.3	415.3
77.5°	153.6	216.2	288.7	326.8	330.5
80°	111.8	170.8	229.7	240.8	239.6
82.5°	74.9	127.8	158.5	159.7	163.4
85°	43.0	79.9	87.2	86.0	87.2
87.5°	17.2	28.3	24.6	18.4	18.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)