

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: P332299-930

Luminaire Tested: **S123RDIP-S560D1195U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332299-930
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-S560D1195U930-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5263.8 lumens
Efficiency: N/A
Efficacy: 106.6 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

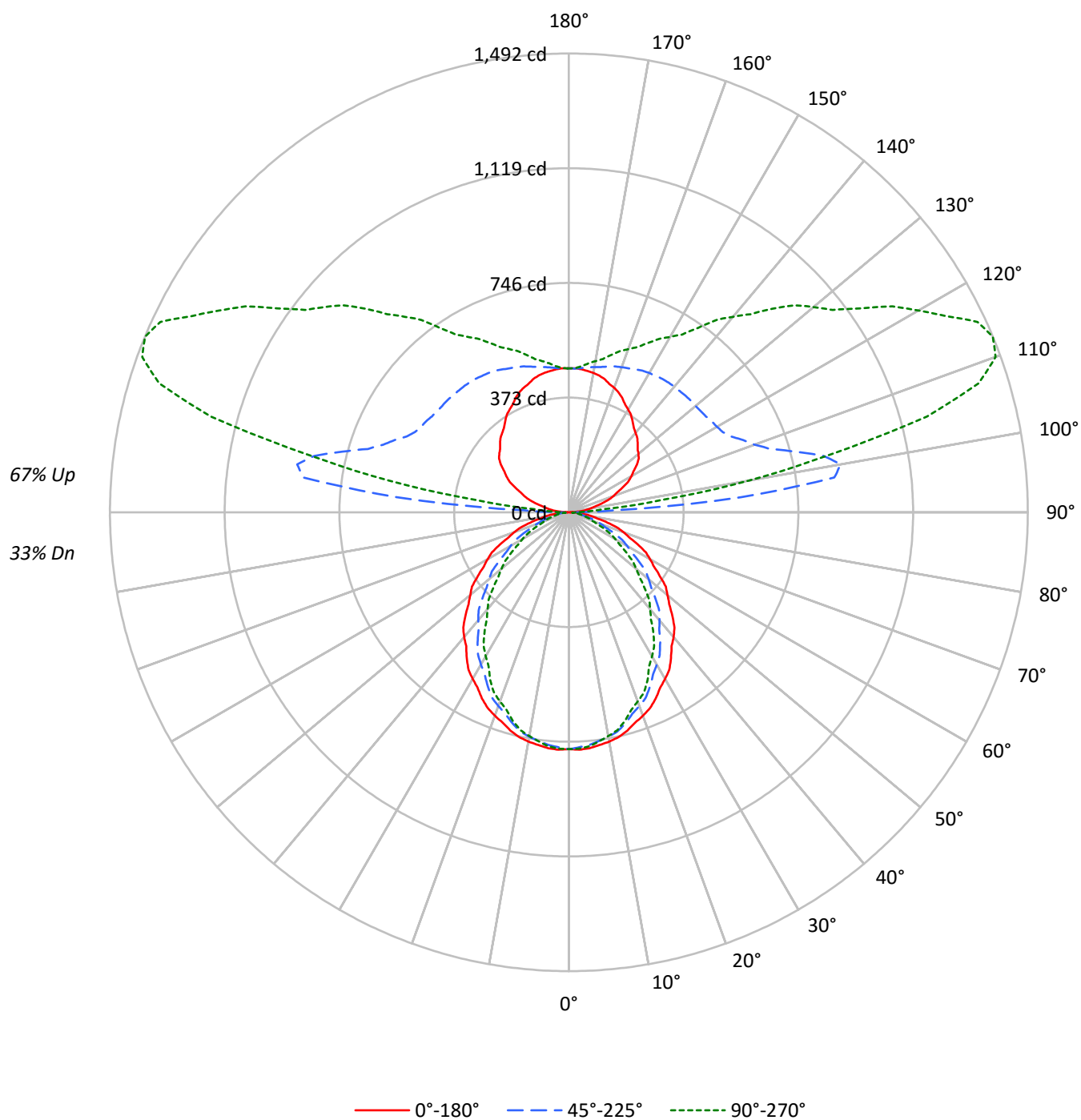
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	103	103	103	103	93	93	93	93	74	74	74		57	57	57		41
1	94	90	86	83	85	81	78	75	65	63	61		50	49	47		36
2	86	79	73	68	77	71	66	62	57	54	51		44	42	40		32
3	78	69	62	57	70	63	57	52	51	46	43		39	36	34		29
4	72	61	54	48	65	56	49	44	45	40	37		35	32	29		26
5	66	55	47	41	59	50	43	38	40	35	32		31	28	25		23
6	61	49	41	36	55	45	38	33	36	31	28		28	25	22		21
7	56	44	37	31	50	40	34	29	33	28	24		26	22	20		19
8	52	40	33	28	47	37	30	25	30	25	21		24	20	18		18
9	48	37	29	24	44	33	27	23	27	23	19		22	18	16		16
10	45	33	26	22	41	31	24	20	25	20	17		20	17	14		15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8289	8289	8289
5°	8321	8206	8253
10°	8273	8103	8075
15°	8184	7913	7830
20°	8062	7676	7497
25°	7936	7410	7172
30°	7771	7102	6714
35°	7599	6795	6294
40°	7442	6433	5774
45°	7234	6075	5305
50°	7006	5668	4779
55°	6775	5204	4290
60°	6562	4706	3750
65°	6283	4167	3212
70°	5936	3500	2593
75°	5427	2753	2441
80°	4841	2442	2244
85°	4088	2149	2001

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	1.4
10°-20°	201.2	3.8
20°-30°	289.7	5.5
30°-40°	326.3	6.2
40°-50°	312.2	5.9
50°-60°	255.7	4.9
60°-70°	172.5	3.3
70°-80°	86.8	1.6
80°-90°	26.6	0.5
90°-100°	260.4	4.9
100°-110°	737.4	14.0
110°-120°	725.4	13.8
120°-130°	578.6	11.0
130°-140°	456.2	8.7
140°-150°	340.5	6.5
150°-160°	237.3	4.5
160°-170°	139.4	2.6
170°-180°	45.4	0.9
0°-30°	563.2	10.7
0°-40°	889.5	16.9
0°-60°	1457.4	27.7
0°-90°	1743.3	33.1
90°-120°	1723.2	32.7
90°-150°	3098.5	58.9
90°-180°	3521.0	66.9
0°-180°	5263.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	770	767	760	765	764	73
15°	734	727	710	707	703	207
25°	668	652	624	611	604	307
35°	578	555	517	491	479	362
45°	475	446	399	365	348	367
55°	361	329	277	242	229	324
65°	247	212	164	134	126	244
75°	130	100	66	60	59	139
85°	33	20	17	16	16	37
90°	2	11	24	27	28	4
95°	32	105	562	164	110	35
105°	110	162	762	1332	1205	117
115°	194	242	582	1277	1465	192
125°	270	319	544	985	1156	239
135°	316	378	536	811	937	244
145°	361	414	530	665	732	226
155°	410	442	512	583	607	189
165°	448	461	491	520	530	126
175°	467	468	471	477	476	44
180°	468	468	468	468	468	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	772.6	772.1	771.7	771.2	770.8	769.9	768.6	767.2	765.9	764.6	765.8
5°	770.1	769.4	768.7	768.0	767.3	766.1	764.4	762.8	761.1	759.5	760.7
7.5°	763.0	762.2	761.4	760.7	759.9	758.5	756.4	754.2	752.0	749.8	750.5
10°	756.9	755.9	755.0	754.0	753.1	751.3	748.9	746.3	743.8	741.4	741.4
12.5°	748.4	747.4	746.2	745.2	744.1	742.1	739.0	736.0	732.9	729.9	729.8
15°	734.4	733.0	731.4	729.9	728.4	725.6	721.8	717.9	714.0	710.1	709.4
17.5°	716.8	715.1	713.3	711.5	709.7	706.4	701.4	696.5	691.5	686.6	685.2
20°	703.8	701.6	699.4	697.2	695.0	691.2	685.9	680.7	675.4	670.1	668.3
22.5°	689.3	686.8	684.3	681.7	679.1	675.1	669.4	663.8	658.3	652.6	650.4
25°	668.2	664.8	661.3	657.9	654.4	649.5	643.0	636.7	630.3	623.9	621.0
27.5°	642.6	638.8	635.0	631.1	627.3	621.8	614.7	607.6	600.5	593.5	589.4
30°	625.2	621.0	616.9	612.7	608.5	602.5	594.8	587.0	579.2	571.4	566.7
32.5°	607.6	603.0	598.3	593.5	588.8	582.4	574.1	565.9	557.7	549.4	544.3
35°	578.3	573.3	568.3	563.4	558.3	551.5	542.9	534.3	525.7	517.1	511.1
37.5°	548.6	543.1	537.5	531.9	526.4	519.0	509.8	500.7	491.5	482.2	475.5
40°	529.6	523.5	517.4	511.3	505.2	497.2	487.4	477.5	467.7	457.8	450.5
42.5°	508.1	502.0	495.9	489.8	483.7	475.6	465.4	455.2	445.0	434.8	426.9
45°	475.2	469.0	462.8	456.6	450.3	441.8	431.1	420.4	409.8	399.1	391.2
47.5°	442.4	435.5	428.7	421.8	415.0	406.3	395.5	384.8	374.1	363.5	354.9
50°	418.4	411.9	405.4	398.8	392.3	383.4	372.2	361.0	349.8	338.5	329.9
52.5°	397.0	389.9	382.8	375.7	368.7	359.5	348.4	337.3	326.1	315.0	306.1
55°	361.0	354.2	347.4	340.6	333.8	324.5	312.7	300.9	289.1	277.3	269.2
57.5°	327.8	320.3	312.9	305.5	298.1	288.5	276.6	264.8	252.9	241.1	233.5
60°	304.8	297.2	289.5	281.8	274.3	264.6	253.2	241.7	230.1	218.6	211.1
62.5°	281.8	274.2	266.5	258.9	251.3	241.7	230.2	218.7	207.1	195.6	188.6
65°	246.7	239.0	231.5	223.8	216.1	206.9	196.1	185.3	174.5	163.6	156.9
67.5°	211.6	203.9	196.2	188.4	180.8	171.7	161.3	150.9	140.6	130.1	125.1
70°	188.6	181.1	173.7	166.2	158.7	150.0	140.3	130.6	120.9	111.2	106.3
72.5°	165.6	158.2	150.8	143.5	136.1	128.0	119.2	110.3	101.5	92.7	88.7
75°	130.5	123.8	117.2	110.6	103.9	96.7	89.1	81.4	73.9	66.2	64.8
77.5°	98.6	92.5	86.5	80.5	74.4	69.0	64.1	59.2	54.2	49.3	48.6
80°	78.1	72.4	66.7	61.0	55.3	51.0	48.1	45.2	42.2	39.4	38.9
82.5°	58.6	53.6	48.8	43.9	38.9	35.8	34.4	33.1	31.7	30.3	29.9
85°	33.1	30.1	27.0	24.0	20.9	19.2	18.8	18.3	17.9	17.4	17.2
87.5°	12.4	11.5	10.7	10.0	9.2	9.0	9.5	10.1	10.7	11.3	10.9
90°	1.9	3.8	5.7	8.6	10.4	12.3	15.2	18.0	20.9	23.6	22.7
92.5°	11.7	17.4	25.4	32.8	40.8	54.8	79.6	120.3	160.3	145.7	109.9
95°	32.2	35.1	45.5	61.6	86.2	123.1	203.7	344.8	500.2	561.7	455.6
97.5°	55.0	55.8	64.0	78.0	102.3	142.3	219.2	378.3	637.3	870.5	931.3
100°	70.1	71.0	77.7	90.9	113.7	150.6	217.0	357.1	606.3	897.1	1083.7
102.5°	86.0	87.7	93.6	106.1	126.5	160.5	220.0	338.9	560.8	847.8	1091.2
105°	109.9	112.8	118.4	129.8	147.7	177.2	228.3	325.9	504.9	761.6	1033.5
107.5°	135.3	138.1	143.6	154.7	171.6	198.9	243.9	324.9	469.3	685.4	932.3
110°	153.4	156.3	161.0	171.5	187.5	214.1	256.7	328.7	455.6	642.2	868.6

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	170.2	173.0	177.7	188.1	204.2	230.0	269.6	336.3	448.1	613.4	813.3
115°	194.2	198.0	203.7	213.1	229.3	254.8	290.8	348.6	445.2	582.5	746.4
117.5°	218.3	222.6	227.3	236.0	254.0	277.8	313.3	364.8	446.9	564.4	706.0
120°	234.9	237.7	242.5	252.0	269.9	293.7	327.8	377.0	450.0	556.0	684.9
122.5°	249.3	252.2	256.9	267.1	284.4	309.6	342.9	388.4	455.3	550.7	667.4
125°	269.9	271.9	277.5	288.0	306.0	331.5	364.7	406.3	463.2	543.7	645.1
127.5°	285.7	288.5	295.5	306.1	326.0	351.6	383.6	421.2	472.3	540.3	625.4
130°	295.5	298.4	306.9	318.3	338.2	363.7	395.0	431.0	478.3	538.0	614.7
132.5°	303.1	306.7	316.0	329.6	349.5	374.4	404.9	440.1	482.9	537.3	605.0
135°	316.4	320.2	330.6	344.8	364.7	390.3	419.6	451.8	489.8	536.1	592.1
137.5°	328.9	332.9	343.1	358.2	378.0	401.6	429.8	460.6	494.3	534.0	580.8
140°	337.2	341.9	351.4	366.6	385.6	409.2	436.7	465.1	497.3	533.3	574.1
142.5°	346.3	350.3	360.5	374.1	393.1	415.3	442.0	469.6	499.6	531.8	567.9
145°	360.9	363.7	372.3	386.5	402.6	424.4	449.0	474.6	501.1	529.5	559.9
147.5°	375.7	377.4	385.7	398.0	413.6	432.1	454.7	477.6	501.1	525.9	551.9
150°	385.6	386.5	394.0	406.3	419.6	436.7	458.4	478.3	501.1	522.9	546.6
152.5°	395.4	395.6	403.2	413.9	425.7	442.0	460.7	479.9	498.8	519.1	540.5
155°	410.2	410.2	415.9	425.3	435.7	449.0	465.1	480.3	496.4	512.5	531.4
157.5°	421.9	422.7	427.2	435.5	444.4	454.7	467.6	481.2	493.2	506.6	521.1
160°	431.0	431.0	434.8	442.4	449.0	458.4	469.9	481.2	491.6	502.1	514.4
162.5°	437.8	437.8	440.8	446.9	452.8	460.7	470.6	480.5	488.6	497.5	507.5
165°	448.1	447.1	449.0	453.7	457.5	464.1	471.7	478.3	484.0	490.6	498.2
167.5°	455.8	454.7	455.6	459.3	461.9	466.0	471.6	476.9	479.5	483.9	489.3
170°	460.4	458.4	459.4	462.3	464.1	466.0	470.8	474.6	476.5	479.3	484.0
172.5°	463.4	462.3	462.4	464.6	465.7	466.8	470.8	473.9	474.2	475.5	478.7
175°	467.0	466.0	465.1	467.0	467.0	468.0	469.9	471.7	470.8	470.8	472.7
177.5°	468.7	468.0	467.2	468.0	468.0	468.0	468.7	470.2	468.7	468.0	468.7
180°	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	767.0	768.3	769.5	770.0	769.7	769.5	769.3	769.1
5°	761.9	763.2	764.4	764.9	764.7	764.3	764.1	763.8
7.5°	751.2	751.9	752.6	752.7	752.2	751.8	751.3	750.8
10°	741.6	741.8	741.8	741.6	740.9	740.2	739.6	738.8
12.5°	729.7	729.6	729.5	729.0	728.2	727.4	726.7	725.9
15°	708.7	708.0	707.4	706.5	705.5	704.6	703.6	702.6
17.5°	683.7	682.2	680.7	679.3	677.8	676.4	674.9	673.5
20°	666.5	664.7	662.9	661.2	659.5	657.9	656.2	654.5
22.5°	648.2	645.9	643.7	641.7	640.2	638.6	637.1	635.5
25°	618.1	615.1	612.3	610.0	608.5	607.0	605.4	603.9
27.5°	585.3	581.3	577.2	574.1	571.7	569.4	567.0	564.7
30°	562.0	557.3	552.6	549.1	546.9	544.7	542.4	540.2
32.5°	539.2	533.9	528.8	525.1	522.8	520.4	518.0	515.8
35°	505.2	499.2	493.3	489.0	486.5	484.0	481.5	479.0
37.5°	468.7	461.9	455.2	450.3	447.2	444.1	441.0	437.9
40°	443.4	436.1	428.9	423.7	420.5	417.4	414.2	410.9
42.5°	419.1	411.2	403.2	397.9	395.0	392.2	389.3	386.5
45°	383.3	375.4	367.5	361.8	358.5	355.1	351.8	348.5
47.5°	346.3	337.7	329.1	323.3	320.3	317.3	314.4	311.4
50°	321.3	312.7	304.1	298.2	295.0	291.8	288.6	285.4
52.5°	297.2	288.2	279.2	273.4	270.5	267.7	264.8	262.0
55°	261.2	253.2	245.1	239.7	236.9	234.2	231.4	228.6
57.5°	225.8	218.3	210.7	205.7	203.3	201.0	198.6	196.2
60°	203.6	196.1	188.6	183.7	181.3	179.0	176.6	174.2
62.5°	181.5	174.5	167.4	162.7	160.2	157.7	155.2	152.8
65°	150.0	143.2	136.4	132.2	130.8	129.2	127.7	126.1
67.5°	120.0	114.9	109.8	106.5	104.8	103.2	101.6	100.0
70°	101.4	96.6	91.7	88.5	87.0	85.5	84.0	82.4
72.5°	84.7	80.8	76.8	74.5	73.9	73.2	72.6	71.9
75°	63.4	62.0	60.7	59.8	59.5	59.3	58.9	58.7
77.5°	47.9	47.1	46.3	45.8	45.6	45.2	45.0	44.7
80°	38.5	38.1	37.7	37.3	37.1	36.8	36.5	36.2
82.5°	29.5	29.1	28.7	28.5	28.4	28.4	28.3	28.2
85°	17.0	16.6	16.4	16.2	16.2	16.2	16.2	16.2
87.5°	11.0	11.1	11.2	11.4	11.2	11.3	11.3	11.0
90°	23.6	24.6	25.6	27.5	26.5	27.5	28.5	27.5
92.5°	79.7	63.3	55.8	51.0	49.2	46.4	47.4	45.7
95°	341.0	231.1	180.9	146.8	128.8	120.3	113.7	109.9
97.5°	850.0	680.9	558.7	445.4	375.5	332.9	307.3	299.1
100°	1116.8	1040.1	929.3	794.8	699.0	629.9	593.0	593.9
102.5°	1205.5	1203.0	1138.4	1053.1	978.7	924.0	893.1	871.3
105°	1231.4	1326.2	1344.2	1319.6	1275.9	1240.0	1209.7	1204.9
107.5°	1156.7	1310.6	1393.6	1427.3	1428.1	1415.9	1405.7	1397.0
110°	1085.6	1259.9	1379.2	1445.5	1472.0	1479.6	1477.7	1475.9

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1015.0	1193.2	1326.9	1412.2	1460.7	1484.2	1491.3	1491.8
115°	921.7	1086.5	1225.7	1329.0	1400.0	1441.7	1460.7	1465.4
117.5°	854.0	996.3	1121.4	1226.1	1300.2	1347.9	1375.2	1381.7
120°	818.4	946.3	1060.0	1155.7	1230.4	1283.5	1306.3	1312.0
122.5°	790.4	906.1	1011.5	1100.3	1166.9	1214.6	1239.6	1246.8
125°	753.1	856.3	947.2	1023.0	1083.7	1125.4	1149.0	1155.7
127.5°	720.5	812.5	894.5	963.5	1017.6	1053.1	1074.6	1080.6
130°	700.0	785.3	862.0	926.4	976.6	1010.7	1030.6	1038.2
132.5°	681.1	759.5	831.0	892.3	939.5	973.5	991.2	996.5
135°	655.5	722.8	784.3	838.3	884.8	913.1	930.2	936.9
137.5°	632.2	687.3	740.4	787.2	826.2	855.0	869.4	873.8
140°	618.6	666.8	712.3	753.1	789.0	815.6	830.7	829.8
142.5°	605.7	647.2	686.6	722.0	752.7	776.2	789.8	788.9
145°	590.1	621.4	651.8	679.1	702.9	722.8	730.3	732.2
147.5°	577.5	602.3	626.7	646.2	664.2	677.7	684.9	685.6
150°	568.3	590.1	610.0	628.0	642.2	652.6	658.4	658.4
152.5°	560.0	578.8	596.4	611.4	622.6	632.2	635.6	635.6
155°	547.5	562.6	576.9	588.2	596.8	604.4	606.3	607.2
157.5°	534.3	547.0	557.9	566.8	574.2	579.9	581.4	581.2
160°	526.7	537.1	546.6	553.2	559.9	565.5	565.5	564.6
162.5°	517.6	526.5	535.2	541.0	545.4	550.3	550.3	549.4
165°	505.8	511.5	518.1	522.9	526.7	530.4	529.5	529.5
167.5°	495.6	499.9	503.8	507.2	508.8	511.5	510.5	510.5
170°	488.8	491.6	495.4	497.3	498.2	500.2	499.2	499.2
172.5°	482.7	484.8	487.9	488.9	489.2	491.1	489.3	488.6
175°	474.6	475.5	477.4	477.4	477.4	478.3	477.4	476.5
177.5°	469.4	470.2	471.0	471.0	470.2	471.0	469.4	469.4
180°	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0

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