

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: P474454

Luminaire Tested: **24CZ2-150VHE-HRP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474454  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-150VHE-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: 12174.4 lumens  
Efficiency: N/A  
Efficacy: 111.0 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

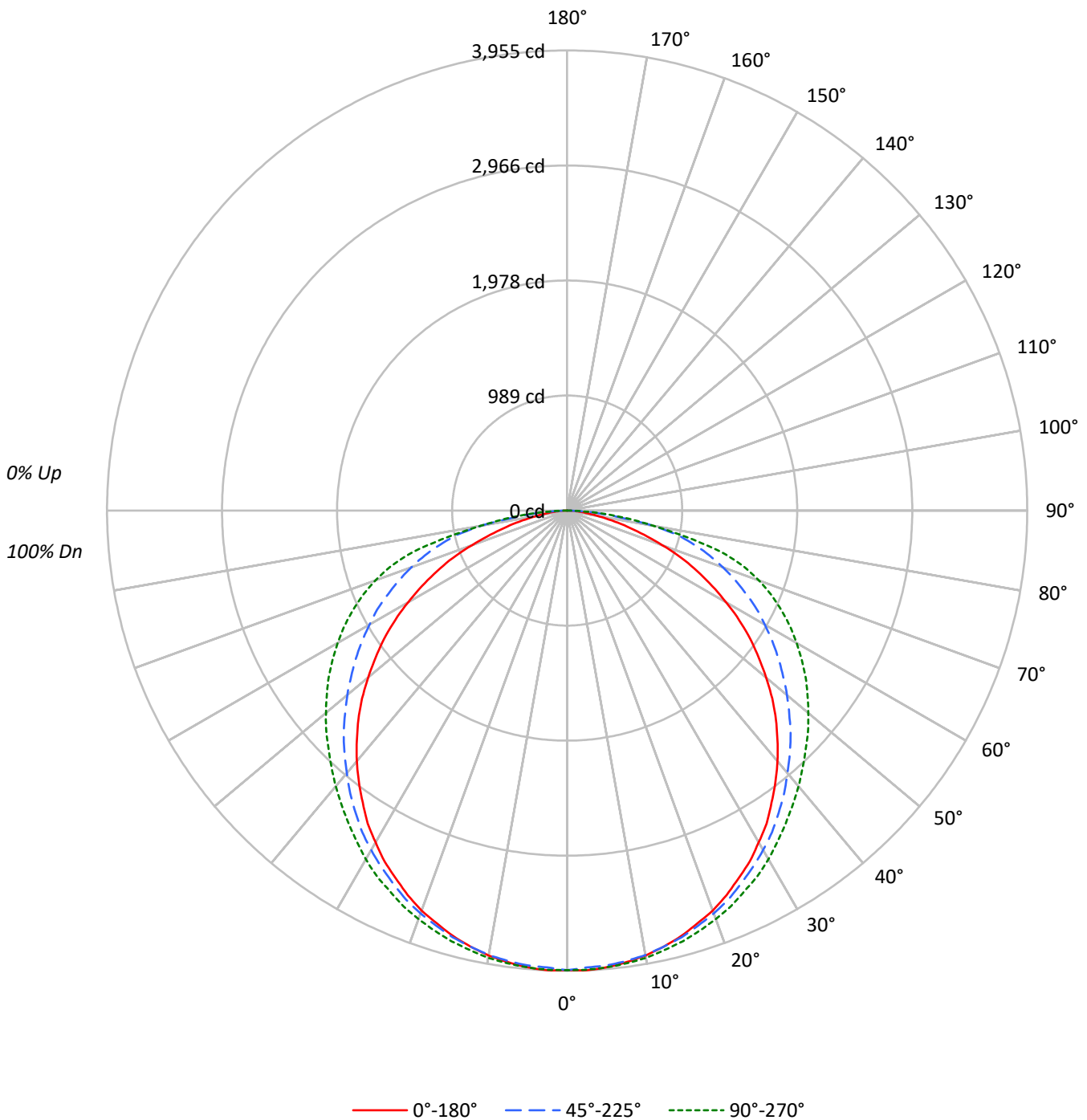
Input Watts (W): 109.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20			20			20			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°	5315	5315	5315
5°	5321	5300	5321
10°	5306	5299	5334
15°	5275	5289	5339
20°	5240	5276	5349
25°	5175	5251	5357
30°	5115	5234	5377
35°	5032	5207	5383
40°	4941	5175	5434
45°	4830	5169	5518
50°	4673	5164	5665
55°	4507	5200	5870
60°	4251	5280	6130
65°	3927	5404	6475
70°	3428	5593	6898
75°	2782	5882	7128
80°	2055	5768	5768
85°	1575	4248	4797



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	374.2	3.1
10°-20°	1074.5	8.8
20°-30°	1635.8	13.4
30°-40°	1986.3	16.3
40°-50°	2098.5	17.2
50°-60°	1980.2	16.3
60°-70°	1646.5	13.5
70°-80°	1083.2	8.9
80°-90°	295.3	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°	3084.5	25.3
0°-40°	5070.8	41.7
0°-60°	9149.5	75.2
0°-90°	12174.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12174.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3950	3950	3950	3950	3950	
5°	3940	3940	3924	3940	3940	374
15°	3787	3792	3797	3833	3833	1068
25°	3486	3506	3537	3598	3608	1608
35°	3063	3099	3170	3252	3277	1917
45°	2538	2589	2716	2849	2900	1955
55°	1921	2003	2217	2426	2502	1712
65°	1234	1376	1698	1947	2034	1219
75°	535	780	1132	1340	1371	577
85°	102	224	275	306	311	125
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3950.0	3950.0	3950.0	3950.0	3950.0
2.5°	3955.2	3950.0	3929.6	3950.0	3950.0
5°	3940.0	3940.0	3924.3	3940.0	3940.0
7.5°	3914.4	3914.4	3903.9	3924.3	3924.3
10°	3883.5	3883.5	3878.8	3903.9	3903.9
12.5°	3838.0	3842.7	3838.0	3868.4	3868.4
15°	3786.8	3792.0	3797.2	3832.8	3832.8
17.5°	3720.9	3730.8	3741.3	3781.5	3786.8
20°	3659.7	3664.4	3684.8	3730.8	3736.0
22.5°	3578.0	3593.2	3618.8	3664.4	3680.1
25°	3486.0	3506.4	3537.2	3598.4	3608.4
27.5°	3399.7	3414.8	3455.6	3522.1	3542.5
30°	3292.4	3318.1	3368.8	3435.2	3460.9
32.5°	3190.4	3216.1	3277.3	3348.4	3368.8
35°	3063.3	3098.9	3170.0	3251.6	3277.3
37.5°	2940.9	2976.5	3063.3	3154.9	3185.7
40°	2813.3	2854.1	2946.1	3052.8	3093.6
42.5°	2675.7	2731.7	2833.7	2950.8	2996.9
45°	2538.1	2589.4	2716.5	2848.8	2900.1
47.5°	2390.6	2451.8	2589.4	2747.4	2808.6
50°	2232.6	2309.0	2467.0	2640.1	2706.6
52.5°	2074.6	2161.0	2339.3	2532.9	2604.5
55°	1921.4	2003.0	2216.9	2426.2	2502.5
57.5°	1753.5	1855.5	2089.8	2313.7	2390.6
60°	1579.8	1692.2	1962.2	2196.5	2278.1
62.5°	1406.6	1534.3	1839.8	2074.6	2161.0
65°	1233.5	1376.3	1697.5	1947.0	2033.8
67.5°	1065.0	1223.0	1564.6	1814.7	1901.0
70°	871.5	1070.3	1421.8	1666.6	1753.5
72.5°	693.1	922.8	1284.2	1513.9	1590.2
75°	535.1	780.0	1131.5	1340.2	1371.1
77.5°	392.3	637.1	973.5	1044.6	1049.9
80°	265.2	509.5	744.4	733.9	744.4
82.5°	173.1	382.4	468.7	525.2	529.9
85°	102.0	224.4	275.2	306.0	310.7
87.5°	50.7	76.4	96.8	102.0	111.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)