

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: P473985

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

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473985  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45VHE-S-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4483.5 lumens  
Efficiency: N/A  
Efficacy: 146.0 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

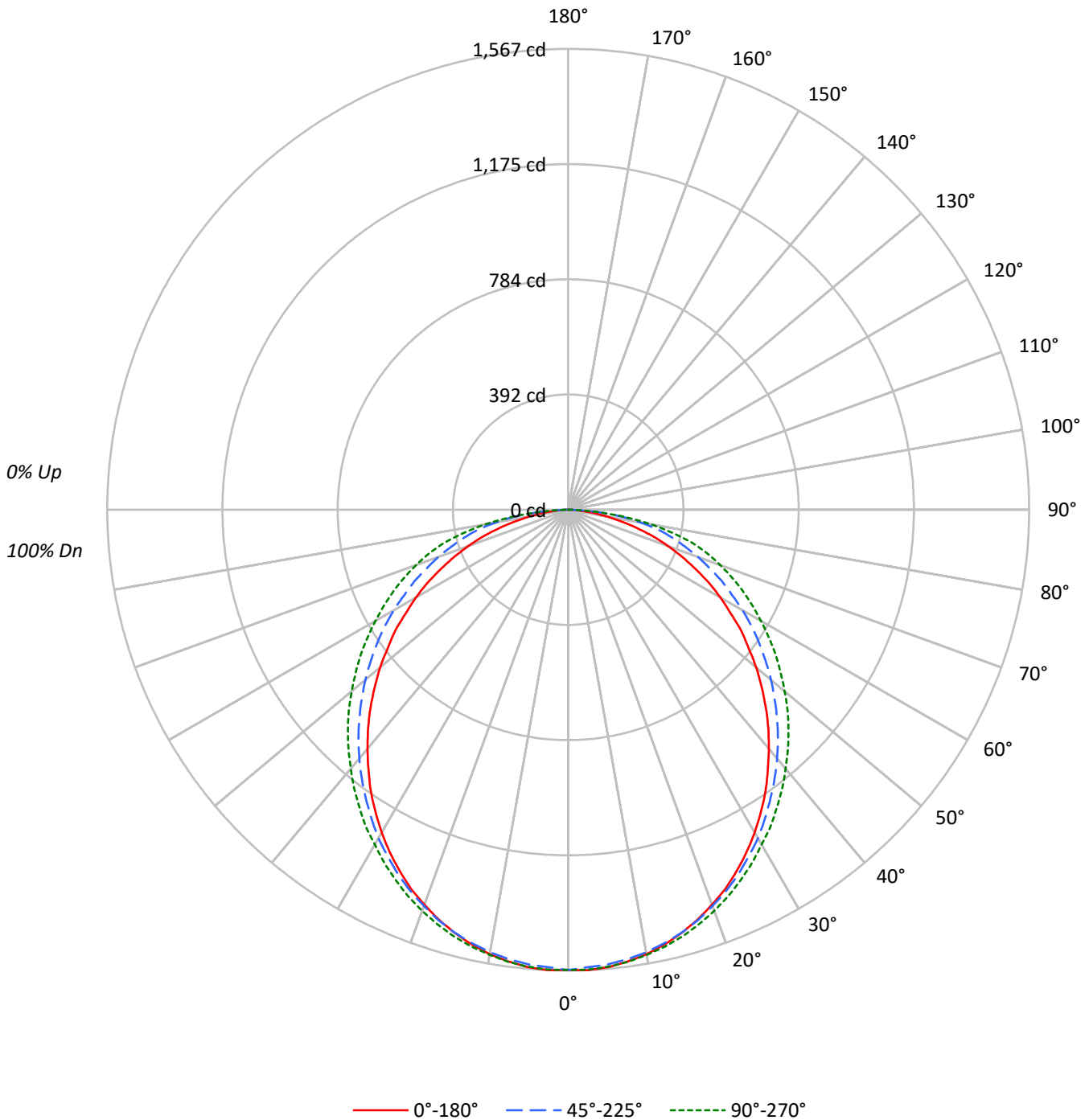
Input Watts (W): 30.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2106	2106	2106
5°	2109	2096	2107
10°	2097	2088	2100
15°	2075	2074	2092
20°	2047	2053	2078
25°	2013	2030	2062
30°	1970	2005	2042
35°	1921	1969	2031
40°	1864	1940	2019
45°	1808	1910	2015
50°	1747	1884	2010
55°	1684	1861	2021
60°	1607	1843	2035
65°	1522	1836	2084
70°	1420	1845	2159
75°	1263	1899	2274
80°	1033	1940	2220
85°	727	1694	1727



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.0	3.3
10°-20°	421.4	9.4
20°-30°	631.6	14.1
30°-40°	752.3	16.8
40°-50°	775.7	17.3
50°-60°	707.8	15.8
60°-70°	566.0	12.6
70°-80°	369.7	8.2
80°-90°	111.0	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°	1201.0	26.8
0°-40°	1953.3	43.6
0°-60°	3436.8	76.7
0°-90°	4483.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4483.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1565	1565	1565	1565	1565	
5°	1561	1558	1552	1561	1560	148
15°	1490	1491	1489	1502	1502	420
25°	1356	1358	1368	1388	1389	624
35°	1170	1178	1199	1229	1236	731
45°	950	967	1004	1046	1059	733
55°	718	739	793	845	862	640
65°	478	510	577	633	655	474
75°	243	284	365	424	437	258
85°	47	85	110	112	112	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1564.9	1564.9	1564.9	1564.9	1564.9
2.5°	1567.2	1564.9	1556.8	1566.4	1564.9
5°	1561.3	1558.3	1551.7	1561.3	1559.8
7.5°	1549.5	1548.0	1541.4	1552.4	1551.0
10°	1534.8	1533.3	1528.1	1539.2	1537.0
12.5°	1514.1	1513.4	1509.7	1523.0	1521.5
15°	1489.8	1490.6	1489.1	1501.6	1501.6
17.5°	1461.8	1461.1	1464.1	1479.5	1478.0
20°	1429.4	1430.2	1433.9	1451.5	1451.5
22.5°	1395.6	1394.8	1402.9	1420.6	1422.1
25°	1355.8	1358.0	1367.6	1387.5	1388.9
27.5°	1313.1	1316.8	1328.5	1351.4	1353.6
30°	1268.2	1272.6	1290.3	1311.6	1314.6
32.5°	1218.8	1228.4	1244.6	1271.8	1279.2
35°	1169.5	1177.6	1198.9	1229.1	1236.5
37.5°	1115.0	1128.2	1152.5	1185.7	1195.3
40°	1061.2	1074.5	1104.7	1139.3	1149.6
42.5°	1006.7	1020.7	1055.3	1094.4	1105.4
45°	950.0	967.0	1003.8	1045.8	1059.0
47.5°	891.8	911.7	951.5	997.1	1011.9
50°	834.4	854.3	899.9	947.1	960.3
52.5°	772.5	797.6	846.2	897.0	910.2
55°	718.0	738.7	793.2	845.4	861.6
57.5°	654.0	681.9	740.1	793.2	808.6
60°	597.3	623.0	684.9	738.7	756.3
62.5°	539.8	566.3	628.2	689.3	705.5
65°	478.0	510.4	576.6	633.3	654.7
67.5°	419.0	452.9	520.7	581.1	603.1
70°	360.9	395.5	469.1	531.0	548.7
72.5°	303.4	339.5	416.1	476.5	497.1
75°	243.0	283.5	365.3	424.2	437.4
77.5°	186.3	231.2	313.7	353.5	363.1
80°	133.3	182.6	250.4	279.1	286.5
82.5°	87.6	135.5	187.1	202.5	200.3
85°	47.1	84.7	109.7	111.9	111.9
87.5°	18.4	33.9	34.6	26.5	25.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)