

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: P389720

Luminaire Tested: **24CZ2-35VHE-S-UNV-L950-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: P389720  
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: 24CZ2-35VHE-S-UNV-L950-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3359.2 lumens  
Efficiency: N/A  
Efficacy: 147.3 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

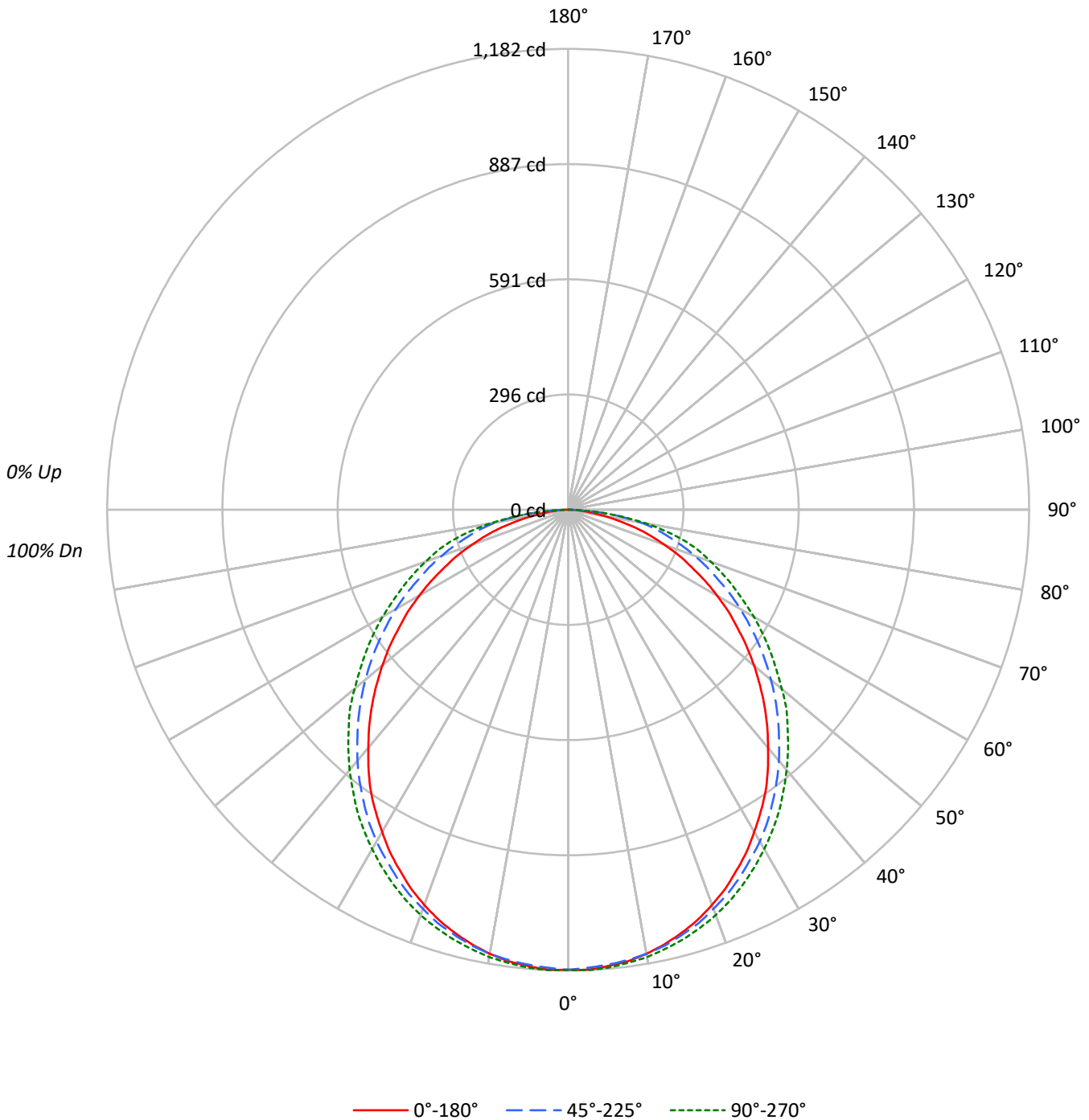
Input Watts (W): 22.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P389720

CATALOG NUMBER: 24CZ2-35VHE-S-UNV-L950-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P389720

CATALOG NUMBER: 24CZ2-35VHE-S-UNV-L950-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°	1588	1588	1588
5°	1587	1582	1592
10°	1580	1580	1592
15°	1565	1573	1589
20°	1545	1560	1584
25°	1516	1544	1575
30°	1482	1527	1562
35°	1449	1502	1549
40°	1400	1477	1531
45°	1354	1448	1515
50°	1302	1420	1496
55°	1244	1394	1482
60°	1186	1372	1479
65°	1111	1349	1488
70°	1028	1356	1528
75°	921	1381	1614
80°	744	1464	1579
85°	560	1284	1252



TEST NUMBER: P389720

CATALOG NUMBER: 24CZ2-35VHE-S-UNV-L950-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.7	3.3
10°-20°	319.2	9.5
20°-30°	479.9	14.3
30°-40°	571.6	17.0
40°-50°	585.0	17.4
50°-60°	526.7	15.7
60°-70°	413.6	12.3
70°-80°	268.4	8.0
80°-90°	83.0	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°	910.8	27.1
0°-40°	1482.4	44.1
0°-60°	2594.1	77.2
0°-90°	3359.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3359.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1180	1180	1180	1180	1180	
5°	1175	1177	1172	1178	1179	112
15°	1124	1127	1129	1138	1141	317
25°	1021	1030	1040	1057	1061	470
35°	882	893	914	937	943	550
45°	712	729	761	790	796	549
55°	530	554	594	625	632	475
65°	349	376	424	459	467	347
75°	177	211	266	302	310	187
85°	36	67	83	81	81	44
90°	0	0	0	0	0	



TEST NUMBER: P389720

CATALOG NUMBER: 24CZ2-35VHE-S-UNV-L950-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1180.1	1180.1	1180.1	1180.1	<i>1180.1</i>
2.5°	<i>1181.2</i>	<i>1181.2</i>	<i>1175.8</i>	<i>1181.2</i>	<i>1182.2</i>
5°	1174.8	1176.9	1171.6	1178.0	<i>1179.0</i>
7.5°	1168.4	1168.4	1165.2	1171.6	<i>1172.6</i>
10°	1156.6	1157.7	1156.6	1164.1	<i>1165.2</i>
12.5°	1141.7	1143.8	1144.9	1152.4	<i>1153.4</i>
15°	1123.6	1126.8	1128.9	1138.5	<i>1140.6</i>
17.5°	1103.3	1106.5	1111.8	1122.5	<i>1124.6</i>
20°	1078.7	1083.0	1089.4	1103.3	<i>1106.5</i>
22.5°	1052.1	1056.3	1067.0	1079.8	<i>1085.1</i>
25°	1021.1	1029.7	1040.3	1057.4	<i>1060.6</i>
27.5°	990.2	997.7	1011.5	1029.7	<i>1033.9</i>
30°	953.9	965.6	982.7	1000.9	<i>1005.1</i>
32.5°	918.7	930.4	950.7	969.9	<i>975.2</i>
35°	882.4	893.1	914.4	936.8	<i>943.2</i>
37.5°	840.8	854.7	878.1	900.6	<i>907.0</i>
40°	797.1	814.1	840.8	864.3	<i>871.7</i>
42.5°	755.4	773.6	800.3	825.9	<i>834.4</i>
45°	711.7	728.8	760.8	789.6	<i>796.0</i>
47.5°	666.9	686.1	720.2	749.0	<i>759.7</i>
50°	622.1	642.3	678.6	708.5	<i>714.9</i>
52.5°	577.3	598.6	637.0	669.0	<i>672.2</i>
55°	530.3	553.8	594.3	625.3	<i>631.7</i>
57.5°	487.6	507.9	551.6	583.7	<i>591.1</i>
60°	440.7	463.1	510.0	539.9	<i>549.5</i>
62.5°	395.9	419.3	468.4	498.3	<i>506.8</i>
65°	348.9	375.6	423.6	458.8	<i>467.3</i>
67.5°	308.4	334.0	385.2	419.3	<i>427.9</i>
70°	261.4	290.2	344.6	379.9	<i>388.4</i>
72.5°	220.9	250.7	305.2	339.3	<i>352.1</i>
75°	177.1	211.3	265.7	302.0	<i>310.5</i>
77.5°	134.4	173.9	229.4	257.1	<i>257.1</i>
80°	96.0	137.6	188.9	201.7	<i>203.8</i>
82.5°	63.0	103.5	139.8	138.7	<i>138.7</i>
85°	36.3	67.2	83.2	81.1	<i>81.1</i>
87.5°	13.9	27.7	29.9	29.9	<i>28.8</i>
90°	0.0	0.0	0.0	0.0	<i>0.0</i>

(END OF REPORT)