

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: P473801

Luminaire Tested: **24CZ2-135VHE-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473801
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-135VHE-UNV-L830-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13104.5 lumens
Efficiency: N/A
Efficacy: 135.4 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

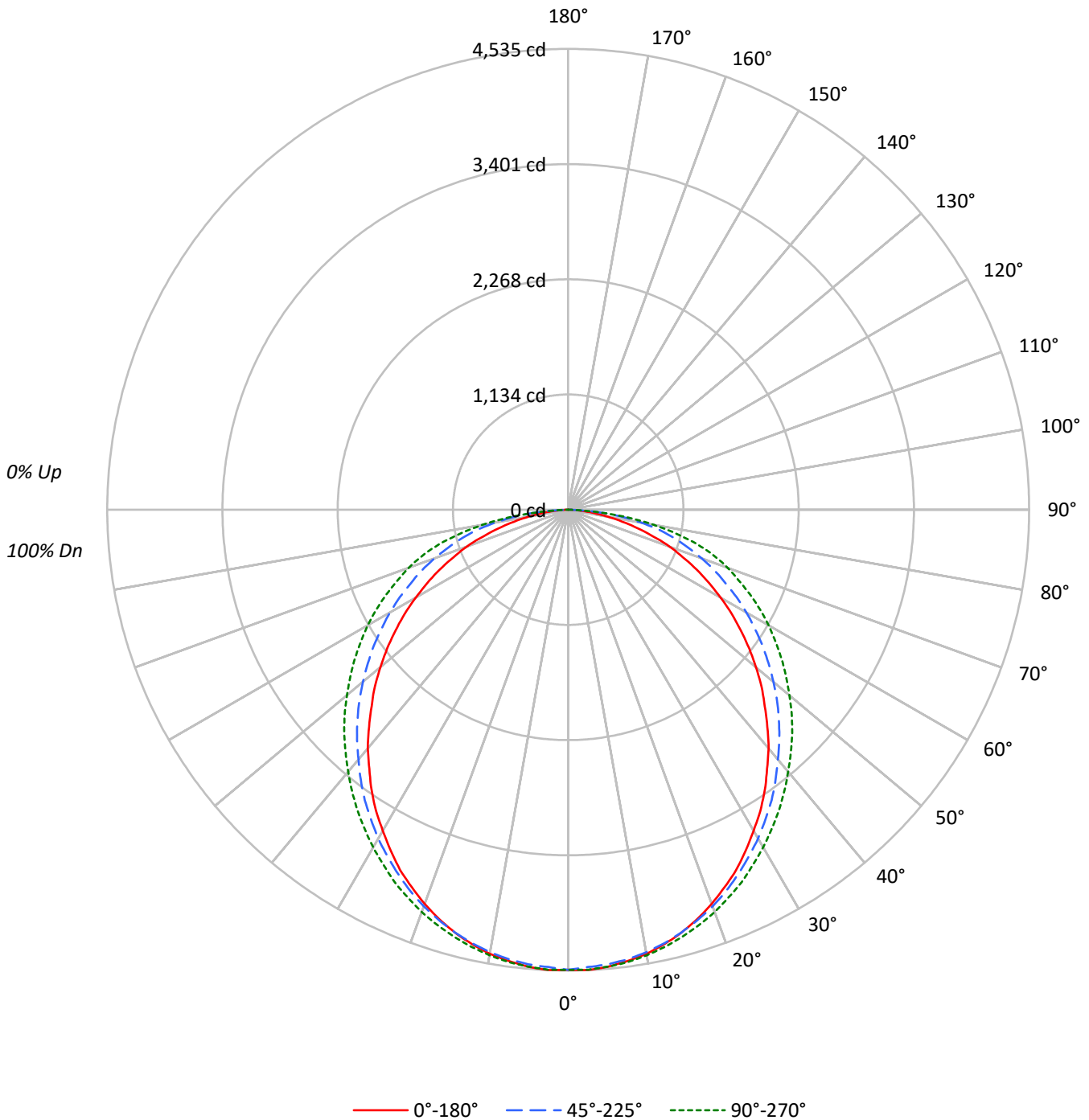
Input Watts (W): 96.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	6093	6093	6093
5°	6096	6065	6096
10°	6063	6042	6083
15°	6001	5998	6057
20°	5911	5947	6032
25°	5808	5874	6003
30°	5667	5805	5960
35°	5539	5731	5936
40°	5388	5637	5912
45°	5205	5579	5930
50°	5047	5517	5947
55°	4862	5478	6014
60°	4660	5452	6124
65°	4442	5433	6282
70°	4181	5489	6571
75°	3676	5602	6835
80°	3068	5643	6595
85°	2189	4837	4903



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	428.1	3.3
10°-20°	1219.3	9.3
20°-30°	1829.2	14.0
30°-40°	2183.9	16.7
40°-50°	2262.1	17.3
50°-60°	2082.5	15.9
60°-70°	1679.9	12.8
70°-80°	1097.6	8.4
80°-90°	321.8	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°	3476.6	26.5
0°-40°	5660.5	43.2
0°-60°	10005.2	76.3
0°-90°	13104.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13104.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4528	4528	4528	4528	4528	
5°	4514	4509	4490	4516	4514	428
15°	4308	4308	4306	4348	4348	1214
25°	3912	3921	3957	4029	4044	1799
35°	3372	3402	3489	3584	3614	2107
45°	2735	2803	2932	3063	3116	2114
55°	2073	2162	2335	2507	2564	1855
65°	1395	1490	1706	1901	1973	1380
75°	707	840	1078	1264	1315	755
85°	142	246	313	332	318	176
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4528.4	4528.4	4528.4	4528.4	4528.4
2.5°	4534.8	4528.4	4505.1	4532.7	4530.5
5°	4513.6	4509.4	4490.3	4515.7	4513.6
7.5°	4479.7	4477.6	4462.8	4490.3	4490.3
10°	4437.4	4433.2	4422.6	4454.3	4452.2
12.5°	4378.1	4376.0	4369.6	4407.8	4405.6
15°	4308.2	4308.2	4306.1	4348.5	4348.5
17.5°	4223.6	4225.7	4234.2	4282.8	4285.0
20°	4128.3	4136.8	4153.7	4208.7	4213.0
22.5°	4020.3	4037.3	4060.6	4121.9	4128.3
25°	3912.4	3920.8	3956.8	4028.8	4043.6
27.5°	3781.1	3802.3	3848.8	3922.9	3937.8
30°	3647.7	3677.4	3736.6	3812.9	3836.1
32.5°	3516.5	3541.9	3611.7	3698.5	3726.1
35°	3372.5	3402.1	3488.9	3584.2	3613.8
37.5°	3213.7	3260.3	3351.3	3461.4	3493.2
40°	3067.6	3110.0	3209.5	3332.3	3366.2
42.5°	2900.4	2953.3	3074.0	3198.9	3241.2
45°	2735.3	2803.0	2932.2	3063.4	3116.3
47.5°	2580.7	2635.8	2788.2	2936.4	2983.0
50°	2411.3	2474.9	2635.8	2792.4	2841.1
52.5°	2244.1	2320.3	2483.3	2648.5	2701.4
55°	2072.6	2161.5	2335.1	2506.6	2563.8
57.5°	1907.5	1996.4	2176.4	2358.4	2417.7
60°	1731.8	1827.0	2026.0	2201.8	2275.9
62.5°	1562.4	1657.7	1867.3	2057.8	2127.7
65°	1395.2	1490.4	1706.4	1901.1	1973.1
67.5°	1221.6	1325.3	1556.1	1744.5	1814.3
70°	1062.8	1162.3	1395.2	1596.3	1670.4
72.5°	880.7	999.3	1236.4	1435.4	1505.2
75°	707.1	840.5	1077.6	1263.9	1314.7
77.5°	546.2	679.6	916.7	1056.4	1088.2
80°	395.9	531.4	728.3	825.7	851.1
82.5°	256.2	395.9	527.2	592.8	601.2
85°	141.8	245.6	313.3	332.4	317.6
87.5°	50.8	93.2	91.0	74.1	59.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)