

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: P28173

Luminaire Tested: **G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK**

Test Date: 08/19/16



Test Information

Test Method: LM-79-08
Report Number: P28173
Test Lab: INNOVATION CENTER-P2
Test Date: 08/19/16
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK
Description: G12 SHALLOW CAST OPEN CLEAR LENS
Light Source: (112) NICHIA 4000K LEDS
NF2L757DRT
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER (700mA)
OT40W

Summary

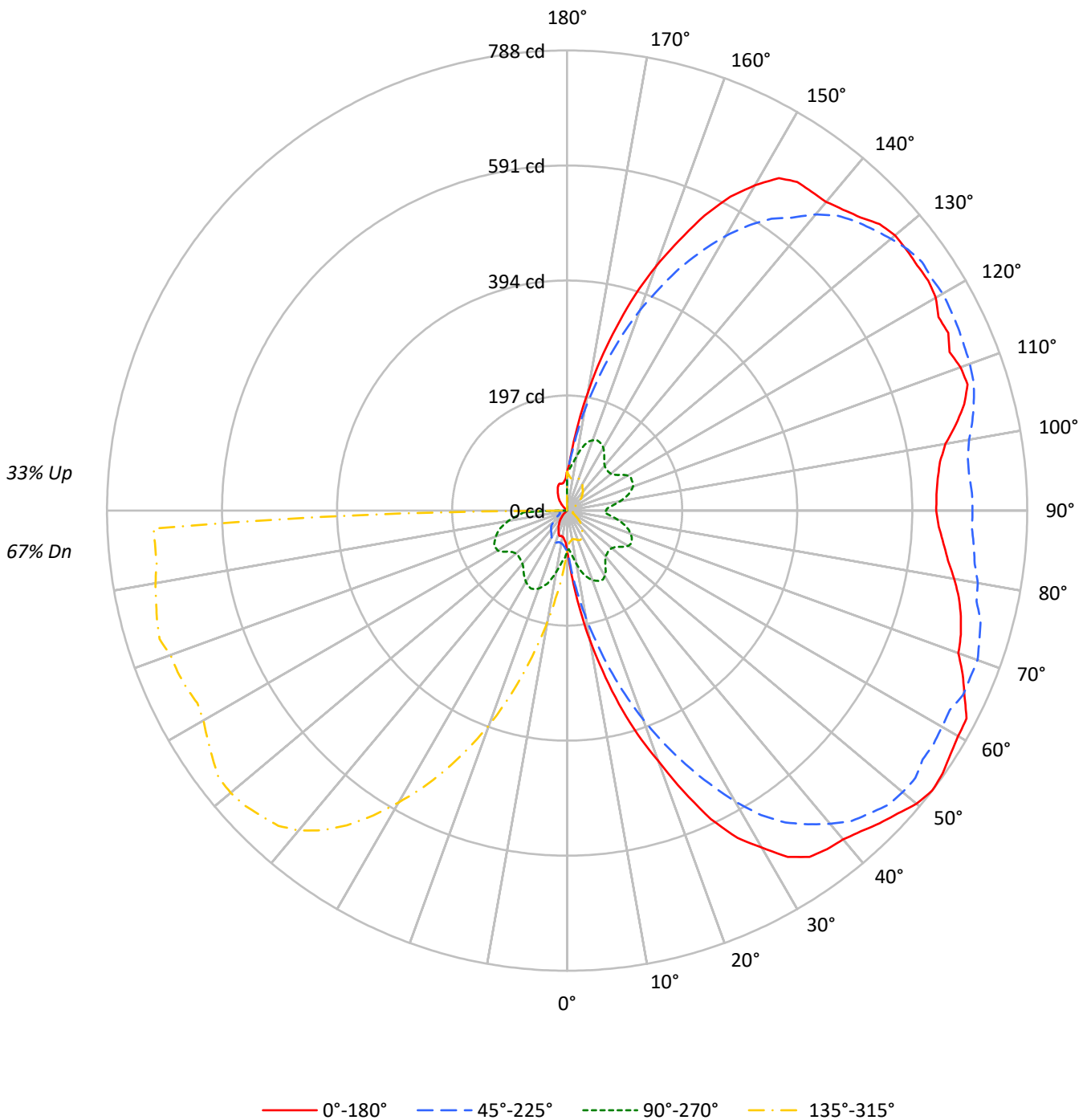
Lumens per Lamp: N/A
Luminaire Lumens: 2815.6 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Spacing Criteria (0/90/45): 3.98 / 2.12 / 3.69
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 0.83' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 32.5
Input Voltage (V): 120.0
Input Current (Ain): 0.272
Voltage Rise (V): NR
Power Factor: 0.9991
Total Harmonic Distortion (THDi): 7.42%
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 24 HR
Ambient Temperature (°C): 24.9
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	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	96	89	83	77	89	83	78	73	73	68	64	63	60	57	54	52	49	45
2	85	74	66	58	79	69	62	55	60	54	49	52	47	43	44	40	37	33
3	76	63	54	46	70	59	50	43	51	44	38	44	38	33	37	33	29	25
4	69	55	45	37	64	51	42	35	44	37	31	38	32	27	32	27	23	19
5	62	48	38	30	58	45	36	29	39	31	25	33	27	22	28	23	19	16
6	57	42	33	26	53	40	31	24	34	27	21	30	23	19	25	20	16	13
7	52	38	28	22	49	35	27	21	31	24	18	27	20	16	23	17	13	11
8	48	34	25	19	45	32	24	18	28	21	16	24	18	14	20	15	12	9
9	45	31	22	16	42	29	21	15	25	18	14	22	16	12	19	14	10	8
10	42	28	20	14	39	26	19	14	23	17	12	20	14	10	17	12	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1070	1070	1070	1070
5°	1878	1088	760	1282
10°	3269	1345	651	1548
15°	4854	1613	637	1825
20°	6364	1772	586	1982
25°	8086	1845	485	2039
30°	9250	1792	389	1958
35°	10147	1598	308	1822
40°	10476	1454	214	1696
45°	11062	1447	132	1681
50°	11801	1511	30	1723
55°	12376	1703	0	1923
60°	12842	2010	0	2276
65°	13292	2159	0	2442
70°	13612	2196	0	2482
75°	14585	2173	0	2487
80°	15662	2025	0	2374
85°	17135	1827	0	2172



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	9.2	0.3
10°-20°	47.8	1.7
20°-30°	116.0	4.1
30°-40°	191.0	6.8
40°-50°	251.6	8.9
50°-60°	298.8	10.6
60°-70°	326.7	11.6
70°-80°	333.6	11.8
80°-90°	310.6	11.0
90°-100°	162.5	5.8
100°-110°	166.5	5.9
110°-120°	162.1	5.8
120°-130°	146.3	5.2
130°-140°	119.8	4.3
140°-150°	90.2	3.2
150°-160°	55.6	2.0
160°-170°	23.0	0.8
170°-180°	4.4	0.2
0°-30°	173.0	6.1
0°-40°	364.0	12.9
0°-60°	914.4	32.5
0°-90°	1885.3	67.0
90°-120°	491.0	17.4
90°-150°	847.3	30.1
90°-180°	930.0	33.0
0°-180°	2815.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	69	69	69	69	69	
5°	126	73	51	86	126	15
15°	343	114	45	129	343	100
25°	583	133	35	147	583	269
35°	724	114	22	130	724	450
45°	757	99	9	115	757	587
55°	785	108	0	122	785	701
65°	751	122	0	138	751	744
75°	698	104	0	119	698	736
85°	647	69	0	82	647	534
90°	632	67	0	0	0	347
95°	637	73	0	0	0	525
105°	704	109	0	0	0	738
115°	720	122	0	0	0	712
125°	732	106	0	0	0	657
135°	710	97	8	0	0	552
145°	687	111	25	0	0	427
155°	558	130	38	0	0	258
165°	324	117	48	0	0	96
175°	110	76	51	0	0	14
180°	67	67	67	0	0	



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CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	69	69	69	69	69	69	69	69	69	69	69
2.5°	89	87	89	88	89	89	88	85	85	84	82
5°	126	123	125	124	124	123	121	120	116	112	108
7.5°	173	169	170	168	166	164	160	158	153	147	140
10°	226	221	221	218	215	210	204	201	195	187	176
12.5°	281	277	280	277	272	266	257	251	243	230	215
15°	343	336	335	333	331	324	313	304	291	280	261
17.5°	402	394	393	391	391	386	372	355	340	330	308
20°	456	456	457	452	446	445	426	408	392	380	353
22.5°	520	512	513	513	507	496	481	466	444	430	398
25°	583	568	563	569	566	548	539	526	497	479	445
27.5°	632	621	619	621	623	605	592	578	549	527	493
30°	666	668	673	671	669	657	638	633	599	575	539
32.5°	703	704	712	706	701	698	679	678	640	618	579
35°	724	715	723	734	734	733	719	707	678	652	610
37.5°	731	721	734	743	747	740	743	731	710	677	637
40°	735	733	750	750	758	746	756	742	740	700	663
42.5°	745	744	763	761	767	759	761	752	752	721	692
45°	757	749	777	774	774	775	767	762	764	733	710
47.5°	768	759	784	786	777	782	771	772	775	746	716
50°	781	769	787	794	780	791	774	784	779	750	727
52.5°	788	775	788	798	778	797	776	792	787	752	737
55°	785	772	780	785	774	794	776	800	792	743	744
57.5°	778	763	770	778	776	786	779	794	790	744	745
60°	773	761	771	767	765	779	776	789	789	741	747
62.5°	771	759	762	752	759	777	775	786	780	739	736
65°	751	737	742	737	752	755	769	780	780	748	743
67.5°	733	724	736	733	735	743	762	769	761	747	741
70°	713	702	711	708	721	727	758	773	761	748	733
72.5°	707	698	709	707	702	710	762	771	756	740	725
75°	698	691	706	706	700	707	763	775	755	733	719
77.5°	687	680	699	706	700	722	775	767	752	718	706
80°	673	667	690	704	705	733	786	768	742	714	700
82.5°	658	655	680	702	715	740	792	770	740	704	688
85°	647	643	671	706	723	747	795	775	740	699	680
87.5°	637	631	662	710	728	748	790	769	733	694	672
90°	632	636	651	674	706	737	754	757	740	694	663
92.5°	633	636	652	676	711	742	758	754	742	694	660
95°	637	642	657	685	719	745	757	755	737	691	665
97.5°	644	650	668	692	722	746	759	750	737	692	676
100°	658	666	677	696	724	745	759	753	735	699	683
102.5°	682	680	682	697	724	743	757	747	738	711	695
105°	704	697	686	695	722	739	753	753	747	721	705
107.5°	719	713	691	694	721	737	758	760	755	730	713
110°	717	710	687	680	707	732	756	759	757	734	717



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	709	708	690	686	723	743	762	764	761	736	721
115°	720	723	707	697	723	747	759	769	764	739	724
117.5°	717	723	710	711	736	755	764	772	767	741	727
120°	729	731	716	723	748	766	769	776	773	743	728
122.5°	733	736	725	738	749	775	768	782	774	740	728
125°	732	735	727	748	752	778	770	782	774	742	724
127.5°	733	733	729	755	750	777	771	778	767	735	714
130°	733	733	734	753	750	768	766	768	754	724	703
132.5°	726	724	729	744	744	755	758	755	742	712	690
135°	710	718	723	734	741	742	747	741	734	700	678
137.5°	699	708	714	719	728	726	731	727	721	685	653
140°	690	700	702	709	715	716	720	714	708	662	621
142.5°	688	696	695	701	704	708	711	706	681	632	595
145°	687	691	692	695	695	704	691	681	648	610	569
147.5°	675	687	689	680	674	674	655	649	614	579	542
150°	643	654	656	643	642	634	616	606	572	543	510
152.5°	606	613	606	600	599	583	573	557	524	502	470
155°	558	563	561	556	547	529	525	506	473	459	430
157.5°	500	508	511	507	495	479	474	453	428	411	386
160°	445	452	453	447	439	429	416	395	376	365	341
162.5°	387	391	388	385	379	367	354	339	325	316	296
165°	324	326	324	326	322	308	296	285	275	266	250
167.5°	265	267	265	267	263	252	242	233	225	218	206
170°	206	208	207	206	203	197	192	187	182	176	167
172.5°	154	155	155	156	153	149	147	144	141	136	131
175°	110	110	110	110	112	109	108	106	104	102	100
177.5°	78	78	79	80	81	80	80	79	79	79	78
180°	67	67	67	67	67	67	67	67	67	67	67



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CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	69	69	69	69	69	69	69	69	69	69	69
2.5°	79	79	76	73	71	69	67	66	65	64	63
5°	104	101	95	89	85	80	76	73	69	67	65
7.5°	133	128	120	110	102	95	88	82	77	73	69
10°	166	158	147	133	122	112	102	93	85	80	75
12.5°	202	192	175	158	146	130	116	105	96	87	80
15°	246	229	207	187	168	150	132	114	102	92	84
17.5°	290	267	241	216	191	169	144	121	106	95	86
20°	332	304	280	246	216	184	154	127	108	96	86
22.5°	377	343	313	277	237	197	162	130	109	95	85
25°	424	384	348	308	259	210	169	133	107	92	81
27.5°	468	425	382	335	276	220	172	133	104	87	77
30°	509	466	416	355	291	227	173	129	98	81	71
32.5°	545	497	442	372	300	229	171	123	90	74	65
35°	574	517	455	382	303	226	163	114	81	66	61
37.5°	593	531	466	387	301	222	157	107	75	62	60
40°	614	550	477	392	304	221	154	102	71	59	60
42.5°	638	574	493	402	311	225	155	101	69	58	61
45°	668	600	511	417	321	230	155	99	67	57	62
47.5°	688	623	531	432	331	234	157	99	67	58	63
50°	701	647	550	448	340	242	160	100	67	59	64
52.5°	708	661	571	460	351	253	166	103	69	60	64
55°	711	669	584	474	368	267	176	108	72	61	64
57.5°	711	674	587	498	389	283	187	115	77	63	63
60°	714	682	596	512	409	298	196	121	82	65	63
62.5°	715	680	601	520	422	305	199	123	85	68	63
65°	719	684	614	526	420	307	200	122	86	69	64
67.5°	728	690	618	526	414	309	199	120	85	70	64
70°	724	686	616	518	408	301	195	115	83	69	64
72.5°	716	686	610	507	396	290	190	111	79	67	63
75°	709	685	600	496	385	275	179	104	74	63	60
77.5°	698	669	585	485	370	262	166	96	68	59	57
80°	692	661	574	472	357	246	152	87	61	54	54
82.5°	680	645	563	463	347	232	140	77	55	51	53
85°	674	640	555	455	336	223	129	69	52	51	53
87.5°	665	633	547	450	331	215	121	64	52	51	53
90°	642	608	519	418	310	205	117	67	55	54	56
92.5°	642	611	522	420	310	206	119	68	55	54	56
95°	646	615	528	426	318	212	128	73	57	55	57
97.5°	658	630	540	437	328	225	139	82	62	56	59
100°	667	638	553	448	343	239	152	92	68	60	60
102.5°	680	656	570	466	359	256	164	101	74	65	63
105°	693	669	585	480	373	270	178	109	80	69	66
107.5°	697	678	597	498	389	285	189	115	84	72	69
110°	705	685	609	511	403	297	195	120	87	74	70



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	708	686	615	522	417	308	198	122	88	74	71
115°	708	686	614	525	428	315	200	122	86	73	70
117.5°	708	678	609	527	431	314	201	123	85	70	69
120°	705	673	598	519	421	305	196	120	81	67	68
122.5°	701	668	588	502	400	291	188	114	76	65	68
125°	697	657	575	477	377	272	175	106	71	63	68
127.5°	685	642	558	454	353	253	164	101	68	62	69
130°	671	626	534	435	334	238	156	98	68	62	68
132.5°	655	603	513	415	320	228	151	97	68	61	68
135°	634	573	491	396	306	219	148	97	69	62	67
137.5°	602	541	466	377	293	212	146	98	71	63	66
140°	574	515	443	362	283	207	145	100	74	64	65
142.5°	547	494	431	351	278	207	147	104	78	67	65
145°	526	477	419	345	275	208	153	111	84	71	66
147.5°	504	455	404	336	273	210	158	118	92	77	69
150°	476	428	379	324	266	209	161	124	99	84	74
152.5°	442	396	354	309	256	205	162	128	105	90	80
155°	403	361	327	289	243	198	161	130	109	95	85
157.5°	364	329	300	265	228	190	157	131	112	99	88
160°	321	295	269	235	211	180	150	128	112	100	90
162.5°	277	256	230	211	187	166	143	124	110	99	89
165°	232	219	198	182	164	146	132	117	105	95	87
167.5°	193	183	168	154	142	128	116	107	98	90	83
170°	157	150	140	129	119	110	102	95	89	83	78
172.5°	124	119	113	107	100	94	89	84	80	75	72
175°	96	94	90	87	84	81	78	76	73	70	68
177.5°	77	77	76	74	73	72	71	70	69	68	67
180°	67	67	67	67	67	67	67	67	67	67	67



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CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	69	69	69	69	69	69	69	69	69	69	69
2.5°	62	61	61	60	59	58	57	57	57	57	56
5°	63	61	59	57	55	54	53	53	52	52	51
7.5°	65	62	59	56	54	52	50	50	49	49	48
10°	70	65	61	57	53	50	48	48	47	46	46
12.5°	74	68	63	58	54	50	48	47	46	46	45
15°	76	70	65	59	55	51	48	47	47	46	46
17.5°	78	71	65	60	56	52	50	49	48	48	47
20°	78	71	65	61	57	54	52	50	49	48	46
22.5°	76	70	65	61	58	55	53	50	47	45	42
25°	73	67	64	61	58	55	51	47	43	41	39
27.5°	69	64	62	60	57	53	47	43	40	38	35
30°	65	62	61	60	56	50	44	40	37	34	32
32.5°	61	61	62	60	54	47	41	37	34	31	29
35°	60	62	62	59	52	45	38	34	30	28	26
37.5°	62	64	63	58	50	42	36	30	27	25	22
40°	64	66	63	57	48	40	33	27	24	21	19
42.5°	65	67	63	56	46	37	30	24	20	18	16
45°	67	67	63	54	44	34	26	20	17	14	12
47.5°	67	67	61	52	41	31	23	16	13	11	9
50°	67	66	59	49	38	27	19	13	10	7	6
52.5°	67	64	56	46	34	24	16	10	7	4	3
55°	66	62	53	42	31	20	12	6	4	2	1
57.5°	65	59	49	38	27	17	9	4	2	0	0
60°	63	55	46	35	24	15	7	2	0	0	0
62.5°	61	52	42	32	22	13	5	1	0	0	0
65°	59	49	39	29	20	11	5	0	0	0	0
67.5°	57	46	37	27	19	11	4	0	0	0	0
70°	55	44	35	27	19	11	4	0	0	0	0
72.5°	53	42	34	26	19	10	4	0	0	0	0
75°	51	41	34	26	19	10	4	0	0	0	0
77.5°	49	40	33	26	18	10	3	0	0	0	0
80°	48	40	33	26	18	10	3	0	0	0	0
82.5°	47	40	33	26	18	10	3	0	0	0	0
85°	48	40	34	27	19	10	4	0	0	0	0
87.5°	48	41	34	28	19	11	4	1	0	0	0
90°	51	43	35	28	20	12	5	1	0	0	0
92.5°	51	43	35	28	20	12	5	1	0	0	0
95°	52	43	35	28	20	12	5	1	0	0	0
97.5°	53	43	35	28	21	13	6	1	0	0	0
100°	53	44	36	28	21	13	6	1	0	0	0
102.5°	55	45	36	29	21	13	6	1	0	0	0
105°	57	46	37	29	21	13	6	1	0	0	0
107.5°	59	47	38	30	21	13	6	1	0	0	0
110°	62	50	40	30	22	13	6	1	0	0	0



TEST NUMBER: P28173

CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	64	52	42	32	22	13	6	2	0	0	0
115°	66	55	44	34	23	14	6	2	0	0	0
117.5°	68	58	47	36	25	15	7	2	0	0	0
120°	70	62	50	39	27	17	9	3	1	0	0
122.5°	71	65	54	42	30	20	11	5	2	0	0
125°	72	68	57	45	33	23	14	8	4	2	1
127.5°	73	70	61	49	36	26	17	11	7	5	3
130°	73	71	63	52	40	29	20	14	11	8	6
132.5°	72	71	65	55	43	33	24	18	14	12	9
135°	72	71	66	57	46	36	28	21	18	15	13
137.5°	70	71	67	59	48	39	31	25	22	19	17
140°	69	70	67	59	50	42	34	29	25	23	21
142.5°	67	68	66	61	52	44	37	32	29	27	25
145°	66	67	66	61	54	46	40	35	32	30	28
147.5°	66	66	65	62	56	49	43	39	36	33	31
150°	69	66	65	63	58	52	46	42	39	36	35
152.5°	72	68	66	64	60	55	50	45	42	40	38
155°	77	71	67	65	62	58	53	49	46	43	41
157.5°	80	73	69	65	62	59	56	52	49	47	45
160°	82	75	69	65	61	58	56	53	52	50	48
162.5°	81	74	69	64	60	56	54	52	51	51	50
165°	80	73	67	63	58	55	52	51	50	50	49
167.5°	77	71	66	61	57	54	52	51	50	49	49
170°	73	68	64	60	57	54	52	51	50	50	49
172.5°	68	65	62	59	57	55	53	52	52	51	50
175°	66	63	62	60	58	57	56	55	54	53	53
177.5°	66	65	64	63	62	61	61	60	59	59	58
180°	67	67	67	67	67	67	67	67	67	67	67



TEST NUMBER: P28173

CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	69	69	69	69	69	69	69	69	69	69	69
2.5°	56	55	56	55	57	58	59	60	61	62	63
5°	51	51	51	51	52	53	53	55	56	57	58
7.5°	48	47	47	47	48	49	50	51	53	54	55
10°	46	45	45	45	46	47	48	49	50	51	52
12.5°	45	45	45	45	45	46	47	48	49	50	51
15°	46	45	45	45	46	47	47	48	49	50	51
17.5°	46	46	45	45	46	47	48	49	50	51	52
20°	45	43	43	42	43	44	46	48	49	51	53
22.5°	41	39	39	39	40	40	42	44	46	49	52
25°	37	36	36	35	36	37	39	40	43	45	49
27.5°	34	33	32	32	33	34	35	37	39	42	45
30°	30	29	29	28	29	30	32	34	36	39	42
32.5°	27	26	25	25	26	27	28	30	33	35	39
35°	24	23	22	22	22	23	25	27	29	32	36
37.5°	21	20	19	19	19	20	22	24	26	29	33
40°	17	16	16	15	16	17	19	20	23	25	30
42.5°	14	13	12	12	13	14	15	17	19	22	26
45°	11	10	9	9	9	10	12	13	16	18	22
47.5°	7	6	6	5	6	7	8	10	12	15	19
50°	4	3	2	2	3	4	5	7	9	11	15
52.5°	1	1	0	0	0	1	2	4	6	8	12
55°	0	0	0	0	0	0	0	1	3	5	8
57.5°	0	0	0	0	0	0	0	0	1	3	6
60°	0	0	0	0	0	0	0	0	0	1	4
62.5°	0	0	0	0	0	0	0	0	0	1	3
65°	0	0	0	0	0	0	0	0	0	0	2
67.5°	0	0	0	0	0	0	0	0	0	0	2
70°	0	0	0	0	0	0	0	0	0	0	1
72.5°	0	0	0	0	0	0	0	0	0	0	1
75°	0	0	0	0	0	0	0	0	0	0	1
77.5°	0	0	0	0	0	0	0	0	0	0	1
80°	0	0	0	0	0	0	0	0	0	0	1
82.5°	0	0	0	0	0	0	0	0	0	0	1
85°	0	0	0	0	0	0	0	0	0	0	1
87.5°	0	0	0	0	0	0	0	0	0	0	1
90°	0	0	0	0	0	0	0	0	0	0	0
92.5°	0	0	0	0	0	0	0	0	0	0	0
95°	0	0	0	0	0	0	0	0	0	0	0
97.5°	0	0	0	0	0	0	0	0	0	0	0
100°	0	0	0	0	0	0	0	0	0	0	0
102.5°	0	0	0	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0	0	0	0
107.5°	0	0	0	0	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P28173

CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
112.5°	0	0	0	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0	0	0	0
117.5°	0	0	0	0	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0	0	0	0	0
122.5°	0	0	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0	0	0
127.5°	2	1	0	0	0	0	0	0	0	0	0
130°	4	3	2	2	0	0	0	0	0	0	0
132.5°	8	6	5	5	0	0	0	0	0	0	0
135°	11	10	9	8	0	0	0	0	0	0	0
137.5°	15	14	13	13	0	0	0	0	0	0	0
140°	19	18	17	17	0	0	0	0	0	0	0
142.5°	23	22	21	21	0	0	0	0	0	0	0
145°	27	26	25	25	0	0	0	0	0	0	0
147.5°	30	29	28	28	0	0	0	0	0	0	0
150°	33	32	32	31	0	0	0	0	0	0	0
152.5°	36	35	35	35	0	0	0	0	0	0	0
155°	40	39	38	38	0	0	0	0	0	0	0
157.5°	43	42	42	42	0	0	0	0	0	0	0
160°	47	45	45	45	0	0	0	0	0	0	0
162.5°	49	48	47	47	0	0	0	0	0	0	0
165°	49	48	48	48	0	0	0	0	0	0	0
167.5°	48	48	47	47	0	0	0	0	0	0	0
170°	48	48	47	47	0	0	0	0	0	0	0
172.5°	49	49	48	48	0	0	0	0	0	0	0
175°	52	51	51	51	0	0	0	0	0	0	0
177.5°	57	56	56	55	0	0	0	0	0	0	0
180°	67	67	67	67	0	0	0	0	0	0	0



TEST NUMBER: P28173

CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	69	69	69	69	69	69	69	69	69	69	69
2.5°	64	65	66	68	69	71	73	74	76	78	80
5°	59	61	63	65	67	70	73	76	79	82	86
7.5°	56	58	61	64	67	71	75	79	84	89	95
10°	54	57	60	64	68	73	79	85	91	98	107
12.5°	53	56	60	65	70	76	83	90	99	108	118
15°	53	56	60	66	72	78	86	94	104	115	129
17.5°	54	57	61	66	72	79	87	96	107	120	136
20°	56	59	62	66	72	78	87	96	107	121	142
22.5°	56	60	63	66	71	77	84	94	106	121	146
25°	54	58	62	65	69	74	80	90	103	119	147
27.5°	50	56	60	64	67	70	75	84	97	115	145
30°	47	53	59	63	65	67	70	78	90	108	141
32.5°	44	50	57	62	64	65	67	72	82	101	136
35°	41	47	55	61	64	65	65	68	76	94	130
37.5°	38	45	53	61	65	66	65	66	71	88	123
40°	36	43	52	60	66	68	67	65	68	84	119
42.5°	33	41	50	59	66	69	68	65	66	81	117
45°	30	39	48	58	66	69	69	66	65	78	115
47.5°	26	35	46	56	65	70	70	67	64	77	114
50°	22	31	42	54	64	70	71	68	65	77	114
52.5°	18	28	38	50	62	70	71	68	66	78	117
55°	15	24	34	46	58	68	71	68	67	80	122
57.5°	12	21	31	42	54	65	70	68	69	85	131
60°	9	18	28	39	50	61	69	68	72	91	137
62.5°	8	16	25	35	46	58	67	69	74	94	138
65°	7	14	23	33	43	54	65	70	76	95	138
67.5°	7	14	22	30	41	52	64	70	77	94	134
70°	6	14	22	30	39	49	62	70	76	92	130
72.5°	6	13	22	29	38	48	60	69	73	89	125
75°	6	13	22	29	37	46	59	66	70	84	119
77.5°	6	13	21	29	36	45	56	63	66	79	111
80°	6	13	21	29	36	44	55	60	62	72	102
82.5°	6	13	21	29	36	44	54	58	58	66	92
85°	6	13	21	29	36	44	53	58	56	60	82
87.5°	6	13	21	29	36	44	53	58	56	58	75
90°	0	0	0	0	0	0	0	0	0	0	0
92.5°	0	0	0	0	0	0	0	0	0	0	0
95°	0	0	0	0	0	0	0	0	0	0	0
97.5°	0	0	0	0	0	0	0	0	0	0	0
100°	0	0	0	0	0	0	0	0	0	0	0
102.5°	0	0	0	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0	0	0	0
107.5°	0	0	0	0	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P28173

CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
112.5°	0	0	0	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0	0	0	0
117.5°	0	0	0	0	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0	0	0	0	0
122.5°	0	0	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0	0	0
127.5°	0	0	0	0	0	0	0	0	0	0	0
130°	0	0	0	0	0	0	0	0	0	0	0
132.5°	0	0	0	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0	0	0	0
137.5°	0	0	0	0	0	0	0	0	0	0	0
140°	0	0	0	0	0	0	0	0	0	0	0
142.5°	0	0	0	0	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0	0	0	0	0
147.5°	0	0	0	0	0	0	0	0	0	0	0
150°	0	0	0	0	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P28173

CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	69	69	69	69	69	69	69	69	69	69	69
2.5°	82	84	85	87	88	90	90	91	91	90	90
5°	90	94	99	103	108	112	115	118	120	120	122
7.5°	101	109	117	125	132	136	145	150	152	156	159
10°	115	126	137	149	160	170	179	188	193	199	203
12.5°	131	147	161	175	191	201	216	229	237	247	254
15°	147	165	186	203	223	247	261	276	288	298	309
17.5°	160	185	209	234	259	284	307	328	339	350	364
20°	170	202	233	267	293	322	351	376	391	403	420
22.5°	177	214	259	297	333	362	390	423	439	460	480
25°	184	226	278	327	367	401	441	471	488	512	540
27.5°	186	235	295	353	396	435	486	516	534	565	595
30°	185	240	305	372	425	466	522	557	577	613	646
32.5°	184	243	314	383	449	501	556	596	619	656	682
35°	181	247	321	395	470	529	587	626	658	696	713
37.5°	175	243	324	405	483	548	615	657	690	731	740
40°	173	243	326	413	497	566	634	683	715	760	754
42.5°	173	249	333	422	512	587	653	713	732	767	759
45°	174	253	342	435	527	608	674	729	740	777	765
47.5°	175	258	352	447	541	630	693	728	748	776	775
50°	177	263	360	461	557	644	700	729	752	774	781
52.5°	184	273	369	472	573	652	702	729	752	769	784
55°	194	288	386	483	582	657	698	727	741	766	781
57.5°	206	304	408	504	588	659	688	723	730	757	775
60°	215	316	425	517	588	663	682	720	719	749	769
62.5°	217	321	436	524	596	666	680	717	714	740	759
65°	217	322	433	526	604	670	686	711	719	739	743
67.5°	214	322	423	524	606	675	690	713	722	732	734
70°	209	311	415	516	604	670	690	705	723	731	734
72.5°	205	301	402	503	598	660	684	707	732	737	736
75°	194	288	390	490	587	658	679	700	727	729	741
77.5°	181	276	378	478	571	645	667	691	721	732	738
80°	168	262	365	466	565	641	663	683	716	727	746
82.5°	155	248	356	458	556	627	658	677	709	729	757
85°	144	236	348	455	552	623	658	674	708	734	759
87.5°	135	230	344	452	551	622	652	668	709	738	768
90°	0	0	0	0	0	0	0	0	0	0	0
92.5°	0	0	0	0	0	0	0	0	0	0	0
95°	0	0	0	0	0	0	0	0	0	0	0
97.5°	0	0	0	0	0	0	0	0	0	0	0
100°	0	0	0	0	0	0	0	0	0	0	0
102.5°	0	0	0	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0	0	0	0
107.5°	0	0	0	0	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P28173

CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
112.5°	0	0	0	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0	0	0	0
117.5°	0	0	0	0	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0	0	0	0	0
122.5°	0	0	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0	0	0
127.5°	0	0	0	0	0	0	0	0	0	0	0
130°	0	0	0	0	0	0	0	0	0	0	0
132.5°	0	0	0	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0	0	0	0
137.5°	0	0	0	0	0	0	0	0	0	0	0
140°	0	0	0	0	0	0	0	0	0	0	0
142.5°	0	0	0	0	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0	0	0	0	0
147.5°	0	0	0	0	0	0	0	0	0	0	0
150°	0	0	0	0	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P28173

CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
0°	69	69	69	69	69	69	69
2.5°	92	91	91	89	90	89	89
5°	125	124	126	125	126	126	126
7.5°	161	166	170	170	172	173	173
10°	206	213	219	220	224	225	226
12.5°	259	270	278	279	282	282	281
15°	316	329	337	335	337	341	343
17.5°	378	389	387	393	399	404	402
20°	440	444	445	456	462	459	456
22.5°	495	500	506	518	515	517	520
25°	545	558	568	567	570	577	583
27.5°	594	617	621	621	623	629	632
30°	648	667	667	667	671	669	666
32.5°	688	702	706	710	709	704	703
35°	737	734	742	735	719	718	724
37.5°	756	746	756	743	730	725	731
40°	765	756	766	752	744	735	735
42.5°	766	767	774	763	759	739	745
45°	768	773	775	773	767	745	757
47.5°	771	782	777	782	769	756	768
50°	771	789	779	790	777	769	781
52.5°	762	786	778	786	779	774	788
55°	757	780	771	770	771	771	785
57.5°	757	765	770	763	764	763	778
60°	750	758	759	755	764	760	773
62.5°	740	755	752	747	758	758	771
65°	741	737	746	736	739	738	751
67.5°	733	728	719	730	734	722	733
70°	726	716	702	707	709	705	713
72.5°	737	700	679	708	708	699	707
75°	737	700	673	708	702	693	698
77.5°	759	717	675	710	698	685	687
80°	771	732	682	708	689	673	673
82.5°	784	746	696	708	681	661	658
85°	785	752	707	710	669	649	647
87.5°	796	759	715	713	659	639	637
90°	0	0	0	0	0	0	0
92.5°	0	0	0	0	0	0	0
95°	0	0	0	0	0	0	0
97.5°	0	0	0	0	0	0	0
100°	0	0	0	0	0	0	0
102.5°	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0
107.5°	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0



TEST NUMBER: P28173

CATALOG NUMBER: G12-BLK-LD4-30W-40-CL-UNV-ED1C-CSTG/BLK

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
112.5°	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0
117.5°	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0
122.5°	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0
127.5°	0	0	0	0	0	0	0
130°	0	0	0	0	0	0	0
132.5°	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0
137.5°	0	0	0	0	0	0	0
140°	0	0	0	0	0	0	0
142.5°	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0
147.5°	0	0	0	0	0	0	0
150°	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0

(END OF REPORT)