

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: P473987

Luminaire Tested: **24CZ2-60VHE-S-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473987  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-60VHE-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: 5912.7 lumens  
Efficiency: N/A  
Efficacy: 145.3 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

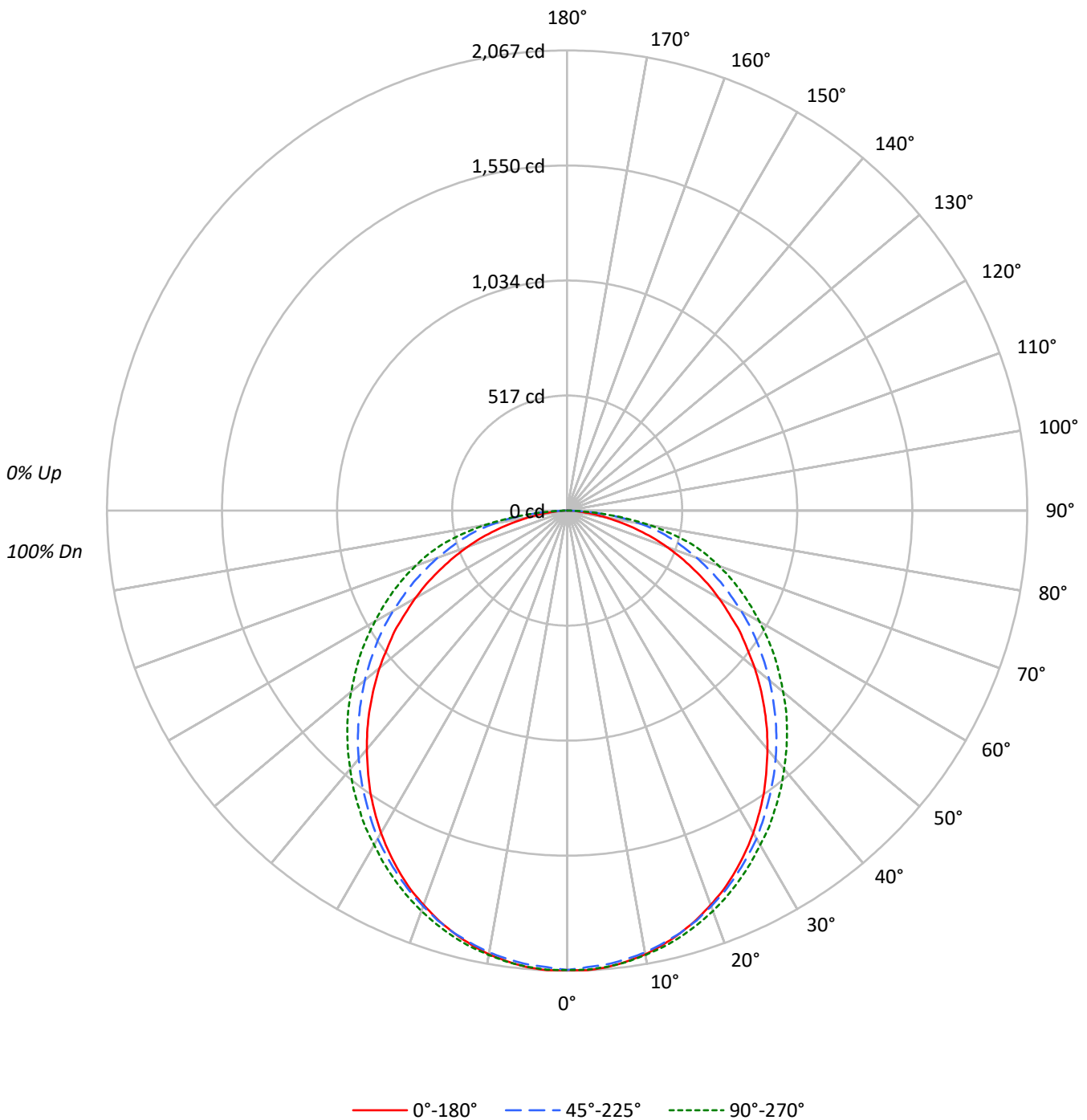
Input Watts (W): 40.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2777	2777	2777
5°	2781	2764	2778
10°	2765	2753	2769
15°	2737	2735	2758
20°	2699	2707	2741
25°	2654	2677	2719
30°	2598	2644	2693
35°	2533	2597	2678
40°	2458	2559	2663
45°	2384	2519	2657
50°	2303	2484	2651
55°	2221	2454	2666
60°	2119	2430	2684
65°	2007	2421	2749
70°	1872	2434	2846
75°	1666	2504	2999
80°	1362	2559	2927
85°	960	2234	2279



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	195.1	3.3
10°-20°	555.7	9.4
20°-30°	833.0	14.1
30°-40°	992.1	16.8
40°-50°	1023.0	17.3
50°-60°	933.5	15.8
60°-70°	746.4	12.6
70°-80°	487.5	8.2
80°-90°	146.4	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°	1583.8	26.8
0°-40°	2575.9	43.6
0°-60°	4532.4	76.7
0°-90°	5912.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5912.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2064	2064	2064	2064	2064	
5°	2059	2055	2046	2059	2057	195
15°	1965	1966	1964	1980	1980	554
25°	1788	1791	1804	1830	1832	823
35°	1542	1553	1581	1621	1631	963
45°	1253	1275	1324	1379	1397	966
55°	947	974	1046	1115	1136	843
65°	630	673	760	835	863	625
75°	320	374	482	559	577	341
85°	62	112	145	148	148	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2063.8	2063.8	2063.8	2063.8	2063.8
2.5°	2066.7	2063.8	2053.1	2065.8	2063.8
5°	2059.0	2055.1	2046.3	2059.0	2057.0
7.5°	2043.4	2041.5	2032.7	2047.3	2045.4
10°	2024.0	2022.0	2015.2	2029.8	2026.9
12.5°	1996.8	1995.8	1991.0	2008.4	2006.5
15°	1964.7	1965.7	1963.8	1980.3	1980.3
17.5°	1927.8	1926.9	1930.8	1951.1	1949.2
20°	1885.1	1886.1	1890.9	1914.2	1914.2
22.5°	1840.4	1839.5	1850.1	1873.5	1875.4
25°	1788.0	1790.9	1803.5	1829.7	1831.7
27.5°	1731.7	1736.5	1752.1	1782.2	1785.1
30°	1672.4	1678.2	1701.5	1729.7	1733.6
32.5°	1607.3	1620.0	1641.3	1677.3	1687.0
35°	1542.3	1553.0	1581.1	1620.9	1630.7
37.5°	1470.4	1487.9	1519.9	1563.6	1576.3
40°	1399.5	1417.0	1456.8	1502.5	1516.0
42.5°	1327.6	1346.1	1391.7	1443.2	1457.8
45°	1252.9	1275.2	1323.8	1379.1	1396.6
47.5°	1176.1	1202.4	1254.8	1315.0	1334.4
50°	1100.4	1126.6	1186.8	1249.0	1266.5
52.5°	1018.8	1051.8	1115.9	1182.9	1200.4
55°	946.9	974.1	1046.0	1114.9	1136.3
57.5°	862.4	899.3	976.1	1046.0	1066.4
60°	787.6	821.6	903.2	974.1	997.4
62.5°	711.9	746.9	828.4	909.0	930.4
65°	630.3	673.0	760.5	835.2	863.4
67.5°	552.6	597.3	686.6	766.3	795.4
70°	475.9	521.5	618.7	700.2	723.5
72.5°	400.1	447.7	548.7	628.4	655.6
75°	320.5	373.9	481.7	559.4	576.9
77.5°	245.7	305.0	413.7	466.2	478.8
80°	175.8	240.9	330.2	368.1	377.8
82.5°	115.6	178.7	246.7	267.1	264.2
85°	62.2	111.7	144.7	147.6	147.6
87.5°	24.3	44.7	45.6	35.0	33.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)