

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: P473971

Luminaire Tested: **24CZ2-40HE-S-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473971
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-40HE-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

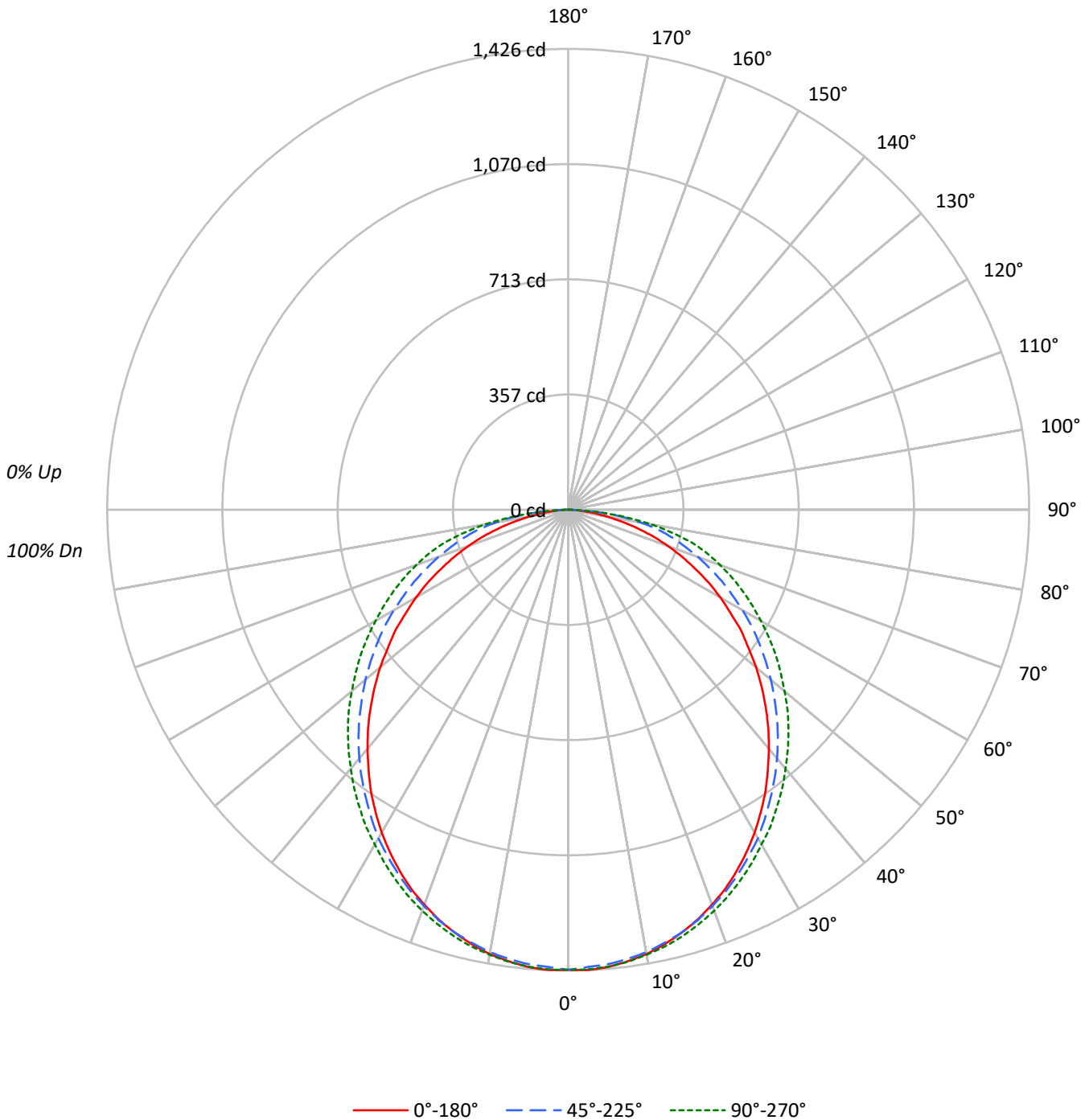
Lumens per Lamp: N/A
Luminaire Lumens: 4078.9 lumens
Efficiency: N/A
Efficacy: 132.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 30.7
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	90	83	77	95	88	81	76	84	79	74	81	76	72	78	74	71	68
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	59	57
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	38	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1916	1916	1916
5°	1918	1907	1917
10°	1908	1899	1910
15°	1888	1887	1903
20°	1862	1868	1891
25°	1831	1847	1876
30°	1792	1824	1858
35°	1748	1792	1848
40°	1696	1765	1837
45°	1645	1738	1833
50°	1589	1714	1829
55°	1532	1693	1839
60°	1462	1677	1852
65°	1384	1670	1896
70°	1292	1679	1963
75°	1149	1727	2069
80°	940	1765	2019
85°	662	1541	1572



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.6	3.3
10°-20°	383.4	9.4
20°-30°	574.7	14.1
30°-40°	684.4	16.8
40°-50°	705.7	17.3
50°-60°	644.0	15.8
60°-70°	514.9	12.6
70°-80°	336.3	8.2
80°-90°	101.0	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°	1092.6	26.8
0°-40°	1777.0	43.6
0°-60°	3126.7	76.7
0°-90°	4078.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4078.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1424	1424	1424	1424	1424	
5°	1420	1418	1412	1420	1419	135
15°	1355	1356	1355	1366	1366	382
25°	1234	1236	1244	1262	1264	568
35°	1064	1071	1091	1118	1125	665
45°	864	880	913	951	964	667
55°	653	672	722	769	784	582
65°	435	464	525	576	596	431
75°	221	258	332	386	398	235
85°	43	77	100	102	102	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1423.7	1423.7	1423.7	1423.7	1423.7
2.5°	1425.8	1423.7	1416.4	1425.1	1423.7
5°	1420.4	1417.7	1411.7	1420.4	1419.1
7.5°	1409.7	1408.3	1402.3	1412.4	1411.0
10°	1396.3	1394.9	1390.2	1400.3	1398.3
12.5°	1377.5	1376.8	1373.5	1385.6	1384.2
15°	1355.4	1356.1	1354.7	1366.1	1366.1
17.5°	1329.9	1329.3	1332.0	1346.0	1344.7
20°	1300.5	1301.1	1304.5	1320.6	1320.6
22.5°	1269.6	1269.0	1276.3	1292.4	1293.8
25°	1233.5	1235.5	1244.2	1262.3	1263.6
27.5°	1194.6	1198.0	1208.7	1229.4	1231.5
30°	1153.7	1157.8	1173.8	1193.3	1195.9
32.5°	1108.8	1117.6	1132.3	1157.1	1163.8
35°	1064.0	1071.3	1090.8	1118.2	1124.9
37.5°	1014.4	1026.4	1048.5	1078.7	1087.4
40°	965.5	977.5	1005.0	1036.5	1045.9
42.5°	915.9	928.6	960.1	995.6	1005.7
45°	864.3	879.7	913.2	951.4	963.5
47.5°	811.4	829.5	865.6	907.2	920.6
50°	759.1	777.2	818.7	861.6	873.7
52.5°	702.8	725.6	769.8	816.1	828.1
55°	653.2	672.0	721.6	769.2	783.9
57.5°	595.0	620.4	673.3	721.6	735.7
60°	543.4	566.8	623.1	672.0	688.1
62.5°	491.1	515.2	571.5	627.1	641.9
65°	434.8	464.3	524.6	576.2	595.6
67.5°	381.2	412.0	473.7	528.6	548.7
70°	328.3	359.8	426.8	483.1	499.1
72.5°	276.0	308.9	378.5	433.5	452.2
75°	221.1	257.9	332.3	385.9	398.0
77.5°	169.5	210.4	285.4	321.6	330.3
80°	121.3	166.2	227.8	253.9	260.6
82.5°	79.7	123.3	170.2	184.2	182.2
85°	42.9	77.0	99.8	101.8	101.8
87.5°	16.7	30.8	31.5	24.1	22.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)