

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: P474495

Luminaire Tested: **24CZ2-105VHE-HRP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474495
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-105VHE-HRP-UNV-L840-CD1-U
Description: 2'X4' 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: 8733.9 lumens
Efficiency: N/A
Efficacy: 115.4 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

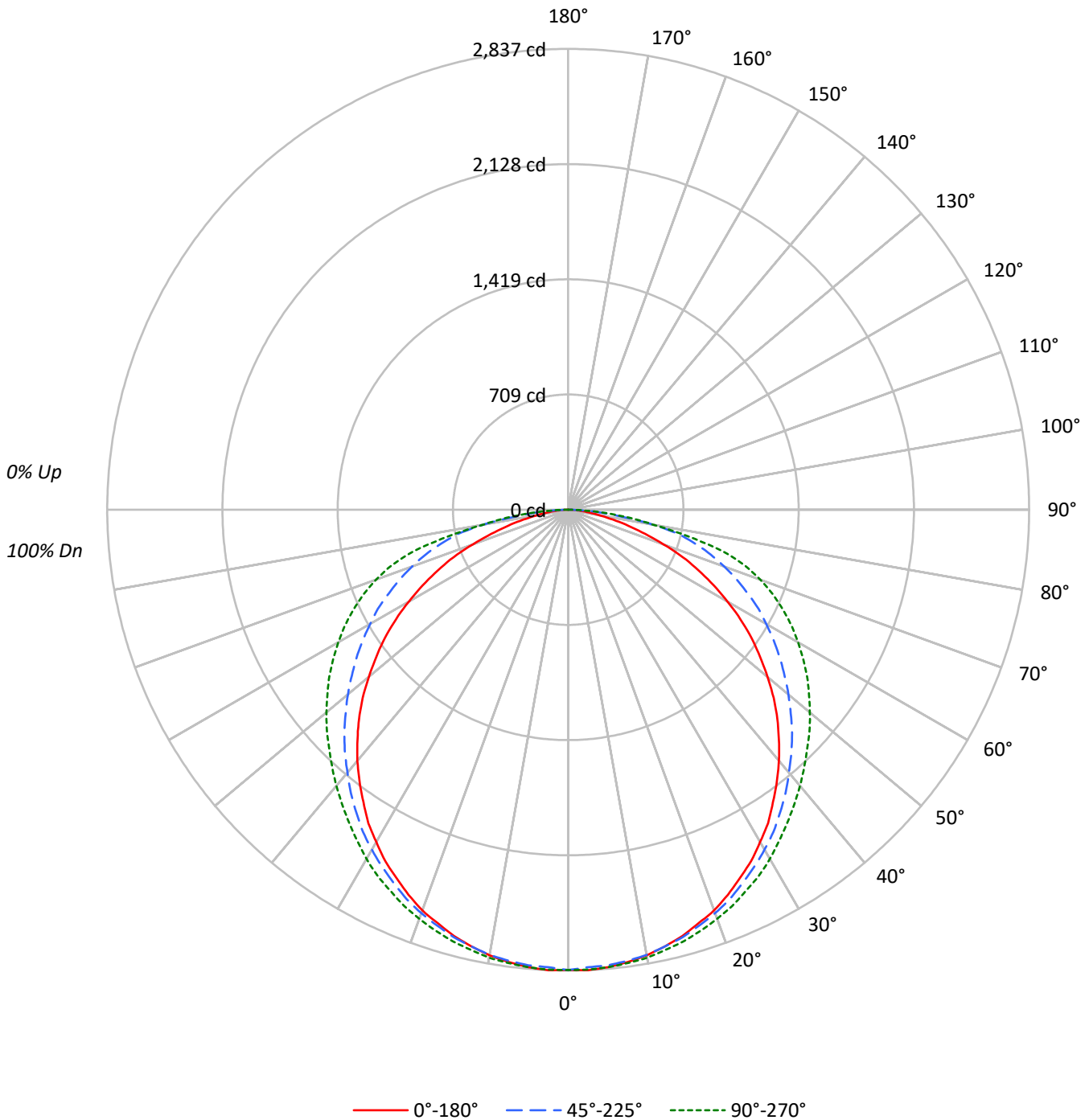
Input Watts (W): 75.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3813	3813	3813
5°	3818	3802	3818
10°	3806	3802	3826
15°	3784	3795	3830
20°	3759	3785	3838
25°	3713	3767	3843
30°	3670	3755	3857
35°	3610	3735	3862
40°	3545	3712	3898
45°	3465	3708	3959
50°	3353	3705	4064
55°	3233	3731	4211
60°	3050	3788	4398
65°	2817	3877	4645
70°	2460	4013	4949
75°	1996	4220	5113
80°	1475	4138	4138
85°	1130	3047	3441



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.4	3.1
10°-20°	770.9	8.8
20°-30°	1173.6	13.4
30°-40°	1424.9	16.3
40°-50°	1505.5	17.2
50°-60°	1420.6	16.3
60°-70°	1181.2	13.5
70°-80°	777.1	8.9
80°-90°	211.8	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°	2212.9	25.3
0°-40°	3637.8	41.7
0°-60°	6563.8	75.2
0°-90°	8733.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8733.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2834	2834	2834	2834	2834	
5°	2827	2827	2815	2827	2827	268
15°	2717	2720	2724	2750	2750	766
25°	2501	2516	2538	2582	2589	1154
35°	2198	2223	2274	2333	2351	1376
45°	1821	1858	1949	2044	2080	1402
55°	1378	1437	1590	1740	1795	1228
65°	885	987	1218	1397	1459	875
75°	384	560	812	962	984	414
85°	73	161	197	220	223	89
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2833.7	2833.7	2833.7	2833.7	2833.7
2.5°	2837.4	2833.7	2819.1	2833.7	2833.7
5°	2826.6	2826.6	2815.3	2826.6	2826.6
7.5°	2808.2	2808.2	2800.7	2815.3	2815.3
10°	2786.0	2786.0	2782.7	2800.7	2800.7
12.5°	2753.4	2756.8	2753.4	2775.2	2775.2
15°	2716.6	2720.4	2724.1	2749.6	2749.6
17.5°	2669.3	2676.5	2684.0	2712.9	2716.6
20°	2625.4	2628.8	2643.4	2676.5	2680.2
22.5°	2566.9	2577.8	2596.1	2628.8	2640.1
25°	2500.8	2515.5	2537.6	2581.5	2588.6
27.5°	2438.9	2449.8	2479.1	2526.7	2541.4
30°	2362.0	2380.4	2416.8	2464.4	2482.8
32.5°	2288.8	2307.2	2351.1	2402.1	2416.8
35°	2197.6	2223.1	2274.2	2332.7	2351.1
37.5°	2109.8	2135.3	2197.6	2263.3	2285.4
40°	2018.2	2047.5	2113.5	2190.1	2219.4
42.5°	1919.5	1959.7	2032.9	2116.9	2149.9
45°	1820.8	1857.6	1948.8	2043.7	2080.5
47.5°	1715.0	1758.9	1857.6	1970.9	2014.8
50°	1601.7	1656.5	1769.8	1894.0	1941.7
52.5°	1488.3	1550.3	1678.2	1817.1	1868.5
55°	1378.4	1436.9	1590.4	1740.5	1795.3
57.5°	1257.9	1331.1	1499.2	1659.8	1715.0
60°	1133.3	1214.0	1407.7	1575.8	1634.3
62.5°	1009.1	1100.7	1319.8	1488.3	1550.3
65°	884.9	987.3	1217.8	1396.8	1459.1
67.5°	764.1	877.4	1122.4	1301.8	1363.7
70°	625.2	767.8	1020.0	1195.6	1257.9
72.5°	497.2	662.0	921.3	1086.0	1140.8
75°	383.9	559.5	811.7	961.5	983.6
77.5°	281.5	457.1	698.4	749.4	753.2
80°	190.3	365.5	534.0	526.5	534.0
82.5°	124.2	274.3	336.2	376.8	380.2
85°	73.2	161.0	197.4	219.5	222.9
87.5°	36.4	54.8	69.4	73.2	80.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)