

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: P592095

Luminaire Tested: **GRZ-15L-930-ASYMx40-X-UNV-STD-4F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P592095  
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-930-ASYMx40-X-UNV-STD-4F  
Description: iO LED GRAZER WITH ASYMx40 OPTIC  
1500 LUMENS PER FOOT, 4 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

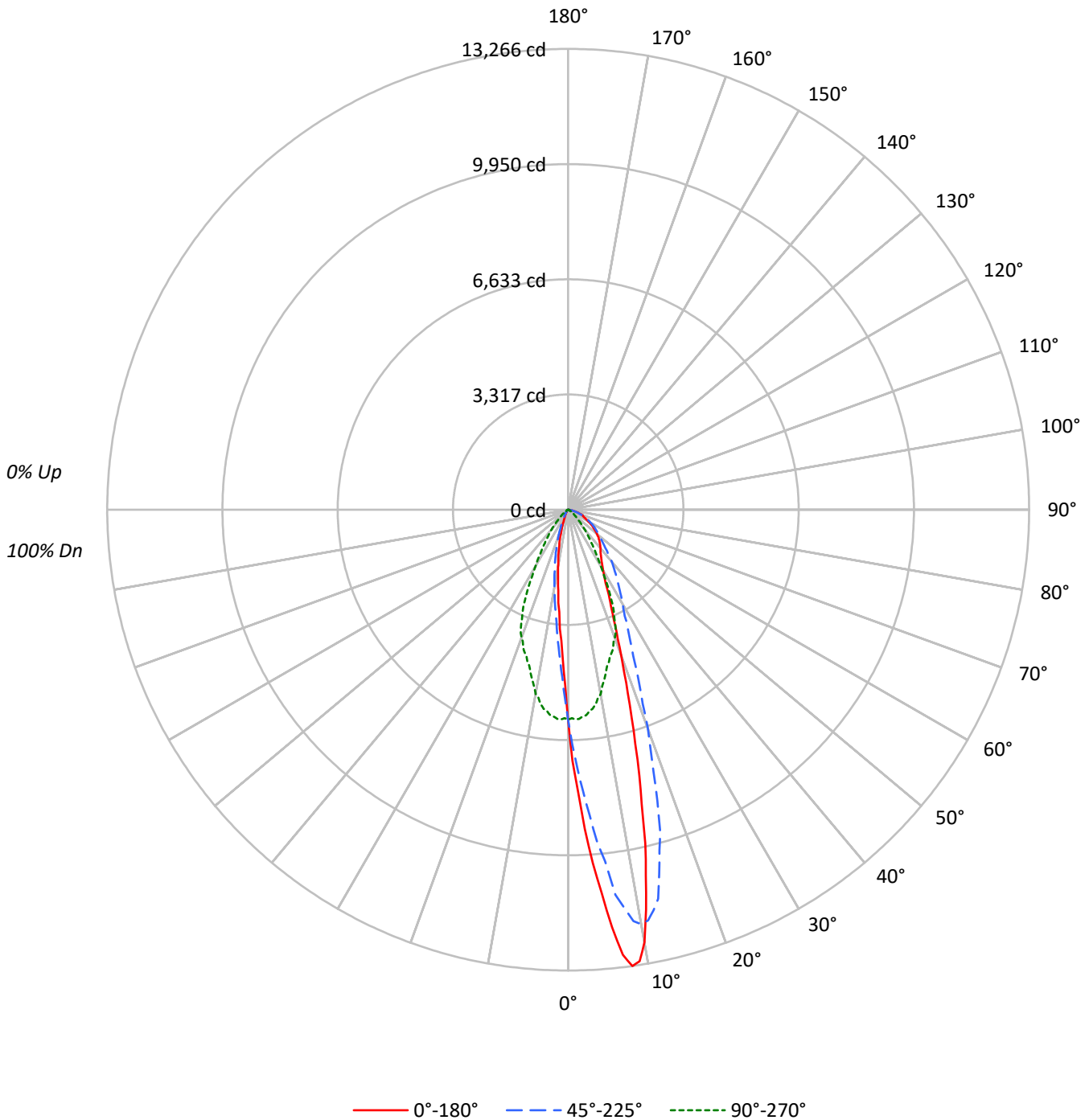
Lumens per Lamp: N/A  
Luminaire Lumens: 5008.0 lumens  
Efficiency: N/A  
Efficacy: 89.4 lumens/watt  
Spacing Criteria (0/90/45): 0.61 / 0.78 / 0.71  
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 56  
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	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°	97598	97598	97598
5°	179727	96290	47977
10°	207219	88310	27453
15°	132498	75737	15771
20°	76338	67431	7928
25°	50242	54029	4156
30°	37405	35182	2707
35°	32495	23093	1941
40°	30486	15407	1530
45°	29001	9469	1302
50°	27085	5730	1042
55°	24662	3502	875
60°	21429	2176	836
65°	18816	1585	596
70°	18845	1223	491
75°	14554	973	324
80°	8675	483	483
85°	3835	963	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	638.2	12.7
10°-20°	1400.4	28.0
20°-30°	1069.9	21.4
30°-40°	718.6	14.3
40°-50°	516.6	10.3
50°-60°	359.2	7.2
60°-70°	206.0	4.1
70°-80°	85.1	1.7
80°-90°	13.9	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°	3108.5	62.1
0°-40°	3827.1	76.4
0°-60°	4703.0	93.9
0°-90°	5008.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5008.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	6045	6045	6045	6045	6045	
5°	11089	9627	5941	3619	2960	1138
15°	7927	10156	4531	1420	944	2176
25°	2820	4261	3033	436	233	1321
35°	1649	2462	1172	140	98	1044
45°	1270	1467	415	67	57	977
55°	876	954	124	36	31	779
65°	492	550	42	26	16	508
75°	233	202	16	10	5	248
85°	21	26	5	0	0	32
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°	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8
1°	7226.8	6962.4	7045.4	6962.4	6838.0	6749.9	6604.7	6459.6	6257.4	6055.2	6003.3
2°	8134.1	8020.0	7833.4	7719.3	7496.4	7439.4	7143.9	6863.9	6573.6	6127.8	6039.6
3°	9202.0	8932.4	8844.3	8605.8	8346.6	8108.1	7693.4	7263.1	6708.4	6200.3	6029.3
4°	10197.4	9990.0	9958.9	9647.9	9181.3	8818.4	8320.7	7631.2	6957.2	6262.6	5967.1
5°	11089.1	11078.7	10788.4	10669.2	10119.6	9627.1	8916.9	8066.7	7164.6	6350.7	5941.1
6°	12084.5	12006.7	11954.8	11623.1	10975.0	10181.8	9539.0	8450.3	7501.6	6381.8	5827.1
7°	12908.7	12872.5	12774.0	12457.7	11846.0	11172.0	10093.7	8683.6	7506.8	6272.9	5775.2
8°	13266.5	13168.0	13282.0	12991.7	12535.5	11571.2	10420.3	9088.0	7646.7	6288.5	5661.2
9°	13162.8	13043.5	13349.4	13214.6	12846.5	11991.1	10695.1	9155.4	7662.3	6174.4	5484.9
10°	12639.2	12763.6	12996.9	13199.1	12908.7	12120.7	10788.4	9253.9	7569.0	6060.4	5386.4
11°	11731.9	11820.1	12260.7	12779.1	12659.9	12043.0	10943.9	9207.2	7439.4	5899.7	5163.5
12°	10757.3	11083.9	11343.1	11991.1	12250.3	11794.1	10669.2	8989.5	7320.1	5707.8	4992.4
13°	9860.4	9953.7	10373.7	11094.3	11607.5	11493.4	10420.3	8839.1	7154.2	5562.7	4816.2
14°	8730.3	8833.9	9482.0	10192.2	10705.4	10819.5	9974.5	8611.0	6998.7	5396.8	4624.3
15°	7926.7	7916.3	8522.9	9155.4	10005.6	10155.9	9513.1	8305.1	6895.0	5303.5	4531.0
16°	7014.3	7076.5	7543.1	8294.8	9160.5	9590.8	9129.4	7988.9	6739.5	5194.6	4370.3
17°	6257.4	6361.1	6806.9	7486.0	8310.3	8766.5	8336.2	7657.1	6527.0	5090.9	4292.5
18°	5552.3	5614.5	6029.3	6615.1	7449.7	7937.1	7864.5	7247.6	6371.4	4992.4	4183.7
19°	4956.1	4992.4	5277.6	5951.5	6781.0	7263.1	7221.6	6827.6	6236.6	4862.8	4012.6
20°	4442.9	4505.1	4743.6	5282.7	6018.9	6703.2	6646.2	6438.8	6024.1	4769.5	3924.5
21°	3986.7	3997.0	4277.0	4842.1	5490.1	5993.0	6132.9	6060.4	5733.8	4639.9	3810.4
22.5°	3442.3	3504.5	3665.3	4105.9	4785.0	5272.4	5495.3	5474.6	5339.8	4349.6	3540.8
23°	3281.6	3328.3	3520.1	3981.5	4525.8	5049.4	5241.3	5241.3	5194.6	4209.6	3411.2
24°	3017.2	3012.0	3167.6	3592.7	4214.8	4603.6	4935.4	4945.8	4873.2	4012.6	3235.0
25°	2820.2	2778.7	2892.8	3271.3	3841.5	4261.4	4468.8	4582.9	4520.7	3722.3	3032.8
26°	2597.3	2612.9	2685.4	3022.4	3556.4	3976.3	4126.7	4282.2	4194.0	3452.7	2778.7
27°	2374.4	2389.9	2457.3	2809.9	3359.4	3758.6	3898.5	3955.6	3898.5	3120.9	2555.8
28°	2234.4	2244.8	2296.6	2581.7	3157.2	3463.1	3634.1	3696.4	3525.3	2882.4	2307.0
29°	2110.0	2141.1	2172.2	2400.3	2939.5	3281.6	3395.7	3426.8	3250.5	2586.9	2068.5
30°	2006.3	1990.7	2058.1	2260.3	2721.7	3136.5	3203.9	3177.9	3017.2	2332.9	1887.1
32.5°	1793.7	1793.7	1835.2	1985.6	2436.6	2758.0	2820.2	2706.2	2384.7	1845.6	1482.7
35°	1648.6	1648.6	1684.9	1778.2	2099.6	2462.5	2493.6	2291.4	1949.3	1482.7	1171.6
37.5°	1524.2	1539.7	1565.6	1627.8	1876.7	2182.6	2161.8	1944.1	1638.2	1187.2	933.2
40°	1446.4	1446.4	1451.6	1503.4	1674.5	1949.3	1871.5	1633.0	1379.0	953.9	731.0
42.5°	1358.3	1363.5	1373.8	1394.6	1519.0	1684.9	1622.7	1451.6	1187.2	767.3	554.7
45°	1270.1	1265.0	1275.3	1290.9	1373.8	1467.1	1436.0	1285.7	1021.3	596.2	414.7
47.5°	1176.8	1182.0	1171.6	1192.4	1254.6	1311.6	1280.5	1150.9	850.2	456.2	305.9
50°	1078.3	1083.5	1068.0	1093.9	1150.9	1171.6	1150.9	1021.3	715.4	337.0	228.1
52.5°	974.6	969.5	959.1	995.4	1031.7	1052.4	1036.8	891.7	565.1	254.0	165.9
55°	876.1	865.8	860.6	881.3	922.8	953.9	928.0	767.3	435.5	181.4	124.4
57.5°	767.3	762.1	756.9	772.5	819.1	850.2	808.7	632.5	331.8	134.8	93.3
60°	663.6	674.0	653.2	663.6	720.6	751.7	705.1	518.4	243.7	98.5	67.4
62.5°	575.5	570.3	549.5	565.1	616.9	648.0	591.0	399.2	181.4	72.6	51.8
65°	492.5	487.3	461.4	471.8	513.2	549.5	487.3	316.2	134.8	57.0	41.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
67.5°	456.2	451.0	383.6	378.4	430.3	445.8	388.8	233.3	98.5	41.5	31.1
70°	399.2	394.0	337.0	300.7	337.0	352.5	300.7	171.1	67.4	31.1	25.9
72.5°	305.9	311.1	285.1	233.3	259.2	274.8	222.9	119.2	46.7	25.9	20.7
75°	233.3	228.1	217.7	181.4	197.0	202.2	160.7	82.9	36.3	15.6	15.6
77.5°	155.5	150.3	155.5	134.8	134.8	140.0	108.9	57.0	25.9	10.4	10.4
80°	93.3	98.5	103.7	98.5	88.1	88.1	67.4	36.3	15.6	10.4	5.2
82.5°	46.7	51.8	57.0	57.0	51.8	51.8	41.5	20.7	10.4	5.2	5.2
85°	20.7	20.7	25.9	25.9	20.7	25.9	15.6	10.4	5.2	5.2	5.2
87.5°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
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°	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8	6044.8
1°	5904.8	5770.1	5770.1	5578.2	5433.1	5344.9	5189.4	5194.6	5116.8	5070.2
2°	5853.0	5562.7	5313.8	5070.2	4842.1	4728.0	4603.6	4479.2	4385.9	4359.9
3°	5780.4	5391.6	4992.4	4665.8	4380.7	4199.2	4017.8	3903.7	3862.3	3774.1
4°	5687.1	5158.3	4650.3	4292.5	3945.2	3696.4	3587.5	3426.8	3380.1	3437.1
5°	5573.1	4935.4	4391.0	3960.8	3618.6	3317.9	3162.4	3079.4	2955.0	2960.2
6°	5443.4	4655.4	4064.4	3582.3	3235.0	3012.0	2851.3	2737.3	2649.1	2695.8
7°	5277.6	4406.6	3779.3	3302.4	2970.6	2732.1	2602.5	2441.8	2343.3	2343.3
8°	5137.6	4194.0	3514.9	3053.5	2721.7	2462.5	2286.2	2177.4	2104.8	2089.2
9°	4909.5	3955.6	3302.4	2841.0	2504.0	2234.4	2037.4	1933.7	1871.5	1861.1
10°	4774.7	3743.0	3131.3	2612.9	2265.5	2037.4	1845.6	1736.7	1674.5	1674.5
11°	4556.9	3530.5	2877.3	2426.2	2078.9	1814.5	1659.0	1570.8	1498.2	1482.7
12°	4354.8	3354.2	2711.4	2275.9	1907.8	1643.4	1498.2	1404.9	1353.1	1353.1
13°	4162.9	3203.9	2566.2	2094.4	1716.0	1513.8	1353.1	1249.4	1197.6	1192.4
14°	4007.4	2996.5	2384.7	1933.7	1570.8	1358.3	1197.6	1125.0	1073.1	1068.0
15°	3872.6	2856.5	2275.9	1757.5	1420.5	1202.7	1062.8	1000.6	948.7	943.5
16°	3737.8	2716.5	2125.5	1617.5	1290.9	1099.1	953.9	865.8	834.7	834.7
17°	3629.0	2633.6	1985.6	1503.4	1156.1	969.5	834.7	751.7	731.0	699.9
18°	3489.0	2467.7	1861.1	1368.6	1062.8	855.4	725.8	658.4	616.9	601.4
19°	3354.2	2322.5	1741.9	1228.7	943.5	746.5	637.7	559.9	523.6	523.6
20°	3198.7	2234.4	1612.3	1125.0	829.5	668.8	539.2	482.1	461.4	461.4
21°	3038.0	2084.1	1467.1	1000.6	736.2	570.3	482.1	419.9	394.0	383.6
22.5°	2809.9	1850.8	1296.1	855.4	596.2	466.6	388.8	342.2	326.6	321.4
23°	2695.8	1767.8	1202.7	808.7	559.9	430.3	362.9	316.2	300.7	295.5
24°	2519.5	1638.2	1088.7	705.1	482.1	378.4	311.1	279.9	269.6	264.4
25°	2332.9	1503.4	974.6	627.3	435.5	331.8	279.9	248.8	238.5	233.3
26°	2141.1	1353.1	855.4	544.3	383.6	290.3	248.8	222.9	217.7	212.6
27°	1944.1	1223.5	756.9	482.1	337.0	264.4	222.9	202.2	191.8	197.0
28°	1757.5	1099.1	658.4	425.1	290.3	233.3	202.2	181.4	176.3	171.1
29°	1627.8	979.8	591.0	368.1	259.2	207.4	181.4	165.9	160.7	160.7
30°	1482.7	881.3	523.6	331.8	233.3	186.6	165.9	150.3	150.3	145.2
32.5°	1171.6	668.8	383.6	248.8	181.4	145.2	129.6	124.4	119.2	119.2
35°	912.4	497.7	285.1	186.6	140.0	119.2	103.7	103.7	103.7	98.5
37.5°	699.9	368.1	217.7	145.2	114.1	98.5	88.1	88.1	82.9	82.9
40°	534.0	274.8	160.7	114.1	93.3	82.9	72.6	72.6	72.6	72.6
42.5°	399.2	207.4	129.6	93.3	77.8	67.4	62.2	62.2	62.2	62.2
45°	295.5	155.5	98.5	77.8	67.4	62.2	57.0	51.8	57.0	57.0
47.5°	217.7	119.2	77.8	62.2	57.0	51.8	51.8	46.7	46.7	46.7
50°	160.7	93.3	67.4	57.0	51.8	46.7	41.5	41.5	41.5	41.5
52.5°	119.2	72.6	57.0	46.7	41.5	41.5	36.3	36.3	36.3	36.3
55°	88.1	57.0	46.7	41.5	36.3	36.3	31.1	31.1	31.1	31.1
57.5°	67.4	46.7	41.5	36.3	36.3	31.1	31.1	25.9	25.9	25.9
60°	51.8	41.5	31.1	31.1	31.1	31.1	25.9	25.9	25.9	25.9
62.5°	41.5	31.1	25.9	25.9	25.9	25.9	20.7	20.7	20.7	20.7
65°	31.1	25.9	25.9	25.9	25.9	20.7	20.7	15.6	15.6	15.6





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
67.5°	25.9	20.7	20.7	20.7	20.7	20.7	15.6	15.6	15.6	15.6
70°	20.7	15.6	15.6	15.6	15.6	15.6	15.6	10.4	10.4	10.4
72.5°	15.6	15.6	15.6	15.6	15.6	10.4	10.4	10.4	10.4	10.4
75°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	5.2	5.2	5.2
77.5°	10.4	5.2	5.2	5.2	10.4	5.2	5.2	5.2	5.2	5.2
80°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
82.5°	5.2	5.2	5.2	5.2	5.2	5.2	0.0	0.0	0.0	0.0
85°	5.2	5.2	5.2	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)