

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: P388661

Luminaire Tested: **24CZ2-40VHE-SQR-UNV-L935-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: P388661  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2002-678-2)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-40VHE-SQR-UNV-L935-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3282.0 lumens  
Efficiency: N/A  
Efficacy: 125.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

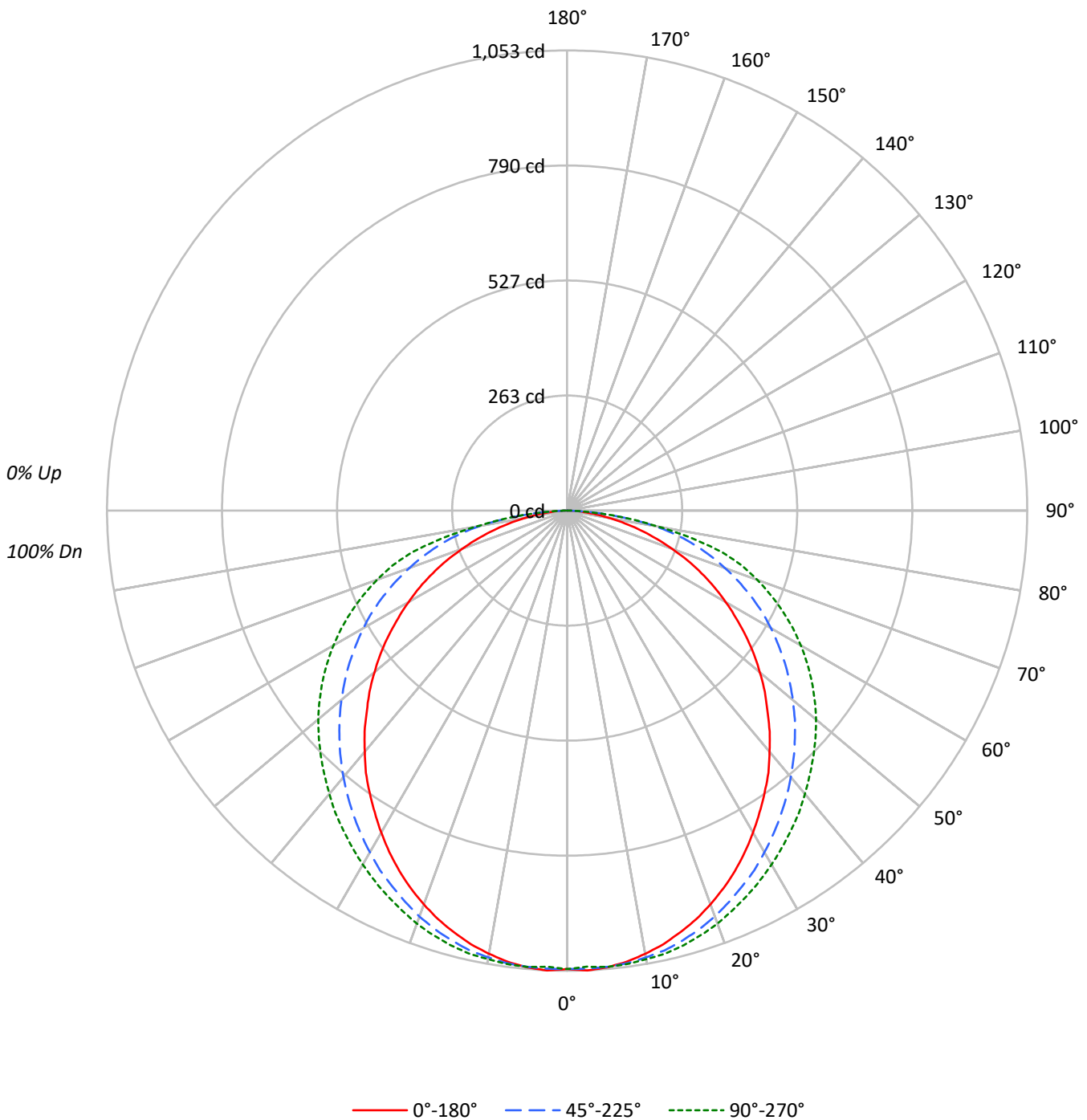
Input Watts (W): 26.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	81	75	95	87	80	74	83	78	73		80	75	71		77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51		62	55	50		60	54	49	47
5	74	61	51	44	72	60	51	44	57	50	44		55	49	43		54	48	43	41
6	68	55	45	39	66	54	45	38	52	44	38		50	43	38		48	42	37	35
7	63	49	40	34	62	49	40	34	47	39	34		45	39	33		44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30		42	35	30		40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27		38	32	27		37	31	27	25
10	52	38	30	25	50	37	30	24	36	29	24		36	29	24		35	29	24	22

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

	0°	45°	90°
0°	1412	1412	1412
5°	1417	1415	1415
10°	1407	1418	1424
15°	1392	1419	1434
20°	1373	1415	1440
25°	1350	1408	1445
30°	1322	1403	1453
35°	1294	1399	1467
40°	1266	1399	1487
45°	1233	1402	1516
50°	1205	1411	1556
55°	1169	1426	1604
60°	1129	1449	1662
65°	1080	1477	1732
70°	1002	1513	1821
75°	907	1566	1904
80°	764	1571	1637
85°	585	1187	1187



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.6	3.0
10°-20°	286.5	8.7
20°-30°	435.2	13.3
30°-40°	529.3	16.1
40°-50°	563.6	17.2
50°-60°	536.8	16.4
60°-70°	448.9	13.7
70°-80°	299.3	9.1
80°-90°	82.8	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°	821.3	25.0
0°-40°	1350.6	41.2
0°-60°	2451.0	74.7
0°-90°	3282.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3282.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1049	1049	1049	1049	1049	
5°	1049	1043	1048	1048	1048	100
15°	999	1001	1019	1026	1030	282
25°	909	921	948	965	973	419
35°	788	811	852	880	893	493
45°	648	683	737	778	797	501
55°	498	542	608	661	684	446
65°	339	389	464	521	544	335
75°	174	230	301	352	366	185
85°	38	70	77	76	77	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1049.1	1049.1	1049.1	1049.1	1049.1
2.5°	1053.4	1045.8	1049.1	1049.1	1044.8
5°	1049.1	1042.6	1048.0	1048.0	1048.0
7.5°	1041.5	1036.1	1044.8	1046.9	1046.9
10°	1029.6	1027.4	1038.2	1041.5	1042.6
12.5°	1016.6	1015.5	1030.7	1035.0	1038.2
15°	999.2	1001.4	1018.7	1026.3	1029.6
17.5°	980.8	985.1	1004.7	1015.5	1018.7
20°	959.1	965.6	988.4	999.2	1005.7
22.5°	935.3	945.0	968.9	981.9	989.5
25°	909.3	921.2	948.3	964.6	973.2
27.5°	881.1	896.3	927.7	946.1	954.8
30°	850.8	868.1	902.8	924.5	935.3
32.5°	819.3	839.9	877.9	901.7	914.7
35°	787.9	810.7	851.8	880.0	893.0
37.5°	756.5	779.2	824.7	855.1	871.3
40°	720.7	747.8	796.6	830.2	846.4
42.5°	686.0	715.3	767.3	804.2	821.5
45°	648.1	682.8	737.0	778.1	796.6
47.5°	613.4	648.1	706.6	750.0	770.6
50°	575.5	612.3	674.1	721.8	743.5
52.5°	538.6	576.6	641.6	692.5	714.2
55°	498.5	541.9	608.0	661.1	683.9
57.5°	458.4	505.0	573.3	628.6	651.3
60°	419.4	467.1	538.6	593.9	617.7
62.5°	380.4	428.1	502.9	559.2	582.0
65°	339.2	389.1	463.9	521.3	544.1
67.5°	298.0	350.1	424.8	482.3	504.0
70°	254.7	310.0	384.7	441.1	462.8
72.5°	214.6	269.9	343.6	398.8	419.4
75°	174.5	229.8	301.3	352.2	366.3
77.5°	135.5	190.7	254.7	288.3	291.5
80°	98.6	150.6	202.7	212.4	211.3
82.5°	66.1	112.7	139.8	140.9	144.1
85°	37.9	70.4	76.9	75.9	76.9
87.5°	15.2	24.9	21.7	16.3	16.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)