

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: P332134-940

Luminaire Tested: **S123DIW-S560D1030U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332134-940
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-S560D1030U940-4F0-1E-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: 5786.8 lumens
Efficiency: N/A
Efficacy: 128.0 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

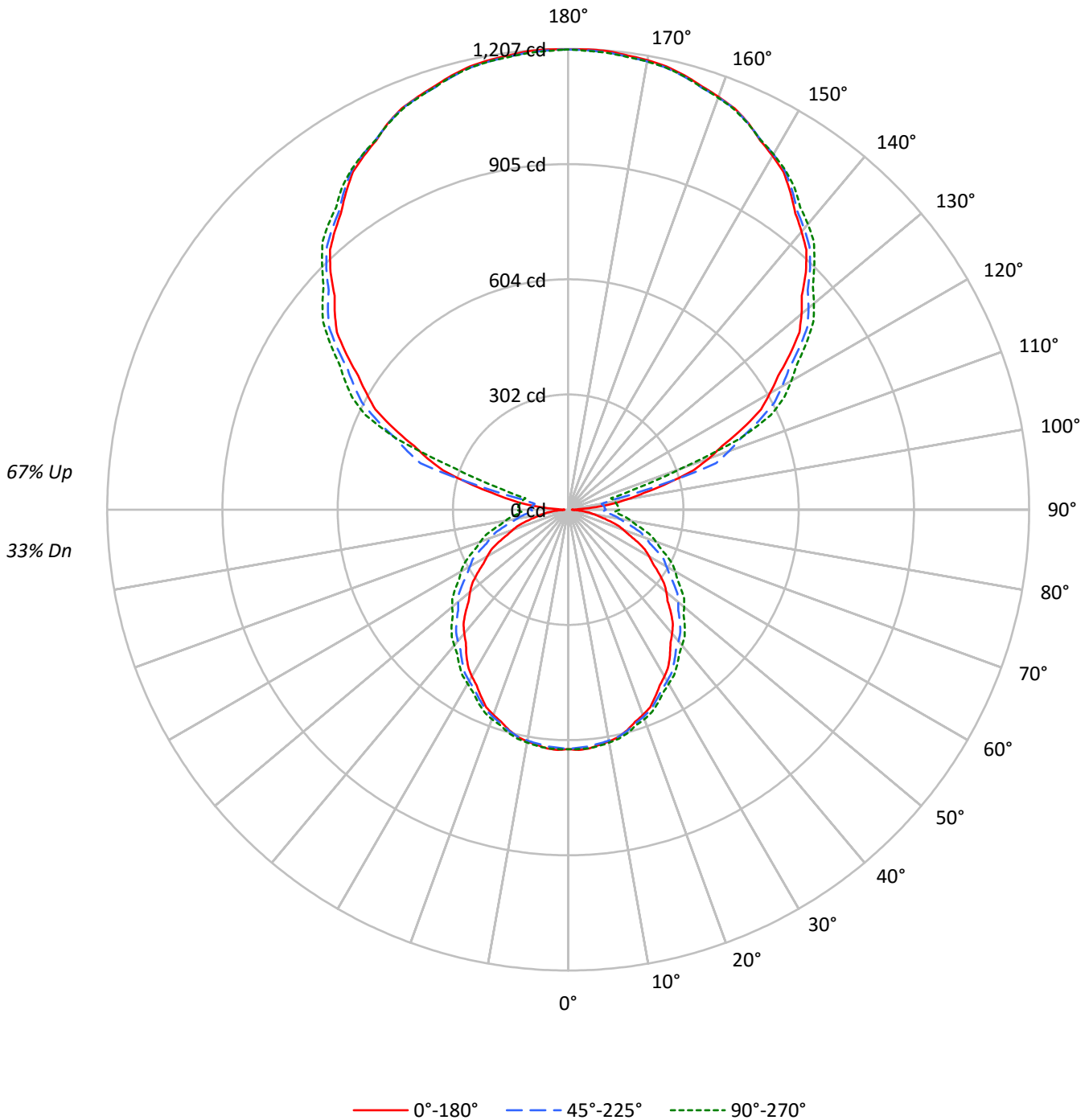
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332134-940

CATALOG NUMBER: S123DIW-S560D1030U940-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332134-940

CATALOG NUMBER: S123DIW-S560D1030U940-4F0-1E-UDD-D

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	33
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	55	52	48	42	40	38	30	29	27	22
3	77	68	60	54	69	61	55	50	49	44	40	37	34	31	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	29	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	17	15	13	10
8	51	38	31	25	45	35	28	23	28	23	19	22	18	16	16	13	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°	6750	6750	6750
5°	6771	6579	6584
10°	6710	6428	6396
15°	6624	6256	6191
20°	6501	6059	5966
25°	6348	5833	5729
30°	6191	5629	5489
35°	6016	5414	5298
40°	5848	5218	5093
45°	5664	5030	4929
50°	5480	4845	4748
55°	5278	4654	4586
60°	5080	4461	4419
65°	4879	4255	4221
70°	4575	4025	4016
75°	4191	3760	3810
80°	3748	3499	3575
85°	3332	3319	3435



TEST NUMBER: P332134-940

CATALOG NUMBER: S123DIW-S560D1030U940-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.4	1.0
10°-20°	169.5	2.9
20°-30°	253.4	4.4
30°-40°	302.7	5.2
40°-50°	316.7	5.5
50°-60°	297.2	5.1
60°-70°	248.2	4.3
70°-80°	177.6	3.1
80°-90°	109.3	1.9
90°-100°	110.3	1.9
100°-110°	257.7	4.5
110°-120°	534.4	9.2
120°-130°	657.6	11.4
130°-140°	691.0	11.9
140°-150°	640.2	11.1
150°-160°	515.0	8.9
160°-170°	332.3	5.7
170°-180°	114.5	2.0
0°-30°	482.3	8.3
0°-40°	785.0	13.6
0°-60°	1398.8	24.2
0°-90°	1933.9	33.4
90°-120°	902.4	15.6
90°-150°	2891.1	50.0
90°-180°	3853.0	66.6
0°-180°	5786.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	627	627	627	627	627	
5°	628	626	622	627	627	59
15°	598	600	599	605	605	168
25°	540	546	548	557	557	249
35°	464	475	484	494	497	290
45°	380	396	413	426	432	293
55°	290	312	337	354	361	259
65°	200	227	257	277	284	198
75°	109	141	175	197	206	116
85°	33	68	104	126	134	35
90°	10	52	99	124	134	9
95°	62	55	95	122	130	73
105°	272	294	247	116	116	288
115°	504	519	550	575	585	498
125°	708	716	738	754	761	632
135°	880	885	896	910	912	677
145°	1015	1020	1022	1029	1032	635
155°	1117	1115	1116	1120	1115	514
165°	1178	1175	1174	1181	1175	333
175°	1206	1201	1202	1208	1201	115
180°	1206	1206	1206	1206	1206	



TEST NUMBER: P332134-940

CATALOG NUMBER: S123DIW-S560D1030U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	629.8	629.5	629.1	628.7	628.3	627.7	626.7	625.7	624.7	623.8	624.7
5°	627.8	627.4	627.1	626.9	626.5	625.9	625.0	624.1	623.2	622.2	623.5
7.5°	621.6	621.6	621.7	621.8	621.9	621.4	620.5	619.6	618.8	617.9	619.4
10°	616.2	616.4	616.7	617.1	617.3	617.2	616.4	615.6	614.8	614.1	615.6
12.5°	609.6	610.0	610.5	610.8	611.3	611.3	610.7	610.2	609.7	609.1	610.6
15°	597.7	598.2	598.6	599.1	599.5	599.7	599.5	599.3	599.2	599.1	600.6
17.5°	582.6	583.5	584.5	585.4	586.3	586.7	586.7	586.6	586.6	586.5	587.8
20°	571.8	572.7	573.5	574.4	575.3	576.0	576.3	576.6	576.8	577.2	578.5
22.5°	560.3	561.2	562.0	563.0	563.9	564.5	565.0	565.4	565.9	566.2	568.0
25°	539.7	541.2	542.7	544.2	545.7	546.7	547.2	547.6	548.0	548.5	550.5
27.5°	518.9	520.6	522.4	524.1	525.8	527.1	528.1	529.1	530.0	531.0	532.7
30°	504.1	506.0	508.0	510.1	512.0	513.6	514.8	516.0	517.2	518.4	520.3
32.5°	487.7	489.9	492.1	494.4	496.6	498.5	500.1	501.6	503.2	504.8	506.8
35°	464.5	466.9	469.3	471.8	474.2	476.4	478.4	480.4	482.3	484.3	486.6
37.5°	439.9	442.6	445.3	448.1	450.8	453.4	455.8	458.3	460.7	463.2	465.7
40°	423.5	426.2	429.0	431.7	434.4	437.3	440.3	443.4	446.4	449.4	452.0
42.5°	405.5	408.8	412.1	415.4	418.8	422.0	425.3	428.4	431.6	434.7	437.6
45°	379.8	383.4	387.1	390.7	394.3	398.1	401.9	405.6	409.5	413.2	416.2
47.5°	352.8	357.0	361.1	365.2	369.3	373.6	378.0	382.3	386.6	391.0	394.2
50°	335.4	339.7	343.8	348.1	352.4	356.9	361.6	366.3	371.0	375.7	379.2
52.5°	316.8	321.3	325.8	330.3	334.7	339.7	344.8	350.0	355.2	360.4	364.0
55°	289.6	294.6	299.6	304.6	309.7	314.9	320.4	325.8	331.3	336.7	340.8
57.5°	263.1	268.3	273.6	278.7	284.0	289.6	295.6	301.6	307.6	313.5	317.6
60°	244.5	250.0	255.5	260.9	266.4	272.2	278.5	284.7	290.9	297.1	301.4
62.5°	227.0	232.6	238.3	243.8	249.4	255.5	262.1	268.7	275.3	281.9	286.1
65°	200.1	206.1	212.0	217.9	223.8	230.2	236.8	243.4	250.1	256.8	261.4
67.5°	172.8	179.1	185.4	191.6	198.0	204.5	211.3	218.1	224.9	231.7	236.7
70°	153.7	160.2	166.7	173.3	179.8	186.7	193.9	201.3	208.6	215.9	220.7
72.5°	136.2	142.8	149.3	155.8	162.3	169.3	176.8	184.4	191.9	199.5	204.5
75°	108.6	115.7	122.9	130.0	137.1	144.5	152.1	159.7	167.3	174.9	179.9
77.5°	84.5	91.8	99.0	106.1	113.3	120.7	128.4	136.1	143.7	151.4	156.7
80°	67.6	75.1	82.5	90.0	97.4	105.0	112.9	120.8	128.8	136.6	141.8
82.5°	52.9	60.5	67.9	75.5	83.1	90.9	98.9	106.9	114.9	123.0	128.1
85°	33.4	41.0	48.7	56.3	63.8	71.6	79.7	87.7	95.8	103.8	109.0
87.5°	18.4	26.3	34.2	42.2	50.2	58.3	66.5	74.8	83.1	91.3	96.7
90°	9.8	19.2	28.6	38.1	47.5	57.3	67.7	78.0	88.4	98.7	104.6
92.5°	25.0	31.1	37.3	43.4	49.6	57.4	67.1	76.6	86.1	95.8	102.1
95°	62.2	59.9	57.7	55.5	53.1	56.9	66.5	76.2	85.8	95.4	101.5
97.5°	116.5	118.2	119.8	121.5	123.2	120.5	113.2	106.0	98.8	91.6	97.6
100°	157.5	166.4	175.2	184.0	192.9	185.2	161.2	137.1	113.1	89.0	95.0
102.5°	204.3	211.5	218.7	226.0	233.2	223.3	196.3	169.2	142.1	115.1	114.4
105°	272.3	278.2	284.0	289.9	295.7	292.9	281.5	270.2	258.8	247.4	216.4
107.5°	343.6	348.4	353.2	358.1	362.9	369.9	378.9	387.9	396.9	406.0	384.1
110°	391.0	395.3	399.7	403.9	408.3	414.6	422.8	431.1	439.3	447.6	445.1



TEST NUMBER: P332134-940

CATALOG NUMBER: S123DIW-S560D1030U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	436.8	440.6	444.3	447.9	451.6	457.4	465.5	473.5	481.5	489.5	493.5
115°	504.1	507.1	510.1	513.1	516.1	521.3	528.5	535.8	543.1	550.3	555.9
117.5°	569.7	572.3	574.9	577.5	580.1	584.4	590.4	596.5	602.5	608.6	613.8
120°	610.0	612.5	615.1	617.6	620.2	624.3	629.9	635.4	641.1	646.7	651.8
122.5°	651.6	653.4	655.2	657.1	659.0	662.7	668.2	673.8	679.3	684.7	689.3
125°	707.8	709.4	711.0	712.6	714.2	717.6	722.7	728.0	733.2	738.3	742.0
127.5°	762.9	764.5	765.9	767.3	768.7	771.8	776.3	781.0	785.6	790.1	793.8
130°	797.4	798.8	800.2	801.7	803.2	805.7	809.6	813.4	817.3	821.1	824.7
132.5°	829.8	831.3	832.9	834.5	836.1	838.4	841.4	844.5	847.6	850.6	854.2
135°	880.0	881.0	882.1	883.2	884.1	885.9	888.4	890.8	893.3	895.8	899.1
137.5°	922.8	924.3	925.6	927.0	928.4	929.8	931.2	932.6	933.9	935.3	938.7
140°	950.9	952.2	953.3	954.6	955.7	956.9	957.9	958.9	960.0	961.1	964.1
142.5°	977.5	978.6	979.6	980.7	981.8	982.7	983.3	984.0	984.7	985.4	988.1
145°	1014.6	1015.7	1017.0	1018.2	1019.5	1020.3	1020.7	1021.1	1021.5	1021.9	1023.5
147.5°	1048.8	1049.7	1050.6	1051.5	1052.5	1053.1	1053.5	1053.9	1054.3	1054.7	1055.4
150°	1070.3	1070.9	1071.5	1072.1	1072.6	1073.2	1073.5	1074.0	1074.3	1074.8	1075.1
152.5°	1089.7	1089.9	1090.2	1090.5	1090.7	1091.0	1091.3	1091.5	1091.7	1092.0	1092.7
155°	1116.9	1116.4	1116.1	1115.7	1115.3	1115.2	1115.4	1115.5	1115.8	1116.0	1117.0
157.5°	1138.0	1138.0	1137.9	1137.9	1137.8	1137.7	1137.6	1137.3	1137.1	1136.9	1138.1
160°	1150.9	1150.7	1150.5	1150.3	1150.1	1149.9	1149.7	1149.5	1149.3	1149.1	1150.3
162.5°	1163.1	1162.5	1162.1	1161.5	1161.0	1160.7	1160.5	1160.3	1160.0	1159.8	1161.2
165°	1177.8	1177.1	1176.6	1176.0	1175.4	1175.0	1174.7	1174.6	1174.4	1174.2	1175.8
167.5°	1189.2	1188.5	1187.7	1186.9	1186.1	1185.6	1185.6	1185.6	1185.6	1185.6	1187.2
170°	1195.7	1194.9	1194.1	1193.3	1192.5	1192.1	1192.1	1192.1	1192.1	1192.1	1193.6
172.5°	1200.0	1199.0	1198.1	1197.1	1196.1	1195.8	1195.9	1196.1	1196.2	1196.4	1198.0
175°	1205.5	1204.5	1203.5	1202.6	1201.6	1201.1	1201.3	1201.6	1201.8	1201.9	1203.4
177.5°	1206.9	1206.1	1205.4	1204.6	1203.8	1203.5	1203.6	1203.8	1203.9	1204.1	1205.4
180°	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5



TEST NUMBER: P332134-940

CATALOG NUMBER: S123DIW-S560D1030U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	625.7	626.7	627.7	628.1	627.9	627.9	627.8	627.6
5°	624.7	625.9	627.1	627.7	627.5	627.3	627.2	627.1
7.5°	620.9	622.4	624.0	624.6	624.5	624.3	624.1	623.9
10°	617.2	618.7	620.2	620.7	620.5	620.2	619.8	619.6
12.5°	612.0	613.3	614.7	615.3	615.0	614.7	614.4	614.1
15°	602.1	603.6	605.1	605.8	605.6	605.5	605.4	605.2
17.5°	589.2	590.6	591.9	592.5	592.3	592.1	591.9	591.7
20°	580.0	581.3	582.6	583.4	583.5	583.7	583.9	584.0
22.5°	569.7	571.5	573.2	574.0	573.9	573.8	573.7	573.6
25°	552.4	554.5	556.4	557.4	557.4	557.4	557.4	557.4
27.5°	534.4	536.1	537.8	538.8	538.9	539.0	539.1	539.2
30°	522.1	523.9	525.8	526.6	526.6	526.6	526.6	526.6
32.5°	508.6	510.6	512.6	513.7	514.1	514.4	514.8	515.1
35°	488.8	491.2	493.4	494.8	495.4	496.1	496.7	497.3
37.5°	468.2	470.8	473.4	475.0	475.5	475.9	476.4	476.9
40°	454.6	457.2	459.8	461.4	462.0	462.6	463.2	463.8
42.5°	440.3	443.2	446.0	447.8	448.7	449.5	450.4	451.2
45°	419.0	421.9	424.8	426.9	428.0	429.3	430.5	431.7
47.5°	397.5	400.7	403.9	406.1	407.0	408.0	408.9	409.8
50°	382.6	386.2	389.7	391.9	393.0	394.0	395.1	396.2
52.5°	367.7	371.2	374.9	377.3	378.6	379.9	381.2	382.5
55°	344.9	349.0	353.1	355.8	357.0	358.2	359.4	360.7
57.5°	321.8	325.9	330.0	332.8	334.2	335.6	337.1	338.5
60°	305.7	309.9	314.1	317.1	318.8	320.4	322.1	323.8
62.5°	290.3	294.6	298.8	301.8	303.3	304.8	306.4	307.9
65°	265.9	270.5	275.1	278.1	279.6	281.2	282.7	284.2
67.5°	241.7	246.6	251.6	254.8	256.0	257.3	258.6	259.8
70°	225.6	230.4	235.3	238.4	240.0	241.5	243.0	244.5
72.5°	209.4	214.4	219.4	222.7	224.2	225.7	227.2	228.7
75°	184.9	189.9	194.9	198.3	200.1	202.0	203.8	205.6
77.5°	161.9	167.2	172.5	175.8	177.3	178.6	180.0	181.5
80°	147.0	152.1	157.3	160.6	162.1	163.6	165.1	166.7
82.5°	133.3	138.4	143.6	147.0	148.5	150.0	151.5	153.0
85°	114.1	119.3	124.5	127.8	129.3	130.8	132.3	133.8
87.5°	101.9	107.3	112.6	116.1	117.6	119.2	120.8	122.4
90°	110.6	116.5	122.5	126.4	128.4	130.3	132.2	134.1
92.5°	108.3	114.7	121.0	124.9	126.6	128.2	129.8	131.5
95°	107.6	113.7	119.8	123.6	125.1	126.6	128.1	129.7
97.5°	103.8	109.9	116.0	119.9	121.6	123.3	125.1	126.8
100°	100.9	107.0	113.0	116.8	118.5	120.3	122.0	123.7
102.5°	113.8	113.2	112.4	113.1	114.9	116.8	118.7	120.6
105°	185.4	154.4	123.5	108.9	110.7	112.4	114.1	115.9
107.5°	362.4	340.6	318.9	295.4	270.2	245.0	219.7	194.6
110°	442.4	439.8	437.2	422.2	394.9	367.7	340.5	313.3



TEST NUMBER: P332134-940

CATALOG NUMBER: S123DIW-S560D1030U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	497.4	501.3	505.3	504.9	500.2	495.6	490.9	486.2
115°	561.6	567.2	572.8	576.7	578.6	580.7	582.6	584.7
117.5°	619.0	624.2	629.4	632.7	634.0	635.3	636.7	638.0
120°	656.8	661.9	667.0	670.1	671.2	672.2	673.2	674.3
122.5°	693.8	698.2	702.8	705.6	706.8	708.0	709.3	710.4
125°	745.6	749.1	752.7	755.3	756.7	758.1	759.6	761.1
127.5°	797.5	801.1	804.8	806.9	807.5	808.2	808.8	809.4
130°	828.5	832.1	835.8	837.9	838.5	838.9	839.5	840.0
132.5°	857.7	861.3	864.9	866.8	867.4	867.8	868.3	868.8
135°	902.4	905.8	909.1	910.9	911.0	911.2	911.3	911.5
137.5°	942.0	945.4	948.7	950.6	950.9	951.3	951.6	952.0
140°	967.2	970.3	973.4	975.1	975.4	975.8	976.2	976.5
142.5°	990.7	993.4	996.0	997.5	997.7	997.9	998.1	998.4
145°	1025.1	1026.8	1028.4	1029.5	1030.1	1030.7	1031.3	1031.9
147.5°	1056.2	1057.0	1057.7	1057.9	1057.6	1057.2	1056.9	1056.5
150°	1075.6	1075.9	1076.4	1076.4	1076.1	1075.8	1075.5	1075.2
152.5°	1093.4	1094.1	1094.8	1094.8	1093.9	1093.1	1092.2	1091.4
155°	1117.9	1118.9	1120.0	1119.8	1118.7	1117.5	1116.2	1115.1
157.5°	1139.3	1140.5	1141.7	1141.5	1140.0	1138.4	1136.8	1135.3
160°	1151.5	1152.7	1153.9	1153.8	1152.4	1151.0	1149.6	1148.2
162.5°	1162.5	1164.0	1165.3	1165.3	1164.1	1162.9	1161.6	1160.4
165°	1177.3	1178.9	1180.5	1180.6	1179.3	1177.9	1176.4	1175.1
167.5°	1188.8	1190.4	1192.0	1192.0	1190.4	1188.8	1187.2	1185.6
170°	1195.2	1196.9	1198.5	1198.5	1196.9	1195.2	1193.6	1192.1
172.5°	1199.6	1201.1	1202.7	1202.7	1201.0	1199.2	1197.4	1195.7
175°	1204.7	1206.1	1207.6	1207.5	1205.9	1204.3	1202.7	1201.0
177.5°	1206.7	1207.9	1209.2	1209.1	1207.5	1205.9	1204.3	1202.7
180°	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5

(END OF REPORT)