

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: P236115

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236115
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-LO-35-OP-EDC1
Description: FAILSAFE CFA LED FIXTURE
3ft
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

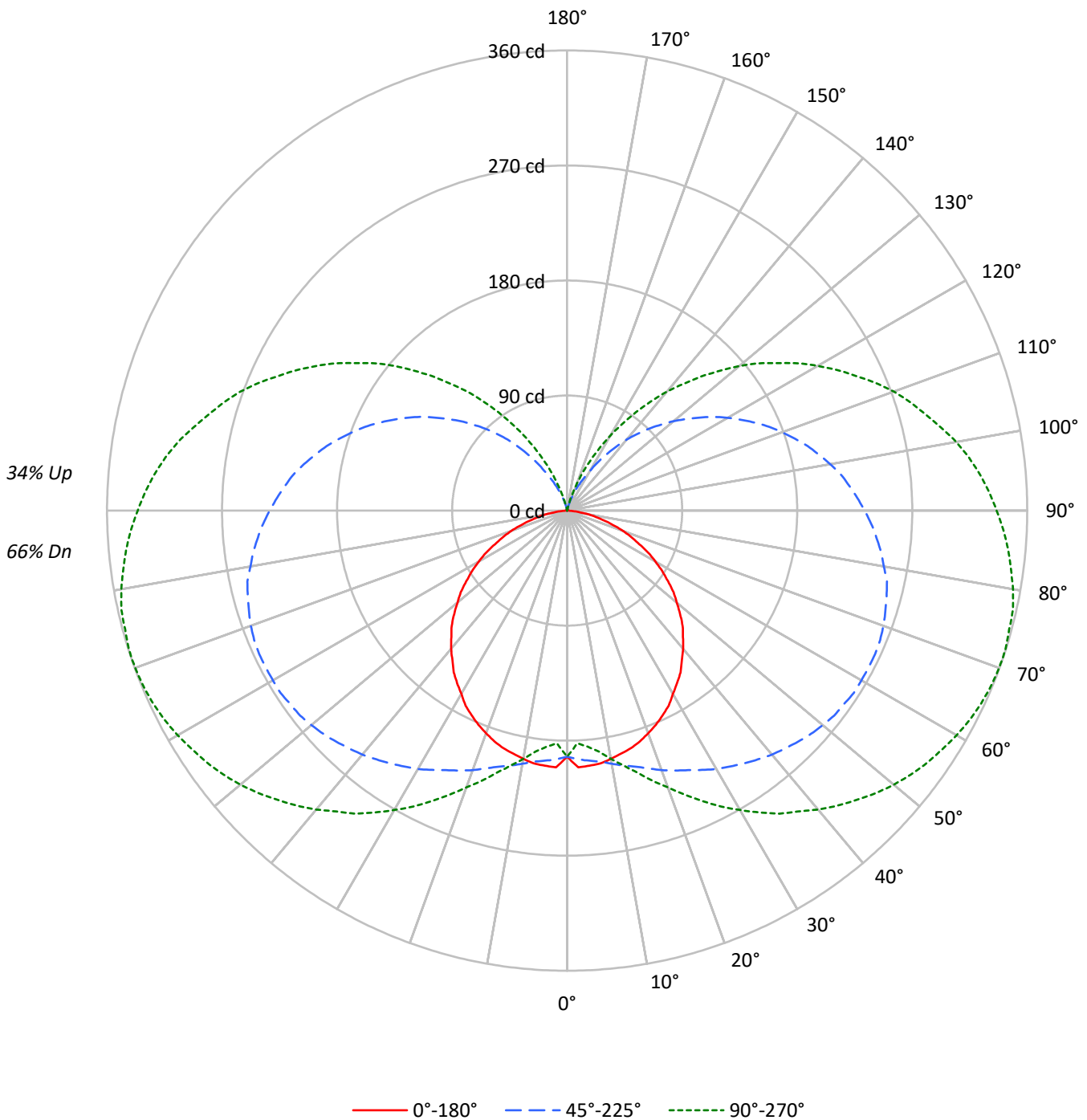
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2205.9 lumens
Efficiency: N/A
Efficacy: 104.5 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): 21.1
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°	4144	4144	4144
5°	4295	3837	3508
10°	4243	3622	3351
15°	4189	3489	3295
20°	4112	3435	3315
25°	4028	3399	3389
30°	3913	3414	3469
35°	3821	3431	3559
40°	3689	3471	3630
45°	3569	3517	3714
50°	3387	3576	3805
55°	3198	3629	3887
60°	2968	3691	3971
65°	2659	3760	4058
70°	2345	3827	4143
75°	1866	3894	4216
80°	1361	3959	4298
85°	571	4037	4370



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	18.7	0.8
10°-20°	58.5	2.7
20°-30°	101.9	4.6
30°-40°	146.1	6.6
40°-50°	186.9	8.5
50°-60°	219.8	10.0
60°-70°	240.1	10.9
70°-80°	245.8	11.1
80°-90°	235.5	10.7
90°-100°	213.9	9.7
100°-110°	182.3	8.3
110°-120°	143.7	6.5
120°-130°	103.0	4.7
130°-140°	64.4	2.9
140°-150°	32.6	1.5
150°-160°	11.3	0.5
160°-170°	1.4	0.1
170°-180°	0.0	0.0
0°-30°	179.1	8.1
0°-40°	325.2	14.7
0°-60°	731.8	33.2
0°-90°	1453.3	65.9
90°-120°	539.9	24.5
90°-150°	739.9	33.5
90°-180°	753.0	34.1
0°-180°	2205.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	192	192	192	192	192	
5°	200	199	196	191	185	19
15°	192	197	207	214	212	54
25°	177	194	224	247	251	81
35°	155	187	241	280	290	96
45°	128	178	256	308	320	98
55°	96	169	264	327	344	86
65°	62	155	266	337	357	62
75°	30	140	259	335	358	32
85°	5	120	243	322	346	6
90°	0	110	233	312	336	0
95°	0	100	222	300	324	0
105°	0	81	195	268	290	0
115°	0	62	162	230	249	0
125°	1	44	127	185	201	0
135°	1	30	91	136	148	1
145°	1	17	54	86	94	1
155°	1	8	23	39	43	0
165°	1	2	5	6	6	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°	192.5	192.5	192.5	192.5	192.5	192.5	192.5	192.5	192.5	192.5	192.5
2.5°	201.1	200.3	199.6	199.6	199.6	198.8	198.8	198.0	197.2	196.4	194.8
5°	200.3	199.6	198.8	199.6	198.8	198.8	198.8	198.8	198.8	197.2	196.4
7.5°	199.6	198.8	198.0	198.8	198.8	198.8	198.8	198.8	199.6	198.8	198.0
10°	197.2	197.2	196.4	197.2	198.0	198.0	198.8	199.6	200.3	200.3	201.1
12.5°	194.8	194.8	194.8	195.6	197.2	198.0	198.8	200.3	201.9	202.7	204.3
15°	192.5	191.7	192.5	194.0	196.4	197.2	198.8	201.1	203.5	205.1	207.4
17.5°	189.3	189.3	189.3	192.5	194.8	196.4	198.8	201.9	205.9	209.0	211.4
20°	185.4	185.4	186.9	190.1	194.0	195.6	198.0	202.7	207.4	211.4	216.1
22.5°	181.4	181.4	183.8	187.7	192.5	194.8	197.2	203.5	209.0	214.5	220.1
25°	176.7	177.5	179.8	184.6	190.1	194.0	197.2	204.3	211.4	217.7	224.0
27.5°	172.0	172.7	175.1	181.4	188.5	192.5	196.4	205.1	213.0	221.6	228.7
30°	165.6	167.2	171.2	178.3	186.1	190.9	195.6	205.1	214.5	224.0	233.5
32.5°	160.1	161.7	166.4	174.3	183.8	189.3	194.8	205.9	216.9	227.2	237.4
35°	154.6	156.2	161.7	170.4	181.4	186.9	193.2	205.9	218.5	230.3	241.4
37.5°	147.5	149.9	157.0	166.4	178.3	184.6	191.7	205.9	219.3	232.7	245.3
40°	141.2	144.3	151.4	162.5	175.9	183.0	190.9	205.9	220.9	235.8	249.2
42.5°	134.1	137.2	145.9	158.5	172.7	180.6	189.3	205.9	222.4	238.2	252.4
45°	127.8	130.9	140.4	153.8	169.6	178.3	187.7	205.9	223.2	239.8	255.6
47.5°	119.9	123.8	134.1	149.1	166.4	176.7	186.1	205.9	224.0	242.2	258.7
50°	112.0	116.7	128.6	144.3	164.1	173.5	184.6	205.1	224.8	243.7	261.1
52.5°	104.9	109.6	122.3	140.4	160.9	172.0	183.0	204.3	225.6	244.5	263.4
55°	96.2	101.8	115.9	135.7	157.0	168.8	180.6	203.5	224.8	245.3	264.2
57.5°	88.3	94.7	109.6	130.1	153.8	165.6	178.3	201.9	224.8	246.1	265.8
60°	79.7	86.8	103.3	125.4	149.9	162.5	175.1	200.3	223.2	245.3	265.8
62.5°	71.8	78.9	97.0	120.7	145.9	159.3	172.0	198.0	222.4	244.5	265.8
65°	62.3	71.0	90.7	115.2	142.0	155.4	168.8	195.6	220.9	243.7	265.8
67.5°	54.4	63.1	83.6	110.4	138.0	152.2	165.6	193.2	218.5	242.2	265.0
70°	46.5	56.0	78.1	104.9	134.1	148.3	162.5	190.1	216.1	240.6	263.4
72.5°	37.9	48.9	71.8	99.4	129.4	143.6	158.5	186.9	213.0	238.2	261.1
75°	30.0	41.8	66.3	94.7	124.6	139.6	154.6	183.0	210.6	235.8	258.7
77.5°	22.9	34.7	59.9	89.1	119.9	134.9	149.9	179.0	206.7	232.7	256.3
80°	16.6	28.4	53.6	83.6	114.4	130.1	145.1	174.3	202.7	228.7	251.6
82.5°	9.5	23.7	48.9	78.9	109.6	125.4	140.4	169.6	198.0	224.0	247.7
85°	4.7	18.9	44.2	73.4	104.9	119.9	135.7	164.9	193.2	219.3	242.9
87.5°	1.6	15.0	39.4	68.6	100.2	115.2	130.1	160.1	188.5	214.5	238.2
90°	0.0	11.8	35.5	64.7	94.7	110.4	125.4	154.6	183.0	209.0	232.7
92.5°	0.0	9.5	32.3	59.9	89.9	105.7	119.9	149.9	177.5	204.3	227.2
95°	0.0	7.9	29.2	56.0	85.2	100.2	115.2	144.3	172.0	198.0	221.6
97.5°	0.0	6.3	26.0	52.1	80.5	95.4	110.4	138.8	166.4	192.5	216.1
100°	0.0	5.5	23.7	48.1	76.5	90.7	104.9	133.3	160.1	186.1	209.0
102.5°	0.0	5.5	21.3	45.0	71.8	86.0	99.4	127.8	153.8	179.0	201.9
105°	0.0	4.7	19.7	41.8	67.8	81.2	94.7	121.5	147.5	172.0	194.8
107.5°	0.0	4.7	17.4	38.6	63.1	76.5	89.1	115.9	141.2	164.9	186.9
110°	0.0	3.9	15.8	35.5	59.2	71.0	84.4	109.6	134.1	157.8	179.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	3.9	15.0	32.3	54.4	66.3	78.9	103.3	127.0	149.9	171.2
115°	0.0	3.9	13.4	30.0	50.5	61.5	73.4	97.0	119.9	142.0	162.5
117.5°	0.0	3.9	12.6	27.6	46.5	56.8	68.6	90.7	112.8	134.9	153.8
120°	0.0	3.2	11.8	25.2	42.6	52.8	63.1	84.4	105.7	126.2	145.1
122.5°	0.0	3.2	11.0	23.7	39.4	48.1	58.4	78.1	98.6	118.3	136.5
125°	0.8	3.2	10.3	21.3	36.3	44.2	53.6	72.6	91.5	109.6	127.0
127.5°	0.8	3.2	9.5	19.7	33.1	41.0	48.9	66.3	83.6	101.0	117.5
130°	0.8	3.2	8.7	18.1	30.0	37.1	44.2	59.9	76.5	93.1	108.8
132.5°	0.8	2.4	7.9	16.6	26.8	33.1	40.2	54.4	69.4	85.2	99.4
135°	0.8	2.4	7.1	14.2	24.5	30.0	36.3	48.9	63.1	76.5	90.7
137.5°	0.8	2.4	6.3	12.6	21.3	26.8	31.6	43.4	56.0	68.6	81.2
140°	0.8	2.4	5.5	11.0	18.9	22.9	27.6	37.9	48.9	60.7	72.6
142.5°	0.8	1.6	4.7	10.3	15.8	19.7	23.7	32.3	42.6	52.8	63.1
145°	0.8	1.6	4.7	8.7	14.2	16.6	20.5	27.6	35.5	44.2	53.6
147.5°	0.8	1.6	3.9	7.1	11.8	14.2	17.4	23.7	30.0	37.1	45.0
150°	0.8	1.6	3.2	6.3	9.5	11.8	14.2	18.9	24.5	30.8	36.3
152.5°	0.8	1.6	2.4	4.7	7.9	9.5	11.0	15.8	19.7	24.5	29.2
155°	0.8	1.6	2.4	3.9	6.3	7.9	8.7	12.6	15.8	19.7	22.9
157.5°	0.8	0.8	2.4	3.2	4.7	5.5	7.1	9.5	11.8	15.0	17.4
160°	0.8	0.8	1.6	2.4	3.9	4.7	5.5	7.1	8.7	10.3	11.8
162.5°	0.8	0.8	1.6	2.4	3.2	3.2	3.9	4.7	5.5	7.1	7.9
165°	0.8	0.8	1.6	1.6	2.4	2.4	2.4	3.2	3.2	3.9	4.7
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°	192.5	192.5	192.5	192.5	192.5	192.5	192.5	192.5	192.5	192.5
2.5°	193.2	191.7	190.9	189.3	188.5	187.7	186.1	184.6	183.0	182.2
5°	195.6	194.0	193.2	191.7	190.9	190.1	189.3	187.7	186.1	185.4
7.5°	198.0	197.2	196.4	195.6	195.6	194.8	194.0	192.5	190.9	190.1
10°	201.1	201.9	201.1	201.1	201.1	200.3	199.6	198.8	197.2	197.2
12.5°	205.1	205.9	206.7	206.7	207.4	207.4	206.7	205.9	205.1	204.3
15°	209.8	212.2	213.0	213.8	214.5	214.5	214.5	213.0	213.0	212.2
17.5°	214.5	216.9	219.3	220.9	222.4	221.6	222.4	222.4	221.6	221.6
20°	220.1	223.2	226.4	229.5	229.5	230.3	231.9	231.9	231.9	230.3
22.5°	224.8	229.5	233.5	237.4	239.0	239.0	241.4	241.4	240.6	240.6
25°	230.3	235.8	240.6	245.3	246.9	248.5	250.0	251.6	251.6	250.8
27.5°	235.8	242.9	248.5	253.2	255.6	257.1	260.3	261.9	261.1	261.1
30°	241.4	249.2	256.3	261.9	264.2	266.6	269.8	270.5	271.3	270.5
32.5°	246.9	255.6	263.4	269.8	272.1	274.5	277.6	280.0	280.0	280.0
35°	252.4	261.9	269.8	276.9	280.0	282.4	286.3	288.7	288.7	289.5
37.5°	257.1	267.4	276.1	284.0	287.1	289.5	293.4	295.8	296.6	296.6
40°	261.9	272.9	282.4	291.1	294.2	297.4	302.1	303.7	305.3	305.3
42.5°	265.8	277.6	288.7	297.4	300.5	304.5	309.2	311.6	313.1	313.1
45°	269.8	282.4	293.4	302.9	307.6	310.0	315.5	318.7	320.2	320.2
47.5°	273.7	287.1	298.9	308.4	313.1	316.3	321.8	325.8	327.3	327.3
50°	276.9	291.1	302.9	313.1	317.9	321.8	328.1	331.3	333.6	333.6
52.5°	279.2	294.2	307.6	317.9	322.6	326.5	333.6	336.8	339.2	339.2
55°	281.6	297.4	310.8	321.8	327.3	330.5	337.6	341.5	343.9	343.9
57.5°	283.2	299.7	313.1	325.0	330.5	334.4	341.5	345.5	347.8	347.8
60°	284.7	301.3	315.5	328.1	332.9	337.6	344.7	349.4	351.8	351.8
62.5°	284.7	302.1	317.1	329.7	335.2	339.2	347.1	351.8	354.2	354.9
65°	285.5	302.9	317.9	330.5	336.8	341.5	348.6	353.4	356.5	357.3
67.5°	284.7	302.9	317.9	331.3	336.8	341.5	349.4	354.9	358.1	358.9
70°	284.0	302.1	317.9	331.3	337.6	342.3	350.2	355.7	358.9	359.7
72.5°	282.4	300.5	317.1	330.5	336.8	341.5	350.2	355.7	358.1	359.7
75°	280.0	298.9	315.5	329.7	335.2	340.7	348.6	354.9	358.1	358.1
77.5°	277.6	296.6	313.1	327.3	333.6	338.4	347.1	353.4	356.5	357.3
80°	273.7	292.6	309.2	323.4	329.7	335.2	343.9	350.2	353.4	354.2
82.5°	269.8	288.7	305.3	319.4	326.5	331.3	340.0	346.3	349.4	350.2
85°	265.0	284.0	301.3	315.5	321.8	327.3	336.0	342.3	345.5	346.3
87.5°	259.5	279.2	295.8	310.8	316.3	321.8	331.3	336.8	340.7	341.5
90°	254.8	273.7	290.3	305.3	311.6	317.1	325.8	332.1	335.2	336.0
92.5°	249.2	268.2	285.5	299.7	306.0	311.6	320.2	326.5	329.7	330.5
95°	242.9	262.7	279.2	293.4	299.7	305.3	313.9	319.4	323.4	324.2
97.5°	237.4	256.3	272.9	287.1	293.4	298.9	306.8	313.1	315.5	317.1
100°	229.5	248.5	265.8	279.2	285.5	291.1	299.7	304.5	307.6	309.2
102.5°	222.4	241.4	257.9	270.5	276.9	281.6	290.3	295.8	299.7	299.7
105°	214.5	233.5	249.2	262.7	268.2	272.9	281.6	286.3	290.3	290.3
107.5°	207.4	224.8	240.6	254.0	259.5	265.0	272.1	277.6	280.8	281.6
110°	198.8	216.1	231.9	244.5	250.0	255.6	262.7	268.2	270.5	272.1



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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	190.1	207.4	222.4	235.1	239.8	244.5	252.4	257.1	260.3	261.1
115°	180.6	198.0	212.2	224.8	229.5	233.5	241.4	246.1	248.5	249.2
117.5°	172.0	188.5	202.7	213.8	219.3	223.2	230.3	235.1	237.4	238.2
120°	162.5	178.3	191.7	202.7	208.2	212.2	219.3	223.2	225.6	226.4
122.5°	153.0	168.0	181.4	192.5	197.2	201.1	207.4	212.2	213.8	214.5
125°	142.8	157.8	169.6	180.6	185.4	189.3	195.6	199.6	200.3	201.1
127.5°	133.3	146.7	158.5	168.8	172.7	176.7	183.0	186.9	188.5	189.3
130°	123.0	136.5	147.5	157.0	160.9	164.1	169.6	173.5	175.1	175.9
132.5°	112.8	124.6	135.7	145.1	148.3	152.2	157.0	160.1	161.7	161.7
135°	102.5	113.6	123.8	131.7	135.7	138.8	143.6	146.7	148.3	148.3
137.5°	93.1	103.3	112.8	119.9	123.0	125.4	130.9	133.3	134.1	134.1
140°	82.8	92.3	101.0	108.1	110.4	113.6	117.5	119.9	120.7	121.5
142.5°	73.4	81.2	89.1	95.4	97.8	101.0	104.9	106.5	108.1	107.3
145°	62.3	71.0	78.1	84.4	86.0	87.6	91.5	93.1	93.9	93.9
147.5°	52.8	59.9	67.0	72.6	74.1	76.5	78.9	80.5	81.2	80.5
150°	42.6	48.9	55.2	60.7	63.1	63.9	66.3	67.0	67.8	67.8
152.5°	33.9	39.4	45.0	48.9	52.1	52.8	54.4	55.2	56.0	55.2
155°	26.8	30.0	33.9	37.9	39.4	42.6	44.2	44.2	44.2	43.4
157.5°	19.7	22.1	25.2	27.6	29.2	30.8	33.1	33.9	33.1	33.1
160°	14.2	15.8	16.6	18.9	18.9	20.5	22.1	24.5	23.7	22.9
162.5°	8.7	9.5	10.3	11.0	11.0	11.8	12.6	15.0	15.0	14.2
165°	4.7	4.7	5.5	5.5	5.5	5.5	4.7	5.5	7.1	6.3
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)