

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: P474508

Luminaire Tested: **24CZ2-170VHE-HRP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474508
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-170VHE-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: 14096.4 lumens
Efficiency: N/A
Efficacy: 111.3 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

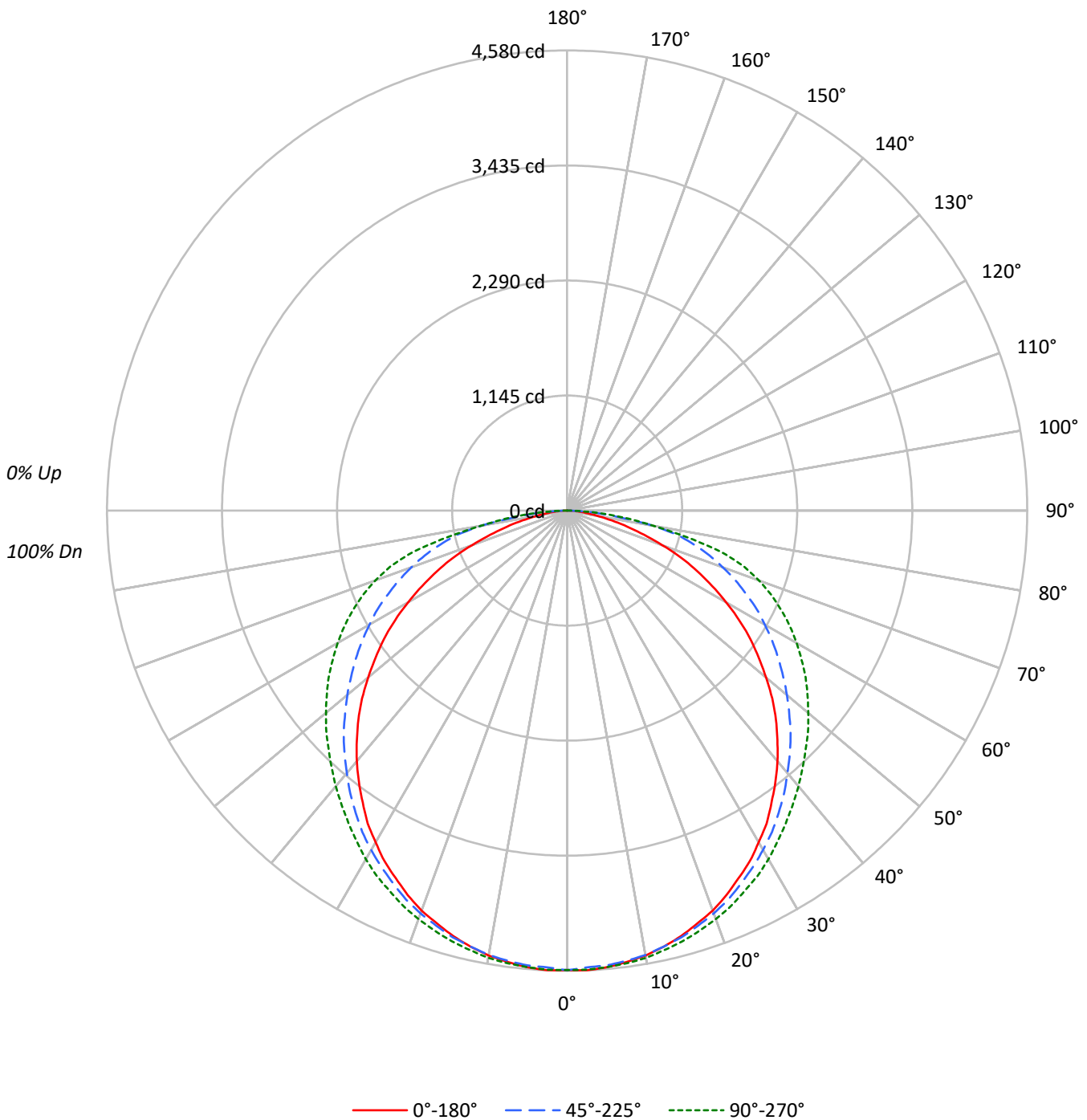
Input Watts (W): 126.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	6154	6154	6154
5°	6162	6137	6162
10°	6143	6136	6176
15°	6108	6124	6182
20°	6067	6109	6194
25°	5992	6080	6203
30°	5923	6060	6226
35°	5826	6029	6233
40°	5721	5991	6291
45°	5592	5985	6389
50°	5411	5979	6560
55°	5219	6021	6797
60°	4922	6114	7098
65°	4547	6258	7497
70°	3970	6476	7987
75°	3221	6811	8253
80°	2380	6678	6678
85°	1823	4918	5555



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	433.3	3.1
10°-20°	1244.2	8.8
20°-30°	1894.1	13.4
30°-40°	2299.8	16.3
40°-50°	2429.8	17.2
50°-60°	2292.8	16.3
60°-70°	1906.4	13.5
70°-80°	1254.2	8.9
80°-90°	341.9	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°	3571.5	25.3
0°-40°	5871.4	41.7
0°-60°	10594.0	75.2
0°-90°	14096.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14096.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4574	4574	4574	4574	4574	
5°	4562	4562	4544	4562	4562	433
15°	4385	4391	4397	4438	4438	1237
25°	4036	4060	4096	4166	4178	1862
35°	3547	3588	3670	3765	3795	2220
45°	2939	2998	3145	3299	3358	2263
55°	2225	2319	2567	2809	2898	1982
65°	1428	1594	1966	2254	2355	1412
75°	620	903	1310	1552	1588	668
85°	118	260	319	354	360	144
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4573.6	4573.6	4573.6	4573.6	4573.6
2.5°	4579.6	4573.6	4549.9	4573.6	4573.6
5°	4562.0	4562.0	4543.9	4562.0	4562.0
7.5°	4532.4	4532.4	4520.2	4543.9	4543.9
10°	4496.6	4496.6	4491.2	4520.2	4520.2
12.5°	4443.9	4449.4	4443.9	4479.1	4479.1
15°	4384.6	4390.6	4396.7	4437.9	4437.9
17.5°	4308.3	4319.8	4331.9	4378.5	4384.6
20°	4237.4	4242.8	4266.5	4319.8	4325.8
22.5°	4142.9	4160.5	4190.1	4242.8	4261.0
25°	4036.3	4059.9	4095.7	4166.5	4178.0
27.5°	3936.4	3953.9	4001.2	4078.1	4101.7
30°	3812.2	3841.9	3900.6	3977.6	4007.2
32.5°	3694.1	3723.8	3794.6	3877.0	3900.6
35°	3546.9	3588.1	3670.5	3765.0	3794.6
37.5°	3405.2	3446.4	3546.9	3652.9	3688.6
40°	3257.4	3304.6	3411.2	3534.8	3582.0
42.5°	3098.1	3162.9	3281.0	3416.7	3470.0
45°	2938.8	2998.2	3145.3	3298.6	3357.9
47.5°	2768.0	2838.9	2998.2	3181.1	3251.9
50°	2585.1	2673.5	2856.4	3056.9	3133.8
52.5°	2402.2	2502.1	2708.6	2932.7	3015.7
55°	2224.7	2319.2	2566.9	2809.2	2897.6
57.5°	2030.3	2148.4	2419.7	2679.0	2768.0
60°	1829.2	1959.4	2271.9	2543.3	2637.8
62.5°	1628.7	1776.5	2130.2	2402.2	2502.1
65°	1428.2	1593.6	1965.5	2254.4	2354.9
67.5°	1233.2	1416.1	1811.6	2101.1	2201.1
70°	1009.1	1239.2	1646.3	1929.7	2030.3
72.5°	802.5	1068.4	1487.0	1752.9	1841.3
75°	619.6	903.1	1310.1	1551.8	1587.5
77.5°	454.3	737.7	1127.2	1209.6	1215.6
80°	307.1	589.9	861.9	849.8	861.9
82.5°	200.5	442.8	542.7	608.1	613.6
85°	118.1	259.8	318.6	354.3	359.8
87.5°	58.8	88.4	112.1	118.1	129.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)