

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: P474257

Luminaire Tested: **24CZ2-165VHE-RDP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474257  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-165VHE-RDP-UNV-L835-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ RDP  
INSERT  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11077.2 lumens  
Efficiency: N/A  
Efficacy: 90.7 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

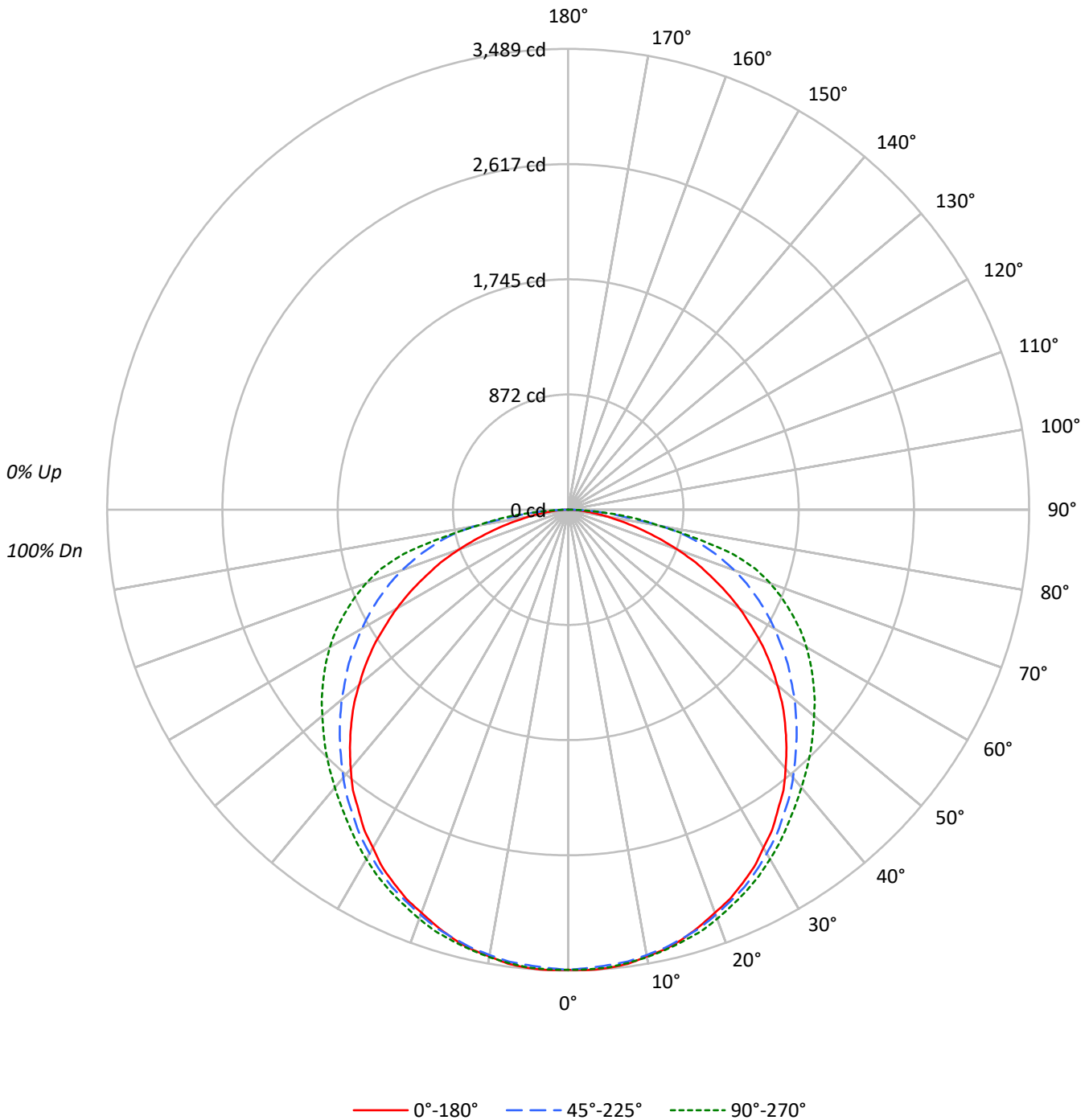
Input Watts (W): 122.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P474257

CATALOG NUMBER: 24CZ2-165VHE-RDP-UNV-L835-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P474257

CATALOG NUMBER: 24CZ2-165VHE-RDP-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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4687	4687	4687
5°	4705	4675	4698
10°	4692	4677	4699
15°	4684	4676	4707
20°	4650	4673	4720
25°	4633	4682	4731
30°	4592	4669	4746
35°	4548	4657	4765
40°	4498	4651	4825
45°	4423	4653	4934
50°	4324	4681	5084
55°	4214	4756	5310
60°	4037	4849	5604
65°	3779	5019	5947
70°	3436	5253	6397
75°	2912	5541	6684
80°	2300	5576	5405
85°	1697	4244	4753



TEST NUMBER: P474257

CATALOG NUMBER: 24CZ2-165VHE-RDP-UNV-L835-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	330.5	3.0
10°-20°	951.0	8.6
20°-30°	1454.3	13.1
30°-40°	1777.7	16.0
40°-50°	1894.9	17.1
50°-60°	1811.7	16.4
60°-70°	1534.7	13.9
70°-80°	1031.4	9.3
80°-90°	291.0	2.6
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°	2735.8	24.7
0°-40°	4513.5	40.7
0°-60°	8220.1	74.2
0°-90°	11077.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11077.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3484	3484	3484	3484	3484	
5°	3484	3478	3462	3478	3478	331
15°	3363	3363	3357	3385	3379	948
25°	3121	3132	3154	3181	3187	1438
35°	2769	2791	2835	2890	2901	1735
45°	2324	2363	2445	2550	2593	1793
55°	1796	1862	2027	2187	2264	1600
65°	1187	1308	1577	1786	1868	1178
75°	560	764	1066	1247	1286	600
85°	110	225	275	297	308	136
90°	0	0	0	0	0	



TEST NUMBER: P474257

CATALOG NUMBER: 24CZ2-165VHE-RDP-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3483.7	3483.7	3483.7	3483.7	3483.7
2.5°	3489.2	3489.2	3472.7	3483.7	3483.7
5°	3483.7	3478.2	3461.7	3478.2	3478.2
7.5°	3467.2	3461.7	3450.7	3467.2	3461.7
10°	3434.2	3434.2	3423.2	3439.7	3439.7
12.5°	3406.7	3401.2	3395.7	3417.7	3412.2
15°	3362.7	3362.7	3357.2	3384.7	3379.2
17.5°	3307.7	3313.2	3318.7	3340.7	3346.2
20°	3247.3	3258.3	3263.8	3296.7	3296.7
22.5°	3192.3	3197.8	3208.8	3241.8	3241.8
25°	3120.8	3131.8	3153.8	3181.3	3186.8
27.5°	3049.4	3054.9	3082.4	3120.8	3126.3
30°	2955.9	2972.4	3005.4	3049.4	3054.9
32.5°	2873.5	2889.9	2928.4	2972.4	2983.4
35°	2769.0	2791.0	2835.0	2889.9	2900.9
37.5°	2675.5	2692.0	2747.0	2807.5	2824.0
40°	2560.7	2593.1	2648.1	2719.5	2747.0
42.5°	2445.2	2478.2	2544.2	2637.1	2670.1
45°	2324.3	2362.8	2445.2	2549.7	2593.1
47.5°	2203.3	2247.3	2340.8	2461.7	2511.2
50°	2065.9	2120.9	2236.3	2373.7	2428.7
52.5°	1934.0	1999.9	2126.4	2280.3	2351.8
55°	1796.5	1862.5	2027.4	2186.8	2263.8
57.5°	1642.6	1730.6	1912.0	2093.4	2175.8
60°	1500.2	1582.1	1802.0	1999.9	2082.4
62.5°	1346.3	1456.2	1692.1	1901.0	1983.4
65°	1186.9	1307.8	1576.6	1785.5	1868.0
67.5°	1043.9	1175.9	1461.7	1670.1	1752.5
70°	873.5	1038.4	1335.3	1543.6	1626.1
72.5°	714.1	895.5	1203.4	1406.8	1483.7
75°	560.2	763.6	1065.9	1247.3	1285.8
77.5°	417.8	631.6	923.0	1000.0	972.5
80°	296.9	505.8	719.6	681.1	697.6
82.5°	192.4	384.8	445.3	505.8	521.7
85°	109.9	225.4	274.9	296.9	307.9
87.5°	49.5	82.5	109.9	109.9	104.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)