

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  
(formerly Eaton)

Brand: iO LED

Report Number: P592078

Luminaire Tested: **GRZ-15L-927-ASYMx40-X-UNV-STD-2F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P592078  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2111-457-24)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/2/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: iO LED  
Catalog Number: GRZ-15L-927-ASYMx40-X-UNV-STD-2F  
Description: iO LED GRAZER WITH ASYMx40 OPTIC  
1500 LUMENS PER FOOT, 2 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2414.0 lumens  
Efficiency: N/A  
Efficacy: 83.2 lumens/watt  
Spacing Criteria (0/90/45): 0.61 / 0.78 / 0.71  
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')  
CIE Type: Direct

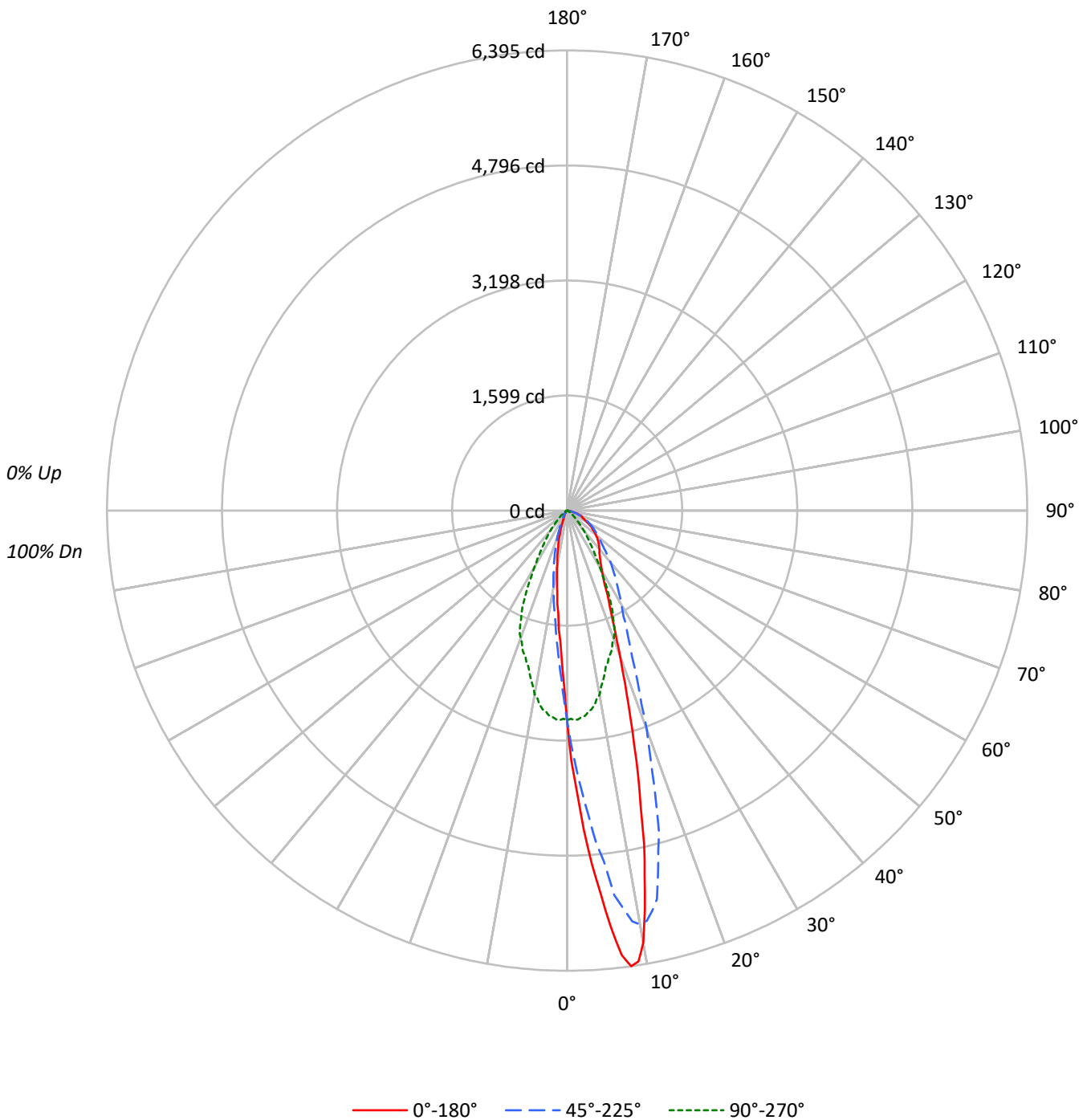
Input Watts (W): 29  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	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	112	109	106	104	110	107	104	102	103	101	99	99	98	96	96	94	93	91					91			
2	106	100	96	92	104	98	94	91	95	92	89	92	89	87	89	87	85	83					83			
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76					76			
4	94	86	79	75	92	84	79	74	82	77	73	80	76	72	78	74	71	70					70			
5	89	80	73	68	87	79	73	68	77	71	67	75	70	67	73	69	66	65					65			
6	84	74	68	63	83	74	67	63	72	67	62	71	66	62	69	65	62	60					60			
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56					56			
8	76	66	59	55	75	65	59	55	64	59	55	63	58	54	62	57	54	53					53			
9	72	62	56	52	71	62	56	52	61	55	51	60	55	51	59	54	51	50					50			
10	69	59	53	49	68	59	53	49	58	52	49	57	52	48	56	52	48	47					47			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	94091	94091	94091
5°	173268	92830	46253
10°	199769	85136	26468
15°	127736	73016	15204
20°	73594	65007	7643
25°	48435	52087	4008
30°	36060	33916	2610
35°	31328	22265	1872
40°	29390	14855	1475
45°	27958	9129	1256
50°	26113	5526	1005
55°	23775	3378	844
60°	20660	2099	807
65°	18139	1528	573
70°	18165	1180	472
75°	14036	936	312
80°	8368	465	465
85°	3705	926	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	307.6	12.7
10°-20°	675.1	28.0
20°-30°	515.7	21.4
30°-40°	346.4	14.3
40°-50°	249.0	10.3
50°-60°	173.2	7.2
60°-70°	99.3	4.1
70°-80°	41.0	1.7
80°-90°	6.7	0.3
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°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1498.4	62.1
0°-40°	1844.8	76.4
0°-60°	2267.0	93.9
0°-90°	2414.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2414.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2914	2914	2914	2914	2914	
5°	5345	4641	2864	1744	1427	549
15°	3821	4895	2184	685	455	1049
25°	1359	2054	1462	210	112	637
35°	795	1187	565	68	48	503
45°	612	707	200	32	28	471
55°	422	460	60	18	15	375
65°	237	265	20	12	8	245
75°	112	98	8	5	2	119
85°	10	12	2	0	0	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8
1°	3483.5	3356.1	3396.1	3356.1	3296.1	3253.6	3183.7	3113.7	3016.2	2918.8	2893.8
2°	3920.9	3865.9	3775.9	3720.9	3613.5	3586.0	3443.6	3308.6	3168.7	2953.8	2911.3
3°	4435.6	4305.7	4263.2	4148.3	4023.3	3908.4	3708.4	3501.0	3233.6	2988.7	2906.3
4°	4915.4	4815.5	4800.5	4650.5	4425.6	4250.7	4010.8	3678.5	3353.6	3018.7	2876.3
5°	5345.3	5340.3	5200.3	5142.8	4878.0	4640.6	4298.2	3888.4	3453.5	3061.2	2863.8
6°	5825.1	5787.6	5762.6	5602.6	5290.3	4907.9	4598.1	4073.3	3616.0	3076.2	2808.8
7°	6222.4	6204.9	6157.4	6005.0	5710.1	5385.2	4865.5	4185.7	3618.5	3023.7	2783.8
8°	6394.8	6347.3	6402.3	6262.4	6042.5	5577.7	5022.9	4380.7	3686.0	3031.2	2728.9
9°	6344.8	6287.4	6434.8	6369.8	6192.4	5780.1	5155.3	4413.1	3693.4	2976.2	2643.9
10°	6092.4	6152.4	6264.9	6362.3	6222.4	5842.5	5200.3	4460.6	3648.5	2921.3	2596.4
11°	5655.1	5697.6	5910.0	6159.9	6102.4	5805.1	5275.3	4438.1	3586.0	2843.8	2489.0
12°	5185.3	5342.8	5467.7	5780.1	5905.0	5685.1	5142.8	4333.2	3528.5	2751.3	2406.5
13°	4753.0	4798.0	5000.4	5347.8	5595.1	5540.2	5022.9	4260.7	3448.6	2681.4	2321.5
14°	4208.2	4258.2	4570.6	4912.9	5160.3	5215.3	4808.0	4150.8	3373.6	2601.4	2229.1
15°	3820.9	3815.9	4108.3	4413.1	4823.0	4895.4	4585.6	4003.3	3323.6	2556.4	2184.1
16°	3381.1	3411.1	3636.0	3998.3	4415.6	4623.1	4400.7	3850.9	3248.6	2503.9	2106.6
17°	3016.2	3066.2	3281.1	3608.5	4005.8	4225.7	4018.3	3690.9	3146.2	2454.0	2069.1
18°	2676.4	2706.4	2906.3	3188.7	3591.0	3825.9	3790.9	3493.5	3071.2	2406.5	2016.7
19°	2389.0	2406.5	2543.9	2868.8	3268.6	3501.0	3481.0	3291.1	3006.2	2344.0	1934.2
20°	2141.6	2171.6	2286.5	2546.4	2901.3	3231.1	3203.7	3103.7	2903.8	2299.0	1891.7
21°	1921.7	1926.7	2061.6	2334.0	2646.4	2888.8	2956.3	2921.3	2763.8	2236.6	1836.7
22.5°	1659.3	1689.3	1766.8	1979.2	2306.5	2541.4	2648.9	2638.9	2573.9	2096.6	1706.8
23°	1581.8	1604.3	1696.8	1919.2	2181.6	2434.0	2526.4	2526.4	2503.9	2029.1	1644.3
24°	1454.4	1451.9	1526.9	1731.8	2031.6	2219.1	2379.0	2384.0	2349.0	1934.2	1559.3
25°	1359.4	1339.4	1394.4	1576.8	1851.7	2054.1	2154.1	2209.1	2179.1	1794.2	1461.9
26°	1252.0	1259.5	1294.5	1456.9	1714.3	1916.7	1989.2	2064.1	2021.7	1664.3	1339.4
27°	1144.5	1152.0	1184.5	1354.4	1619.3	1811.7	1879.2	1906.7	1879.2	1504.4	1232.0
28°	1077.0	1082.0	1107.0	1244.5	1521.9	1669.3	1751.8	1781.8	1699.3	1389.4	1112.0
29°	1017.1	1032.1	1047.1	1157.0	1416.9	1581.8	1636.8	1651.8	1566.8	1247.0	997.1
30°	967.1	959.6	992.1	1089.5	1311.9	1511.9	1544.4	1531.9	1454.4	1124.5	909.6
32.5°	864.6	864.6	884.6	957.1	1174.5	1329.4	1359.4	1304.5	1149.5	889.6	714.7
35°	794.7	794.7	812.2	857.1	1012.1	1187.0	1202.0	1104.5	939.6	714.7	564.8
37.5°	734.7	742.2	754.7	784.7	904.6	1052.1	1042.1	937.1	789.7	572.3	449.8
40°	697.2	697.2	699.7	724.7	807.2	939.6	902.1	787.2	664.7	459.8	352.4
42.5°	654.7	657.2	662.2	672.2	732.2	812.2	782.2	699.7	572.3	369.8	267.4
45°	612.2	609.7	614.7	622.2	662.2	707.2	692.2	619.7	492.3	287.4	199.9
47.5°	567.3	569.8	564.8	574.8	604.7	632.2	617.2	554.8	409.8	219.9	147.4
50°	519.8	522.3	514.8	527.3	554.8	564.8	554.8	492.3	344.9	162.4	110.0
52.5°	469.8	467.3	462.3	479.8	497.3	507.3	499.8	429.8	272.4	122.4	80.0
55°	422.3	417.3	414.8	424.8	444.8	459.8	447.3	369.8	209.9	87.5	60.0
57.5°	369.8	367.3	364.8	372.3	394.8	409.8	389.8	304.9	159.9	65.0	45.0
60°	319.9	324.9	314.9	319.9	347.4	362.3	339.9	249.9	117.5	47.5	32.5
62.5°	277.4	274.9	264.9	272.4	297.4	312.4	284.9	192.4	87.5	35.0	25.0
65°	237.4	234.9	222.4	227.4	247.4	264.9	234.9	152.4	65.0	27.5	20.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
67.5°	219.9	217.4	184.9	182.4	207.4	214.9	187.4	112.5	47.5	20.0	15.0
70°	192.4	189.9	162.4	144.9	162.4	169.9	144.9	82.5	32.5	15.0	12.5
72.5°	147.4	149.9	137.4	112.5	124.9	132.4	107.5	57.5	22.5	12.5	10.0
75°	112.5	110.0	105.0	87.5	95.0	97.5	77.5	40.0	17.5	7.5	7.5
77.5°	75.0	72.5	75.0	65.0	65.0	67.5	52.5	27.5	12.5	5.0	5.0
80°	45.0	47.5	50.0	47.5	42.5	42.5	32.5	17.5	7.5	5.0	2.5
82.5°	22.5	25.0	27.5	27.5	25.0	25.0	20.0	10.0	5.0	2.5	2.5
85°	10.0	10.0	12.5	12.5	10.0	12.5	7.5	5.0	2.5	2.5	2.5
87.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8	2913.8
1°	2846.3	2781.3	2781.3	2688.9	2618.9	2576.4	2501.4	2503.9	2466.5	2444.0
2°	2821.3	2681.4	2561.4	2444.0	2334.0	2279.0	2219.1	2159.1	2114.1	2101.6
3°	2786.3	2598.9	2406.5	2249.1	2111.6	2024.1	1936.7	1881.7	1861.7	1819.2
4°	2741.3	2486.5	2241.6	2069.1	1901.7	1781.8	1729.3	1651.8	1629.3	1656.8
5°	2686.4	2379.0	2116.6	1909.2	1744.3	1599.3	1524.4	1484.4	1424.4	1426.9
6°	2623.9	2244.1	1959.2	1726.8	1559.3	1451.9	1374.4	1319.4	1277.0	1299.5
7°	2543.9	2124.1	1821.7	1591.8	1431.9	1316.9	1254.5	1177.0	1129.5	1129.5
8°	2476.5	2021.7	1694.3	1471.9	1311.9	1187.0	1102.0	1049.6	1014.6	1007.1
9°	2366.5	1906.7	1591.8	1369.4	1207.0	1077.0	982.1	932.1	902.1	897.1
10°	2301.5	1804.2	1509.4	1259.5	1092.0	982.1	889.6	837.1	807.2	807.2
11°	2196.6	1701.8	1386.9	1169.5	1002.1	874.6	799.7	757.2	722.2	714.7
12°	2099.1	1616.8	1307.0	1097.0	919.6	792.2	722.2	677.2	652.2	652.2
13°	2006.7	1544.4	1237.0	1009.6	827.2	729.7	652.2	602.2	577.3	574.8
14°	1931.7	1444.4	1149.5	932.1	757.2	654.7	577.3	542.3	517.3	514.8
15°	1866.7	1376.9	1097.0	847.1	684.7	579.8	512.3	482.3	457.3	454.8
16°	1801.7	1309.4	1024.6	779.7	622.2	529.8	459.8	417.3	402.3	402.3
17°	1749.3	1269.5	957.1	724.7	557.3	467.3	402.3	362.3	352.4	337.4
18°	1681.8	1189.5	897.1	659.7	512.3	412.3	349.9	317.4	297.4	289.9
19°	1616.8	1119.5	839.6	592.3	454.8	359.8	307.4	269.9	252.4	252.4
20°	1541.9	1077.0	777.2	542.3	399.8	322.4	259.9	232.4	222.4	222.4
21°	1464.4	1004.6	707.2	482.3	354.9	274.9	232.4	202.4	189.9	184.9
22.5°	1354.4	892.1	624.7	412.3	287.4	224.9	187.4	164.9	157.4	154.9
23°	1299.5	852.1	579.8	389.8	269.9	207.4	174.9	152.4	144.9	142.4
24°	1214.5	789.7	524.8	339.9	232.4	182.4	149.9	134.9	129.9	127.4
25°	1124.5	724.7	469.8	302.4	209.9	159.9	134.9	119.9	115.0	112.5
26°	1032.1	652.2	412.3	262.4	184.9	139.9	119.9	107.5	105.0	102.5
27°	937.1	589.8	364.8	232.4	162.4	127.4	107.5	97.5	92.5	95.0
28°	847.1	529.8	317.4	204.9	139.9	112.5	97.5	87.5	85.0	82.5
29°	784.7	472.3	284.9	177.4	124.9	100.0	87.5	80.0	77.5	77.5
30°	714.7	424.8	252.4	159.9	112.5	90.0	80.0	72.5	72.5	70.0
32.5°	564.8	322.4	184.9	119.9	87.5	70.0	62.5	60.0	57.5	57.5
35°	439.8	239.9	137.4	90.0	67.5	57.5	50.0	50.0	50.0	47.5
37.5°	337.4	177.4	105.0	70.0	55.0	47.5	42.5	42.5	40.0	40.0
40°	257.4	132.4	77.5	55.0	45.0	40.0	35.0	35.0	35.0	35.0
42.5°	192.4	100.0	62.5	45.0	37.5	32.5	30.0	30.0	30.0	30.0
45°	142.4	75.0	47.5	37.5	32.5	30.0	27.5	25.0	27.5	27.5
47.5°	105.0	57.5	37.5	30.0	27.5	25.0	25.0	22.5	22.5	22.5
50°	77.5	45.0	32.5	27.5	25.0	22.5	20.0	20.0	20.0	20.0
52.5°	57.5	35.0	27.5	22.5	20.0	20.0	17.5	17.5	17.5	17.5
55°	42.5	27.5	22.5	20.0	17.5	17.5	15.0	15.0	15.0	15.0
57.5°	32.5	22.5	20.0	17.5	17.5	15.0	15.0	12.5	12.5	12.5
60°	25.0	20.0	15.0	15.0	15.0	15.0	12.5	12.5	12.5	12.5
62.5°	20.0	15.0	12.5	12.5	12.5	12.5	10.0	10.0	10.0	10.0
65°	15.0	12.5	12.5	12.5	12.5	10.0	10.0	7.5	7.5	7.5





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
67.5°	12.5	10.0	10.0	10.0	10.0	10.0	7.5	7.5	7.5	7.5
70°	10.0	7.5	7.5	7.5	7.5	7.5	7.5	5.0	5.0	5.0
72.5°	7.5	7.5	7.5	7.5	7.5	5.0	5.0	5.0	5.0	5.0
75°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.5	2.5	2.5
77.5°	5.0	2.5	2.5	2.5	5.0	2.5	2.5	2.5	2.5	2.5
80°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	2.5	2.5	2.5	2.5	2.5	2.5	0.0	0.0	0.0	0.0
85°	2.5	2.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	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

(END OF REPORT)