

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: P474303

Luminaire Tested: **24CZ2-145VHE-RDP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474303  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-145VHE-RDP-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ RDP  
INSERT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9905.1 lumens  
Efficiency: N/A  
Efficacy: 94.1 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

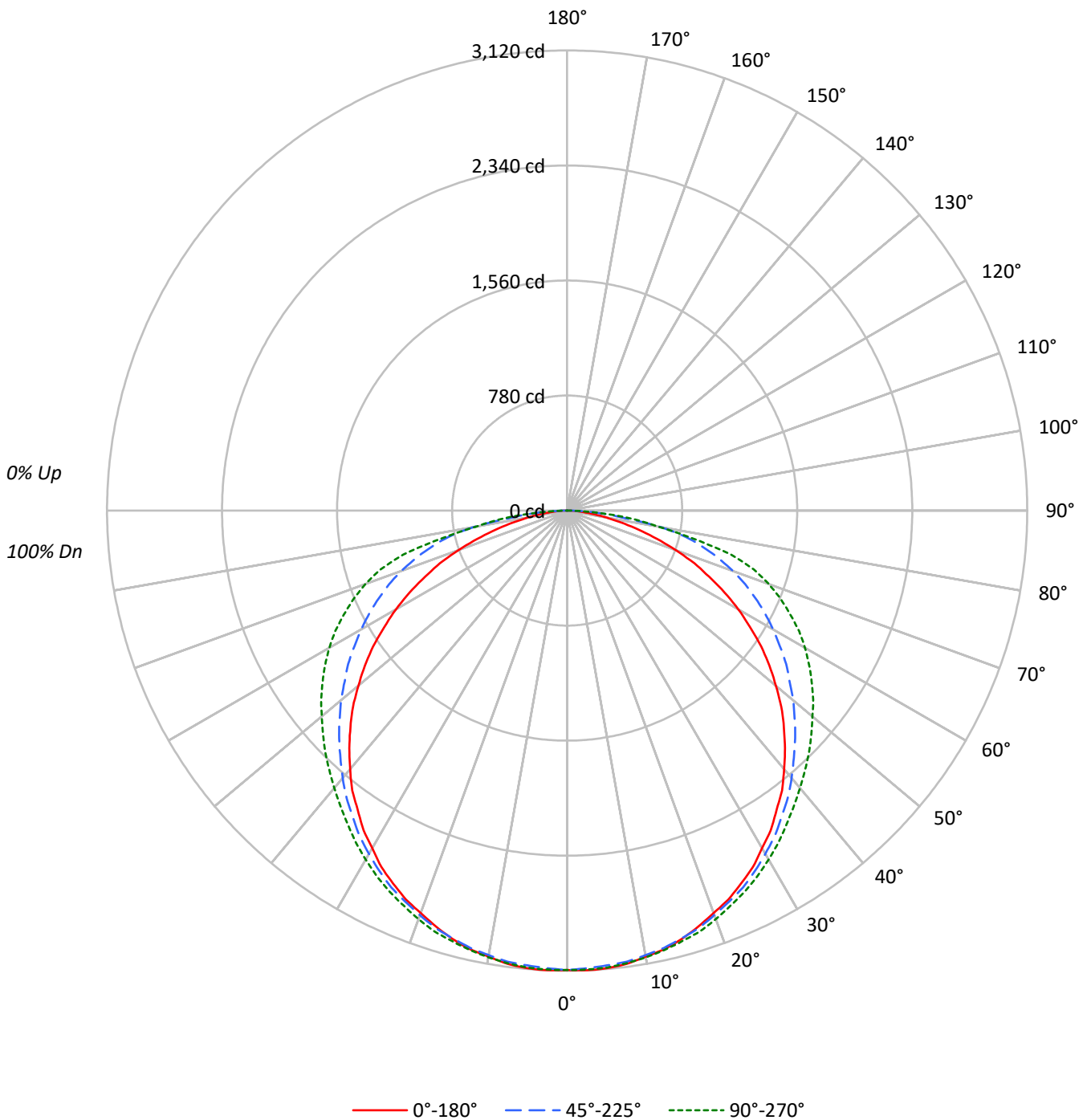
Input Watts (W): 105.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	4191	4191	4191
5°	4207	4181	4201
10°	4195	4182	4202
15°	4188	4182	4209
20°	4158	4179	4221
25°	4143	4187	4230
30°	4106	4175	4244
35°	4067	4164	4261
40°	4022	4159	4314
45°	3955	4160	4412
50°	3867	4186	4546
55°	3768	4253	4749
60°	3610	4336	5011
65°	3379	4488	5318
70°	3073	4697	5720
75°	2604	4955	5977
80°	2056	4986	4833
85°	1518	3795	4250



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	295.5	3.0
10°-20°	850.4	8.6
20°-30°	1300.4	13.1
30°-40°	1589.6	16.0
40°-50°	1694.4	17.1
50°-60°	1620.0	16.4
60°-70°	1372.3	13.9
70°-80°	922.3	9.3
80°-90°	260.2	2.6
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°	2446.3	24.7
0°-40°	4036.0	40.7
0°-60°	7350.3	74.2
0°-90°	9905.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9905.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3115	3115	3115	3115	3115	
5°	3115	3110	3095	3110	3110	296
15°	3007	3007	3002	3027	3022	848
25°	2791	2800	2820	2845	2850	1286
35°	2476	2496	2535	2584	2594	1551
45°	2078	2113	2186	2280	2319	1603
55°	1606	1665	1813	1955	2024	1431
65°	1061	1169	1410	1597	1670	1054
75°	501	683	953	1115	1150	537
85°	98	202	246	265	275	122
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3115.1	3115.1	3115.1	3115.1	3115.1
2.5°	3120.0	3120.0	3105.2	3115.1	3115.1
5°	3115.1	3110.1	3095.4	3110.1	3110.1
7.5°	3100.3	3095.4	3085.6	3100.3	3095.4
10°	3070.8	3070.8	3061.0	3075.7	3075.7
12.5°	3046.2	3041.3	3036.4	3056.1	3051.1
15°	3006.9	3006.9	3002.0	3026.6	3021.7
17.5°	2957.8	2962.7	2967.6	2987.2	2992.2
20°	2903.7	2913.5	2918.4	2947.9	2947.9
22.5°	2854.5	2859.4	2869.3	2898.8	2898.8
25°	2790.6	2800.4	2820.1	2844.7	2849.6
27.5°	2726.7	2731.6	2756.2	2790.6	2795.5
30°	2643.1	2657.9	2687.4	2726.7	2731.6
32.5°	2569.4	2584.2	2618.6	2657.9	2667.7
35°	2476.0	2495.7	2535.0	2584.2	2594.0
37.5°	2392.4	2407.2	2456.4	2510.4	2525.2
40°	2289.7	2318.7	2367.9	2431.8	2456.4
42.5°	2186.5	2216.0	2275.0	2358.0	2387.5
45°	2078.3	2112.7	2186.5	2279.9	2318.7
47.5°	1970.2	2009.5	2093.1	2201.2	2245.5
50°	1847.3	1896.5	1999.7	2122.6	2171.7
52.5°	1729.3	1788.3	1901.4	2039.0	2102.9
55°	1606.4	1665.4	1812.9	1955.4	2024.3
57.5°	1468.8	1547.4	1709.7	1871.9	1945.6
60°	1341.5	1414.7	1611.4	1788.3	1862.1
62.5°	1203.8	1302.2	1513.0	1699.8	1773.6
65°	1061.3	1169.4	1409.8	1596.6	1670.3
67.5°	933.5	1051.5	1307.1	1493.4	1567.1
70°	781.1	928.6	1194.0	1380.3	1454.1
72.5°	638.5	800.8	1076.0	1257.9	1326.7
75°	500.9	682.8	953.1	1115.4	1149.8
77.5°	373.6	564.8	825.3	894.2	869.6
80°	265.4	452.2	643.5	609.0	623.8
82.5°	172.0	344.1	398.2	452.2	466.5
85°	98.3	201.5	245.8	265.4	275.3
87.5°	44.2	73.7	98.3	98.3	93.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)