

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: P474438

Luminaire Tested: **24CZ2-70VHE-HRP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474438  
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-L835-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP  
INSERT  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5666.0 lumens  
Efficiency: N/A  
Efficacy: 118.5 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

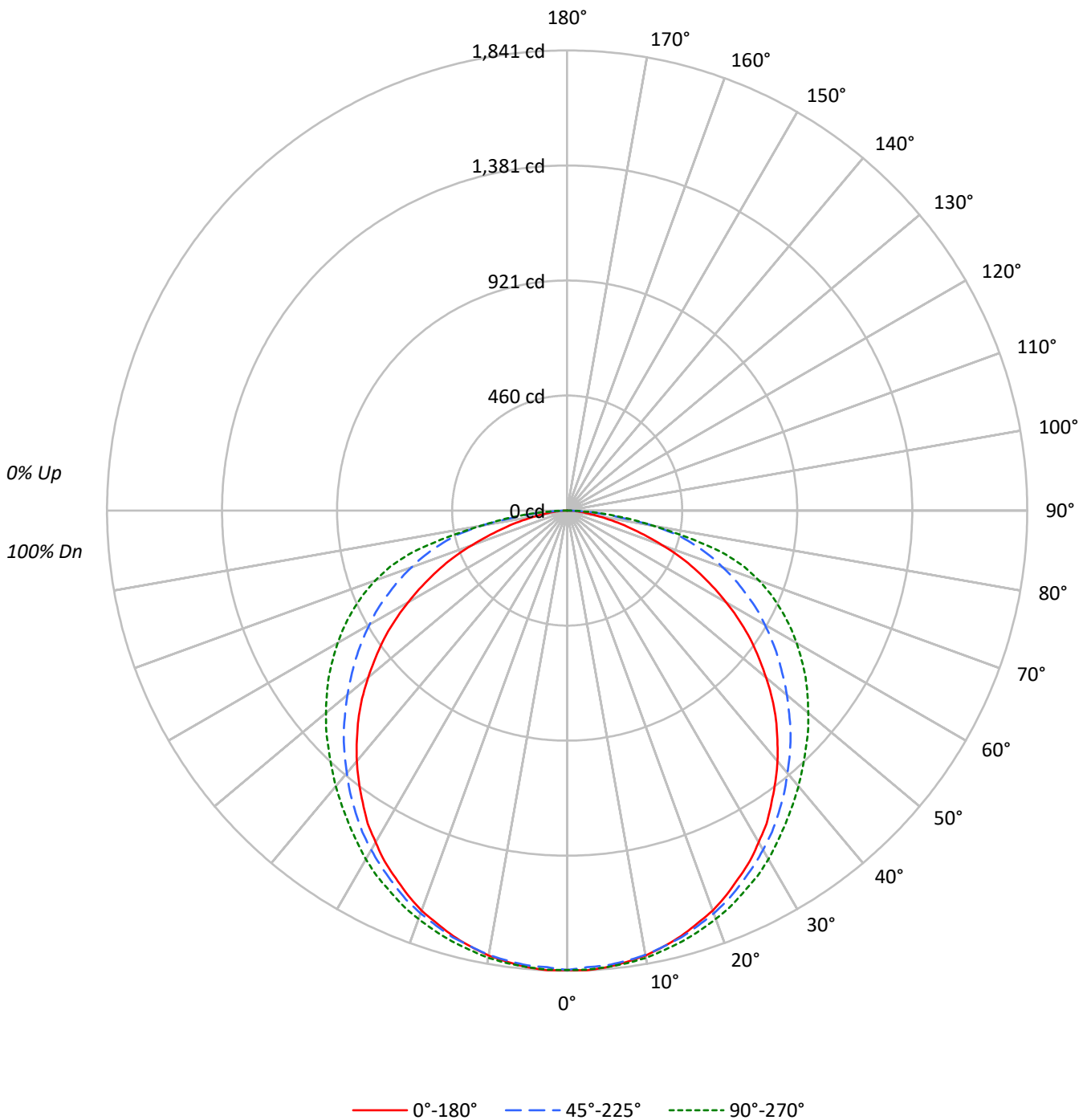
Input Watts (W): 47.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2473	2473	2473
5°	2477	2467	2477
10°	2469	2466	2482
15°	2455	2462	2485
20°	2439	2455	2490
25°	2409	2444	2493
30°	2381	2436	2502
35°	2342	2423	2505
40°	2300	2408	2529
45°	2248	2406	2568
50°	2175	2403	2637
55°	2098	2420	2732
60°	1978	2457	2853
65°	1828	2515	3013
70°	1596	2603	3210
75°	1295	2738	3317
80°	956	2684	2684
85°	733	1978	2232



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.1	3.1
10°-20°	500.1	8.8
20°-30°	761.3	13.4
30°-40°	924.4	16.3
40°-50°	976.6	17.2
50°-60°	921.6	16.3
60°-70°	766.2	13.5
70°-80°	504.1	8.9
80°-90°	137.4	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°	1435.5	25.3
0°-40°	2360.0	41.7
0°-60°	4258.2	75.2
0°-90°	5666.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5666.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1838	1838	1838	1838	1838	
5°	1834	1834	1826	1834	1834	174
15°	1762	1765	1767	1784	1784	497
25°	1622	1632	1646	1675	1679	748
35°	1426	1442	1475	1513	1525	892
45°	1181	1205	1264	1326	1350	910
55°	894	932	1032	1129	1165	797
65°	574	640	790	906	946	567
75°	249	363	527	624	638	268
85°	48	104	128	142	145	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1838.3	1838.3	1838.3	1838.3	1838.3
2.5°	1840.7	1838.3	1828.8	1838.3	1838.3
5°	1833.7	1833.7	1826.4	1833.7	1833.7
7.5°	1821.8	1821.8	1816.9	1826.4	1826.4
10°	1807.4	1807.4	1805.2	1816.9	1816.9
12.5°	1786.2	1788.4	1786.2	1800.3	1800.3
15°	1762.4	1764.8	1767.2	1783.8	1783.8
17.5°	1731.7	1736.3	1741.2	1759.9	1762.4
20°	1703.2	1705.4	1714.9	1736.3	1738.7
22.5°	1665.2	1672.3	1684.2	1705.4	1712.7
25°	1622.4	1631.9	1646.2	1674.7	1679.3
27.5°	1582.2	1589.3	1608.2	1639.2	1648.7
30°	1532.3	1544.2	1567.8	1598.8	1610.7
32.5°	1484.8	1496.7	1525.2	1558.3	1567.8
35°	1425.7	1442.2	1475.3	1513.3	1525.2
37.5°	1368.7	1385.2	1425.7	1468.3	1482.6
40°	1309.3	1328.3	1371.1	1420.8	1439.8
42.5°	1245.3	1271.3	1318.8	1373.3	1394.7
45°	1181.2	1205.1	1264.2	1325.8	1349.7
47.5°	1112.6	1141.1	1205.1	1278.6	1307.1
50°	1039.1	1074.6	1148.1	1228.7	1259.6
52.5°	965.5	1005.7	1088.7	1178.8	1212.2
55°	894.2	932.2	1031.8	1129.1	1164.7
57.5°	816.1	863.5	972.6	1076.8	1112.6
60°	735.2	787.6	913.2	1022.3	1060.2
62.5°	654.6	714.0	856.2	965.5	1005.7
65°	574.1	640.5	790.0	906.1	946.5
67.5°	495.7	569.2	728.2	844.5	884.7
70°	405.6	498.1	661.7	775.6	816.1
72.5°	322.6	429.5	597.7	704.6	740.1
75°	249.1	363.0	526.6	623.7	638.1
77.5°	182.6	296.5	453.1	486.2	488.6
80°	123.4	237.1	346.4	341.6	346.4
82.5°	80.6	178.0	218.1	244.4	246.6
85°	47.5	104.4	128.1	142.4	144.6
87.5°	23.6	35.5	45.0	47.5	52.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)