

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: HALO

Report Number: G1-1810-982-1

Luminaire Tested: **FT28VCB-4000K**

Test Date: 11/17/18



Test Information

Test Method: LM-79-08
Report Number: G1-1810-982-1
Test Lab: INNOVATION CENTER(G1)
Test Date: 11/17/18
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: FT28VCB-4000K
Description: CCT FLOOD LIGHT 1200 LM -4000K
Light Source: -
Ballast/Driver: -

Summary

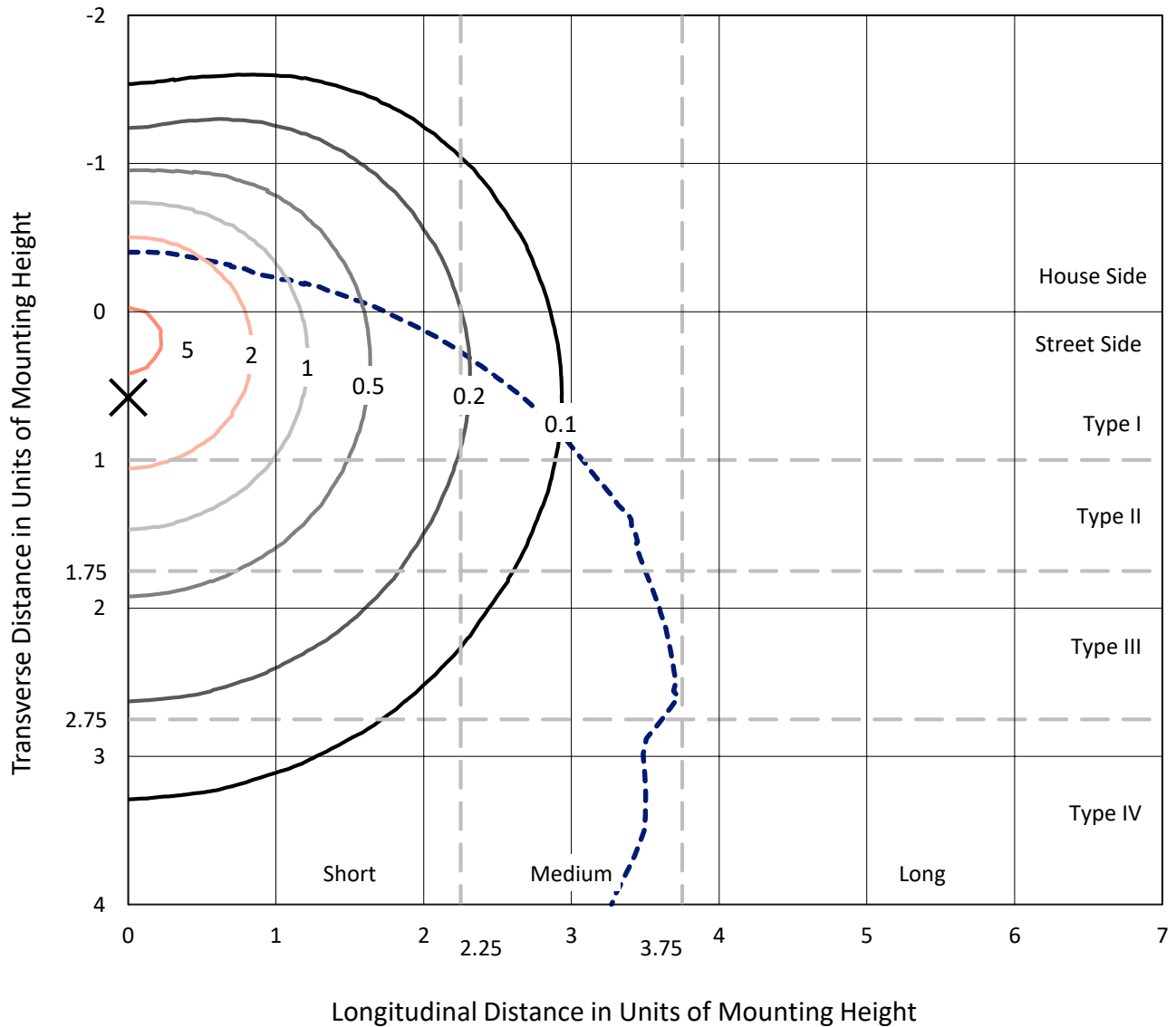
Lumens per Lamp: N/A
Luminaire Lumens: 2253.7 lumens
Efficiency: N/A
Efficacy: 112.1 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 0.25' x H: 0.17')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U3 - G2

Input Watts (W): 20.1
Input Voltage (V): NR
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): 24.8
Test Distance: 28.75 FT

REPORT NUMBER: G1-1810-982-1
 CATALOG NUMBER: FT28VCB-4000K

Iso-Footcandle Lines of Horizontal Illumination

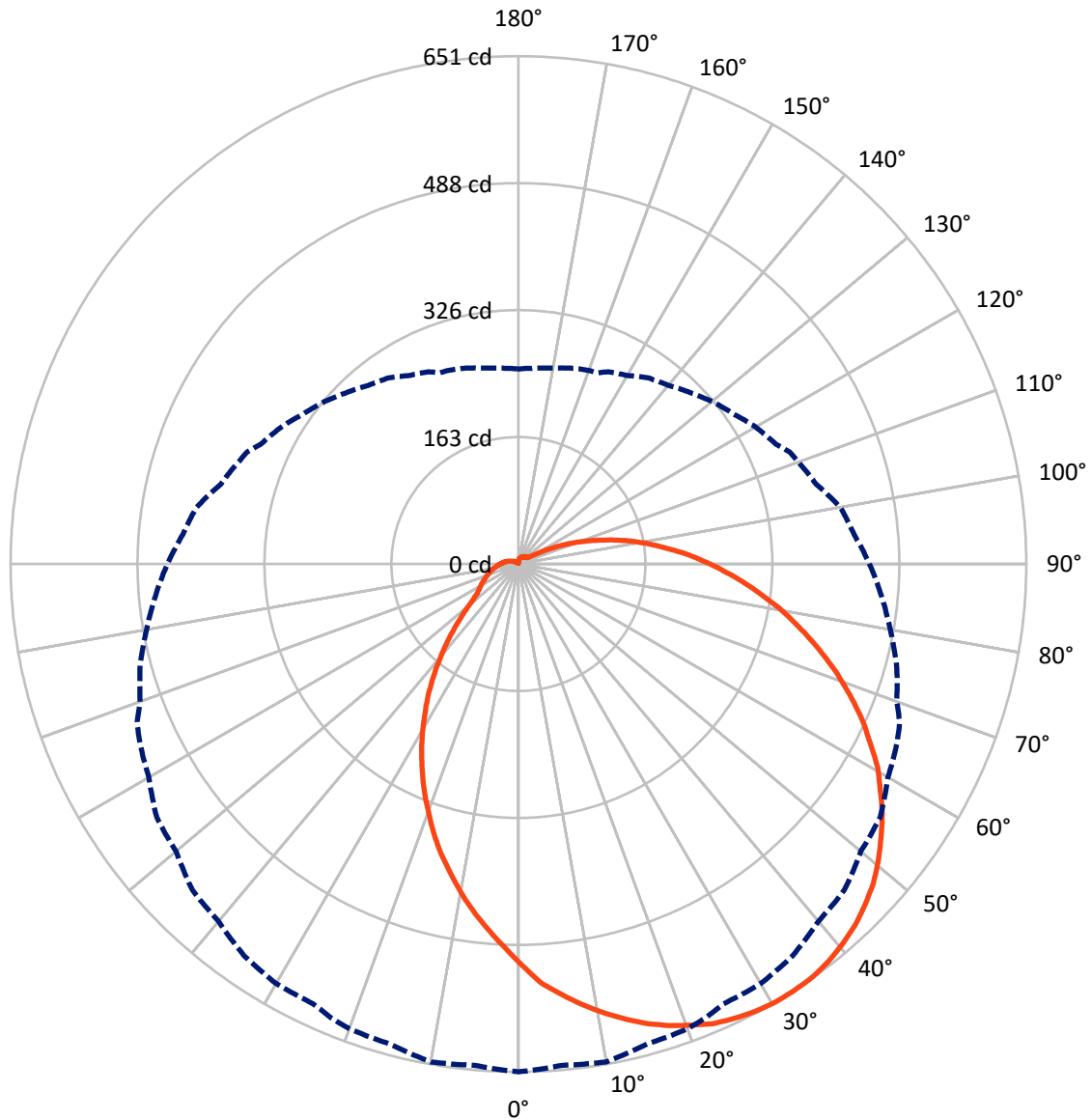
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.5 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: G1-1810-982-1
CATALOG NUMBER: FT28VCB-4000K

Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral - - - Horizontal Cone Through 30-Deg Vertical

REPORT NUMBER: G1-1810-982-1
 CATALOG NUMBER: FT28VCB-4000K

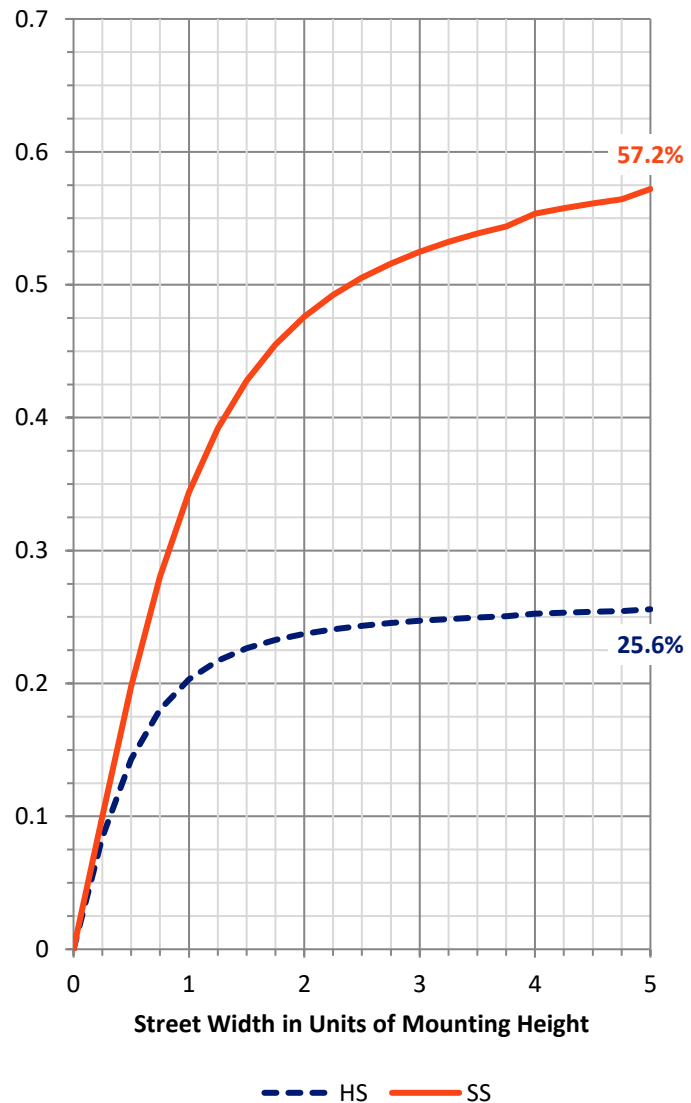
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	594.0	55.3	649.2
	% Fixture	26.4	2.5	28.8
Street Side	Lumens	1374.8	229.7	1604.5
	% Fixture	61.0	10.2	71.2
Total	Lumens	1968.7	285.0	2253.7
	% Fixture	87.4	12.6	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.8	2.2
10°-20°	140.7	6.2
20°-30°	216.4	9.6
30°-40°	267.4	11.9
40°-50°	293.0	13.0
50°-60°	297.2	13.2
60°-70°	278.6	12.4
70°-80°	239.4	10.6
80°-90°	187.3	8.3
90°-100°	131.8	5.8
100°-110°	81.9	3.6
110°-120°	42.1	1.9
120°-130°	16.1	0.7
130°-140°	5.8	0.3
140°-150°	3.7	0.2
150°-160°	2.3	0.1
160°-170°	1.1	0.0
170°-180°	0.3	0.0
0°-90°	1968.7	87.4
0°-180°	2253.7	100.0



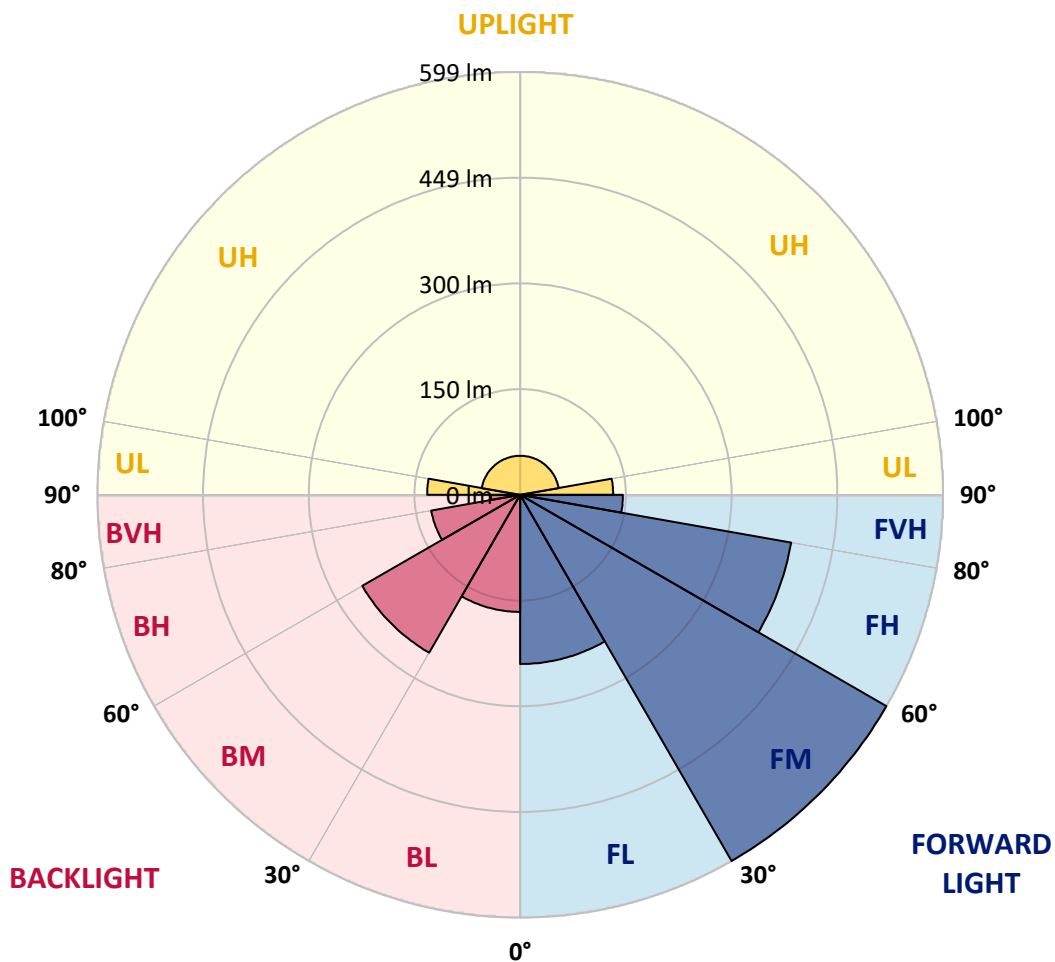
REPORT NUMBER: G1-1810-982-1
 CATALOG NUMBER: FT28VCB-4000K

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	239.8	10.6			
FM (30°-60°)	599.3	26.6			
FH (60°-80°)	390.0	17.3			G0/660
FVH (80°-90°)	145.6	6.5			G2/225
BL (0°-30°)	166.0	7.4	B1/500		
BM (30°-60°)	258.3	11.5	B1/1000		
BH (60°-80°)	128.0	5.7	B1/500		G1/500
BVH (80°-90°)	41.7	1.8			G1/100
UL (90°-100°)	131.8	5.8		U3/500	
UH (100°-180°)	55.3	2.5		U3/500	

BUG Rating: B1-U3-G2

Type IV Short





REPORT NUMBER: G1-1810-982-1
 CATALOG NUMBER: FT28VCB-4000K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	514	514	514	514	514	514	514	514	514	514	514
2.5°	537	531	538	531	531	528	525	532	532	526	528
5°	553	548	554	547	548	544	541	546	546	539	540
7.5°	569	564	570	562	562	559	555	560	558	551	551
10°	584	579	585	577	576	572	568	572	571	561	560
12.5°	598	593	598	590	589	585	580	583	581	571	569
15°	611	605	610	602	600	596	591	593	590	579	576
17.5°	622	616	621	611	610	605	600	602	598	586	582
20°	631	625	630	620	618	613	608	609	604	592	586
22.5°	640	633	637	627	624	620	613	614	609	595	590
25°	645	639	643	632	630	625	618	618	612	598	591
27.5°	649	643	647	636	633	628	621	620	613	599	591
30°	651	645	648	637	634	629	622	621	613	598	591
32.5°	651	645	648	637	634	628	621	620	610	596	587
35°	650	643	647	635	631	626	618	617	607	592	583
37.5°	646	640	643	631	627	622	614	612	602	587	577
40°	640	634	637	626	621	616	608	606	596	580	571
42.5°	633	627	629	618	613	608	600	597	588	573	563
45°	623	617	619	608	603	599	591	588	578	563	553
47.5°	612	605	607	596	593	588	580	577	567	552	542
50°	598	592	594	582	580	575	567	564	555	540	529
52.5°	582	576	578	568	564	561	553	550	540	527	516
55°	566	560	562	552	549	545	538	534	526	512	502
57.5°	547	542	543	534	531	528	521	518	509	497	487
60°	529	523	524	515	512	510	502	500	492	480	471
62.5°	506	502	503	495	493	490	482	481	474	462	452
65°	485	479	481	473	472	469	463	461	453	443	434
67.5°	461	456	458	451	450	447	441	439	433	423	415
70°	437	433	434	428	427	424	420	418	412	403	395
72.5°	412	408	410	404	403	401	397	396	389	381	375
75°	387	384	385	380	379	378	373	373	368	360	354
77.5°	362	359	361	356	355	354	350	349	344	339	334
80°	338	335	336	331	332	330	326	326	321	316	314
82.5°	312	310	312	308	307	306	303	302	299	295	295
85°	288	286	288	283	283	282	278	278	276	274	277
87.5°	264	263	264	259	260	259	255	255	254	255	259
90°	241	240	240	237	237	235	233	234	233	237	242
92.5°	219	217	217	214	213	214	210	212	214	218	224
95°	196	195	195	192	192	191	189	192	197	202	207
97.5°	175	174	175	172	171	171	169	174	180	186	191
100°	155	154	154	151	152	153	152	158	164	171	174
102.5°	135	133	133	132	133	135	135	143	149	156	159
105°	115	115	114	114	116	119	121	129	136	141	144
107.5°	96	96	97	97	102	105	107	116	122	126	130
110°	79	78	80	82	88	92	95	103	108	112	116



REPORT NUMBER: G1-1810-982-1
 CATALOG NUMBER: FT28VCB-4000K

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	62	62	64	69	76	80	83	90	95	100	102
115°	46	48	51	57	65	69	71	78	83	87	89
117.5°	33	35	40	47	55	58	60	67	71	74	76
120°	23	25	31	38	44	47	50	55	59	62	64
122.5°	17	19	24	29	35	38	40	45	48	51	52
125°	14	15	18	22	26	28	31	34	38	40	41
127.5°	14	14	15	16	19	21	22	26	28	30	31
130°	14	14	14	14	15	16	16	19	20	22	22
132.5°	13	13	13	13	13	13	13	14	15	15	16
135°	13	13	13	13	13	13	12	12	12	12	12
137.5°	13	12	12	12	12	12	12	12	11	11	11
140°	12	12	12	12	12	12	12	11	11	11	10
142.5°	12	12	12	12	11	11	11	11	11	10	10
145°	11	11	11	11	11	11	11	11	10	10	10
147.5°	11	11	11	11	11	10	10	10	10	10	9
150°	10	10	10	10	10	10	10	10	10	9	9
152.5°	10	10	10	10	10	10	9	9	9	9	9
155°	10	9	9	9	9	9	9	9	9	9	8
157.5°	9	9	9	9	9	9	9	9	8	8	8
160°	9	9	8	8	8	8	8	8	8	8	7
162.5°	8	8	8	8	8	8	8	8	7	7	6
165°	8	8	8	8	7	7	7	7	6	6	5
167.5°	7	7	7	7	7	7	6	5	5	5	5
170°	7	7	7	7	5	5	5	5	5	4	4
172.5°	6	6	5	5	5	5	5	4	4	4	4
175°	4	4	4	4	4	4	4	4	4	4	4
177.5°	2	3	3	3	3	3	3	4	4	4	3
180°	2	2	2	2	2	2	2	2	2	2	2



REPORT NUMBER: G1-1810-982-1
 CATALOG NUMBER: FT28VCB-4000K

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	514	514	514	514	514	514	514	514	514	514	514
2.5°	524	528	524	525	526	520	521	518	515	514	512
5°	535	537	532	532	532	525	524	519	515	512	509
7.5°	544	546	539	537	537	529	526	520	515	510	505
10°	553	553	544	541	540	531	528	520	512	507	500
12.5°	560	559	548	545	542	534	528	518	510	502	495
15°	565	563	551	547	544	534	527	516	506	498	488
17.5°	570	568	553	548	544	534	525	513	501	492	481
20°	573	570	554	548	543	532	523	509	496	485	472
22.5°	576	571	554	547	542	530	519	504	490	478	463
25°	576	570	553	545	538	526	514	498	483	469	454
27.5°	575	568	550	541	534	522	508	491	475	460	443
30°	573	566	547	536	529	516	502	484	467	450	432
32.5°	569	561	542	530	523	510	494	475	457	439	420
35°	565	556	536	524	516	502	486	466	447	429	408
37.5°	559	549	529	515	507	494	477	456	436	417	396
40°	551	541	521	506	498	484	467	445	425	404	383
42.5°	543	532	511	496	488	474	456	435	413	393	371
45°	533	523	501	486	477	463	444	422	402	380	359
47.5°	522	511	490	473	465	452	433	411	390	370	349
50°	510	500	478	461	452	439	421	400	380	360	341
52.5°	497	486	465	447	440	427	409	389	370	352	333
55°	482	472	452	434	427	415	397	379	362	344	325
57.5°	468	457	438	420	414	403	387	370	354	336	316
60°	452	441	423	407	401	391	377	361	345	326	306
62.5°	435	424	408	393	389	380	368	352	335	315	296
65°	417	408	393	381	377	369	357	341	325	305	284
67.5°	399	391	379	368	365	358	346	330	313	294	273
70°	381	375	364	354	352	346	334	318	301	281	261
72.5°	362	358	350	341	339	332	320	304	287	268	248
75°	344	342	335	327	325	318	306	290	274	254	234
77.5°	326	326	320	312	310	303	291	276	260	240	221
80°	309	310	304	296	295	288	276	262	245	227	208
82.5°	292	294	289	280	278	272	260	246	231	212	194
85°	274	277	272	264	262	256	245	230	215	198	181
87.5°	258	260	255	247	246	239	229	215	200	184	167
90°	241	243	238	230	228	223	212	198	185	169	153
92.5°	224	225	221	213	211	206	196	183	170	155	140
95°	207	208	204	197	194	189	180	168	155	141	127
97.5°	190	191	187	180	178	174	164	153	141	128	114
100°	174	174	171	164	162	158	150	139	128	115	102
102.5°	159	158	155	148	147	143	135	125	114	102	90
105°	143	144	140	134	132	129	121	111	101	90	77
107.5°	129	129	125	119	118	114	107	98	88	77	66
110°	115	115	110	105	103	100	93	84	75	65	54



REPORT NUMBER: G1-1810-982-1
 CATALOG NUMBER: FT28VCB-4000K

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	101	101	97	91	89	86	80	72	63	53	43
115°	88	87	83	78	76	74	67	60	51	42	33
117.5°	76	74	70	66	64	61	55	48	41	32	24
120°	63	62	58	54	52	49	44	38	30	23	16
122.5°	51	50	46	43	41	39	34	28	21	16	11
125°	41	39	36	32	31	29	24	19	14	10	7
127.5°	31	29	26	23	22	20	17	13	9	7	6
130°	22	20	18	16	15	14	11	9	7	6	5
132.5°	15	14	12	11	10	9	8	7	6	5	5
135°	11	10	9	8	8	8	7	6	6	5	5
137.5°	10	9	9	8	8	8	7	6	6	5	5
140°	10	9	8	8	8	8	7	6	5	5	4
142.5°	9	9	8	8	8	7	6	6	5	5	4
145°	9	9	8	8	7	7	6	5	5	5	4
147.5°	9	8	8	7	7	7	6	5	5	4	4
150°	9	8	7	7	7	6	5	5	5	4	4
152.5°	8	8	7	6	6	6	5	5	4	4	4
155°	8	7	6	6	5	5	5	4	4	4	4
157.5°	7	6	5	5	5	5	4	4	4	4	4
160°	6	6	5	5	4	4	4	4	4	4	3
162.5°	6	5	4	4	4	4	4	4	4	3	3
165°	5	4	4	4	4	4	4	4	3	3	3
167.5°	4	4	4	4	4	4	3	3	3	3	3
170°	4	4	3	3	3	3	3	3	3	3	3
172.5°	3	3	3	3	3	3	3	3	3	3	3
175°	3	3	3	3	3	3	3	3	3	3	3
177.5°	3	3	3	3	3	3	3	2	2	2	2
180°	2	2	2	2	2	2	2	2	2	2	2



REPORT NUMBER: G1-1810-982-1
 CATALOG NUMBER: FT28VCB-4000K

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	514	514	514	514	514	514	514	514	514	514	514
2.5°	515	505	507	508	502	504	500	502	501	500	502
5°	510	499	499	500	493	494	488	489	487	484	486
7.5°	505	492	491	490	483	482	476	475	472	467	469
10°	498	484	481	480	472	470	462	460	455	451	450
12.5°	491	474	471	469	460	457	448	445	439	433	431
15°	483	465	459	458	449	443	433	429	421	415	413
17.5°	473	455	448	445	436	429	418	413	405	396	394
20°	464	444	436	432	422	415	402	395	386	377	374
22.5°	454	433	424	419	408	400	386	378	368	358	353
25°	443	421	410	405	395	384	370	360	349	339	332
27.5°	431	408	397	391	380	368	353	343	330	318	311
30°	419	395	382	376	364	351	336	324	311	299	291
32.5°	407	381	368	360	349	334	318	306	292	278	270
35°	394	368	353	345	334	319	301	288	273	259	250
37.5°	380	354	339	331	319	302	285	271	256	241	231
40°	366	340	325	317	305	289	271	256	239	224	212
42.5°	355	328	313	304	293	276	258	243	226	209	197
45°	343	318	303	294	282	266	248	232	215	198	184
47.5°	334	309	294	286	274	257	238	222	204	187	172
50°	325	301	286	277	265	247	229	212	193	175	161
52.5°	317	292	276	268	256	238	218	201	182	164	148
55°	309	284	267	258	246	228	208	190	171	154	137
57.5°	299	274	257	248	236	217	197	179	160	142	126
60°	289	264	247	238	226	206	187	168	149	131	115
62.5°	278	253	236	226	215	195	175	157	138	120	104
65°	267	242	225	215	204	184	165	146	127	109	93
67.5°	255	231	213	204	192	173	154	135	116	98	83
70°	243	219	202	192	181	161	142	124	105	88	73
72.5°	231	207	190	180	169	150	131	113	95	78	64
75°	217	194	177	168	157	139	120	102	84	69	56
77.5°	204	182	165	155	146	127	109	91	74	60	48
80°	192	170	153	144	134	116	98	81	64	51	42
82.5°	178	157	141	132	122	105	87	71	56	44	37
85°	165	144	129	120	111	94	77	62	48	38	33
87.5°	152	133	117	109	100	83	67	52	40	33	30
90°	138	120	105	97	88	72	57	44	35	29	28
92.5°	126	108	94	85	78	62	48	37	30	26	25
95°	114	97	83	75	67	53	40	31	26	24	23
97.5°	101	86	72	64	57	44	33	26	23	22	21
100°	89	74	61	54	47	36	27	22	20	20	19
102.5°	78	63	51	44	38	28	22	19	18	18	17
105°	66	52	41	35	30	23	18	17	16	16	16
107.5°	54	42	31	27	23	18	16	15	15	14	14
110°	44	33	24	21	18	14	13	13	13	13	12



REPORT NUMBER: G1-1810-982-1
 CATALOG NUMBER: FT28VCB-4000K

REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°	
112.5°	34	24	18	15	14	12	12	12	11	11	11	0°
115°	25	17	13	12	11	10	10	10	10	10	10	2.5°
117.5°	17	12	10	9	9	9	9	9	9	9	8	5°
120°	12	9	8	7	7	8	8	8	7	7	7	7.5°
122.5°	8	6	6	6	6	6	7	7	6	6	6	10°
125°	6	5	6	6	6	6	6	6	6	6	6	12.5°
127.5°	5	5	5	5	5	5	5	5	5	5	5	15°
130°	5	5	5	4	4	4	4	4	4	4	4	17.5°
132.5°	5	4	4	4	4	4	4	4	4	4	4	20°
135°	4	4	4	4	4	4	4	4	3	3	3	22.5°
137.5°	4	4	4	4	4	3	3	3	3	3	3	25°
140°	4	4	4	4	3	3	3	3	3	3	3	27.5°
142.5°	4	4	4	3	3	3	3	3	3	3	2	30°
145°	4	4	4	3	3	3	3	3	3	2	2	32.5°
147.5°	4	4	3	3	3	3	3	3	2	2	2	35°
150°	4	4	3	3	3	3	3	3	2	2	2	37.5°
152.5°	4	3	3	3	3	3	3	3	2	2	2	40°
155°	4	3	3	3	3	3	3	2	2	2	2	42.5°
157.5°	3	3	3	3	3	3	3	2	2	2	2	45°
160°	3	3	3	3	3	3	2	2	2	2	2	47.5°
162.5°	3	3	3	3	3	3	2	2	2	2	2	50°
165°	3	3	3	3	3	2	2	2	2	2	2	52.5°
167.5°	3	3	3	2	2	2	2	2	2	2	2	55°
170°	3	3	3	2	2	2	2	2	2	2	2	57.5°
172.5°	3	3	2	2	2	2	2	2	2	2	2	60°
175°	2	2	2	2	2	2	2	2	2	2	2	62.5°
177.5°	2	2	2	2	2	2	2	2	2	2	2	65°
180°	2	2	2	2	2	2	2	2	2	2	2	67.5°
												70°
												72.5°
												75°
												77.5°
												80°
												82.5°
												85°
												87.5°
												90°
												92.5°
												95°
												97.5°
												100°
												102.5°
												105°
												107.5°
												110°



NUMBER: G1-1810-982-1
 NUMBER: FT28VCB-4000K

REPORT NUMBER: C
 CATALOG NUMBER:

DISTRIBUTION (continued):

150°	155°	157.5°	160°	165°	170°	175°	180°
514	514	514	514	514	514	514	514
497	500	491	496	497	493	494	492
480	481	473	477	477	474	474	472
461	462	454	457	458	454	454	452
442	443	434	437	437	433	433	431
424	422	414	416	416	412	410	409
404	402	394	396	395	390	390	388
384	381	372	375	373	369	368	366
363	359	352	353	351	346	344	342
342	338	330	330	327	323	322	320
320	317	308	309	304	301	299	296
300	295	286	286	282	278	276	273
279	272	265	264	260	255	252	250
257	250	243	242	236	232	230	226
237	229	221	220	214	208	206	204
216	208	201	198	192	186	184	181
197	189	180	178	171	165	162	159
180	170	162	159	150	144	141	138
167	154	146	142	133	125	121	119
155	142	133	128	117	108	103	101
143	130	121	116	104	95	88	86
131	118	109	104	93	83	76	73
120	107	98	93	82	73	68	65
109	95	88	83	73	65	61	60
98	85	77	73	64	59	57	56
87	75	69	64	57	54	53	53
78	66	60	57	52	50	50	49
68	58	53	51	48	47	47	46
60	51	48	46	45	44	44	43
52	46	43	43	42	41	41	40
46	42	40	40	39	38	38	38
41	38	37	37	36	36	35	35
37	36	35	34	34	33	33	33
34	33	32	32	31	31	31	30
31	30	30	30	29	29	28	28
29	28	28	28	27	27	26	26
26	26	25	25	25	24	24	24
24	24	23	23	23	23	22	22
22	22	22	22	21	21	21	20
20	20	20	20	19	19	19	19
19	18	18	18	18	17	17	17
17	17	16	16	16	16	16	16
15	15	15	15	15	14	14	14
14	14	13	13	13	13	13	13
12	12	12	12	12	12	12	11

CANDELA DISTRIBUTION:

	150°
112.5°	11
115°	9
117.5°	8
120°	7
122.5°	6
125°	5
127.5°	5
130°	4
132.5°	4
135°	3
137.5°	3
140°	2
142.5°	2
145°	2
147.5°	2
150°	2
152.5°	2
155°	2
157.5°	2
160°	2
162.5°	2
165°	2
167.5°	2
170°	2
172.5°	2
175°	2
177.5°	2
180°	2



i1-1810-982-1
FT28VCB-4000K

TION (continued):

155°	157.5°	160°	165°	170°	175°	180°
11	11	11	10	10	10	10
9	9	9	9	9	9	9
8	8	8	8	8	8	8
7	7	7	7	7	7	7
6	6	6	6	6	6	6
6	6	6	5	5	5	5
5	5	5	5	5	5	5
4	4	4	4	4	4	4
4	4	4	3	4	3	3
3	3	3	3	3	3	3
3	3	3	3	3	3	3
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	2
2	2	2	2	2	2	1
2	2	2	2	2	2	2

(END OF REPORT)