

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: CORELITE

Report Number: P934211

Luminaire Tested: SQ4-FA-050U-050D-830-1D-UNV-STD-W-6

Issue Date: 12/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P934211
REPORT IS A COMBINATION OF REPORTS P933691 AND P933786
Test Lab: INNOVATION CENTER
Issue Date: 12/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: CORELITE
Catalog Number: SQ4-FA-050U-050D-830-1D-UNV-STD-W-6
Description: CORELITE SQ4 SUSPENDED INDIRECT LED LUMINAIRE WITH Asymmetric Frosted Continuous I
Lens
Light Source: -
Ballast/Driver: -

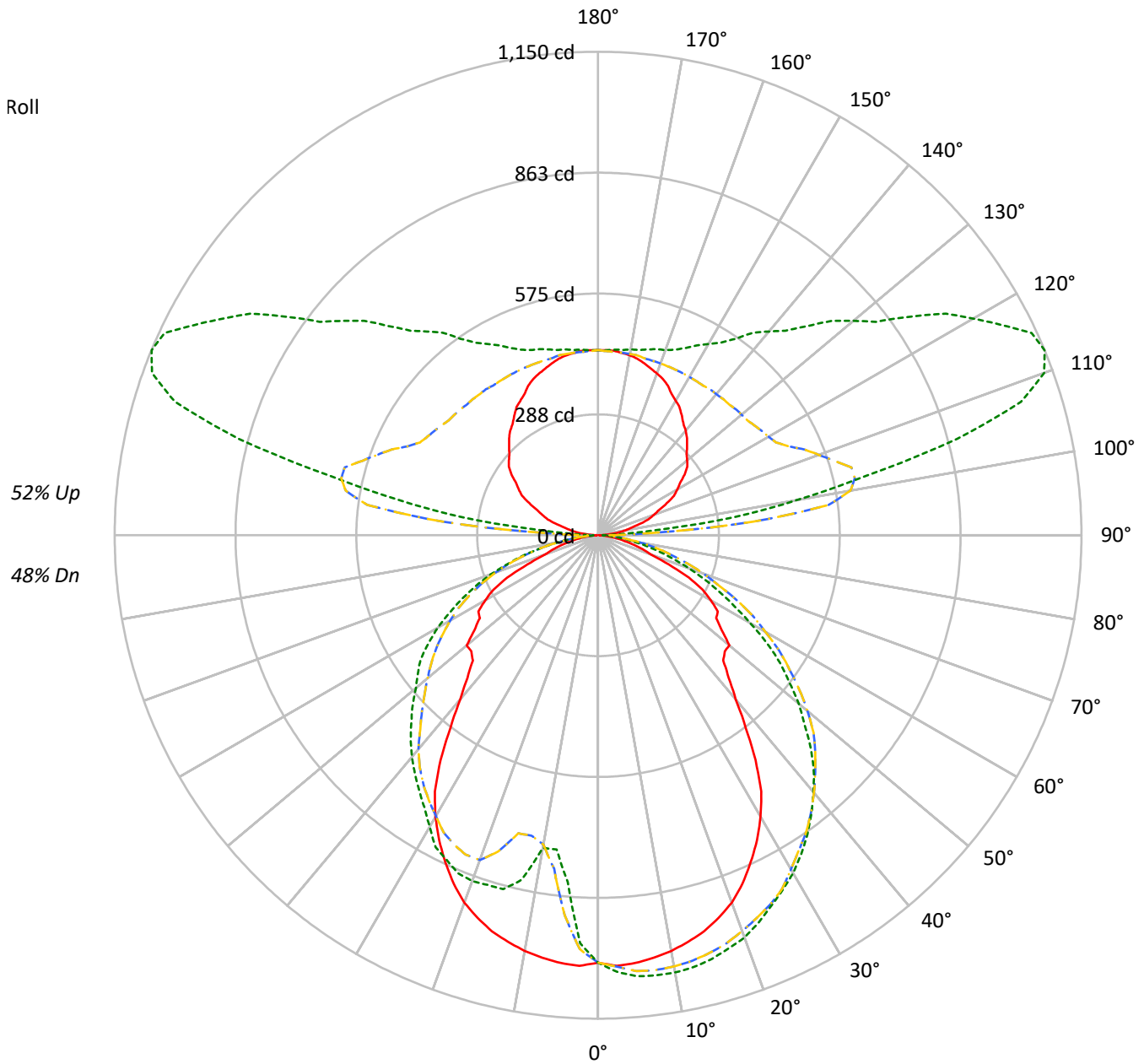
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5492.2 lumens
Efficiency: N/A
Efficacy: 128.9 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.26 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 0.29' x L: 6' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 42.6
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: 24 FT

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Luminous Intensity Polar Plot



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



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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	50	30	10	50	30	10	0		
RCR																										
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48	48	48	48	48	48	48		
1	97	93	89	86	89	86	83	80	72	70	68	60	58	56	48	47	46	41	41	41	41	41	41	41		
2	89	81	75	70	81	75	70	65	63	59	56	52	50	47	42	40	39	34	34	34	34	34	34	34		
3	81	71	64	58	74	66	60	55	56	51	47	46	43	40	38	35	33	29	29	29	29	29	29	29		
4	74	63	55	49	68	58	52	46	50	44	40	41	37	34	33	31	28	25	25	25	25	25	25	25		
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25	21	21	21	21	21	21	21		
6	62	50	42	37	57	47	40	34	40	34	30	33	29	26	27	24	22	19	19	19	19	19	19	19		
7	58	45	38	32	53	42	35	30	36	30	26	30	26	23	25	22	19	17	17	17	17	17	17	17		
8	54	41	34	28	49	38	31	27	33	27	23	28	23	20	23	20	17	15	15	15	15	15	15	15		
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	21	18	16	13	13	13	13	13	13	13		
10	47	34	27	22	43	32	26	21	28	22	19	23	19	16	20	16	14	12	12	12	12	12	12	12		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	6288	6288	6288	6288
5°	6333	6347	6333	4991
10°	6288	6253	6288	4471
15°	6218	6118	6218	5108
20°	6085	5957	6085	5119
25°	5817	5723	5817	5010
30°	5470	5529	5470	4772
35°	4875	5283	4875	4511
40°	4059	4994	4059	4313
45°	3624	4655	3624	4085
50°	3847	4251	3847	3857
55°	3616	3816	3616	3725
60°	3723	3240	3723	3411
65°	3371	2678	3371	2994
70°	2328	2134	2328	2510
75°	2034	1578	2034	1890
80°	1627	1043	1627	1137
85°	918	552	918	470

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 20°
 Vertical Angle: 45°
 Luminance: 5559 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.8	1.7
10°-20°	260.5	4.7
20°-30°	402.7	7.3
30°-40°	480.8	8.8
40°-50°	483.6	8.8
50°-60°	420.8	7.7
60°-70°	298.3	5.4
70°-80°	157.8	2.9
80°-90°	41.0	0.7
90°-100°	214.7	3.9
100°-110°	564.4	10.3
110°-120°	585.2	10.7
120°-130°	469.4	8.5
130°-140°	368.3	6.7
140°-150°	282.7	5.1
150°-160°	203.6	3.7
160°-170°	124.6	2.3
170°-180°	42.1	0.8
0°-30°	755.0	13.7
0°-40°	1235.8	22.5
0°-60°	2140.2	39.0
0°-90°	2637.4	48.0
90°-120°	1364.2	24.8
90°-150°	2484.6	45.2
90°-180°	2855.0	52.0
0°-180°	5492.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1016	1016	1016	1016	1016	
5°	1021	1053	1021	828	1021	97
15°	975	1044	975	871	975	274
25°	859	973	859	852	859	394
35°	653	868	653	742	653	404
45°	421	716	421	628	421	337
55°	343	528	343	516	343	315
65°	238	318	238	356	238	228
75°	90	151	90	181	90	95
85°	15	38	15	33	15	21
90°	3	11	3	11	3	3
95°	28	130	28	130	28	32
105°	102	884	102	884	102	108
115°	181	1138	181	1138	181	178
125°	251	906	251	906	251	223
135°	299	703	299	703	299	232
145°	347	570	347	570	347	218
155°	392	491	392	491	392	180
165°	424	458	424	458	424	120
175°	440	443	440	443	440	42
180°	440	440	440	440	440	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5
2.5°	1025.2	1025.2	1031.0	1032.9	1032.9	1030.0	1027.1	1030.0	1038.7	1041.6	1040.6
5°	1021.3	1029.0	1039.6	1041.6	1043.5	1042.5	1040.6	1042.5	1052.1	1054.1	1055.0
7.5°	1013.6	1028.1	1041.6	1044.4	1047.3	1044.4	1043.5	1045.4	1055.0	1057.0	1057.0
10°	1004.0	1024.3	1039.6	1041.6	1044.4	1041.6	1041.6	1045.4	1055.0	1057.0	1057.9
12.5°	990.6	1018.4	1032.9	1034.8	1038.7	1037.7	1036.7	1040.6	1050.2	1052.1	1052.1
15°	975.2	1007.9	1021.3	1023.3	1030.0	1028.1	1028.1	1031.9	1042.5	1045.4	1044.4
17.5°	954.0	994.4	1009.8	1012.7	1017.5	1016.5	1017.5	1021.3	1031.0	1032.9	1033.8
20°	930.0	976.2	994.4	997.3	1002.1	1002.1	1002.1	1007.0	1016.5	1020.3	1020.3
22.5°	897.3	956.9	976.2	978.1	983.8	983.8	985.7	992.5	1001.1	1002.1	1002.1
25°	858.8	935.7	952.1	957.9	963.6	966.5	969.4	973.3	976.2	975.2	976.2
27.5°	818.4	908.8	930.0	933.8	941.6	944.4	948.3	949.2	950.2	953.0	951.1
30°	773.2	871.3	903.0	906.9	919.4	921.3	917.5	919.4	924.2	926.2	928.1
32.5°	722.3	815.6	875.1	883.8	895.4	889.6	888.6	891.5	899.2	899.2	901.1
35°	653.0	772.3	849.2	856.9	865.6	858.8	862.7	863.7	868.4	871.3	870.3
37.5°	577.0	734.8	822.3	828.0	834.8	826.1	831.9	834.8	838.6	836.7	836.7
40°	509.7	676.1	790.5	794.3	800.2	793.4	799.2	801.1	803.0	801.1	800.2
42.5°	459.7	611.6	756.9	761.6	757.8	762.6	764.6	768.4	765.6	761.6	761.6
45°	421.2	594.3	720.3	726.1	720.3	728.0	730.9	730.9	722.3	720.3	719.4
47.5°	408.7	559.7	683.8	683.8	680.9	690.5	695.3	688.6	679.9	677.0	677.0
50°	407.7	521.2	633.7	629.9	643.4	655.0	650.1	643.4	636.7	626.1	626.1
52.5°	370.3	474.1	569.3	583.7	605.0	611.6	604.0	597.2	585.6	580.9	577.0
55°	343.3	425.0	510.7	539.6	561.6	570.3	555.9	549.1	531.8	529.0	527.0
57.5°	337.6	353.9	456.8	493.4	520.3	519.3	510.7	498.2	483.7	480.9	479.9
60°	309.6	255.8	399.1	442.4	470.3	467.4	459.7	448.2	434.7	432.8	430.9
62.5°	280.8	185.7	333.7	382.8	422.2	421.2	414.5	397.2	387.6	382.8	379.0
65°	238.5	155.8	237.6	318.3	375.0	377.0	362.6	350.1	339.5	333.7	332.8
67.5°	181.7	127.0	160.6	265.5	329.9	327.9	309.6	303.9	290.4	287.6	281.8
70°	134.6	84.6	111.6	215.4	285.7	280.8	266.4	259.6	247.1	240.4	236.6
72.5°	111.6	68.3	81.7	167.3	240.4	234.7	222.2	214.4	203.9	198.1	194.3
75°	90.4	72.1	62.5	124.1	195.2	191.4	179.8	172.2	163.5	155.8	156.8
77.5°	66.3	67.3	50.0	91.4	154.9	149.0	142.3	132.7	128.9	121.2	121.2
80°	50.0	52.9	37.5	62.5	111.6	111.6	105.8	99.0	92.3	88.5	88.5
82.5°	33.7	33.7	27.9	39.4	76.0	73.1	69.2	67.3	63.5	61.6	61.6
85°	15.4	19.2	17.3	24.0	41.4	43.3	43.3	41.4	40.4	38.4	39.4
87.5°	4.8	8.7	10.6	13.5	21.1	22.1	23.0	23.0	23.0	24.0	24.0
90°	3.0	5.4	7.7	8.3	13.0	19.3	22.5	20.0	14.9	11.2	11.2
92.5°	11.9	31.9	52.0	57.1	80.2	111.1	126.5	110.8	79.5	56.1	53.9
95°	28.4	65.1	101.9	111.1	197.3	312.3	369.8	330.0	250.4	190.6	183.8
97.5°	49.0	81.5	114.0	122.1	265.9	457.5	553.3	528.2	477.8	440.0	427.1
100°	65.0	94.5	123.9	131.3	290.7	503.4	609.7	611.6	615.3	618.1	602.8
102.5°	78.6	106.1	133.6	140.4	302.2	517.9	625.7	657.7	721.9	770.0	756.9
105°	101.7	124.9	148.2	154.0	310.6	519.5	623.9	695.8	839.5	947.3	940.2
107.5°	125.3	147.0	168.6	174.1	312.2	496.4	588.4	688.6	889.1	1039.5	1041.2
110°	141.3	160.8	180.4	185.3	309.8	475.9	558.9	670.9	895.1	1063.2	1070.5



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
112.5°	157.0	175.6	194.3	198.9	309.9	458.0	532.0	646.7	876.1	1048.1	1059.3
115°	180.6	197.8	215.0	219.3	312.8	437.5	499.8	610.3	831.2	996.9	1012.6
117.5°	203.9	219.6	235.2	239.1	318.6	424.7	477.6	577.3	776.8	926.3	943.7
120°	217.5	232.2	246.9	250.7	323.3	420.3	468.7	559.8	742.0	878.7	895.6
122.5°	230.9	245.7	260.5	264.2	330.1	418.0	461.9	544.0	708.1	831.1	847.8
125°	251.2	264.7	278.3	281.6	339.3	416.1	454.6	524.3	663.7	768.1	783.4
127.5°	267.8	281.4	295.1	298.6	348.5	415.1	448.4	508.2	627.8	717.6	730.5
130°	276.7	291.4	306.1	309.7	355.2	415.7	446.0	499.2	605.8	685.7	697.7
132.5°	285.8	300.6	315.3	318.9	360.6	416.1	444.0	491.7	587.0	658.5	669.2
135°	299.4	312.8	326.2	329.5	366.5	415.8	440.4	480.4	560.2	620.1	629.3
137.5°	313.3	326.6	339.8	343.1	375.3	418.2	439.8	473.5	541.0	591.7	599.2
140°	324.8	337.1	349.2	352.3	380.8	418.7	437.8	466.9	525.2	568.9	576.0
142.5°	333.6	344.9	356.2	359.1	385.3	420.3	437.8	463.4	514.5	553.0	559.1
145°	347.3	357.2	367.0	369.5	391.3	420.3	434.8	455.7	497.6	529.1	533.6
147.5°	360.9	370.4	380.1	382.5	399.9	423.1	434.8	451.2	484.2	509.0	512.8
150°	369.8	378.5	387.1	389.3	404.5	424.7	434.8	448.7	476.6	497.4	500.5
152.5°	378.9	385.5	392.1	393.7	407.4	425.6	434.8	446.6	470.4	488.2	490.5
155°	392.5	397.4	402.2	403.4	413.9	427.8	434.8	444.3	463.2	477.3	478.9
157.5°	402.6	407.3	412.0	413.2	420.4	430.0	434.8	442.2	456.9	467.9	468.9
160°	409.4	413.0	416.6	417.6	423.3	431.0	434.8	441.1	453.7	463.2	463.8
162.5°	416.1	418.9	421.7	422.4	426.5	432.0	434.8	440.1	450.8	458.7	459.3
165°	423.5	426.0	428.5	429.1	431.1	433.5	434.8	438.6	446.2	451.9	452.6
167.5°	430.3	431.4	432.7	433.0	434.6	436.7	437.8	440.2	445.2	448.9	449.2
170°	434.8	435.9	437.2	437.5	437.6	437.7	437.8	440.2	445.2	448.9	448.9
172.5°	437.2	437.5	437.7	437.8	437.8	437.8	437.8	439.7	443.6	446.5	446.4
175°	440.4	440.4	440.4	440.4	439.6	438.3	437.8	439.0	441.5	443.3	443.3
177.5°	440.4	440.4	440.4	440.4	439.8	438.8	438.3	439.3	441.3	442.7	442.4
180°	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4



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CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5
2.5°	1042.5	1039.6	1042.5	1040.6	1041.6	1038.7	1030.0	1027.1	1030.0	1032.9	1032.9
5°	1055.0	1053.0	1055.0	1055.0	1054.1	1052.1	1042.5	1040.6	1042.5	1043.5	1041.6
7.5°	1058.9	1056.0	1058.9	1057.0	1057.0	1055.0	1045.4	1043.5	1044.4	1047.3	1044.4
10°	1058.9	1056.0	1058.9	1057.9	1057.0	1055.0	1045.4	1041.6	1041.6	1044.4	1041.6
12.5°	1054.1	1052.1	1054.1	1052.1	1052.1	1050.2	1040.6	1036.7	1037.7	1038.7	1034.8
15°	1046.3	1043.5	1046.3	1044.4	1045.4	1042.5	1031.9	1028.1	1028.1	1030.0	1023.3
17.5°	1034.8	1031.0	1034.8	1033.8	1032.9	1031.0	1021.3	1017.5	1016.5	1017.5	1012.7
20°	1021.3	1018.4	1021.3	1020.3	1020.3	1016.5	1007.0	1002.1	1002.1	1002.1	997.3
22.5°	1000.2	997.3	1000.2	1002.1	1002.1	1001.1	992.5	985.7	983.8	983.8	978.1
25°	976.2	973.3	976.2	976.2	975.2	976.2	973.3	969.4	966.5	963.6	957.9
27.5°	953.0	951.1	953.0	951.1	953.0	950.2	949.2	948.3	944.4	941.6	933.8
30°	930.0	928.1	930.0	928.1	926.2	924.2	919.4	917.5	921.3	919.4	906.9
32.5°	901.1	899.2	901.1	901.1	899.2	899.2	891.5	888.6	889.6	895.4	883.8
35°	871.3	868.4	871.3	870.3	871.3	868.4	863.7	862.7	858.8	865.6	856.9
37.5°	836.7	833.8	836.7	836.7	836.7	838.6	834.8	831.9	826.1	834.8	828.0
40°	801.1	797.3	801.1	800.2	801.1	803.0	801.1	799.2	793.4	800.2	794.3
42.5°	760.7	759.7	760.7	761.6	761.6	765.6	768.4	764.6	762.6	757.8	761.6
45°	717.5	715.5	717.5	719.4	720.3	722.3	730.9	730.9	728.0	720.3	726.1
47.5°	671.3	666.4	671.3	677.0	677.0	679.9	688.6	695.3	690.5	680.9	683.8
50°	622.3	623.2	622.3	626.1	626.1	636.7	643.4	650.1	655.0	643.4	629.9
52.5°	574.2	573.2	574.2	577.0	580.9	585.6	597.2	604.0	611.6	605.0	583.7
55°	526.1	528.0	526.1	527.0	529.0	531.8	549.1	555.9	570.3	561.6	539.6
57.5°	478.0	475.1	478.0	479.9	480.9	483.7	498.2	510.7	519.3	520.3	493.4
60°	422.2	418.3	422.2	430.9	432.8	434.7	448.2	459.7	467.4	470.3	442.4
62.5°	373.1	366.4	373.1	379.0	382.8	387.6	397.2	414.5	421.2	422.2	382.8
65°	321.2	318.3	321.2	332.8	333.7	339.5	350.1	362.6	377.0	375.0	318.3
67.5°	274.1	274.1	274.1	281.8	287.6	290.4	303.9	309.6	327.9	329.9	265.5
70°	230.8	229.8	230.8	236.6	240.4	247.1	259.6	266.4	280.8	285.7	215.4
72.5°	189.5	188.5	189.5	194.3	198.1	203.9	214.4	222.2	234.7	240.4	167.3
75°	153.0	151.0	153.0	156.8	155.8	163.5	172.2	179.8	191.4	195.2	124.1
77.5°	117.3	117.3	117.3	121.2	121.2	128.9	132.7	142.3	149.0	154.9	91.4
80°	87.5	86.5	87.5	88.5	88.5	92.3	99.0	105.8	111.6	111.6	62.5
82.5°	61.6	59.7	61.6	61.6	61.6	63.5	67.3	69.2	73.1	76.0	39.4
85°	38.4	38.4	38.4	39.4	38.4	40.4	41.4	43.3	43.3	41.4	24.0
87.5°	25.0	24.0	25.0	24.0	24.0	23.0	23.0	23.0	22.1	21.1	13.5
90°	11.2	11.2	11.2	11.2	11.2	14.9	20.0	22.5	19.3	13.0	8.3
92.5°	44.9	36.0	44.9	53.9	56.1	79.5	110.8	126.5	111.1	80.2	57.1
95°	156.8	129.7	156.8	183.8	190.6	250.4	330.0	369.8	312.3	197.3	111.1
97.5°	375.7	324.3	375.7	427.1	440.0	477.8	528.2	553.3	457.5	265.9	122.1
100°	541.4	480.0	541.4	602.8	618.1	615.3	611.6	609.7	503.4	290.7	131.3
102.5°	704.3	651.7	704.3	756.9	770.0	721.9	657.7	625.7	517.9	302.2	140.4
105°	912.0	883.7	912.0	940.2	947.3	839.5	695.8	623.9	519.5	310.6	154.0
107.5°	1048.0	1054.9	1048.0	1041.2	1039.5	889.1	688.6	588.4	496.4	312.2	174.1
110°	1099.9	1129.3	1099.9	1070.5	1063.2	895.1	670.9	558.9	475.9	309.8	185.3



TEST NUMBER: P934211

CATALOG NUMBER: SQ4-FA-050U-050D-830-1D-UNV-STD-W-6

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
112.5°	1104.6	1149.7	1104.6	1059.3	1048.1	876.1	646.7	532.0	458.0	309.9	198.9
115°	1075.2	1137.9	1075.2	1012.6	996.9	831.2	610.3	499.8	437.5	312.8	219.3
117.5°	1013.2	1082.7	1013.2	943.7	926.3	776.8	577.3	477.6	424.7	318.6	239.1
120°	963.1	1030.7	963.1	895.6	878.7	742.0	559.8	468.7	420.3	323.3	250.7
122.5°	914.4	981.0	914.4	847.8	831.1	708.1	544.0	461.9	418.0	330.1	264.2
125°	844.8	906.2	844.8	783.4	768.1	663.7	524.3	454.6	416.1	339.3	281.6
127.5°	782.3	834.1	782.3	730.5	717.6	627.8	508.2	448.4	415.1	348.5	298.6
130°	745.5	793.3	745.5	697.7	685.7	605.8	499.2	446.0	415.7	355.2	309.7
132.5°	712.0	754.9	712.0	669.2	658.5	587.0	491.7	444.0	416.1	360.6	318.9
135°	666.2	703.1	666.2	629.3	620.1	560.2	480.4	440.4	415.8	366.5	329.5
137.5°	629.5	659.7	629.5	599.2	591.7	541.0	473.5	439.8	418.2	375.3	343.1
140°	604.2	632.5	604.2	576.0	568.9	525.2	466.9	437.8	418.7	380.8	352.3
142.5°	583.4	607.6	583.4	559.1	553.0	514.5	463.4	437.8	420.3	385.3	359.1
145°	552.1	570.4	552.1	533.6	529.1	497.6	455.7	434.8	420.3	391.3	369.5
147.5°	528.0	543.2	528.0	512.8	509.0	484.2	451.2	434.8	423.1	399.9	382.5
150°	512.9	525.2	512.9	500.5	497.4	476.6	448.7	434.8	424.7	404.5	389.3
152.5°	499.9	509.3	499.9	490.5	488.2	470.4	446.6	434.8	425.6	407.4	393.7
155°	485.1	491.2	485.1	478.9	477.3	463.2	444.3	434.8	427.8	413.9	403.4
157.5°	473.3	477.6	473.3	468.9	467.9	456.9	442.2	434.8	430.0	420.4	413.2
160°	466.2	468.7	466.2	463.8	463.2	453.7	441.1	434.8	431.0	423.3	417.6
162.5°	461.7	464.0	461.7	459.3	458.7	450.8	440.1	434.8	432.0	426.5	422.4
165°	455.1	457.5	455.1	452.6	451.9	446.2	438.6	434.8	433.5	431.1	429.1
167.5°	450.3	451.3	450.3	449.2	448.9	445.2	440.2	437.8	436.7	434.6	433.0
170°	448.9	448.9	448.9	448.9	448.9	445.2	440.2	437.8	437.7	437.6	437.5
172.5°	445.4	444.5	445.4	446.4	446.5	443.6	439.7	437.8	437.8	437.8	437.8
175°	443.3	443.3	443.3	443.3	443.3	441.5	439.0	437.8	438.3	439.6	440.4
177.5°	441.5	440.4	441.5	442.4	442.7	441.3	439.3	438.3	438.8	439.8	440.4
180°	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4



TEST NUMBER: P934211

CATALOG NUMBER: SQ4-FA-050U-050D-830-1D-UNV-STD-W-6

CANDELA DISTRIBUTION (continued):

	160°	170°	180°	190°	200°	202.5°	210°	220°	225°	230°	240°
0°	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5
2.5°	1031.0	1025.2	1025.2	1015.6	1011.7	1008.9	1004.0	989.7	985.7	981.9	987.6
5°	1039.6	1029.0	1021.3	1004.0	989.7	983.8	965.6	931.0	907.8	890.5	881.0
7.5°	1041.6	1028.1	1013.6	986.7	952.1	936.7	881.0	817.5	800.2	784.8	775.1
10°	1039.6	1024.3	1004.0	963.6	881.9	855.0	799.2	757.8	747.2	744.3	747.2
12.5°	1032.9	1018.4	990.6	923.2	808.8	790.5	757.8	733.8	731.8	736.7	762.6
15°	1021.3	1007.9	975.2	869.4	768.4	755.0	731.8	723.2	733.8	767.5	845.4
17.5°	1009.8	994.4	954.0	816.5	737.6	728.0	711.6	728.9	788.6	833.8	859.7
20°	994.4	976.2	930.0	778.0	715.5	706.9	699.1	777.0	822.3	838.6	853.0
22.5°	976.2	956.9	897.3	751.1	692.4	685.7	690.5	804.0	822.3	833.8	846.3
25°	952.1	935.7	858.8	729.9	674.2	666.4	684.8	801.1	811.6	814.6	839.6
27.5°	930.0	908.8	818.4	710.7	652.1	649.1	689.6	788.6	796.3	799.2	826.1
30°	903.0	871.3	773.2	690.5	629.0	628.0	690.5	773.2	771.3	778.9	805.9
32.5°	875.1	815.6	722.3	665.5	606.9	605.9	683.8	750.2	748.3	758.8	778.9
35°	849.2	772.3	653.0	636.7	579.0	579.9	667.4	723.2	724.2	733.8	746.3
37.5°	822.3	734.8	577.0	605.0	552.0	552.0	645.3	698.2	696.3	699.1	716.5
40°	790.5	676.1	509.7	563.6	527.0	524.2	618.3	671.3	664.5	663.6	687.7
42.5°	756.9	611.6	459.7	508.8	498.2	494.3	585.6	638.6	626.1	629.0	659.7
45°	720.3	594.3	421.2	429.9	468.3	465.5	550.1	601.0	592.4	600.1	631.8
47.5°	683.8	559.7	408.7	356.8	436.6	435.6	510.7	564.5	559.7	567.4	601.0
50°	633.7	521.2	407.7	305.8	401.0	404.9	463.6	529.0	529.0	535.6	571.3
52.5°	569.3	474.1	370.3	277.0	359.6	371.2	422.2	498.2	500.1	506.9	538.5
55°	510.7	425.0	343.3	254.9	310.6	335.7	381.8	466.4	470.3	477.0	505.8
57.5°	456.8	353.9	337.6	228.9	265.5	289.5	346.3	435.6	437.6	443.4	471.2
60°	399.1	255.8	309.6	201.0	226.0	244.3	313.5	399.1	405.8	409.6	433.7
62.5°	333.7	185.7	280.8	181.7	206.8	210.6	286.6	364.5	373.1	376.0	390.4
65°	237.6	155.8	238.5	165.4	186.6	187.6	257.7	328.9	336.6	341.4	352.0
67.5°	160.6	127.0	181.7	150.0	171.2	172.2	229.8	287.6	298.2	302.0	308.7
70°	111.6	84.6	134.6	133.6	153.9	155.8	200.0	250.1	259.6	262.5	266.4
72.5°	81.7	68.3	111.6	120.2	135.6	137.6	169.3	207.7	217.4	220.3	222.2
75°	62.5	72.1	90.4	104.9	115.4	116.3	138.5	169.3	176.0	177.9	178.9
77.5°	50.0	67.3	66.3	84.6	94.3	92.3	108.7	130.8	136.5	136.5	136.5
80°	37.5	52.9	50.0	60.6	69.2	67.3	77.9	93.3	95.2	97.1	96.2
82.5°	27.9	33.7	33.7	38.4	46.2	44.3	51.9	60.6	60.6	60.6	62.5
85°	17.3	19.2	15.4	20.2	26.0	25.0	28.9	32.7	33.7	33.7	31.7
87.5°	10.6	8.7	4.8	7.6	11.6	11.6	13.5	14.4	13.5	13.5	13.5
90°	7.7	5.4	3.0	5.4	7.7	8.3	13.0	19.3	22.5	20.0	14.9
92.5°	52.0	31.9	11.9	31.9	52.0	57.1	80.2	111.1	126.5	110.8	79.5
95°	101.9	65.1	28.4	65.1	101.9	111.1	197.3	312.3	369.8	330.0	250.4
97.5°	114.0	81.5	49.0	81.5	114.0	122.1	265.9	457.5	553.3	528.2	477.8
100°	123.9	94.5	65.0	94.5	123.9	131.3	290.7	503.4	609.7	611.6	615.3
102.5°	133.6	106.1	78.6	106.1	133.6	140.4	302.2	517.9	625.7	657.7	721.9
105°	148.2	124.9	101.7	124.9	148.2	154.0	310.6	519.5	623.9	695.8	839.5
107.5°	168.6	147.0	125.3	147.0	168.6	174.1	312.2	496.4	588.4	688.6	889.1
110°	180.4	160.8	141.3	160.8	180.4	185.3	309.8	475.9	558.9	670.9	895.1



TEST NUMBER: P934211

CATALOG NUMBER: SQ4-FA-050U-050D-830-1D-UNV-STD-W-6

CANDELA DISTRIBUTION (continued):

	160°	170°	180°	190°	200°	202.5°	210°	220°	225°	230°	240°
112.5°	194.3	175.6	157.0	175.6	194.3	198.9	309.9	458.0	532.0	646.7	876.1
115°	215.0	197.8	180.6	197.8	215.0	219.3	312.8	437.5	499.8	610.3	831.2
117.5°	235.2	219.6	203.9	219.6	235.2	239.1	318.6	424.7	477.6	577.3	776.8
120°	246.9	232.2	217.5	232.2	246.9	250.7	323.3	420.3	468.7	559.8	742.0
122.5°	260.5	245.7	230.9	245.7	260.5	264.2	330.1	418.0	461.9	544.0	708.1
125°	278.3	264.7	251.2	264.7	278.3	281.6	339.3	416.1	454.6	524.3	663.7
127.5°	295.1	281.4	267.8	281.4	295.1	298.6	348.5	415.1	448.4	508.2	627.8
130°	306.1	291.4	276.7	291.4	306.1	309.7	355.2	415.7	446.0	499.2	605.8
132.5°	315.3	300.6	285.8	300.6	315.3	318.9	360.6	416.1	444.0	491.7	587.0
135°	326.2	312.8	299.4	312.8	326.2	329.5	366.5	415.8	440.4	480.4	560.2
137.5°	339.8	326.6	313.3	326.6	339.8	343.1	375.3	418.2	439.8	473.5	541.0
140°	349.2	337.1	324.8	337.1	349.2	352.3	380.8	418.7	437.8	466.9	525.2
142.5°	356.2	344.9	333.6	344.9	356.2	359.1	385.3	420.3	437.8	463.4	514.5
145°	367.0	357.2	347.3	357.2	367.0	369.5	391.3	420.3	434.8	455.7	497.6
147.5°	380.1	370.4	360.9	370.4	380.1	382.5	399.9	423.1	434.8	451.2	484.2
150°	387.1	378.5	369.8	378.5	387.1	389.3	404.5	424.7	434.8	448.7	476.6
152.5°	392.1	385.5	378.9	385.5	392.1	393.7	407.4	425.6	434.8	446.6	470.4
155°	402.2	397.4	392.5	397.4	402.2	403.4	413.9	427.8	434.8	444.3	463.2
157.5°	412.0	407.3	402.6	407.3	412.0	413.2	420.4	430.0	434.8	442.2	456.9
160°	416.6	413.0	409.4	413.0	416.6	417.6	423.3	431.0	434.8	441.1	453.7
162.5°	421.7	418.9	416.1	418.9	421.7	422.4	426.5	432.0	434.8	440.1	450.8
165°	428.5	426.0	423.5	426.0	428.5	429.1	431.1	433.5	434.8	438.6	446.2
167.5°	432.7	431.4	430.3	431.4	432.7	433.0	434.6	436.7	437.8	440.2	445.2
170°	437.2	435.9	434.8	435.9	437.2	437.5	437.6	437.7	437.8	440.2	445.2
172.5°	437.7	437.5	437.2	437.5	437.7	437.8	437.8	437.8	437.8	439.7	443.6
175°	440.4	440.4	440.4	440.4	440.4	440.4	439.6	438.3	437.8	439.0	441.5
177.5°	440.4	440.4	440.4	440.4	440.4	440.4	439.8	438.8	438.3	439.3	441.3
180°	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4



TEST NUMBER: P934211
 CATALOG NUMBER: SQ4-FA-050U-050D-830-1D-UNV-STD-W-6

CANDELA DISTRIBUTION (continued):

	247.5°	250°	260°	270°	280°	290°	292.5°	300°	310°	315°	320°
0°	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5	1016.5
2.5°	981.0	978.1	981.9	971.3	981.9	978.1	981.0	987.6	981.9	985.7	989.7
5°	860.8	855.9	840.5	828.0	840.5	855.9	860.8	881.0	890.5	907.8	931.0
7.5°	769.4	765.6	761.6	754.0	761.6	765.6	769.4	775.1	784.8	800.2	817.5
10°	749.2	750.2	755.9	755.0	755.9	750.2	749.2	747.2	744.3	747.2	757.8
12.5°	801.1	809.7	841.5	839.6	841.5	809.7	801.1	762.6	736.7	731.8	733.8
15°	860.8	863.7	870.3	871.3	870.3	863.7	860.8	845.4	767.5	733.8	723.2
17.5°	866.5	867.5	872.3	872.3	872.3	867.5	866.5	859.7	833.8	788.6	728.9
20°	861.7	863.7	873.2	875.1	873.2	863.7	861.7	853.0	838.6	822.3	777.0
22.5°	859.7	863.7	871.3	870.3	871.3	863.7	859.7	846.3	833.8	822.3	804.0
25°	850.2	850.2	851.1	852.1	851.1	850.2	850.2	839.6	814.6	811.6	801.1
27.5°	830.0	831.9	837.6	836.7	837.6	831.9	830.0	826.1	799.2	796.3	788.6
30°	811.6	809.7	805.0	801.1	805.0	809.7	811.6	805.9	778.9	771.3	773.2
32.5°	781.0	776.1	771.3	768.4	771.3	776.1	781.0	778.9	758.8	748.3	750.2
35°	744.3	745.3	744.3	741.5	744.3	745.3	744.3	746.3	733.8	724.2	723.2
37.5°	718.4	720.3	719.4	715.5	719.4	720.3	718.4	716.5	699.1	696.3	698.2
40°	691.5	692.4	691.5	688.6	691.5	692.4	691.5	687.7	663.6	664.5	671.3
42.5°	665.5	664.5	661.6	659.7	661.6	664.5	665.5	659.7	629.0	626.1	638.6
45°	635.7	636.7	630.9	628.0	630.9	636.7	635.7	631.8	600.1	592.4	601.0
47.5°	605.9	605.9	601.0	598.2	601.0	605.9	605.9	601.0	567.4	559.7	564.5
50°	574.2	573.2	566.4	565.5	566.4	573.2	574.2	571.3	535.6	529.0	529.0
52.5°	537.6	537.6	538.5	540.5	538.5	537.6	537.6	538.5	506.9	500.1	498.2
55°	505.8	506.9	513.6	515.5	513.6	506.9	505.8	505.8	477.0	470.3	466.4
57.5°	473.1	473.1	478.0	478.0	478.0	473.1	473.1	471.2	443.4	437.6	435.6
60°	435.6	437.6	441.4	440.4	441.4	437.6	435.6	433.7	409.6	405.8	399.1
62.5°	396.3	398.2	399.1	397.2	399.1	398.2	396.3	390.4	376.0	373.1	364.5
65°	354.9	356.8	357.7	355.8	357.7	356.8	354.9	352.0	341.4	336.6	328.9
67.5°	312.5	311.6	310.6	314.5	310.6	311.6	312.5	308.7	302.0	298.2	287.6
70°	269.3	269.3	268.3	270.3	268.3	269.3	269.3	266.4	262.5	259.6	250.1
72.5°	223.1	222.2	226.0	223.1	226.0	222.2	223.1	222.2	220.3	217.4	207.7
75°	177.9	179.8	177.9	180.8	177.9	179.8	177.9	178.9	177.9	176.0	169.3
77.5°	135.6	137.6	135.6	135.6	135.6	137.6	135.6	136.5	136.5	136.5	130.8
80°	96.2	95.2	95.2	94.3	95.2	95.2	96.2	96.2	97.1	95.2	93.3
82.5°	61.6	60.6	60.6	62.5	60.6	60.6	61.6	62.5	60.6	60.6	60.6
85°	33.7	34.6	32.7	32.7	32.7	34.6	33.7	31.7	33.7	33.7	32.7
87.5°	12.5	11.6	11.6	11.6	11.6	11.6	12.5	13.5	13.5	13.5	14.4
90°	11.2	11.2	11.2	11.2	11.2	11.2	11.2	14.9	20.0	22.5	19.3
92.5°	56.1	53.9	44.9	36.0	44.9	53.9	56.1	79.5	110.8	126.5	111.1
95°	190.6	183.8	156.8	129.7	156.8	183.8	190.6	250.4	330.0	369.8	312.3
97.5°	440.0	427.1	375.7	324.3	375.7	427.1	440.0	477.8	528.2	553.3	457.5
100°	618.1	602.8	541.4	480.0	541.4	602.8	618.1	615.3	611.6	609.7	503.4
102.5°	770.0	756.9	704.3	651.7	704.3	756.9	770.0	721.9	657.7	625.7	517.9
105°	947.3	940.2	912.0	883.7	912.0	940.2	947.3	839.5	695.8	623.9	519.5
107.5°	1039.5	1041.2	1048.0	1054.9	1048.0	1041.2	1039.5	889.1	688.6	588.4	496.4
110°	1063.2	1070.5	1099.9	1129.3	1099.9	1070.5	1063.2	895.1	670.9	558.9	475.9



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CANDELA DISTRIBUTION (continued):

	247.5°	250°	260°	270°	280°	290°	292.5°	300°	310°	315°	320°
112.5°	1048.1	1059.3	1104.6	1149.7	1104.6	1059.3	1048.1	876.1	646.7	532.0	458.0
115°	996.9	1012.6	1075.2	1137.9	1075.2	1012.6	996.9	831.2	610.3	499.8	437.5
117.5°	926.3	943.7	1013.2	1082.7	1013.2	943.7	926.3	776.8	577.3	477.6	424.7
120°	878.7	895.6	963.1	1030.7	963.1	895.6	878.7	742.0	559.8	468.7	420.3
122.5°	831.1	847.8	914.4	981.0	914.4	847.8	831.1	708.1	544.0	461.9	418.0
125°	768.1	783.4	844.8	906.2	844.8	783.4	768.1	663.7	524.3	454.6	416.1
127.5°	717.6	730.5	782.3	834.1	782.3	730.5	717.6	627.8	508.2	448.4	415.1
130°	685.7	697.7	745.5	793.3	745.5	697.7	685.7	605.8	499.2	446.0	415.7
132.5°	658.5	669.2	712.0	754.9	712.0	669.2	658.5	587.0	491.7	444.0	416.1
135°	620.1	629.3	666.2	703.1	666.2	629.3	620.1	560.2	480.4	440.4	415.8
137.5°	591.7	599.2	629.5	659.7	629.5	599.2	591.7	541.0	473.5	439.8	418.2
140°	568.9	576.0	604.2	632.5	604.2	576.0	568.9	525.2	466.9	437.8	418.7
142.5°	553.0	559.1	583.4	607.6	583.4	559.1	553.0	514.5	463.4	437.8	420.3
145°	529.1	533.6	552.1	570.4	552.1	533.6	529.1	497.6	455.7	434.8	420.3
147.5°	509.0	512.8	528.0	543.2	528.0	512.8	509.0	484.2	451.2	434.8	423.1
150°	497.4	500.5	512.9	525.2	512.9	500.5	497.4	476.6	448.7	434.8	424.7
152.5°	488.2	490.5	499.9	509.3	499.9	490.5	488.2	470.4	446.6	434.8	425.6
155°	477.3	478.9	485.1	491.2	485.1	478.9	477.3	463.2	444.3	434.8	427.8
157.5°	467.9	468.9	473.3	477.6	473.3	468.9	467.9	456.9	442.2	434.8	430.0
160°	463.2	463.8	466.2	468.7	466.2	463.8	463.2	453.7	441.1	434.8	431.0
162.5°	458.7	459.3	461.7	464.0	461.7	459.3	458.7	450.8	440.1	434.8	432.0
165°	451.9	452.6	455.1	457.5	455.1	452.6	451.9	446.2	438.6	434.8	433.5
167.5°	448.9	449.2	450.3	451.3	450.3	449.2	448.9	445.2	440.2	437.8	436.7
170°	448.9	448.9	448.9	448.9	448.9	448.9	448.9	445.2	440.2	437.8	437.7
172.5°	446.5	446.4	445.4	444.5	445.4	446.4	446.5	443.6	439.7	437.8	437.8
175°	443.3	443.3	443.3	443.3	443.3	443.3	443.3	441.5	439.0	437.8	438.3
177.5°	442.7	442.4	441.5	440.4	441.5	442.4	442.7	441.3	439.3	438.3	438.8
180°	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4	440.4



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CANDELA DISTRIBUTION (continued):

	330°	337.5°	340°	350°	360°
0°	1016.5	1016.5	1016.5	1016.5	1016.5
2.5°	1004.0	1008.9	1011.7	1015.6	1025.2
5°	965.6	983.8	989.7	1004.0	1021.3
7.5°	881.0	936.7	952.1	986.7	1013.6
10°	799.2	855.0	881.9	963.6	1004.0
12.5°	757.8	790.5	808.8	923.2	990.6
15°	731.8	755.0	768.4	869.4	975.2
17.5°	711.6	728.0	737.6	816.5	954.0
20°	699.1	706.9	715.5	778.0	930.0
22.5°	690.5	685.7	692.4	751.1	897.3
25°	684.8	666.4	674.2	729.9	858.8
27.5°	689.6	649.1	652.1	710.7	818.4
30°	690.5	628.0	629.0	690.5	773.2
32.5°	683.8	605.9	606.9	665.5	722.3
35°	667.4	579.9	579.0	636.7	653.0
37.5°	645.3	552.0	552.0	605.0	577.0
40°	618.3	524.2	527.0	563.6	509.7
42.5°	585.6	494.3	498.2	508.8	459.7
45°	550.1	465.5	468.3	429.9	421.2
47.5°	510.7	435.6	436.6	356.8	408.7
50°	463.6	404.9	401.0	305.8	407.7
52.5°	422.2	371.2	359.6	277.0	370.3
55°	381.8	335.7	310.6	254.9	343.3
57.5°	346.3	289.5	265.5	228.9	337.6
60°	313.5	244.3	226.0	201.0	309.6
62.5°	286.6	210.6	206.8	181.7	280.8
65°	257.7	187.6	186.6	165.4	238.5
67.5°	229.8	172.2	171.2	150.0	181.7
70°	200.0	155.8	153.9	133.6	134.6
72.5°	169.3	137.6	135.6	120.2	111.6
75°	138.5	116.3	115.4	104.9	90.4
77.5°	108.7	92.3	94.3	84.6	66.3
80°	77.9	67.3	69.2	60.6	50.0
82.5°	51.9	44.3	46.2	38.4	33.7
85°	28.9	25.0	26.0	20.2	15.4
87.5°	13.5	11.6	11.6	7.6	4.8
90°	13.0	8.3	7.7	5.4	3.0
92.5°	80.2	57.1	52.0	31.9	11.9
95°	197.3	111.1	101.9	65.1	28.4
97.5°	265.9	122.1	114.0	81.5	49.0
100°	290.7	131.3	123.9	94.5	65.0
102.5°	302.2	140.4	133.6	106.1	78.6
105°	310.6	154.0	148.2	124.9	101.7
107.5°	312.2	174.1	168.6	147.0	125.3
110°	309.8	185.3	180.4	160.8	141.3



TEST NUMBER: P934211

CATALOG NUMBER: SQ4-FA-050U-050D-830-1D-UNV-STD-W-6

CANDELA DISTRIBUTION (continued):

	330°	337.5°	340°	350°	360°
112.5°	309.9	198.9	194.3	175.6	157.0
115°	312.8	219.3	215.0	197.8	180.6
117.5°	318.6	239.1	235.2	219.6	203.9
120°	323.3	250.7	246.9	232.2	217.5
122.5°	330.1	264.2	260.5	245.7	230.9
125°	339.3	281.6	278.3	264.7	251.2
127.5°	348.5	298.6	295.1	281.4	267.8
130°	355.2	309.7	306.1	291.4	276.7
132.5°	360.6	318.9	315.3	300.6	285.8
135°	366.5	329.5	326.2	312.8	299.4
137.5°	375.3	343.1	339.8	326.6	313.3
140°	380.8	352.3	349.2	337.1	324.8
142.5°	385.3	359.1	356.2	344.9	333.6
145°	391.3	369.5	367.0	357.2	347.3
147.5°	399.9	382.5	380.1	370.4	360.9
150°	404.5	389.3	387.1	378.5	369.8
152.5°	407.4	393.7	392.1	385.5	378.9
155°	413.9	403.4	402.2	397.4	392.5
157.5°	420.4	413.2	412.0	407.3	402.6
160°	423.3	417.6	416.6	413.0	409.4
162.5°	426.5	422.4	421.7	418.9	416.1
165°	431.1	429.1	428.5	426.0	423.5
167.5°	434.6	433.0	432.7	431.4	430.3
170°	437.6	437.5	437.2	435.9	434.8
172.5°	437.8	437.8	437.7	437.5	437.2
175°	439.6	440.4	440.4	440.4	440.4
177.5°	439.8	440.4	440.4	440.4	440.4
180°	440.4	440.4	440.4	440.4	440.4



TEST NUMBER: P934211
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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	11.01	11.85	11.98	12.84	14.14	13.83	14.67	14.80	15.66	16.96
	3H	11.48	12.24	12.47	13.23	14.55	15.17	15.93	16.16	16.92	18.25
	4H	11.67	12.39	12.67	13.39	14.72	15.61	16.33	16.61	17.33	18.66
	6H	11.79	12.45	12.80	13.45	14.80	15.90	16.56	16.91	17.56	18.90
	8H	11.79	12.42	12.80	13.44	14.78	15.97	16.60	16.98	17.62	18.96
	12H	11.76	12.36	12.78	13.37	14.74	16.01	16.60	17.03	17.62	18.98
4H	2H	12.03	12.75	13.04	13.75	15.08	14.24	14.95	15.24	15.95	17.28
	3H	13.06	13.66	14.07	14.68	16.03	15.74	16.34	16.75	17.36	18.71
	4H	13.34	13.88	14.36	14.90	16.27	16.27	16.81	17.29	17.83	19.20
	6H	13.46	13.93	14.49	14.97	16.34	16.63	17.10	17.66	18.14	19.50
	8H	13.46	13.90	14.50	14.94	16.32	16.73	17.17	17.77	18.21	19.59
	12H	13.43	13.83	14.48	14.88	16.26	16.79	17.18	17.84	18.24	19.62
8H	4H	13.79	14.22	14.82	15.26	16.64	16.39	16.83	17.42	17.86	19.24
	6H	14.05	14.41	15.10	15.49	16.86	16.82	17.18	17.88	18.26	19.64
	8H	14.09	14.41	15.15	15.47	16.87	16.97	17.29	18.04	18.36	19.75
	12H	14.07	14.35	15.14	15.41	16.85	17.07	17.35	18.14	18.41	19.85
12H	4H	13.79	14.19	14.84	15.24	16.62	16.35	16.75	17.40	17.80	19.18
	6H	14.11	14.43	15.17	15.49	16.88	16.82	17.14	17.88	18.20	19.60
	8H	14.17	14.45	15.24	15.51	16.95	16.98	17.26	18.05	18.32	19.76