

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: P473963

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

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473963
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-40-S-UNV-L830-CD1-U
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

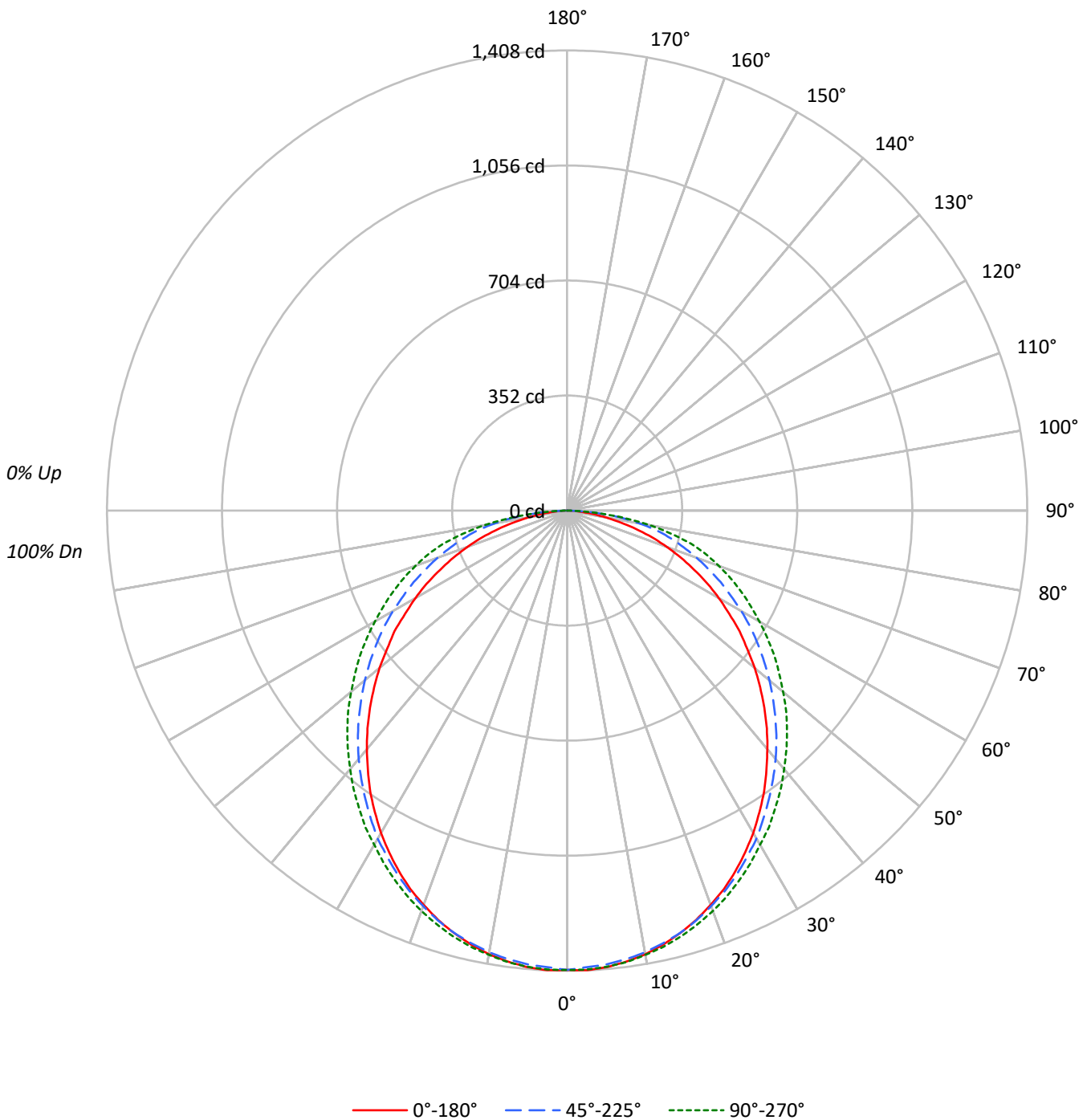
Lumens per Lamp: N/A
Luminaire Lumens: 4026.8 lumens
Efficiency: N/A
Efficacy: 127.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 31.6
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: P473963
CATALOG NUMBER: 24CZ2-40-S-UNV-L830-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P473963

CATALOG NUMBER: 24CZ2-40-S-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	90	83	77	95	88	81	76	84	79	74	81	76	72	78	74	71	68
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	59	57
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	38	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1891	1891	1891
5°	1894	1882	1892
10°	1883	1875	1886
15°	1864	1863	1879
20°	1838	1844	1867
25°	1808	1824	1852
30°	1770	1800	1834
35°	1725	1769	1824
40°	1674	1743	1813
45°	1623	1715	1810
50°	1569	1692	1805
55°	1513	1671	1815
60°	1443	1655	1828
65°	1367	1649	1872
70°	1275	1657	1939
75°	1135	1706	2043
80°	927	1743	1994
85°	653	1522	1551



TEST NUMBER: P473963

CATALOG NUMBER: 24CZ2-40-S-UNV-L830-CD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.9	3.3
10°-20°	378.5	9.4
20°-30°	567.3	14.1
30°-40°	675.7	16.8
40°-50°	696.7	17.3
50°-60°	635.7	15.8
60°-70°	508.3	12.6
70°-80°	332.0	8.2
80°-90°	99.7	2.5
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°	1078.6	26.8
0°-40°	1754.3	43.6
0°-60°	3086.7	76.7
0°-90°	4026.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4026.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1406	1406	1406	1406	1406	
5°	1402	1400	1394	1402	1401	133
15°	1338	1339	1337	1349	1349	377
25°	1218	1220	1228	1246	1248	561
35°	1050	1058	1077	1104	1110	656
45°	853	868	902	939	951	658
55°	645	663	712	759	774	574
65°	429	458	518	569	588	426
75°	218	255	328	381	393	232
85°	42	76	99	100	100	54
90°	0	0	0	0	0	



TEST NUMBER: P473963

CATALOG NUMBER: 24CZ2-40-S-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1405.5	1405.5	1405.5	1405.5	1405.5
2.5°	1407.5	1405.5	1398.3	1406.9	1405.5
5°	1402.2	1399.6	1393.6	1402.2	1400.9
7.5°	1391.6	1390.3	1384.4	1394.3	1393.0
10°	1378.4	1377.1	1372.5	1382.4	1380.4
12.5°	1359.9	1359.2	1355.9	1367.8	1366.5
15°	1338.1	1338.7	1337.4	1348.7	1348.7
17.5°	1312.9	1312.3	1314.9	1328.8	1327.5
20°	1283.8	1284.5	1287.8	1303.7	1303.7
22.5°	1253.4	1252.7	1260.0	1275.9	1277.2
25°	1217.7	1219.7	1228.3	1246.1	1247.5
27.5°	1179.3	1182.6	1193.2	1213.7	1215.7
30°	1139.0	1142.9	1158.8	1178.0	1180.6
32.5°	1094.7	1103.3	1117.8	1142.3	1148.9
35°	1050.3	1057.6	1076.8	1103.9	1110.5
37.5°	1001.4	1013.3	1035.1	1064.9	1073.5
40°	953.1	965.0	992.1	1023.2	1032.5
42.5°	904.2	916.7	947.8	982.9	992.8
45°	853.2	868.5	901.5	939.2	951.1
47.5°	801.0	818.8	854.6	895.6	908.8
50°	749.4	767.3	808.3	850.6	862.5
52.5°	693.8	716.3	760.0	805.6	817.5
55°	644.9	663.4	712.4	759.3	773.9
57.5°	587.3	612.5	664.7	712.4	726.2
60°	536.4	559.6	615.1	663.4	679.3
62.5°	484.8	508.6	564.2	619.1	633.6
65°	429.3	458.4	517.9	568.8	588.0
67.5°	376.4	406.8	467.6	521.9	541.7
70°	324.1	355.2	421.3	476.9	492.8
72.5°	272.5	304.9	373.7	427.9	446.5
75°	218.3	254.6	328.1	381.0	392.9
77.5°	167.3	207.7	281.8	317.5	326.1
80°	119.7	164.0	224.9	250.7	257.3
82.5°	78.7	121.7	168.0	181.9	179.9
85°	42.3	76.1	98.6	100.5	100.5
87.5°	16.5	30.4	31.1	23.8	22.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)