

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: P977156

Luminaire Tested: GRZ-05L-940-17x75-X-UNV-STD-2F

Issue Date: 3/21/2025

Test Information

Test Method: LM-79-2019
Report Number: P977156
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-2F
Description: iO COVIO LED GRAZER WITH 17X75 DEGREE OPTIC.
500 LUMENS PER FOOT, 2 FOOT FIXTURE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

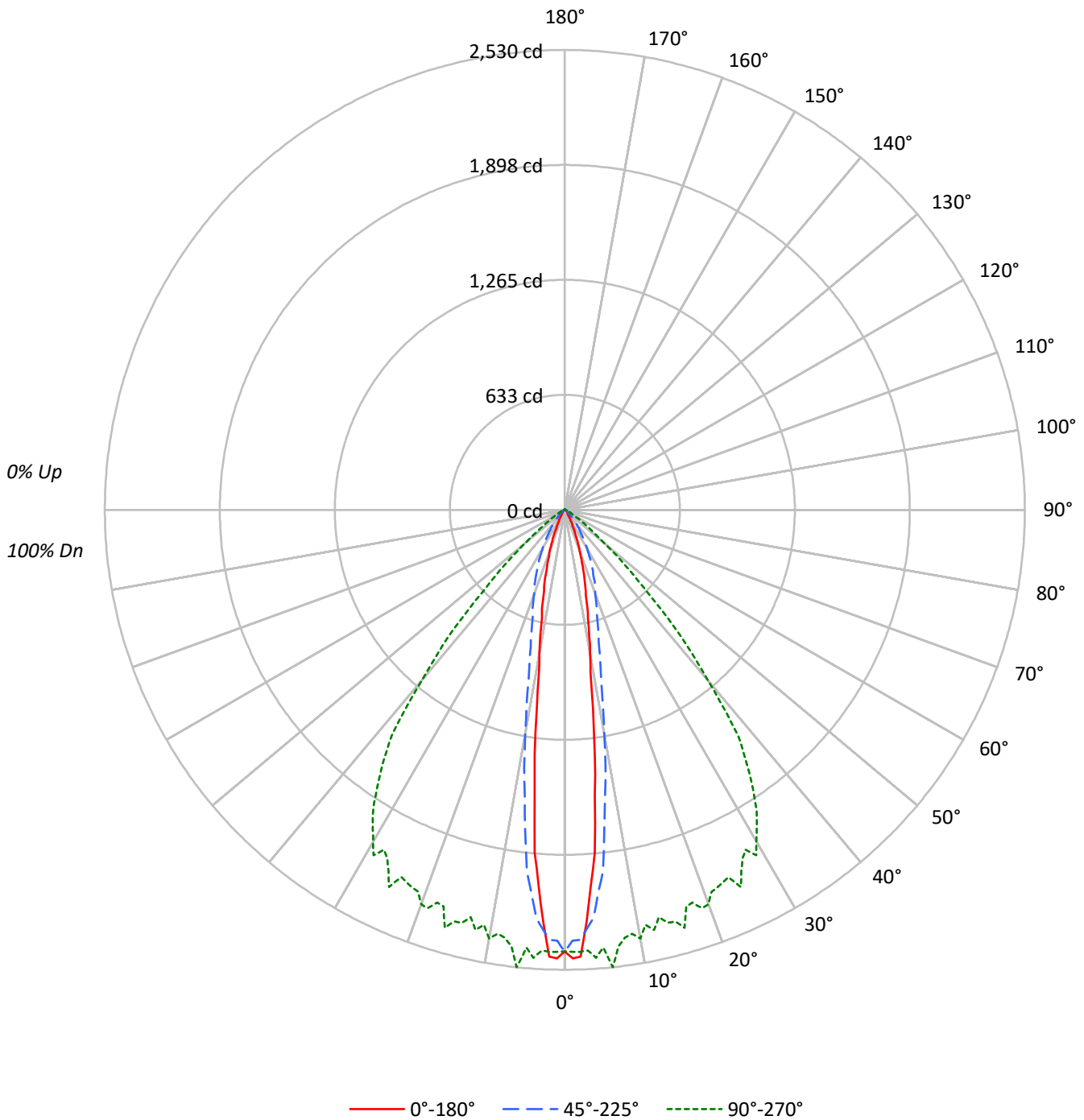
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1168.6 lumens
Efficiency: N/A
Efficacy: 121.7 lumens/watt
Spacing Criteria (0/90/45): 0.26 / 1.25 / 0.42
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 9.6
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°	61397	68464	78383
10°	26297	40954	78535
15°	14643	23870	78365
20°	8316	16838	79350
25°	4133	12862	81560
30°	2014	9024	78605
35°	1183	6031	69739
40°	927	3920	51470
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°	178.5	15.3
10°-20°	286.3	24.5
20°-30°	290.7	24.9
30°-40°	235.4	20.1
40°-50°	113.4	9.7
50°-60°	40.8	3.5
60°-70°	15.9	1.4
70°-80°	6.0	0.5
80°-90°	1.2	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°	0.2	0.0
150°-160°	0.1	0.0
160°-170°	0.1	0.0
170°-180°	0.1	0.0
0°-30°	755.5	64.7
0°-40°	990.9	84.8
0°-60°	1145.0	98.0
0°-90°	1168.1	100.0
90°-120°	0.0	0.0
90°-150°	0.2	0.0
90°-180°	0.0	0.0
0°-180°	1168.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2430	2430	2430	2430	2430	
5°	1894	1934	2112	2362	2418	138
15°	438	488	714	1498	2344	123
25°	116	157	361	893	2289	57
35°	30	45	153	505	1769	21
45°	19	23	53	196	640	14
55°	11	15	21	76	116	10
65°	8	9	11	27	25	8
75°	4	5	4	8	7	4
85°	1	1	1	1	1	1
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	1	0	0	0
155°	0	0	0	0	0	0
165°	1	1	1	0	0	0
175°	1	1	1	1	1	0
180°	1	1	1	1	1	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1
1°	2468.1	2453.1	2425.1	2446.1	2466.1	2462.1	2371.1	2487.1	2460.1	2472.1	2419.1
2°	2460.1	2395.1	2377.1	2350.1	2431.1	2424.1	2367.1	2477.1	2436.1	2485.1	2441.1
3°	2269.1	2288.1	2292.1	2241.1	2344.1	2347.1	2310.1	2367.1	2414.1	2467.1	2470.1
4°	2067.1	2102.1	2106.1	2116.1	2224.1	2239.1	2250.1	2314.1	2334.1	2367.1	2325.1
5°	1894.1	1901.1	1896.1	1934.1	2040.1	2090.1	2112.1	2196.1	2276.1	2362.1	2314.1
6°	1581.0	1593.1	1623.1	1650.1	1799.1	1897.1	2001.1	2067.1	2203.1	2302.1	2311.1
7°	1354.0	1375.0	1389.0	1457.0	1531.0	1728.1	1784.1	1883.1	2098.1	2240.1	2234.1
8°	1108.0	1152.0	1182.0	1212.0	1334.0	1518.0	1585.1	1717.1	1971.1	2187.1	2209.1
9°	905.0	963.0	1022.0	1027.0	1142.0	1301.0	1431.0	1539.0	1842.1	2090.1	2031.1
10°	802.0	805.0	855.0	882.0	983.0	1157.0	1249.0	1401.0	1746.1	1976.1	2028.1
11°	708.0	711.0	731.0	765.0	856.0	1011.0	1104.0	1240.0	1578.0	1884.1	1949.1
12°	609.0	622.0	659.0	662.0	753.0	891.0	958.0	1099.0	1459.0	1763.1	1848.1
13°	555.0	550.0	588.0	602.0	663.0	788.0	869.0	997.0	1327.0	1718.1	1779.1
14°	480.0	498.0	531.0	531.0	617.0	704.0	775.0	891.0	1245.0	1580.0	1688.1
15°	438.0	447.0	479.0	488.0	546.0	638.0	714.0	814.0	1132.0	1498.0	1578.0
16°	394.0	403.0	422.0	447.0	503.0	584.0	655.0	750.0	1055.0	1432.0	1513.0
17°	345.0	355.0	384.0	398.0	453.0	545.0	603.0	696.0	991.0	1352.0	1443.0
18°	307.0	321.0	343.0	355.0	408.0	501.0	574.0	649.0	905.0	1262.0	1359.0
19°	265.0	283.0	302.0	321.0	371.0	458.0	530.0	606.0	864.0	1211.0	1331.0
20°	242.0	248.0	274.0	287.0	341.0	430.0	490.0	571.0	814.0	1103.0	1254.0
21°	215.0	221.0	245.0	255.0	309.0	398.0	465.0	541.0	771.0	1067.0	1168.0
22.5°	173.0	180.0	202.0	216.0	263.0	355.0	428.0	494.0	706.0	1004.0	1105.0
23°	157.0	170.0	192.0	203.0	249.0	343.0	410.0	484.0	705.0	956.0	1068.0
24°	140.0	147.0	170.0	178.0	227.0	319.0	383.0	456.0	673.0	935.0	1023.0
25°	116.0	125.0	146.0	157.0	202.0	296.0	361.0	427.0	622.0	893.0	980.0
26°	98.0	105.0	131.0	139.0	184.0	264.0	328.0	405.0	599.0	848.0	921.0
27°	87.0	90.0	114.0	118.0	165.0	252.0	312.0	373.0	570.0	793.0	886.0
28°	72.0	77.0	99.0	105.0	147.0	230.0	286.0	346.0	539.0	751.0	843.0
29°	64.0	68.0	84.0	92.0	131.0	209.0	264.0	325.0	509.0	716.0	817.0
30°	54.0	59.0	75.0	82.0	117.0	191.0	242.0	303.0	476.0	672.0	768.0
32.5°	40.0	43.0	54.0	61.0	88.0	153.0	195.0	250.0	412.0	594.0	670.0
35°	30.0	32.0	41.0	45.0	68.0	113.0	153.0	202.0	348.0	505.0	570.0
37.5°	25.0	26.0	33.0	36.0	53.0	87.0	120.0	161.0	283.0	413.0	471.0
40°	22.0	23.0	27.0	30.0	42.0	68.0	93.0	127.0	224.0	333.0	375.0
42.5°	20.0	21.0	24.0	26.0	35.0	54.0	71.0	94.0	169.0	259.0	288.0
45°	19.0	19.0	22.0	23.0	30.0	42.0	53.0	68.0	127.0	196.0	221.0
47.5°	17.0	17.0	20.0	21.0	26.0	34.0	40.0	51.0	98.0	152.0	172.0
50°	15.0	15.0	18.0	19.0	23.0	28.0	32.0	37.0	75.0	120.0	136.0
52.5°	13.0	13.0	16.0	17.0	20.0	24.0	26.0	30.0	59.0	96.0	109.0
55°	11.0	11.0	14.0	15.0	18.0	20.0	21.0	23.0	47.0	76.0	85.0
57.5°	10.0	11.0	12.0	13.0	16.0	18.0	18.0	19.0	37.0	62.0	65.0
60°	9.0	10.0	11.0	12.0	13.0	16.0	16.0	16.0	29.0	46.0	49.0
62.5°	8.0	9.0	10.0	10.0	11.0	14.0	13.0	13.0	23.0	35.0	37.0
65°	8.0	8.0	9.0	9.0	10.0	12.0	11.0	10.0	18.0	27.0	27.0



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
67.5°	7.0	7.0	8.0	8.0	8.0	10.0	9.0	8.0	14.0	20.0	21.0
70°	6.0	6.0	7.0	7.0	7.0	8.0	7.0	7.0	11.0	15.0	15.0
72.5°	5.0	5.0	6.0	6.0	6.0	6.0	6.0	5.0	9.0	11.0	11.0
75°	4.0	4.0	5.0	5.0	5.0	5.0	4.0	4.0	6.0	8.0	7.0
77.5°	3.0	3.0	4.0	4.0	4.0	3.0	3.0	3.0	5.0	5.0	5.0
80°	2.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	3.0	3.0	3.0
82.5°	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0
85°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	1.0	1.0	1.0	1.0	1.0
145°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0
150°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0
152.5°	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	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	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
165°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
167.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
170°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
172.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
175°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
177.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
180°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

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CANDELA DISTRIBUTION (continued):

	80°	90°
0°	2430.1	2430.1
1°	2415.1	2431.1
2°	2420.1	2432.1
3°	2411.1	2427.1
4°	2383.1	2470.1
5°	2405.1	2418.1
6°	2347.1	2530.1
7°	2342.1	2418.1
8°	2310.1	2377.1
9°	2277.1	2361.1
10°	2227.1	2395.1
11°	2209.1	2326.1
12°	2187.1	2362.1
13°	2117.1	2300.1
14°	2119.1	2341.1
15°	2092.1	2344.1
16°	2003.1	2391.1
17°	2023.1	2281.1
18°	1980.1	2271.1
19°	1950.1	2317.1
20°	1921.1	2309.1
21°	1853.1	2250.1
22.5°	1839.1	2234.1
23°	1848.1	2226.1
24°	1778.1	2211.1
25°	1701.1	2289.1
26°	1673.1	2213.1
27°	1636.1	2152.1
28°	1577.0	2118.1
29°	1548.0	2172.1
30°	1493.0	2108.1
32.5°	1345.0	1964.1
35°	1159.0	1769.1
37.5°	942.0	1566.0
40°	741.0	1221.0
42.5°	550.0	948.0
45°	387.0	640.0
47.5°	285.0	445.0
50°	202.0	281.0
52.5°	147.0	180.0
55°	105.0	116.0
57.5°	75.0	76.0
60°	52.0	52.0
62.5°	37.0	37.0
65°	27.0	25.0



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CANDELA DISTRIBUTION (continued):

	80°	90°
67.5°	19.0	19.0
70°	14.0	13.0
72.5°	10.0	10.0
75°	7.0	7.0
77.5°	5.0	5.0
80°	3.0	3.0
82.5°	2.0	2.0
85°	1.0	1.0
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	1.0
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°	1.0	1.0
177.5°	1.0	1.0



TEST NUMBER: P977156

CATALOG NUMBER: GRZ-05L-940-17x75-X-UNV-STD-2F

CANDELA DISTRIBUTION (continued):

	80°	90°
180°	1.0	<i>1.0</i>

(END OF REPORT)