

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: P294852

Luminaire Tested: **22CZ2-39HE-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: P294852  
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-L935-CD1-U  
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (196) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2675.3 lumens  
Efficiency: N/A  
Efficacy: 88.3 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

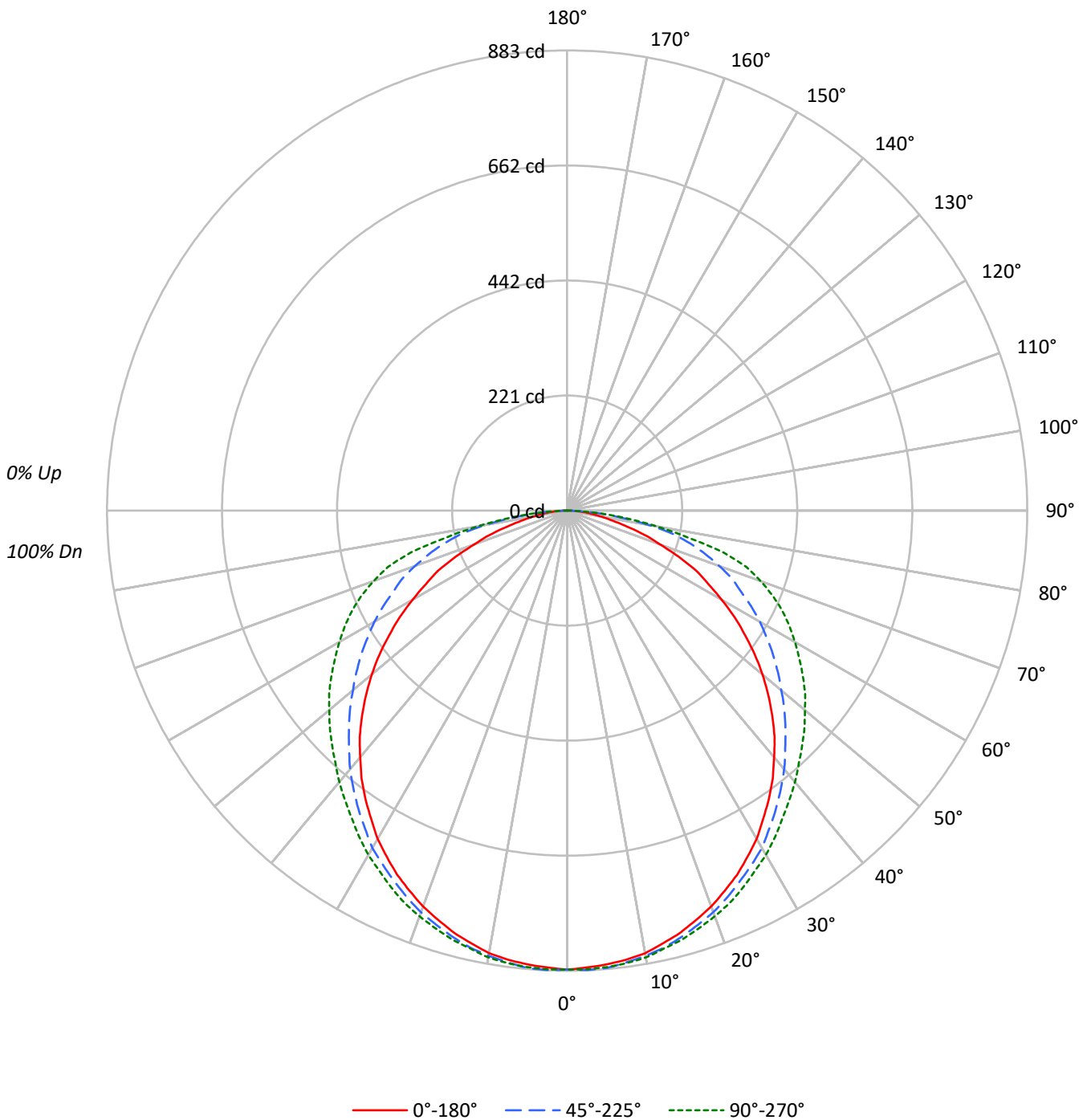
Input Watts (W): 30.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2370	2370	2370
5°	2361	2380	2375
10°	2357	2370	2379
15°	2337	2360	2374
20°	2315	2349	2373
25°	2290	2330	2370
30°	2260	2323	2370
35°	2217	2295	2367
40°	2170	2276	2389
45°	2119	2254	2428
50°	2049	2247	2494
55°	1955	2265	2589
60°	1844	2298	2716
65°	1741	2343	2902
70°	1487	2443	3107
75°	1246	2544	3228
80°	1020	2458	2693
85°	886	1825	1979



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.5	3.1
10°-20°	238.8	8.9
20°-30°	361.9	13.5
30°-40°	437.1	16.3
40°-50°	459.3	17.2
50°-60°	432.1	16.2
60°-70°	360.3	13.5
70°-80°	238.7	8.9
80°-90°	63.6	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°	684.3	25.6
0°-40°	1121.3	41.9
0°-60°	2012.7	75.2
0°-90°	2675.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2675.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	881	881	881	881	881	
5°	874	876	881	881	879	83
15°	839	842	847	851	852	237
25°	771	776	785	795	798	355
35°	675	682	699	714	721	422
45°	557	565	592	623	638	429
55°	417	435	483	532	552	373
65°	273	297	368	429	456	266
75°	120	167	245	295	310	130
85°	29	44	59	64	64	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	880.9	880.9	880.9	880.9	880.9
2.5°	877.6	879.2	882.6	882.6	880.9
5°	874.2	875.9	880.9	880.9	879.2
7.5°	869.1	870.8	874.2	877.6	875.9
10°	862.4	864.1	867.4	870.8	870.8
12.5°	850.6	852.2	859.0	860.7	860.7
15°	838.7	842.1	847.2	850.6	852.2
17.5°	823.6	826.9	833.7	840.4	840.4
20°	808.4	811.7	820.2	826.9	828.6
22.5°	789.8	794.9	803.3	811.7	815.1
25°	771.2	776.3	784.7	794.9	798.2
27.5°	749.3	754.4	766.2	778.0	779.7
30°	727.4	732.4	747.6	757.7	762.8
32.5°	700.4	707.1	722.3	737.5	742.6
35°	675.0	681.8	698.7	713.9	720.6
37.5°	648.0	654.8	673.4	691.9	700.4
40°	617.7	626.1	648.0	668.3	680.1
42.5°	589.0	597.4	619.4	646.4	658.2
45°	556.9	565.4	592.4	622.7	637.9
47.5°	523.2	533.3	565.4	602.5	617.7
50°	489.4	501.2	536.7	578.9	595.7
52.5°	454.0	469.2	509.7	555.2	575.5
55°	416.8	435.4	482.7	531.6	551.9
57.5°	381.4	398.3	454.0	506.3	528.2
60°	342.6	364.5	427.0	481.0	504.6
62.5°	305.5	329.1	398.3	455.7	481.0
65°	273.4	297.0	367.9	428.7	455.7
67.5°	231.2	263.3	342.6	400.0	427.0
70°	189.0	232.9	310.5	369.6	394.9
72.5°	156.9	199.1	278.5	337.5	361.2
75°	119.8	167.1	244.7	295.3	310.5
77.5°	89.4	138.4	209.3	234.6	236.3
80°	65.8	106.3	158.6	167.1	173.8
82.5°	45.6	74.3	102.9	113.1	116.4
85°	28.7	43.9	59.1	64.1	64.1
87.5°	15.2	16.9	20.3	20.3	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)