

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: P331950-930

Luminaire Tested: **S123DIP-S560D1195U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331950-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D1195U930-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5271.3 lumens
Efficiency: N/A
Efficacy: 106.7 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

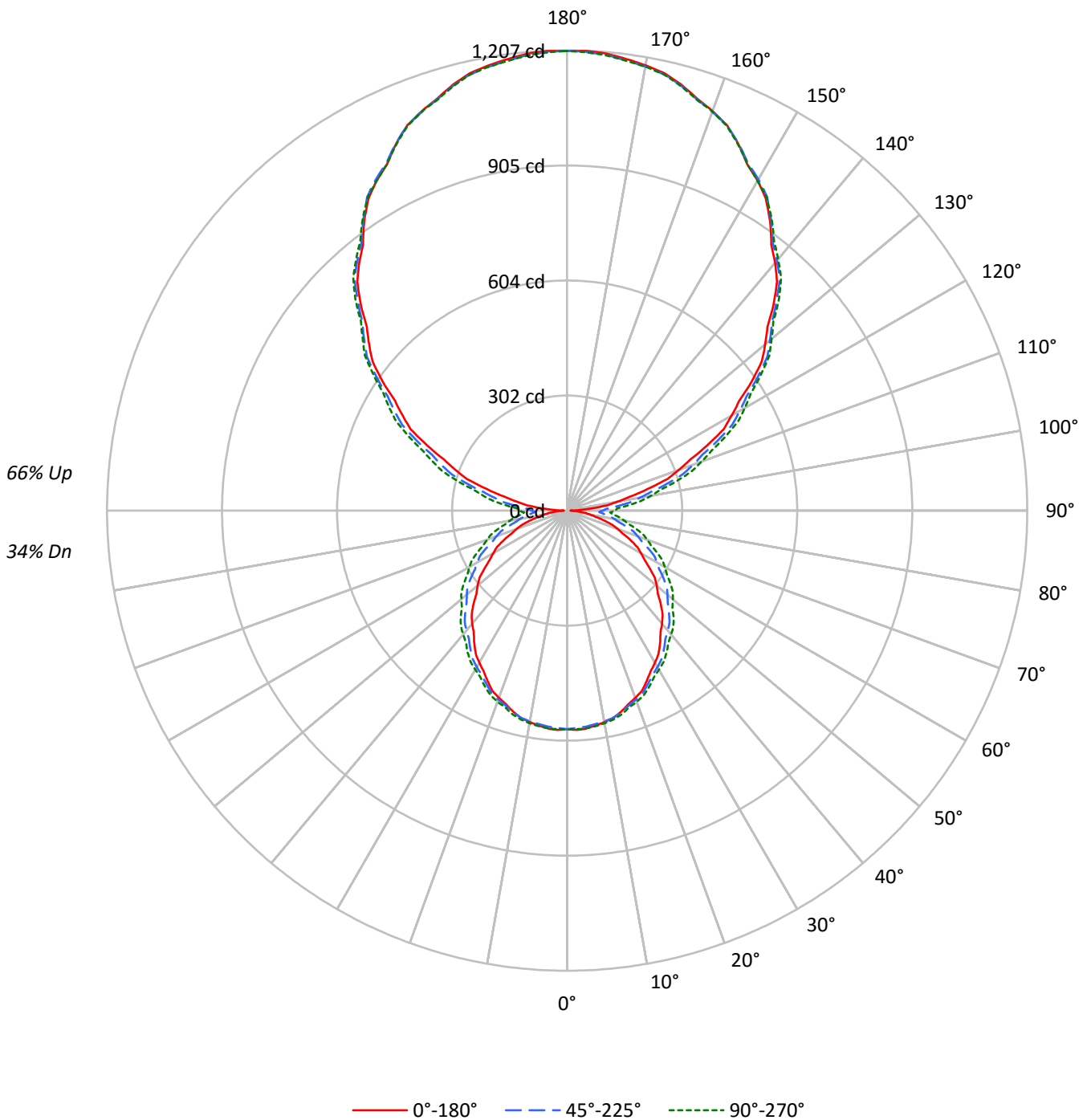
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331950-930

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-D1

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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	93	89	85	81	84	80	77	74	64	61	59	49	47	46	35	34	33	27
2	85	77	71	66	76	70	64	60	56	52	48	42	40	38	30	29	27	22
3	77	68	60	54	69	61	55	50	49	44	40	37	34	32	27	25	23	18
4	70	60	52	46	63	54	47	42	43	38	34	33	30	27	24	21	20	15
5	64	53	45	39	58	48	41	36	38	33	29	30	26	23	21	19	17	13
6	59	47	39	33	53	43	36	31	34	29	25	27	23	20	19	17	15	12
7	55	42	35	29	49	39	32	27	31	26	22	24	20	18	18	15	13	10
8	51	38	31	25	45	35	28	23	28	23	19	22	18	16	16	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	16	14	15	12	10	8
10	44	32	25	20	39	29	23	19	24	19	15	19	15	12	14	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6171	6171	6171
5°	6191	6015	6019
10°	6135	5878	5848
15°	6056	5720	5660
20°	5943	5540	5454
25°	5804	5333	5238
30°	5660	5147	5019
35°	5500	4950	4844
40°	5347	4771	4656
45°	5177	4599	4506
50°	5010	4430	4341
55°	4826	4256	4193
60°	4646	4080	4040
65°	4462	3891	3859
70°	4185	3680	3673
75°	3832	3437	3484
80°	3426	3199	3268
85°	3052	3034	3143



TEST NUMBER: P331950-930

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.4	1.0
10°-20°	154.9	2.9
20°-30°	231.7	4.4
30°-40°	276.7	5.2
40°-50°	289.5	5.5
50°-60°	271.7	5.2
60°-70°	226.9	4.3
70°-80°	162.4	3.1
80°-90°	100.4	1.9
90°-100°	139.3	2.6
100°-110°	279.8	5.3
110°-120°	429.7	8.2
120°-130°	543.1	10.3
130°-140°	598.9	11.4
140°-150°	582.8	11.1
150°-160°	489.3	9.3
160°-170°	325.7	6.2
170°-180°	114.0	2.2
0°-30°	441.0	8.4
0°-40°	717.7	13.6
0°-60°	1279.0	24.3
0°-90°	1768.6	33.6
90°-120°	848.8	16.1
90°-150°	2573.6	48.8
90°-180°	3503.0	66.5
0°-180°	5271.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	573	573	573	573	573	
5°	574	573	569	574	573	54
15°	546	548	548	554	553	154
25°	493	499	502	509	510	227
35°	425	435	443	452	455	266
45°	347	362	378	389	395	268
55°	265	286	308	324	330	237
65°	183	208	235	253	260	181
75°	99	129	160	180	188	106
85°	31	62	95	115	122	32
90°	9	49	93	117	126	9
95°	63	94	132	154	161	68
105°	218	236	270	287	295	233
115°	406	417	437	452	457	401
125°	591	595	610	619	620	527
135°	766	771	777	784	785	590
145°	928	929	932	936	935	579
155°	1062	1062	1063	1066	1060	489
165°	1157	1154	1154	1159	1153	326
175°	1203	1199	1199	1204	1198	114
180°	1206	1206	1206	1206	1206	



TEST NUMBER: P331950-930

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3
2.5°	575.8	575.5	575.2	574.8	574.5	573.9	573.0	572.1	571.2	570.3	571.2
5°	574.0	573.6	573.4	573.2	572.8	572.3	571.4	570.6	569.8	568.9	570.1
7.5°	568.3	568.3	568.4	568.5	568.6	568.2	567.4	566.6	565.7	564.9	566.3
10°	563.4	563.6	563.9	564.2	564.4	564.3	563.5	562.9	562.1	561.5	562.9
12.5°	557.3	557.7	558.2	558.5	558.9	558.9	558.4	557.9	557.4	556.9	558.2
15°	546.5	546.9	547.3	547.7	548.1	548.3	548.1	548.0	547.9	547.7	549.1
17.5°	532.7	533.5	534.4	535.2	536.1	536.5	536.4	536.3	536.3	536.2	537.4
20°	522.8	523.6	524.4	525.2	526.0	526.6	526.9	527.2	527.4	527.7	529.0
22.5°	512.3	513.1	513.9	514.8	515.6	516.2	516.6	517.0	517.4	517.7	519.3
25°	493.4	494.8	496.2	497.6	499.0	499.9	500.3	500.7	501.1	501.5	503.3
27.5°	474.4	476.0	477.6	479.2	480.7	481.9	482.8	483.7	484.6	485.5	487.1
30°	460.9	462.7	464.5	466.4	468.1	469.6	470.7	471.8	472.9	474.0	475.7
32.5°	445.9	447.9	450.0	452.0	454.0	455.8	457.2	458.6	460.1	461.5	463.3
35°	424.7	426.9	429.1	431.4	433.6	435.6	437.4	439.2	441.0	442.8	444.9
37.5°	402.2	404.7	407.2	409.7	412.2	414.6	416.8	419.0	421.2	423.5	425.8
40°	387.2	389.7	392.2	394.7	397.2	399.8	402.6	405.4	408.1	410.9	413.3
42.5°	370.7	373.8	376.8	379.8	382.9	385.9	388.8	391.7	394.6	397.5	400.1
45°	347.2	350.6	353.9	357.3	360.5	363.9	367.5	370.9	374.4	377.8	380.5
47.5°	322.6	326.4	330.2	333.9	337.7	341.6	345.6	349.5	353.5	357.5	360.4
50°	306.6	310.5	314.4	318.3	322.2	326.3	330.6	334.9	339.2	343.5	346.7
52.5°	289.7	293.8	297.9	302.0	306.1	310.5	315.3	320.0	324.7	329.5	332.8
55°	264.8	269.4	273.9	278.5	283.2	287.9	292.9	297.9	302.9	307.9	311.6
57.5°	240.6	245.3	250.1	254.9	259.7	264.8	270.3	275.7	281.2	286.7	290.4
60°	223.6	228.6	233.6	238.6	243.5	248.9	254.6	260.3	266.0	271.7	275.6
62.5°	207.6	212.7	217.8	222.9	228.0	233.6	239.6	245.6	251.7	257.7	261.5
65°	183.0	188.4	193.8	199.3	204.6	210.4	216.5	222.6	228.7	234.8	239.0
67.5°	158.0	163.8	169.5	175.2	181.0	186.9	193.2	199.4	205.6	211.8	216.4
70°	140.6	146.5	152.5	158.4	164.4	170.7	177.3	184.0	190.7	197.4	201.8
72.5°	124.5	130.5	136.5	142.4	148.4	154.8	161.7	168.6	175.5	182.4	186.9
75°	99.3	105.8	112.3	118.9	125.4	132.2	139.1	146.0	153.0	159.9	164.4
77.5°	77.3	83.9	90.5	97.0	103.6	110.4	117.4	124.4	131.4	138.4	143.2
80°	61.8	68.6	75.4	82.3	89.0	96.0	103.2	110.5	117.7	124.9	129.6
82.5°	48.3	55.3	62.1	69.1	76.0	83.1	90.4	97.8	105.1	112.4	117.2
85°	30.6	37.5	44.5	51.4	58.4	65.5	72.9	80.2	87.6	94.9	99.6
87.5°	16.8	24.1	31.5	38.8	46.1	53.6	61.2	68.9	76.5	84.1	89.0
90°	9.0	17.9	26.9	35.8	44.7	54.1	63.8	73.7	83.5	93.3	98.9
92.5°	30.6	38.1	45.7	53.2	60.8	68.8	77.4	85.9	94.4	103.0	108.3
95°	62.8	69.6	76.6	83.4	90.3	98.0	106.5	115.0	123.4	131.9	137.1
97.5°	105.4	111.4	117.3	123.4	129.3	136.2	143.9	151.6	159.3	167.1	172.1
100°	134.4	140.1	145.9	151.6	157.3	163.9	171.3	178.7	186.1	193.6	198.3
102.5°	168.0	172.8	177.6	182.3	187.1	193.3	201.0	208.6	216.3	224.0	228.4
105°	218.2	221.9	225.7	229.4	233.2	239.0	246.8	254.7	262.5	270.4	274.3
107.5°	275.7	278.8	281.9	285.0	288.0	292.9	299.2	305.7	312.1	318.5	322.9
110°	311.6	314.5	317.5	320.3	323.3	327.8	333.7	339.7	345.7	351.6	356.0



TEST NUMBER: P331950-930

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	349.5	351.8	354.1	356.4	358.7	362.6	368.0	373.4	378.9	384.3	388.7
115°	405.7	408.0	410.3	412.6	414.9	418.3	422.9	427.5	432.0	436.7	440.2
117.5°	462.8	464.2	465.7	467.2	468.6	471.4	475.6	479.7	483.8	488.0	491.2
120°	497.9	499.9	501.8	503.8	505.7	508.5	512.0	515.5	519.1	522.6	525.6
122.5°	535.1	536.4	537.6	538.9	540.2	542.7	546.6	550.4	554.2	558.0	560.5
125°	591.1	591.7	592.3	593.0	593.6	595.7	599.3	602.9	606.5	610.2	612.2
127.5°	643.4	644.6	645.8	647.0	648.2	650.3	653.1	656.0	658.8	661.7	663.2
130°	678.2	679.8	681.3	682.9	684.4	686.2	688.4	690.6	692.7	694.8	696.6
132.5°	712.6	714.3	715.9	717.5	719.3	720.9	722.7	724.5	726.2	728.0	729.4
135°	765.7	766.8	767.9	769.1	770.2	771.4	772.7	774.0	775.3	776.7	778.4
137.5°	814.8	815.8	816.7	817.7	818.6	819.8	821.2	822.6	824.0	825.4	826.7
140°	848.4	849.5	850.5	851.6	852.6	853.5	854.1	854.8	855.4	856.0	857.9
142.5°	879.5	880.4	881.4	882.3	883.3	883.9	884.4	884.9	885.3	885.8	887.5
145°	928.0	928.3	928.5	928.9	929.1	929.6	930.3	930.8	931.5	932.1	933.0
147.5°	969.8	970.6	971.3	972.1	972.9	973.5	974.1	974.7	975.3	975.9	976.2
150°	999.4	999.8	1000.2	1000.6	1001.1	1001.5	1001.9	1002.3	1002.7	1003.1	1003.1
152.5°	1023.6	1024.3	1024.8	1025.4	1026.0	1026.4	1026.6	1027.0	1027.2	1027.4	1027.8
155°	1061.9	1061.9	1061.9	1061.9	1061.9	1062.0	1062.3	1062.4	1062.7	1062.8	1063.7
157.5°	1094.5	1094.2	1094.0	1093.7	1093.5	1093.4	1093.6	1093.8	1094.0	1094.1	1095.0
160°	1114.9	1114.5	1114.1	1113.7	1113.3	1113.0	1113.0	1113.0	1113.0	1113.0	1114.1
162.5°	1133.1	1132.5	1132.0	1131.4	1130.8	1130.6	1130.7	1130.9	1131.1	1131.2	1132.3
165°	1156.7	1156.0	1155.4	1154.7	1154.1	1153.8	1153.8	1153.8	1153.8	1153.8	1155.0
167.5°	1175.4	1174.5	1173.7	1172.9	1172.0	1171.7	1171.8	1172.0	1172.2	1172.3	1173.6
170°	1186.0	1185.1	1184.3	1183.5	1182.6	1182.2	1182.2	1182.2	1182.2	1182.2	1183.7
172.5°	1194.3	1193.5	1192.6	1191.8	1191.0	1190.6	1190.6	1190.6	1190.6	1190.6	1191.9
175°	1203.1	1202.2	1201.3	1200.5	1199.7	1199.2	1199.2	1199.2	1199.2	1199.2	1200.5
177.5°	1206.6	1206.0	1205.3	1204.6	1204.0	1203.6	1203.6	1203.6	1203.6	1203.6	1204.6
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9



TEST NUMBER: P331950-930

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3
2.5°	572.1	573.0	573.9	574.3	574.1	574.1	574.0	573.8
5°	571.2	572.3	573.4	573.9	573.7	573.6	573.5	573.3
7.5°	567.7	569.1	570.5	571.1	571.0	570.8	570.6	570.5
10°	564.3	565.7	567.0	567.5	567.3	567.0	566.7	566.5
12.5°	559.5	560.8	562.1	562.6	562.3	562.0	561.7	561.5
15°	550.5	551.9	553.3	553.9	553.8	553.6	553.5	553.3
17.5°	538.7	540.0	541.2	541.8	541.5	541.4	541.2	541.0
20°	530.3	531.5	532.7	533.5	533.5	533.7	533.9	533.9
22.5°	520.9	522.5	524.1	524.8	524.7	524.6	524.6	524.5
25°	505.1	507.0	508.7	509.6	509.6	509.6	509.6	509.6
27.5°	488.6	490.2	491.7	492.6	492.7	492.8	492.9	493.0
30°	477.4	479.0	480.7	481.5	481.5	481.5	481.5	481.5
32.5°	465.0	466.8	468.6	469.7	470.0	470.3	470.7	471.0
35°	446.9	449.1	451.1	452.4	453.0	453.6	454.1	454.7
37.5°	428.1	430.5	432.8	434.3	434.7	435.1	435.6	436.0
40°	415.6	418.0	420.4	421.8	422.4	423.0	423.5	424.0
42.5°	402.6	405.2	407.8	409.4	410.3	411.0	411.8	412.5
45°	383.1	385.7	388.4	390.3	391.3	392.5	393.6	394.7
47.5°	363.5	366.4	369.3	371.3	372.1	373.0	373.9	374.7
50°	349.8	353.1	356.3	358.3	359.3	360.3	361.3	362.2
52.5°	336.1	339.4	342.8	345.0	346.2	347.3	348.5	349.8
55°	315.4	319.1	322.9	325.3	326.4	327.5	328.6	329.8
57.5°	294.2	298.0	301.7	304.3	305.6	306.9	308.2	309.5
60°	279.5	283.3	287.2	289.9	291.5	292.9	294.5	296.0
62.5°	265.5	269.4	273.2	275.9	277.3	278.7	280.1	281.5
65°	243.1	247.3	251.5	254.3	255.7	257.1	258.4	259.8
67.5°	220.9	225.5	230.1	232.9	234.1	235.2	236.4	237.6
70°	206.3	210.7	215.2	218.0	219.4	220.8	222.2	223.6
72.5°	191.4	196.0	200.6	203.6	205.0	206.4	207.7	209.1
75°	169.0	173.7	178.2	181.3	183.0	184.7	186.3	188.0
77.5°	148.1	152.9	157.7	160.8	162.1	163.3	164.6	165.9
80°	134.4	139.1	143.8	146.8	148.2	149.6	151.0	152.4
82.5°	121.9	126.5	131.3	134.4	135.7	137.1	138.5	139.9
85°	104.4	109.1	113.8	116.8	118.2	119.6	121.0	122.4
87.5°	93.9	98.8	103.6	106.8	108.4	109.8	111.3	112.8
90°	104.4	110.0	115.5	119.2	121.1	122.9	124.7	126.5
92.5°	113.5	118.8	124.1	127.3	128.2	129.3	130.3	131.3
95°	142.2	147.3	152.5	155.8	157.2	158.6	160.0	161.3
97.5°	177.2	182.3	187.4	190.6	191.9	193.2	194.5	195.8
100°	202.9	207.6	212.2	215.4	217.3	219.1	220.9	222.7
102.5°	233.0	237.6	242.1	245.0	246.3	247.6	248.9	250.2
105°	278.2	282.1	285.9	288.7	290.4	292.0	293.8	295.4
107.5°	327.3	331.7	336.1	338.8	339.7	340.7	341.7	342.7
110°	360.5	365.0	369.4	372.0	372.7	373.4	374.1	374.8



TEST NUMBER: P331950-930

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	393.3	397.8	402.3	405.1	406.3	407.4	408.5	409.7
115°	443.7	447.3	450.8	453.1	454.0	454.9	455.8	456.6
117.5°	494.5	497.7	501.0	502.9	503.4	503.9	504.3	504.8
120°	528.6	531.6	534.5	536.3	536.9	537.4	537.9	538.5
122.5°	563.0	565.6	568.1	569.6	570.0	570.4	570.7	571.1
125°	614.2	616.4	618.4	619.5	619.6	619.8	620.0	620.0
127.5°	664.9	666.4	668.0	668.8	668.7	668.7	668.7	668.6
130°	698.4	700.2	702.1	702.6	702.0	701.3	700.7	700.0
132.5°	731.0	732.5	734.0	734.7	734.5	734.3	734.1	733.9
135°	780.0	781.6	783.3	784.2	784.6	784.8	785.1	785.4
137.5°	828.0	829.3	830.6	831.3	831.1	831.0	831.0	830.8
140°	859.7	861.6	863.5	864.1	863.2	862.5	861.7	860.9
142.5°	889.2	890.8	892.4	893.0	892.6	892.2	891.7	891.3
145°	933.9	934.8	935.7	936.0	935.7	935.5	935.1	934.9
147.5°	976.6	976.9	977.2	977.0	976.2	975.5	974.7	974.0
150°	1003.1	1003.1	1003.1	1002.7	1001.7	1000.7	999.7	998.7
152.5°	1028.1	1028.4	1028.7	1028.4	1027.4	1026.3	1025.3	1024.3
155°	1064.5	1065.4	1066.2	1065.9	1064.5	1063.0	1061.5	1060.0
157.5°	1095.8	1096.7	1097.6	1097.5	1096.3	1095.1	1094.0	1092.7
160°	1115.2	1116.2	1117.3	1117.4	1116.6	1115.7	1114.8	1114.0
162.5°	1133.3	1134.4	1135.5	1135.3	1133.9	1132.6	1131.2	1129.9
165°	1156.3	1157.6	1158.9	1158.7	1157.2	1155.8	1154.3	1152.8
167.5°	1174.9	1176.2	1177.5	1177.5	1176.2	1174.9	1173.6	1172.3
170°	1185.1	1186.7	1188.1	1188.1	1186.7	1185.1	1183.7	1182.2
172.5°	1193.2	1194.5	1195.8	1195.7	1194.2	1192.7	1191.2	1189.8
175°	1201.8	1203.1	1204.3	1204.2	1202.7	1201.3	1199.8	1198.3
177.5°	1205.7	1206.6	1207.6	1207.5	1206.4	1205.2	1204.0	1202.9
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9

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