

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: P236127

Luminaire Tested: **CFA-4-LD4-UNV-LO-35-OP-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236127
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-35-OP-EDC1
Description: FAILSAFE CFA LED FIXTURE
4ft
Light Source: (112) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

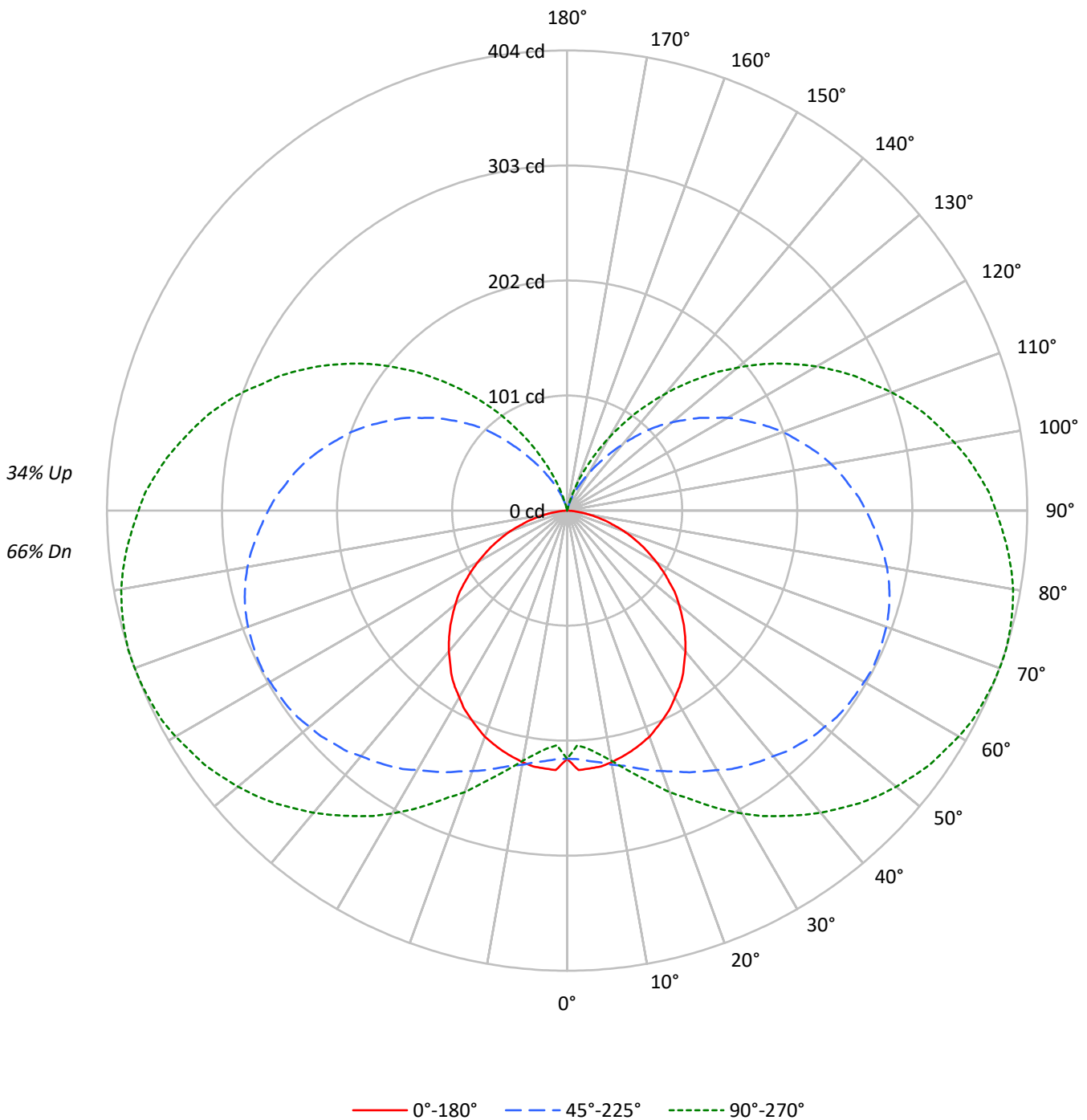
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2484.3 lumens
Efficiency: N/A
Efficacy: 106.2 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 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°	3517	3517	3517
5°	3662	3238	2977
10°	3636	3068	2841
15°	3587	2960	2809
20°	3542	2913	2841
25°	3471	2900	2881
30°	3396	2901	2953
35°	3329	2932	3019
40°	3221	2959	3089
45°	3109	3008	3160
50°	2973	3057	3226
55°	2813	3114	3296
60°	2619	3164	3360
65°	2389	3225	3424
70°	2125	3283	3492
75°	1748	3345	3556
80°	1229	3403	3619
85°	606	3459	3673



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	21.2	0.9
10°-20°	66.3	2.7
20°-30°	115.6	4.7
30°-40°	165.9	6.7
40°-50°	212.1	8.5
50°-60°	248.9	10.0
60°-70°	271.8	10.9
70°-80°	277.6	11.2
80°-90°	265.5	10.7
90°-100°	240.3	9.7
100°-110°	204.5	8.2
110°-120°	160.8	6.5
120°-130°	114.7	4.6
130°-140°	70.9	2.9
140°-150°	35.0	1.4
150°-160°	11.7	0.5
160°-170°	1.4	0.1
170°-180°	0.0	0.0
0°-30°	203.2	8.2
0°-40°	369.1	14.9
0°-60°	830.2	33.4
0°-90°	1645.1	66.2
90°-120°	605.6	24.4
90°-150°	826.2	33.3
90°-180°	839.0	33.8
0°-180°	2484.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	218	218	218	218	218	
5°	227	225	221	216	210	22
15°	218	224	234	243	241	62
25°	201	221	254	280	284	93
35°	177	213	273	318	327	110
45°	145	204	289	347	363	112
55°	110	193	300	369	389	98
65°	72	178	301	379	402	71
75°	35	159	293	377	403	37
85°	6	137	274	361	388	7
90°	0	125	262	349	376	0
95°	0	114	249	336	362	0
105°	0	91	218	301	326	0
115°	0	69	182	257	279	0
125°	0	50	142	206	225	0
135°	0	31	99	151	164	0
145°	1	17	55	95	104	0
155°	1	8	23	40	47	0
165°	1	2	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°	217.8	217.8	217.8	217.8	217.8	217.8	217.8	217.8	217.8	217.8	217.8
2.5°	228.0	227.3	226.6	226.6	225.8	225.8	225.1	224.4	222.9	220.7	218.5
5°	227.3	226.6	225.8	225.8	225.8	225.1	225.1	225.1	223.7	222.2	220.7
7.5°	226.6	225.8	225.1	225.1	225.8	225.8	225.8	225.8	225.1	224.4	222.9
10°	224.4	223.7	222.9	224.4	224.4	225.1	225.8	226.6	226.6	226.6	226.6
12.5°	221.5	221.5	221.5	222.9	224.4	225.1	225.8	228.0	228.8	229.5	229.5
15°	218.5	218.5	219.3	220.7	223.7	224.4	225.1	229.5	231.7	233.2	233.9
17.5°	214.9	214.9	215.6	218.5	221.5	223.7	225.1	230.2	233.2	236.1	239.0
20°	211.2	211.2	212.7	216.3	220.0	222.9	225.1	231.0	235.3	239.7	243.4
22.5°	206.1	206.8	209.0	213.4	218.5	222.2	225.1	231.0	237.5	243.4	247.8
25°	201.0	201.7	204.6	210.5	216.3	220.7	224.4	231.7	239.0	247.0	253.6
27.5°	195.9	196.6	200.3	206.8	214.2	218.5	222.9	232.4	241.9	250.7	258.0
30°	189.3	190.8	195.9	203.2	212.0	217.1	222.2	233.2	243.4	253.6	263.1
32.5°	183.5	184.9	190.8	198.8	209.8	215.6	221.5	234.6	245.6	257.3	269.0
35°	176.9	178.3	184.9	194.4	206.8	213.4	220.0	233.9	247.8	260.2	273.4
37.5°	168.8	171.8	179.1	190.0	203.2	211.2	218.5	233.9	249.2	263.1	277.7
40°	161.5	164.4	173.2	185.6	200.3	209.0	217.1	234.6	250.7	266.0	281.4
42.5°	153.5	156.4	166.6	180.5	197.3	206.1	215.6	234.6	252.2	269.0	286.5
45°	145.4	149.1	160.1	175.4	194.4	203.9	214.2	234.6	253.6	271.9	289.4
47.5°	136.7	141.1	153.5	170.3	190.8	201.7	212.7	233.9	254.3	274.1	293.1
50°	127.9	133.0	146.2	165.2	187.1	198.8	210.5	233.2	255.1	275.5	295.3
52.5°	119.9	125.0	139.6	160.1	183.5	196.6	208.3	232.4	255.8	277.0	298.2
55°	109.6	116.2	132.3	154.2	179.8	193.0	205.4	231.0	255.1	277.7	299.7
57.5°	100.1	107.4	125.7	148.4	175.4	189.3	203.2	229.5	254.3	277.7	300.4
60°	90.6	98.7	118.4	143.3	171.8	186.4	200.3	227.3	253.6	277.7	301.1
62.5°	81.1	89.9	110.4	137.4	167.4	182.7	196.6	225.1	252.9	277.7	301.9
65°	71.6	81.9	103.8	131.6	162.3	178.3	193.0	222.2	250.0	276.3	301.1
67.5°	62.1	73.1	95.7	125.7	157.9	174.0	189.3	219.3	248.5	274.8	299.7
70°	53.4	63.6	89.2	119.9	152.0	169.6	184.9	216.3	245.6	272.6	298.2
72.5°	43.1	55.5	82.6	114.0	147.6	164.4	181.3	212.0	242.7	269.7	296.0
75°	35.1	47.5	75.3	108.2	141.8	159.3	176.1	207.6	239.0	266.8	293.1
77.5°	26.3	40.2	68.7	101.6	135.9	153.5	171.0	203.2	234.6	263.1	289.4
80°	18.3	32.9	62.1	95.7	130.8	148.4	165.2	198.1	229.5	258.0	285.0
82.5°	11.7	27.0	56.3	89.9	125.0	143.3	160.1	193.7	224.4	253.6	279.9
85°	5.8	21.2	50.4	84.1	119.1	137.4	154.2	187.8	218.5	247.8	274.1
87.5°	1.5	16.8	45.3	78.2	113.3	130.8	148.4	182.0	213.4	241.9	268.2
90°	0.0	13.2	40.9	73.1	107.4	125.0	141.8	175.4	206.8	235.3	262.4
92.5°	0.0	11.0	36.5	68.0	102.3	119.1	136.7	169.6	201.0	229.5	256.5
95°	0.0	8.8	32.9	62.9	96.5	114.0	130.1	163.0	194.4	222.9	249.2
97.5°	0.0	7.3	29.2	59.2	91.4	108.2	124.3	157.1	187.8	216.3	242.7
100°	0.0	6.6	26.3	54.8	86.2	102.3	118.4	150.6	181.3	209.0	235.3
102.5°	0.0	5.8	24.1	50.4	81.1	97.2	112.6	144.0	174.0	201.7	227.3
105°	0.0	5.1	21.9	46.8	76.0	91.4	106.7	137.4	166.6	193.7	218.5
107.5°	0.0	4.4	19.7	43.1	70.9	85.5	100.1	130.1	158.6	185.6	209.8
110°	0.0	4.4	17.5	39.5	65.8	80.4	94.3	122.8	151.3	176.9	201.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	3.7	16.1	35.8	61.4	74.6	88.4	115.5	142.5	168.1	192.2
115°	0.0	3.7	14.6	32.9	56.3	69.4	82.6	108.2	134.5	158.6	182.0
117.5°	0.0	3.7	13.9	30.0	51.9	64.3	76.7	101.6	126.4	149.8	172.5
120°	0.0	2.9	12.4	27.8	47.5	59.2	70.9	94.3	117.7	141.1	163.0
122.5°	0.0	2.9	11.7	25.6	43.9	54.1	65.0	87.7	109.6	131.6	151.3
125°	0.0	2.9	11.0	23.4	39.5	49.7	59.2	80.4	101.6	122.1	141.8
127.5°	0.0	2.9	9.5	21.2	35.8	44.6	54.1	73.8	93.6	112.6	130.8
130°	0.0	2.2	8.8	19.0	32.2	40.2	49.0	66.5	84.8	103.1	120.6
132.5°	0.0	2.2	8.0	16.8	28.5	35.8	43.1	59.2	76.7	94.3	110.4
135°	0.0	1.5	6.6	14.6	24.9	31.4	38.0	51.9	68.0	83.3	99.4
137.5°	0.0	1.5	5.8	12.4	21.9	27.0	32.9	45.3	59.2	73.1	87.7
140°	0.0	1.5	5.1	11.0	19.0	23.4	28.5	39.5	51.2	63.6	76.0
142.5°	0.0	1.5	4.4	9.5	16.1	20.5	24.1	33.6	43.1	54.1	65.0
145°	0.7	1.5	3.7	8.0	13.9	16.8	20.5	28.5	37.3	46.0	54.8
147.5°	0.7	0.7	2.9	6.6	11.0	14.6	17.5	24.1	30.7	38.0	46.0
150°	0.7	0.7	2.9	5.8	9.5	11.7	14.6	19.7	25.6	31.4	37.3
152.5°	0.7	0.7	2.2	4.4	8.0	9.5	11.7	16.1	20.5	24.9	30.0
155°	0.7	0.7	2.2	3.7	6.6	8.0	9.5	13.2	16.1	19.7	23.4
157.5°	0.7	0.7	1.5	2.9	5.1	5.8	7.3	9.5	12.4	14.6	17.5
160°	0.7	0.7	1.5	2.2	3.7	4.4	5.1	7.3	9.5	11.0	12.4
162.5°	0.7	0.7	0.7	1.5	2.2	2.9	3.7	4.4	5.8	7.3	8.0
165°	0.7	0.7	0.7	0.7	1.5	1.5	2.2	2.9	2.9	4.4	4.4
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°	217.8	217.8	217.8	217.8	217.8	217.8	217.8	217.8	217.8	217.8
2.5°	217.1	216.3	214.9	213.4	212.7	212.0	210.5	208.3	206.8	206.1
5°	220.0	219.3	218.5	217.1	216.3	215.6	214.2	212.7	211.2	209.8
7.5°	222.9	223.7	222.9	222.2	221.5	220.7	219.3	218.5	217.1	215.6
10°	227.3	228.0	228.0	228.0	228.0	227.3	225.8	225.8	224.4	222.9
12.5°	231.7	233.9	234.6	234.6	234.6	235.3	233.9	233.2	231.7	231.7
15°	237.5	239.0	241.2	243.4	242.7	243.4	243.4	242.7	241.2	241.2
17.5°	242.7	246.3	249.2	250.7	252.2	252.2	252.9	252.9	251.4	251.4
20°	248.5	253.6	257.3	259.5	261.7	262.4	262.4	263.9	263.1	263.1
22.5°	255.1	260.2	265.3	269.0	271.2	271.9	274.1	274.8	274.1	272.6
25°	260.9	268.2	273.4	277.7	279.9	281.4	284.3	285.8	285.8	284.3
27.5°	267.5	274.8	282.1	288.0	289.4	291.6	295.3	296.0	296.7	296.0
30°	273.4	282.9	290.9	296.7	298.9	301.1	305.5	307.0	307.0	307.0
32.5°	279.2	290.2	298.9	306.2	309.2	311.4	315.0	317.2	317.2	317.9
35°	285.8	296.7	306.2	314.3	317.9	320.1	325.2	327.4	328.2	327.4
37.5°	291.6	303.3	313.6	321.6	325.2	328.2	333.3	336.2	336.9	336.9
40°	297.5	309.2	320.1	329.6	333.3	336.9	342.1	345.0	346.4	346.4
42.5°	301.9	315.0	327.4	336.9	340.6	344.2	350.1	353.0	354.5	354.5
45°	306.2	320.9	333.3	343.5	347.2	351.6	358.1	361.1	362.5	363.3
47.5°	309.9	325.2	338.4	349.4	354.5	358.1	364.7	368.4	370.6	370.6
50°	313.6	329.6	342.8	354.5	359.6	364.0	370.6	374.9	377.1	377.1
52.5°	316.5	333.3	347.9	360.3	365.4	369.8	376.4	380.8	383.0	383.0
55°	319.4	336.2	350.8	364.0	369.1	374.2	380.8	385.9	388.1	388.8
57.5°	320.9	338.4	353.8	367.6	372.8	377.9	385.2	390.3	392.5	392.5
60°	322.3	340.6	356.7	370.6	376.4	380.8	388.8	393.9	396.1	396.9
62.5°	323.1	342.1	358.1	372.8	378.6	383.7	391.8	396.9	399.8	400.5
65°	323.1	342.1	358.9	373.5	379.3	385.2	393.2	398.3	401.3	402.0
67.5°	322.3	342.1	359.6	374.2	380.8	385.9	394.7	399.8	402.7	403.5
70°	320.9	341.3	358.9	373.5	380.1	385.2	394.7	400.5	403.5	404.2
72.5°	319.4	339.1	357.4	372.8	379.3	385.2	393.9	399.8	403.5	404.2
75°	316.5	337.7	355.9	371.3	377.1	383.0	392.5	398.3	402.0	402.7
77.5°	313.6	334.0	352.3	368.4	374.9	380.8	390.3	396.1	399.8	400.5
80°	309.2	330.4	348.6	364.7	371.3	377.1	386.6	392.5	396.1	397.6
82.5°	304.8	326.0	344.2	360.3	366.9	372.8	382.3	388.8	392.5	393.2
85°	298.9	320.1	339.1	354.5	361.1	367.6	377.1	383.7	387.4	388.1
87.5°	293.1	314.3	333.3	348.6	355.9	361.8	372.0	378.6	381.5	382.3
90°	286.5	307.7	326.7	342.8	349.4	355.2	365.4	372.0	375.7	376.4
92.5°	279.9	301.9	320.1	336.2	342.8	349.4	358.9	365.4	369.1	370.6
95°	274.1	294.5	313.6	328.9	336.2	341.3	351.6	357.4	361.8	362.5
97.5°	266.8	288.0	306.2	321.6	328.2	334.0	343.5	350.1	353.8	354.5
100°	259.5	279.2	298.2	313.6	319.4	325.2	334.7	340.6	344.2	345.0
102.5°	250.7	271.2	288.7	304.0	309.9	316.5	325.2	331.1	334.7	335.5
105°	241.9	261.7	279.9	294.5	301.1	306.2	315.7	321.6	324.5	326.0
107.5°	232.4	252.9	269.7	284.3	290.2	296.0	305.5	310.6	313.6	315.0
110°	222.9	243.4	260.2	274.1	280.7	285.8	294.5	299.7	303.3	303.3



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CATALOG NUMBER: CFA-4-LD4-UNV-LO-35-OP-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	212.7	232.4	249.2	263.1	268.2	274.1	282.9	287.2	290.2	290.2
115°	203.2	221.5	237.5	251.4	257.3	262.4	270.4	275.5	278.5	279.2
117.5°	192.2	210.5	225.8	239.7	244.8	250.0	258.0	262.4	266.0	266.0
120°	182.0	199.5	214.2	227.3	233.2	237.5	244.8	250.0	252.2	252.9
122.5°	171.0	187.8	202.5	214.2	220.0	224.4	231.0	236.1	238.3	239.0
125°	159.3	176.1	189.3	201.7	206.1	211.2	217.8	222.2	224.4	225.1
127.5°	148.4	163.7	176.9	187.8	193.0	197.3	203.9	208.3	209.8	210.5
130°	137.4	151.3	164.4	174.7	179.1	182.7	189.3	193.0	195.1	195.1
132.5°	125.7	138.9	150.6	160.8	165.2	168.8	174.7	178.3	179.8	180.5
135°	114.0	126.4	138.1	146.9	150.6	154.2	160.1	162.3	165.2	164.4
137.5°	102.3	114.0	125.0	133.0	136.7	139.6	144.7	148.4	149.1	149.1
140°	89.2	101.6	111.1	119.1	122.8	125.7	130.1	133.0	134.5	133.8
142.5°	76.7	88.4	98.7	106.0	108.2	111.8	116.2	118.4	118.4	118.4
145°	65.0	74.6	84.8	92.1	95.0	97.2	100.9	102.3	103.8	103.8
147.5°	54.1	62.1	70.2	78.2	81.1	83.3	87.0	88.4	88.4	88.4
150°	43.9	49.7	57.0	62.9	67.2	69.4	72.4	73.8	74.6	74.6
152.5°	35.1	40.2	44.6	49.7	52.6	55.5	59.9	59.9	60.7	60.7
155°	27.0	30.7	34.4	38.0	39.5	41.7	46.0	47.5	47.5	46.8
157.5°	19.7	22.7	24.9	27.8	28.5	30.0	32.9	35.8	35.8	35.1
160°	13.9	15.3	16.8	18.3	19.0	19.0	21.9	24.9	24.9	24.1
162.5°	8.8	9.5	9.5	10.2	10.2	11.0	11.0	12.4	14.6	13.9
165°	4.4	4.4	4.4	3.7	3.7	3.7	4.4	3.7	5.1	5.1
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)