

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: P288455

Luminaire Tested: **4WNLED-LD4-32SL-F-UNV-L840-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P288455  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1902-121-2)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4WNLED-LD4-32SL-F-UNV-L840-CD1-U  
Description: 4FT WNLED WRAPAROUND  
Light Source: (112) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

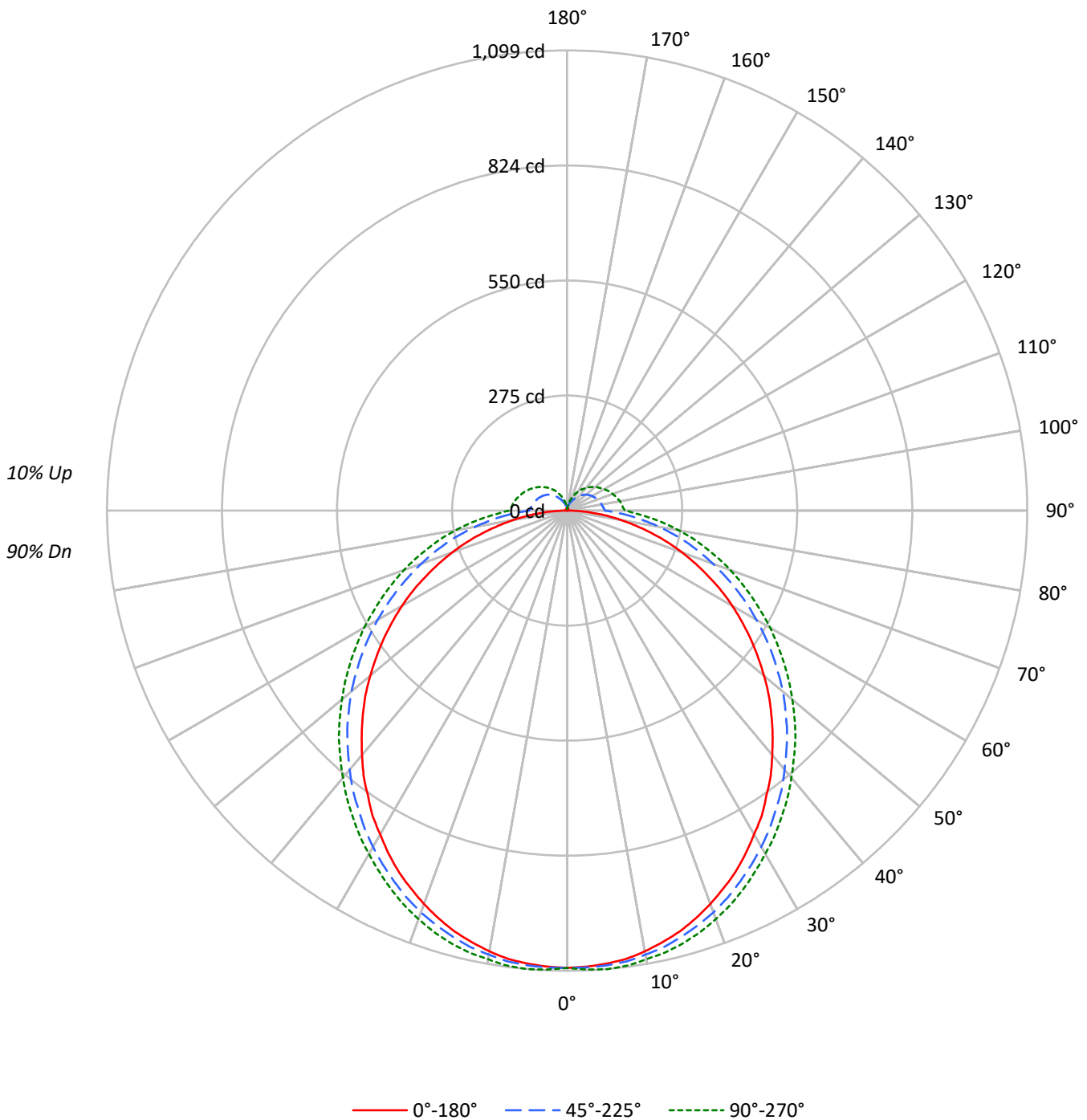
Lumens per Lamp: N/A  
Luminaire Lumens: 3741.0 lumens  
Efficiency: N/A  
Efficacy: 129.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 4' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 28.8  
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

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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	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	90
1	105	100	95	91	101	97	92	89	91	87	84	85	82	80	80	78	76	73
2	95	86	79	73	92	84	77	71	78	73	68	74	69	65	69	66	62	60
3	86	75	67	60	83	73	65	59	69	62	57	65	59	54	61	56	52	50
4	79	67	58	51	76	65	56	50	61	54	48	57	51	46	54	49	45	42
5	73	59	50	43	70	58	49	43	54	47	41	51	45	40	49	43	39	36
6	67	53	44	38	64	52	43	37	49	42	36	46	40	35	44	38	34	32
7	62	48	39	33	60	47	39	33	45	37	32	42	36	31	40	34	30	28
8	58	44	35	29	55	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	22	32	26	22	20

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

	0°	45°	90°
0°	2939	2939	2939
5°	2926	2917	2937
10°	2905	2887	2909
15°	2874	2851	2884
20°	2831	2811	2844
25°	2786	2760	2796
30°	2726	2709	2744
35°	2669	2652	2698
40°	2608	2597	2649
45°	2546	2545	2609
50°	2477	2488	2558
55°	2405	2425	2516
60°	2329	2359	2477
65°	2225	2296	2439
70°	2113	2232	2428
75°	1949	2184	2420
80°	1752	2129	2451
85°	1388	2093	2531



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.6	2.8
10°-20°	296.9	7.9
20°-30°	448.6	12.0
30°-40°	540.7	14.5
40°-50°	567.0	15.2
50°-60°	528.5	14.1
60°-70°	435.0	11.6
70°-80°	304.0	8.1
80°-90°	158.0	4.2
90°-100°	85.9	2.3
100°-110°	77.3	2.1
110°-120°	65.7	1.8
120°-130°	52.1	1.4
130°-140°	37.4	1.0
140°-150°	23.3	0.6
150°-160°	11.9	0.3
160°-170°	4.3	0.1
170°-180°	0.7	0.0
0°-30°	849.2	22.7
0°-40°	1389.9	37.2
0°-60°	2485.4	66.4
0°-90°	3382.4	90.4
90°-120°	228.9	6.1
90°-150°	341.7	9.1
90°-180°	359.0	9.6
0°-180°	3741.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1092	1092	1092	1092	1092	
5°	1086	1077	1090	1088	1099	103
15°	1040	1034	1054	1057	1070	293
25°	952	952	977	982	997	438
35°	830	838	870	881	893	520
45°	690	707	743	759	771	532
55°	535	559	598	621	632	478
65°	373	402	446	476	486	370
75°	209	249	297	329	341	222
85°	61	104	153	187	199	65
90°	1	42	90	126	138	4
95°	1	40	86	121	132	1
105°	1	37	80	112	122	1
115°	2	34	73	101	110	2
125°	3	30	64	88	94	3
135°	3	24	53	74	79	2
145°	4	18	39	57	62	3
155°	5	13	25	38	43	2
165°	5	9	14	19	23	1
175°	5	6	7	6	7	0
180°	5	5	5	5	5	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2
2.5°	1090.2	1095.3	1089.2	1091.2	1085.1	1081.1	1098.3	1087.1	1088.2	1098.3	1092.2
5°	1086.1	1091.2	1085.1	1087.1	1082.1	1077.0	1095.3	1085.1	1086.1	1095.3	1090.2
7.5°	1080.0	1084.1	1078.0	1080.0	1076.0	1070.9	1088.2	1080.0	1081.1	1089.2	1086.1
10°	1068.9	1072.9	1069.9	1070.9	1066.8	1061.7	1080.0	1069.9	1071.9	1081.1	1077.0
12.5°	1055.6	1060.7	1055.6	1057.7	1054.6	1049.6	1066.8	1058.7	1060.7	1069.9	1067.8
15°	1040.4	1043.5	1040.4	1042.4	1039.4	1034.3	1051.6	1045.5	1047.5	1056.7	1053.6
17.5°	1021.1	1025.2	1022.1	1025.2	1022.1	1017.0	1034.3	1028.2	1030.2	1040.4	1038.4
20°	999.8	1004.8	1000.8	1004.8	1001.8	997.7	1015.0	1009.9	1012.0	1022.1	1021.1
22.5°	976.4	981.5	977.4	980.5	980.5	976.4	992.7	989.6	991.6	1000.8	1000.8
25°	952.0	955.1	953.0	956.1	955.1	952.0	968.3	966.2	967.3	975.4	977.4
27.5°	923.6	928.6	925.6	929.7	928.6	926.6	941.9	939.8	942.9	952.0	953.0
30°	893.1	898.2	896.1	901.2	900.2	898.2	914.4	913.4	915.4	923.6	927.6
32.5°	864.6	866.7	866.7	870.7	871.7	869.7	885.0	885.0	888.0	895.1	900.2
35°	830.1	835.2	833.1	841.3	840.3	838.2	853.5	854.5	857.5	865.7	869.7
37.5°	798.6	800.6	800.6	807.7	809.8	806.7	819.9	824.0	827.0	834.2	841.3
40°	762.0	766.1	766.1	774.2	776.2	774.2	788.4	792.5	795.5	803.7	807.7
42.5°	726.5	729.5	731.5	738.7	742.7	740.7	753.9	759.0	762.0	771.2	775.2
45°	689.9	692.9	693.9	703.1	707.2	707.2	718.3	725.4	729.5	736.6	742.7
47.5°	653.3	654.3	657.4	665.5	671.6	671.6	682.8	688.9	693.9	701.1	707.2
50°	613.7	615.7	619.8	628.9	634.0	634.0	645.2	653.3	658.4	665.5	672.6
52.5°	574.1	577.1	581.2	590.3	596.4	597.4	606.6	616.7	619.8	627.9	635.0
55°	535.4	537.5	542.6	552.7	558.8	558.8	570.0	579.1	584.2	591.3	598.4
57.5°	494.8	497.9	502.9	513.1	519.2	520.2	530.4	539.5	545.6	552.7	560.8
60°	456.2	456.2	462.3	474.5	480.6	482.6	490.7	500.9	507.0	514.1	522.2
62.5°	415.6	415.6	422.7	432.8	439.9	442.0	453.1	462.3	468.4	475.5	484.6
65°	372.9	375.9	382.0	393.2	401.3	402.3	410.5	421.7	429.8	436.9	446.0
67.5°	332.2	336.3	340.4	351.5	360.7	362.7	371.9	383.0	390.2	397.3	408.4
70°	291.6	295.7	300.7	311.9	320.0	325.1	332.2	343.4	351.5	359.7	369.8
72.5°	251.0	255.0	260.1	272.3	281.4	286.5	293.6	306.8	314.0	322.1	333.3
75°	209.3	212.3	220.5	232.7	242.8	248.9	255.0	267.2	276.4	284.5	296.7
77.5°	168.7	173.7	180.9	193.0	203.2	208.3	215.4	230.6	238.8	248.9	260.1
80°	133.1	136.1	143.3	155.5	165.6	172.7	178.8	193.0	201.2	211.3	223.5
82.5°	96.5	100.6	107.7	119.9	132.1	138.2	143.3	157.5	166.6	176.8	186.9
85°	61.0	66.0	73.2	85.3	97.5	103.6	109.7	121.9	133.1	142.2	153.4
87.5°	28.4	33.5	41.7	52.8	64.0	71.1	76.2	89.4	99.6	109.7	119.9
90°	1.0	5.1	13.2	24.4	36.6	41.7	47.8	59.9	70.1	80.3	90.4
92.5°	0.0	4.1	12.2	23.4	34.5	40.6	45.7	57.9	68.1	78.2	88.4
95°	1.0	4.1	12.2	22.4	33.5	39.6	44.7	56.9	67.1	77.2	86.4
97.5°	1.0	4.1	12.2	22.4	33.5	38.6	44.7	55.9	66.0	76.2	85.3
100°	1.0	4.1	12.2	22.4	32.5	38.6	43.7	54.9	65.0	74.2	83.3
102.5°	1.0	4.1	12.2	21.3	32.5	37.6	42.7	53.8	64.0	73.2	82.3
105°	1.0	5.1	12.2	21.3	31.5	36.6	42.7	52.8	62.0	71.1	80.3
107.5°	2.0	5.1	12.2	21.3	31.5	36.6	41.7	51.8	61.0	70.1	78.2
110°	2.0	5.1	12.2	20.3	30.5	35.6	40.6	50.8	59.9	68.1	77.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	2.0	5.1	12.2	20.3	30.5	35.6	39.6	49.8	58.9	67.1	75.2
115°	2.0	5.1	11.2	20.3	29.5	34.5	38.6	48.8	56.9	65.0	73.2
117.5°	2.0	5.1	11.2	19.3	28.4	33.5	37.6	47.8	55.9	63.0	71.1
120°	3.0	5.1	11.2	19.3	27.4	32.5	36.6	45.7	53.8	62.0	69.1
122.5°	3.0	6.1	11.2	18.3	27.4	31.5	35.6	44.7	51.8	59.9	67.1
125°	3.0	6.1	11.2	18.3	26.4	30.5	34.5	42.7	50.8	57.9	64.0
127.5°	3.0	6.1	11.2	17.3	25.4	28.4	32.5	40.6	48.8	54.9	62.0
130°	3.0	6.1	10.2	16.3	23.4	27.4	30.5	38.6	45.7	52.8	58.9
132.5°	3.0	6.1	10.2	16.3	22.4	25.4	29.5	36.6	43.7	49.8	55.9
135°	3.0	5.1	9.1	15.2	21.3	24.4	27.4	34.5	40.6	46.7	52.8
137.5°	3.0	5.1	9.1	14.2	19.3	22.4	25.4	31.5	37.6	43.7	48.8
140°	4.1	5.1	9.1	13.2	18.3	21.3	23.4	29.5	34.5	39.6	45.7
142.5°	4.1	5.1	8.1	12.2	17.3	19.3	21.3	27.4	32.5	36.6	41.7
145°	4.1	5.1	8.1	12.2	16.3	18.3	20.3	25.4	29.5	33.5	38.6
147.5°	4.1	5.1	8.1	11.2	15.2	17.3	18.3	23.4	27.4	30.5	34.5
150°	5.1	6.1	8.1	11.2	14.2	15.2	17.3	21.3	24.4	28.4	31.5
152.5°	5.1	6.1	8.1	10.2	13.2	14.2	16.3	19.3	22.4	25.4	28.4
155°	5.1	6.1	7.1	9.1	12.2	13.2	15.2	17.3	20.3	22.4	25.4
157.5°	5.1	6.1	7.1	9.1	11.2	12.2	13.2	16.3	18.3	20.3	22.4
160°	5.1	6.1	7.1	8.1	10.2	11.2	12.2	14.2	16.3	18.3	19.3
162.5°	5.1	6.1	7.1	8.1	9.1	10.2	11.2	12.2	14.2	15.2	17.3
165°	5.1	6.1	6.1	7.1	9.1	9.1	10.2	11.2	12.2	13.2	14.2
167.5°	5.1	5.1	6.1	7.1	8.1	8.1	9.1	10.2	11.2	11.2	12.2
170°	5.1	5.1	6.1	6.1	7.1	7.1	8.1	8.1	9.1	10.2	10.2
172.5°	5.1	5.1	6.1	6.1	6.1	7.1	7.1	7.1	8.1	8.1	8.1
175°	5.1	5.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	7.1
177.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
180°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2	1092.2
2.5°	1093.2	1095.3	1096.3	1093.2	1089.2	1092.2	1097.3	1091.2	1086.1	1097.3
5°	1091.2	1093.2	1093.2	1091.2	1088.2	1091.2	1096.3	1091.2	1086.1	1099.3
7.5°	1087.1	1088.2	1088.2	1086.1	1084.1	1088.2	1093.2	1088.2	1083.1	1096.3
10°	1080.0	1081.1	1081.1	1080.0	1077.0	1080.0	1085.1	1081.1	1076.0	1088.2
12.5°	1069.9	1070.9	1071.9	1069.9	1067.8	1072.9	1077.0	1071.9	1066.8	1081.1
15°	1056.7	1058.7	1058.7	1059.7	1056.7	1061.7	1065.8	1061.7	1056.7	1069.9
17.5°	1041.4	1043.5	1044.5	1044.5	1042.4	1046.5	1050.6	1046.5	1042.4	1055.6
20°	1023.1	1023.1	1026.2	1026.2	1025.2	1030.2	1034.3	1029.2	1025.2	1038.4
22.5°	1003.8	1003.8	1004.8	1004.8	1004.8	1009.9	1015.0	1009.9	1005.9	1019.1
25°	979.4	980.5	981.5	984.5	982.5	987.6	992.7	987.6	982.5	996.7
27.5°	956.1	956.1	957.1	960.1	959.1	964.2	968.3	963.2	960.1	972.3
30°	930.7	930.7	931.7	934.7	934.7	939.8	942.9	937.8	935.8	946.9
32.5°	903.2	903.2	904.3	908.3	908.3	912.4	916.5	912.4	910.4	921.5
35°	872.8	873.8	875.8	879.9	880.9	885.0	889.0	885.0	881.9	893.1
37.5°	843.3	843.3	844.3	850.4	851.4	856.5	860.6	856.5	853.5	864.6
40°	811.8	811.8	813.8	819.9	822.0	825.0	830.1	826.0	823.0	833.1
42.5°	779.3	780.3	783.4	788.4	790.5	794.5	798.6	795.5	791.5	801.6
45°	745.8	747.8	749.8	756.9	759.0	762.0	767.1	763.0	761.0	771.2
47.5°	712.2	712.2	715.3	723.4	725.4	727.5	732.6	730.5	727.5	736.6
50°	676.7	677.7	680.7	687.8	690.9	692.9	699.0	697.0	693.9	702.1
52.5°	640.1	641.1	646.2	653.3	656.4	659.4	664.5	663.5	659.4	667.5
55°	603.5	605.6	611.6	618.8	620.8	623.8	629.9	626.9	626.9	632.0
57.5°	565.9	569.0	575.1	582.2	584.2	587.3	593.4	591.3	590.3	595.4
60°	528.3	532.4	538.5	545.6	549.7	550.7	557.8	556.8	554.7	559.8
62.5°	491.8	495.8	501.9	510.0	512.1	515.1	522.2	520.2	519.2	522.2
65°	453.1	457.2	465.3	473.5	475.5	478.5	485.7	483.6	481.6	485.7
67.5°	415.6	421.7	427.7	435.9	438.9	441.0	449.1	448.1	446.0	450.1
70°	378.0	384.1	391.2	399.3	402.3	405.4	412.5	411.5	411.5	414.5
72.5°	341.4	347.5	355.6	363.7	367.8	368.8	374.9	374.9	375.9	378.0
75°	304.8	310.9	319.0	327.2	329.2	333.3	339.4	338.3	339.4	341.4
77.5°	268.2	275.3	283.5	291.6	294.6	295.7	302.8	302.8	303.8	306.8
80°	232.7	239.8	247.9	256.0	259.1	259.1	266.2	267.2	268.2	270.3
82.5°	196.1	203.2	211.3	219.5	223.5	225.6	231.7	231.7	232.7	234.7
85°	161.5	167.6	176.8	183.9	186.9	189.0	195.1	196.1	197.1	199.1
87.5°	128.0	136.1	143.3	151.4	154.4	156.5	161.5	162.6	164.6	165.6
90°	99.6	107.7	115.8	122.9	126.0	128.0	134.1	136.1	137.2	138.2
92.5°	97.5	105.7	112.8	119.9	122.9	125.0	130.1	132.1	134.1	134.1
95°	96.5	103.6	110.7	118.9	120.9	122.9	128.0	130.1	132.1	132.1
97.5°	94.5	101.6	109.7	116.8	118.9	121.9	126.0	128.0	130.1	130.1
100°	92.5	100.6	107.7	114.8	116.8	118.9	124.0	126.0	128.0	128.0
102.5°	90.4	98.6	105.7	111.8	114.8	116.8	120.9	122.9	125.0	125.0
105°	89.4	96.5	103.6	109.7	111.8	113.8	118.9	120.9	122.9	121.9
107.5°	87.4	93.5	100.6	107.7	109.7	111.8	115.8	117.9	119.9	118.9
110°	85.3	91.4	98.6	104.7	106.7	108.7	112.8	114.8	116.8	115.8





TEST NUMBER: P288455

CATALOG NUMBER: 4WNLED-LD4-32SL-F-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	83.3	89.4	95.5	101.6	103.6	105.7	109.7	111.8	113.8	112.8
115°	80.3	86.4	93.5	98.6	100.6	102.6	106.7	108.7	109.7	109.7
117.5°	78.2	84.3	90.4	96.5	97.5	99.6	102.6	104.7	106.7	105.7
120°	76.2	81.3	87.4	92.5	94.5	96.5	99.6	101.6	102.6	102.6
122.5°	73.2	79.2	84.3	89.4	91.4	92.5	96.5	97.5	99.6	98.6
125°	71.1	76.2	81.3	86.4	88.4	89.4	92.5	94.5	95.5	94.5
127.5°	68.1	73.2	78.2	83.3	84.3	86.4	88.4	90.4	91.4	91.4
130°	65.0	70.1	75.2	80.3	81.3	82.3	85.3	86.4	87.4	87.4
132.5°	62.0	67.1	72.1	76.2	77.2	79.2	81.3	83.3	84.3	83.3
135°	58.9	63.0	68.1	72.1	74.2	75.2	77.2	78.2	80.3	79.2
137.5°	54.9	59.9	64.0	68.1	70.1	71.1	73.2	74.2	75.2	75.2
140°	51.8	55.9	61.0	65.0	66.0	67.1	69.1	70.1	71.1	71.1
142.5°	47.8	51.8	55.9	59.9	62.0	63.0	65.0	66.0	67.1	66.0
145°	43.7	46.7	51.8	55.9	56.9	57.9	61.0	62.0	62.0	62.0
147.5°	39.6	42.7	46.7	50.8	52.8	53.8	55.9	56.9	57.9	57.9
150°	35.6	38.6	42.7	45.7	47.8	48.8	51.8	51.8	52.8	52.8
152.5°	31.5	34.5	37.6	41.7	42.7	44.7	46.7	47.8	47.8	47.8
155°	28.4	30.5	33.5	36.6	37.6	38.6	41.7	42.7	43.7	42.7
157.5°	24.4	27.4	29.5	31.5	32.5	33.5	36.6	37.6	38.6	38.6
160°	21.3	23.4	25.4	27.4	27.4	29.5	31.5	32.5	33.5	32.5
162.5°	18.3	19.3	21.3	22.4	23.4	24.4	26.4	27.4	28.4	28.4
165°	16.3	16.3	17.3	18.3	19.3	20.3	21.3	22.4	23.4	23.4
167.5°	13.2	14.2	14.2	15.2	15.2	16.3	16.3	18.3	19.3	19.3
170°	11.2	11.2	11.2	12.2	12.2	12.2	12.2	13.2	15.2	15.2
172.5°	9.1	9.1	9.1	9.1	9.1	9.1	9.1	10.2	10.2	11.2
175°	7.1	7.1	7.1	7.1	6.1	7.1	6.1	6.1	7.1	7.1
177.5°	5.1	5.1	5.1	5.1	5.1	5.1	4.1	4.1	4.1	4.1
180°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1

(END OF REPORT)