

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: P473806

Luminaire Tested: **24CZ2-160VHE-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473806
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-160VHE-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: 15534.3 lumens
Efficiency: N/A
Efficacy: 131.1 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

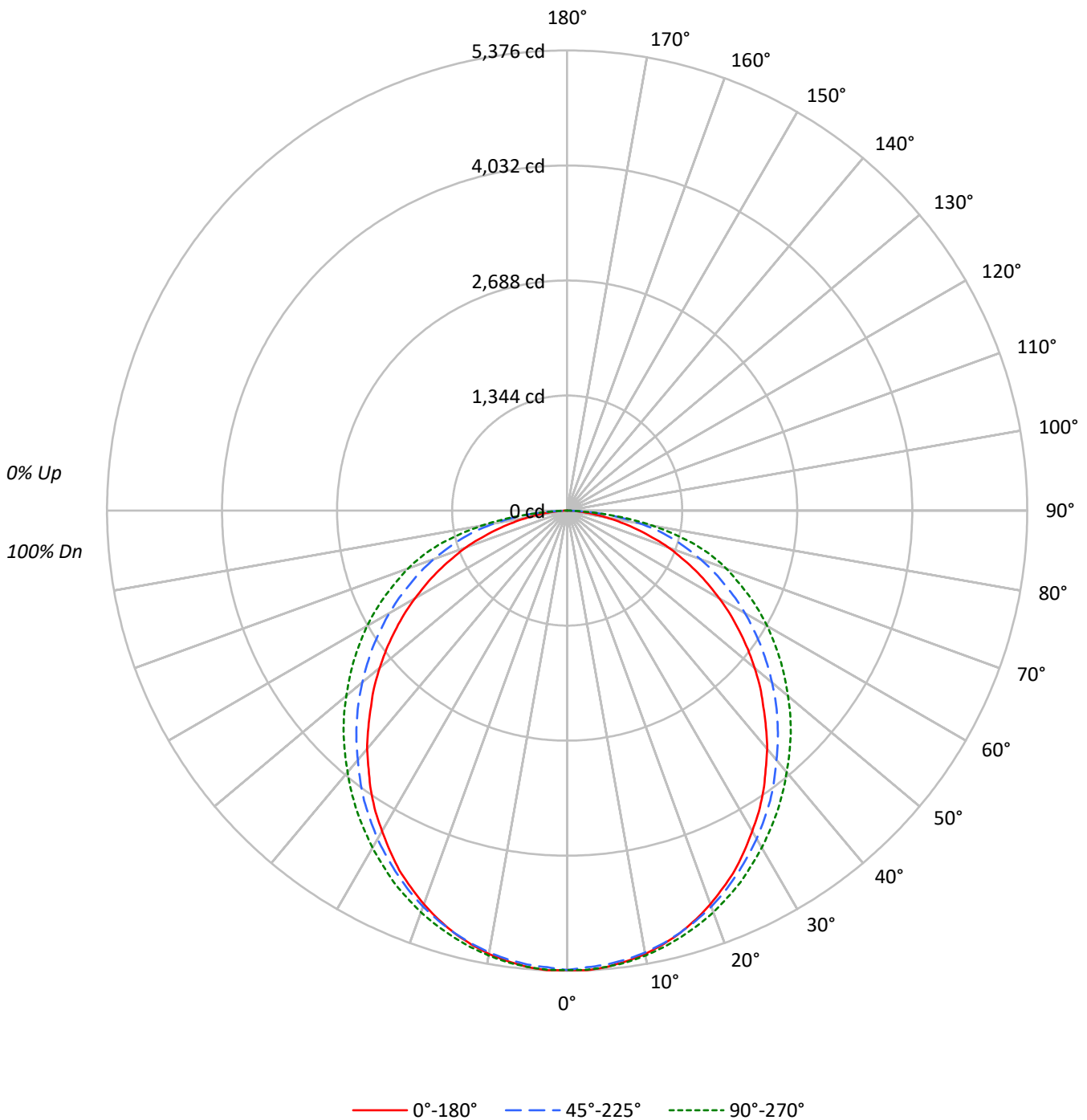
Input Watts (W): 118.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	7223	7223	7223
5°	7227	7189	7227
10°	7187	7163	7211
15°	7114	7110	7180
20°	7007	7050	7151
25°	6885	6963	7116
30°	6718	6882	7065
35°	6567	6793	7036
40°	6387	6682	7009
45°	6170	6614	7029
50°	5983	6540	7050
55°	5763	6493	7129
60°	5524	6463	7260
65°	5265	6440	7447
70°	4956	6506	7790
75°	4357	6641	8102
80°	3636	6689	7817
85°	2595	5734	5811



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	507.4	3.3
10°-20°	1445.4	9.3
20°-30°	2168.4	14.0
30°-40°	2588.9	16.7
40°-50°	2681.6	17.3
50°-60°	2468.7	15.9
60°-70°	1991.4	12.8
70°-80°	1301.1	8.4
80°-90°	381.5	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°	4121.3	26.5
0°-40°	6710.1	43.2
0°-60°	11860.4	76.3
0°-90°	15534.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15534.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5368	5368	5368	5368	5368	
5°	5350	5346	5323	5353	5350	508
15°	5107	5107	5105	5155	5155	1439
25°	4638	4648	4690	4776	4793	2132
35°	3998	4033	4136	4249	4284	2497
45°	3242	3323	3476	3631	3694	2506
55°	2457	2562	2768	2971	3039	2199
65°	1654	1767	2023	2254	2339	1635
75°	838	996	1277	1498	1558	895
85°	168	291	371	394	376	208
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5368.1	5368.1	5368.1	5368.1	5368.1
2.5°	5375.6	5368.1	5340.5	5373.1	5370.6
5°	5350.5	5345.5	5322.9	5353.0	5350.5
7.5°	5310.4	5307.9	5290.3	5322.9	5322.9
10°	5260.2	5255.2	5242.6	5280.2	5277.7
12.5°	5189.9	5187.4	5179.9	5225.0	5222.5
15°	5107.1	5107.1	5104.6	5154.8	5154.8
17.5°	5006.7	5009.2	5019.2	5077.0	5079.5
20°	4893.8	4903.8	4923.9	4989.1	4994.2
22.5°	4765.8	4785.9	4813.5	4886.2	4893.8
25°	4637.8	4647.8	4690.5	4775.8	4793.4
27.5°	4482.2	4507.3	4562.5	4650.3	4667.9
30°	4324.1	4359.2	4429.5	4519.8	4547.4
32.5°	4168.5	4198.6	4281.4	4384.3	4416.9
35°	3997.8	4033.0	4135.9	4248.8	4283.9
37.5°	3809.6	3864.8	3972.7	4103.2	4140.9
40°	3636.4	3686.6	3804.6	3950.1	3990.3
42.5°	3438.2	3500.9	3644.0	3792.0	3842.2
45°	3242.4	3322.7	3475.8	3631.4	3694.2
47.5°	3059.2	3124.5	3305.2	3480.8	3536.1
50°	2858.5	2933.7	3124.5	3310.2	3367.9
52.5°	2660.2	2750.5	2943.8	3139.5	3202.3
55°	2456.9	2562.3	2768.1	2971.4	3039.2
57.5°	2261.2	2366.6	2579.9	2795.7	2866.0
60°	2052.9	2165.8	2401.7	2610.0	2697.8
62.5°	1852.1	1965.0	2213.5	2439.4	2522.2
65°	1653.8	1766.8	2022.8	2253.6	2339.0
67.5°	1448.1	1571.0	1844.6	2067.9	2150.7
70°	1259.8	1377.8	1653.8	1892.3	1980.1
72.5°	1044.0	1184.5	1465.6	1701.5	1784.3
75°	838.2	996.3	1277.4	1498.2	1558.5
77.5°	647.5	805.6	1086.7	1252.3	1289.9
80°	469.3	629.9	863.3	978.8	1008.9
82.5°	303.7	469.3	624.9	702.7	712.7
85°	168.1	291.1	371.4	394.0	376.4
87.5°	60.2	110.4	107.9	87.8	70.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)