

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: P475194

Luminaire Tested: **22CZ2-105VHE-HRP-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475194  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-105VHE-HRP-UNV-L840-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP  
INSERT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8692.6 lumens  
Efficiency: N/A  
Efficacy: 109.3 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

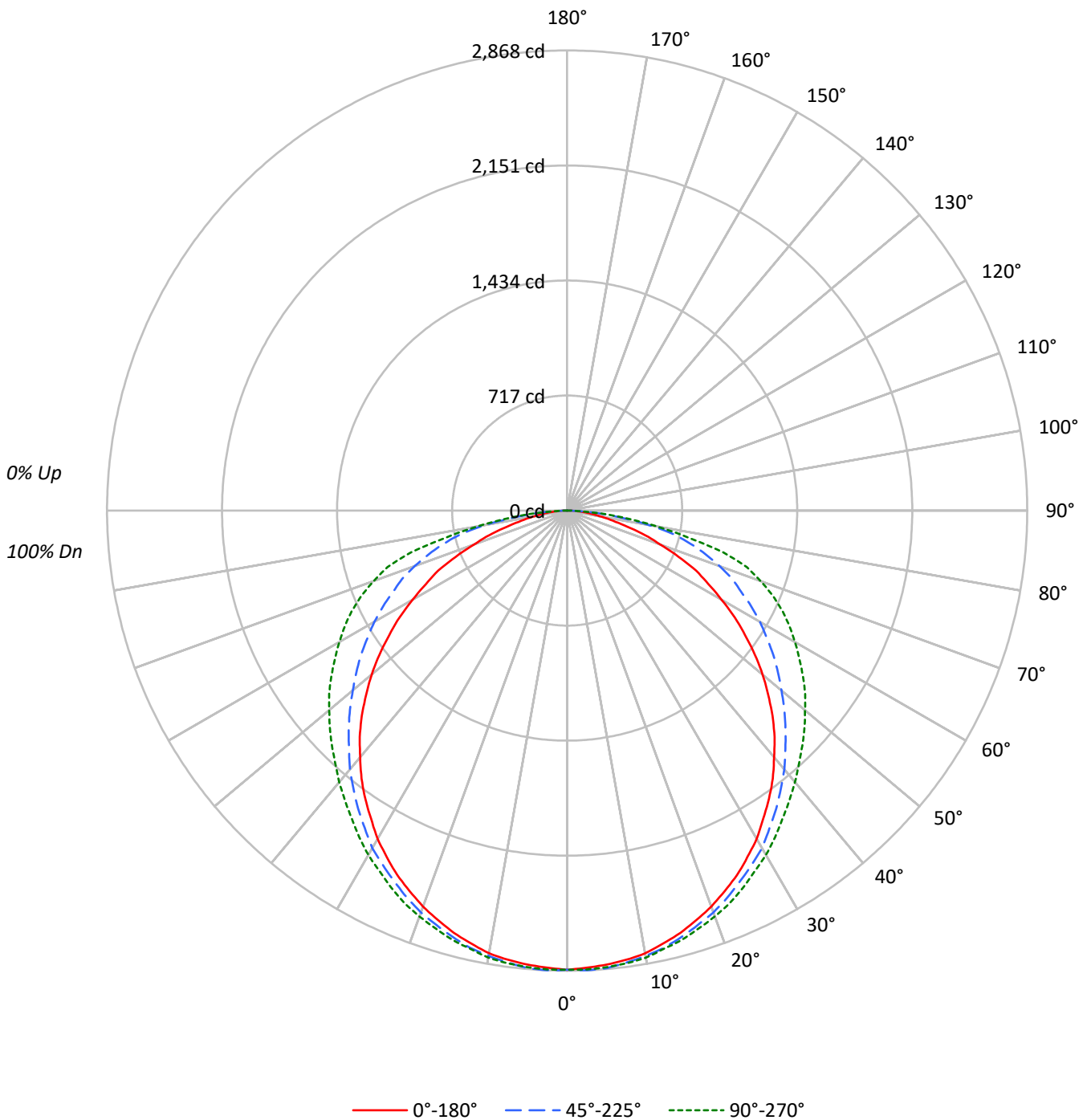
Input Watts (W): 79.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	87	84
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24

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

	0°	45°	90°
0°	7702	7702	7702
5°	7673	7732	7717
10°	7657	7702	7732
15°	7592	7669	7715
20°	7522	7632	7709
25°	7441	7570	7701
30°	7343	7548	7701
35°	7205	7458	7692
40°	7049	7397	7762
45°	6887	7325	7888
50°	6657	7300	8103
55°	6354	7358	8413
60°	5991	7466	8824
65°	5656	7612	9429
70°	4832	7939	10095
75°	4049	8270	10491
80°	3318	7987	8753
85°	2871	5922	6431



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	271.3	3.1
10°-20°	776.0	8.9
20°-30°	1176.0	13.5
30°-40°	1420.1	16.3
40°-50°	1492.2	17.2
50°-60°	1404.0	16.2
60°-70°	1170.6	13.5
70°-80°	775.7	8.9
80°-90°	206.7	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°	2223.3	25.6
0°-40°	3643.4	41.9
0°-60°	6539.5	75.2
0°-90°	8692.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8692.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2862	2862	2862	2862	2862	
5°	2840	2846	2862	2862	2857	270
15°	2725	2736	2753	2764	2769	768
25°	2506	2523	2550	2583	2594	1154
35°	2193	2216	2270	2320	2342	1371
45°	1810	1837	1925	2023	2073	1394
55°	1354	1415	1568	1727	1793	1212
65°	888	965	1195	1393	1481	864
75°	389	543	795	960	1009	423
85°	93	142	192	208	208	108
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2862.2	2862.2	2862.2	2862.2	2862.2
2.5°	2851.5	2856.8	2868.0	2868.0	2862.2
5°	2840.4	2845.7	2862.2	2862.2	2856.8
7.5°	2823.9	2829.7	2840.4	2851.5	2845.7
10°	2802.1	2807.4	2818.6	2829.7	2829.7
12.5°	2763.9	2769.2	2791.0	2796.8	2796.8
15°	2725.1	2736.2	2752.7	2763.9	2769.2
17.5°	2676.2	2686.8	2708.6	2730.9	2730.9
20°	2626.8	2637.4	2665.0	2686.8	2692.1
22.5°	2566.2	2582.7	2610.3	2637.4	2648.6
25°	2506.2	2522.6	2549.7	2582.7	2593.8
27.5°	2434.4	2450.9	2489.7	2528.0	2533.3
30°	2363.3	2379.7	2429.1	2462.1	2478.5
32.5°	2275.6	2297.4	2346.8	2396.2	2412.7
35°	2193.2	2215.6	2270.3	2319.7	2341.5
37.5°	2105.6	2127.4	2187.9	2248.5	2275.6
40°	2006.7	2034.4	2105.6	2171.5	2209.7
42.5°	1913.8	1941.4	2012.6	2100.3	2138.5
45°	1809.6	1836.7	1924.9	2023.2	2072.6
47.5°	1699.7	1732.6	1836.7	1957.9	2006.7
50°	1590.2	1628.5	1743.7	1880.8	1935.6
52.5°	1474.9	1524.3	1656.1	1804.3	1869.7
55°	1354.3	1414.9	1568.4	1727.3	1793.2
57.5°	1239.0	1294.3	1474.9	1644.9	1716.1
60°	1113.1	1184.3	1387.2	1562.6	1639.6
62.5°	992.5	1069.5	1294.3	1480.8	1562.6
65°	888.3	964.9	1195.4	1392.6	1480.8
67.5°	751.3	855.4	1113.1	1299.6	1387.2
70°	614.2	756.6	1009.0	1200.8	1283.1
72.5°	510.1	647.1	904.8	1096.6	1173.7
75°	389.4	543.0	795.4	959.5	1009.0
77.5°	290.6	449.5	680.1	762.4	767.7
80°	214.1	345.3	515.4	543.0	564.8
82.5°	148.2	241.2	334.7	367.1	378.3
85°	93.0	142.4	191.8	208.3	208.3
87.5°	49.4	54.7	65.9	65.9	65.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)