

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: P474402

Luminaire Tested: **24CZ2-140VHE-HRP-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474402
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-140VHE-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: 10973.6 lumens
Efficiency: N/A
Efficacy: 109.2 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

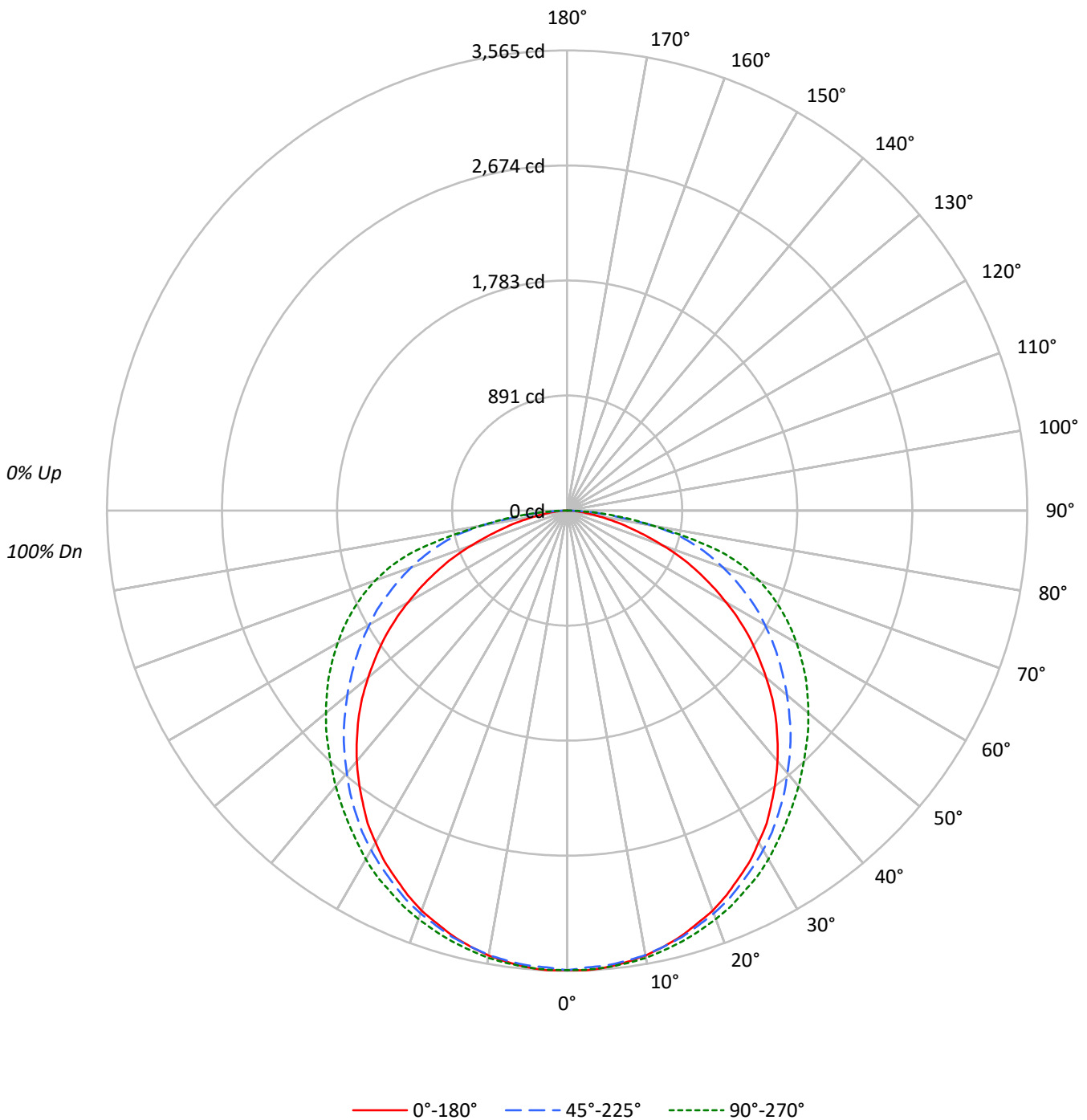
Input Watts (W): 100.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	4790	4790	4790
5°	4797	4778	4797
10°	4783	4777	4808
15°	4755	4768	4812
20°	4723	4756	4822
25°	4665	4733	4829
30°	4611	4718	4847
35°	4535	4693	4852
40°	4454	4664	4898
45°	4353	4659	4974
50°	4212	4654	5107
55°	4063	4688	5291
60°	3832	4759	5526
65°	3540	4871	5836
70°	3090	5042	6218
75°	2508	5302	6424
80°	1853	5199	5199
85°	1419	3829	4324



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	337.3	3.1
10°-20°	968.5	8.8
20°-30°	1474.5	13.4
30°-40°	1790.4	16.3
40°-50°	1891.5	17.2
50°-60°	1784.9	16.3
60°-70°	1484.0	13.5
70°-80°	976.3	8.9
80°-90°	266.1	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°	2780.3	25.3
0°-40°	4570.7	41.7
0°-60°	8247.1	75.2
0°-90°	10973.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10973.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3560	3560	3560	3560	3560	
5°	3551	3551	3537	3551	3551	337
15°	3413	3418	3423	3455	3455	963
25°	3142	3160	3188	3244	3252	1450
35°	2761	2793	2857	2931	2954	1728
45°	2288	2334	2448	2568	2614	1762
55°	1732	1805	1998	2187	2256	1543
65°	1112	1240	1530	1755	1833	1099
75°	482	703	1020	1208	1236	520
85°	92	202	248	276	280	112
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3560.4	3560.4	3560.4	3560.4	3560.4
2.5°	3565.1	3560.4	3542.0	3560.4	3560.4
5°	3551.4	3551.4	3537.3	3551.4	3551.4
7.5°	3528.3	3528.3	3518.9	3537.3	3537.3
10°	3500.5	3500.5	3496.2	3518.9	3518.9
12.5°	3459.5	3463.7	3459.5	3486.8	3486.8
15°	3413.3	3418.0	3422.7	3454.7	3454.7
17.5°	3353.8	3362.8	3372.2	3408.5	3413.3
20°	3298.7	3302.9	3321.3	3362.8	3367.5
22.5°	3225.1	3238.8	3261.9	3302.9	3317.1
25°	3142.1	3160.5	3188.3	3243.5	3252.5
27.5°	3064.3	3078.0	3114.8	3174.7	3193.1
30°	2967.7	2990.8	3036.5	3096.4	3119.5
32.5°	2875.7	2898.8	2954.0	3018.1	3036.5
35°	2761.2	2793.2	2857.3	2930.9	2954.0
37.5°	2650.8	2682.9	2761.2	2843.7	2871.5
40°	2535.8	2572.6	2655.5	2751.7	2788.5
42.5°	2411.8	2462.2	2554.2	2659.8	2701.3
45°	2287.8	2334.0	2448.5	2567.8	2614.0
47.5°	2154.8	2210.0	2334.0	2476.4	2531.5
50°	2012.4	2081.2	2223.6	2379.7	2439.6
52.5°	1870.0	1947.8	2108.6	2283.0	2347.6
55°	1731.9	1805.4	1998.3	2186.9	2255.7
57.5°	1580.5	1672.4	1883.7	2085.5	2154.8
60°	1424.0	1525.3	1768.6	1979.9	2053.4
62.5°	1267.9	1382.9	1658.3	1870.0	1947.8
65°	1111.8	1240.5	1530.0	1755.0	1833.2
67.5°	960.0	1102.4	1410.3	1635.7	1713.5
70°	785.5	964.7	1281.6	1502.2	1580.5
72.5°	624.7	831.7	1157.6	1364.5	1433.4
75°	482.4	703.0	1019.9	1208.0	1235.8
77.5°	353.6	574.3	877.5	941.6	946.3
80°	239.1	459.3	671.0	661.5	671.0
82.5°	156.1	344.7	422.5	473.4	477.6
85°	91.9	202.3	248.0	275.8	280.1
87.5°	45.7	68.8	87.2	91.9	100.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)