

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: P331954

Luminaire Tested: **S123DIP-S560D1195U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331954
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-S560D1195U835-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6640.7 lumens
Efficiency: N/A
Efficacy: 134.4 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

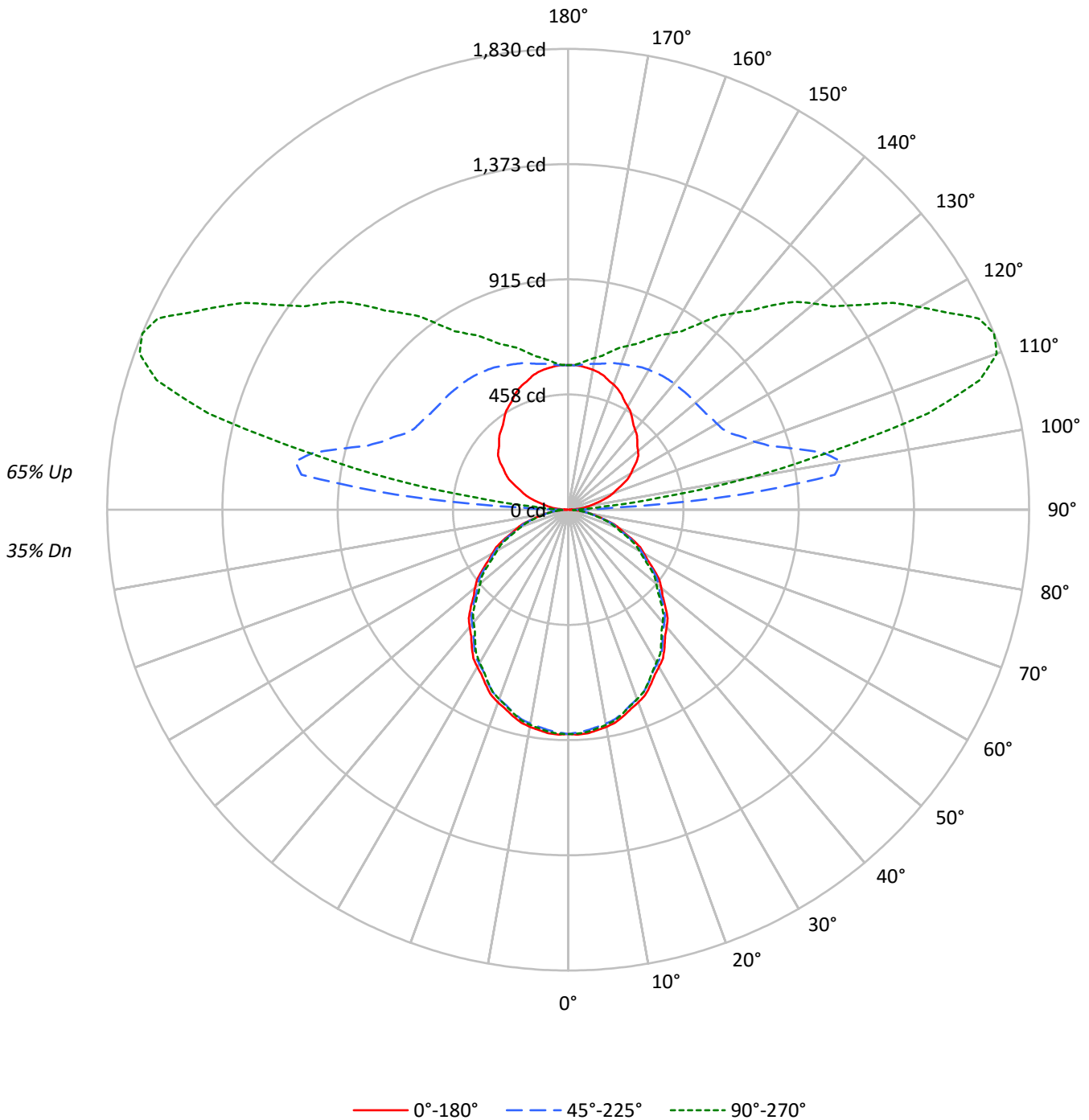
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331954

CATALOG NUMBER: S123DIP-S560D1195U835-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P331954

CATALOG NUMBER: S123DIP-S560D1195U835-4F0-1E-UDD-F4

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	75	75	75	58	58	58	42	42	42	35
1	94	90	86	83	85	82	78	75	66	63	61	51	49	48	37	36	36	29
2	86	79	73	68	77	71	66	62	57	54	51	45	42	40	33	31	30	25
3	78	69	62	56	70	63	56	52	51	46	43	39	36	34	29	27	25	21
4	72	61	53	47	64	55	49	44	45	40	36	35	32	29	26	24	22	18
5	66	54	46	40	59	49	42	37	40	35	31	31	28	25	23	21	19	15
6	60	49	41	35	54	44	37	32	36	31	27	28	25	22	21	19	17	14
7	56	44	36	31	50	40	33	28	33	27	24	26	22	19	19	17	15	12
8	52	40	32	27	47	36	29	25	30	25	21	23	20	17	18	15	13	11
9	48	36	29	24	43	33	26	22	27	22	19	22	18	15	16	14	12	10
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9590	9590	9590
5°	9634	9502	9568
10°	9570	9419	9477
15°	9458	9313	9331
20°	9328	9160	9170
25°	9152	8980	8961
30°	8959	8779	8712
35°	8757	8566	8456
40°	8546	8331	8202
45°	8315	8115	7917
50°	8081	7850	7633
55°	7777	7576	7345
60°	7470	7255	7025
65°	7200	6907	6691
70°	6798	6508	6219
75°	6213	5989	5735
80°	5604	5368	5318
85°	4915	4730	4545



TEST NUMBER: P331954

CATALOG NUMBER: S123DIP-S560D1195U835-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.9	1.3
10°-20°	237.0	3.6
20°-30°	350.0	5.3
30°-40°	408.9	6.2
40°-50°	411.1	6.2
50°-60°	361.1	5.4
60°-70°	269.0	4.1
70°-80°	153.3	2.3
80°-90°	48.4	0.7
90°-100°	319.4	4.8
100°-110°	904.4	13.6
110°-120°	889.7	13.4
120°-130°	709.7	10.7
130°-140°	559.5	8.4
140°-150°	417.6	6.3
150°-160°	291.1	4.4
160°-170°	171.0	2.6
170°-180°	55.6	0.8
0°-30°	670.9	10.1
0°-40°	1079.8	16.3
0°-60°	1851.9	27.9
0°-90°	2322.6	35.0
90°-120°	2113.6	31.8
90°-150°	3800.4	57.2
90°-180°	4318.0	65.0
0°-180°	6640.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	891	891	891	891	891	
5°	892	888	879	887	886	84
15°	849	845	836	841	837	239
25°	771	766	756	757	754	355
35°	666	662	652	647	644	417
45°	546	543	533	524	520	421
55°	414	413	404	396	391	371
65°	283	279	271	265	263	279
75°	149	146	144	140	138	160
85°	40	38	38	37	37	44
90°	2	14	29	33	34	5
95°	40	128	689	201	135	43
105°	135	199	934	1634	1478	143
115°	238	297	714	1567	1797	236
125°	331	391	667	1208	1418	294
135°	388	463	658	995	1149	300
145°	443	507	650	816	898	277
155°	503	543	629	715	745	231
165°	550	565	602	638	650	155
175°	573	573	577	586	584	54
180°	574	574	574	574	574	



TEST NUMBER: P331954

CATALOG NUMBER: S123DIP-S560D1195U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9
2.5°	893.9	893.4	892.9	892.3	891.8	890.7	889.2	887.7	886.3	884.8	886.1
5°	891.6	890.8	889.9	889.1	888.2	886.9	885.0	883.1	881.3	879.4	881.1
7.5°	882.9	882.1	881.2	880.4	879.5	878.1	876.2	874.2	872.3	870.4	871.9
10°	875.6	874.7	873.9	873.0	872.2	870.6	868.4	866.2	864.0	861.8	863.3
12.5°	865.8	865.0	864.3	863.6	862.9	861.5	859.4	857.3	855.3	853.2	854.3
15°	848.7	848.1	847.4	846.7	846.0	844.6	842.4	840.2	837.9	835.7	837.1
17.5°	829.0	828.1	827.2	826.3	825.4	823.9	821.7	819.5	817.3	815.0	816.0
20°	814.3	813.3	812.2	811.2	810.2	808.6	806.4	804.2	801.9	799.7	800.4
22.5°	797.7	796.7	795.7	794.7	793.6	792.0	789.8	787.6	785.4	783.2	783.7
25°	770.6	769.6	768.6	767.6	766.5	764.9	762.7	760.5	758.3	756.1	756.2
27.5°	741.7	740.7	739.7	738.7	737.7	736.0	733.6	731.3	728.9	726.5	726.6
30°	720.8	720.0	719.1	718.3	717.4	715.8	713.4	711.0	708.7	706.3	706.3
32.5°	700.0	698.9	697.7	696.6	695.5	694.0	692.2	690.3	688.5	686.7	685.7
35°	666.4	665.4	664.4	663.4	662.4	660.7	658.5	656.3	654.1	651.9	650.9
37.5°	632.1	630.8	629.5	628.2	626.9	625.2	622.9	620.7	618.4	616.2	615.0
40°	608.2	607.2	606.2	605.2	604.1	602.4	600.0	597.7	595.3	592.9	591.5
42.5°	584.3	583.2	582.0	580.8	579.7	577.9	575.5	573.2	570.8	568.4	567.0
45°	546.2	545.5	544.8	544.1	543.4	542.0	539.8	537.6	535.4	533.1	531.1
47.5°	508.3	507.3	506.4	505.4	504.4	502.8	500.8	498.7	496.6	494.5	492.5
50°	482.6	481.7	480.9	480.0	479.2	477.7	475.4	473.2	471.0	468.8	466.9
52.5°	455.6	455.0	454.5	453.9	453.3	451.8	449.5	447.2	444.8	442.5	440.9
55°	414.4	414.2	414.1	413.9	413.7	412.5	410.3	408.1	405.9	403.7	401.8
57.5°	375.2	374.6	374.0	373.5	372.9	371.7	369.9	368.2	366.4	364.6	363.0
60°	347.0	346.8	346.7	346.5	346.3	345.2	343.2	341.1	339.1	337.0	335.5
62.5°	321.9	321.4	321.0	320.6	320.1	318.9	316.8	314.8	312.7	310.7	309.2
65°	282.7	281.8	281.0	280.1	279.3	278.0	276.3	274.6	272.9	271.2	269.8
67.5°	241.1	240.4	239.6	238.9	238.1	237.1	235.8	234.5	233.2	232.0	230.8
70°	216.0	215.0	214.0	213.0	211.9	210.9	209.9	208.9	207.8	206.8	205.6
72.5°	189.7	188.9	188.2	187.4	186.7	185.7	184.6	183.4	182.2	181.1	180.0
75°	149.4	148.7	148.0	147.3	146.7	146.1	145.5	145.0	144.5	144.0	143.2
77.5°	113.7	113.3	112.9	112.6	112.2	111.7	111.1	110.5	109.8	109.2	108.7
80°	90.4	89.9	89.4	88.9	88.3	87.9	87.6	87.2	86.9	86.6	86.4
82.5°	67.7	67.6	67.5	67.4	67.3	67.2	67.2	67.1	67.0	67.0	66.6
85°	39.8	39.5	39.2	38.8	38.5	38.3	38.3	38.3	38.3	38.3	38.0
87.5°	16.4	16.5	16.5	16.8	16.9	17.0	17.6	18.2	18.7	19.3	18.9
90°	2.3	4.6	7.0	10.5	12.8	15.1	18.6	22.1	25.6	29.0	27.9
92.5°	14.4	21.4	31.1	40.2	50.0	67.2	97.6	147.6	196.6	178.7	134.8
95°	39.5	43.0	55.8	75.5	105.7	151.0	249.8	422.9	613.5	689.0	558.8
97.5°	67.4	68.5	78.5	95.7	125.5	174.5	268.9	464.0	781.7	1067.7	1142.3
100°	86.0	87.1	95.3	111.5	139.4	184.7	266.1	438.0	743.6	1100.3	1329.2
102.5°	105.5	107.6	114.8	130.1	155.2	196.8	269.8	415.7	687.8	1039.9	1338.4
105°	134.8	138.3	145.2	159.2	181.2	217.3	280.0	399.7	619.3	934.1	1267.6
107.5°	165.9	169.4	176.1	189.8	210.5	244.0	299.1	398.5	575.6	840.7	1143.5
110°	188.2	191.7	197.5	210.3	230.0	262.6	314.9	403.2	558.8	787.7	1065.4



TEST NUMBER: P331954

CATALOG NUMBER: S123DIP-S560D1195U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	208.7	212.2	218.0	230.7	250.5	282.1	330.7	412.5	549.6	752.4	997.6
115°	238.2	242.8	249.8	261.4	281.2	312.5	356.7	427.6	546.1	714.5	915.5
117.5°	267.7	273.0	278.8	289.5	311.6	340.7	384.3	447.5	548.2	692.2	866.0
120°	288.1	291.6	297.4	309.1	331.1	360.2	402.0	462.4	551.9	682.0	840.0
122.5°	305.8	309.3	315.1	327.6	348.8	379.7	420.6	476.4	558.4	675.5	818.6
125°	331.1	333.5	340.4	353.2	375.3	406.6	447.3	498.4	568.1	666.9	791.2
127.5°	350.4	353.9	362.5	375.5	399.9	431.3	470.5	516.6	579.3	662.7	767.1
130°	362.5	366.0	376.4	390.4	414.8	446.1	484.5	528.6	586.7	659.9	754.0
132.5°	371.8	376.2	387.6	404.3	428.7	459.2	496.6	539.8	592.3	659.0	742.0
135°	388.1	392.7	405.5	422.9	447.3	478.7	514.7	554.2	600.7	657.6	726.2
137.5°	403.4	408.3	420.8	439.4	463.6	492.6	527.2	564.9	606.3	655.0	712.4
140°	413.6	419.4	431.0	449.6	472.9	501.9	535.6	570.5	610.0	654.1	704.1
142.5°	424.8	429.7	442.2	458.9	482.2	509.4	542.1	576.0	612.8	652.3	696.6
145°	442.7	446.1	456.6	474.0	493.8	520.5	550.7	582.1	614.6	649.5	686.7
147.5°	460.8	462.9	473.1	488.2	507.3	530.0	557.7	585.8	614.6	645.1	676.9
150°	472.9	474.0	483.3	498.4	514.7	535.6	562.3	586.7	614.6	641.3	670.4
152.5°	485.0	485.2	494.5	507.7	522.1	542.1	565.1	588.6	611.8	636.7	663.0
155°	503.1	503.1	510.1	521.7	534.4	550.7	570.5	589.1	608.8	628.6	651.8
157.5°	517.5	518.4	524.0	534.2	545.1	557.7	573.5	590.2	604.9	621.4	639.2
160°	528.6	528.6	533.3	542.6	550.7	562.3	576.3	590.2	603.0	615.8	630.9
162.5°	537.0	537.0	540.7	548.2	555.4	565.1	577.2	589.3	599.3	610.2	622.5
165°	549.6	548.4	550.7	556.5	561.2	569.3	578.6	586.7	593.7	601.8	611.1
167.5°	559.1	557.7	558.8	563.3	566.5	571.6	578.4	584.9	588.1	593.5	600.2
170°	564.7	562.3	563.5	567.0	569.3	571.6	577.4	582.1	584.4	587.9	593.7
172.5°	568.4	567.0	567.2	569.8	571.2	572.6	577.4	581.2	581.6	583.2	587.2
175°	572.8	571.6	570.5	572.8	572.8	574.0	576.3	578.6	577.4	577.4	579.8
177.5°	574.9	574.0	573.0	574.0	574.0	574.0	574.9	576.7	574.9	574.0	574.9
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0



TEST NUMBER: P331954

CATALOG NUMBER: S123DIP-S560D1195U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9
2.5°	887.5	888.8	890.2	890.8	890.7	890.5	890.4	890.3
5°	882.8	884.5	886.2	886.9	886.5	886.2	885.9	885.5
7.5°	873.4	874.9	876.5	877.1	876.9	876.7	876.5	876.3
10°	864.8	866.4	867.9	868.5	868.2	867.8	867.5	867.1
12.5°	855.4	856.6	857.7	858.1	857.9	857.7	857.5	857.3
15°	838.5	839.8	841.2	841.3	840.3	839.3	838.3	837.3
17.5°	817.0	817.9	818.9	819.1	818.8	818.4	818.0	817.6
20°	801.1	801.8	802.4	802.5	802.0	801.5	801.0	800.5
22.5°	784.3	784.8	785.4	785.3	784.7	784.0	783.4	782.7
25°	756.4	756.6	756.7	756.6	756.1	755.6	755.0	754.5
27.5°	726.8	726.9	727.0	726.8	726.1	725.5	724.8	724.2
30°	706.3	706.3	706.3	705.7	704.5	703.3	702.1	700.9
32.5°	684.8	683.8	682.8	682.0	681.4	680.8	680.1	679.5
35°	649.8	648.8	647.8	646.9	646.0	645.2	644.3	643.5
37.5°	613.7	612.5	611.3	610.4	609.9	609.3	608.8	608.2
40°	590.2	588.8	587.5	586.4	585.7	585.1	584.4	583.7
42.5°	565.7	564.3	562.9	561.9	561.2	560.6	559.9	559.2
45°	529.1	527.0	525.0	523.5	522.7	521.8	521.0	520.1
47.5°	490.5	488.5	486.5	485.1	484.4	483.6	482.9	482.1
50°	465.1	463.2	461.3	459.9	458.8	457.8	456.8	455.8
52.5°	439.3	437.7	436.1	434.7	433.7	432.7	431.7	430.7
55°	399.9	398.1	396.2	394.8	394.0	393.1	392.3	391.4
57.5°	361.3	359.6	358.0	356.6	355.6	354.7	353.7	352.7
60°	334.0	332.5	330.9	329.7	328.9	328.0	327.2	326.3
62.5°	307.6	306.1	304.6	303.5	302.9	302.4	301.8	301.2
65°	268.4	267.1	265.7	264.8	264.3	263.8	263.3	262.7
67.5°	229.6	228.4	227.2	226.2	225.5	224.8	224.1	223.4
70°	204.4	203.3	202.1	201.0	200.2	199.3	198.5	197.6
72.5°	179.0	177.9	176.9	176.1	175.7	175.2	174.8	174.3
75°	142.3	141.5	140.6	139.9	139.4	138.9	138.4	137.9
77.5°	108.1	107.5	106.9	106.6	106.6	106.6	106.6	106.6
80°	86.2	86.0	85.9	85.8	85.8	85.8	85.8	85.8
82.5°	66.3	66.0	65.7	65.5	65.4	65.2	65.1	65.0
85°	37.6	37.3	36.9	36.8	36.8	36.8	36.8	36.8
87.5°	19.0	19.1	19.2	19.6	19.4	19.6	19.8	19.6
90°	29.0	30.2	31.4	33.7	32.5	33.7	34.9	33.7
92.5°	97.8	77.6	68.5	62.5	60.4	56.9	58.1	56.0
95°	418.3	283.5	221.9	180.1	158.0	147.6	139.4	134.8
97.5°	1042.6	835.1	685.3	546.3	460.6	408.3	376.9	366.9
100°	1369.8	1275.7	1139.8	974.8	857.4	772.6	727.3	728.5
102.5°	1478.6	1475.5	1396.3	1291.7	1200.4	1133.3	1095.4	1068.7
105°	1510.4	1626.6	1648.7	1618.5	1565.0	1520.9	1483.7	1477.9
107.5°	1418.8	1607.5	1709.3	1750.7	1751.6	1736.7	1724.2	1713.5
110°	1331.5	1545.3	1691.7	1773.0	1805.5	1814.8	1812.5	1810.2



TEST NUMBER: P331954

CATALOG NUMBER: S123DIP-S560D1195U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1245.0	1463.5	1627.5	1732.1	1791.6	1820.4	1829.2	1829.7
115°	1130.5	1332.6	1503.4	1630.1	1717.2	1768.3	1791.6	1797.4
117.5°	1047.5	1222.0	1375.4	1503.9	1594.8	1653.3	1686.8	1694.7
120°	1003.8	1160.7	1300.1	1417.5	1509.2	1574.3	1602.2	1609.2
122.5°	969.4	1111.4	1240.6	1349.6	1431.2	1489.7	1520.4	1529.2
125°	923.7	1050.3	1161.8	1254.8	1329.2	1380.3	1409.3	1417.5
127.5°	883.7	996.6	1097.2	1181.8	1248.1	1291.7	1318.0	1325.4
130°	858.6	963.2	1057.3	1136.3	1197.9	1239.7	1264.1	1273.4
132.5°	835.4	931.6	1019.2	1094.5	1152.3	1194.1	1215.8	1222.3
135°	804.0	886.5	962.0	1028.2	1085.2	1120.0	1140.9	1149.1
137.5°	775.4	843.0	908.1	965.5	1013.4	1048.7	1066.3	1071.7
140°	758.7	817.9	873.7	923.7	967.8	1000.4	1018.9	1017.8
142.5°	742.9	793.8	842.1	885.6	923.2	952.0	968.7	967.6
145°	723.8	762.2	799.4	833.0	862.1	886.5	895.8	898.1
147.5°	708.3	738.7	768.7	792.6	814.7	831.2	840.0	840.9
150°	697.1	723.8	748.2	770.3	787.7	800.5	807.5	807.5
152.5°	686.9	709.9	731.5	749.9	763.6	775.4	779.6	779.6
155°	671.5	690.1	707.6	721.5	732.0	741.3	743.6	744.7
157.5°	655.3	670.9	684.3	695.2	704.3	711.3	713.1	712.9
160°	646.0	658.8	670.4	678.5	686.7	693.6	693.6	692.5
162.5°	634.8	645.8	656.4	663.6	669.0	675.0	675.0	673.9
165°	620.4	627.4	635.5	641.3	646.0	650.6	649.5	649.5
167.5°	607.9	613.2	617.9	622.1	624.1	627.4	626.2	626.2
170°	599.5	603.0	607.6	610.0	611.1	613.5	612.3	612.3
172.5°	592.1	594.6	598.4	599.7	600.0	602.3	600.2	599.3
175°	582.1	583.2	585.6	585.6	585.6	586.7	585.6	584.4
177.5°	575.8	576.7	577.7	577.7	576.7	577.7	575.8	575.8
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0

(END OF REPORT)