

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: P474056

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

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474056  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-160VHE-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**

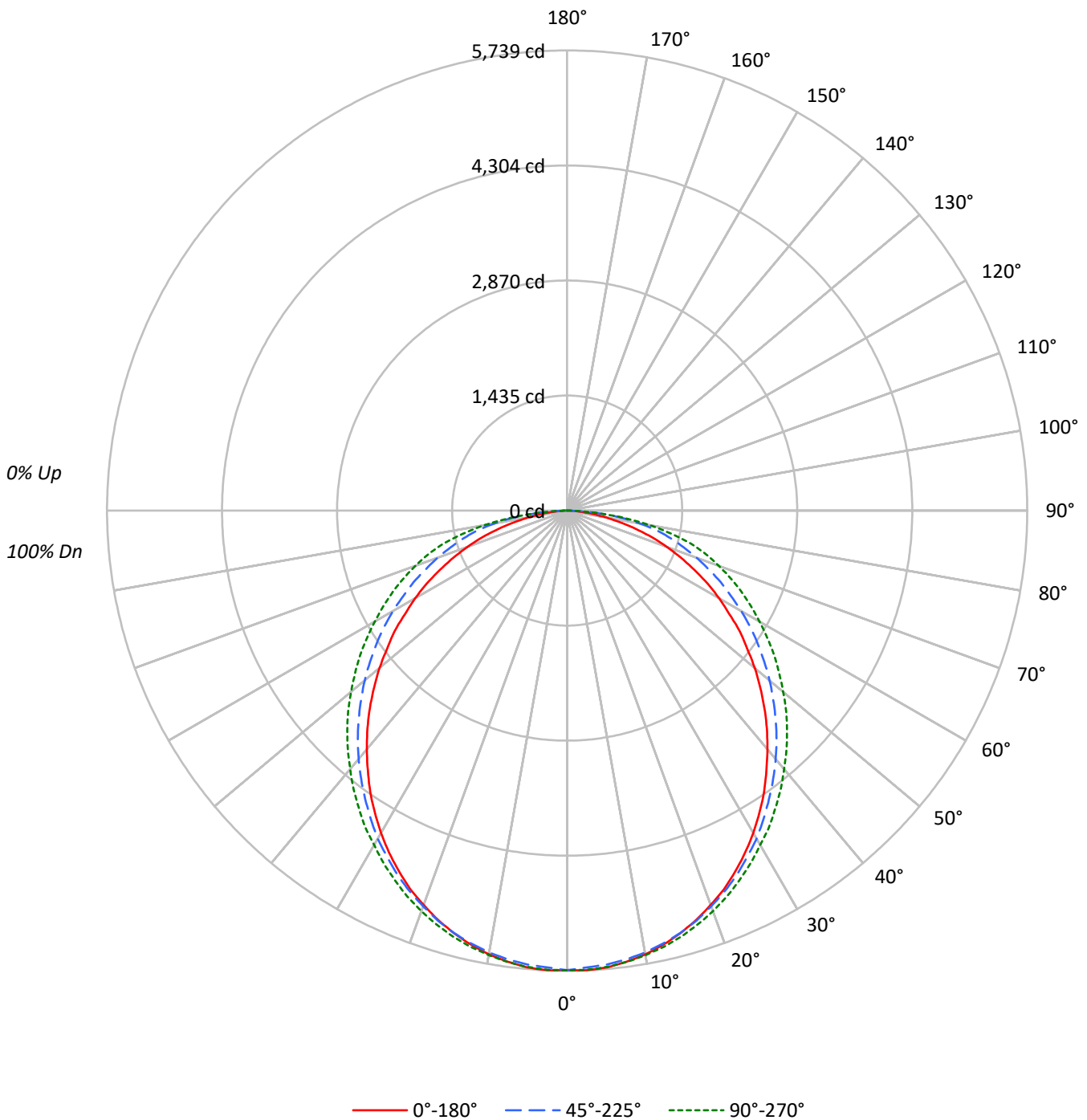
Lumens per Lamp: N/A  
Luminaire Lumens: 16420.1 lumens  
Efficiency: N/A  
Efficacy: 138.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 118.5  
Input Voltage (V): 120  
Input Current (Ain): 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	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°	7711	7711	7711
5°	7723	7675	7715
10°	7679	7646	7690
15°	7600	7596	7660
20°	7496	7519	7612
25°	7372	7436	7552
30°	7216	7341	7480
35°	7035	7212	7438
40°	6826	7106	7395
45°	6620	6995	7380
50°	6396	6899	7362
55°	6169	6814	7402
60°	5886	6750	7454
65°	5573	6723	7634
70°	5199	6759	7904
75°	4627	6955	8329
80°	3783	7105	8130
85°	2665	6204	6329



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	541.8	3.3
10°-20°	1543.2	9.4
20°-30°	2313.3	14.1
30°-40°	2755.2	16.8
40°-50°	2840.9	17.3
50°-60°	2592.3	15.8
60°-70°	2072.9	12.6
70°-80°	1354.0	8.2
80°-90°	406.6	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°	4398.4	26.8
0°-40°	7153.6	43.6
0°-60°	12586.7	76.7
0°-90°	16420.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16420.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5731	5731	5731	5731	5731	
5°	5718	5707	5683	5718	5712	543
15°	5456	5459	5454	5499	5499	1538
25°	4965	4974	5008	5081	5087	2286
35°	4283	4313	4391	4502	4528	2676
45°	3479	3541	3676	3830	3878	2683
55°	2630	2705	2905	3096	3156	2342
65°	1750	1869	2112	2320	2398	1736
75°	890	1038	1338	1554	1602	946
85°	173	310	402	410	410	219
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5731.3	5731.3	5731.3	5731.3	5731.3
2.5°	5739.4	5731.3	5701.7	5736.7	5731.3
5°	5717.9	5707.1	5682.8	5717.9	5712.5
7.5°	5674.7	5669.3	5645.0	5685.5	5680.1
10°	5620.8	5615.4	5596.5	5636.9	5628.9
12.5°	5545.2	5542.5	5529.1	5577.6	5572.2
15°	5456.2	5458.9	5453.5	5499.4	5499.4
17.5°	5353.7	5351.1	5361.8	5418.5	5413.1
20°	5235.1	5237.8	5251.3	5316.0	5316.0
22.5°	5111.0	5108.3	5138.0	5202.7	5208.1
25°	4965.4	4973.5	5008.5	5081.3	5086.7
27.5°	4808.9	4822.4	4865.6	4949.2	4957.3
30°	4644.4	4660.6	4725.3	4803.5	4814.3
32.5°	4463.7	4498.8	4558.1	4657.9	4684.9
35°	4283.0	4312.7	4390.9	4501.5	4528.4
37.5°	4083.4	4132.0	4221.0	4342.3	4377.4
40°	3886.5	3935.1	4045.7	4172.4	4210.2
42.5°	3686.9	3738.2	3864.9	4007.9	4048.4
45°	3479.3	3541.3	3676.2	3829.9	3878.4
47.5°	3266.2	3339.0	3484.7	3651.9	3705.8
50°	3055.8	3128.6	3295.9	3468.5	3517.0
52.5°	2829.3	2921.0	3099.0	3285.1	3333.6
55°	2629.7	2705.2	2904.8	3096.3	3155.6
57.5°	2395.0	2497.5	2710.6	2904.8	2961.4
60°	2187.4	2281.7	2508.3	2705.2	2769.9
62.5°	1977.0	2074.1	2300.6	2524.5	2583.8
65°	1750.4	1869.1	2111.8	2319.5	2397.7
67.5°	1534.7	1658.7	1906.9	2128.0	2208.9
70°	1321.6	1448.3	1718.1	1944.6	2009.3
72.5°	1111.2	1243.4	1523.9	1745.0	1820.5
75°	890.0	1038.4	1337.8	1553.5	1602.1
77.5°	682.4	846.9	1149.0	1294.6	1329.7
80°	488.2	668.9	917.0	1022.2	1049.2
82.5°	321.0	496.3	685.1	741.7	733.6
85°	172.6	310.2	401.9	410.0	410.0
87.5°	67.4	124.1	126.8	97.1	91.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)