

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: P332098-840

Luminaire Tested: **S123DIW-S340D755U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332098-840
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-S340D755U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4504.6 lumens
Efficiency: N/A
Efficacy: 148.2 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

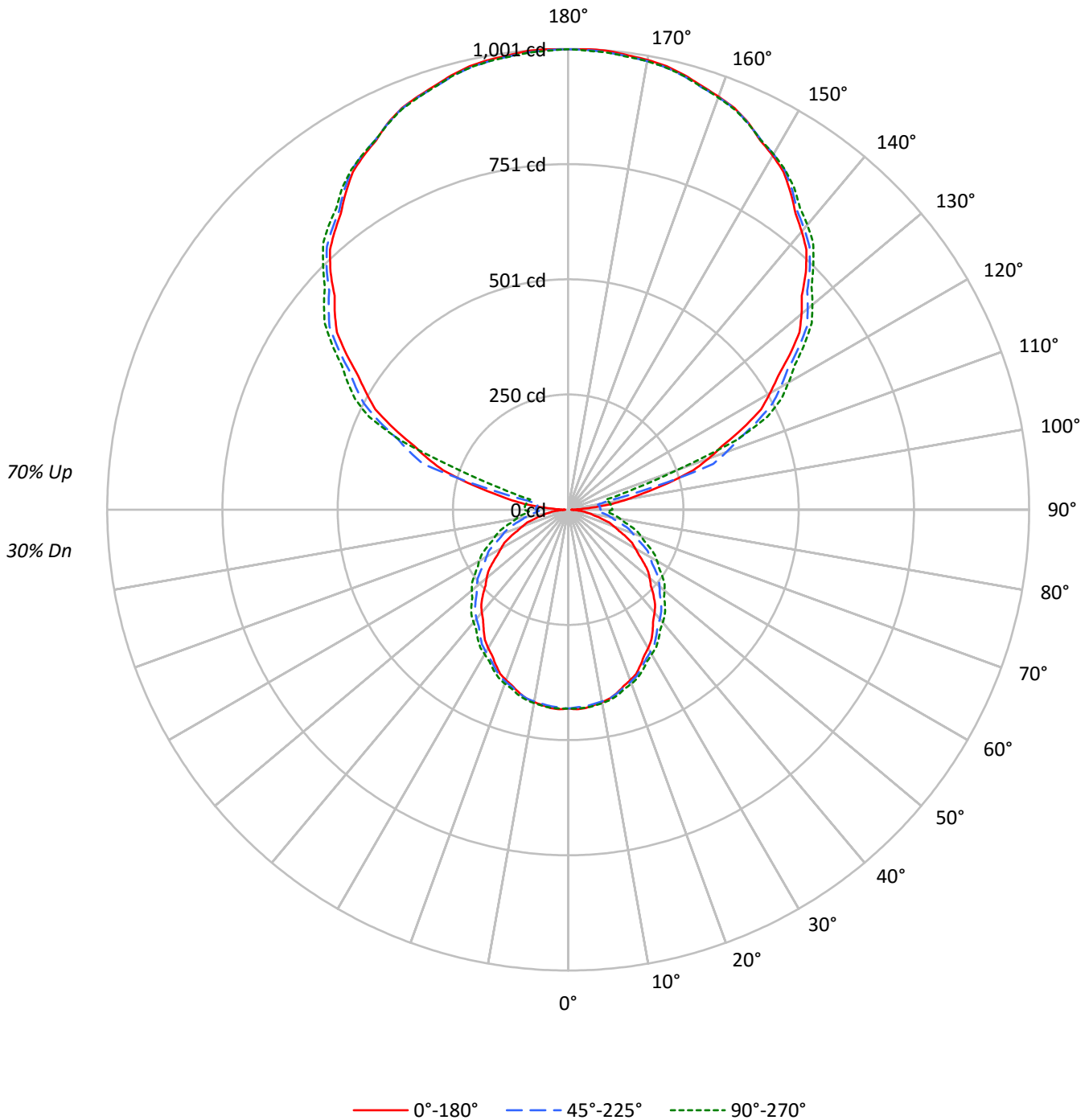
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332098-840

CATALOG NUMBER: S123DIW-S340D755U840-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332098-840

CATALOG NUMBER: S123DIW-S340D755U840-4F0-1E-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	50	30	10	0	
RCR																						
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	30				
1	93	88	84	80	83	79	76	73	62	60	58	46	45	43	32	31	30	24				
2	84	77	70	65	75	69	63	59	54	50	47	40	38	36	28	26	25	19				
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	23	21	16				
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	22	20	18	14				
5	64	52	44	38	57	47	40	35	37	32	28	28	25	22	19	17	15	12				
6	59	47	39	33	52	42	35	30	33	28	25	25	22	19	18	15	13	10				
7	54	42	34	29	48	38	31	26	30	25	21	23	19	17	16	14	12	9				
8	50	38	30	25	45	34	28	23	27	22	19	21	17	15	15	12	11	8				
9	47	35	27	22	42	31	25	20	25	20	17	19	16	13	13	11	10	7				
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	12	10	9	7				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4649	4649	4649
5°	4664	4533	4534
10°	4622	4428	4406
15°	4562	4309	4265
20°	4477	4174	4110
25°	4372	4019	3947
30°	4265	3879	3780
35°	4143	3731	3649
40°	4030	3595	3508
45°	3902	3466	3395
50°	3776	3338	3272
55°	3636	3207	3158
60°	3499	3074	3045
65°	3360	2931	2907
70°	3149	2772	2766
75°	2886	2590	2626
80°	2583	2410	2462
85°	2294	2286	2367



TEST NUMBER: P332098-840

CATALOG NUMBER: S123DIW-S340D755U840-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.9	0.9
10°-20°	116.7	2.6
20°-30°	174.6	3.9
30°-40°	208.5	4.6
40°-50°	218.1	4.8
50°-60°	204.7	4.5
60°-70°	171.0	3.8
70°-80°	122.3	2.7
80°-90°	75.8	1.7
90°-100°	82.1	1.8
100°-110°	207.0	4.6
110°-120°	438.8	9.7
120°-130°	543.0	12.1
130°-140°	572.2	12.7
140°-150°	530.9	11.8
150°-160°	427.3	9.5
160°-170°	275.7	6.1
170°-180°	95.0	2.1
0°-30°	332.3	7.4
0°-40°	540.8	12.0
0°-60°	963.6	21.4
0°-90°	1332.7	29.6
90°-120°	727.9	16.2
90°-150°	2373.9	52.7
90°-180°	3172.0	70.4
0°-180°	4504.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	431	429	432	432	41
15°	412	413	413	417	417	116
25°	372	376	378	384	384	171
35°	320	327	334	340	342	200
45°	262	273	285	293	297	202
55°	200	215	232	244	248	179
65°	138	156	177	191	196	136
75°	75	97	120	135	142	80
85°	23	47	72	87	92	24
90°	7	38	71	89	96	6
95°	50	41	70	89	94	60
105°	225	241	198	87	85	239
115°	418	429	452	470	477	412
125°	587	594	610	621	626	524
135°	730	734	742	752	753	562
145°	842	846	848	853	855	527
155°	927	925	926	929	925	427
165°	977	975	974	980	975	276
175°	1000	997	997	1002	996	95
180°	1000	1000	1000	1000	1000	



TEST NUMBER: P332098-840

CATALOG NUMBER: S123DIW-S340D755U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	433.8	433.6	433.3	433.1	432.8	432.4	431.7	431.0	430.4	429.7	430.4
5°	432.4	432.2	432.0	431.8	431.6	431.2	430.5	429.9	429.3	428.7	429.5
7.5°	428.2	428.3	428.3	428.3	428.4	428.1	427.5	426.9	426.3	425.7	426.7
10°	424.4	424.6	424.9	425.1	425.3	425.2	424.5	424.0	423.5	423.0	424.0
12.5°	419.9	420.2	420.5	420.8	421.1	421.0	420.7	420.3	420.0	419.6	420.6
15°	411.7	412.0	412.3	412.6	412.9	413.1	412.9	412.8	412.7	412.6	413.7
17.5°	401.4	402.0	402.6	403.2	403.8	404.1	404.1	404.0	404.0	404.0	405.0
20°	393.8	394.5	395.1	395.8	396.4	396.8	397.0	397.2	397.4	397.6	398.6
22.5°	386.0	386.6	387.2	387.8	388.5	388.9	389.2	389.5	389.8	390.1	391.3
25°	371.7	372.7	373.9	374.9	375.9	376.6	376.9	377.2	377.5	377.9	379.2
27.5°	357.4	358.6	359.8	361.0	362.2	363.1	363.8	364.5	365.2	365.8	367.0
30°	347.3	348.6	350.0	351.3	352.7	353.8	354.7	355.5	356.3	357.2	358.4
32.5°	336.0	337.5	339.0	340.5	342.0	343.4	344.5	345.6	346.7	347.7	349.1
35°	319.9	321.6	323.4	325.0	326.7	328.2	329.5	330.9	332.2	333.7	335.2
37.5°	303.1	304.9	306.8	308.7	310.5	312.4	314.0	315.7	317.4	319.0	320.8
40°	291.8	293.7	295.5	297.4	299.2	301.2	303.4	305.5	307.5	309.6	311.4
42.5°	279.3	281.7	283.9	286.2	288.5	290.7	293.0	295.1	297.3	299.4	301.4
45°	261.7	264.2	266.6	269.1	271.7	274.2	276.8	279.4	282.1	284.7	286.7
47.5°	243.1	245.9	248.7	251.7	254.5	257.4	260.3	263.4	266.3	269.3	271.6
50°	231.1	234.0	236.9	239.8	242.8	245.8	249.0	252.4	255.6	258.8	261.3
52.5°	218.2	221.4	224.4	227.5	230.7	234.0	237.5	241.2	244.7	248.2	250.7
55°	199.5	203.0	206.4	209.8	213.3	216.9	220.7	224.5	228.2	232.0	234.8
57.5°	181.3	184.8	188.4	192.1	195.6	199.5	203.6	207.7	211.9	216.0	218.8
60°	168.4	172.2	176.0	179.8	183.5	187.5	191.9	196.1	200.4	204.7	207.6
62.5°	156.4	160.3	164.1	167.9	171.8	176.0	180.6	185.1	189.7	194.2	197.0
65°	137.8	142.0	146.0	150.1	154.2	158.5	163.1	167.7	172.3	176.9	180.1
67.5°	119.1	123.4	127.7	132.0	136.3	140.9	145.5	150.3	154.9	159.7	163.0
70°	105.8	110.4	114.8	119.4	123.8	128.7	133.6	138.7	143.7	148.7	152.1
72.5°	93.8	98.4	102.8	107.3	111.8	116.6	121.8	127.0	132.2	137.4	140.9
75°	74.8	79.8	84.6	89.6	94.5	99.6	104.8	110.0	115.2	120.5	123.9
77.5°	58.3	63.2	68.2	73.1	78.1	83.2	88.5	93.7	99.0	104.3	108.0
80°	46.6	51.7	56.9	62.0	67.1	72.4	77.8	83.2	88.7	94.1	97.7
82.5°	36.5	41.6	46.9	52.0	57.3	62.6	68.2	73.6	79.2	84.7	88.3
85°	23.0	28.3	33.5	38.8	43.9	49.4	54.9	60.4	65.9	71.5	75.0
87.5°	12.6	18.2	23.7	29.3	34.8	40.5	46.3	52.0	57.8	63.5	67.2
90°	6.9	13.6	20.4	27.2	33.9	41.1	48.6	56.0	63.5	71.0	75.2
92.5°	19.6	23.7	27.9	32.0	36.2	41.7	48.6	55.4	62.3	69.2	73.7
95°	50.5	47.8	45.1	42.4	39.7	41.9	48.8	55.7	62.7	69.6	74.0
97.5°	95.7	96.3	97.0	97.7	98.3	95.1	88.2	81.1	74.1	67.2	71.6
100°	129.9	136.4	143.1	149.8	156.4	149.3	128.4	107.3	86.4	65.4	69.8
102.5°	168.6	174.1	179.5	184.8	190.3	181.3	157.8	134.4	111.0	87.6	86.4
105°	225.2	229.5	233.9	238.2	242.5	239.5	229.1	218.7	208.4	198.0	171.8
107.5°	284.4	288.0	291.5	295.2	298.7	303.9	310.4	317.1	323.7	330.3	311.6
110°	323.9	327.1	330.2	333.5	336.7	341.2	347.3	353.3	359.3	365.3	362.5



TEST NUMBER: P332098-840

CATALOG NUMBER: S123DIW-S340D755U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	361.9	364.7	367.4	370.1	372.8	377.1	382.9	388.8	394.7	400.4	403.2
115°	417.8	420.0	422.2	424.4	426.8	430.5	435.8	441.0	446.3	451.5	455.7
117.5°	472.2	474.2	476.2	478.2	480.2	483.3	487.7	491.9	496.2	500.5	504.3
120°	505.7	507.8	509.8	511.7	513.7	516.7	520.7	524.6	528.6	532.5	536.2
122.5°	540.2	541.7	543.2	544.7	546.1	548.9	552.8	556.7	560.6	564.5	567.7
125°	587.0	588.3	589.7	591.0	592.3	594.8	598.4	602.2	605.8	609.6	612.1
127.5°	632.8	634.0	635.2	636.4	637.6	639.9	643.2	646.5	649.8	653.1	655.7
130°	661.3	662.5	663.8	665.0	666.2	668.1	670.9	673.7	676.4	679.1	681.8
132.5°	688.2	689.5	690.8	692.2	693.5	695.2	697.4	699.6	701.9	704.1	706.6
135°	729.9	730.8	731.7	732.6	733.5	734.9	736.6	738.4	740.2	742.0	744.5
137.5°	765.5	766.7	767.9	769.0	770.2	771.3	772.3	773.4	774.4	775.4	777.8
140°	788.9	789.9	790.9	791.9	792.8	793.8	794.6	795.4	796.2	797.0	799.2
142.5°	810.9	811.8	812.7	813.6	814.6	815.3	815.9	816.4	817.0	817.5	819.4
145°	841.7	842.7	843.7	844.9	845.9	846.6	846.9	847.3	847.6	847.9	849.1
147.5°	870.2	870.9	871.7	872.4	873.2	873.7	874.1	874.4	874.7	875.0	875.7
150°	888.1	888.5	889.0	889.5	890.0	890.4	890.8	891.1	891.4	891.7	892.1
152.5°	904.0	904.3	904.5	904.7	905.0	905.2	905.4	905.6	905.8	906.1	906.6
155°	926.7	926.3	926.0	925.6	925.3	925.2	925.4	925.6	925.7	925.9	926.8
157.5°	944.2	944.2	944.1	944.1	944.1	944.0	943.8	943.6	943.5	943.3	944.3
160°	954.9	954.7	954.6	954.4	954.2	954.1	953.9	953.7	953.6	953.4	954.4
162.5°	965.0	964.6	964.1	963.7	963.3	963.0	962.8	962.7	962.5	962.3	963.5
165°	977.2	976.7	976.2	975.7	975.2	974.9	974.7	974.5	974.4	974.2	975.5
167.5°	986.7	986.0	985.4	984.7	984.1	983.7	983.7	983.7	983.7	983.7	985.0
170°	992.1	991.4	990.8	990.1	989.5	989.1	989.1	989.1	989.1	989.1	990.4
172.5°	995.6	994.8	994.0	993.3	992.5	992.1	992.3	992.4	992.5	992.7	994.0
175°	1000.3	999.4	998.6	997.7	996.9	996.6	996.7	996.9	997.1	997.2	998.5
177.5°	1001.4	1000.8	1000.1	999.5	998.8	998.6	998.7	998.8	999.0	999.1	1000.1
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3



TEST NUMBER: P332098-840

CATALOG NUMBER: S123DIW-S340D755U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	431.0	431.7	432.4	432.6	432.6	432.5	432.4	432.3
5°	430.3	431.2	432.0	432.4	432.3	432.1	432.0	431.9
7.5°	427.8	428.8	429.8	430.3	430.2	430.0	429.9	429.8
10°	425.2	426.2	427.2	427.6	427.4	427.2	427.0	426.8
12.5°	421.5	422.5	423.4	423.8	423.6	423.4	423.2	423.0
15°	414.8	415.8	416.9	417.3	417.2	417.1	417.0	416.9
17.5°	405.9	406.9	407.8	408.2	408.0	407.9	407.8	407.6
20°	399.5	400.4	401.4	401.9	402.0	402.1	402.2	402.3
22.5°	392.4	393.6	394.9	395.5	395.4	395.3	395.3	395.2
25°	380.5	381.9	383.2	384.0	384.0	384.0	384.0	384.0
27.5°	368.1	369.3	370.5	371.1	371.2	371.3	371.3	371.4
30°	359.6	360.9	362.1	362.7	362.7	362.7	362.7	362.7
32.5°	350.4	351.7	353.0	353.9	354.2	354.4	354.7	354.9
35°	336.8	338.3	339.9	340.9	341.3	341.7	342.1	342.5
37.5°	322.6	324.4	326.2	327.2	327.5	327.9	328.2	328.5
40°	313.2	315.0	316.7	317.8	318.2	318.7	319.1	319.5
42.5°	303.4	305.3	307.2	308.5	309.1	309.6	310.2	310.8
45°	288.6	290.6	292.7	294.1	294.9	295.7	296.6	297.4
47.5°	273.8	276.1	278.3	279.7	280.3	281.0	281.7	282.4
50°	263.6	266.0	268.4	270.0	270.7	271.5	272.2	273.0
52.5°	253.3	255.7	258.2	259.9	260.8	261.8	262.6	263.5
55°	237.6	240.4	243.3	245.1	245.9	246.8	247.6	248.4
57.5°	221.7	224.5	227.3	229.2	230.2	231.3	232.3	233.2
60°	210.6	213.5	216.4	218.4	219.5	220.8	221.9	223.1
62.5°	200.0	202.9	205.8	207.8	208.9	210.0	211.1	212.2
65°	183.2	186.3	189.5	191.6	192.6	193.7	194.7	195.7
67.5°	166.4	169.9	173.3	175.5	176.3	177.2	178.1	178.9
70°	155.4	158.8	162.1	164.3	165.3	166.3	167.4	168.4
72.5°	144.2	147.6	151.1	153.4	154.4	155.4	156.5	157.5
75°	127.3	130.8	134.3	136.6	137.8	139.2	140.4	141.7
77.5°	111.6	115.2	118.9	121.1	122.1	123.1	124.0	125.0
80°	101.2	104.8	108.4	110.6	111.7	112.7	113.8	114.8
82.5°	91.8	95.3	99.0	101.2	102.3	103.3	104.3	105.4
85°	78.7	82.2	85.7	88.1	89.1	90.2	91.2	92.2
87.5°	70.9	74.5	78.3	80.7	81.8	82.9	84.0	85.1
90°	79.5	83.6	87.9	90.7	92.0	93.4	94.8	96.1
92.5°	78.3	82.8	87.3	90.2	91.3	92.5	93.6	94.8
95°	78.4	82.8	87.3	90.0	91.0	92.0	93.1	94.1
97.5°	76.0	80.5	84.8	87.7	88.9	90.1	91.3	92.5
100°	74.1	78.6	82.9	85.6	86.8	88.1	89.3	90.5
102.5°	85.2	84.1	83.0	83.1	84.4	85.7	87.2	88.5
105°	145.4	119.2	92.8	80.3	81.6	82.8	84.1	85.4
107.5°	293.1	274.4	255.8	235.9	214.8	193.7	172.6	151.5
110°	359.8	357.1	354.4	341.5	318.8	296.0	273.3	250.4



TEST NUMBER: P332098-840

CATALOG NUMBER: S123DIW-S340D755U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	406.0	408.7	411.4	410.7	406.7	402.6	398.5	394.5
115°	459.8	463.9	468.2	471.0	472.4	473.9	475.4	477.0
117.5°	508.2	511.9	515.7	518.2	519.1	520.0	521.0	521.9
120°	540.0	543.7	547.4	549.7	550.4	551.1	551.9	552.6
122.5°	571.0	574.2	577.5	579.6	580.5	581.3	582.2	583.0
125°	614.6	617.1	619.7	621.5	622.5	623.6	624.6	625.7
127.5°	658.3	660.9	663.5	665.0	665.4	665.7	666.1	666.5
130°	684.5	687.1	689.7	691.3	691.6	691.9	692.2	692.4
132.5°	709.1	711.8	714.3	715.7	715.9	716.2	716.4	716.7
135°	746.8	749.2	751.5	752.8	752.9	752.9	752.9	752.9
137.5°	780.2	782.6	785.1	786.5	786.6	786.8	787.0	787.2
140°	801.4	803.8	806.0	807.2	807.4	807.5	807.7	807.9
142.5°	821.3	823.3	825.3	826.3	826.3	826.4	826.4	826.5
145°	850.2	851.4	852.5	853.3	853.7	854.2	854.6	855.1
147.5°	876.3	876.9	877.5	877.5	877.2	876.8	876.4	876.0
150°	892.4	892.7	893.0	893.1	892.8	892.5	892.2	891.9
152.5°	907.2	907.8	908.4	908.4	907.6	906.9	906.2	905.4
155°	927.6	928.4	929.3	929.2	928.2	927.2	926.1	925.1
157.5°	945.3	946.2	947.3	947.2	945.8	944.5	943.3	942.0
160°	955.4	956.4	957.4	957.4	956.1	955.0	953.8	952.7
162.5°	964.6	965.7	966.8	966.8	965.8	964.8	963.8	962.8
165°	976.8	978.2	979.5	979.6	978.5	977.2	976.1	974.9
167.5°	986.3	987.7	989.1	989.1	987.7	986.3	985.0	983.7
170°	991.7	993.1	994.4	994.4	993.1	991.7	990.4	989.1
172.5°	995.3	996.6	997.9	997.8	996.4	995.0	993.5	992.1
175°	999.6	1000.8	1001.9	1001.8	1000.5	999.2	997.8	996.5
177.5°	1001.2	1002.2	1003.3	1003.1	1001.8	1000.5	999.2	997.8
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3

(END OF REPORT)