

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: P332134-830

Luminaire Tested: **S123DIW-S560D1030U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332134-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S560D1030U830-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6116.7 lumens
Efficiency: N/A
Efficacy: 135.3 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

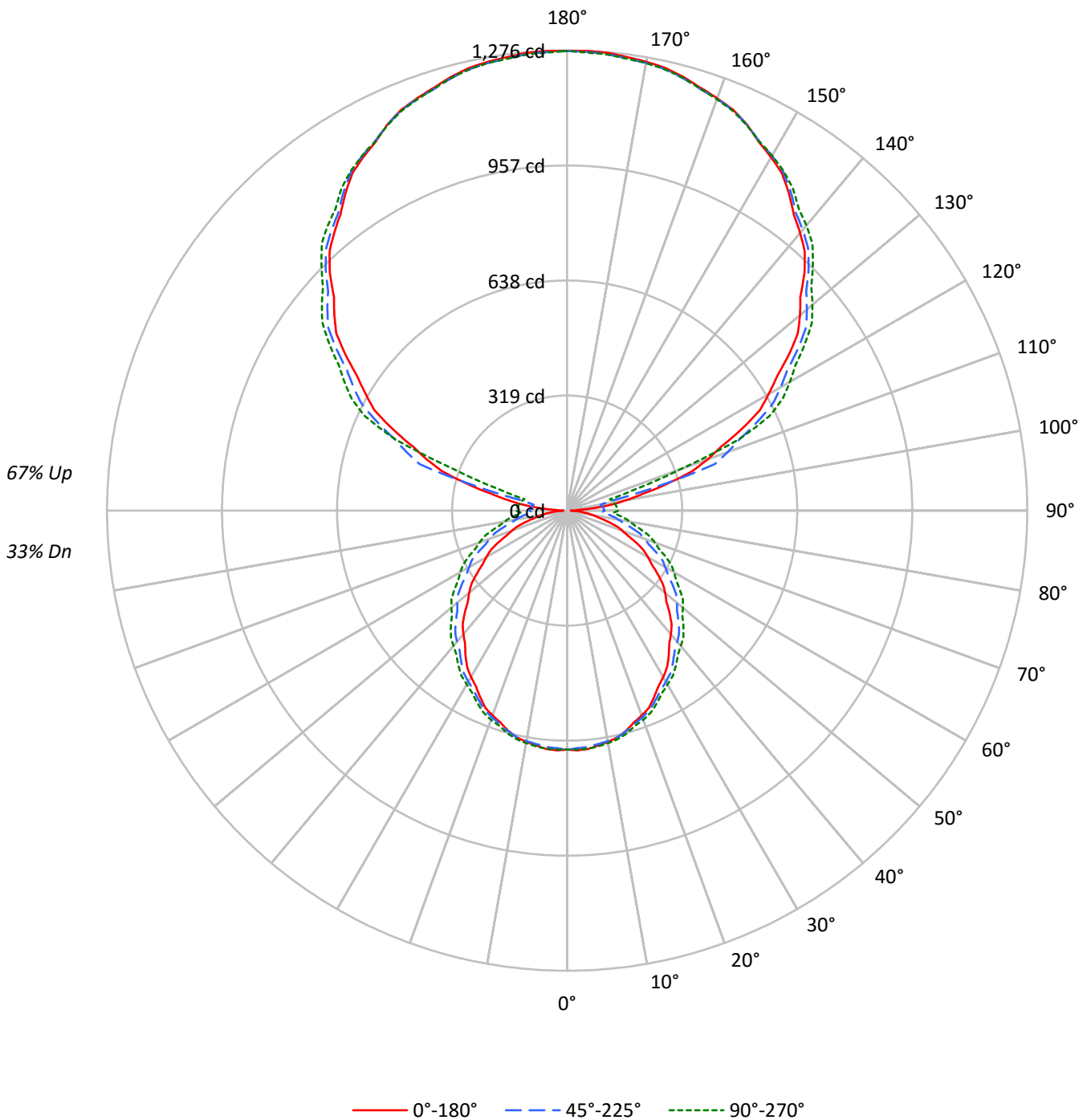
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	30	10
RCR																	
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41
1	93	89	85	81	84	80	77	74	64	61	59	49	47	46	35	34	33
2	85	77	71	66	76	70	64	60	55	52	48	42	40	38	30	29	27
3	77	68	60	54	69	61	55	50	49	44	40	37	34	31	27	25	23
4	70	60	52	46	63	54	47	42	43	38	34	33	30	27	24	21	20
5	64	53	45	39	58	48	41	36	38	33	29	29	26	23	21	19	17
6	59	47	39	33	53	43	36	31	34	29	25	27	23	20	19	17	15
7	55	42	35	29	49	39	32	27	31	26	22	24	20	18	17	15	13
8	51	38	31	25	45	35	28	23	28	23	19	22	18	16	16	13	12
9	47	35	28	23	42	32	25	21	26	21	17	20	16	14	15	12	10
10	44	32	25	20	39	29	23	19	24	19	15	19	15	12	14	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7134	7134	7134
5°	7156	6954	6959
10°	7093	6795	6761
15°	7001	6612	6544
20°	6871	6405	6306
25°	6709	6166	6056
30°	6544	5951	5803
35°	6359	5723	5601
40°	6181	5515	5382
45°	5986	5318	5210
50°	5793	5121	5019
55°	5578	4919	4848
60°	5369	4716	4670
65°	5156	4499	4462
70°	4837	4254	4245
75°	4430	3973	4029
80°	3958	3698	3779
85°	3521	3508	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	1.0
10°-20°	179.1	2.9
20°-30°	267.9	4.4
30°-40°	319.9	5.2
40°-50°	334.7	5.5
50°-60°	314.1	5.1
60°-70°	262.3	4.3
70°-80°	187.7	3.1
80°-90°	115.5	1.9
90°-100°	116.6	1.9
100°-110°	272.4	4.5
110°-120°	564.8	9.2
120°-130°	695.0	11.4
130°-140°	730.4	11.9
140°-150°	676.7	11.1
150°-160°	544.3	8.9
160°-170°	351.3	5.7
170°-180°	121.1	2.0
0°-30°	509.8	8.3
0°-40°	829.7	13.6
0°-60°	1478.6	24.2
0°-90°	2044.1	33.4
90°-120°	953.8	15.6
90°-150°	3056.0	50.0
90°-180°	4073.0	66.6
0°-180°	6116.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	664	662	658	663	663	63
15°	632	634	633	640	640	178
25°	570	577	580	589	589	263
35°	491	502	512	522	526	307
45°	401	419	437	450	456	310
55°	306	330	356	375	381	274
65°	212	240	272	292	300	209
75°	115	149	185	208	217	123
85°	35	72	110	133	142	37
90°	10	55	104	132	142	9
95°	66	58	101	129	137	78
105°	288	311	262	123	122	305
115°	533	548	582	608	618	526
125°	748	757	780	797	804	668
135°	930	935	947	962	964	716
145°	1072	1078	1080	1088	1091	671
155°	1180	1179	1180	1184	1179	544
165°	1245	1242	1241	1248	1242	352
175°	1274	1270	1270	1276	1270	121
180°	1274	1274	1274	1274	1274	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	665.7	665.3	665.0	664.5	664.1	663.5	662.4	661.4	660.3	659.3	660.3
5°	663.5	663.2	662.9	662.6	662.2	661.6	660.6	659.7	658.7	657.7	659.0
7.5°	657.0	657.0	657.1	657.2	657.3	656.9	655.9	655.0	654.0	653.1	654.7
10°	651.3	651.6	651.9	652.2	652.5	652.3	651.5	650.7	649.9	649.1	650.7
12.5°	644.3	644.8	645.3	645.6	646.1	646.1	645.5	645.0	644.4	643.9	645.4
15°	631.8	632.3	632.7	633.2	633.7	633.9	633.7	633.5	633.4	633.2	634.8
17.5°	615.9	616.8	617.8	618.8	619.7	620.2	620.1	620.0	620.0	619.9	621.3
20°	604.4	605.3	606.2	607.2	608.1	608.8	609.2	609.4	609.7	610.1	611.5
22.5°	592.2	593.1	594.1	595.1	596.1	596.7	597.2	597.7	598.1	598.5	600.4
25°	570.4	572.0	573.6	575.2	576.8	577.9	578.3	578.8	579.3	579.8	581.8
27.5°	548.5	550.3	552.1	553.9	555.7	557.1	558.2	559.2	560.2	561.3	563.1
30°	532.8	534.9	537.0	539.1	541.2	542.9	544.1	545.4	546.7	548.0	550.0
32.5°	515.5	517.8	520.2	522.5	524.9	526.9	528.6	530.2	531.9	533.6	535.6
35°	491.0	493.5	496.1	498.7	501.2	503.6	505.7	507.7	509.8	511.9	514.3
37.5°	465.0	467.9	470.7	473.6	476.5	479.3	481.8	484.4	486.9	489.6	492.3
40°	447.6	450.5	453.5	456.3	459.2	462.2	465.4	468.6	471.8	475.0	477.8
42.5°	428.6	432.2	435.6	439.1	442.7	446.1	449.5	452.8	456.2	459.5	462.5
45°	401.4	405.3	409.2	413.0	416.8	420.8	424.8	428.8	432.8	436.8	439.9
47.5°	373.0	377.4	381.7	386.1	390.4	394.9	399.5	404.1	408.7	413.3	416.7
50°	354.5	359.0	363.4	368.0	372.5	377.2	382.2	387.2	392.1	397.1	400.8
52.5°	334.9	339.6	344.4	349.1	353.8	359.0	364.5	369.9	375.4	381.0	384.7
55°	306.1	311.4	316.7	322.0	327.3	332.8	338.7	344.4	350.2	355.9	360.2
57.5°	278.1	283.6	289.2	294.6	300.2	306.1	312.5	318.8	325.1	331.4	335.7
60°	258.4	264.3	270.0	275.8	281.5	287.8	294.4	301.0	307.5	314.1	318.6
62.5°	240.0	245.9	251.8	257.7	263.6	270.0	277.0	284.0	291.0	297.9	302.4
65°	211.5	217.8	224.0	230.4	236.6	243.3	250.3	257.3	264.4	271.5	276.3
67.5°	182.7	189.4	196.0	202.6	209.2	216.1	223.4	230.5	237.7	244.9	250.2
70°	162.5	169.4	176.3	183.1	190.0	197.4	205.0	212.7	220.5	228.2	233.3
72.5°	143.9	150.9	157.8	164.7	171.5	179.0	186.9	194.9	202.8	210.8	216.1
75°	114.8	122.3	129.9	137.4	145.0	152.8	160.8	168.8	176.8	184.8	190.1
77.5°	89.4	97.0	104.6	112.2	119.8	127.6	135.7	143.8	151.9	160.0	165.6
80°	71.4	79.4	87.2	95.1	102.9	111.0	119.3	127.7	136.1	144.4	149.9
82.5°	55.9	63.9	71.8	79.8	87.8	96.0	104.5	113.0	121.5	130.0	135.4
85°	35.3	43.4	51.5	59.5	67.5	75.7	84.3	92.7	101.2	109.7	115.2
87.5°	19.4	27.8	36.2	44.6	53.1	61.6	70.3	79.1	87.8	96.5	102.2
90°	10.4	20.3	30.3	40.2	50.2	60.6	71.5	82.5	93.4	104.3	110.6
92.5°	26.4	32.9	39.4	45.9	52.4	60.7	70.9	81.0	91.0	101.2	107.9
95°	65.7	63.3	61.0	58.6	56.2	60.1	70.3	80.5	90.7	100.9	107.3
97.5°	123.1	124.9	126.7	128.5	130.3	127.3	119.7	112.1	104.4	96.8	103.2
100°	166.5	175.9	185.2	194.5	203.9	195.8	170.4	145.0	119.5	94.1	100.4
102.5°	215.9	223.6	231.2	238.8	246.5	236.0	207.5	178.8	150.2	121.7	120.9
105°	287.9	294.1	300.2	306.4	312.5	309.6	297.6	285.6	273.5	261.5	228.8
107.5°	363.2	368.3	373.3	378.5	383.6	391.0	400.5	410.0	419.5	429.1	406.0
110°	413.3	417.8	422.4	427.0	431.6	438.3	447.0	455.7	464.4	473.2	470.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	461.8	465.7	469.6	473.4	477.3	483.5	492.0	500.5	509.0	517.5	521.6
115°	532.8	536.0	539.2	542.3	545.5	551.0	558.6	566.4	574.0	581.6	587.6
117.5°	602.2	604.9	607.7	610.4	613.1	617.7	624.1	630.5	636.9	643.3	648.8
120°	644.8	647.4	650.2	652.8	655.5	659.9	665.8	671.7	677.6	683.5	688.9
122.5°	688.7	690.6	692.6	694.6	696.5	700.5	706.3	712.2	718.0	723.8	728.6
125°	748.2	749.9	751.5	753.2	754.9	758.5	763.9	769.5	775.0	780.4	784.3
127.5°	806.4	808.0	809.5	811.1	812.6	815.8	820.6	825.5	830.4	835.2	839.1
130°	842.8	844.3	845.8	847.4	848.9	851.7	855.7	859.8	863.8	867.9	871.8
132.5°	877.1	878.7	880.4	882.0	883.7	886.2	889.4	892.6	895.9	899.1	902.9
135°	930.2	931.2	932.4	933.5	934.5	936.4	939.1	941.6	944.2	946.9	950.4
137.5°	975.4	976.9	978.4	979.9	981.4	982.8	984.3	985.7	987.1	988.6	992.2
140°	1005.1	1006.4	1007.7	1009.0	1010.2	1011.4	1012.5	1013.6	1014.7	1015.9	1019.1
142.5°	1033.2	1034.3	1035.5	1036.6	1037.7	1038.7	1039.3	1040.1	1040.8	1041.6	1044.4
145°	1072.4	1073.7	1075.0	1076.3	1077.6	1078.5	1078.9	1079.3	1079.8	1080.2	1081.9
147.5°	1108.6	1109.6	1110.5	1111.4	1112.5	1113.1	1113.5	1114.0	1114.4	1114.8	1115.6
150°	1131.3	1131.9	1132.6	1133.2	1133.8	1134.3	1134.7	1135.2	1135.6	1136.0	1136.4
152.5°	1151.8	1152.1	1152.4	1152.6	1152.9	1153.2	1153.5	1153.7	1154.0	1154.2	1155.0
155°	1180.5	1180.1	1179.7	1179.3	1178.8	1178.7	1178.9	1179.1	1179.4	1179.6	1180.6
157.5°	1202.9	1202.9	1202.8	1202.8	1202.7	1202.6	1202.4	1202.1	1201.9	1201.7	1203.0
160°	1216.5	1216.3	1216.1	1215.9	1215.7	1215.4	1215.2	1215.0	1214.8	1214.7	1215.9
162.5°	1229.4	1228.8	1228.3	1227.8	1227.2	1226.8	1226.6	1226.4	1226.2	1226.0	1227.4
165°	1244.9	1244.3	1243.7	1243.0	1242.4	1242.0	1241.7	1241.5	1241.3	1241.1	1242.8
167.5°	1257.0	1256.2	1255.4	1254.5	1253.7	1253.2	1253.2	1253.2	1253.2	1253.2	1254.9
170°	1263.9	1263.0	1262.2	1261.3	1260.5	1260.1	1260.1	1260.1	1260.1	1260.1	1261.7
172.5°	1268.4	1267.3	1266.4	1265.4	1264.3	1263.9	1264.0	1264.2	1264.4	1264.6	1266.3
175°	1274.2	1273.2	1272.1	1271.1	1270.1	1269.6	1269.8	1270.1	1270.3	1270.5	1272.0
177.5°	1275.7	1274.9	1274.1	1273.3	1272.4	1272.1	1272.2	1272.4	1272.5	1272.7	1274.1
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	661.4	662.4	663.5	663.9	663.7	663.6	663.5	663.4
5°	660.3	661.6	662.9	663.5	663.3	663.1	663.0	662.8
7.5°	656.3	657.9	659.6	660.3	660.1	659.9	659.7	659.5
10°	652.3	653.9	655.5	656.1	655.8	655.5	655.2	654.9
12.5°	646.9	648.3	649.8	650.4	650.1	649.7	649.4	649.1
15°	636.4	638.0	639.6	640.4	640.2	640.0	639.9	639.7
17.5°	622.8	624.2	625.7	626.3	626.0	625.8	625.7	625.4
20°	613.0	614.4	615.9	616.7	616.8	617.0	617.2	617.3
22.5°	602.2	604.1	605.9	606.7	606.6	606.5	606.4	606.3
25°	583.9	586.1	588.1	589.2	589.2	589.2	589.2	589.2
27.5°	564.9	566.7	568.4	569.5	569.6	569.7	569.9	570.0
30°	551.9	553.7	555.7	556.7	556.7	556.7	556.7	556.7
32.5°	537.6	539.7	541.8	543.0	543.4	543.8	544.1	544.5
35°	516.7	519.2	521.5	523.0	523.7	524.3	525.0	525.7
37.5°	494.9	497.7	500.4	502.1	502.6	503.0	503.6	504.1
40°	480.5	483.2	486.0	487.7	488.3	489.0	489.6	490.2
42.5°	465.4	468.4	471.5	473.3	474.3	475.1	476.1	476.9
45°	442.9	445.9	449.0	451.2	452.4	453.7	455.1	456.3
47.5°	420.2	423.6	427.0	429.2	430.2	431.2	432.3	433.2
50°	404.4	408.2	411.9	414.2	415.4	416.5	417.6	418.8
52.5°	388.6	392.4	396.2	398.8	400.2	401.5	402.9	404.4
55°	364.6	368.9	373.2	376.1	377.4	378.6	379.9	381.3
57.5°	340.2	344.5	348.8	351.8	353.3	354.8	356.3	357.8
60°	323.1	327.5	332.1	335.2	337.0	338.7	340.4	342.2
62.5°	306.9	311.4	315.8	319.0	320.6	322.2	323.9	325.5
65°	281.1	285.9	290.8	294.0	295.6	297.2	298.8	300.4
67.5°	255.4	260.7	266.0	269.3	270.6	271.9	273.3	274.7
70°	238.5	243.6	248.7	252.0	253.6	255.2	256.8	258.4
72.5°	221.3	226.6	231.9	235.4	237.0	238.6	240.2	241.8
75°	195.4	200.8	206.0	209.6	211.5	213.5	215.4	217.4
77.5°	171.2	176.7	182.3	185.9	187.4	188.8	190.3	191.8
80°	155.3	160.8	166.3	169.8	171.4	173.0	174.6	176.2
82.5°	140.9	146.3	151.7	155.3	156.9	158.5	160.1	161.7
85°	120.6	126.1	131.6	135.1	136.7	138.3	139.9	141.5
87.5°	107.7	113.4	119.0	122.7	124.3	126.0	127.7	129.4
90°	116.9	123.2	129.5	133.7	135.7	137.7	139.7	141.8
92.5°	114.5	121.2	127.9	132.1	133.8	135.5	137.2	139.0
95°	113.8	120.2	126.6	130.6	132.2	133.8	135.4	137.0
97.5°	109.7	116.1	122.6	126.8	128.6	130.4	132.2	134.0
100°	106.7	113.1	119.4	123.5	125.3	127.1	128.9	130.7
102.5°	120.3	119.6	118.9	119.5	121.5	123.5	125.5	127.4
105°	196.0	163.2	130.5	115.1	117.0	118.8	120.6	122.5
107.5°	383.0	360.1	337.1	312.3	285.6	258.9	232.2	205.7
110°	467.6	464.9	462.1	446.3	417.5	388.7	359.9	331.1



TEST NUMBER: P332134-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	525.8	529.9	534.1	533.7	528.8	523.9	518.9	514.0
115°	593.6	599.6	605.5	609.5	611.6	613.8	615.9	618.0
117.5°	654.3	659.8	665.2	668.7	670.1	671.6	673.0	674.4
120°	694.3	699.6	705.0	708.3	709.5	710.5	711.6	712.8
122.5°	733.3	738.0	742.8	745.8	747.1	748.4	749.7	750.9
125°	788.1	791.8	795.6	798.3	799.8	801.3	803.0	804.5
127.5°	842.9	846.8	850.6	852.9	853.6	854.2	854.9	855.5
130°	875.7	879.6	883.4	885.7	886.3	886.7	887.3	887.9
132.5°	906.6	910.4	914.2	916.2	916.8	917.3	917.8	918.3
135°	953.9	957.4	960.9	962.8	962.9	963.1	963.3	963.5
137.5°	995.7	999.3	1002.8	1004.8	1005.1	1005.5	1005.9	1006.3
140°	1022.4	1025.6	1028.9	1030.7	1031.0	1031.4	1031.8	1032.2
142.5°	1047.2	1050.0	1052.8	1054.3	1054.6	1054.8	1055.0	1055.3
145°	1083.5	1085.3	1087.0	1088.2	1088.8	1089.5	1090.1	1090.7
147.5°	1116.4	1117.3	1118.0	1118.2	1117.9	1117.5	1117.1	1116.7
150°	1136.9	1137.3	1137.7	1137.7	1137.5	1137.2	1136.8	1136.5
152.5°	1155.7	1156.5	1157.3	1157.2	1156.2	1155.4	1154.4	1153.6
155°	1181.7	1182.7	1183.8	1183.6	1182.4	1181.2	1179.9	1178.6
157.5°	1204.3	1205.5	1206.7	1206.5	1204.9	1203.3	1201.6	1200.0
160°	1217.1	1218.4	1219.7	1219.6	1218.0	1216.6	1215.1	1213.6
162.5°	1228.8	1230.3	1231.7	1231.7	1230.5	1229.2	1227.9	1226.5
165°	1244.4	1246.1	1247.8	1247.9	1246.5	1245.0	1243.5	1242.1
167.5°	1256.6	1258.3	1260.0	1260.0	1258.3	1256.6	1254.9	1253.2
170°	1263.4	1265.1	1266.8	1266.8	1265.1	1263.4	1261.7	1260.1
172.5°	1268.0	1269.6	1271.3	1271.2	1269.4	1267.5	1265.6	1263.9
175°	1273.4	1274.9	1276.4	1276.3	1274.6	1272.9	1271.2	1269.5
177.5°	1275.4	1276.8	1278.1	1278.0	1276.3	1274.6	1272.9	1271.2
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2

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