

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: P331906-840

Luminaire Tested: **S123DIP-S340D1195U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331906-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D1195U840-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5816.8 lumens
Efficiency: N/A
Efficacy: 137.8 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

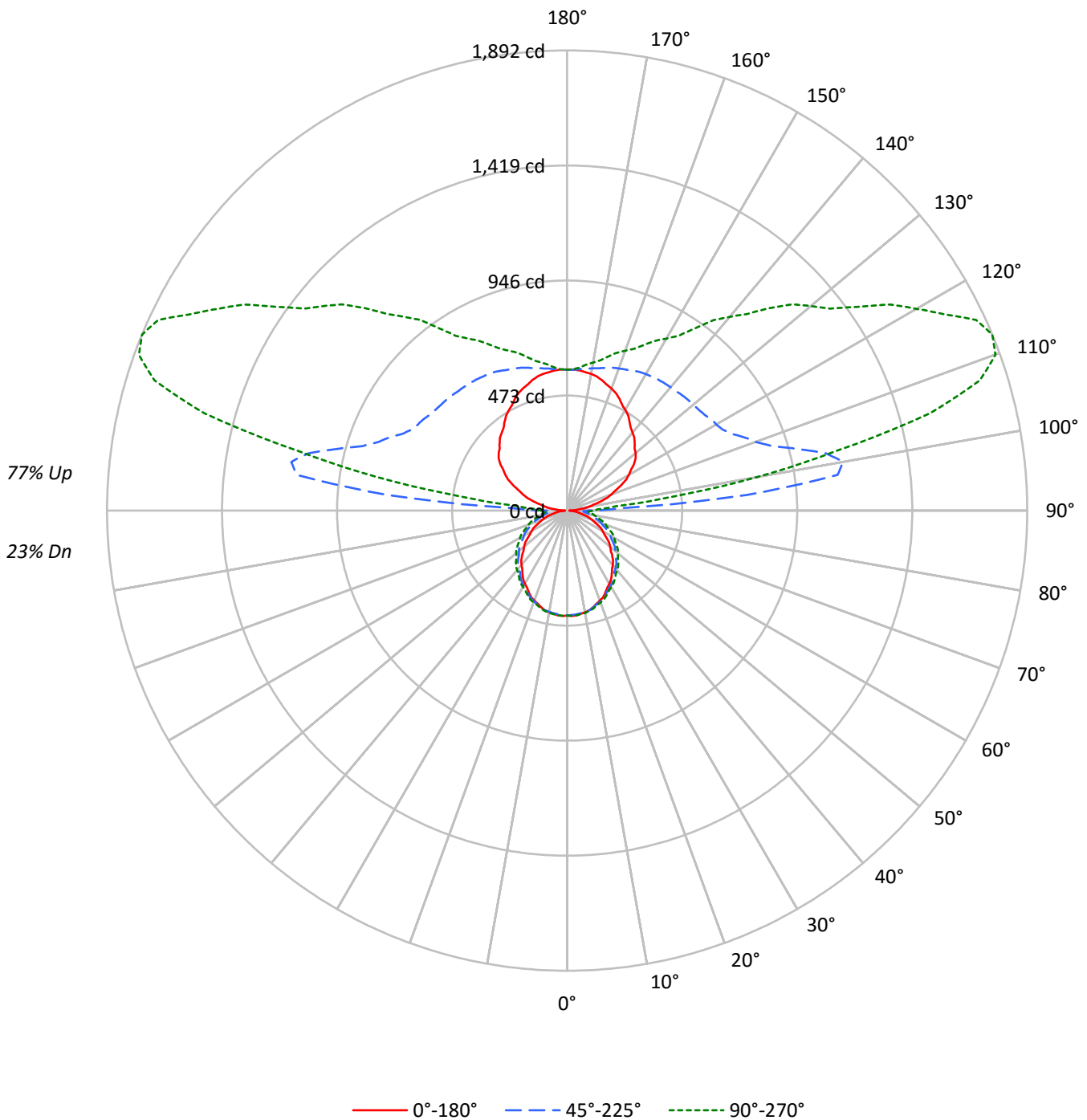
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331906-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331906-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D4

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	101	101	101	101	89	89	89	89	68	68	68	49	49	49	31	31	31	23
1	91	87	83	79	81	77	74	71	59	57	55	42	41	40	27	26	25	18
2	83	76	69	64	73	67	62	58	51	48	45	37	35	33	23	22	21	15
3	75	66	59	53	67	59	53	48	45	41	37	32	30	27	20	19	18	12
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	18	16	15	11
5	63	52	44	38	56	46	39	34	35	31	27	26	22	20	16	14	13	9
6	58	46	38	33	51	41	34	30	32	27	23	23	20	17	15	13	11	8
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	13	11	10	7
8	49	37	30	25	44	33	27	22	26	21	18	19	16	13	12	10	9	6
9	46	34	27	22	40	30	24	20	24	19	16	17	14	12	11	9	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	10	9	7	5

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: P331906-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.9	0.7
10°-20°	116.7	2.0
20°-30°	174.6	3.0
30°-40°	208.5	3.6
40°-50°	218.1	3.8
50°-60°	204.7	3.5
60°-70°	171.0	2.9
70°-80°	122.3	2.1
80°-90°	77.4	1.3
90°-100°	368.3	6.3
100°-110°	947.0	16.3
110°-120°	921.0	15.8
120°-130°	729.5	12.5
130°-140°	570.8	9.8
140°-150°	423.0	7.3
150°-160°	294.0	5.1
160°-170°	172.7	3.0
170°-180°	56.2	1.0
0°-30°	332.3	5.7
0°-40°	540.8	9.3
0°-60°	963.6	16.6
0°-90°	1334.4	22.9
90°-120°	2236.3	38.4
90°-150°	3959.6	68.1
90°-180°	4482.0	77.1
0°-180°	5816.8	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°	8	43	82	101	108	7
95°	45	153	742	264	202	47
105°	140	217	979	1698	1545	149
115°	243	308	746	1618	1855	241
125°	336	397	688	1245	1460	298
135°	393	468	670	1019	1177	303
145°	448	512	656	828	913	280
155°	508	548	635	722	752	234
165°	555	571	608	645	656	156
175°	578	579	583	591	590	55
180°	580	580	580	580	580	



TEST NUMBER: P331906-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D4

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°	13.0	18.7	24.3	30.3	36.0	41.7	47.7	53.7	59.8	65.8	69.2
90°	8.5	16.0	23.4	32.0	39.5	47.1	55.9	64.8	73.6	82.5	84.9
92.5°	20.3	31.9	46.5	60.2	74.7	96.9	133.0	188.6	243.5	230.7	189.8
95°	45.0	52.7	69.7	93.7	128.3	178.6	283.5	463.4	661.0	742.4	614.2
97.5°	72.7	77.6	91.3	112.3	146.0	199.9	300.0	502.0	827.7	1121.5	1199.9
100°	91.1	95.5	107.1	126.9	158.4	208.2	295.2	473.6	787.1	1152.1	1386.2
102.5°	110.4	115.5	125.8	144.3	172.7	218.5	296.9	449.0	728.5	1088.8	1393.3
105°	139.9	145.9	155.4	172.1	196.8	236.7	304.6	429.9	656.2	978.7	1318.3
107.5°	170.8	176.4	185.3	201.4	224.3	261.4	321.2	425.9	608.9	881.0	1189.5
110°	192.9	198.3	206.0	220.9	242.7	278.5	335.6	428.9	590.3	825.7	1108.7



TEST NUMBER: P331906-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	213.6	218.6	226.0	240.4	262.0	296.7	349.7	436.4	578.9	787.7	1037.9
115°	242.9	248.8	257.1	270.1	291.3	325.5	373.9	449.2	572.6	746.5	952.0
117.5°	272.6	278.7	285.4	297.0	320.0	351.5	399.2	466.6	571.7	720.7	898.7
120°	292.9	296.9	303.3	315.6	338.4	369.7	415.4	479.9	573.6	708.5	870.5
122.5°	310.7	314.5	320.6	333.6	355.2	388.2	432.7	492.4	578.5	700.0	846.9
125°	335.8	338.1	345.2	358.1	380.4	413.5	457.7	512.3	585.8	688.5	816.3
127.5°	355.3	358.7	367.3	380.3	404.9	437.8	479.9	528.9	594.7	681.5	788.9
130°	367.5	370.9	381.3	395.4	419.9	452.5	493.3	540.0	600.8	676.8	773.9
132.5°	376.5	380.9	392.4	409.3	433.9	465.4	504.9	550.3	604.9	674.0	759.6
135°	392.8	397.4	410.2	427.7	452.2	484.4	522.0	563.0	611.1	669.7	740.8
137.5°	408.2	413.0	425.7	444.3	468.7	498.3	533.9	572.6	615.0	664.9	724.5
140°	418.2	424.0	435.8	454.5	478.0	507.5	541.8	577.3	617.5	662.5	714.5
142.5°	429.4	434.2	446.9	463.6	487.1	514.5	547.6	582.0	619.1	659.0	705.3
145°	447.5	450.9	461.4	478.9	498.7	525.6	556.1	587.8	620.7	655.9	694.3
147.5°	465.3	467.5	477.8	493.0	512.3	535.2	563.2	591.6	620.7	651.5	683.8
150°	477.6	478.7	488.1	503.3	519.8	540.9	567.8	592.5	620.7	647.6	677.0
152.5°	489.8	490.0	499.4	512.7	527.3	547.4	570.7	594.4	617.8	643.0	669.5
155°	508.1	508.1	515.1	526.8	539.7	556.1	576.1	594.9	614.8	634.8	658.2
157.5°	522.6	523.5	529.2	539.5	550.5	563.2	579.2	596.0	610.9	627.5	645.5
160°	533.8	533.8	538.6	548.0	556.1	567.8	582.0	596.0	608.9	621.9	637.1
162.5°	542.3	542.3	546.0	553.6	560.9	570.7	582.9	595.1	605.2	616.2	628.6
165°	555.0	553.8	556.1	562.0	566.7	574.9	584.3	592.5	599.6	607.7	617.1
167.5°	564.6	563.2	564.3	568.9	572.1	577.2	584.1	590.7	593.9	599.4	606.1
170°	570.3	567.8	569.1	572.6	574.9	577.2	583.1	587.8	590.2	593.7	599.6
172.5°	574.0	572.6	572.8	575.4	576.8	578.2	583.1	586.9	587.3	589.0	593.0
175°	578.5	577.2	576.1	578.5	578.5	579.7	582.0	584.3	583.1	583.1	585.5
177.5°	580.6	579.7	578.7	579.7	579.7	579.7	580.6	582.4	580.6	579.7	580.6
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7



TEST NUMBER: P331906-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D4

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°	72.9	76.7	80.5	83.3	84.1	85.3	86.6	87.5
90°	89.6	94.3	99.1	103.7	103.6	105.8	108.1	107.9
92.5°	155.9	139.0	133.3	129.4	128.3	125.7	127.8	126.6
95°	475.4	342.5	283.7	243.6	222.3	212.8	205.6	202.0
97.5°	1102.4	896.0	747.7	609.5	523.9	472.1	441.5	432.4
100°	1430.4	1338.4	1204.1	1039.6	922.0	837.5	792.7	795.0
102.5°	1537.7	1537.6	1460.6	1357.0	1265.8	1199.0	1161.8	1135.9
105°	1566.4	1686.7	1711.9	1683.3	1630.3	1586.7	1550.0	1545.2
107.5°	1470.5	1663.8	1769.4	1813.0	1814.8	1800.8	1789.0	1779.2
110°	1380.2	1598.8	1749.3	1833.2	1866.9	1877.1	1875.6	1874.1



TEST NUMBER: P331906-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1290.4	1513.7	1681.9	1789.4	1850.4	1880.4	1890.2	1891.6
115°	1171.5	1378.3	1553.3	1682.8	1771.6	1824.1	1848.4	1855.1
117.5°	1084.5	1263.2	1420.6	1552.0	1644.6	1704.6	1739.1	1747.9
120°	1038.3	1199.1	1342.3	1462.4	1555.8	1622.2	1651.1	1658.9
122.5°	1001.5	1147.2	1280.0	1391.6	1474.7	1534.6	1566.3	1575.9
125°	952.2	1082.3	1197.2	1292.5	1368.3	1420.7	1450.8	1459.7
127.5°	908.8	1024.9	1128.6	1215.4	1283.0	1327.8	1355.0	1363.2
130°	881.4	989.0	1086.0	1167.1	1229.9	1272.7	1298.1	1308.1
132.5°	855.9	954.9	1045.3	1122.7	1181.7	1224.8	1247.3	1254.6
135°	821.3	906.6	984.7	1052.8	1110.8	1146.5	1168.1	1176.9
137.5°	789.7	859.7	927.1	986.1	1035.0	1071.2	1089.5	1095.4
140°	771.2	832.6	890.5	942.0	987.0	1020.5	1039.8	1039.2
142.5°	753.4	806.2	856.4	901.2	939.8	969.4	986.8	986.1
145°	732.7	772.2	810.6	845.3	874.9	900.1	909.9	912.6
147.5°	715.8	746.7	777.3	801.7	824.5	841.4	850.7	852.0
150°	704.0	730.9	755.6	778.0	795.8	808.9	816.2	816.4
152.5°	693.7	716.9	738.7	757.3	771.1	783.2	787.4	787.5
155°	678.1	696.9	714.6	728.6	739.2	748.6	750.9	752.0
157.5°	661.8	677.5	691.1	702.1	711.2	718.3	720.1	719.9
160°	652.4	665.3	677.0	685.2	693.5	700.4	700.4	699.3
162.5°	641.1	652.2	662.9	670.1	675.6	681.7	681.7	680.5
165°	626.5	633.6	641.8	647.6	652.4	657.0	655.9	655.9
167.5°	613.9	619.2	624.0	628.2	630.3	633.6	632.4	632.4
170°	605.4	608.9	613.6	616.0	617.1	619.6	618.3	618.3
172.5°	597.9	600.5	604.3	605.6	605.9	608.2	606.1	605.2
175°	587.8	589.0	591.4	591.4	591.4	592.5	591.4	590.2
177.5°	581.5	582.4	583.4	583.4	582.4	583.4	581.5	581.5
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7

(END OF REPORT)