

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332779-927

Luminaire Tested: **S124DIW-S795D470U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332779-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D470U927-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4184.7 lumens
Efficiency: N/A
Efficacy: 111.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

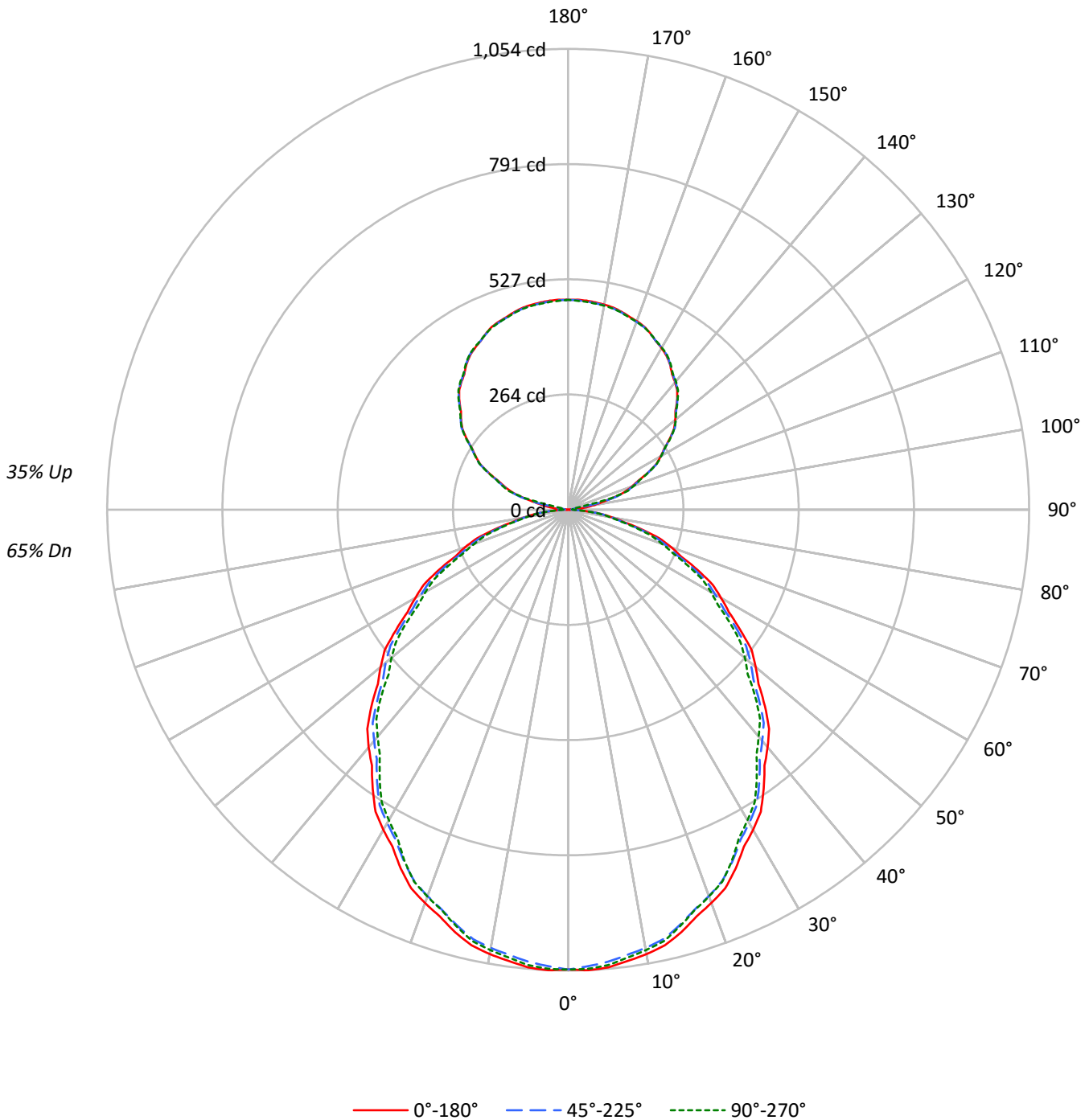
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	111	111	111	111	104	104	104	104	91	91	91	80	80	80	69	69	69	65
1	101	97	93	89	95	91	87	84	80	78	75	70	68	67	61	60	59	54
2	92	84	78	73	86	79	74	69	70	66	62	62	59	56	54	52	49	45
3	84	74	67	61	79	70	63	58	62	57	52	55	51	47	48	45	42	38
4	77	66	58	51	72	62	55	49	55	49	45	49	44	40	43	39	36	33
5	71	59	50	44	66	55	48	42	49	43	39	44	39	35	39	35	32	29
6	65	53	44	38	61	50	42	37	45	38	34	40	35	31	35	31	28	25
7	60	48	39	34	56	45	38	32	40	34	30	36	31	27	32	28	25	22
8	56	43	35	30	53	41	34	29	37	31	27	33	28	24	29	25	22	20
9	52	40	32	27	49	38	31	26	34	28	24	30	26	22	27	23	20	18
10	49	36	29	24	46	35	28	23	31	26	22	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8490	8490	8490
5°	8515	8413	8474
10°	8461	8344	8385
15°	8359	8226	8247
20°	8223	8079	8086
25°	8068	7911	7888
30°	7879	7713	7643
35°	7681	7508	7407
40°	7477	7273	7140
45°	7263	7042	6907
50°	7027	6836	6625
55°	6773	6570	6356
60°	6516	6273	6082
65°	6229	5989	5746
70°	5908	5611	5391
75°	5415	5153	5022
80°	4816	4621	4505
85°	4215	4057	3974



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.0	2.4
10°-20°	279.0	6.7
20°-30°	410.7	9.8
30°-40°	477.4	11.4
40°-50°	477.5	11.4
50°-60°	417.6	10.0
60°-70°	310.2	7.4
70°-80°	176.2	4.2
80°-90°	52.2	1.2
90°-100°	16.4	0.4
100°-110°	104.7	2.5
110°-120°	200.2	4.8
120°-130°	254.2	6.1
130°-140°	272.0	6.5
140°-150°	254.3	6.1
150°-160°	205.1	4.9
160°-170°	132.3	3.2
170°-180°	45.6	1.1
0°-30°	788.7	18.8
0°-40°	1266.2	30.3
0°-60°	2161.3	51.6
0°-90°	2699.9	64.5
90°-120°	321.3	7.7
90°-150°	1101.8	26.3
90°-180°	1485.0	35.5
0°-180°	4184.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1052	1052	1052	1052	1052	
5°	1051	1047	1038	1047	1046	100
15°	1000	996	984	989	987	282
25°	906	900	888	889	886	417
35°	779	773	762	756	752	487
45°	636	630	617	608	605	490
55°	481	478	467	457	452	431
65°	326	322	314	305	301	323
75°	174	169	165	162	161	184
85°	46	45	44	44	43	50
90°	1	5	8	10	11	3
95°	20	8	8	10	10	25
105°	108	110	112	114	102	113
115°	202	203	202	203	203	199
125°	284	285	284	285	286	253
135°	352	352	353	354	354	271
145°	406	407	407	407	408	253
155°	445	445	444	445	444	205
165°	469	468	468	470	467	133
175°	480	478	478	481	477	46
180°	480	480	480	480	480	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6
2.5°	1054.3	1053.8	1053.4	1053.0	1052.5	1051.5	1049.8	1048.1	1046.5	1044.9	1046.3
5°	1050.8	1050.0	1049.2	1048.5	1047.7	1046.3	1044.3	1042.2	1040.1	1038.1	1040.1
7.5°	1041.0	1040.2	1039.5	1038.7	1038.0	1036.5	1034.2	1031.9	1029.6	1027.3	1029.0
10°	1032.2	1031.5	1030.7	1030.0	1029.2	1027.6	1025.2	1022.8	1020.3	1017.9	1019.4
12.5°	1020.7	1020.0	1019.2	1018.5	1017.8	1016.1	1013.5	1010.9	1008.4	1005.8	1007.4
15°	1000.2	999.4	998.7	997.9	997.2	995.5	992.6	989.8	987.0	984.2	985.3
17.5°	975.4	974.5	973.5	972.6	971.7	969.9	967.3	964.6	961.9	959.3	960.0
20°	957.2	956.2	955.4	954.4	953.5	951.6	948.8	945.9	943.2	940.4	941.0
22.5°	937.7	936.4	935.2	934.0	932.7	930.7	927.9	925.1	922.3	919.5	920.5
25°	905.8	904.5	903.2	901.9	900.6	898.6	896.0	893.3	890.7	888.1	888.3
27.5°	869.4	868.1	866.7	865.4	864.0	862.1	859.7	857.3	854.8	852.4	851.9
30°	845.2	843.7	842.2	840.7	839.2	837.2	834.7	832.3	829.9	827.4	826.7
32.5°	819.5	818.2	816.8	815.5	814.1	812.1	809.6	807.0	804.5	801.8	801.0
35°	779.4	778.1	776.8	775.5	774.2	772.2	769.6	767.0	764.4	761.8	760.4
37.5°	737.1	735.9	734.7	733.6	732.3	730.3	727.5	724.7	721.9	719.1	717.6
40°	709.5	708.0	706.5	705.0	703.5	701.3	698.5	695.7	692.9	690.1	688.2
42.5°	679.9	678.9	678.0	677.2	676.2	674.2	671.1	668.0	664.9	661.8	659.7
45°	636.2	634.9	633.6	632.2	631.0	628.8	625.8	622.8	619.8	616.8	614.7
47.5°	590.5	589.6	588.7	587.8	586.9	585.1	582.3	579.6	576.8	574.0	571.6
50°	559.5	558.7	558.0	557.2	556.5	554.8	552.2	549.6	546.9	544.3	541.7
52.5°	529.2	528.3	527.4	526.5	525.5	523.7	520.9	518.2	515.4	512.6	510.3
55°	481.2	480.5	480.0	479.4	478.9	477.3	474.7	472.1	469.4	466.8	464.5
57.5°	435.3	434.7	434.0	433.4	432.8	431.1	428.6	426.0	423.4	420.8	418.7
60°	403.6	402.7	401.7	400.8	399.9	398.2	395.8	393.3	390.9	388.5	386.7
62.5°	372.6	371.9	371.1	370.3	369.5	367.8	365.2	362.6	360.0	357.4	355.9
65°	326.1	325.2	324.2	323.3	322.3	320.9	319.1	317.2	315.3	313.5	311.6
67.5°	279.2	278.4	277.5	276.6	275.8	274.5	272.7	270.8	269.1	267.3	265.5
70°	250.3	249.0	247.6	246.3	245.0	243.6	242.1	240.6	239.1	237.7	236.1
72.5°	219.3	217.9	216.7	215.3	214.0	212.8	211.6	210.3	209.1	207.9	206.8
75°	173.6	172.6	171.7	170.8	169.8	168.9	167.9	167.0	166.1	165.2	164.4
77.5°	129.9	129.5	129.1	128.7	128.3	127.7	126.8	126.0	125.2	124.4	124.1
80°	103.6	103.1	102.5	102.0	101.4	100.9	100.5	100.2	99.8	99.4	99.0
82.5°	78.0	77.8	77.5	77.2	77.0	76.8	76.8	76.7	76.6	76.5	76.3
85°	45.5	45.5	45.5	45.5	45.5	45.3	44.9	44.6	44.2	43.8	43.8
87.5°	17.7	17.7	17.8	17.8	17.8	17.8	17.8	17.8	17.7	17.7	17.8
90°	1.1	2.0	2.9	3.7	4.6	5.3	6.0	6.7	7.3	7.9	8.4
92.5°	4.5	4.6	4.6	4.7	4.8	5.1	5.7	6.3	7.0	7.6	8.1
95°	19.7	17.0	14.3	11.6	8.9	7.6	7.7	7.8	7.8	7.9	8.4
97.5°	41.9	43.6	45.3	47.0	48.7	45.1	36.2	27.3	18.4	9.5	9.5
100°	58.9	60.3	61.8	63.2	64.6	59.8	48.8	37.8	26.8	15.8	14.4
102.5°	77.9	78.9	79.9	81.0	82.1	81.8	80.4	79.0	77.6	76.1	61.5
105°	108.1	108.5	109.0	109.5	110.0	110.4	110.8	111.2	111.6	112.0	112.7
107.5°	136.2	136.4	136.7	136.9	137.1	137.5	138.0	138.6	139.1	139.7	140.0
110°	155.1	155.3	155.6	155.8	156.1	156.4	156.9	157.4	157.9	158.4	158.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	173.5	173.9	174.4	174.8	175.2	175.5	175.8	175.9	176.2	176.4	176.4
115°	201.8	202.0	202.2	202.5	202.7	202.8	202.7	202.6	202.6	202.5	202.6
117.5°	227.3	227.6	227.9	228.2	228.5	228.8	228.9	229.1	229.3	229.5	229.4
120°	244.5	244.8	245.1	245.4	245.7	245.9	245.8	245.7	245.7	245.6	245.7
122.5°	260.5	260.8	260.9	261.2	261.3	261.5	261.6	261.7	261.8	262.0	262.1
125°	283.6	283.9	284.2	284.6	284.9	284.9	284.8	284.6	284.5	284.3	284.6
127.5°	305.5	305.5	305.6	305.7	305.8	306.0	306.3	306.7	307.1	307.4	307.4
130°	319.5	319.6	319.7	319.8	319.9	320.0	320.3	320.5	320.8	321.0	321.1
132.5°	332.5	332.6	332.7	332.9	333.0	333.3	333.6	333.8	334.1	334.5	334.5
135°	351.8	351.7	351.6	351.6	351.5	351.6	352.0	352.3	352.6	352.9	353.1
137.5°	369.0	369.0	369.1	369.1	369.2	369.3	369.6	370.0	370.3	370.7	370.9
140°	380.2	380.3	380.5	380.6	380.8	381.0	381.1	381.4	381.5	381.7	381.9
142.5°	390.2	390.5	390.9	391.1	391.4	391.6	391.7	391.8	391.9	392.0	392.1
145°	405.7	405.9	406.2	406.4	406.6	406.8	406.8	406.8	406.8	406.8	406.9
147.5°	418.0	418.4	418.8	419.3	419.8	419.9	419.9	419.8	419.7	419.6	419.7
150°	426.9	427.2	427.5	427.9	428.2	428.3	428.2	428.1	428.0	427.9	427.9
152.5°	434.4	434.6	434.8	435.1	435.4	435.4	435.3	435.1	435.0	434.8	435.0
155°	444.8	444.9	445.0	445.0	445.1	445.0	444.8	444.6	444.3	444.1	444.4
157.5°	453.7	453.6	453.5	453.5	453.4	453.3	453.0	452.7	452.5	452.3	452.7
160°	458.8	458.6	458.4	458.1	457.9	457.7	457.6	457.6	457.5	457.4	457.9
162.5°	463.4	463.1	462.8	462.5	462.2	462.0	461.9	461.8	461.8	461.7	462.2
165°	469.2	468.8	468.4	468.0	467.6	467.5	467.5	467.5	467.5	467.5	468.1
167.5°	473.8	473.4	473.0	472.6	472.1	471.9	471.9	471.8	471.8	471.7	472.5
170°	476.4	475.9	475.5	475.0	474.5	474.3	474.4	474.4	474.5	474.6	475.2
172.5°	478.2	477.7	477.2	476.7	476.3	476.0	476.1	476.2	476.3	476.3	477.0
175°	480.0	479.5	479.0	478.6	478.1	477.9	478.0	478.1	478.2	478.2	479.0
177.5°	480.9	480.5	480.0	479.5	479.1	479.0	479.0	479.2	479.3	479.4	479.9
180°	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6
2.5°	1047.8	1049.3	1050.8	1051.5	1051.4	1051.2	1051.1	1050.9
5°	1042.2	1044.3	1046.3	1047.2	1046.8	1046.5	1046.1	1045.7
7.5°	1030.6	1032.3	1033.9	1034.6	1034.4	1034.2	1034.0	1033.7
10°	1020.9	1022.4	1023.9	1024.5	1024.1	1023.7	1023.3	1022.9
12.5°	1009.1	1010.7	1012.3	1012.9	1012.4	1011.9	1011.3	1010.8
15°	986.4	987.5	988.6	989.0	988.4	987.9	987.3	986.7
17.5°	960.7	961.4	962.1	962.3	961.9	961.5	961.2	960.8
20°	941.5	942.1	942.6	942.7	942.3	942.0	941.6	941.2
22.5°	921.5	922.5	923.5	923.7	923.0	922.3	921.6	921.0
25°	888.5	888.7	888.9	888.6	887.9	887.1	886.4	885.6
27.5°	851.5	851.0	850.6	849.9	849.0	848.0	847.1	846.1
30°	825.9	825.2	824.4	823.6	822.7	821.7	820.8	819.9
32.5°	800.0	799.2	798.3	797.3	796.4	795.4	794.5	793.6
35°	759.1	757.8	756.5	755.3	754.4	753.5	752.6	751.6
37.5°	716.2	714.8	713.4	712.1	710.8	709.6	708.4	707.1
40°	686.3	684.5	682.6	681.2	680.2	679.4	678.4	677.5
42.5°	657.4	655.3	653.1	651.7	651.1	650.5	649.8	649.2
45°	612.7	610.6	608.6	607.3	606.7	606.1	605.5	605.0
47.5°	569.3	567.0	564.7	562.8	561.4	560.0	558.6	557.1
50°	539.1	536.5	533.9	532.0	530.8	529.7	528.6	527.5
52.5°	508.0	505.6	503.4	501.5	500.1	498.7	497.3	495.8
55°	462.3	460.1	457.8	456.1	455.0	453.9	452.7	451.6
57.5°	416.5	414.4	412.3	410.7	409.6	408.4	407.4	406.3
60°	385.1	383.4	381.7	380.4	379.5	378.5	377.6	376.7
62.5°	354.3	352.8	351.3	350.1	349.1	348.2	347.3	346.3
65°	309.7	307.8	305.9	304.6	303.6	302.7	301.7	300.8
67.5°	263.7	261.9	260.1	259.0	258.8	258.6	258.3	258.0
70°	234.6	233.1	231.6	230.6	230.0	229.5	228.9	228.4
72.5°	205.6	204.4	203.2	202.3	201.7	201.1	200.6	200.0
75°	163.7	162.9	162.2	161.7	161.5	161.3	161.1	161.0
77.5°	123.9	123.7	123.5	123.1	122.6	122.2	121.7	121.2
80°	98.7	98.3	97.9	97.7	97.4	97.3	97.1	96.9
82.5°	76.0	75.8	75.6	75.4	75.3	75.0	74.9	74.6
85°	43.8	43.8	43.8	43.7	43.6	43.3	43.2	42.9
87.5°	18.0	18.1	18.1	18.2	18.2	18.3	18.3	18.3
90°	8.9	9.3	9.8	10.1	10.3	10.5	10.6	10.8
92.5°	8.6	9.0	9.5	9.7	9.8	9.8	9.9	9.9
95°	8.9	9.3	9.8	10.1	10.1	10.2	10.3	10.4
97.5°	9.6	9.6	9.7	9.7	9.8	9.9	10.0	10.1
100°	13.1	11.7	10.4	9.7	9.8	9.9	10.0	10.1
102.5°	46.8	32.2	17.6	10.3	10.3	10.3	10.3	10.4
105°	113.4	114.2	114.9	113.8	110.9	108.1	105.2	102.3
107.5°	140.4	140.7	141.1	141.4	141.7	142.0	142.3	142.6
110°	158.7	158.8	159.0	159.1	159.4	159.6	159.9	160.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	176.3	176.3	176.3	176.4	176.7	177.1	177.4	177.6
115°	202.8	203.0	203.1	203.2	203.2	203.2	203.2	203.2
117.5°	229.4	229.4	229.3	229.3	229.3	229.3	229.3	229.2
120°	245.9	246.1	246.2	246.2	246.1	245.9	245.7	245.6
122.5°	262.1	262.2	262.3	262.3	262.1	262.0	261.8	261.7
125°	284.8	285.0	285.3	285.4	285.5	285.6	285.7	285.7
127.5°	307.4	307.3	307.3	307.2	307.1	307.0	307.0	307.0
130°	321.2	321.2	321.3	321.3	321.3	321.3	321.3	321.3
132.5°	334.6	334.7	334.8	334.8	334.7	334.7	334.6	334.5
135°	353.2	353.4	353.6	353.7	353.9	354.0	354.2	354.3
137.5°	371.1	371.2	371.5	371.5	371.5	371.4	371.4	371.3
140°	382.1	382.4	382.6	382.8	382.9	382.9	383.0	383.1
142.5°	392.3	392.5	392.7	392.8	392.8	392.8	392.8	392.8
145°	406.9	407.0	407.1	407.2	407.3	407.5	407.7	407.8
147.5°	419.8	419.8	419.9	419.9	420.0	420.1	420.2	420.3
150°	427.9	427.9	427.9	428.0	428.1	428.2	428.3	428.3
152.5°	435.1	435.2	435.4	435.4	435.4	435.3	435.2	435.2
155°	444.7	445.0	445.4	445.4	445.2	445.0	444.7	444.5
157.5°	453.0	453.4	453.8	453.8	453.4	453.0	452.7	452.3
160°	458.4	458.8	459.3	459.3	458.8	458.4	457.9	457.4
162.5°	462.6	463.1	463.6	463.6	463.0	462.5	461.9	461.4
165°	468.7	469.4	470.0	469.9	469.2	468.5	467.8	467.1
167.5°	473.2	473.9	474.6	474.5	473.7	472.9	472.1	471.3
170°	475.9	476.5	477.2	477.1	476.3	475.5	474.7	473.9
172.5°	477.6	478.2	478.9	478.8	477.9	477.1	476.2	475.3
175°	479.7	480.4	481.1	480.9	480.0	479.0	478.1	477.1
177.5°	480.5	480.9	481.5	481.3	480.6	479.8	479.0	478.3
180°	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0

(END OF REPORT)