

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: P236125

Luminaire Tested: **CFA-4-LD4-UNV-STD-50-OP-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236125  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1708-243-2)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: CFA-4-LD4-UNV-STD-50-OP-EDC1  
Description: FAILSAFE CFA LED FIXTURE  
4ft  
Light Source: (112) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

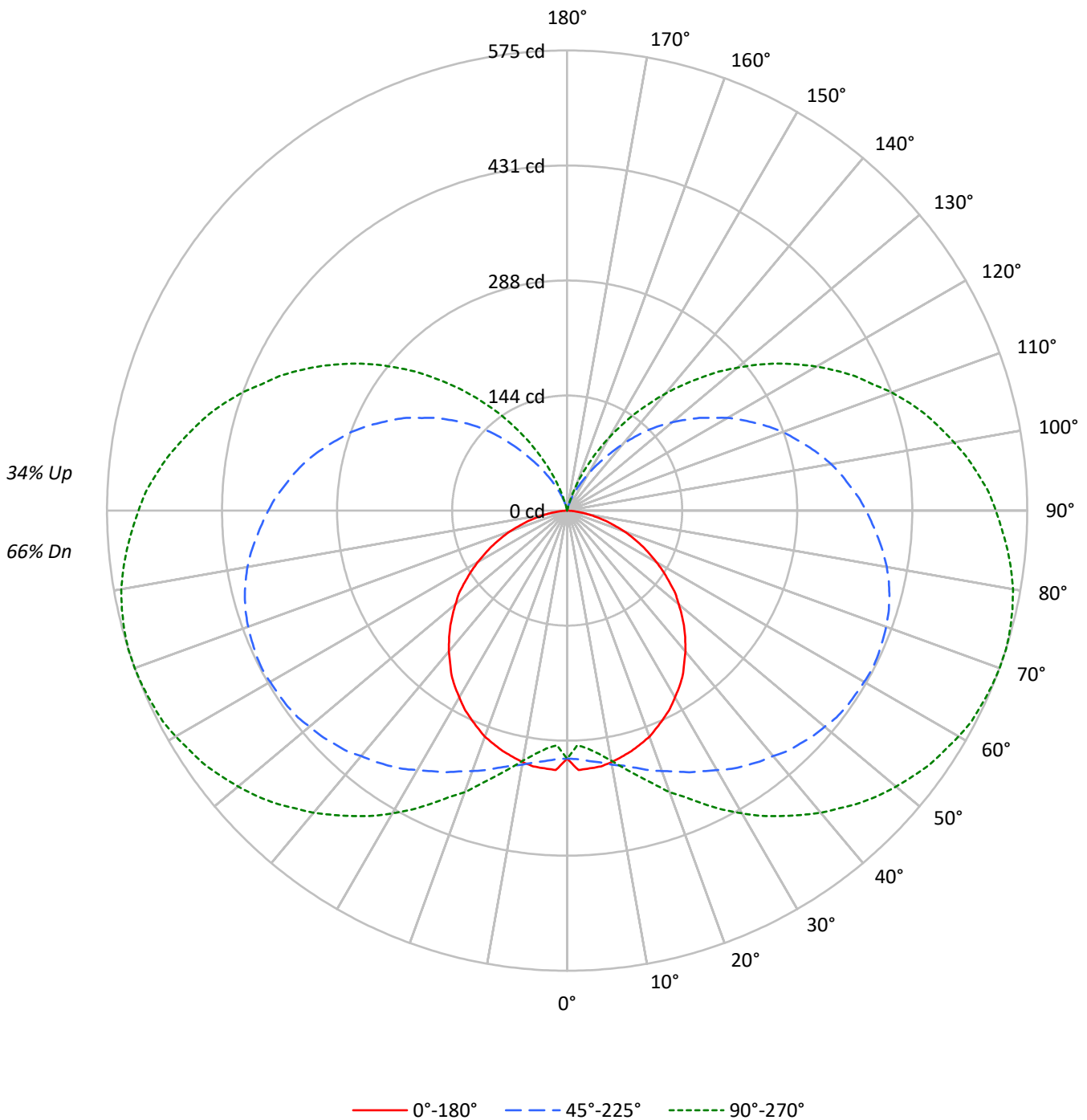
Lumens per Lamp: N/A  
Luminaire Lumens: 3535.0 lumens  
Efficiency: N/A  
Efficacy: 106.6 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 2.26 / 2.09  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.27')  
CIE Type: Semi-Direct

Input Watts (W): 33.16  
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: P236125

CATALOG NUMBER: CFA-4-LD4-UNV-STD-50-OP-EDC1

### Luminous Intensity Polar Plot





TEST NUMBER: P236125

CATALOG NUMBER: CFA-4-LD4-UNV-STD-50-OP-EDC1

**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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66				
1	96	89	83	78	90	84	78	73	73	69	65	63	60	57	54	52	49	45				
2	85	75	67	59	79	70	62	56	61	55	50	53	48	43	45	41	38	33				
3	77	64	55	47	71	60	51	44	52	45	39	45	39	34	38	33	30	26				
4	69	56	46	38	64	52	43	36	45	38	32	39	33	28	33	28	24	21				
5	63	49	39	32	59	46	37	30	40	32	27	34	28	23	29	24	20	17				
6	58	44	34	27	54	41	32	26	36	28	23	31	25	20	26	21	17	14				
7	53	39	30	23	50	37	28	22	32	25	20	28	22	17	24	19	15	12				
8	49	35	26	20	46	33	25	19	29	22	17	25	19	15	21	17	13	11				
9	46	32	24	18	43	30	22	17	26	20	15	23	17	13	20	15	11	9				
10	43	29	21	16	40	28	20	15	24	18	13	21	16	12	18	14	10	8				

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

	0°	45°	90°
0°	5004	5004	5004
5°	5211	4608	4236
10°	5173	4365	4042
15°	5106	4212	3997
20°	5041	4145	4042
25°	4939	4126	4101
30°	4834	4128	4202
35°	4737	4171	4296
40°	4583	4210	4396
45°	4427	4280	4496
50°	4230	4350	4590
55°	4004	4430	4690
60°	3728	4503	4780
65°	3399	4590	4873
70°	3021	4671	4968
75°	2485	4758	5060
80°	1747	4842	5150
85°	867	4921	5226



TEST NUMBER: P236125

CATALOG NUMBER: CFA-4-LD4-UNV-STD-50-OP-EDC1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.2	0.9
10°-20°	94.4	2.7
20°-30°	164.5	4.7
30°-40°	236.1	6.7
40°-50°	301.8	8.5
50°-60°	354.2	10.0
60°-70°	386.8	10.9
70°-80°	395.0	11.2
80°-90°	377.8	10.7
90°-100°	342.0	9.7
100°-110°	291.0	8.2
110°-120°	228.8	6.5
120°-130°	163.2	4.6
130°-140°	100.9	2.9
140°-150°	49.8	1.4
150°-160°	16.6	0.5
160°-170°	1.9	0.1
170°-180°	0.0	0.0
0°-30°	289.1	8.2
0°-40°	525.3	14.9
0°-60°	1181.2	33.4
0°-90°	2340.8	66.2
90°-120°	861.8	24.4
90°-150°	1175.6	33.3
90°-180°	1194.0	33.8
0°-180°	3535.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	310	310	310	310	310	
5°	323	320	314	308	298	31
15°	311	319	333	345	343	88
25°	286	314	361	398	405	132
35°	252	304	389	452	466	157
45°	207	290	412	494	517	159
55°	156	275	426	525	553	140
65°	102	254	428	540	572	101
75°	50	227	417	537	573	53
85°	8	196	390	514	552	11
90°	0	178	373	497	536	0
95°	0	162	355	478	516	0
105°	0	130	311	428	464	0
115°	0	99	259	366	397	0
125°	0	71	202	293	320	0
135°	0	45	141	214	234	0
145°	1	24	78	135	148	0
155°	1	11	33	56	67	0
165°	1	2	6	5	7	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P236125

CATALOG NUMBER: CFA-4-LD4-UNV-STD-50-OP-EDC1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	309.9	309.9	309.9	309.9	309.9	309.9	309.9	309.9	309.9	309.9	309.9
2.5°	324.5	323.4	322.4	322.4	321.4	321.4	320.3	319.3	317.2	314.1	311.0
5°	323.4	322.4	321.4	321.4	321.4	320.3	320.3	320.3	318.2	316.2	314.1
7.5°	322.4	321.4	320.3	320.3	321.4	321.4	321.4	321.4	320.3	319.3	317.2
10°	319.3	318.2	317.2	319.3	319.3	320.3	321.4	322.4	322.4	322.4	322.4
12.5°	315.1	315.1	315.1	317.2	319.3	320.3	321.4	324.5	325.5	326.6	326.6
15°	311.0	311.0	312.0	314.1	318.2	319.3	320.3	326.6	329.7	331.8	332.8
17.5°	305.8	305.8	306.8	311.0	315.1	318.2	320.3	327.6	331.8	335.9	340.1
20°	300.6	300.6	302.6	307.8	313.0	317.2	320.3	328.6	334.9	341.1	346.3
22.5°	293.3	294.3	297.4	303.7	311.0	316.2	320.3	328.6	338.0	346.3	352.6
25°	286.0	287.0	291.2	299.5	307.8	314.1	319.3	329.7	340.1	351.5	360.9
27.5°	278.7	279.8	285.0	294.3	304.7	311.0	317.2	330.7	344.2	356.7	367.1
30°	269.4	271.4	278.7	289.1	301.6	308.9	316.2	331.8	346.3	360.9	374.4
32.5°	261.0	263.1	271.4	282.9	298.5	306.8	315.1	333.8	349.4	366.1	382.7
35°	251.7	253.8	263.1	276.6	294.3	303.7	313.0	332.8	352.6	370.2	389.0
37.5°	240.2	244.4	254.8	270.4	289.1	300.6	311.0	332.8	354.6	374.4	395.2
40°	229.8	234.0	246.5	264.2	285.0	297.4	308.9	333.8	356.7	378.6	400.4
42.5°	218.4	222.6	237.1	256.9	280.8	293.3	306.8	333.8	358.8	382.7	407.7
45°	207.0	212.2	227.8	249.6	276.6	290.2	304.7	333.8	360.9	386.9	411.8
47.5°	194.5	200.7	218.4	242.3	271.4	287.0	302.6	332.8	361.9	390.0	417.0
50°	182.0	189.3	208.0	235.0	266.2	282.9	299.5	331.8	363.0	392.1	420.2
52.5°	170.6	177.8	198.6	227.8	261.0	279.8	296.4	330.7	364.0	394.2	424.3
55°	156.0	165.4	188.2	219.4	255.8	274.6	292.2	328.6	363.0	395.2	426.4
57.5°	142.5	152.9	178.9	211.1	249.6	269.4	289.1	326.6	361.9	395.2	427.4
60°	129.0	140.4	168.5	203.8	244.4	265.2	285.0	323.4	360.9	395.2	428.5
62.5°	115.4	127.9	157.0	195.5	238.2	260.0	279.8	320.3	359.8	395.2	429.5
65°	101.9	116.5	147.7	187.2	230.9	253.8	274.6	316.2	355.7	393.1	428.5
67.5°	88.4	104.0	136.2	178.9	224.6	247.5	269.4	312.0	353.6	391.0	426.4
70°	75.9	90.5	126.9	170.6	216.3	241.3	263.1	307.8	349.4	387.9	424.3
72.5°	61.4	79.0	117.5	162.2	210.1	234.0	257.9	301.6	345.3	383.8	421.2
75°	49.9	67.6	107.1	153.9	201.8	226.7	250.6	295.4	340.1	379.6	417.0
77.5°	37.4	57.2	97.8	144.6	193.4	218.4	243.4	289.1	333.8	374.4	411.8
80°	26.0	46.8	88.4	136.2	186.2	211.1	235.0	281.8	326.6	367.1	405.6
82.5°	16.6	38.5	80.1	127.9	177.8	203.8	227.8	275.6	319.3	360.9	398.3
85°	8.3	30.2	71.8	119.6	169.5	195.5	219.4	267.3	311.0	352.6	390.0
87.5°	2.1	23.9	64.5	111.3	161.2	186.2	211.1	259.0	303.7	344.2	381.7
90°	0.0	18.7	58.2	104.0	152.9	177.8	201.8	249.6	294.3	334.9	373.4
92.5°	0.0	15.6	52.0	96.7	145.6	169.5	194.5	241.3	286.0	326.6	365.0
95°	0.0	12.5	46.8	89.4	137.3	162.2	185.1	231.9	276.6	317.2	354.6
97.5°	0.0	10.4	41.6	84.2	130.0	153.9	176.8	223.6	267.3	307.8	345.3
100°	0.0	9.4	37.4	78.0	122.7	145.6	168.5	214.2	257.9	297.4	334.9
102.5°	0.0	8.3	34.3	71.8	115.4	138.3	160.2	204.9	247.5	287.0	323.4
105°	0.0	7.3	31.2	66.6	108.2	130.0	151.8	195.5	237.1	275.6	311.0
107.5°	0.0	6.2	28.1	61.4	100.9	121.7	142.5	185.1	225.7	264.2	298.5
110°	0.0	6.2	25.0	56.2	93.6	114.4	134.2	174.7	215.3	251.7	287.0



TEST NUMBER: P236125

CATALOG NUMBER: CFA-4-LD4-UNV-STD-50-OP-EDC1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	5.2	22.9	51.0	87.4	106.1	125.8	164.3	202.8	239.2	273.5
115°	0.0	5.2	20.8	46.8	80.1	98.8	117.5	153.9	191.4	225.7	259.0
117.5°	0.0	5.2	19.8	42.6	73.8	91.5	109.2	144.6	179.9	213.2	245.4
120°	0.0	4.2	17.7	39.5	67.6	84.2	100.9	134.2	167.4	200.7	231.9
122.5°	0.0	4.2	16.6	36.4	62.4	77.0	92.6	124.8	156.0	187.2	215.3
125°	0.0	4.2	15.6	33.3	56.2	70.7	84.2	114.4	144.6	173.7	201.8
127.5°	0.0	4.2	13.5	30.2	51.0	63.4	77.0	105.0	133.1	160.2	186.2
130°	0.0	3.1	12.5	27.0	45.8	57.2	69.7	94.6	120.6	146.6	171.6
132.5°	0.0	3.1	11.4	23.9	40.6	51.0	61.4	84.2	109.2	134.2	157.0
135°	0.0	2.1	9.4	20.8	35.4	44.7	54.1	73.8	96.7	118.6	141.4
137.5°	0.0	2.1	8.3	17.7	31.2	38.5	46.8	64.5	84.2	104.0	124.8
140°	0.0	2.1	7.3	15.6	27.0	33.3	40.6	56.2	72.8	90.5	108.2
142.5°	0.0	2.1	6.2	13.5	22.9	29.1	34.3	47.8	61.4	77.0	92.6
145°	1.0	2.1	5.2	11.4	19.8	23.9	29.1	40.6	53.0	65.5	78.0
147.5°	1.0	1.0	4.2	9.4	15.6	20.8	25.0	34.3	43.7	54.1	65.5
150°	1.0	1.0	4.2	8.3	13.5	16.6	20.8	28.1	36.4	44.7	53.0
152.5°	1.0	1.0	3.1	6.2	11.4	13.5	16.6	22.9	29.1	35.4	42.6
155°	1.0	1.0	3.1	5.2	9.4	11.4	13.5	18.7	22.9	28.1	33.3
157.5°	1.0	1.0	2.1	4.2	7.3	8.3	10.4	13.5	17.7	20.8	25.0
160°	1.0	1.0	2.1	3.1	5.2	6.2	7.3	10.4	13.5	15.6	17.7
162.5°	1.0	1.0	1.0	2.1	3.1	4.2	5.2	6.2	8.3	10.4	11.4
165°	1.0	1.0	1.0	1.0	2.1	2.1	3.1	4.2	4.2	6.2	6.2
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: P236125

CATALOG NUMBER: CFA-4-LD4-UNV-STD-50-OP-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	309.9	309.9	309.9	309.9	309.9	309.9	309.9	309.9	309.9	309.9
2.5°	308.9	307.8	305.8	303.7	302.6	301.6	299.5	296.4	294.3	293.3
5°	313.0	312.0	311.0	308.9	307.8	306.8	304.7	302.6	300.6	298.5
7.5°	317.2	318.2	317.2	316.2	315.1	314.1	312.0	311.0	308.9	306.8
10°	323.4	324.5	324.5	324.5	324.5	323.4	321.4	321.4	319.3	317.2
12.5°	329.7	332.8	333.8	333.8	333.8	334.9	332.8	331.8	329.7	329.7
15°	338.0	340.1	343.2	346.3	345.3	346.3	346.3	345.3	343.2	343.2
17.5°	345.3	350.5	354.6	356.7	358.8	358.8	359.8	359.8	357.8	357.8
20°	353.6	360.9	366.1	369.2	372.3	373.4	373.4	375.4	374.4	374.4
22.5°	363.0	370.2	377.5	382.7	385.8	386.9	390.0	391.0	390.0	387.9
25°	371.3	381.7	389.0	395.2	398.3	400.4	404.6	406.6	406.6	404.6
27.5°	380.6	391.0	401.4	409.8	411.8	415.0	420.2	421.2	422.2	421.2
30°	389.0	402.5	413.9	422.2	425.4	428.5	434.7	436.8	436.8	436.8
32.5°	397.3	412.9	425.4	435.8	439.9	443.0	448.2	451.4	451.4	452.4
35°	406.6	422.2	435.8	447.2	452.4	455.5	462.8	465.9	467.0	465.9
37.5°	415.0	431.6	446.2	457.6	462.8	467.0	474.2	478.4	479.4	479.4
40°	423.3	439.9	455.5	469.0	474.2	479.4	486.7	490.9	493.0	493.0
42.5°	429.5	448.2	465.9	479.4	484.6	489.8	498.2	502.3	504.4	504.4
45°	435.8	456.6	474.2	488.8	494.0	500.2	509.6	513.8	515.8	516.9
47.5°	441.0	462.8	481.5	497.1	504.4	509.6	519.0	524.2	527.3	527.3
50°	446.2	469.0	487.8	504.4	511.7	517.9	527.3	533.5	536.6	536.6
52.5°	450.3	474.2	495.0	512.7	520.0	526.2	535.6	541.8	545.0	545.0
55°	454.5	478.4	499.2	517.9	525.2	532.5	541.8	549.1	552.2	553.3
57.5°	456.6	481.5	503.4	523.1	530.4	537.7	548.1	555.4	558.5	558.5
60°	458.6	484.6	507.5	527.3	535.6	541.8	553.3	560.6	563.7	564.7
62.5°	459.7	486.7	509.6	530.4	538.7	546.0	557.4	564.7	568.9	569.9
65°	459.7	486.7	510.6	531.4	539.8	548.1	559.5	566.8	571.0	572.0
67.5°	458.6	486.7	511.7	532.5	541.8	549.1	561.6	568.9	573.0	574.1
70°	456.6	485.7	510.6	531.4	540.8	548.1	561.6	569.9	574.1	575.1
72.5°	454.5	482.6	508.6	530.4	539.8	548.1	560.6	568.9	574.1	575.1
75°	450.3	480.5	506.5	528.3	536.6	545.0	558.5	566.8	572.0	573.0
77.5°	446.2	475.3	501.3	524.2	533.5	541.8	555.4	563.7	568.9	569.9
80°	439.9	470.1	496.1	519.0	528.3	536.6	550.2	558.5	563.7	565.8
82.5°	433.7	463.8	489.8	512.7	522.1	530.4	543.9	553.3	558.5	559.5
85°	425.4	455.5	482.6	504.4	513.8	523.1	536.6	546.0	551.2	552.2
87.5°	417.0	447.2	474.2	496.1	506.5	514.8	529.4	538.7	542.9	543.9
90°	407.7	437.8	464.9	487.8	497.1	505.4	520.0	529.4	534.6	535.6
92.5°	398.3	429.5	455.5	478.4	487.8	497.1	510.6	520.0	525.2	527.3
95°	390.0	419.1	446.2	468.0	478.4	485.7	500.2	508.6	514.8	515.8
97.5°	379.6	409.8	435.8	457.6	467.0	475.3	488.8	498.2	503.4	504.4
100°	369.2	397.3	424.3	446.2	454.5	462.8	476.3	484.6	489.8	490.9
102.5°	356.7	385.8	410.8	432.6	441.0	450.3	462.8	471.1	476.3	477.4
105°	344.2	372.3	398.3	419.1	428.5	435.8	449.3	457.6	461.8	463.8
107.5°	330.7	359.8	383.8	404.6	412.9	421.2	434.7	442.0	446.2	448.2
110°	317.2	346.3	370.2	390.0	399.4	406.6	419.1	426.4	431.6	431.6





TEST NUMBER: P236125

CATALOG NUMBER: CFA-4-LD4-UNV-STD-50-OP-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	302.6	330.7	354.6	374.4	381.7	390.0	402.5	408.7	412.9	412.9
115°	289.1	315.1	338.0	357.8	366.1	373.4	384.8	392.1	396.2	397.3
117.5°	273.5	299.5	321.4	341.1	348.4	355.7	367.1	373.4	378.6	378.6
120°	259.0	283.9	304.7	323.4	331.8	338.0	348.4	355.7	358.8	359.8
122.5°	243.4	267.3	288.1	304.7	313.0	319.3	328.6	335.9	339.0	340.1
125°	226.7	250.6	269.4	287.0	293.3	300.6	309.9	316.2	319.3	320.3
127.5°	211.1	233.0	251.7	267.3	274.6	280.8	290.2	296.4	298.5	299.5
130°	195.5	215.3	234.0	248.6	254.8	260.0	269.4	274.6	277.7	277.7
132.5°	178.9	197.6	214.2	228.8	235.0	240.2	248.6	253.8	255.8	256.9
135°	162.2	179.9	196.6	209.0	214.2	219.4	227.8	230.9	235.0	234.0
137.5°	145.6	162.2	177.8	189.3	194.5	198.6	205.9	211.1	212.2	212.2
140°	126.9	144.6	158.1	169.5	174.7	178.9	185.1	189.3	191.4	190.3
142.5°	109.2	125.8	140.4	150.8	153.9	159.1	165.4	168.5	168.5	168.5
145°	92.6	106.1	120.6	131.0	135.2	138.3	143.5	145.6	147.7	147.7
147.5°	77.0	88.4	99.8	111.3	115.4	118.6	123.8	125.8	125.8	125.8
150°	62.4	70.7	81.1	89.4	95.7	98.8	103.0	105.0	106.1	106.1
152.5°	49.9	57.2	63.4	70.7	74.9	79.0	85.3	85.3	86.3	86.3
155°	38.5	43.7	48.9	54.1	56.2	59.3	65.5	67.6	67.6	66.6
157.5°	28.1	32.2	35.4	39.5	40.6	42.6	46.8	51.0	51.0	49.9
160°	19.8	21.8	23.9	26.0	27.0	27.0	31.2	35.4	35.4	34.3
162.5°	12.5	13.5	13.5	14.6	14.6	15.6	15.6	17.7	20.8	19.8
165°	6.2	6.2	6.2	5.2	5.2	5.2	6.2	5.2	7.3	7.3
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)