

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: P236111

Luminaire Tested: **CFA-3-LD4-UNV-STD-35-OP-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236111  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1708-243-5)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: CFA-3-LD4-UNV-STD-35-OP-EDC1  
Description: FAILSAFE CFA LED FIXTURE  
3ft  
Light Source: (84) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

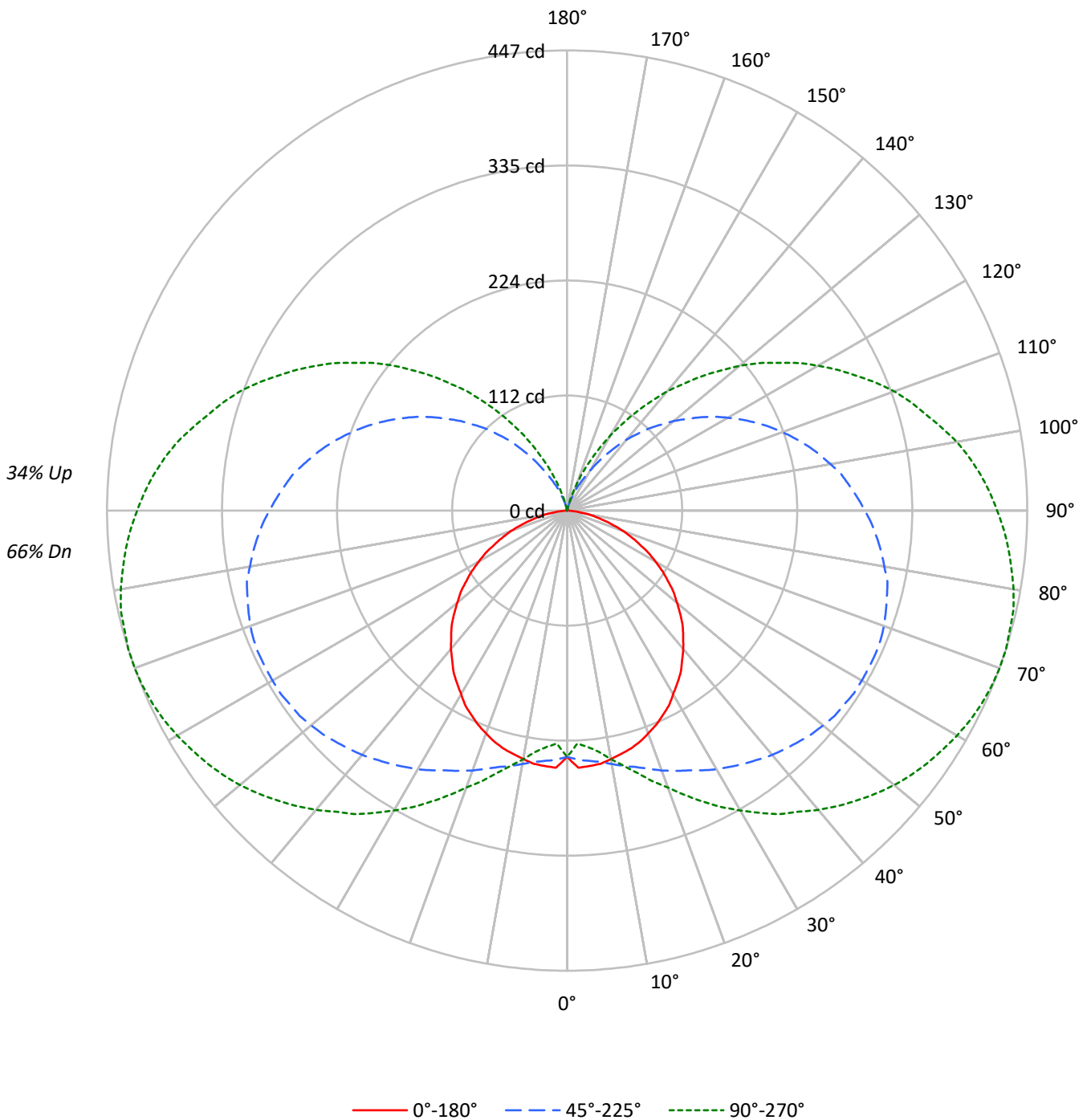
Lumens per Lamp: N/A  
Luminaire Lumens: 2742.1 lumens  
Efficiency: N/A  
Efficacy: 96.3 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 2.26 / 2.09  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 3' x H: 0.27')  
CIE Type: Semi-Direct

Input Watts (W): 28.48  
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	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	51	49	44
2	85	75	66	59	79	70	62	56	61	55	49	52	48	43	45	41	37	33
3	77	64	55	47	71	60	51	44	52	45	39	45	39	34	38	33	29	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	35	28	23	31	24	20	26	21	17	14
7	53	39	30	23	49	37	28	22	32	25	20	28	22	17	23	18	15	12
8	49	35	26	20	46	33	25	19	29	22	17	25	19	15	21	16	13	10
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	13	10	8

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

	0°	45°	90°
0°	5149	5149	5149
5°	5341	4769	4359
10°	5274	4502	4165
15°	5205	4338	4096
20°	5110	4271	4121
25°	5006	4225	4214
30°	4865	4243	4313
35°	4751	4263	4424
40°	4585	4315	4512
45°	4434	4371	4617
50°	4209	4446	4731
55°	3976	4513	4832
60°	3686	4588	4936
65°	3307	4674	5045
70°	2920	4758	5150
75°	2321	4840	5242
80°	1689	4922	5343
85°	717	5019	5431



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	23.3	0.8
10°-20°	72.7	2.7
20°-30°	126.6	4.6
30°-40°	181.6	6.6
40°-50°	232.3	8.5
50°-60°	273.2	10.0
60°-70°	298.5	10.9
70°-80°	305.6	11.1
80°-90°	292.8	10.7
90°-100°	265.9	9.7
100°-110°	226.6	8.3
110°-120°	178.7	6.5
120°-130°	128.0	4.7
130°-140°	80.0	2.9
140°-150°	40.5	1.5
150°-160°	14.0	0.5
160°-170°	1.8	0.1
170°-180°	0.0	0.0
0°-30°	222.6	8.1
0°-40°	404.2	14.7
0°-60°	909.8	33.2
0°-90°	1806.6	65.9
90°-120°	671.2	24.5
90°-150°	919.7	33.5
90°-180°	936.0	34.1
0°-180°	2742.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	239	239	239	239	239	
5°	249	247	244	237	230	24
15°	239	245	258	267	264	67
25°	220	241	278	307	312	101
35°	192	232	300	348	360	120
45°	159	222	318	382	398	122
55°	120	210	328	407	428	107
65°	78	193	330	419	444	77
75°	37	174	322	417	445	40
85°	6	149	302	400	430	8
90°	0	137	289	387	418	0
95°	0	124	276	373	403	0
105°	0	101	242	333	361	0
115°	0	76	202	285	310	0
125°	1	55	158	230	250	1
135°	1	37	113	169	184	1
145°	1	21	67	107	117	1
155°	1	10	28	49	54	0
165°	1	3	6	7	8	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°	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2
2.5°	250.0	249.1	248.1	248.1	248.1	247.1	247.1	246.1	245.1	244.1	242.2
5°	249.1	248.1	247.1	248.1	247.1	247.1	247.1	247.1	247.1	245.1	244.1
7.5°	248.1	247.1	246.1	247.1	247.1	247.1	247.1	247.1	248.1	247.1	246.1
10°	245.1	245.1	244.1	245.1	246.1	246.1	247.1	248.1	249.1	249.1	250.0
12.5°	242.2	242.2	242.2	243.2	245.1	246.1	247.1	249.1	251.0	252.0	254.0
15°	239.2	238.3	239.2	241.2	244.1	245.1	247.1	250.0	253.0	254.9	257.9
17.5°	235.3	235.3	235.3	239.2	242.2	244.1	247.1	251.0	255.9	259.8	262.8
20°	230.4	230.4	232.4	236.3	241.2	243.2	246.1	252.0	257.9	262.8	268.7
22.5°	225.5	225.5	228.5	233.4	239.2	242.2	245.1	253.0	259.8	266.7	273.6
25°	219.6	220.6	223.6	229.4	236.3	241.2	245.1	254.0	262.8	270.6	278.5
27.5°	213.8	214.7	217.7	225.5	234.3	239.2	244.1	254.9	264.7	275.5	284.4
30°	205.9	207.9	212.8	221.6	231.4	237.3	243.2	254.9	266.7	278.5	290.2
32.5°	199.0	201.0	206.9	216.7	228.5	235.3	242.2	255.9	269.6	282.4	295.1
35°	192.2	194.1	201.0	211.8	225.5	232.4	240.2	255.9	271.6	286.3	300.0
37.5°	183.4	186.3	195.1	206.9	221.6	229.4	238.3	255.9	272.6	289.3	304.9
40°	175.5	179.4	188.3	202.0	218.7	227.5	237.3	255.9	274.5	293.2	309.8
42.5°	166.7	170.6	181.4	197.1	214.7	224.5	235.3	255.9	276.5	296.1	313.8
45°	158.8	162.8	174.5	191.2	210.8	221.6	233.4	255.9	277.5	298.1	317.7
47.5°	149.0	153.9	166.7	185.3	206.9	219.6	231.4	255.9	278.5	301.0	321.6
50°	139.2	145.1	159.8	179.4	203.9	215.7	229.4	254.9	279.4	303.0	324.6
52.5°	130.4	136.3	152.0	174.5	200.0	213.8	227.5	254.0	280.4	304.0	327.5
55°	119.6	126.5	144.1	168.6	195.1	209.8	224.5	253.0	279.4	304.9	328.5
57.5°	109.8	117.7	136.3	161.8	191.2	205.9	221.6	251.0	279.4	305.9	330.4
60°	99.0	107.9	128.4	155.9	186.3	202.0	217.7	249.1	277.5	304.9	330.4
62.5°	89.2	98.1	120.6	150.0	181.4	198.1	213.8	246.1	276.5	304.0	330.4
65°	77.5	88.2	112.8	143.2	176.5	193.2	209.8	243.2	274.5	303.0	330.4
67.5°	67.7	78.4	103.9	137.3	171.6	189.2	205.9	240.2	271.6	301.0	329.5
70°	57.9	69.6	97.1	130.4	166.7	184.3	202.0	236.3	268.7	299.1	327.5
72.5°	47.1	60.8	89.2	123.5	160.8	178.5	197.1	232.4	264.7	296.1	324.6
75°	37.3	52.0	82.4	117.7	154.9	173.6	192.2	227.5	261.8	293.2	321.6
77.5°	28.4	43.1	74.5	110.8	149.0	167.7	186.3	222.6	256.9	289.3	318.7
80°	20.6	35.3	66.7	103.9	142.2	161.8	180.4	216.7	252.0	284.4	312.8
82.5°	11.8	29.4	60.8	98.1	136.3	155.9	174.5	210.8	246.1	278.5	307.9
85°	5.9	23.5	54.9	91.2	130.4	149.0	168.6	204.9	240.2	272.6	302.0
87.5°	2.0	18.6	49.0	85.3	124.5	143.2	161.8	199.0	234.3	266.7	296.1
90°	0.0	14.7	44.1	80.4	117.7	137.3	155.9	192.2	227.5	259.8	289.3
92.5°	0.0	11.8	40.2	74.5	111.8	131.4	149.0	186.3	220.6	254.0	282.4
95°	0.0	9.8	36.3	69.6	105.9	124.5	143.2	179.4	213.8	246.1	275.5
97.5°	0.0	7.8	32.4	64.7	100.0	118.6	137.3	172.6	206.9	239.2	268.7
100°	0.0	6.9	29.4	59.8	95.1	112.8	130.4	165.7	199.0	231.4	259.8
102.5°	0.0	6.9	26.5	55.9	89.2	106.9	123.5	158.8	191.2	222.6	251.0
105°	0.0	5.9	24.5	52.0	84.3	101.0	117.7	151.0	183.4	213.8	242.2
107.5°	0.0	5.9	21.6	48.0	78.4	95.1	110.8	144.1	175.5	204.9	232.4
110°	0.0	4.9	19.6	44.1	73.5	88.2	104.9	136.3	166.7	196.1	222.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	4.9	18.6	40.2	67.7	82.4	98.1	128.4	157.9	186.3	212.8
115°	0.0	4.9	16.7	37.3	62.8	76.5	91.2	120.6	149.0	176.5	202.0
117.5°	0.0	4.9	15.7	34.3	57.9	70.6	85.3	112.8	140.2	167.7	191.2
120°	0.0	3.9	14.7	31.4	52.9	65.7	78.4	104.9	131.4	156.9	180.4
122.5°	0.0	3.9	13.7	29.4	49.0	59.8	72.6	97.1	122.6	147.1	169.6
125°	1.0	3.9	12.7	26.5	45.1	54.9	66.7	90.2	113.7	136.3	157.9
127.5°	1.0	3.9	11.8	24.5	41.2	51.0	60.8	82.4	103.9	125.5	146.1
130°	1.0	3.9	10.8	22.6	37.3	46.1	54.9	74.5	95.1	115.7	135.3
132.5°	1.0	2.9	9.8	20.6	33.3	41.2	50.0	67.7	86.3	105.9	123.5
135°	1.0	2.9	8.8	17.6	30.4	37.3	45.1	60.8	78.4	95.1	112.8
137.5°	1.0	2.9	7.8	15.7	26.5	33.3	39.2	53.9	69.6	85.3	101.0
140°	1.0	2.9	6.9	13.7	23.5	28.4	34.3	47.1	60.8	75.5	90.2
142.5°	1.0	2.0	5.9	12.7	19.6	24.5	29.4	40.2	52.9	65.7	78.4
145°	1.0	2.0	5.9	10.8	17.6	20.6	25.5	34.3	44.1	54.9	66.7
147.5°	1.0	2.0	4.9	8.8	14.7	17.6	21.6	29.4	37.3	46.1	55.9
150°	1.0	2.0	3.9	7.8	11.8	14.7	17.6	23.5	30.4	38.2	45.1
152.5°	1.0	2.0	2.9	5.9	9.8	11.8	13.7	19.6	24.5	30.4	36.3
155°	1.0	2.0	2.9	4.9	7.8	9.8	10.8	15.7	19.6	24.5	28.4
157.5°	1.0	1.0	2.9	3.9	5.9	6.9	8.8	11.8	14.7	18.6	21.6
160°	1.0	1.0	2.0	2.9	4.9	5.9	6.9	8.8	10.8	12.7	14.7
162.5°	1.0	1.0	2.0	2.9	3.9	3.9	4.9	5.9	6.9	8.8	9.8
165°	1.0	1.0	2.0	2.0	2.9	2.9	2.9	3.9	3.9	4.9	5.9
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°	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2
2.5°	240.2	238.3	237.3	235.3	234.3	233.4	231.4	229.4	227.5	226.5
5°	243.2	241.2	240.2	238.3	237.3	236.3	235.3	233.4	231.4	230.4
7.5°	246.1	245.1	244.1	243.2	243.2	242.2	241.2	239.2	237.3	236.3
10°	250.0	251.0	250.0	250.0	250.0	249.1	248.1	247.1	245.1	245.1
12.5°	254.9	255.9	256.9	256.9	257.9	257.9	256.9	255.9	254.9	254.0
15°	260.8	263.8	264.7	265.7	266.7	266.7	266.7	264.7	264.7	263.8
17.5°	266.7	269.6	272.6	274.5	276.5	275.5	276.5	276.5	275.5	275.5
20°	273.6	277.5	281.4	285.3	285.3	286.3	288.3	288.3	288.3	286.3
22.5°	279.4	285.3	290.2	295.1	297.1	297.1	300.0	300.0	299.1	299.1
25°	286.3	293.2	299.1	304.9	306.9	308.9	310.8	312.8	312.8	311.8
27.5°	293.2	302.0	308.9	314.7	317.7	319.6	323.6	325.5	324.6	324.6
30°	300.0	309.8	318.7	325.5	328.5	331.4	335.3	336.3	337.3	336.3
32.5°	306.9	317.7	327.5	335.3	338.3	341.2	345.1	348.1	348.1	348.1
35°	313.8	325.5	335.3	344.2	348.1	351.0	355.9	358.9	358.9	359.9
37.5°	319.6	332.4	343.2	353.0	356.9	359.9	364.8	367.7	368.7	368.7
40°	325.5	339.3	351.0	361.8	365.7	369.7	375.5	377.5	379.5	379.5
42.5°	330.4	345.1	358.9	369.7	373.6	378.5	384.4	387.3	389.3	389.3
45°	335.3	351.0	364.8	376.5	382.4	385.3	392.2	396.1	398.1	398.1
47.5°	340.2	356.9	371.6	383.4	389.3	393.2	400.1	405.0	406.9	406.9
50°	344.2	361.8	376.5	389.3	395.1	400.1	407.9	411.8	414.8	414.8
52.5°	347.1	365.7	382.4	395.1	401.0	405.9	414.8	418.7	421.6	421.6
55°	350.0	369.7	386.3	400.1	406.9	410.8	419.7	424.6	427.5	427.5
57.5°	352.0	372.6	389.3	404.0	410.8	415.7	424.6	429.5	432.4	432.4
60°	354.0	374.6	392.2	407.9	413.8	419.7	428.5	434.4	437.3	437.3
62.5°	354.0	375.5	394.2	409.9	416.7	421.6	431.4	437.3	440.3	441.2
65°	354.9	376.5	395.1	410.8	418.7	424.6	433.4	439.3	443.2	444.2
67.5°	354.0	376.5	395.1	411.8	418.7	424.6	434.4	441.2	445.2	446.1
70°	353.0	375.5	395.1	411.8	419.7	425.5	435.4	442.2	446.1	447.1
72.5°	351.0	373.6	394.2	410.8	418.7	424.6	435.4	442.2	445.2	447.1
75°	348.1	371.6	392.2	409.9	416.7	423.6	433.4	441.2	445.2	445.2
77.5°	345.1	368.7	389.3	406.9	414.8	420.6	431.4	439.3	443.2	444.2
80°	340.2	363.8	384.4	402.0	409.9	416.7	427.5	435.4	439.3	440.3
82.5°	335.3	358.9	379.5	397.1	405.9	411.8	422.6	430.4	434.4	435.4
85°	329.5	353.0	374.6	392.2	400.1	406.9	417.7	425.5	429.5	430.4
87.5°	322.6	347.1	367.7	386.3	393.2	400.1	411.8	418.7	423.6	424.6
90°	316.7	340.2	360.8	379.5	387.3	394.2	405.0	412.8	416.7	417.7
92.5°	309.8	333.4	354.9	372.6	380.4	387.3	398.1	405.9	409.9	410.8
95°	302.0	326.5	347.1	364.8	372.6	379.5	390.2	397.1	402.0	403.0
97.5°	295.1	318.7	339.3	356.9	364.8	371.6	381.4	389.3	392.2	394.2
100°	285.3	308.9	330.4	347.1	354.9	361.8	372.6	378.5	382.4	384.4
102.5°	276.5	300.0	320.6	336.3	344.2	350.0	360.8	367.7	372.6	372.6
105°	266.7	290.2	309.8	326.5	333.4	339.3	350.0	355.9	360.8	360.8
107.5°	257.9	279.4	299.1	315.7	322.6	329.5	338.3	345.1	349.1	350.0
110°	247.1	268.7	288.3	304.0	310.8	317.7	326.5	333.4	336.3	338.3





TEST NUMBER: P236111

CATALOG NUMBER: CFA-3-LD4-UNV-STD-35-OP-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	236.3	257.9	276.5	292.2	298.1	304.0	313.8	319.6	323.6	324.6
115°	224.5	246.1	263.8	279.4	285.3	290.2	300.0	305.9	308.9	309.8
117.5°	213.8	234.3	252.0	265.7	272.6	277.5	286.3	292.2	295.1	296.1
120°	202.0	221.6	238.3	252.0	258.9	263.8	272.6	277.5	280.4	281.4
122.5°	190.2	208.9	225.5	239.2	245.1	250.0	257.9	263.8	265.7	266.7
125°	177.5	196.1	210.8	224.5	230.4	235.3	243.2	248.1	249.1	250.0
127.5°	165.7	182.4	197.1	209.8	214.7	219.6	227.5	232.4	234.3	235.3
130°	153.0	169.6	183.4	195.1	200.0	203.9	210.8	215.7	217.7	218.7
132.5°	140.2	154.9	168.6	180.4	184.3	189.2	195.1	199.0	201.0	201.0
135°	127.5	141.2	153.9	163.7	168.6	172.6	178.5	182.4	184.3	184.3
137.5°	115.7	128.4	140.2	149.0	153.0	155.9	162.8	165.7	166.7	166.7
140°	103.0	114.7	125.5	134.3	137.3	141.2	146.1	149.0	150.0	151.0
142.5°	91.2	101.0	110.8	118.6	121.6	125.5	130.4	132.4	134.3	133.4
145°	77.5	88.2	97.1	104.9	106.9	108.8	113.7	115.7	116.7	116.7
147.5°	65.7	74.5	83.3	90.2	92.2	95.1	98.1	100.0	101.0	100.0
150°	52.9	60.8	68.6	75.5	78.4	79.4	82.4	83.3	84.3	84.3
152.5°	42.2	49.0	55.9	60.8	64.7	65.7	67.7	68.6	69.6	68.6
155°	33.3	37.3	42.2	47.1	49.0	52.9	54.9	54.9	54.9	53.9
157.5°	24.5	27.5	31.4	34.3	36.3	38.2	41.2	42.2	41.2	41.2
160°	17.6	19.6	20.6	23.5	23.5	25.5	27.5	30.4	29.4	28.4
162.5°	10.8	11.8	12.7	13.7	13.7	14.7	15.7	18.6	18.6	17.6
165°	5.9	5.9	6.9	6.9	6.9	6.9	5.9	6.9	8.8	7.8
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)