

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: P977160

Luminaire Tested: GRZ-10L-927-17x75-X-UNV-STD-4F

Issue Date: 3/21/2025

**Test Information**

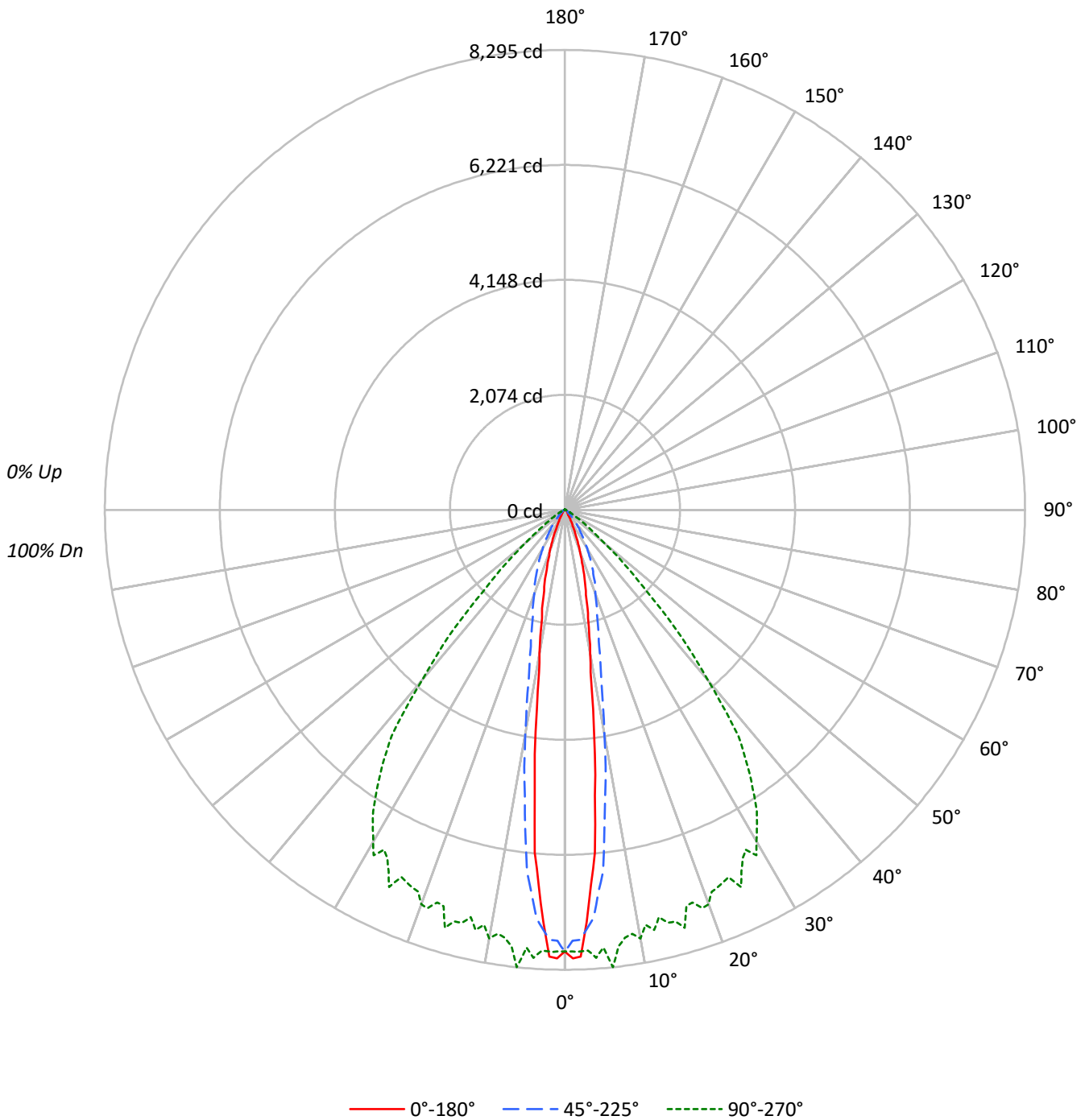
Test Method: LM-79-2019  
Report Number: P977160  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-147-12)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 3/21/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: iO LED  
Catalog Number: GRZ-10L-927-17x75-X-UNV-STD-4F  
Description: iO COVIO LED GRAZER WITH 17X75 DEGREE OPTIC.  
1000 LUMENS PER FOOT, 4 FOOT FIXTURE  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3831.3 lumens  
Efficiency: N/A  
Efficacy: 100.8 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): 38  
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: P977160  
CATALOG NUMBER: GRZ-10L-927-17x75-X-UNV-STD-4F

### Luminous Intensity Polar Plot





TEST NUMBER: P977160

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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	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°	128636	128636	128636
5°	100644	112229	128488
10°	43110	67137	128738
15°	24003	39129	128460
20°	13632	27603	130073
25°	6775	21086	133698
30°	3300	14792	128852
35°	1940	9887	114319
40°	1520	6426	84375
45°	1423	3968	47912
50°	1236	2635	23142
55°	1016	1939	10705
60°	953	1695	5506
65°	1001	1379	3133
70°	930	1086	2011
75°	817	817	1435
80°	614	614	911
85°	611	611	611

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 47912 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	585.2	15.3
10°-20°	938.8	24.5
20°-30°	953.0	24.9
30°-40°	771.8	20.1
40°-50°	371.6	9.7
50°-60°	133.6	3.5
60°-70°	52.1	1.4
70°-80°	19.8	0.5
80°-90°	3.8	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°	0.6	0.0
150°-160°	0.2	0.0
160°-170°	0.5	0.0
170°-180°	0.3	0.0
0°-30°	2477.0	64.7
0°-40°	3248.8	84.8
0°-60°	3754.0	98.0
0°-90°	3829.7	100.0
90°-120°	0.0	0.0
90°-150°	0.6	0.0
90°-180°	2.0	0.1
0°-180°	3831.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7967	7967	7967	7967	7967	
5°	6210	6341	6924	7744	7928	453
15°	1436	1600	2341	4911	7685	403
25°	380	515	1184	2928	7505	186
35°	98	148	502	1656	5800	67
45°	62	75	174	643	2098	47
55°	36	49	69	249	380	34
65°	26	30	36	88	82	25
75°	13	16	13	26	23	14
85°	3	3	3	3	3	4
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	3	0	0	0
155°	0	0	0	0	0	0
165°	3	3	3	0	0	1
175°	3	3	3	3	3	0
180°	3	3	3	3	3	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	7967.1	7967.1	7967.1	7967.1	7967.1	7967.1	7967.1	7967.1	7967.1	7967.1	7967.1
1°	8091.6	8042.5	7950.7	8019.5	8085.1	8072.0	7773.6	8153.9	8065.4	8104.8	7931.0
2°	8065.4	7852.3	7793.3	7704.8	7970.3	7947.4	7760.5	8121.2	7986.7	8147.4	8003.1
3°	7439.2	7501.5	7514.6	7347.4	7685.1	7694.9	7573.6	7760.5	7914.6	8088.4	8098.2
4°	6776.9	6891.7	6904.8	6937.6	7291.7	7340.8	7376.9	7586.7	7652.3	7760.5	7622.8
5°	6209.7	6232.7	6216.3	6340.9	6688.4	6852.3	6924.5	7199.9	7462.2	7744.1	7586.7
6°	5183.5	5222.8	5321.2	5409.7	5898.2	6219.6	6560.5	6776.9	7222.8	7547.4	7576.9
7°	4439.3	4508.1	4554.0	4777.0	5019.6	5665.5	5849.1	6173.7	6878.6	7344.1	7324.4
8°	3632.7	3777.0	3875.3	3973.7	4373.7	4977.0	5196.6	5629.4	6462.2	7170.4	7242.5
9°	2967.2	3157.3	3350.8	3367.1	3744.2	4265.5	4691.7	5045.8	6039.2	6852.3	6658.9
10°	2629.5	2639.3	2803.2	2891.7	3222.9	3793.4	4095.0	4593.4	5724.5	6478.6	6649.1
11°	2321.3	2331.1	2396.7	2508.1	2806.5	3314.7	3619.6	4065.5	5173.7	6176.9	6390.0
12°	1996.7	2039.3	2160.6	2170.4	2468.8	2921.3	3140.9	3603.2	4783.5	5780.2	6058.9
13°	1819.6	1803.2	1927.8	1973.7	2173.7	2583.6	2849.1	3268.8	4350.7	5632.7	5832.7
14°	1573.7	1632.8	1740.9	1740.9	2022.9	2308.2	2540.9	2921.3	4081.9	5180.2	5534.3
15°	1436.0	1465.5	1570.5	1600.0	1790.1	2091.8	2340.9	2668.8	3711.4	4911.4	5173.7
16°	1291.8	1321.3	1383.6	1465.5	1649.1	1914.7	2147.5	2459.0	3458.9	4695.0	4960.6
17°	1131.1	1163.9	1259.0	1304.9	1485.2	1786.9	1977.0	2281.9	3249.1	4432.7	4731.1
18°	1006.5	1052.4	1124.6	1163.9	1337.7	1642.6	1881.9	2127.8	2967.2	4137.6	4455.7
19°	868.8	927.9	990.1	1052.4	1216.4	1501.6	1737.7	1986.8	2832.7	3970.4	4363.8
20°	793.4	813.1	898.3	941.0	1118.0	1409.8	1606.5	1872.1	2668.8	3616.3	4111.4
21°	704.9	724.6	803.3	836.0	1013.1	1304.9	1524.6	1773.7	2527.8	3498.3	3829.4
22.5°	567.2	590.2	662.3	708.2	862.3	1163.9	1403.3	1619.6	2314.7	3291.7	3622.9
23°	514.7	557.4	629.5	665.6	816.4	1124.6	1344.2	1586.9	2311.4	3134.4	3501.6
24°	459.0	482.0	557.4	583.6	744.2	1045.9	1255.7	1495.1	2206.5	3065.5	3354.0
25°	380.3	409.8	478.7	514.7	662.3	970.5	1183.6	1400.0	2039.3	2927.8	3213.1
26°	321.3	344.3	429.5	455.7	603.3	865.6	1075.4	1327.8	1963.9	2780.3	3019.6
27°	285.2	295.1	373.8	386.9	541.0	826.2	1022.9	1222.9	1868.8	2599.9	2904.9
28°	236.1	252.5	324.6	344.3	482.0	754.1	937.7	1134.4	1767.2	2462.2	2763.9
29°	209.8	222.9	275.4	301.6	429.5	685.2	865.6	1065.6	1668.8	2347.5	2678.6
30°	177.0	193.4	245.9	268.8	383.6	626.2	793.4	993.4	1560.6	2203.2	2518.0
32.5°	131.1	141.0	177.0	200.0	288.5	501.6	639.3	819.7	1350.8	1947.5	2196.7
35°	98.4	104.9	134.4	147.5	222.9	370.5	501.6	662.3	1141.0	1655.7	1868.8
37.5°	82.0	85.2	108.2	118.0	173.8	285.2	393.4	527.9	927.9	1354.1	1544.2
40°	72.1	75.4	88.5	98.4	137.7	222.9	304.9	416.4	734.4	1091.8	1229.5
42.5°	65.6	68.9	78.7	85.2	114.8	177.0	232.8	308.2	554.1	849.2	944.2
45°	62.3	62.3	72.1	75.4	98.4	137.7	173.8	222.9	416.4	642.6	724.6
47.5°	55.7	55.7	65.6	68.9	85.2	111.5	131.1	167.2	321.3	498.4	563.9
50°	49.2	49.2	59.0	62.3	75.4	91.8	104.9	121.3	245.9	393.4	445.9
52.5°	42.6	42.6	52.5	55.7	65.6	78.7	85.2	98.4	193.4	314.7	357.4
55°	36.1	36.1	45.9	49.2	59.0	65.6	68.9	75.4	154.1	249.2	278.7
57.5°	32.8	36.1	39.3	42.6	52.5	59.0	59.0	62.3	121.3	203.3	213.1
60°	29.5	32.8	36.1	39.3	42.6	52.5	52.5	52.5	95.1	150.8	160.7
62.5°	26.2	29.5	32.8	32.8	36.1	45.9	42.6	42.6	75.4	114.8	121.3
65°	26.2	26.2	29.5	29.5	32.8	39.3	36.1	32.8	59.0	88.5	88.5



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
67.5°	23.0	23.0	26.2	26.2	26.2	32.8	29.5	26.2	45.9	65.6	68.9
70°	19.7	19.7	23.0	23.0	23.0	26.2	23.0	23.0	36.1	49.2	49.2
72.5°	16.4	16.4	19.7	19.7	19.7	19.7	19.7	16.4	29.5	36.1	36.1
75°	13.1	13.1	16.4	16.4	16.4	16.4	13.1	13.1	19.7	26.2	23.0
77.5°	9.8	9.8	13.1	13.1	13.1	9.8	9.8	9.8	16.4	16.4	16.4
80°	6.6	9.8	9.8	9.8	9.8	9.8	6.6	6.6	9.8	9.8	9.8
82.5°	6.6	6.6	6.6	6.6	6.6	6.6	3.3	3.3	6.6	6.6	6.6
85°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
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	3.3	3.3	3.3	3.3	3.3
145°	0.0	0.0	0.0	0.0	0.0	3.3	3.3	3.3	0.0	0.0	3.3
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	3.3	3.3	3.3	0.0	3.3
150°	0.0	0.0	0.0	0.0	0.0	3.3	3.3	3.3	0.0	3.3	3.3
152.5°	0.0	0.0	0.0	0.0	3.3	3.3	0.0	3.3	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	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	3.3	3.3	3.3	3.3	3.3	3.3	3.3	0.0	0.0	0.0
165°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	0.0	0.0	0.0
167.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	0.0	0.0	0.0
170°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
172.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
175°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
177.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
180°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3



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CATALOG NUMBER: GRZ-10L-927-17x75-X-UNV-STD-4F

**CANDELA DISTRIBUTION (continued):**

	80°	90°
0°	7967.1	7967.1
1°	7917.9	7970.3
2°	7934.3	7973.6
3°	7904.8	7957.2
4°	7813.0	8098.2
5°	7885.1	7927.7
6°	7694.9	8294.9
7°	7678.5	7927.7
8°	7573.6	7793.3
9°	7465.4	7740.8
10°	7301.5	7852.3
11°	7242.5	7626.1
12°	7170.4	7744.1
13°	6940.8	7540.8
14°	6947.4	7675.3
15°	6858.9	7685.1
16°	6567.1	7839.2
17°	6632.7	7478.5
18°	6491.7	7445.8
19°	6393.3	7596.6
20°	6298.2	7570.3
21°	6075.3	7376.9
22.5°	6029.4	7324.4
23°	6058.9	7298.2
24°	5829.4	7249.0
25°	5576.9	7504.8
26°	5485.1	7255.6
27°	5363.8	7055.6
28°	5170.4	6944.1
29°	5075.3	7121.2
30°	4895.0	6911.3
32.5°	4409.8	6439.2
35°	3799.9	5799.9
37.5°	3088.5	5134.3
40°	2429.5	4003.2
42.5°	1803.2	3108.1
45°	1268.8	2098.3
47.5°	934.4	1459.0
50°	662.3	921.3
52.5°	482.0	590.2
55°	344.3	380.3
57.5°	245.9	249.2
60°	170.5	170.5
62.5°	121.3	121.3
65°	88.5	82.0

TEST NUMBER: P977160

CATALOG NUMBER: GRZ-10L-927-17x75-X-UNV-STD-4F

**CANDELA DISTRIBUTION (continued):**

	80°	90°
67.5°	62.3	62.3
70°	45.9	42.6
72.5°	32.8	32.8
75°	23.0	23.0
77.5°	16.4	16.4
80°	9.8	9.8
82.5°	6.6	6.6
85°	3.3	3.3
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	3.3
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°	3.3	3.3
177.5°	3.3	3.3



TEST NUMBER: P977160

CATALOG NUMBER: GRZ-10L-927-17x75-X-UNV-STD-4F

**CANDELA DISTRIBUTION (continued):**

	80°	90°
180°	3.3	3.3

(END OF REPORT)