

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: P474451

Luminaire Tested: **24CZ2-135VHE-HRP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474451
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-135VHE-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: 11001.4 lumens
Efficiency: N/A
Efficacy: 113.7 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

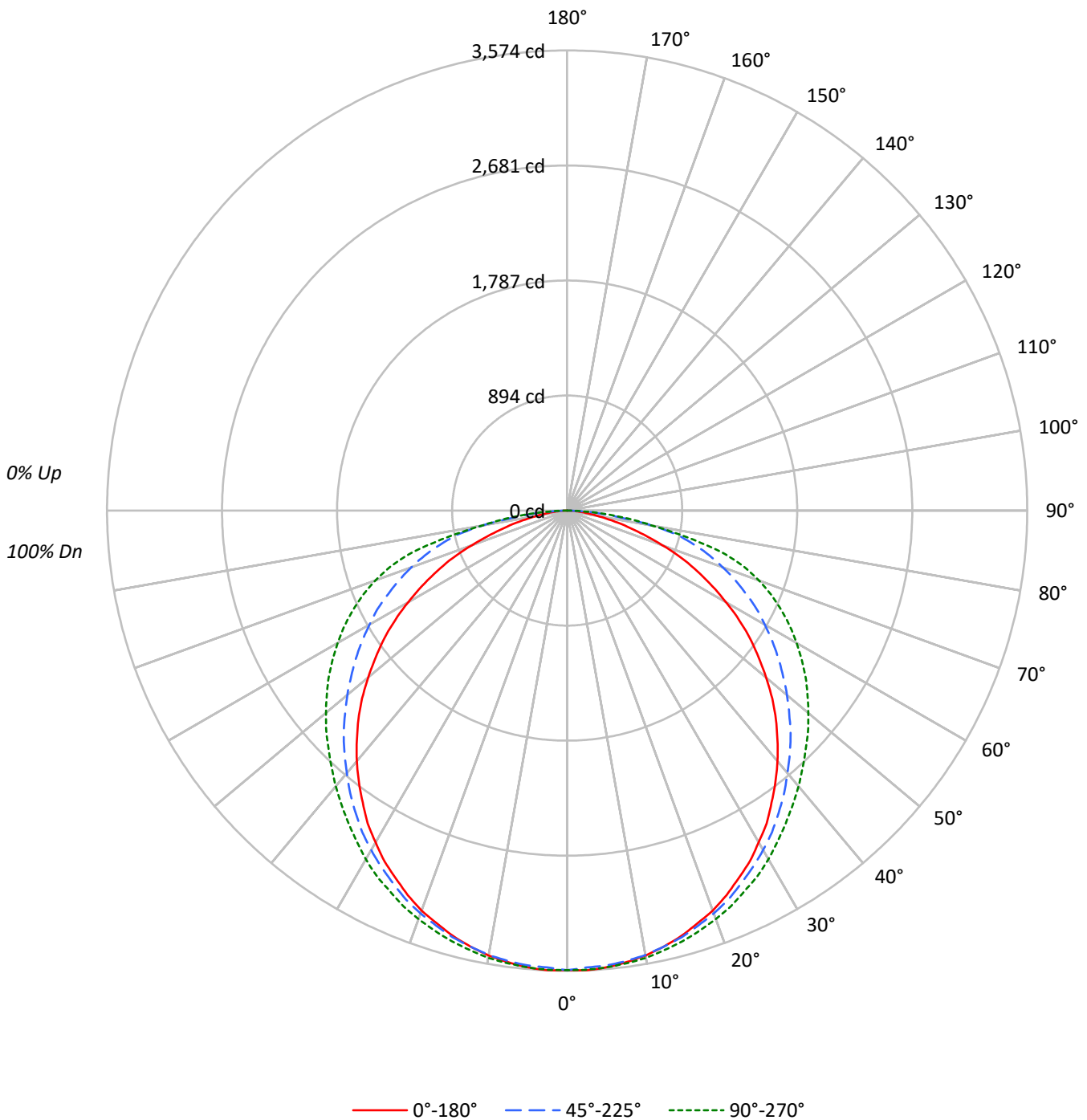
Input Watts (W): 96.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	4803	4803	4803
5°	4809	4790	4809
10°	4795	4789	4820
15°	4767	4780	4824
20°	4735	4768	4834
25°	4677	4745	4841
30°	4622	4730	4859
35°	4547	4705	4864
40°	4465	4676	4910
45°	4364	4671	4987
50°	4223	4666	5120
55°	4073	4699	5305
60°	3842	4771	5540
65°	3549	4883	5851
70°	3098	5054	6233
75°	2514	5316	6441
80°	1857	5212	5212
85°	1423	3838	4335



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	338.1	3.1
10°-20°	971.0	8.8
20°-30°	1478.2	13.4
30°-40°	1794.9	16.3
40°-50°	1896.3	17.2
50°-60°	1789.4	16.3
60°-70°	1487.8	13.5
70°-80°	978.8	8.9
80°-90°	266.8	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°	2787.3	25.3
0°-40°	4582.2	41.7
0°-60°	8267.9	75.2
0°-90°	11001.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11001.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3569	3569	3569	3569	3569	
5°	3560	3560	3546	3560	3560	338
15°	3422	3427	3431	3464	3464	965
25°	3150	3168	3196	3252	3261	1453
35°	2768	2800	2865	2938	2962	1733
45°	2294	2340	2455	2574	2621	1766
55°	1736	1810	2003	2192	2261	1547
65°	1115	1244	1534	1759	1838	1102
75°	484	705	1022	1211	1239	521
85°	92	203	249	276	281	113
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3569.4	3569.4	3569.4	3569.4	3569.4
2.5°	3574.1	3569.4	3550.9	3569.4	3569.4
5°	3560.4	3560.4	3546.2	3560.4	3560.4
7.5°	3537.2	3537.2	3527.8	3546.2	3546.2
10°	3509.3	3509.3	3505.1	3527.8	3527.8
12.5°	3468.2	3472.5	3468.2	3495.6	3495.6
15°	3421.9	3426.6	3431.4	3463.5	3463.5
17.5°	3362.3	3371.3	3380.8	3417.2	3421.9
20°	3307.0	3311.3	3329.7	3371.3	3376.0
22.5°	3233.3	3247.0	3270.2	3311.3	3325.5
25°	3150.1	3168.5	3196.4	3251.7	3260.7
27.5°	3072.1	3085.8	3122.7	3182.7	3201.1
30°	2975.2	2998.4	3044.2	3104.2	3127.4
32.5°	2883.0	2906.2	2961.5	3025.8	3044.2
35°	2768.1	2800.3	2864.6	2938.3	2961.5
37.5°	2657.5	2689.7	2768.1	2850.9	2878.8
40°	2542.2	2579.1	2662.3	2758.7	2795.6
42.5°	2417.9	2468.5	2560.6	2666.5	2708.1
45°	2293.6	2339.9	2454.7	2574.3	2620.7
47.5°	2160.3	2215.6	2339.9	2482.6	2537.9
50°	2017.5	2086.5	2229.3	2385.7	2445.8
52.5°	1874.7	1952.7	2113.9	2288.8	2353.6
55°	1736.2	1810.0	2003.3	2192.4	2261.4
57.5°	1584.5	1676.7	1888.4	2090.8	2160.3
60°	1427.6	1529.2	1773.1	1984.9	2058.6
62.5°	1271.1	1386.4	1662.5	1874.7	1952.7
65°	1114.6	1243.7	1533.9	1759.4	1837.9
67.5°	962.4	1105.2	1413.9	1639.8	1717.8
70°	787.5	967.2	1284.8	1506.0	1584.5
72.5°	626.3	833.8	1160.5	1368.0	1437.0
75°	483.6	704.8	1022.5	1211.1	1239.0
77.5°	354.5	575.8	879.7	944.0	948.7
80°	239.7	460.4	672.7	663.2	672.7
82.5°	156.5	345.5	423.5	474.6	478.8
85°	92.2	202.8	248.6	276.5	280.8
87.5°	45.9	69.0	87.5	92.2	101.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)