

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: P331942-935

Luminaire Tested: **S123DIP-S560D1025U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331942-935
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-S560D1025U935-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5232.1 lumens
Efficiency: N/A
Efficacy: 117.6 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: Semi-Indirect

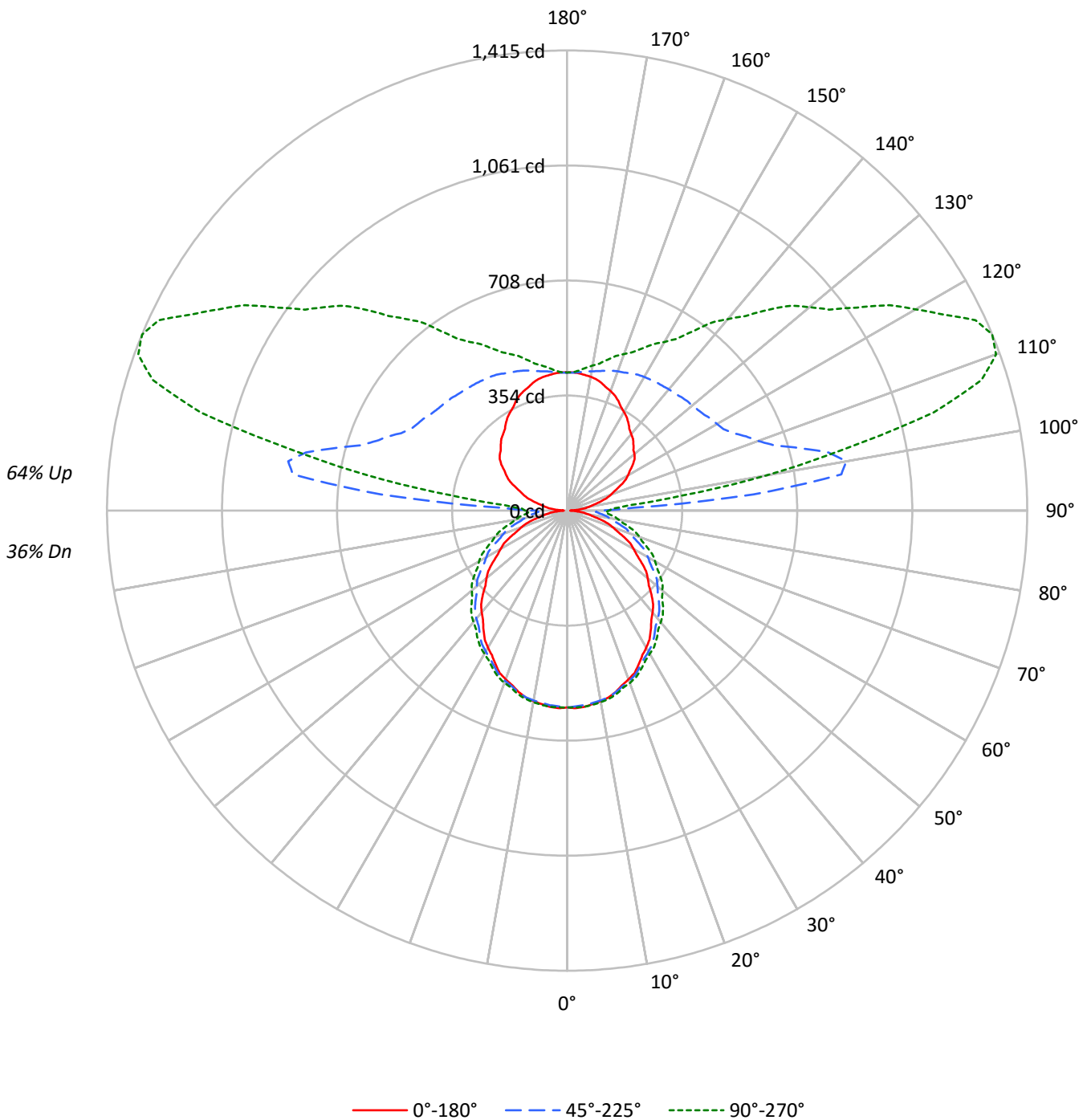
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	36
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	28
2	85	77	71	66	77	70	65	60	56	53	49	44	41	39	32	30	29	23
3	77	68	60	54	70	61	55	50	49	45	41	38	35	32	28	26	24	19
4	71	60	52	46	63	54	47	42	44	39	35	34	30	27	25	22	21	16
5	65	53	45	39	58	48	41	36	39	34	30	30	27	24	22	20	18	14
6	59	47	39	34	53	43	36	31	35	30	26	27	23	21	20	18	15	12
7	55	43	35	29	49	39	32	27	32	26	22	25	21	18	18	16	14	11
8	51	39	31	26	46	35	28	24	29	23	20	23	19	16	17	14	12	10
9	47	35	28	23	43	32	25	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.4	1.1
10°-20°	163.6	3.1
20°-30°	244.7	4.7
30°-40°	292.2	5.6
40°-50°	305.8	5.8
50°-60°	286.9	5.5
60°-70°	239.6	4.6
70°-80°	171.5	3.3
80°-90°	105.5	2.0
90°-100°	300.4	5.7
100°-110°	716.2	13.7
110°-120°	689.6	13.2
120°-130°	542.9	10.4
130°-140°	422.0	8.1
140°-150°	310.6	5.9
150°-160°	215.3	4.1
160°-170°	126.5	2.4
170°-180°	41.2	0.8
0°-30°	465.7	8.9
0°-40°	758.0	14.5
0°-60°	1350.7	25.8
0°-90°	1867.3	35.7
90°-120°	1706.2	32.6
90°-150°	2981.8	57.0
90°-180°	3365.0	64.3
0°-180°	5232.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	10	51	96	120	128	8
95°	36	128	575	234	192	37
105°	105	169	740	1276	1167	111
115°	180	232	564	1209	1386	178
125°	247	292	514	928	1088	219
135°	288	344	494	755	873	223
145°	328	375	480	609	672	205
155°	372	401	465	529	551	171
165°	406	418	445	472	480	115
175°	424	424	427	433	432	40
180°	425	425	425	425	425	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.9	25.6	33.1	41.0	48.6	56.4	64.3	72.3	80.3	88.3	93.2
90°	10.3	19.2	28.1	37.9	46.8	55.8	65.9	75.9	85.9	96.0	100.1
92.5°	18.7	30.3	44.0	57.3	70.9	90.6	120.5	164.7	208.4	202.5	174.9
95°	36.5	44.8	59.9	80.2	108.3	148.3	228.5	363.8	511.9	575.0	483.2
97.5°	56.3	62.3	74.9	92.7	119.9	162.2	238.8	390.1	631.9	850.3	909.9
100°	69.6	75.1	85.8	102.5	127.9	167.0	233.9	367.9	600.6	871.2	1044.8
102.5°	83.4	89.2	98.8	114.3	137.1	173.3	233.9	348.4	556.4	823.4	1048.4
105°	105.0	111.1	119.8	133.5	153.4	184.9	237.7	332.5	501.3	740.5	991.2
107.5°	127.2	132.8	140.8	153.9	172.2	201.4	248.1	327.7	464.6	666.8	894.7
110°	143.2	148.4	155.3	167.5	184.7	213.0	257.5	328.7	449.7	624.9	834.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	158.3	163.1	169.5	181.2	197.9	225.2	266.7	332.9	440.0	595.6	780.7
115°	179.5	184.7	191.6	201.9	218.3	245.0	283.0	340.7	433.6	563.5	715.7
117.5°	201.2	206.2	211.6	220.6	238.0	262.5	299.8	351.5	430.8	542.4	674.4
120°	215.8	219.1	224.1	233.4	250.5	274.7	310.6	360.1	431.1	532.2	652.5
122.5°	228.9	231.8	236.5	246.2	262.2	287.5	322.4	368.2	433.5	524.8	633.9
125°	246.9	248.7	253.8	263.2	279.6	304.9	339.2	381.3	437.1	514.4	609.4
127.5°	261.1	263.6	269.8	279.3	297.2	322.1	354.6	392.2	442.1	507.4	587.5
130°	270.1	272.6	280.2	290.3	308.2	332.8	364.1	399.7	445.6	502.7	575.1
132.5°	276.5	279.7	288.1	300.4	318.5	342.2	372.1	406.5	447.6	499.4	563.4
135°	288.3	291.6	301.0	313.7	331.7	355.6	383.8	414.7	450.6	494.4	547.7
137.5°	299.5	303.1	312.2	325.9	343.6	365.5	392.0	420.8	452.3	489.3	534.1
140°	306.6	310.9	319.5	333.3	350.4	372.1	397.5	423.7	453.4	486.5	525.6
142.5°	314.9	318.4	327.5	339.8	356.9	376.9	401.3	426.5	453.7	483.0	517.8
145°	328.1	330.5	338.1	350.9	365.3	385.0	407.3	430.6	454.6	480.4	509.1
147.5°	340.9	342.4	350.0	361.1	375.2	392.1	412.5	433.3	454.6	477.2	501.0
150°	349.8	350.7	357.5	368.7	380.7	396.2	415.9	434.0	454.6	474.4	495.8
152.5°	358.7	358.9	365.8	375.6	386.2	401.1	418.0	435.4	452.5	471.0	490.4
155°	372.1	372.1	377.3	385.9	395.4	407.3	422.0	435.8	450.3	464.9	482.2
157.5°	382.8	383.5	387.6	395.2	403.2	412.5	424.2	436.6	447.5	459.6	472.9
160°	391.1	391.1	394.5	401.3	407.3	415.9	426.3	436.6	446.1	455.5	466.7
162.5°	397.3	397.3	400.0	405.4	410.8	418.0	427.0	435.9	443.3	451.3	460.5
165°	406.5	405.6	407.3	411.6	415.1	421.1	428.0	434.0	439.2	445.2	452.0
167.5°	413.5	412.5	413.4	416.6	419.0	422.8	427.8	432.7	435.1	439.0	444.0
170°	417.7	415.9	416.8	419.4	421.1	422.8	427.1	430.6	432.3	434.9	439.2
172.5°	420.4	419.4	419.6	421.5	422.5	423.5	427.1	429.9	430.2	431.4	434.4
175°	423.7	422.8	422.0	423.7	423.7	424.6	426.3	428.0	427.1	427.1	428.9
177.5°	425.2	424.6	423.9	424.6	424.6	424.6	425.2	426.6	425.2	424.6	425.2
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	98.3	103.4	108.6	112.2	113.5	115.1	116.8	118.0
90°	106.0	111.8	117.7	122.6	123.2	125.5	127.9	128.5
92.5°	152.4	142.3	140.5	139.1	138.9	137.7	139.9	139.7
95°	383.7	288.6	247.6	219.7	204.8	198.5	194.0	192.0
97.5°	840.5	691.4	584.9	485.0	423.1	385.9	364.1	358.2
100°	1079.2	1013.8	917.5	798.3	713.0	651.7	619.7	622.0
102.5°	1156.2	1158.1	1103.6	1029.1	962.9	914.7	888.2	870.0
105°	1174.9	1265.0	1285.4	1265.8	1227.5	1196.2	1170.0	1167.1
107.5°	1102.3	1245.8	1325.0	1358.1	1360.1	1350.4	1342.5	1335.8
110°	1034.7	1196.7	1308.8	1371.4	1396.7	1404.7	1404.2	1403.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	967.4	1132.6	1257.7	1337.6	1382.9	1405.4	1413.2	1414.9
115°	878.2	1031.3	1161.1	1257.1	1322.8	1361.8	1380.1	1385.6
117.5°	812.2	944.8	1061.7	1159.1	1227.4	1271.9	1297.8	1304.8
120°	777.0	896.4	1002.9	1091.9	1160.8	1210.0	1231.7	1237.8
122.5°	748.6	857.0	955.8	1038.5	1099.9	1144.3	1167.9	1175.5
125°	710.5	807.3	892.9	963.6	1019.7	1058.5	1081.1	1088.0
127.5°	676.7	763.1	840.4	904.9	954.9	988.3	1008.7	1015.1
130°	655.2	735.3	807.7	868.0	914.5	946.2	965.2	972.9
132.5°	635.2	708.9	776.4	834.0	877.8	909.7	926.7	932.5
135°	608.0	671.6	730.0	780.8	823.6	850.2	866.3	873.1
137.5°	583.0	635.3	685.8	729.7	765.9	792.7	806.5	811.2
140°	568.3	614.2	657.7	696.1	729.5	754.3	768.8	768.7
142.5°	554.0	593.6	631.3	664.8	693.4	715.4	728.5	728.4
145°	537.8	567.3	596.0	621.8	643.9	662.5	669.9	672.3
147.5°	524.6	547.5	570.0	588.1	605.0	617.8	624.8	626.0
150°	515.7	535.5	553.5	570.0	583.2	592.9	598.3	598.7
152.5°	508.1	525.1	541.1	554.7	564.9	573.8	576.9	577.0
155°	496.7	510.5	523.4	533.7	541.5	548.3	550.0	550.9
157.5°	484.7	496.2	506.2	514.3	521.0	526.2	527.5	527.4
160°	477.9	487.3	495.8	501.9	507.9	513.1	513.1	512.2
162.5°	469.6	477.7	485.6	490.9	494.9	499.3	499.3	498.4
165°	458.9	464.1	470.1	474.4	477.9	481.3	480.4	480.4
167.5°	449.6	453.6	457.0	460.1	461.7	464.1	463.2	463.2
170°	443.5	446.1	449.4	451.2	452.0	453.7	452.9	452.9
172.5°	438.0	439.9	442.6	443.7	443.8	445.6	444.0	443.3
175°	430.6	431.4	433.2	433.2	433.2	434.0	433.2	432.3
177.5°	425.9	426.6	427.3	427.3	426.6	427.3	425.9	425.9
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6

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