

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P208902

Luminaire Tested: **LDSQA6A30835D010TE LAR35FL 6LSQA1H 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P208902
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29058)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA6A30835D010TE LAR35FL 6LSQA1H 30°
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 35° FLOOD, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3023.0 lumens
Efficiency: N/A
Efficacy: 67.8 lumens/watt
Spacing Criteria (0/90/45): 2.55 / 0.56 / 1.24
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

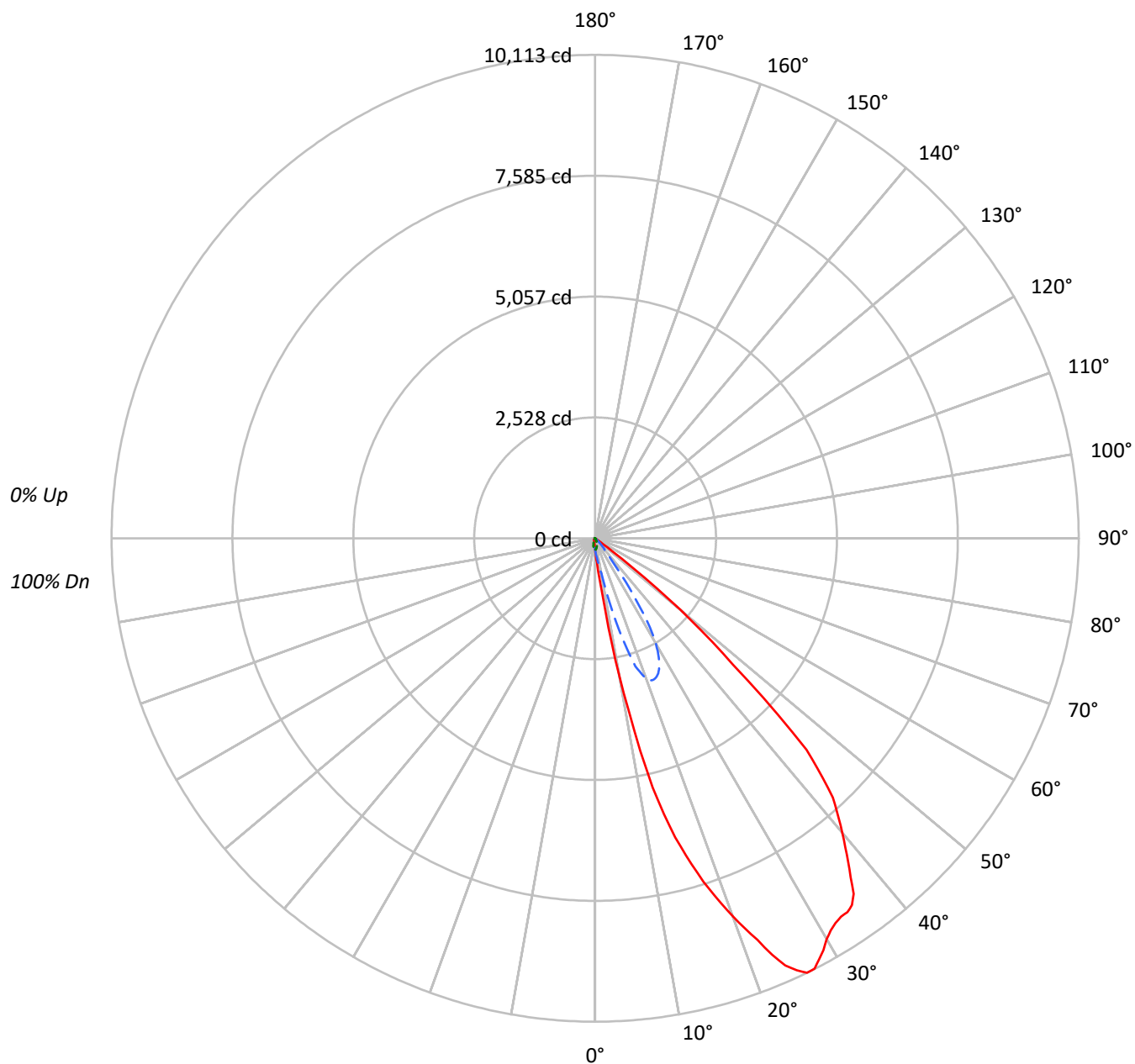
Input Watts (W): 44.62
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91		
2	105	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	82		
3	99	91	85	80	96	89	84	80	87	82	78	84	80	77	82	79	76	74		
4	92	83	76	71	90	82	76	71	79	74	70	77	73	69	75	71	68	66		
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	69	65	61	60		
6	80	69	62	57	78	68	62	57	67	61	56	65	60	56	64	59	55	54		
7	75	64	56	51	73	63	56	51	61	55	51	60	54	50	59	54	50	48		
8	70	58	51	46	68	58	51	46	56	50	46	55	50	46	54	49	45	44		
9	65	54	47	42	64	53	46	42	52	46	41	51	45	41	50	45	41	39		
10	61	49	42	38	60	49	42	38	48	42	38	47	42	37	46	41	37	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10333	10333	10333
5°	25327	9854	5446
10°	128362	8176	3979
15°	288754	6196	3165
20°	385657	4353	2657
25°	473831	3040	2328
30°	481205	2088	2138
35°	492341	1314	1892
40°	452114	787	1742
45°	380745	548	1583
50°	155735	469	1407
55°	7582	450	1051
60°	431	431	689
65°	102	509	611
70°	126	629	629
75°	0	998	665
80°	0	1488	744
85°	0	2964	988



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.9	1.2
10°-20°	399.6	13.2
20°-30°	920.2	30.4
30°-40°	1011.9	33.5
40°-50°	593.6	19.6
50°-60°	48.4	1.6
60°-70°	4.9	0.2
70°-80°	4.2	0.1
80°-90°	3.3	0.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1356.7	44.9
0°-40°	2368.6	78.4
0°-60°	3010.6	99.6
0°-90°	3023.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3023.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	240	240	240	240	240	
5°	586	404	228	141	126	123
15°	6478	2118	139	76	71	1828
25°	9974	3120	64	44	49	4469
35°	9367	1123	25	27	36	5706
45°	6253	125	9	17	26	4330
55°	101	6	6	11	14	404
65°	1	3	5	7	6	1
75°	0	3	6	5	4	0
85°	0	3	6	4	2	0
90°	0	0	0	0	0	



TEST NUMBER: P208902

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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	240	240	240	240	240	240	240	240	240	240	240
2.5°	370	362	360	359	353	356	358	353	353	353	342
5°	586	564	561	556	541	541	543	530	525	507	491
7.5°	1202	1119	1158	1136	1075	1055	1051	996	962	894	832
10°	2936	2750	2807	2747	2605	2515	2515	2361	2246	2044	1840
11°	3668	3552	3610	3540	3373	3262	3259	3078	2937	2688	2434
12°	4545	4367	4330	4347	4160	4033	4018	3819	3660	3372	3082
13°	5349	5229	5103	5111	4915	4785	4753	4544	4376	4064	3743
14°	5946	5879	5770	5758	5581	5450	5411	5198	5022	4708	4371
15°	6478	6415	6312	6285	6115	5982	5937	5715	5535	5239	4913
17.5°	7533	7492	7452	7344	7215	7021	6958	6700	6466	6199	5843
20°	8417	8362	8278	8190	8027	7817	7773	7462	7217	6951	6535
21°	8740	8686	8596	8495	8310	8088	8027	7699	7441	7165	6742
22°	9063	9012	8920	8792	8587	8338	8247	7901	7629	7325	6900
23°	9463	9343	9243	9086	8845	8563	8440	8067	7781	7464	7031
24°	9780	9658	9541	9350	9078	8765	8608	8211	7919	7576	7139
25°	9974	9911	9788	9571	9276	8934	8750	8329	8010	7670	7228
26°	10113	10047	9941	9714	9432	9084	8860	8428	8098	7731	7287
27°	10108	10068	9979	9779	9542	9188	8952	8494	8144	7762	7310
28°	9974	9974	9934	9772	9568	9234	8985	8506	8149	7755	7295
29°	9852	9821	9829	9702	9528	9202	8961	8471	8112	7710	7250
30°	9679	9670	9705	9603	9459	9134	8884	8398	8039	7636	7178
31°	9571	9547	9581	9496	9338	9005	8767	8293	7943	7541	7090
32°	9490	9461	9501	9391	9219	8890	8636	8178	7818	7436	6978
33°	9441	9432	9447	9298	9077	8734	8504	8055	7698	7318	6855
34°	9432	9413	9387	9173	8934	8586	8355	7918	7569	7179	6705
35°	9367	9325	9266	9000	8732	8399	8181	7760	7407	7013	6519
36°	9199	9128	9064	8787	8509	8198	7993	7581	7229	6822	6306
37°	8876	8852	8774	8538	8284	7985	7787	7394	7030	6603	6068
38°	8596	8570	8498	8285	8054	7767	7570	7153	6806	6357	5808
39°	8312	8289	8234	8002	7801	7531	7334	6917	6562	6084	5521
40°	8044	8021	7971	7741	7542	7285	7085	6660	6326	5787	5192
42.5°	7361	7283	7219	6998	6820	6553	6337	5900	5432	4861	4264
45°	6253	6156	6080	5938	5744	5538	5246	4774	4290	3738	2925
47.5°	3904	3768	3681	3519	3301	3160	3083	2834	2504	2260	1642
50°	2325	2225	2152	1917	1751	1545	1349	987	792	599	496
51°	1672	1590	1547	1353	1227	1080	942	687	553	418	345
52°	968	905	903	778	729	669	572	453	387	303	259
53°	450	413	420	362	343	335	332	264	258	226	191
54°	202	185	173	167	162	164	168	152	146	142	130
55°	101	92	87	92	82	83	86	80	78	78	76
57.5°	22	21	21	22	21	21	22	22	22	21	21
60°	5	5	5	5	6	6	6	6	7	8	8



TEST NUMBER: P208902

CATALOG NUMBER: LDSQA6A30835D010TE LAR35FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
63°	1	1	1	1	1	1	1	1	2	2	2
64°	1	1	1	1	1	1	1	1	1	2	2
65°	1	1	1	1	1	1	1	1	1	2	2
66°	1	1	1	1	1	1	1	1	1	2	2
67.5°	1	1	1	1	1	1	1	1	1	2	2
70°	1	1	1	1	1	1	1	1	1	2	2
72.5°	1	1	1	1	1	1	1	1	1	2	2
75°	0	0	0	0	0	1	1	1	1	1	2
77.5°	0	0	0	0	1	1	1	1	1	1	2
80°	0	0	0	0	1	1	1	1	1	1	2
82.5°	0	0	0	0	0	1	1	1	1	1	2
85°	0	0	0	0	0	1	1	1	1	1	2
87.5°	0	0	0	0	0	1	1	1	1	1	2
90°	0	0	0	0	0	0	0	0	0	0	0



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CATALOG NUMBER: LDSQA6A30835D010TE LAR35FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
0°	240	240	240	240	240	240	240	240	240	240	240
2.5°	341	333	334	328	324	321	324	315	313	304	299
5°	487	468	462	448	432	424	421	404	395	378	368
7.5°	805	745	710	669	619	594	562	531	497	465	443
10°	1751	1560	1417	1270	1071	971	843	749	655	581	535
11°	2320	2077	1884	1680	1416	1273	1086	932	769	656	582
12°	2936	2645	2407	2141	1818	1626	1392	1188	961	787	660
13°	3557	3223	2948	2626	2259	2012	1736	1484	1200	978	794
14°	4158	3791	3486	3112	2714	2416	2102	1800	1465	1195	964
15°	4695	4307	3988	3584	3166	2821	2469	2118	1769	1425	1150
17.5°	5619	5211	4897	4472	4059	3666	3263	2807	2376	1949	1624
20°	6318	5826	5450	4947	4476	4033	3607	3142	2716	2255	1885
21°	6496	5986	5602	5098	4590	4122	3674	3186	2744	2279	1911
22°	6647	6135	5724	5195	4676	4181	3715	3202	2742	2262	1892
23°	6762	6241	5823	5280	4743	4224	3734	3195	2718	2227	1848
24°	6871	6338	5902	5333	4782	4231	3724	3167	2678	2174	1789
25°	6941	6403	5945	5359	4784	4212	3691	3120	2617	2102	1712
26°	6991	6434	5960	5350	4768	4174	3639	3050	2533	2013	1623
27°	6999	6432	5941	5319	4715	4102	3555	2952	2425	1910	1526
28°	6969	6395	5893	5259	4641	4006	3446	2834	2305	1796	1419
29°	6916	6333	5811	5161	4525	3877	3315	2697	2170	1667	1301
30°	6832	6243	5706	5046	4392	3731	3163	2537	2005	1509	1147
31°	6731	6127	5564	4888	4225	3559	2987	2324	1793	1310	963
32°	6600	5980	5401	4713	4038	3362	2746	2052	1541	1079	764
33°	6455	5817	5207	4487	3830	3098	2430	1744	1260	835	562
34°	6276	5622	5001	4257	3563	2755	2024	1412	970	597	382
35°	6069	5397	4751	3986	3204	2360	1646	1123	694	398	278
36°	5828	5153	4486	3635	2795	1947	1281	823	475	303	239
37°	5568	4880	4131	3269	2356	1540	953	579	359	269	207
38°	5276	4589	3729	2815	1915	1164	681	432	309	234	177
39°	4953	4230	3269	2337	1490	839	519	355	267	202	153
40°	4595	3724	2768	1865	1108	605	423	307	233	173	130
42.5°	3403	2470	1523	880	523	377	281	216	153	104	67
45°	2045	1261	668	457	331	253	181	125	73	45	31
47.5°	914	527	374	295	214	151	88	53	33	23	17
50°	356	289	223	170	103	60	38	25	17	12	8
51°	275	224	174	125	69	42	28	19	13	9	6
52°	211	172	131	84	47	32	22	14	10	6	5
53°	155	132	91	59	34	24	17	11	7	5	4
54°	107	91	58	37	25	18	12	8	5	4	4
55°	65	57	38	27	18	13	9	6	4	3	3
57.5°	20	18	15	12	8	6	4	3	3	3	3
60°	7	7	6	5	3	3	3	3	3	3	3



TEST NUMBER: P208902

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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
63°	2	2	3	3	3	3	3	3	3	3	3
64°	2	2	2	2	3	3	3	3	3	3	4
65°	2	2	2	2	3	3	3	3	3	3	4
66°	2	2	2	2	3	3	3	3	3	3	4
67.5°	2	2	2	2	3	3	3	3	3	3	4
70°	2	2	2	2	3	3	3	3	3	4	4
72.5°	2	2	2	2	3	3	3	3	3	4	4
75°	2	2	2	3	3	3	3	3	4	4	4
77.5°	2	2	2	3	3	3	3	3	4	4	4
80°	2	2	2	2	3	3	3	3	4	4	4
82.5°	2	2	2	2	3	3	3	3	4	4	4
85°	2	2	2	2	3	3	3	3	4	4	4
87.5°	2	2	2	3	3	3	3	3	4	4	4
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P208902

CATALOG NUMBER: LDSQA6A30835D010TE LAR35FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	240	240	240	240	240	240	240	240	240	240	240
2.5°	295	290	286	282	277	274	271	265	262	255	250
5°	357	346	335	324	314	306	298	287	279	267	257
7.5°	419	397	377	360	342	329	314	298	284	268	253
10°	489	448	414	384	358	337	317	295	278	257	240
11°	519	470	428	392	362	338	315	291	272	251	232
12°	563	491	442	400	364	337	312	286	266	244	225
13°	637	529	456	405	367	335	307	279	258	235	215
14°	760	596	485	414	367	333	301	271	248	225	205
15°	910	705	541	433	366	329	295	263	238	214	192
17.5°	1294	1020	781	574	420	322	273	236	209	182	162
20°	1524	1212	944	705	507	353	254	206	177	153	134
21°	1552	1237	962	721	517	357	248	193	164	140	123
22°	1543	1230	954	712	507	348	237	181	152	129	112
23°	1499	1191	916	676	480	327	221	168	140	118	102
24°	1435	1126	858	623	432	290	198	154	128	108	95
25°	1359	1052	785	563	375	249	174	140	116	98	87
26°	1274	972	709	495	315	209	154	127	104	88	79
27°	1183	885	629	421	262	178	139	113	94	81	72
28°	1086	798	542	351	217	156	125	101	84	73	66
29°	977	696	458	287	179	138	111	90	76	67	61
30°	840	581	367	231	154	123	99	81	69	62	56
31°	684	452	279	183	134	109	88	73	63	57	51
32°	517	329	208	152	118	96	78	66	58	51	47
33°	364	235	168	132	103	84	70	60	53	46	42
34°	250	189	146	114	90	75	63	54	47	41	37
35°	211	165	126	98	78	66	56	48	41	36	32
36°	182	143	108	86	68	57	49	41	35	30	28
37°	157	123	93	74	58	48	40	34	30	26	24
38°	136	104	79	63	48	39	33	28	25	22	20
39°	116	87	64	50	38	32	27	24	21	19	17
40°	96	69	49	39	30	26	22	20	17	16	15
42.5°	45	33	26	22	18	16	14	12	11	10	10
45°	23	19	14	12	10	9	8	7	7	7	7
47.5°	12	9	7	6	5	5	5	5	5	5	5
50°	6	4	4	4	3	4	4	4	4	5	5
51°	4	4	3	3	3	4	4	4	4	5	5
52°	4	3	3	3	3	4	4	4	4	5	5
53°	3	3	3	3	3	3	4	4	4	5	5
54°	3	3	3	3	3	3	4	4	4	5	5
55°	3	3	3	3	3	3	4	4	4	4	5
57.5°	3	3	3	3	3	4	4	4	4	4	5
60°	3	3	3	3	4	4	4	4	4	4	5



TEST NUMBER: P208902

CATALOG NUMBER: LDSQA6A30835D010TE LAR35FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
63°	3	4	4	4	4	4	4	4	4	4	5
64°	4	4	4	4	4	4	4	4	4	4	5
65°	4	4	4	4	4	4	4	4	4	4	5
66°	4	4	4	4	4	4	4	4	4	5	5
67.5°	4	4	4	4	4	4	4	4	4	5	5
70°	4	4	4	4	4	4	5	5	5	5	5
72.5°	4	4	4	4	4	5	5	5	5	5	5
75°	4	4	4	4	5	5	5	5	5	5	5
77.5°	4	4	5	5	5	5	5	5	5	5	5
80°	4	4	4	5	5	5	5	5	5	5	5
82.5°	4	4	4	5	5	5	5	5	5	5	5
85°	4	4	4	5	5	5	5	5	5	5	5
87.5°	4	4	4	5	5	5	5	5	5	5	5
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P208902

CATALOG NUMBER: LDSQA6A30835D010TE LAR35FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
0°	240	240	240	240	240	240	240	240
2.5°	250	241	242	237	198	177	166	158
5°	252	239	236	228	165	141	131	126
7.5°	245	228	222	211	140	118	110	106
10°	229	210	200	187	120	102	94	91
11°	221	201	191	178	113	96	89	86
12°	212	191	182	168	106	90	84	81
13°	202	181	172	159	99	85	80	77
14°	190	171	162	150	93	80	76	74
15°	179	161	151	139	88	76	73	71
17.5°	150	134	126	116	74	65	65	64
20°	123	109	103	95	62	57	58	58
21°	113	101	95	88	59	54	56	56
22°	103	92	88	81	55	51	54	54
23°	95	84	81	75	51	49	52	52
24°	87	78	74	69	48	46	50	51
25°	80	71	68	64	45	44	48	49
26°	73	65	63	59	42	42	46	48
27°	67	61	58	54	39	40	45	46
28°	62	56	53	50	36	38	43	45
29°	57	51	49	46	34	36	41	44
30°	52	47	45	42	32	34	40	43
31°	48	43	41	38	30	33	38	41
32°	43	39	37	35	28	31	37	40
33°	39	34	33	31	27	30	36	38
34°	34	30	29	28	25	28	34	37
35°	29	27	26	25	23	27	33	36
36°	26	23	23	22	22	26	32	35
37°	22	21	20	20	20	24	30	34
38°	19	18	18	18	19	23	29	33
39°	16	16	16	16	18	22	28	32
40°	14	14	14	14	17	21	27	31
42.5°	10	10	10	11	14	19	24	29
45°	8	8	8	9	13	17	22	26
47.5°	6	6	7	8	11	15	20	24
50°	5	6	6	7	10	14	17	21
51°	5	5	6	6	9	13	16	20
52°	5	5	6	6	9	12	16	18
53°	5	5	6	6	9	12	15	17
54°	5	5	6	6	8	11	14	16
55°	5	5	6	6	8	11	14	14
57.5°	5	5	5	6	7	10	12	12
60°	5	5	5	5	7	9	11	8



TEST NUMBER: P208902

CATALOG NUMBER: LDSQA6A30835D010TE LAR35FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
63°	5	5	5	5	6	8	9	6
64°	5	5	5	6	6	8	8	6
65°	5	5	5	5	6	7	8	6
66°	5	5	5	5	6	7	7	6
67.5°	5	5	5	5	6	7	7	5
70°	5	5	5	5	6	6	6	5
72.5°	5	5	5	5	5	6	5	4
75°	5	5	6	6	5	5	4	4
77.5°	5	5	6	6	5	5	4	3
80°	5	5	6	6	5	4	3	3
82.5°	5	5	6	6	5	4	3	2
85°	5	5	6	6	5	4	2	2
87.5°	5	5	6	6	5	3	2	1
90°	0	0	0	0	0	0	0	0



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - 90°-270°







61°	3	3	3	3	3	3	4	4	4	5	5
62°	2	2	2	2	2	2	2	2	3	3	3





61°	5	5	4	3	3	3	3	3	3	3	3
62°	3	3	3	3	3	3	3	3	3	3	3





61°	3	3	4	4	4	4	4	4	4	4	5
62°	3	4	4	4	4	4	4	4	4	4	5





61°	5	5	5	5	7	9	10	7
62°	5	5	5	5	7	9	9	7



(END OF REPORT)