

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: P474584

Luminaire Tested: **24CZ2-40VHE-SQR-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474584  
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-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

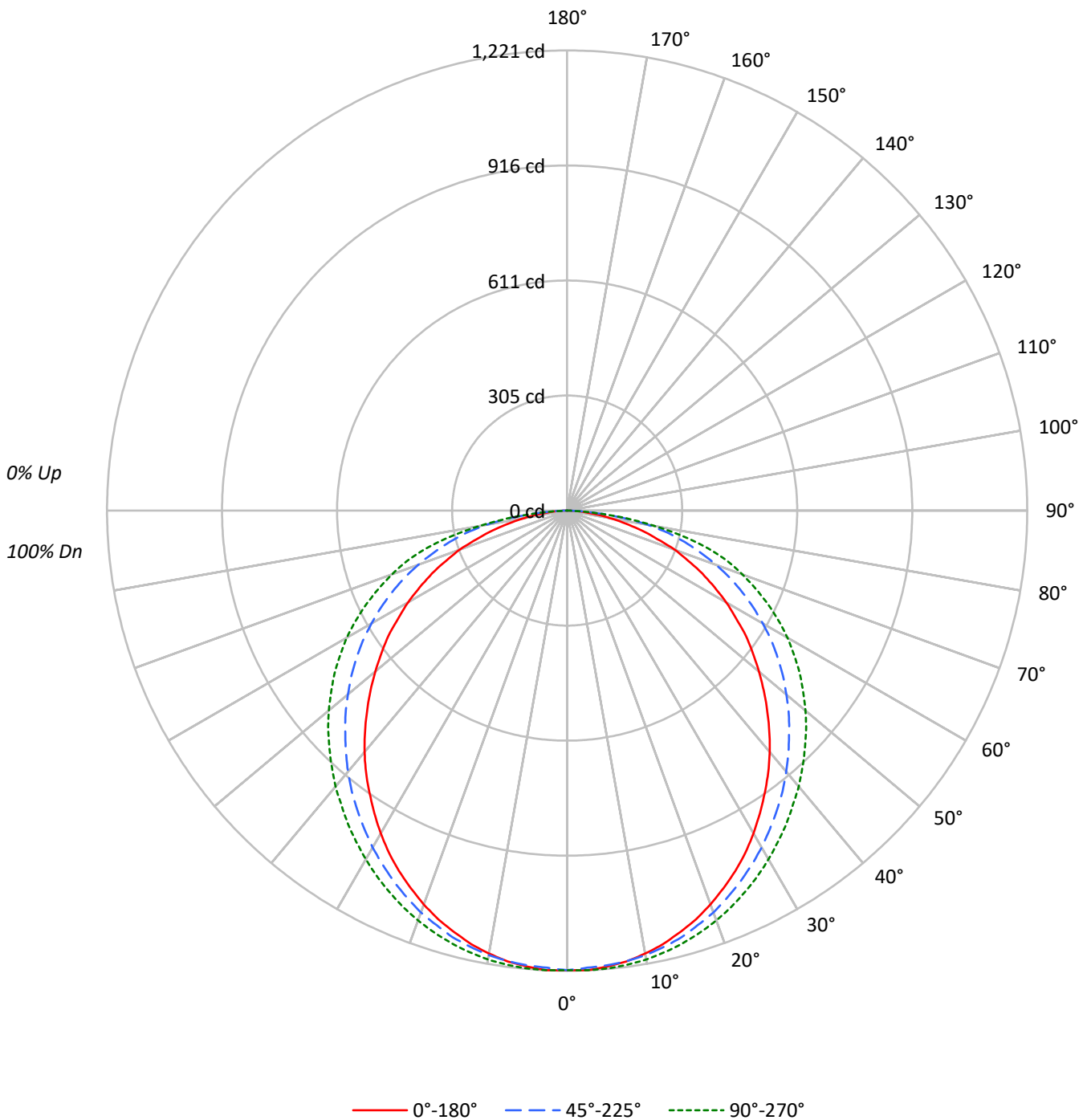
Lumens per Lamp: N/A  
Luminaire Lumens: 3713.0 lumens  
Efficiency: N/A  
Efficacy: 136.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 27.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
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



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### Luminous Intensity Polar Plot





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**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°	3282	3282	3282
5°	3282	3272	3294
10°	3261	3273	3305
15°	3226	3266	3310
20°	3185	3250	3314
25°	3133	3227	3315
30°	3073	3207	3320
35°	3003	3188	3332
40°	2938	3178	3359
45°	2858	3170	3395
50°	2781	3179	3457
55°	2716	3201	3535
60°	2624	3224	3633
65°	2520	3263	3743
70°	2389	3309	3892
75°	2140	3355	4022
80°	1802	3364	3649
85°	1337	2547	2399



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.6	3.1
10°-20°	331.2	8.9
20°-30°	501.4	13.5
30°-40°	606.6	16.3
40°-50°	640.3	17.2
50°-60°	603.8	16.3
60°-70°	497.8	13.4
70°-80°	326.6	8.8
80°-90°	89.8	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°	948.2	25.5
0°-40°	1554.8	41.9
0°-60°	2798.9	75.4
0°-90°	3713.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3713.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1220	1220	1220	1220	1220	
5°	1215	1215	1211	1220	1220	115
15°	1158	1164	1172	1186	1188	327
25°	1055	1068	1087	1109	1116	486
35°	914	938	970	1004	1014	572
45°	751	785	833	877	892	580
55°	579	620	682	733	753	516
65°	396	443	512	567	588	391
75°	206	259	323	374	387	217
85°	43	75	82	80	78	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1219.6	1219.6	1219.6	1219.6	1219.6
2.5°	1220.8	1219.6	1214.3	1221.4	1220.8
5°	1214.9	1214.9	1211.3	1219.6	1219.6
7.5°	1206.6	1207.2	1206.0	1215.5	1215.5
10°	1193.5	1195.9	1197.7	1208.3	1209.5
12.5°	1178.1	1182.2	1185.8	1198.9	1200.0
15°	1157.9	1164.5	1172.2	1185.8	1188.2
17.5°	1137.2	1144.9	1153.2	1171.0	1173.9
20°	1112.2	1121.1	1134.8	1152.6	1157.3
22.5°	1084.4	1096.8	1111.1	1132.4	1138.4
25°	1055.3	1068.4	1086.7	1109.3	1116.4
27.5°	1023.9	1039.3	1060.0	1086.1	1093.9
30°	988.9	1006.7	1032.2	1060.0	1068.4
32.5°	952.1	972.8	1001.3	1032.2	1041.7
35°	914.1	937.8	970.5	1003.7	1014.4
37.5°	876.7	900.5	939.0	974.0	984.1
40°	836.4	862.5	904.6	942.0	956.2
42.5°	793.7	824.5	869.0	910.6	924.2
45°	751.0	784.8	832.9	877.3	892.2
47.5°	707.7	745.1	797.9	842.9	860.1
50°	664.4	704.1	759.3	807.9	825.7
52.5°	620.5	662.0	721.9	773.5	789.5
55°	579.0	619.9	682.2	733.2	753.4
57.5°	530.9	577.2	643.0	694.6	714.2
60°	487.6	532.7	599.1	653.7	675.1
62.5°	440.7	487.0	557.0	611.6	632.4
65°	395.7	443.1	512.5	567.1	587.9
67.5°	347.0	396.9	468.0	520.8	541.0
70°	303.7	350.6	420.6	474.6	494.7
72.5°	250.9	304.3	371.3	424.7	446.7
75°	205.8	258.6	322.7	373.7	386.8
77.5°	158.4	211.2	274.7	307.9	316.8
80°	116.3	166.1	217.1	234.9	235.5
82.5°	78.3	122.2	151.3	160.2	159.0
85°	43.3	74.7	82.5	80.1	77.7
87.5°	17.8	24.9	20.2	14.2	11.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)