

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: io LED

Report Number: P273504

Luminaire Tested: **0.10-5W-830-10-OD-STD-UNV-AN-1F6**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P273504  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1708-246-26)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: 0.10-5W-830-10-OD-STD-UNV-AN-1F6  
Description: iO LIGHTING SERIES 1.5 LINEAR LED LUMINAIRE, 10 DEGREE OPTIC.  
VERY HIGH OUTPUT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 449.3 lumens  
Efficiency: N/A  
Efficacy: 39.1 lumens/watt  
Spacing Criteria (0/90/45): 0.22 / 0.95 / 0.36  
Luminous Opening: Rectangular w/ Sides (W: 1.4' x L: 0.08' x H: 0.04')  
CIE Type: Direct

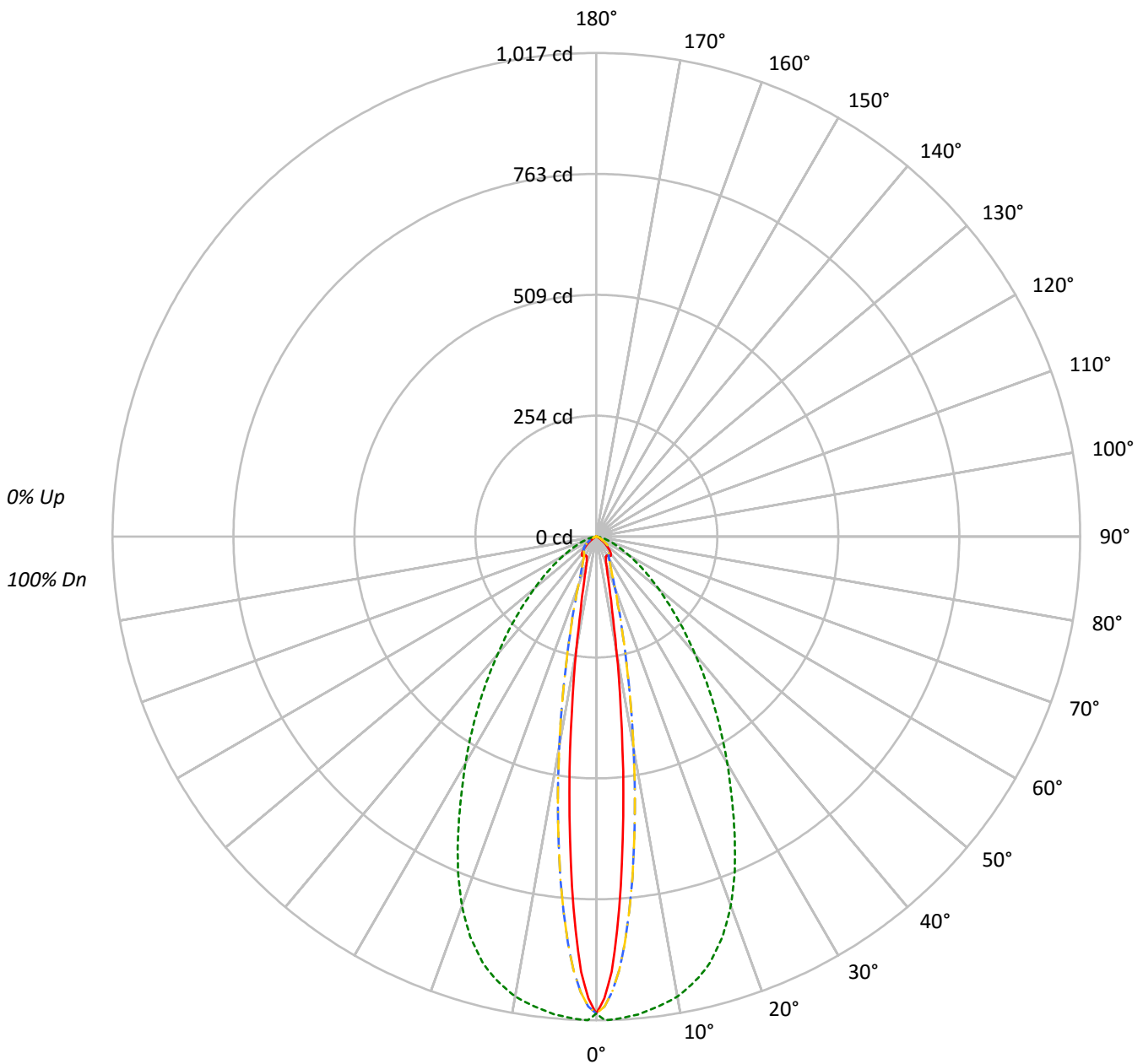
Input Watts (W): 11.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

### Luminous Intensity Polar Plot



— 0°-180°    - - 45°-225°    - - - 90°-270°    - - - 135°-315°



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CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**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	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					100			
1	112	109	106	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91					91			
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	82					82			
3	99	92	86	81	97	90	85	81	88	83	79	85	81	78	83	79	77	75					75			
4	93	85	78	73	91	83	78	73	81	76	72	79	75	71	77	73	70	69					69			
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63					63			
6	83	73	67	62	82	72	66	61	71	65	61	69	64	61	68	64	60	59					59			
7	79	69	62	57	77	68	62	57	67	61	57	65	60	56	64	60	56	55					55			
8	75	64	58	53	74	64	58	53	63	57	53	62	57	53	61	56	53	51					51			
9	71	61	54	50	70	60	54	50	59	54	50	58	53	50	58	53	49	48					48			
10	68	58	51	47	67	57	51	47	56	51	47	56	50	47	55	50	47	45					45			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	92470	92470	92470	92470
5°	56570	93137	56570	93137
10°	20820	91451	20820	91451
15°	8333	87684	8333	87684
20°	4980	80172	4980	80172
25°	3877	68929	3877	68929
30°	3800	57563	3800	57563
35°	4168	47298	4168	47298
40°	3985	37809	3985	37809
45°	3216	30008	3216	30008
50°	2247	23548	2247	23548
55°	1407	18348	1407	18348
60°	692	14028	692	14028
65°	421	10459	421	10459
70°	341	7725	341	7725
75°	249	5771	249	5771
80°	138	3634	138	3634
85°	158	1579	158	1579



TEST NUMBER: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.6	15.0
10°-20°	98.9	22.0
20°-30°	87.4	19.5
30°-40°	74.8	16.6
40°-50°	58.5	13.0
50°-60°	36.1	8.0
60°-70°	17.0	3.8
70°-80°	6.7	1.5
80°-90°	1.9	0.4
90°-100°	0.4	0.1
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°	253.9	56.5
0°-40°	328.7	73.2
0°-60°	423.3	94.2
0°-90°	448.9	99.9
90°-120°	0.4	0.1
90°-150°	0.4	0.1
90°-180°	0.0	0.0
0°-180°	449.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1003	1003	1003	1003	1003	
5°	638	1009	638	1009	638	48
15°	99	926	99	926	99	31
25°	47	687	47	687	47	23
35°	50	429	50	429	50	31
45°	37	237	37	237	37	28
55°	15	119	15	119	15	14
65°	4	51	4	51	4	4
75°	2	18	2	18	2	2
85°	1	2	1	2	1	1
90°	1	0	1	0	1	1
95°	0	0	0	0	0	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
1°	971	972	970	969	971	972	973	978	983	985	988
2°	916	915	913	915	920	924	925	935	945	950	958
3°	830	836	835	839	847	856	856	872	888	898	913
4°	736	742	742	749	761	768	774	795	817	832	856
5°	638	643	645	654	669	678	684	711	739	760	792
6°	542	546	549	559	577	587	595	624	657	683	723
7°	452	456	459	470	489	500	509	540	575	606	651
8°	371	376	379	390	409	420	430	461	498	532	581
9°	302	306	309	320	338	349	359	389	426	462	513
10°	242	246	249	264	278	288	297	325	361	398	449
11°	196	200	203	214	226	234	244	271	304	341	390
12°	161	164	168	176	187	196	202	224	255	290	337
13°	137	137	140	146	156	163	169	188	214	246	290
14°	116	115	119	124	132	137	141	159	182	210	249
15°	99	99	102	106	112	117	121	135	155	180	214
17.5°	74	74	76	78	82	85	88	96	109	126	151
20°	60	60	61	62	65	67	69	74	83	94	112
22.5°	52	52	53	53	55	56	58	61	67	74	87
25°	47	47	48	48	49	50	51	53	57	62	71
27.5°	46	46	46	46	46	46	47	48	50	54	61
30°	46	46	46	45	45	45	45	45	46	49	53
32.5°	48	48	48	47	45	45	44	44	44	45	48
35°	50	50	49	48	47	46	45	44	43	43	45
37.5°	50	50	49	49	47	47	46	44	42	42	42
40°	47	47	47	47	46	46	45	44	42	41	41
42.5°	43	43	43	43	43	43	42	42	41	40	39
45°	37	37	37	38	38	38	39	39	38	38	38
47.5°	31	31	31	32	33	33	33	34	35	35	35
50°	25	25	26	26	27	27	28	29	30	31	32
52.5°	20	20	20	21	22	22	23	24	26	27	29
55°	15	15	15	16	17	17	18	19	21	23	24
57.5°	10	11	11	11	12	13	13	15	16	19	20
60°	7	7	8	8	9	9	10	11	12	14	16
62.5°	5	5	5	6	6	7	7	8	9	11	13
65°	4	4	4	4	5	5	5	6	7	8	10
67.5°	3	3	3	4	4	4	4	4	5	6	7
70°	3	3	3	3	3	3	3	4	4	5	5
72.5°	2	2	2	2	3	3	3	3	3	3	4
75°	2	2	2	2	2	2	2	2	3	3	3
77.5°	2	2	2	2	2	2	2	2	2	2	3
80°	1	1	1	2	2	2	2	2	2	2	2
82.5°	1	1	1	1	1	1	1	1	2	2	2
85°	1	1	1	1	1	1	1	1	1	1	1
87.5°	1	1	1	1	1	1	1	1	1	1	1



TEST NUMBER: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
90°	1	1	1	1	1	1	1	1	1	1	1
92.5°	1	1	1	1	1	1	1	1	1	1	1
95°	0	0	1	1	1	1	1	1	1	0	0
97.5°	1	0	0	1	1	1	1	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
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: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
1°	993	995	998	1004	1005	1006	1008	1010	1015	1017	1015
2°	968	974	983	993	994	998	1003	1007	1013	1016	1013
3°	930	943	958	976	979	985	995	1003	1011	1014	1011
4°	881	901	925	951	958	967	983	996	1007	1011	1007
5°	824	853	886	921	933	946	970	988	1003	1009	1003
6°	762	800	842	887	903	922	954	977	997	1004	997
7°	693	742	794	849	870	893	935	966	990	999	990
8°	628	684	744	809	834	863	914	954	983	994	983
9°	564	625	693	766	797	831	891	939	975	988	975
10°	503	571	641	722	756	796	867	924	965	982	965
11°	445	515	590	674	715	760	840	907	954	973	954
12°	393	463	540	630	674	723	812	888	942	963	942
13°	345	414	492	584	633	686	783	868	928	952	928
14°	303	369	448	542	593	650	754	847	914	940	914
15°	263	328	406	502	556	613	724	824	897	926	897
17.5°	188	241	315	410	464	526	647	763	849	882	849
20°	139	181	242	332	385	442	571	696	789	826	789
22.5°	107	139	189	270	318	374	500	627	722	760	722
25°	86	111	151	219	263	317	436	559	651	687	651
27.5°	72	91	124	182	221	270	382	495	582	615	582
30°	62	77	105	155	190	233	336	438	518	550	518
32.5°	55	67	91	135	167	204	296	387	459	488	459
35°	49	60	80	120	148	182	260	339	402	429	402
37.5°	46	54	72	108	133	162	228	295	349	374	349
40°	43	50	66	98	120	145	200	252	301	322	301
42.5°	40	46	60	89	108	129	172	216	258	278	258
45°	39	43	56	80	97	114	149	185	220	237	220
47.5°	36	40	51	72	85	99	127	158	187	201	187
50°	33	37	47	64	75	85	108	134	159	170	159
52.5°	30	34	42	56	64	73	91	113	134	143	134
55°	26	30	37	48	55	61	76	94	111	119	111
57.5°	23	26	32	41	46	51	63	78	92	98	92
60°	19	22	27	34	38	42	52	64	75	80	75
62.5°	15	18	22	28	31	35	42	52	61	64	61
65°	12	14	18	23	26	28	34	42	48	51	48
67.5°	9	11	14	18	21	23	28	33	38	41	38
70°	7	8	11	14	16	18	22	26	30	31	30
72.5°	5	6	8	11	12	14	17	20	23	24	23
75°	4	5	6	8	9	11	13	15	17	18	17
77.5°	3	4	5	6	7	8	9	11	12	13	12
80°	2	3	3	4	5	5	7	7	8	8	8
82.5°	2	2	2	3	3	4	4	5	5	5	5
85°	1	2	2	2	2	2	2	2	2	2	2
87.5°	1	1	1	1	1	1	1	1	1	1	1





TEST NUMBER: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
90°	1	1	1	1	1	1	0	0	0	0	0
92.5°	1	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
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: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
1°	1010	1008	1006	1005	1004	998	995	993	988	985	983
2°	1007	1003	998	994	993	983	974	968	958	950	945
3°	1003	995	985	979	976	958	943	930	913	898	888
4°	996	983	967	958	951	925	901	881	856	832	817
5°	988	970	946	933	921	886	853	824	792	760	739
6°	977	954	922	903	887	842	800	762	723	683	657
7°	966	935	893	870	849	794	742	693	651	606	575
8°	954	914	863	834	809	744	684	628	581	532	498
9°	939	891	831	797	766	693	625	564	513	462	426
10°	924	867	796	756	722	641	571	503	449	398	361
11°	907	840	760	715	674	590	515	445	390	341	304
12°	888	812	723	674	630	540	463	393	337	290	255
13°	868	783	686	633	584	492	414	345	290	246	214
14°	847	754	650	593	542	448	369	303	249	210	182
15°	824	724	613	556	502	406	328	263	214	180	155
17.5°	763	647	526	464	410	315	241	188	151	126	109
20°	696	571	442	385	332	242	181	139	112	94	83
22.5°	627	500	374	318	270	189	139	107	87	74	67
25°	559	436	317	263	219	151	111	86	71	62	57
27.5°	495	382	270	221	182	124	91	72	61	54	50
30°	438	336	233	190	155	105	77	62	53	49	46
32.5°	387	296	204	167	135	91	67	55	48	45	44
35°	339	260	182	148	120	80	60	49	45	43	43
37.5°	295	228	162	133	108	72	54	46	42	42	42
40°	252	200	145	120	98	66	50	43	41	41	42
42.5°	216	172	129	108	89	60	46	40	39	40	41
45°	185	149	114	97	80	56	43	39	38	38	38
47.5°	158	127	99	85	72	51	40	36	35	35	35
50°	134	108	85	75	64	47	37	33	32	31	30
52.5°	113	91	73	64	56	42	34	30	29	27	26
55°	94	76	61	55	48	37	30	26	24	23	21
57.5°	78	63	51	46	41	32	26	23	20	19	16
60°	64	52	42	38	34	27	22	19	16	14	12
62.5°	52	42	35	31	28	22	18	15	13	11	9
65°	42	34	28	26	23	18	14	12	10	8	7
67.5°	33	28	23	21	18	14	11	9	7	6	5
70°	26	22	18	16	14	11	8	7	5	5	4
72.5°	20	17	14	12	11	8	6	5	4	3	3
75°	15	13	11	9	8	6	5	4	3	3	3
77.5°	11	9	8	7	6	5	4	3	3	2	2
80°	7	7	5	5	4	3	3	2	2	2	2
82.5°	5	4	4	3	3	2	2	2	2	2	2
85°	2	2	2	2	2	2	2	1	1	1	1
87.5°	1	1	1	1	1	1	1	1	1	1	1



TEST NUMBER: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
90°	0	0	1	1	1	1	1	1	1	1	1
92.5°	0	0	0	0	0	0	0	1	1	1	1
95°	0	0	0	0	0	0	0	0	0	0	1
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
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: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°	185°	190°	195°
0°	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
1°	978	973	972	971	969	970	972	971	972	970	969
2°	935	925	924	920	915	913	915	916	915	913	915
3°	872	856	856	847	839	835	836	830	836	835	839
4°	795	774	768	761	749	742	742	736	742	742	749
5°	711	684	678	669	654	645	643	638	643	645	654
6°	624	595	587	577	559	549	546	542	546	549	559
7°	540	509	500	489	470	459	456	452	456	459	470
8°	461	430	420	409	390	379	376	371	376	379	390
9°	389	359	349	338	320	309	306	302	306	309	320
10°	325	297	288	278	264	249	246	242	246	249	264
11°	271	244	234	226	214	203	200	196	200	203	214
12°	224	202	196	187	176	168	164	161	164	168	176
13°	188	169	163	156	146	140	137	137	137	140	146
14°	159	141	137	132	124	119	115	116	115	119	124
15°	135	121	117	112	106	102	99	99	99	102	106
17.5°	96	88	85	82	78	76	74	74	74	76	78
20°	74	69	67	65	62	61	60	60	60	61	62
22.5°	61	58	56	55	53	53	52	52	52	53	53
25°	53	51	50	49	48	48	47	47	47	48	48
27.5°	48	47	46	46	46	46	46	46	46	46	46
30°	45	45	45	45	45	46	46	46	46	46	45
32.5°	44	44	45	45	47	48	48	48	48	48	47
35°	44	45	46	47	48	49	50	50	50	49	48
37.5°	44	46	47	47	49	49	50	50	50	49	49
40°	44	45	46	46	47	47	47	47	47	47	47
42.5°	42	42	43	43	43	43	43	43	43	43	43
45°	39	39	38	38	38	37	37	37	37	37	38
47.5°	34	33	33	33	32	31	31	31	31	31	32
50°	29	28	27	27	26	26	25	25	25	26	26
52.5°	24	23	22	22	21	20	20	20	20	20	21
55°	19	18	17	17	16	15	15	15	15	15	16
57.5°	15	13	13	12	11	11	11	10	11	11	11
60°	11	10	9	9	8	8	7	7	7	8	8
62.5°	8	7	7	6	6	5	5	5	5	5	6
65°	6	5	5	5	4	4	4	4	4	4	4
67.5°	4	4	4	4	4	3	3	3	3	3	4
70°	4	3	3	3	3	3	3	3	3	3	3
72.5°	3	3	3	3	2	2	2	2	2	2	2
75°	2	2	2	2	2	2	2	2	2	2	2
77.5°	2	2	2	2	2	2	2	2	2	2	2
80°	2	2	2	2	2	1	1	1	1	1	2
82.5°	1	1	1	1	1	1	1	1	1	1	1
85°	1	1	1	1	1	1	1	1	1	1	1
87.5°	1	1	1	1	1	1	1	1	1	1	1



TEST NUMBER: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°	185°	190°	195°
90°	1	1	1	1	1	1	1	1	1	1	1
92.5°	1	1	1	1	1	1	1	1	1	1	1
95°	1	1	1	1	1	1	0	0	0	1	1
97.5°	0	1	1	1	1	0	0	1	0	0	1
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
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: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	200°	202.5°	205°	210°	215°	220°	225°	230°	235°	240°	245°
0°	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
1°	971	972	973	978	983	985	988	993	995	998	1004
2°	920	924	925	935	945	950	958	968	974	983	993
3°	847	856	856	872	888	898	913	930	943	958	976
4°	761	768	774	795	817	832	856	881	901	925	951
5°	669	678	684	711	739	760	792	824	853	886	921
6°	577	587	595	624	657	683	723	762	800	842	887
7°	489	500	509	540	575	606	651	693	742	794	849
8°	409	420	430	461	498	532	581	628	684	744	809
9°	338	349	359	389	426	462	513	564	625	693	766
10°	278	288	297	325	361	398	449	503	571	641	722
11°	226	234	244	271	304	341	390	445	515	590	674
12°	187	196	202	224	255	290	337	393	463	540	630
13°	156	163	169	188	214	246	290	345	414	492	584
14°	132	137	141	159	182	210	249	303	369	448	542
15°	112	117	121	135	155	180	214	263	328	406	502
17.5°	82	85	88	96	109	126	151	188	241	315	410
20°	65	67	69	74	83	94	112	139	181	242	332
22.5°	55	56	58	61	67	74	87	107	139	189	270
25°	49	50	51	53	57	62	71	86	111	151	219
27.5°	46	46	47	48	50	54	61	72	91	124	182
30°	45	45	45	45	46	49	53	62	77	105	155
32.5°	45	45	44	44	44	45	48	55	67	91	135
35°	47	46	45	44	43	43	45	49	60	80	120
37.5°	47	47	46	44	42	42	42	46	54	72	108
40°	46	46	45	44	42	41	41	43	50	66	98
42.5°	43	43	42	42	41	40	39	40	46	60	89
45°	38	38	39	39	38	38	38	39	43	56	80
47.5°	33	33	33	34	35	35	35	36	40	51	72
50°	27	27	28	29	30	31	32	33	37	47	64
52.5°	22	22	23	24	26	27	29	30	34	42	56
55°	17	17	18	19	21	23	24	26	30	37	48
57.5°	12	13	13	15	16	19	20	23	26	32	41
60°	9	9	10	11	12	14	16	19	22	27	34
62.5°	6	7	7	8	9	11	13	15	18	22	28
65°	5	5	5	6	7	8	10	12	14	18	23
67.5°	4	4	4	4	5	6	7	9	11	14	18
70°	3	3	3	4	4	5	5	7	8	11	14
72.5°	3	3	3	3	3	3	4	5	6	8	11
75°	2	2	2	2	3	3	3	4	5	6	8
77.5°	2	2	2	2	2	2	3	3	4	5	6
80°	2	2	2	2	2	2	2	2	3	3	4
82.5°	1	1	1	1	2	2	2	2	2	2	3
85°	1	1	1	1	1	1	1	1	2	2	2
87.5°	1	1	1	1	1	1	1	1	1	1	1



TEST NUMBER: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	200°	202.5°	205°	210°	215°	220°	225°	230°	235°	240°	245°
90°	1	1	1	1	1	1	1	1	1	1	1
92.5°	1	1	1	1	1	1	1	1	0	0	0
95°	1	1	1	1	1	0	0	0	0	0	0
97.5°	1	1	1	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
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: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	247.5°	250°	255°	260°	265°	270°	275°	280°	285°	290°	292.5°
0°	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
1°	1005	1006	1008	1010	1015	1017	1015	1010	1008	1006	1005
2°	994	998	1003	1007	1013	1016	1013	1007	1003	998	994
3°	979	985	995	1003	1011	1014	1011	1003	995	985	979
4°	958	967	983	996	1007	1011	1007	996	983	967	958
5°	933	946	970	988	1003	1009	1003	988	970	946	933
6°	903	922	954	977	997	1004	997	977	954	922	903
7°	870	893	935	966	990	999	990	966	935	893	870
8°	834	863	914	954	983	994	983	954	914	863	834
9°	797	831	891	939	975	988	975	939	891	831	797
10°	756	796	867	924	965	982	965	924	867	796	756
11°	715	760	840	907	954	973	954	907	840	760	715
12°	674	723	812	888	942	963	942	888	812	723	674
13°	633	686	783	868	928	952	928	868	783	686	633
14°	593	650	754	847	914	940	914	847	754	650	593
15°	556	613	724	824	897	926	897	824	724	613	556
17.5°	464	526	647	763	849	882	849	763	647	526	464
20°	385	442	571	696	789	826	789	696	571	442	385
22.5°	318	374	500	627	722	760	722	627	500	374	318
25°	263	317	436	559	651	687	651	559	436	317	263
27.5°	221	270	382	495	582	615	582	495	382	270	221
30°	190	233	336	438	518	550	518	438	336	233	190
32.5°	167	204	296	387	459	488	459	387	296	204	167
35°	148	182	260	339	402	429	402	339	260	182	148
37.5°	133	162	228	295	349	374	349	295	228	162	133
40°	120	145	200	252	301	322	301	252	200	145	120
42.5°	108	129	172	216	258	278	258	216	172	129	108
45°	97	114	149	185	220	237	220	185	149	114	97
47.5°	85	99	127	158	187	201	187	158	127	99	85
50°	75	85	108	134	159	170	159	134	108	85	75
52.5°	64	73	91	113	134	143	134	113	91	73	64
55°	55	61	76	94	111	119	111	94	76	61	55
57.5°	46	51	63	78	92	98	92	78	63	51	46
60°	38	42	52	64	75	80	75	64	52	42	38
62.5°	31	35	42	52	61	64	61	52	42	35	31
65°	26	28	34	42	48	51	48	42	34	28	26
67.5°	21	23	28	33	38	41	38	33	28	23	21
70°	16	18	22	26	30	31	30	26	22	18	16
72.5°	12	14	17	20	23	24	23	20	17	14	12
75°	9	11	13	15	17	18	17	15	13	11	9
77.5°	7	8	9	11	12	13	12	11	9	8	7
80°	5	5	7	7	8	8	8	7	7	5	5
82.5°	3	4	4	5	5	5	5	5	4	4	3
85°	2	2	2	2	2	2	2	2	2	2	2
87.5°	1	1	1	1	1	1	1	1	1	1	1





TEST NUMBER: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	247.5°	250°	255°	260°	265°	270°	275°	280°	285°	290°	292.5°
90°	1	1	0	0	0	0	0	0	0	1	1
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
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: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	295°	300°	305°	310°	315°	320°	325°	330°	335°	337.5°	340°
0°	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
1°	1004	998	995	993	988	985	983	978	973	972	971
2°	993	983	974	968	958	950	945	935	925	924	920
3°	976	958	943	930	913	898	888	872	856	856	847
4°	951	925	901	881	856	832	817	795	774	768	761
5°	921	886	853	824	792	760	739	711	684	678	669
6°	887	842	800	762	723	683	657	624	595	587	577
7°	849	794	742	693	651	606	575	540	509	500	489
8°	809	744	684	628	581	532	498	461	430	420	409
9°	766	693	625	564	513	462	426	389	359	349	338
10°	722	641	571	503	449	398	361	325	297	288	278
11°	674	590	515	445	390	341	304	271	244	234	226
12°	630	540	463	393	337	290	255	224	202	196	187
13°	584	492	414	345	290	246	214	188	169	163	156
14°	542	448	369	303	249	210	182	159	141	137	132
15°	502	406	328	263	214	180	155	135	121	117	112
17.5°	410	315	241	188	151	126	109	96	88	85	82
20°	332	242	181	139	112	94	83	74	69	67	65
22.5°	270	189	139	107	87	74	67	61	58	56	55
25°	219	151	111	86	71	62	57	53	51	50	49
27.5°	182	124	91	72	61	54	50	48	47	46	46
30°	155	105	77	62	53	49	46	45	45	45	45
32.5°	135	91	67	55	48	45	44	44	44	45	45
35°	120	80	60	49	45	43	43	44	45	46	47
37.5°	108	72	54	46	42	42	42	44	46	47	47
40°	98	66	50	43	41	41	42	44	45	46	46
42.5°	89	60	46	40	39	40	41	42	42	43	43
45°	80	56	43	39	38	38	38	39	39	38	38
47.5°	72	51	40	36	35	35	35	34	33	33	33
50°	64	47	37	33	32	31	30	29	28	27	27
52.5°	56	42	34	30	29	27	26	24	23	22	22
55°	48	37	30	26	24	23	21	19	18	17	17
57.5°	41	32	26	23	20	19	16	15	13	13	12
60°	34	27	22	19	16	14	12	11	10	9	9
62.5°	28	22	18	15	13	11	9	8	7	7	6
65°	23	18	14	12	10	8	7	6	5	5	5
67.5°	18	14	11	9	7	6	5	4	4	4	4
70°	14	11	8	7	5	5	4	4	3	3	3
72.5°	11	8	6	5	4	3	3	3	3	3	3
75°	8	6	5	4	3	3	3	2	2	2	2
77.5°	6	5	4	3	3	2	2	2	2	2	2
80°	4	3	3	2	2	2	2	2	2	2	2
82.5°	3	2	2	2	2	2	2	1	1	1	1
85°	2	2	2	1	1	1	1	1	1	1	1
87.5°	1	1	1	1	1	1	1	1	1	1	1



TEST NUMBER: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	295°	300°	305°	310°	315°	320°	325°	330°	335°	337.5°	340°
90°	1	1	1	1	1	1	1	1	1	1	1
92.5°	0	0	0	1	1	1	1	1	1	1	1
95°	0	0	0	0	0	0	1	1	1	1	1
97.5°	0	0	0	0	0	0	0	0	1	1	1
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
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: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	345°	350°	355°	360°
0°	1003	1003	1003	1003
1°	969	970	972	971
2°	915	913	915	916
3°	839	835	836	830
4°	749	742	742	736
5°	654	645	643	638
6°	559	549	546	542
7°	470	459	456	452
8°	390	379	376	371
9°	320	309	306	302
10°	264	249	246	242
11°	214	203	200	196
12°	176	168	164	161
13°	146	140	137	137
14°	124	119	115	116
15°	106	102	99	99
17.5°	78	76	74	74
20°	62	61	60	60
22.5°	53	53	52	52
25°	48	48	47	47
27.5°	46	46	46	46
30°	45	46	46	46
32.5°	47	48	48	48
35°	48	49	50	50
37.5°	49	49	50	50
40°	47	47	47	47
42.5°	43	43	43	43
45°	38	37	37	37
47.5°	32	31	31	31
50°	26	26	25	25
52.5°	21	20	20	20
55°	16	15	15	15
57.5°	11	11	11	10
60°	8	8	7	7
62.5°	6	5	5	5
65°	4	4	4	4
67.5°	4	3	3	3
70°	3	3	3	3
72.5°	2	2	2	2
75°	2	2	2	2
77.5°	2	2	2	2
80°	2	1	1	1
82.5°	1	1	1	1
85°	1	1	1	1
87.5°	1	1	1	1



TEST NUMBER: P273504

CATALOG NUMBER: 0.10-5W-830-10-OD-STD-UNV-AN-1F6

**CANDELA DISTRIBUTION (continued):**

	345°	350°	355°	360°
90°	1	1	1	1
92.5°	1	1	1	1
95°	1	1	0	0
97.5°	1	0	0	1
100°	0	0	0	0
102.5°	0	0	0	0
105°	0	0	0	0
107.5°	0	0	0	0
110°	0	0	0	0
112.5°	0	0	0	0
115°	0	0	0	0
117.5°	0	0	0	0
120°	0	0	0	0
122.5°	0	0	0	0
125°	0	0	0	0
127.5°	0	0	0	0
130°	0	0	0	0
132.5°	0	0	0	0
135°	0	0	0	0
137.5°	0	0	0	0
140°	0	0	0	0
142.5°	0	0	0	0
145°	0	0	0	0
147.5°	0	0	0	0
150°	0	0	0	0
152.5°	0	0	0	0
155°	0	0	0	0
157.5°	0	0	0	0
160°	0	0	0	0
162.5°	0	0	0	0
165°	0	0	0	0
167.5°	0	0	0	0
170°	0	0	0	0
172.5°	0	0	0	0
175°	0	0	0	0
177.5°	0	0	0	0
180°	0	0	0	0

(END OF REPORT)