

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: P473787

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

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473787  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-60VHE-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

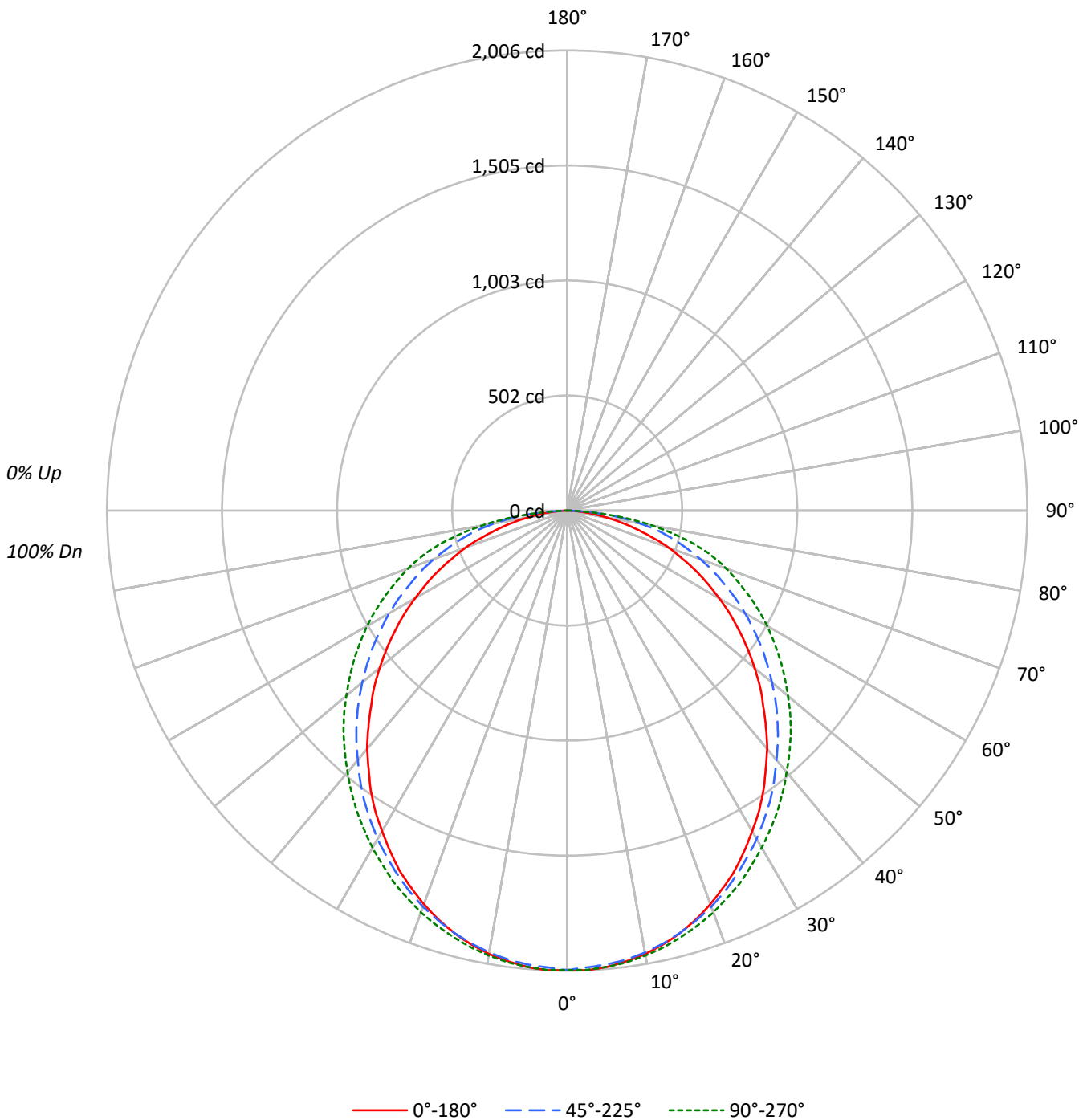
Lumens per Lamp: N/A  
Luminaire Lumens: 5796.7 lumens  
Efficiency: N/A  
Efficacy: 142.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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	89	82	76	95	88	81	75	84	78	74		81	76	72		78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	61		71	65	60		68	63	59	57
4	82	69	60	53	79	68	59	53	65	58	52		63	57	51		61	55	51	48
5	75	62	53	46	73	61	52	46	58	51	45		56	50	44		55	49	44	42
6	69	56	46	40	67	55	46	40	53	45	39		51	44	39		49	43	39	37
7	64	50	41	35	62	50	41	35	48	40	35		47	40	35		45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31		43	36	31		41	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28		39	33	28		38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25		36	30	25		36	30	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2695	2695	2695
5°	2697	2683	2697
10°	2682	2673	2691
15°	2655	2653	2679
20°	2615	2631	2668
25°	2569	2598	2655
30°	2507	2568	2636
35°	2450	2535	2626
40°	2383	2494	2615
45°	2302	2468	2623
50°	2233	2440	2631
55°	2151	2423	2660
60°	2061	2412	2709
65°	1965	2403	2779
70°	1849	2428	2907
75°	1626	2478	3023
80°	1357	2496	2917
85°	968	2140	2169



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	189.4	3.3
10°-20°	539.4	9.3
20°-30°	809.1	14.0
30°-40°	966.0	16.7
40°-50°	1000.6	17.3
50°-60°	921.2	15.9
60°-70°	743.1	12.8
70°-80°	485.5	8.4
80°-90°	142.3	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°	1537.9	26.5
0°-40°	2503.9	43.2
0°-60°	4425.7	76.3
0°-90°	5796.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5796.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2003	2003	2003	2003	2003	
5°	1997	1995	1986	1998	1997	189
15°	1906	1906	1905	1924	1924	537
25°	1731	1734	1750	1782	1789	796
35°	1492	1505	1543	1585	1599	932
45°	1210	1240	1297	1355	1378	935
55°	917	956	1033	1109	1134	820
65°	617	659	755	841	873	610
75°	313	372	477	559	582	334
85°	63	109	139	147	140	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2003.1	2003.1	2003.1	2003.1	2003.1
2.5°	2005.9	2003.1	1992.8	2005.0	2004.0
5°	1996.6	1994.7	1986.3	1997.5	1996.6
7.5°	1981.6	1980.6	1974.1	1986.3	1986.3
10°	1962.8	1961.0	1956.3	1970.3	1969.4
12.5°	1936.6	1935.7	1932.9	1949.7	1948.8
15°	1905.7	1905.7	1904.8	1923.5	1923.5
17.5°	1868.3	1869.2	1872.9	1894.5	1895.4
20°	1826.1	1829.9	1837.4	1861.7	1863.6
22.5°	1778.4	1785.9	1796.2	1823.3	1826.1
25°	1730.6	1734.3	1750.3	1782.1	1788.7
27.5°	1672.5	1681.9	1702.5	1735.3	1741.8
30°	1613.5	1626.6	1652.9	1686.6	1696.9
32.5°	1555.5	1566.7	1597.6	1636.0	1648.2
35°	1491.8	1504.9	1543.3	1585.4	1598.6
37.5°	1421.6	1442.2	1482.4	1531.1	1545.2
40°	1356.9	1375.7	1419.7	1474.0	1489.0
42.5°	1283.0	1306.4	1359.8	1415.0	1433.7
45°	1209.9	1239.9	1297.0	1355.1	1378.5
47.5°	1141.6	1165.9	1233.3	1298.9	1319.5
50°	1066.6	1094.7	1165.9	1235.2	1256.7
52.5°	992.7	1026.4	1098.5	1171.5	1194.9
55°	916.8	956.1	1032.9	1108.8	1134.1
57.5°	843.8	883.1	962.7	1043.2	1069.4
60°	766.0	808.2	896.2	973.9	1006.7
62.5°	691.1	733.3	826.0	910.2	941.2
65°	617.1	659.3	754.8	841.0	872.8
67.5°	540.3	586.2	688.3	771.7	802.6
70°	470.1	514.1	617.1	706.1	738.9
72.5°	389.6	442.0	546.9	634.9	665.8
75°	312.8	371.8	476.7	559.1	581.5
77.5°	241.6	300.6	405.5	467.3	481.3
80°	175.1	235.1	322.1	365.2	376.5
82.5°	113.3	175.1	233.2	262.2	266.0
85°	62.7	108.6	138.6	147.0	140.5
87.5°	22.5	41.2	40.3	32.8	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)