

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: P474706

Luminaire Tested: **24CZ2-160VHE-SQR-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474706
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-160VHE-SQR-UNV-L840-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15584.6 lumens
Efficiency: N/A
Efficacy: 131.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

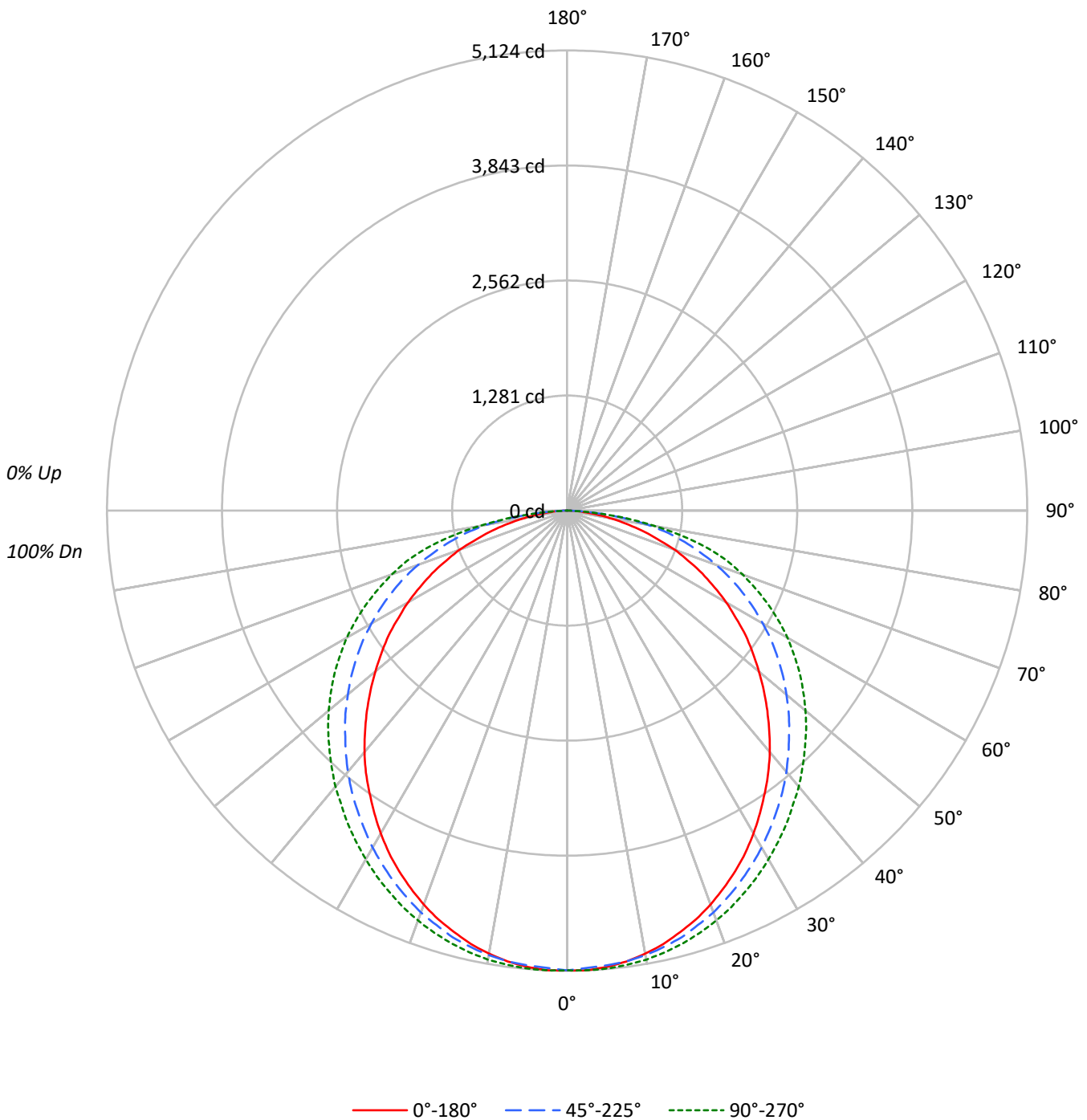
Input Watts (W): 118.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	101	96	93	96	93	90	92	90	87	89	87	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13775	13775	13775
5°	13774	13734	13828
10°	13688	13736	13872
15°	13540	13706	13894
20°	13369	13640	13911
25°	13152	13543	13913
30°	12897	13462	13933
35°	12604	13381	13987
40°	12332	13338	14099
45°	11996	13303	14251
50°	11674	13342	14509
55°	11401	13433	14835
60°	11015	13534	15249
65°	10574	13698	15711
70°	10030	13889	16338
75°	8983	14083	16879
80°	7562	14122	15319
85°	5613	10686	10072



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	485.1	3.1
10°-20°	1390.3	8.9
20°-30°	2104.6	13.5
30°-40°	2546.0	16.3
40°-50°	2687.4	17.2
50°-60°	2534.3	16.3
60°-70°	2089.4	13.4
70°-80°	1370.7	8.8
80°-90°	376.9	2.4
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°	3980.0	25.5
0°-40°	6526.0	41.9
0°-60°	11747.7	75.4
0°-90°	15584.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15584.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5119	5119	5119	5119	5119	
5°	5099	5099	5084	5119	5119	484
15°	4860	4888	4920	4977	4987	1371
25°	4429	4484	4561	4656	4686	2040
35°	3837	3936	4073	4213	4258	2402
45°	3152	3294	3496	3682	3745	2433
55°	2430	2602	2863	3077	3162	2165
65°	1661	1860	2151	2380	2467	1640
75°	864	1086	1354	1569	1623	913
85°	182	314	346	336	326	226
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5119.0	5119.0	5119.0	5119.0	5119.0
2.5°	5124.0	5119.0	5096.6	5126.5	5124.0
5°	5099.1	5099.1	5084.2	5119.0	5119.0
7.5°	5064.3	5066.7	5061.8	5101.6	5101.6
10°	5009.5	5019.4	5026.9	5071.7	5076.7
12.5°	4944.7	4962.2	4977.1	5031.9	5036.9
15°	4860.1	4887.5	4919.8	4977.1	4987.1
17.5°	4772.9	4805.3	4840.2	4914.9	4927.3
20°	4668.4	4705.7	4763.0	4837.7	4857.6
22.5°	4551.4	4603.6	4663.4	4753.0	4777.9
25°	4429.4	4484.1	4561.3	4655.9	4685.8
27.5°	4297.4	4362.1	4449.3	4558.8	4591.2
30°	4150.5	4225.2	4332.3	4449.3	4484.1
32.5°	3996.1	4083.3	4202.8	4332.3	4372.1
35°	3836.8	3936.4	4073.3	4212.7	4257.6
37.5°	3679.9	3779.5	3941.4	4088.3	4130.6
40°	3510.6	3620.2	3796.9	3953.8	4013.6
42.5°	3331.4	3460.8	3647.6	3821.8	3879.1
45°	3152.1	3294.0	3495.7	3682.4	3744.7
47.5°	2970.3	3127.2	3348.8	3538.0	3610.2
50°	2788.6	2955.4	3186.9	3391.1	3465.8
52.5°	2604.3	2778.6	3030.1	3246.7	3313.9
55°	2430.0	2601.8	2863.3	3077.4	3162.0
57.5°	2228.4	2422.6	2698.9	2915.6	2997.7
60°	2046.6	2235.8	2514.7	2743.8	2833.4
62.5°	1849.9	2044.1	2337.9	2567.0	2654.1
65°	1660.7	1859.9	2151.2	2380.3	2467.4
67.5°	1456.5	1665.7	1964.5	2186.0	2270.7
70°	1274.8	1471.5	1765.3	1991.8	2076.5
72.5°	1053.2	1277.3	1558.6	1782.7	1874.8
75°	864.0	1085.6	1354.5	1568.6	1623.4
77.5°	664.8	886.4	1152.8	1292.2	1329.6
80°	488.0	697.1	911.3	986.0	988.5
82.5°	328.7	512.9	634.9	672.2	667.3
85°	181.8	313.7	346.1	336.1	326.2
87.5°	74.7	104.6	84.7	59.8	47.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)