

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: SURE-LITES

Report Number: P29219

Luminaire Tested: **SELW29SD**

Test Date: 02/08/17

Test Information

Test Method: LM-79-08
Report Number: P29219
Test Lab: INNOVATION CENTER-P2
Test Date: 02/08/17
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SURE-LITES
Catalog Number: SELW29SD
Description: EMERGENCY LIGHT 2 ADJUSTABLE LEDS WITH LIGHTS AIMED PARALELL TO THE FIXTURE
Light Source: (2) NICHIA 5000K LEDS
NFSW757DT-V1(2100)
Ballast/Driver: (1) ELECTRONIC DC POWER SUPPLY (4.8V)
AGILENT DC POWER SUPPLY IN0011

Summary

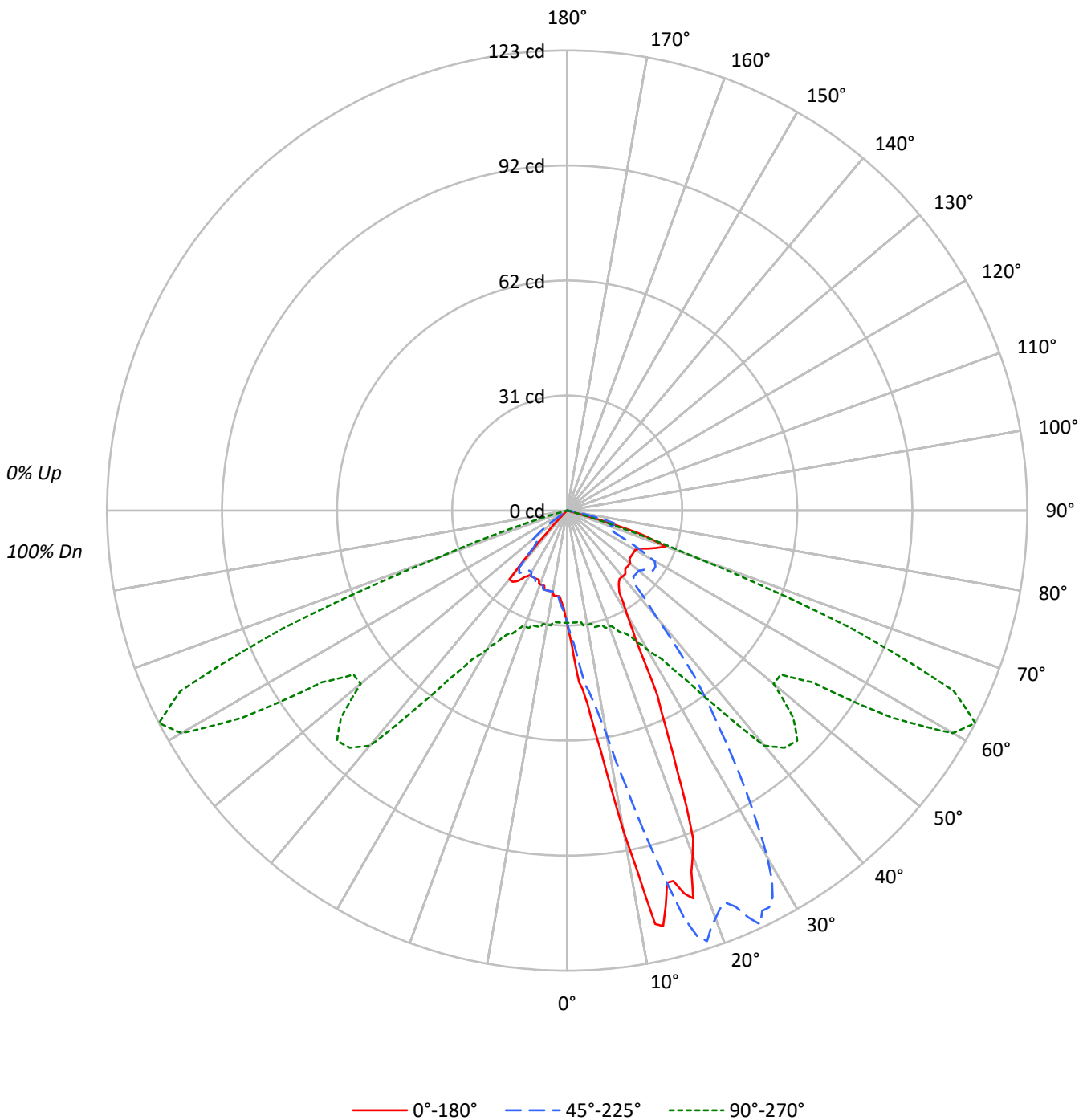
Lumens per Lamp: N/A
Luminaire Lumens: 201.5 lumens
Efficiency: N/A
Efficacy: 70.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 3.43 / 1.35
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 0.17' x H: 0.04')
CIE Type: Direct

Input Watts (W): 2.88
Input Voltage (V): 4.80
Input Current (A_{in}): 0.600
Voltage Rise (V): NR
Power Factor: 1
Total Harmonic Distortion (THDi): NR
Frequency (hertz): DC
Stabilization Time: 0.5 HR
Operation Time: 2 HR
Ambient Temperature (°C): 25.0
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	99	91	85	79	97	89	83	78	86	81	76	83	78	75	80	76	73	71
3	90	80	71	65	88	78	70	64	75	69	63	72	67	62	70	65	61	59
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	55	46	39	67	54	45	39	52	45	39	51	44	38	49	43	38	36
7	63	49	40	34	62	49	40	34	47	39	34	46	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	32	26	53	40	32	26	39	31	26	38	31	26	37	30	26	24
10	51	37	29	24	50	37	29	24	36	28	23	35	28	23	34	28	23	21

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	11625	11625	11625
5°	18271	11420	8755
10°	32787	11683	8291
15°	38726	12031	8272
20°	37042	12473	7937
25°	22975	13785	7658
30°	12512	16813	7820
35°	9662	22142	9259
40°	9617	34287	10035
45°	9645	38141	438
50°	10218	33441	0
55°	10455	39827	0
60°	11357	64357	0
65°	14325	68046	0
70°	18806	24179	0
75°	775	775	0
80°	923	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.4	1.7
10°-20°	15.2	7.5
20°-30°	26.1	12.9
30°-40°	35.4	17.6
40°-50°	47.8	23.7
50°-60°	35.0	17.4
60°-70°	31.8	15.8
70°-80°	6.7	3.3
80°-90°	0.1	0.0
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°	44.7	22.2
0°-40°	80.1	39.7
0°-60°	162.9	80.9
0°-90°	201.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	201.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	30	30	30	30	30	
5°	48	43	30	24	23	6
15°	103	103	32	22	22	30
25°	60	122	36	20	20	28
35°	24	71	55	20	23	16
45°	22	25	87	11	1	17
55°	21	28	80	2	0	19
65°	24	14	114	0	0	24
75°	1	13	1	0	0	9
85°	0	1	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	30	30	30	30	30	30	30	30	30	30	30
1°	33	32	32	32	32	32	31	31	31	31	31
2°	36	35	35	35	34	34	33	33	33	33	32
3°	41	40	39	38	37	36	35	34	34	34	34
4°	46	46	45	44	41	39	37	37	37	37	36
5°	48	48	48	47	46	43	40	39	39	39	39
6°	52	51	50	49	48	47	43	42	42	42	41
7°	58	57	55	53	51	49	46	45	45	45	44
8°	65	64	62	59	55	52	49	48	48	47	47
9°	75	74	70	67	60	56	51	51	50	50	49
10°	87	83	80	76	68	61	54	53	52	52	51
11°	98	95	93	86	77	68	57	56	55	55	54
12°	113	110	105	98	86	75	61	60	59	58	57
13°	114	115	115	110	98	84	66	65	63	62	61
14°	109	110	113	117	110	93	73	70	68	67	65
15°	103	104	107	114	117	103	79	77	74	72	70
16°	103	102	104	110	119	113	87	84	81	79	76
17°	107	106	105	107	115	119	94	92	88	86	83
18°	109	109	109	107	113	121	103	100	96	94	91
19°	102	104	108	110	110	118	113	110	105	103	99
20°	98	99	103	110	110	116	120	118	115	113	108
21°	94	95	100	108	113	114	126	125	123	121	119
22°	85	89	95	104	113	113	128	129	128	128	126
23°	75	78	87	101	112	115	127	130	131	132	132
24°	67	69	79	93	108	119	126	129	132	134	135
25°	60	62	70	85	104	122	125	128	131	134	136
26°	55	56	63	77	99	119	127	128	130	133	136
27°	46	47	55	70	90	119	129	130	131	133	136
28°	39	40	47	62	83	117	134	134	134	136	137
29°	35	36	42	54	76	113	139	139	138	139	140
30°	32	33	36	48	69	107	145	144	143	144	145
32.5°	26	26	28	34	53	89	149	155	159	162	161
35°	24	24	24	27	37	71	144	151	158	165	172
37.5°	23	23	23	24	27	56	129	138	149	159	170
40°	23	23	23	23	24	37	102	114	130	146	161
42.5°	23	23	23	23	23	27	82	92	106	119	136
45°	22	23	23	23	23	25	66	76	87	100	117
47.5°	22	22	22	22	23	25	44	55	77	92	107
50°	22	22	22	22	23	25	36	43	57	67	83
52.5°	21	21	21	22	23	26	35	37	40	45	52
55°	21	21	21	21	23	28	35	36	37	38	40
57.5°	21	21	21	21	23	28	31	31	31	31	30
60°	21	21	21	21	24	27	23	22	22	22	22
62.5°	22	22	21	22	24	20	17	17	16	16	16
65°	24	24	23	23	18	14	15	15	15	15	16



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
67.5°	26	26	24	19	13	12	15	16	16	17	18
70°	28	27	20	13	11	12	17	17	18	18	19
72.5°	20	19	14	12	13	13	17	17	18	18	19
75°	1	4	9	11	12	13	13	13	13	13	12
77.5°	0	0	1	3	6	6	6	6	6	6	5
80°	1	1	0	0	1	1	1	1	1	1	1
82.5°	0	0	0	0	0	0	0	0	1	1	1
85°	0	0	0	0	0	1	0	0	0	1	1
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P29219
 CATALOG NUMBER: SELW29SD

CANDELA DISTRIBUTION (continued):

	60°	61°	62°	63°	64°	65°	66°	67°	68°	69°	70°
0°	30	30	30	30	30	30	30	30	30	30	30
1°	31	31	31	31	31	31	31	30	30	30	30
2°	32	32	32	32	32	32	32	32	31	32	31
3°	34	34	34	34	33	33	33	33	33	33	32
4°	36	36	36	35	35	35	34	34	34	34	34
5°	39	38	38	37	37	37	36	36	36	35	35
6°	41	40	40	40	39	39	39	38	38	37	37
7°	44	43	43	42	41	41	41	40	40	39	39
8°	47	46	46	45	44	44	43	42	41	41	41
9°	49	48	48	47	46	46	45	45	44	43	42
10°	51	50	50	49	48	48	47	46	46	45	44
11°	54	53	52	51	51	50	49	48	47	47	46
12°	56	55	55	54	53	52	51	50	49	49	48
13°	60	59	57	56	55	54	53	52	51	51	49
14°	63	62	61	59	58	56	55	54	53	52	51
15°	67	66	65	63	61	59	58	56	55	54	53
16°	73	71	69	67	64	63	61	59	57	56	55
17°	80	77	74	71	69	67	64	62	60	59	57
18°	87	84	81	78	74	71	69	66	64	62	60
19°	96	91	89	85	81	77	74	71	68	65	63
20°	104	100	97	93	89	85	80	77	73	70	67
21°	114	109	106	102	97	93	88	84	79	76	72
22°	123	120	116	111	106	103	97	92	87	83	78
23°	130	128	125	122	116	110	106	102	96	91	85
24°	135	134	133	131	127	121	115	112	105	100	94
25°	138	138	138	137	135	132	126	122	115	110	104
26°	139	141	143	142	141	140	137	133	126	121	115
27°	139	142	145	147	146	146	144	141	136	131	126
28°	139	143	146	149	151	151	151	149	146	142	136
29°	142	144	148	152	154	156	157	156	154	152	147
30°	146	147	149	153	157	160	161	162	161	159	156
32.5°	159	160	161	163	165	167	171	173	174	175	175
35°	177	180	181	181	183	184	186	189	193	195	197
37.5°	181	192	201	208	214	218	220	221	224	227	233
40°	174	187	202	218	236	249	259	267	276	283	294
42.5°	155	176	195	217	240	266	292	317	338	354	367
45°	137	158	183	208	236	265	297	330	362	388	413
47.5°	121	138	157	177	202	235	268	303	338	367	390
50°	96	108	122	138	156	178	208	243	274	296	313
52.5°	62	74	87	99	110	125	142	162	178	202	218
55°	42	48	53	60	69	78	88	100	113	128	143
57.5°	30	30	32	35	39	47	54	63	74	88	102
60°	22	22	22	23	25	29	34	44	54	67	81
62.5°	16	16	17	17	18	20	23	30	41	58	77
65°	16	17	17	18	19	21	24	29	43	57	70



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CANDELA DISTRIBUTION (continued):

	60°	61°	62°	63°	64°	65°	66°	67°	68°	69°	70°
67.5°	19	20	20	21	23	24	26	29	34	42	53
70°	19	20	21	21	22	23	25	26	28	31	34
72.5°	19	20	20	21	21	21	22	22	22	23	23
75°	12	12	11	11	11	11	10	10	10	10	10
77.5°	5	5	5	5	5	5	5	4	4	4	3
80°	1	1	1	1	1	1	1	1	1	1	1
82.5°	1	1	1	1	1	0	0	1	0	0	0
85°	1	1	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P29219
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CANDELA DISTRIBUTION (continued):

	71°	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°
0°	30	30	30	30	30	30	30	30	30	30	30
1°	30	30	30	30	30	30	30	30	30	30	30
2°	31	31	31	31	31	31	31	31	31	31	30
3°	32	32	32	32	32	32	31	31	31	31	31
4°	34	33	33	33	33	33	32	32	32	32	32
5°	35	35	34	34	34	34	33	33	33	32	32
6°	37	36	36	36	35	35	35	34	34	33	33
7°	38	38	38	37	37	36	36	35	35	34	34
8°	40	40	39	39	38	38	37	37	36	35	35
9°	42	41	41	40	40	39	39	38	37	37	36
10°	43	43	42	41	41	40	40	39	39	38	37
11°	45	44	44	43	42	41	41	40	40	39	38
12°	47	46	45	45	44	43	42	41	41	40	39
13°	49	48	47	46	46	45	44	43	42	41	40
14°	51	50	49	48	47	46	45	44	43	42	41
15°	52	51	50	50	49	48	47	46	45	43	42
16°	54	53	52	51	50	50	49	48	47	45	44
17°	56	55	54	53	52	51	50	49	48	47	46
18°	58	57	55	54	53	52	52	51	50	49	48
19°	61	59	58	56	55	54	53	52	52	51	49
20°	64	62	60	59	57	56	54	54	53	52	51
21°	69	66	64	62	60	58	56	55	54	54	53
22°	74	70	68	65	63	61	59	57	56	55	54
23°	80	76	73	70	67	64	62	60	58	57	56
24°	89	83	79	75	71	68	65	63	60	59	57
25°	98	91	86	81	76	72	69	66	63	61	59
26°	108	101	95	88	83	78	74	70	67	64	61
27°	119	112	104	96	90	83	79	74	70	67	63
28°	130	123	114	106	98	90	84	79	75	70	67
29°	140	133	125	115	107	98	91	85	79	74	70
30°	150	142	135	126	117	106	98	91	85	79	74
32.5°	173	168	161	151	142	133	122	112	104	97	90
35°	197	195	193	186	175	167	156	142	131	120	112
37.5°	234	231	229	223	215	206	197	184	169	155	142
40°	297	297	296	289	276	268	256	239	223	204	185
42.5°	380	381	379	369	352	339	324	301	275	253	228
45°	433	443	443	435	422	408	390	364	334	298	267
47.5°	401	411	407	398	391	377	360	344	322	298	273
50°	318	325	326	316	310	299	287	274	261	244	227
52.5°	222	233	239	234	234	226	218	211	204	196	186
55°	159	172	182	190	197	202	204	205	204	197	188
57.5°	117	135	155	173	188	202	217	229	237	235	230
60°	96	114	136	163	191	222	254	283	302	318	315
62.5°	97	117	139	161	188	222	264	309	346	365	370
65°	85	104	124	147	174	205	241	282	318	333	325



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CANDELA DISTRIBUTION (continued):

	71°	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°
67.5°	65	78	93	115	137	161	186	208	222	217	206
70°	39	51	66	75	83	92	101	113	124	121	112
72.5°	25	25	27	30	36	42	44	44	47	45	41
75°	10	10	11	12	13	13	15	15	16	15	14
77.5°	4	3	3	3	3	2	2	1	1	1	1
80°	1	1	1	1	1	1	1	1	1	1	1
82.5°	0	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	82°	83°	84°	85°	86°	87°	88°	89°	90°	95°	105°
0°	30	30	30	30	30	30	30	30	30	30	30
1°	30	30	30	30	30	30	30	30	30	30	29
2°	30	30	30	30	30	30	30	30	30	29	29
3°	31	31	30	30	30	30	30	30	30	29	28
4°	31	31	31	31	31	30	30	30	30	29	28
5°	32	31	31	31	31	31	31	30	30	29	28
6°	33	32	32	32	31	31	31	31	30	29	27
7°	33	33	32	32	32	31	31	31	30	29	27
8°	34	33	33	33	32	32	31	31	31	29	27
9°	35	34	34	33	33	32	32	31	31	29	26
10°	36	35	34	33	33	32	32	31	31	28	26
11°	37	36	35	34	34	33	32	32	31	28	25
12°	38	37	36	35	34	33	32	32	31	28	25
13°	39	38	37	36	35	34	33	32	32	28	25
14°	40	39	38	37	36	34	33	32	32	28	25
15°	41	40	39	38	37	35	34	33	32	28	24
16°	42	41	40	39	37	36	34	33	32	28	24
17°	44	42	41	40	38	37	35	34	32	28	24
18°	46	44	42	41	39	38	36	34	33	28	23
19°	48	46	44	43	41	39	37	35	33	28	23
20°	49	47	46	44	42	40	38	35	33	27	23
21°	51	49	47	46	44	41	39	36	33	27	23
22°	53	51	49	47	45	43	40	37	34	27	23
23°	54	53	51	49	46	44	41	38	35	27	23
24°	56	54	53	50	47	45	42	39	36	27	23
25°	57	55	54	52	49	46	43	40	36	26	23
26°	59	57	55	53	51	48	45	41	37	27	23
27°	61	58	56	55	52	49	46	42	38	27	23
28°	64	60	58	56	54	51	48	44	40	26	23
29°	67	63	60	57	55	53	49	45	41	26	23
30°	70	66	63	60	57	54	51	47	43	26	23
32.5°	83	78	73	69	64	60	56	52	47	27	23
35°	102	95	89	83	75	69	64	59	55	29	24
37.5°	131	121	113	104	96	88	80	73	67	33	27
40°	169	155	142	128	117	108	97	88	82	42	29
42.5°	205	185	167	149	134	120	107	95	86	42	30
45°	238	210	185	162	143	128	114	100	87	42	24
47.5°	245	214	186	164	142	125	109	93	82	36	18
50°	205	184	160	140	122	107	92	81	72	31	15
52.5°	174	158	143	126	112	99	88	80	72	28	15
55°	178	165	150	132	117	105	97	88	80	34	17
57.5°	216	202	186	165	148	135	123	113	103	49	18
60°	300	277	245	214	190	170	149	134	119	53	19
62.5°	362	342	307	268	232	203	171	143	123	53	14
65°	320	304	275	246	220	195	166	136	114	40	7



TEST NUMBER: P29219
CATALOG NUMBER: SELW29SD

CANDELA DISTRIBUTION (continued):

	82°	83°	84°	85°	86°	87°	88°	89°	90°	95°	105°
67.5°	199	188	176	160	144	126	111	96	82	19	2
70°	104	92	84	73	67	58	50	41	36	11	1
72.5°	39	34	32	28	25	22	19	16	13	3	0
75°	13	11	9	7	6	4	3	2	1	1	0
77.5°	1	1	1	1	1	1	1	1	1	0	0
80°	1	1	1	1	0	0	0	0	0	0	0
82.5°	0	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	115°	125°	135°	145°	155°	165°	175°	180°
0°	30	30	30	30	30	30	30	30
1°	29	28	28	28	28	28	27	28
2°	28	28	27	27	27	26	26	26
3°	28	27	26	25	25	25	24	25
4°	27	26	25	24	24	24	23	24
5°	26	25	24	23	23	23	23	23
6°	26	25	23	23	23	23	23	23
7°	25	24	23	23	23	23	23	23
8°	25	23	23	23	23	23	22	23
9°	24	23	22	22	22	23	22	23
10°	24	23	22	22	22	22	22	22
11°	23	23	22	22	22	22	22	22
12°	23	22	22	22	22	22	22	22
13°	23	22	22	22	22	22	22	22
14°	23	22	22	22	22	22	22	22
15°	23	22	22	22	22	22	22	22
16°	23	22	22	22	21	21	22	22
17°	23	22	22	21	21	21	21	21
18°	23	22	21	21	21	21	21	21
19°	22	22	21	21	21	21	21	21
20°	22	22	21	21	21	21	21	21
21°	22	22	21	21	21	21	21	21
22°	22	21	21	20	21	21	21	20
23°	22	21	21	20	20	20	20	20
24°	22	21	21	20	20	20	20	20
25°	22	21	20	20	20	20	20	20
26°	22	21	20	20	20	20	20	20
27°	22	21	20	20	20	20	20	20
28°	22	21	20	19	20	20	20	20
29°	22	21	20	19	20	20	20	20
30°	22	21	19	19	20	20	20	20
32.5°	22	21	19	19	20	21	21	21
35°	23	21	20	20	21	22	23	23
37.5°	25	23	21	22	22	24	24	24
40°	26	23	20	19	20	21	23	24
42.5°	23	17	13	13	14	14	9	8
45°	17	12	11	12	12	4	1	1
47.5°	12	10	12	11	4	1	1	0
50°	12	12	12	5	1	0	1	0
52.5°	14	13	8	1	0	0	0	0
55°	15	11	2	0	0	0	0	0
57.5°	14	5	0	0	0	0	0	0
60°	8	1	0	0	0	0	0	0
62.5°	3	0	0	0	0	0	0	0
65°	0	0	0	0	0	0	0	0



TEST NUMBER: P29219
CATALOG NUMBER: SELW29SD

CANDELA DISTRIBUTION (continued):

	115°	125°	135°	145°	155°	165°	175°	180°
67.5°	1	0	0	0	0	0	0	0
70°	1	0	0	0	0	0	0	0
72.5°	1	0	0	0	0	0	0	0
75°	0	0	0	0	0	0	0	0
77.5°	0	0	0	0	0	0	0	0
80°	0	0	0	0	0	0	0	0
82.5°	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0

(END OF REPORT)