

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: P474606

Luminaire Tested: **24CZ2-160VHE-SQR-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474606
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-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: 14758.7 lumens
Efficiency: N/A
Efficacy: 124.5 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

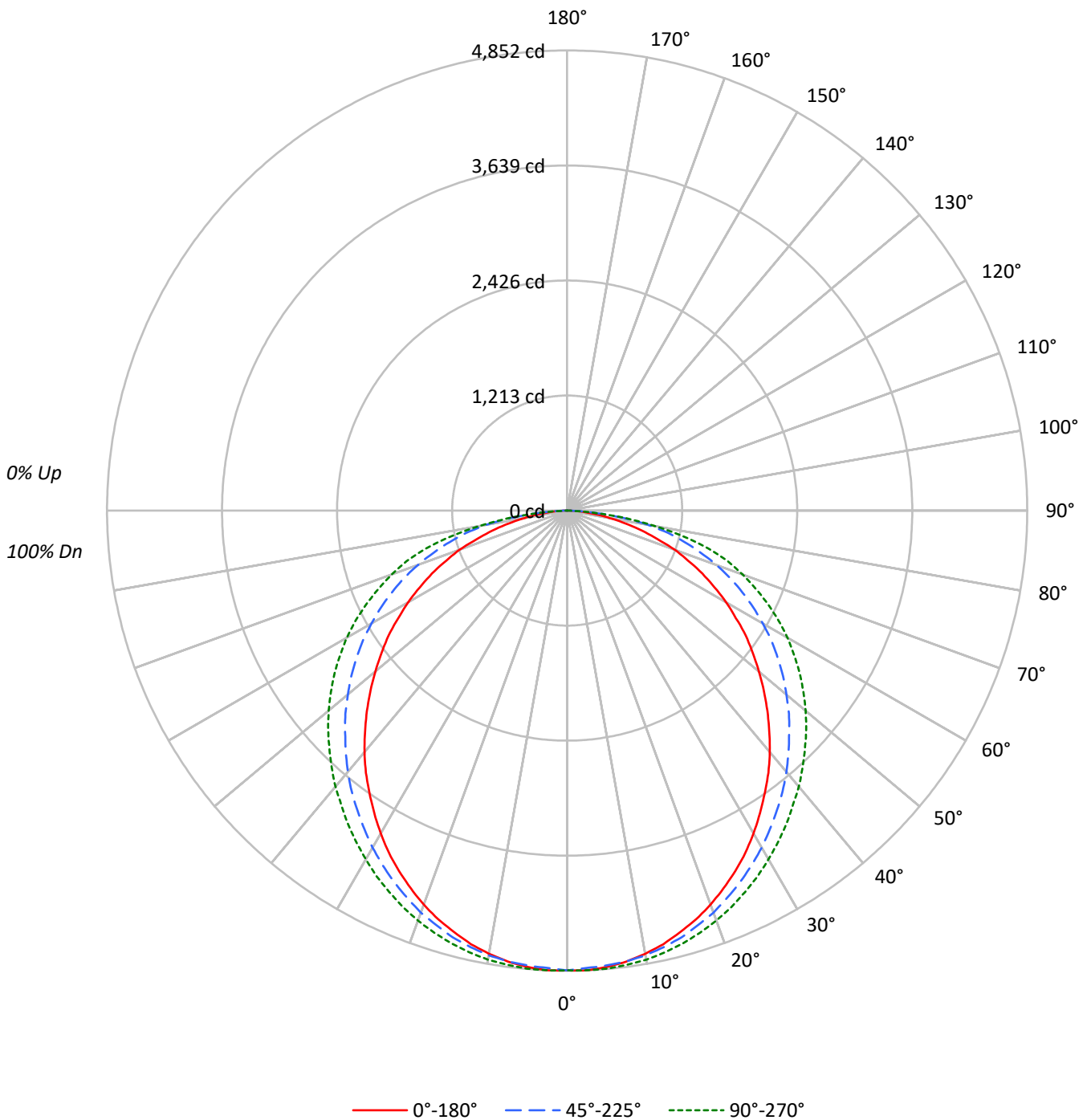
Input Watts (W): 118.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	13045	13045	13045
5°	13044	13006	13095
10°	12963	13008	13137
15°	12822	12980	13157
20°	12660	12917	13173
25°	12454	12826	13176
30°	12213	12748	13195
35°	11936	12672	13245
40°	11679	12631	13352
45°	11360	12598	13495
50°	11055	12635	13740
55°	10797	12721	14049
60°	10431	12817	14441
65°	10014	12972	14878
70°	9498	13153	15472
75°	8507	13336	15984
80°	7161	13374	14506
85°	5314	10118	9537



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	459.4	3.1
10°-20°	1316.6	8.9
20°-30°	1993.1	13.5
30°-40°	2411.0	16.3
40°-50°	2545.0	17.2
50°-60°	2400.0	16.3
60°-70°	1978.6	13.4
70°-80°	1298.0	8.8
80°-90°	356.9	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°	3769.1	25.5
0°-40°	6180.2	41.9
0°-60°	11125.2	75.4
0°-90°	14758.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14758.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4848	4848	4848	4848	4848	
5°	4829	4829	4815	4848	4848	458
15°	4602	4628	4659	4713	4723	1298
25°	4195	4246	4320	4409	4438	1932
35°	3634	3728	3858	3990	4032	2275
45°	2985	3119	3310	3487	3546	2304
55°	2301	2464	2712	2914	2994	2050
65°	1573	1761	2037	2254	2337	1553
75°	818	1028	1283	1486	1537	865
85°	172	297	328	318	309	214
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4847.8	4847.8	4847.8	4847.8	4847.8
2.5°	4852.5	4847.8	4826.5	4854.8	4852.5
5°	4828.9	4828.9	4814.7	4847.8	4847.8
7.5°	4795.9	4798.2	4793.5	4831.3	4831.3
10°	4744.0	4753.4	4760.5	4803.0	4807.7
12.5°	4682.7	4699.2	4713.4	4765.2	4769.9
15°	4602.5	4628.5	4659.1	4713.4	4722.8
17.5°	4520.0	4550.7	4583.7	4654.4	4666.2
20°	4421.0	4456.4	4510.6	4581.3	4600.2
22.5°	4310.2	4359.7	4416.3	4501.2	4524.7
25°	4194.6	4246.5	4319.6	4409.2	4437.5
27.5°	4069.7	4131.0	4213.5	4317.2	4347.9
30°	3930.6	4001.3	4102.7	4213.5	4246.5
32.5°	3784.4	3866.9	3980.1	4102.7	4140.4
35°	3633.5	3727.8	3857.5	3989.5	4031.9
37.5°	3484.9	3579.2	3732.5	3871.6	3911.7
40°	3324.6	3428.3	3595.7	3744.3	3800.9
42.5°	3154.8	3277.4	3454.3	3619.3	3673.5
45°	2985.0	3119.4	3310.4	3487.3	3546.2
47.5°	2812.9	2961.5	3171.3	3350.5	3418.9
50°	2640.8	2798.8	3018.1	3211.4	3282.1
52.5°	2466.3	2631.4	2869.5	3074.6	3138.3
55°	2301.3	2464.0	2711.5	2914.3	2994.5
57.5°	2110.3	2294.2	2555.9	2761.1	2838.9
60°	1938.2	2117.4	2381.4	2598.4	2683.2
62.5°	1751.9	1935.8	2214.0	2431.0	2513.5
65°	1572.7	1761.3	2037.2	2254.1	2336.6
67.5°	1379.3	1577.4	1860.4	2070.2	2150.4
70°	1207.2	1393.5	1671.7	1886.3	1966.5
72.5°	997.4	1209.6	1476.0	1688.2	1775.5
75°	818.2	1028.0	1282.7	1485.5	1537.3
77.5°	629.5	839.4	1091.7	1223.7	1259.1
80°	462.1	660.2	863.0	933.7	936.1
82.5°	311.2	485.7	601.3	636.6	631.9
85°	172.1	297.1	327.7	318.3	308.9
87.5°	70.7	99.0	80.2	56.6	44.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)