

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: P391415

Luminaire Tested: **24CZ2-50VHE-HRP-UNV-L930-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: P391415  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-50VHE-HRP-UNV-L930-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3546.6 lumens  
Efficiency: N/A  
Efficacy: 108.5 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

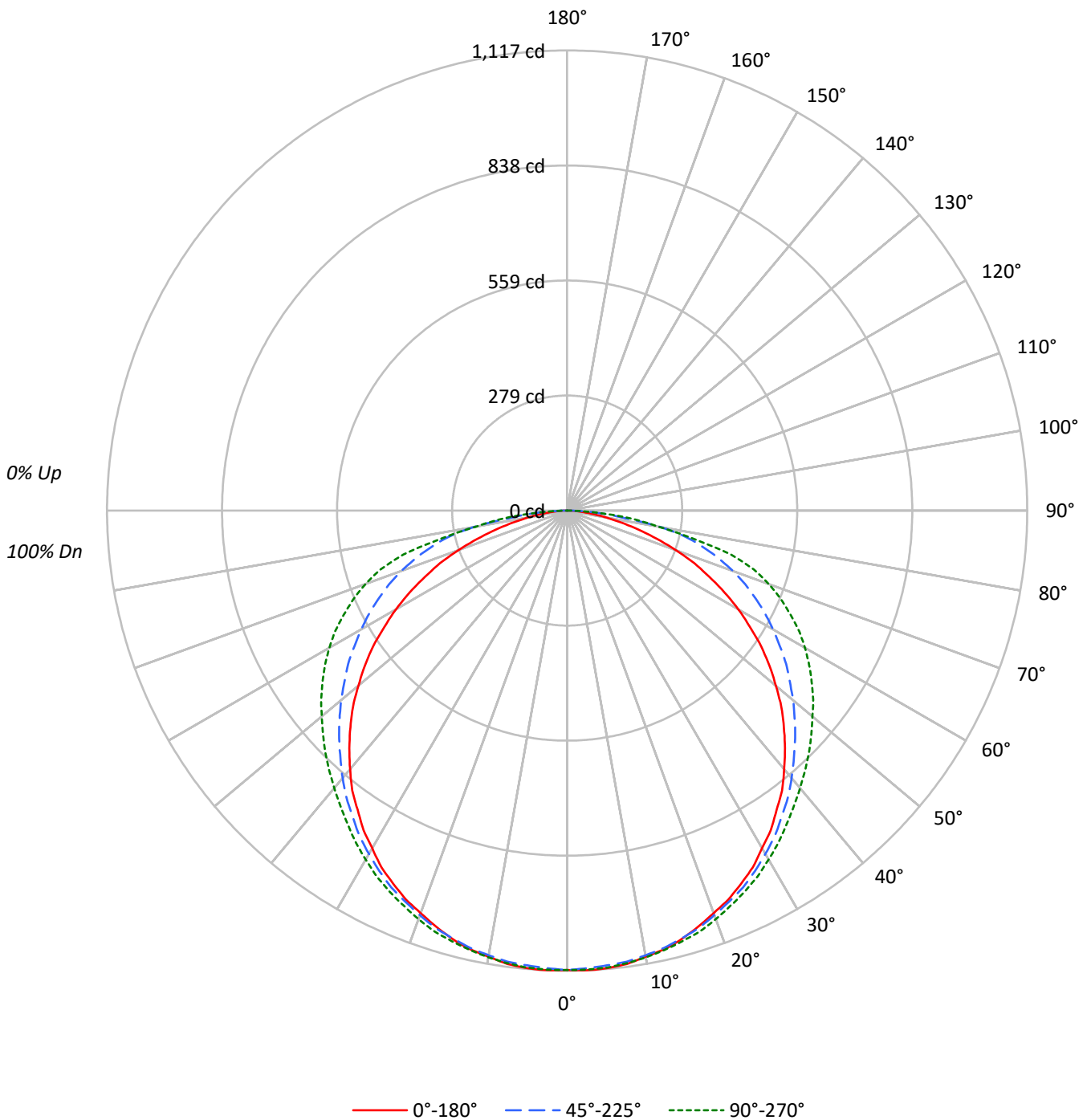
Input Watts (W): 32.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**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	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1501	1501	1501
5°	1506	1497	1504
10°	1502	1497	1505
15°	1500	1497	1507
20°	1489	1496	1511
25°	1483	1499	1515
30°	1470	1495	1520
35°	1456	1491	1526
40°	1440	1489	1545
45°	1416	1490	1580
50°	1384	1499	1627
55°	1349	1523	1700
60°	1292	1553	1794
65°	1210	1607	1904
70°	1100	1682	2048
75°	933	1774	2140
80°	736	1785	1731
85°	543	1359	1521



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.8	3.0
10°-20°	304.5	8.6
20°-30°	465.6	13.1
30°-40°	569.2	16.0
40°-50°	606.7	17.1
50°-60°	580.0	16.4
60°-70°	491.4	13.9
70°-80°	330.2	9.3
80°-90°	93.1	2.6
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°	875.9	24.7
0°-40°	1445.1	40.7
0°-60°	2631.8	74.2
0°-90°	3546.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3546.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1115	1115	1115	1115	1115	
5°	1115	1114	1108	1114	1114	106
15°	1077	1077	1075	1084	1082	304
25°	999	1003	1010	1019	1020	461
35°	887	894	908	925	929	555
45°	744	756	783	816	830	574
55°	575	596	649	700	725	512
65°	380	419	505	572	598	377
75°	179	244	341	399	412	192
85°	35	72	88	95	98	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1115.3	1115.3	1115.3	1115.3	1115.3
2.5°	1117.1	1117.1	1111.8	1115.3	1115.3
5°	1115.3	1113.5	1108.3	1113.5	1113.5
7.5°	1110.0	1108.3	1104.7	1110.0	1108.3
10°	1099.5	1099.5	1096.0	1101.2	1101.2
12.5°	1090.7	1088.9	1087.2	1094.2	1092.4
15°	1076.6	1076.6	1074.8	1083.6	1081.9
17.5°	1059.0	1060.8	1062.5	1069.6	1071.3
20°	1039.7	1043.2	1044.9	1055.5	1055.5
22.5°	1022.1	1023.8	1027.3	1037.9	1037.9
25°	999.2	1002.7	1009.8	1018.6	1020.3
27.5°	976.3	978.1	986.9	999.2	1001.0
30°	946.4	951.7	962.3	976.3	978.1
32.5°	920.0	925.3	937.6	951.7	955.2
35°	886.6	893.7	907.7	925.3	928.8
37.5°	856.7	862.0	879.6	898.9	904.2
40°	819.8	830.3	847.9	870.8	879.6
42.5°	782.8	793.4	814.5	844.4	854.9
45°	744.1	756.4	782.8	816.2	830.3
47.5°	705.4	719.5	749.4	788.1	803.9
50°	661.4	679.0	716.0	760.0	777.5
52.5°	619.2	640.3	680.8	730.0	752.9
55°	575.2	596.4	649.1	700.1	724.8
57.5°	526.0	554.1	612.2	670.2	696.6
60°	480.2	506.6	577.0	640.3	666.7
62.5°	431.0	466.2	541.8	608.7	635.1
65°	380.0	418.7	504.9	571.7	598.1
67.5°	334.2	376.5	467.9	534.8	561.2
70°	279.7	332.5	427.5	494.3	520.7
72.5°	228.7	286.7	385.3	450.3	475.0
75°	179.4	244.5	341.3	399.3	411.6
77.5°	133.7	202.3	295.5	320.2	311.4
80°	95.0	161.8	230.4	218.1	223.4
82.5°	61.6	123.1	142.5	161.8	167.1
85°	35.2	72.1	88.0	95.0	98.5
87.5°	15.8	26.4	35.2	35.2	33.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)