

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: P474403

Luminaire Tested: **24CZ2-145VHE-HRP-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474403  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-145VHE-HRP-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP  
INSERT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11341.8 lumens  
Efficiency: N/A  
Efficacy: 107.7 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

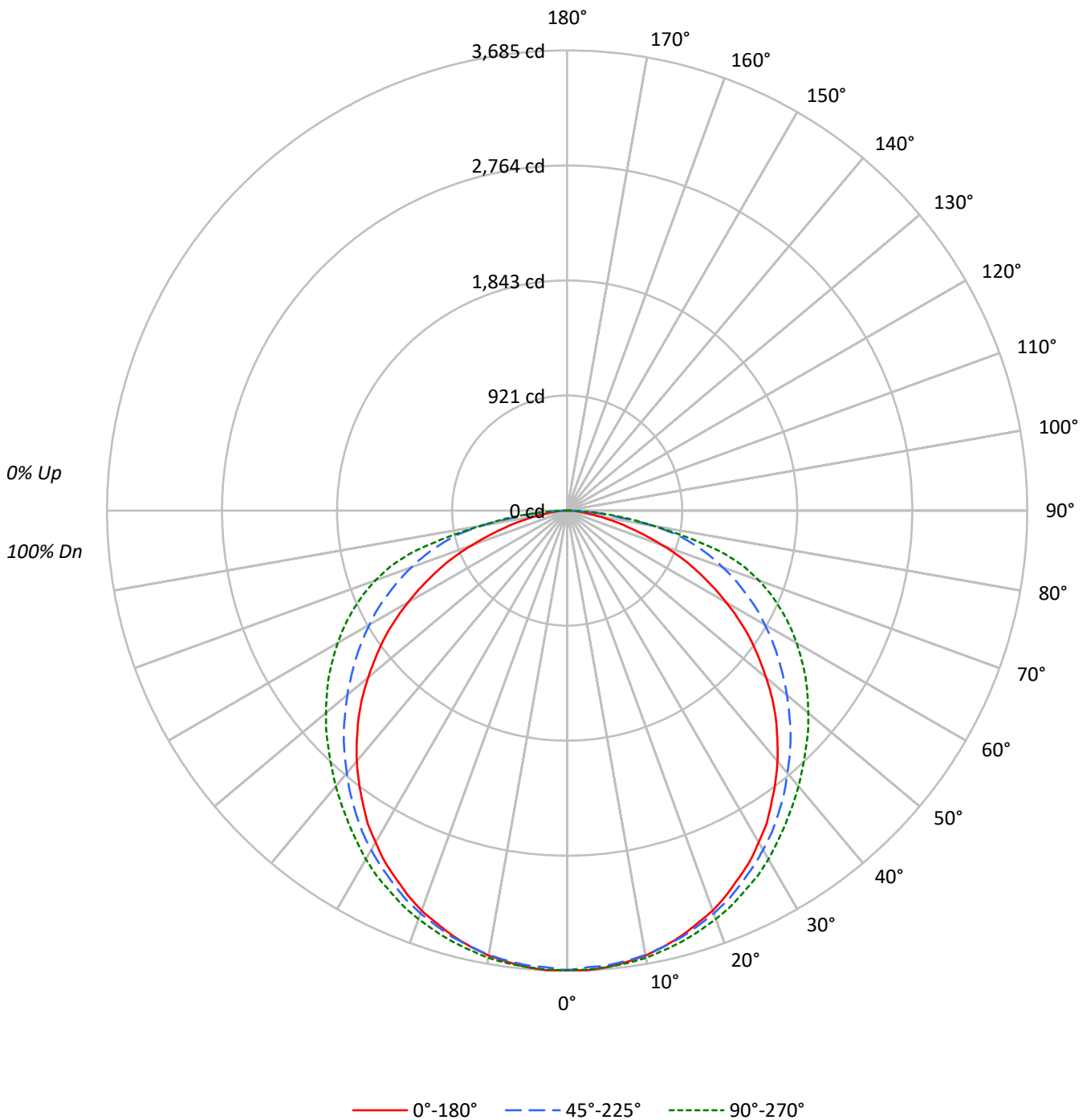
Input Watts (W): 105.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	4951	4951	4951
5°	4958	4938	4958
10°	4943	4937	4969
15°	4914	4928	4974
20°	4882	4915	4984
25°	4821	4892	4991
30°	4765	4876	5009
35°	4687	4851	5015
40°	4603	4821	5062
45°	4499	4815	5141
50°	4354	4811	5278
55°	4199	4845	5469
60°	3960	4919	5711
65°	3658	5035	6032
70°	3194	5211	6426
75°	2591	5480	6640
80°	1915	5373	5373
85°	1467	3957	4469



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	348.6	3.1
10°-20°	1001.0	8.8
20°-30°	1524.0	13.4
30°-40°	1850.4	16.3
40°-50°	1955.0	17.2
50°-60°	1844.8	16.3
60°-70°	1533.8	13.5
70°-80°	1009.1	8.9
80°-90°	275.1	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°	2873.6	25.3
0°-40°	4724.0	41.7
0°-60°	8523.8	75.2
0°-90°	11341.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11341.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3680	3680	3680	3680	3680	
5°	3671	3671	3656	3671	3671	349
15°	3528	3533	3538	3571	3571	995
25°	3248	3267	3295	3352	3362	1498
35°	2854	2887	2953	3029	3053	1786
45°	2364	2412	2531	2654	2702	1821
55°	1790	1866	2065	2260	2331	1594
65°	1149	1282	1581	1814	1895	1136
75°	498	727	1054	1248	1277	537
85°	95	209	256	285	290	116
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3679.8	3679.8	3679.8	3679.8	3679.8
2.5°	3684.7	3679.8	3660.8	3679.8	3679.8
5°	3670.6	3670.6	3656.0	3670.6	3670.6
7.5°	3646.7	3646.7	3636.9	3656.0	3656.0
10°	3617.9	3617.9	3613.6	3636.9	3636.9
12.5°	3575.5	3579.9	3575.5	3603.8	3603.8
15°	3527.8	3532.7	3537.5	3570.7	3570.7
17.5°	3466.4	3475.6	3485.4	3522.9	3527.8
20°	3409.4	3413.7	3432.8	3475.6	3480.5
22.5°	3333.3	3347.5	3371.4	3413.7	3428.4
25°	3247.6	3266.6	3295.3	3352.3	3361.6
27.5°	3167.2	3181.3	3219.3	3281.2	3300.2
30°	3067.3	3091.1	3138.4	3200.3	3224.2
32.5°	2972.2	2996.1	3053.1	3119.4	3138.4
35°	2853.8	2886.9	2953.2	3029.2	3053.1
37.5°	2739.8	2772.9	2853.8	2939.1	2967.8
40°	2620.9	2658.9	2744.6	2844.1	2882.1
42.5°	2492.7	2544.8	2639.9	2749.0	2791.9
45°	2364.5	2412.3	2530.7	2654.0	2701.8
47.5°	2227.1	2284.1	2412.3	2559.5	2616.5
50°	2079.9	2151.1	2298.3	2459.6	2521.4
52.5°	1932.8	2013.2	2179.3	2359.7	2426.4
55°	1790.0	1866.0	2065.3	2260.2	2331.4
57.5°	1633.5	1728.6	1946.9	2155.5	2227.1
60°	1471.7	1576.5	1828.0	2046.3	2122.3
62.5°	1310.4	1429.3	1713.9	1932.8	2013.2
65°	1149.1	1282.2	1581.4	1813.8	1894.7
67.5°	992.2	1139.4	1457.6	1690.5	1771.0
70°	811.9	997.1	1324.6	1552.6	1633.5
72.5°	645.7	859.7	1196.4	1410.3	1481.5
75°	498.5	726.6	1054.1	1248.5	1277.3
77.5°	365.5	593.6	906.9	973.2	978.1
80°	247.1	474.7	693.5	683.7	693.5
82.5°	161.3	356.2	436.6	489.3	493.7
85°	95.0	209.1	256.3	285.1	289.5
87.5°	47.3	71.2	90.2	95.0	104.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)