

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: P977150

Luminaire Tested: GRZ-05L-930-17x75-X-UNV-STD-2F

Issue Date: 3/21/2025

Test Information

Test Method: LM-79-2019
Report Number: P977150
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-930-17x75-X-UNV-STD-2F
Description: iO COVIO LED GRAZER WITH 17X75 DEGREE OPTIC.
500 LUMENS PER FOOT, 2 FOOT FIXTURE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

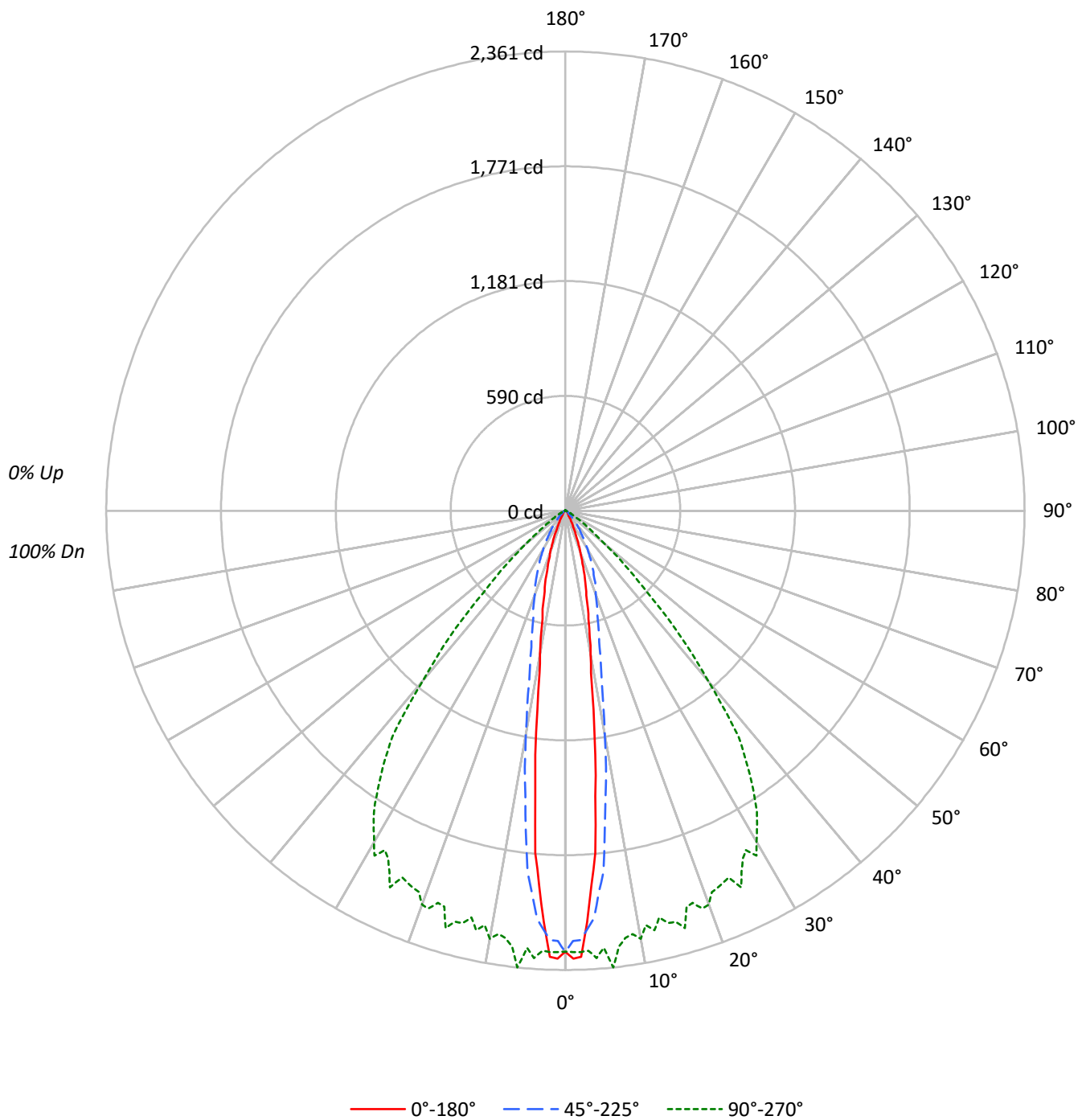
Lumens per Lamp: N/A
Luminaire Lumens: 1090.6 lumens
Efficiency: N/A
Efficacy: 113.6 lumens/watt
Spacing Criteria (0/90/45): 0.26 / 1.25 / 0.42
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')
CIE Type: Direct

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
RW	70	50	30	10	70	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		100
1	113	110	108	105	111	108	106	104	104	102	100			100	99	97		93
2	107	102	98	94	105	100	97	93	97	94	91			94	92	89		86
3	102	95	90	86	100	93	89	85	91	87	83			88	85	82		79
4	96	88	83	78	94	87	82	78	85	80	77			83	79	76		74
5	91	83	77	72	90	82	76	72	80	75	71			78	74	71		68
6	87	77	71	67	85	77	71	67	75	70	66			74	69	66		64
7	82	73	67	62	81	72	66	62	71	66	62			70	65	62		60
8	78	69	63	58	77	68	62	58	67	62	58			66	61	58		56
9	75	65	59	55	74	65	59	55	64	58	55			63	58	54		53
10	71	62	56	52	70	61	56	52	60	55	52			60	55	52		50

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	73231	73231	73231
5°	57297	63893	73148
10°	24543	38223	73292
15°	13667	22278	73133
20°	7763	15715	74051
25°	3859	12004	76113
30°	1879	8423	73355
35°	1104	5629	65084
40°	864	3659	48034
45°	808	2261	27277
50°	703	1502	13172
55°	580	1103	6097
60°	543	962	3132
65°	573	787	1780
70°	529	614	1142
75°	462	462	811
80°	353	353	521
85°	333	333	333

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 27277 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.6	15.3
10°-20°	267.2	24.5
20°-30°	271.3	24.9
30°-40°	219.7	20.1
40°-50°	105.8	9.7
50°-60°	38.0	3.5
60°-70°	14.8	1.4
70°-80°	5.6	0.5
80°-90°	1.1	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°	0.2	0.0
150°-160°	0.1	0.0
160°-170°	0.1	0.0
170°-180°	0.1	0.0
0°-30°	705.1	64.7
0°-40°	924.8	84.8
0°-60°	1068.6	98.0
0°-90°	1090.1	100.0
90°-120°	0.0	0.0
90°-150°	0.2	0.0
90°-180°	0.0	0.0
0°-180°	1090.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2268	2268	2268	2268	2268	
5°	1768	1805	1971	2204	2257	129
15°	409	455	666	1398	2188	115
25°	108	146	337	833	2136	53
35°	28	42	143	471	1651	19
45°	18	22	50	183	597	13
55°	10	14	20	71	108	10
65°	8	8	10	25	23	7
75°	4	5	4	8	6	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°	2267.8	2267.8	2267.8	2267.8	2267.8	2267.8	2267.8	2267.8	2267.8	2267.8	2267.8
1°	2303.3	2289.3	2263.2	2282.8	2301.4	2297.7	2212.8	2321.0	2295.8	2307.0	2257.6
2°	2295.8	2235.2	2218.4	2193.2	2268.8	2262.2	2209.0	2311.7	2273.4	2319.2	2278.1
3°	2117.6	2135.3	2139.0	2091.5	2187.6	2190.4	2155.8	2209.0	2252.9	2302.4	2305.2
4°	1929.1	1961.7	1965.5	1974.8	2075.6	2089.6	2099.9	2159.6	2178.2	2209.0	2169.8
5°	1767.6	1774.1	1769.5	1804.9	1903.9	1950.5	1971.1	2049.5	2124.1	2204.4	2159.6
6°	1475.5	1486.7	1514.7	1539.9	1678.9	1770.4	1867.5	1929.1	2056.0	2148.4	2156.8
7°	1263.6	1283.2	1296.3	1359.8	1428.8	1612.7	1664.9	1757.3	1958.0	2090.5	2084.9
8°	1034.1	1075.1	1103.1	1131.1	1245.0	1416.7	1479.2	1602.4	1839.5	2041.1	2061.6
9°	844.6	898.7	953.8	958.5	1065.8	1214.2	1335.5	1436.3	1719.1	1950.5	1895.5
10°	748.5	751.3	797.9	823.1	917.4	1079.8	1165.7	1307.5	1629.5	1844.1	1892.7
11°	660.8	663.6	682.2	713.9	798.9	943.5	1030.3	1157.3	1472.7	1758.3	1818.9
12°	568.4	580.5	615.0	617.8	702.8	831.5	894.1	1025.7	1361.6	1645.4	1724.7
13°	518.0	513.3	548.8	561.8	618.8	735.4	811.0	930.5	1238.4	1603.4	1660.3
14°	448.0	464.8	495.6	495.6	575.8	657.0	723.3	831.5	1161.9	1474.6	1575.4
15°	408.8	417.2	447.0	455.4	509.6	595.4	666.4	759.7	1056.5	1398.0	1472.7
16°	367.7	376.1	393.8	417.2	469.4	545.0	611.3	700.0	984.6	1336.4	1412.0
17°	322.0	331.3	358.4	371.4	422.8	508.6	562.8	649.6	924.9	1261.8	1346.7
18°	286.5	299.6	320.1	331.3	380.8	467.6	535.7	605.7	844.6	1177.8	1268.3
19°	247.3	264.1	281.8	299.6	346.2	427.4	494.6	565.6	806.3	1130.2	1242.2
20°	225.9	231.5	255.7	267.8	318.2	401.3	457.3	532.9	759.7	1029.4	1170.3
21°	200.7	206.3	228.7	238.0	288.4	371.4	434.0	504.9	719.5	995.8	1090.1
22.5°	161.5	168.0	188.5	201.6	245.4	331.3	399.4	461.0	658.9	937.0	1031.3
23°	146.5	158.7	179.2	189.5	232.4	320.1	382.6	451.7	658.0	892.2	996.7
24°	130.7	137.2	158.7	166.1	211.9	297.7	357.4	425.6	628.1	872.6	954.7
25°	108.3	116.7	136.3	146.5	188.5	276.2	336.9	398.5	580.5	833.4	914.6
26°	91.5	98.0	122.3	129.7	171.7	246.4	306.1	378.0	559.0	791.4	859.5
27°	81.2	84.0	106.4	110.1	154.0	235.2	291.2	348.1	532.0	740.1	826.9
28°	67.2	71.9	92.4	98.0	137.2	214.7	266.9	322.9	503.0	700.9	786.7
29°	59.7	63.5	78.4	85.9	122.3	195.1	246.4	303.3	475.0	668.2	762.5
30°	50.4	55.1	70.0	76.5	109.2	178.3	225.9	282.8	444.2	627.2	716.7
32.5°	37.3	40.1	50.4	56.9	82.1	142.8	182.0	233.3	384.5	554.4	625.3
35°	28.0	29.9	38.3	42.0	63.5	105.5	142.8	188.5	324.8	471.3	532.0
37.5°	23.3	24.3	30.8	33.6	49.5	81.2	112.0	150.3	264.1	385.4	439.6
40°	20.5	21.5	25.2	28.0	39.2	63.5	86.8	118.5	209.1	310.8	350.0
42.5°	18.7	19.6	22.4	24.3	32.7	50.4	66.3	87.7	157.7	241.7	268.8
45°	17.7	17.7	20.5	21.5	28.0	39.2	49.5	63.5	118.5	182.9	206.3
47.5°	15.9	15.9	18.7	19.6	24.3	31.7	37.3	47.6	91.5	141.9	160.5
50°	14.0	14.0	16.8	17.7	21.5	26.1	29.9	34.5	70.0	112.0	126.9
52.5°	12.1	12.1	14.9	15.9	18.7	22.4	24.3	28.0	55.1	89.6	101.7
55°	10.3	10.3	13.1	14.0	16.8	18.7	19.6	21.5	43.9	70.9	79.3
57.5°	9.3	10.3	11.2	12.1	14.9	16.8	16.8	17.7	34.5	57.9	60.7
60°	8.4	9.3	10.3	11.2	12.1	14.9	14.9	14.9	27.1	42.9	45.7
62.5°	7.5	8.4	9.3	9.3	10.3	13.1	12.1	12.1	21.5	32.7	34.5
65°	7.5	7.5	8.4	8.4	9.3	11.2	10.3	9.3	16.8	25.2	25.2

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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
67.5°	6.5	6.5	7.5	7.5	7.5	9.3	8.4	7.5	13.1	18.7	19.6
70°	5.6	5.6	6.5	6.5	6.5	7.5	6.5	6.5	10.3	14.0	14.0
72.5°	4.7	4.7	5.6	5.6	5.6	5.6	5.6	4.7	8.4	10.3	10.3
75°	3.7	3.7	4.7	4.7	4.7	4.7	3.7	3.7	5.6	7.5	6.5
77.5°	2.8	2.8	3.7	3.7	3.7	2.8	2.8	2.8	4.7	4.7	4.7
80°	1.9	2.8	2.8	2.8	2.8	2.8	1.9	1.9	2.8	2.8	2.8
82.5°	1.9	1.9	1.9	1.9	1.9	1.9	0.9	0.9	1.9	1.9	1.9
85°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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	0.9	0.9	0.9	0.9	0.9
145°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.0	0.0	0.9
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.0	0.9
150°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.0	0.9	0.9
152.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.0	0.9	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	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	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0
165°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0
167.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0
170°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
172.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
175°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
177.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
180°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

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CANDELA DISTRIBUTION (continued):

	80°	90°
0°	2267.8	2267.8
1°	2253.8	2268.8
2°	2258.5	2269.7
3°	2250.1	2265.0
4°	2224.0	2305.2
5°	2244.5	2256.6
6°	2190.4	2361.2
7°	2185.7	2256.6
8°	2155.8	2218.4
9°	2125.0	2203.4
10°	2078.4	2235.2
11°	2061.6	2170.8
12°	2041.1	2204.4
13°	1975.7	2146.5
14°	1977.6	2184.8
15°	1952.4	2187.6
16°	1869.3	2231.4
17°	1888.0	2128.8
18°	1847.9	2119.5
19°	1819.9	2162.4
20°	1792.8	2154.9
21°	1729.3	2099.9
22.5°	1716.3	2084.9
23°	1724.7	2077.5
24°	1659.3	2063.5
25°	1587.5	2136.2
26°	1561.4	2065.3
27°	1526.8	2008.4
28°	1471.8	1976.7
29°	1444.7	2027.1
30°	1393.4	1967.3
32.5°	1255.2	1832.9
35°	1081.7	1651.0
37.5°	879.1	1461.5
40°	691.6	1139.5
42.5°	513.3	884.7
45°	361.2	597.3
47.5°	266.0	415.3
50°	188.5	262.2
52.5°	137.2	168.0
55°	98.0	108.3
57.5°	70.0	70.9
60°	48.5	48.5
62.5°	34.5	34.5
65°	25.2	23.3

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CANDELA DISTRIBUTION (continued):

	80°	90°
67.5°	17.7	17.7
70°	13.1	12.1
72.5°	9.3	9.3
75°	6.5	6.5
77.5°	4.7	4.7
80°	2.8	2.8
82.5°	1.9	1.9
85°	0.9	0.9
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	0.9
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°	0.9	0.9
177.5°	0.9	0.9

TEST NUMBER: P977150

CATALOG NUMBER: GRZ-05L-930-17x75-X-UNV-STD-2F

CANDELA DISTRIBUTION (continued):

	80°	90°
180°	0.9	0.9

(END OF REPORT)