

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: P295044

Luminaire Tested: **24CZ2-50HE-HRP-UNV-L935-CD1-U**

Issue Date: 12/2/2019

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: P295044  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-50HE-HRP-UNV-L935-CD1-U  
Description: 2'x4' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (224) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3297.9 lumens  
Efficiency: N/A  
Efficacy: 85.4 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

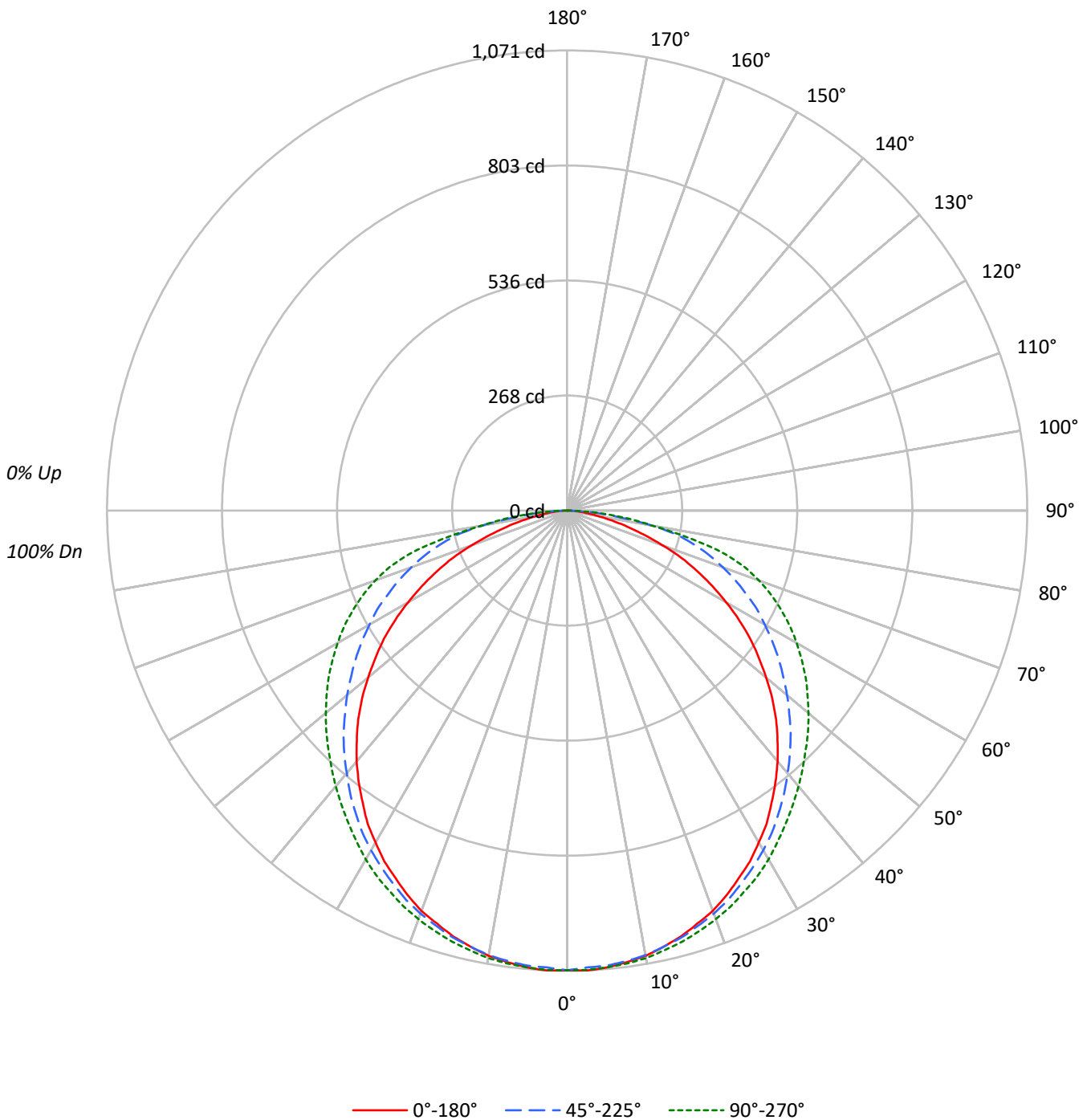
Input Watts (W): 38.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24

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

	0°	45°	90°
0°	1440	1440	1440
5°	1441	1436	1441
10°	1437	1436	1445
15°	1429	1433	1446
20°	1419	1429	1449
25°	1402	1423	1451
30°	1386	1418	1457
35°	1363	1411	1458
40°	1339	1402	1472
45°	1308	1400	1495
50°	1266	1399	1535
55°	1221	1409	1590
60°	1152	1430	1661
65°	1064	1464	1754
70°	929	1515	1868
75°	754	1593	1931
80°	556	1562	1562
85°	426	1152	1300



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.4	3.1
10°-20°	291.1	8.8
20°-30°	443.1	13.4
30°-40°	538.1	16.3
40°-50°	568.5	17.2
50°-60°	536.4	16.3
60°-70°	446.0	13.5
70°-80°	293.4	8.9
80°-90°	80.0	2.4
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°	835.6	25.3
0°-40°	1373.6	41.7
0°-60°	2478.5	75.2
0°-90°	3297.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3297.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1070	1070	1070	1070	1070	
5°	1067	1067	1063	1067	1067	101
15°	1026	1027	1029	1038	1038	289
25°	944	950	958	975	978	436
35°	830	839	859	881	888	519
45°	688	701	736	772	786	529
55°	520	543	601	657	678	464
65°	334	373	460	527	551	330
75°	145	211	306	363	371	156
85°	28	61	75	83	84	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1070.0	1070.0	1070.0	1070.0	1070.0
2.5°	1071.4	1070.0	1064.5	1070.0	1070.0
5°	1067.2	1067.2	1063.1	1067.2	1067.2
7.5°	1060.3	1060.3	1057.6	1063.1	1063.1
10°	1052.0	1052.0	1050.7	1057.6	1057.6
12.5°	1039.6	1041.0	1039.6	1047.9	1047.9
15°	1025.8	1027.2	1028.6	1038.2	1038.2
17.5°	1007.9	1010.6	1013.4	1024.4	1025.8
20°	991.3	992.7	998.2	1010.6	1012.0
22.5°	969.2	973.4	980.3	992.7	996.8
25°	944.4	949.9	958.2	974.7	977.5
27.5°	920.9	925.0	936.1	954.0	959.5
30°	891.9	898.8	912.6	930.6	937.5
32.5°	864.3	871.2	887.8	907.1	912.6
35°	829.8	839.4	858.8	880.8	887.8
37.5°	796.6	806.3	829.8	854.6	862.9
40°	762.1	773.2	798.0	827.0	838.0
42.5°	724.8	740.0	767.6	799.4	811.8
45°	687.6	701.4	735.9	771.8	785.6
47.5°	647.5	664.1	701.4	744.2	760.7
50°	604.7	625.4	668.2	715.2	733.1
52.5°	561.9	585.4	633.7	686.2	705.5
55°	520.5	542.6	600.6	657.2	677.9
57.5°	474.9	502.6	566.1	626.8	647.5
60°	428.0	458.4	531.5	595.1	617.1
62.5°	381.1	415.6	498.4	561.9	585.4
65°	334.1	372.8	459.8	527.4	550.9
67.5°	288.6	331.4	423.9	491.5	515.0
70°	236.1	289.9	385.2	451.5	474.9
72.5°	187.8	249.9	347.9	410.1	430.8
75°	145.0	211.2	306.5	363.1	371.4
77.5°	106.3	172.6	263.7	283.0	284.4
80°	71.8	138.1	201.6	198.8	201.6
82.5°	46.9	103.5	127.0	142.2	143.6
85°	27.6	60.7	74.6	82.8	84.2
87.5°	13.8	20.7	26.2	27.6	30.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)