

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: P331933-940

Luminaire Tested: **S123DIP-S560D805U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331933-940
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-S560D805U940-4F0-1E-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: 4700.9 lumens
Efficiency: N/A
Efficacy: 122.4 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

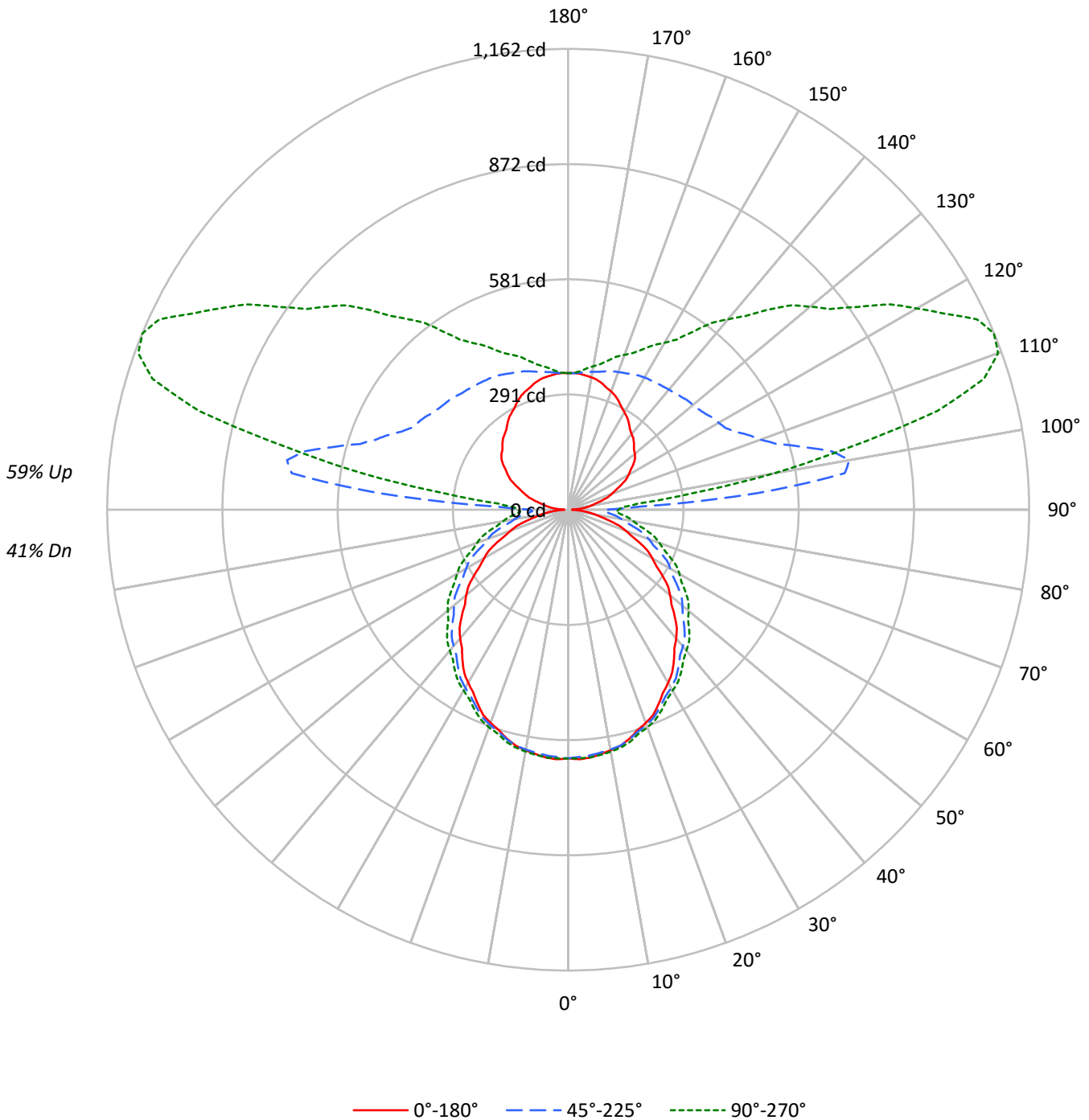
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	6750	6750	6750
5°	6771	6579	6584
10°	6710	6428	6396
15°	6624	6256	6191
20°	6501	6059	5966
25°	6348	5833	5729
30°	6191	5629	5489
35°	6016	5414	5298
40°	5848	5218	5093
45°	5664	5030	4929
50°	5480	4845	4748
55°	5278	4654	4586
60°	5080	4461	4419
65°	4879	4255	4221
70°	4575	4025	4016
75°	4191	3760	3810
80°	3748	3499	3575
85°	3332	3319	3435



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.4	1.3
10°-20°	169.5	3.6
20°-30°	253.4	5.4
30°-40°	302.7	6.4
40°-50°	316.7	6.7
50°-60°	297.2	6.3
60°-70°	248.2	5.3
70°-80°	177.6	3.8
80°-90°	108.6	2.3
90°-100°	258.1	5.5
100°-110°	591.5	12.6
110°-120°	566.5	12.1
120°-130°	444.5	9.5
130°-140°	344.1	7.3
140°-150°	252.4	5.4
150°-160°	174.7	3.7
160°-170°	102.6	2.2
170°-180°	33.4	0.7
0°-30°	482.3	10.3
0°-40°	785.0	16.7
0°-60°	1398.8	29.8
0°-90°	1933.2	41.1
90°-120°	1416.1	30.1
90°-150°	2457.1	52.3
90°-180°	2768.0	58.9
0°-180°	4700.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	627	627	627	627	627	
5°	628	626	622	627	627	59
15°	598	600	599	605	605	168
25°	540	546	548	557	557	249
35°	464	475	484	494	497	290
45°	380	396	413	426	432	293
55°	290	312	337	354	361	259
65°	200	227	257	277	284	198
75°	109	141	175	197	206	116
85°	33	68	104	126	134	35
90°	10	51	95	119	127	8
95°	31	112	481	209	176	31
105°	86	142	612	1050	963	91
115°	146	191	465	992	1137	145
125°	201	238	422	761	892	178
135°	234	279	403	617	713	181
145°	266	304	390	495	547	167
155°	302	326	377	429	447	139
165°	330	339	361	383	390	93
175°	344	344	346	351	351	33
180°	344	344	344	344	344	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	629.8	629.5	629.1	628.7	628.3	627.7	626.7	625.7	624.7	623.8	624.7
5°	627.8	627.4	627.1	626.9	626.5	625.9	625.0	624.1	623.2	622.2	623.5
7.5°	621.6	621.6	621.7	621.8	621.9	621.4	620.5	619.6	618.8	617.9	619.4
10°	616.2	616.4	616.7	617.1	617.3	617.2	616.4	615.6	614.8	614.1	615.6
12.5°	609.6	610.0	610.5	610.8	611.3	611.3	610.7	610.2	609.7	609.1	610.6
15°	597.7	598.2	598.6	599.1	599.5	599.7	599.5	599.3	599.2	599.1	600.6
17.5°	582.6	583.5	584.5	585.4	586.3	586.7	586.7	586.6	586.6	586.5	587.8
20°	571.8	572.7	573.5	574.4	575.3	576.0	576.3	576.6	576.8	577.2	578.5
22.5°	560.3	561.2	562.0	563.0	563.9	564.5	565.0	565.4	565.9	566.2	568.0
25°	539.7	541.2	542.7	544.2	545.7	546.7	547.2	547.6	548.0	548.5	550.5
27.5°	518.9	520.6	522.4	524.1	525.8	527.1	528.1	529.1	530.0	531.0	532.7
30°	504.1	506.0	508.0	510.1	512.0	513.6	514.8	516.0	517.2	518.4	520.3
32.5°	487.7	489.9	492.1	494.4	496.6	498.5	500.1	501.6	503.2	504.8	506.8
35°	464.5	466.9	469.3	471.8	474.2	476.4	478.4	480.4	482.3	484.3	486.6
37.5°	439.9	442.6	445.3	448.1	450.8	453.4	455.8	458.3	460.7	463.2	465.7
40°	423.5	426.2	429.0	431.7	434.4	437.3	440.3	443.4	446.4	449.4	452.0
42.5°	405.5	408.8	412.1	415.4	418.8	422.0	425.3	428.4	431.6	434.7	437.6
45°	379.8	383.4	387.1	390.7	394.3	398.1	401.9	405.6	409.5	413.2	416.2
47.5°	352.8	357.0	361.1	365.2	369.3	373.6	378.0	382.3	386.6	391.0	394.2
50°	335.4	339.7	343.8	348.1	352.4	356.9	361.6	366.3	371.0	375.7	379.2
52.5°	316.8	321.3	325.8	330.3	334.7	339.7	344.8	350.0	355.2	360.4	364.0
55°	289.6	294.6	299.6	304.6	309.7	314.9	320.4	325.8	331.3	336.7	340.8
57.5°	263.1	268.3	273.6	278.7	284.0	289.6	295.6	301.6	307.6	313.5	317.6
60°	244.5	250.0	255.5	260.9	266.4	272.2	278.5	284.7	290.9	297.1	301.4
62.5°	227.0	232.6	238.3	243.8	249.4	255.5	262.1	268.7	275.3	281.9	286.1
65°	200.1	206.1	212.0	217.9	223.8	230.2	236.8	243.4	250.1	256.8	261.4
67.5°	172.8	179.1	185.4	191.6	198.0	204.5	211.3	218.1	224.9	231.7	236.7
70°	153.7	160.2	166.7	173.3	179.8	186.7	193.9	201.3	208.6	215.9	220.7
72.5°	136.2	142.8	149.3	155.8	162.3	169.3	176.8	184.4	191.9	199.5	204.5
75°	108.6	115.7	122.9	130.0	137.1	144.5	152.1	159.7	167.3	174.9	179.9
77.5°	84.5	91.8	99.0	106.1	113.3	120.7	128.4	136.1	143.7	151.4	156.7
80°	67.6	75.1	82.5	90.0	97.4	105.0	112.9	120.8	128.8	136.6	141.8
82.5°	52.9	60.5	67.9	75.5	83.1	90.9	98.9	106.9	114.9	123.0	128.1
85°	33.4	41.0	48.7	56.3	63.8	71.6	79.7	87.7	95.8	103.8	109.0
87.5°	18.5	26.3	34.2	42.1	49.9	57.9	66.0	74.2	82.3	90.5	95.5
90°	10.3	19.1	27.9	37.5	46.3	55.3	65.1	75.0	84.8	94.6	99.1
92.5°	16.9	27.9	40.4	52.6	65.2	82.7	108.5	146.2	183.2	180.0	158.7
95°	31.2	39.2	52.8	70.6	94.6	128.5	195.2	306.5	428.3	481.1	407.7
97.5°	47.2	53.1	64.5	80.2	103.3	139.0	202.7	326.9	524.7	703.4	752.7
100°	57.7	63.3	73.0	87.7	109.2	142.3	198.1	308.3	498.6	719.6	861.4
102.5°	68.9	74.5	83.2	96.8	116.2	146.8	197.4	291.9	462.0	680.1	863.5
105°	86.3	92.1	99.9	111.9	128.8	155.5	199.7	278.0	416.3	611.7	816.1
107.5°	104.2	109.4	116.5	127.9	143.4	168.1	207.3	273.2	385.7	550.9	736.6
110°	117.1	121.9	128.0	138.5	153.1	177.0	214.5	273.5	373.0	516.4	687.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	129.3	133.7	139.4	149.3	163.4	186.4	221.3	276.3	364.4	492.0	642.8
115°	146.3	151.0	156.9	165.8	179.4	201.9	233.8	281.9	358.4	464.9	589.2
117.5°	163.9	168.3	172.8	180.4	194.7	215.3	246.6	289.7	355.2	446.7	554.7
120°	175.7	178.5	182.7	190.5	204.5	224.8	254.9	296.1	354.8	437.9	536.2
122.5°	186.2	188.7	192.6	200.5	213.6	234.7	264.0	302.3	356.2	431.3	520.6
125°	200.7	202.2	206.3	214.0	227.2	248.3	277.1	312.1	358.4	422.0	499.8
127.5°	212.3	214.3	219.3	226.9	241.4	262.0	289.2	320.4	361.7	415.4	481.0
130°	219.5	221.5	227.7	235.9	250.3	270.6	296.7	326.2	364.1	411.0	470.4
132.5°	224.6	227.2	234.0	244.1	258.6	278.1	303.0	331.4	365.2	407.7	460.3
135°	234.3	236.8	244.3	254.7	269.2	288.7	312.0	337.4	366.9	402.8	446.7
137.5°	243.3	246.1	253.5	264.6	278.9	296.8	318.4	342.0	367.7	398.0	434.8
140°	248.9	252.4	259.3	270.5	284.5	302.1	322.8	344.1	368.3	395.2	427.5
142.5°	255.6	258.3	265.8	275.7	289.5	305.9	325.6	346.0	368.1	391.9	420.6
145°	266.3	268.2	274.4	284.6	296.4	312.4	330.5	349.3	368.8	389.7	413.2
147.5°	276.5	277.8	283.9	292.9	304.3	318.1	334.7	351.5	368.8	387.1	406.5
150°	283.7	284.5	290.0	299.1	308.8	321.4	337.4	352.0	368.8	384.9	402.3
152.5°	291.0	291.1	296.7	304.7	313.3	325.3	339.1	353.2	367.1	382.0	397.8
155°	301.8	301.8	306.0	313.0	320.7	330.5	342.3	353.5	365.3	377.2	391.1
157.5°	310.5	311.0	314.4	320.6	327.1	334.7	344.1	354.2	362.9	372.8	383.6
160°	317.2	317.2	320.0	325.6	330.5	337.4	345.8	354.2	361.9	369.5	378.5
162.5°	322.3	322.3	324.5	329.0	333.2	339.1	346.3	353.6	359.6	366.1	373.5
165°	329.8	329.0	330.5	333.9	336.7	341.6	347.1	352.0	356.2	361.1	366.7
167.5°	335.5	334.7	335.4	338.0	339.9	343.0	347.1	351.0	352.9	356.1	360.2
170°	338.9	337.4	338.1	340.2	341.6	343.0	346.5	349.3	350.7	352.8	356.2
172.5°	341.1	340.2	340.4	341.9	342.7	343.6	346.5	348.7	349.0	350.0	352.3
175°	343.7	343.0	342.3	343.7	343.7	344.4	345.8	347.1	346.5	346.5	347.9
177.5°	344.9	344.4	343.8	344.4	344.4	344.4	344.9	346.1	344.9	344.4	344.9
180°	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	625.7	626.7	627.7	628.1	627.9	627.9	627.8	627.6
5°	624.7	625.9	627.1	627.7	627.5	627.3	627.2	627.1
7.5°	620.9	622.4	624.0	624.6	624.5	624.3	624.1	623.9
10°	617.2	618.7	620.2	620.7	620.5	620.2	619.8	619.6
12.5°	612.0	613.3	614.7	615.3	615.0	614.7	614.4	614.1
15°	602.1	603.6	605.1	605.8	605.6	605.5	605.4	605.2
17.5°	589.2	590.6	591.9	592.5	592.3	592.1	591.9	591.7
20°	580.0	581.3	582.6	583.4	583.5	583.7	583.9	584.0
22.5°	569.7	571.5	573.2	574.0	573.9	573.8	573.7	573.6
25°	552.4	554.5	556.4	557.4	557.4	557.4	557.4	557.4
27.5°	534.4	536.1	537.8	538.8	538.9	539.0	539.1	539.2
30°	522.1	523.9	525.8	526.6	526.6	526.6	526.6	526.6
32.5°	508.6	510.6	512.6	513.7	514.1	514.4	514.8	515.1
35°	488.8	491.2	493.4	494.8	495.4	496.1	496.7	497.3
37.5°	468.2	470.8	473.4	475.0	475.5	475.9	476.4	476.9
40°	454.6	457.2	459.8	461.4	462.0	462.6	463.2	463.8
42.5°	440.3	443.2	446.0	447.8	448.7	449.5	450.4	451.2
45°	419.0	421.9	424.8	426.9	428.0	429.3	430.5	431.7
47.5°	397.5	400.7	403.9	406.1	407.0	408.0	408.9	409.8
50°	382.6	386.2	389.7	391.9	393.0	394.0	395.1	396.2
52.5°	367.7	371.2	374.9	377.3	378.6	379.9	381.2	382.5
55°	344.9	349.0	353.1	355.8	357.0	358.2	359.4	360.7
57.5°	321.8	325.9	330.0	332.8	334.2	335.6	337.1	338.5
60°	305.7	309.9	314.1	317.1	318.8	320.4	322.1	323.8
62.5°	290.3	294.6	298.8	301.8	303.3	304.8	306.4	307.9
65°	265.9	270.5	275.1	278.1	279.6	281.2	282.7	284.2
67.5°	241.7	246.6	251.6	254.8	256.0	257.3	258.6	259.8
70°	225.6	230.4	235.3	238.4	240.0	241.5	243.0	244.5
72.5°	209.4	214.4	219.4	222.7	224.2	225.7	227.2	228.7
75°	184.9	189.9	194.9	198.3	200.1	202.0	203.8	205.6
77.5°	161.9	167.2	172.5	175.8	177.3	178.6	180.0	181.5
80°	147.0	152.1	157.3	160.6	162.1	163.6	165.1	166.7
82.5°	133.3	138.4	143.6	147.0	148.5	150.0	151.5	153.0
85°	114.1	119.3	124.5	127.8	129.3	130.8	132.3	133.8
87.5°	100.9	106.1	111.5	115.0	116.5	118.1	119.8	121.1
90°	105.0	110.8	116.6	121.4	122.2	124.4	126.6	127.4
92.5°	141.6	134.5	134.1	133.7	133.8	133.1	135.3	135.4
95°	328.0	251.8	219.6	197.6	185.9	181.1	177.8	176.5
97.5°	697.4	577.4	492.0	411.6	361.7	331.8	314.5	310.0
100°	890.2	838.1	761.0	664.9	596.0	546.6	520.9	523.2
102.5°	951.9	954.4	911.2	851.2	798.0	759.2	738.0	723.4
105°	966.1	1040.0	1057.5	1042.1	1011.5	986.3	965.4	963.3
107.5°	906.0	1023.2	1088.4	1115.9	1117.8	1110.2	1104.0	1098.9
110°	850.5	982.8	1074.6	1126.0	1146.7	1153.4	1153.2	1153.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	795.1	930.1	1032.3	1097.6	1134.7	1153.3	1159.9	1161.5
115°	721.8	846.8	952.9	1031.4	1084.9	1116.7	1131.8	1136.6
117.5°	667.2	775.5	871.2	950.7	1006.4	1042.7	1064.0	1069.9
120°	638.0	735.7	822.8	895.5	951.6	991.7	1009.5	1014.8
122.5°	614.4	702.9	783.9	851.5	901.4	937.6	957.2	963.5
125°	582.5	661.6	731.7	789.7	835.4	867.1	885.6	891.5
127.5°	554.0	624.8	688.1	740.9	781.8	809.0	825.7	831.3
130°	536.0	601.6	660.9	710.2	748.1	774.2	789.7	796.2
132.5°	519.1	579.5	634.9	682.0	717.7	743.9	757.9	762.8
135°	496.1	548.3	596.4	637.8	672.8	694.5	707.8	713.4
137.5°	475.0	518.0	559.4	595.4	624.9	646.8	658.3	662.2
140°	462.5	500.3	536.1	567.6	594.9	615.1	627.1	627.1
142.5°	450.4	483.0	514.0	541.4	564.8	582.8	593.6	593.7
145°	436.8	461.0	484.5	505.6	523.7	539.0	545.1	547.1
147.5°	425.7	444.3	462.7	477.5	491.3	501.8	507.6	508.7
150°	418.3	434.4	449.0	462.4	473.1	481.1	485.6	485.9
152.5°	412.1	426.0	438.9	450.0	458.3	465.5	468.0	468.1
155°	403.0	414.1	424.5	432.9	439.2	444.8	446.2	446.8
157.5°	393.2	402.5	410.6	417.1	422.6	426.8	427.9	427.8
160°	387.6	395.3	402.3	407.2	412.1	416.2	416.2	415.5
162.5°	380.9	387.4	393.9	398.2	401.4	405.0	405.0	404.4
165°	372.3	376.5	381.4	384.9	387.6	390.4	389.7	389.7
167.5°	364.7	367.9	370.8	373.3	374.5	376.5	375.8	375.8
170°	359.7	361.9	364.6	366.0	366.7	368.1	367.4	367.4
172.5°	355.3	356.8	359.0	359.9	360.0	361.4	360.2	359.6
175°	349.3	350.0	351.3	351.3	351.3	352.0	351.3	350.7
177.5°	345.5	346.1	346.6	346.6	346.1	346.6	345.5	345.5
180°	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4

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