

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: P474457

Luminaire Tested: **24CZ2-165VHE-HRP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474457
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-165VHE-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: 13393.7 lumens
Efficiency: N/A
Efficacy: 109.7 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

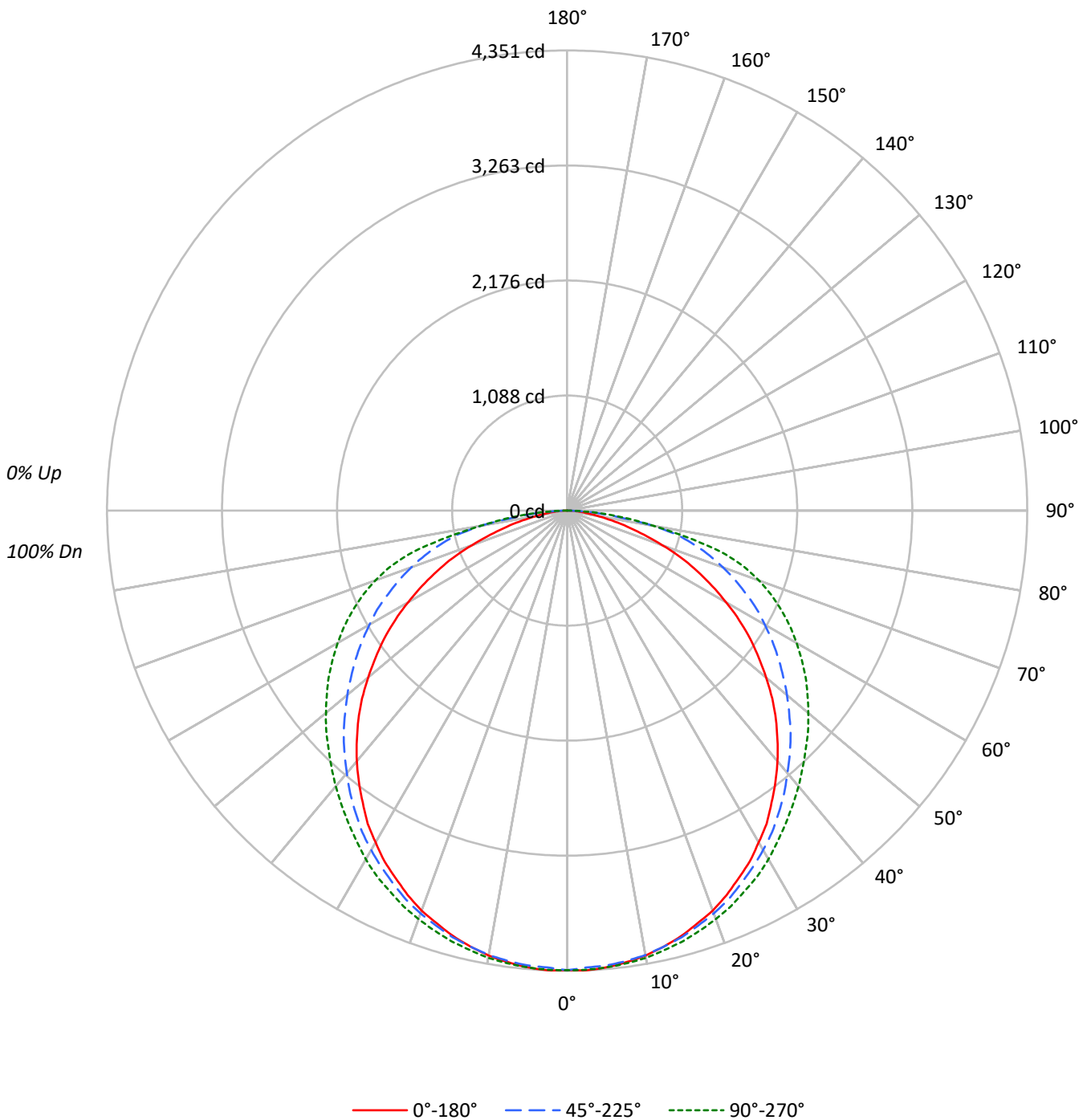
Input Watts (W): 122.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	5847	5847	5847
5°	5854	5831	5854
10°	5837	5830	5868
15°	5803	5819	5874
20°	5765	5804	5885
25°	5694	5777	5893
30°	5628	5758	5915
35°	5536	5728	5922
40°	5436	5693	5978
45°	5313	5687	6071
50°	5141	5681	6233
55°	4959	5721	6458
60°	4677	5809	6744
65°	4320	5946	7124
70°	3772	6153	7589
75°	3060	6471	7842
80°	2261	6345	6345
85°	1732	4673	5277



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	411.7	3.1
10°-20°	1182.1	8.8
20°-30°	1799.7	13.4
30°-40°	2185.2	16.3
40°-50°	2308.7	17.2
50°-60°	2178.5	16.3
60°-70°	1811.3	13.5
70°-80°	1191.7	8.9
80°-90°	324.8	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°	3393.5	25.3
0°-40°	5578.7	41.7
0°-60°	10065.8	75.2
0°-90°	13393.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13393.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4346	4346	4346	4346	4346	
5°	4335	4335	4317	4335	4335	412
15°	4166	4172	4178	4217	4217	1175
25°	3835	3858	3892	3959	3970	1769
35°	3370	3409	3488	3577	3606	2110
45°	2792	2849	2988	3134	3190	2150
55°	2114	2204	2439	2669	2753	1883
65°	1357	1514	1868	2142	2238	1341
75°	589	858	1245	1474	1508	634
85°	112	247	303	337	342	137
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4345.6	4345.6	4345.6	4345.6	4345.6
2.5°	4351.3	4345.6	4323.1	4345.6	4345.6
5°	4334.6	4334.6	4317.4	4334.6	4334.6
7.5°	4306.4	4306.4	4294.9	4317.4	4317.4
10°	4272.5	4272.5	4267.3	4294.9	4294.9
12.5°	4222.4	4227.6	4222.4	4255.8	4255.8
15°	4166.0	4171.8	4177.5	4216.6	4216.6
17.5°	4093.5	4104.4	4115.9	4160.2	4166.0
20°	4026.2	4031.3	4053.8	4104.4	4110.2
22.5°	3936.4	3953.1	3981.3	4031.3	4048.6
25°	3835.1	3857.5	3891.5	3958.8	3969.8
27.5°	3740.1	3756.8	3801.7	3874.8	3897.2
30°	3622.2	3650.4	3706.2	3779.3	3807.5
32.5°	3509.9	3538.1	3605.5	3683.7	3706.2
35°	3370.1	3409.2	3487.5	3577.3	3605.5
37.5°	3235.4	3274.6	3370.1	3470.8	3504.8
40°	3095.0	3139.9	3241.2	3358.6	3403.5
42.5°	2943.6	3005.2	3117.4	3246.4	3297.0
45°	2792.3	2848.7	2988.5	3134.1	3190.5
47.5°	2630.0	2697.3	2848.7	3022.5	3089.8
50°	2456.2	2540.2	2714.0	2904.5	2977.6
52.5°	2282.4	2377.4	2573.6	2786.5	2865.4
55°	2113.8	2203.6	2438.9	2669.1	2753.2
57.5°	1929.1	2041.3	2299.1	2545.4	2630.0
60°	1738.0	1861.7	2158.7	2416.5	2506.3
62.5°	1547.5	1687.9	2024.0	2282.4	2377.4
65°	1357.0	1514.1	1867.5	2142.0	2237.5
67.5°	1171.7	1345.5	1721.3	1996.4	2091.3
70°	958.8	1177.5	1564.2	1833.5	1929.1
72.5°	762.5	1015.2	1412.8	1665.5	1749.5
75°	588.7	858.1	1244.8	1474.4	1508.4
77.5°	431.6	701.0	1071.0	1149.3	1155.0
80°	291.8	560.5	818.9	807.4	818.9
82.5°	190.5	420.7	515.6	577.8	583.0
85°	112.2	246.9	302.7	336.7	341.8
87.5°	55.8	84.0	106.5	112.2	123.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)