

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: P332136-940

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332136-940
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-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5746.8 lumens
Efficiency: N/A
Efficacy: 127.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

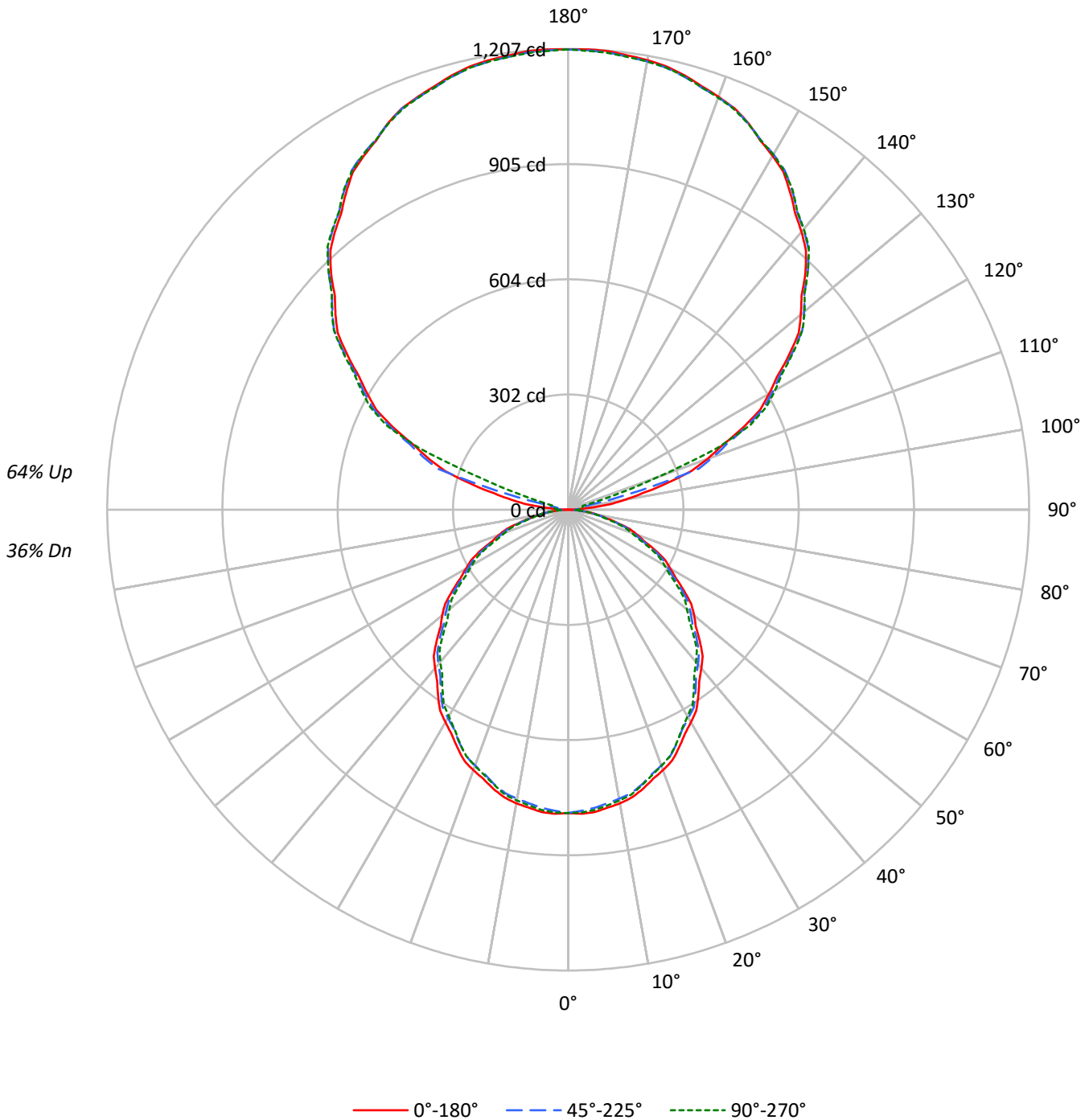
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332136-940

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

Luminous Intensity Polar Plot





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

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		43	43	43	36
1	95	90	87	83	85	82	79	76	66	64	62		52	50	49		38	37	36	30
2	86	79	73	68	78	72	66	62	58	54	51		45	43	41		34	32	31	25
3	78	69	62	56	71	63	57	52	51	47	43		40	37	34		30	28	26	21
4	72	61	53	48	65	56	49	44	45	40	36		36	32	29		27	24	22	18
5	66	54	46	41	59	50	43	37	40	35	31		32	28	25		24	21	19	16
6	60	49	41	35	55	44	37	32	36	31	27		29	25	22		22	19	17	14
7	56	44	36	31	50	40	33	28	33	28	24		26	22	20		20	17	15	12
8	52	40	32	27	47	36	30	25	30	25	21		24	20	17		18	16	14	11
9	48	36	29	24	44	33	27	22	27	22	19		22	18	16		17	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17		20	17	14		15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8551	8551	8551
5°	8590	8473	8532
10°	8534	8400	8451
15°	8433	8304	8320
20°	8317	8168	8176
25°	8162	8007	7991
30°	7988	7828	7768
35°	7808	7638	7540
40°	7620	7429	7314
45°	7415	7237	7060
50°	7206	7000	6805
55°	6934	6756	6549
60°	6661	6469	6265
65°	6421	6159	5968
70°	6061	5803	5545
75°	5540	5340	5115
80°	4996	4785	4742
85°	4384	4224	4051



TEST NUMBER: P332136-940

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.8	1.3
10°-20°	211.3	3.7
20°-30°	312.1	5.4
30°-40°	364.6	6.3
40°-50°	366.5	6.4
50°-60°	322.0	5.6
60°-70°	239.9	4.2
70°-80°	136.7	2.4
80°-90°	42.6	0.7
90°-100°	43.8	0.8
100°-110°	208.9	3.6
110°-120°	501.7	8.7
120°-130°	638.9	11.1
130°-140°	682.7	11.9
140°-150°	638.4	11.1
150°-160°	514.9	9.0
160°-170°	332.3	5.8
170°-180°	114.5	2.0
0°-30°	598.2	10.4
0°-40°	962.8	16.8
0°-60°	1651.3	28.7
0°-90°	2070.5	36.0
90°-120°	754.5	13.1
90°-150°	2714.5	47.2
90°-180°	3676.0	64.0
0°-180°	5746.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	794	794	794	794	794	
5°	795	791	784	791	790	75
15°	757	754	745	750	747	213
25°	687	683	674	675	673	316
35°	594	590	581	577	574	372
45°	487	484	475	467	464	376
55°	370	368	360	353	349	331
65°	252	248	242	236	234	249
75°	133	131	128	125	123	142
85°	36	34	34	33	33	39
90°	1	10	22	25	27	5
95°	55	20	28	34	34	68
105°	267	272	196	46	39	283
115°	501	506	514	523	527	494
125°	706	713	716	718	720	630
135°	879	884	888	890	888	676
145°	1014	1020	1022	1024	1024	634
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: P332136-940

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4
2.5°	797.1	796.7	796.2	795.7	795.2	794.2	792.9	791.6	790.3	789.0	790.1
5°	795.0	794.3	793.5	792.8	792.0	790.9	789.2	787.5	785.9	784.2	785.7
7.5°	787.3	786.6	785.8	785.1	784.3	783.0	781.3	779.5	777.8	776.1	777.5
10°	780.8	780.0	779.3	778.5	777.8	776.3	774.4	772.4	770.4	768.5	769.8
12.5°	772.0	771.3	770.7	770.1	769.5	768.2	766.3	764.5	762.7	760.8	761.8
15°	756.8	756.3	755.6	755.0	754.4	753.1	751.2	749.2	747.2	745.2	746.5
17.5°	739.2	738.4	737.6	736.8	736.0	734.7	732.7	730.8	728.8	726.7	727.6
20°	726.1	725.2	724.2	723.4	722.5	721.0	719.1	717.1	715.1	713.1	713.7
22.5°	711.3	710.4	709.5	708.6	707.7	706.2	704.3	702.3	700.3	698.4	698.8
25°	687.2	686.3	685.4	684.5	683.5	682.1	680.1	678.1	676.2	674.2	674.3
27.5°	661.4	660.5	659.6	658.7	657.8	656.3	654.2	652.1	650.0	647.8	647.9
30°	642.7	642.0	641.2	640.5	639.7	638.3	636.1	634.0	632.0	629.8	629.8
32.5°	624.2	623.2	622.1	621.2	620.2	618.8	617.2	615.5	613.9	612.3	611.4
35°	594.2	593.3	592.5	591.6	590.7	589.2	587.2	585.2	583.3	581.3	580.4
37.5°	563.7	562.5	561.3	560.2	559.0	557.5	555.4	553.5	551.4	549.5	548.4
40°	542.3	541.4	540.6	539.7	538.7	537.2	535.0	533.0	530.8	528.7	527.4
42.5°	521.0	520.0	519.0	517.9	516.9	515.3	513.2	511.1	509.0	506.8	505.6
45°	487.1	486.4	485.8	485.2	484.6	483.3	481.3	479.4	477.4	475.4	473.6
47.5°	453.3	452.4	451.6	450.7	449.8	448.4	446.6	444.7	442.8	441.0	439.2
50°	430.3	429.5	428.8	428.0	427.3	426.0	423.9	422.0	420.0	418.0	416.3
52.5°	406.3	405.7	405.3	404.7	404.2	402.9	400.8	398.8	396.6	394.6	393.2
55°	369.5	369.3	369.3	369.1	368.9	367.8	365.9	363.9	361.9	360.0	358.3
57.5°	334.6	334.0	333.5	333.1	332.5	331.4	329.8	328.3	326.7	325.1	323.7
60°	309.4	309.2	309.2	309.0	308.8	307.8	306.0	304.2	302.4	300.5	299.2
62.5°	287.0	286.6	286.2	285.9	285.4	284.4	282.5	280.7	278.8	277.1	275.7
65°	252.1	251.3	250.6	249.8	249.1	247.9	246.4	244.9	243.3	241.8	240.6
67.5°	215.0	214.4	213.7	213.0	212.3	211.4	210.3	209.1	207.9	206.9	205.8
70°	192.6	191.7	190.8	189.9	189.0	188.1	187.2	186.3	185.3	184.4	183.3
72.5°	169.2	168.4	167.8	167.1	166.5	165.6	164.6	163.5	162.5	161.5	160.5
75°	133.2	132.6	132.0	131.3	130.8	130.3	129.7	129.3	128.9	128.4	127.7
77.5°	101.4	101.0	100.7	100.4	100.0	99.6	99.1	98.5	97.9	97.4	96.9
80°	80.6	80.2	79.7	79.3	78.7	78.4	78.1	77.8	77.5	77.2	77.0
82.5°	60.4	60.3	60.2	60.1	60.0	59.9	59.9	59.8	59.7	59.7	59.4
85°	35.5	35.2	35.0	34.6	34.3	34.2	34.2	34.2	34.2	34.2	33.9
87.5°	14.4	14.4	14.4	14.4	14.5	14.7	15.2	15.5	16.0	16.3	16.3
90°	0.9	2.9	4.9	6.9	8.8	11.1	13.7	16.3	18.9	21.5	22.3
92.5°	16.7	16.1	15.5	15.0	14.4	15.2	17.1	19.0	21.0	22.9	24.2
95°	54.7	46.5	38.3	30.1	22.0	19.0	21.2	23.4	25.6	27.7	29.2
97.5°	109.8	106.1	102.5	98.8	95.1	86.1	71.9	57.5	43.2	28.8	30.4
100°	151.3	155.3	159.3	163.3	167.3	153.7	122.7	91.7	60.6	29.5	31.1
102.5°	198.7	201.5	204.4	207.2	210.1	194.6	160.7	126.8	92.8	58.9	54.0
105°	266.9	269.1	271.3	273.5	275.6	267.8	249.9	231.9	214.1	196.2	161.0
107.5°	338.9	340.6	342.4	344.2	345.9	348.2	351.1	353.8	356.7	359.5	333.7
110°	386.9	388.5	390.1	391.7	393.2	395.2	397.3	399.6	401.7	403.9	397.3



TEST NUMBER: P332136-940

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	432.7	434.2	435.6	437.1	438.5	440.3	442.5	444.7	446.9	449.1	449.2
115°	500.7	501.9	503.0	504.3	505.4	506.9	508.7	510.5	512.3	514.1	516.1
117.5°	566.4	567.8	569.4	570.8	572.3	573.5	574.4	575.3	576.2	577.1	578.7
120°	607.3	609.0	610.8	612.6	614.4	615.6	616.2	616.8	617.4	618.0	619.6
122.5°	648.8	650.2	651.8	653.2	654.7	655.8	656.6	657.3	658.1	658.8	660.0
125°	705.8	707.4	708.9	710.5	712.1	713.4	714.1	714.9	715.7	716.5	716.9
127.5°	760.9	762.5	764.1	765.7	767.3	768.6	769.5	770.5	771.4	772.4	773.0
130°	795.3	796.9	798.5	800.1	801.7	802.9	803.7	804.5	805.3	806.1	806.9
132.5°	828.3	829.9	831.4	833.0	834.6	835.8	836.4	837.0	837.7	838.3	839.1
135°	878.6	879.9	881.0	882.2	883.4	884.4	885.2	886.0	886.8	887.6	888.1
137.5°	921.6	923.1	924.6	926.1	927.6	928.6	929.1	929.5	930.0	930.4	931.3
140°	950.3	951.5	952.7	953.9	955.0	955.9	956.5	957.2	957.7	958.3	959.1
142.5°	976.8	977.9	979.2	980.3	981.6	982.5	983.0	983.6	984.3	984.8	985.5
145°	1013.9	1015.2	1016.6	1018.1	1019.4	1020.3	1020.7	1021.1	1021.5	1021.9	1022.3
147.5°	1048.8	1049.7	1050.6	1051.5	1052.5	1053.1	1053.5	1053.9	1054.3	1054.7	1055.1
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: P332136-940

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4
2.5°	791.4	792.6	793.8	794.3	794.2	794.1	794.0	793.9
5°	787.2	788.7	790.2	790.9	790.5	790.2	790.0	789.6
7.5°	778.8	780.2	781.6	782.1	781.9	781.8	781.6	781.4
10°	771.2	772.6	773.9	774.5	774.2	773.8	773.6	773.2
12.5°	762.8	763.8	764.8	765.2	765.0	764.8	764.6	764.5
15°	747.7	748.9	750.1	750.2	749.3	748.4	747.5	746.6
17.5°	728.5	729.3	730.2	730.4	730.1	729.8	729.4	729.1
20°	714.3	715.0	715.5	715.6	715.2	714.7	714.3	713.8
22.5°	699.4	699.8	700.3	700.3	699.7	699.1	698.6	697.9
25°	674.5	674.7	674.8	674.7	674.2	673.8	673.2	672.8
27.5°	648.1	648.2	648.3	648.1	647.5	646.9	646.3	645.8
30°	629.8	629.8	629.8	629.3	628.2	627.1	626.1	625.0
32.5°	610.6	609.8	608.9	608.1	607.6	607.1	606.5	605.9
35°	579.4	578.5	577.7	576.8	576.0	575.3	574.5	573.8
37.5°	547.2	546.2	545.1	544.3	543.9	543.3	542.9	542.3
40°	526.3	525.0	523.9	522.9	522.3	521.7	521.1	520.5
42.5°	504.4	503.2	501.9	501.1	500.4	499.9	499.3	498.6
45°	471.8	469.9	468.1	466.8	466.1	465.3	464.6	463.8
47.5°	437.4	435.6	433.8	432.6	431.9	431.2	430.6	429.9
50°	414.7	413.0	411.3	410.1	409.1	408.2	407.3	406.4
52.5°	391.7	390.3	388.9	387.6	386.7	385.8	385.0	384.1
55°	356.6	355.0	353.3	352.0	351.3	350.5	349.8	349.0
57.5°	322.2	320.7	319.2	318.0	317.1	316.3	315.4	314.5
60°	297.8	296.5	295.1	294.0	293.3	292.5	291.8	291.0
62.5°	274.3	273.0	271.6	270.6	270.1	269.7	269.1	268.6
65°	239.3	238.2	236.9	236.1	235.7	235.2	234.8	234.3
67.5°	204.7	203.7	202.6	201.7	201.1	200.5	199.8	199.2
70°	182.3	181.3	180.2	179.2	178.5	177.7	177.0	176.2
72.5°	159.6	158.6	157.7	157.0	156.7	156.2	155.9	155.4
75°	126.9	126.2	125.4	124.8	124.3	123.9	123.4	123.0
77.5°	96.4	95.9	95.3	95.1	95.1	95.1	95.1	95.1
80°	76.9	76.7	76.6	76.5	76.5	76.5	76.5	76.5
82.5°	59.1	58.9	58.6	58.4	58.3	58.1	58.1	58.0
85°	33.5	33.3	32.9	32.8	32.8	32.8	32.8	32.8
87.5°	16.4	16.4	16.5	16.5	16.6	16.7	16.8	16.9
90°	23.1	23.9	24.7	25.2	25.7	26.0	26.5	26.8
92.5°	25.5	26.8	28.0	28.8	29.0	29.2	29.5	29.7
95°	30.6	31.9	33.3	34.1	34.1	34.1	34.1	34.1
97.5°	32.0	33.6	35.2	36.1	36.3	36.5	36.7	36.9
100°	32.7	34.3	35.9	36.8	37.0	37.2	37.5	37.6
102.5°	49.0	44.1	39.1	36.9	37.3	37.6	38.0	38.3
105°	125.7	90.4	55.2	37.8	38.3	38.6	39.0	39.4
107.5°	307.8	282.0	256.2	230.0	203.4	176.9	150.3	123.8
110°	390.8	384.2	377.6	360.2	331.7	303.2	274.7	246.3



TEST NUMBER: P332136-940

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	449.3	449.4	449.5	446.6	440.6	434.6	428.6	422.6
115°	518.1	520.0	522.1	523.4	524.2	525.0	525.8	526.6
117.5°	580.3	581.9	583.5	584.4	584.5	584.7	584.9	585.1
120°	621.2	622.8	624.4	625.2	625.2	625.2	625.2	625.2
122.5°	661.0	662.2	663.3	664.0	664.1	664.2	664.4	664.6
125°	717.3	717.7	718.1	718.5	718.9	719.3	719.7	720.1
127.5°	773.6	774.3	775.0	775.1	774.6	774.3	773.9	773.5
130°	807.7	808.4	809.2	809.5	809.0	808.7	808.2	807.9
132.5°	839.9	840.7	841.5	841.6	841.1	840.5	840.0	839.4
135°	888.8	889.4	889.9	889.9	889.4	888.8	888.1	887.6
137.5°	932.3	933.3	934.2	934.5	934.1	933.7	933.3	932.9
140°	959.9	960.7	961.5	961.7	961.4	960.9	960.6	960.1
142.5°	986.1	986.8	987.4	987.4	986.9	986.3	985.8	985.2
145°	1022.7	1023.1	1023.5	1023.7	1023.7	1023.7	1023.7	1023.7
147.5°	1055.5	1055.9	1056.3	1056.1	1055.2	1054.2	1053.3	1052.4
150°	1075.6	1075.9	1076.4	1076.3	1075.7	1075.0	1074.5	1073.9
152.5°	1093.4	1094.1	1094.8	1094.8	1093.8	1092.9	1092.0	1091.1
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)