

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: P236110

Luminaire Tested: **CFA-3-LD4-UNV-STD-30-OP-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236110
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-STD-30-OP-EDC1
Description: FAILSAFE CFA LED FIXTURE
3ft
Light Source: (84) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

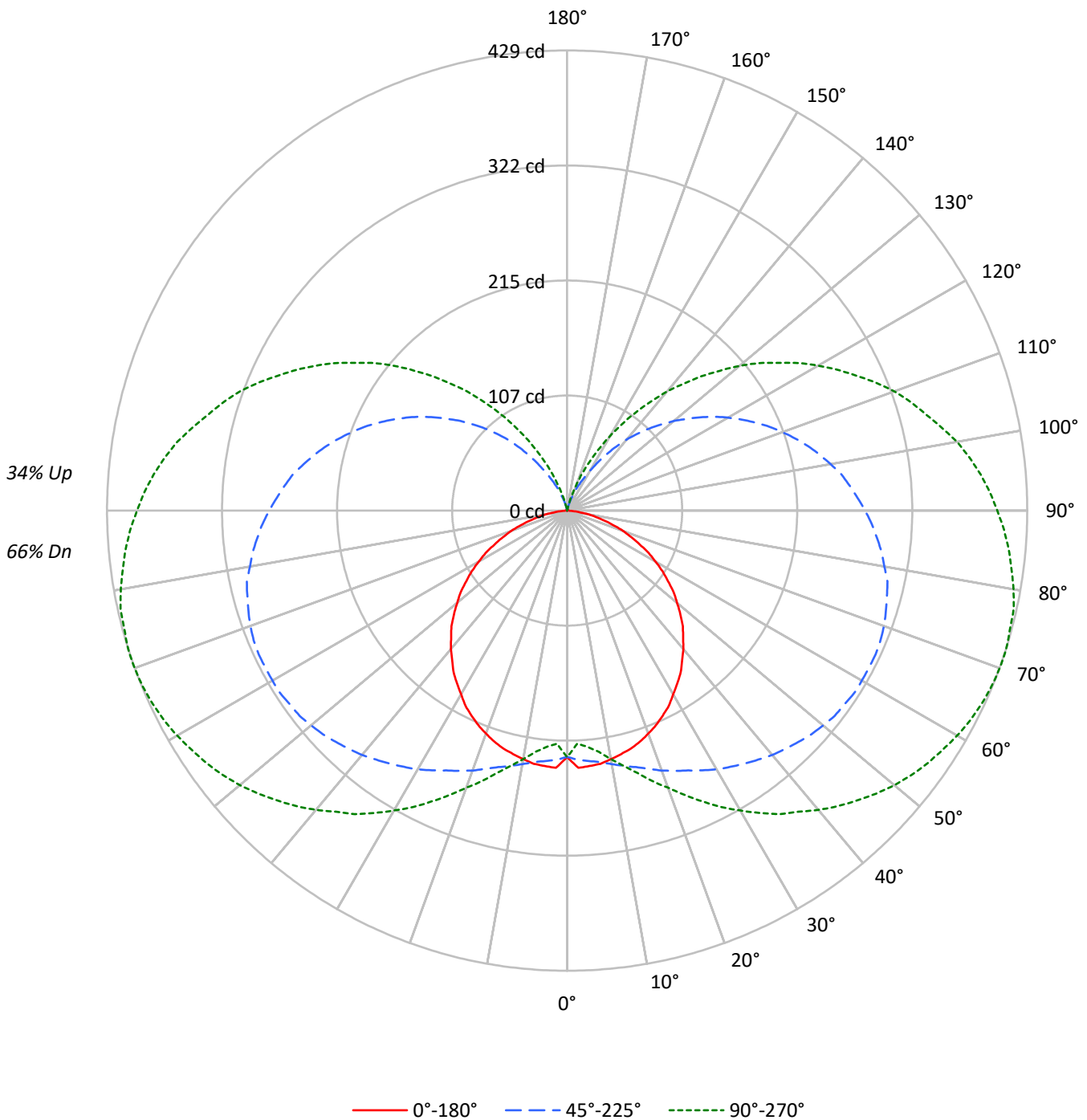
Lumens per Lamp: N/A
Luminaire Lumens: 2632.5 lumens
Efficiency: N/A
Efficacy: 92.4 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 2.26 / 2.09
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 3' x H: 0.27')
CIE Type: Semi-Direct

Input Watts (W): 28.48
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°	4945	4945	4945
5°	5126	4579	4185
10°	5063	4322	3998
15°	4998	4165	3931
20°	4906	4099	3957
25°	4807	4056	4045
30°	4671	4073	4141
35°	4560	4093	4247
40°	4402	4144	4332
45°	4258	4196	4433
50°	4043	4267	4541
55°	3817	4331	4639
60°	3541	4404	4738
65°	3175	4487	4843
70°	2799	4568	4944
75°	2227	4646	5032
80°	1623	4725	5128
85°	681	4818	5214



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.4	0.8
10°-20°	69.8	2.7
20°-30°	121.6	4.6
30°-40°	174.4	6.6
40°-50°	223.0	8.5
50°-60°	262.3	10.0
60°-70°	286.6	10.9
70°-80°	293.3	11.1
80°-90°	281.1	10.7
90°-100°	255.3	9.7
100°-110°	217.5	8.3
110°-120°	171.5	6.5
120°-130°	122.9	4.7
130°-140°	76.8	2.9
140°-150°	38.9	1.5
150°-160°	13.4	0.5
160°-170°	1.7	0.1
170°-180°	0.0	0.0
0°-30°	213.7	8.1
0°-40°	388.1	14.7
0°-60°	873.4	33.2
0°-90°	1734.4	65.9
90°-120°	644.3	24.5
90°-150°	882.9	33.5
90°-180°	898.0	34.1
0°-180°	2632.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	230	230	230	230	230	
5°	239	237	234	228	221	23
15°	230	235	248	256	253	65
25°	211	232	267	295	299	97
35°	184	223	288	334	346	115
45°	152	213	305	367	382	117
55°	115	201	315	391	410	103
65°	74	185	317	402	426	74
75°	36	167	309	400	427	38
85°	6	143	290	384	413	8
90°	0	132	278	372	401	0
95°	0	120	264	358	387	0
105°	0	97	232	320	346	0
115°	0	73	194	274	298	0
125°	1	53	152	221	240	0
135°	1	36	108	162	177	1
145°	1	20	64	103	112	1
155°	1	9	27	47	52	0
165°	1	3	6	7	8	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°	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7
2.5°	240.0	239.1	238.1	238.1	238.1	237.2	237.2	236.3	235.3	234.4	232.5
5°	239.1	238.1	237.2	238.1	237.2	237.2	237.2	237.2	237.2	235.3	234.4
7.5°	238.1	237.2	236.3	237.2	237.2	237.2	237.2	237.2	238.1	237.2	236.3
10°	235.3	235.3	234.4	235.3	236.3	236.3	237.2	238.1	239.1	239.1	240.0
12.5°	232.5	232.5	232.5	233.4	235.3	236.3	237.2	239.1	241.0	241.9	243.8
15°	229.7	228.7	229.7	231.6	234.4	235.3	237.2	240.0	242.9	244.7	247.6
17.5°	225.9	225.9	225.9	229.7	232.5	234.4	237.2	241.0	245.7	249.4	252.3
20°	221.2	221.2	223.1	226.9	231.6	233.4	236.3	241.9	247.6	252.3	257.9
22.5°	216.5	216.5	219.3	224.0	229.7	232.5	235.3	242.9	249.4	256.0	262.6
25°	210.9	211.8	214.6	220.3	226.9	231.6	235.3	243.8	252.3	259.8	267.3
27.5°	205.2	206.1	209.0	216.5	225.0	229.7	234.4	244.7	254.2	264.5	273.0
30°	197.7	199.6	204.3	212.7	222.1	227.8	233.4	244.7	256.0	267.3	278.6
32.5°	191.1	193.0	198.6	208.0	219.3	225.9	232.5	245.7	258.9	271.1	283.3
35°	184.5	186.4	193.0	203.3	216.5	223.1	230.6	245.7	260.7	274.9	288.0
37.5°	176.0	178.8	187.3	198.6	212.7	220.3	228.7	245.7	261.7	277.7	292.7
40°	168.5	172.3	180.7	193.9	209.9	218.4	227.8	245.7	263.6	281.4	297.5
42.5°	160.0	163.8	174.1	189.2	206.1	215.6	225.9	245.7	265.4	284.3	301.2
45°	152.5	156.3	167.6	183.6	202.4	212.7	224.0	245.7	266.4	286.2	305.0
47.5°	143.1	147.8	160.0	177.9	198.6	210.9	222.1	245.7	267.3	289.0	308.7
50°	133.7	139.3	153.4	172.3	195.8	207.1	220.3	244.7	268.3	290.9	311.6
52.5°	125.2	130.8	145.9	167.6	192.0	205.2	218.4	243.8	269.2	291.8	314.4
55°	114.8	121.4	138.4	161.9	187.3	201.4	215.6	242.9	268.3	292.7	315.3
57.5°	105.4	113.0	130.8	155.3	183.6	197.7	212.7	241.0	268.3	293.7	317.2
60°	95.1	103.5	123.3	149.7	178.8	193.9	209.0	239.1	266.4	292.7	317.2
62.5°	85.7	94.1	115.8	144.0	174.1	190.1	205.2	236.3	265.4	291.8	317.2
65°	74.4	84.7	108.2	137.4	169.4	185.4	201.4	233.4	263.6	290.9	317.2
67.5°	64.9	75.3	99.8	131.8	164.7	181.7	197.7	230.6	260.7	289.0	316.3
70°	55.5	66.8	93.2	125.2	160.0	177.0	193.9	226.9	257.9	287.1	314.4
72.5°	45.2	58.4	85.7	118.6	154.4	171.3	189.2	223.1	254.2	284.3	311.6
75°	35.8	49.9	79.1	113.0	148.7	166.6	184.5	218.4	251.3	281.4	308.7
77.5°	27.3	41.4	71.5	106.4	143.1	161.0	178.8	213.7	246.6	277.7	305.9
80°	19.8	33.9	64.0	99.8	136.5	155.3	173.2	208.0	241.9	273.0	300.3
82.5°	11.3	28.2	58.4	94.1	130.8	149.7	167.6	202.4	236.3	267.3	295.6
85°	5.6	22.6	52.7	87.5	125.2	143.1	161.9	196.7	230.6	261.7	289.9
87.5°	1.9	17.9	47.1	81.9	119.5	137.4	155.3	191.1	225.0	256.0	284.3
90°	0.0	14.1	42.4	77.2	113.0	131.8	149.7	184.5	218.4	249.4	277.7
92.5°	0.0	11.3	38.6	71.5	107.3	126.1	143.1	178.8	211.8	243.8	271.1
95°	0.0	9.4	34.8	66.8	101.7	119.5	137.4	172.3	205.2	236.3	264.5
97.5°	0.0	7.5	31.1	62.1	96.0	113.9	131.8	165.7	198.6	229.7	257.9
100°	0.0	6.6	28.2	57.4	91.3	108.2	125.2	159.1	191.1	222.1	249.4
102.5°	0.0	6.6	25.4	53.7	85.7	102.6	118.6	152.5	183.6	213.7	241.0
105°	0.0	5.6	23.5	49.9	81.0	97.0	113.0	145.0	176.0	205.2	232.5
107.5°	0.0	5.6	20.7	46.1	75.3	91.3	106.4	138.4	168.5	196.7	223.1
110°	0.0	4.7	18.8	42.4	70.6	84.7	100.7	130.8	160.0	188.3	213.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	4.7	17.9	38.6	64.9	79.1	94.1	123.3	151.5	178.8	204.3
115°	0.0	4.7	16.0	35.8	60.2	73.4	87.5	115.8	143.1	169.4	193.9
117.5°	0.0	4.7	15.1	32.9	55.5	67.8	81.9	108.2	134.6	161.0	183.6
120°	0.0	3.8	14.1	30.1	50.8	63.1	75.3	100.7	126.1	150.6	173.2
122.5°	0.0	3.8	13.2	28.2	47.1	57.4	69.7	93.2	117.7	141.2	162.8
125°	0.9	3.8	12.2	25.4	43.3	52.7	64.0	86.6	109.2	130.8	151.5
127.5°	0.9	3.8	11.3	23.5	39.5	48.9	58.4	79.1	99.8	120.5	140.3
130°	0.9	3.8	10.4	21.6	35.8	44.2	52.7	71.5	91.3	111.1	129.9
132.5°	0.9	2.8	9.4	19.8	32.0	39.5	48.0	64.9	82.8	101.7	118.6
135°	0.9	2.8	8.5	16.9	29.2	35.8	43.3	58.4	75.3	91.3	108.2
137.5°	0.9	2.8	7.5	15.1	25.4	32.0	37.7	51.8	66.8	81.9	97.0
140°	0.9	2.8	6.6	13.2	22.6	27.3	32.9	45.2	58.4	72.5	86.6
142.5°	0.9	1.9	5.6	12.2	18.8	23.5	28.2	38.6	50.8	63.1	75.3
145°	0.9	1.9	5.6	10.4	16.9	19.8	24.5	32.9	42.4	52.7	64.0
147.5°	0.9	1.9	4.7	8.5	14.1	16.9	20.7	28.2	35.8	44.2	53.7
150°	0.9	1.9	3.8	7.5	11.3	14.1	16.9	22.6	29.2	36.7	43.3
152.5°	0.9	1.9	2.8	5.6	9.4	11.3	13.2	18.8	23.5	29.2	34.8
155°	0.9	1.9	2.8	4.7	7.5	9.4	10.4	15.1	18.8	23.5	27.3
157.5°	0.9	0.9	2.8	3.8	5.6	6.6	8.5	11.3	14.1	17.9	20.7
160°	0.9	0.9	1.9	2.8	4.7	5.6	6.6	8.5	10.4	12.2	14.1
162.5°	0.9	0.9	1.9	2.8	3.8	3.8	4.7	5.6	6.6	8.5	9.4
165°	0.9	0.9	1.9	1.9	2.8	2.8	2.8	3.8	3.8	4.7	5.6
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°	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7
2.5°	230.6	228.7	227.8	225.9	225.0	224.0	222.1	220.3	218.4	217.4
5°	233.4	231.6	230.6	228.7	227.8	226.9	225.9	224.0	222.1	221.2
7.5°	236.3	235.3	234.4	233.4	233.4	232.5	231.6	229.7	227.8	226.9
10°	240.0	241.0	240.0	240.0	240.0	239.1	238.1	237.2	235.3	235.3
12.5°	244.7	245.7	246.6	246.6	247.6	247.6	246.6	245.7	244.7	243.8
15°	250.4	253.2	254.2	255.1	256.0	256.0	256.0	254.2	254.2	253.2
17.5°	256.0	258.9	261.7	263.6	265.4	264.5	265.4	265.4	264.5	264.5
20°	262.6	266.4	270.2	273.9	273.9	274.9	276.7	276.7	276.7	274.9
22.5°	268.3	273.9	278.6	283.3	285.2	285.2	288.0	288.0	287.1	287.1
25°	274.9	281.4	287.1	292.7	294.6	296.5	298.4	300.3	300.3	299.3
27.5°	281.4	289.9	296.5	302.2	305.0	306.9	310.6	312.5	311.6	311.6
30°	288.0	297.5	305.9	312.5	315.3	318.2	321.9	322.9	323.8	322.9
32.5°	294.6	305.0	314.4	321.9	324.7	327.6	331.3	334.2	334.2	334.2
35°	301.2	312.5	321.9	330.4	334.2	337.0	341.7	344.5	344.5	345.5
37.5°	306.9	319.1	329.5	338.9	342.6	345.5	350.2	353.0	353.9	353.9
40°	312.5	325.7	337.0	347.3	351.1	354.9	360.5	362.4	364.3	364.3
42.5°	317.2	331.3	344.5	354.9	358.6	363.3	369.0	371.8	373.7	373.7
45°	321.9	337.0	350.2	361.5	367.1	369.9	376.5	380.3	382.2	382.2
47.5°	326.6	342.6	356.8	368.0	373.7	377.5	384.1	388.8	390.6	390.6
50°	330.4	347.3	361.5	373.7	379.3	384.1	391.6	395.3	398.2	398.2
52.5°	333.2	351.1	367.1	379.3	385.0	389.7	398.2	401.9	404.8	404.8
55°	336.0	354.9	370.9	384.1	390.6	394.4	402.9	407.6	410.4	410.4
57.5°	337.9	357.7	373.7	387.8	394.4	399.1	407.6	412.3	415.1	415.1
60°	339.8	359.6	376.5	391.6	397.2	402.9	411.3	417.0	419.8	419.8
62.5°	339.8	360.5	378.4	393.5	400.1	404.8	414.2	419.8	422.6	423.6
65°	340.8	361.5	379.3	394.4	401.9	407.6	416.1	421.7	425.5	426.4
67.5°	339.8	361.5	379.3	395.3	401.9	407.6	417.0	423.6	427.4	428.3
70°	338.9	360.5	379.3	395.3	402.9	408.5	417.9	424.5	428.3	429.2
72.5°	337.0	358.6	378.4	394.4	401.9	407.6	417.9	424.5	427.4	429.2
75°	334.2	356.8	376.5	393.5	400.1	406.6	416.1	423.6	427.4	427.4
77.5°	331.3	353.9	373.7	390.6	398.2	403.8	414.2	421.7	425.5	426.4
80°	326.6	349.2	369.0	385.9	393.5	400.1	410.4	417.9	421.7	422.6
82.5°	321.9	344.5	364.3	381.2	389.7	395.3	405.7	413.2	417.0	417.9
85°	316.3	338.9	359.6	376.5	384.1	390.6	401.0	408.5	412.3	413.2
87.5°	309.7	333.2	353.0	370.9	377.5	384.1	395.3	401.9	406.6	407.6
90°	304.0	326.6	346.4	364.3	371.8	378.4	388.8	396.3	400.1	401.0
92.5°	297.5	320.0	340.8	357.7	365.2	371.8	382.2	389.7	393.5	394.4
95°	289.9	313.5	333.2	350.2	357.7	364.3	374.6	381.2	385.9	386.9
97.5°	283.3	305.9	325.7	342.6	350.2	356.8	366.2	373.7	376.5	378.4
100°	273.9	296.5	317.2	333.2	340.8	347.3	357.7	363.3	367.1	369.0
102.5°	265.4	288.0	307.8	322.9	330.4	336.0	346.4	353.0	357.7	357.7
105°	256.0	278.6	297.5	313.5	320.0	325.7	336.0	341.7	346.4	346.4
107.5°	247.6	268.3	287.1	303.1	309.7	316.3	324.7	331.3	335.1	336.0
110°	237.2	257.9	276.7	291.8	298.4	305.0	313.5	320.0	322.9	324.7



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CATALOG NUMBER: CFA-3-LD4-UNV-STD-30-OP-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	226.9	247.6	265.4	280.5	286.2	291.8	301.2	306.9	310.6	311.6
115°	215.6	236.3	253.2	268.3	273.9	278.6	288.0	293.7	296.5	297.5
117.5°	205.2	225.0	241.9	255.1	261.7	266.4	274.9	280.5	283.3	284.3
120°	193.9	212.7	228.7	241.9	248.5	253.2	261.7	266.4	269.2	270.2
122.5°	182.6	200.5	216.5	229.7	235.3	240.0	247.6	253.2	255.1	256.0
125°	170.4	188.3	202.4	215.6	221.2	225.9	233.4	238.1	239.1	240.0
127.5°	159.1	175.1	189.2	201.4	206.1	210.9	218.4	223.1	225.0	225.9
130°	146.8	162.8	176.0	187.3	192.0	195.8	202.4	207.1	209.0	209.9
132.5°	134.6	148.7	161.9	173.2	177.0	181.7	187.3	191.1	193.0	193.0
135°	122.4	135.5	147.8	157.2	161.9	165.7	171.3	175.1	177.0	177.0
137.5°	111.1	123.3	134.6	143.1	146.8	149.7	156.3	159.1	160.0	160.0
140°	98.8	110.1	120.5	129.0	131.8	135.5	140.3	143.1	144.0	145.0
142.5°	87.5	97.0	106.4	113.9	116.7	120.5	125.2	127.1	129.0	128.0
145°	74.4	84.7	93.2	100.7	102.6	104.5	109.2	111.1	112.0	112.0
147.5°	63.1	71.5	80.0	86.6	88.5	91.3	94.1	96.0	97.0	96.0
150°	50.8	58.4	65.9	72.5	75.3	76.2	79.1	80.0	81.0	81.0
152.5°	40.5	47.1	53.7	58.4	62.1	63.1	64.9	65.9	66.8	65.9
155°	32.0	35.8	40.5	45.2	47.1	50.8	52.7	52.7	52.7	51.8
157.5°	23.5	26.4	30.1	32.9	34.8	36.7	39.5	40.5	39.5	39.5
160°	16.9	18.8	19.8	22.6	22.6	24.5	26.4	29.2	28.2	27.3
162.5°	10.4	11.3	12.2	13.2	13.2	14.1	15.1	17.9	17.9	16.9
165°	5.6	5.6	6.6	6.6	6.6	6.6	5.6	6.6	8.5	7.5
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)