

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: P288449

Luminaire Tested: **2WNLED-LD4-28SL-F-UNV-L830-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P288449
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1902-121-1)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 2WNLED-LD4-28SL-F-UNV-L830-CD1-U
Description: 2FT WNLED WRAPAROUND
Light Source: (56) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

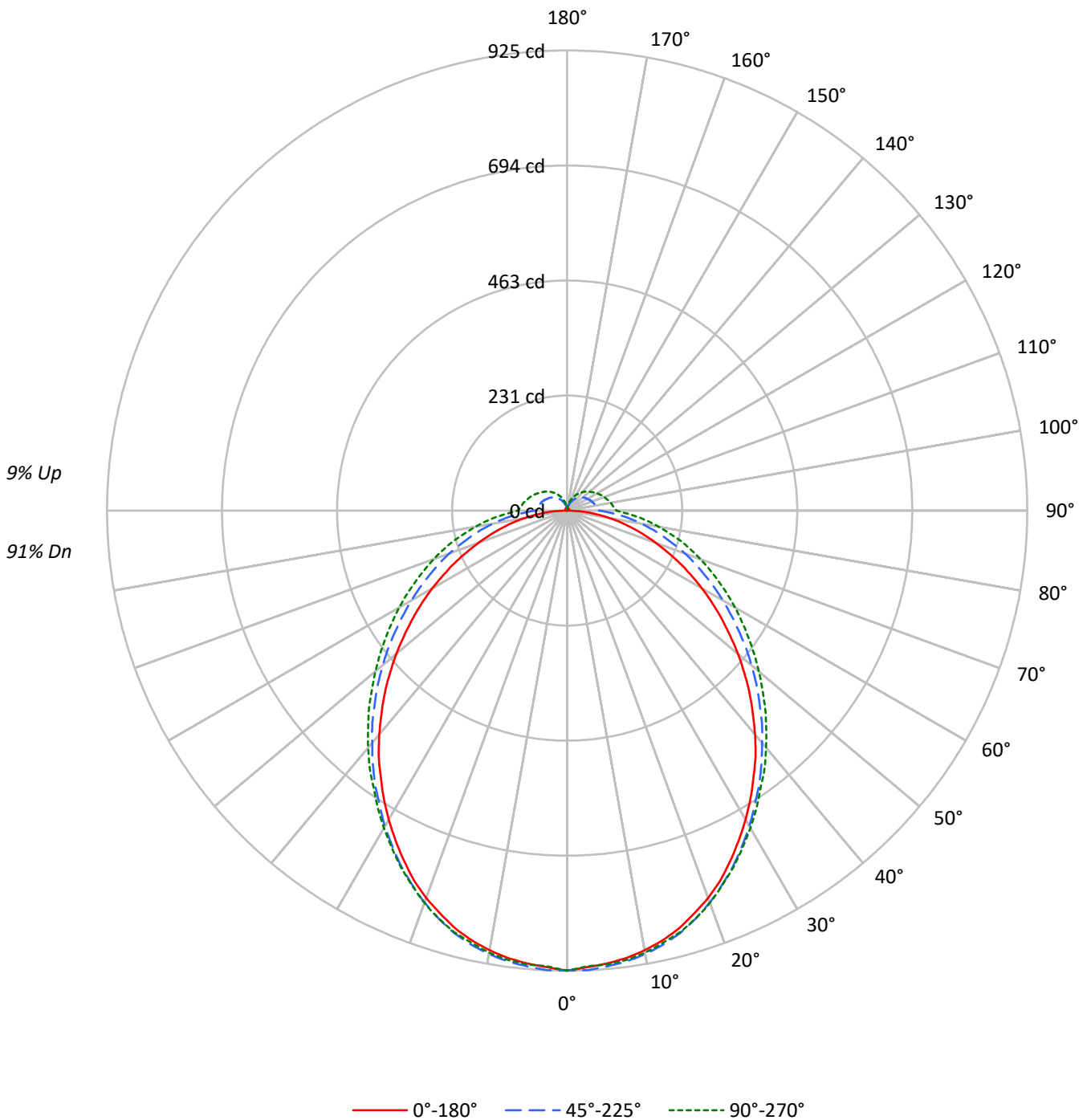
Lumens per Lamp: N/A
Luminaire Lumens: 2773.0 lumens
Efficiency: N/A
Efficacy: 114.6 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 2' x H: 0.12')
CIE Type: Direct

Input Watts (W): 24.2
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	50	30	10	0	
RCR																						
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	94	94	94	91	
1	106	101	96	92	102	97	93	90	92	88	85	86	83	81	81	79	77	77	77	77	74	
2	96	87	80	74	92	85	78	73	80	74	70	75	71	67	71	67	64	64	64	64	61	
3	87	77	68	62	84	74	67	61	70	64	58	66	61	56	63	58	54	54	54	54	52	
4	80	68	59	52	77	66	58	52	62	55	50	59	53	48	56	51	47	47	47	47	44	
5	74	61	52	45	71	59	51	44	56	49	43	53	47	42	50	45	41	41	41	41	38	
6	68	55	46	39	66	53	45	39	51	43	38	48	42	37	46	40	36	36	36	36	34	
7	63	50	41	35	61	48	40	34	46	39	34	44	37	33	42	36	32	32	32	32	30	
8	59	45	37	31	57	44	36	31	42	35	30	40	34	29	38	33	29	29	29	29	27	
9	55	42	34	28	53	41	33	28	39	32	27	37	31	27	36	30	26	26	26	26	24	
10	52	38	31	25	50	38	30	25	36	29	25	35	28	24	33	28	24	24	24	24	22	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4977	4977	4977
5°	4911	4912	4895
10°	4851	4834	4825
15°	4764	4730	4729
20°	4641	4581	4598
25°	4480	4413	4438
30°	4302	4230	4270
35°	4112	4044	4099
40°	3921	3855	3957
45°	3714	3674	3810
50°	3497	3497	3665
55°	3265	3319	3542
60°	3041	3164	3447
65°	2809	3017	3368
70°	2552	2907	3338
75°	2288	2778	3353
80°	1975	2675	3393
85°	1466	2592	3598



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.3	3.1
10°-20°	247.1	8.9
20°-30°	362.6	13.1
30°-40°	419.5	15.1
40°-50°	419.9	15.1
50°-60°	373.6	13.5
60°-70°	297.4	10.7
70°-80°	205.7	7.4
80°-90°	109.4	3.9
90°-100°	60.2	2.2
100°-110°	53.1	1.9
110°-120°	44.7	1.6
120°-130°	35.7	1.3
130°-140°	26.4	1.0
140°-150°	17.1	0.6
150°-160°	9.1	0.3
160°-170°	3.5	0.1
170°-180°	0.7	0.0
0°-30°	697.0	25.1
0°-40°	1116.5	40.3
0°-60°	1910.0	68.9
0°-90°	2522.4	91.0
90°-120°	158.0	5.7
90°-150°	237.3	8.6
90°-180°	251.0	9.1
0°-180°	2773.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	914	922	920	921	916	87
15°	869	877	879	881	877	245
25°	776	785	789	793	791	357
35°	653	664	673	679	678	409
45°	518	532	547	558	563	400
55°	379	397	421	438	445	340
65°	250	274	304	328	335	247
75°	136	165	200	225	236	144
85°	41	70	106	132	142	42
90°	0	29	64	89	99	3
95°	0	27	61	85	93	0
105°	2	25	55	77	84	2
115°	3	23	50	68	75	2
125°	4	21	45	59	64	3
135°	5	18	38	50	54	4
145°	5	14	30	40	43	3
155°	5	11	20	29	31	2
165°	6	9	12	16	18	2
175°	6	6	6	6	7	1
180°	5	5	5	5	5	



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CATALOG NUMBER: 2WNLED-LD4-28SL-F-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	924.7	924.7	924.7	924.7	924.7	924.7	924.7	924.7	924.7	924.7	924.7
2.5°	918.8	919.8	926.6	927.6	923.7	927.6	926.6	923.7	926.6	923.7	924.7
5°	914.0	915.0	920.8	921.8	918.8	921.8	921.8	918.8	922.7	919.8	919.8
7.5°	907.2	908.2	913.0	915.0	911.1	915.0	915.0	913.0	915.9	913.0	914.0
10°	897.5	898.5	903.3	906.2	903.3	905.3	905.3	904.3	907.2	904.3	905.3
12.5°	884.9	884.9	890.7	893.6	889.8	892.7	893.6	890.7	894.6	892.7	893.6
15°	869.4	868.4	874.3	877.2	874.3	877.2	877.2	876.2	879.1	877.2	879.1
17.5°	849.1	849.1	853.9	856.8	854.9	856.8	858.8	856.8	859.7	858.8	859.7
20°	828.7	827.7	833.6	835.5	834.5	837.4	837.4	835.5	839.4	838.4	838.4
22.5°	804.5	802.5	808.4	811.3	810.3	812.2	813.2	811.3	815.1	814.2	814.2
25°	776.4	775.4	781.2	784.1	783.2	785.1	787.0	785.1	788.0	788.0	789.0
27.5°	747.3	746.3	751.2	755.0	755.0	757.0	758.9	757.0	760.9	760.9	760.9
30°	717.2	716.3	720.2	725.0	725.0	727.9	729.8	726.9	731.8	731.8	732.8
32.5°	686.2	685.3	690.1	693.0	694.0	695.9	698.8	696.9	701.7	700.8	701.7
35°	653.3	652.3	657.2	661.0	663.0	663.9	666.8	665.9	669.8	669.8	672.7
37.5°	622.3	621.3	624.2	629.0	630.0	631.9	634.9	633.9	638.7	638.7	641.6
40°	587.4	586.4	591.2	594.1	597.1	598.0	600.9	600.9	606.7	606.7	609.7
42.5°	552.5	552.5	556.3	561.2	563.1	565.1	568.0	568.9	572.8	575.7	579.6
45°	518.5	518.5	521.5	526.3	530.2	532.1	535.0	536.0	539.9	543.7	546.7
47.5°	482.7	483.7	487.5	491.4	496.3	497.2	502.1	503.0	508.9	510.8	515.6
50°	448.8	448.8	452.6	457.5	463.3	464.3	468.1	470.1	475.9	478.8	483.7
52.5°	412.9	414.8	418.7	424.5	429.4	430.3	435.2	437.1	442.9	446.8	452.6
55°	379.0	380.9	384.8	391.6	396.4	397.4	402.2	405.1	411.0	415.8	420.7
57.5°	346.0	348.0	350.9	357.7	363.5	365.4	369.3	374.1	379.9	384.8	390.6
60°	313.1	314.0	319.9	325.7	332.5	334.4	339.2	342.1	350.9	355.7	361.5
62.5°	280.1	283.0	288.8	294.7	301.4	303.4	307.3	313.1	320.8	326.6	332.5
65°	250.1	253.0	257.8	263.6	271.4	274.3	278.2	285.0	291.7	297.6	304.3
67.5°	218.1	222.0	226.8	234.6	243.3	245.2	251.0	256.9	264.6	270.4	278.2
70°	190.0	193.8	198.7	205.5	213.2	216.1	221.0	229.7	237.5	244.3	252.0
72.5°	162.8	165.7	171.6	179.3	187.1	190.0	194.8	202.6	210.3	218.1	223.9
75°	135.7	139.6	145.4	152.2	161.9	164.8	169.6	177.4	185.1	192.9	199.7
77.5°	110.5	114.4	120.2	127.9	136.7	140.5	145.4	153.1	160.9	168.6	175.4
80°	86.3	90.1	95.0	103.7	112.4	116.3	121.2	128.9	136.7	144.4	151.2
82.5°	63.0	65.9	71.7	79.5	89.2	92.1	97.9	105.6	113.4	122.1	128.9
85°	40.7	43.6	49.4	57.2	65.9	69.8	74.6	82.4	91.1	98.9	105.6
87.5°	18.4	22.3	28.1	34.9	44.6	48.5	53.3	61.1	68.8	76.6	83.4
90°	0.0	3.9	9.7	16.5	25.2	29.1	33.9	41.7	49.4	57.2	64.0
92.5°	0.0	2.9	8.7	16.5	24.2	28.1	32.0	39.7	47.5	55.2	62.0
95°	0.0	2.9	8.7	15.5	23.3	27.1	32.0	38.8	46.5	54.3	61.1
97.5°	1.0	2.9	8.7	15.5	23.3	27.1	31.0	38.8	45.6	53.3	60.1
100°	1.0	2.9	8.7	15.5	23.3	26.2	30.0	37.8	44.6	52.3	58.2
102.5°	1.0	3.9	8.7	15.5	22.3	26.2	30.0	36.8	43.6	50.4	57.2
105°	1.9	3.9	8.7	14.5	22.3	25.2	29.1	35.9	42.6	49.4	55.2
107.5°	1.9	3.9	8.7	14.5	21.3	25.2	29.1	35.9	42.6	48.5	54.3
110°	1.9	3.9	8.7	14.5	21.3	24.2	28.1	34.9	40.7	47.5	53.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.9	4.8	8.7	14.5	21.3	24.2	27.1	33.9	39.7	45.6	51.4
115°	2.9	4.8	8.7	14.5	20.4	23.3	27.1	33.0	38.8	44.6	50.4
117.5°	2.9	4.8	9.7	14.5	20.4	23.3	26.2	33.0	37.8	43.6	48.5
120°	2.9	4.8	8.7	14.5	19.4	22.3	26.2	32.0	36.8	42.6	46.5
122.5°	3.9	5.8	9.7	14.5	19.4	22.3	25.2	31.0	35.9	40.7	45.6
125°	3.9	5.8	9.7	13.6	19.4	21.3	24.2	30.0	34.9	39.7	44.6
127.5°	3.9	5.8	9.7	13.6	18.4	21.3	23.3	29.1	33.9	38.8	42.6
130°	3.9	5.8	8.7	13.6	18.4	20.4	22.3	28.1	33.0	36.8	40.7
132.5°	4.8	5.8	9.7	13.6	17.4	19.4	22.3	26.2	31.0	35.9	39.7
135°	4.8	5.8	8.7	12.6	16.5	18.4	21.3	25.2	30.0	33.9	37.8
137.5°	4.8	5.8	8.7	11.6	16.5	18.4	20.4	24.2	28.1	32.0	35.9
140°	4.8	5.8	8.7	11.6	15.5	16.5	18.4	22.3	27.1	30.0	33.9
142.5°	4.8	5.8	8.7	11.6	14.5	16.5	17.4	21.3	25.2	29.1	32.0
145°	4.8	5.8	7.8	10.7	13.6	14.5	16.5	19.4	23.3	26.2	30.0
147.5°	4.8	5.8	7.8	9.7	12.6	13.6	15.5	18.4	21.3	24.2	27.1
150°	4.8	5.8	7.8	9.7	11.6	12.6	14.5	16.5	19.4	22.3	25.2
152.5°	4.8	5.8	6.8	8.7	10.7	11.6	12.6	15.5	17.4	20.4	22.3
155°	4.8	5.8	6.8	8.7	9.7	10.7	11.6	13.6	16.5	18.4	20.4
157.5°	4.8	4.8	6.8	7.8	9.7	9.7	10.7	12.6	14.5	16.5	18.4
160°	4.8	5.8	6.8	6.8	8.7	8.7	9.7	11.6	12.6	14.5	15.5
162.5°	5.8	5.8	6.8	7.8	7.8	8.7	8.7	10.7	11.6	12.6	13.6
165°	5.8	5.8	6.8	6.8	7.8	8.7	8.7	9.7	10.7	11.6	11.6
167.5°	5.8	5.8	5.8	6.8	7.8	7.8	7.8	8.7	8.7	9.7	10.7
170°	5.8	5.8	5.8	6.8	6.8	6.8	7.8	7.8	7.8	8.7	8.7
172.5°	5.8	5.8	5.8	5.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
175°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	6.8	6.8	5.8
177.5°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
180°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	924.7	924.7	924.7	924.7	924.7	924.7	924.7	924.7	924.7	924.7
2.5°	926.6	925.6	922.7	923.7	923.7	919.8	921.8	920.8	920.8	916.9
5°	921.8	921.8	919.8	921.8	920.8	918.8	919.8	919.8	918.8	915.9
7.5°	915.9	915.9	915.0	916.9	915.9	913.0	915.0	915.0	915.0	911.1
10°	907.2	907.2	905.3	907.2	907.2	904.3	905.3	905.3	904.3	902.4
12.5°	895.6	894.6	893.6	894.6	894.6	891.7	892.7	893.6	893.6	889.8
15°	881.0	880.1	879.1	881.0	881.0	878.1	880.1	880.1	880.1	877.2
17.5°	862.6	862.6	861.7	863.6	863.6	859.7	862.6	863.6	862.6	859.7
20°	841.3	840.3	840.3	842.3	842.3	838.4	841.3	842.3	841.3	839.4
22.5°	817.1	817.1	817.1	817.1	818.0	815.1	818.0	818.0	817.1	815.1
25°	790.9	791.9	789.9	791.9	792.8	789.0	791.9	792.8	791.9	790.9
27.5°	763.8	763.8	763.8	765.7	766.7	762.8	765.7	766.7	765.7	763.8
30°	735.7	735.7	735.7	736.6	737.6	734.7	738.6	738.6	737.6	736.6
32.5°	705.6	705.6	706.6	707.6	709.5	705.6	709.5	709.5	709.5	708.5
35°	674.6	675.6	676.5	677.5	679.4	676.5	679.4	680.4	680.4	678.5
37.5°	644.6	645.5	647.5	648.4	649.4	647.5	651.3	651.3	651.3	652.3
40°	613.5	613.5	616.4	617.4	619.3	617.4	620.3	621.3	621.3	622.3
42.5°	581.5	583.5	586.4	587.4	588.3	587.4	590.3	591.2	591.2	592.2
45°	549.6	552.5	554.4	556.3	558.3	556.3	559.3	560.2	561.2	563.1
47.5°	518.5	519.5	523.4	526.3	528.2	526.3	529.2	531.1	531.1	532.1
50°	486.6	490.4	493.3	495.3	497.2	496.3	500.1	502.1	501.1	503.0
52.5°	455.5	459.4	463.3	465.2	468.1	466.2	470.1	472.0	472.0	474.0
55°	424.5	429.4	433.3	436.2	438.1	437.1	442.0	442.9	442.9	444.9
57.5°	394.5	399.3	403.2	406.1	409.0	408.1	412.9	414.8	414.8	416.8
60°	365.4	370.3	375.1	379.0	381.9	380.9	385.8	387.7	387.7	389.6
62.5°	337.3	343.1	347.0	351.8	353.8	353.8	358.6	360.6	360.6	362.5
65°	310.2	315.0	319.9	324.7	327.6	327.6	331.5	334.4	334.4	335.4
67.5°	283.0	288.8	294.7	298.5	301.4	301.4	306.3	309.2	308.2	310.2
70°	257.8	262.7	268.5	273.3	276.2	276.2	281.1	284.0	284.0	285.0
72.5°	231.7	238.4	244.3	249.1	251.0	253.0	256.9	258.8	258.8	260.7
75°	206.4	212.3	217.1	222.9	224.9	225.8	230.7	234.6	234.6	236.5
77.5°	183.2	189.0	194.8	198.7	200.6	201.6	205.5	208.4	209.4	210.3
80°	159.0	165.7	170.6	175.4	177.4	178.3	182.2	185.1	185.1	187.1
82.5°	136.7	142.5	147.3	151.2	154.1	154.1	159.0	161.9	162.8	163.8
85°	113.4	119.2	124.1	128.9	131.8	131.8	135.7	138.6	139.6	141.5
87.5°	91.1	96.9	101.8	106.6	108.6	109.5	114.4	116.3	117.3	117.3
90°	70.8	77.5	82.4	87.2	89.2	91.1	94.0	96.9	97.9	98.9
92.5°	68.8	74.6	80.4	84.3	87.2	88.2	92.1	94.0	95.0	96.0
95°	66.9	72.7	78.5	82.4	85.3	86.3	89.2	92.1	92.1	93.0
97.5°	65.9	71.7	76.6	80.4	83.4	84.3	87.2	89.2	90.1	91.1
100°	64.9	69.8	74.6	78.5	80.4	82.4	85.3	87.2	88.2	89.2
102.5°	63.0	67.8	72.7	76.6	78.5	79.5	83.4	85.3	85.3	86.3
105°	61.1	65.9	70.8	74.6	76.6	77.5	80.4	82.4	83.4	84.3
107.5°	60.1	64.9	68.8	72.7	74.6	75.6	78.5	80.4	80.4	81.4
110°	58.2	63.0	66.9	70.8	71.7	73.7	75.6	77.5	78.5	79.5



TEST NUMBER: P288449

CATALOG NUMBER: 2WNLED-LD4-28SL-F-UNV-L830-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	56.2	61.1	64.9	68.8	69.8	70.8	73.7	75.6	75.6	76.6
115°	55.2	59.1	63.0	65.9	67.8	68.8	70.8	72.7	73.7	74.6
117.5°	53.3	57.2	61.1	64.0	65.9	66.9	68.8	70.8	70.8	71.7
120°	51.4	55.2	59.1	62.0	63.0	64.0	66.9	67.8	67.8	68.8
122.5°	50.4	53.3	57.2	60.1	61.1	62.0	64.0	64.9	65.9	66.9
125°	48.5	51.4	55.2	57.2	59.1	60.1	62.0	63.0	63.0	64.0
127.5°	46.5	50.4	53.3	55.2	56.2	57.2	59.1	60.1	61.1	61.1
130°	44.6	48.5	51.4	53.3	54.3	55.2	57.2	58.2	58.2	59.1
132.5°	43.6	46.5	49.4	51.4	52.3	53.3	54.3	56.2	56.2	56.2
135°	40.7	44.6	47.5	48.5	50.4	50.4	52.3	53.3	53.3	54.3
137.5°	39.7	41.7	44.6	46.5	47.5	48.5	49.4	50.4	51.4	51.4
140°	36.8	39.7	42.6	44.6	44.6	45.6	47.5	48.5	48.5	48.5
142.5°	34.9	37.8	39.7	41.7	42.6	42.6	44.6	45.6	45.6	45.6
145°	33.0	34.9	37.8	38.8	39.7	40.7	41.7	42.6	42.6	42.6
147.5°	30.0	33.0	34.9	36.8	36.8	37.8	38.8	39.7	39.7	39.7
150°	28.1	30.0	32.0	33.9	34.9	34.9	35.9	36.8	36.8	36.8
152.5°	25.2	27.1	29.1	31.0	32.0	32.0	33.0	33.9	33.9	33.9
155°	22.3	24.2	26.2	28.1	29.1	29.1	30.0	30.0	30.0	31.0
157.5°	19.4	21.3	23.3	25.2	25.2	26.2	27.1	27.1	27.1	28.1
160°	17.4	18.4	20.4	21.3	22.3	22.3	23.3	24.2	24.2	24.2
162.5°	15.5	16.5	17.4	18.4	19.4	19.4	20.4	21.3	21.3	21.3
165°	12.6	13.6	14.5	15.5	15.5	16.5	17.4	18.4	18.4	18.4
167.5°	10.7	11.6	12.6	12.6	12.6	13.6	14.5	14.5	15.5	15.5
170°	8.7	9.7	9.7	9.7	10.7	10.7	10.7	11.6	12.6	12.6
172.5°	7.8	7.8	7.8	7.8	7.8	7.8	8.7	8.7	9.7	9.7
175°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	6.8	6.8
177.5°	5.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	3.9	2.9
180°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8

(END OF REPORT)