

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: P977157

Luminaire Tested: GRZ-05L-940-17x75-X-UNV-STD-4F

Issue Date: 3/21/2025

Test Information

Test Method: LM-79-2019
Report Number: P977157
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-940-17x75-X-UNV-STD-4F
Description: iO COVIO LED GRAZER WITH 17X75 DEGREE OPTIC.
500 LUMENS PER FOOT, 4 FOOT FIXTURE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

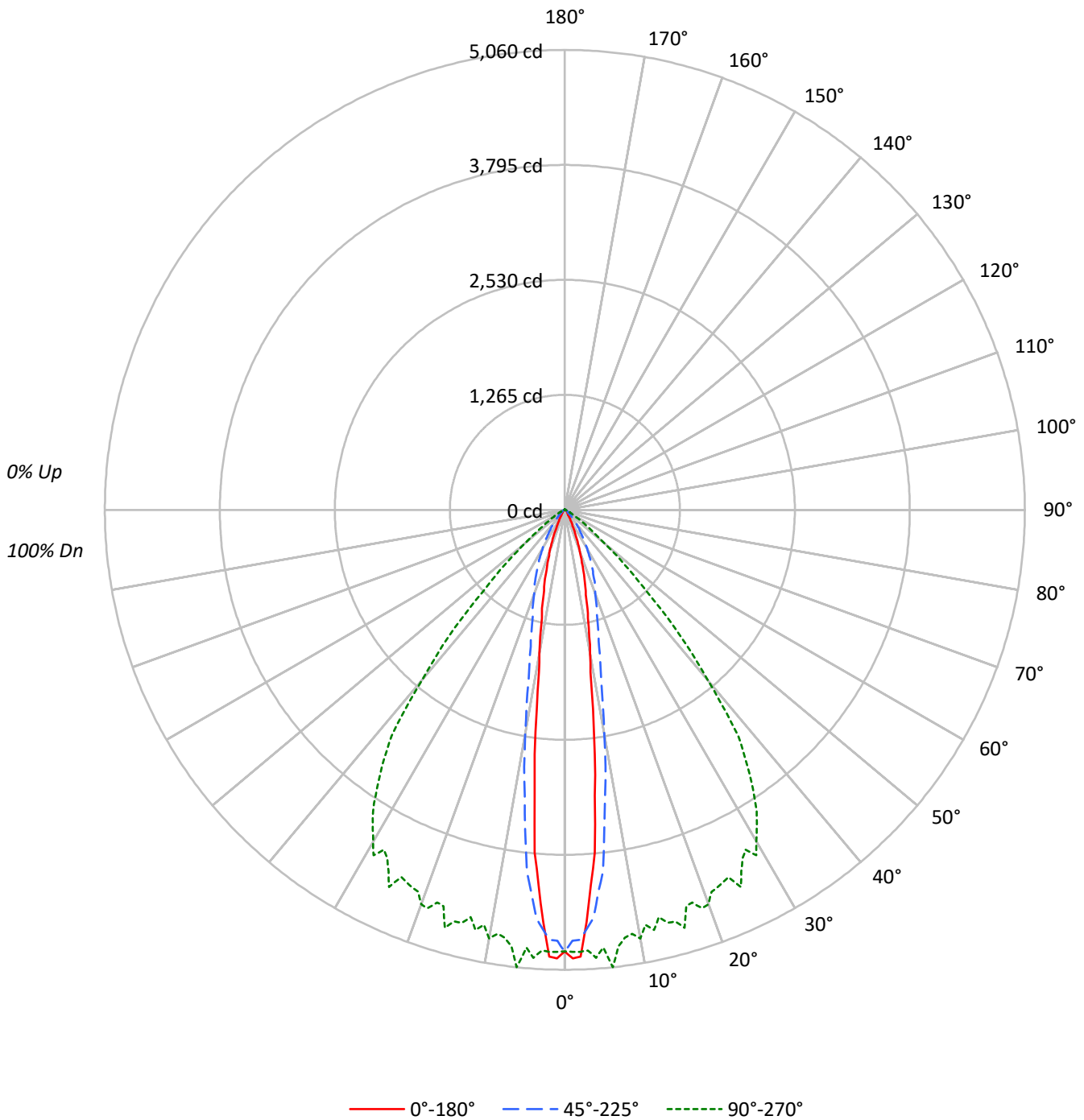
Lumens per Lamp: N/A
Luminaire Lumens: 2337.2 lumens
Efficiency: N/A
Efficacy: 121.1 lumens/watt
Spacing Criteria (0/90/45): 0.26 / 1.25 / 0.42
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	78472	78472	78472
5°	61396	68462	78383
10°	26299	40956	78535
15°	14643	23870	78363
20°	8316	16838	79348
25°	4133	12862	81559
30°	2014	9024	78603
35°	1183	6031	69737
40°	927	3920	51472
45°	868	2420	29227
50°	754	1608	14117
55°	619	1182	6531
60°	581	1033	3358
65°	611	840	1910
70°	566	661	1227
75°	499	499	873
80°	372	372	558
85°	371	371	371

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 29227 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	357.0	15.3
10°-20°	572.7	24.5
20°-30°	581.4	24.9
30°-40°	470.8	20.1
40°-50°	226.7	9.7
50°-60°	81.5	3.5
60°-70°	31.8	1.4
70°-80°	12.0	0.5
80°-90°	2.3	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°	1511.0	64.7
0°-40°	1981.8	84.8
0°-60°	2290.1	98.0
0°-90°	2336.2	100.0
90°-120°	0.0	0.0
90°-150°	0.4	0.0
90°-180°	1.0	0.0
0°-180°	2337.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4860	4860	4860	4860	4860	
5°	3788	3868	4224	4724	4836	276
15°	876	976	1428	2996	4688	246
25°	232	314	722	1786	4578	114
35°	60	90	306	1010	3538	41
45°	38	46	106	392	1280	29
55°	22	30	42	152	232	21
65°	16	18	22	54	50	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	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	4860.2	4860.2	4860.2	4860.2	4860.2	4860.2	4860.2	4860.2	4860.2	4860.2	4860.2
1°	4936.2	4906.2	4850.2	4892.2	4932.2	4924.2	4742.1	4974.2	4920.2	4944.2	4838.2
2°	4920.2	4790.2	4754.2	4700.1	4862.2	4848.2	4734.1	4954.2	4872.2	4970.2	4882.2
3°	4538.1	4576.1	4584.1	4482.1	4688.1	4694.1	4620.1	4734.1	4828.2	4934.2	4940.2
4°	4134.1	4204.1	4212.1	4232.1	4448.1	4478.1	4500.1	4628.1	4668.1	4734.1	4650.1
5°	3788.1	3802.1	3792.1	3868.1	4080.1	4180.1	4224.1	4392.1	4552.1	4724.1	4628.1
6°	3162.1	3186.1	3246.1	3300.1	3598.1	3794.1	4002.1	4134.1	4406.1	4604.1	4622.1
7°	2708.1	2750.1	2778.1	2914.1	3062.1	3456.1	3568.1	3766.1	4196.1	4480.1	4468.1
8°	2216.1	2304.1	2364.1	2424.1	2668.1	3036.1	3170.1	3434.1	3942.1	4374.1	4418.1
9°	1810.1	1926.1	2044.1	2054.1	2284.1	2602.1	2862.1	3078.1	3684.1	4180.1	4062.1
10°	1604.1	1610.1	1710.1	1764.1	1966.1	2314.1	2498.1	2802.1	3492.1	3952.1	4056.1
11°	1416.0	1422.0	1462.0	1530.0	1712.1	2022.1	2208.1	2480.1	3156.1	3768.1	3898.1
12°	1218.0	1244.0	1318.0	1324.0	1506.0	1782.1	1916.1	2198.1	2918.1	3526.1	3696.1
13°	1110.0	1100.0	1176.0	1204.0	1326.0	1576.0	1738.1	1994.1	2654.1	3436.1	3558.1
14°	960.0	996.0	1062.0	1062.0	1234.0	1408.0	1550.0	1782.1	2490.1	3160.1	3376.1
15°	876.0	894.0	958.0	976.0	1092.0	1276.0	1428.0	1628.1	2264.1	2996.1	3156.1
16°	788.0	806.0	844.0	894.0	1006.0	1168.0	1310.0	1500.0	2110.1	2864.1	3026.1
17°	690.0	710.0	768.0	796.0	906.0	1090.0	1206.0	1392.0	1982.1	2704.1	2886.1
18°	614.0	642.0	686.0	710.0	816.0	1002.0	1148.0	1298.0	1810.1	2524.1	2718.1
19°	530.0	566.0	604.0	642.0	742.0	916.0	1060.0	1212.0	1728.1	2422.1	2662.1
20°	484.0	496.0	548.0	574.0	682.0	860.0	980.0	1142.0	1628.1	2206.1	2508.1
21°	430.0	442.0	490.0	510.0	618.0	796.0	930.0	1082.0	1542.0	2134.1	2336.1
22.5°	346.0	360.0	404.0	432.0	526.0	710.0	856.0	988.0	1412.0	2008.1	2210.1
23°	314.0	340.0	384.0	406.0	498.0	686.0	820.0	968.0	1410.0	1912.1	2136.1
24°	280.0	294.0	340.0	356.0	454.0	638.0	766.0	912.0	1346.0	1870.1	2046.1
25°	232.0	250.0	292.0	314.0	404.0	592.0	722.0	854.0	1244.0	1786.1	1960.1
26°	196.0	210.0	262.0	278.0	368.0	528.0	656.0	810.0	1198.0	1696.1	1842.1
27°	174.0	180.0	228.0	236.0	330.0	504.0	624.0	746.0	1140.0	1586.1	1772.1
28°	144.0	154.0	198.0	210.0	294.0	460.0	572.0	692.0	1078.0	1502.0	1686.1
29°	128.0	136.0	168.0	184.0	262.0	418.0	528.0	650.0	1018.0	1432.0	1634.1
30°	108.0	118.0	150.0	164.0	234.0	382.0	484.0	606.0	952.0	1344.0	1536.0
32.5°	80.0	86.0	108.0	122.0	176.0	306.0	390.0	500.0	824.0	1188.0	1340.0
35°	60.0	64.0	82.0	90.0	136.0	226.0	306.0	404.0	696.0	1010.0	1140.0
37.5°	50.0	52.0	66.0	72.0	106.0	174.0	240.0	322.0	566.0	826.0	942.0
40°	44.0	46.0	54.0	60.0	84.0	136.0	186.0	254.0	448.0	666.0	750.0
42.5°	40.0	42.0	48.0	52.0	70.0	108.0	142.0	188.0	338.0	518.0	576.0
45°	38.0	38.0	44.0	46.0	60.0	84.0	106.0	136.0	254.0	392.0	442.0
47.5°	34.0	34.0	40.0	42.0	52.0	68.0	80.0	102.0	196.0	304.0	344.0
50°	30.0	30.0	36.0	38.0	46.0	56.0	64.0	74.0	150.0	240.0	272.0
52.5°	26.0	26.0	32.0	34.0	40.0	48.0	52.0	60.0	118.0	192.0	218.0
55°	22.0	22.0	28.0	30.0	36.0	40.0	42.0	46.0	94.0	152.0	170.0
57.5°	20.0	22.0	24.0	26.0	32.0	36.0	36.0	38.0	74.0	124.0	130.0
60°	18.0	20.0	22.0	24.0	26.0	32.0	32.0	32.0	58.0	92.0	98.0
62.5°	16.0	18.0	20.0	20.0	22.0	28.0	26.0	26.0	46.0	70.0	74.0
65°	16.0	16.0	18.0	18.0	20.0	24.0	22.0	20.0	36.0	54.0	54.0



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
67.5°	14.0	14.0	16.0	16.0	16.0	20.0	18.0	16.0	28.0	40.0	42.0
70°	12.0	12.0	14.0	14.0	14.0	16.0	14.0	14.0	22.0	30.0	30.0
72.5°	10.0	10.0	12.0	12.0	12.0	12.0	12.0	10.0	18.0	22.0	22.0
75°	8.0	8.0	10.0	10.0	10.0	10.0	8.0	8.0	12.0	16.0	14.0
77.5°	6.0	6.0	8.0	8.0	8.0	6.0	6.0	6.0	10.0	10.0	10.0
80°	4.0	6.0	6.0	6.0	6.0	6.0	4.0	4.0	6.0	6.0	6.0
82.5°	4.0	4.0	4.0	4.0	4.0	4.0	2.0	2.0	4.0	4.0	4.0
85°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	2.0	2.0	2.0	2.0	2.0
145°	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0
150°	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0
152.5°	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
165°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
167.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
170°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
172.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
175°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
177.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
180°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

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CANDELA DISTRIBUTION (continued):

	80°	90°
0°	4860.2	4860.2
1°	4830.2	4862.2
2°	4840.2	4864.2
3°	4822.2	4854.2
4°	4766.2	4940.2
5°	4810.2	4836.2
6°	4694.1	5060.2
7°	4684.1	4836.2
8°	4620.1	4754.2
9°	4554.1	4722.1
10°	4454.1	4790.2
11°	4418.1	4652.1
12°	4374.1	4724.1
13°	4234.1	4600.1
14°	4238.1	4682.1
15°	4184.1	4688.1
16°	4006.1	4782.2
17°	4046.1	4562.1
18°	3960.1	4542.1
19°	3900.1	4634.1
20°	3842.1	4618.1
21°	3706.1	4500.1
22.5°	3678.1	4468.1
23°	3696.1	4452.1
24°	3556.1	4422.1
25°	3402.1	4578.1
26°	3346.1	4426.1
27°	3272.1	4304.1
28°	3154.1	4236.1
29°	3096.1	4344.1
30°	2986.1	4216.1
32.5°	2690.1	3928.1
35°	2318.1	3538.1
37.5°	1884.1	3132.1
40°	1482.0	2442.1
42.5°	1100.0	1896.1
45°	774.0	1280.0
47.5°	570.0	890.0
50°	404.0	562.0
52.5°	294.0	360.0
55°	210.0	232.0
57.5°	150.0	152.0
60°	104.0	104.0
62.5°	74.0	74.0
65°	54.0	50.0



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CANDELA DISTRIBUTION (continued):

	80°	90°
67.5°	38.0	38.0
70°	28.0	26.0
72.5°	20.0	20.0
75°	14.0	14.0
77.5°	10.0	10.0
80°	6.0	6.0
82.5°	4.0	4.0
85°	2.0	2.0
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	2.0
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°	2.0	2.0
177.5°	2.0	2.0



TEST NUMBER: P977157

CATALOG NUMBER: GRZ-05L-940-17x75-X-UNV-STD-4F

CANDELA DISTRIBUTION (continued):

	80°	90°
180°	2.0	2.0

(END OF REPORT)