

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: P332293-940

Luminaire Tested: **S123RDIP-S560D1025U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332293-940
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: S123RDIP-S560D1025U940-4F0-1E-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: 5214.2 lumens
Efficiency: N/A
Efficacy: 117.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

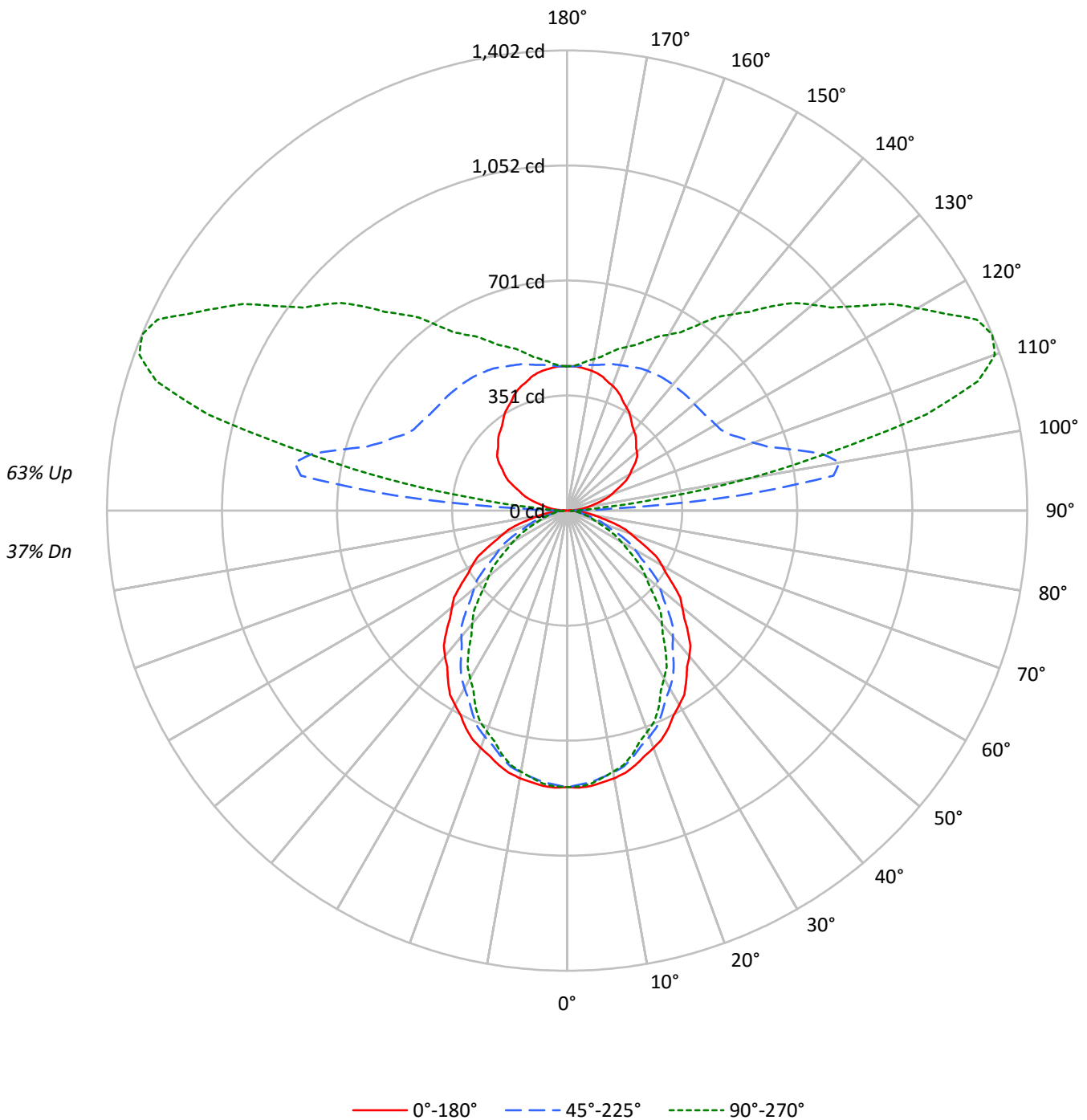
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	76	76	76	59	59	59	44	44	44	37
1	95	91	87	84	86	82	79	76	67	65	63	52	51	50	39	38	37	31
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	35	33	32	27
3	79	70	63	57	71	64	58	53	52	48	44	41	38	36	31	29	27	23
4	72	62	55	49	65	57	50	45	46	41	38	37	33	31	28	26	24	20
5	67	55	48	42	60	51	44	39	41	36	33	33	29	27	25	23	21	17
6	61	50	42	36	55	45	39	34	37	32	28	30	26	23	23	20	18	15
7	57	45	37	32	51	41	34	29	34	29	25	27	23	21	21	18	16	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	18	19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9065	9065	9065
5°	9100	8975	9027
10°	9049	8862	8833
15°	8952	8655	8564
20°	8818	8395	8200
25°	8679	8105	7845
30°	8499	7768	7343
35°	8311	7432	6884
40°	8140	7035	6315
45°	7913	6645	5801
50°	7663	6199	5228
55°	7409	5692	4692
60°	7175	5147	4103
65°	6872	4559	3512
70°	6493	3827	2839
75°	5939	3011	2670
80°	5294	2672	2455
85°	4471	2359	2186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	1.5
10°-20°	220.1	4.2
20°-30°	316.9	6.1
30°-40°	356.9	6.8
40°-50°	341.4	6.5
50°-60°	279.6	5.4
60°-70°	188.7	3.6
70°-80°	94.9	1.8
80°-90°	28.5	0.5
90°-100°	244.7	4.7
100°-110°	692.9	13.3
110°-120°	681.6	13.1
120°-130°	543.7	10.4
130°-140°	428.7	8.2
140°-150°	319.9	6.1
150°-160°	223.0	4.3
160°-170°	131.0	2.5
170°-180°	42.6	0.8
0°-30°	616.0	11.8
0°-40°	972.9	18.7
0°-60°	1594.0	30.6
0°-90°	1906.1	36.6
90°-120°	1619.2	31.1
90°-150°	2911.5	55.8
90°-180°	3308.0	63.4
0°-180°	5214.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	842	842	842	842	842	
5°	842	839	831	836	835	80
15°	803	795	777	773	768	226
25°	731	713	682	668	660	336
35°	632	607	566	537	524	396
45°	520	488	436	399	381	401
55°	395	360	303	265	250	354
65°	270	231	179	147	138	267
75°	143	110	72	66	64	152
85°	36	22	19	18	18	41
90°	2	11	22	25	26	4
95°	30	98	528	154	103	33
105°	103	153	716	1251	1132	110
115°	182	227	547	1200	1377	181
125°	254	300	511	926	1086	225
135°	297	355	504	762	880	230
145°	339	389	498	625	688	213
155°	385	416	482	547	570	177
165°	421	433	461	489	498	119
175°	439	439	442	449	448	42
180°	440	440	440	440	440	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	845.0	844.5	844.0	843.5	843.0	842.0	840.6	839.1	837.7	836.2	837.6
5°	842.2	841.5	840.7	840.0	839.2	837.9	836.1	834.3	832.4	830.6	832.0
7.5°	834.5	833.7	832.8	832.0	831.2	829.6	827.2	824.8	822.4	820.1	820.8
10°	827.9	826.8	825.7	824.7	823.7	821.7	819.0	816.3	813.5	810.8	810.9
12.5°	818.6	817.4	816.2	815.0	813.9	811.6	808.2	804.9	801.6	798.3	798.2
15°	803.3	801.6	800.0	798.3	796.7	793.6	789.4	785.2	780.9	776.7	775.9
17.5°	784.0	782.1	780.2	778.2	776.2	772.6	767.1	761.8	756.3	751.0	749.4
20°	769.8	767.4	765.0	762.5	760.1	756.0	750.2	744.5	738.7	732.9	730.9
22.5°	753.9	751.2	748.4	745.6	742.8	738.3	732.2	726.0	720.0	713.8	711.3
25°	730.8	727.1	723.3	719.5	715.7	710.3	703.3	696.3	689.4	682.4	679.2
27.5°	702.8	698.7	694.5	690.3	686.1	680.1	672.3	664.6	656.8	649.1	644.6
30°	683.8	679.2	674.7	670.1	665.6	659.0	650.5	642.0	633.5	625.0	619.8
32.5°	664.6	659.5	654.3	649.2	644.0	636.9	627.9	618.9	609.9	600.9	595.3
35°	632.5	627.1	621.6	616.2	610.6	603.2	593.8	584.4	575.0	565.6	559.0
37.5°	600.0	594.0	587.9	581.8	575.7	567.7	557.6	547.6	537.5	527.4	520.0
40°	579.3	572.6	565.9	559.2	552.5	543.8	533.1	522.3	511.5	500.7	492.8
42.5°	555.7	549.0	542.4	535.7	529.1	520.1	509.0	497.8	486.7	475.5	466.9
45°	519.8	513.0	506.1	499.4	492.5	483.2	471.5	459.9	448.2	436.5	427.8
47.5°	483.8	476.4	468.9	461.4	453.9	444.3	432.6	420.9	409.2	397.5	388.2
50°	457.6	450.5	443.4	436.2	429.1	419.4	407.1	394.8	382.5	370.2	360.8
52.5°	434.2	426.4	418.7	410.9	403.2	393.2	381.0	368.9	356.7	344.6	334.7
55°	394.8	387.4	380.0	372.5	365.1	354.9	342.0	329.1	316.2	303.3	294.4
57.5°	358.5	350.4	342.2	334.1	326.0	315.5	302.6	289.6	276.6	263.7	255.4
60°	333.3	325.0	316.6	308.3	300.0	289.4	276.9	264.3	251.6	239.1	230.9
62.5°	308.2	299.9	291.5	283.1	274.8	264.3	251.7	239.2	226.5	213.9	206.3
65°	269.8	261.4	253.2	244.8	236.4	226.3	214.5	202.7	190.8	179.0	171.6
67.5°	231.4	223.0	214.5	206.1	197.7	187.8	176.4	165.1	153.7	142.3	136.8
70°	206.3	198.0	189.9	181.7	173.5	164.1	153.5	142.9	132.2	121.6	116.3
72.5°	181.1	173.1	165.0	156.9	148.8	140.0	130.4	120.6	111.0	101.4	97.0
75°	142.8	135.5	128.2	120.9	113.6	105.8	97.5	89.1	80.8	72.4	70.9
77.5°	107.8	101.2	94.6	88.0	81.4	75.4	70.1	64.7	59.3	53.9	53.1
80°	85.4	79.2	72.9	66.7	60.5	55.8	52.6	49.4	46.2	43.1	42.5
82.5°	64.1	58.7	53.3	48.0	42.5	39.1	37.6	36.2	34.7	33.2	32.7
85°	36.2	32.9	29.5	26.2	22.8	21.0	20.5	20.1	19.6	19.1	18.8
87.5°	13.5	12.5	11.5	10.7	9.7	9.5	10.0	10.5	11.1	11.6	11.2
90°	1.8	3.6	5.4	8.0	9.8	11.6	14.3	16.9	19.6	22.3	21.4
92.5°	11.1	16.4	23.9	30.8	38.3	51.5	74.7	113.1	150.6	136.9	103.3
95°	30.2	32.9	42.7	57.9	81.0	115.7	191.4	324.0	469.9	527.8	428.1
97.5°	51.6	52.5	60.2	73.3	96.1	133.7	206.0	355.5	598.9	818.0	875.1
100°	65.9	66.8	73.0	85.4	106.8	141.5	203.8	335.6	569.6	842.9	1018.2
102.5°	80.8	82.4	87.9	99.7	119.0	150.8	206.7	318.4	526.9	796.7	1025.4
105°	103.3	105.9	111.3	122.0	138.8	166.5	214.5	306.2	474.4	715.6	971.1
107.5°	127.1	129.7	134.9	145.4	161.3	186.9	229.1	305.3	441.0	644.1	876.0
110°	144.2	146.9	151.3	161.1	176.2	201.2	241.2	308.9	428.1	603.5	816.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	159.9	162.6	167.0	176.7	191.9	216.2	253.3	316.0	421.0	576.4	764.2
115°	182.4	186.0	191.4	200.3	215.4	239.4	273.2	327.5	418.3	547.4	701.4
117.5°	205.1	209.2	213.7	221.8	238.7	261.0	294.4	342.9	419.9	530.3	663.4
120°	220.7	223.4	227.8	236.7	253.7	275.9	308.0	354.3	422.8	522.5	643.5
122.5°	234.3	236.9	241.4	251.0	267.2	290.9	322.2	365.0	427.8	517.5	627.1
125°	253.7	255.5	260.8	270.5	287.5	311.6	342.7	381.8	435.2	511.0	606.2
127.5°	268.5	271.1	277.7	287.7	306.4	330.4	360.5	395.7	443.8	507.7	587.6
130°	277.7	280.4	288.4	299.1	317.7	341.8	371.1	405.0	449.5	505.6	577.7
132.5°	284.8	288.2	296.9	309.8	328.4	351.8	380.4	413.6	453.8	504.9	568.4
135°	297.3	300.9	310.7	324.0	342.7	366.7	394.3	424.5	460.2	503.8	556.3
137.5°	309.1	312.8	322.4	336.6	355.2	377.4	403.9	432.7	464.4	501.9	545.8
140°	316.9	321.3	330.2	344.5	362.3	384.5	410.4	437.0	467.3	501.1	539.4
142.5°	325.4	329.1	338.8	351.6	369.3	390.2	415.4	441.3	469.4	499.7	533.7
145°	339.1	341.8	349.8	363.2	378.3	398.8	421.9	445.9	470.8	497.6	526.0
147.5°	353.0	354.6	362.5	374.0	388.6	406.1	427.2	448.8	470.8	494.2	518.5
150°	362.3	363.2	370.2	381.8	394.3	410.4	430.8	449.5	470.8	491.3	513.5
152.5°	371.5	371.7	378.8	389.0	400.0	415.4	432.9	450.9	468.7	487.8	507.9
155°	385.4	385.4	390.7	399.7	409.5	421.9	437.0	451.3	466.4	481.5	499.4
157.5°	396.5	397.2	401.4	409.3	417.6	427.2	439.3	452.2	463.4	476.0	489.7
160°	405.0	405.0	408.6	415.6	421.9	430.8	441.5	452.2	462.0	471.7	483.3
162.5°	411.4	411.4	414.3	419.9	425.4	432.9	442.2	451.5	459.1	467.4	476.9
165°	421.0	420.1	421.9	426.3	429.9	436.1	443.3	449.5	454.9	461.1	468.1
167.5°	428.3	427.2	428.1	431.5	434.0	437.9	443.1	448.1	450.6	454.7	459.9
170°	432.6	430.8	431.7	434.4	436.1	437.9	442.4	445.9	447.7	450.4	454.9
172.5°	435.4	434.4	434.5	436.5	437.6	438.6	442.4	445.2	445.6	446.8	449.9
175°	438.8	437.9	437.0	438.8	438.8	439.7	441.5	443.3	442.4	442.4	444.2
177.5°	440.4	439.7	439.0	439.7	439.7	439.7	440.4	441.8	440.4	439.7	440.4
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	838.9	840.3	841.6	842.1	841.9	841.6	841.4	841.2
5°	833.3	834.7	836.1	836.6	836.3	836.0	835.7	835.4
7.5°	821.6	822.3	823.1	823.2	822.7	822.2	821.7	821.2
10°	811.1	811.3	811.4	811.1	810.4	809.6	808.9	808.1
12.5°	798.1	798.0	797.9	797.4	796.5	795.6	794.8	793.9
15°	775.2	774.4	773.6	772.7	771.6	770.6	769.5	768.5
17.5°	747.8	746.2	744.5	743.0	741.4	739.8	738.2	736.6
20°	729.0	727.0	725.1	723.2	721.3	719.5	717.6	715.9
22.5°	708.9	706.4	704.0	701.9	700.2	698.5	696.8	695.1
25°	676.0	672.8	669.7	667.2	665.6	663.9	662.2	660.5
27.5°	640.2	635.8	631.3	627.9	625.3	622.8	620.2	617.6
30°	614.7	609.5	604.4	600.6	598.2	595.8	593.3	590.8
32.5°	589.7	584.0	578.4	574.3	571.8	569.2	566.6	564.1
35°	552.5	546.0	539.5	534.8	532.1	529.4	526.6	523.9
37.5°	512.6	505.2	497.8	492.5	489.1	485.7	482.3	478.9
40°	484.9	477.0	469.1	463.4	459.9	456.5	453.0	449.4
42.5°	458.3	449.7	441.0	435.2	432.0	428.9	425.8	422.7
45°	419.2	410.5	401.9	395.7	392.1	388.4	384.8	381.1
47.5°	378.7	369.3	359.9	353.6	350.4	347.1	343.8	340.5
50°	351.4	342.0	332.6	326.1	322.6	319.1	315.7	312.2
52.5°	325.0	315.2	305.4	299.0	295.9	292.7	289.6	286.5
55°	285.7	276.9	268.0	262.2	259.1	256.1	253.1	250.0
57.5°	247.0	238.7	230.4	225.0	222.4	219.8	217.2	214.6
60°	222.7	214.5	206.3	200.9	198.3	195.7	193.1	190.6
62.5°	198.5	190.8	183.1	177.9	175.2	172.5	169.8	167.1
65°	164.1	156.7	149.2	144.6	143.0	141.3	139.6	137.9
67.5°	131.3	125.6	120.1	116.5	114.7	112.9	111.1	109.3
70°	110.9	105.7	100.3	96.8	95.1	93.5	91.8	90.2
72.5°	92.6	88.4	84.0	81.5	80.8	80.1	79.4	78.6
75°	69.4	67.9	66.3	65.5	65.1	64.8	64.5	64.2
77.5°	52.3	51.5	50.6	50.1	49.8	49.5	49.2	48.9
80°	42.1	41.6	41.2	40.8	40.6	40.2	39.9	39.6
82.5°	32.3	31.8	31.4	31.1	31.0	31.0	30.9	30.9
85°	18.5	18.2	17.9	17.7	17.7	17.7	17.7	17.7
87.5°	11.3	11.3	11.4	11.7	11.3	11.4	11.5	11.1
90°	22.3	23.2	24.1	25.8	24.9	25.8	26.7	25.8
92.5°	74.9	59.5	52.5	47.9	46.3	43.6	44.5	42.9
95°	320.4	217.2	170.0	137.9	121.1	113.1	106.8	103.3
97.5°	798.8	639.8	525.0	418.5	352.8	312.8	288.7	281.1
100°	1049.5	977.3	873.2	746.8	656.9	591.9	557.2	558.1
102.5°	1132.7	1130.4	1069.7	989.6	919.6	868.2	839.2	818.7
105°	1157.1	1246.2	1263.0	1239.9	1198.9	1165.1	1136.7	1132.2
107.5°	1087.0	1231.5	1309.5	1341.2	1341.9	1330.5	1320.9	1312.7
110°	1020.0	1183.8	1295.9	1358.3	1383.2	1390.4	1388.6	1386.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	953.8	1121.1	1246.8	1327.0	1372.5	1394.5	1401.3	1401.7
115°	866.0	1020.9	1151.7	1248.8	1315.5	1354.7	1372.5	1377.0
117.5°	802.5	936.2	1053.6	1152.1	1221.7	1266.6	1292.3	1298.2
120°	769.0	889.2	996.0	1085.9	1156.2	1206.0	1227.4	1232.8
122.5°	742.7	851.5	950.5	1033.9	1096.4	1141.3	1164.8	1171.5
125°	707.7	804.7	890.1	961.3	1018.2	1057.4	1079.7	1085.9
127.5°	677.0	763.5	840.6	905.4	956.1	989.6	1009.7	1015.4
130°	657.8	737.9	809.9	870.5	917.7	949.8	968.4	975.5
132.5°	640.0	713.6	780.8	838.5	882.8	914.8	931.4	936.4
135°	615.9	679.1	737.0	787.7	831.3	858.0	874.1	880.3
137.5°	594.1	645.9	695.7	739.7	776.3	803.4	816.9	821.0
140°	581.2	626.6	669.3	707.7	741.5	766.3	780.6	779.7
142.5°	569.1	608.1	645.2	678.4	707.3	729.3	742.2	741.3
145°	554.6	583.9	612.3	638.2	660.4	679.1	686.3	688.0
147.5°	542.6	565.9	588.9	607.3	624.1	636.8	643.5	644.3
150°	534.0	554.6	573.2	590.1	603.5	613.2	618.6	618.6
152.5°	526.2	543.9	560.4	574.4	585.0	594.1	597.3	597.3
155°	514.4	528.7	542.1	552.8	560.8	567.8	569.6	570.5
157.5°	502.0	513.9	524.2	532.6	539.6	544.9	546.4	546.2
160°	494.9	504.7	513.5	519.8	526.0	531.4	531.4	530.5
162.5°	486.3	494.7	502.9	508.5	512.6	517.1	517.1	516.2
165°	475.3	480.6	486.9	491.3	494.9	498.5	497.6	497.6
167.5°	465.7	469.8	473.3	476.5	478.1	480.6	479.7	479.7
170°	459.3	462.0	465.5	467.3	468.1	469.9	469.0	469.0
172.5°	453.6	455.6	458.4	459.5	459.7	461.5	459.9	459.1
175°	445.9	446.8	448.6	448.6	448.6	449.5	448.6	447.7
177.5°	441.1	441.8	442.6	442.6	441.8	442.6	441.1	441.1
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7

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