

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: iO LED

Report Number: P977154

Luminaire Tested: GRZ-05L-935-17x75-X-UNV-STD-4F

Issue Date: 3/21/2025

Test Information

Test Method: LM-79-2019
Report Number: P977154
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-147-12)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 3/21/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: iO LED
Catalog Number: GRZ-05L-935-17x75-X-UNV-STD-4F
Description: iO COVIO LED GRAZER WITH 17X75 DEGREE OPTIC.
500 LUMENS PER FOOT, 4 FOOT FIXTURE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

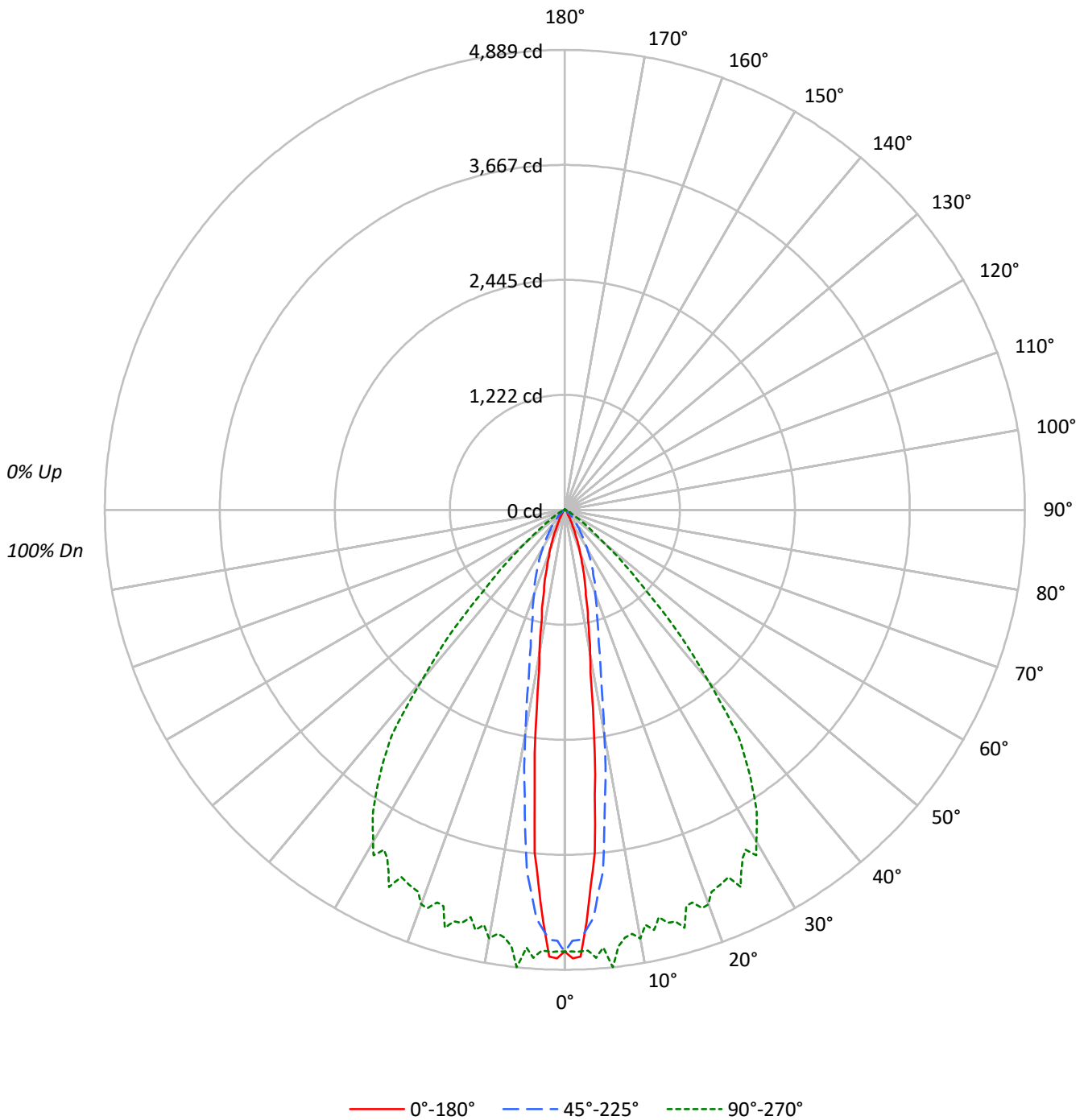
Lumens per Lamp: N/A
Luminaire Lumens: 2258.1 lumens
Efficiency: N/A
Efficacy: 117.0 lumens/watt
Spacing Criteria (0/90/45): 0.26 / 1.25 / 0.42
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V): 120
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

TEST NUMBER: P977154

CATALOG NUMBER: GRZ-05L-935-17x75-X-UNV-STD-4F

Luminous Intensity Polar Plot





TEST NUMBER: P977154

CATALOG NUMBER: GRZ-05L-935-17x75-X-UNV-STD-4F

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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				
1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93				
2	107	102	98	94	105	100	97	93	97	94	91	94	92	89	91	89	87	86				
3	102	95	90	86	100	93	89	85	91	87	83	88	85	82	86	83	81	79				
4	96	88	83	78	94	87	82	78	85	80	77	83	79	76	81	78	75	74				
5	91	83	77	72	90	82	76	72	80	75	71	78	74	71	77	73	70	68				
6	87	77	71	67	85	77	71	67	75	70	66	74	69	66	72	68	65	64				
7	82	73	67	62	81	72	66	62	71	66	62	70	65	62	69	64	61	60				
8	78	69	63	58	77	68	62	58	67	62	58	66	61	58	65	61	58	56				
9	75	65	59	55	74	65	59	55	64	58	55	63	58	54	62	57	54	53				
10	71	62	56	52	70	61	56	52	60	55	52	60	55	52	59	55	51	50				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	75816	75816	75816
5°	59318	66146	75730
10°	25409	39569	75876
15°	14148	23062	75712
20°	8034	16270	76663
25°	3994	12428	78799
30°	1945	8718	75943
35°	1143	5828	67378
40°	896	3788	49729
45°	838	2338	28238
50°	728	1552	13639
55°	600	1143	6311
60°	562	998	3245
65°	592	814	1845
70°	548	637	1185
75°	480	480	842
80°	363	363	539
85°	352	352	352

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 28238 cd/sqm



TEST NUMBER: P977154

CATALOG NUMBER: GRZ-05L-935-17x75-X-UNV-STD-4F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	344.9	15.3
10°-20°	553.3	24.5
20°-30°	561.7	24.9
30°-40°	454.9	20.1
40°-50°	219.0	9.7
50°-60°	78.8	3.5
60°-70°	30.7	1.4
70°-80°	11.6	0.5
80°-90°	2.2	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°	0.4	0.0
150°-160°	0.1	0.0
160°-170°	0.3	0.0
170°-180°	0.2	0.0
0°-30°	1459.9	64.7
0°-40°	1914.8	84.8
0°-60°	2212.6	98.0
0°-90°	2257.2	100.0
90°-120°	0.0	0.0
90°-150°	0.4	0.0
90°-180°	1.0	0.0
0°-180°	2258.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4696	4696	4696	4696	4696	
5°	3660	3737	4081	4564	4672	267
15°	846	943	1380	2895	4530	237
25°	224	303	698	1726	4423	110
35°	58	87	296	976	3418	40
45°	37	44	102	379	1237	28
55°	21	29	41	147	224	20
65°	16	17	21	52	48	15
75°	8	10	8	16	14	8
85°	2	2	2	2	2	2
90°	0	0	0	0	0	0
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	2	0	0	0
155°	0	0	0	0	0	0
165°	2	2	2	0	0	0
175°	2	2	2	2	2	0
180°	2	2	2	2	2	

TEST NUMBER: P977154

CATALOG NUMBER: GRZ-05L-935-17x75-X-UNV-STD-4F

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	4695.7	4695.7	4695.7	4695.7	4695.7	4695.7	4695.7	4695.7	4695.7	4695.7	4695.7
1°	4769.1	4740.1	4686.0	4726.6	4765.2	4757.5	4581.6	4805.8	4753.6	4776.8	4674.4
2°	4753.6	4628.0	4593.2	4541.1	4697.6	4684.1	4573.9	4786.5	4707.3	4801.9	4716.9
3°	4384.5	4421.3	4429.0	4330.4	4529.5	4535.3	4463.8	4573.9	4664.7	4767.2	4773.0
4°	3994.2	4061.8	4069.6	4088.9	4297.6	4326.6	4347.8	4471.5	4510.1	4573.9	4492.8
5°	3659.9	3673.4	3663.8	3737.2	3942.0	4038.7	4081.2	4243.5	4398.1	4564.3	4471.5
6°	3055.1	3078.3	3136.2	3188.4	3476.3	3665.7	3866.7	3994.2	4257.0	4448.3	4465.7
7°	2616.4	2657.0	2684.1	2815.5	2958.5	3339.1	3447.3	3638.7	4054.1	4328.5	4316.9
8°	2141.1	2226.1	2284.1	2342.0	2577.8	2933.3	3062.8	3317.9	3808.7	4226.1	4268.6
9°	1748.8	1860.9	1974.9	1984.5	2206.8	2514.0	2765.2	2973.9	3559.4	4038.7	3924.6
10°	1549.8	1555.6	1652.2	1704.3	1899.5	2235.8	2413.5	2707.2	3373.9	3818.4	3918.8
11°	1368.1	1373.9	1412.6	1478.3	1654.1	1953.6	2133.3	2396.1	3049.3	3640.6	3766.2
12°	1176.8	1201.9	1273.4	1279.2	1455.1	1721.7	1851.2	2123.7	2819.3	3406.8	3571.0
13°	1072.5	1062.8	1136.2	1163.3	1281.2	1522.7	1679.2	1926.6	2564.3	3319.8	3437.7
14°	927.5	962.3	1026.1	1026.1	1192.3	1360.4	1497.6	1721.7	2405.8	3053.1	3261.8
15°	846.4	863.8	925.6	943.0	1055.1	1232.9	1379.7	1572.9	2187.4	2894.7	3049.3
16°	761.4	778.7	815.5	863.8	972.0	1128.5	1265.7	1449.3	2038.6	2767.2	2923.7
17°	666.7	686.0	742.0	769.1	875.4	1053.1	1165.2	1344.9	1915.0	2612.6	2788.4
18°	593.2	620.3	662.8	686.0	788.4	968.1	1109.2	1254.1	1748.8	2438.6	2626.1
19°	512.1	546.9	583.6	620.3	716.9	885.0	1024.2	1171.0	1669.6	2340.1	2572.0
20°	467.6	479.2	529.5	554.6	658.9	830.9	946.9	1103.4	1572.9	2131.4	2423.2
21°	415.5	427.1	473.4	492.8	597.1	769.1	898.6	1045.4	1489.9	2061.8	2257.0
22.5°	334.3	347.8	390.3	417.4	508.2	686.0	827.1	954.6	1364.3	1940.1	2135.3
23°	303.4	328.5	371.0	392.3	481.2	662.8	792.3	935.3	1362.3	1847.3	2063.8
24°	270.5	284.1	328.5	344.0	438.6	616.4	740.1	881.2	1300.5	1806.8	1976.8
25°	224.2	241.5	282.1	303.4	390.3	572.0	697.6	825.1	1201.9	1725.6	1893.7
26°	189.4	202.9	253.1	268.6	355.6	510.1	633.8	782.6	1157.5	1638.6	1779.7
27°	168.1	173.9	220.3	228.0	318.8	487.0	602.9	720.8	1101.5	1532.4	1712.1
28°	139.1	148.8	191.3	202.9	284.1	444.4	552.7	668.6	1041.5	1451.2	1629.0
29°	123.7	131.4	162.3	177.8	253.1	403.9	510.1	628.0	983.6	1383.6	1578.7
30°	104.3	114.0	144.9	158.5	226.1	369.1	467.6	585.5	919.8	1298.6	1484.1
32.5°	77.3	83.1	104.3	117.9	170.0	295.7	376.8	483.1	796.1	1147.8	1294.7
35°	58.0	61.8	79.2	87.0	131.4	218.4	295.7	390.3	672.5	975.8	1101.5
37.5°	48.3	50.2	63.8	69.6	102.4	168.1	231.9	311.1	546.9	798.1	910.1
40°	42.5	44.4	52.2	58.0	81.2	131.4	179.7	245.4	432.9	643.5	724.6
42.5°	38.6	40.6	46.4	50.2	67.6	104.3	137.2	181.6	326.6	500.5	556.5
45°	36.7	36.7	42.5	44.4	58.0	81.2	102.4	131.4	245.4	378.7	427.1
47.5°	32.9	32.9	38.6	40.6	50.2	65.7	77.3	98.6	189.4	293.7	332.4
50°	29.0	29.0	34.8	36.7	44.4	54.1	61.8	71.5	144.9	231.9	262.8
52.5°	25.1	25.1	30.9	32.9	38.6	46.4	50.2	58.0	114.0	185.5	210.6
55°	21.3	21.3	27.1	29.0	34.8	38.6	40.6	44.4	90.8	146.9	164.3
57.5°	19.3	21.3	23.2	25.1	30.9	34.8	34.8	36.7	71.5	119.8	125.6
60°	17.4	19.3	21.3	23.2	25.1	30.9	30.9	30.9	56.0	88.9	94.7
62.5°	15.5	17.4	19.3	19.3	21.3	27.1	25.1	25.1	44.4	67.6	71.5
65°	15.5	15.5	17.4	17.4	19.3	23.2	21.3	19.3	34.8	52.2	52.2



TEST NUMBER: P977154

CATALOG NUMBER: GRZ-05L-935-17x75-X-UNV-STD-4F

CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
67.5°	13.5	13.5	15.5	15.5	15.5	19.3	17.4	15.5	27.1	38.6	40.6
70°	11.6	11.6	13.5	13.5	13.5	15.5	13.5	13.5	21.3	29.0	29.0
72.5°	9.7	9.7	11.6	11.6	11.6	11.6	11.6	9.7	17.4	21.3	21.3
75°	7.7	7.7	9.7	9.7	9.7	9.7	7.7	7.7	11.6	15.5	13.5
77.5°	5.8	5.8	7.7	7.7	7.7	5.8	5.8	5.8	9.7	9.7	9.7
80°	3.9	5.8	5.8	5.8	5.8	5.8	3.9	3.9	5.8	5.8	5.8
82.5°	3.9	3.9	3.9	3.9	3.9	3.9	1.9	1.9	3.9	3.9	3.9
85°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	1.9
145°	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	0.0	0.0	1.9
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	0.0	1.9
150°	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	0.0	1.9	1.9
152.5°	0.0	0.0	0.0	0.0	1.9	1.9	0.0	1.9	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0
165°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0
167.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0
170°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
172.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
175°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
177.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9



TEST NUMBER: P977154

CATALOG NUMBER: GRZ-05L-935-17x75-X-UNV-STD-4F

CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
180°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

TEST NUMBER: P977154

CATALOG NUMBER: GRZ-05L-935-17x75-X-UNV-STD-4F

CANDELA DISTRIBUTION (continued):

	80°	90°
0°	4695.7	4695.7
1°	4666.7	4697.6
2°	4676.3	4699.5
3°	4658.9	4689.9
4°	4604.8	4773.0
5°	4647.3	4672.5
6°	4535.3	4888.9
7°	4525.6	4672.5
8°	4463.8	4593.2
9°	4400.0	4562.3
10°	4303.4	4628.0
11°	4268.6	4494.7
12°	4226.1	4564.3
13°	4090.8	4444.4
14°	4094.7	4523.7
15°	4042.5	4529.5
16°	3870.5	4620.3
17°	3909.2	4407.7
18°	3826.1	4388.4
19°	3768.1	4477.3
20°	3712.1	4461.8
21°	3580.7	4347.8
22.5°	3553.6	4316.9
23°	3571.0	4301.5
24°	3435.8	4272.5
25°	3287.0	4423.2
26°	3232.9	4276.3
27°	3161.4	4158.5
28°	3047.3	4092.8
29°	2991.3	4197.1
30°	2885.0	4073.4
32.5°	2599.0	3795.2
35°	2239.6	3418.4
37.5°	1820.3	3026.1
40°	1431.9	2359.4
42.5°	1062.8	1831.9
45°	747.8	1236.7
47.5°	550.7	859.9
50°	390.3	543.0
52.5°	284.1	347.8
55°	202.9	224.2
57.5°	144.9	146.9
60°	100.5	100.5
62.5°	71.5	71.5
65°	52.2	48.3

TEST NUMBER: P977154

CATALOG NUMBER: GRZ-05L-935-17x75-X-UNV-STD-4F

CANDELA DISTRIBUTION (continued):

	80°	90°
67.5°	36.7	36.7
70°	27.1	25.1
72.5°	19.3	19.3
75°	13.5	13.5
77.5°	9.7	9.7
80°	5.8	5.8
82.5°	3.9	3.9
85°	1.9	1.9
87.5°	0.0	0.0
90°	0.0	0.0
92.5°	0.0	0.0
95°	0.0	0.0
97.5°	0.0	0.0
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	1.9
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°	1.9	1.9
177.5°	1.9	1.9



TEST NUMBER: P977154

CATALOG NUMBER: GRZ-05L-935-17x75-X-UNV-STD-4F

CANDELA DISTRIBUTION (continued):

	80°	90°
180°	1.9	1.9

(END OF REPORT)