

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: P232456

Luminaire Tested: **4SRS-48-W-UNV-L830-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P232456  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1706-124-1)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4SRS-48-W-UNV-L830-CD1-U  
Description: WAVESTREAM LED RECESSED 4 FT FIXTURE  
Light Source: -  
Ballast/Driver: -

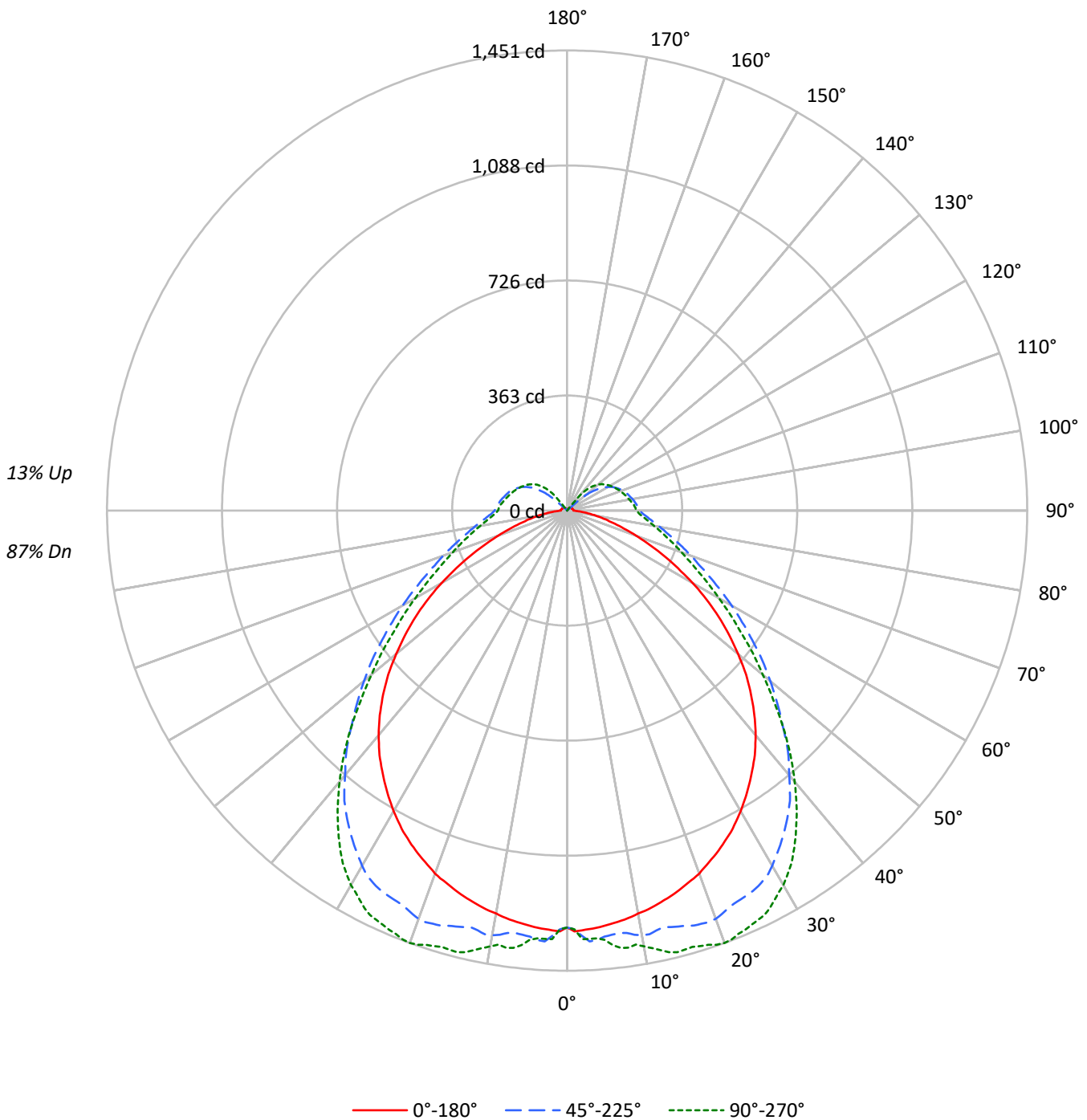
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4771.8 lumens  
Efficiency: N/A  
Efficacy: 147.7 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.44 / 1.44  
Luminous Opening: Rectangular w/ Sides (W: 0.02' x L: 3.88' x H: 0.3')  
CIE Type: Semi-Direct

Input Watts (W): 32.3  
Input Voltage (V): NR  
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: P232456  
CATALOG NUMBER: 4SRS-48-W-UNV-L830-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P232456

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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	116	116	116	116	112	112	112	112	104	104	104		97	97	97		91	91	91	87
1	105	100	95	91	101	96	92	88	89	86	83		83	81	78		78	76	74	71
2	95	87	79	73	91	84	77	72	78	73	68		73	68	65		68	65	61	59
3	87	76	68	61	83	73	66	60	69	62	57		64	59	55		60	56	52	49
4	79	67	58	52	76	65	57	51	61	54	49		57	51	47		54	49	45	42
5	73	60	51	45	70	58	50	44	55	48	42		51	45	41		48	43	39	37
6	67	54	45	39	65	53	44	38	49	42	37		47	40	36		44	39	34	32
7	62	49	40	34	60	48	39	34	45	38	33		42	36	32		40	35	30	28
8	58	45	36	30	56	43	36	30	41	34	29		39	33	28		37	31	27	25
9	54	41	33	27	52	40	32	27	38	31	26		36	30	25		34	29	25	23
10	51	38	30	25	49	37	29	24	35	28	24		33	27	23		32	26	22	21

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

	0°	45°	90°
0°	233752	233752	233752
5°	233211	110260	90961
10°	229856	72536	57790
15°	227150	54048	43234
20°	224203	43774	34600
25°	220061	35957	28270
30°	215212	30146	23332
35°	208893	24974	19018
40°	201648	20476	15260
45°	191620	16659	12068
50°	178352	13507	9401
55°	162968	10871	7343
60°	143421	8726	5783
65°	121276	6964	4598
70°	99078	5649	3738
75°	79005	4655	3099
80°	64935	3905	2616
85°	49876	3353	2254



TEST NUMBER: P232456

CATALOG NUMBER: 4SRS-48-W-UNV-L830-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	128.5	2.7
10°-20°	382.8	8.0
20°-30°	605.2	12.7
30°-40°	730.2	15.3
40°-50°	715.8	15.0
50°-60°	601.4	12.6
60°-70°	451.3	9.5
70°-80°	324.1	6.8
80°-90°	234.1	4.9
90°-100°	193.5	4.1
100°-110°	164.8	3.5
110°-120°	121.7	2.5
120°-130°	80.4	1.7
130°-140°	33.5	0.7
140°-150°	3.6	0.1
150°-160°	0.9	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1116.5	23.4
0°-40°	1846.7	38.7
0°-60°	3163.9	66.3
0°-90°	4173.4	87.5
90°-120°	480.0	10.1
90°-150°	597.4	12.5
90°-180°	598.0	12.5
0°-180°	4771.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1315	1315	1315	1315	1315	
5°	1315	1338	1349	1352	1359	125
15°	1259	1282	1358	1425	1434	355
25°	1162	1214	1339	1402	1424	535
35°	1014	1092	1205	1253	1256	634
45°	820	885	962	973	962	631
55°	583	657	712	686	668	520
65°	336	449	497	468	457	335
75°	148	301	349	330	325	162
85°	46	208	256	242	242	47
90°	20	177	228	218	218	12
95°	19	168	220	209	211	16
105°	18	134	198	188	189	19
115°	16	58	169	170	168	16
125°	14	18	119	145	144	13
135°	12	13	8	92	104	9
145°	8	7	4	0	0	5
155°	4	4	2	0	0	2
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P232456

CATALOG NUMBER: 4SRS-48-W-UNV-L830-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1314.7	1314.7	1314.7	1314.7	1314.7
1°	1327.3	1313.2	1320.6	1323.6	1320.6
2°	1324.3	1316.9	1342.0	1356.8	1352.4
3°	1321.3	1325.8	1360.5	1359.0	1352.4
4°	1319.1	1333.9	1356.8	1354.6	1352.4
5°	1315.4	1338.3	1348.7	1351.6	1359.0
6°	1311.0	1336.1	1345.0	1362.0	1377.5
7°	1306.6	1329.5	1342.0	1376.8	1389.3
8°	1302.1	1322.8	1345.0	1385.6	1391.6
9°	1297.0	1316.9	1353.9	1383.4	1385.6
10°	1290.3	1311.7	1359.8	1378.3	1395.2
11°	1285.9	1304.4	1361.3	1385.6	1405.6
12°	1280.0	1295.5	1353.1	1396.0	1417.4
13°	1273.3	1288.8	1348.7	1408.6	1429.2
14°	1265.9	1283.7	1353.1	1418.2	1435.2
15°	1259.3	1282.2	1357.6	1424.8	1433.7
16°	1251.9	1281.4	1362.0	1423.3	1431.5
17°	1243.0	1280.0	1368.6	1417.4	1435.9
18°	1234.1	1277.7	1370.1	1417.4	1439.6
19°	1226.8	1274.1	1372.3	1420.4	1447.7
20°	1217.9	1265.9	1370.1	1423.3	1450.7
21°	1206.1	1255.6	1362.7	1426.3	1448.5
22°	1195.0	1243.8	1353.1	1424.1	1440.3
23°	1184.6	1231.2	1346.5	1418.2	1436.6
24°	1173.5	1222.3	1342.8	1408.6	1430.0
25°	1161.7	1214.2	1339.1	1401.9	1424.1
26°	1149.2	1206.1	1334.7	1395.2	1418.9
27°	1137.3	1197.9	1328.7	1387.1	1407.1
28°	1123.3	1187.6	1319.9	1379.0	1391.6
29°	1108.5	1176.5	1308.8	1367.2	1376.8
30°	1094.5	1165.4	1293.3	1349.4	1363.5
32.5°	1055.3	1132.2	1251.1	1306.6	1317.7
35°	1013.9	1091.5	1204.6	1253.4	1256.3
37.5°	971.8	1046.4	1154.3	1189.1	1189.1
40°	924.5	992.5	1089.3	1120.3	1116.6
42.5°	874.2	940.8	1030.9	1049.4	1041.3
45°	820.3	885.3	962.2	973.3	962.2
47.5°	764.9	828.4	898.6	899.4	880.9
50°	703.5	771.5	835.8	824.0	805.5
52.5°	643.7	714.6	776.0	752.3	737.5
55°	583.1	657.0	712.4	686.5	668.1
57.5°	520.3	600.1	654.0	625.9	609.7
60°	456.7	546.9	599.3	567.6	552.8
62.5°	393.9	494.4	545.4	515.1	502.5
65°	335.5	448.6	496.6	467.8	457.4



TEST NUMBER: P232456

CATALOG NUMBER: 4SRS-48-W-UNV-L830-CD1-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
67.5°	280.8	404.2	452.3	426.4	417.5
70°	230.6	365.8	414.6	390.2	383.5
72.5°	187.7	331.1	380.6	358.4	353.2
75°	147.8	300.8	348.8	329.6	325.2
77.5°	118.2	274.2	320.7	303.7	300.8
80°	90.9	249.8	296.3	280.8	278.6
82.5°	66.5	227.6	274.2	259.4	258.7
85°	45.8	207.7	255.7	241.7	241.7
87.5°	29.6	191.4	239.4	226.1	227.6
90°	20.0	176.6	228.4	218.0	218.0
92.5°	20.0	173.7	224.7	214.3	215.1
95°	19.2	167.8	219.5	209.1	210.6
97.5°	19.2	161.1	214.3	203.2	204.7
100°	18.5	153.0	209.1	198.1	199.5
102.5°	18.5	144.1	203.2	193.6	193.6
105°	18.5	133.8	198.1	188.4	189.2
107.5°	17.7	121.9	192.9	184.0	184.0
110°	17.0	105.7	187.0	179.6	178.8
112.5°	17.0	85.0	178.8	175.1	173.7
115°	16.3	57.6	169.2	170.0	167.8
117.5°	15.5	25.1	161.1	164.8	162.6
120°	14.8	22.9	149.3	159.6	156.7
122.5°	14.8	20.7	135.2	153.0	150.8
125°	14.0	18.5	119.0	144.8	144.1
127.5°	14.0	17.0	98.3	135.2	136.7
130°	13.3	15.5	72.4	124.2	127.8
132.5°	12.6	14.0	14.8	110.1	116.8
135°	11.8	12.6	8.1	91.6	103.5
137.5°	11.1	11.1	7.4	68.7	85.7
140°	10.3	9.6	5.9	10.3	63.6
142.5°	8.9	8.9	5.2	0.7	2.2
145°	8.1	7.4	4.4	0.0	0.0
147.5°	7.4	6.7	3.7	0.0	0.0
150°	6.7	5.9	3.0	0.0	0.0
152.5°	5.9	4.4	2.2	0.0	0.0
155°	4.4	3.7	1.5	0.0	0.0
157.5°	3.7	3.0	0.7	0.0	0.0
160°	3.0	2.2	0.7	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P232456

CATALOG NUMBER: 4SRS-48-W-UNV-L830-CD1-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)