

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: P294840

Luminaire Tested: **22CZ2-29HE-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: P294840  
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: 22CZ2-29HE-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: 2002.9 lumens  
Efficiency: N/A  
Efficacy: 90.2 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

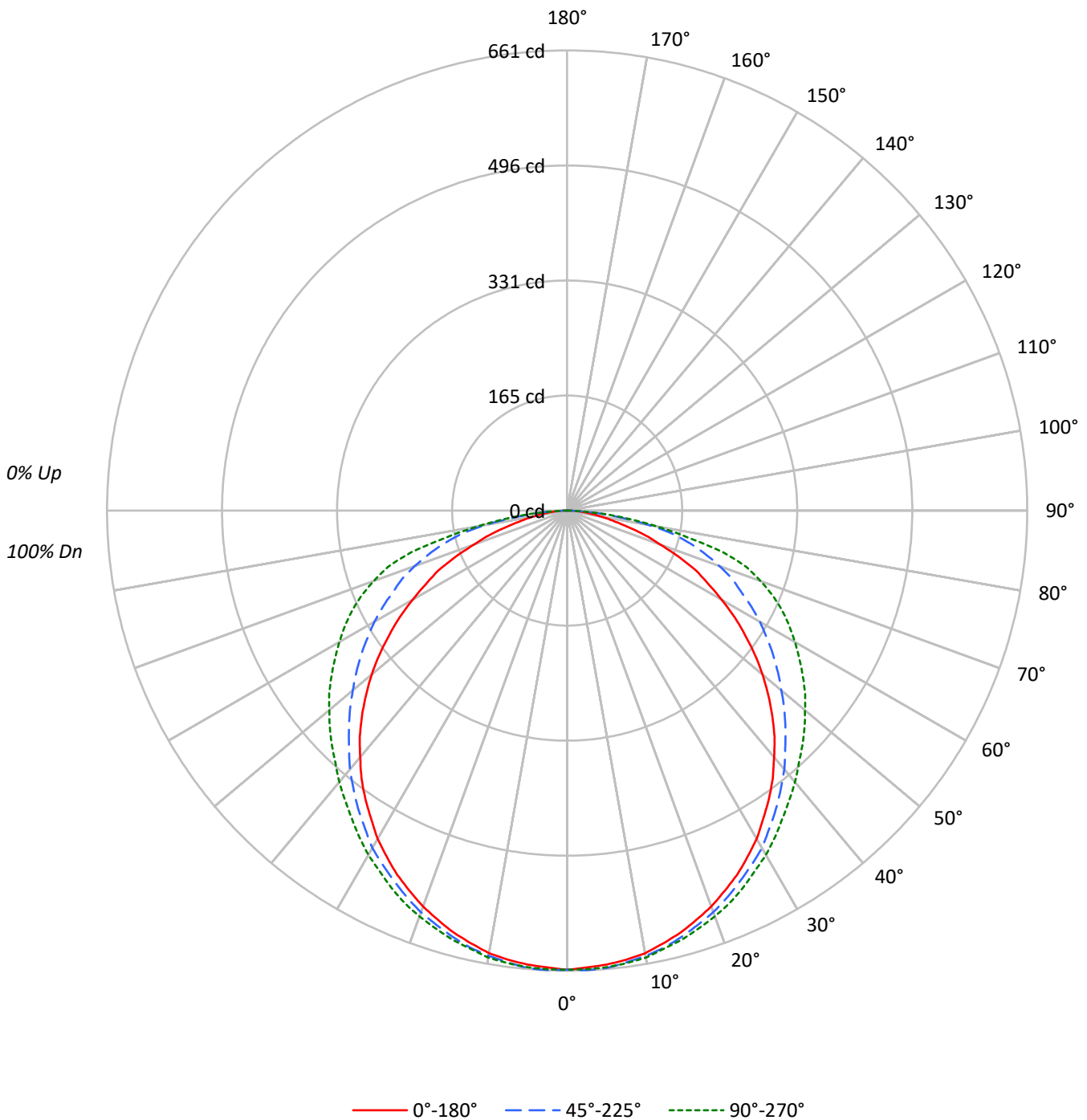
Input Watts (W): 22.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	83	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°	1775	1775	1775
5°	1768	1781	1778
10°	1764	1774	1781
15°	1749	1767	1777
20°	1733	1758	1777
25°	1714	1744	1774
30°	1692	1739	1775
35°	1660	1718	1772
40°	1624	1704	1789
45°	1587	1688	1818
50°	1534	1682	1867
55°	1464	1695	1938
60°	1380	1721	2033
65°	1303	1754	2172
70°	1113	1829	2326
75°	933	1905	2417
80°	764	1841	2016
85°	664	1365	1482



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.5	3.1
10°-20°	178.8	8.9
20°-30°	271.0	13.5
30°-40°	327.2	16.3
40°-50°	343.8	17.2
50°-60°	323.5	16.2
60°-70°	269.7	13.5
70°-80°	178.7	8.9
80°-90°	47.6	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°	512.3	25.6
0°-40°	839.5	41.9
0°-60°	1506.8	75.2
0°-90°	2002.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2002.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	660	660	660	660	660	
5°	654	656	660	660	658	62
15°	628	630	634	637	638	177
25°	577	581	588	595	598	266
35°	505	510	523	534	540	316
45°	417	423	444	466	478	321
55°	312	326	361	398	413	279
65°	205	222	275	321	341	199
75°	90	125	183	221	232	97
85°	22	33	44	48	48	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	659.5	659.5	659.5	659.5	659.5
2.5°	657.0	658.3	660.8	660.8	659.5
5°	654.5	655.7	659.5	659.5	658.3
7.5°	650.7	651.9	654.5	657.0	655.7
10°	645.6	646.9	649.4	651.9	651.9
12.5°	636.8	638.0	643.1	644.4	644.4
15°	627.9	630.5	634.2	636.8	638.0
17.5°	616.6	619.1	624.1	629.2	629.2
20°	605.2	607.7	614.0	619.1	620.4
22.5°	591.3	595.1	601.4	607.7	610.2
25°	577.4	581.2	587.5	595.1	597.6
27.5°	561.0	564.8	573.6	582.4	583.7
30°	544.5	548.3	559.7	567.3	571.1
32.5°	524.3	529.4	540.8	552.1	555.9
35°	505.4	510.4	523.1	534.4	539.5
37.5°	485.2	490.2	504.1	518.0	524.3
40°	462.4	468.7	485.2	500.3	509.2
42.5°	440.9	447.3	463.7	483.9	492.7
45°	416.9	423.3	443.5	466.2	477.6
47.5°	391.7	399.2	423.3	451.1	462.4
50°	366.4	375.2	401.8	433.4	446.0
52.5°	339.9	351.2	381.6	415.7	430.8
55°	312.1	326.0	361.3	398.0	413.1
57.5°	285.5	298.2	339.9	379.0	395.5
60°	256.5	272.9	319.7	360.1	377.8
62.5°	228.7	246.4	298.2	341.1	360.1
65°	204.7	222.4	275.4	320.9	341.1
67.5°	173.1	197.1	256.5	299.4	319.7
70°	141.5	174.4	232.5	276.7	295.6
72.5°	117.5	149.1	208.5	252.7	270.4
75°	89.7	125.1	183.2	221.1	232.5
77.5°	67.0	103.6	156.7	175.6	176.9
80°	49.3	79.6	118.8	125.1	130.1
82.5°	34.1	55.6	77.1	84.7	87.2
85°	21.5	32.8	44.2	48.0	48.0
87.5°	11.4	12.6	15.2	15.2	15.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)