

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: P332058-940

Luminaire Tested: **S123DIP-S1165D585U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332058-940  
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: S123DIP-S1165D585U940-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6119.9 lumens  
Efficiency: N/A  
Efficacy: 111.1 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-Direct

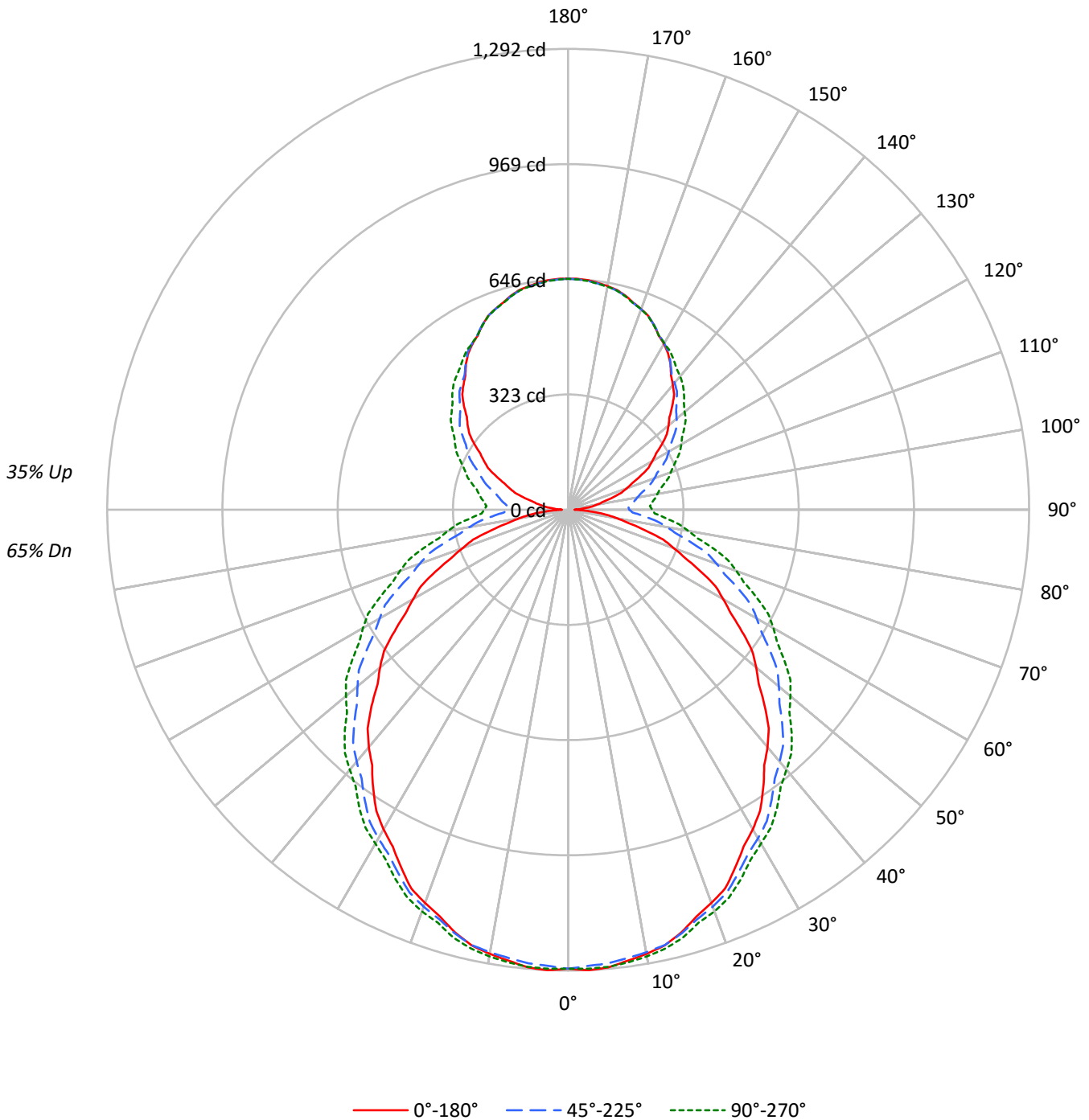
Input Watts (W): 55.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	100	95	90	86	93	89	85	81	78	75	72	68	66	64	59	58	56	52
2	90	82	75	69	84	77	71	66	68	63	59	59	56	52	52	49	46	42
3	82	72	64	57	77	67	60	54	59	54	49	52	48	44	45	42	39	35
4	75	63	55	48	70	60	52	46	53	46	41	46	41	37	40	36	33	30
5	69	56	47	41	64	53	45	39	47	41	36	41	36	32	36	32	29	26
6	63	50	42	36	59	48	40	34	42	36	31	37	32	28	33	28	25	22
7	59	45	37	31	55	43	35	30	38	32	27	34	29	25	30	25	22	20
8	54	41	33	28	51	39	32	26	35	29	24	31	26	22	27	23	20	18
9	51	38	30	25	47	36	29	24	32	26	22	29	23	20	25	21	18	16
10	47	35	27	22	44	33	26	21	30	24	20	26	21	18	23	19	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13850	13850	13850
5°	13894	13501	13509
10°	13769	13190	13124
15°	13592	12837	12705
20°	13338	12435	12243
25°	13025	11969	11757
30°	12705	11553	11264
35°	12344	11111	10871
40°	12002	10709	10450
45°	11622	10323	10113
50°	11245	9942	9744
55°	10831	9553	9410
60°	10426	9156	9068
65°	10013	8733	8661
70°	9389	8257	8243
75°	8597	7713	7819
80°	7695	7181	7334
85°	6853	6811	7053



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.0	2.0
10°-20°	347.7	5.7
20°-30°	520.1	8.5
30°-40°	621.1	10.1
40°-50°	649.8	10.6
50°-60°	609.8	10.0
60°-70°	509.3	8.3
70°-80°	364.4	6.0
80°-90°	219.2	3.6
90°-100°	178.5	2.9
100°-110°	226.5	3.7
110°-120°	281.6	4.6
120°-130°	320.7	5.2
130°-140°	334.6	5.5
140°-150°	315.7	5.2
150°-160°	262.7	4.3
160°-170°	174.9	2.9
170°-180°	61.2	1.0
0°-30°	989.8	16.2
0°-40°	1610.9	26.3
0°-60°	2870.5	46.9
0°-90°	3963.4	64.8
90°-120°	686.6	11.2
90°-150°	1657.6	27.1
90°-180°	2156.0	35.2
0°-180°	6119.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1287	1287	1287	1287	1287	
5°	1288	1285	1277	1287	1287	122
15°	1226	1230	1229	1242	1242	345
25°	1107	1121	1126	1143	1144	510
35°	953	975	994	1014	1020	596
45°	779	813	848	874	886	601
55°	594	641	691	727	740	532
65°	411	466	527	568	583	406
75°	223	289	359	403	422	238
85°	69	139	213	259	275	72
90°	19	93	171	218	235	14
95°	45	104	176	220	236	46
105°	126	162	225	263	278	134
115°	223	243	291	324	336	221
125°	321	324	362	388	397	286
135°	413	416	430	452	459	318
145°	499	499	500	511	515	311
155°	570	570	571	572	569	262
165°	621	620	620	622	619	175
175°	646	644	644	647	643	61
180°	648	648	648	648	648	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1292.4	1291.6	1290.8	1290.1	1289.3	1288.0	1286.0	1284.0	1282.0	1280.1	1282.0
5°	1288.2	1287.5	1286.9	1286.3	1285.7	1284.4	1282.5	1280.7	1278.8	1276.9	1279.4
7.5°	1275.5	1275.7	1275.8	1275.9	1276.0	1275.2	1273.4	1271.6	1269.8	1267.9	1271.0
10°	1264.4	1265.0	1265.6	1266.2	1266.9	1266.3	1264.8	1263.2	1261.7	1260.1	1263.2
12.5°	1250.9	1251.7	1252.6	1253.5	1254.4	1254.3	1253.2	1252.1	1251.1	1250.0	1252.9
15°	1226.5	1227.4	1228.3	1229.3	1230.2	1230.6	1230.2	1229.9	1229.6	1229.3	1232.4
17.5°	1195.6	1197.5	1199.4	1201.2	1203.1	1204.0	1203.9	1203.7	1203.6	1203.5	1206.3
20°	1173.2	1175.1	1177.0	1178.8	1180.7	1182.0	1182.6	1183.2	1183.8	1184.5	1187.2
22.5°	1149.7	1151.6	1153.4	1155.3	1157.2	1158.5	1159.4	1160.3	1161.1	1162.0	1165.6
25°	1107.3	1110.4	1113.6	1116.7	1119.8	1121.8	1122.8	1123.6	1124.6	1125.5	1129.6
27.5°	1064.7	1068.3	1071.8	1075.4	1078.9	1081.7	1083.7	1085.7	1087.7	1089.7	1093.1
30°	1034.5	1038.5	1042.5	1046.6	1050.6	1053.9	1056.4	1058.9	1061.4	1063.9	1067.6
32.5°	1000.8	1005.3	1009.9	1014.4	1019.0	1022.9	1026.1	1029.4	1032.6	1035.8	1039.8
35°	953.1	958.1	963.1	968.1	973.1	977.6	981.7	985.7	989.7	993.8	998.4
37.5°	902.7	908.3	913.9	919.5	925.1	930.4	935.4	940.4	945.4	950.4	955.6
40°	869.1	874.7	880.3	885.8	891.4	897.4	903.7	909.8	916.1	922.3	927.6
42.5°	832.1	838.9	845.8	852.6	859.4	866.1	872.6	879.0	885.6	892.1	897.9
45°	779.4	786.8	794.2	801.7	809.2	816.9	824.7	832.4	840.3	848.0	853.9
47.5°	724.1	732.5	741.0	749.6	758.0	766.7	775.6	784.5	793.4	802.4	809.0
50°	688.2	697.0	705.7	714.3	723.1	732.3	742.0	751.6	761.3	770.9	778.1
52.5°	650.1	659.3	668.5	677.8	687.0	697.0	707.6	718.2	728.9	739.5	747.0
55°	594.3	604.6	614.8	625.2	635.4	646.1	657.4	668.6	679.8	691.1	699.5
57.5°	539.9	550.6	561.3	572.0	582.8	594.3	606.5	618.8	631.1	643.4	651.8
60°	501.8	513.0	524.2	535.5	546.6	558.7	571.4	584.2	597.0	609.8	618.5
62.5°	465.9	477.4	488.8	500.3	511.8	524.2	537.8	551.3	564.8	578.4	587.0
65°	410.7	422.8	435.0	447.1	459.3	472.3	485.9	499.6	513.4	527.0	536.4
67.5°	354.6	367.6	380.4	393.3	406.2	419.6	433.5	447.5	461.5	475.5	485.6
70°	315.4	328.8	342.1	355.5	369.0	383.2	398.1	413.0	428.0	442.9	452.9
72.5°	279.5	292.9	306.3	319.7	333.1	347.5	362.9	378.4	393.9	409.3	419.5
75°	222.8	237.6	252.2	266.8	281.4	296.5	312.1	327.7	343.2	358.8	369.1
77.5°	173.5	188.3	203.0	217.8	232.6	247.8	263.5	279.2	294.9	310.6	321.5
80°	138.8	154.0	169.3	184.6	199.8	215.5	231.8	248.0	264.1	280.4	291.0
82.5°	108.5	124.0	139.6	155.1	170.5	186.5	203.0	219.5	235.9	252.3	262.9
85°	68.7	84.3	99.9	115.4	131.0	147.0	163.5	180.0	196.5	213.0	223.6
87.5°	37.4	53.1	68.8	84.6	100.3	116.3	132.5	148.6	164.9	181.0	191.7
90°	18.7	35.1	51.5	67.9	84.3	101.2	118.5	135.9	153.3	170.6	181.6
92.5°	29.4	44.0	58.5	73.0	87.6	103.1	119.5	136.0	152.5	169.0	179.7
95°	45.4	58.4	71.3	84.3	97.2	111.7	127.9	144.1	160.2	176.4	186.5
97.5°	67.1	78.6	90.2	101.7	113.2	126.6	141.9	157.1	172.4	187.6	197.3
100°	81.8	92.5	103.1	113.7	124.4	137.1	152.0	166.9	181.8	196.7	206.1
102.5°	99.0	108.3	117.7	127.1	136.5	148.6	163.5	178.3	193.1	207.9	217.0
105°	125.6	133.4	141.1	148.7	156.5	167.6	181.9	196.4	210.7	225.2	233.9
107.5°	155.3	161.8	168.3	174.8	181.3	191.1	204.2	217.3	230.4	243.5	252.3
110°	173.7	179.5	185.4	191.2	197.1	206.3	219.0	231.7	244.3	257.1	265.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	194.0	198.8	203.6	208.3	213.0	221.4	233.4	245.4	257.4	269.5	277.9
115°	223.2	227.2	231.3	235.4	239.5	247.0	258.0	269.0	280.0	291.0	298.5
117.5°	253.6	256.2	258.7	261.2	263.8	270.1	280.4	290.6	300.9	311.0	318.4
120°	271.6	273.8	276.1	278.3	280.5	286.5	296.2	305.9	315.7	325.4	332.4
122.5°	291.6	292.8	294.2	295.5	296.8	302.2	311.7	321.2	330.6	340.1	346.8
125°	320.6	320.9	321.3	321.6	321.9	326.5	335.3	344.1	352.9	361.8	367.8
127.5°	348.7	349.0	349.5	349.9	350.3	354.1	361.3	368.5	375.8	383.0	388.5
130°	367.4	367.9	368.5	369.2	369.7	373.0	378.9	384.8	390.7	396.5	402.0
132.5°	385.0	385.8	386.6	387.4	388.3	391.1	395.8	400.6	405.3	410.1	415.2
135°	413.2	413.7	414.0	414.4	414.7	416.6	419.9	423.2	426.5	429.8	435.0
137.5°	439.4	439.7	440.1	440.4	440.7	441.9	444.2	446.4	448.6	450.8	455.3
140°	456.6	457.2	457.7	458.3	458.9	459.7	460.7	461.8	462.8	463.9	468.4
142.5°	473.3	473.6	473.9	474.2	474.6	474.9	475.3	475.7	476.1	476.4	480.5
145°	499.4	499.3	499.2	499.1	499.0	499.1	499.4	499.8	500.2	500.5	502.8
147.5°	520.8	521.1	521.6	521.9	522.4	522.7	523.1	523.3	523.7	524.0	524.8
150°	536.6	536.8	537.1	537.3	537.5	537.7	538.0	538.1	538.4	538.6	538.6
152.5°	549.7	549.9	550.3	550.5	550.9	551.1	551.3	551.3	551.5	551.6	551.8
155°	570.2	570.2	570.2	570.2	570.2	570.2	570.3	570.4	570.6	570.7	571.1
157.5°	587.6	587.5	587.4	587.3	587.1	587.1	587.2	587.3	587.4	587.5	587.9
160°	598.6	598.4	598.2	598.0	597.7	597.6	597.6	597.6	597.6	597.6	598.2
162.5°	608.4	608.1	607.8	607.4	607.2	607.1	607.2	607.3	607.3	607.4	608.0
165°	621.0	620.7	620.4	620.0	619.6	619.5	619.5	619.5	619.5	619.5	620.2
167.5°	631.1	630.6	630.2	629.7	629.3	629.1	629.2	629.3	629.4	629.5	630.2
170°	636.8	636.3	635.9	635.4	635.0	634.7	634.7	634.7	634.7	634.7	635.5
172.5°	641.2	640.8	640.3	639.9	639.4	639.3	639.3	639.3	639.3	639.3	640.0
175°	646.0	645.5	645.1	644.6	644.2	643.9	643.9	643.9	643.9	643.9	644.6
177.5°	647.9	647.6	647.2	646.8	646.4	646.2	646.2	646.2	646.2	646.2	646.8
180°	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1284.0	1286.0	1288.0	1288.9	1288.6	1288.3	1288.1	1287.9
5°	1281.9	1284.4	1286.9	1288.0	1287.7	1287.4	1287.1	1286.7
7.5°	1274.2	1277.3	1280.4	1281.8	1281.4	1281.0	1280.7	1280.3
10°	1266.3	1269.4	1272.6	1273.8	1273.2	1272.6	1271.9	1271.3
12.5°	1255.8	1258.6	1261.5	1262.6	1261.9	1261.3	1260.7	1260.1
15°	1235.5	1238.6	1241.7	1243.1	1242.9	1242.5	1242.2	1241.9
17.5°	1209.1	1211.9	1214.7	1215.8	1215.5	1215.0	1214.6	1214.2
20°	1190.0	1192.8	1195.6	1197.2	1197.5	1197.8	1198.1	1198.5
22.5°	1169.1	1172.7	1176.2	1177.9	1177.7	1177.5	1177.3	1177.1
25°	1133.6	1137.7	1141.7	1143.8	1143.8	1143.8	1143.8	1143.8
27.5°	1096.6	1100.1	1103.6	1105.5	1105.7	1106.0	1106.3	1106.5
30°	1071.4	1075.1	1078.8	1080.7	1080.7	1080.7	1080.7	1080.7
32.5°	1043.8	1047.8	1051.8	1054.2	1054.9	1055.7	1056.4	1057.1
35°	1003.2	1007.8	1012.4	1015.5	1016.7	1018.0	1019.2	1020.4
37.5°	960.9	966.3	971.5	974.6	975.7	976.7	977.7	978.7
40°	932.9	938.2	943.5	946.7	948.0	949.2	950.5	951.7
42.5°	903.7	909.5	915.3	919.0	920.7	922.5	924.2	926.0
45°	859.9	865.8	871.7	875.9	878.4	880.9	883.4	885.8
47.5°	815.6	822.3	829.0	833.3	835.2	837.1	839.1	841.0
50°	785.2	792.5	799.6	804.2	806.5	808.6	810.8	813.0
52.5°	754.4	761.8	769.2	774.3	776.9	779.6	782.3	785.0
55°	707.8	716.2	724.7	730.1	732.6	735.1	737.6	740.1
57.5°	660.3	668.8	677.3	683.0	685.9	688.8	691.8	694.6
60°	627.1	635.9	644.6	650.7	654.2	657.5	660.9	664.4
62.5°	595.8	604.5	613.2	619.2	622.3	625.5	628.7	631.9
65°	545.7	555.1	564.5	570.6	573.7	576.8	580.0	583.1
67.5°	495.9	506.1	516.3	522.7	525.4	528.0	530.6	533.2
70°	462.9	472.9	482.8	489.4	492.5	495.6	498.6	501.8
72.5°	429.7	440.0	450.1	456.8	459.9	463.1	466.2	469.3
75°	379.4	389.7	399.9	407.0	410.7	414.5	418.2	421.9
77.5°	332.3	343.1	354.0	360.8	363.7	366.6	369.4	372.3
80°	301.5	312.1	322.7	329.6	332.7	335.8	338.9	342.0
82.5°	273.5	284.1	294.6	301.5	304.6	307.7	310.9	314.0
85°	234.3	244.9	255.4	262.3	265.4	268.5	271.6	274.7
87.5°	202.4	213.0	223.7	230.7	233.8	237.0	240.1	243.3
90°	192.7	203.8	214.7	221.9	225.3	228.6	232.0	235.3
92.5°	190.4	201.1	211.8	218.5	221.2	223.9	226.7	229.4
95°	196.6	206.7	216.9	223.5	226.6	229.7	232.8	235.9
97.5°	207.1	217.0	226.8	233.2	236.3	239.3	242.5	245.5
100°	215.4	224.8	234.2	240.6	243.9	247.3	250.6	254.0
102.5°	226.1	235.2	244.4	250.5	253.5	256.6	259.7	262.8
105°	242.6	251.3	260.0	265.9	268.9	272.0	275.0	278.0
107.5°	260.9	269.7	278.4	284.0	286.6	289.3	291.9	294.4
110°	274.1	282.7	291.2	296.7	298.9	301.2	303.4	305.7





TEST NUMBER: P332058-940

CATALOG NUMBER: S123DIP-S1165D585U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	286.2	294.6	303.0	308.5	311.2	314.0	316.6	319.3
115°	306.1	313.7	321.3	326.3	328.7	331.1	333.4	335.8
117.5°	325.8	333.2	340.6	345.4	347.5	349.6	351.7	353.8
120°	339.5	346.5	353.6	358.1	360.1	362.0	364.0	366.0
122.5°	353.4	360.0	366.6	370.9	372.7	374.6	376.5	378.4
125°	373.9	380.0	386.1	390.0	391.7	393.4	395.2	396.9
127.5°	394.0	399.7	405.2	408.8	410.4	411.9	413.5	415.1
130°	407.5	413.0	418.4	421.7	422.8	423.8	424.9	426.0
132.5°	420.4	425.4	430.5	433.9	435.4	436.8	438.4	439.9
135°	440.1	445.3	450.4	453.7	455.0	456.4	457.7	459.1
137.5°	459.8	464.2	468.7	471.4	472.6	473.7	474.8	476.0
140°	473.0	477.5	482.1	484.7	485.5	486.3	487.1	487.9
142.5°	484.6	488.7	492.8	495.3	496.1	497.1	498.1	499.0
145°	505.2	507.7	510.0	511.6	512.4	513.2	514.0	514.8
147.5°	525.5	526.2	527.0	527.5	528.0	528.4	528.9	529.3
150°	538.6	538.6	538.6	538.6	538.6	538.5	538.4	538.4
152.5°	552.1	552.2	552.4	552.2	551.8	551.3	550.8	550.4
155°	571.6	572.0	572.5	572.3	571.5	570.7	570.0	569.2
157.5°	588.4	588.9	589.3	589.2	588.6	588.0	587.4	586.7
160°	598.8	599.3	599.9	599.9	599.5	599.1	598.6	598.2
162.5°	608.5	609.1	609.7	609.6	608.9	608.1	607.4	606.7
165°	620.9	621.5	622.2	622.1	621.3	620.5	619.8	619.0
167.5°	630.9	631.6	632.3	632.3	631.6	630.9	630.2	629.5
170°	636.3	637.1	637.9	637.9	637.1	636.3	635.5	634.7
172.5°	640.6	641.3	642.0	642.0	641.2	640.4	639.6	638.8
175°	645.2	646.0	646.7	646.6	645.8	645.0	644.2	643.4
177.5°	647.4	647.9	648.5	648.4	647.7	647.1	646.5	645.9
180°	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5

(END OF REPORT)