

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: P232459

Luminaire Tested: **4SRS-48-W-UNV-L850-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P232459  
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-L850-CD1-U  
Description: WAVESTREAM LED RECESSED 4 FT FIXTURE  
Light Source: -  
Ballast/Driver: -

**Summary**

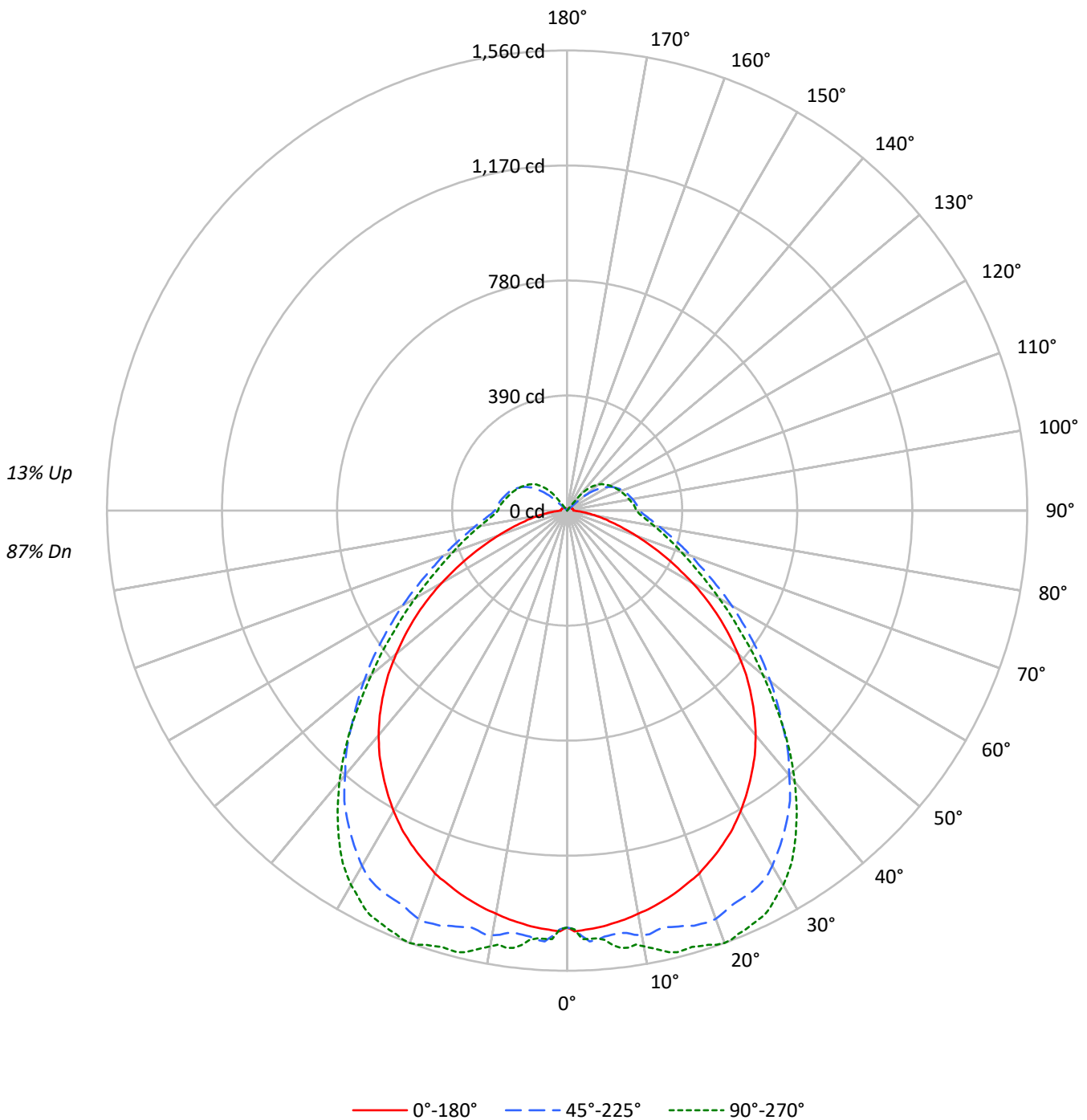
Lumens per Lamp: N/A  
Luminaire Lumens: 5130.4 lumens  
Efficiency: N/A  
Efficacy: 158.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.44 / 1.44  
Luminous Opening: Rectangular w/ Sides (W: 0.02' x L: 3.88' x H: 0.3')  
CIE Type: Semi-Direct

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

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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	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°	251318	251318	251318
5°	250745	118541	97802
10°	247136	77988	62135
15°	244213	58109	46482
20°	241047	47065	37200
25°	236598	38658	30394
30°	231375	32412	25084
35°	224593	26851	20447
40°	216807	22015	16408
45°	206009	17910	12975
50°	191763	14522	10108
55°	175209	11688	7895
60°	154193	9382	6217
65°	130385	7487	4944
70°	106511	6072	4020
75°	84938	5005	3331
80°	69793	4199	2813
85°	53687	3605	2423



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.2	2.7
10°-20°	411.6	8.0
20°-30°	650.6	12.7
30°-40°	785.1	15.3
40°-50°	769.6	15.0
50°-60°	646.6	12.6
60°-70°	485.2	9.5
70°-80°	348.5	6.8
80°-90°	251.7	4.9
90°-100°	208.1	4.1
100°-110°	177.1	3.5
110°-120°	130.8	2.6
120°-130°	86.5	1.7
130°-140°	36.0	0.7
140°-150°	3.8	0.1
150°-160°	1.0	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-30°	1200.4	23.4
0°-40°	1985.5	38.7
0°-60°	3401.6	66.3
0°-90°	4487.0	87.5
90°-120°	516.0	10.1
90°-150°	642.3	12.5
90°-180°	643.0	12.5
0°-180°	5130.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1414	1414	1414	1414	1414	
5°	1414	1439	1450	1453	1461	134
15°	1354	1378	1460	1532	1541	382
25°	1249	1305	1440	1507	1531	575
35°	1090	1174	1295	1348	1351	682
45°	882	952	1034	1046	1034	679
55°	627	706	766	738	718	559
65°	361	482	534	503	492	360
75°	159	323	375	354	350	174
85°	49	223	275	260	260	50
90°	22	190	246	234	234	13
95°	21	180	236	225	226	17
105°	20	144	213	203	203	21
115°	18	62	182	183	180	17
125°	15	20	128	156	155	14
135°	13	14	9	98	111	10
145°	9	8	5	0	0	6
155°	5	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



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1413.5	1413.5	1413.5	1413.5	1413.5
1°	1427.0	1411.9	1419.9	1423.0	1419.9
2°	1423.8	1415.9	1442.9	1458.8	1454.0
3°	1420.6	1425.4	1462.8	1461.2	1454.0
4°	1418.3	1434.2	1458.8	1456.4	1454.0
5°	1414.3	1438.9	1450.0	1453.2	1461.2
6°	1409.5	1436.5	1446.1	1464.3	1481.0
7°	1404.8	1429.4	1442.9	1480.2	1493.7
8°	1400.0	1422.2	1446.1	1489.8	1496.1
9°	1394.4	1415.9	1455.6	1487.4	1489.8
10°	1387.3	1410.3	1462.0	1481.8	1500.1
11°	1382.5	1402.4	1463.6	1489.8	1511.2
12°	1376.2	1392.8	1454.8	1500.9	1523.9
13°	1369.0	1385.7	1450.0	1514.4	1536.7
14°	1361.1	1380.1	1454.8	1524.7	1543.0
15°	1353.9	1378.5	1459.6	1531.9	1541.4
16°	1346.0	1377.7	1464.3	1530.3	1539.0
17°	1336.4	1376.2	1471.5	1523.9	1543.8
18°	1326.9	1373.8	1473.1	1523.9	1547.8
19°	1318.9	1369.8	1475.5	1527.1	1556.5
20°	1309.4	1361.1	1473.1	1530.3	1559.7
21°	1296.7	1349.9	1465.1	1533.5	1557.3
22°	1284.8	1337.2	1454.8	1531.1	1548.6
23°	1273.7	1323.7	1447.7	1524.7	1544.6
24°	1261.7	1314.2	1443.7	1514.4	1537.4
25°	1249.0	1305.4	1439.7	1507.3	1531.1
26°	1235.5	1296.7	1434.9	1500.1	1525.5
27°	1222.8	1288.0	1428.6	1491.4	1512.8
28°	1207.7	1276.8	1419.1	1482.6	1496.1
29°	1191.8	1264.9	1407.1	1469.9	1480.2
30°	1176.7	1253.0	1390.5	1450.8	1465.9
32.5°	1134.6	1217.2	1345.2	1404.8	1416.7
35°	1090.1	1173.5	1295.1	1347.5	1350.7
37.5°	1044.8	1125.1	1241.1	1278.4	1278.4
40°	994.0	1067.1	1171.2	1204.5	1200.6
42.5°	939.9	1011.5	1108.4	1128.3	1119.5
45°	881.9	951.9	1034.5	1046.4	1034.5
47.5°	822.4	890.7	966.2	967.0	947.1
50°	756.4	829.5	898.6	885.9	866.1
52.5°	692.0	768.3	834.3	808.8	793.0
55°	626.9	706.4	765.9	738.1	718.3
57.5°	559.4	645.2	703.2	673.0	655.5
60°	491.0	588.0	644.4	610.2	594.3
62.5°	423.5	531.6	586.4	553.8	540.3
65°	360.7	482.3	533.9	502.9	491.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
67.5°	301.9	434.6	486.3	458.5	448.9
70°	247.9	393.3	445.7	419.5	412.4
72.5°	201.8	356.0	409.2	385.4	379.8
75°	158.9	323.4	375.0	354.4	349.6
77.5°	127.1	294.8	344.8	326.6	323.4
80°	97.7	268.6	318.6	301.9	299.5
82.5°	71.5	244.7	294.8	278.9	278.1
85°	49.3	223.3	274.9	259.8	259.8
87.5°	31.8	205.8	257.4	243.1	244.7
90°	21.5	189.9	245.5	234.4	234.4
92.5°	21.5	186.7	241.5	230.4	231.2
95°	20.7	180.4	236.0	224.9	226.4
97.5°	20.7	173.2	230.4	218.5	220.1
100°	19.9	164.5	224.9	212.9	214.5
102.5°	19.9	154.9	218.5	208.2	208.2
105°	19.9	143.8	212.9	202.6	203.4
107.5°	19.1	131.1	207.4	197.8	197.8
110°	18.3	113.6	201.0	193.1	192.3
112.5°	18.3	91.4	192.3	188.3	186.7
115°	17.5	62.0	182.0	182.7	180.4
117.5°	16.7	27.0	173.2	177.2	174.8
120°	15.9	24.6	160.5	171.6	168.4
122.5°	15.9	22.2	145.4	164.5	162.1
125°	15.1	19.9	127.9	155.7	154.9
127.5°	15.1	18.3	105.7	145.4	147.0
130°	14.3	16.7	77.9	133.5	137.5
132.5°	13.5	15.1	15.9	118.4	125.5
135°	12.7	13.5	8.7	98.5	111.2
137.5°	11.9	11.9	7.9	73.9	92.2
140°	11.1	10.3	6.4	11.1	68.3
142.5°	9.5	9.5	5.6	0.8	2.4
145°	8.7	7.9	4.8	0.0	0.0
147.5°	7.9	7.2	4.0	0.0	0.0
150°	7.2	6.4	3.2	0.0	0.0
152.5°	6.4	4.8	2.4	0.0	0.0
155°	4.8	4.0	1.6	0.0	0.0
157.5°	4.0	3.2	0.8	0.0	0.0
160°	3.2	2.4	0.8	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



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**CANDELA DISTRIBUTION (continued):**

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

(END OF REPORT)