

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: P236207

Luminaire Tested: **2SWLED-24HL-LC-UNV-L850-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236207
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1709-316-8)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 2SWLED-24HL-LC-UNV-L850-CD1-U
Description: METALUX SWLED LINEAR LUMINAIRE
2FT FIXTURE WITH 2 ROW LED, CLEAR LENS
Light Source: (112) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

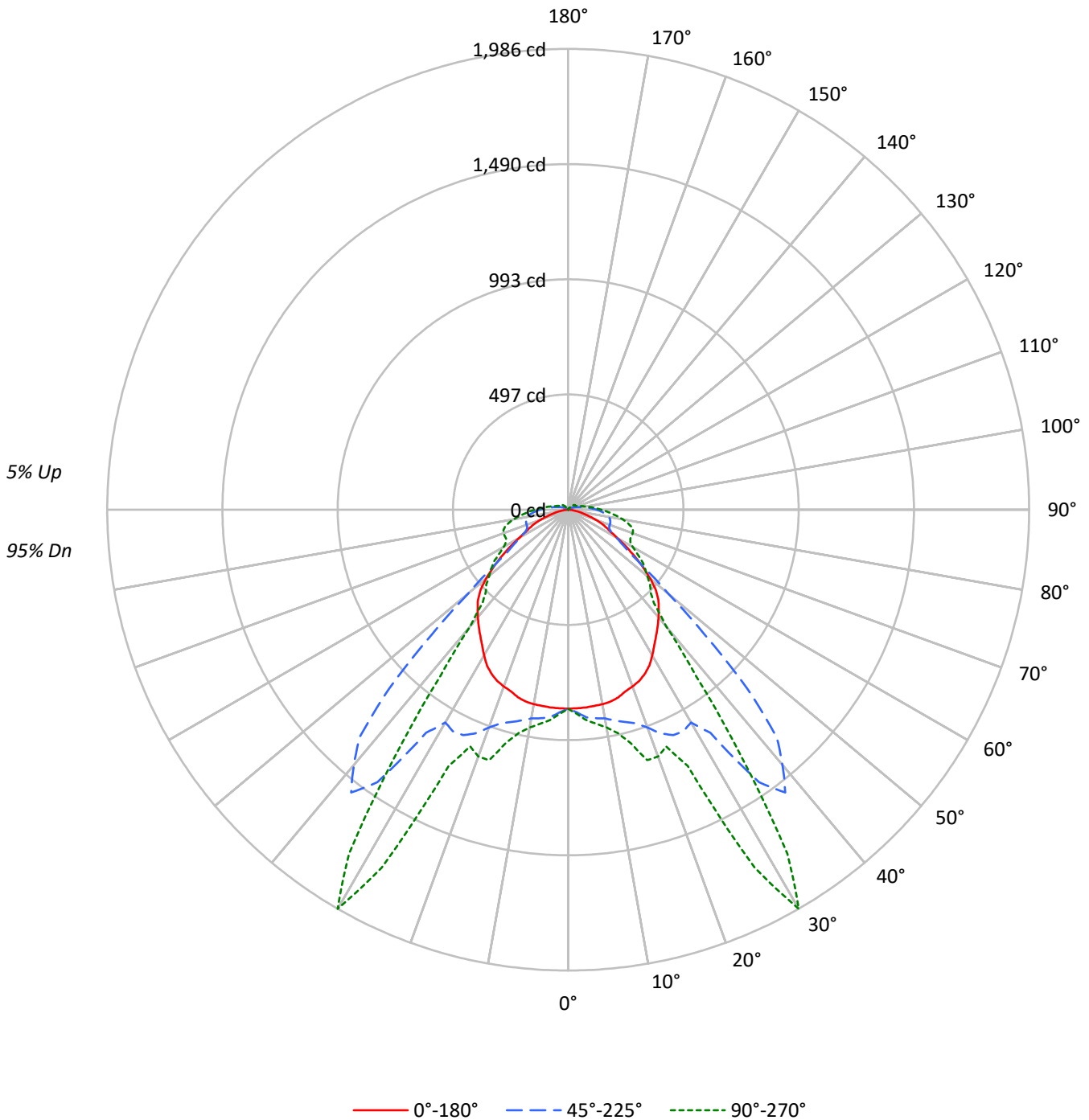
Lumens per Lamp: N/A
Luminaire Lumens: 3294.0 lumens
Efficiency: N/A
Efficacy: 137.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.55 / 1.55
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 2' x H: 0.15')
CIE Type: Direct

Input Watts (W): 24
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	118	118	118	118	115	115	115	115	108	108	108	103	103	103	98	98	98	95
1	107	102	98	94	104	100	96	92	94	91	88	90	87	85	85	83	81	79
2	98	90	83	77	95	87	81	76	83	78	74	79	75	71	75	72	69	66
3	90	79	71	65	87	77	70	64	74	67	62	70	65	61	67	63	59	57
4	82	71	62	55	80	69	61	55	66	59	54	63	57	52	60	55	51	49
5	76	63	54	48	73	62	54	48	59	52	47	57	51	46	54	49	45	42
6	70	57	48	42	68	56	48	42	54	46	41	51	45	40	49	44	39	37
7	65	52	43	37	63	51	43	37	49	41	36	47	40	36	45	39	35	33
8	60	47	39	33	59	46	38	33	45	37	32	43	36	32	41	36	31	29
9	56	43	35	30	55	42	35	29	41	34	29	39	33	29	38	32	28	26
10	53	40	32	27	51	39	32	27	38	31	26	36	30	26	35	30	25	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12305	12305	12305
5°	12248	12579	12688
10°	12246	12587	12998
15°	12194	12936	14004
20°	12059	13638	15143
25°	11956	14735	16334
30°	11526	14762	26884
35°	11013	20452	17997
40°	10692	21131	9269
45°	10399	16737	7333
50°	9474	9067	6776
55°	7895	5513	6272
60°	6211	4386	5495
65°	5301	3913	5464
70°	4387	4211	6005
75°	3186	4691	6350
80°	2111	5127	6144
85°	1051	5369	5676



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.5	2.6
10°-20°	269.4	8.2
20°-30°	491.5	14.9
30°-40°	728.6	22.1
40°-50°	573.1	17.4
50°-60°	394.7	12.0
60°-70°	256.9	7.8
70°-80°	197.9	6.0
80°-90°	134.7	4.1
90°-100°	76.6	2.3
100°-110°	39.3	1.2
110°-120°	20.9	0.6
120°-130°	13.5	0.4
130°-140°	7.9	0.2
140°-150°	2.7	0.1
150°-160°	0.6	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	846.4	25.7
0°-40°	1575.0	47.8
0°-60°	2542.8	77.2
0°-90°	3132.4	95.1
90°-120°	136.8	4.2
90°-150°	160.9	4.9
90°-180°	162.0	4.9
0°-180°	3294.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	857	857	857	857	857	
5°	856	875	898	906	911	81
15°	837	867	947	1005	1041	236
25°	781	842	1072	1100	1218	358
35°	661	856	1434	1595	1307	415
45°	550	906	1094	499	502	419
55°	348	623	323	357	390	312
65°	180	353	196	268	295	179
75°	73	147	188	262	281	80
85°	12	57	154	178	188	15
90°	0	43	122	135	143	1
95°	0	33	89	99	106	0
105°	0	16	43	56	60	0
115°	0	7	23	33	39	0
125°	0	3	14	27	34	0
135°	0	1	9	19	23	0
145°	1	1	4	7	8	0
155°	1	1	1	2	2	0
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°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	857.4	857.4	857.4	857.4	857.4	857.4	857.4	857.4	857.4	857.4	857.4
2.5°	856.5	858.3	860.1	861.0	862.9	863.8	864.7	868.3	871.9	873.7	874.6
5°	855.6	857.4	862.0	866.5	871.9	874.6	879.1	885.4	891.7	895.3	898.1
7.5°	852.9	856.5	864.7	872.8	880.9	885.4	889.9	896.2	901.7	904.4	906.2
10°	851.1	854.7	865.6	875.5	884.5	887.2	890.8	896.2	901.7	907.1	913.4
12.5°	846.6	852.0	862.9	872.8	879.1	880.9	884.5	892.6	905.3	917.9	930.5
15°	836.7	840.3	852.0	858.3	863.8	867.4	873.7	892.6	915.2	931.4	946.8
17.5°	820.4	822.2	829.5	833.1	841.2	851.1	864.7	895.3	921.5	943.2	964.8
20°	810.5	808.7	807.8	810.5	827.7	843.9	861.0	894.4	926.0	959.4	999.1
22.5°	798.8	791.6	786.1	791.6	822.2	842.1	862.0	900.8	946.8	995.5	1043.4
25°	780.7	769.9	761.8	775.3	818.6	842.1	867.4	923.3	983.8	1029.8	1072.2
27.5°	757.3	745.5	737.4	761.8	815.9	849.3	885.4	954.0	1009.1	1051.5	1075.9
30°	724.8	713.0	711.2	747.3	819.5	862.0	901.7	968.5	1018.1	1054.2	1058.7
32.5°	690.5	683.2	686.0	736.5	824.0	865.6	903.5	963.9	1015.4	1049.7	1139.9
35°	660.7	659.8	670.6	732.0	818.6	855.6	889.9	956.7	1027.1	1164.3	1434.2
37.5°	632.7	637.2	659.8	722.1	800.6	837.6	877.3	976.6	1145.4	1408.0	1536.2
40°	605.6	615.6	642.6	698.6	774.4	821.3	884.5	1088.5	1329.5	1402.6	1436.9
42.5°	577.6	587.6	612.8	661.6	752.7	832.2	951.3	1233.8	1285.3	1290.7	1329.5
45°	549.7	556.9	574.0	621.9	768.1	906.2	1063.2	1187.8	1135.4	1206.7	1093.9
47.5°	511.8	519.0	532.5	599.3	822.2	970.3	1064.1	1020.8	1055.1	1037.0	797.9
50°	461.2	471.1	491.0	602.0	834.9	910.7	929.6	895.3	953.1	802.4	564.1
52.5°	404.3	417.0	459.4	598.4	745.5	769.9	767.2	803.3	809.6	580.4	415.2
55°	348.4	362.8	433.2	541.5	603.8	622.8	652.6	723.9	636.3	416.1	323.1
57.5°	293.3	315.0	389.0	436.8	476.6	522.6	579.4	633.6	479.3	315.9	273.5
60°	243.7	273.5	322.2	332.1	393.5	459.4	521.7	533.4	361.9	256.3	239.2
62.5°	205.8	230.2	251.8	255.4	338.5	408.0	466.6	429.6	277.1	213.9	209.4
65°	180.5	187.7	189.5	200.4	289.7	352.9	399.8	336.7	222.0	191.3	195.9
67.5°	154.3	148.9	146.2	163.4	242.8	296.9	330.3	266.3	191.3	179.6	191.3
70°	125.5	118.2	114.6	133.6	199.5	241.9	263.5	213.0	171.5	173.3	190.4
72.5°	98.4	93.0	92.1	110.1	159.8	189.5	204.0	175.1	157.9	168.8	190.4
75°	73.1	71.3	74.0	89.4	126.4	147.1	157.0	146.2	147.1	165.2	187.7
77.5°	52.3	54.2	57.8	71.3	97.5	111.9	121.8	127.3	139.0	161.6	184.1
80°	36.1	37.9	44.2	56.0	75.8	86.6	96.6	111.9	131.8	156.1	176.9
82.5°	22.6	25.3	31.6	43.3	59.6	69.5	78.5	101.1	125.5	148.9	167.0
85°	11.7	15.3	22.6	33.4	47.8	56.9	67.7	93.0	119.1	139.9	154.3
87.5°	5.4	8.1	15.3	25.3	39.7	49.6	61.4	86.6	110.1	128.2	138.1
90°	0.0	3.6	9.9	19.9	33.4	43.3	55.1	79.4	99.3	113.7	121.8
92.5°	0.0	1.8	7.2	15.3	28.9	37.9	48.7	70.4	86.6	98.4	104.7
95°	0.0	0.9	5.4	12.6	25.3	33.4	42.4	60.5	74.0	83.9	89.4
97.5°	0.0	0.9	3.6	9.9	21.7	28.9	36.1	51.4	62.3	70.4	74.9
100°	0.0	0.0	2.7	8.1	18.1	23.5	29.8	42.4	51.4	58.7	62.3
102.5°	0.0	0.0	1.8	7.2	15.3	19.9	24.4	34.3	42.4	47.8	52.3
105°	0.0	0.0	1.8	5.4	12.6	16.2	19.9	28.0	34.3	39.7	43.3
107.5°	0.0	0.0	0.9	4.5	9.9	12.6	16.2	22.6	28.0	32.5	37.0
110°	0.0	0.0	0.9	3.6	8.1	10.8	12.6	18.1	22.6	27.1	30.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.0	0.9	2.7	6.3	8.1	10.8	15.3	19.0	22.6	26.2
115°	0.0	0.0	0.0	1.8	5.4	7.2	9.0	12.6	16.2	19.0	22.6
117.5°	0.0	0.0	0.0	1.8	4.5	5.4	7.2	9.9	13.5	16.2	19.0
120°	0.0	0.0	0.0	0.9	3.6	4.5	5.4	8.1	11.7	14.4	17.1
122.5°	0.0	0.0	0.0	0.9	2.7	3.6	4.5	7.2	9.9	12.6	15.3
125°	0.0	0.0	0.0	0.9	1.8	2.7	3.6	6.3	8.1	10.8	13.5
127.5°	0.0	0.0	0.0	0.9	1.8	1.8	2.7	5.4	7.2	9.9	12.6
130°	0.0	0.0	0.0	0.0	0.9	1.8	2.7	4.5	6.3	9.0	11.7
132.5°	0.0	0.0	0.0	0.0	0.9	0.9	1.8	3.6	5.4	8.1	10.8
135°	0.0	0.9	0.0	0.0	0.9	0.9	1.8	2.7	4.5	7.2	9.0
137.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	2.7	3.6	5.4	8.1
140°	0.0	0.9	0.9	0.9	0.9	0.9	0.9	1.8	2.7	4.5	6.3
142.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	2.7	3.6	4.5
145°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8	2.7	3.6
147.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8	2.7
150°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8
152.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
155°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
157.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
160°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	857.4	857.4	857.4	857.4	857.4	857.4	857.4	857.4	857.4	857.4
2.5°	877.3	880.0	881.8	880.9	880.9	880.9	881.8	881.8	880.0	881.8
5°	900.8	904.4	905.3	906.2	906.2	907.1	908.9	909.8	908.0	910.7
7.5°	910.7	914.3	917.9	919.7	920.6	921.5	925.1	927.8	927.8	930.5
10°	922.4	930.5	936.0	939.6	941.4	942.3	946.8	949.5	950.4	953.1
12.5°	941.4	952.2	960.3	967.6	970.3	972.1	976.6	980.2	982.9	985.6
15°	962.1	977.5	990.1	1000.0	1004.6	1011.8	1019.9	1028.0	1036.1	1040.7
17.5°	990.1	1018.1	1044.3	1065.9	1077.7	1087.6	1104.7	1116.5	1126.4	1131.8
20°	1040.7	1081.3	1113.8	1130.0	1134.5	1137.2	1136.3	1133.6	1133.6	1131.8
22.5°	1088.5	1117.4	1123.7	1115.6	1112.9	1110.2	1104.7	1100.2	1100.2	1103.8
25°	1098.4	1098.4	1091.2	1092.1	1100.2	1104.7	1129.1	1167.0	1194.1	1218.5
27.5°	1074.1	1078.6	1126.4	1228.4	1307.8	1367.4	1510.9	1618.3	1685.1	1739.2
30°	1099.3	1255.5	1485.6	1697.7	1787.1	1851.2	1936.9	1971.2	1978.4	1986.5
32.5°	1370.1	1645.4	1798.8	1856.6	1856.6	1859.3	1828.6	1788.9	1745.6	1757.3
35°	1637.3	1716.7	1716.7	1658.0	1594.8	1549.7	1437.8	1353.8	1298.8	1306.9
37.5°	1581.3	1566.0	1453.1	1280.7	1188.7	1126.4	1007.3	938.7	901.7	906.2
40°	1436.9	1274.4	1070.4	890.8	818.6	778.0	706.7	671.5	654.4	656.2
42.5°	1160.7	908.9	735.6	630.0	600.2	577.6	556.9	548.8	545.1	547.0
45°	824.9	630.9	539.7	502.7	499.1	495.5	493.7	496.4	499.1	501.8
47.5°	583.1	481.1	455.8	453.1	455.8	460.3	466.6	472.0	474.7	478.4
50°	442.3	407.1	406.2	414.3	418.8	425.1	432.3	437.7	440.5	444.1
52.5°	358.3	353.8	363.7	377.3	384.5	391.7	402.5	410.7	414.3	417.0
55°	307.8	317.7	334.9	349.3	357.4	364.6	375.5	383.6	387.2	389.9
57.5°	275.3	289.7	303.3	316.8	322.2	328.5	338.5	345.7	348.4	351.1
60°	243.7	258.1	273.5	287.0	294.2	300.6	309.6	315.9	318.6	320.4
62.5°	220.2	238.3	256.3	269.9	276.2	281.6	289.7	296.0	298.7	301.5
65°	211.2	231.1	250.0	262.6	268.1	273.5	283.4	289.7	293.3	295.1
67.5°	211.2	231.1	249.1	262.6	269.0	274.4	285.2	291.5	294.2	296.0
70°	212.1	232.0	251.8	265.4	269.9	276.2	286.1	292.4	295.1	296.0
72.5°	212.1	232.9	250.0	264.5	269.0	274.4	283.4	288.8	291.5	292.4
75°	209.4	229.3	244.6	258.1	261.7	265.4	274.4	278.9	280.7	280.7
77.5°	204.0	220.2	234.7	243.7	247.3	249.1	255.4	259.9	261.7	261.7
80°	195.0	206.7	218.4	224.7	225.6	227.4	232.9	235.6	236.5	238.3
82.5°	181.4	190.4	195.9	200.4	200.4	202.2	208.5	210.3	212.1	213.0
85°	164.3	170.6	173.3	176.0	177.8	178.7	183.2	185.0	186.8	187.7
87.5°	145.3	149.8	151.6	155.2	155.2	157.0	160.7	162.5	163.4	164.3
90°	126.4	130.0	131.8	134.5	135.4	136.3	139.9	140.8	141.7	142.6
92.5°	108.3	111.0	112.8	115.5	116.4	116.4	120.0	120.9	121.8	122.7
95°	93.0	94.8	96.6	98.4	99.3	100.2	102.9	104.7	105.6	106.5
97.5°	78.5	80.3	83.0	84.8	85.7	87.5	89.4	91.2	91.2	92.1
100°	65.9	68.6	71.3	73.1	74.9	74.9	77.6	78.5	79.4	79.4
102.5°	56.0	58.7	61.4	63.2	64.1	65.0	66.8	67.7	68.6	68.6
105°	46.9	49.6	52.3	55.1	56.0	56.0	57.8	58.7	59.6	59.6
107.5°	39.7	42.4	45.1	47.8	48.7	49.6	50.5	52.3	53.3	53.3
110°	34.3	37.0	39.7	41.5	43.3	43.3	45.1	46.9	46.9	47.8



TEST NUMBER: P236207

CATALOG NUMBER: 2SWLED-24HL-LC-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	28.9	31.6	34.3	37.0	37.9	38.8	40.6	41.5	42.4	42.4
115°	25.3	28.0	30.7	32.5	33.4	34.3	36.1	37.9	38.8	38.8
117.5°	21.7	24.4	27.1	28.9	30.7	31.6	33.4	35.2	36.1	36.1
120°	19.0	21.7	24.4	27.1	28.0	28.9	31.6	33.4	34.3	34.3
122.5°	17.1	19.9	22.6	25.3	27.1	28.0	30.7	32.5	33.4	34.3
125°	16.2	19.0	22.6	25.3	27.1	28.0	30.7	32.5	33.4	34.3
127.5°	15.3	19.0	21.7	25.3	26.2	28.0	30.7	32.5	33.4	33.4
130°	14.4	18.1	20.8	23.5	25.3	26.2	28.9	29.8	30.7	31.6
132.5°	13.5	16.2	19.0	21.7	22.6	23.5	25.3	26.2	27.1	27.1
135°	11.7	14.4	16.2	18.1	19.0	19.9	20.8	21.7	22.6	22.6
137.5°	9.9	11.7	13.5	14.4	15.3	16.2	17.1	17.1	18.1	18.1
140°	8.1	9.0	10.8	11.7	11.7	12.6	13.5	13.5	13.5	13.5
142.5°	6.3	7.2	8.1	9.0	9.0	9.9	9.9	10.8	10.8	10.8
145°	4.5	5.4	6.3	7.2	7.2	7.2	8.1	8.1	8.1	8.1
147.5°	3.6	3.6	4.5	5.4	5.4	5.4	6.3	6.3	6.3	6.3
150°	1.8	2.7	3.6	3.6	3.6	3.6	4.5	4.5	4.5	4.5
152.5°	1.8	1.8	2.7	2.7	2.7	2.7	2.7	3.6	3.6	3.6
155°	0.9	0.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
157.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
160°	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)