

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: P331933-830

Luminaire Tested: **S123DIP-S560D805U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331933-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D805U830-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4968.9 lumens
Efficiency: N/A
Efficacy: 129.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

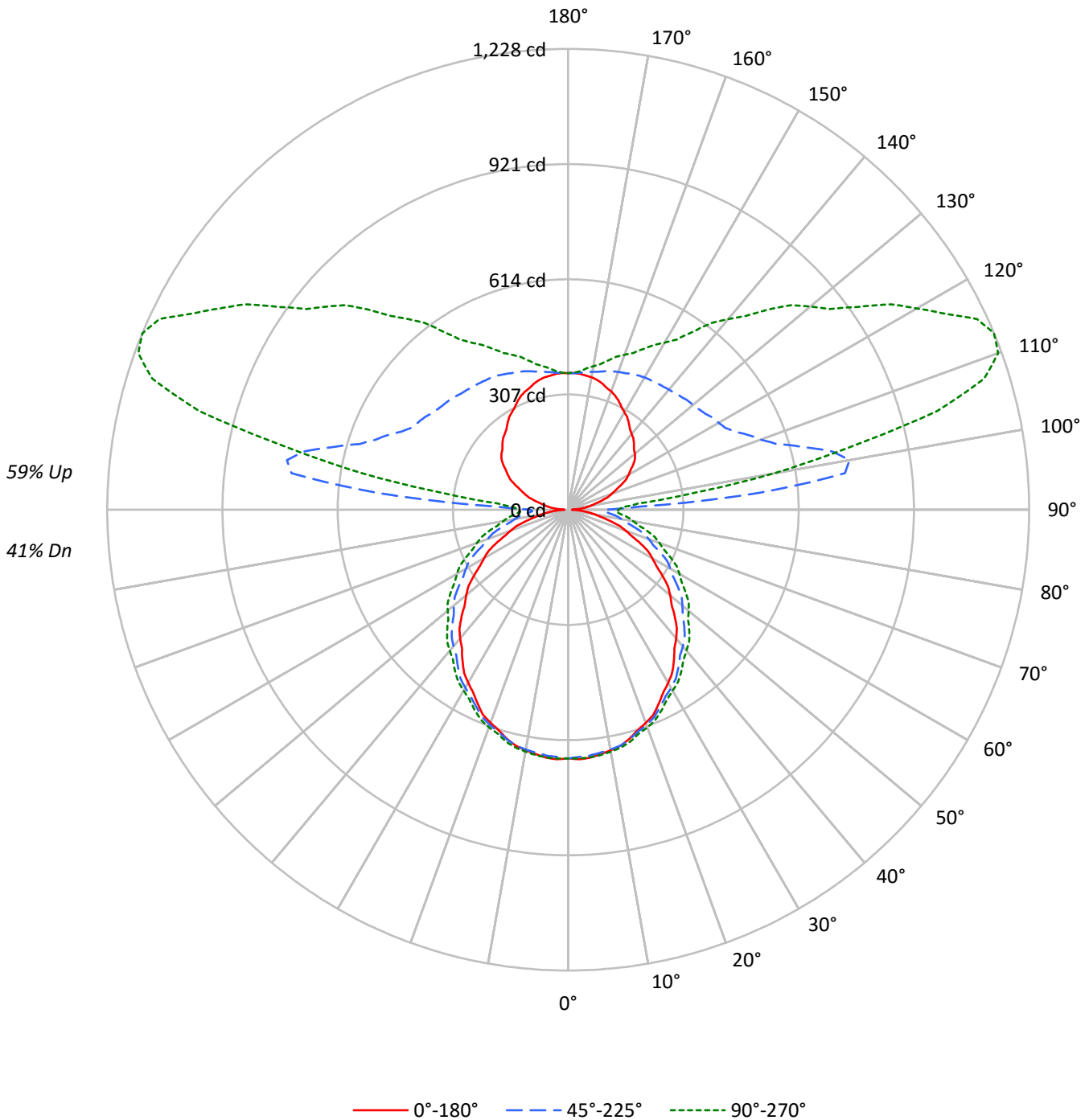
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41
1	95	90	86	82	86	82	79	75	67	65	62	54	52	50	41	40	39	33
2	86	78	72	67	78	71	66	61	59	54	51	47	44	41	36	34	32	27
3	78	69	61	55	71	63	56	51	51	46	42	41	37	35	31	29	27	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	28	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	55	44	37	31	36	31	27	29	25	22	23	20	17	14
7	56	43	35	30	50	40	33	27	33	27	23	26	22	19	21	18	15	13
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	14	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	21	41	30	24	19	25	20	16	20	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7134	7134	7134
5°	7156	6954	6959
10°	7093	6795	6761
15°	7001	6612	6544
20°	6871	6405	6306
25°	6709	6166	6056
30°	6544	5951	5803
35°	6359	5723	5601
40°	6181	5515	5382
45°	5986	5318	5210
50°	5793	5121	5019
55°	5578	4919	4848
60°	5369	4716	4670
65°	5156	4499	4462
70°	4837	4254	4245
75°	4430	3973	4029
80°	3958	3698	3779
85°	3521	3508	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	1.3
10°-20°	179.1	3.6
20°-30°	267.9	5.4
30°-40°	319.9	6.4
40°-50°	334.7	6.7
50°-60°	314.1	6.3
60°-70°	262.3	5.3
70°-80°	187.7	3.8
80°-90°	114.7	2.3
90°-100°	272.8	5.5
100°-110°	625.3	12.6
110°-120°	598.8	12.1
120°-130°	469.8	9.5
130°-140°	363.7	7.3
140°-150°	266.8	5.4
150°-160°	184.6	3.7
160°-170°	108.5	2.2
170°-180°	35.3	0.7
0°-30°	509.8	10.3
0°-40°	829.7	16.7
0°-60°	1478.6	29.8
0°-90°	2043.4	41.1
90°-120°	1496.8	30.1
90°-150°	2597.1	52.3
90°-180°	2926.0	58.9
0°-180°	4968.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	664	662	658	663	663	63
15°	632	634	633	640	640	178
25°	570	577	580	589	589	263
35°	491	502	512	522	526	307
45°	401	419	437	450	456	310
55°	306	330	356	375	381	274
65°	212	240	272	292	300	209
75°	115	149	185	208	217	123
85°	35	72	110	133	142	37
90°	11	54	100	126	135	8
95°	33	118	508	220	186	33
105°	91	150	647	1110	1018	97
115°	155	202	491	1049	1201	153
125°	212	251	446	804	942	188
135°	248	295	426	652	754	191
145°	281	322	412	523	578	176
155°	319	344	399	453	472	147
165°	349	358	382	405	412	98
175°	363	364	366	371	371	34
180°	364	364	364	364	364	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	665.7	665.3	665.0	664.5	664.1	663.5	662.4	661.4	660.3	659.3	660.3
5°	663.5	663.2	662.9	662.6	662.2	661.6	660.6	659.7	658.7	657.7	659.0
7.5°	657.0	657.0	657.1	657.2	657.3	656.9	655.9	655.0	654.0	653.1	654.7
10°	651.3	651.6	651.9	652.2	652.5	652.3	651.5	650.7	649.9	649.1	650.7
12.5°	644.3	644.8	645.3	645.6	646.1	646.1	645.5	645.0	644.4	643.9	645.4
15°	631.8	632.3	632.7	633.2	633.7	633.9	633.7	633.5	633.4	633.2	634.8
17.5°	615.9	616.8	617.8	618.8	619.7	620.2	620.1	620.0	620.0	619.9	621.3
20°	604.4	605.3	606.2	607.2	608.1	608.8	609.2	609.4	609.7	610.1	611.5
22.5°	592.2	593.1	594.1	595.1	596.1	596.7	597.2	597.7	598.1	598.5	600.4
25°	570.4	572.0	573.6	575.2	576.8	577.9	578.3	578.8	579.3	579.8	581.8
27.5°	548.5	550.3	552.1	553.9	555.7	557.1	558.2	559.2	560.2	561.3	563.1
30°	532.8	534.9	537.0	539.1	541.2	542.9	544.1	545.4	546.7	548.0	550.0
32.5°	515.5	517.8	520.2	522.5	524.9	526.9	528.6	530.2	531.9	533.6	535.6
35°	491.0	493.5	496.1	498.7	501.2	503.6	505.7	507.7	509.8	511.9	514.3
37.5°	465.0	467.9	470.7	473.6	476.5	479.3	481.8	484.4	486.9	489.6	492.3
40°	447.6	450.5	453.5	456.3	459.2	462.2	465.4	468.6	471.8	475.0	477.8
42.5°	428.6	432.2	435.6	439.1	442.7	446.1	449.5	452.8	456.2	459.5	462.5
45°	401.4	405.3	409.2	413.0	416.8	420.8	424.8	428.8	432.8	436.8	439.9
47.5°	373.0	377.4	381.7	386.1	390.4	394.9	399.5	404.1	408.7	413.3	416.7
50°	354.5	359.0	363.4	368.0	372.5	377.2	382.2	387.2	392.1	397.1	400.8
52.5°	334.9	339.6	344.4	349.1	353.8	359.0	364.5	369.9	375.4	381.0	384.7
55°	306.1	311.4	316.7	322.0	327.3	332.8	338.7	344.4	350.2	355.9	360.2
57.5°	278.1	283.6	289.2	294.6	300.2	306.1	312.5	318.8	325.1	331.4	335.7
60°	258.4	264.3	270.0	275.8	281.5	287.8	294.4	301.0	307.5	314.1	318.6
62.5°	240.0	245.9	251.8	257.7	263.6	270.0	277.0	284.0	291.0	297.9	302.4
65°	211.5	217.8	224.0	230.4	236.6	243.3	250.3	257.3	264.4	271.5	276.3
67.5°	182.7	189.4	196.0	202.6	209.2	216.1	223.4	230.5	237.7	244.9	250.2
70°	162.5	169.4	176.3	183.1	190.0	197.4	205.0	212.7	220.5	228.2	233.3
72.5°	143.9	150.9	157.8	164.7	171.5	179.0	186.9	194.9	202.8	210.8	216.1
75°	114.8	122.3	129.9	137.4	145.0	152.8	160.8	168.8	176.8	184.8	190.1
77.5°	89.4	97.0	104.6	112.2	119.8	127.6	135.7	143.8	151.9	160.0	165.6
80°	71.4	79.4	87.2	95.1	102.9	111.0	119.3	127.7	136.1	144.4	149.9
82.5°	55.9	63.9	71.8	79.8	87.8	96.0	104.5	113.0	121.5	130.0	135.4
85°	35.3	43.4	51.5	59.5	67.5	75.7	84.3	92.7	101.2	109.7	115.2
87.5°	19.5	27.8	36.1	44.5	52.8	61.2	69.7	78.4	87.0	95.7	100.9
90°	10.8	20.2	29.5	39.6	48.9	58.4	68.8	79.3	89.6	100.0	104.7
92.5°	17.9	29.5	42.7	55.6	68.9	87.4	114.7	154.5	193.6	190.3	167.8
95°	33.0	41.5	55.8	74.6	100.0	135.8	206.3	324.0	452.7	508.5	430.9
97.5°	49.9	56.2	68.1	84.7	109.2	146.9	214.2	345.5	554.6	743.5	795.6
100°	61.0	66.9	77.2	92.7	115.5	150.4	209.4	325.8	527.1	760.6	910.5
102.5°	72.9	78.8	87.9	102.4	122.8	155.1	208.7	308.5	488.3	718.9	912.8
105°	91.2	97.4	105.6	118.3	136.1	164.4	211.0	293.9	440.0	646.6	862.6
107.5°	110.2	115.6	123.2	135.2	151.6	177.7	219.1	288.8	407.6	582.3	778.6
110°	123.8	128.8	135.3	146.4	161.8	187.1	226.7	289.1	394.3	545.8	726.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	136.7	141.3	147.3	157.8	172.7	197.0	233.9	292.0	385.1	520.0	679.5
115°	154.7	159.6	165.9	175.2	189.6	213.4	247.1	297.9	378.8	491.4	622.8
117.5°	173.2	177.9	182.7	190.7	205.9	227.6	260.7	306.2	375.4	472.2	586.4
120°	185.7	188.7	193.1	201.3	216.1	237.6	269.4	313.0	375.0	462.9	566.8
122.5°	196.8	199.4	203.6	212.0	225.7	248.1	279.1	319.5	376.5	455.9	550.3
125°	212.2	213.7	218.1	226.2	240.2	262.4	292.8	329.9	378.8	446.1	528.3
127.5°	224.4	226.5	231.8	239.9	255.1	276.9	305.7	338.7	382.3	439.1	508.4
130°	232.1	234.1	240.6	249.3	264.6	286.1	313.6	344.8	384.8	434.4	497.2
132.5°	237.4	240.2	247.3	258.0	273.3	294.0	320.3	350.2	386.1	430.9	486.5
135°	247.6	250.3	258.3	269.2	284.6	305.2	329.8	356.7	387.9	425.7	472.1
137.5°	257.1	260.1	268.0	279.7	294.8	313.7	336.6	361.5	388.7	420.7	459.6
140°	263.1	266.7	274.1	285.9	300.7	319.3	341.2	363.7	389.3	417.7	451.9
142.5°	270.1	273.1	281.0	291.4	306.0	323.3	344.1	365.7	389.1	414.2	444.6
145°	281.4	283.5	290.0	300.9	313.3	330.2	349.3	369.2	389.8	411.9	436.8
147.5°	292.3	293.6	300.1	309.6	321.7	336.2	353.7	371.6	389.8	409.2	429.7
150°	299.9	300.7	306.5	316.1	326.4	339.7	356.7	372.1	389.8	406.8	425.2
152.5°	307.6	307.7	313.6	322.1	331.1	343.8	358.4	373.3	388.0	403.8	420.5
155°	319.1	319.1	323.5	330.8	338.9	349.3	361.8	373.6	386.2	398.7	413.4
157.5°	328.2	328.8	332.3	338.8	345.7	353.7	363.7	374.4	383.6	394.1	405.5
160°	335.3	335.3	338.3	344.1	349.3	356.7	365.5	374.4	382.5	390.6	400.1
162.5°	340.6	340.6	343.0	347.7	352.2	358.4	366.1	373.7	380.1	387.0	394.8
165°	348.6	347.8	349.3	353.0	355.9	361.1	366.9	372.1	376.5	381.7	387.6
167.5°	354.6	353.7	354.5	357.2	359.3	362.6	366.8	371.0	373.1	376.5	380.7
170°	358.2	356.7	357.4	359.6	361.1	362.6	366.3	369.2	370.7	372.9	376.5
172.5°	360.5	359.6	359.8	361.4	362.2	363.2	366.3	368.6	368.9	369.9	372.4
175°	363.3	362.6	361.8	363.3	363.3	364.0	365.5	366.9	366.3	366.3	367.7
177.5°	364.6	364.0	363.4	364.0	364.0	364.0	364.6	365.8	364.6	364.0	364.6
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	661.4	662.4	663.5	663.9	663.7	663.6	663.5	663.4
5°	660.3	661.6	662.9	663.5	663.3	663.1	663.0	662.8
7.5°	656.3	657.9	659.6	660.3	660.1	659.9	659.7	659.5
10°	652.3	653.9	655.5	656.1	655.8	655.5	655.2	654.9
12.5°	646.9	648.3	649.8	650.4	650.1	649.7	649.4	649.1
15°	636.4	638.0	639.6	640.4	640.2	640.0	639.9	639.7
17.5°	622.8	624.2	625.7	626.3	626.0	625.8	625.7	625.4
20°	613.0	614.4	615.9	616.7	616.8	617.0	617.2	617.3
22.5°	602.2	604.1	605.9	606.7	606.6	606.5	606.4	606.3
25°	583.9	586.1	588.1	589.2	589.2	589.2	589.2	589.2
27.5°	564.9	566.7	568.4	569.5	569.6	569.7	569.9	570.0
30°	551.9	553.7	555.7	556.7	556.7	556.7	556.7	556.7
32.5°	537.6	539.7	541.8	543.0	543.4	543.8	544.1	544.5
35°	516.7	519.2	521.5	523.0	523.7	524.3	525.0	525.7
37.5°	494.9	497.7	500.4	502.1	502.6	503.0	503.6	504.1
40°	480.5	483.2	486.0	487.7	488.3	489.0	489.6	490.2
42.5°	465.4	468.4	471.5	473.3	474.3	475.1	476.1	476.9
45°	442.9	445.9	449.0	451.2	452.4	453.7	455.1	456.3
47.5°	420.2	423.6	427.0	429.2	430.2	431.2	432.3	433.2
50°	404.4	408.2	411.9	414.2	415.4	416.5	417.6	418.8
52.5°	388.6	392.4	396.2	398.8	400.2	401.5	402.9	404.4
55°	364.6	368.9	373.2	376.1	377.4	378.6	379.9	381.3
57.5°	340.2	344.5	348.8	351.8	353.3	354.8	356.3	357.8
60°	323.1	327.5	332.1	335.2	337.0	338.7	340.4	342.2
62.5°	306.9	311.4	315.8	319.0	320.6	322.2	323.9	325.5
65°	281.1	285.9	290.8	294.0	295.6	297.2	298.8	300.4
67.5°	255.4	260.7	266.0	269.3	270.6	271.9	273.3	274.7
70°	238.5	243.6	248.7	252.0	253.6	255.2	256.8	258.4
72.5°	221.3	226.6	231.9	235.4	237.0	238.6	240.2	241.8
75°	195.4	200.8	206.0	209.6	211.5	213.5	215.4	217.4
77.5°	171.2	176.7	182.3	185.9	187.4	188.8	190.3	191.8
80°	155.3	160.8	166.3	169.8	171.4	173.0	174.6	176.2
82.5°	140.9	146.3	151.7	155.3	156.9	158.5	160.1	161.7
85°	120.6	126.1	131.6	135.1	136.7	138.3	139.9	141.5
87.5°	106.6	112.2	117.8	121.6	123.1	124.8	126.6	128.0
90°	110.9	117.2	123.3	128.3	129.1	131.5	133.8	134.7
92.5°	149.7	142.1	141.8	141.3	141.5	140.7	143.0	143.1
95°	346.7	266.2	232.1	208.9	196.5	191.4	187.9	186.5
97.5°	737.2	610.3	520.0	435.1	382.3	350.7	332.4	327.7
100°	940.9	885.9	804.4	702.9	630.0	577.8	550.6	553.0
102.5°	1006.2	1008.8	963.1	899.8	843.5	802.5	780.0	764.7
105°	1021.2	1099.3	1117.8	1101.5	1069.1	1042.5	1020.4	1018.2
107.5°	957.6	1081.6	1150.5	1179.5	1181.5	1173.5	1167.0	1161.6
110°	899.0	1038.8	1135.9	1190.1	1212.0	1219.2	1219.0	1218.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	840.5	983.1	1091.2	1160.2	1199.4	1219.1	1226.1	1227.8
115°	763.0	895.0	1007.2	1090.1	1146.7	1180.3	1196.4	1201.4
117.5°	705.2	819.7	920.9	1004.8	1063.8	1102.1	1124.6	1130.9
120°	674.4	777.6	869.7	946.5	1005.9	1048.2	1067.1	1072.6
122.5°	649.4	743.0	828.6	900.0	952.8	991.1	1011.7	1018.4
125°	615.7	699.4	773.5	834.7	883.0	916.5	936.0	942.4
127.5°	585.6	660.4	727.4	783.2	826.3	855.1	872.8	878.6
130°	566.6	635.9	698.6	750.7	790.8	818.3	834.7	841.6
132.5°	548.7	612.6	671.1	720.9	758.7	786.3	801.1	806.3
135°	524.3	579.6	630.4	674.2	711.1	734.1	748.1	754.0
137.5°	502.1	547.5	591.3	629.3	660.5	683.7	695.8	699.9
140°	488.9	528.9	566.7	599.9	628.8	650.2	662.8	662.9
142.5°	476.1	510.5	543.3	572.3	597.0	616.0	627.5	627.5
145°	461.7	487.3	512.1	534.4	553.6	569.7	576.2	578.2
147.5°	450.0	469.7	489.1	504.7	519.3	530.4	536.5	537.7
150°	442.1	459.1	474.6	488.7	500.1	508.5	513.3	513.6
152.5°	435.6	450.3	463.9	475.6	484.4	492.0	494.6	494.7
155°	425.9	437.7	448.7	457.6	464.2	470.1	471.6	472.3
157.5°	415.6	425.5	434.0	440.9	446.7	451.1	452.3	452.1
160°	409.7	417.8	425.2	430.4	435.5	439.9	439.9	439.2
162.5°	402.7	409.5	416.3	420.9	424.3	428.1	428.1	427.4
165°	393.5	397.9	403.1	406.8	409.7	412.6	411.9	411.9
167.5°	385.5	388.9	391.9	394.5	395.9	397.9	397.2	397.2
170°	380.2	382.5	385.4	386.9	387.6	389.1	388.3	388.3
172.5°	375.5	377.1	379.5	380.4	380.5	382.0	380.7	380.1
175°	369.2	369.9	371.4	371.4	371.4	372.1	371.4	370.7
177.5°	365.2	365.8	366.4	366.4	365.8	366.4	365.2	365.2
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0

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