

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: P236126

Luminaire Tested: **CFA-4-LD4-UNV-LO-30-OP-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236126
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-LO-30-OP-EDC1
Description: FAILSAFE CFA LED FIXTURE
4ft
Light Source: (112) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

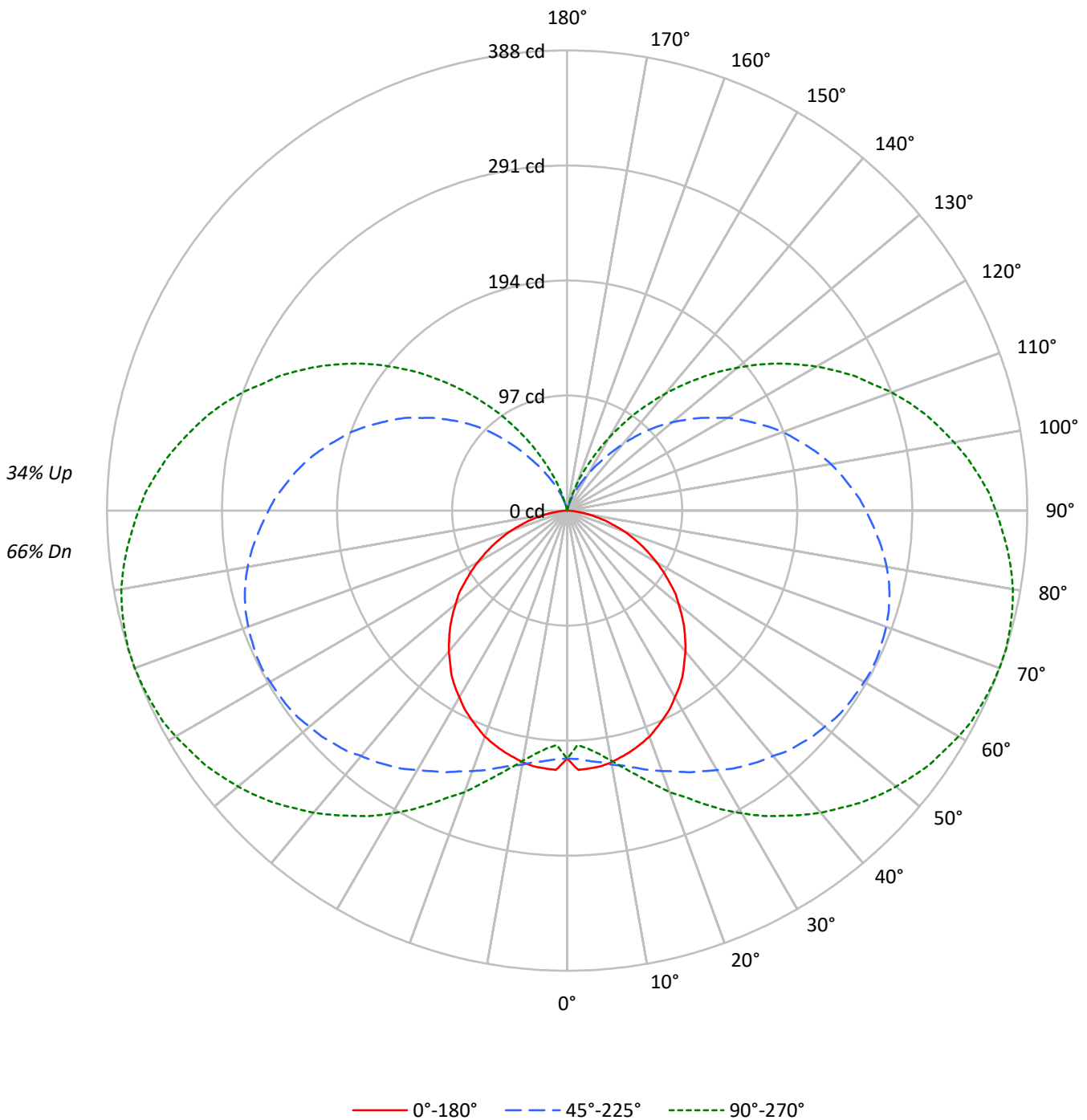
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2384.9 lumens
Efficiency: N/A
Efficacy: 101.9 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): 23.4
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	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°	3376	3376	3376
5°	3516	3109	2858
10°	3490	2944	2727
15°	3444	2841	2696
20°	3401	2797	2727
25°	3333	2784	2766
30°	3260	2785	2835
35°	3195	2814	2898
40°	3093	2840	2966
45°	2985	2888	3033
50°	2854	2935	3097
55°	2700	2989	3164
60°	2514	3038	3225
65°	2295	3097	3287
70°	2038	3152	3352
75°	1678	3211	3414
80°	1176	3266	3474
85°	585	3320	3526



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.4	0.9
10°-20°	63.7	2.7
20°-30°	111.0	4.7
30°-40°	159.3	6.7
40°-50°	203.6	8.5
50°-60°	239.0	10.0
60°-70°	260.9	10.9
70°-80°	266.5	11.2
80°-90°	254.9	10.7
90°-100°	230.7	9.7
100°-110°	196.3	8.2
110°-120°	154.4	6.5
120°-130°	110.1	4.6
130°-140°	68.1	2.9
140°-150°	33.6	1.4
150°-160°	11.2	0.5
160°-170°	1.3	0.1
170°-180°	0.0	0.0
0°-30°	195.1	8.2
0°-40°	354.4	14.9
0°-60°	796.9	33.4
0°-90°	1579.3	66.2
90°-120°	581.4	24.4
90°-150°	793.2	33.3
90°-180°	806.0	33.8
0°-180°	2384.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	209	209	209	209	209	
5°	218	216	212	208	201	21
15°	210	215	224	233	232	59
25°	193	212	244	269	273	89
35°	170	205	262	305	314	106
45°	140	196	278	333	349	108
55°	105	185	288	354	373	94
65°	69	171	289	364	386	68
75°	34	153	281	362	387	36
85°	6	132	263	347	373	7
90°	0	120	252	335	361	0
95°	0	110	239	323	348	0
105°	0	88	210	289	313	0
115°	0	67	175	247	268	0
125°	0	48	136	198	216	0
135°	0	30	95	144	158	0
145°	1	16	53	91	100	0
155°	1	8	22	38	45	0
165°	1	1	4	4	5	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°	209.1	209.1	209.1	209.1	209.1	209.1	209.1	209.1	209.1	209.1	209.1
2.5°	218.9	218.2	217.5	217.5	216.8	216.8	216.1	215.4	214.0	211.9	209.8
5°	218.2	217.5	216.8	216.8	216.8	216.1	216.1	216.1	214.7	213.3	211.9
7.5°	217.5	216.8	216.1	216.1	216.8	216.8	216.8	216.8	216.1	215.4	214.0
10°	215.4	214.7	214.0	215.4	215.4	216.1	216.8	217.5	217.5	217.5	217.5
12.5°	212.6	212.6	212.6	214.0	215.4	216.1	216.8	218.9	219.6	220.3	220.3
15°	209.8	209.8	210.5	211.9	214.7	215.4	216.1	220.3	222.4	223.8	224.5
17.5°	206.3	206.3	207.0	209.8	212.6	214.7	216.1	221.0	223.8	226.6	229.4
20°	202.8	202.8	204.2	207.7	211.2	214.0	216.1	221.7	225.9	230.1	233.7
22.5°	197.9	198.6	200.7	204.9	209.8	213.3	216.1	221.7	228.0	233.7	237.9
25°	193.0	193.7	196.5	202.1	207.7	211.9	215.4	222.4	229.4	237.2	243.5
27.5°	188.0	188.7	192.3	198.6	205.6	209.8	214.0	223.1	232.2	240.7	247.7
30°	181.7	183.1	188.0	195.1	203.5	208.4	213.3	223.8	233.7	243.5	252.6
32.5°	176.1	177.5	183.1	190.8	201.4	207.0	212.6	225.2	235.8	247.0	258.2
35°	169.8	171.2	177.5	186.6	198.6	204.9	211.2	224.5	237.9	249.8	262.4
37.5°	162.1	164.9	171.9	182.4	195.1	202.8	209.8	224.5	239.3	252.6	266.6
40°	155.1	157.9	166.3	178.2	192.3	200.7	208.4	225.2	240.7	255.4	270.1
42.5°	147.3	150.2	160.0	173.3	189.4	197.9	207.0	225.2	242.1	258.2	275.0
45°	139.6	143.1	153.7	168.4	186.6	195.8	205.6	225.2	243.5	261.0	277.9
47.5°	131.2	135.4	147.3	163.5	183.1	193.7	204.2	224.5	244.2	263.1	281.4
50°	122.8	127.7	140.3	158.6	179.6	190.8	202.1	223.8	244.9	264.5	283.5
52.5°	115.1	120.0	134.0	153.7	176.1	188.7	200.0	223.1	245.6	265.9	286.3
55°	105.2	111.6	127.0	148.0	172.6	185.2	197.2	221.7	244.9	266.6	287.7
57.5°	96.1	103.1	120.7	142.4	168.4	181.7	195.1	220.3	244.2	266.6	288.4
60°	87.0	94.7	113.7	137.5	164.9	178.9	192.3	218.2	243.5	266.6	289.1
62.5°	77.9	86.3	105.9	131.9	160.7	175.4	188.7	216.1	242.8	266.6	289.8
65°	68.8	78.6	99.6	126.3	155.8	171.2	185.2	213.3	240.0	265.2	289.1
67.5°	59.6	70.2	91.9	120.7	151.6	167.0	181.7	210.5	238.6	263.8	287.7
70°	51.2	61.0	85.6	115.1	145.9	162.8	177.5	207.7	235.8	261.7	286.3
72.5°	41.4	53.3	79.3	109.5	141.7	157.9	174.0	203.5	232.9	258.9	284.2
75°	33.7	45.6	72.3	103.8	136.1	153.0	169.1	199.3	229.4	256.1	281.4
77.5°	25.3	38.6	66.0	97.5	130.5	147.3	164.2	195.1	225.2	252.6	277.9
80°	17.5	31.6	59.6	91.9	125.6	142.4	158.6	190.1	220.3	247.7	273.6
82.5°	11.2	26.0	54.0	86.3	120.0	137.5	153.7	185.9	215.4	243.5	268.7
85°	5.6	20.3	48.4	80.7	114.4	131.9	148.0	180.3	209.8	237.9	263.1
87.5°	1.4	16.1	43.5	75.1	108.8	125.6	142.4	174.7	204.9	232.2	257.5
90°	0.0	12.6	39.3	70.2	103.1	120.0	136.1	168.4	198.6	225.9	251.9
92.5°	0.0	10.5	35.1	65.3	98.2	114.4	131.2	162.8	193.0	220.3	246.3
95°	0.0	8.4	31.6	60.3	92.6	109.5	124.9	156.5	186.6	214.0	239.3
97.5°	0.0	7.0	28.1	56.8	87.7	103.8	119.3	150.9	180.3	207.7	232.9
100°	0.0	6.3	25.3	52.6	82.8	98.2	113.7	144.5	174.0	200.7	225.9
102.5°	0.0	5.6	23.2	48.4	77.9	93.3	108.1	138.2	167.0	193.7	218.2
105°	0.0	4.9	21.0	44.9	73.0	87.7	102.4	131.9	160.0	185.9	209.8
107.5°	0.0	4.2	18.9	41.4	68.1	82.1	96.1	124.9	152.3	178.2	201.4
110°	0.0	4.2	16.8	37.9	63.1	77.2	90.5	117.9	145.2	169.8	193.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	3.5	15.4	34.4	58.9	71.6	84.9	110.9	136.8	161.4	184.5
115°	0.0	3.5	14.0	31.6	54.0	66.7	79.3	103.8	129.1	152.3	174.7
117.5°	0.0	3.5	13.3	28.8	49.8	61.7	73.7	97.5	121.4	143.8	165.6
120°	0.0	2.8	11.9	26.7	45.6	56.8	68.1	90.5	113.0	135.4	156.5
122.5°	0.0	2.8	11.2	24.6	42.1	51.9	62.4	84.2	105.2	126.3	145.2
125°	0.0	2.8	10.5	22.5	37.9	47.7	56.8	77.2	97.5	117.2	136.1
127.5°	0.0	2.8	9.1	20.3	34.4	42.8	51.9	70.9	89.8	108.1	125.6
130°	0.0	2.1	8.4	18.2	30.9	38.6	47.0	63.9	81.4	98.9	115.8
132.5°	0.0	2.1	7.7	16.1	27.4	34.4	41.4	56.8	73.7	90.5	105.9
135°	0.0	1.4	6.3	14.0	23.9	30.2	36.5	49.8	65.3	80.0	95.4
137.5°	0.0	1.4	5.6	11.9	21.0	26.0	31.6	43.5	56.8	70.2	84.2
140°	0.0	1.4	4.9	10.5	18.2	22.5	27.4	37.9	49.1	61.0	73.0
142.5°	0.0	1.4	4.2	9.1	15.4	19.6	23.2	32.3	41.4	51.9	62.4
145°	0.7	1.4	3.5	7.7	13.3	16.1	19.6	27.4	35.8	44.2	52.6
147.5°	0.7	0.7	2.8	6.3	10.5	14.0	16.8	23.2	29.5	36.5	44.2
150°	0.7	0.7	2.8	5.6	9.1	11.2	14.0	18.9	24.6	30.2	35.8
152.5°	0.7	0.7	2.1	4.2	7.7	9.1	11.2	15.4	19.6	23.9	28.8
155°	0.7	0.7	2.1	3.5	6.3	7.7	9.1	12.6	15.4	18.9	22.5
157.5°	0.7	0.7	1.4	2.8	4.9	5.6	7.0	9.1	11.9	14.0	16.8
160°	0.7	0.7	1.4	2.1	3.5	4.2	4.9	7.0	9.1	10.5	11.9
162.5°	0.7	0.7	0.7	1.4	2.1	2.8	3.5	4.2	5.6	7.0	7.7
165°	0.7	0.7	0.7	0.7	1.4	1.4	2.1	2.8	2.8	4.2	4.2
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	209.1	209.1	209.1	209.1	209.1	209.1	209.1	209.1	209.1	209.1
2.5°	208.4	207.7	206.3	204.9	204.2	203.5	202.1	200.0	198.6	197.9
5°	211.2	210.5	209.8	208.4	207.7	207.0	205.6	204.2	202.8	201.4
7.5°	214.0	214.7	214.0	213.3	212.6	211.9	210.5	209.8	208.4	207.0
10°	218.2	218.9	218.9	218.9	218.9	218.2	216.8	216.8	215.4	214.0
12.5°	222.4	224.5	225.2	225.2	225.2	225.9	224.5	223.8	222.4	222.4
15°	228.0	229.4	231.5	233.7	232.9	233.7	233.7	232.9	231.5	231.5
17.5°	232.9	236.5	239.3	240.7	242.1	242.1	242.8	242.8	241.4	241.4
20°	238.6	243.5	247.0	249.1	251.2	251.9	251.9	253.3	252.6	252.6
22.5°	244.9	249.8	254.7	258.2	260.3	261.0	263.1	263.8	263.1	261.7
25°	250.5	257.5	262.4	266.6	268.7	270.1	272.9	274.3	274.3	272.9
27.5°	256.8	263.8	270.8	276.5	277.9	280.0	283.5	284.2	284.9	284.2
30°	262.4	271.5	279.3	284.9	287.0	289.1	293.3	294.7	294.7	294.7
32.5°	268.0	278.6	287.0	294.0	296.8	298.9	302.4	304.5	304.5	305.2
35°	274.3	284.9	294.0	301.7	305.2	307.3	312.2	314.3	315.0	314.3
37.5°	280.0	291.2	301.0	308.7	312.2	315.0	320.0	322.8	323.5	323.5
40°	285.6	296.8	307.3	316.4	320.0	323.5	328.4	331.2	332.6	332.6
42.5°	289.8	302.4	314.3	323.5	327.0	330.5	336.1	338.9	340.3	340.3
45°	294.0	308.0	320.0	329.8	333.3	337.5	343.8	346.6	348.0	348.7
47.5°	297.5	312.2	324.9	335.4	340.3	343.8	350.1	353.6	355.7	355.7
50°	301.0	316.4	329.1	340.3	345.2	349.4	355.7	359.9	362.1	362.1
52.5°	303.8	320.0	334.0	345.9	350.8	355.0	361.4	365.6	367.7	367.7
55°	306.6	322.8	336.8	349.4	354.3	359.2	365.6	370.5	372.6	373.3
57.5°	308.0	324.9	339.6	352.9	357.8	362.8	369.8	374.7	376.8	376.8
60°	309.4	327.0	342.4	355.7	361.4	365.6	373.3	378.2	380.3	381.0
62.5°	310.1	328.4	343.8	357.8	363.5	368.4	376.1	381.0	383.8	384.5
65°	310.1	328.4	344.5	358.5	364.2	369.8	377.5	382.4	385.2	385.9
67.5°	309.4	328.4	345.2	359.2	365.6	370.5	378.9	383.8	386.6	387.3
70°	308.0	327.7	344.5	358.5	364.9	369.8	378.9	384.5	387.3	388.0
72.5°	306.6	325.6	343.1	357.8	364.2	369.8	378.2	383.8	387.3	388.0
75°	303.8	324.2	341.7	356.4	362.1	367.7	376.8	382.4	385.9	386.6
77.5°	301.0	320.7	338.2	353.6	359.9	365.6	374.7	380.3	383.8	384.5
80°	296.8	317.1	334.7	350.1	356.4	362.1	371.2	376.8	380.3	381.7
82.5°	292.6	312.9	330.5	345.9	352.2	357.8	367.0	373.3	376.8	377.5
85°	287.0	307.3	325.6	340.3	346.6	352.9	362.1	368.4	371.9	372.6
87.5°	281.4	301.7	320.0	334.7	341.7	347.3	357.1	363.5	366.3	367.0
90°	275.0	295.4	313.6	329.1	335.4	341.0	350.8	357.1	360.6	361.4
92.5°	268.7	289.8	307.3	322.8	329.1	335.4	344.5	350.8	354.3	355.7
95°	263.1	282.8	301.0	315.7	322.8	327.7	337.5	343.1	347.3	348.0
97.5°	256.1	276.5	294.0	308.7	315.0	320.7	329.8	336.1	339.6	340.3
100°	249.1	268.0	286.3	301.0	306.6	312.2	321.4	327.0	330.5	331.2
102.5°	240.7	260.3	277.2	291.9	297.5	303.8	312.2	317.8	321.4	322.1
105°	232.2	251.2	268.7	282.8	289.1	294.0	303.1	308.7	311.5	312.9
107.5°	223.1	242.8	258.9	272.9	278.6	284.2	293.3	298.2	301.0	302.4
110°	214.0	233.7	249.8	263.1	269.4	274.3	282.8	287.7	291.2	291.2



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CATALOG NUMBER: CFA-4-LD4-UNV-LO-30-OP-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	204.2	223.1	239.3	252.6	257.5	263.1	271.5	275.7	278.6	278.6
115°	195.1	212.6	228.0	241.4	247.0	251.9	259.6	264.5	267.3	268.0
117.5°	184.5	202.1	216.8	230.1	235.1	240.0	247.7	251.9	255.4	255.4
120°	174.7	191.6	205.6	218.2	223.8	228.0	235.1	240.0	242.1	242.8
122.5°	164.2	180.3	194.4	205.6	211.2	215.4	221.7	226.6	228.7	229.4
125°	153.0	169.1	181.7	193.7	197.9	202.8	209.1	213.3	215.4	216.1
127.5°	142.4	157.2	169.8	180.3	185.2	189.4	195.8	200.0	201.4	202.1
130°	131.9	145.2	157.9	167.7	171.9	175.4	181.7	185.2	187.3	187.3
132.5°	120.7	133.3	144.5	154.4	158.6	162.1	167.7	171.2	172.6	173.3
135°	109.5	121.4	132.6	141.0	144.5	148.0	153.7	155.8	158.6	157.9
137.5°	98.2	109.5	120.0	127.7	131.2	134.0	138.9	142.4	143.1	143.1
140°	85.6	97.5	106.7	114.4	117.9	120.7	124.9	127.7	129.1	128.4
142.5°	73.7	84.9	94.7	101.7	103.8	107.4	111.6	113.7	113.7	113.7
145°	62.4	71.6	81.4	88.4	91.2	93.3	96.8	98.2	99.6	99.6
147.5°	51.9	59.6	67.4	75.1	77.9	80.0	83.5	84.9	84.9	84.9
150°	42.1	47.7	54.7	60.3	64.6	66.7	69.5	70.9	71.6	71.6
152.5°	33.7	38.6	42.8	47.7	50.5	53.3	57.5	57.5	58.2	58.2
155°	26.0	29.5	33.0	36.5	37.9	40.0	44.2	45.6	45.6	44.9
157.5°	18.9	21.8	23.9	26.7	27.4	28.8	31.6	34.4	34.4	33.7
160°	13.3	14.7	16.1	17.5	18.2	18.2	21.0	23.9	23.9	23.2
162.5°	8.4	9.1	9.1	9.8	9.8	10.5	10.5	11.9	14.0	13.3
165°	4.2	4.2	4.2	3.5	3.5	3.5	4.2	3.5	4.9	4.9
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)