

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: P294853

Luminaire Tested: **22CZ2-39HE-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: P294853  
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: 22CZ2-39HE-HRP-UNV-L940-CD1-U  
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (196) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2702.9 lumens  
Efficiency: N/A  
Efficacy: 89.2 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

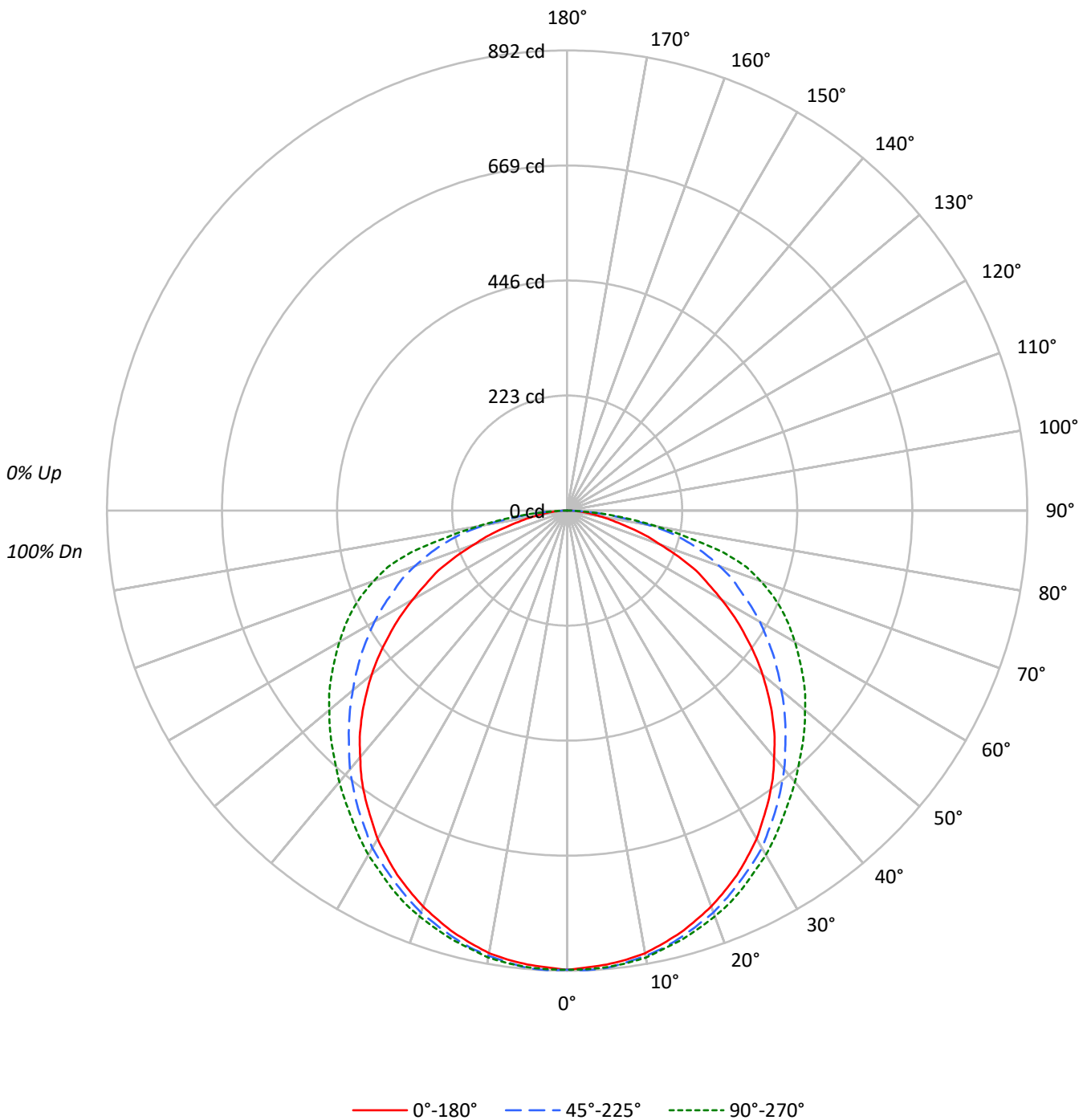
Input Watts (W): 30.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2395	2395	2395
5°	2386	2404	2400
10°	2381	2395	2404
15°	2361	2384	2399
20°	2339	2373	2397
25°	2314	2354	2395
30°	2284	2347	2395
35°	2240	2319	2392
40°	2192	2300	2414
45°	2141	2278	2453
50°	2070	2270	2520
55°	1976	2288	2616
60°	1863	2322	2744
65°	1759	2367	2932
70°	1503	2468	3139
75°	1259	2570	3262
80°	1031	2484	2721
85°	895	1843	2001



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.4	3.1
10°-20°	241.3	8.9
20°-30°	365.7	13.5
30°-40°	441.6	16.3
40°-50°	464.0	17.2
50°-60°	436.6	16.2
60°-70°	364.0	13.5
70°-80°	241.2	8.9
80°-90°	64.3	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°	691.3	25.6
0°-40°	1132.9	41.9
0°-60°	2033.5	75.2
0°-90°	2702.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2702.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	890	890	890	890	890	
5°	883	885	890	890	888	84
15°	847	851	856	859	861	239
25°	779	784	793	803	806	359
35°	682	689	706	721	728	426
45°	563	571	598	629	644	433
55°	421	440	488	537	558	377
65°	276	300	372	433	460	269
75°	121	169	247	298	314	131
85°	29	44	60	65	65	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	890.0	890.0	890.0	890.0	890.0
2.5°	886.6	888.3	891.8	891.8	890.0
5°	883.2	884.9	890.0	890.0	888.3
7.5°	878.1	879.8	883.2	886.6	884.9
10°	871.3	873.0	876.4	879.8	879.8
12.5°	859.4	861.1	867.9	869.6	869.6
15°	847.4	850.8	855.9	859.4	861.1
17.5°	832.1	835.5	842.3	849.1	849.1
20°	816.7	820.1	828.7	835.5	837.2
22.5°	798.0	803.1	811.6	820.1	823.6
25°	779.2	784.3	792.9	803.1	806.5
27.5°	757.1	762.2	774.1	786.0	787.7
30°	734.9	740.0	755.3	765.6	770.7
32.5°	707.6	714.4	729.8	745.1	750.2
35°	682.0	688.9	705.9	721.2	728.1
37.5°	654.7	661.6	680.3	699.1	707.6
40°	624.1	632.6	654.7	675.2	687.1
42.5°	595.1	603.6	625.8	653.0	665.0
45°	562.7	571.2	598.5	629.2	644.5
47.5°	528.6	538.8	571.2	608.7	624.1
50°	494.5	506.4	542.2	584.8	601.9
52.5°	458.7	474.0	514.9	561.0	581.4
55°	421.2	439.9	487.7	537.1	557.6
57.5°	385.3	402.4	458.7	511.5	533.7
60°	346.1	368.3	431.4	485.9	509.8
62.5°	308.6	332.5	402.4	460.4	485.9
65°	276.2	300.1	371.7	433.1	460.4
67.5°	233.6	266.0	346.1	404.1	431.4
70°	191.0	235.3	313.7	373.4	399.0
72.5°	158.6	201.2	281.3	341.0	364.9
75°	121.1	168.8	247.2	298.4	313.7
77.5°	90.4	139.8	211.4	237.0	238.7
80°	66.5	107.4	160.3	168.8	175.6
82.5°	46.0	75.0	104.0	114.2	117.7
85°	29.0	44.3	59.7	64.8	64.8
87.5°	15.3	17.1	20.5	20.5	20.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)