

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: P592079

Luminaire Tested: **GRZ-15L-927-ASYMx40-X-UNV-STD-4F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P592079  
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-4F  
Description: iO LED GRAZER WITH ASYMx40 OPTIC  
1500 LUMENS PER FOOT, 4 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

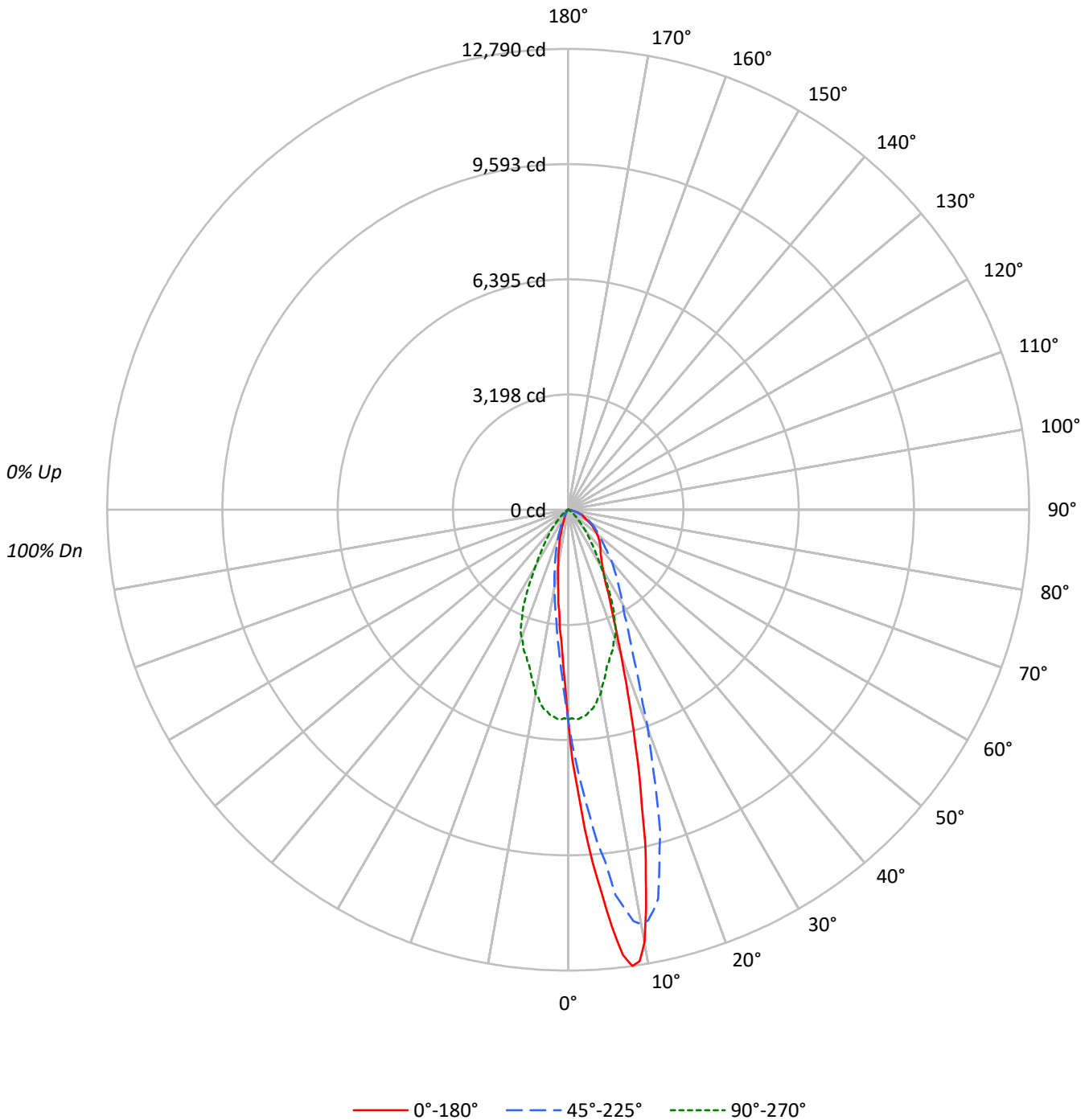
Lumens per Lamp: N/A  
Luminaire Lumens: 4828.0 lumens  
Efficiency: N/A  
Efficacy: 86.2 lumens/watt  
Spacing Criteria (0/90/45): 0.61 / 0.78 / 0.71  
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 56  
Input Voltage (V): 120  
Input Current (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	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°	173266	92830	46253
10°	199770	85136	26466
15°	127736	73016	15204
20°	73594	65007	7643
25°	48437	52087	4007
30°	36060	33916	2608
35°	31326	22263	1872
40°	29390	14853	1475
45°	27960	9129	1256
50°	26113	5524	1005
55°	23775	3375	844
60°	20657	2099	807
65°	18139	1528	573
70°	18165	1180	472
75°	14030	936	312
80°	8368	465	465
85°	3705	926	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	615.2	12.7
10°-20°	1350.1	28.0
20°-30°	1031.4	21.4
30°-40°	692.8	14.3
40°-50°	498.0	10.3
50°-60°	346.3	7.2
60°-70°	198.6	4.1
70°-80°	82.1	1.7
80°-90°	13.4	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°	2996.8	62.1
0°-40°	3689.6	76.4
0°-60°	4533.9	93.9
0°-90°	4828.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4828.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	5828	5828	5828	5828	5828	
5°	10690	9281	5728	3488	2854	1097
15°	7642	9791	4368	1369	910	2098
25°	2719	4108	2924	420	225	1274
35°	1589	2374	1130	135	95	1007
45°	1224	1414	400	65	55	942
55°	845	920	120	35	30	751
65°	475	530	40	25	15	490
75°	225	195	15	10	5	239
85°	20	25	5	0	0	31
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°	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6
1°	6967.1	6712.2	6792.1	6712.2	6592.2	6507.3	6367.3	6227.4	6032.5	5837.5	5787.6
2°	7841.7	7731.8	7551.8	7441.9	7227.0	7172.0	6887.1	6617.2	6337.3	5907.5	5822.6
3°	8871.3	8611.4	8526.4	8296.5	8046.6	7816.7	7416.9	7002.1	6467.3	5977.5	5812.6
4°	9830.9	9631.0	9601.0	9301.1	8851.3	8501.4	8021.6	7356.9	6707.2	6037.5	5752.6
5°	10690.5	10680.5	10400.6	10285.7	9755.9	9281.1	8596.4	7776.7	6907.1	6122.4	5727.6
6°	11650.1	11575.1	11525.2	11205.3	10580.6	9815.9	9196.1	8146.6	7232.0	6152.4	5617.6
7°	12444.8	12409.8	12314.8	12010.0	11420.2	10770.5	9730.9	8371.5	7237.0	6047.5	5567.7
8°	12789.6	12694.7	12804.6	12524.7	12084.9	11155.3	10045.8	8761.3	7371.9	6062.5	5457.7
9°	12689.7	12574.7	12869.6	12739.6	12384.8	11560.1	10310.7	8826.3	7386.9	5952.5	5287.8
10°	12184.9	12304.8	12529.7	12724.7	12444.8	11685.1	10400.6	8921.3	7296.9	5842.5	5192.8
11°	11310.2	11395.2	11820.0	12319.8	12204.9	11610.1	10550.6	8876.3	7172.0	5687.6	4977.9
12°	10370.6	10685.5	10935.4	11560.1	11810.0	11370.2	10285.7	8666.4	7057.0	5502.7	4813.0
13°	9506.0	9596.0	10000.8	10695.5	11190.3	11080.3	10045.8	8521.4	6897.1	5362.7	4643.0
14°	8416.5	8516.4	9141.2	9825.9	10320.7	10430.6	9616.0	8301.5	6747.2	5202.8	4458.1
15°	7641.8	7631.8	8216.5	8826.3	9645.9	9790.9	9171.1	8006.6	6647.2	5112.9	4368.2
16°	6762.2	6822.1	7271.9	7996.6	8831.3	9246.1	8801.3	7701.8	6497.3	5007.9	4213.2
17°	6032.5	6132.4	6562.2	7217.0	8011.6	8451.4	8036.6	7381.9	6292.4	4907.9	4138.3
18°	5352.8	5412.7	5812.6	6377.3	7182.0	7651.8	7581.8	6987.1	6142.4	4813.0	4033.3
19°	4778.0	4813.0	5087.9	5737.6	6537.3	7002.1	6962.1	6582.2	6012.5	4688.0	3868.4
20°	4283.2	4343.2	4573.1	5092.9	5802.6	6462.3	6407.3	6207.4	5807.6	4598.1	3783.4
21°	3843.4	3853.4	4123.3	4668.0	5292.8	5777.6	5912.5	5842.5	5527.7	4473.1	3673.5
22.5°	3318.6	3378.6	3533.5	3958.3	4613.1	5082.9	5297.8	5277.8	5147.8	4193.2	3413.6
23°	3163.7	3208.7	3393.6	3838.4	4363.2	4868.0	5052.9	5052.9	5007.9	4058.3	3288.6
24°	2908.8	2903.8	3053.7	3463.5	4063.3	4438.1	4758.0	4768.0	4698.0	3868.4	3118.7
25°	2718.9	2678.9	2788.8	3153.7	3703.4	4108.3	4308.2	4418.1	4358.2	3588.5	2923.8
26°	2503.9	2518.9	2588.9	2913.8	3428.6	3833.4	3978.3	4128.3	4043.3	3328.6	2678.9
27°	2289.0	2304.0	2369.0	2708.9	3238.6	3623.5	3758.4	3813.4	3758.4	3008.7	2464.0
28°	2154.1	2164.1	2214.1	2489.0	3043.7	3338.6	3503.5	3563.5	3398.6	2778.8	2224.1
29°	2034.1	2064.1	2094.1	2314.0	2833.8	3163.7	3273.6	3303.6	3133.7	2494.0	1994.2
30°	1934.2	1919.2	1984.2	2179.1	2623.9	3023.7	3088.7	3063.7	2908.8	2249.1	1819.2
32.5°	1729.3	1729.3	1769.3	1914.2	2349.0	2658.9	2718.9	2608.9	2299.0	1779.3	1429.4
35°	1589.3	1589.3	1624.3	1714.3	2024.1	2374.0	2404.0	2209.1	1879.2	1429.4	1129.5
37.5°	1469.4	1484.4	1509.4	1569.3	1809.2	2104.1	2084.1	1874.2	1579.3	1144.5	899.6
40°	1394.4	1394.4	1399.4	1449.4	1614.3	1879.2	1804.2	1574.3	1329.4	919.6	704.7
42.5°	1309.4	1314.4	1324.4	1344.4	1464.4	1624.3	1564.3	1399.4	1144.5	739.7	534.8
45°	1224.5	1219.5	1229.5	1244.5	1324.4	1414.4	1384.4	1239.5	984.6	574.8	399.8
47.5°	1134.5	1139.5	1129.5	1149.5	1209.5	1264.5	1234.5	1109.5	819.7	439.8	294.9
50°	1039.6	1044.6	1029.6	1054.6	1109.5	1129.5	1109.5	984.6	689.7	324.9	219.9
52.5°	939.6	934.6	924.6	959.6	994.6	1014.6	999.6	859.6	544.8	244.9	159.9
55°	844.6	834.6	829.7	849.6	889.6	919.6	894.6	739.7	419.8	174.9	119.9
57.5°	739.7	734.7	729.7	744.7	789.7	819.7	779.7	609.7	319.9	129.9	90.0
60°	639.7	649.7	629.7	639.7	694.7	724.7	679.7	499.8	234.9	95.0	65.0
62.5°	554.8	549.8	529.8	544.8	594.8	624.7	569.8	384.8	174.9	70.0	50.0
65°	474.8	469.8	444.8	454.8	494.8	529.8	469.8	304.9	129.9	55.0	40.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
67.5°	439.8	434.8	369.8	364.8	414.8	429.8	374.8	224.9	95.0	40.0	30.0
70°	384.8	379.8	324.9	289.9	324.9	339.9	289.9	164.9	65.0	30.0	25.0
72.5°	294.9	299.9	274.9	224.9	249.9	264.9	214.9	115.0	45.0	25.0	20.0
75°	224.9	219.9	209.9	174.9	189.9	194.9	154.9	80.0	35.0	15.0	15.0
77.5°	149.9	144.9	149.9	129.9	129.9	134.9	105.0	55.0	25.0	10.0	10.0
80°	90.0	95.0	100.0	95.0	85.0	85.0	65.0	35.0	15.0	10.0	5.0
82.5°	45.0	50.0	55.0	55.0	50.0	50.0	40.0	20.0	10.0	5.0	5.0
85°	20.0	20.0	25.0	25.0	20.0	25.0	15.0	10.0	5.0	5.0	5.0
87.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
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°	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6	5827.6
1°	5692.6	5562.7	5562.7	5377.7	5237.8	5152.8	5002.9	5007.9	4932.9	4887.9
2°	5642.6	5362.7	5122.8	4887.9	4668.0	4558.1	4438.1	4318.2	4228.2	4203.2
3°	5572.7	5197.8	4813.0	4498.1	4223.2	4048.3	3873.4	3763.4	3723.4	3638.5
4°	5482.7	4972.9	4483.1	4138.3	3803.4	3563.5	3458.5	3303.6	3258.6	3313.6
5°	5372.7	4758.0	4233.2	3818.4	3488.5	3198.7	3048.7	2968.8	2848.8	2853.8
6°	5247.8	4488.1	3918.4	3453.5	3118.7	2903.8	2748.8	2638.9	2553.9	2598.9
7°	5087.9	4248.2	3643.5	3183.7	2863.8	2633.9	2508.9	2354.0	2259.1	2259.1
8°	4952.9	4043.3	3388.6	2943.8	2623.9	2374.0	2204.1	2099.1	2029.1	2014.2
9°	4733.0	3813.4	3183.7	2738.8	2414.0	2154.1	1964.2	1864.2	1804.2	1794.2
10°	4603.1	3608.5	3018.7	2518.9	2184.1	1964.2	1779.3	1674.3	1614.3	1614.3
11°	4393.2	3403.6	2773.8	2339.0	2004.2	1749.3	1599.3	1514.4	1444.4	1429.4
12°	4198.2	3233.6	2613.9	2194.1	1839.2	1584.3	1444.4	1354.4	1304.5	1304.5
13°	4013.3	3088.7	2474.0	2019.2	1654.3	1459.4	1304.5	1204.5	1154.5	1149.5
14°	3863.4	2888.8	2299.0	1864.2	1514.4	1309.4	1154.5	1084.5	1034.6	1029.6
15°	3733.4	2753.8	2194.1	1694.3	1369.4	1159.5	1024.6	964.6	914.6	909.6
16°	3603.5	2618.9	2049.1	1559.3	1244.5	1059.6	919.6	834.6	804.7	804.7
17°	3498.5	2538.9	1914.2	1449.4	1114.5	934.6	804.7	724.7	704.7	674.7
18°	3363.6	2379.0	1794.2	1319.4	1024.6	824.7	699.7	634.7	594.8	579.8
19°	3233.6	2239.1	1679.3	1184.5	909.6	719.7	614.7	539.8	504.8	504.8
20°	3083.7	2154.1	1554.3	1084.5	799.7	644.7	519.8	464.8	444.8	444.8
21°	2928.8	2009.2	1414.4	964.6	709.7	549.8	464.8	404.8	379.8	369.8
22.5°	2708.9	1784.3	1249.5	824.7	574.8	449.8	374.8	329.9	314.9	309.9
23°	2598.9	1704.3	1159.5	779.7	539.8	414.8	349.9	304.9	289.9	284.9
24°	2429.0	1579.3	1049.6	679.7	464.8	364.8	299.9	269.9	259.9	254.9
25°	2249.1	1449.4	939.6	604.7	419.8	319.9	269.9	239.9	229.9	224.9
26°	2064.1	1304.5	824.7	524.8	369.8	279.9	239.9	214.9	209.9	204.9
27°	1874.2	1179.5	729.7	464.8	324.9	254.9	214.9	194.9	184.9	189.9
28°	1694.3	1059.6	634.7	409.8	279.9	224.9	194.9	174.9	169.9	164.9
29°	1569.3	944.6	569.8	354.9	249.9	199.9	174.9	159.9	154.9	154.9
30°	1429.4	849.6	504.8	319.9	224.9	179.9	159.9	144.9	144.9	139.9
32.5°	1129.5	644.7	369.8	239.9	174.9	139.9	124.9	119.9	115.0	115.0
35°	879.6	479.8	274.9	179.9	134.9	115.0	100.0	100.0	100.0	95.0
37.5°	674.7	354.9	209.9	139.9	110.0	95.0	85.0	85.0	80.0	80.0
40°	514.8	264.9	154.9	110.0	90.0	80.0	70.0	70.0	70.0	70.0
42.5°	384.8	199.9	124.9	90.0	75.0	65.0	60.0	60.0	60.0	60.0
45°	284.9	149.9	95.0	75.0	65.0	60.0	55.0	50.0	55.0	55.0
47.5°	209.9	115.0	75.0	60.0	55.0	50.0	50.0	45.0	45.0	45.0
50°	154.9	90.0	65.0	55.0	50.0	45.0	40.0	40.0	40.0	40.0
52.5°	115.0	70.0	55.0	45.0	40.0	40.0	35.0	35.0	35.0	35.0
55°	85.0	55.0	45.0	40.0	35.0	35.0	30.0	30.0	30.0	30.0
57.5°	65.0	45.0	40.0	35.0	35.0	30.0	30.0	25.0	25.0	25.0
60°	50.0	40.0	30.0	30.0	30.0	30.0	25.0	25.0	25.0	25.0
62.5°	40.0	30.0	25.0	25.0	25.0	25.0	20.0	20.0	20.0	20.0
65°	30.0	25.0	25.0	25.0	25.0	20.0	20.0	15.0	15.0	15.0





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
67.5°	25.0	20.0	20.0	20.0	20.0	20.0	15.0	15.0	15.0	15.0
70°	20.0	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0
72.5°	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0
75°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
77.5°	10.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0
80°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
82.5°	5.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0
85°	5.0	5.0	5.0	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)