

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: P474048

Luminaire Tested: **24CZ2-120VHE-S-UNV-L835-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474048  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-120VHE-S-UNV-L835-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

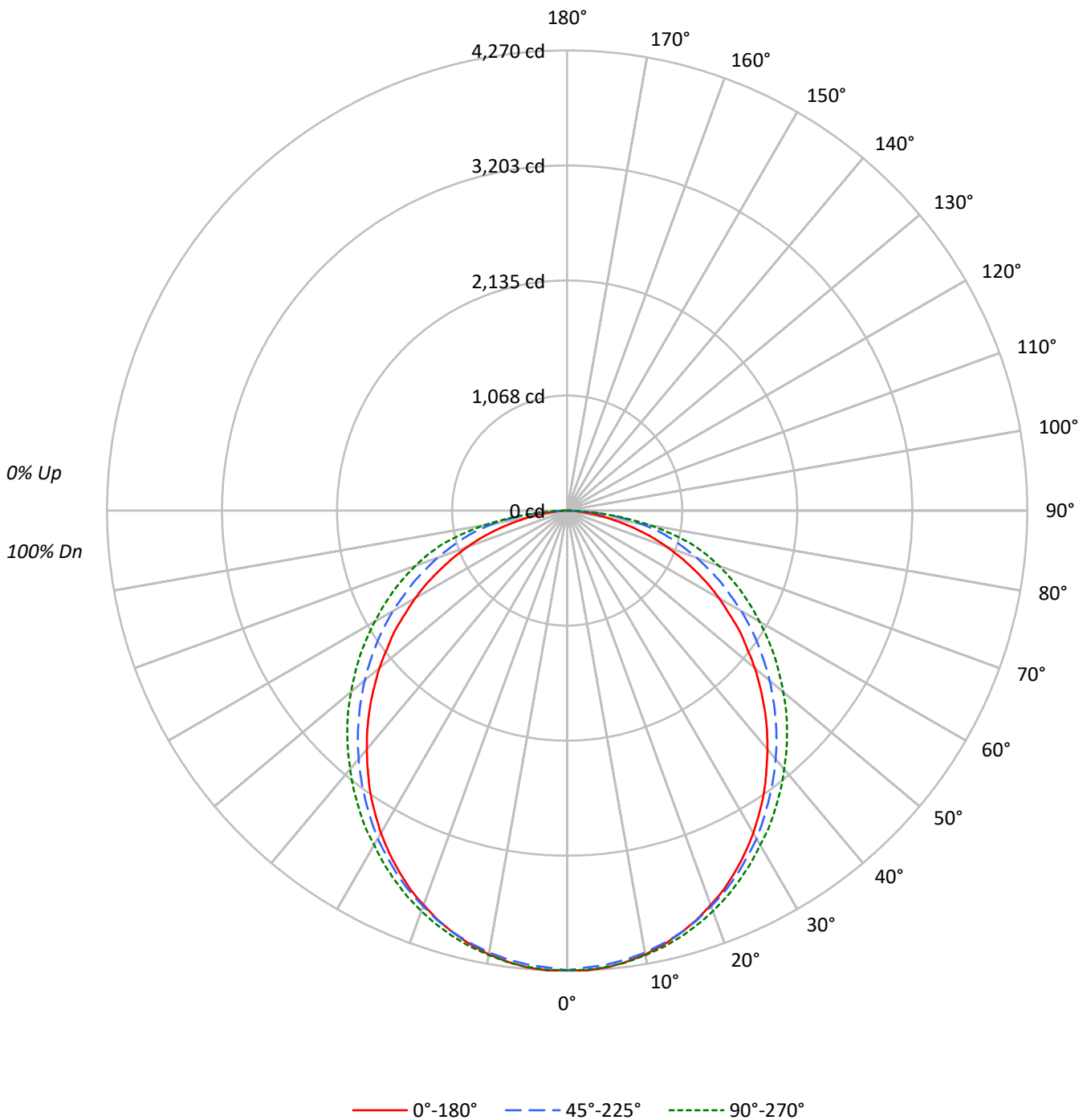
Lumens per Lamp: N/A  
Luminaire Lumens: 12217.6 lumens  
Efficiency: N/A  
Efficacy: 145.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 84.2  
Input Voltage (V): 120  
Input Current (Ain): 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	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					100			
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83					83			
2	98	90	83	77	95	88	81	76	84	79	74	81	76	72	78	74	71	68					68			
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	59	57					57			
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	55	51	49					49			
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42					42			
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37					37			
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	34	32					32			
8	60	46	38	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29					29			
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26					26			
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24					24			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5738	5738	5738
5°	5746	5711	5741
10°	5714	5689	5722
15°	5655	5652	5700
20°	5577	5595	5664
25°	5485	5533	5619
30°	5369	5463	5565
35°	5234	5366	5535
40°	5079	5287	5502
45°	4926	5205	5491
50°	4759	5133	5478
55°	4590	5070	5508
60°	4380	5022	5546
65°	4146	5003	5680
70°	3868	5029	5882
75°	3443	5175	6197
80°	2814	5287	6049
85°	1982	4616	4709



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	403.2	3.3
10°-20°	1148.3	9.4
20°-30°	1721.2	14.1
30°-40°	2050.0	16.8
40°-50°	2113.8	17.3
50°-60°	1928.8	15.8
60°-70°	1542.4	12.6
70°-80°	1007.4	8.2
80°-90°	302.5	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°	3272.7	26.8
0°-40°	5322.7	43.6
0°-60°	9365.3	76.7
0°-90°	12217.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12217.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4264	4264	4264	4264	4264	
5°	4254	4246	4228	4254	4250	404
15°	4060	4062	4058	4092	4092	1144
25°	3695	3701	3727	3781	3785	1701
35°	3187	3209	3267	3349	3370	1991
45°	2589	2635	2735	2850	2886	1996
55°	1957	2013	2161	2304	2348	1743
65°	1302	1391	1571	1726	1784	1291
75°	662	773	995	1156	1192	704
85°	128	231	299	305	305	163
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4264.5	4264.5	4264.5	4264.5	4264.5
2.5°	4270.5	4264.5	4242.4	4268.5	4264.5
5°	4254.5	4246.4	4228.4	4254.5	4250.5
7.5°	4222.4	4218.3	4200.3	4230.4	4226.4
10°	4182.2	4178.2	4164.2	4194.3	4188.2
12.5°	4126.0	4124.0	4114.0	4150.1	4146.1
15°	4059.8	4061.8	4057.8	4091.9	4091.9
17.5°	3983.6	3981.5	3989.6	4031.7	4027.7
20°	3895.3	3897.3	3907.3	3955.5	3955.5
22.5°	3802.9	3800.9	3823.0	3871.2	3875.2
25°	3694.6	3700.6	3726.7	3780.9	3784.9
27.5°	3578.2	3588.2	3620.3	3682.5	3688.5
30°	3455.8	3467.8	3516.0	3574.2	3582.2
32.5°	3321.3	3347.4	3391.5	3465.8	3485.9
35°	3186.8	3208.9	3267.1	3349.4	3369.5
37.5°	3038.3	3074.5	3140.7	3231.0	3257.1
40°	2891.8	2928.0	3010.2	3104.6	3132.7
42.5°	2743.3	2781.5	2875.8	2982.1	3012.2
45°	2588.8	2635.0	2735.3	2849.7	2885.8
47.5°	2430.3	2484.5	2592.8	2717.2	2757.4
50°	2273.7	2327.9	2452.3	2580.8	2616.9
52.5°	2105.2	2173.4	2305.8	2444.3	2480.4
55°	1956.7	2012.8	2161.4	2303.8	2348.0
57.5°	1782.1	1858.3	2016.9	2161.4	2203.5
60°	1627.5	1697.8	1866.3	2012.8	2061.0
62.5°	1471.0	1543.2	1711.8	1878.4	1922.5
65°	1302.4	1390.7	1571.3	1725.9	1784.1
67.5°	1141.9	1234.2	1418.8	1583.4	1643.6
70°	983.3	1077.7	1278.3	1446.9	1495.1
72.5°	826.8	925.1	1133.9	1298.4	1354.6
75°	662.3	772.6	995.4	1155.9	1192.1
77.5°	507.7	630.1	854.9	963.3	989.4
80°	363.2	497.7	682.3	760.6	780.7
82.5°	238.8	369.3	509.7	551.9	545.9
85°	128.4	230.8	299.0	305.0	305.0
87.5°	50.2	92.3	94.3	72.2	68.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)