

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: P473901

Luminaire Tested: **24CZ2-135VHE-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473901
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-135VHE-UNV-L840-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13837.8 lumens
Efficiency: N/A
Efficacy: 143.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

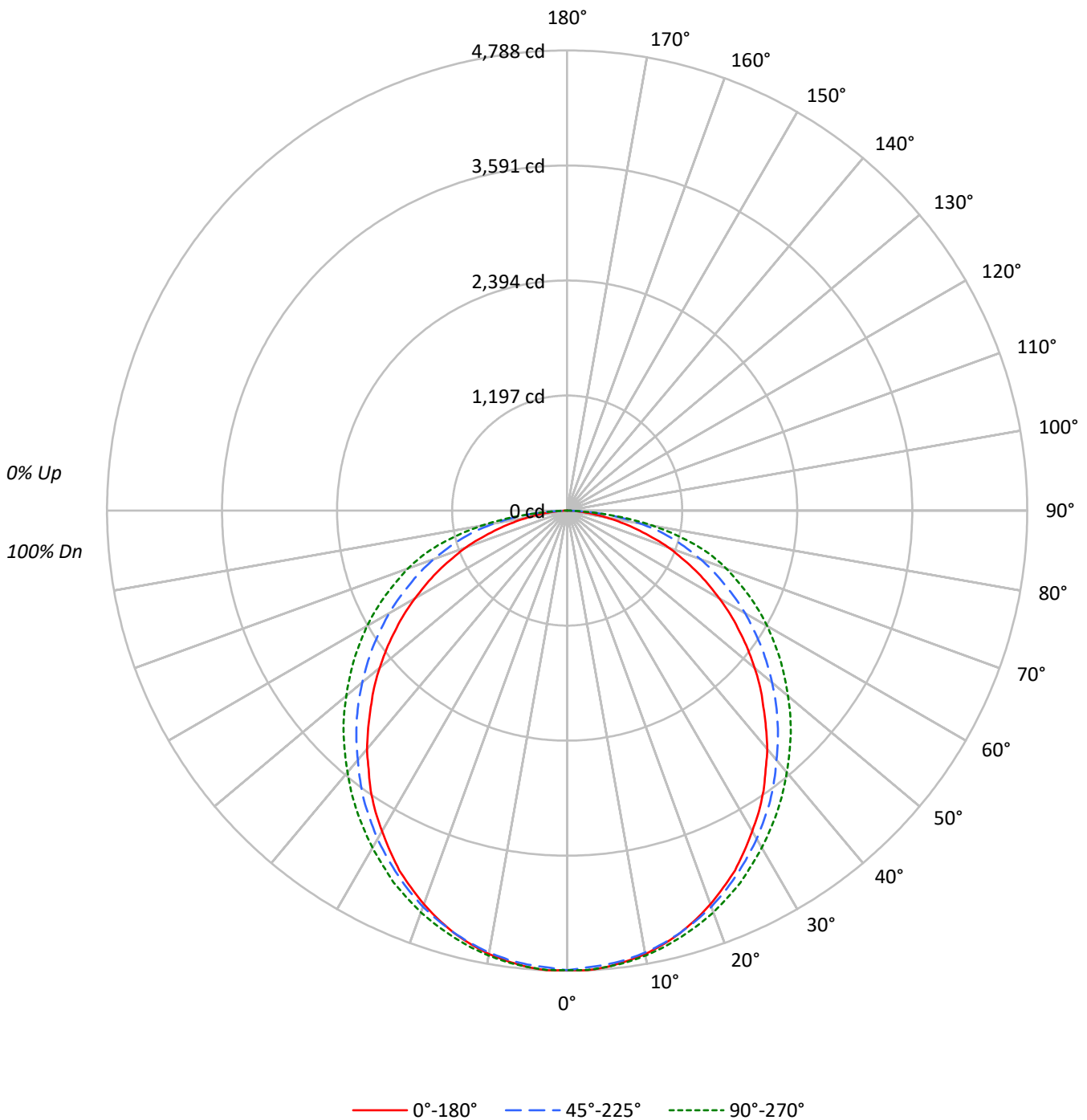
Input Watts (W): 96.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	89	82	76	95	88	81	75	84	78	74	81	76	72	78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	61	71	65	60	68	63	59	57
4	82	69	60	53	79	68	59	53	65	58	52	63	57	51	61	55	51	48
5	75	62	53	46	73	61	52	46	58	51	45	56	50	44	55	49	44	42
6	69	56	46	40	67	55	46	40	53	45	39	51	44	39	49	43	39	37
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6434	6434	6434
5°	6437	6404	6437
10°	6402	6381	6423
15°	6337	6334	6396
20°	6242	6280	6370
25°	6133	6203	6339
30°	5984	6130	6293
35°	5849	6051	6268
40°	5690	5953	6243
45°	5496	5891	6262
50°	5330	5826	6280
55°	5134	5784	6351
60°	4921	5757	6467
65°	4690	5736	6633
70°	4415	5795	6939
75°	3882	5915	7217
80°	3239	5958	6963
85°	2313	5108	5176



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	452.0	3.3
10°-20°	1287.6	9.3
20°-30°	1931.6	14.0
30°-40°	2306.1	16.7
40°-50°	2388.7	17.3
50°-60°	2199.1	15.9
60°-70°	1773.9	12.8
70°-80°	1159.0	8.4
80°-90°	339.8	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°	3671.2	26.5
0°-40°	5977.3	43.2
0°-60°	10565.1	76.3
0°-90°	13837.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13837.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4782	4782	4782	4782	4782	
5°	4766	4762	4742	4768	4766	452
15°	4549	4549	4547	4592	4592	1282
25°	4131	4140	4178	4254	4270	1900
35°	3561	3592	3684	3785	3816	2225
45°	2888	2960	3096	3235	3291	2233
55°	2189	2282	2466	2647	2707	1959
65°	1473	1574	1802	2008	2084	1457
75°	747	888	1138	1335	1388	797
85°	150	259	331	351	335	186
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4781.8	4781.8	4781.8	4781.8	4781.8
2.5°	4788.5	4781.8	4757.2	4786.3	4784.1
5°	4766.2	4761.7	4741.6	4768.4	4766.2
7.5°	4730.4	4728.2	4712.5	4741.6	4741.6
10°	4685.7	4681.2	4670.1	4703.6	4701.3
12.5°	4623.1	4620.9	4614.2	4654.4	4652.2
15°	4549.3	4549.3	4547.1	4591.8	4591.8
17.5°	4459.9	4462.1	4471.1	4522.5	4524.7
20°	4359.3	4368.3	4386.1	4444.3	4448.7
22.5°	4245.3	4263.2	4287.8	4352.6	4359.3
25°	4131.3	4140.2	4178.2	4254.2	4269.9
27.5°	3992.7	4015.0	4064.2	4142.5	4158.1
30°	3851.8	3883.1	3945.7	4026.2	4050.8
32.5°	3713.2	3740.1	3813.8	3905.5	3934.6
35°	3561.2	3592.5	3684.2	3784.8	3816.1
37.5°	3393.6	3442.7	3538.9	3655.1	3688.6
40°	3239.3	3284.0	3389.1	3518.7	3554.5
42.5°	3062.7	3118.6	3246.0	3377.9	3422.6
45°	2888.3	2959.9	3096.2	3234.8	3290.7
47.5°	2725.1	2783.3	2944.2	3100.7	3149.9
50°	2546.3	2613.4	2783.3	2948.7	3000.1
52.5°	2369.7	2450.2	2622.3	2796.7	2852.6
55°	2188.6	2282.5	2465.8	2646.9	2707.2
57.5°	2014.2	2108.1	2298.1	2490.4	2553.0
60°	1828.7	1929.3	2139.4	2325.0	2403.2
62.5°	1649.8	1750.4	1971.8	2172.9	2246.7
65°	1473.2	1573.8	1801.8	2007.5	2083.5
67.5°	1289.9	1399.5	1643.1	1842.1	1915.9
70°	1122.2	1227.3	1473.2	1685.6	1763.8
72.5°	930.0	1055.2	1305.6	1515.7	1589.5
75°	746.7	887.5	1137.9	1334.6	1388.3
77.5°	576.8	717.6	968.0	1115.5	1149.1
80°	418.0	561.1	769.0	871.9	898.7
82.5°	270.5	418.0	556.7	626.0	634.9
85°	149.8	259.3	330.9	351.0	335.3
87.5°	53.7	98.4	96.1	78.2	62.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)