

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: P236185

Luminaire Tested: **2SWLED-20SL-LC-UNV-L840-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236185
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-L840-CD1-U
Description: METALUX SWLED LINEAR LUMINAIRE
2FT FIXTURE WITH 1 ROW LED, CLEAR LENS
Light Source: (56) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

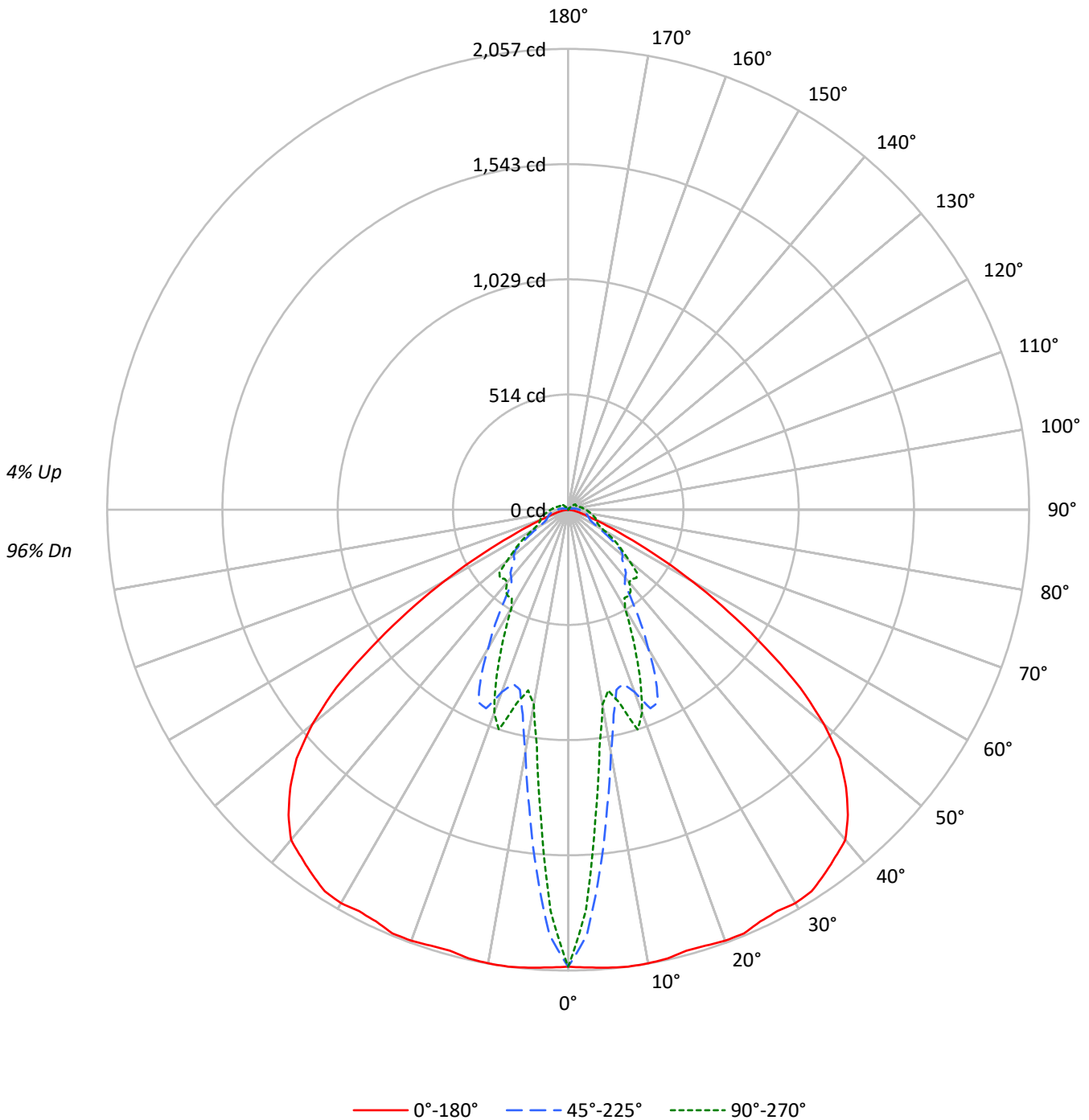
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2418.9 lumens
Efficiency: N/A
Efficacy: 117.4 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 (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: P236185
CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L840-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P236185

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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	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°	29279	29279	29279
5°	29377	22677	19297
10°	29584	15144	12029
15°	29702	11367	12057
20°	30457	11808	12898
25°	31060	13028	9651
30°	32252	9956	6861
35°	33174	7059	6472
40°	33970	5809	5975
45°	33164	5370	6298
50°	30588	5095	5462
55°	24361	4129	4344
60°	16234	2677	3173
65°	8399	2157	2666
70°	4230	2145	2678
75°	2441	2174	2714
80°	1520	2202	2707
85°	808	2192	2722



TEST NUMBER: P236185

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L840-CD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.8	6.1
10°-20°	317.6	13.1
20°-30°	436.9	18.1
30°-40°	428.0	17.7
40°-50°	390.8	16.2
50°-60°	282.6	11.7
60°-70°	151.1	6.2
70°-80°	96.8	4.0
80°-90°	63.0	2.6
90°-100°	39.6	1.6
100°-110°	24.9	1.0
110°-120°	16.5	0.7
120°-130°	12.9	0.5
130°-140°	8.1	0.3
140°-150°	2.6	0.1
150°-160°	0.8	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-30°	901.3	37.3
0°-40°	1329.3	55.0
0°-60°	2002.7	82.8
0°-90°	2313.6	95.6
90°-120°	80.9	3.3
90°-150°	104.5	4.3
90°-180°	105.0	4.3
0°-180°	2418.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2040	2040	2040	2040	2040	
5°	2052	1892	1619	1438	1385	196
15°	2038	1250	832	842	896	580
25°	2028	799	948	782	720	941
35°	1990	843	495	448	470	1246
45°	1753	403	351	395	431	1341
55°	1075	216	242	257	270	955
65°	286	94	108	141	144	319
75°	56	55	87	118	120	65
85°	9	30	63	85	90	11
90°	1	21	50	70	77	1
95°	0	15	39	57	67	0
105°	0	8	23	37	50	0
115°	0	4	15	27	40	0
125°	0	2	10	27	39	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: P236185

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L840-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1
2.5°	2045.1	2038.1	2027.1	2020.1	2007.1	1999.1	1990.1	1972.1	1941.1	1926.1	1900.1
5°	2052.1	2037.1	2007.1	1976.1	1922.1	1892.1	1863.1	1803.1	1732.1	1680.0	1619.0
7.5°	2057.1	2034.1	1978.1	1902.1	1802.1	1749.1	1699.0	1600.0	1498.0	1418.0	1336.0
10°	2056.1	2019.1	1925.1	1800.1	1659.0	1588.0	1517.0	1389.0	1270.0	1179.0	1099.0
12.5°	2051.1	1999.1	1860.1	1688.0	1503.0	1422.0	1337.0	1192.0	1077.0	999.0	937.0
15°	2038.1	1963.1	1774.1	1553.0	1343.0	1250.0	1158.0	1026.0	933.0	870.0	832.0
17.5°	2040.1	1939.1	1693.0	1430.0	1187.0	1094.0	1009.0	894.0	828.0	809.0	814.0
20°	2047.1	1919.1	1614.0	1308.0	1047.0	962.0	889.0	811.0	793.0	815.0	865.0
22.5°	2047.1	1884.1	1522.0	1177.0	924.0	859.0	815.0	787.0	827.0	901.0	960.0
25°	2028.1	1830.1	1411.0	1036.0	833.0	799.0	785.0	822.0	918.0	963.0	948.0
27.5°	2020.1	1779.1	1297.0	915.0	785.0	780.0	800.0	899.0	940.0	907.0	844.0
30°	2028.1	1733.1	1180.0	833.0	781.0	811.0	863.0	907.0	861.0	786.0	714.0
32.5°	2020.1	1676.0	1067.0	800.0	820.0	861.0	882.0	830.0	738.0	658.0	605.0
35°	1990.1	1591.0	968.0	798.0	839.0	843.0	812.0	713.0	617.0	548.0	495.0
37.5°	1956.1	1508.0	915.0	804.0	788.0	749.0	692.0	593.0	509.0	450.0	415.0
40°	1924.1	1440.0	894.0	775.0	689.0	625.0	567.0	482.0	418.0	389.0	395.0
42.5°	1847.1	1369.0	857.0	695.0	569.0	506.0	461.0	395.0	365.0	373.0	381.0
45°	1753.1	1316.0	793.0	579.0	449.0	403.0	374.0	342.0	341.0	349.0	351.0
47.5°	1644.0	1264.0	704.0	464.0	352.0	327.0	317.0	312.0	315.0	316.0	326.0
50°	1489.0	1179.0	589.0	357.0	287.0	282.0	282.0	283.0	285.0	298.0	317.0
52.5°	1305.0	1080.0	483.0	278.0	247.0	248.0	248.0	253.0	268.0	287.0	297.0
55°	1075.0	948.0	401.0	228.0	215.0	216.0	220.0	232.0	242.0	246.0	242.0
57.5°	847.0	800.0	355.0	194.0	188.0	190.0	196.0	198.0	195.0	189.0	187.0
60°	637.0	637.0	326.0	169.0	159.0	158.0	159.0	150.0	145.0	143.0	146.0
62.5°	447.0	489.0	300.0	145.0	125.0	120.0	118.0	113.0	113.0	115.0	120.0
65°	286.0	359.0	264.0	121.0	97.0	94.0	94.0	94.0	97.0	102.0	108.0
67.5°	186.0	248.0	218.0	104.0	81.0	80.0	80.0	84.0	89.0	95.0	102.0
70°	121.0	162.0	170.0	91.0	70.0	70.0	72.0	77.0	83.0	90.0	97.0
72.5°	81.0	105.0	127.0	78.0	62.0	62.0	64.0	70.0	77.0	85.0	92.0
75°	56.0	69.0	88.0	65.0	53.0	55.0	57.0	64.0	72.0	80.0	87.0
77.5°	38.0	45.0	59.0	51.0	45.0	48.0	51.0	58.0	66.0	74.0	82.0
80°	26.0	29.0	38.0	38.0	38.0	41.0	45.0	53.0	61.0	68.0	76.0
82.5°	16.0	18.0	24.0	27.0	32.0	35.0	39.0	47.0	55.0	62.0	69.0
85°	9.0	10.0	15.0	20.0	26.0	30.0	34.0	41.0	49.0	56.0	63.0
87.5°	4.0	6.0	9.0	14.0	22.0	25.0	29.0	36.0	44.0	50.0	57.0
90°	1.0	3.0	6.0	11.0	17.0	21.0	25.0	31.0	38.0	44.0	50.0
92.5°	0.0	1.0	4.0	8.0	14.0	18.0	21.0	27.0	33.0	39.0	44.0
95°	0.0	1.0	3.0	7.0	12.0	15.0	18.0	24.0	29.0	34.0	39.0
97.5°	0.0	0.0	2.0	5.0	10.0	13.0	15.0	20.0	25.0	30.0	34.0
100°	0.0	0.0	2.0	4.0	9.0	11.0	13.0	18.0	22.0	26.0	30.0
102.5°	0.0	0.0	1.0	4.0	7.0	9.0	11.0	16.0	19.0	23.0	26.0
105°	0.0	0.0	1.0	3.0	6.0	8.0	10.0	13.0	17.0	20.0	23.0
107.5°	0.0	0.0	1.0	3.0	5.0	7.0	9.0	12.0	15.0	18.0	21.0
110°	0.0	0.0	1.0	2.0	5.0	6.0	7.0	10.0	13.0	16.0	18.0



TEST NUMBER: P236185

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L840-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	4.0	5.0	7.0	9.0	12.0	14.0	16.0
115°	0.0	0.0	0.0	2.0	3.0	4.0	6.0	8.0	10.0	12.0	15.0
117.5°	0.0	0.0	0.0	1.0	3.0	4.0	5.0	7.0	9.0	11.0	13.0
120°	0.0	0.0	0.0	1.0	2.0	3.0	4.0	6.0	8.0	10.0	11.0
122.5°	0.0	0.0	0.0	1.0	2.0	2.0	3.0	5.0	7.0	9.0	10.0
125°	0.0	0.0	0.0	0.0	1.0	2.0	3.0	4.0	6.0	8.0	10.0
127.5°	0.0	0.0	0.0	1.0	1.0	2.0	2.0	4.0	5.0	7.0	9.0
130°	0.0	0.0	0.0	0.0	1.0	1.0	2.0	3.0	5.0	7.0	9.0
132.5°	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	5.0	7.0	9.0
135°	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	4.0	6.0	9.0
137.5°	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	4.0	5.0	7.0
140°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	4.0	6.0
142.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	5.0
145°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	4.0
147.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0
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: P236185

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1	2040.1
2.5°	1888.1	1853.1	1845.1	1817.1	1809.1	1805.1	1805.1	1788.1	1781.1	1792.1
5°	1579.0	1522.0	1493.0	1450.0	1438.0	1425.0	1414.0	1400.0	1381.0	1385.0
7.5°	1277.0	1212.0	1166.0	1130.0	1117.0	1106.0	1093.0	1079.0	1068.0	1068.0
10°	1045.0	994.0	964.0	930.0	920.0	910.0	898.0	888.0	880.0	882.0
12.5°	891.0	852.0	834.0	824.0	824.0	821.0	821.0	825.0	828.0	826.0
15°	817.0	819.0	823.0	837.0	842.0	845.0	859.0	874.0	885.0	896.0
17.5°	832.0	861.0	905.0	953.0	964.0	985.0	1006.0	1014.0	1023.0	1029.0
20°	931.0	980.0	1010.0	1010.0	1008.0	1000.0	986.0	970.0	964.0	964.0
22.5°	985.0	969.0	944.0	914.0	906.0	894.0	874.0	857.0	849.0	846.0
25°	902.0	859.0	822.0	792.0	782.0	766.0	746.0	730.0	722.0	720.0
27.5°	780.0	733.0	700.0	674.0	662.0	651.0	629.0	614.0	607.0	606.0
30°	665.0	622.0	584.0	558.0	549.0	541.0	524.0	513.0	508.0	507.0
32.5°	551.0	514.0	485.0	469.0	465.0	461.0	458.0	461.0	464.0	467.0
35°	456.0	439.0	434.0	440.0	448.0	454.0	462.0	465.0	467.0	470.0
37.5°	413.0	423.0	435.0	443.0	446.0	450.0	455.0	456.0	457.0	458.0
40°	405.0	416.0	422.0	423.0	422.0	422.0	422.0	421.0	422.0	423.0
42.5°	384.0	388.0	386.0	387.0	390.0	394.0	403.0	411.0	415.0	419.0
45°	353.0	358.0	372.0	389.0	395.0	402.0	416.0	425.0	429.0	431.0
47.5°	340.0	358.0	376.0	390.0	394.0	399.0	409.0	415.0	416.0	416.0
50°	335.0	349.0	354.0	359.0	357.0	357.0	355.0	357.0	356.0	358.0
52.5°	302.0	301.0	299.0	301.0	301.0	301.0	304.0	307.0	307.0	309.0
55°	239.0	241.0	245.0	255.0	257.0	259.0	265.0	268.0	269.0	270.0
57.5°	190.0	197.0	206.0	215.0	218.0	221.0	223.0	225.0	225.0	227.0
60°	151.0	160.0	170.0	180.0	182.0	182.0	182.0	184.0	183.0	185.0
62.5°	126.0	137.0	147.0	154.0	155.0	155.0	154.0	155.0	156.0	157.0
65°	115.0	127.0	137.0	141.0	141.0	142.0	142.0	144.0	144.0	144.0
67.5°	111.0	123.0	131.0	134.0	134.0	135.0	136.0	136.0	136.0	136.0
70°	107.0	120.0	125.0	128.0	129.0	130.0	130.0	131.0	131.0	132.0
72.5°	104.0	115.0	119.0	122.0	124.0	125.0	125.0	127.0	127.0	128.0
75°	99.0	108.0	112.0	116.0	118.0	119.0	120.0	121.0	120.0	120.0
77.5°	92.0	100.0	105.0	109.0	110.0	111.0	112.0	112.0	112.0	112.0
80°	86.0	92.0	97.0	101.0	102.0	103.0	103.0	104.0	105.0	105.0
82.5°	78.0	84.0	89.0	92.0	93.0	94.0	95.0	97.0	98.0	98.0
85°	71.0	76.0	80.0	84.0	85.0	86.0	88.0	90.0	90.0	90.0
87.5°	63.0	68.0	72.0	76.0	78.0	79.0	81.0	83.0	83.0	84.0
90°	56.0	60.0	65.0	68.0	70.0	71.0	74.0	76.0	77.0	77.0
92.5°	49.0	53.0	58.0	61.0	63.0	65.0	67.0	70.0	71.0	72.0
95°	43.0	47.0	51.0	55.0	57.0	58.0	62.0	65.0	67.0	67.0
97.5°	37.0	41.0	45.0	49.0	51.0	53.0	56.0	60.0	62.0	63.0
100°	33.0	36.0	40.0	44.0	46.0	48.0	52.0	56.0	58.0	59.0
102.5°	29.0	32.0	35.0	39.0	41.0	43.0	47.0	51.0	53.0	54.0
105°	26.0	28.0	31.0	35.0	37.0	39.0	43.0	47.0	49.0	50.0
107.5°	23.0	26.0	28.0	32.0	34.0	35.0	39.0	43.0	45.0	46.0
110°	21.0	23.0	26.0	29.0	31.0	32.0	36.0	40.0	42.0	43.0



TEST NUMBER: P236185

CATALOG NUMBER: 2SWLED-20SL-LC-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	19.0	21.0	24.0	27.0	28.0	30.0	34.0	37.0	40.0	41.0
115°	17.0	19.0	22.0	25.0	27.0	28.0	32.0	36.0	39.0	40.0
117.5°	15.0	17.0	20.0	24.0	26.0	28.0	32.0	36.0	38.0	39.0
120°	14.0	16.0	19.0	23.0	25.0	27.0	32.0	36.0	38.0	39.0
122.5°	13.0	15.0	19.0	24.0	26.0	28.0	32.0	36.0	39.0	40.0
125°	12.0	15.0	20.0	24.0	27.0	29.0	33.0	36.0	38.0	39.0
127.5°	12.0	16.0	20.0	25.0	27.0	29.0	33.0	36.0	37.0	38.0
130°	13.0	16.0	21.0	25.0	27.0	28.0	31.0	33.0	34.0	34.0
132.5°	13.0	16.0	20.0	23.0	24.0	25.0	27.0	28.0	29.0	29.0
135°	12.0	14.0	17.0	19.0	20.0	21.0	22.0	23.0	23.0	23.0
137.5°	10.0	12.0	14.0	15.0	16.0	16.0	17.0	17.0	18.0	18.0
140°	8.0	9.0	11.0	12.0	12.0	12.0	13.0	13.0	13.0	13.0
142.5°	6.0	7.0	8.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0
145°	4.0	5.0	6.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
147.5°	3.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
150°	2.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
152.5°	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
155°	2.0	2.0	2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0
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)