

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: P473851

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

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473851
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-135VHE-UNV-L835-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13579.8 lumens
Efficiency: N/A
Efficacy: 140.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

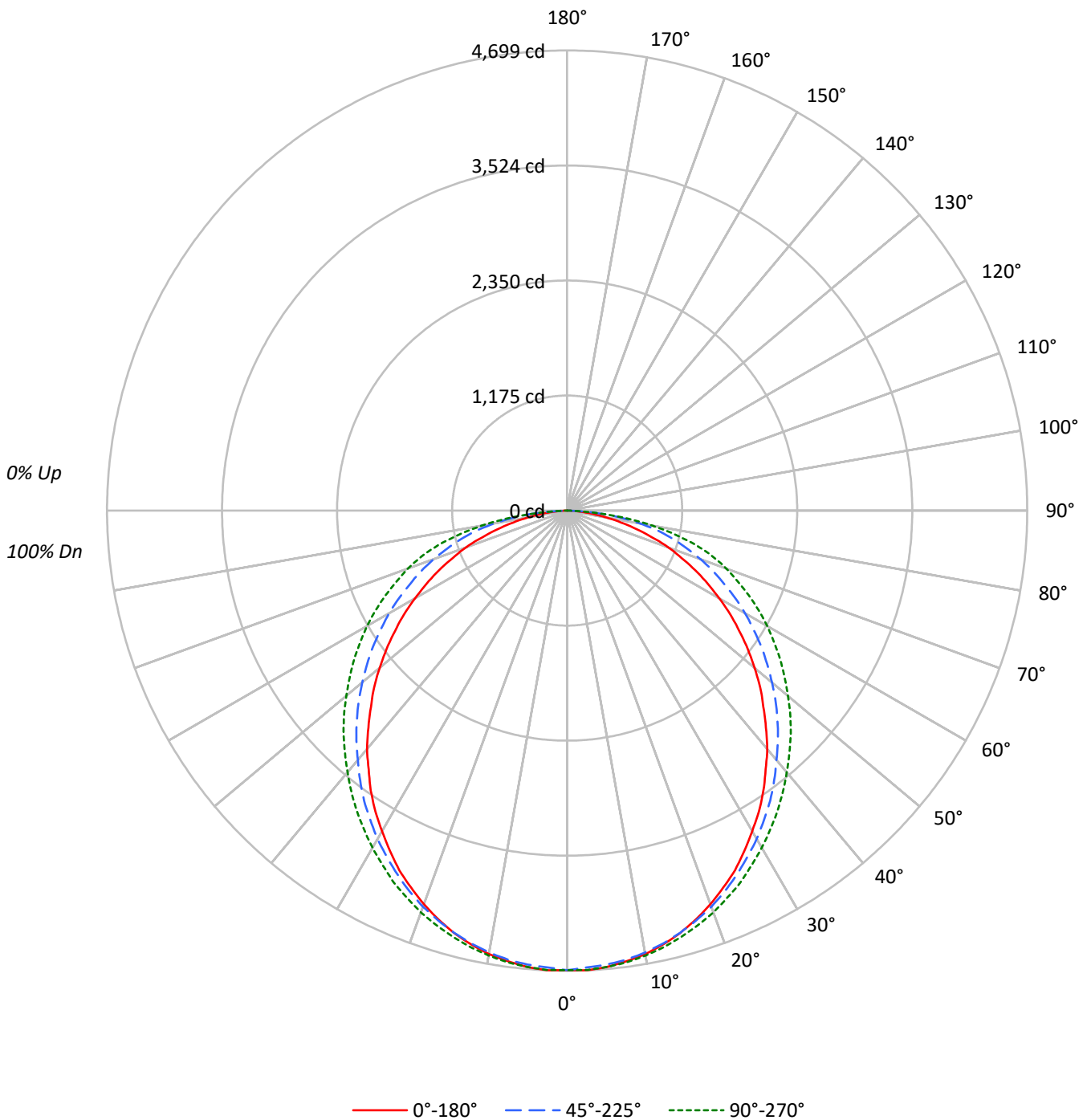
Input Watts (W): 96.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P473851

CATALOG NUMBER: 24CZ2-135VHE-UNV-L835-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P473851

CATALOG NUMBER: 24CZ2-135VHE-UNV-L835-CD1-U

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	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	89	82	76	95	88	81	75	84	78	74	81	76	72	78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	61	71	65	60	68	63	59	57
4	82	69	60	53	79	68	59	53	65	58	52	63	57	51	61	55	51	48
5	75	62	53	46	73	61	52	46	58	51	45	56	50	44	55	49	44	42
6	69	56	46	40	67	55	46	40	53	45	39	51	44	39	49	43	39	37
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6314	6314	6314
5°	6317	6285	6317
10°	6282	6262	6303
15°	6219	6216	6277
20°	6125	6163	6251
25°	6019	6087	6221
30°	5873	6016	6176
35°	5740	5939	6151
40°	5583	5842	6127
45°	5394	5782	6145
50°	5231	5717	6163
55°	5038	5676	6232
60°	4829	5650	6346
65°	4603	5630	6510
70°	4332	5688	6810
75°	3809	5805	7083
80°	3179	5848	6833
85°	2269	5013	5081



TEST NUMBER: P473851

CATALOG NUMBER: 24CZ2-135VHE-UNV-L835-CD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	443.6	3.3
10°-20°	1263.6	9.3
20°-30°	1895.6	14.0
30°-40°	2263.1	16.7
40°-50°	2344.2	17.3
50°-60°	2158.1	15.9
60°-70°	1740.8	12.8
70°-80°	1137.4	8.4
80°-90°	333.5	2.5
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°	3602.7	26.5
0°-40°	5865.8	43.2
0°-60°	10368.1	76.3
0°-90°	13579.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13579.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4693	4693	4693	4693	4693	
5°	4677	4673	4653	4680	4677	444
15°	4464	4464	4462	4506	4506	1258
25°	4054	4063	4100	4175	4190	1864
35°	3495	3526	3616	3714	3745	2183
45°	2834	2905	3038	3174	3229	2191
55°	2148	2240	2420	2598	2657	1922
65°	1446	1544	1768	1970	2045	1430
75°	733	871	1117	1310	1362	782
85°	147	254	325	344	329	182
90°	0	0	0	0	0	



TEST NUMBER: P473851

CATALOG NUMBER: 24CZ2-135VHE-UNV-L835-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4692.7	4692.7	4692.7	4692.7	4692.7
2.5°	4699.3	4692.7	4668.5	4697.1	4694.9
5°	4677.3	4672.9	4653.2	4679.5	4677.3
7.5°	4642.2	4640.0	4624.7	4653.2	4653.2
10°	4598.3	4593.9	4583.0	4615.9	4613.7
12.5°	4536.9	4534.7	4528.1	4567.6	4565.4
15°	4464.5	4464.5	4462.3	4506.2	4506.2
17.5°	4376.8	4378.9	4387.7	4438.2	4440.4
20°	4278.0	4286.8	4304.4	4361.4	4365.8
22.5°	4166.1	4183.7	4207.8	4271.4	4278.0
25°	4054.3	4063.0	4100.3	4174.9	4190.3
27.5°	3918.2	3940.2	3988.4	4065.2	4080.6
30°	3780.0	3810.7	3872.2	3951.1	3975.3
32.5°	3644.0	3670.3	3742.7	3832.7	3861.2
35°	3494.8	3525.5	3615.5	3714.2	3744.9
37.5°	3330.3	3378.5	3472.9	3587.0	3619.9
40°	3178.9	3222.8	3325.9	3453.1	3488.2
42.5°	3005.6	3060.4	3185.5	3314.9	3358.8
45°	2834.5	2904.7	3038.5	3174.5	3229.4
47.5°	2674.3	2731.4	2889.3	3042.9	3091.2
50°	2498.8	2564.6	2731.4	2893.7	2944.2
52.5°	2325.5	2404.5	2573.4	2744.5	2799.4
55°	2147.8	2239.9	2419.8	2597.5	2656.8
57.5°	1976.7	2068.8	2255.3	2444.0	2505.4
60°	1794.6	1893.3	2099.5	2281.6	2358.4
62.5°	1619.1	1717.8	1935.0	2132.4	2204.8
65°	1445.8	1544.5	1768.3	1970.1	2044.7
67.5°	1265.9	1373.4	1612.5	1807.7	1880.1
70°	1101.3	1204.4	1445.8	1654.2	1731.0
72.5°	912.6	1035.5	1281.2	1487.4	1559.8
75°	732.7	871.0	1116.7	1309.7	1362.4
77.5°	566.0	704.2	949.9	1094.7	1127.6
80°	410.3	550.7	754.7	855.6	881.9
82.5°	265.5	410.3	546.3	614.3	623.1
85°	147.0	254.5	324.7	344.4	329.1
87.5°	52.7	96.5	94.3	76.8	61.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)