

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: P474007

Luminaire Tested: **24CZ2-165VHE-S-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474007
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-165VHE-S-UNV-L830-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16273.6 lumens
Efficiency: N/A
Efficacy: 133.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

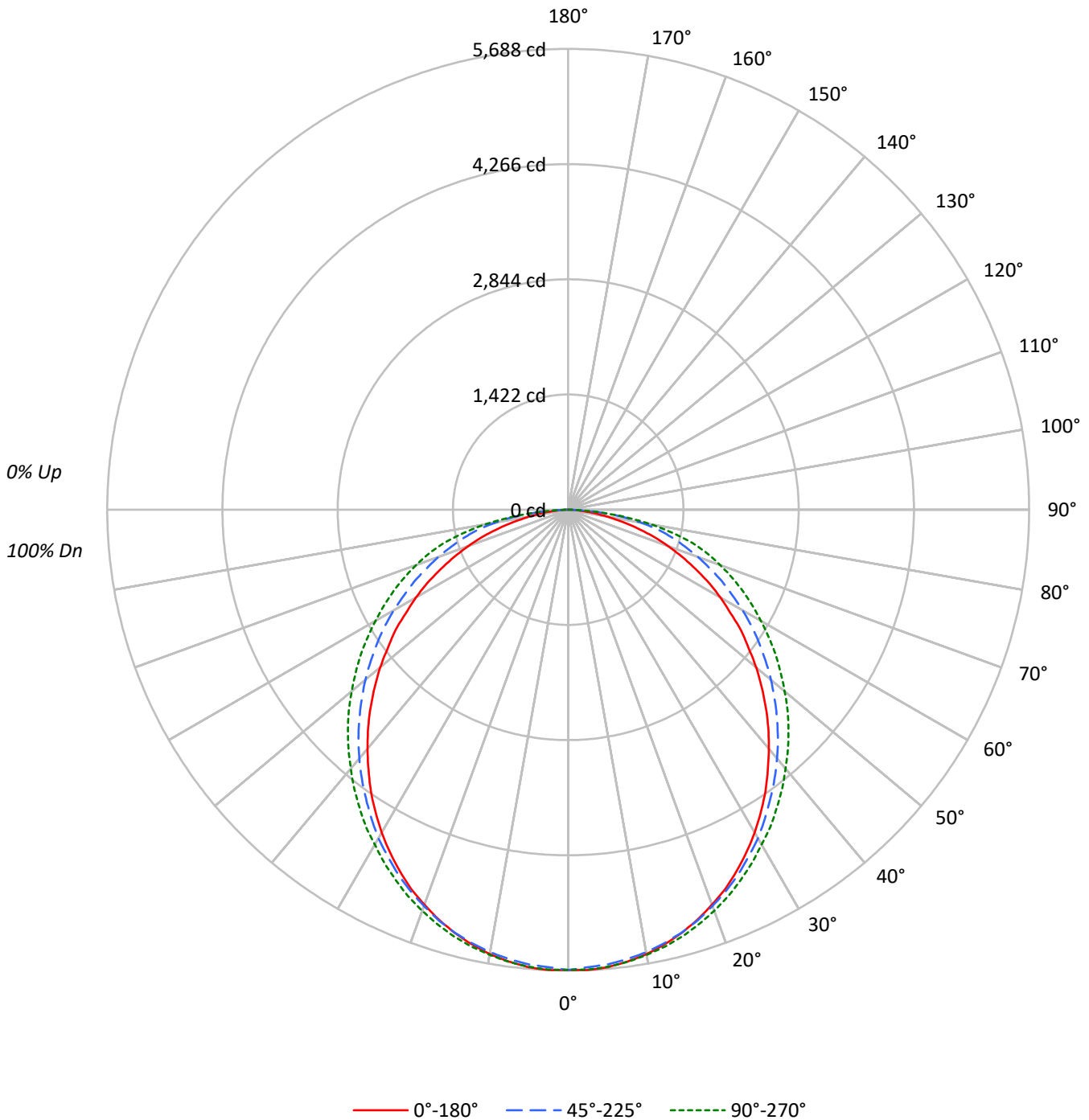
Input Watts (W): 122.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	90	83	77	95	88	81	76	84	79	74	81	76	72	78	74	71	68
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	59	57
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	38	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7643	7643	7643
5°	7654	7607	7647
10°	7611	7578	7622
15°	7532	7529	7592
20°	7429	7452	7544
25°	7306	7369	7484
30°	7151	7276	7413
35°	6972	7148	7372
40°	6765	7043	7329
45°	6561	6933	7314
50°	6339	6837	7296
55°	6114	6753	7336
60°	5834	6690	7387
65°	5523	6663	7565
70°	5153	6698	7834
75°	4586	6892	8254
80°	3749	7042	8057
85°	2641	6149	6272



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	537.0	3.3
10°-20°	1529.5	9.4
20°-30°	2292.6	14.1
30°-40°	2730.6	16.8
40°-50°	2815.5	17.3
50°-60°	2569.2	15.8
60°-70°	2054.4	12.6
70°-80°	1341.9	8.2
80°-90°	402.9	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°	4359.1	26.8
0°-40°	7089.7	43.6
0°-60°	12474.4	76.7
0°-90°	16273.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16273.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5680	5680	5680	5680	5680	
5°	5667	5656	5632	5667	5662	538
15°	5408	5410	5405	5450	5450	1524
25°	4921	4929	4964	5036	5041	2266
35°	4245	4274	4352	4461	4488	2652
45°	3448	3510	3643	3796	3844	2659
55°	2606	2681	2879	3069	3127	2321
65°	1735	1852	2093	2299	2376	1720
75°	882	1029	1326	1540	1588	937
85°	171	307	398	406	406	217
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5680.2	5680.2	5680.2	5680.2	5680.2
2.5°	5688.2	5680.2	5650.8	5685.5	5680.2
5°	5666.8	5656.1	5632.1	5666.8	5661.5
7.5°	5624.1	5618.7	5594.7	5634.8	5629.4
10°	5570.6	5565.3	5546.5	5586.6	5578.6
12.5°	5495.8	5493.1	5479.7	5527.8	5522.5
15°	5407.5	5410.2	5404.9	5450.3	5450.3
17.5°	5306.0	5303.3	5314.0	5370.1	5364.8
20°	5188.4	5191.0	5204.4	5268.6	5268.6
22.5°	5065.4	5062.7	5092.1	5156.3	5161.6
25°	4921.1	4929.1	4963.8	5036.0	5041.3
27.5°	4766.0	4779.4	4822.2	4905.0	4913.0
30°	4603.0	4619.0	4683.2	4760.7	4771.4
32.5°	4423.9	4458.6	4517.4	4616.3	4643.1
35°	4244.8	4274.2	4351.7	4461.3	4488.0
37.5°	4047.0	4095.1	4183.3	4303.6	4338.3
40°	3851.8	3900.0	4009.6	4135.2	4172.6
42.5°	3654.0	3704.8	3830.5	3972.1	4012.2
45°	3448.2	3509.7	3643.3	3795.7	3843.8
47.5°	3237.0	3309.2	3453.6	3619.3	3672.7
50°	3028.5	3100.7	3266.4	3437.5	3485.6
52.5°	2804.0	2894.9	3071.3	3255.8	3303.9
55°	2606.2	2681.1	2878.9	3068.6	3127.4
57.5°	2373.7	2475.2	2686.4	2878.9	2935.0
60°	2167.8	2261.4	2485.9	2681.1	2745.2
62.5°	1959.3	2055.6	2280.1	2502.0	2560.8
65°	1734.8	1852.4	2093.0	2298.8	2376.3
67.5°	1521.0	1643.9	1889.8	2109.0	2189.2
70°	1309.8	1435.4	1702.7	1927.3	1991.4
72.5°	1101.3	1232.3	1510.3	1729.5	1804.3
75°	882.1	1029.1	1325.8	1539.7	1587.8
77.5°	676.3	839.3	1138.7	1283.1	1317.8
80°	483.8	662.9	908.8	1013.1	1039.8
82.5°	318.1	491.8	679.0	735.1	727.1
85°	171.1	307.4	398.3	406.3	406.3
87.5°	66.8	123.0	125.6	96.2	90.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)