

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: P474502

Luminaire Tested: **24CZ2-140VHE-HRP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474502
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-140VHE-HRP-UNV-L840-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP
INSERT
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11587.7 lumens
Efficiency: N/A
Efficacy: 115.3 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

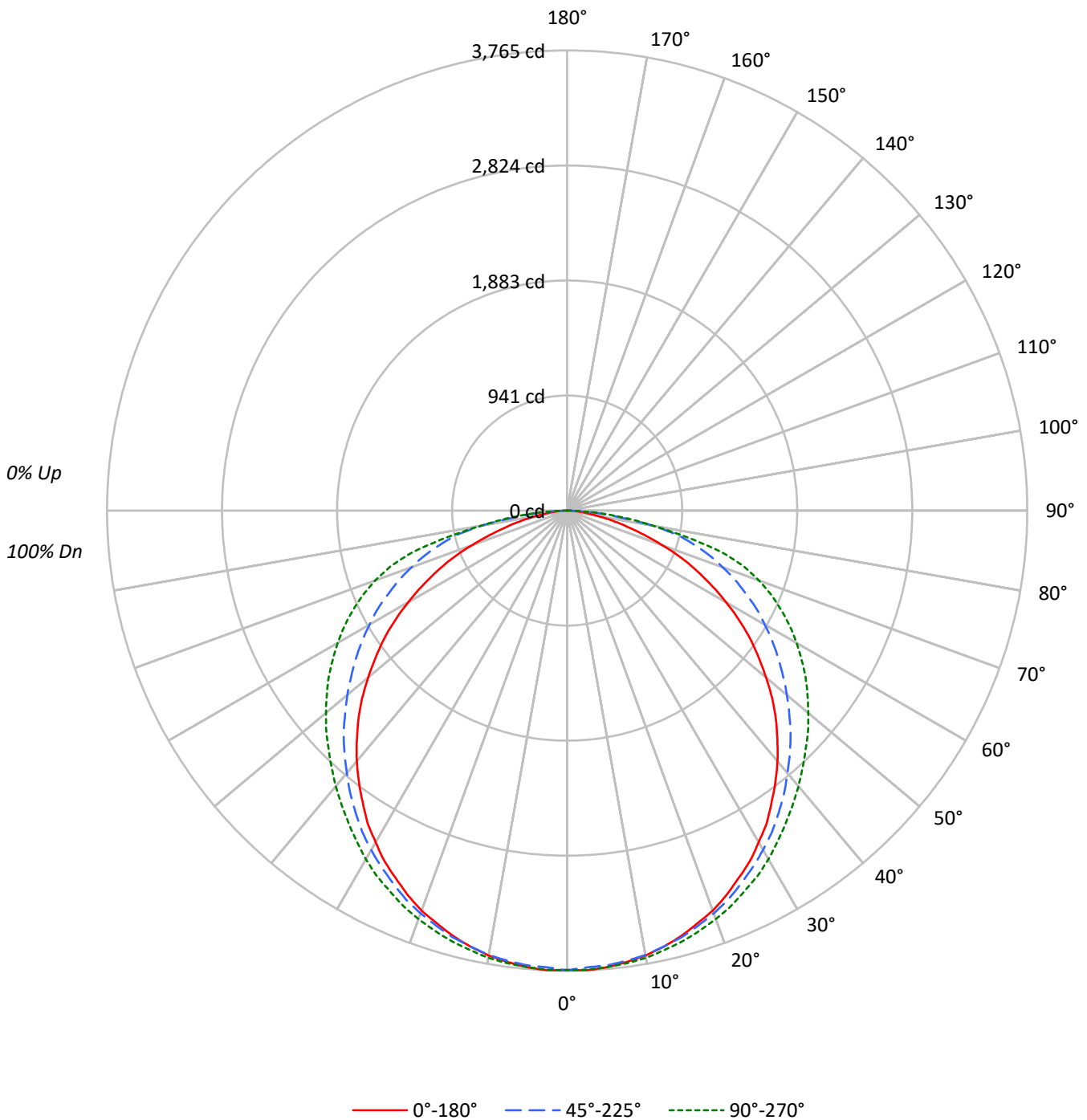
Input Watts (W): 100.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	5059	5059	5059
5°	5065	5045	5065
10°	5050	5044	5077
15°	5021	5034	5082
20°	4988	5022	5092
25°	4926	4998	5099
30°	4869	4982	5118
35°	4789	4956	5124
40°	4703	4925	5172
45°	4597	4920	5252
50°	4448	4915	5392
55°	4290	4950	5587
60°	4046	5026	5835
65°	3738	5144	6163
70°	3263	5324	6565
75°	2648	5598	6784
80°	1956	5490	5490
85°	1499	4043	4565



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	356.1	3.1
10°-20°	1022.7	8.8
20°-30°	1557.0	13.4
30°-40°	1890.5	16.3
40°-50°	1997.4	17.2
50°-60°	1884.7	16.3
60°-70°	1567.1	13.5
70°-80°	1031.0	8.9
80°-90°	281.0	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°	2935.9	25.3
0°-40°	4826.4	41.7
0°-60°	8708.5	75.2
0°-90°	11587.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11587.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3760	3760	3760	3760	3760	
5°	3750	3750	3735	3750	3750	356
15°	3604	3609	3614	3648	3648	1017
25°	3318	3337	3367	3425	3434	1531
35°	2916	2950	3017	3095	3119	1825
45°	2416	2465	2586	2712	2760	1860
55°	1829	1906	2110	2309	2382	1629
65°	1174	1310	1616	1853	1936	1160
75°	509	742	1077	1276	1305	549
85°	97	214	262	291	296	119
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3759.6	3759.6	3759.6	3759.6	3759.6
2.5°	3764.6	3759.6	3740.2	3759.6	3759.6
5°	3750.1	3750.1	3735.2	3750.1	3750.1
7.5°	3725.7	3725.7	3715.8	3735.2	3735.2
10°	3696.4	3696.4	3691.9	3715.8	3715.8
12.5°	3653.1	3657.5	3653.1	3681.9	3681.9
15°	3604.3	3609.2	3614.2	3648.1	3648.1
17.5°	3541.5	3551.0	3560.9	3599.3	3604.3
20°	3483.3	3487.7	3507.2	3551.0	3556.0
22.5°	3405.6	3420.0	3444.4	3487.7	3502.7
25°	3318.0	3337.4	3366.8	3425.0	3434.5
27.5°	3235.8	3250.3	3289.1	3352.3	3371.7
30°	3133.7	3158.1	3206.4	3269.7	3294.1
32.5°	3036.7	3061.1	3119.3	3187.0	3206.4
35°	2915.7	2949.5	3017.2	3094.9	3119.3
37.5°	2799.2	2833.0	2915.7	3002.8	3032.2
40°	2677.7	2716.5	2804.1	2905.7	2944.5
42.5°	2546.7	2600.0	2697.1	2808.6	2852.4
45°	2415.8	2464.6	2585.6	2711.5	2760.3
47.5°	2275.4	2333.6	2464.6	2614.9	2673.2
50°	2125.0	2197.7	2348.1	2512.9	2576.1
52.5°	1974.6	2056.8	2226.6	2410.8	2479.0
55°	1828.8	1906.4	2110.1	2309.2	2381.9
57.5°	1668.9	1766.0	1989.1	2202.2	2275.4
60°	1503.6	1610.7	1867.6	2090.7	2168.3
62.5°	1338.8	1460.3	1751.1	1974.6	2056.8
65°	1174.0	1310.0	1615.7	1853.2	1935.8
67.5°	1013.7	1164.1	1489.2	1727.2	1809.3
70°	829.5	1018.7	1353.3	1586.3	1668.9
72.5°	659.7	878.3	1222.3	1440.9	1513.6
75°	509.3	742.4	1076.9	1275.6	1305.0
77.5°	373.4	606.4	926.6	994.3	999.3
80°	252.4	484.9	708.5	698.5	708.5
82.5°	164.8	364.0	446.1	499.9	504.4
85°	97.1	213.6	261.9	291.3	295.7
87.5°	48.3	72.7	92.1	97.1	106.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)