

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: P236108

Luminaire Tested: **CFA-3-LD4-UNV-HI-40-OP-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236108
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-HI-40-OP-EDC1
Description: FAILSAFE CFA LED FIXTURE
3ft
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

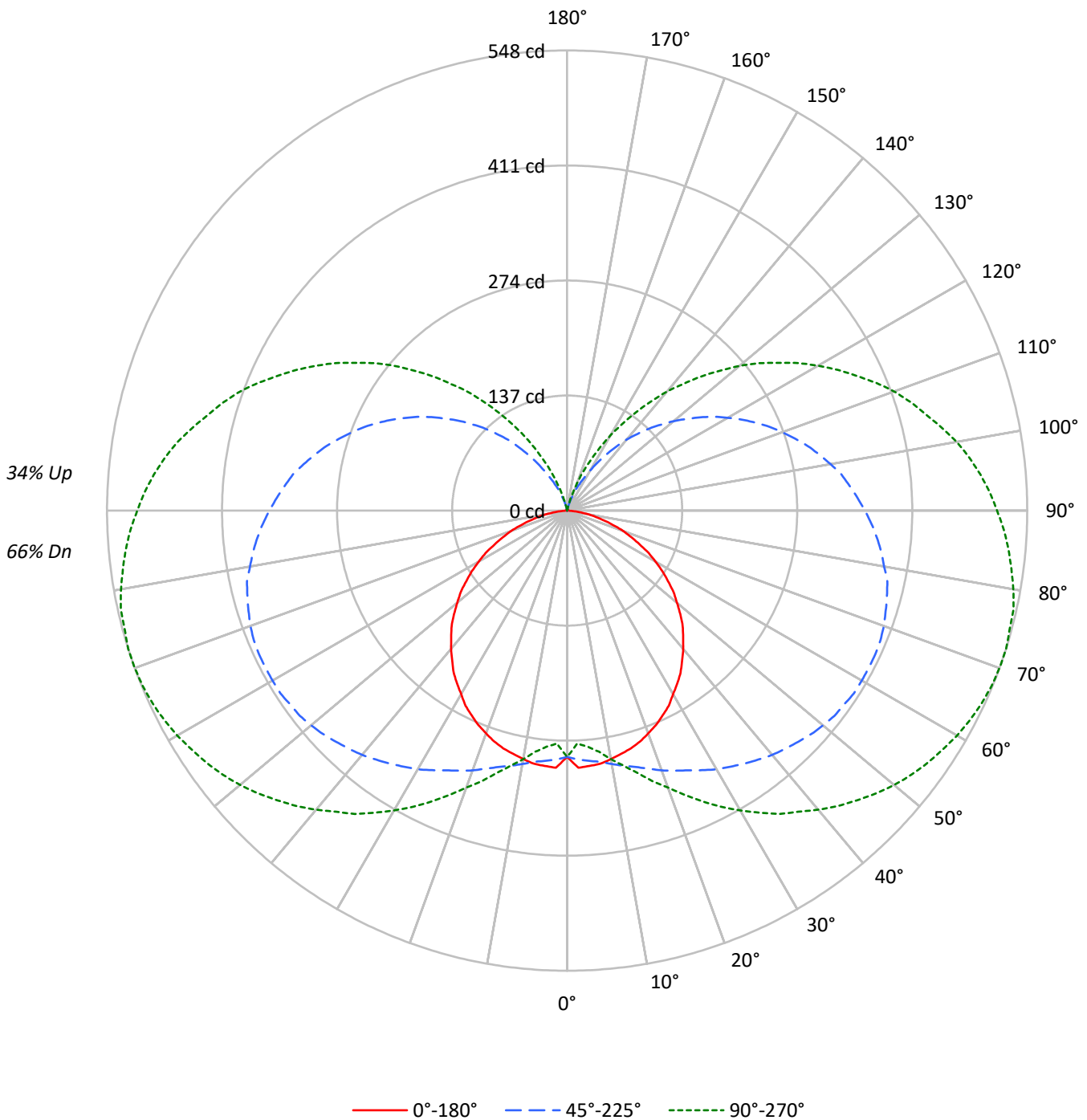
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3361.0 lumens
Efficiency: N/A
Efficacy: 91.8 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): 36.6
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°	6312	6312	6312
5°	6546	5845	5343
10°	6466	5520	5106
15°	6380	5317	5020
20°	6264	5234	5051
25°	6136	5178	5165
30°	5963	5200	5287
35°	5824	5227	5422
40°	5619	5290	5530
45°	5437	5357	5659
50°	5162	5448	5798
55°	4874	5531	5923
60°	4520	5624	6050
65°	4050	5729	6183
70°	3576	5832	6312
75°	2843	5933	6424
80°	2066	6033	6548
85°	875	6152	6658



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.6	0.8
10°-20°	89.1	2.7
20°-30°	155.2	4.6
30°-40°	222.6	6.6
40°-50°	284.7	8.5
50°-60°	334.9	10.0
60°-70°	365.9	10.9
70°-80°	374.5	11.1
80°-90°	358.9	10.7
90°-100°	326.0	9.7
100°-110°	277.7	8.3
110°-120°	219.0	6.5
120°-130°	156.9	4.7
130°-140°	98.1	2.9
140°-150°	49.7	1.5
150°-160°	17.2	0.5
160°-170°	2.2	0.1
170°-180°	0.0	0.0
0°-30°	272.8	8.1
0°-40°	495.5	14.7
0°-60°	1115.1	33.2
0°-90°	2214.4	65.9
90°-120°	822.6	24.5
90°-150°	1127.3	33.5
90°-180°	1147.0	34.1
0°-180°	3361.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	293	293	293	293	293	
5°	305	303	299	291	282	29
15°	293	300	316	327	323	83
25°	269	296	341	376	382	124
35°	236	285	368	427	441	147
45°	195	272	389	469	488	150
55°	147	257	403	499	524	131
65°	95	237	405	513	544	95
75°	46	213	394	511	546	49
85°	7	183	370	490	528	10
90°	0	168	354	475	512	0
95°	0	153	338	457	494	0
105°	0	124	297	409	442	0
115°	0	94	248	350	380	0
125°	1	67	194	282	306	1
135°	1	46	138	207	226	1
145°	1	25	82	131	143	1
155°	1	12	35	60	66	1
165°	1	4	7	8	10	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°	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2
2.5°	306.5	305.3	304.1	304.1	304.1	302.9	302.9	301.7	300.5	299.2	296.8
5°	305.3	304.1	302.9	304.1	302.9	302.9	302.9	302.9	302.9	300.5	299.2
7.5°	304.1	302.9	301.7	302.9	302.9	302.9	302.9	302.9	304.1	302.9	301.7
10°	300.5	300.5	299.2	300.5	301.7	301.7	302.9	304.1	305.3	305.3	306.5
12.5°	296.8	296.8	296.8	298.0	300.5	301.7	302.9	305.3	307.7	308.9	311.3
15°	293.2	292.0	293.2	295.6	299.2	300.5	302.9	306.5	310.1	312.5	316.1
17.5°	288.4	288.4	288.4	293.2	296.8	299.2	302.9	307.7	313.7	318.5	322.1
20°	282.4	282.4	284.8	289.6	295.6	298.0	301.7	308.9	316.1	322.1	329.3
22.5°	276.4	276.4	280.0	286.0	293.2	296.8	300.5	310.1	318.5	326.9	335.3
25°	269.2	270.4	274.0	281.2	289.6	295.6	300.5	311.3	322.1	331.7	341.3
27.5°	262.0	263.2	266.8	276.4	287.2	293.2	299.2	312.5	324.5	337.7	348.5
30°	252.4	254.8	260.8	271.6	283.6	290.8	298.0	312.5	326.9	341.3	355.7
32.5°	244.0	246.4	253.6	265.6	280.0	288.4	296.8	313.7	330.5	346.1	361.7
35°	235.6	238.0	246.4	259.6	276.4	284.8	294.4	313.7	332.9	350.9	367.8
37.5°	224.7	228.3	239.2	253.6	271.6	281.2	292.0	313.7	334.1	354.5	373.8
40°	215.1	219.9	230.7	247.6	268.0	278.8	290.8	313.7	336.5	359.3	379.8
42.5°	204.3	209.1	222.3	241.6	263.2	275.2	288.4	313.7	338.9	362.9	384.6
45°	194.7	199.5	213.9	234.4	258.4	271.6	286.0	313.7	340.1	365.3	389.4
47.5°	182.7	188.7	204.3	227.1	253.6	269.2	283.6	313.7	341.3	369.0	394.2
50°	170.7	177.9	195.9	219.9	250.0	264.4	281.2	312.5	342.5	371.4	397.8
52.5°	159.8	167.1	186.3	213.9	245.2	262.0	278.8	311.3	343.7	372.6	401.4
55°	146.6	155.0	176.7	206.7	239.2	257.2	275.2	310.1	342.5	373.8	402.6
57.5°	134.6	144.2	167.1	198.3	234.4	252.4	271.6	307.7	342.5	375.0	405.0
60°	121.4	132.2	157.4	191.1	228.3	247.6	266.8	305.3	340.1	373.8	405.0
62.5°	109.4	120.2	147.8	183.9	222.3	242.8	262.0	301.7	338.9	372.6	405.0
65°	94.9	108.2	138.2	175.5	216.3	236.8	257.2	298.0	336.5	371.4	405.0
67.5°	82.9	96.1	127.4	168.3	210.3	231.9	252.4	294.4	332.9	369.0	403.8
70°	70.9	85.3	119.0	159.8	204.3	225.9	247.6	289.6	329.3	366.5	401.4
72.5°	57.7	74.5	109.4	151.4	197.1	218.7	241.6	284.8	324.5	362.9	397.8
75°	45.7	63.7	101.0	144.2	189.9	212.7	235.6	278.8	320.9	359.3	394.2
77.5°	34.9	52.9	91.3	135.8	182.7	205.5	228.3	272.8	314.9	354.5	390.6
80°	25.2	43.3	81.7	127.4	174.3	198.3	221.1	265.6	308.9	348.5	383.4
82.5°	14.4	36.1	74.5	120.2	167.1	191.1	213.9	258.4	301.7	341.3	377.4
85°	7.2	28.8	67.3	111.8	159.8	182.7	206.7	251.2	294.4	334.1	370.2
87.5°	2.4	22.8	60.1	104.6	152.6	175.5	198.3	244.0	287.2	326.9	362.9
90°	0.0	18.0	54.1	98.5	144.2	168.3	191.1	235.6	278.8	318.5	354.5
92.5°	0.0	14.4	49.3	91.3	137.0	161.0	182.7	228.3	270.4	311.3	346.1
95°	0.0	12.0	44.5	85.3	129.8	152.6	175.5	219.9	262.0	301.7	337.7
97.5°	0.0	9.6	39.7	79.3	122.6	145.4	168.3	211.5	253.6	293.2	329.3
100°	0.0	8.4	36.1	73.3	116.6	138.2	159.8	203.1	244.0	283.6	318.5
102.5°	0.0	8.4	32.4	68.5	109.4	131.0	151.4	194.7	234.4	272.8	307.7
105°	0.0	7.2	30.0	63.7	103.4	123.8	144.2	185.1	224.7	262.0	296.8
107.5°	0.0	7.2	26.4	58.9	96.1	116.6	135.8	176.7	215.1	251.2	284.8
110°	0.0	6.0	24.0	54.1	90.1	108.2	128.6	167.1	204.3	240.4	272.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	6.0	22.8	49.3	82.9	101.0	120.2	157.4	193.5	228.3	260.8
115°	0.0	6.0	20.4	45.7	76.9	93.7	111.8	147.8	182.7	216.3	247.6
117.5°	0.0	6.0	19.2	42.1	70.9	86.5	104.6	138.2	171.9	205.5	234.4
120°	0.0	4.8	18.0	38.5	64.9	80.5	96.1	128.6	161.0	192.3	221.1
122.5°	0.0	4.8	16.8	36.1	60.1	73.3	88.9	119.0	150.2	180.3	207.9
125°	1.2	4.8	15.6	32.4	55.3	67.3	81.7	110.6	139.4	167.1	193.5
127.5°	1.2	4.8	14.4	30.0	50.5	62.5	74.5	101.0	127.4	153.8	179.1
130°	1.2	4.8	13.2	27.6	45.7	56.5	67.3	91.3	116.6	141.8	165.8
132.5°	1.2	3.6	12.0	25.2	40.9	50.5	61.3	82.9	105.8	129.8	151.4
135°	1.2	3.6	10.8	21.6	37.3	45.7	55.3	74.5	96.1	116.6	138.2
137.5°	1.2	3.6	9.6	19.2	32.4	40.9	48.1	66.1	85.3	104.6	123.8
140°	1.2	3.6	8.4	16.8	28.8	34.9	42.1	57.7	74.5	92.5	110.6
142.5°	1.2	2.4	7.2	15.6	24.0	30.0	36.1	49.3	64.9	80.5	96.1
145°	1.2	2.4	7.2	13.2	21.6	25.2	31.2	42.1	54.1	67.3	81.7
147.5°	1.2	2.4	6.0	10.8	18.0	21.6	26.4	36.1	45.7	56.5	68.5
150°	1.2	2.4	4.8	9.6	14.4	18.0	21.6	28.8	37.3	46.9	55.3
152.5°	1.2	2.4	3.6	7.2	12.0	14.4	16.8	24.0	30.0	37.3	44.5
155°	1.2	2.4	3.6	6.0	9.6	12.0	13.2	19.2	24.0	30.0	34.9
157.5°	1.2	1.2	3.6	4.8	7.2	8.4	10.8	14.4	18.0	22.8	26.4
160°	1.2	1.2	2.4	3.6	6.0	7.2	8.4	10.8	13.2	15.6	18.0
162.5°	1.2	1.2	2.4	3.6	4.8	4.8	6.0	7.2	8.4	10.8	12.0
165°	1.2	1.2	2.4	2.4	3.6	3.6	3.6	4.8	4.8	6.0	7.2
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°	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2
2.5°	294.4	292.0	290.8	288.4	287.2	286.0	283.6	281.2	278.8	277.6
5°	298.0	295.6	294.4	292.0	290.8	289.6	288.4	286.0	283.6	282.4
7.5°	301.7	300.5	299.2	298.0	298.0	296.8	295.6	293.2	290.8	289.6
10°	306.5	307.7	306.5	306.5	306.5	305.3	304.1	302.9	300.5	300.5
12.5°	312.5	313.7	314.9	314.9	316.1	316.1	314.9	313.7	312.5	311.3
15°	319.7	323.3	324.5	325.7	326.9	326.9	326.9	324.5	324.5	323.3
17.5°	326.9	330.5	334.1	336.5	338.9	337.7	338.9	338.9	337.7	337.7
20°	335.3	340.1	344.9	349.7	349.7	350.9	353.3	353.3	353.3	350.9
22.5°	342.5	349.7	355.7	361.7	364.1	364.1	367.8	367.8	366.5	366.5
25°	350.9	359.3	366.5	373.8	376.2	378.6	381.0	383.4	383.4	382.2
27.5°	359.3	370.2	378.6	385.8	389.4	391.8	396.6	399.0	397.8	397.8
30°	367.8	379.8	390.6	399.0	402.6	406.2	411.0	412.2	413.4	412.2
32.5°	376.2	389.4	401.4	411.0	414.6	418.2	423.0	426.6	426.6	426.6
35°	384.6	399.0	411.0	421.8	426.6	430.2	436.3	439.9	439.9	441.1
37.5°	391.8	407.4	420.6	432.6	437.5	441.1	447.1	450.7	451.9	451.9
40°	399.0	415.8	430.2	443.5	448.3	453.1	460.3	462.7	465.1	465.1
42.5°	405.0	423.0	439.9	453.1	457.9	463.9	471.1	474.7	477.1	477.1
45°	411.0	430.2	447.1	461.5	468.7	472.3	480.7	485.5	487.9	487.9
47.5°	417.0	437.5	455.5	469.9	477.1	481.9	490.3	496.3	498.7	498.7
50°	421.8	443.5	461.5	477.1	484.3	490.3	499.9	504.8	508.4	508.4
52.5°	425.4	448.3	468.7	484.3	491.5	497.5	508.4	513.2	516.8	516.8
55°	429.0	453.1	473.5	490.3	498.7	503.6	514.4	520.4	524.0	524.0
57.5°	431.4	456.7	477.1	495.1	503.6	509.6	520.4	526.4	530.0	530.0
60°	433.9	459.1	480.7	499.9	507.2	514.4	525.2	532.4	536.0	536.0
62.5°	433.9	460.3	483.1	502.4	510.8	516.8	528.8	536.0	539.6	540.8
65°	435.1	461.5	484.3	503.6	513.2	520.4	531.2	538.4	543.2	544.4
67.5°	433.9	461.5	484.3	504.8	513.2	520.4	532.4	540.8	545.6	546.8
70°	432.6	460.3	484.3	504.8	514.4	521.6	533.6	542.0	546.8	548.0
72.5°	430.2	457.9	483.1	503.6	513.2	520.4	533.6	542.0	545.6	548.0
75°	426.6	455.5	480.7	502.4	510.8	519.2	531.2	540.8	545.6	545.6
77.5°	423.0	451.9	477.1	498.7	508.4	515.6	528.8	538.4	543.2	544.4
80°	417.0	445.9	471.1	492.7	502.4	510.8	524.0	533.6	538.4	539.6
82.5°	411.0	439.9	465.1	486.7	497.5	504.8	518.0	527.6	532.4	533.6
85°	403.8	432.6	459.1	480.7	490.3	498.7	512.0	521.6	526.4	527.6
87.5°	395.4	425.4	450.7	473.5	481.9	490.3	504.8	513.2	519.2	520.4
90°	388.2	417.0	442.3	465.1	474.7	483.1	496.3	506.0	510.8	512.0
92.5°	379.8	408.6	435.1	456.7	466.3	474.7	487.9	497.5	502.4	503.6
95°	370.2	400.2	425.4	447.1	456.7	465.1	478.3	486.7	492.7	493.9
97.5°	361.7	390.6	415.8	437.5	447.1	455.5	467.5	477.1	480.7	483.1
100°	349.7	378.6	405.0	425.4	435.1	443.5	456.7	463.9	468.7	471.1
102.5°	338.9	367.8	393.0	412.2	421.8	429.0	442.3	450.7	456.7	456.7
105°	326.9	355.7	379.8	400.2	408.6	415.8	429.0	436.3	442.3	442.3
107.5°	316.1	342.5	366.5	387.0	395.4	403.8	414.6	423.0	427.8	429.0
110°	302.9	329.3	353.3	372.6	381.0	389.4	400.2	408.6	412.2	414.6



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CATALOG NUMBER: CFA-3-LD4-UNV-HI-40-OP-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	289.6	316.1	338.9	358.1	365.3	372.6	384.6	391.8	396.6	397.8
115°	275.2	301.7	323.3	342.5	349.7	355.7	367.8	375.0	378.6	379.8
117.5°	262.0	287.2	308.9	325.7	334.1	340.1	350.9	358.1	361.7	362.9
120°	247.6	271.6	292.0	308.9	317.3	323.3	334.1	340.1	343.7	344.9
122.5°	233.1	256.0	276.4	293.2	300.5	306.5	316.1	323.3	325.7	326.9
125°	217.5	240.4	258.4	275.2	282.4	288.4	298.0	304.1	305.3	306.5
127.5°	203.1	223.5	241.6	257.2	263.2	269.2	278.8	284.8	287.2	288.4
130°	187.5	207.9	224.7	239.2	245.2	250.0	258.4	264.4	266.8	268.0
132.5°	171.9	189.9	206.7	221.1	225.9	231.9	239.2	244.0	246.4	246.4
135°	156.2	173.1	188.7	200.7	206.7	211.5	218.7	223.5	225.9	225.9
137.5°	141.8	157.4	171.9	182.7	187.5	191.1	199.5	203.1	204.3	204.3
140°	126.2	140.6	153.8	164.6	168.3	173.1	179.1	182.7	183.9	185.1
142.5°	111.8	123.8	135.8	145.4	149.0	153.8	159.8	162.2	164.6	163.4
145°	94.9	108.2	119.0	128.6	131.0	133.4	139.4	141.8	143.0	143.0
147.5°	80.5	91.3	102.2	110.6	113.0	116.6	120.2	122.6	123.8	122.6
150°	64.9	74.5	84.1	92.5	96.1	97.3	101.0	102.2	103.4	103.4
152.5°	51.7	60.1	68.5	74.5	79.3	80.5	82.9	84.1	85.3	84.1
155°	40.9	45.7	51.7	57.7	60.1	64.9	67.3	67.3	67.3	66.1
157.5°	30.0	33.7	38.5	42.1	44.5	46.9	50.5	51.7	50.5	50.5
160°	21.6	24.0	25.2	28.8	28.8	31.2	33.7	37.3	36.1	34.9
162.5°	13.2	14.4	15.6	16.8	16.8	18.0	19.2	22.8	22.8	21.6
165°	7.2	7.2	8.4	8.4	8.4	8.4	7.2	8.4	10.8	9.6
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)