

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: P473977

Luminaire Tested: **24CZ2-70HE-S-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473977  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-70HE-S-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7104.7 lumens  
Efficiency: N/A  
Efficacy: 144.1 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

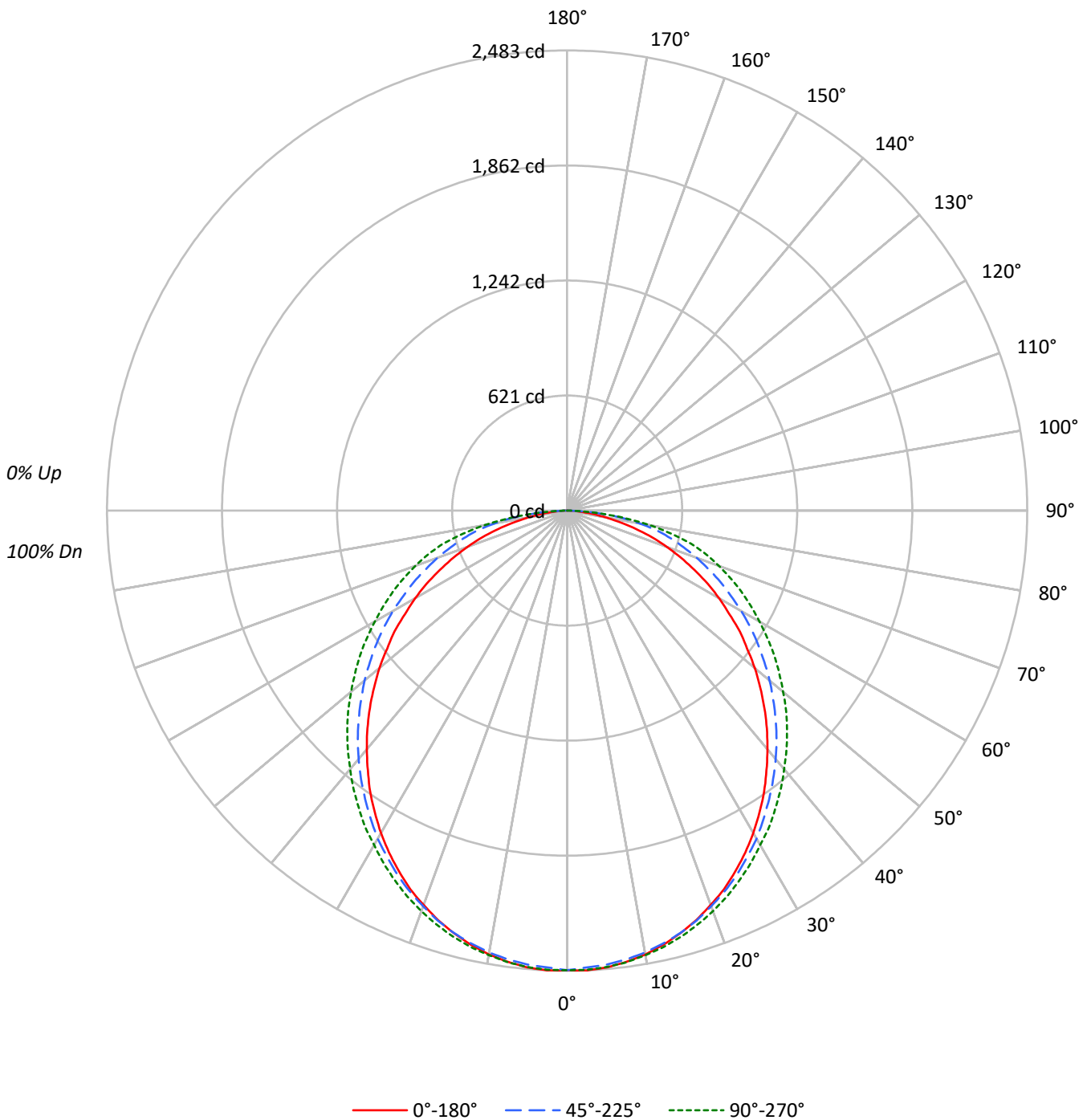
Input Watts (W): 49.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	45°	90°
0°	3337	3337	3337
5°	3341	3321	3338
10°	3323	3308	3327
15°	3288	3287	3315
20°	3243	3253	3294
25°	3189	3217	3268
30°	3122	3177	3236
35°	3044	3121	3218
40°	2954	3075	3200
45°	2864	3027	3193
50°	2768	2985	3185
55°	2669	2948	3203
60°	2547	2921	3225
65°	2411	2909	3303
70°	2249	2924	3420
75°	2002	3009	3604
80°	1636	3075	3518
85°	1153	2685	2739



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	234.4	3.3
10°-20°	667.7	9.4
20°-30°	1000.9	14.1
30°-40°	1192.1	16.8
40°-50°	1229.2	17.3
50°-60°	1121.6	15.8
60°-70°	896.9	12.6
70°-80°	585.8	8.2
80°-90°	175.9	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°	1903.1	26.8
0°-40°	3095.2	43.6
0°-60°	5446.1	76.7
0°-90°	7104.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7104.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2480	2480	2480	2480	2480	
5°	2474	2469	2459	2474	2472	235
15°	2361	2362	2360	2380	2380	666
25°	2148	2152	2167	2199	2201	989
35°	1853	1866	1900	1948	1959	1158
45°	1505	1532	1591	1657	1678	1161
55°	1138	1170	1257	1340	1365	1013
65°	757	809	914	1004	1038	751
75°	385	449	579	672	693	409
85°	75	134	174	177	177	95
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2479.9	2479.9	2479.9	2479.9	2479.9
2.5°	2483.4	2479.9	2467.0	2482.2	2479.9
5°	2474.0	2469.4	2458.9	2474.0	2471.7
7.5°	2455.4	2453.0	2442.5	2460.0	2457.7
10°	2432.0	2429.7	2421.5	2439.0	2435.5
12.5°	2399.3	2398.2	2392.3	2413.3	2411.0
15°	2360.8	2362.0	2359.7	2379.5	2379.5
17.5°	2316.5	2315.3	2320.0	2344.5	2342.2
20°	2265.1	2266.3	2272.1	2300.2	2300.2
22.5°	2211.5	2210.3	2223.1	2251.1	2253.5
25°	2148.4	2151.9	2167.1	2198.6	2201.0
27.5°	2080.8	2086.6	2105.3	2141.4	2144.9
30°	2009.6	2016.6	2044.6	2078.4	2083.1
32.5°	1931.4	1946.6	1972.2	2015.4	2027.1
35°	1853.2	1866.0	1899.9	1947.7	1959.4
37.5°	1766.8	1787.8	1826.4	1878.9	1894.0
40°	1681.6	1702.6	1750.5	1805.3	1821.7
42.5°	1595.3	1617.5	1672.3	1734.2	1751.7
45°	1505.4	1532.3	1590.6	1657.1	1678.1
47.5°	1413.2	1444.7	1507.8	1580.1	1603.5
50°	1322.2	1353.7	1426.1	1500.8	1521.8
52.5°	1224.2	1263.9	1340.9	1421.4	1442.4
55°	1137.8	1170.5	1256.9	1339.7	1365.4
57.5°	1036.3	1080.6	1172.8	1256.9	1281.4
60°	946.4	987.3	1085.3	1170.5	1198.5
62.5°	855.4	897.4	995.4	1092.3	1118.0
65°	757.4	808.7	913.8	1003.6	1037.5
67.5°	664.0	717.7	825.1	920.8	955.8
70°	571.8	626.7	743.4	841.4	869.4
72.5°	480.8	538.0	659.4	755.0	787.7
75°	385.1	449.3	578.8	672.2	693.2
77.5°	295.3	366.4	497.1	560.2	575.3
80°	211.2	289.4	396.8	442.3	454.0
82.5°	138.9	214.7	296.4	320.9	317.4
85°	74.7	134.2	173.9	177.4	177.4
87.5°	29.2	53.7	54.8	42.0	39.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)