

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: P294829

Luminaire Tested: **22CZ2-20-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: P294829  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-22)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-20-HRP-UNV-L940-CD1-U  
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (56) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

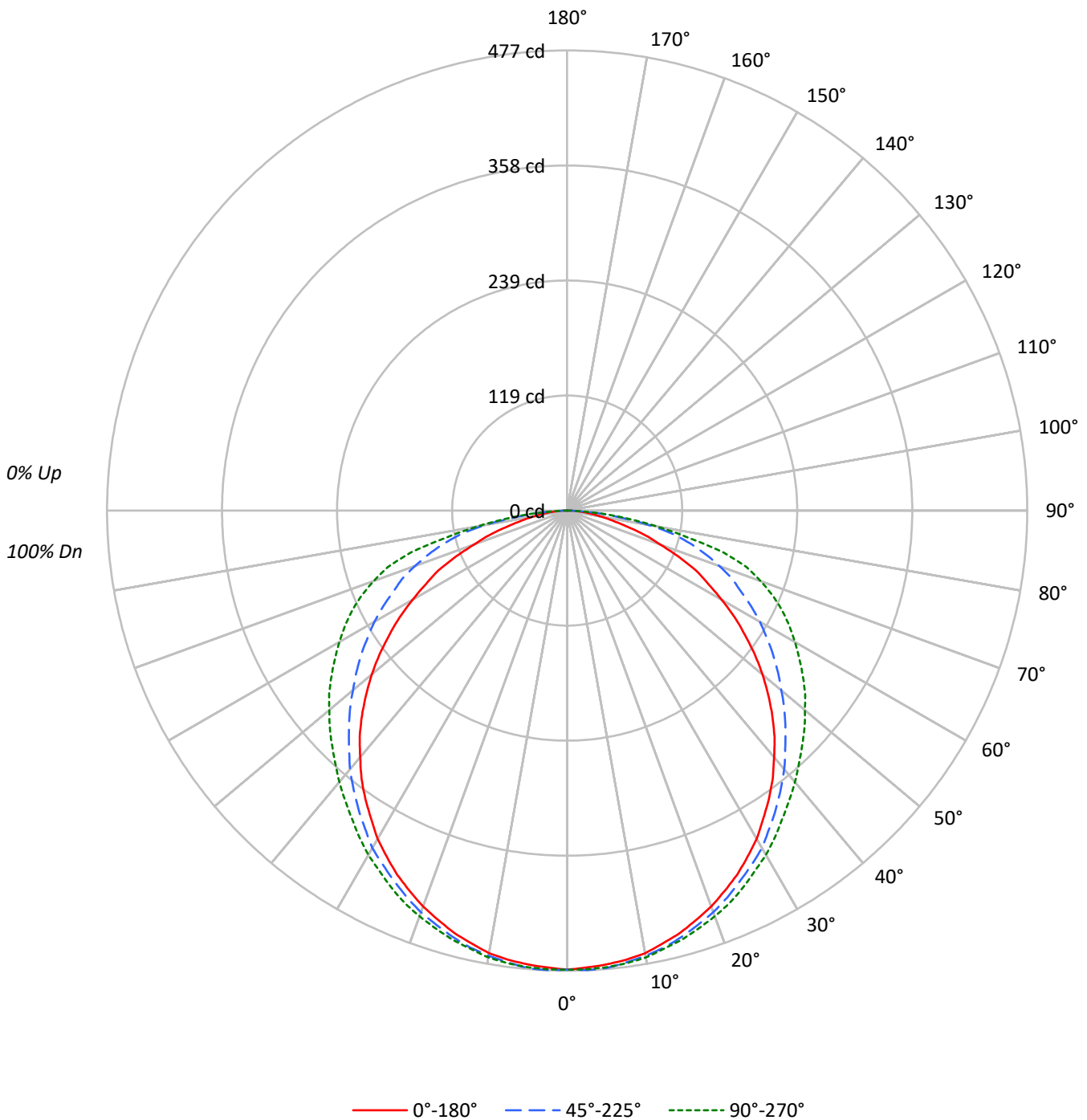
Lumens per Lamp: N/A  
Luminaire Lumens: 1445.2 lumens  
Efficiency: N/A  
Efficacy: 80.7 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 17.9  
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	87	84	82
2	98	89	82	76	95	87	80	75	84	78	73		80	75	71		77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61		70	64	60		68	63	59	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	43	38		49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34		46	39	34		44	38	33	31
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	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	25		35	29	24	23

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

	0°	45°	90°
0°	1281	1281	1281
5°	1276	1286	1283
10°	1273	1280	1285
15°	1262	1275	1283
20°	1251	1269	1282
25°	1237	1259	1280
30°	1221	1255	1281
35°	1198	1240	1279
40°	1172	1230	1291
45°	1145	1218	1311
50°	1107	1214	1347
55°	1057	1223	1399
60°	996	1242	1467
65°	940	1265	1568
70°	803	1319	1678
75°	673	1375	1744
80°	552	1328	1455
85°	479	985	1068



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.1	3.1
10°-20°	129.0	8.9
20°-30°	195.5	13.5
30°-40°	236.1	16.3
40°-50°	248.1	17.2
50°-60°	233.4	16.2
60°-70°	194.6	13.5
70°-80°	129.0	8.9
80°-90°	34.4	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°	369.7	25.6
0°-40°	605.7	41.9
0°-60°	1087.3	75.2
0°-90°	1445.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1445.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	476	476	476	476	476	
5°	472	473	476	476	475	45
15°	453	455	458	460	460	128
25°	417	419	424	429	431	192
35°	365	368	377	386	389	228
45°	301	305	320	336	345	232
55°	225	235	261	287	298	201
65°	148	160	199	232	246	144
75°	65	90	132	160	168	70
85°	16	24	32	35	35	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	475.9	475.9	475.9	475.9	475.9
2.5°	474.1	475.0	476.8	476.8	475.9
5°	472.2	473.2	475.9	475.9	475.0
7.5°	469.5	470.4	472.2	474.1	473.2
10°	465.9	466.8	468.6	470.4	470.4
12.5°	459.5	460.4	464.0	465.0	465.0
15°	453.1	454.9	457.7	459.5	460.4
17.5°	444.9	446.7	450.4	454.0	454.0
20°	436.7	438.5	443.1	446.7	447.6
22.5°	426.7	429.4	434.0	438.5	440.3
25°	416.6	419.4	423.9	429.4	431.2
27.5°	404.8	407.5	413.9	420.3	421.2
30°	392.9	395.7	403.9	409.3	412.1
32.5°	378.3	382.0	390.2	398.4	401.1
35°	364.7	368.3	377.4	385.6	389.3
37.5°	350.1	353.7	363.8	373.8	378.3
40°	333.7	338.2	350.1	361.0	367.4
42.5°	318.2	322.7	334.6	349.2	355.6
45°	300.9	305.4	320.0	336.4	344.6
47.5°	282.6	288.1	305.4	325.5	333.7
50°	264.4	270.8	289.9	312.7	321.8
52.5°	245.2	253.4	275.3	299.9	310.9
55°	225.2	235.2	260.7	287.2	298.1
57.5°	206.0	215.2	245.2	273.5	285.4
60°	185.1	196.9	230.7	259.8	272.6
62.5°	165.0	177.8	215.2	246.2	259.8
65°	147.7	160.5	198.7	231.6	246.2
67.5°	124.9	142.2	185.1	216.1	230.7
70°	102.1	125.8	167.7	199.7	213.3
72.5°	84.8	107.6	150.4	182.3	195.1
75°	64.7	90.3	132.2	159.5	167.7
77.5°	48.3	74.8	113.0	126.7	127.6
80°	35.6	57.4	85.7	90.3	93.9
82.5°	24.6	40.1	55.6	61.1	62.9
85°	15.5	23.7	31.9	34.6	34.6
87.5°	8.2	9.1	10.9	10.9	10.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)