

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: P474738

Luminaire Tested: **24CZ2-70VHE-SQR-UNV-L850-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474738  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-70VHE-SQR-UNV-L850-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6770.9 lumens  
Efficiency: N/A  
Efficacy: 141.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

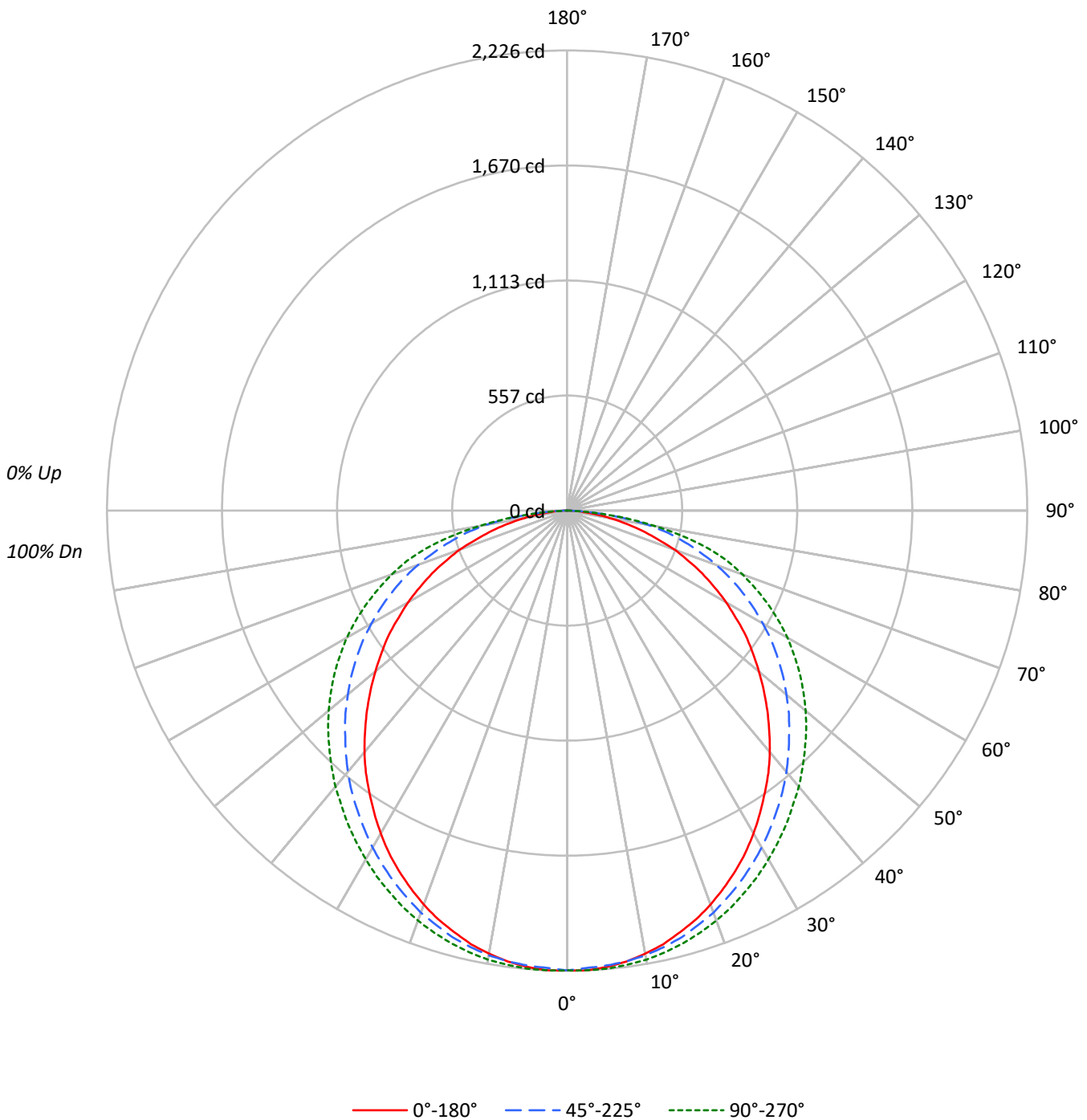
Input Watts (W): 47.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P474738

CATALOG NUMBER: 24CZ2-70VHE-SQR-UNV-L850-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P474738

CATALOG NUMBER: 24CZ2-70VHE-SQR-UNV-L850-CD1-U

**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	98	94	105	101	96	93	96	93	90	92	90	87	89	87	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

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

	0°	45°	90°
0°	5985	5985	5985
5°	5984	5967	6008
10°	5947	5968	6027
15°	5882	5955	6036
20°	5808	5926	6044
25°	5714	5884	6045
30°	5603	5849	6054
35°	5476	5814	6077
40°	5358	5795	6125
45°	5212	5780	6191
50°	5072	5797	6304
55°	4953	5836	6445
60°	4786	5880	6625
65°	4594	5951	6826
70°	4357	6034	7098
75°	3903	6119	7333
80°	3285	6135	6654
85°	2439	4644	4375



TEST NUMBER: P474738

CATALOG NUMBER: 24CZ2-70VHE-SQR-UNV-L850-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	210.8	3.1
10°-20°	604.0	8.9
20°-30°	914.4	13.5
30°-40°	1106.1	16.3
40°-50°	1167.6	17.2
50°-60°	1101.1	16.3
60°-70°	907.7	13.4
70°-80°	595.5	8.8
80°-90°	163.7	2.4
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°	1729.2	25.5
0°-40°	2835.3	41.9
0°-60°	5103.9	75.4
0°-90°	6770.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6770.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2224	2224	2224	2224	2224	
5°	2215	2215	2209	2224	2224	210
15°	2112	2123	2138	2162	2167	596
25°	1924	1948	1982	2023	2036	886
35°	1667	1710	1770	1830	1850	1044
45°	1370	1431	1519	1600	1627	1057
55°	1056	1130	1244	1337	1374	941
65°	722	808	935	1034	1072	712
75°	375	472	588	682	705	397
85°	79	136	150	146	142	98
90°	0	0	0	0	0	



TEST NUMBER: P474738

CATALOG NUMBER: 24CZ2-70VHE-SQR-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2224.0	2224.0	2224.0	2224.0	2224.0
2.5°	2226.2	2224.0	2214.3	2227.3	2226.2
5°	2215.4	2215.4	2208.9	2224.0	2224.0
7.5°	2200.2	2201.3	2199.2	2216.5	2216.5
10°	2176.4	2180.8	2184.0	2203.5	2205.6
12.5°	2148.3	2155.9	2162.4	2186.2	2188.3
15°	2111.5	2123.4	2137.5	2162.4	2166.7
17.5°	2073.7	2087.7	2102.9	2135.3	2140.7
20°	2028.2	2044.5	2069.3	2101.8	2110.5
22.5°	1977.4	2000.1	2026.1	2065.0	2075.8
25°	1924.4	1948.2	1981.7	2022.8	2035.8
27.5°	1867.1	1895.2	1933.0	1980.6	1994.7
30°	1803.2	1835.7	1882.2	1933.0	1948.2
32.5°	1736.2	1774.0	1826.0	1882.2	1899.5
35°	1666.9	1710.2	1769.7	1830.3	1849.8
37.5°	1598.8	1642.1	1712.4	1776.2	1794.6
40°	1525.2	1572.8	1649.6	1717.8	1743.7
42.5°	1447.4	1503.6	1584.7	1660.5	1685.3
45°	1369.5	1431.1	1518.7	1599.9	1626.9
47.5°	1290.5	1358.7	1454.9	1537.1	1568.5
50°	1211.5	1284.0	1384.6	1473.3	1505.8
52.5°	1131.5	1207.2	1316.5	1410.6	1439.8
55°	1055.8	1130.4	1244.0	1337.0	1373.8
57.5°	968.1	1052.5	1172.6	1266.7	1302.4
60°	889.2	971.4	1092.5	1192.1	1231.0
62.5°	803.7	888.1	1015.7	1115.3	1153.1
65°	721.5	808.1	934.6	1034.1	1072.0
67.5°	632.8	723.7	853.5	949.8	986.5
70°	553.8	639.3	766.9	865.4	902.2
72.5°	457.6	554.9	677.2	774.5	814.5
75°	375.4	471.6	588.5	681.5	705.3
77.5°	288.8	385.1	500.8	561.4	577.6
80°	212.0	302.9	395.9	428.4	429.4
82.5°	142.8	222.8	275.8	292.1	289.9
85°	79.0	136.3	150.4	146.0	141.7
87.5°	32.5	45.4	36.8	26.0	20.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)