

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: P474654

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

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474654  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-150VHE-SQR-UNV-L835-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

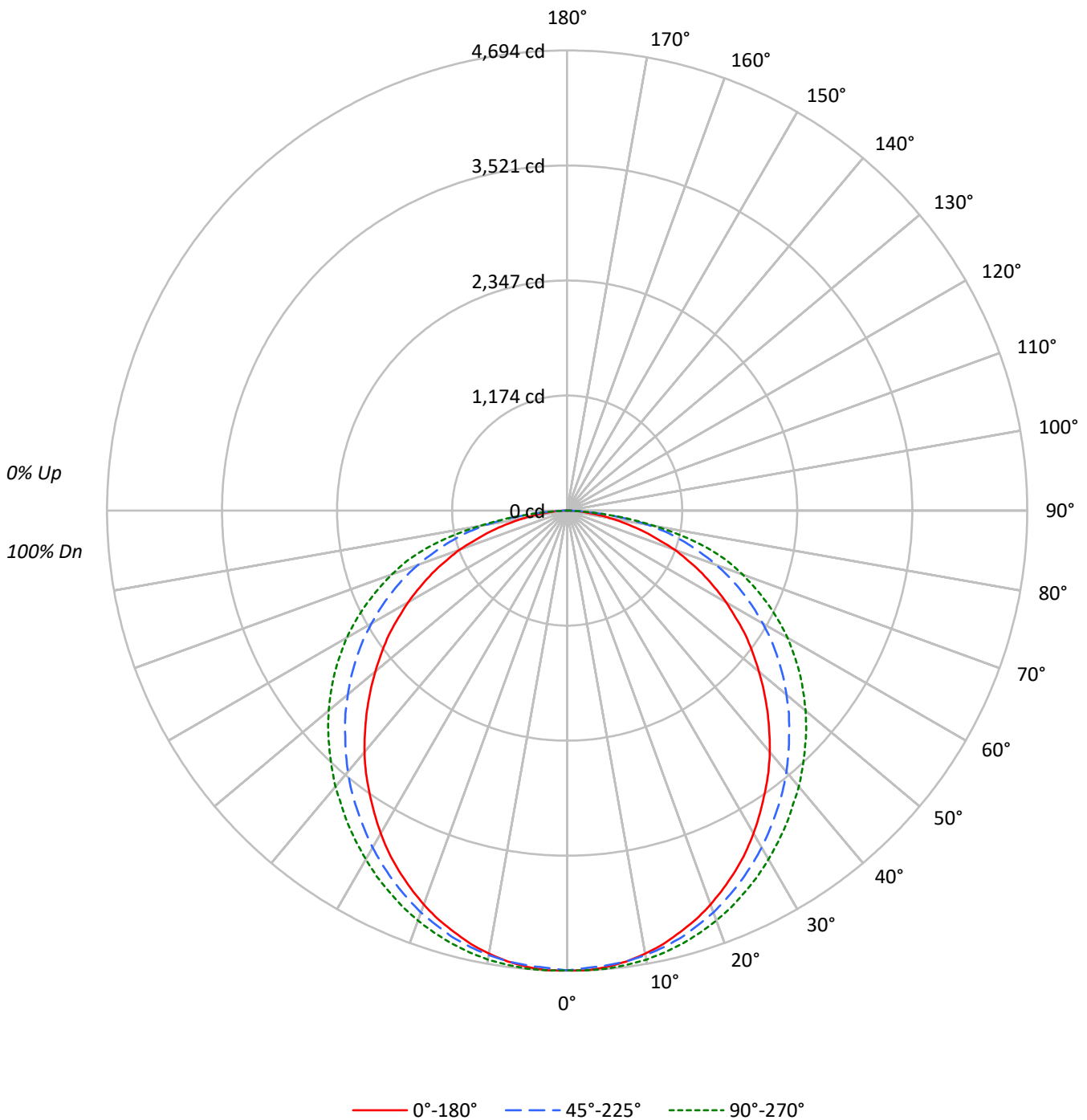
Lumens per Lamp: N/A  
Luminaire Lumens: 14277.4 lumens  
Efficiency: N/A  
Efficacy: 130.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 109.7  
Input Voltage (V): 120  
Input Current (Ain): 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



TEST NUMBER: P474654

CATALOG NUMBER: 24CZ2-150VHE-SQR-UNV-L835-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P474654

CATALOG NUMBER: 24CZ2-150VHE-SQR-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	101	96	93	96	93	90	92	90	87	89	87	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	53	79	67	59	52	65	57	51	62	56	51	60	55	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	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	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	25	35	29	24	23

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

	0°	45°	90°
0°	12620	12620	12620
5°	12619	12582	12668
10°	12540	12584	12709
15°	12404	12557	12728
20°	12247	12496	12744
25°	12048	12407	12746
30°	11815	12332	12765
35°	11547	12259	12813
40°	11298	12219	12916
45°	10989	12187	13056
50°	10695	12223	13292
55°	10444	12306	13591
60°	10091	12399	13970
65°	9687	12549	14393
70°	9189	12724	14967
75°	8229	12901	15463
80°	6929	12937	14032
85°	5141	9791	9226



TEST NUMBER: P474654

CATALOG NUMBER: 24CZ2-150VHE-SQR-UNV-L835-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	444.4	3.1
10°-20°	1273.7	8.9
20°-30°	1928.1	13.5
30°-40°	2332.4	16.3
40°-50°	2462.0	17.2
50°-60°	2321.7	16.3
60°-70°	1914.1	13.4
70°-80°	1255.7	8.8
80°-90°	345.3	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°	3646.2	25.5
0°-40°	5978.6	41.9
0°-60°	10762.4	75.4
0°-90°	14277.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14277.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4690	4690	4690	4690	4690	
5°	4671	4671	4658	4690	4690	443
15°	4452	4478	4507	4560	4569	1256
25°	4058	4108	4179	4265	4293	1869
35°	3515	3606	3732	3859	3900	2200
45°	2888	3018	3202	3374	3431	2228
55°	2226	2384	2623	2819	2897	1983
65°	1521	1704	1971	2181	2260	1502
75°	792	994	1241	1437	1487	836
85°	166	287	317	308	299	207
90°	0	0	0	0	0	



TEST NUMBER: P474654

CATALOG NUMBER: 24CZ2-150VHE-SQR-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4689.7	4689.7	4689.7	4689.7	4689.7
2.5°	4694.2	4689.7	4669.1	4696.5	4694.2
5°	4671.4	4671.4	4657.7	4689.7	4689.7
7.5°	4639.5	4641.8	4637.2	4673.7	4673.7
10°	4589.3	4598.4	4605.3	4646.3	4650.9
12.5°	4530.0	4546.0	4559.7	4609.8	4614.4
15°	4452.5	4477.5	4507.2	4559.7	4568.8
17.5°	4372.6	4402.3	4434.2	4502.6	4514.0
20°	4276.8	4311.0	4363.5	4431.9	4450.2
22.5°	4169.6	4217.5	4272.3	4354.4	4377.2
25°	4057.8	4108.0	4178.7	4265.4	4292.8
27.5°	3937.0	3996.3	4076.1	4176.5	4206.1
30°	3802.4	3870.8	3968.9	4076.1	4108.0
32.5°	3661.0	3740.8	3850.3	3968.9	4005.4
35°	3515.0	3606.2	3731.7	3859.4	3900.5
37.5°	3371.3	3462.5	3610.8	3745.4	3784.1
40°	3216.2	3316.5	3478.5	3622.2	3676.9
42.5°	3051.9	3170.6	3341.6	3501.3	3553.8
45°	2887.7	3017.7	3202.5	3373.6	3430.6
47.5°	2721.2	2864.9	3067.9	3241.3	3307.4
50°	2554.7	2707.5	2919.6	3106.7	3175.1
52.5°	2385.9	2545.6	2775.9	2974.4	3036.0
55°	2226.2	2383.6	2623.1	2819.3	2896.8
57.5°	2041.5	2219.4	2472.6	2671.0	2746.3
60°	1875.0	2048.3	2303.8	2513.6	2595.7
62.5°	1694.8	1872.7	2141.8	2351.7	2431.5
65°	1521.4	1703.9	1970.8	2180.6	2260.4
67.5°	1334.4	1526.0	1799.7	2002.7	2080.2
70°	1167.9	1348.1	1617.2	1824.8	1902.3
72.5°	964.9	1170.1	1427.9	1633.2	1717.6
75°	791.5	994.5	1240.8	1437.0	1487.2
77.5°	609.0	812.0	1056.1	1183.8	1218.0
80°	447.1	638.7	834.8	903.3	905.5
82.5°	301.1	469.9	581.6	615.9	611.3
85°	166.5	287.4	317.1	307.9	298.8
87.5°	68.4	95.8	77.6	54.7	43.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)