

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: P474452

Luminaire Tested: **24CZ2-140VHE-HRP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474452  
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-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: 11371.6 lumens  
Efficiency: N/A  
Efficacy: 113.2 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

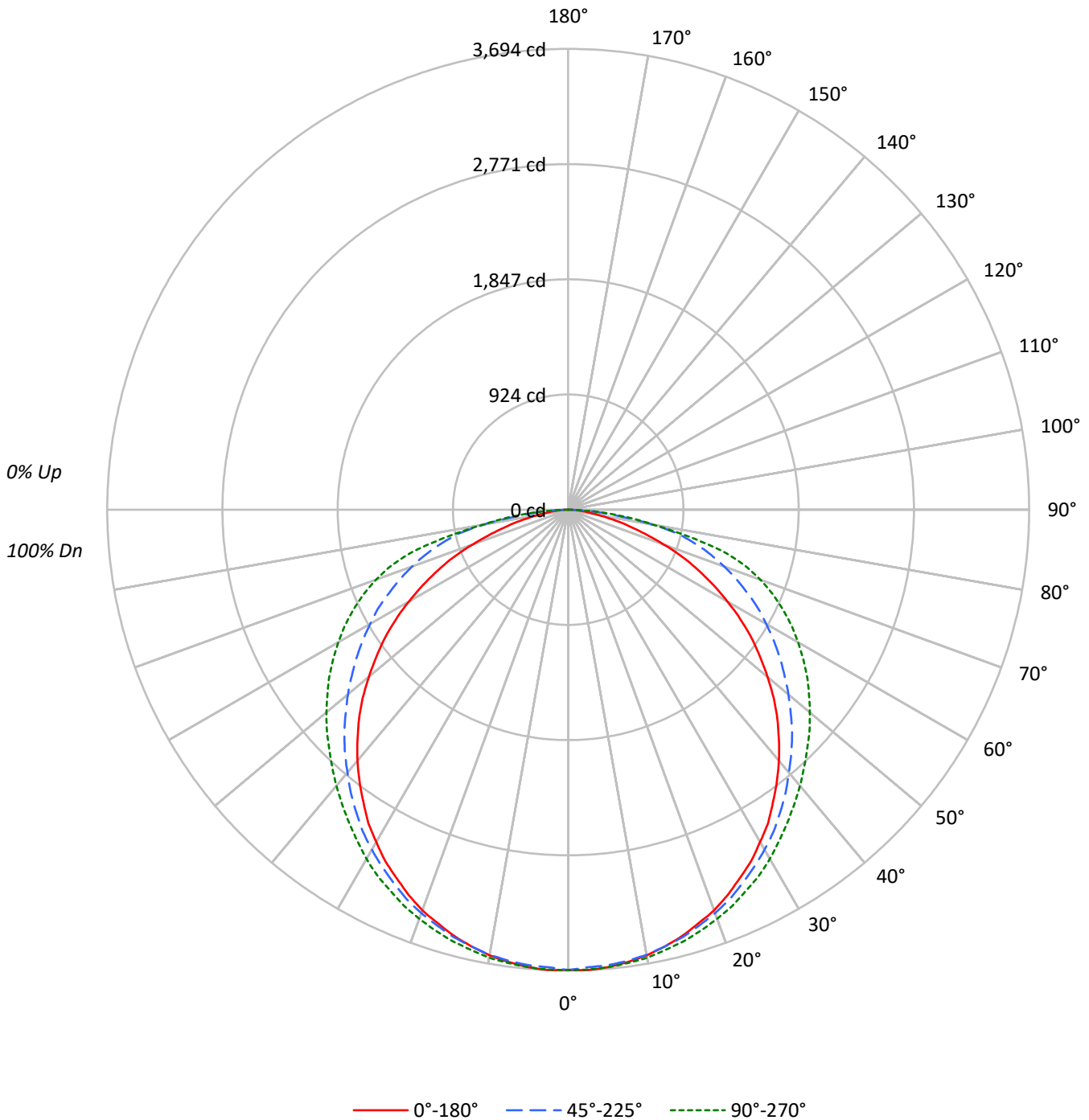
Input Watts (W): 100.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4964	4964	4964
5°	4971	4951	4971
10°	4956	4950	4982
15°	4927	4941	4987
20°	4894	4928	4997
25°	4834	4905	5004
30°	4778	4889	5022
35°	4700	4864	5028
40°	4615	4833	5075
45°	4511	4828	5155
50°	4365	4823	5292
55°	4210	4857	5483
60°	3971	4932	5726
65°	3668	5048	6048
70°	3202	5224	6443
75°	2598	5494	6657
80°	1919	5387	5387
85°	1471	3968	4480



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	349.5	3.1
10°-20°	1003.7	8.8
20°-30°	1528.0	13.4
30°-40°	1855.3	16.3
40°-50°	1960.1	17.2
50°-60°	1849.6	16.3
60°-70°	1537.9	13.5
70°-80°	1011.7	8.9
80°-90°	275.8	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°	2881.2	25.3
0°-40°	4736.4	41.7
0°-60°	8546.2	75.2
0°-90°	11371.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11371.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3690	3690	3690	3690	3690	
5°	3680	3680	3666	3680	3680	350
15°	3537	3542	3547	3580	3580	998
25°	3256	3275	3304	3361	3370	1502
35°	2861	2894	2961	3037	3061	1791
45°	2371	2419	2537	2661	2709	1826
55°	1795	1871	2071	2266	2338	1599
65°	1152	1286	1586	1819	1900	1139
75°	500	728	1057	1252	1281	539
85°	95	210	257	286	290	116
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3689.5	3689.5	3689.5	3689.5	3689.5
2.5°	3694.4	3689.5	3670.4	3689.5	3689.5
5°	3680.2	3680.2	3665.6	3680.2	3680.2
7.5°	3656.3	3656.3	3646.5	3665.6	3665.6
10°	3627.4	3627.4	3623.0	3646.5	3646.5
12.5°	3584.9	3589.3	3584.9	3613.3	3613.3
15°	3537.1	3541.9	3546.8	3580.1	3580.1
17.5°	3475.5	3484.8	3494.5	3532.2	3537.1
20°	3418.3	3422.7	3441.8	3484.8	3489.7
22.5°	3342.1	3356.3	3380.2	3422.7	3437.4
25°	3256.1	3275.2	3304.0	3361.2	3370.4
27.5°	3175.5	3189.7	3227.8	3289.8	3308.9
30°	3075.3	3099.3	3146.7	3208.7	3232.6
32.5°	2980.0	3004.0	3061.1	3127.6	3146.7
35°	2861.3	2894.5	2961.0	3037.2	3061.1
37.5°	2747.0	2780.2	2861.3	2946.8	2975.6
40°	2627.7	2665.9	2751.9	2851.5	2889.6
42.5°	2499.2	2551.5	2646.8	2756.3	2799.3
45°	2370.7	2418.6	2537.4	2661.0	2708.9
47.5°	2233.0	2290.1	2418.6	2566.2	2623.4
50°	2085.4	2156.7	2304.3	2466.0	2528.1
52.5°	1937.8	2018.5	2185.1	2365.9	2432.8
55°	1794.7	1870.9	2070.7	2266.2	2337.5
57.5°	1637.8	1733.1	1952.0	2161.1	2233.0
60°	1475.6	1580.7	1832.8	2051.7	2127.9
62.5°	1313.9	1433.1	1718.4	1937.8	2018.5
65°	1152.1	1285.5	1585.5	1818.6	1899.7
67.5°	994.8	1142.4	1461.4	1695.0	1775.6
70°	814.0	999.7	1328.0	1556.7	1637.8
72.5°	647.4	861.9	1199.5	1414.0	1485.4
75°	499.8	728.5	1056.9	1251.8	1280.6
77.5°	366.5	595.1	909.3	975.8	980.6
80°	247.7	475.9	695.3	685.5	695.3
82.5°	161.7	357.2	437.8	490.6	495.0
85°	95.3	209.6	257.0	285.8	290.2
87.5°	47.4	71.3	90.4	95.3	104.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)