

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: P389789

Luminaire Tested: **24CZ2-50VHE-S-UNV-L940-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: P389789  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-50VHE-S-UNV-L940-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4545.3 lumens  
Efficiency: N/A  
Efficacy: 139.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

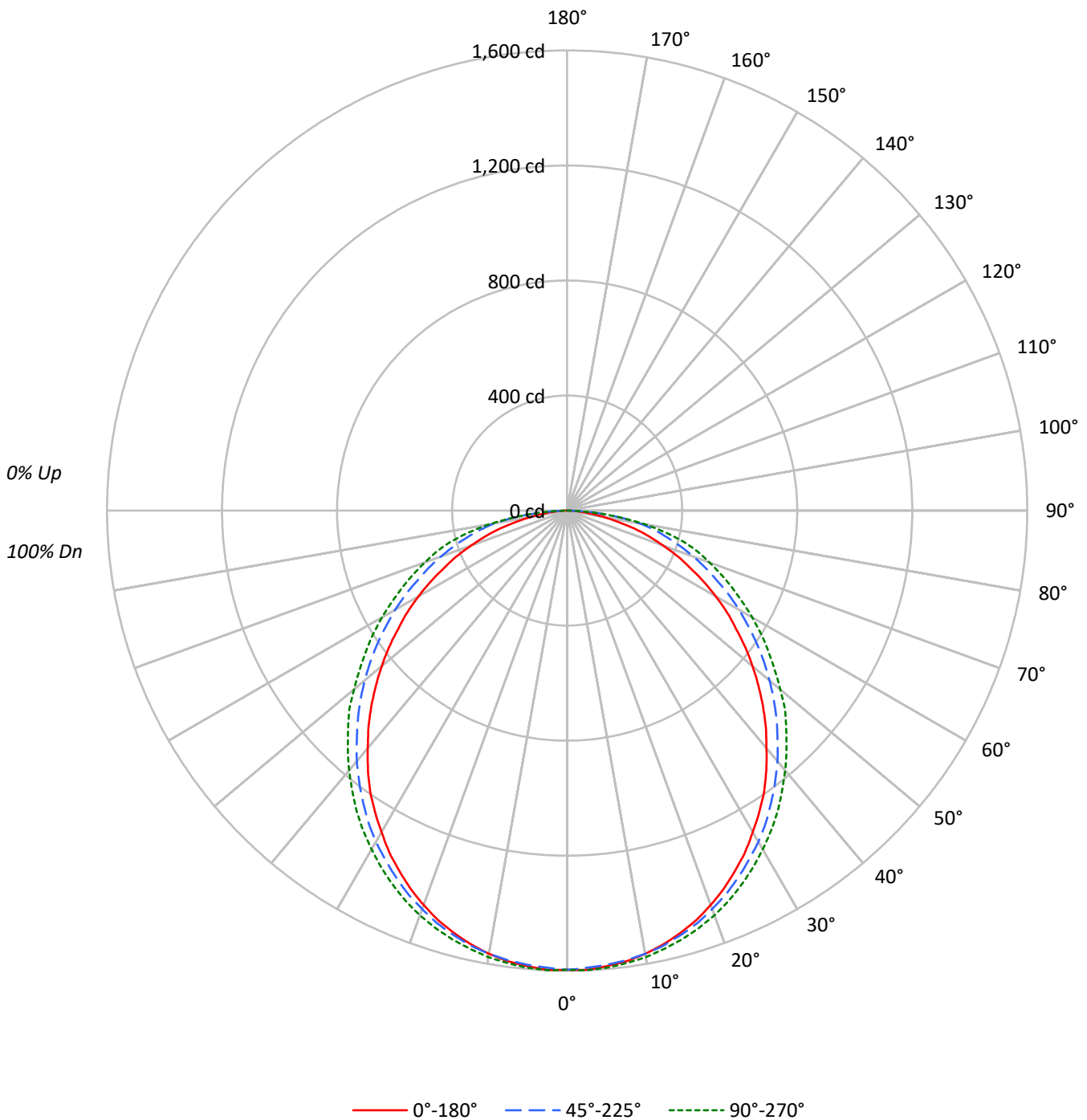
Input Watts (W): 32.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P389789

CATALOG NUMBER: 24CZ2-50VHE-S-UNV-L940-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P389789

CATALOG NUMBER: 24CZ2-50VHE-S-UNV-L940-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	99	95	106	101	97	93	97	93	90		93	90	88		89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2148	2148	2148
5°	2147	2141	2155
10°	2138	2138	2154
15°	2118	2128	2150
20°	2090	2111	2144
25°	2051	2090	2131
30°	2005	2066	2113
35°	1961	2032	2096
40°	1894	1998	2072
45°	1832	1959	2049
50°	1762	1922	2025
55°	1683	1886	2005
60°	1605	1857	2001
65°	1503	1825	2013
70°	1391	1834	2067
75°	1246	1869	2184
80°	1007	1980	2137
85°	758	1738	1694



TEST NUMBER: P389789

CATALOG NUMBER: 24CZ2-50VHE-S-UNV-L940-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.2	3.3
10°-20°	431.9	9.5
20°-30°	649.3	14.3
30°-40°	773.4	17.0
40°-50°	791.6	17.4
50°-60°	712.6	15.7
60°-70°	559.7	12.3
70°-80°	363.2	8.0
80°-90°	112.3	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°	1232.4	27.1
0°-40°	2005.9	44.1
0°-60°	3510.1	77.2
0°-90°	4545.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4545.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1597	1597	1597	1597	1597	
5°	1590	1592	1585	1594	1595	151
15°	1520	1525	1528	1540	1543	429
25°	1382	1393	1408	1431	1435	636
35°	1194	1208	1237	1268	1276	745
45°	963	986	1029	1068	1077	742
55°	718	749	804	846	855	643
65°	472	508	573	621	632	470
75°	240	286	360	409	420	254
85°	49	91	113	110	110	59
90°	0	0	0	0	0	



TEST NUMBER: P389789

CATALOG NUMBER: 24CZ2-50VHE-S-UNV-L940-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1596.8	1596.8	1596.8	1596.8	1596.8
2.5°	1598.2	1598.2	1591.0	1598.2	1599.7
5°	1589.6	1592.5	1585.2	1593.9	1595.3
7.5°	1580.9	1580.9	1576.6	1585.2	1586.7
10°	1565.0	1566.5	1565.0	1575.1	1576.6
12.5°	1544.8	1547.7	1549.1	1559.3	1560.7
15°	1520.3	1524.6	1527.5	1540.5	1543.4
17.5°	1492.8	1497.2	1504.4	1518.8	1521.7
20°	1459.6	1465.4	1474.1	1492.8	1497.2
22.5°	1423.5	1429.3	1443.8	1461.1	1468.3
25°	1381.7	1393.2	1407.7	1430.8	1435.1
27.5°	1339.8	1349.9	1368.7	1393.2	1399.0
30°	1290.7	1306.6	1329.7	1354.2	1360.0
32.5°	1243.1	1259.0	1286.4	1312.4	1319.6
35°	1194.0	1208.4	1237.3	1267.6	1276.3
37.5°	1137.7	1156.4	1188.2	1218.5	1227.2
40°	1078.5	1101.6	1137.7	1169.4	1179.5
42.5°	1022.2	1046.7	1082.8	1117.5	1129.0
45°	963.0	986.1	1029.4	1068.4	1077.0
47.5°	902.3	928.3	974.5	1013.5	1028.0
50°	841.7	869.1	918.2	958.7	967.3
52.5°	781.1	809.9	861.9	905.2	909.6
55°	717.5	749.3	804.2	846.0	854.7
57.5°	659.8	687.2	746.4	789.7	799.8
60°	596.3	626.6	690.1	730.5	743.5
62.5°	535.6	567.4	633.8	674.2	685.8
65°	472.1	508.2	573.2	620.8	632.4
67.5°	417.2	451.9	521.2	567.4	578.9
70°	353.7	392.7	466.3	514.0	525.5
72.5°	298.9	339.3	412.9	459.1	476.4
75°	239.7	285.9	359.5	408.6	420.1
77.5°	181.9	235.3	310.4	347.9	347.9
80°	129.9	186.2	255.5	272.9	275.8
82.5°	85.2	140.0	189.1	187.7	187.7
85°	49.1	91.0	112.6	109.7	109.7
87.5°	18.8	37.5	40.4	40.4	39.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)