

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: P295045

Luminaire Tested: **24CZ2-50HE-HRP-UNV-L940-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: P295045  
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-L940-CD1-U  
Description: 2'x4' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (224) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

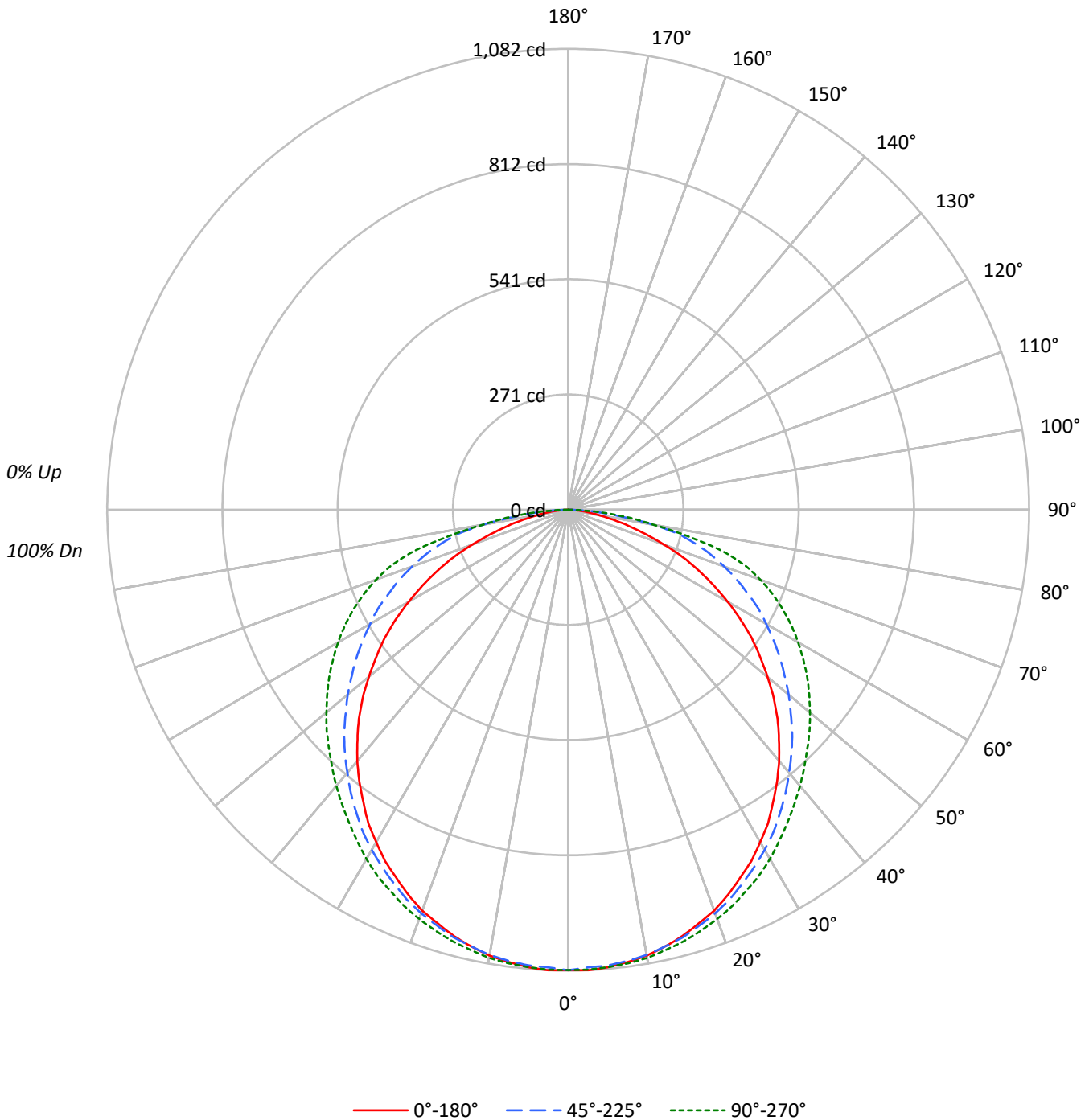
Lumens per Lamp: N/A  
Luminaire Lumens: 3332.0 lumens  
Efficiency: N/A  
Efficacy: 86.3 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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	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	101	96	93	96	93	90		92	90	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	59		68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		60	54	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	38		50	43	38		49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		35	29	24	23

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

	0°	45°	90°
0°	1455	1455	1455
5°	1456	1451	1456
10°	1452	1450	1460
15°	1444	1448	1461
20°	1434	1444	1464
25°	1416	1437	1466
30°	1400	1432	1472
35°	1377	1425	1473
40°	1352	1416	1487
45°	1322	1415	1510
50°	1279	1413	1550
55°	1234	1423	1607
60°	1164	1445	1678
65°	1075	1479	1772
70°	938	1531	1888
75°	762	1610	1951
80°	562	1578	1578
85°	431	1162	1314



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.4	3.1
10°-20°	294.1	8.8
20°-30°	447.7	13.4
30°-40°	543.6	16.3
40°-50°	574.3	17.2
50°-60°	541.9	16.3
60°-70°	450.6	13.5
70°-80°	296.5	8.9
80°-90°	80.8	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°	844.2	25.3
0°-40°	1387.8	41.7
0°-60°	2504.1	75.2
0°-90°	3332.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3332.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1081	1081	1081	1081	1081	
5°	1078	1078	1074	1078	1078	102
15°	1036	1038	1039	1049	1049	292
25°	954	960	968	985	988	440
35°	838	848	868	890	897	525
45°	695	709	744	780	794	535
55°	526	548	607	664	685	468
65°	338	377	464	533	557	334
75°	146	213	310	367	375	158
85°	28	61	75	84	85	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1081.1	1081.1	1081.1	1081.1	1081.1
2.5°	1082.5	1081.1	1075.5	1081.1	1081.1
5°	1078.3	1078.3	1074.1	1078.3	1078.3
7.5°	1071.3	1071.3	1068.5	1074.1	1074.1
10°	1062.9	1062.9	1061.5	1068.5	1068.5
12.5°	1050.4	1051.8	1050.4	1058.7	1058.7
15°	1036.4	1037.8	1039.2	1049.0	1049.0
17.5°	1018.3	1021.1	1023.9	1035.0	1036.4
20°	1001.6	1002.9	1008.5	1021.1	1022.5
22.5°	979.2	983.4	990.4	1002.9	1007.1
25°	954.1	959.7	968.1	984.8	987.6
27.5°	930.4	934.6	945.8	963.9	969.5
30°	901.1	908.1	922.0	940.2	947.2
32.5°	873.2	880.2	896.9	916.5	922.0
35°	838.3	848.1	867.6	890.0	896.9
37.5°	804.9	814.6	838.3	863.5	871.8
40°	770.0	781.2	806.3	835.6	846.7
42.5°	732.3	747.7	775.6	807.7	820.2
45°	694.7	708.6	743.5	779.8	793.7
47.5°	654.2	671.0	708.6	751.9	768.6
50°	611.0	631.9	675.1	722.6	740.7
52.5°	567.7	591.4	640.3	693.3	712.8
55°	525.9	548.2	606.8	664.0	684.9
57.5°	479.9	507.8	571.9	633.3	654.2
60°	432.4	463.1	537.0	601.2	623.5
62.5°	385.0	419.9	503.6	567.7	591.4
65°	337.6	376.6	464.5	532.9	556.6
67.5°	291.5	334.8	428.2	496.6	520.3
70°	238.5	292.9	389.2	456.1	479.9
72.5°	189.7	252.5	351.5	414.3	435.2
75°	146.5	213.4	309.7	366.9	375.2
77.5°	107.4	174.4	266.4	286.0	287.4
80°	72.5	139.5	203.7	200.9	203.7
82.5°	47.4	104.6	128.3	143.7	145.1
85°	27.9	61.4	75.3	83.7	85.1
87.5°	13.9	20.9	26.5	27.9	30.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)