

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: P236205

Luminaire Tested: **2SWLED-24HL-LC-UNV-L835-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236205
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-L835-CD1-U
Description: METALUX SWLED LINEAR LUMINAIRE
2FT FIXTURE WITH 2 ROW LED, CLEAR LENS
Light Source: (112) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

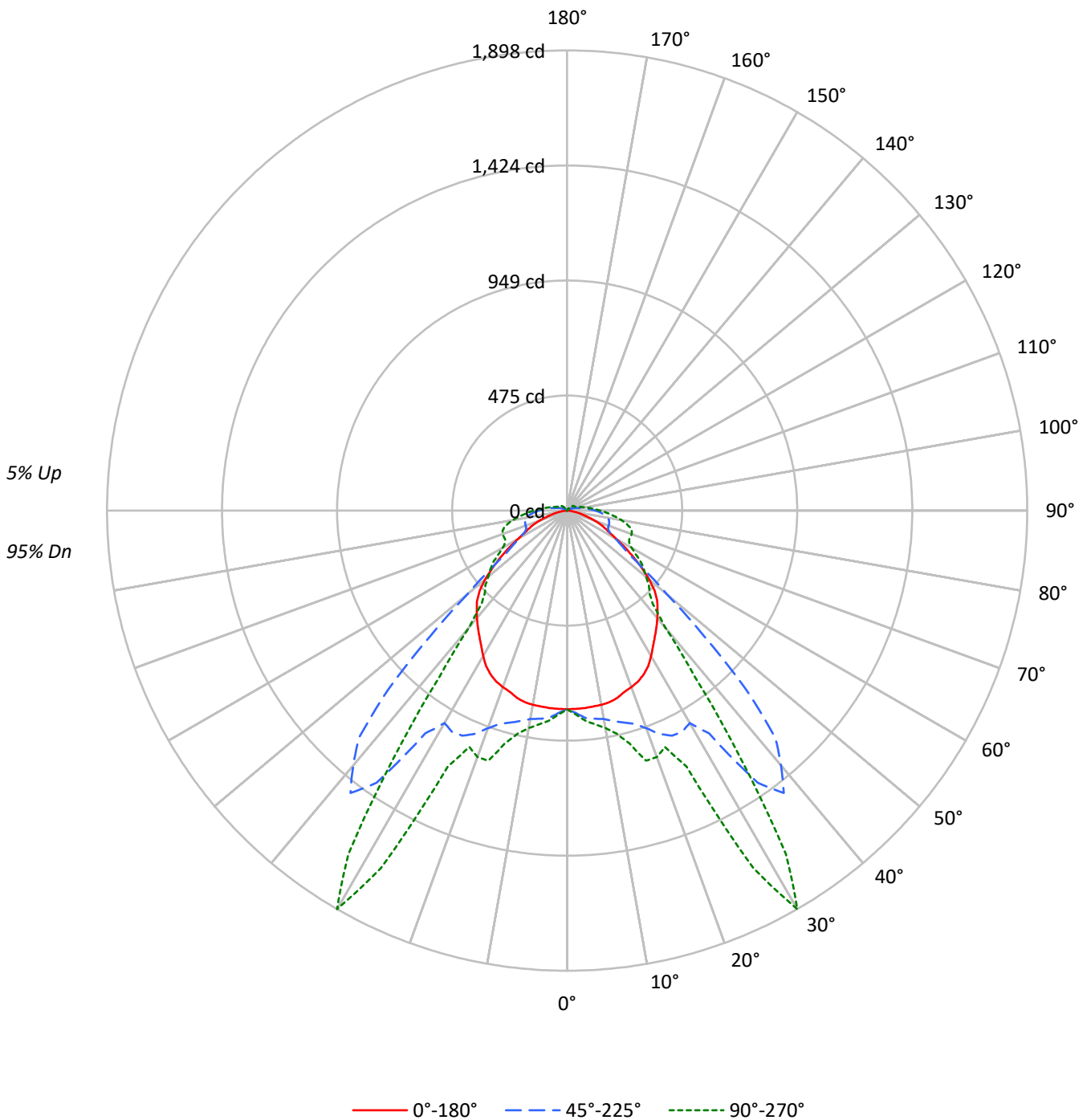
Lumens per Lamp: N/A
Luminaire Lumens: 3148.0 lumens
Efficiency: N/A
Efficacy: 131.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.55 / 1.55
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 2' x H: 0.15')
CIE Type: Direct

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°	11760	11760	11760
5°	11706	12020	12126
10°	11703	12028	12423
15°	11653	12362	13382
20°	11525	13035	14472
25°	11426	14082	15610
30°	11014	14108	25693
35°	10525	19545	17200
40°	10219	20194	8858
45°	9937	15995	7009
50°	9055	8665	6475
55°	7544	5269	5994
60°	5935	4191	5252
65°	5066	3739	5224
70°	4192	4026	5739
75°	3047	4484	6069
80°	2017	4901	5871
85°	1006	5132	5425



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.8	2.6
10°-20°	257.4	8.2
20°-30°	469.7	14.9
30°-40°	696.3	22.1
40°-50°	547.7	17.4
50°-60°	377.2	12.0
60°-70°	245.5	7.8
70°-80°	189.2	6.0
80°-90°	128.8	4.1
90°-100°	73.2	2.3
100°-110°	37.6	1.2
110°-120°	19.9	0.6
120°-130°	12.9	0.4
130°-140°	7.6	0.2
140°-150°	2.6	0.1
150°-160°	0.6	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	808.9	25.7
0°-40°	1505.2	47.8
0°-60°	2430.1	77.2
0°-90°	2993.5	95.1
90°-120°	130.8	4.2
90°-150°	153.9	4.9
90°-180°	155.0	4.9
0°-180°	3148.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	819	819	819	819	819	
5°	818	836	858	866	870	78
15°	800	829	905	960	994	225
25°	746	805	1025	1052	1164	342
35°	631	818	1371	1524	1249	396
45°	525	866	1045	477	480	401
55°	333	595	309	342	373	298
65°	172	337	187	256	282	171
75°	70	141	179	250	268	77
85°	11	54	148	170	179	14
90°	0	41	116	129	136	1
95°	0	32	85	95	102	0
105°	0	16	41	54	57	0
115°	0	7	22	32	37	0
125°	0	3	13	26	33	0
135°	0	1	9	18	22	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°	819.4	819.4	819.4	819.4	819.4	819.4	819.4	819.4	819.4	819.4	819.4
2.5°	818.6	820.3	822.0	822.9	824.6	825.5	826.3	829.8	833.2	835.0	835.8
5°	817.7	819.4	823.7	828.1	833.2	835.8	840.1	846.2	852.2	855.7	858.2
7.5°	815.1	818.6	826.3	834.1	841.9	846.2	850.5	856.5	861.7	864.3	866.0
10°	813.4	816.8	827.2	836.7	845.3	847.9	851.3	856.5	861.7	866.9	872.9
12.5°	809.1	814.3	824.6	834.1	840.1	841.9	845.3	853.1	865.1	877.2	889.3
15°	799.6	803.0	814.3	820.3	825.5	828.9	835.0	853.1	874.6	890.2	904.8
17.5°	784.1	785.8	792.7	796.1	803.9	813.4	826.3	855.7	880.7	901.4	922.1
20°	774.6	772.9	772.0	774.6	791.0	806.5	822.9	854.8	885.0	916.9	954.9
22.5°	763.4	756.5	751.3	756.5	785.8	804.8	823.7	860.8	904.8	951.4	997.1
25°	746.1	735.8	728.0	740.9	782.3	804.8	828.9	882.4	940.2	984.2	1024.7
27.5°	723.7	712.5	704.7	728.0	779.8	811.7	846.2	911.7	964.3	1004.9	1028.2
30°	692.6	681.4	679.7	714.2	783.2	823.7	861.7	925.5	973.0	1007.5	1011.8
32.5°	659.9	653.0	655.5	703.9	787.5	827.2	863.4	921.2	970.4	1003.2	1089.4
35°	631.4	630.5	640.9	699.5	782.3	817.7	850.5	914.3	981.6	1112.7	1370.6
37.5°	604.7	609.0	630.5	690.0	765.1	800.5	838.4	933.3	1094.6	1345.6	1468.1
40°	578.8	588.3	614.1	667.6	740.1	784.9	845.3	1040.2	1270.6	1340.4	1373.2
42.5°	552.0	561.5	585.7	632.3	719.4	795.3	909.1	1179.1	1228.3	1233.5	1270.6
45°	525.3	532.2	548.6	594.3	734.0	866.0	1016.1	1135.1	1085.1	1153.2	1045.4
47.5°	489.1	496.0	508.9	572.7	785.8	927.3	1017.0	975.6	1008.3	991.1	762.5
50°	440.8	450.3	469.2	575.3	797.9	870.3	888.4	855.7	910.9	766.8	539.1
52.5°	386.4	398.5	439.0	571.9	712.5	735.8	733.2	767.7	773.7	554.6	396.8
55°	332.9	346.7	414.0	517.5	577.1	595.2	623.6	691.8	608.1	397.6	308.8
57.5°	280.3	301.0	371.8	417.5	455.4	499.4	553.8	605.5	458.0	301.9	261.4
60°	232.9	261.4	307.9	317.4	376.1	439.0	498.6	509.8	345.9	245.0	228.6
62.5°	196.7	220.0	240.7	244.1	323.5	389.9	445.9	410.6	264.8	204.4	200.1
65°	172.5	179.4	181.1	191.5	276.9	337.3	382.1	321.7	212.2	182.9	187.2
67.5°	147.5	142.3	139.7	156.1	232.0	283.8	315.7	254.5	182.9	171.6	182.9
70°	119.9	113.0	109.5	127.7	190.6	231.2	251.9	203.6	163.9	165.6	182.0
72.5°	94.0	88.8	88.0	105.2	152.7	181.1	194.9	167.3	150.9	161.3	182.0
75°	69.9	68.1	70.7	85.4	120.8	140.6	150.1	139.7	140.6	157.8	179.4
77.5°	50.0	51.8	55.2	68.1	93.2	107.0	116.4	121.6	132.8	154.4	176.0
80°	34.5	36.2	42.3	53.5	72.5	82.8	92.3	107.0	125.9	149.2	169.1
82.5°	21.6	24.2	30.2	41.4	56.9	66.4	75.0	96.6	119.9	142.3	159.6
85°	11.2	14.7	21.6	31.9	45.7	54.3	64.7	88.8	113.9	133.7	147.5
87.5°	5.2	7.8	14.7	24.2	38.0	47.4	58.7	82.8	105.2	122.5	132.0
90°	0.0	3.5	9.5	19.0	31.9	41.4	52.6	75.9	94.9	108.7	116.4
92.5°	0.0	1.7	6.9	14.7	27.6	36.2	46.6	67.3	82.8	94.0	100.1
95°	0.0	0.9	5.2	12.1	24.2	31.9	40.5	57.8	70.7	80.2	85.4
97.5°	0.0	0.9	3.5	9.5	20.7	27.6	34.5	49.2	59.5	67.3	71.6
100°	0.0	0.0	2.6	7.8	17.3	22.4	28.5	40.5	49.2	56.1	59.5
102.5°	0.0	0.0	1.7	6.9	14.7	19.0	23.3	32.8	40.5	45.7	50.0
105°	0.0	0.0	1.7	5.2	12.1	15.5	19.0	26.7	32.8	38.0	41.4
107.5°	0.0	0.0	0.9	4.3	9.5	12.1	15.5	21.6	26.7	31.1	35.4
110°	0.0	0.0	0.9	3.5	7.8	10.4	12.1	17.3	21.6	25.9	29.3



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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	2.6	6.0	7.8	10.4	14.7	18.1	21.6	25.0
115°	0.0	0.0	0.0	1.7	5.2	6.9	8.6	12.1	15.5	18.1	21.6
117.5°	0.0	0.0	0.0	1.7	4.3	5.2	6.9	9.5	12.9	15.5	18.1
120°	0.0	0.0	0.0	0.9	3.5	4.3	5.2	7.8	11.2	13.8	16.4
122.5°	0.0	0.0	0.0	0.9	2.6	3.5	4.3	6.9	9.5	12.1	14.7
125°	0.0	0.0	0.0	0.9	1.7	2.6	3.5	6.0	7.8	10.4	12.9
127.5°	0.0	0.0	0.0	0.9	1.7	1.7	2.6	5.2	6.9	9.5	12.1
130°	0.0	0.0	0.0	0.0	0.9	1.7	2.6	4.3	6.0	8.6	11.2
132.5°	0.0	0.0	0.0	0.0	0.9	0.9	1.7	3.5	5.2	7.8	10.4
135°	0.0	0.9	0.0	0.0	0.9	0.9	1.7	2.6	4.3	6.9	8.6
137.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	2.6	3.5	5.2	7.8
140°	0.0	0.9	0.9	0.9	0.9	0.9	0.9	1.7	2.6	4.3	6.0
142.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	2.6	3.5	4.3
145°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.7	2.6	3.5
147.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.7	2.6
150°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.7
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°	819.4	819.4	819.4	819.4	819.4	819.4	819.4	819.4	819.4	819.4
2.5°	838.4	841.0	842.7	841.9	841.9	841.9	842.7	842.7	841.0	842.7
5°	860.8	864.3	865.1	866.0	866.0	866.9	868.6	869.5	867.7	870.3
7.5°	870.3	873.8	877.2	879.0	879.8	880.7	884.1	886.7	886.7	889.3
10°	881.5	889.3	894.5	897.9	899.7	900.5	904.8	907.4	908.3	910.9
12.5°	899.7	910.0	917.8	924.7	927.3	929.0	933.3	936.7	939.3	941.9
15°	919.5	934.2	946.2	955.7	960.0	966.9	974.7	982.5	990.2	994.5
17.5°	946.2	973.0	998.0	1018.7	1029.9	1039.4	1055.8	1067.0	1076.5	1081.7
20°	994.5	1033.3	1064.4	1079.9	1084.2	1086.8	1086.0	1083.4	1083.4	1081.7
22.5°	1040.2	1067.9	1073.9	1066.1	1063.5	1061.0	1055.8	1051.5	1051.5	1054.9
25°	1049.7	1049.7	1042.8	1043.7	1051.5	1055.8	1079.1	1115.3	1141.2	1164.5
27.5°	1026.4	1030.8	1076.5	1173.9	1249.9	1306.8	1443.9	1546.6	1610.4	1662.2
30°	1050.6	1199.8	1419.8	1622.5	1707.9	1769.1	1851.1	1883.8	1890.7	1898.5
32.5°	1309.4	1572.4	1719.1	1774.3	1774.3	1776.9	1747.5	1709.6	1668.2	1679.4
35°	1564.7	1640.6	1640.6	1584.5	1524.1	1481.0	1374.1	1293.8	1241.2	1249.0
37.5°	1511.2	1496.5	1388.7	1224.0	1136.0	1076.5	962.6	897.1	861.7	866.0
40°	1373.2	1217.9	1023.0	851.3	782.3	743.5	675.4	641.7	625.4	627.1
42.5°	1109.3	868.6	703.0	602.1	573.6	552.0	532.2	524.4	521.0	522.7
45°	788.4	602.9	515.8	480.4	477.0	473.5	471.8	474.4	477.0	479.6
47.5°	557.2	459.7	435.6	433.0	435.6	439.9	445.9	451.1	453.7	457.2
50°	422.7	389.0	388.2	395.9	400.2	406.3	413.2	418.3	420.9	424.4
52.5°	342.4	338.1	347.6	360.6	367.5	374.4	384.7	392.5	395.9	398.5
55°	294.1	303.6	320.0	333.8	341.6	348.5	358.8	366.6	370.0	372.6
57.5°	263.1	276.9	289.8	302.8	307.9	314.0	323.5	330.4	332.9	335.5
60°	232.9	246.7	261.4	274.3	281.2	287.2	295.9	301.9	304.5	306.2
62.5°	210.5	227.7	245.0	257.9	263.9	269.1	276.9	282.9	285.5	288.1
65°	201.8	220.8	238.9	251.0	256.2	261.4	270.8	276.9	280.3	282.1
67.5°	201.8	220.8	238.1	251.0	257.0	262.2	272.6	278.6	281.2	282.9
70°	202.7	221.7	240.7	253.6	257.9	263.9	273.4	279.5	282.1	282.9
72.5°	202.7	222.5	238.9	252.7	257.0	262.2	270.8	276.0	278.6	279.5
75°	200.1	219.1	233.8	246.7	250.1	253.6	262.2	266.5	268.3	268.3
77.5°	194.9	210.5	224.3	232.9	236.3	238.1	244.1	248.4	250.1	250.1
80°	186.3	197.5	208.7	214.8	215.6	217.4	222.5	225.1	226.0	227.7
82.5°	173.4	182.0	187.2	191.5	191.5	193.2	199.3	201.0	202.7	203.6
85°	157.0	163.0	165.6	168.2	169.9	170.8	175.1	176.8	178.6	179.4
87.5°	138.9	143.2	144.9	148.4	148.4	150.1	153.5	155.3	156.1	157.0
90°	120.8	124.2	125.9	128.5	129.4	130.2	133.7	134.6	135.4	136.3
92.5°	103.5	106.1	107.8	110.4	111.3	111.3	114.7	115.6	116.4	117.3
95°	88.8	90.6	92.3	94.0	94.9	95.7	98.3	100.1	100.9	101.8
97.5°	75.0	76.8	79.4	81.1	81.9	83.7	85.4	87.1	87.1	88.0
100°	63.0	65.6	68.1	69.9	71.6	71.6	74.2	75.0	75.9	75.9
102.5°	53.5	56.1	58.7	60.4	61.2	62.1	63.8	64.7	65.6	65.6
105°	44.9	47.4	50.0	52.6	53.5	53.5	55.2	56.1	56.9	56.9
107.5°	38.0	40.5	43.1	45.7	46.6	47.4	48.3	50.0	50.9	50.9
110°	32.8	35.4	38.0	39.7	41.4	41.4	43.1	44.9	44.9	45.7



TEST NUMBER: P236205

CATALOG NUMBER: 2SWLED-24HL-LC-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	27.6	30.2	32.8	35.4	36.2	37.1	38.8	39.7	40.5	40.5
115°	24.2	26.7	29.3	31.1	31.9	32.8	34.5	36.2	37.1	37.1
117.5°	20.7	23.3	25.9	27.6	29.3	30.2	31.9	33.6	34.5	34.5
120°	18.1	20.7	23.3	25.9	26.7	27.6	30.2	31.9	32.8	32.8
122.5°	16.4	19.0	21.6	24.2	25.9	26.7	29.3	31.1	31.9	32.8
125°	15.5	18.1	21.6	24.2	25.9	26.7	29.3	31.1	31.9	32.8
127.5°	14.7	18.1	20.7	24.2	25.0	26.7	29.3	31.1	31.9	31.9
130°	13.8	17.3	19.8	22.4	24.2	25.0	27.6	28.5	29.3	30.2
132.5°	12.9	15.5	18.1	20.7	21.6	22.4	24.2	25.0	25.9	25.9
135°	11.2	13.8	15.5	17.3	18.1	19.0	19.8	20.7	21.6	21.6
137.5°	9.5	11.2	12.9	13.8	14.7	15.5	16.4	16.4	17.3	17.3
140°	7.8	8.6	10.4	11.2	11.2	12.1	12.9	12.9	12.9	12.9
142.5°	6.0	6.9	7.8	8.6	8.6	9.5	9.5	10.4	10.4	10.4
145°	4.3	5.2	6.0	6.9	6.9	6.9	7.8	7.8	7.8	7.8
147.5°	3.5	3.5	4.3	5.2	5.2	5.2	6.0	6.0	6.0	6.0
150°	1.7	2.6	3.5	3.5	3.5	3.5	4.3	4.3	4.3	4.3
152.5°	1.7	1.7	2.6	2.6	2.6	2.6	2.6	3.5	3.5	3.5
155°	0.9	0.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
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)