

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: P332105-930

Luminaire Tested: **S123DIW-S340D1030U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332105-930
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: S123DIW-S340D1030U930-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4088.3 lumens
Efficiency: N/A
Efficacy: 107.6 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

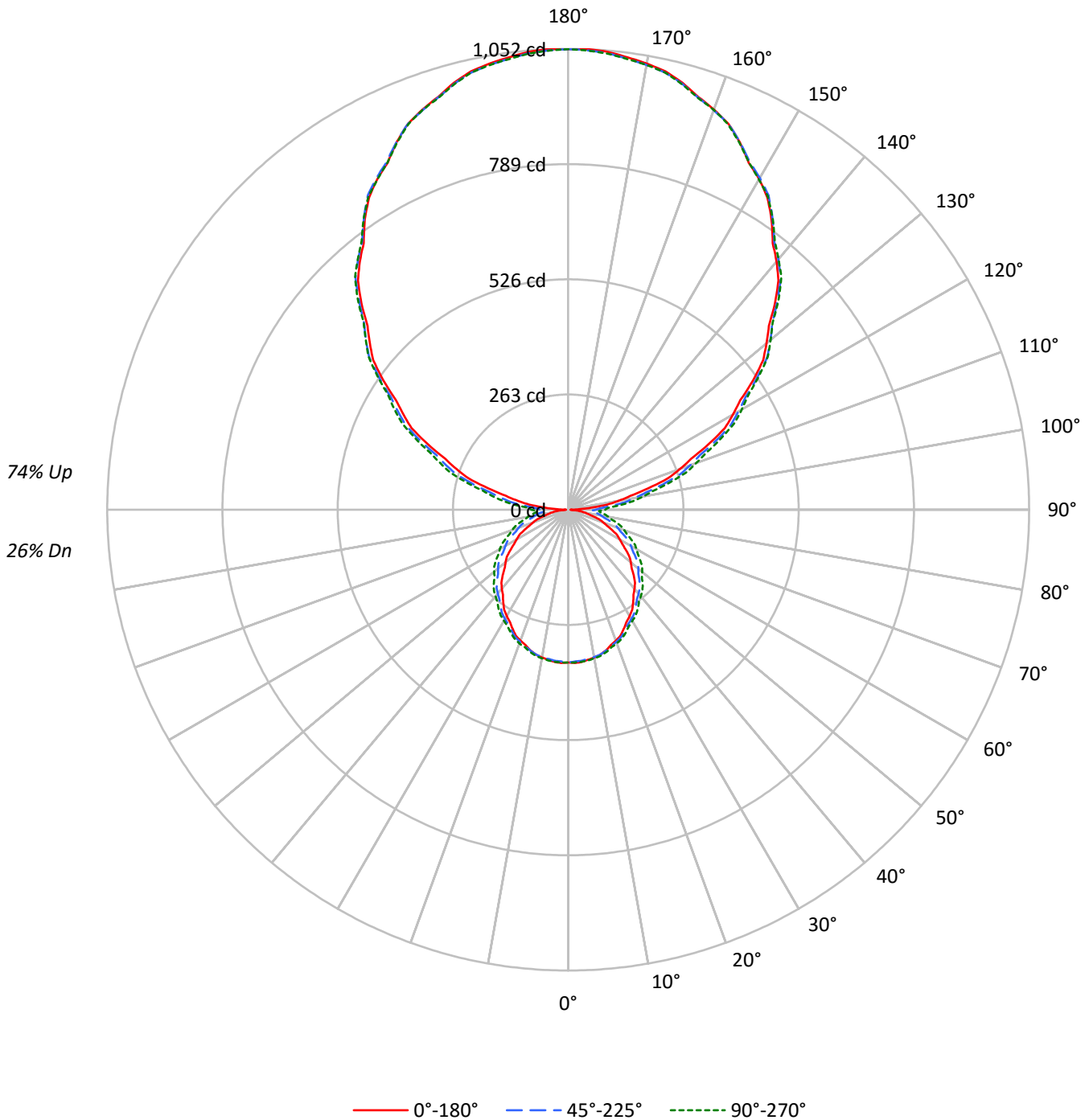
Input Watts (W): 38
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332105-930

CATALOG NUMBER: S123DIW-S340D1030U930-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P332105-930

CATALOG NUMBER: S123DIW-S340D1030U930-4F0-1E-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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	34	34	34	26
1	92	87	84	80	82	78	75	72	60	58	56	44	43	42	29	29	28	21
2	83	76	70	65	74	68	63	58	53	49	46	39	36	34	26	24	23	17
3	76	67	59	54	67	60	53	48	46	42	38	34	31	29	22	21	19	14
4	69	59	51	45	61	53	46	41	41	36	32	30	27	24	20	18	16	12
5	63	52	44	38	56	47	40	35	36	31	28	27	23	21	18	16	14	10
6	58	46	39	33	52	42	35	30	33	28	24	24	21	18	16	14	12	9
7	54	42	34	29	48	37	31	26	29	24	21	22	18	16	15	13	11	8
8	50	38	30	25	44	34	27	23	27	22	18	20	16	14	13	11	10	7
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	12	10	9	6
10	43	31	24	20	38	28	22	18	22	18	15	17	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



TEST NUMBER: P332105-930

CATALOG NUMBER: S123DIW-S340D1030U930-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.1	0.8
10°-20°	94.2	2.3
20°-30°	141.0	3.4
30°-40°	168.3	4.1
40°-50°	176.1	4.3
50°-60°	165.3	4.0
60°-70°	138.0	3.4
70°-80°	98.8	2.4
80°-90°	62.0	1.5
90°-100°	105.5	2.6
100°-110°	232.2	5.7
110°-120°	366.8	9.0
120°-130°	469.0	11.5
130°-140°	520.2	12.7
140°-150°	507.8	12.4
150°-160°	426.6	10.4
160°-170°	284.0	6.9
170°-180°	99.4	2.4
0°-30°	268.3	6.6
0°-40°	436.6	10.7
0°-60°	778.0	19.0
0°-90°	1076.8	26.3
90°-120°	704.5	17.2
90°-150°	2201.5	53.8
90°-180°	3012.0	73.7
0°-180°	4088.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	6	33	63	78	84	6
95°	53	74	99	113	118	58
105°	189	200	223	234	239	202
115°	353	360	372	382	384	349
125°	515	518	527	531	531	459
135°	667	672	675	679	679	514
145°	809	810	813	815	813	505
155°	926	926	927	930	924	426
165°	1008	1006	1006	1010	1005	284
175°	1049	1046	1046	1050	1045	100
180°	1052	1052	1052	1052	1052	



TEST NUMBER: P332105-930

CATALOG NUMBER: S123DIW-S340D1030U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.3	14.8	19.4	24.0	28.5	33.3	38.0	42.8	47.6	52.3	55.4
90°	5.8	11.7	17.7	23.6	29.7	36.0	42.6	49.4	56.1	62.8	66.4
92.5°	24.6	29.6	34.6	39.5	44.5	49.8	55.4	61.0	66.6	72.2	75.6
95°	52.9	57.5	62.0	66.6	71.3	76.3	81.9	87.5	93.1	98.7	102.1
97.5°	90.3	94.2	98.2	102.1	106.0	110.5	115.4	120.5	125.5	130.5	133.9
100°	115.8	119.5	123.4	127.2	130.9	135.3	140.1	144.9	149.7	154.5	157.4
102.5°	145.2	148.3	151.4	154.5	157.5	161.6	166.6	171.7	176.7	181.7	184.7
105°	188.9	191.3	193.6	196.1	198.4	202.3	207.6	212.9	218.2	223.4	225.8
107.5°	239.3	241.2	243.2	245.2	247.1	250.1	254.2	258.3	262.4	266.5	269.4
110°	270.8	272.6	274.5	276.4	278.3	281.1	284.9	288.6	292.3	296.0	299.0



TEST NUMBER: P332105-930

CATALOG NUMBER: S123DIW-S340D1030U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	303.8	305.2	306.7	308.2	309.7	312.0	315.4	318.7	322.0	325.3	328.3
115°	352.9	354.5	356.0	357.7	359.2	361.3	364.0	366.6	369.3	372.0	374.2
117.5°	402.8	403.7	404.7	405.8	406.8	408.4	410.7	413.2	415.6	417.9	419.9
120°	433.5	435.0	436.6	438.1	439.6	441.3	443.2	445.1	446.9	448.7	450.5
122.5°	465.9	466.9	468.0	469.0	470.0	471.6	473.8	476.0	478.1	480.3	481.7
125°	514.9	515.4	516.0	516.6	517.1	518.4	520.5	522.6	524.6	526.8	527.8
127.5°	560.5	561.6	562.7	563.8	564.8	566.2	567.9	569.5	571.1	572.7	573.3
130°	590.9	592.3	593.7	595.1	596.5	597.7	598.8	600.0	601.1	602.3	603.1
132.5°	621.0	622.5	623.9	625.3	626.8	628.0	628.9	629.9	630.8	631.8	632.4
135°	667.3	668.4	669.4	670.4	671.4	672.3	673.0	673.8	674.5	675.2	676.0
137.5°	710.2	711.0	711.9	712.7	713.6	714.5	715.5	716.6	717.5	718.5	719.1
140°	739.6	740.5	741.5	742.4	743.3	744.0	744.4	744.9	745.3	745.8	746.8
142.5°	766.7	767.6	768.4	769.3	770.1	770.8	771.1	771.5	771.9	772.3	773.2
145°	809.0	809.3	809.6	809.8	810.2	810.6	811.1	811.7	812.2	812.8	813.3
147.5°	845.6	846.3	846.9	847.7	848.3	848.9	849.4	849.9	850.4	850.9	851.2
150°	871.4	871.8	872.1	872.5	872.9	873.3	873.6	874.0	874.3	874.7	874.7
152.5°	892.6	893.1	893.6	894.1	894.6	895.0	895.2	895.4	895.7	895.9	896.2
155°	925.9	925.9	925.9	925.9	925.9	926.0	926.2	926.4	926.6	926.8	927.5
157.5°	954.4	954.1	953.9	953.7	953.5	953.4	953.6	953.7	953.9	954.0	954.8
160°	972.2	971.8	971.4	971.1	970.7	970.5	970.5	970.5	970.5	970.5	971.4
162.5°	988.1	987.6	987.0	986.5	986.0	985.8	985.9	986.1	986.3	986.4	987.3
165°	1008.5	1008.0	1007.5	1006.9	1006.3	1006.1	1006.1	1006.1	1006.1	1006.1	1007.1
167.5°	1024.9	1024.2	1023.4	1022.7	1022.0	1021.7	1021.8	1022.0	1022.1	1022.2	1023.4
170°	1034.1	1033.4	1032.7	1031.9	1031.2	1030.9	1030.9	1030.9	1030.9	1030.9	1032.1
172.5°	1041.4	1040.6	1039.9	1039.2	1038.4	1038.1	1038.1	1038.1	1038.1	1038.1	1039.3
175°	1049.0	1048.3	1047.6	1046.8	1046.1	1045.7	1045.7	1045.7	1045.7	1045.7	1046.8
177.5°	1052.1	1051.6	1051.0	1050.4	1049.8	1049.5	1049.5	1049.5	1049.5	1049.5	1050.4
180°	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5



TEST NUMBER: P332105-930

CATALOG NUMBER: S123DIW-S340D1030U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	58.4	61.4	64.4	66.4	67.3	68.2	69.1	70.0
90°	70.0	73.5	77.2	79.6	80.8	82.0	83.2	84.4
92.5°	79.0	82.3	85.8	87.7	88.3	88.9	89.4	90.0
95°	105.4	108.8	112.1	114.2	115.0	115.9	116.8	117.6
97.5°	137.2	140.6	144.0	146.0	146.8	147.6	148.3	149.1
100°	160.5	163.5	166.5	168.6	169.7	171.0	172.2	173.4
102.5°	187.6	190.5	193.5	195.3	196.1	196.8	197.6	198.4
105°	228.1	230.5	232.8	234.6	235.8	236.8	238.0	239.1
107.5°	272.2	275.1	277.9	279.6	280.1	280.6	281.2	281.7
110°	301.9	304.8	307.8	309.4	309.7	310.0	310.3	310.6



TEST NUMBER: P332105-930

CATALOG NUMBER: S123DIW-S340D1030U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	331.3	334.4	337.4	339.2	339.8	340.5	341.2	341.9
115°	376.4	378.6	380.8	382.2	382.7	383.2	383.7	384.2
117.5°	421.8	423.8	425.8	426.9	427.0	427.1	427.3	427.5
120°	452.3	454.0	455.8	456.8	457.1	457.2	457.5	457.7
122.5°	483.1	484.5	485.9	486.7	486.7	486.7	486.8	486.9
125°	528.8	529.9	530.9	531.3	531.2	531.1	530.9	530.8
127.5°	574.0	574.6	575.3	575.4	575.2	574.9	574.6	574.4
130°	604.0	604.9	605.7	605.8	605.0	604.2	603.4	602.7
132.5°	633.1	633.7	634.4	634.5	634.1	633.7	633.2	632.8
135°	676.9	677.6	678.4	678.8	678.9	678.9	679.0	679.1
137.5°	719.7	720.2	720.8	721.0	720.6	720.4	720.1	719.8
140°	747.9	749.0	750.1	750.2	749.3	748.4	747.6	746.7
142.5°	774.2	775.1	776.1	776.2	775.7	775.1	774.5	774.0
145°	813.8	814.2	814.7	814.8	814.4	814.0	813.6	813.2
147.5°	851.3	851.6	851.7	851.4	850.7	849.9	849.1	848.2
150°	874.7	874.7	874.7	874.2	873.3	872.4	871.5	870.5
152.5°	896.4	896.7	897.1	896.7	895.9	894.9	894.0	893.1
155°	928.2	929.0	929.7	929.4	928.1	926.8	925.6	924.3
157.5°	955.5	956.3	957.1	957.0	955.9	955.0	953.9	952.8
160°	972.4	973.3	974.2	974.3	973.5	972.8	972.1	971.3
162.5°	988.2	989.1	990.1	989.9	988.8	987.6	986.4	985.2
165°	1008.3	1009.3	1010.5	1010.4	1009.1	1007.8	1006.5	1005.3
167.5°	1024.5	1025.6	1026.8	1026.8	1025.6	1024.5	1023.4	1022.2
170°	1033.4	1034.7	1036.0	1036.0	1034.7	1033.4	1032.1	1030.9
172.5°	1040.4	1041.5	1042.7	1042.6	1041.3	1040.0	1038.7	1037.5
175°	1047.9	1049.0	1050.1	1050.0	1048.7	1047.4	1046.2	1044.9
177.5°	1051.2	1052.1	1053.0	1053.0	1051.9	1050.9	1049.9	1048.9
180°	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5

(END OF REPORT)