

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: P474092

Luminaire Tested: **24CZ2-90VHE-S-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474092
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-90VHE-S-UNV-L840-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9436.6 lumens
Efficiency: N/A
Efficacy: 147.2 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

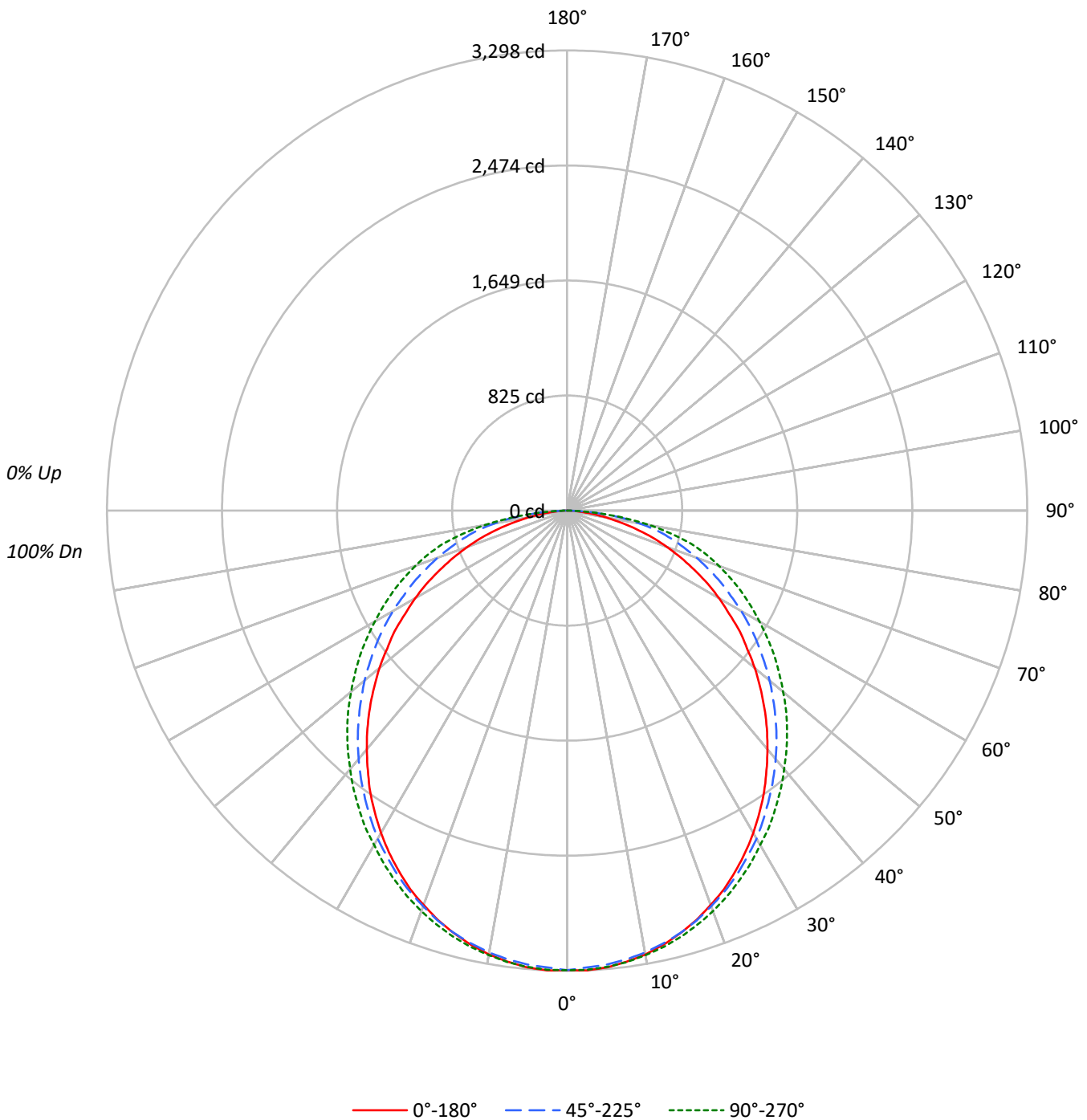
Input Watts (W): 64.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	4432	4432	4432
5°	4438	4411	4434
10°	4413	4394	4420
15°	4368	4366	4402
20°	4308	4321	4374
25°	4236	4273	4340
30°	4147	4219	4299
35°	4043	4145	4275
40°	3923	4084	4250
45°	3805	4020	4241
50°	3676	3965	4231
55°	3545	3916	4254
60°	3383	3879	4284
65°	3203	3864	4387
70°	2988	3884	4543
75°	2659	3997	4786
80°	2174	4083	4672
85°	1531	3566	3637



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	311.4	3.3
10°-20°	886.9	9.4
20°-30°	1329.4	14.1
30°-40°	1583.4	16.8
40°-50°	1632.6	17.3
50°-60°	1489.8	15.8
60°-70°	1191.3	12.6
70°-80°	778.1	8.2
80°-90°	233.7	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°	2527.7	26.8
0°-40°	4111.1	43.6
0°-60°	7233.5	76.7
0°-90°	9436.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9436.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3294	3294	3294	3294	3294	
5°	3286	3280	3266	3286	3283	312
15°	3136	3137	3134	3160	3160	884
25°	2854	2858	2878	2920	2923	1314
35°	2461	2478	2523	2587	2602	1538
45°	2000	2035	2113	2201	2229	1542
55°	1511	1555	1669	1779	1814	1346
65°	1006	1074	1214	1333	1378	998
75°	512	597	769	893	921	544
85°	99	178	231	236	236	126
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3293.8	3293.8	3293.8	3293.8	3293.8
2.5°	3298.4	3293.8	3276.7	3296.9	3293.8
5°	3286.0	3279.8	3265.9	3286.0	3282.9
7.5°	3261.2	3258.1	3244.2	3267.4	3264.3
10°	3230.2	3227.1	3216.3	3239.5	3234.9
12.5°	3186.8	3185.3	3177.5	3205.4	3202.3
15°	3135.7	3137.2	3134.1	3160.5	3160.5
17.5°	3076.8	3075.2	3081.4	3114.0	3110.9
20°	3008.6	3010.1	3017.9	3055.1	3055.1
22.5°	2937.3	2935.7	2952.8	2990.0	2993.1
25°	2853.6	2858.2	2878.4	2920.2	2923.3
27.5°	2763.7	2771.4	2796.2	2844.3	2848.9
30°	2669.1	2678.4	2715.6	2760.6	2766.8
32.5°	2565.3	2585.4	2619.5	2676.9	2692.4
35°	2461.4	2478.5	2523.4	2587.0	2602.5
37.5°	2346.7	2374.6	2425.8	2495.5	2515.7
40°	2233.6	2261.5	2325.0	2397.9	2419.6
42.5°	2118.9	2148.3	2221.2	2303.3	2326.6
45°	1999.5	2035.2	2112.7	2201.0	2228.9
47.5°	1877.1	1918.9	2002.6	2098.7	2129.7
50°	1756.2	1798.0	1894.1	1993.3	2021.2
52.5°	1626.0	1678.7	1781.0	1887.9	1915.8
55°	1511.3	1554.7	1669.4	1779.4	1813.5
57.5°	1376.4	1435.3	1557.8	1669.4	1701.9
60°	1257.1	1311.3	1441.5	1554.7	1591.9
62.5°	1136.2	1192.0	1322.2	1450.8	1484.9
65°	1006.0	1074.2	1213.7	1333.0	1378.0
67.5°	882.0	953.3	1095.9	1223.0	1269.5
70°	759.5	832.4	987.4	1117.6	1154.8
72.5°	638.6	714.6	875.8	1002.9	1046.3
75°	511.5	596.8	768.8	892.8	920.7
77.5°	392.2	486.7	660.3	744.0	764.2
80°	280.6	384.4	527.0	587.5	603.0
82.5°	184.5	285.2	393.7	426.3	421.6
85°	99.2	178.3	231.0	235.6	235.6
87.5°	38.8	71.3	72.9	55.8	52.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)