

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: P473964

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

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473964  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45-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**

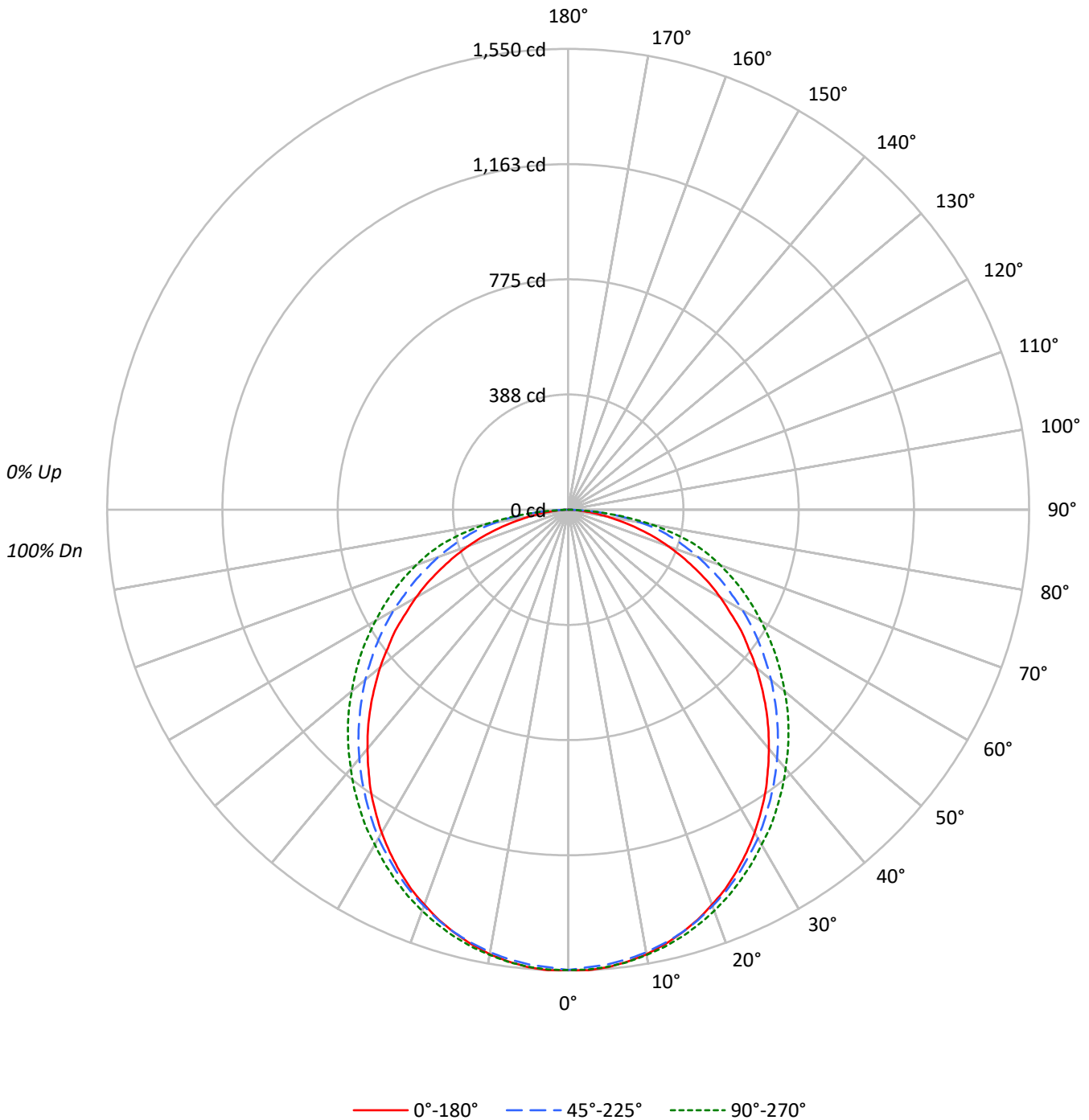
Lumens per Lamp: N/A  
Luminaire Lumens: 4435.3 lumens  
Efficiency: N/A  
Efficacy: 127.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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



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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	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°	2083	2083	2083
5°	2086	2073	2084
10°	2074	2065	2077
15°	2053	2052	2069
20°	2025	2031	2056
25°	1991	2008	2040
30°	1949	1983	2020
35°	1900	1948	2009
40°	1844	1919	1997
45°	1788	1889	1993
50°	1728	1864	1989
55°	1666	1841	2000
60°	1590	1823	2013
65°	1505	1816	2062
70°	1404	1826	2135
75°	1250	1878	2249
80°	1022	1919	2196
85°	719	1677	1709



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.4	3.3
10°-20°	416.8	9.4
20°-30°	624.8	14.1
30°-40°	744.2	16.8
40°-50°	767.4	17.3
50°-60°	700.2	15.8
60°-70°	559.9	12.6
70°-80°	365.7	8.2
80°-90°	109.8	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°	1188.1	26.8
0°-40°	1932.3	43.6
0°-60°	3399.8	76.7
0°-90°	4435.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4435.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1548	1548	1548	1548	1548	
5°	1544	1542	1535	1544	1543	147
15°	1474	1474	1473	1486	1486	415
25°	1341	1343	1353	1372	1374	617
35°	1157	1165	1186	1216	1223	723
45°	940	957	993	1034	1048	725
55°	710	731	785	836	852	633
65°	473	505	570	626	648	469
75°	240	280	361	420	433	255
85°	47	84	109	111	111	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1548.1	1548.1	1548.1	1548.1	1548.1
2.5°	1550.3	1548.1	1540.1	1549.6	1548.1
5°	1544.5	1541.6	1535.0	1544.5	1543.0
7.5°	1532.8	1531.4	1524.8	1535.7	1534.3
10°	1518.2	1516.8	1511.7	1522.6	1520.4
12.5°	1497.8	1497.1	1493.5	1506.6	1505.1
15°	1473.8	1474.5	1473.1	1485.5	1485.5
17.5°	1446.1	1445.4	1448.3	1463.6	1462.1
20°	1414.1	1414.8	1418.4	1435.9	1435.9
22.5°	1380.6	1379.8	1387.8	1405.3	1406.8
25°	1341.2	1343.4	1352.9	1372.5	1374.0
27.5°	1299.0	1302.6	1314.3	1336.8	1339.0
30°	1254.5	1258.9	1276.4	1297.5	1300.4
32.5°	1205.7	1215.2	1231.2	1258.2	1265.4
35°	1156.9	1164.9	1186.0	1215.9	1223.2
37.5°	1103.0	1116.1	1140.1	1172.9	1182.4
40°	1049.8	1062.9	1092.8	1127.0	1137.2
42.5°	995.9	1009.7	1044.0	1082.6	1093.5
45°	939.8	956.6	993.0	1034.5	1047.6
47.5°	882.2	901.9	941.3	986.4	1001.0
50°	825.4	845.1	890.3	936.9	950.0
52.5°	764.2	789.0	837.1	887.3	900.5
55°	710.3	730.7	784.6	836.3	852.4
57.5°	646.9	674.6	732.2	784.6	799.9
60°	590.8	616.3	677.5	730.7	748.2
62.5°	534.0	560.2	621.4	681.9	697.9
65°	472.8	504.9	570.4	626.5	647.7
67.5°	414.5	448.0	515.1	574.8	596.7
70°	357.0	391.2	464.1	525.3	542.8
72.5°	300.2	335.8	411.6	471.4	491.8
75°	240.4	280.5	361.3	419.6	432.7
77.5°	184.3	228.8	310.4	349.7	359.2
80°	131.9	180.7	247.7	276.1	283.4
82.5°	86.7	134.0	185.0	200.3	198.2
85°	46.6	83.8	108.6	110.7	110.7
87.5°	18.2	33.5	34.2	26.2	24.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)