

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: P294823

Luminaire Tested: **22CZ2-20HE-HRP-UNV-L930-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: P294823  
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: 22CZ2-20HE-HRP-UNV-L930-CD1-U  
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (112) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1357.8 lumens  
Efficiency: N/A  
Efficacy: 84.9 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

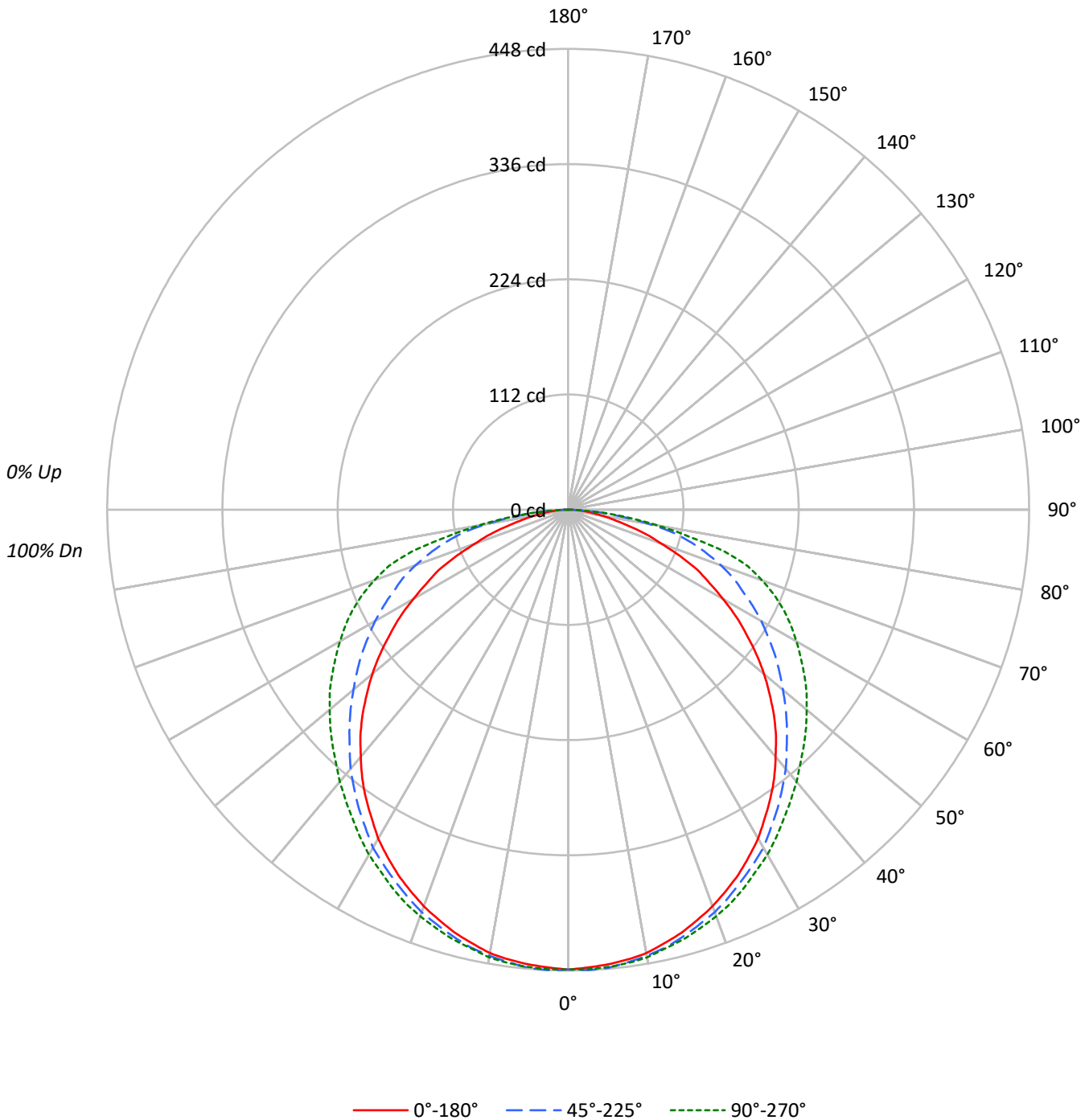
Input Watts (W): 16  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1203	1203	1203
5°	1199	1208	1206
10°	1196	1203	1208
15°	1186	1198	1205
20°	1175	1192	1204
25°	1162	1183	1203
30°	1147	1179	1203
35°	1125	1165	1201
40°	1101	1155	1213
45°	1076	1144	1232
50°	1040	1140	1266
55°	993	1149	1314
60°	936	1166	1378
65°	884	1189	1473
70°	755	1240	1577
75°	632	1291	1639
80°	518	1247	1367
85°	451	926	1003



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.4	3.1
10°-20°	121.2	8.9
20°-30°	183.7	13.5
30°-40°	221.8	16.3
40°-50°	233.1	17.2
50°-60°	219.3	16.2
60°-70°	182.9	13.5
70°-80°	121.2	8.9
80°-90°	32.3	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°	347.3	25.6
0°-40°	569.1	41.9
0°-60°	1021.5	75.2
0°-90°	1357.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1357.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	447	447	447	447	447	
5°	444	444	447	447	446	42
15°	426	427	430	432	432	120
25°	391	394	398	403	405	180
35°	343	346	355	362	366	214
45°	283	287	301	316	324	218
55°	212	221	245	270	280	189
65°	139	151	187	218	231	135
75°	61	85	124	150	158	66
85°	15	22	30	32	32	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	447.1	447.1	447.1	447.1	447.1
2.5°	445.4	446.3	448.0	448.0	447.1
5°	443.7	444.5	447.1	447.1	446.3
7.5°	441.1	442.0	443.7	445.4	444.5
10°	437.7	438.5	440.3	442.0	442.0
12.5°	431.7	432.5	436.0	436.8	436.8
15°	425.7	427.4	430.0	431.7	432.5
17.5°	418.0	419.7	423.1	426.6	426.6
20°	410.3	412.0	416.3	419.7	420.6
22.5°	400.9	403.4	407.7	412.0	413.7
25°	391.4	394.0	398.3	403.4	405.1
27.5°	380.3	382.9	388.9	394.9	395.7
30°	369.2	371.7	379.4	384.6	387.2
32.5°	355.5	358.9	366.6	374.3	376.9
35°	342.6	346.0	354.6	362.3	365.7
37.5°	328.9	332.3	341.8	351.2	355.5
40°	313.5	317.8	328.9	339.2	345.2
42.5°	298.9	303.2	314.3	328.1	334.0
45°	282.7	286.9	300.6	316.1	323.8
47.5°	265.5	270.7	286.9	305.8	313.5
50°	248.4	254.4	272.4	293.8	302.4
52.5°	230.4	238.1	258.7	281.8	292.1
55°	211.6	221.0	245.0	269.8	280.1
57.5°	193.6	202.1	230.4	257.0	268.1
60°	173.9	185.0	216.7	244.1	256.1
62.5°	155.0	167.0	202.1	231.3	244.1
65°	138.8	150.7	186.7	217.6	231.3
67.5°	117.3	133.6	173.9	203.0	216.7
70°	95.9	118.2	157.6	187.6	200.4
72.5°	79.7	101.1	141.3	171.3	183.3
75°	60.8	84.8	124.2	149.9	157.6
77.5°	45.4	70.2	106.2	119.1	119.9
80°	33.4	54.0	80.5	84.8	88.2
82.5°	23.1	37.7	52.2	57.4	59.1
85°	14.6	22.3	30.0	32.5	32.5
87.5°	7.7	8.6	10.3	10.3	10.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)