

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: P474388

Luminaire Tested: **24CZ2-70VHE-HRP-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474388
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-70VHE-HRP-UNV-L830-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP
INSERT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5467.6 lumens
Efficiency: N/A
Efficacy: 114.4 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

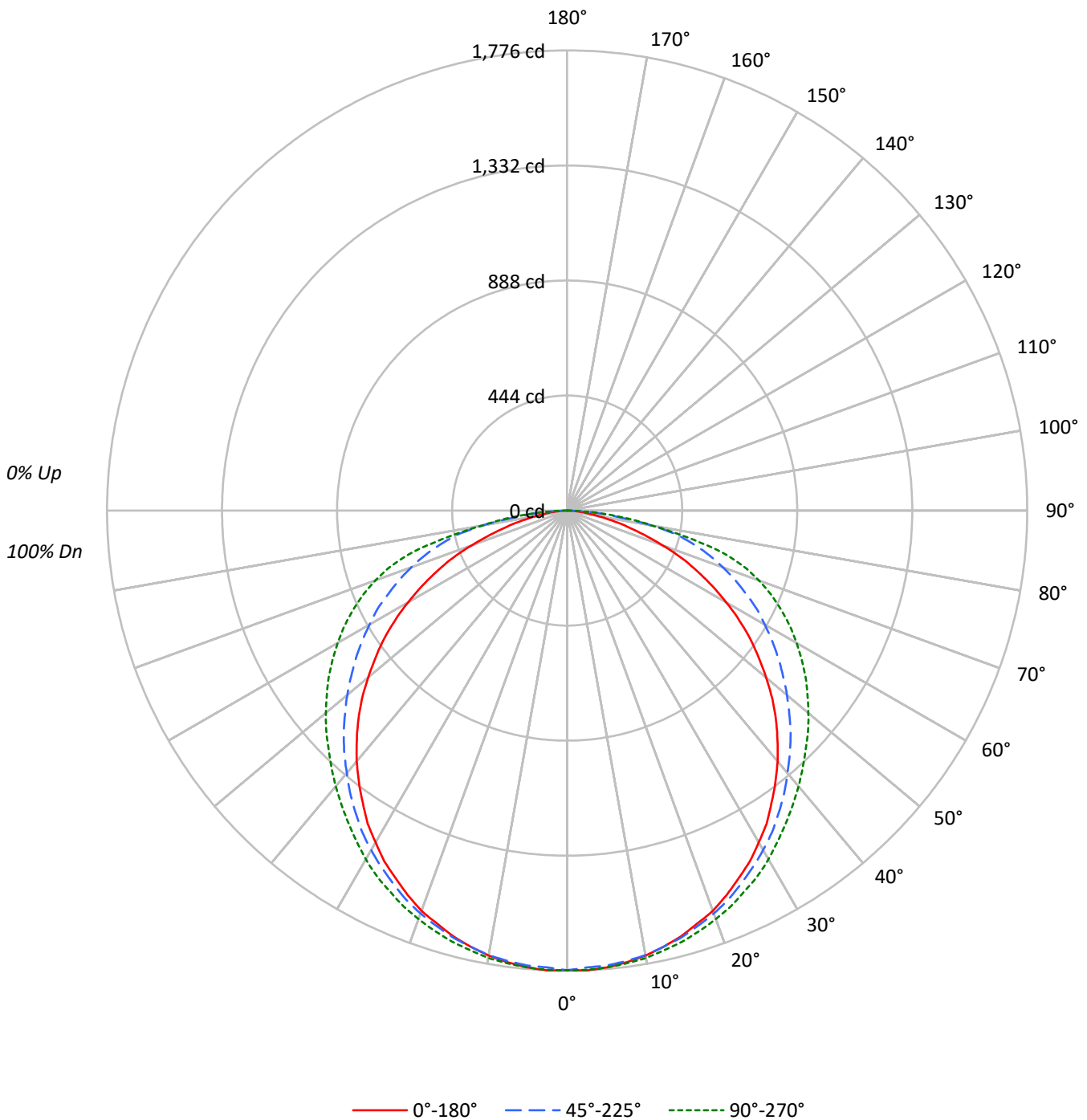
Input Watts (W): 47.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2387	2387	2387
5°	2390	2380	2390
10°	2383	2380	2395
15°	2369	2376	2398
20°	2353	2370	2402
25°	2324	2358	2406
30°	2297	2351	2415
35°	2260	2338	2417
40°	2219	2324	2440
45°	2169	2321	2478
50°	2099	2319	2544
55°	2024	2335	2636
60°	1909	2371	2753
65°	1764	2427	2908
70°	1540	2512	3098
75°	1249	2642	3201
80°	923	2590	2590
85°	707	1908	2154



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.0	3.1
10°-20°	482.6	8.8
20°-30°	734.7	13.4
30°-40°	892.1	16.3
40°-50°	942.5	17.2
50°-60°	889.3	16.3
60°-70°	739.4	13.5
70°-80°	486.5	8.9
80°-90°	132.6	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°	1385.3	25.3
0°-40°	2277.4	41.7
0°-60°	4109.1	75.2
0°-90°	5467.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5467.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1774	1774	1774	1774	1774	
5°	1770	1770	1762	1770	1770	168
15°	1701	1703	1705	1721	1721	480
25°	1566	1575	1589	1616	1621	722
35°	1376	1392	1424	1460	1472	861
45°	1140	1163	1220	1279	1302	878
55°	863	900	996	1090	1124	769
65°	554	618	762	874	913	548
75°	240	350	508	602	616	259
85°	46	101	124	137	140	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1774.0	1774.0	1774.0	1774.0	1774.0
2.5°	1776.3	1774.0	1764.8	1774.0	1774.0
5°	1769.5	1769.5	1762.5	1769.5	1769.5
7.5°	1758.0	1758.0	1753.3	1762.5	1762.5
10°	1744.1	1744.1	1742.0	1753.3	1753.3
12.5°	1723.7	1725.8	1723.7	1737.3	1737.3
15°	1700.7	1703.0	1705.4	1721.3	1721.3
17.5°	1671.1	1675.5	1680.2	1698.3	1700.7
20°	1643.6	1645.7	1654.9	1675.5	1677.9
22.5°	1606.9	1613.7	1625.3	1645.7	1652.7
25°	1565.6	1574.7	1588.6	1616.1	1620.6
27.5°	1526.8	1533.6	1552.0	1581.8	1591.0
30°	1478.7	1490.2	1513.0	1542.8	1554.3
32.5°	1432.8	1444.4	1471.8	1503.8	1513.0
35°	1375.8	1391.7	1423.7	1460.3	1471.8
37.5°	1320.8	1336.8	1375.8	1416.9	1430.7
40°	1263.5	1281.8	1323.1	1371.1	1389.4
42.5°	1201.7	1226.8	1272.6	1325.2	1345.9
45°	1139.9	1162.9	1220.0	1279.4	1302.5
47.5°	1073.6	1101.1	1162.9	1233.9	1261.3
50°	1002.7	1037.0	1107.9	1185.7	1215.5
52.5°	931.7	970.5	1050.6	1137.5	1169.7
55°	862.9	899.6	995.6	1089.6	1123.9
57.5°	787.5	833.3	938.6	1039.1	1073.6
60°	709.5	760.0	881.2	986.5	1023.1
62.5°	631.7	689.1	826.3	931.7	970.5
65°	554.0	618.1	762.4	874.4	913.4
67.5°	478.3	549.3	702.7	815.0	853.7
70°	391.4	480.7	638.5	748.5	787.5
72.5°	311.3	414.4	576.8	679.9	714.2
75°	240.3	350.3	508.2	601.9	615.8
77.5°	176.2	286.1	437.2	469.2	471.5
80°	119.1	228.8	334.3	329.6	334.3
82.5°	77.8	171.7	210.5	235.9	238.0
85°	45.8	100.8	123.6	137.4	139.5
87.5°	22.8	34.3	43.5	45.8	50.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)