

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: P474448

Luminaire Tested: **24CZ2-120VHE-HRP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474448
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-120VHE-HRP-UNV-L835-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP
INSERT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9703.6 lumens
Efficiency: N/A
Efficacy: 115.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

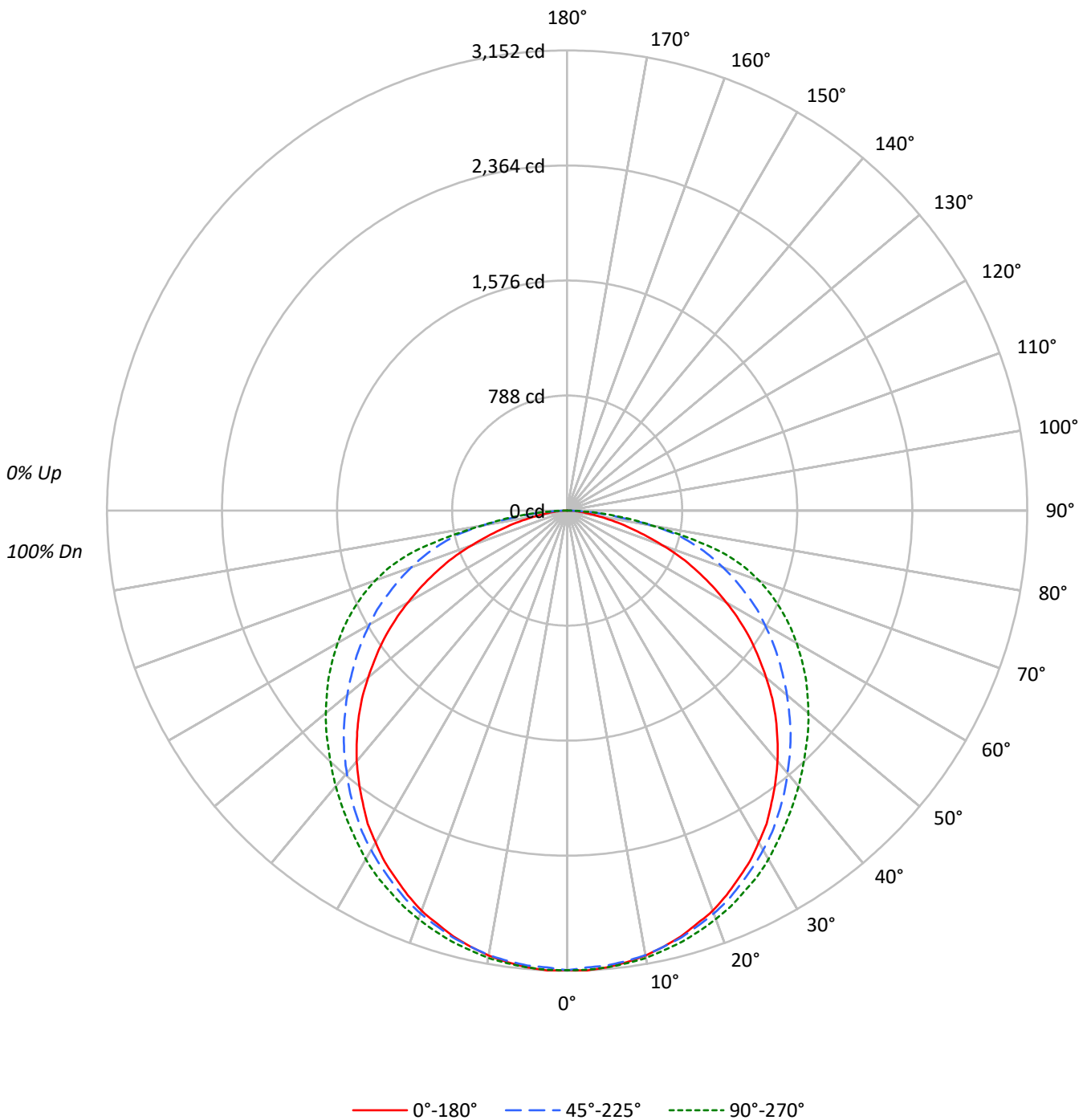
Input Watts (W): 84.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4236	4236	4236
5°	4242	4225	4242
10°	4229	4224	4251
15°	4204	4216	4255
20°	4177	4205	4264
25°	4125	4185	4270
30°	4077	4172	4286
35°	4010	4150	4290
40°	3938	4124	4331
45°	3849	4120	4398
50°	3725	4116	4515
55°	3592	4145	4679
60°	3388	4208	4886
65°	3130	4308	5161
70°	2733	4458	5498
75°	2217	4688	5681
80°	1638	4597	4597
85°	1255	3386	3824



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.2	3.1
10°-20°	856.4	8.8
20°-30°	1303.8	13.4
30°-40°	1583.2	16.3
40°-50°	1672.6	17.2
50°-60°	1578.3	16.3
60°-70°	1312.3	13.5
70°-80°	863.3	8.9
80°-90°	235.3	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°	2458.5	25.3
0°-40°	4041.7	41.7
0°-60°	7292.6	75.2
0°-90°	9703.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9703.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3148	3148	3148	3148	3148	
5°	3140	3140	3128	3140	3140	298
15°	3018	3022	3027	3055	3055	851
25°	2778	2795	2819	2868	2876	1282
35°	2442	2470	2527	2592	2612	1528
45°	2023	2064	2165	2271	2312	1558
55°	1531	1596	1767	1934	1995	1364
65°	983	1097	1353	1552	1621	972
75°	426	622	902	1068	1093	460
85°	81	179	219	244	248	99
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3148.3	3148.3	3148.3	3148.3	3148.3
2.5°	3152.5	3148.3	3132.0	3148.3	3148.3
5°	3140.4	3140.4	3127.9	3140.4	3140.4
7.5°	3120.0	3120.0	3111.6	3127.9	3127.9
10°	3095.4	3095.4	3091.6	3111.6	3111.6
12.5°	3059.1	3062.8	3059.1	3083.3	3083.3
15°	3018.2	3022.4	3026.6	3054.9	3054.9
17.5°	2965.7	2973.6	2982.0	3014.1	3018.2
20°	2916.9	2920.7	2936.9	2973.6	2977.8
22.5°	2851.9	2864.0	2884.4	2920.7	2933.2
25°	2778.5	2794.7	2819.3	2868.1	2876.0
27.5°	2709.7	2721.8	2754.3	2807.3	2823.5
30°	2624.2	2644.6	2685.1	2738.0	2758.5
32.5°	2542.9	2563.3	2612.1	2668.8	2685.1
35°	2441.6	2469.9	2526.7	2591.7	2612.1
37.5°	2344.0	2372.4	2441.6	2514.6	2539.2
40°	2242.3	2274.8	2348.2	2433.3	2465.8
42.5°	2132.6	2177.3	2258.6	2352.0	2388.6
45°	2023.0	2063.9	2165.2	2270.7	2311.5
47.5°	1905.4	1954.2	2063.9	2189.8	2238.5
50°	1779.5	1840.4	1966.3	2104.3	2157.2
52.5°	1653.6	1722.4	1864.6	2018.8	2075.9
55°	1531.4	1596.5	1767.0	1933.8	1994.6
57.5°	1397.6	1478.9	1665.7	1844.1	1905.4
60°	1259.2	1348.8	1563.9	1750.7	1815.8
62.5°	1121.2	1222.9	1466.4	1653.6	1722.4
65°	983.1	1097.0	1353.0	1551.8	1621.1
67.5°	848.9	974.8	1247.1	1446.4	1515.2
70°	694.6	853.1	1133.2	1328.4	1397.6
72.5°	552.4	735.5	1023.6	1206.6	1267.5
75°	426.5	621.7	901.8	1068.2	1092.8
77.5°	312.7	507.8	775.9	832.6	836.8
80°	211.4	406.1	593.3	585.0	593.3
82.5°	138.0	304.8	373.6	418.6	422.4
85°	81.3	178.9	219.3	243.9	247.7
87.5°	40.4	60.9	77.1	81.3	89.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)