

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: P474564

Luminaire Tested: **24CZ2-45-SQR-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474564  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45-SQR-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, SQUARE LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

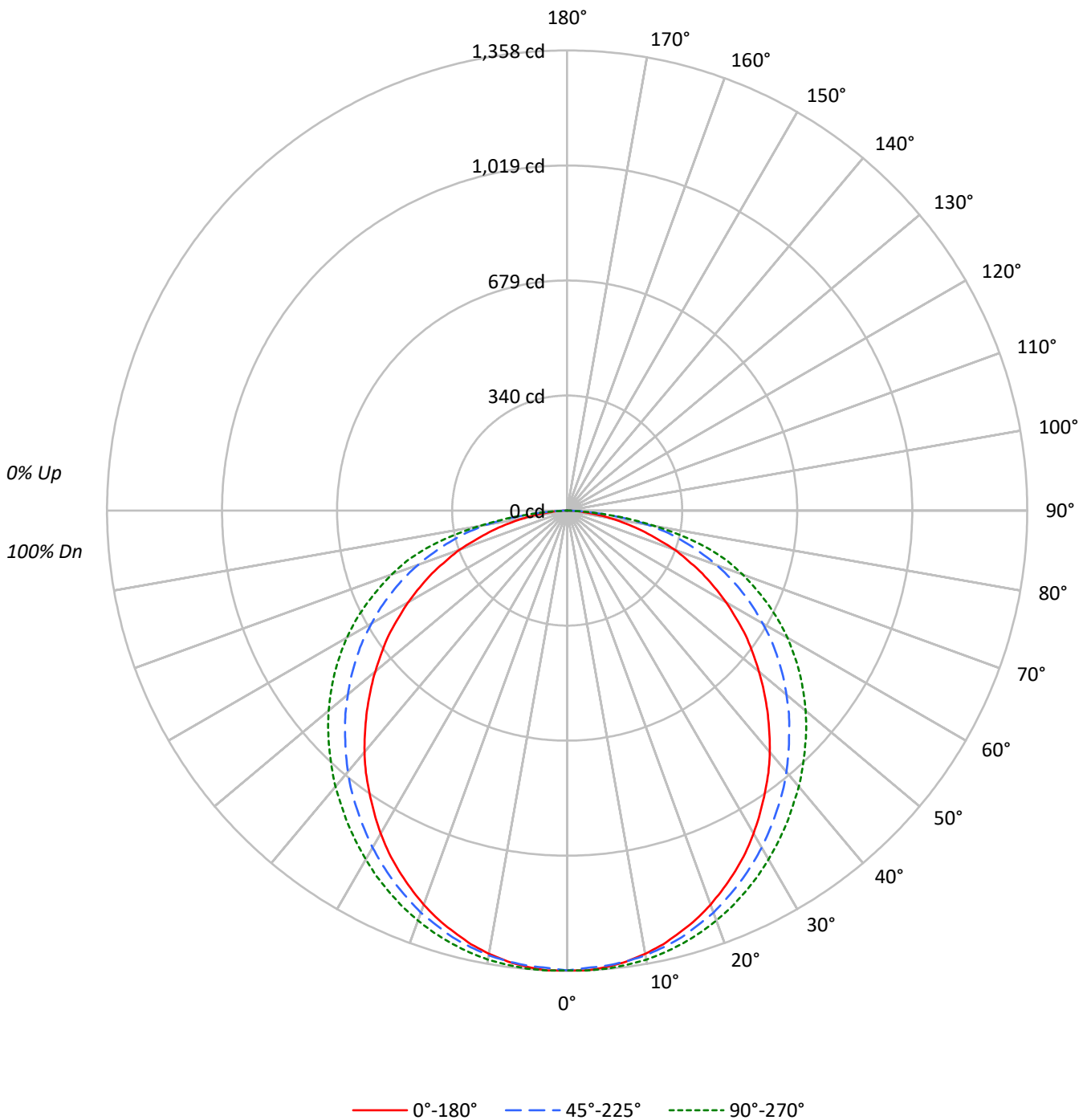
Lumens per Lamp: N/A  
Luminaire Lumens: 4131.1 lumens  
Efficiency: N/A  
Efficacy: 118.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 34.9  
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: P474564  
CATALOG NUMBER: 24CZ2-45-SQR-UNV-L830-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P474564

CATALOG NUMBER: 24CZ2-45-SQR-UNV-L830-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	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					100			
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	87	84	82					82			
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68					68			
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56					56			
4	81	69	59	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48					48			
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41					41			
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38	36					36			
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31					31			
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28					28			
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25					25			
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23					23			

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

	0°	45°	90°
0°	3651	3651	3651
5°	3651	3640	3665
10°	3628	3641	3677
15°	3589	3633	3683
20°	3544	3616	3687
25°	3486	3590	3688
30°	3419	3568	3693
35°	3341	3547	3708
40°	3269	3536	3737
45°	3180	3526	3777
50°	3095	3537	3846
55°	3022	3561	3932
60°	2920	3588	4042
65°	2803	3631	4164
70°	2659	3681	4330
75°	2381	3733	4474
80°	2005	3744	4060
85°	1488	2831	2671



TEST NUMBER: P474564

CATALOG NUMBER: 24CZ2-45-SQR-UNV-L830-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	128.6	3.1
10°-20°	368.5	8.9
20°-30°	557.9	13.5
30°-40°	674.9	16.3
40°-50°	712.4	17.2
50°-60°	671.8	16.3
60°-70°	553.8	13.4
70°-80°	363.3	8.8
80°-90°	99.9	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°	1055.0	25.5
0°-40°	1729.9	41.9
0°-60°	3114.0	75.4
0°-90°	4131.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4131.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1357	1357	1357	1357	1357	
5°	1352	1352	1348	1357	1357	128
15°	1288	1296	1304	1319	1322	363
25°	1174	1189	1209	1234	1242	541
35°	1017	1043	1080	1117	1129	637
45°	836	873	927	976	993	645
55°	644	690	759	816	838	574
65°	440	493	570	631	654	435
75°	229	288	359	416	430	242
85°	48	83	92	89	86	60
90°	0	0	0	0	0	



TEST NUMBER: P474564

CATALOG NUMBER: 24CZ2-45-SQR-UNV-L830-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1356.9	1356.9	1356.9	1356.9	1356.9
2.5°	1358.3	1356.9	1351.0	1358.9	1358.3
5°	1351.7	1351.7	1347.7	1356.9	1356.9
7.5°	1342.4	1343.1	1341.8	1352.3	1352.3
10°	1327.9	1330.5	1332.5	1344.4	1345.7
12.5°	1310.7	1315.4	1319.3	1333.8	1335.2
15°	1288.3	1295.6	1304.1	1319.3	1322.0
17.5°	1265.2	1273.8	1283.0	1302.8	1306.1
20°	1237.5	1247.4	1262.6	1282.4	1287.6
22.5°	1206.5	1220.3	1236.2	1259.9	1266.5
25°	1174.1	1188.6	1209.1	1234.2	1242.1
27.5°	1139.1	1156.3	1179.4	1208.4	1217.0
30°	1100.2	1120.0	1148.4	1179.4	1188.6
32.5°	1059.3	1082.4	1114.1	1148.4	1158.9
35°	1017.0	1043.4	1079.7	1116.7	1128.6
37.5°	975.5	1001.9	1044.8	1083.7	1094.9
40°	930.6	959.6	1006.5	1048.1	1063.9
42.5°	883.1	917.4	966.9	1013.1	1028.3
45°	835.5	873.2	926.6	976.1	992.6
47.5°	787.4	828.9	887.7	937.8	957.0
50°	739.2	783.4	844.8	898.9	918.7
52.5°	690.3	736.5	803.2	860.6	878.4
55°	644.1	689.7	759.0	815.7	838.2
57.5°	590.7	642.2	715.4	772.8	794.6
60°	542.5	592.7	666.6	727.3	751.1
62.5°	490.4	541.9	619.7	680.4	703.5
65°	440.2	493.0	570.2	631.0	654.0
67.5°	386.1	441.5	520.7	579.5	601.9
70°	337.9	390.1	467.9	528.0	550.4
72.5°	279.2	338.6	413.2	472.6	497.0
75°	229.0	287.8	359.0	415.8	430.3
77.5°	176.2	235.0	305.6	342.5	352.4
80°	129.4	184.8	241.6	261.4	262.0
82.5°	87.1	136.0	168.3	178.2	176.9
85°	48.2	83.2	91.7	89.1	86.5
87.5°	19.8	27.7	22.4	15.8	12.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)