

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: P474107

Luminaire Tested: **24CZ2-165VHE-S-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474107
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-L840-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17184.2 lumens
Efficiency: N/A
Efficacy: 140.7 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

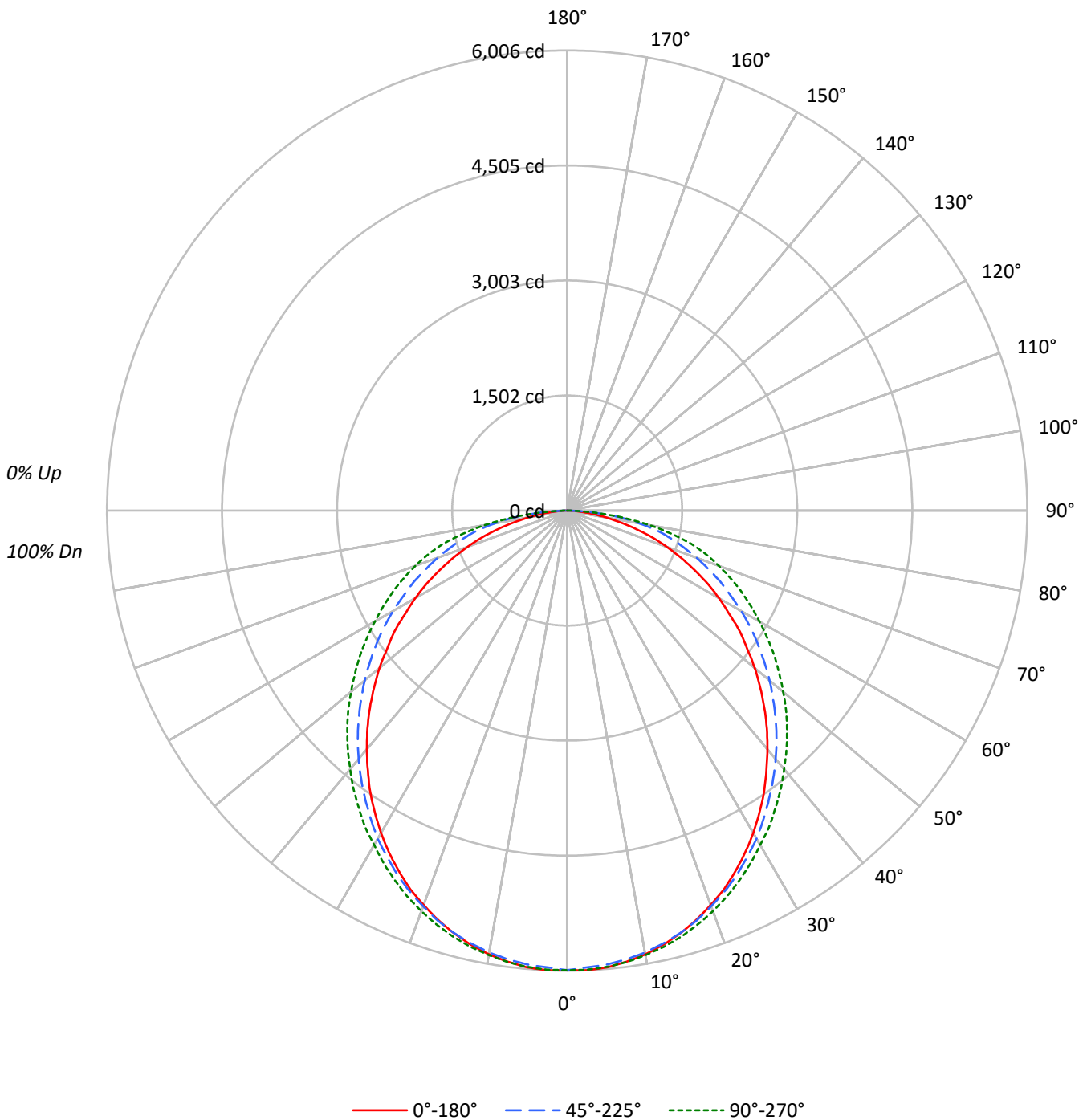
Input Watts (W): 122.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	8070	8070	8070
5°	8082	8032	8074
10°	8037	8002	8048
15°	7954	7950	8017
20°	7845	7869	7966
25°	7714	7782	7903
30°	7551	7683	7828
35°	7362	7548	7784
40°	7144	7436	7739
45°	6929	7320	7723
50°	6694	7220	7704
55°	6456	7131	7747
60°	6160	7064	7801
65°	5832	7036	7989
70°	5441	7073	8272
75°	4842	7278	8716
80°	3959	7436	8508
85°	2788	6493	6623



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	567.1	3.3
10°-20°	1615.1	9.4
20°-30°	2420.9	14.1
30°-40°	2883.4	16.8
40°-50°	2973.0	17.3
50°-60°	2712.9	15.8
60°-70°	2169.4	12.6
70°-80°	1417.0	8.2
80°-90°	425.5	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°	4603.1	26.8
0°-40°	7486.4	43.6
0°-60°	13172.4	76.7
0°-90°	17184.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17184.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5998	5998	5998	5998	5998	
5°	5984	5973	5947	5984	5978	568
15°	5710	5713	5707	5755	5755	1610
25°	5196	5205	5242	5318	5323	2392
35°	4482	4513	4595	4711	4739	2800
45°	3641	3706	3847	4008	4059	2808
55°	2752	2831	3040	3240	3302	2451
65°	1832	1956	2210	2427	2509	1816
75°	932	1087	1400	1626	1677	990
85°	181	325	421	429	429	229
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5998.1	5998.1	5998.1	5998.1	5998.1
2.5°	6006.5	5998.1	5967.0	6003.7	5998.1
5°	5983.9	5972.6	5947.2	5983.9	5978.3
7.5°	5938.8	5933.1	5907.7	5950.1	5944.4
10°	5882.3	5876.7	5856.9	5899.3	5890.8
12.5°	5803.3	5800.5	5786.4	5837.2	5831.5
15°	5710.1	5713.0	5707.3	5755.3	5755.3
17.5°	5602.9	5600.1	5611.4	5670.6	5665.0
20°	5478.7	5481.5	5495.6	5563.4	5563.4
22.5°	5348.9	5346.0	5377.1	5444.8	5450.5
25°	5196.4	5204.9	5241.6	5317.8	5323.4
27.5°	5032.7	5046.8	5092.0	5179.5	5188.0
30°	4860.5	4877.5	4945.2	5027.1	5038.4
32.5°	4671.4	4708.1	4770.2	4874.7	4902.9
35°	4482.3	4513.4	4595.2	4710.9	4739.2
37.5°	4273.4	4324.2	4417.4	4544.4	4581.1
40°	4067.4	4118.2	4233.9	4366.6	4406.1
42.5°	3858.5	3912.1	4044.8	4194.4	4236.7
45°	3641.2	3706.1	3847.2	4008.1	4058.9
47.5°	3418.2	3494.4	3646.8	3821.8	3878.3
50°	3198.0	3274.2	3449.2	3629.9	3680.7
52.5°	2960.9	3056.9	3243.2	3437.9	3488.7
55°	2752.0	2831.1	3040.0	3240.4	3302.5
57.5°	2506.5	2613.7	2836.7	3040.0	3099.2
60°	2289.1	2387.9	2625.0	2831.1	2898.8
62.5°	2069.0	2170.6	2407.7	2642.0	2704.1
65°	1831.9	1956.1	2210.1	2427.4	2509.3
67.5°	1606.1	1735.9	1995.6	2227.0	2311.7
70°	1383.1	1515.7	1798.0	2035.1	2102.8
72.5°	1162.9	1301.2	1594.8	1826.2	1905.3
75°	931.5	1086.7	1400.0	1625.8	1676.6
77.5°	714.1	886.3	1202.4	1354.9	1391.5
80°	510.9	700.0	959.7	1069.8	1098.0
82.5°	335.9	519.4	716.9	776.2	767.8
85°	180.6	324.6	420.6	429.0	429.0
87.5°	70.6	129.8	132.7	101.6	96.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)