

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: P474095

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

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474095  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-105VHE-S-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10996.7 lumens  
Efficiency: N/A  
Efficacy: 145.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

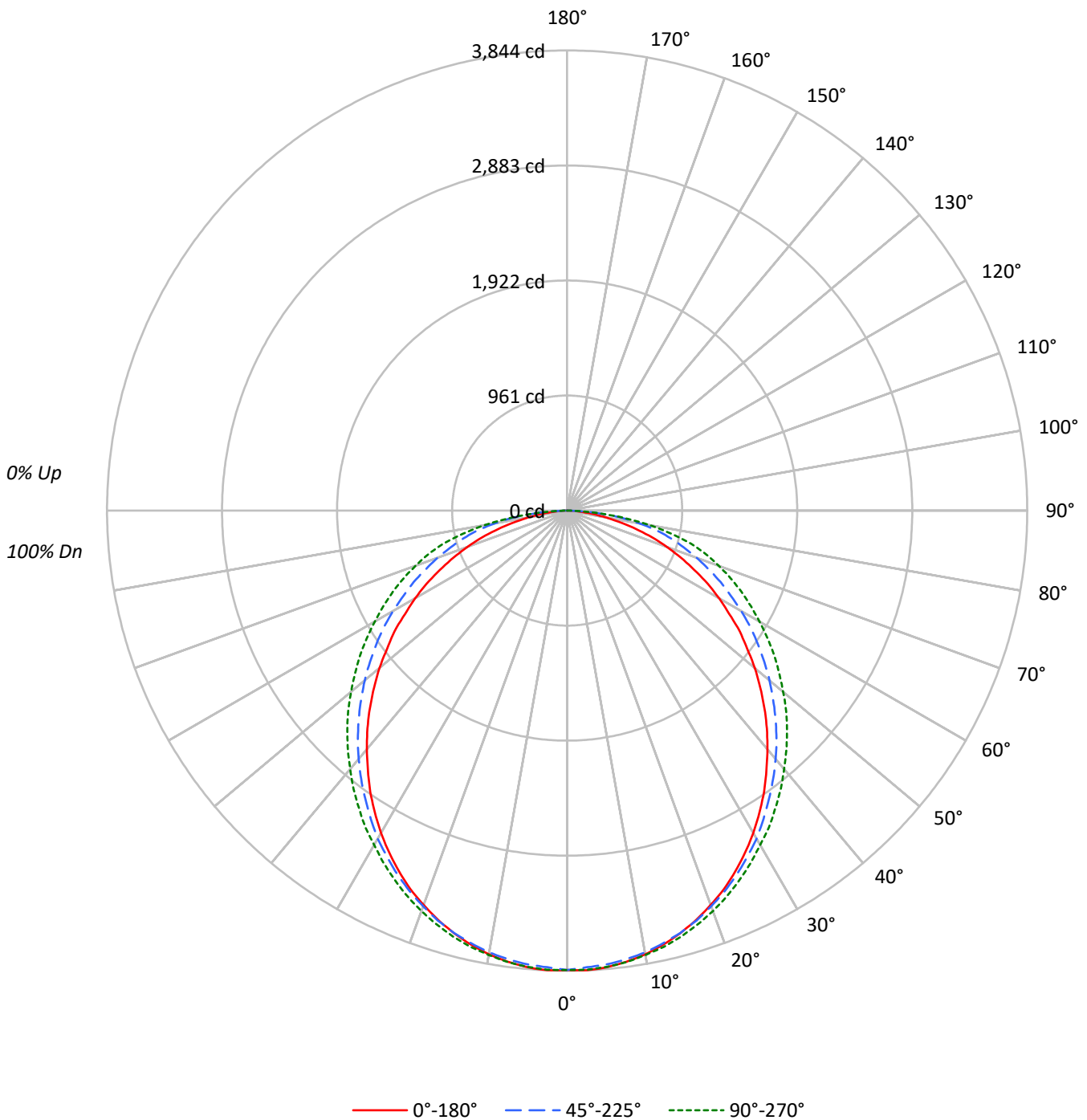
Input Watts (W): 75.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	95	105	101	97	93	97	93	90		93	90	87		89	87	85	83
2	98	90	83	77	95	88	81	76	84	79	74		81	76	72		78	74	71	68
3	89	78	70	63	87	77	69	63	74	67	62		71	65	61		68	64	59	57
4	82	69	60	54	79	68	60	53	66	58	52		63	57	52		61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45		57	50	45		55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40		51	44	39		50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35		47	40	35		45	39	34	32
8	60	46	38	32	58	45	37	31	44	37	31		43	36	31		42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28		39	33	28		38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26		37	30	25		36	30	25	24

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

	0°	45°	90°
0°	5164	5164	5164
5°	5172	5140	5167
10°	5143	5121	5150
15°	5090	5087	5130
20°	5020	5035	5098
25°	4937	4980	5057
30°	4832	4917	5009
35°	4711	4830	4981
40°	4572	4759	4952
45°	4434	4685	4942
50°	4284	4620	4930
55°	4131	4563	4957
60°	3942	4520	4992
65°	3732	4503	5112
70°	3482	4526	5294
75°	3099	4657	5578
80°	2533	4758	5444
85°	1785	4154	4239



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	362.9	3.3
10°-20°	1033.5	9.4
20°-30°	1549.2	14.1
30°-40°	1845.2	16.8
40°-50°	1902.5	17.3
50°-60°	1736.1	15.8
60°-70°	1388.2	12.6
70°-80°	906.8	8.2
80°-90°	272.3	2.5
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°	2945.6	26.8
0°-40°	4790.8	43.6
0°-60°	8429.4	76.7
0°-90°	10996.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10996.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3838	3838	3838	3838	3838	
5°	3829	3822	3806	3829	3826	363
15°	3654	3656	3652	3683	3683	1030
25°	3325	3331	3354	3403	3407	1531
35°	2868	2888	2941	3015	3033	1792
45°	2330	2372	2462	2565	2597	1797
55°	1761	1812	1945	2074	2113	1569
65°	1172	1252	1414	1553	1606	1162
75°	596	695	896	1040	1073	633
85°	116	208	269	275	275	147
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3838.3	3838.3	3838.3	3838.3	3838.3
2.5°	3843.8	3838.3	3818.5	3842.0	3838.3
5°	3829.3	3822.1	3805.8	3829.3	3825.7
7.5°	3800.4	3796.8	3780.5	3807.6	3804.0
10°	3764.3	3760.7	3748.0	3775.1	3769.7
12.5°	3713.7	3711.9	3702.9	3735.4	3731.8
15°	3654.1	3655.9	3652.3	3683.0	3683.0
17.5°	3585.5	3583.7	3590.9	3628.8	3625.2
20°	3506.0	3507.8	3516.8	3560.2	3560.2
22.5°	3422.9	3421.1	3441.0	3484.3	3487.9
25°	3325.4	3330.8	3354.3	3403.0	3406.6
27.5°	3220.6	3229.6	3258.5	3314.5	3319.9
30°	3110.4	3121.3	3164.6	3217.0	3224.2
32.5°	2989.4	3012.9	3052.6	3119.4	3137.5
35°	2868.4	2888.2	2940.6	3014.7	3032.7
37.5°	2734.7	2767.2	2826.8	2908.1	2931.6
40°	2602.9	2635.4	2709.4	2794.3	2819.6
42.5°	2469.2	2503.5	2588.4	2684.1	2711.2
45°	2330.1	2371.6	2462.0	2564.9	2597.4
47.5°	2187.4	2236.2	2333.7	2445.7	2481.8
50°	2046.5	2095.3	2207.3	2322.9	2355.4
52.5°	1894.8	1956.2	2075.4	2200.1	2232.6
55°	1761.1	1811.7	1945.4	2073.6	2113.3
57.5°	1604.0	1672.6	1815.3	1945.4	1983.3
60°	1464.9	1528.1	1679.8	1811.7	1855.1
62.5°	1324.0	1389.0	1540.8	1690.7	1730.4
65°	1172.3	1251.8	1414.3	1553.4	1605.8
67.5°	1027.8	1110.9	1277.0	1425.2	1479.3
70°	885.1	970.0	1150.6	1302.3	1345.7
72.5°	744.2	832.7	1020.5	1168.7	1219.2
75°	596.1	695.4	895.9	1040.4	1072.9
77.5°	457.0	567.2	769.5	867.0	890.5
80°	326.9	448.0	614.1	684.6	702.6
82.5°	214.9	332.4	458.8	496.7	491.3
85°	115.6	207.7	269.1	274.6	274.6
87.5°	45.2	83.1	84.9	65.0	61.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)