

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: P236109

Luminaire Tested: **CFA-3-LD4-UNV-HI-50-OP-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236109
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-50-OP-EDC1
Description: FAILSAFE CFA LED FIXTURE
3ft
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

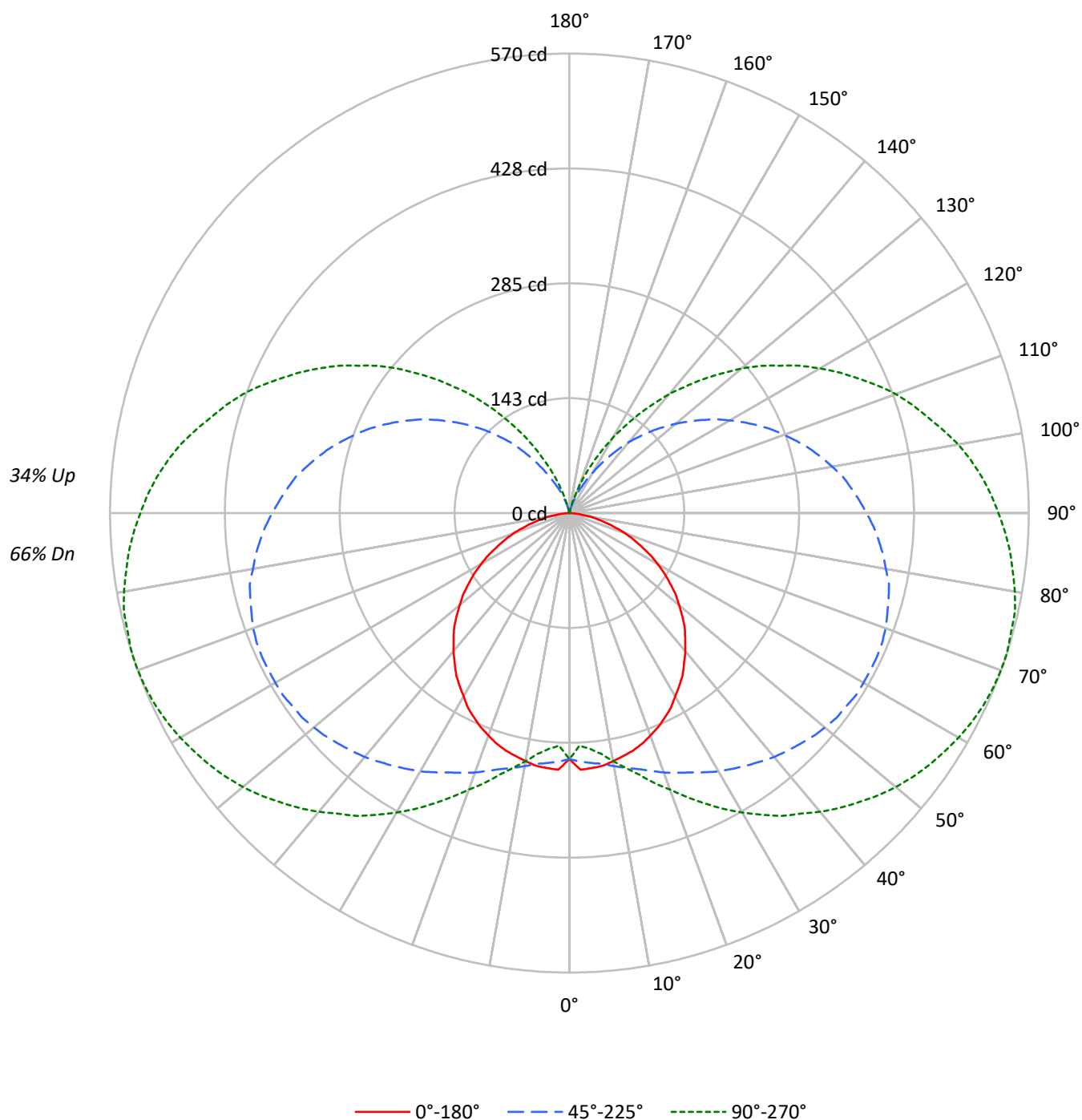
Lumens per Lamp: N/A
Luminaire Lumens: 3495.4 lumens
Efficiency: N/A
Efficacy: 95.5 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 2.26 / 2.09
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 3' x H: 0.27')
CIE Type: Semi-Direct

Input Watts (W): 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				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71
1	96	89	83	78	90	84	78	73	73	69	65	63	60	57	54	51	49
2	85	75	66	59	79	70	62	56	61	55	49	52	48	43	45	41	37
3	77	64	55	47	71	60	51	44	52	45	39	45	39	34	38	33	29
4	69	56	46	38	64	52	43	36	45	38	32	39	33	28	33	28	24
5	63	49	39	32	59	46	37	30	40	32	27	34	28	23	29	24	20
6	58	44	34	27	54	41	32	26	35	28	23	31	24	20	26	21	17
7	53	39	30	23	49	37	28	22	32	25	20	28	22	17	23	18	15
8	49	35	26	20	46	33	25	19	29	22	17	25	19	15	21	16	13
9	46	32	24	18	43	30	22	17	26	20	15	23	17	13	20	15	11
10	43	29	21	16	40	28	20	15	24	18	13	21	16	12	18	13	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6566	6566	6566
5°	6807	6080	5557
10°	6724	5739	5310
15°	6637	5529	5220
20°	6514	5443	5254
25°	6382	5386	5372
30°	6202	5409	5498
35°	6056	5436	5639
40°	5844	5501	5751
45°	5655	5572	5885
50°	5367	5666	6030
55°	5070	5752	6159
60°	4699	5849	6291
65°	4212	5958	6431
70°	3717	6066	6564
75°	2955	6171	6680
80°	2148	6274	6810
85°	912	6398	6924



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	0.8
10°-20°	92.6	2.7
20°-30°	161.4	4.6
30°-40°	231.5	6.6
40°-50°	296.1	8.5
50°-60°	348.3	10.0
60°-70°	380.5	10.9
70°-80°	389.5	11.1
80°-90°	373.2	10.7
90°-100°	339.0	9.7
100°-110°	288.8	8.3
110°-120°	227.7	6.5
120°-130°	163.2	4.7
130°-140°	102.0	2.9
140°-150°	51.7	1.5
150°-160°	17.8	0.5
160°-170°	2.3	0.1
170°-180°	0.0	0.0
0°-30°	283.8	8.1
0°-40°	515.3	14.7
0°-60°	1159.7	33.2
0°-90°	2302.9	65.9
90°-120°	855.5	24.5
90°-150°	1172.3	33.5
90°-180°	1192.0	34.1
0°-180°	3495.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	305	305	305	305	305	
5°	318	315	311	302	294	30
15°	305	312	329	340	336	86
25°	280	308	355	391	398	129
35°	245	296	382	444	459	153
45°	202	282	405	488	507	155
55°	152	268	419	519	545	136
65°	99	246	421	534	566	99
75°	48	221	410	531	567	51
85°	8	190	385	510	549	10
90°	0	175	369	494	532	0
95°	0	159	351	475	514	0
105°	0	129	309	425	460	0
115°	0	98	258	364	395	0
125°	1	70	201	294	319	1
135°	1	48	144	215	235	1
145°	1	26	85	136	149	1
155°	1	12	36	62	69	1
165°	1	4	8	9	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°	305.0	305.0	305.0	305.0	305.0	305.0	305.0	305.0	305.0	305.0	305.0
2.5°	318.7	317.5	316.2	316.2	316.2	315.0	315.0	313.7	312.5	311.2	308.7
5°	317.5	316.2	315.0	316.2	315.0	315.0	315.0	315.0	315.0	312.5	311.2
7.5°	316.2	315.0	313.7	315.0	315.0	315.0	315.0	315.0	316.2	315.0	313.7
10°	312.5	312.5	311.2	312.5	313.7	313.7	315.0	316.2	317.5	317.5	318.7
12.5°	308.7	308.7	308.7	310.0	312.5	313.7	315.0	317.5	320.0	321.2	323.7
15°	305.0	303.7	305.0	307.5	311.2	312.5	315.0	318.7	322.5	325.0	328.7
17.5°	300.0	300.0	300.0	305.0	308.7	311.2	315.0	320.0	326.2	331.2	335.0
20°	293.7	293.7	296.2	301.2	307.5	310.0	313.7	321.2	328.7	335.0	342.5
22.5°	287.5	287.5	291.2	297.5	305.0	308.7	312.5	322.5	331.2	340.0	348.7
25°	280.0	281.2	285.0	292.5	301.2	307.5	312.5	323.7	335.0	345.0	355.0
27.5°	272.5	273.7	277.5	287.5	298.7	305.0	311.2	325.0	337.5	351.2	362.5
30°	262.5	265.0	271.2	282.5	295.0	302.5	310.0	325.0	340.0	355.0	370.0
32.5°	253.7	256.2	263.7	276.2	291.2	300.0	308.7	326.2	343.7	360.0	376.2
35°	245.0	247.5	256.2	270.0	287.5	296.2	306.2	326.2	346.2	365.0	382.5
37.5°	233.7	237.5	248.7	263.7	282.5	292.5	303.7	326.2	347.5	368.7	388.7
40°	223.7	228.7	240.0	257.5	278.7	290.0	302.5	326.2	350.0	373.7	395.0
42.5°	212.5	217.5	231.2	251.2	273.7	286.2	300.0	326.2	352.5	377.5	400.0
45°	202.5	207.5	222.5	243.7	268.7	282.5	297.5	326.2	353.7	380.0	405.0
47.5°	190.0	196.2	212.5	236.2	263.7	280.0	295.0	326.2	355.0	383.7	410.0
50°	177.5	185.0	203.7	228.7	260.0	275.0	292.5	325.0	356.2	386.2	413.7
52.5°	166.2	173.7	193.7	222.5	255.0	272.5	290.0	323.7	357.5	387.5	417.5
55°	152.5	161.2	183.7	215.0	248.7	267.5	286.2	322.5	356.2	388.7	418.7
57.5°	140.0	150.0	173.7	206.2	243.7	262.5	282.5	320.0	356.2	390.0	421.2
60°	126.2	137.5	163.7	198.7	237.5	257.5	277.5	317.5	353.7	388.7	421.2
62.5°	113.7	125.0	153.7	191.2	231.2	252.5	272.5	313.7	352.5	387.5	421.2
65°	98.7	112.5	143.7	182.5	225.0	246.2	267.5	310.0	350.0	386.2	421.2
67.5°	86.2	100.0	132.5	175.0	218.7	241.2	262.5	306.2	346.2	383.7	420.0
70°	73.7	88.7	123.7	166.2	212.5	235.0	257.5	301.2	342.5	381.2	417.5
72.5°	60.0	77.5	113.7	157.5	205.0	227.5	251.2	296.2	337.5	377.5	413.7
75°	47.5	66.2	105.0	150.0	197.5	221.2	245.0	290.0	333.7	373.7	410.0
77.5°	36.2	55.0	95.0	141.2	190.0	213.7	237.5	283.7	327.5	368.7	406.2
80°	26.2	45.0	85.0	132.5	181.2	206.2	230.0	276.2	321.2	362.5	398.7
82.5°	15.0	37.5	77.5	125.0	173.7	198.7	222.5	268.7	313.7	355.0	392.5
85°	7.5	30.0	70.0	116.2	166.2	190.0	215.0	261.2	306.2	347.5	385.0
87.5°	2.5	23.7	62.5	108.7	158.7	182.5	206.2	253.7	298.7	340.0	377.5
90°	0.0	18.7	56.2	102.5	150.0	175.0	198.7	245.0	290.0	331.2	368.7
92.5°	0.0	15.0	51.2	95.0	142.5	167.5	190.0	237.5	281.2	323.7	360.0
95°	0.0	12.5	46.2	88.7	135.0	158.7	182.5	228.7	272.5	313.7	351.2
97.5°	0.0	10.0	41.2	82.5	127.5	151.2	175.0	220.0	263.7	305.0	342.5
100°	0.0	8.7	37.5	76.2	121.2	143.7	166.2	211.2	253.7	295.0	331.2
102.5°	0.0	8.7	33.7	71.2	113.7	136.2	157.5	202.5	243.7	283.7	320.0
105°	0.0	7.5	31.2	66.2	107.5	128.7	150.0	192.5	233.7	272.5	308.7
107.5°	0.0	7.5	27.5	61.2	100.0	121.2	141.2	183.7	223.7	261.2	296.2
110°	0.0	6.2	25.0	56.2	93.7	112.5	133.7	173.7	212.5	250.0	283.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	6.2	23.7	51.2	86.2	105.0	125.0	163.7	201.2	237.5	271.2
115°	0.0	6.2	21.2	47.5	80.0	97.5	116.2	153.7	190.0	225.0	257.5
117.5°	0.0	6.2	20.0	43.7	73.7	90.0	108.7	143.7	178.7	213.7	243.7
120°	0.0	5.0	18.7	40.0	67.5	83.7	100.0	133.7	167.5	200.0	230.0
122.5°	0.0	5.0	17.5	37.5	62.5	76.2	92.5	123.7	156.2	187.5	216.2
125°	1.2	5.0	16.2	33.7	57.5	70.0	85.0	115.0	145.0	173.7	201.2
127.5°	1.2	5.0	15.0	31.2	52.5	65.0	77.5	105.0	132.5	160.0	186.2
130°	1.2	5.0	13.7	28.7	47.5	58.7	70.0	95.0	121.2	147.5	172.5
132.5°	1.2	3.7	12.5	26.2	42.5	52.5	63.7	86.2	110.0	135.0	157.5
135°	1.2	3.7	11.2	22.5	38.7	47.5	57.5	77.5	100.0	121.2	143.7
137.5°	1.2	3.7	10.0	20.0	33.7	42.5	50.0	68.7	88.7	108.7	128.7
140°	1.2	3.7	8.7	17.5	30.0	36.2	43.7	60.0	77.5	96.2	115.0
142.5°	1.2	2.5	7.5	16.2	25.0	31.2	37.5	51.2	67.5	83.7	100.0
145°	1.2	2.5	7.5	13.7	22.5	26.2	32.5	43.7	56.2	70.0	85.0
147.5°	1.2	2.5	6.2	11.2	18.7	22.5	27.5	37.5	47.5	58.7	71.2
150°	1.2	2.5	5.0	10.0	15.0	18.7	22.5	30.0	38.7	48.7	57.5
152.5°	1.2	2.5	3.7	7.5	12.5	15.0	17.5	25.0	31.2	38.7	46.2
155°	1.2	2.5	3.7	6.2	10.0	12.5	13.7	20.0	25.0	31.2	36.2
157.5°	1.2	1.2	3.7	5.0	7.5	8.7	11.2	15.0	18.7	23.7	27.5
160°	1.2	1.2	2.5	3.7	6.2	7.5	8.7	11.2	13.7	16.2	18.7
162.5°	1.2	1.2	2.5	3.7	5.0	5.0	6.2	7.5	8.7	11.2	12.5
165°	1.2	1.2	2.5	2.5	3.7	3.7	3.7	5.0	5.0	6.2	7.5
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°	305.0	305.0	305.0	305.0	305.0	305.0	305.0	305.0	305.0	305.0
2.5°	306.2	303.7	302.5	300.0	298.7	297.5	295.0	292.5	290.0	288.7
5°	310.0	307.5	306.2	303.7	302.5	301.2	300.0	297.5	295.0	293.7
7.5°	313.7	312.5	311.2	310.0	310.0	308.7	307.5	305.0	302.5	301.2
10°	318.7	320.0	318.7	318.7	318.7	317.5	316.2	315.0	312.5	312.5
12.5°	325.0	326.2	327.5	327.5	328.7	328.7	327.5	326.2	325.0	323.7
15°	332.5	336.2	337.5	338.7	340.0	340.0	340.0	337.5	337.5	336.2
17.5°	340.0	343.7	347.5	350.0	352.5	351.2	352.5	352.5	351.2	351.2
20°	348.7	353.7	358.7	363.7	363.7	365.0	367.5	367.5	367.5	365.0
22.5°	356.2	363.7	370.0	376.2	378.7	378.7	382.5	382.5	381.2	381.2
25°	365.0	373.7	381.2	388.7	391.2	393.7	396.2	398.7	398.7	397.5
27.5°	373.7	385.0	393.7	401.2	405.0	407.5	412.5	415.0	413.7	413.7
30°	382.5	395.0	406.2	415.0	418.7	422.5	427.5	428.7	430.0	428.7
32.5°	391.2	405.0	417.5	427.5	431.2	435.0	440.0	443.7	443.7	443.7
35°	400.0	415.0	427.5	438.7	443.7	447.5	453.7	457.5	457.5	458.7
37.5°	407.5	423.7	437.5	450.0	455.0	458.7	465.0	468.7	470.0	470.0
40°	415.0	432.5	447.5	461.2	466.2	471.2	478.7	481.2	483.7	483.7
42.5°	421.2	440.0	457.5	471.2	476.2	482.5	490.0	493.7	496.2	496.2
45°	427.5	447.5	465.0	480.0	487.5	491.2	499.9	504.9	507.4	507.4
47.5°	433.7	455.0	473.7	488.7	496.2	501.2	509.9	516.2	518.7	518.7
50°	438.7	461.2	480.0	496.2	503.7	509.9	519.9	524.9	528.7	528.7
52.5°	442.5	466.2	487.5	503.7	511.2	517.4	528.7	533.7	537.4	537.4
55°	446.2	471.2	492.5	509.9	518.7	523.7	534.9	541.2	544.9	544.9
57.5°	448.7	475.0	496.2	514.9	523.7	529.9	541.2	547.4	551.2	551.2
60°	451.2	477.5	499.9	519.9	527.4	534.9	546.2	553.7	557.4	557.4
62.5°	451.2	478.7	502.4	522.4	531.2	537.4	549.9	557.4	561.2	562.4
65°	452.5	480.0	503.7	523.7	533.7	541.2	552.4	559.9	564.9	566.2
67.5°	451.2	480.0	503.7	524.9	533.7	541.2	553.7	562.4	567.4	568.7
70°	450.0	478.7	503.7	524.9	534.9	542.4	554.9	563.7	568.7	569.9
72.5°	447.5	476.2	502.4	523.7	533.7	541.2	554.9	563.7	567.4	569.9
75°	443.7	473.7	499.9	522.4	531.2	539.9	552.4	562.4	567.4	567.4
77.5°	440.0	470.0	496.2	518.7	528.7	536.2	549.9	559.9	564.9	566.2
80°	433.7	463.7	490.0	512.4	522.4	531.2	544.9	554.9	559.9	561.2
82.5°	427.5	457.5	483.7	506.2	517.4	524.9	538.7	548.7	553.7	554.9
85°	420.0	450.0	477.5	499.9	509.9	518.7	532.4	542.4	547.4	548.7
87.5°	411.2	442.5	468.7	492.5	501.2	509.9	524.9	533.7	539.9	541.2
90°	403.7	433.7	460.0	483.7	493.7	502.4	516.2	526.2	531.2	532.4
92.5°	395.0	425.0	452.5	475.0	485.0	493.7	507.4	517.4	522.4	523.7
95°	385.0	416.2	442.5	465.0	475.0	483.7	497.5	506.2	512.4	513.7
97.5°	376.2	406.2	432.5	455.0	465.0	473.7	486.2	496.2	499.9	502.4
100°	363.7	393.7	421.2	442.5	452.5	461.2	475.0	482.5	487.5	490.0
102.5°	352.5	382.5	408.7	428.7	438.7	446.2	460.0	468.7	475.0	475.0
105°	340.0	370.0	395.0	416.2	425.0	432.5	446.2	453.7	460.0	460.0
107.5°	328.7	356.2	381.2	402.5	411.2	420.0	431.2	440.0	445.0	446.2
110°	315.0	342.5	367.5	387.5	396.2	405.0	416.2	425.0	428.7	431.2



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CATALOG NUMBER: CFA-3-LD4-UNV-HI-50-OP-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	301.2	328.7	352.5	372.5	380.0	387.5	400.0	407.5	412.5	413.7
115°	286.2	313.7	336.2	356.2	363.7	370.0	382.5	390.0	393.7	395.0
117.5°	272.5	298.7	321.2	338.7	347.5	353.7	365.0	372.5	376.2	377.5
120°	257.5	282.5	303.7	321.2	330.0	336.2	347.5	353.7	357.5	358.7
122.5°	242.5	266.2	287.5	305.0	312.5	318.7	328.7	336.2	338.7	340.0
125°	226.2	250.0	268.7	286.2	293.7	300.0	310.0	316.2	317.5	318.7
127.5°	211.2	232.5	251.2	267.5	273.7	280.0	290.0	296.2	298.7	300.0
130°	195.0	216.2	233.7	248.7	255.0	260.0	268.7	275.0	277.5	278.7
132.5°	178.7	197.5	215.0	230.0	235.0	241.2	248.7	253.7	256.2	256.2
135°	162.5	180.0	196.2	208.7	215.0	220.0	227.5	232.5	235.0	235.0
137.5°	147.5	163.7	178.7	190.0	195.0	198.7	207.5	211.2	212.5	212.5
140°	131.2	146.2	160.0	171.2	175.0	180.0	186.2	190.0	191.2	192.5
142.5°	116.2	128.7	141.2	151.2	155.0	160.0	166.2	168.7	171.2	170.0
145°	98.7	112.5	123.7	133.7	136.2	138.7	145.0	147.5	148.7	148.7
147.5°	83.7	95.0	106.2	115.0	117.5	121.2	125.0	127.5	128.7	127.5
150°	67.5	77.5	87.5	96.2	100.0	101.2	105.0	106.2	107.5	107.5
152.5°	53.7	62.5	71.2	77.5	82.5	83.7	86.2	87.5	88.7	87.5
155°	42.5	47.5	53.7	60.0	62.5	67.5	70.0	70.0	70.0	68.7
157.5°	31.2	35.0	40.0	43.7	46.2	48.7	52.5	53.7	52.5	52.5
160°	22.5	25.0	26.2	30.0	30.0	32.5	35.0	38.7	37.5	36.2
162.5°	13.7	15.0	16.2	17.5	17.5	18.7	20.0	23.7	23.7	22.5
165°	7.5	7.5	8.7	8.7	8.7	8.7	7.5	8.7	11.2	10.0
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)