

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: FAIL-SAFE

Report Number: P226059

Luminaire Tested: **FW-LD2-1212-2000-50-PC-R4-LGW**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P226059
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1705-064-1)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FW-LD2-1212-2000-50-PC-R4-LGW
Description: NIGHT CONDOR LED FLOODLIGHT
Light Source: (56) 5000 CCT, 80 CRI LEDS
 ELO89N056E850M
Ballast/Driver: OSRAM
 OTI30/120-277/1A0

Summary

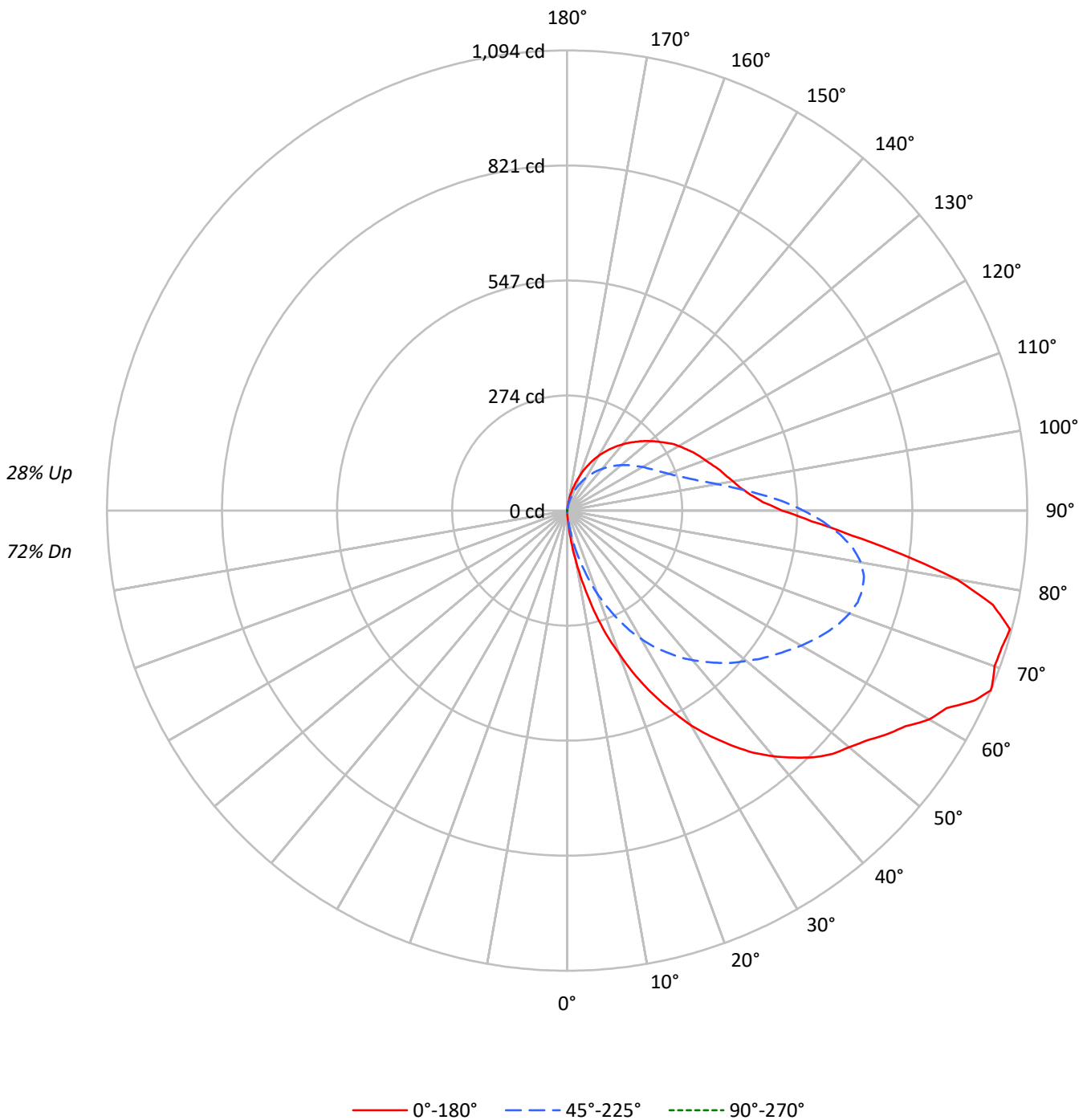
Lumens per Lamp: N/A
Luminaire Lumens: 2120.0 lumens
Efficiency: N/A
Efficacy: 102.9 lumens/watt
Spacing Criteria (0/90/45): - / - / -
Luminous Opening: (L: 0 ' x W: 1 ' x H: 1 '
CIE Type: Semi-Direct

Input Watts (W): 20.6
Input Voltage (V): NR
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	112	112	112	112	107	107	107	107	96	96	96	86	86	86	76	76	76	72
1	95	88	81	75	89	83	77	71	73	68	64	64	60	57	56	53	50	46
2	84	72	63	55	78	68	59	52	59	52	46	52	46	41	45	40	36	32
3	74	61	50	42	69	57	47	39	50	42	35	43	36	31	37	31	27	23
4	67	52	41	33	62	49	39	31	42	34	28	37	30	24	31	26	21	17
5	61	45	35	27	56	42	33	25	37	29	22	32	25	20	27	21	17	14
6	55	40	30	22	51	37	28	21	33	24	18	28	21	16	24	18	14	11
7	51	35	26	19	47	33	24	18	29	21	15	25	18	13	21	16	11	9
8	47	32	22	16	44	30	21	15	26	19	13	23	16	11	19	14	10	7
9	43	29	20	14	40	27	19	13	24	16	11	21	14	10	18	12	8	6
10	40	26	18	12	38	25	17	11	22	15	10	19	13	9	16	11	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	Luminous shape not found,		
5°	reference photometric report, or contact		
10°	the photometric lab for calculations.		
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1.5	0.1
10°-20°	19.1	0.9
20°-30°	61.4	2.9
30°-40°	118.8	5.6
40°-50°	179.8	8.5
50°-60°	239.4	11.3
60°-70°	301.0	14.2
70°-80°	332.3	15.7
80°-90°	274.8	13.0
90°-100°	184.8	8.7
100°-110°	130.4	6.2
110°-120°	99.3	4.7
120°-130°	74.5	3.5
130°-140°	51.7	2.4
140°-150°	31.6	1.5
150°-160°	15.3	0.7
160°-170°	4.3	0.2
170°-180°	0.2	0.0
0°-30°	81.9	3.9
0°-40°	200.7	9.5
0°-60°	619.9	29.2
0°-90°	1527.9	72.1
90°-120°	414.5	19.6
90°-150°	572.3	27.0
90°-180°	592.0	27.9
0°-180°	2120.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	0	0	0	0	0	
5°	32	12	1	0	0	6
15°	245	133	1	0	0	73
25°	481	284	0	0	0	225
35°	681	411	0	0	0	429
45°	830	512	0	0	0	640
55°	927	599	0	0	0	834
65°	1068	683	0	0	0	1048
75°	1090	727	0	0	0	1116
85°	679	651	0	0	0	611
90°	511	562	0	0	0	283
95°	437	457	0	0	0	350
105°	375	297	0	0	0	396
115°	329	229	0	0	0	326
125°	282	187	1	0	0	254
135°	231	148	1	0	0	180
145°	179	110	1	0	0	113
155°	120	70	1	0	0	56
165°	56	27	1	0	0	17
175°	2	2	1	0	0	1
180°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	5.0	4.1	3.3	3.3	2.5	1.7	1.7	0.8	0.8	0.8	0.8
5°	31.5	30.7	28.2	24.9	19.1	12.4	6.6	2.5	0.8	0.8	0.8
7.5°	74.6	73.8	68.8	59.7	48.1	35.6	21.5	9.1	1.7	0.8	0.8
10°	125.2	126.0	118.5	105.3	85.4	63.0	39.8	19.9	4.1	0.8	0.8
12.5°	181.5	183.2	174.1	154.2	127.6	97.8	63.8	32.3	9.1	0.8	0.0
15°	245.3	243.7	228.8	205.5	174.9	133.4	90.3	48.1	14.9	0.8	0.8
17.5°	306.7	303.3	290.1	261.1	222.1	171.6	117.7	64.6	21.5	0.8	0.0
20°	363.0	362.2	348.9	315.0	268.5	210.5	145.9	82.1	29.0	0.8	0.0
22.5°	425.2	421.0	401.1	366.3	314.1	247.8	174.9	99.5	35.6	1.7	0.0
25°	480.7	479.1	458.3	417.7	357.2	284.3	203.1	116.9	43.1	1.7	0.0
27.5°	534.6	534.6	510.6	465.8	399.5	319.9	227.9	134.3	51.4	2.5	0.0
30°	590.1	585.1	560.3	510.6	440.1	352.2	252.8	150.8	58.0	2.5	0.0
32.5°	636.5	633.2	607.5	552.8	476.6	383.7	277.7	165.8	64.6	3.3	0.0
35°	681.3	679.6	649.8	593.4	512.2	411.1	298.4	179.0	71.3	5.0	0.0
37.5°	725.2	719.4	689.6	630.7	546.2	439.3	317.4	191.5	77.1	5.8	0.0
40°	762.5	756.7	726.9	665.5	576.9	464.1	336.5	203.1	82.1	5.8	0.0
42.5°	796.5	791.5	759.2	696.2	606.7	488.2	353.9	213.8	87.0	6.6	0.0
45°	829.6	825.5	790.7	726.0	634.0	512.2	371.3	223.8	91.2	7.5	0.0
47.5°	856.2	851.2	818.9	753.4	658.9	535.4	388.7	232.9	95.3	8.3	0.0
50°	875.2	871.9	842.9	778.3	684.6	556.1	404.5	242.8	98.6	8.3	0.0
52.5°	897.6	893.5	866.9	805.6	707.8	578.5	419.4	252.8	102.8	9.1	0.0
55°	927.4	923.3	894.3	832.1	732.7	599.2	435.1	261.1	105.3	9.9	0.0
57.5°	954.0	950.7	922.5	860.3	759.2	620.0	450.9	270.2	109.4	9.9	0.0
60°	993.8	989.6	954.0	889.3	785.7	642.3	466.6	279.3	113.5	10.8	0.0
62.5°	1017.0	1015.3	989.6	921.6	813.9	663.1	481.5	287.6	116.9	11.6	0.0
65°	1068.3	1061.7	1021.1	950.7	839.6	682.9	494.8	295.9	121.8	12.4	0.0
67°	1094.0	1087.4	1044.3	970.5	857.0	697.0	505.6	303.3	125.2	13.3	0.0
67.5°	1093.2	1088.2	1048.5	975.5	860.3	700.3	507.2	305.0	126.0	13.3	0.0
70°	1081.6	1079.1	1059.2	992.1	876.1	714.4	518.8	313.3	131.0	13.3	0.0
72.5°	1083.3	1080.8	1057.6	997.9	885.2	724.4	528.0	320.8	135.1	14.1	0.0
75°	1089.9	1082.4	1047.6	988.8	884.3	726.9	532.9	324.9	136.8	14.9	0.0
77.5°	1036.8	1035.2	1012.8	964.7	871.1	722.7	532.1	325.7	137.6	14.9	0.0
80°	939.9	939.9	944.9	923.3	845.4	709.5	526.3	323.2	136.8	14.9	0.0
82.5°	805.6	816.4	847.1	857.0	804.8	685.4	512.2	316.6	134.3	14.9	0.0
85°	678.8	687.1	736.0	774.1	750.1	651.4	493.1	307.5	131.0	14.9	0.0
87.5°	581.8	586.0	627.4	687.1	687.1	609.2	467.5	294.2	126.0	14.1	0.0
90°	510.6	513.0	547.0	604.2	615.8	561.9	437.6	277.7	120.2	14.1	0.0
92.5°	465.8	467.5	487.3	525.5	549.5	511.4	403.6	259.4	112.7	13.3	0.0
95°	436.8	436.8	445.9	468.3	484.9	456.7	367.2	238.7	104.4	11.6	0.0
97.5°	415.2	415.2	416.9	425.2	430.2	405.3	329.0	218.0	96.1	10.8	0.0
100°	400.3	398.7	396.2	393.7	387.9	362.2	295.9	198.9	89.5	10.8	0.0
102.5°	386.2	384.6	378.8	368.8	353.9	324.1	266.9	179.9	81.2	9.1	0.0
105°	374.6	373.0	364.7	348.9	328.2	296.7	241.2	164.1	74.6	9.1	0.0
107.5°	361.4	360.5	351.4	333.2	308.3	273.5	221.3	149.2	68.8	8.3	0.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	349.8	348.9	339.8	319.9	292.6	256.1	205.5	137.6	63.0	7.5	0.0
112.5°	339.8	338.2	328.2	309.1	279.3	241.2	191.5	127.6	58.0	6.6	0.0
115°	329.0	327.4	317.4	297.5	266.9	228.8	179.0	118.5	53.0	6.6	0.0
117.5°	317.4	316.6	306.7	285.9	256.1	217.1	169.1	110.2	48.1	5.8	0.0
120°	306.7	306.7	295.1	275.2	244.5	207.2	160.0	103.6	44.8	5.0	0.8
122.5°	295.9	294.2	283.5	262.7	234.6	196.4	150.8	97.0	41.4	5.0	0.8
125°	281.8	281.0	271.0	251.1	223.8	187.3	142.6	91.2	39.0	4.1	0.8
127.5°	269.4	267.7	258.6	240.4	212.2	177.4	134.3	85.4	36.5	4.1	0.8
130°	256.9	255.3	246.2	228.8	202.2	168.2	126.8	79.6	34.0	4.1	0.8
132.5°	244.5	242.8	234.6	216.3	191.5	158.3	118.5	73.8	30.7	3.3	0.8
135°	231.2	230.4	222.1	204.7	180.7	148.4	110.2	68.8	28.2	3.3	0.8
137.5°	218.8	218.0	208.9	193.1	169.9	139.2	102.8	63.0	25.7	3.3	0.8
140°	205.5	204.7	196.4	181.5	159.1	129.3	95.3	58.0	23.2	2.5	0.8
142.5°	192.3	191.5	184.0	169.1	147.5	120.2	87.9	52.2	20.7	2.5	0.8
145°	179.0	177.4	170.7	156.6	136.8	110.2	79.6	47.2	18.2	2.5	0.8
147.5°	164.9	164.1	157.5	144.2	125.2	100.3	72.1	42.3	16.6	2.5	0.8
150°	150.8	150.0	143.4	131.0	113.5	91.2	64.6	37.3	14.1	2.5	0.8
152.5°	135.9	135.1	129.3	117.7	101.1	80.4	56.4	31.5	12.4	1.7	0.8
155°	120.2	120.2	115.2	104.4	88.7	69.6	48.1	27.4	10.8	1.7	0.8
157.5°	105.3	104.4	98.6	90.3	76.3	58.8	40.6	22.4	8.3	1.7	0.8
160°	87.9	87.9	83.7	75.4	63.0	48.9	33.2	17.4	6.6	1.7	0.8
162.5°	72.1	72.1	68.0	60.5	51.4	38.1	24.9	13.3	5.0	1.7	0.8
165°	56.4	55.5	52.2	46.4	39.0	27.4	17.4	9.1	4.1	1.7	0.8
167.5°	41.4	40.6	37.3	33.2	25.7	18.2	10.8	5.8	2.5	1.7	0.8
170°	24.9	24.9	24.0	19.1	13.3	8.3	5.8	3.3	1.7	0.8	0.8
172.5°	11.6	11.6	9.1	6.6	5.0	4.1	2.5	1.7	1.7	0.8	0.8
175°	2.5	2.5	1.7	1.7	1.7	1.7	1.7	1.7	0.8	0.8	0.8
177.5°	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P226059

CATALOG NUMBER: FW-LD2-1212-2000-50-PC-R4-LGW

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.8	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)