

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: P332086-930

Luminaire Tested: **S123DIP-S1165D1195U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332086-930
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-S1165D1195U930-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

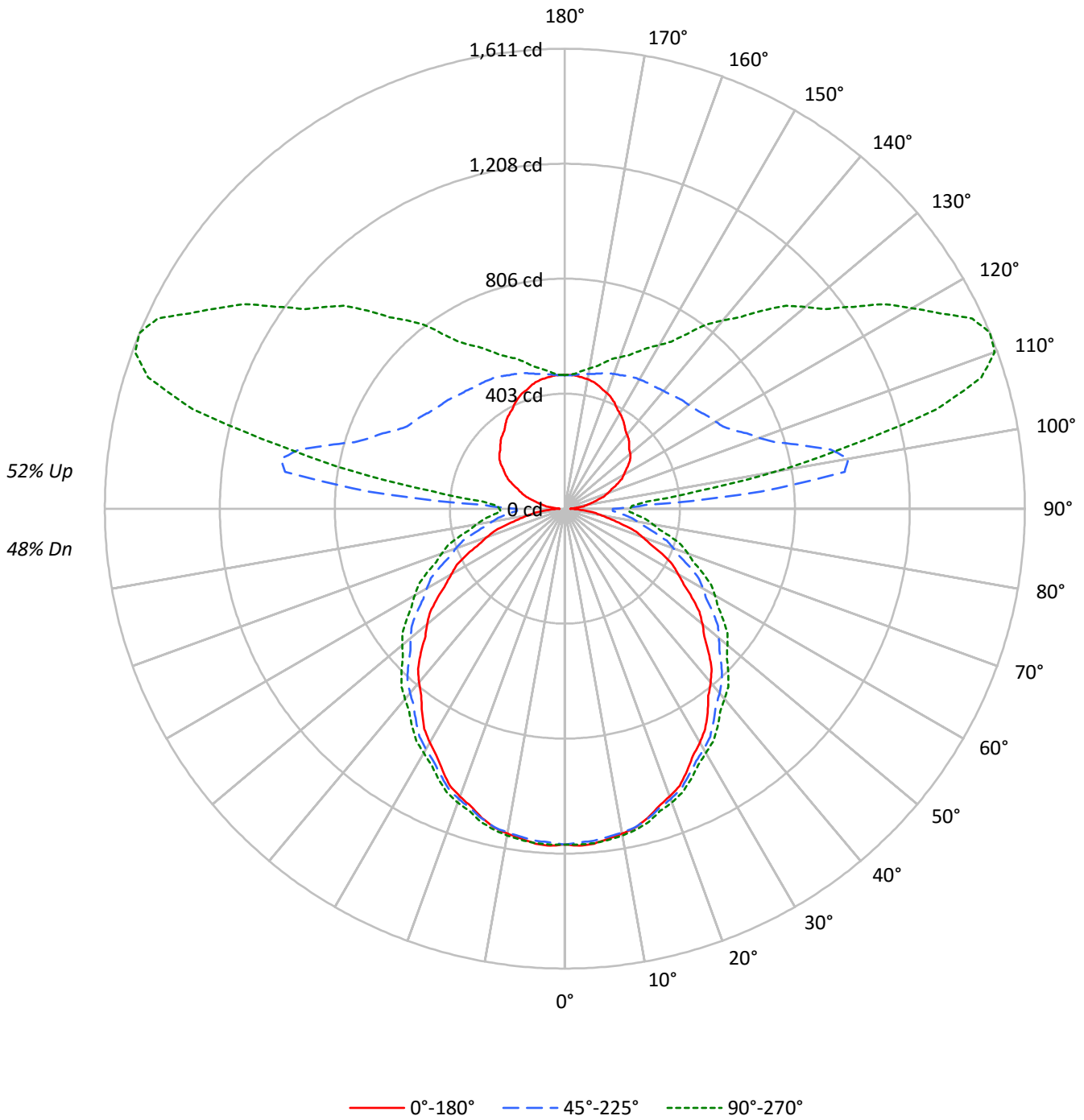
Lumens per Lamp: N/A
Luminaire Lumens: 7477.7 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 71.7
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



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Luminous Intensity Polar Plot





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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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	96	92	87	84	88	84	81	77	71	68	66	58	56	55	47	45	44	39
2	87	79	73	67	80	73	67	63	61	57	53	51	47	45	41	38	36	32
3	79	69	62	56	73	64	57	52	54	49	45	44	41	37	36	33	31	26
4	73	61	53	47	66	57	49	44	48	42	38	39	35	32	32	29	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	35	29	25	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	16	13
9	49	36	29	24	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12664	12664	12664
5°	12703	12344	12352
10°	12589	12060	12000
15°	12427	11738	11616
20°	12195	11369	11194
25°	11908	10944	10750
30°	11616	10563	10299
35°	11287	10159	9939
40°	10973	9792	9555
45°	10626	9438	9247
50°	10281	9090	8908
55°	9903	8734	8603
60°	9533	8371	8291
65°	9155	7984	7918
70°	8585	7551	7537
75°	7860	7053	7148
80°	7035	6564	6706
85°	6264	6229	6450



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.5	1.5
10°-20°	317.9	4.3
20°-30°	475.5	6.4
30°-40°	567.9	7.6
40°-50°	594.1	7.9
50°-60°	557.5	7.5
60°-70°	465.7	6.2
70°-80°	333.2	4.5
80°-90°	202.3	2.7
90°-100°	385.1	5.1
100°-110°	829.0	11.1
110°-120°	786.6	10.5
120°-130°	613.6	8.2
130°-140°	471.9	6.3
140°-150°	343.8	4.6
150°-160°	237.4	3.2
160°-170°	139.4	1.9
170°-180°	45.4	0.6
0°-30°	905.0	12.1
0°-40°	1472.8	19.7
0°-60°	2624.5	35.1
0°-90°	3625.7	48.5
90°-120°	2000.6	26.8
90°-150°	3429.9	45.9
90°-180°	3852.0	51.5
0°-180°	7477.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1176	1176	1176	1176	1176	
5°	1178	1175	1168	1177	1176	112
15°	1121	1125	1124	1136	1136	316
25°	1012	1025	1029	1045	1046	466
35°	872	892	909	927	933	545
45°	713	743	775	799	810	549
55°	543	586	632	665	677	486
65°	376	426	482	519	533	371
75°	204	264	328	369	386	218
85°	63	127	195	237	251	66
90°	19	91	168	213	229	14
95°	46	169	689	329	289	46
105°	120	205	858	1462	1348	127
115°	201	266	650	1375	1574	199
125°	274	325	585	1052	1233	243
135°	319	380	552	849	982	246
145°	362	414	530	675	748	227
155°	410	442	512	583	607	189
165°	448	461	491	520	530	126
175°	467	468	471	477	476	44
180°	468	468	468	468	468	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1181.6	1181.0	1180.2	1179.6	1178.8	1177.6	1175.8	1173.9	1172.2	1170.4	1172.2
5°	1177.8	1177.2	1176.6	1176.1	1175.5	1174.4	1172.6	1170.9	1169.2	1167.5	1169.8
7.5°	1166.2	1166.4	1166.4	1166.6	1166.7	1166.0	1164.2	1162.6	1161.0	1159.3	1162.1
10°	1156.0	1156.6	1157.2	1157.7	1158.3	1157.8	1156.4	1155.0	1153.6	1152.1	1155.0
12.5°	1143.7	1144.4	1145.3	1146.1	1146.9	1146.8	1145.8	1144.8	1143.9	1142.9	1145.5
15°	1121.4	1122.3	1123.1	1124.0	1124.8	1125.1	1124.8	1124.5	1124.2	1124.0	1126.8
17.5°	1093.2	1094.9	1096.6	1098.3	1100.0	1100.8	1100.7	1100.6	1100.5	1100.3	1102.9
20°	1072.7	1074.4	1076.1	1077.8	1079.5	1080.7	1081.2	1081.8	1082.4	1083.0	1085.5
22.5°	1051.2	1052.9	1054.6	1056.3	1058.0	1059.2	1060.1	1060.9	1061.6	1062.4	1065.7
25°	1012.4	1015.3	1018.1	1021.0	1023.9	1025.6	1026.5	1027.4	1028.3	1029.1	1032.8
27.5°	973.5	976.7	980.0	983.3	986.4	989.0	990.8	992.6	994.5	996.3	999.5
30°	945.8	949.5	953.2	956.9	960.6	963.6	965.9	968.2	970.5	972.7	976.2
32.5°	915.0	919.2	923.3	927.5	931.6	935.2	938.2	941.2	944.1	947.1	950.7
35°	871.5	876.0	880.6	885.2	889.7	893.8	897.6	901.2	904.9	908.7	912.9
37.5°	825.3	830.5	835.6	840.7	845.9	850.7	855.2	859.8	864.4	868.9	873.8
40°	794.6	799.7	804.9	809.9	815.1	820.5	826.2	831.8	837.6	843.3	848.2
42.5°	760.8	767.0	773.3	779.5	785.8	791.9	797.9	803.7	809.7	815.6	820.9
45°	712.6	719.4	726.2	733.0	739.9	746.9	754.0	761.1	768.3	775.3	780.7
47.5°	662.0	669.8	677.5	685.3	693.1	701.0	709.1	717.3	725.5	733.6	739.6
50°	629.2	637.2	645.2	653.1	661.1	669.5	678.4	687.2	696.0	704.8	711.4
52.5°	594.4	602.8	611.2	619.7	628.1	637.2	646.9	656.6	666.4	676.1	683.0
55°	543.4	552.8	562.1	571.6	581.0	590.8	601.0	611.3	621.6	631.9	639.5
57.5°	493.7	503.4	513.2	523.0	532.9	543.4	554.6	565.8	577.0	588.2	596.0
60°	458.8	469.0	479.3	489.6	499.8	510.8	522.4	534.1	545.8	557.5	565.5
62.5°	426.0	436.5	446.9	457.5	467.9	479.3	491.7	504.0	516.4	528.8	536.7
65°	375.5	386.6	397.7	408.8	420.0	431.8	444.3	456.8	469.4	481.8	490.4
67.5°	324.2	336.1	347.8	359.6	371.4	383.7	396.4	409.2	421.9	434.7	444.0
70°	288.4	300.6	312.8	325.1	337.4	350.3	363.9	377.6	391.3	405.0	414.1
72.5°	255.5	267.8	280.1	292.3	304.5	317.7	331.8	345.9	360.1	374.2	383.6
75°	203.7	217.2	230.6	243.9	257.3	271.1	285.4	299.6	313.8	328.1	337.5
77.5°	158.7	172.2	185.6	199.2	212.6	226.6	240.9	255.3	269.6	284.0	293.9
80°	126.9	140.8	154.8	168.8	182.7	197.1	211.9	226.7	241.5	256.3	266.0
82.5°	99.2	113.4	127.6	141.8	155.9	170.6	185.6	200.6	215.6	230.6	240.4
85°	62.8	77.0	91.3	105.5	119.8	134.4	149.5	164.6	179.7	194.8	204.5
87.5°	34.5	49.0	63.6	78.4	92.9	107.6	122.7	137.8	153.0	168.0	177.5
90°	18.6	34.4	50.2	67.0	82.9	99.1	116.4	133.8	151.2	168.5	177.2
92.5°	27.4	45.7	66.2	86.2	106.7	134.2	173.3	228.3	282.6	282.3	255.9
95°	46.3	60.3	81.8	109.0	144.7	194.2	288.7	443.8	613.1	688.6	591.3
97.5°	67.5	78.4	96.6	120.7	155.0	206.6	296.9	469.3	741.6	988.1	1057.4
100°	81.6	91.7	107.5	129.8	161.7	209.7	289.1	442.4	704.7	1008.5	1203.4
102.5°	96.5	106.4	120.5	141.2	169.9	214.3	286.7	418.5	653.2	953.2	1204.6
105°	120.1	129.8	142.4	160.5	185.4	224.3	287.6	397.5	588.7	857.7	1137.5
107.5°	144.0	152.6	164.0	180.9	203.6	239.6	296.1	388.8	544.8	772.6	1027.0
110°	161.2	169.1	179.0	194.5	215.7	250.5	304.5	387.9	526.3	724.2	958.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.8	184.9	193.8	208.5	228.8	262.1	312.7	390.3	513.0	689.3	896.3
115°	200.6	207.8	216.9	229.8	249.3	281.7	328.0	396.0	502.9	650.4	821.2
117.5°	224.4	230.9	237.7	248.5	268.6	298.2	343.4	404.6	496.3	623.3	771.8
120°	240.0	244.3	250.5	261.4	280.8	309.9	353.4	412.1	494.4	609.8	745.3
122.5°	254.5	258.0	263.5	274.5	292.4	322.5	364.8	419.2	495.0	599.4	722.4
125°	273.8	275.7	281.4	291.8	309.8	339.5	380.9	430.9	495.9	584.7	692.1
127.5°	289.5	292.1	298.8	309.2	328.7	357.6	396.5	440.8	498.8	573.6	664.3
130°	299.4	301.9	310.2	321.2	340.9	369.2	406.1	447.8	500.8	566.2	648.4
132.5°	305.9	309.5	318.7	332.3	352.1	379.2	414.3	454.0	501.4	560.4	633.2
135°	318.9	322.5	332.6	346.5	366.2	393.1	425.6	461.0	502.0	551.5	612.5
137.5°	331.2	334.9	345.0	359.9	379.4	403.8	433.8	466.3	501.7	543.3	594.6
140°	338.5	343.2	352.7	367.9	386.8	410.9	439.3	468.6	501.6	538.4	583.4
142.5°	347.6	351.3	361.3	374.8	393.5	415.6	442.5	470.3	500.4	532.8	572.8
145°	362.2	364.8	373.0	386.9	402.8	424.4	449.0	474.6	501.1	529.5	562.1
147.5°	375.7	377.4	385.7	398.0	413.6	432.1	454.7	477.6	501.1	525.9	552.5
150°	385.6	386.5	394.0	406.3	419.6	436.7	458.4	478.3	501.1	522.9	546.6
152.5°	395.4	395.6	403.2	413.9	425.7	442.0	460.7	479.9	498.8	519.1	540.5
155°	410.2	410.2	415.9	425.3	435.7	449.0	465.1	480.3	496.4	512.5	531.4
157.5°	421.9	422.7	427.2	435.5	444.4	454.7	467.6	481.2	493.2	506.6	521.1
160°	431.0	431.0	434.8	442.4	449.0	458.4	469.9	481.2	491.6	502.1	514.4
162.5°	437.8	437.8	440.8	446.9	452.8	460.7	470.6	480.5	488.6	497.5	507.5
165°	448.1	447.1	449.0	453.7	457.5	464.1	471.7	478.3	484.0	490.6	498.2
167.5°	455.8	454.7	455.6	459.3	461.9	466.0	471.6	476.9	479.5	483.9	489.3
170°	460.4	458.4	459.4	462.3	464.1	466.0	470.8	474.6	476.5	479.3	484.0
172.5°	463.4	462.3	462.4	464.6	465.7	466.8	470.8	473.9	474.2	475.5	478.7
175°	467.0	466.0	465.1	467.0	467.0	468.0	469.9	471.7	470.8	470.8	472.7
177.5°	468.7	468.0	467.2	468.0	468.0	468.0	468.7	470.2	468.7	468.0	468.7
180°	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1173.9	1175.8	1177.6	1178.4	1178.2	1177.9	1177.7	1177.5
5°	1172.1	1174.4	1176.6	1177.6	1177.4	1177.0	1176.8	1176.5
7.5°	1165.0	1167.8	1170.7	1172.0	1171.6	1171.3	1170.9	1170.6
10°	1157.8	1160.7	1163.5	1164.7	1164.1	1163.5	1162.9	1162.4
12.5°	1148.2	1150.8	1153.4	1154.4	1153.8	1153.2	1152.7	1152.1
15°	1129.6	1132.5	1135.3	1136.6	1136.4	1136.0	1135.8	1135.5
17.5°	1105.5	1108.1	1110.6	1111.7	1111.3	1110.9	1110.5	1110.1
20°	1088.0	1090.6	1093.2	1094.6	1094.9	1095.2	1095.4	1095.8
22.5°	1068.9	1072.2	1075.4	1076.9	1076.8	1076.6	1076.4	1076.3
25°	1036.5	1040.2	1043.9	1045.8	1045.8	1045.8	1045.8	1045.8
27.5°	1002.7	1005.8	1009.0	1010.7	1011.0	1011.2	1011.5	1011.7
30°	979.6	983.0	986.3	988.1	988.1	988.1	988.1	988.1
32.5°	954.4	958.1	961.6	963.8	964.5	965.2	965.9	966.5
35°	917.2	921.5	925.7	928.5	929.6	930.7	931.9	932.9
37.5°	878.6	883.5	888.3	891.1	892.1	893.0	893.9	894.8
40°	853.0	857.8	862.7	865.6	866.7	867.9	869.0	870.2
42.5°	826.2	831.5	836.8	840.2	841.8	843.4	845.0	846.6
45°	786.2	791.6	797.0	800.9	803.2	805.4	807.7	809.9
47.5°	745.8	751.9	758.0	761.9	763.6	765.4	767.2	768.9
50°	718.0	724.6	731.1	735.3	737.4	739.3	741.4	743.3
52.5°	689.7	696.5	703.3	707.9	710.4	712.8	715.3	717.7
55°	647.2	654.8	662.6	667.6	669.8	672.1	674.4	676.7
57.5°	603.7	611.5	619.2	624.4	627.1	629.8	632.5	635.1
60°	573.4	581.4	589.4	594.9	598.1	601.2	604.3	607.5
62.5°	544.7	552.7	560.7	566.1	569.0	571.9	574.9	577.7
65°	499.0	507.5	516.1	521.7	524.6	527.4	530.3	533.1
67.5°	453.4	462.8	472.1	477.9	480.4	482.7	485.1	487.5
70°	423.2	432.4	441.4	447.4	450.3	453.1	455.9	458.8
72.5°	392.9	402.3	411.6	417.7	420.5	423.4	426.2	429.1
75°	346.9	356.3	365.7	372.1	375.5	379.0	382.4	385.7
77.5°	303.8	313.7	323.7	329.9	332.6	335.2	337.8	340.4
80°	275.7	285.4	295.1	301.3	304.2	307.0	309.9	312.7
82.5°	250.1	259.8	269.4	275.7	278.5	281.4	284.2	287.1
85°	214.2	223.9	233.5	239.8	242.6	245.5	248.3	251.2
87.5°	187.4	197.2	207.1	213.8	216.5	219.5	222.5	225.2
90°	187.8	198.5	209.1	217.3	219.2	223.0	226.8	228.7
92.5°	235.3	228.3	230.3	231.5	232.4	232.1	235.7	236.6
95°	485.5	384.5	343.1	314.9	299.7	294.0	290.2	289.3
97.5°	984.7	824.0	710.3	602.7	535.6	495.8	473.1	467.8
100°	1244.8	1176.4	1073.7	944.9	852.0	785.7	751.6	755.4
102.5°	1326.9	1332.4	1275.9	1196.0	1124.5	1072.5	1044.6	1025.6
105°	1343.5	1446.2	1472.2	1452.8	1411.8	1378.3	1350.6	1348.4
107.5°	1259.2	1420.7	1511.2	1550.0	1553.3	1543.7	1536.0	1529.7
110°	1182.3	1364.1	1490.9	1562.0	1590.8	1600.7	1601.0	1601.4



TEST NUMBER: P332086-930

CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1105.3	1290.5	1431.5	1521.6	1572.5	1598.6	1608.3	1611.2
115°	1003.3	1174.9	1321.0	1428.8	1502.1	1546.1	1567.3	1574.3
117.5°	926.6	1075.6	1207.5	1316.7	1393.0	1442.9	1472.4	1481.2
120°	885.3	1019.8	1140.0	1240.0	1316.8	1371.8	1396.5	1404.2
122.5°	851.7	973.8	1085.5	1178.5	1247.0	1296.7	1323.7	1332.9
125°	806.0	915.3	1012.2	1091.9	1154.5	1198.2	1223.9	1232.6
127.5°	765.1	862.8	950.5	1023.2	1079.1	1116.7	1140.0	1148.0
130°	739.1	829.7	911.8	979.8	1031.8	1067.6	1089.2	1098.5
132.5°	714.5	798.1	874.7	939.7	988.8	1024.8	1044.4	1051.7
135°	681.1	753.5	820.2	877.5	925.3	955.1	973.6	981.7
137.5°	650.4	710.0	767.6	817.3	857.8	888.0	903.8	909.6
140°	632.3	684.8	734.6	778.1	815.5	843.5	860.1	860.5
142.5°	614.3	659.7	702.9	740.9	773.0	797.9	813.0	813.5
145°	594.7	628.3	660.8	690.0	714.9	735.9	744.6	747.6
147.5°	578.8	604.3	629.4	649.8	668.8	683.3	691.5	693.3
150°	568.3	590.1	610.0	628.4	643.1	654.1	660.3	660.9
152.5°	560.0	578.8	596.4	611.4	622.7	632.5	636.0	636.1
155°	547.5	562.6	576.9	588.2	596.8	604.4	606.3	607.2
157.5°	534.3	547.0	557.9	566.8	574.2	579.9	581.4	581.2
160°	526.7	537.1	546.6	553.2	559.9	565.5	565.5	564.6
162.5°	517.6	526.5	535.2	541.0	545.4	550.3	550.3	549.4
165°	505.8	511.5	518.1	522.9	526.7	530.4	529.5	529.5
167.5°	495.6	499.9	503.8	507.2	508.8	511.5	510.5	510.5
170°	488.8	491.6	495.4	497.3	498.2	500.2	499.2	499.2
172.5°	482.7	484.8	487.9	488.9	489.2	491.1	489.3	488.6
175°	474.6	475.5	477.4	477.4	477.4	478.3	477.4	476.5
177.5°	469.4	470.2	471.0	471.0	470.2	471.0	469.4	469.4
180°	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0

(END OF REPORT)