

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: P332293-935

Luminaire Tested: **S123RDIP-S560D1025U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332293-935
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: S123RDIP-S560D1025U935-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5034.6 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.23
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

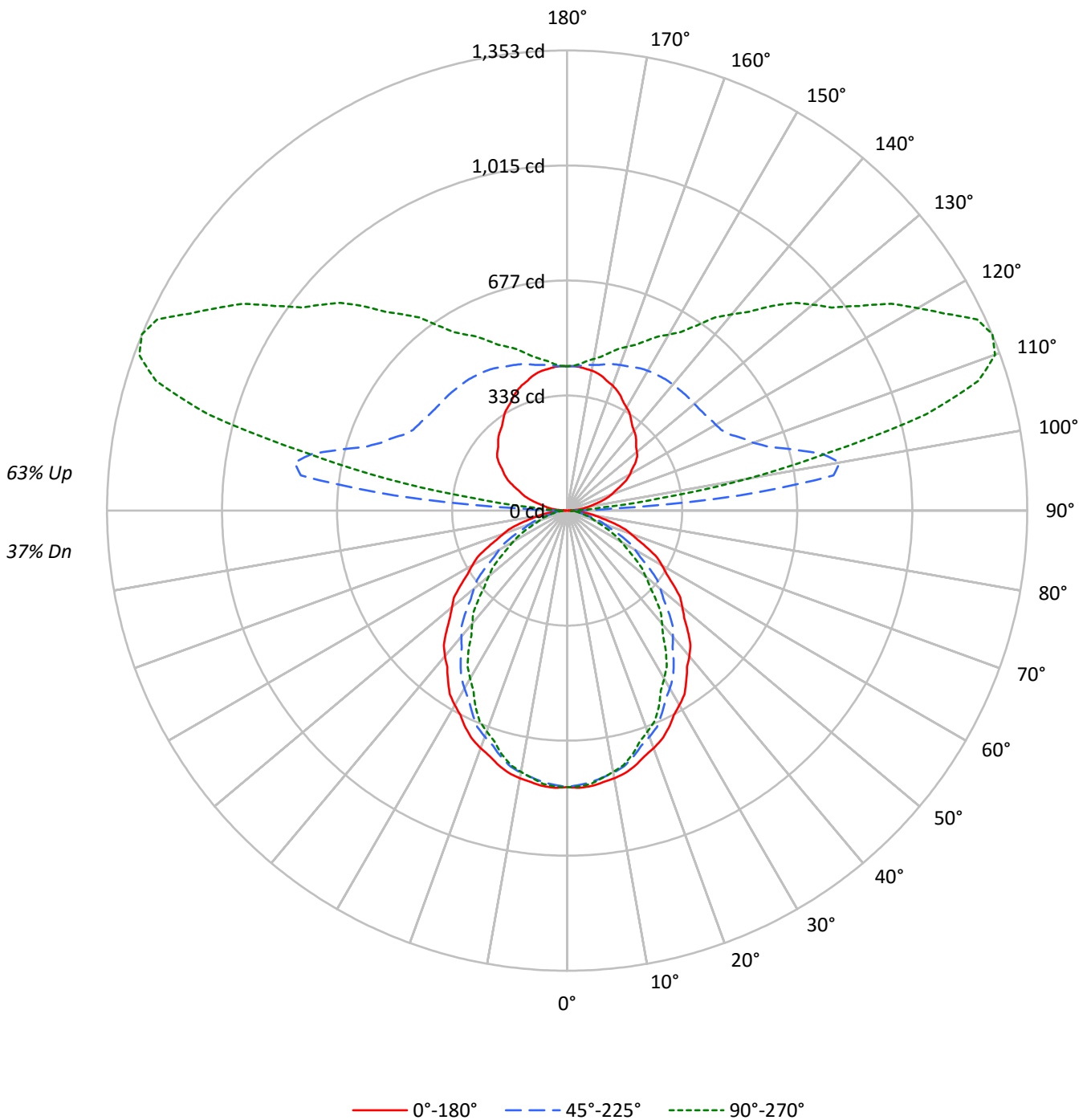
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44
1	95	91	87	84	86	82	79	76	67	65	63	52	51	50	39	38	37
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	35	33	32
3	79	70	63	57	71	64	58	53	52	48	44	41	38	36	31	29	27
4	72	62	55	49	65	57	50	45	46	41	38	37	33	31	28	26	24
5	67	55	48	42	60	51	44	39	41	36	33	33	29	27	25	23	21
6	61	50	42	36	55	45	39	34	37	32	28	30	26	23	23	20	18
7	57	45	37	32	51	41	34	29	34	29	25	27	23	21	21	18	16
8	53	41	33	28	48	37	31	26	31	26	22	25	21	18	19	17	15
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8753	8753	8753
5°	8787	8666	8715
10°	8737	8557	8528
15°	8643	8357	8269
20°	8514	8107	7918
25°	8381	7826	7574
30°	8206	7501	7091
35°	8025	7176	6646
40°	7859	6794	6097
45°	7640	6416	5602
50°	7400	5987	5047
55°	7156	5495	4530
60°	6928	4969	3961
65°	6635	4401	3393
70°	6266	3695	2738
75°	5731	2907	2578
80°	5114	2579	2368
85°	4323	2272	2112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.4	1.5
10°-20°	212.5	4.2
20°-30°	305.9	6.1
30°-40°	344.6	6.8
40°-50°	329.7	6.5
50°-60°	270.0	5.4
60°-70°	182.2	3.6
70°-80°	91.6	1.8
80°-90°	27.5	0.5
90°-100°	236.3	4.7
100°-110°	669.0	13.3
110°-120°	658.1	13.1
120°-130°	525.0	10.4
130°-140°	413.9	8.2
140°-150°	308.9	6.1
150°-160°	215.3	4.3
160°-170°	126.5	2.5
170°-180°	41.2	0.8
0°-30°	594.8	11.8
0°-40°	939.4	18.7
0°-60°	1539.1	30.6
0°-90°	1840.4	36.6
90°-120°	1563.5	31.1
90°-150°	2811.2	55.8
90°-180°	3194.0	63.4
0°-180°	5034.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	813	813	813	813	813	
5°	813	810	802	808	807	77
15°	776	768	750	747	742	218
25°	706	688	659	645	638	324
35°	611	586	546	519	506	382
45°	502	471	422	385	368	387
55°	381	348	293	256	241	342
65°	260	223	173	142	133	258
75°	138	106	70	64	62	147
85°	35	21	18	17	17	39
90°	2	10	22	24	25	4
95°	29	95	510	149	100	32
105°	100	147	691	1208	1093	106
115°	176	220	529	1159	1330	174
125°	245	289	493	894	1048	217
135°	287	342	486	736	850	222
145°	327	375	480	604	664	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°	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2
2.5°	815.9	815.4	814.9	814.4	814.0	813.0	811.7	810.2	808.8	807.4	808.7
5°	813.2	812.5	811.8	811.1	810.3	809.1	807.3	805.6	803.7	802.0	803.3
7.5°	805.7	804.9	804.1	803.3	802.5	801.0	798.7	796.4	794.1	791.9	792.6
10°	799.4	798.3	797.3	796.3	795.3	793.4	790.8	788.2	785.5	782.9	783.0
12.5°	790.4	789.3	788.1	787.0	785.8	783.7	780.4	777.2	774.0	770.8	770.7
15°	775.6	774.0	772.4	770.8	769.2	766.3	762.2	758.1	754.0	749.9	749.2
17.5°	757.0	755.2	753.3	751.4	749.5	746.0	740.7	735.6	730.3	725.1	723.6
20°	743.3	741.0	738.7	736.2	733.9	730.0	724.4	718.8	713.3	707.7	705.8
22.5°	728.0	725.3	722.6	719.9	717.2	712.9	707.0	701.0	695.2	689.2	686.8
25°	705.7	702.1	698.4	694.7	691.0	685.9	679.1	672.4	665.6	658.9	655.8
27.5°	678.6	674.6	670.5	666.5	662.5	656.7	649.2	641.7	634.2	626.7	622.4
30°	660.2	655.8	651.4	647.0	642.7	636.3	628.1	619.9	611.7	603.5	598.5
32.5°	641.7	636.8	631.8	626.8	621.8	615.0	606.3	597.6	588.9	580.2	574.8
35°	610.7	605.5	600.2	595.0	589.6	582.5	573.3	564.3	555.2	546.1	539.8
37.5°	579.4	573.5	567.7	561.7	555.9	548.1	538.4	528.7	519.0	509.3	502.1
40°	559.3	552.8	546.4	539.9	533.5	525.0	514.7	504.3	493.9	483.5	475.8
42.5°	536.6	530.1	523.7	517.3	510.8	502.2	491.5	480.7	469.9	459.2	450.8
45°	501.9	495.3	488.7	482.2	475.5	466.6	455.3	444.0	432.7	421.5	413.1
47.5°	467.2	459.9	452.7	445.5	438.2	429.0	417.7	406.4	395.1	383.8	374.8
50°	441.9	435.0	428.1	421.2	414.3	404.9	393.0	381.3	369.4	357.5	348.4
52.5°	419.2	411.7	404.2	396.7	389.3	379.7	367.9	356.2	344.4	332.7	323.2
55°	381.3	374.0	366.9	359.6	352.5	342.7	330.2	317.8	305.3	292.8	284.3
57.5°	346.1	338.3	330.5	322.6	314.8	304.6	292.1	279.7	267.1	254.6	246.6
60°	321.8	313.8	305.7	297.6	289.6	279.5	267.3	255.2	243.0	230.8	222.9
62.5°	297.6	289.6	281.5	273.4	265.4	255.2	243.1	230.9	218.7	206.6	199.1
65°	260.5	252.4	244.4	236.3	228.3	218.5	207.1	195.7	184.3	172.8	165.7
67.5°	223.4	215.3	207.2	199.0	190.9	181.3	170.3	159.4	148.4	137.4	132.1
70°	199.1	191.2	183.4	175.5	167.6	158.4	148.2	137.9	127.7	117.4	112.3
72.5°	174.9	167.1	159.3	151.5	143.7	135.2	125.9	116.5	107.2	97.9	93.7
75°	137.8	130.8	123.8	116.8	109.7	102.1	94.1	86.0	78.0	69.9	68.4
77.5°	104.1	97.7	91.4	85.0	78.6	72.8	67.7	62.5	57.3	52.1	51.3
80°	82.5	76.5	70.4	64.4	58.4	53.9	50.8	47.7	44.6	41.6	41.1
82.5°	61.9	56.7	51.5	46.3	41.1	37.8	36.3	35.0	33.5	32.0	31.6
85°	35.0	31.8	28.5	25.3	22.0	20.2	19.8	19.4	18.9	18.4	18.2
87.5°	13.0	12.1	11.1	10.3	9.4	9.1	9.6	10.2	10.7	11.2	10.8
90°	1.7	3.4	5.2	7.7	9.5	11.2	13.8	16.4	18.9	21.5	20.7
92.5°	10.7	15.8	23.1	29.7	36.9	49.7	72.2	109.2	145.4	132.2	99.7
95°	29.2	31.8	41.2	55.9	78.2	111.8	184.8	312.8	453.7	509.6	413.4
97.5°	49.9	50.7	58.1	70.8	92.8	129.1	198.9	343.3	578.2	789.8	845.0
100°	63.6	64.5	70.5	82.5	103.1	136.6	196.8	324.0	550.0	813.9	983.2
102.5°	78.0	79.6	84.9	96.3	114.9	145.6	199.6	307.5	508.8	769.2	990.1
105°	99.7	102.3	107.5	117.8	134.1	160.7	207.2	295.7	458.1	691.0	937.6
107.5°	122.7	125.3	130.3	140.4	155.8	180.5	221.2	294.8	425.8	621.9	845.8
110°	139.2	141.8	146.1	155.6	170.1	194.2	232.9	298.3	413.4	582.7	788.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	154.4	157.0	161.3	170.7	185.3	208.7	244.6	305.1	406.5	556.6	737.9
115°	176.2	179.6	184.8	193.4	208.0	231.2	263.8	316.2	403.9	528.6	677.3
117.5°	198.0	202.0	206.3	214.1	230.5	252.0	284.3	331.1	405.4	512.0	640.6
120°	213.1	215.7	220.0	228.6	245.0	266.4	297.4	342.1	408.2	504.5	621.4
122.5°	226.2	228.8	233.1	242.4	258.0	280.9	311.1	352.4	413.0	499.6	605.5
125°	245.0	246.7	251.8	261.2	277.6	300.8	330.9	368.7	420.3	493.4	585.3
127.5°	259.2	261.7	268.1	277.8	295.8	319.0	348.1	382.1	428.5	490.3	567.4
130°	268.1	270.7	278.4	288.8	306.8	330.0	358.3	391.1	434.0	488.2	557.8
132.5°	275.0	278.3	286.7	299.1	317.1	339.7	367.3	399.3	438.2	487.5	548.8
135°	287.1	290.5	300.0	312.8	330.9	354.0	380.7	409.9	444.4	486.5	537.2
137.5°	298.4	302.0	311.3	325.0	342.9	364.4	390.0	417.8	448.4	484.6	527.0
140°	306.0	310.2	318.8	332.6	349.8	371.3	396.2	422.0	451.2	483.9	520.8
142.5°	314.2	317.8	327.1	339.5	356.6	376.8	401.1	426.1	453.2	482.5	515.3
145°	327.4	330.0	337.8	350.7	365.2	385.0	407.3	430.6	454.6	480.4	507.9
147.5°	340.9	342.4	350.0	361.1	375.2	392.1	412.5	433.3	454.6	477.2	500.7
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°	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2
2.5°	810.0	811.3	812.6	813.1	812.9	812.6	812.4	812.2
5°	804.6	806.0	807.3	807.8	807.5	807.2	806.9	806.6
7.5°	793.3	794.0	794.8	794.9	794.4	793.9	793.4	792.9
10°	783.2	783.3	783.4	783.2	782.5	781.7	781.0	780.2
12.5°	770.6	770.5	770.4	769.9	769.0	768.2	767.4	766.5
15°	748.5	747.7	747.0	746.1	745.0	744.1	743.0	742.0
17.5°	722.0	720.5	718.8	717.4	715.8	714.3	712.7	711.3
20°	703.9	702.0	700.1	698.3	696.5	694.7	692.9	691.2
22.5°	684.5	682.1	679.8	677.7	676.1	674.4	672.8	671.1
25°	652.7	649.6	646.6	644.2	642.7	641.0	639.4	637.7
27.5°	618.1	613.9	609.6	606.2	603.7	601.3	598.8	596.3
30°	593.5	588.5	583.6	579.9	577.6	575.2	572.8	570.5
32.5°	569.4	563.9	558.4	554.5	552.1	549.6	547.1	544.7
35°	533.5	527.2	520.9	516.4	513.8	511.2	508.5	505.8
37.5°	495.0	487.8	480.7	475.5	472.3	469.0	465.7	462.4
40°	468.2	460.5	453.0	447.5	444.1	440.7	437.4	433.9
42.5°	442.6	434.2	425.9	420.2	417.2	414.1	411.1	408.1
45°	404.8	396.4	388.1	382.1	378.6	375.1	371.5	368.0
47.5°	365.7	356.6	347.5	341.4	338.3	335.1	332.0	328.8
50°	339.3	330.2	321.2	314.9	311.5	308.2	304.8	301.4
52.5°	313.8	304.4	294.9	288.7	285.7	282.7	279.7	276.6
55°	275.9	267.3	258.8	253.1	250.2	247.3	244.4	241.4
57.5°	238.5	230.5	222.5	217.2	214.7	212.2	209.7	207.2
60°	215.0	207.1	199.1	194.0	191.5	189.0	186.5	184.0
62.5°	191.7	184.3	176.8	171.8	169.2	166.5	163.9	161.4
65°	158.4	151.3	144.0	139.7	138.1	136.5	134.8	133.2
67.5°	126.7	121.3	116.0	112.4	110.7	109.0	107.3	105.6
70°	107.1	102.0	96.9	93.5	91.9	90.3	88.7	87.0
72.5°	89.5	85.3	81.1	78.7	78.0	77.3	76.6	75.9
75°	67.0	65.5	64.1	63.2	62.9	62.6	62.3	62.0
77.5°	50.5	49.8	48.9	48.4	48.1	47.8	47.5	47.2
80°	40.6	40.2	39.8	39.4	39.2	38.8	38.6	38.2
82.5°	31.2	30.7	30.3	30.0	30.0	30.0	29.9	29.8
85°	17.9	17.6	17.3	17.1	17.1	17.1	17.1	17.1
87.5°	10.9	10.9	11.0	11.3	10.9	11.0	11.1	10.8
90°	21.5	22.4	23.2	24.9	24.0	24.9	25.7	24.9
92.5°	72.3	57.4	50.7	46.2	44.7	42.1	43.0	41.4
95°	309.4	209.7	164.2	133.2	116.9	109.2	103.1	99.7
97.5°	771.3	617.8	506.9	404.1	340.7	302.0	278.8	271.4
100°	1013.3	943.7	843.1	721.1	634.3	571.5	538.0	538.9
102.5°	1093.7	1091.5	1032.9	955.5	887.9	838.3	810.3	790.5
105°	1117.2	1203.2	1219.5	1197.2	1157.6	1125.0	1097.5	1093.2
107.5°	1049.6	1189.1	1264.4	1295.0	1295.7	1284.7	1275.4	1267.5
110°	984.9	1143.1	1251.3	1311.5	1335.6	1342.5	1340.7	1339.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	920.9	1082.5	1203.9	1281.3	1325.3	1346.5	1353.1	1353.4
115°	836.2	985.8	1112.1	1205.7	1270.2	1308.0	1325.3	1329.6
117.5°	774.9	904.0	1017.4	1112.4	1179.7	1223.0	1247.8	1253.5
120°	742.5	858.6	961.7	1048.5	1116.4	1164.5	1185.2	1190.3
122.5°	717.1	822.2	917.7	998.3	1058.7	1102.0	1124.6	1131.2
125°	683.3	777.0	859.5	928.2	983.2	1021.0	1042.5	1048.5
127.5°	653.7	737.2	811.7	874.2	923.2	955.5	974.9	980.4
130°	635.2	712.5	782.0	840.5	886.1	917.1	935.0	941.9
132.5°	617.9	689.1	753.9	809.6	852.4	883.3	899.3	904.1
135°	594.7	655.7	711.6	760.6	802.7	828.5	844.0	850.0
137.5°	573.6	623.6	671.8	714.2	749.6	775.8	788.8	792.7
140°	561.2	605.0	646.3	683.3	715.9	739.9	753.7	752.9
142.5°	549.5	587.2	622.9	655.0	682.9	704.2	716.6	715.7
145°	535.5	563.8	591.2	616.2	637.7	655.7	662.6	664.3
147.5°	523.9	546.4	568.6	586.3	602.6	614.8	621.4	622.1
150°	515.7	535.5	553.5	569.8	582.7	592.1	597.3	597.3
152.5°	508.1	525.1	541.1	554.7	564.8	573.6	576.7	576.7
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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