

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: P474608

Luminaire Tested: **24CZ2-170VHE-SQR-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474608
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-170VHE-SQR-UNV-L830-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15655.3 lumens
Efficiency: N/A
Efficacy: 123.7 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

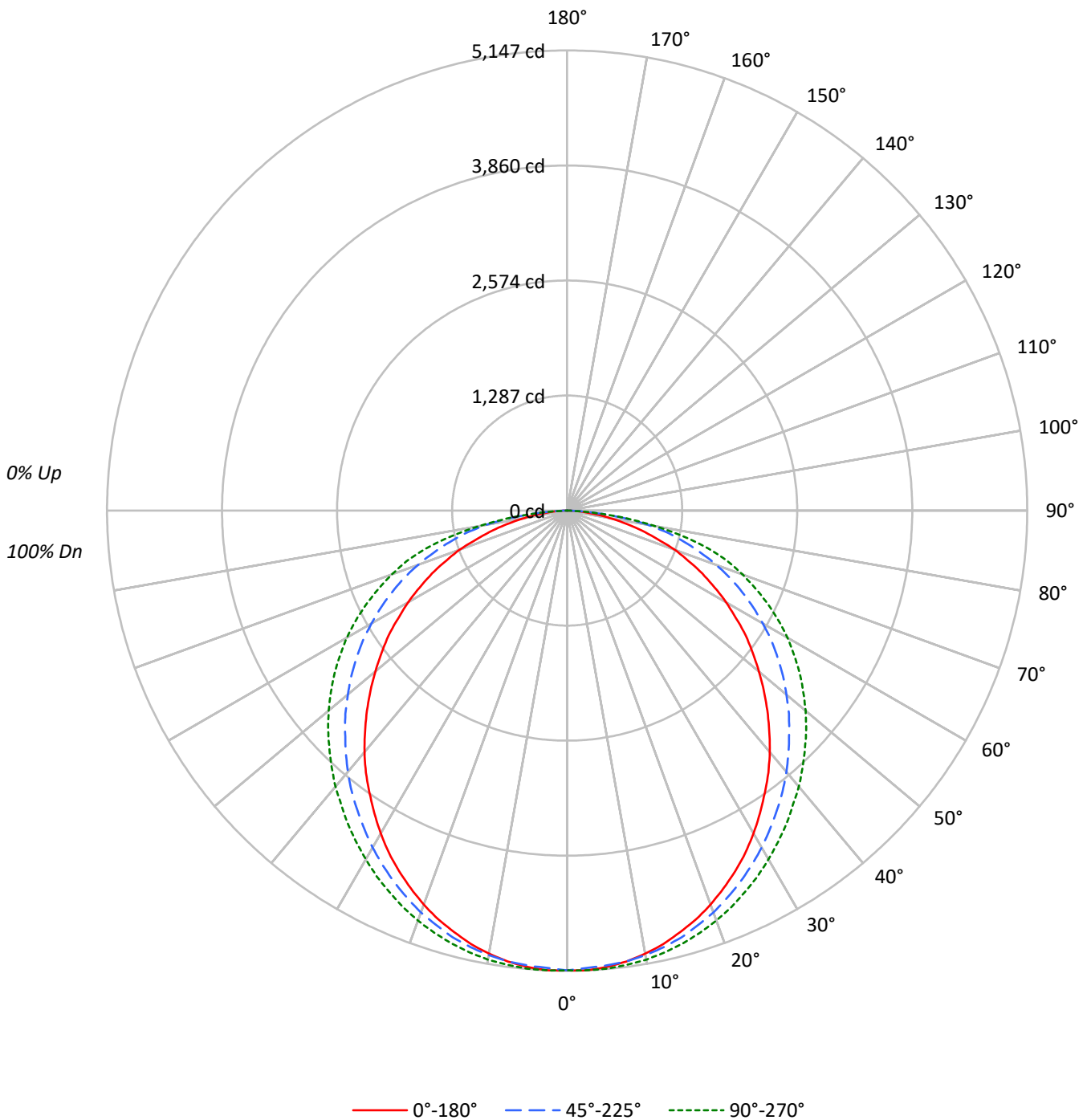
Input Watts (W): 126.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P474608

CATALOG NUMBER: 24CZ2-170VHE-SQR-UNV-L830-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P474608

CATALOG NUMBER: 24CZ2-170VHE-SQR-UNV-L830-CD1-U

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13838	13838	13838
5°	13837	13796	13891
10°	13750	13798	13935
15°	13601	13769	13957
20°	13430	13702	13974
25°	13211	13605	13976
30°	12955	13523	13997
35°	12661	13442	14050
40°	12388	13399	14163
45°	12050	13364	14316
50°	11727	13402	14575
55°	11453	13494	14902
60°	11065	13595	15319
65°	10622	13760	15782
70°	10076	13952	16412
75°	9024	14146	16955
80°	7596	14186	15387
85°	5638	10735	10115



TEST NUMBER: P474608

CATALOG NUMBER: 24CZ2-170VHE-SQR-UNV-L830-CD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	487.3	3.1
10°-20°	1396.6	8.9
20°-30°	2114.2	13.5
30°-40°	2557.5	16.3
40°-50°	2699.6	17.2
50°-60°	2545.8	16.3
60°-70°	2098.8	13.4
70°-80°	1376.9	8.8
80°-90°	378.6	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°	3998.1	25.5
0°-40°	6555.6	41.9
0°-60°	11801.0	75.4
0°-90°	15655.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15655.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5142	5142	5142	5142	5142	
5°	5122	5122	5107	5142	5142	486
15°	4882	4910	4942	5000	5010	1377
25°	4450	4504	4582	4677	4707	2049
35°	3854	3954	4092	4232	4277	2413
45°	3166	3309	3512	3699	3762	2444
55°	2441	2614	2876	3091	3176	2175
65°	1668	1868	2161	2391	2479	1647
75°	868	1090	1361	1576	1631	917
85°	183	315	348	338	328	226
90°	0	0	0	0	0	



TEST NUMBER: P474608

CATALOG NUMBER: 24CZ2-170VHE-SQR-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5142.3	5142.3	5142.3	5142.3	5142.3
2.5°	5147.3	5142.3	5119.8	5149.8	5147.3
5°	5122.3	5122.3	5107.3	5142.3	5142.3
7.5°	5087.2	5089.8	5084.7	5124.8	5124.8
10°	5032.2	5042.2	5049.7	5094.8	5099.8
12.5°	4967.2	4984.7	4999.7	5054.7	5059.7
15°	4882.2	4909.7	4942.2	4999.7	5009.7
17.5°	4794.6	4827.1	4862.2	4937.2	4949.7
20°	4689.6	4727.1	4784.6	4859.6	4879.7
22.5°	4572.0	4624.5	4684.6	4774.6	4799.6
25°	4449.5	4504.5	4582.0	4677.1	4707.1
27.5°	4316.9	4381.9	4469.5	4579.5	4612.0
30°	4169.3	4244.4	4351.9	4469.5	4504.5
32.5°	4014.3	4101.8	4221.9	4351.9	4391.9
35°	3854.2	3954.2	4091.8	4231.9	4276.9
37.5°	3696.6	3796.7	3959.3	4106.8	4149.3
40°	3526.6	3636.6	3814.2	3971.8	4031.8
42.5°	3346.5	3476.5	3664.1	3839.2	3896.7
45°	3166.4	3309.0	3511.6	3699.1	3761.7
47.5°	2983.8	3141.4	3364.0	3554.1	3626.6
50°	2801.2	2968.8	3201.4	3406.5	3481.5
52.5°	2616.2	2791.2	3043.8	3261.4	3329.0
55°	2441.1	2613.7	2876.3	3091.4	3176.4
57.5°	2238.5	2433.6	2711.2	2928.8	3011.3
60°	2055.9	2246.0	2526.1	2756.2	2846.3
62.5°	1858.3	2053.4	2348.5	2578.6	2666.2
65°	1668.2	1868.3	2161.0	2391.1	2478.6
67.5°	1463.1	1673.2	1973.4	2196.0	2281.0
70°	1280.6	1478.2	1773.3	2000.9	2085.9
72.5°	1058.0	1283.1	1565.7	1790.8	1883.3
75°	867.9	1090.5	1360.6	1575.7	1630.7
77.5°	667.8	890.4	1158.0	1298.1	1335.6
80°	490.2	700.3	915.4	990.4	992.9
82.5°	330.1	515.2	637.8	675.3	670.3
85°	182.6	315.1	347.7	337.6	327.6
87.5°	75.0	105.0	85.0	60.0	47.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)