

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: P474401

Luminaire Tested: **24CZ2-135VHE-HRP-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474401
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-L830-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP
INSERT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10616.3 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

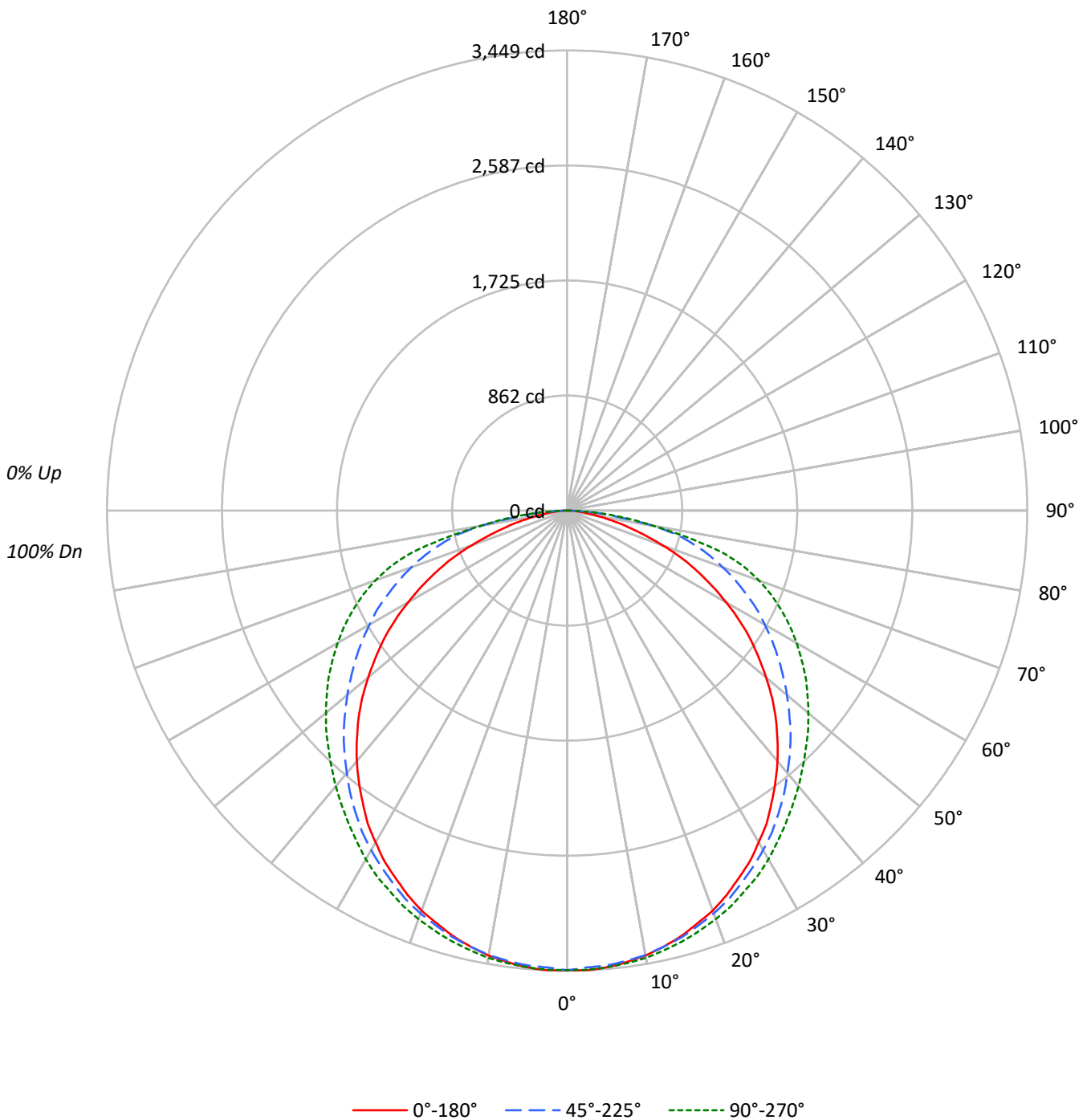
Input Watts (W): 96.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4635	4635	4635
5°	4640	4622	4640
10°	4627	4621	4651
15°	4600	4612	4656
20°	4569	4601	4665
25°	4513	4579	4671
30°	4461	4564	4689
35°	4388	4540	4694
40°	4309	4512	4738
45°	4211	4507	4812
50°	4075	4503	4940
55°	3930	4535	5119
60°	3707	4605	5346
65°	3424	4713	5646
70°	2990	4877	6015
75°	2426	5129	6215
80°	1792	5029	5029
85°	1374	3704	4184



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	326.3	3.1
10°-20°	937.0	8.8
20°-30°	1426.5	13.4
30°-40°	1732.1	16.3
40°-50°	1829.9	17.2
50°-60°	1726.7	16.3
60°-70°	1435.7	13.5
70°-80°	944.6	8.9
80°-90°	257.5	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°	2689.8	25.3
0°-40°	4421.9	41.7
0°-60°	7978.6	75.2
0°-90°	10616.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10616.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3444	3444	3444	3444	3444	
5°	3436	3436	3422	3436	3436	326
15°	3302	3307	3311	3342	3342	931
25°	3040	3058	3084	3138	3147	1402
35°	2671	2702	2764	2836	2858	1672
45°	2213	2258	2369	2484	2529	1705
55°	1676	1747	1933	2116	2182	1492
65°	1076	1200	1480	1698	1774	1063
75°	467	680	987	1169	1196	503
85°	89	196	240	267	271	109
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3444.5	3444.5	3444.5	3444.5	3444.5
2.5°	3449.0	3444.5	3426.7	3444.5	3444.5
5°	3435.8	3435.8	3422.1	3435.8	3435.8
7.5°	3413.4	3413.4	3404.3	3422.1	3422.1
10°	3386.5	3386.5	3382.4	3404.3	3404.3
12.5°	3346.8	3350.9	3346.8	3373.3	3373.3
15°	3302.1	3306.7	3311.3	3342.3	3342.3
17.5°	3244.7	3253.3	3262.4	3297.6	3302.1
20°	3191.3	3195.4	3213.2	3253.3	3257.9
22.5°	3120.1	3133.4	3155.7	3195.4	3209.1
25°	3039.8	3057.6	3084.5	3137.9	3146.6
27.5°	2964.6	2977.8	3013.4	3071.3	3089.1
30°	2871.1	2893.4	2937.7	2995.6	3017.9
32.5°	2782.1	2804.5	2857.8	2919.9	2937.7
35°	2671.3	2702.3	2764.3	2835.5	2857.8
37.5°	2564.5	2595.5	2671.3	2751.1	2778.0
40°	2453.2	2488.8	2569.1	2662.1	2697.7
42.5°	2333.3	2382.1	2471.0	2573.2	2613.3
45°	2213.3	2258.0	2368.8	2484.2	2528.9
47.5°	2084.6	2138.0	2258.0	2395.7	2449.1
50°	1946.9	2013.5	2151.2	2302.2	2360.2
52.5°	1809.1	1884.4	2039.9	2208.7	2271.2
55°	1675.5	1746.6	1933.2	2115.7	2182.3
57.5°	1529.0	1618.0	1822.4	2017.6	2084.6
60°	1377.6	1475.7	1711.1	1915.4	1986.6
62.5°	1226.6	1337.9	1604.3	1809.1	1884.4
65°	1075.6	1200.2	1480.2	1697.8	1773.5
67.5°	928.7	1066.5	1364.4	1582.4	1657.7
70°	760.0	933.3	1239.8	1453.3	1529.0
72.5°	604.4	804.7	1119.9	1320.1	1386.7
75°	466.7	680.1	986.7	1168.7	1195.6
77.5°	342.1	555.6	848.9	910.9	915.5
80°	231.3	444.3	649.1	640.0	649.1
82.5°	151.0	333.5	408.7	458.0	462.1
85°	89.0	195.7	239.9	266.9	271.0
87.5°	44.2	66.6	84.4	89.0	97.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)