

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: P388781

Luminaire Tested: **24CZ2-35VHE-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: P388781  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-35VHE-UNV-L940-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

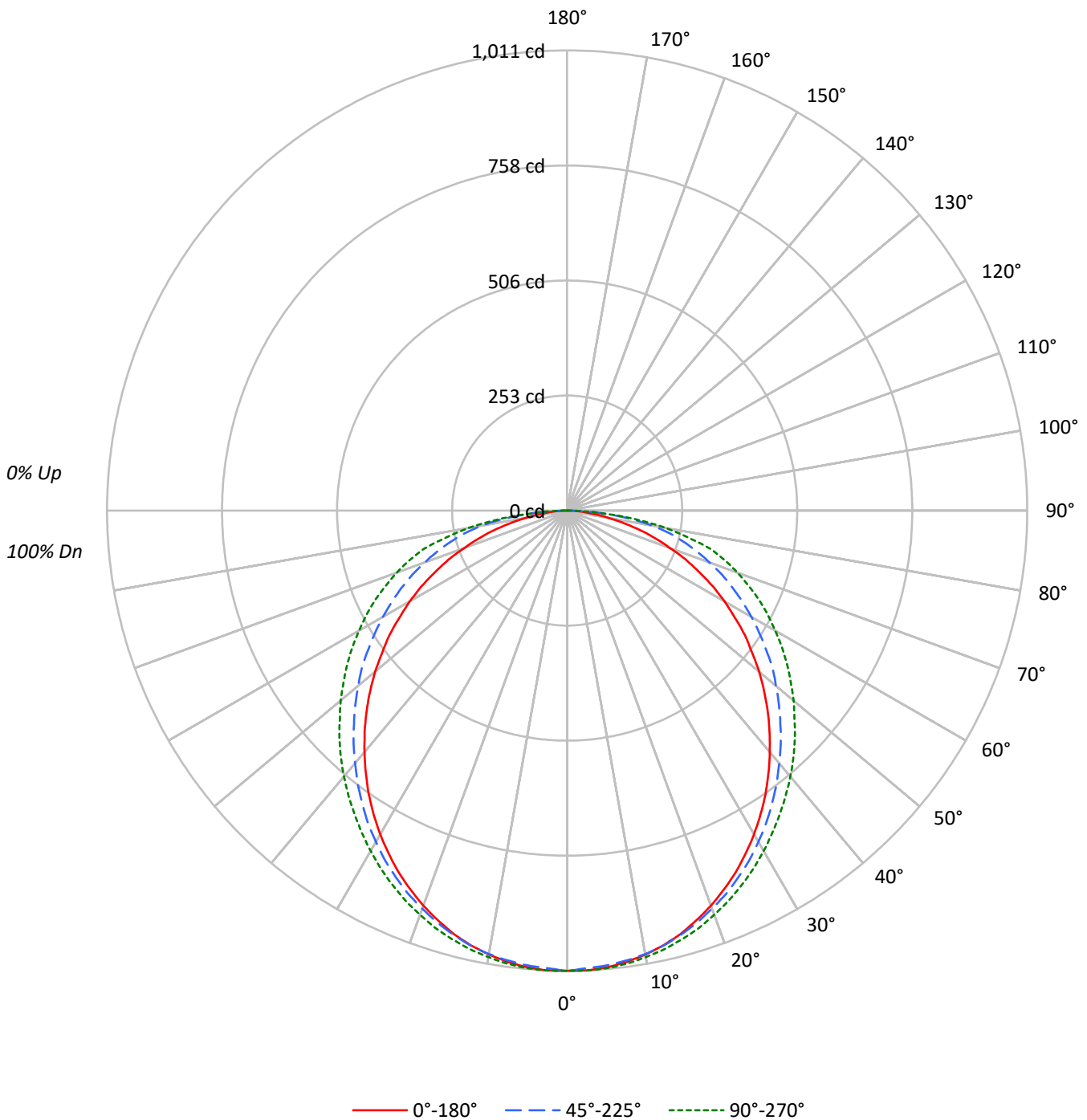
Lumens per Lamp: N/A  
Luminaire Lumens: 3012.0 lumens  
Efficiency: N/A  
Efficacy: 132.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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	98	94	105	100	96	92	96	93	89		92	89	87		89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	60		68	63	58	56
4	81	69	59	52	79	67	59	52	65	57	51		62	56	51		60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39		50	44	38		49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34		46	39	34		45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30		42	35	30		41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27		39	32	27		38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25		36	29	25		35	29	25	23

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

	0°	45°	90°
0°	1361	1361	1361
5°	1360	1355	1363
10°	1353	1351	1361
15°	1341	1344	1358
20°	1323	1333	1353
25°	1301	1321	1348
30°	1276	1306	1342
35°	1248	1290	1337
40°	1216	1273	1340
45°	1186	1261	1347
50°	1153	1254	1359
55°	1118	1252	1384
60°	1074	1258	1420
65°	1018	1277	1482
70°	945	1309	1566
75°	862	1375	1698
80°	709	1480	1698
85°	543	1366	1459



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.6	3.2
10°-20°	273.0	9.1
20°-30°	410.9	13.6
30°-40°	492.4	16.3
40°-50°	513.1	17.0
50°-60°	477.4	15.9
60°-70°	393.2	13.1
70°-80°	267.8	8.9
80°-90°	88.4	2.9
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°	779.6	25.9
0°-40°	1272.0	42.2
0°-60°	2262.6	75.1
0°-90°	3012.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3012.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1011	1011	1011	1011	1011	
5°	1007	1007	1003	1008	1009	96
15°	963	964	965	974	975	271
25°	877	881	890	905	908	404
35°	760	769	785	806	814	475
45°	623	636	662	696	708	481
55°	476	493	534	576	590	425
65°	320	347	401	448	465	317
75°	166	203	264	312	327	175
85°	35	68	88	94	94	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1011.3	1011.3	1011.3	1011.3	1011.3
2.5°	1011.3	1011.3	1006.2	1011.3	1011.3
5°	1007.2	1007.2	1003.2	1008.3	1009.3
7.5°	1000.2	1001.2	997.2	1003.2	1004.2
10°	990.2	991.2	989.2	995.2	996.2
12.5°	978.1	979.1	979.1	986.1	987.1
15°	963.0	964.0	965.0	974.1	975.1
17.5°	943.9	946.9	948.9	960.0	962.0
20°	923.8	926.8	930.8	942.9	944.9
22.5°	900.7	904.7	911.8	924.8	927.8
25°	876.6	880.6	889.6	904.7	907.7
27.5°	849.4	855.5	866.5	882.6	886.6
30°	821.3	827.3	840.4	857.5	863.5
32.5°	791.1	799.2	814.2	833.3	839.4
35°	760.0	769.0	785.1	806.2	814.2
37.5°	726.8	736.8	755.9	779.1	789.1
40°	692.6	704.7	724.8	751.9	763.0
42.5°	658.4	669.5	694.6	723.8	735.8
45°	623.2	636.3	662.5	695.6	707.7
47.5°	587.1	600.1	631.3	666.5	677.5
50°	550.9	563.9	599.1	636.3	649.4
52.5°	511.7	528.8	569.0	606.2	619.2
55°	476.5	492.6	533.8	576.0	590.1
57.5°	436.3	455.4	500.6	544.8	559.9
60°	399.1	419.2	467.4	512.7	527.7
62.5°	360.9	383.0	434.3	480.5	497.6
65°	319.7	346.8	401.1	448.3	465.4
67.5°	282.5	310.6	367.9	416.2	431.2
70°	240.3	274.4	332.7	381.0	398.1
72.5°	204.1	238.2	299.6	346.8	363.9
75°	165.9	203.1	264.4	311.6	326.7
77.5°	127.7	168.9	230.2	266.4	271.4
80°	91.5	134.7	191.0	212.1	219.1
82.5°	64.3	103.5	140.7	154.8	158.8
85°	35.2	68.4	88.5	94.5	94.5
87.5°	15.1	29.2	35.2	36.2	37.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)