

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: P473856

Luminaire Tested: **24CZ2-160VHE-UNV-L835-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473856
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-160VHE-UNV-L835-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16097.8 lumens
Efficiency: N/A
Efficacy: 135.8 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

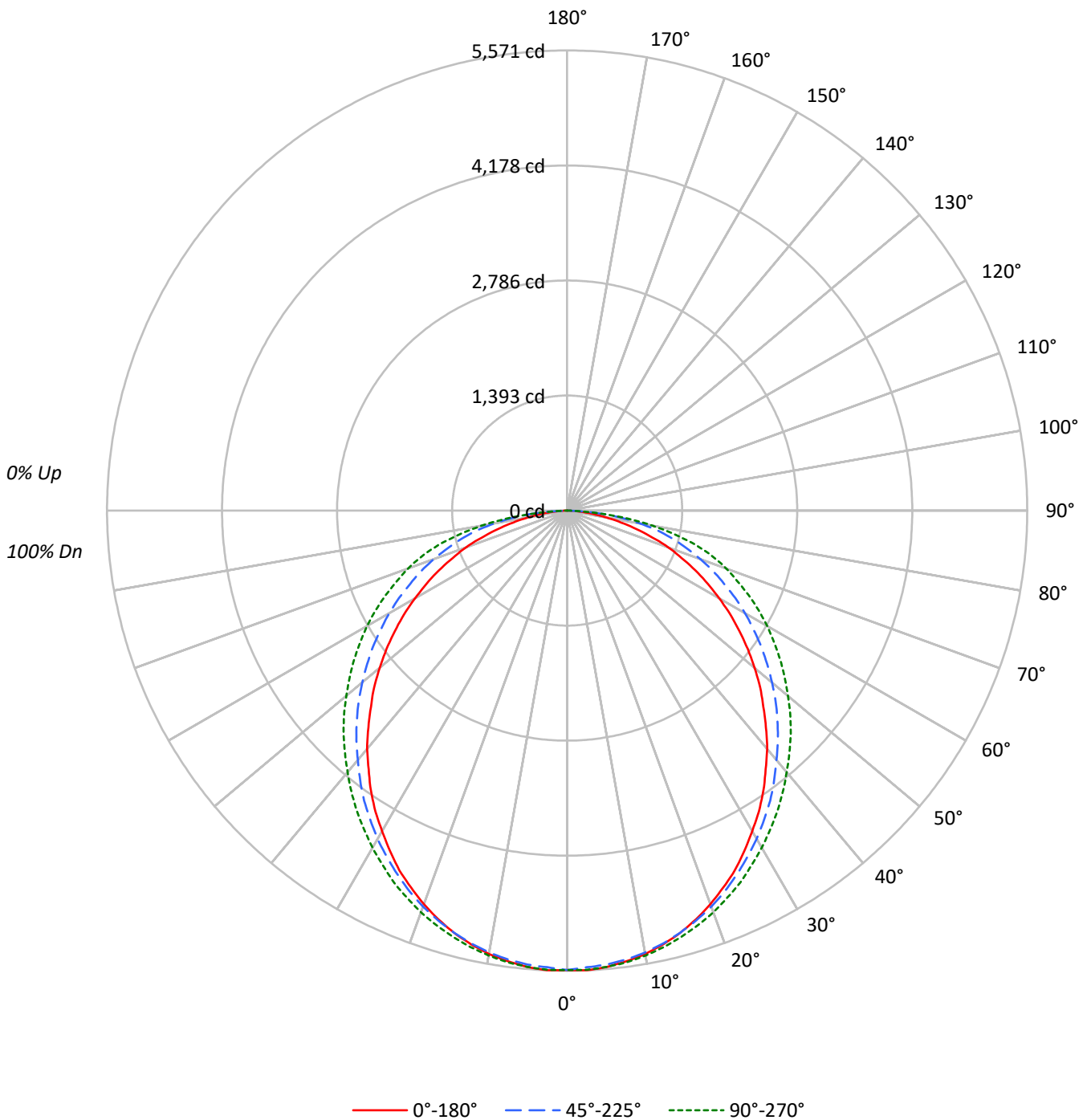
Input Watts (W): 118.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	7485	7485	7485
5°	7489	7450	7489
10°	7447	7422	7472
15°	7372	7368	7441
20°	7261	7306	7410
25°	7135	7216	7374
30°	6962	7131	7321
35°	6805	7040	7292
40°	6619	6925	7263
45°	6393	6854	7284
50°	6200	6777	7306
55°	5972	6729	7388
60°	5725	6697	7523
65°	5456	6673	7717
70°	5136	6742	8072
75°	4515	6881	8396
80°	3768	6932	8101
85°	2689	5942	6022



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	525.9	3.3
10°-20°	1497.8	9.3
20°-30°	2247.0	14.0
30°-40°	2682.8	16.7
40°-50°	2778.8	17.3
50°-60°	2558.2	15.9
60°-70°	2063.6	12.8
70°-80°	1348.3	8.4
80°-90°	395.3	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°	4270.7	26.5
0°-40°	6953.5	43.2
0°-60°	12290.5	76.3
0°-90°	16097.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16097.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5563	5563	5563	5563	5563	
5°	5545	5539	5516	5547	5545	526
15°	5292	5292	5290	5342	5342	1491
25°	4806	4816	4861	4949	4967	2210
35°	4143	4179	4286	4403	4439	2588
45°	3360	3443	3602	3763	3828	2597
55°	2546	2655	2868	3079	3149	2279
65°	1714	1831	2096	2335	2424	1695
75°	869	1032	1324	1553	1615	927
85°	174	302	385	408	390	216
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5562.8	5562.8	5562.8	5562.8	5562.8
2.5°	5570.6	5562.8	5534.2	5568.0	5565.4
5°	5544.6	5539.4	5516.0	5547.2	5544.6
7.5°	5503.0	5500.4	5482.2	5516.0	5516.0
10°	5451.0	5445.8	5432.7	5471.8	5469.2
12.5°	5378.1	5375.5	5367.7	5414.5	5411.9
15°	5292.3	5292.3	5289.7	5341.7	5341.7
17.5°	5188.3	5190.9	5201.3	5261.1	5263.7
20°	5071.3	5081.7	5102.5	5170.1	5175.3
22.5°	4938.6	4959.4	4988.0	5063.5	5071.3
25°	4806.0	4816.4	4860.6	4949.0	4967.2
27.5°	4644.8	4670.8	4728.0	4819.0	4837.2
30°	4480.9	4517.3	4590.1	4683.8	4712.4
32.5°	4319.7	4350.9	4436.7	4543.3	4577.1
35°	4142.8	4179.2	4285.9	4402.9	4439.3
37.5°	3947.8	4005.0	4116.8	4252.1	4291.1
40°	3768.3	3820.3	3942.6	4093.4	4135.0
42.5°	3562.9	3627.9	3776.1	3929.6	3981.6
45°	3360.0	3443.3	3601.9	3763.1	3828.2
47.5°	3170.2	3237.8	3425.1	3607.1	3664.3
50°	2962.1	3040.2	3237.8	3430.3	3490.1
52.5°	2756.7	2850.3	3050.6	3253.4	3318.4
55°	2546.0	2655.3	2868.5	3079.2	3149.4
57.5°	2343.2	2452.4	2673.5	2897.1	2969.9
60°	2127.3	2244.4	2488.8	2704.7	2795.7
62.5°	1919.3	2036.3	2293.8	2527.8	2613.6
65°	1713.8	1830.9	2096.1	2335.4	2423.8
67.5°	1500.6	1628.0	1911.5	2142.9	2228.8
70°	1305.5	1427.8	1713.8	1960.9	2051.9
72.5°	1081.9	1227.5	1518.8	1763.2	1849.1
75°	868.6	1032.5	1323.7	1552.6	1615.0
77.5°	671.0	834.8	1126.1	1297.7	1336.7
80°	486.3	652.8	894.6	1014.3	1045.5
82.5°	314.7	486.3	647.6	728.2	738.6
85°	174.2	301.7	384.9	408.3	390.1
87.5°	62.4	114.4	111.8	91.0	72.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)