

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: P236184

Luminaire Tested: **2SWLED-20SL-LC-UNV-L835-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236184  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1709-316-4)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 2SWLED-20SL-LC-UNV-L835-CD1-U  
Description: METALUX SWLED LINEAR LUMINAIRE  
2FT FIXTURE WITH 1 ROW LED, CLEAR LENS  
Light Source: (56) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

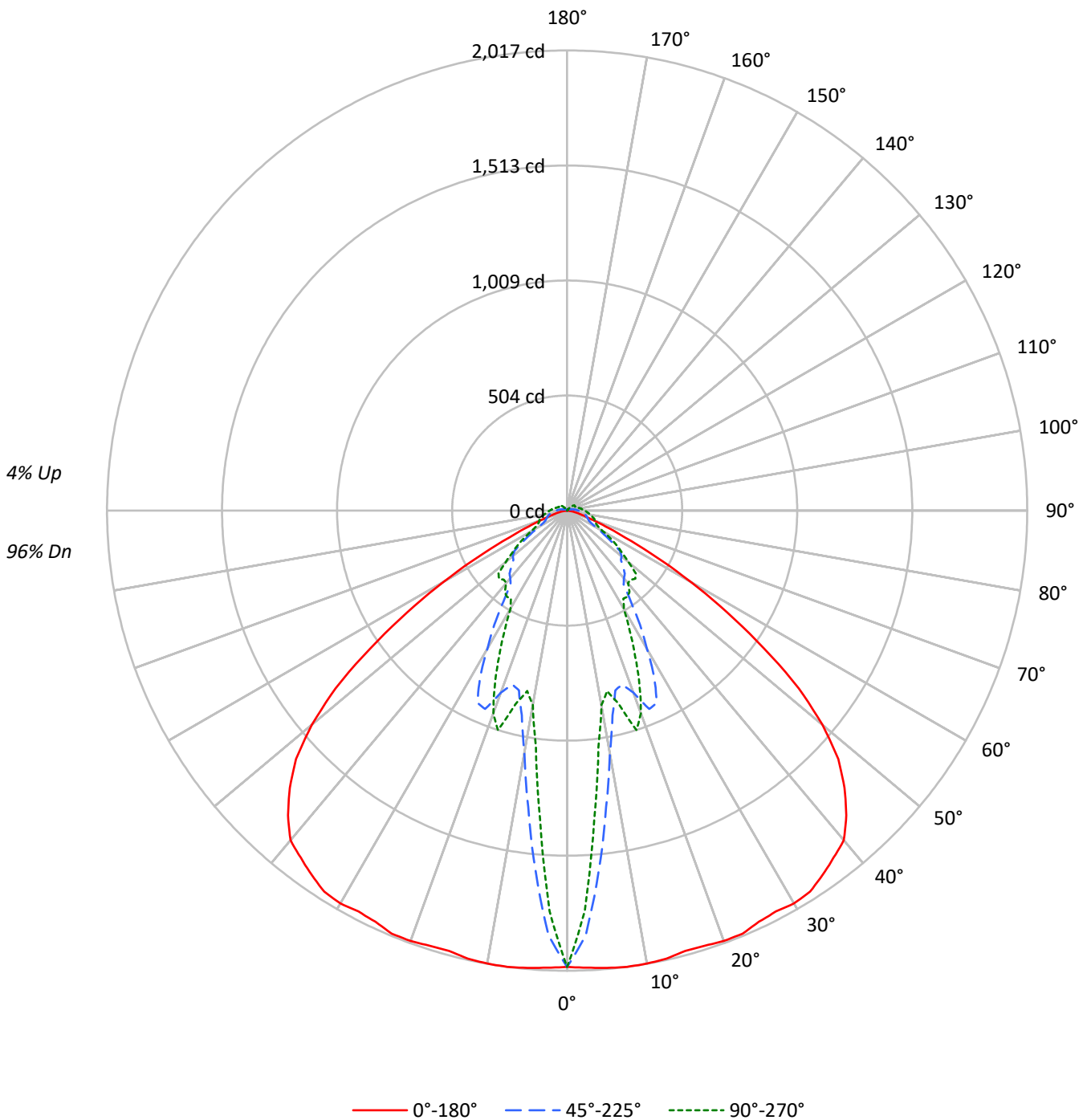
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2372.0 lumens  
Efficiency: N/A  
Efficacy: 115.1 lumens/watt  
Spacing Criteria (0/90/45): 1.48 / 0.27 / 0.77  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 2' x H: 0.15')  
CIE Type: Direct

Input Watts (W): 20.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: P236184  
CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L835-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P236184

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L835-CD1-U

**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	109	109	109	103	103	103	98	98	98	96
1	109	105	101	97	106	102	98	95	97	94	91	92	90	88	88	86	85	82
2	100	93	87	82	97	91	85	81	87	82	78	83	79	76	79	76	74	71
3	93	83	76	70	90	82	75	70	78	72	68	75	70	66	72	68	65	62
4	86	75	67	61	83	74	66	61	71	64	60	68	63	58	65	61	57	55
5	80	68	60	54	78	67	59	54	64	58	53	62	56	52	60	55	51	49
6	74	62	54	48	72	61	54	48	59	52	47	57	51	47	55	50	46	44
7	69	57	49	44	68	56	49	43	54	48	43	53	47	42	51	46	42	40
8	65	53	45	40	63	52	45	39	50	44	39	49	43	38	47	42	38	36
9	61	49	41	36	60	48	41	36	47	40	36	45	40	35	44	39	35	33
10	58	45	38	33	56	45	38	33	44	37	33	42	37	33	41	36	32	31

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

	0°	45°	90°
0°	28710	28710	28710
5°	28805	22237	18922
10°	29008	14851	11796
15°	29125	11147	11822
20°	29865	11578	12647
25°	30457	12775	9464
30°	31626	9762	6729
35°	32529	6922	6347
40°	33309	5695	5859
45°	32519	5266	6176
50°	29994	4995	5357
55°	23888	4049	4260
60°	15918	2625	3111
65°	8238	2115	2615
70°	4150	2103	2625
75°	2393	2132	2662
80°	1491	2159	2656
85°	790	2150	2670



TEST NUMBER: P236184

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L835-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	143.9	6.1
10°-20°	311.4	13.1
20°-30°	428.5	18.1
30°-40°	419.7	17.7
40°-50°	383.2	16.2
50°-60°	277.1	11.7
60°-70°	148.2	6.2
70°-80°	94.9	4.0
80°-90°	61.8	2.6
90°-100°	38.8	1.6
100°-110°	24.4	1.0
110°-120°	16.2	0.7
120°-130°	12.6	0.5
130°-140°	8.0	0.3
140°-150°	2.5	0.1
150°-160°	0.8	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-30°	883.8	37.3
0°-40°	1303.5	55.0
0°-60°	1963.8	82.8
0°-90°	2268.7	95.6
90°-120°	79.4	3.3
90°-150°	102.5	4.3
90°-180°	103.0	4.3
0°-180°	2372.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2000	2000	2000	2000	2000	
5°	2012	1855	1588	1410	1358	192
15°	1998	1226	816	826	879	568
25°	1989	784	930	767	706	922
35°	1951	827	485	439	461	1222
45°	1719	395	344	387	423	1315
55°	1054	212	237	252	265	936
65°	280	92	106	138	141	313
75°	55	54	85	116	118	64
85°	9	29	62	83	88	11
90°	1	21	49	69	76	1
95°	0	15	38	56	66	0
105°	0	8	23	36	49	0
115°	0	4	15	26	39	0
125°	0	2	10	26	38	0
135°	1	1	9	20	23	0
145°	1	1	4	7	7	1
155°	1	1	1	3	3	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P236184

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4
2.5°	2005.3	1998.5	1987.7	1980.8	1968.1	1960.2	1951.4	1933.7	1903.3	1888.6	1863.1
5°	2012.2	1997.5	1968.1	1937.7	1884.7	1855.3	1826.9	1768.0	1698.4	1647.4	1587.6
7.5°	2017.1	1994.5	1939.6	1865.1	1767.0	1715.1	1666.0	1569.0	1468.9	1390.5	1310.1
10°	2016.1	1979.8	1887.7	1765.1	1626.8	1557.2	1487.6	1362.1	1245.4	1156.1	1077.7
12.5°	2011.2	1960.2	1823.9	1655.3	1473.8	1394.4	1311.1	1168.9	1056.1	979.6	918.8
15°	1998.5	1924.9	1739.6	1522.9	1316.9	1225.7	1135.5	1006.1	914.9	853.1	815.9
17.5°	2000.4	1901.4	1660.2	1402.3	1164.0	1072.8	989.4	876.7	811.9	793.3	798.2
20°	2007.3	1881.8	1582.7	1282.6	1026.7	943.3	871.8	795.3	777.6	799.2	848.2
22.5°	2007.3	1847.4	1492.5	1154.2	906.1	842.3	799.2	771.7	811.0	883.5	941.4
25°	1988.7	1794.5	1383.6	1015.9	816.8	783.5	769.8	806.1	900.2	944.3	929.6
27.5°	1980.8	1744.5	1271.8	897.2	769.8	764.9	784.5	881.6	921.8	889.4	827.6
30°	1988.7	1699.4	1157.1	816.8	765.8	795.3	846.3	889.4	844.3	770.8	700.1
32.5°	1980.8	1643.5	1046.3	784.5	804.1	844.3	864.9	813.9	723.7	645.2	593.3
35°	1951.4	1560.1	949.2	782.5	822.7	826.6	796.2	699.2	605.0	537.4	485.4
37.5°	1918.1	1478.7	897.2	788.4	772.7	734.5	678.6	581.5	499.1	441.3	406.9
40°	1886.7	1412.1	876.7	760.0	675.6	612.9	556.0	472.6	409.9	381.5	387.3
42.5°	1811.2	1342.4	840.4	681.5	558.0	496.2	452.1	387.3	357.9	365.8	373.6
45°	1719.0	1290.5	777.6	567.8	440.3	395.2	366.7	335.4	334.4	342.2	344.2
47.5°	1612.1	1239.5	690.3	455.0	345.2	320.7	310.8	305.9	308.9	309.9	319.7
50°	1460.1	1156.1	577.6	350.1	281.4	276.5	276.5	277.5	279.5	292.2	310.8
52.5°	1279.7	1059.0	473.6	272.6	242.2	243.2	243.2	248.1	262.8	281.4	291.2
55°	1054.1	929.6	393.2	223.6	210.8	211.8	215.7	227.5	237.3	241.2	237.3
57.5°	830.6	784.5	348.1	190.2	184.4	186.3	192.2	194.2	191.2	185.3	183.4
60°	624.6	624.6	319.7	165.7	155.9	154.9	155.9	147.1	142.2	140.2	143.2
62.5°	438.3	479.5	294.2	142.2	122.6	117.7	115.7	110.8	110.8	112.8	117.7
65°	280.5	352.0	258.9	118.7	95.1	92.2	92.2	92.2	95.1	100.0	105.9
67.5°	182.4	243.2	213.8	102.0	79.4	78.4	78.4	82.4	87.3	93.2	100.0
70°	118.7	158.9	166.7	89.2	68.6	68.6	70.6	75.5	81.4	88.3	95.1
72.5°	79.4	103.0	124.5	76.5	60.8	60.8	62.8	68.6	75.5	83.4	90.2
75°	54.9	67.7	86.3	63.7	52.0	53.9	55.9	62.8	70.6	78.4	85.3
77.5°	37.3	44.1	57.9	50.0	44.1	47.1	50.0	56.9	64.7	72.6	80.4
80°	25.5	28.4	37.3	37.3	37.3	40.2	44.1	52.0	59.8	66.7	74.5
82.5°	15.7	17.7	23.5	26.5	31.4	34.3	38.2	46.1	53.9	60.8	67.7
85°	8.8	9.8	14.7	19.6	25.5	29.4	33.3	40.2	48.0	54.9	61.8
87.5°	3.9	5.9	8.8	13.7	21.6	24.5	28.4	35.3	43.1	49.0	55.9
90°	1.0	2.9	5.9	10.8	16.7	20.6	24.5	30.4	37.3	43.1	49.0
92.5°	0.0	1.0	3.9	7.8	13.7	17.7	20.6	26.5	32.4	38.2	43.1
95°	0.0	1.0	2.9	6.9	11.8	14.7	17.7	23.5	28.4	33.3	38.2
97.5°	0.0	0.0	2.0	4.9	9.8	12.7	14.7	19.6	24.5	29.4	33.3
100°	0.0	0.0	2.0	3.9	8.8	10.8	12.7	17.7	21.6	25.5	29.4
102.5°	0.0	0.0	1.0	3.9	6.9	8.8	10.8	15.7	18.6	22.6	25.5
105°	0.0	0.0	1.0	2.9	5.9	7.8	9.8	12.7	16.7	19.6	22.6
107.5°	0.0	0.0	1.0	2.9	4.9	6.9	8.8	11.8	14.7	17.7	20.6
110°	0.0	0.0	1.0	2.0	4.9	5.9	6.9	9.8	12.7	15.7	17.7



TEST NUMBER: P236184

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.0	1.0	2.0	3.9	4.9	6.9	8.8	11.8	13.7	15.7
115°	0.0	0.0	0.0	2.0	2.9	3.9	5.9	7.8	9.8	11.8	14.7
117.5°	0.0	0.0	0.0	1.0	2.9	3.9	4.9	6.9	8.8	10.8	12.7
120°	0.0	0.0	0.0	1.0	2.0	2.9	3.9	5.9	7.8	9.8	10.8
122.5°	0.0	0.0	0.0	1.0	2.0	2.0	2.9	4.9	6.9	8.8	9.8
125°	0.0	0.0	0.0	0.0	1.0	2.0	2.9	3.9	5.9	7.8	9.8
127.5°	0.0	0.0	0.0	1.0	1.0	2.0	2.0	3.9	4.9	6.9	8.8
130°	0.0	0.0	0.0	0.0	1.0	1.0	2.0	2.9	4.9	6.9	8.8
132.5°	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.9	4.9	6.9	8.8
135°	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.9	3.9	5.9	8.8
137.5°	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.9	4.9	6.9
140°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.9	3.9	5.9
142.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.9	4.9
145°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.9	3.9
147.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.9
150°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0
152.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
155°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
157.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
160°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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



TEST NUMBER: P236184

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4	2000.4
2.5°	1851.4	1817.0	1809.2	1781.7	1773.9	1770.0	1770.0	1753.3	1746.4	1757.2
5°	1548.4	1492.5	1464.0	1421.9	1410.1	1397.4	1386.6	1372.8	1354.2	1358.1
7.5°	1252.2	1188.5	1143.4	1108.1	1095.3	1084.5	1071.8	1058.1	1047.3	1047.3
10°	1024.7	974.7	945.3	912.0	902.2	892.3	880.6	870.8	862.9	864.9
12.5°	873.7	835.5	817.8	808.0	808.0	805.1	805.1	809.0	811.9	810.0
15°	801.1	803.1	807.0	820.8	825.7	828.6	842.3	857.0	867.8	878.6
17.5°	815.9	844.3	887.4	934.5	945.3	965.9	986.5	994.3	1003.2	1009.0
20°	912.9	961.0	990.4	990.4	988.4	980.6	966.9	951.2	945.3	945.3
22.5°	965.9	950.2	925.7	896.3	888.4	876.7	857.0	840.4	832.5	829.6
25°	884.5	842.3	806.1	776.6	766.8	751.1	731.5	715.8	708.0	706.0
27.5°	764.9	718.8	686.4	660.9	649.2	638.4	616.8	602.1	595.2	594.2
30°	652.1	609.9	572.7	547.2	538.3	530.5	513.8	503.0	498.1	497.2
32.5°	540.3	504.0	475.6	459.9	456.0	452.1	449.1	452.1	455.0	457.9
35°	447.2	430.5	425.6	431.5	439.3	445.2	453.0	456.0	457.9	460.9
37.5°	405.0	414.8	426.6	434.4	437.3	441.3	446.2	447.2	448.1	449.1
40°	397.1	407.9	413.8	414.8	413.8	413.8	413.8	412.8	413.8	414.8
42.5°	376.6	380.5	378.5	379.5	382.4	386.4	395.2	403.0	406.9	410.9
45°	346.2	351.1	364.8	381.5	387.3	394.2	407.9	416.8	420.7	422.6
47.5°	333.4	351.1	368.7	382.4	386.4	391.3	401.1	406.9	407.9	407.9
50°	328.5	342.2	347.1	352.0	350.1	350.1	348.1	350.1	349.1	351.1
52.5°	296.1	295.2	293.2	295.2	295.2	295.2	298.1	301.0	301.0	303.0
55°	234.4	236.3	240.2	250.1	252.0	254.0	259.9	262.8	263.8	264.8
57.5°	186.3	193.2	202.0	210.8	213.8	216.7	218.7	220.6	220.6	222.6
60°	148.1	156.9	166.7	176.5	178.5	178.5	178.5	180.4	179.4	181.4
62.5°	123.6	134.3	144.1	151.0	152.0	152.0	151.0	152.0	153.0	154.0
65°	112.8	124.5	134.3	138.3	138.3	139.2	139.2	141.2	141.2	141.2
67.5°	108.8	120.6	128.5	131.4	131.4	132.4	133.4	133.4	133.4	133.4
70°	104.9	117.7	122.6	125.5	126.5	127.5	127.5	128.5	128.5	129.4
72.5°	102.0	112.8	116.7	119.6	121.6	122.6	122.6	124.5	124.5	125.5
75°	97.1	105.9	109.8	113.7	115.7	116.7	117.7	118.7	117.7	117.7
77.5°	90.2	98.1	103.0	106.9	107.9	108.8	109.8	109.8	109.8	109.8
80°	84.3	90.2	95.1	99.0	100.0	101.0	101.0	102.0	103.0	103.0
82.5°	76.5	82.4	87.3	90.2	91.2	92.2	93.2	95.1	96.1	96.1
85°	69.6	74.5	78.4	82.4	83.4	84.3	86.3	88.3	88.3	88.3
87.5°	61.8	66.7	70.6	74.5	76.5	77.5	79.4	81.4	81.4	82.4
90°	54.9	58.8	63.7	66.7	68.6	69.6	72.6	74.5	75.5	75.5
92.5°	48.0	52.0	56.9	59.8	61.8	63.7	65.7	68.6	69.6	70.6
95°	42.2	46.1	50.0	53.9	55.9	56.9	60.8	63.7	65.7	65.7
97.5°	36.3	40.2	44.1	48.0	50.0	52.0	54.9	58.8	60.8	61.8
100°	32.4	35.3	39.2	43.1	45.1	47.1	51.0	54.9	56.9	57.9
102.5°	28.4	31.4	34.3	38.2	40.2	42.2	46.1	50.0	52.0	53.0
105°	25.5	27.5	30.4	34.3	36.3	38.2	42.2	46.1	48.0	49.0
107.5°	22.6	25.5	27.5	31.4	33.3	34.3	38.2	42.2	44.1	45.1
110°	20.6	22.6	25.5	28.4	30.4	31.4	35.3	39.2	41.2	42.2





TEST NUMBER: P236184

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	18.6	20.6	23.5	26.5	27.5	29.4	33.3	36.3	39.2	40.2
115°	16.7	18.6	21.6	24.5	26.5	27.5	31.4	35.3	38.2	39.2
117.5°	14.7	16.7	19.6	23.5	25.5	27.5	31.4	35.3	37.3	38.2
120°	13.7	15.7	18.6	22.6	24.5	26.5	31.4	35.3	37.3	38.2
122.5°	12.7	14.7	18.6	23.5	25.5	27.5	31.4	35.3	38.2	39.2
125°	11.8	14.7	19.6	23.5	26.5	28.4	32.4	35.3	37.3	38.2
127.5°	11.8	15.7	19.6	24.5	26.5	28.4	32.4	35.3	36.3	37.3
130°	12.7	15.7	20.6	24.5	26.5	27.5	30.4	32.4	33.3	33.3
132.5°	12.7	15.7	19.6	22.6	23.5	24.5	26.5	27.5	28.4	28.4
135°	11.8	13.7	16.7	18.6	19.6	20.6	21.6	22.6	22.6	22.6
137.5°	9.8	11.8	13.7	14.7	15.7	15.7	16.7	16.7	17.7	17.7
140°	7.8	8.8	10.8	11.8	11.8	11.8	12.7	12.7	12.7	12.7
142.5°	5.9	6.9	7.8	8.8	8.8	8.8	8.8	8.8	9.8	9.8
145°	3.9	4.9	5.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
147.5°	2.9	3.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
150°	2.0	2.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
152.5°	2.0	2.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
155°	2.0	2.0	2.0	2.9	2.9	2.9	2.9	2.0	2.9	2.9
157.5°	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
160°	1.0	1.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
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)