

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: P474684

Luminaire Tested: **24CZ2-40VHE-SQR-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474684  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-40VHE-SQR-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3920.8 lumens  
Efficiency: N/A  
Efficacy: 143.6 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

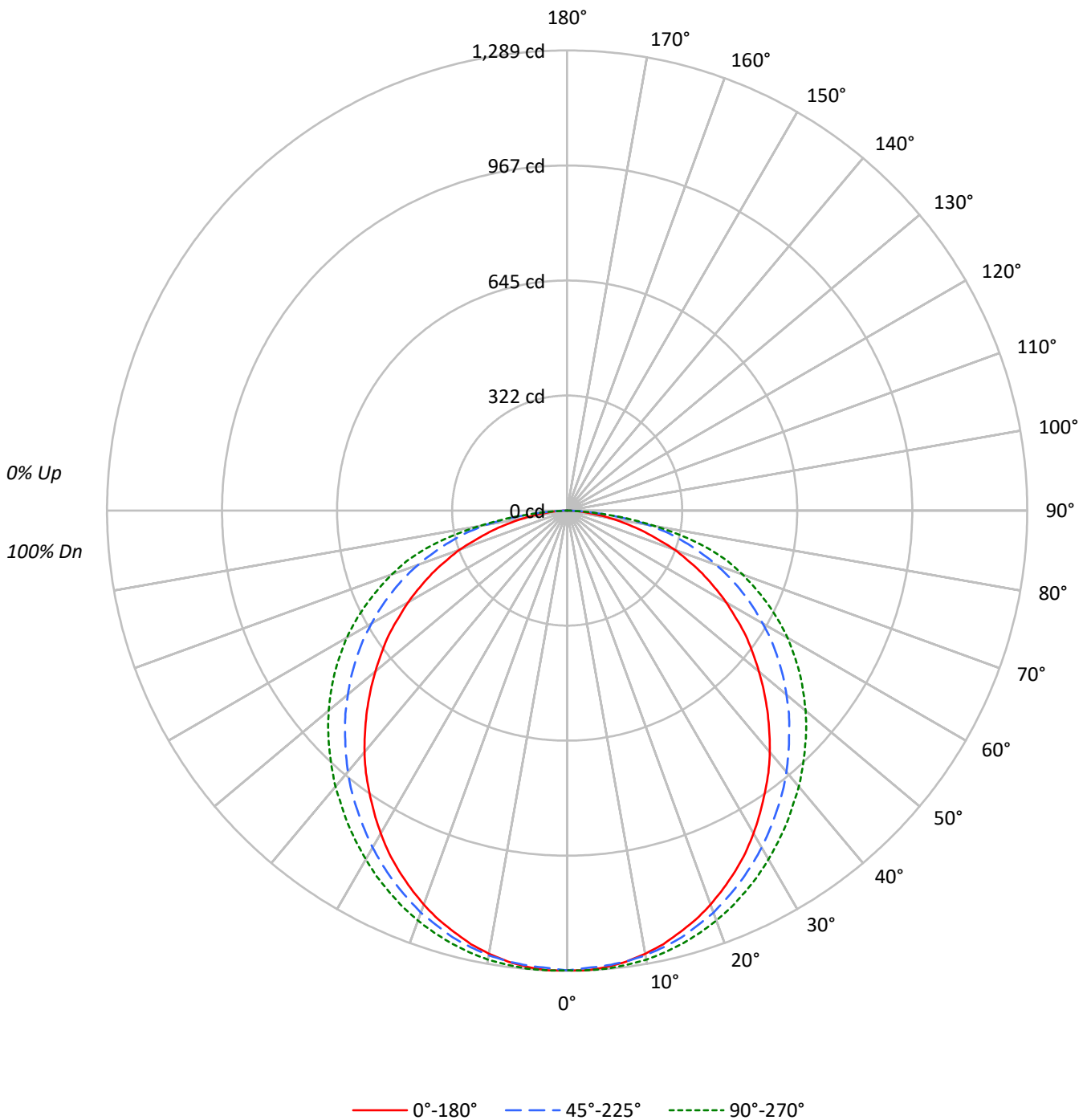
Input Watts (W): 27.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P474684

CATALOG NUMBER: 24CZ2-40VHE-SQR-UNV-L840-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P474684

CATALOG NUMBER: 24CZ2-40VHE-SQR-UNV-L840-CD1-U

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

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

	0°	45°	90°
0°	3466	3466	3466
5°	3465	3455	3479
10°	3444	3456	3490
15°	3406	3448	3495
20°	3363	3432	3500
25°	3309	3407	3500
30°	3245	3387	3505
35°	3171	3367	3519
40°	3103	3356	3547
45°	3018	3347	3585
50°	2937	3357	3650
55°	2868	3380	3732
60°	2771	3405	3836
65°	2660	3446	3953
70°	2523	3494	4110
75°	2260	3543	4246
80°	1903	3553	3854
85°	1411	2689	2535



TEST NUMBER: P474684

CATALOG NUMBER: 24CZ2-40VHE-SQR-UNV-L840-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.1	3.1
10°-20°	349.8	8.9
20°-30°	529.5	13.5
30°-40°	640.5	16.3
40°-50°	676.1	17.2
50°-60°	637.6	16.3
60°-70°	525.6	13.4
70°-80°	344.8	8.8
80°-90°	94.8	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°	1001.3	25.5
0°-40°	1641.8	41.9
0°-60°	2955.5	75.4
0°-90°	3920.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3920.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1288	1288	1288	1288	1288	
5°	1283	1283	1279	1288	1288	122
15°	1223	1230	1238	1252	1255	345
25°	1114	1128	1148	1171	1179	513
35°	965	990	1025	1060	1071	604
45°	793	829	880	926	942	612
55°	611	655	720	774	796	545
65°	418	468	541	599	621	413
75°	217	273	341	395	408	230
85°	46	79	87	85	82	57
90°	0	0	0	0	0	



TEST NUMBER: P474684

CATALOG NUMBER: 24CZ2-40VHE-SQR-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1287.9	1287.9	1287.9	1287.9	1287.9
2.5°	1289.1	1287.9	1282.2	1289.7	1289.1
5°	1282.9	1282.9	1279.1	1287.9	1287.9
7.5°	1274.1	1274.7	1273.5	1283.5	1283.5
10°	1260.3	1262.8	1264.7	1276.0	1277.2
12.5°	1244.0	1248.4	1252.2	1265.9	1267.2
15°	1222.7	1229.6	1237.8	1252.2	1254.7
17.5°	1200.8	1208.9	1217.7	1236.5	1239.6
20°	1174.5	1183.9	1198.3	1217.1	1222.1
22.5°	1145.0	1158.2	1173.2	1195.8	1202.1
25°	1114.4	1128.1	1147.6	1171.4	1178.9
27.5°	1081.2	1097.4	1119.4	1146.9	1155.1
30°	1044.2	1063.0	1089.9	1119.4	1128.1
32.5°	1005.4	1027.3	1057.4	1089.9	1099.9
35°	965.3	990.3	1024.8	1059.9	1071.1
37.5°	925.8	950.9	991.6	1028.5	1039.2
40°	883.2	910.8	955.3	994.7	1009.7
42.5°	838.1	870.7	917.7	961.5	975.9
45°	793.0	828.7	879.5	926.4	942.1
47.5°	747.3	786.8	842.5	890.1	908.3
50°	701.6	743.5	801.8	853.1	871.9
52.5°	655.2	699.1	762.3	816.8	833.7
55°	611.4	654.6	720.4	774.2	795.5
57.5°	560.6	609.5	679.0	733.5	754.2
60°	514.9	562.5	632.7	690.3	712.8
62.5°	465.4	514.3	588.2	645.8	667.7
65°	417.8	467.9	541.2	598.8	620.8
67.5°	366.4	419.1	494.2	550.0	571.3
70°	320.7	370.2	444.1	501.1	522.4
72.5°	265.0	321.3	392.1	448.5	471.7
75°	217.4	273.1	340.8	394.6	408.4
77.5°	167.2	223.0	290.0	325.1	334.5
80°	122.8	175.4	229.3	248.1	248.7
82.5°	82.7	129.0	159.7	169.1	167.9
85°	45.7	78.9	87.1	84.6	82.1
87.5°	18.8	26.3	21.3	15.0	11.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)