

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: P977148

Luminaire Tested: GRZ-05L-927-17x75-X-UNV-STD-4F

Issue Date: 3/21/2025

Test Information

Test Method: LM-79-2019
Report Number: P977148
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-927-17x75-X-UNV-STD-4F
Description: iO COVIO LED GRAZER WITH 17X75 DEGREE OPTIC.
500 LUMENS PER FOOT, 4 FOOT FIXTURE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

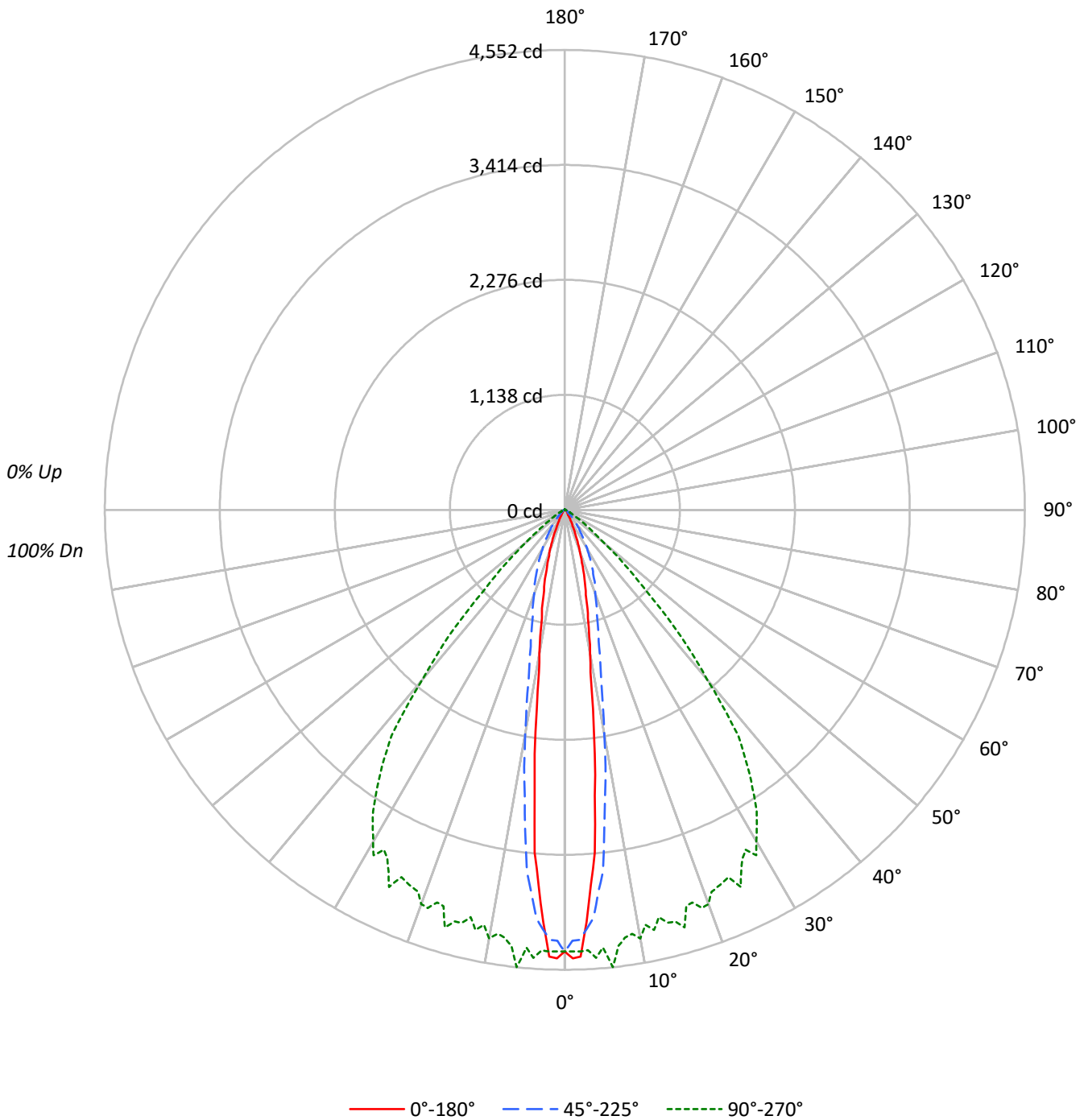
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2102.3 lumens
Efficiency: N/A
Efficacy: 108.9 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

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	70585	70585	70585
5°	55225	61582	70504
10°	23655	36839	70641
15°	13172	21471	70489
20°	7481	15146	71374
25°	3718	11571	73362
30°	1810	8117	70704
35°	1064	5426	62728
40°	835	3526	46298
45°	781	2176	26291
50°	678	1447	12697
55°	557	1064	5875
60°	523	930	3023
65°	550	756	1719
70°	510	595	1105
75°	449	449	786
80°	335	335	502
85°	333	333	333

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 26291 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	321.1	15.3
10°-20°	515.1	24.5
20°-30°	522.9	24.9
30°-40°	423.5	20.1
40°-50°	203.9	9.7
50°-60°	73.3	3.5
60°-70°	28.6	1.4
70°-80°	10.8	0.5
80°-90°	2.1	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°	0.3	0.0
150°-160°	0.1	0.0
160°-170°	0.3	0.0
170°-180°	0.2	0.0
0°-30°	1359.2	64.7
0°-40°	1782.7	84.8
0°-60°	2059.9	98.0
0°-90°	2101.5	100.0
90°-120°	0.0	0.0
90°-150°	0.3	0.0
90°-180°	1.0	0.0
0°-180°	2102.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4372	4372	4372	4372	4372	
5°	3407	3479	3800	4249	4350	249
15°	788	878	1284	2695	4217	221
25°	209	282	650	1607	4118	102
35°	54	81	275	908	3182	37
45°	34	41	95	353	1151	26
55°	20	27	38	137	209	18
65°	14	16	20	49	45	14
75°	7	9	7	14	13	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	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	4371.7	4371.7	4371.7	4371.7	4371.7	4371.7	4371.7	4371.7	4371.7	4371.7	4371.7
1°	4440.1	4413.1	4362.7	4400.5	4436.5	4429.3	4265.6	4474.2	4425.7	4447.3	4351.9
2°	4425.7	4308.7	4276.4	4227.8	4373.5	4360.9	4258.4	4456.3	4382.5	4470.7	4391.5
3°	4082.1	4116.2	4123.4	4031.7	4217.0	4222.4	4155.8	4258.4	4342.9	4438.3	4443.7
4°	3718.6	3781.6	3788.8	3806.8	4001.1	4028.1	4047.9	4163.0	4199.0	4258.4	4182.8
5°	3407.4	3420.0	3411.0	3479.4	3670.1	3760.0	3799.6	3950.7	4094.6	4249.4	4163.0
6°	2844.3	2865.9	2919.9	2968.4	3236.5	3412.8	3599.9	3718.6	3963.3	4141.4	4157.6
7°	2435.9	2473.7	2498.9	2621.2	2754.4	3108.8	3209.5	3387.6	3774.4	4029.9	4019.1
8°	1993.4	2072.5	2126.5	2180.5	2399.9	2731.0	2851.5	3089.0	3545.9	3934.5	3974.1
9°	1628.1	1732.5	1838.6	1847.6	2054.5	2340.6	2574.4	2768.7	3313.9	3760.0	3653.9
10°	1442.8	1448.2	1538.2	1586.8	1768.5	2081.5	2247.0	2520.5	3141.2	3554.9	3648.5
11°	1273.7	1279.1	1315.1	1376.3	1540.0	1818.8	1986.2	2230.8	2838.9	3389.4	3506.4
12°	1095.6	1119.0	1185.6	1191.0	1354.7	1603.0	1723.5	1977.2	2624.8	3171.7	3324.7
13°	998.5	989.5	1057.8	1083.0	1192.8	1417.7	1563.4	1793.7	2387.3	3090.8	3200.5
14°	863.5	895.9	955.3	955.3	1110.0	1266.5	1394.3	1603.0	2239.8	2842.5	3036.8
15°	788.0	804.2	861.7	877.9	982.3	1147.8	1284.5	1464.4	2036.5	2695.0	2838.9
16°	708.8	725.0	759.2	804.2	904.9	1050.6	1178.4	1349.3	1898.0	2576.2	2722.0
17°	620.7	638.7	690.8	716.0	815.0	980.5	1084.8	1252.1	1782.9	2432.3	2596.0
18°	552.3	577.5	617.1	638.7	734.0	901.3	1032.7	1167.6	1628.1	2270.4	2444.9
19°	476.7	509.1	543.3	577.5	667.4	824.0	953.5	1090.2	1554.4	2178.7	2394.5
20°	435.4	446.2	492.9	516.3	613.5	773.6	881.5	1027.3	1464.4	1984.4	2256.0
21°	386.8	397.6	440.8	458.8	555.9	716.0	836.6	973.3	1387.1	1919.6	2101.3
22.5°	311.2	323.8	363.4	388.6	473.2	638.7	770.0	888.7	1270.1	1806.3	1988.0
23°	282.5	305.8	345.4	365.2	448.0	617.1	737.6	870.7	1268.3	1719.9	1921.4
24°	251.9	264.5	305.8	320.2	408.4	573.9	689.0	820.4	1210.8	1682.1	1840.4
25°	208.7	224.9	262.7	282.5	363.4	532.5	649.5	768.2	1119.0	1606.6	1763.1
26°	176.3	188.9	235.7	250.1	331.0	475.0	590.1	728.6	1077.6	1525.6	1656.9
27°	156.5	161.9	205.1	212.3	296.8	453.4	561.3	671.0	1025.5	1426.7	1594.0
28°	129.5	138.5	178.1	188.9	264.5	413.8	514.5	622.5	969.7	1351.1	1516.6
29°	115.1	122.3	151.1	165.5	235.7	376.0	475.0	584.7	915.7	1288.1	1469.8
30°	97.1	106.1	134.9	147.5	210.5	343.6	435.4	545.1	856.4	1209.0	1381.7
32.5°	72.0	77.4	97.1	109.7	158.3	275.3	350.8	449.8	741.2	1068.6	1205.4
35°	54.0	57.6	73.8	81.0	122.3	203.3	275.3	363.4	626.1	908.5	1025.5
37.5°	45.0	46.8	59.4	64.8	95.3	156.5	215.9	289.6	509.1	743.0	847.4
40°	39.6	41.4	48.6	54.0	75.6	122.3	167.3	228.5	403.0	599.1	674.6
42.5°	36.0	37.8	43.2	46.8	63.0	97.1	127.7	169.1	304.0	466.0	518.1
45°	34.2	34.2	39.6	41.4	54.0	75.6	95.3	122.3	228.5	352.6	397.6
47.5°	30.6	30.6	36.0	37.8	46.8	61.2	72.0	91.8	176.3	273.5	309.4
50°	27.0	27.0	32.4	34.2	41.4	50.4	57.6	66.6	134.9	215.9	244.7
52.5°	23.4	23.4	28.8	30.6	36.0	43.2	46.8	54.0	106.1	172.7	196.1
55°	19.8	19.8	25.2	27.0	32.4	36.0	37.8	41.4	84.6	136.7	152.9
57.5°	18.0	19.8	21.6	23.4	28.8	32.4	32.4	34.2	66.6	111.5	116.9
60°	16.2	18.0	19.8	21.6	23.4	28.8	28.8	28.8	52.2	82.8	88.2
62.5°	14.4	16.2	18.0	18.0	19.8	25.2	23.4	23.4	41.4	63.0	66.6
65°	14.4	14.4	16.2	16.2	18.0	21.6	19.8	18.0	32.4	48.6	48.6



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
67.5°	12.6	12.6	14.4	14.4	14.4	18.0	16.2	14.4	25.2	36.0	37.8
70°	10.8	10.8	12.6	12.6	12.6	14.4	12.6	12.6	19.8	27.0	27.0
72.5°	9.0	9.0	10.8	10.8	10.8	10.8	10.8	9.0	16.2	19.8	19.8
75°	7.2	7.2	9.0	9.0	9.0	9.0	7.2	7.2	10.8	14.4	12.6
77.5°	5.4	5.4	7.2	7.2	7.2	5.4	5.4	5.4	9.0	9.0	9.0
80°	3.6	5.4	5.4	5.4	5.4	5.4	3.6	3.6	5.4	5.4	5.4
82.5°	3.6	3.6	3.6	3.6	3.6	3.6	1.8	1.8	3.6	3.6	3.6
85°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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	1.8	1.8	1.8	1.8	1.8
145°	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	0.0	0.0	1.8
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	0.0	1.8
150°	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	0.0	1.8	1.8
152.5°	0.0	0.0	0.0	0.0	1.8	1.8	0.0	1.8	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	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	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.0	0.0	0.0
165°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.0	0.0	0.0
167.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.0	0.0	0.0
170°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
172.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
175°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
177.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
180°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8

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CANDELA DISTRIBUTION (continued):

	80°	90°
0°	4371.7	4371.7
1°	4344.7	4373.5
2°	4353.7	4375.3
3°	4337.5	4366.3
4°	4287.1	4443.7
5°	4326.7	4350.1
6°	4222.4	4551.6
7°	4213.4	4350.1
8°	4155.8	4276.4
9°	4096.4	4247.6
10°	4006.5	4308.7
11°	3974.1	4184.6
12°	3934.5	4249.4
13°	3808.6	4137.8
14°	3812.2	4211.6
15°	3763.6	4217.0
16°	3603.5	4301.5
17°	3639.5	4103.6
18°	3562.1	4085.7
19°	3508.2	4168.4
20°	3456.0	4154.0
21°	3333.6	4047.9
22.5°	3308.5	4019.1
23°	3324.7	4004.7
24°	3198.7	3977.7
25°	3060.2	4118.0
26°	3009.8	3981.3
27°	2943.3	3871.6
28°	2837.1	3810.4
29°	2784.9	3907.5
30°	2686.0	3792.4
32.5°	2419.7	3533.3
35°	2085.1	3182.5
37.5°	1694.7	2817.3
40°	1333.1	2196.6
42.5°	989.5	1705.5
45°	696.2	1151.4
47.5°	512.7	800.6
50°	363.4	505.5
52.5°	264.5	323.8
55°	188.9	208.7
57.5°	134.9	136.7
60°	93.6	93.6
62.5°	66.6	66.6
65°	48.6	45.0



TEST NUMBER: P977148

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CANDELA DISTRIBUTION (continued):

	80°	90°
67.5°	34.2	34.2
70°	25.2	23.4
72.5°	18.0	18.0
75°	12.6	12.6
77.5°	9.0	9.0
80°	5.4	5.4
82.5°	3.6	3.6
85°	1.8	1.8
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	1.8
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°	1.8	1.8
177.5°	1.8	1.8



TEST NUMBER: P977148

CATALOG NUMBER: GRZ-05L-927-17x75-X-UNV-STD-4F

CANDELA DISTRIBUTION (continued):

	80°	90°
180°	1.8	1.8

(END OF REPORT)