

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: P389711

Luminaire Tested: **24CZ2-35VHE-S-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: P389711  
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-L930-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3056.8 lumens  
Efficiency: N/A  
Efficacy: 134.1 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

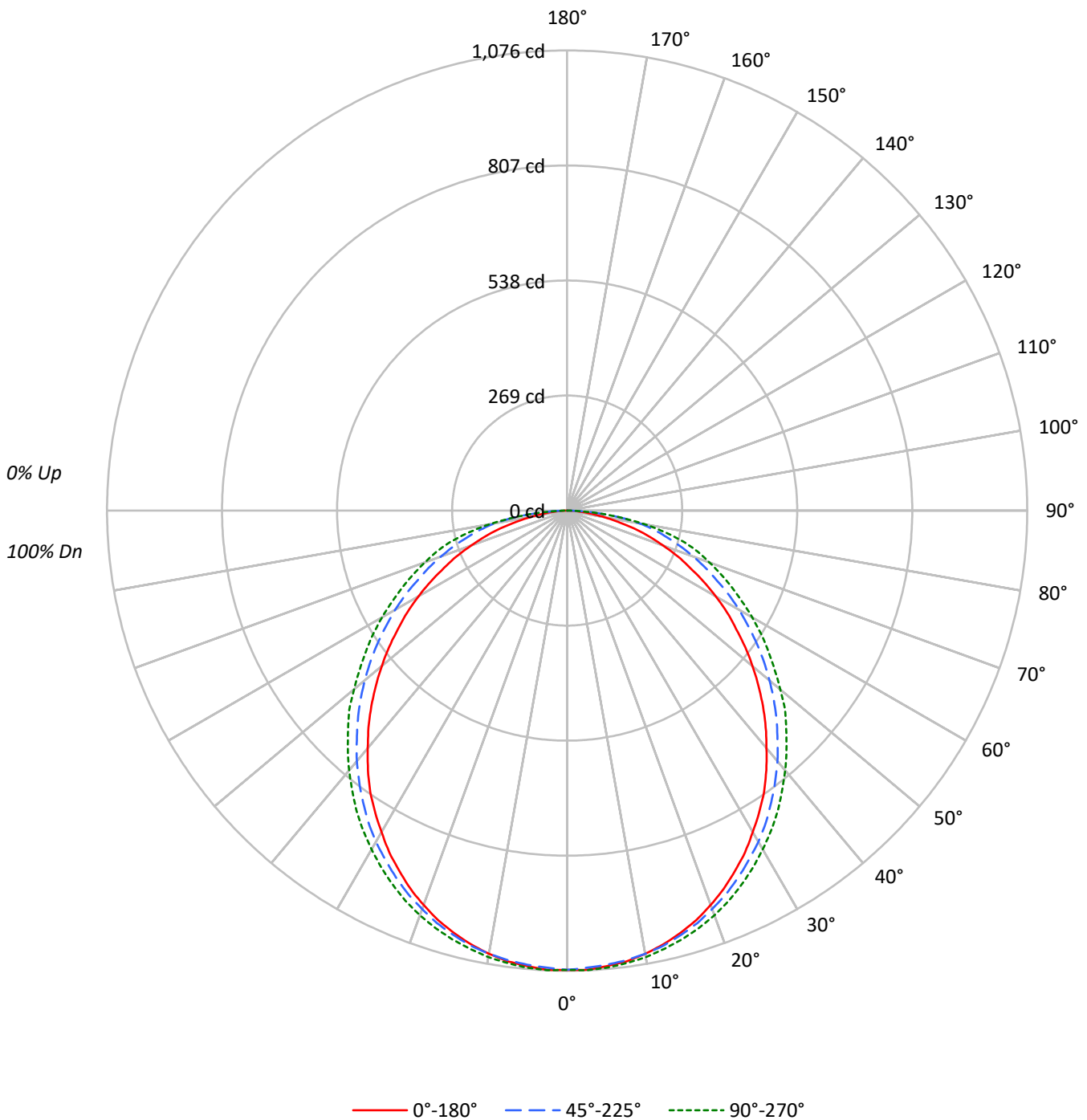
Input Watts (W): 22.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1445	1445	1445
5°	1444	1440	1449
10°	1438	1438	1449
15°	1424	1431	1446
20°	1405	1419	1442
25°	1379	1405	1433
30°	1349	1389	1421
35°	1319	1367	1410
40°	1274	1344	1393
45°	1232	1317	1378
50°	1185	1293	1362
55°	1132	1269	1348
60°	1079	1249	1345
65°	1011	1227	1354
70°	936	1234	1390
75°	838	1257	1469
80°	677	1332	1437
85°	509	1169	1139



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.7	3.3
10°-20°	290.5	9.5
20°-30°	436.7	14.3
30°-40°	520.1	17.0
40°-50°	532.3	17.4
50°-60°	479.3	15.7
60°-70°	376.4	12.3
70°-80°	244.3	8.0
80°-90°	75.6	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°	828.8	27.1
0°-40°	1349.0	44.1
0°-60°	2360.6	77.2
0°-90°	3056.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3056.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1074	1074	1074	1074	1074	
5°	1069	1071	1066	1072	1073	102
15°	1022	1025	1027	1036	1038	288
25°	929	937	947	962	965	428
35°	803	813	832	852	858	501
45°	648	663	692	718	724	499
55°	483	504	541	569	575	433
65°	318	342	386	418	425	316
75°	161	192	242	275	282	171
85°	33	61	76	74	74	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1073.9	1073.9	1073.9	1073.9	1073.9
2.5°	1074.8	1074.8	1070.0	1074.8	1075.8
5°	1069.0	1071.0	1066.1	1071.9	1072.9
7.5°	1063.2	1063.2	1060.3	1066.1	1067.1
10°	1052.5	1053.5	1052.5	1059.3	1060.3
12.5°	1038.9	1040.9	1041.8	1048.6	1049.6
15°	1022.4	1025.3	1027.3	1036.0	1037.9
17.5°	1004.0	1006.9	1011.7	1021.4	1023.4
20°	981.6	985.5	991.3	1004.0	1006.9
22.5°	957.4	961.2	971.0	982.6	987.5
25°	929.2	937.0	946.7	962.2	965.1
27.5°	901.0	907.8	920.5	937.0	940.9
30°	868.0	878.7	894.2	910.8	914.6
32.5°	836.0	846.7	865.1	882.6	887.5
35°	803.0	812.7	832.1	852.5	858.3
37.5°	765.1	777.7	799.1	819.5	825.3
40°	725.3	740.8	765.1	786.5	793.3
42.5°	687.4	703.9	728.2	751.5	759.3
45°	647.6	663.2	692.3	718.5	724.3
47.5°	606.8	624.3	655.4	681.6	691.3
50°	566.1	584.5	617.5	644.7	650.5
52.5°	525.3	544.7	579.7	608.8	611.7
55°	482.6	503.9	540.8	569.0	574.8
57.5°	443.7	462.2	502.0	531.1	537.9
60°	401.0	421.4	464.1	491.3	500.0
62.5°	360.2	381.6	426.2	453.4	461.2
65°	317.5	341.8	385.5	417.5	425.3
67.5°	280.6	303.9	350.5	381.6	389.4
70°	237.9	264.1	313.6	345.7	353.4
72.5°	201.0	228.2	277.7	308.8	320.4
75°	161.2	192.2	241.8	274.8	282.5
77.5°	122.3	158.3	208.8	234.0	234.0
80°	87.4	125.3	171.9	183.5	185.5
82.5°	57.3	94.2	127.2	126.2	126.2
85°	33.0	61.2	75.7	73.8	73.8
87.5°	12.6	25.2	27.2	27.2	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)