

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: P332105-830

Luminaire Tested: **S123DIW-S340D1030U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332105-830
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-S340D1030U830-4F0-1E-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: 4726.4 lumens
Efficiency: N/A
Efficacy: 124.4 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

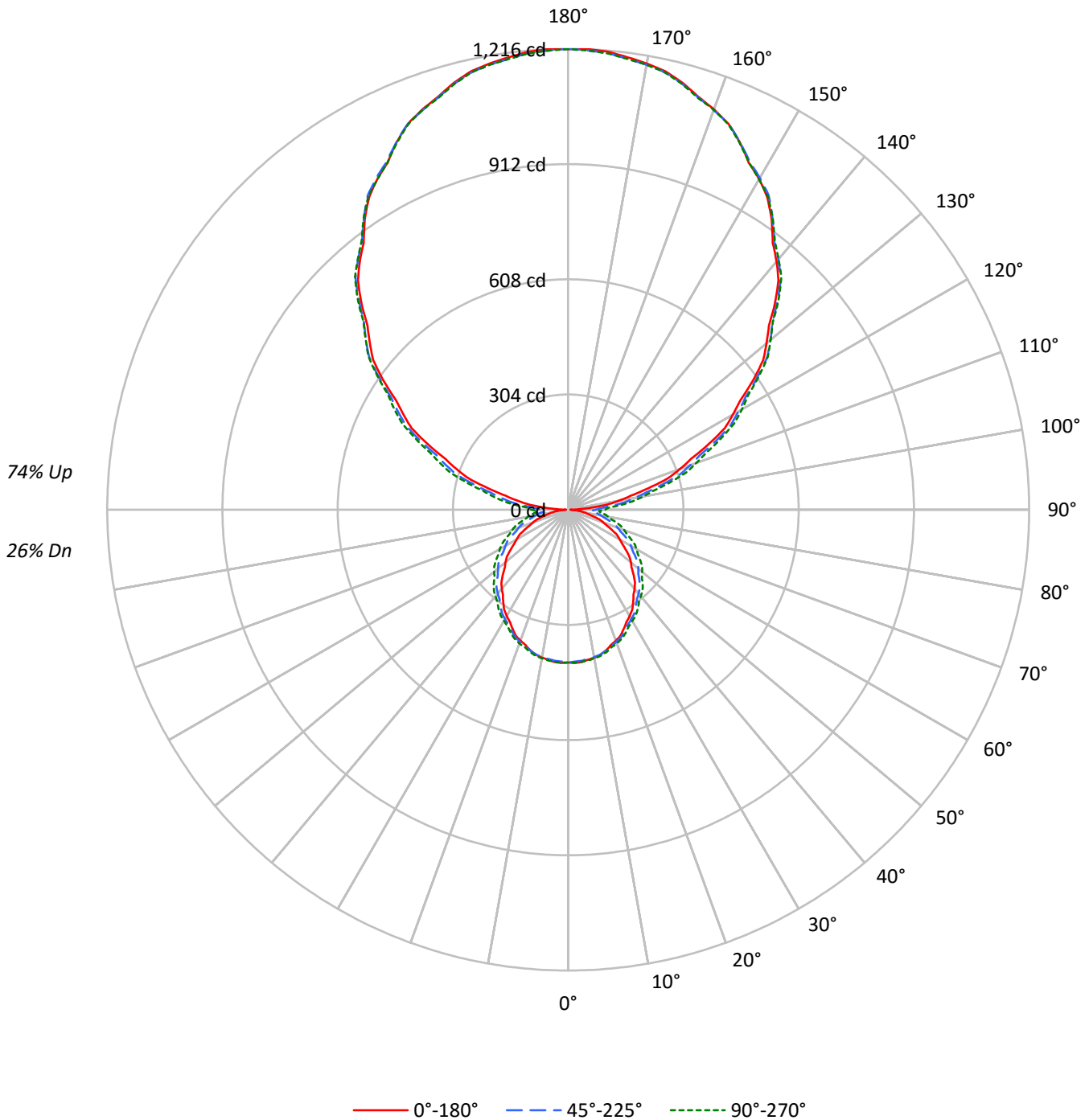
Input Watts (W): 38
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332105-830

CATALOG NUMBER: S123DIW-S340D1030U830-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P332105-830

CATALOG NUMBER: S123DIW-S340D1030U830-4F0-1E-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°	4339	4339	4339
5°	4353	4230	4232
10°	4315	4133	4112
15°	4259	4022	3980
20°	4179	3896	3836
25°	4080	3751	3684
30°	3980	3620	3529
35°	3867	3481	3406
40°	3760	3356	3274
45°	3641	3235	3169
50°	3525	3116	3054
55°	3393	2993	2948
60°	3266	2869	2842
65°	3138	2736	2714
70°	2941	2586	2582
75°	2693	2416	2450
80°	2412	2249	2299
85°	2145	2133	2211



TEST NUMBER: P332105-830

CATALOG NUMBER: S123DIW-S340D1030U830-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.2	0.8
10°-20°	108.9	2.3
20°-30°	163.0	3.4
30°-40°	194.6	4.1
40°-50°	203.6	4.3
50°-60°	191.1	4.0
60°-70°	159.6	3.4
70°-80°	114.2	2.4
80°-90°	71.7	1.5
90°-100°	121.9	2.6
100°-110°	268.4	5.7
110°-120°	424.1	9.0
120°-130°	542.3	11.5
130°-140°	601.4	12.7
140°-150°	587.0	12.4
150°-160°	493.2	10.4
160°-170°	328.3	6.9
170°-180°	115.0	2.4
0°-30°	310.1	6.6
0°-40°	504.7	10.7
0°-60°	899.4	19.0
0°-90°	1244.8	26.3
90°-120°	814.4	17.2
90°-150°	2545.1	53.8
90°-180°	3482.0	73.7
0°-180°	4726.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	404	403	400	403	403	38
15°	384	386	385	389	389	108
25°	347	351	353	358	358	160
35°	299	306	311	318	320	187
45°	244	255	266	274	278	188
55°	186	201	216	228	232	167
65°	129	146	165	178	183	127
75°	70	91	112	126	132	75
85°	22	44	67	81	86	23
90°	7	38	73	91	98	7
95°	61	85	114	131	136	67
105°	218	232	258	270	276	234
115°	408	416	430	441	444	404
125°	595	599	609	614	614	531
135°	772	777	781	785	785	594
145°	935	937	940	942	940	584
155°	1070	1070	1071	1075	1069	493
165°	1166	1163	1163	1168	1162	329
175°	1213	1209	1209	1214	1208	115
180°	1216	1216	1216	1216	1216	



TEST NUMBER: P332105-830

CATALOG NUMBER: S123DIW-S340D1030U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	404.9	404.7	404.4	404.3	404.0	403.6	402.9	402.3	401.7	401.1	401.7
5°	403.6	403.4	403.2	403.0	402.8	402.5	401.8	401.2	400.7	400.1	400.9
7.5°	399.6	399.7	399.7	399.7	399.8	399.5	399.0	398.4	397.8	397.3	398.2
10°	396.2	396.3	396.5	396.7	396.9	396.8	396.2	395.8	395.3	394.8	395.8
12.5°	391.9	392.2	392.5	392.8	393.0	392.9	392.7	392.3	392.0	391.6	392.6
15°	384.3	384.6	384.8	385.1	385.4	385.6	385.4	385.3	385.2	385.1	386.2
17.5°	374.7	375.2	375.8	376.4	376.9	377.2	377.2	377.1	377.1	377.1	378.0
20°	367.6	368.2	368.7	369.4	369.9	370.3	370.5	370.7	370.9	371.1	372.0
22.5°	360.2	360.8	361.4	361.9	362.6	363.0	363.3	363.5	363.8	364.1	365.2
25°	346.9	347.9	348.9	349.9	350.8	351.5	351.8	352.0	352.3	352.7	353.9
27.5°	333.6	334.7	335.8	337.0	338.1	338.9	339.5	340.2	340.8	341.4	342.5
30°	324.1	325.4	326.7	327.9	329.2	330.2	331.0	331.8	332.5	333.4	334.5
32.5°	313.6	315.0	316.4	317.8	319.2	320.5	321.5	322.5	323.6	324.5	325.8
35°	298.6	300.2	301.8	303.3	304.9	306.3	307.6	308.9	310.1	311.4	312.8
37.5°	282.9	284.6	286.3	288.1	289.8	291.5	293.0	294.6	296.2	297.7	299.4
40°	272.3	274.1	275.8	277.6	279.3	281.2	283.1	285.1	287.0	289.0	290.7
42.5°	260.7	262.9	264.9	267.1	269.3	271.4	273.4	275.4	277.5	279.5	281.3
45°	244.2	246.6	248.8	251.2	253.5	255.9	258.4	260.8	263.3	265.7	267.6
47.5°	226.9	229.5	232.1	234.9	237.5	240.3	243.0	245.8	248.5	251.4	253.4
50°	215.7	218.4	221.1	223.9	226.6	229.4	232.4	235.5	238.6	241.6	243.8
52.5°	203.7	206.6	209.4	212.4	215.3	218.4	221.7	225.1	228.4	231.7	234.0
55°	186.2	189.5	192.7	195.9	199.1	202.5	205.9	209.5	213.0	216.5	219.1
57.5°	169.2	172.5	175.9	179.3	182.6	186.2	190.0	193.9	197.7	201.6	204.2
60°	157.2	160.7	164.3	167.8	171.3	175.0	179.1	183.0	187.0	191.1	193.8
62.5°	146.0	149.6	153.2	156.7	160.3	164.3	168.5	172.8	177.0	181.3	183.9
65°	128.7	132.5	136.3	140.1	143.9	148.0	152.2	156.6	160.8	165.1	168.1
67.5°	111.1	115.2	119.2	123.2	127.2	131.5	135.8	140.3	144.6	149.0	152.1
70°	98.8	103.0	107.2	111.4	115.6	120.1	124.7	129.4	134.1	138.7	141.9
72.5°	87.6	91.8	96.0	100.2	104.3	108.9	113.7	118.6	123.4	128.3	131.5
75°	69.8	74.5	79.0	83.6	88.2	92.9	97.8	102.6	107.5	112.4	115.6
77.5°	54.4	59.0	63.6	68.2	72.9	77.7	82.6	87.5	92.4	97.4	100.8
80°	43.5	48.3	53.1	57.9	62.6	67.6	72.6	77.7	82.8	87.8	91.1
82.5°	34.0	38.8	43.7	48.5	53.4	58.4	63.6	68.7	73.9	79.1	82.4
85°	21.5	26.4	31.3	36.2	41.0	46.1	51.3	56.4	61.5	66.7	70.0
87.5°	11.9	17.2	22.4	27.7	33.0	38.5	43.9	49.5	55.0	60.5	64.0
90°	6.7	13.6	20.5	27.3	34.3	41.6	49.3	57.1	64.8	72.6	76.7
92.5°	28.5	34.2	40.0	45.7	51.5	57.6	64.1	70.5	77.0	83.5	87.4
95°	61.2	66.4	71.7	77.0	82.4	88.2	94.7	101.1	107.6	114.1	118.0
97.5°	104.3	109.0	113.5	118.0	122.5	127.7	133.5	139.3	145.1	150.9	154.8
100°	133.8	138.2	142.6	147.0	151.4	156.4	161.9	167.5	173.1	178.6	182.0
102.5°	167.9	171.4	175.0	178.6	182.1	186.8	192.7	198.5	204.2	210.1	213.5
105°	218.4	221.1	223.9	226.7	229.4	233.8	240.0	246.1	252.2	258.3	261.0
107.5°	276.6	278.9	281.2	283.4	285.7	289.2	293.9	298.6	303.4	308.1	311.4
110°	313.0	315.2	317.4	319.5	321.7	325.0	329.3	333.7	337.9	342.2	345.6



TEST NUMBER: P332105-830

CATALOG NUMBER: S123DIW-S340D1030U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	351.2	352.9	354.6	356.3	358.0	360.7	364.6	368.4	372.2	376.1	379.6
115°	408.0	409.8	411.6	413.5	415.3	417.7	420.8	423.9	427.0	430.1	432.6
117.5°	465.6	466.7	467.9	469.1	470.2	472.1	474.9	477.7	480.4	483.1	485.4
120°	501.1	502.9	504.7	506.4	508.2	510.2	512.4	514.5	516.7	518.8	520.8
122.5°	538.6	539.8	541.0	542.2	543.4	545.2	547.7	550.3	552.7	555.3	556.9
125°	595.3	595.9	596.5	597.2	597.9	599.4	601.7	604.2	606.5	609.0	610.2
127.5°	648.0	649.2	650.5	651.8	653.0	654.6	656.5	658.4	660.3	662.1	662.8
130°	683.2	684.8	686.4	688.0	689.6	691.0	692.3	693.6	694.9	696.3	697.2
132.5°	717.9	719.6	721.2	722.9	724.6	726.0	727.1	728.2	729.2	730.4	731.1
135°	771.5	772.7	773.8	775.1	776.2	777.2	778.1	778.9	779.8	780.6	781.6
137.5°	821.0	822.0	823.0	824.0	825.0	826.0	827.2	828.4	829.5	830.7	831.3
140°	855.1	856.1	857.2	858.3	859.3	860.1	860.6	861.1	861.6	862.1	863.4
142.5°	886.4	887.4	888.3	889.4	890.3	891.1	891.5	891.9	892.4	892.8	893.9
145°	935.3	935.7	935.9	936.2	936.6	937.1	937.7	938.4	939.0	939.6	940.2
147.5°	977.6	978.4	979.1	980.0	980.7	981.4	981.9	982.6	983.2	983.7	984.0
150°	1007.4	1007.9	1008.2	1008.7	1009.1	1009.6	1009.9	1010.4	1010.8	1011.3	1011.3
152.5°	1031.9	1032.5	1033.0	1033.7	1034.3	1034.6	1034.9	1035.2	1035.5	1035.7	1036.0
155°	1070.4	1070.4	1070.4	1070.4	1070.4	1070.5	1070.7	1071.0	1071.2	1071.4	1072.2
157.5°	1103.3	1103.1	1102.8	1102.5	1102.3	1102.2	1102.4	1102.6	1102.8	1102.9	1103.8
160°	1123.9	1123.5	1123.0	1122.7	1122.2	1122.0	1122.0	1122.0	1122.0	1122.0	1123.0
162.5°	1142.3	1141.7	1141.0	1140.5	1139.9	1139.6	1139.8	1140.0	1140.2	1140.4	1141.4
165°	1165.9	1165.3	1164.7	1164.0	1163.4	1163.1	1163.1	1163.1	1163.1	1163.1	1164.3
167.5°	1184.9	1184.0	1183.2	1182.3	1181.5	1181.1	1181.3	1181.5	1181.7	1181.8	1183.1
170°	1195.5	1194.7	1193.8	1193.0	1192.1	1191.8	1191.8	1191.8	1191.8	1191.8	1193.2
172.5°	1203.9	1203.1	1202.2	1201.4	1200.5	1200.1	1200.1	1200.1	1200.1	1200.1	1201.5
175°	1212.8	1211.9	1211.1	1210.2	1209.4	1208.9	1208.9	1208.9	1208.9	1208.9	1210.2
177.5°	1216.4	1215.7	1215.0	1214.3	1213.6	1213.3	1213.3	1213.3	1213.3	1213.3	1214.3
180°	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6



TEST NUMBER: P332105-830

CATALOG NUMBER: S123DIW-S340D1030U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	402.3	402.9	403.6	403.8	403.8	403.7	403.6	403.5
5°	401.6	402.5	403.2	403.6	403.5	403.3	403.2	403.1
7.5°	399.3	400.2	401.1	401.6	401.5	401.3	401.2	401.1
10°	396.8	397.8	398.7	399.1	398.9	398.7	398.5	398.3
12.5°	393.4	394.4	395.2	395.6	395.4	395.2	395.0	394.8
15°	387.1	388.0	389.1	389.5	389.4	389.3	389.2	389.1
17.5°	378.8	379.8	380.6	381.0	380.8	380.7	380.6	380.4
20°	372.9	373.7	374.7	375.1	375.2	375.3	375.4	375.5
22.5°	366.3	367.4	368.5	369.1	369.0	368.9	368.9	368.8
25°	355.2	356.5	357.7	358.4	358.4	358.4	358.4	358.4
27.5°	343.6	344.7	345.8	346.4	346.5	346.6	346.6	346.7
30°	335.6	336.9	338.0	338.6	338.6	338.6	338.6	338.6
32.5°	327.1	328.3	329.5	330.3	330.5	330.7	331.0	331.2
35°	314.3	315.8	317.3	318.2	318.6	319.0	319.3	319.7
37.5°	301.0	302.7	304.4	305.4	305.7	306.0	306.3	306.6
40°	292.3	294.0	295.6	296.6	297.0	297.5	297.8	298.2
42.5°	283.1	284.9	286.7	287.9	288.5	289.0	289.5	290.1
45°	269.4	271.3	273.1	274.5	275.2	276.0	276.8	277.6
47.5°	255.5	257.7	259.8	261.1	261.6	262.3	262.9	263.5
50°	246.0	248.3	250.5	252.0	252.7	253.4	254.0	254.8
52.5°	236.4	238.7	241.0	242.6	243.5	244.3	245.1	245.9
55°	221.8	224.4	227.1	228.8	229.5	230.4	231.1	231.9
57.5°	206.9	209.5	212.2	214.0	214.9	215.8	216.8	217.6
60°	196.5	199.3	202.0	203.9	204.9	206.0	207.1	208.2
62.5°	186.6	189.4	192.1	194.0	195.0	196.0	197.0	198.0
65°	171.0	173.9	176.8	178.8	179.7	180.8	181.7	182.7
67.5°	155.3	158.5	161.7	163.8	164.6	165.4	166.3	167.0
70°	145.1	148.2	151.3	153.4	154.3	155.2	156.3	157.2
72.5°	134.6	137.8	141.0	143.2	144.1	145.1	146.1	147.0
75°	118.9	122.1	125.4	127.5	128.7	129.9	131.0	132.2
77.5°	104.2	107.5	110.9	113.0	114.0	114.9	115.7	116.7
80°	94.4	97.8	101.1	103.2	104.2	105.2	106.2	107.2
82.5°	85.7	89.0	92.4	94.4	95.5	96.4	97.4	98.4
85°	73.4	76.7	80.0	82.2	83.1	84.2	85.1	86.1
87.5°	67.5	71.0	74.5	76.7	77.9	78.9	79.9	81.0
90°	80.9	85.0	89.3	92.0	93.4	94.8	96.2	97.6
92.5°	91.3	95.2	99.2	101.4	102.1	102.7	103.4	104.1
95°	121.9	125.7	129.6	132.1	133.0	134.0	135.0	136.0
97.5°	158.6	162.6	166.5	168.8	169.8	170.6	171.4	172.4
100°	185.5	189.0	192.5	194.9	196.2	197.7	199.1	200.5
102.5°	216.9	220.3	223.7	225.7	226.7	227.5	228.5	229.3
105°	263.7	266.5	269.2	271.3	272.6	273.8	275.1	276.4
107.5°	314.7	318.0	321.3	323.3	323.9	324.4	325.1	325.6
110°	349.0	352.4	355.8	357.7	358.1	358.4	358.7	359.1



TEST NUMBER: P332105-830

CATALOG NUMBER: S123DIW-S340D1030U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	383.0	386.5	390.0	392.1	392.9	393.6	394.5	395.2
115°	435.2	437.7	440.3	441.9	442.4	443.0	443.6	444.1
117.5°	487.7	489.9	492.3	493.5	493.6	493.8	494.0	494.2
120°	522.9	524.9	527.0	528.1	528.4	528.6	528.9	529.1
122.5°	558.5	560.1	561.8	562.6	562.7	562.7	562.8	562.9
125°	611.3	612.6	613.8	614.3	614.1	614.0	613.8	613.6
127.5°	663.5	664.3	665.1	665.2	665.0	664.7	664.3	664.0
130°	698.2	699.3	700.2	700.3	699.4	698.5	697.6	696.7
132.5°	731.9	732.6	733.4	733.6	733.1	732.5	732.1	731.6
135°	782.5	783.3	784.3	784.8	784.9	784.9	784.9	785.0
137.5°	832.0	832.6	833.3	833.5	833.1	832.8	832.5	832.2
140°	864.6	865.9	867.1	867.2	866.3	865.3	864.3	863.3
142.5°	895.0	896.1	897.2	897.4	896.7	896.1	895.4	894.8
145°	940.8	941.3	941.9	942.0	941.5	941.0	940.6	940.1
147.5°	984.2	984.5	984.7	984.3	983.4	982.5	981.6	980.6
150°	1011.3	1011.3	1011.3	1010.7	1009.7	1008.5	1007.5	1006.4
152.5°	1036.3	1036.7	1037.1	1036.7	1035.7	1034.5	1033.5	1032.5
155°	1073.1	1073.9	1074.8	1074.5	1073.0	1071.5	1070.1	1068.6
157.5°	1104.7	1105.6	1106.5	1106.4	1105.1	1104.0	1102.8	1101.5
160°	1124.2	1125.2	1126.2	1126.3	1125.5	1124.6	1123.8	1122.9
162.5°	1142.5	1143.5	1144.6	1144.4	1143.1	1141.7	1140.4	1139.0
165°	1165.6	1166.9	1168.2	1168.1	1166.6	1165.1	1163.6	1162.2
167.5°	1184.4	1185.7	1187.0	1187.0	1185.7	1184.4	1183.1	1181.8
170°	1194.7	1196.2	1197.7	1197.7	1196.2	1194.7	1193.2	1191.8
172.5°	1202.8	1204.1	1205.4	1205.3	1203.8	1202.3	1200.8	1199.4
175°	1211.4	1212.8	1214.0	1213.9	1212.4	1210.9	1209.5	1208.0
177.5°	1215.3	1216.4	1217.4	1217.3	1216.1	1214.9	1213.7	1212.6
180°	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6

(END OF REPORT)