

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: P332049-940

Luminaire Tested: **S123DIP-S1165D365U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332049-940
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-S1165D365U940-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5436.7 lumens
Efficiency: N/A
Efficacy: 109.2 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-Direct

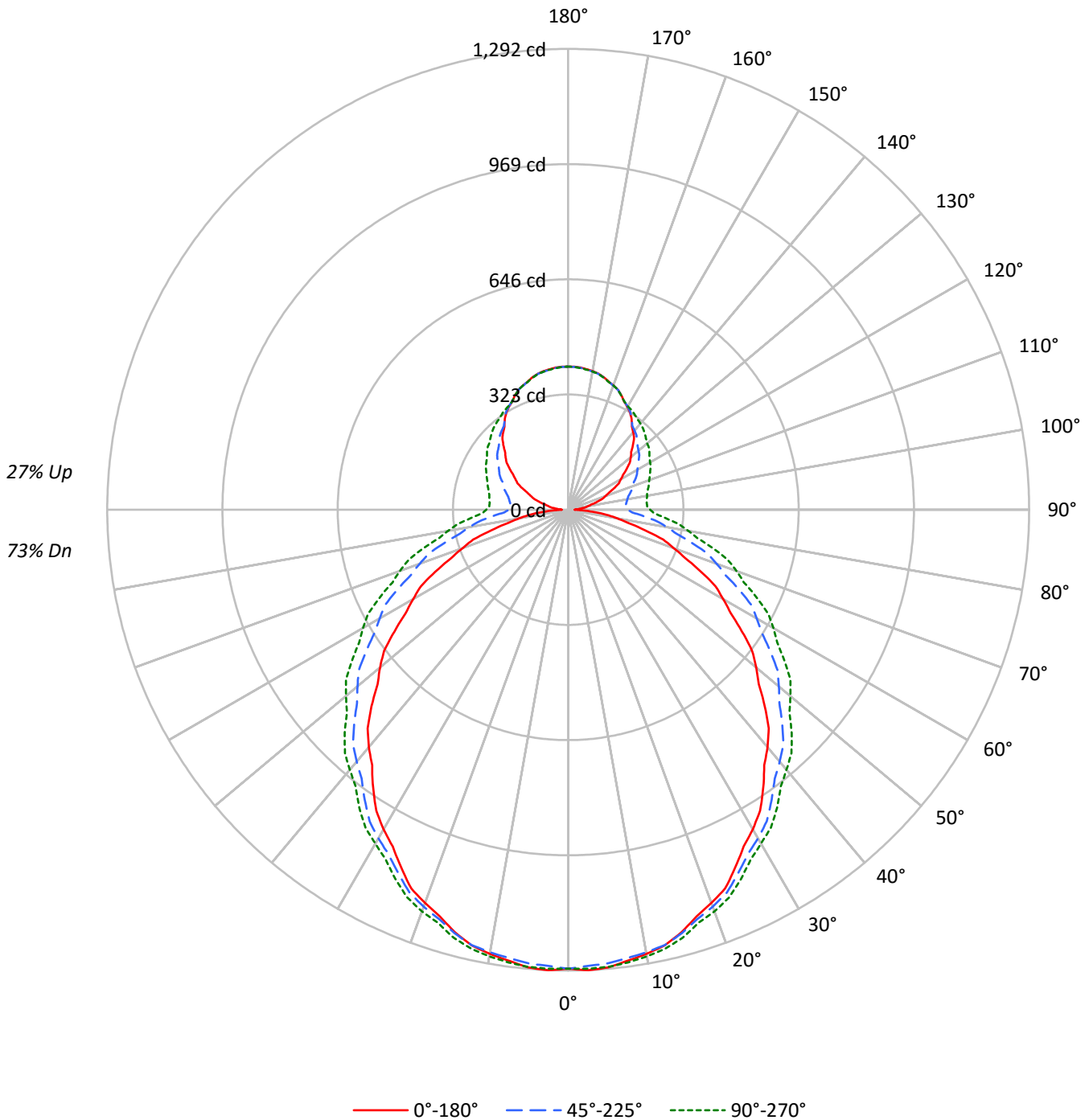
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	101	96	92	87	96	91	87	83	82	79	76	74	71	69	66	64	62	58
2	92	83	76	70	87	79	73	67	71	66	62	64	60	56	57	54	51	48
3	83	73	64	58	79	69	62	56	62	56	51	56	51	47	50	46	43	40
4	76	64	55	49	72	61	53	47	55	49	43	50	44	40	44	40	37	34
5	70	57	48	42	66	54	46	40	49	42	37	44	39	34	40	35	32	29
6	64	51	42	36	61	49	41	35	44	38	32	40	34	30	36	31	28	25
7	60	46	38	32	56	44	36	31	40	33	29	36	31	27	33	28	25	22
8	55	42	34	28	52	40	33	27	37	30	25	33	28	24	30	26	22	20
9	52	38	30	25	49	37	29	24	34	27	23	31	25	21	28	23	20	18
10	48	35	28	23	46	34	27	22	31	25	21	28	23	19	26	21	18	16

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	2.2
10°-20°	347.7	6.4
20°-30°	520.1	9.6
30°-40°	621.1	11.4
40°-50°	649.8	12.0
50°-60°	609.8	11.2
60°-70°	509.3	9.4
70°-80°	364.4	6.7
80°-90°	218.5	4.0
90°-100°	162.5	3.0
100°-110°	178.4	3.3
110°-120°	199.9	3.7
120°-130°	213.2	3.9
130°-140°	213.8	3.9
140°-150°	197.0	3.6
150°-160°	162.8	3.0
160°-170°	108.3	2.0
170°-180°	37.9	0.7
0°-30°	989.8	18.2
0°-40°	1610.9	29.6
0°-60°	2870.5	52.8
0°-90°	3962.7	72.9
90°-120°	540.8	9.9
90°-150°	1164.9	21.4
90°-180°	1474.0	27.1
0°-180°	5436.7	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°	18	91	166	213	230	14
95°	34	92	162	205	221	33
105°	82	118	180	217	232	87
115°	141	161	209	241	253	140
125°	200	203	241	268	278	179
135°	257	258	273	296	303	198
145°	310	309	310	321	325	193
155°	353	353	354	355	353	163
165°	385	384	384	386	384	108
175°	400	399	399	401	399	38
180°	401	401	401	401	401	



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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	53.0	68.7	84.3	100.0	115.8	131.9	147.9	164.0	180.1	190.7
90°	18.5	34.5	50.5	66.4	82.4	98.8	115.6	132.3	149.2	165.9	176.8
92.5°	24.7	39.0	53.2	67.5	81.7	96.9	113.1	129.2	145.3	161.5	172.1
95°	34.0	46.6	59.3	72.0	84.5	98.8	114.6	130.5	146.2	162.1	172.0
97.5°	46.7	58.1	69.4	80.8	92.1	105.2	120.2	135.2	150.2	165.1	174.8
100°	55.5	65.9	76.2	86.7	97.0	109.6	124.2	138.9	153.6	168.3	177.5
102.5°	65.7	74.9	84.2	93.4	102.5	114.5	129.0	143.6	158.1	172.6	181.6
105°	82.1	89.7	97.4	105.0	112.6	123.4	137.4	151.4	165.5	179.5	188.2
107.5°	99.9	106.3	112.7	119.1	125.6	135.3	148.3	161.2	174.2	187.2	195.7
110°	110.8	116.5	122.3	128.0	133.8	142.9	155.6	168.2	180.7	193.4	201.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	123.4	128.1	132.8	137.5	142.2	150.5	162.6	174.5	186.5	198.5	206.7
115°	141.0	144.9	148.8	152.8	156.8	164.3	175.3	186.4	197.4	208.6	216.1
117.5°	159.7	162.1	164.6	167.0	169.4	175.8	186.2	196.5	206.9	217.2	224.6
120°	170.4	172.4	174.3	176.4	178.3	184.3	194.2	204.1	214.1	224.0	231.1
122.5°	182.8	183.9	185.0	186.1	187.3	192.6	202.2	211.8	221.4	231.0	237.7
125°	200.2	200.5	200.6	200.8	201.1	205.6	214.5	223.4	232.3	241.2	247.4
127.5°	217.6	217.8	217.8	218.0	218.1	221.9	229.2	236.5	243.9	251.2	256.9
130°	229.2	229.4	229.7	230.0	230.2	233.4	239.3	245.4	251.4	257.4	263.1
132.5°	239.7	240.1	240.7	241.2	241.7	244.3	249.1	254.0	258.9	263.7	269.0
135°	257.1	257.3	257.3	257.4	257.5	259.3	262.6	266.0	269.4	272.7	278.0
137.5°	273.2	273.3	273.4	273.5	273.6	274.7	276.9	278.9	281.1	283.2	287.8
140°	283.5	283.7	284.1	284.5	284.8	285.5	286.5	287.5	288.6	289.5	294.2
142.5°	293.7	293.9	294.0	294.1	294.2	294.4	294.7	295.0	295.3	295.6	299.7
145°	309.9	309.7	309.6	309.4	309.2	309.2	309.4	309.7	309.9	310.0	312.5
147.5°	322.6	322.9	323.2	323.4	323.6	323.9	324.0	324.2	324.4	324.7	325.4
150°	332.4	332.6	332.7	332.9	333.1	333.1	333.3	333.4	333.6	333.7	333.7
152.5°	340.5	340.7	340.9	341.1	341.3	341.4	341.5	341.6	341.7	341.8	341.9
155°	353.3	353.3	353.3	353.3	353.3	353.3	353.4	353.4	353.5	353.6	353.8
157.5°	364.1	364.0	363.9	363.8	363.7	363.7	363.8	363.8	363.9	364.0	364.3
160°	370.9	370.8	370.6	370.5	370.3	370.2	370.2	370.2	370.2	370.2	370.6
162.5°	376.9	376.7	376.6	376.4	376.1	376.1	376.1	376.2	376.3	376.3	376.7
165°	384.8	384.6	384.3	384.1	383.9	383.8	383.8	383.8	383.8	383.8	384.2
167.5°	391.0	390.7	390.5	390.1	389.9	389.8	389.9	389.9	389.9	390.0	390.4
170°	394.5	394.2	394.0	393.7	393.4	393.2	393.2	393.2	393.2	393.2	393.8
172.5°	397.3	397.0	396.7	396.5	396.2	396.0	396.0	396.0	396.0	396.0	396.5
175°	400.2	399.9	399.7	399.4	399.1	399.0	399.0	399.0	399.0	399.0	399.4
177.5°	401.4	401.2	400.9	400.7	400.5	400.4	400.4	400.4	400.4	400.4	400.7
180°	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2



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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°	201.3	212.0	222.7	229.5	232.7	235.9	239.0	242.1
90°	187.7	198.6	209.5	216.5	219.7	223.0	226.2	229.5
92.5°	182.6	193.2	203.8	210.4	213.2	216.1	218.8	221.6
95°	182.0	191.9	201.8	208.4	211.5	214.5	217.7	220.8
97.5°	184.4	193.9	203.6	209.9	213.0	216.1	219.2	222.3
100°	186.7	196.0	205.3	211.5	214.7	218.0	221.2	224.5
102.5°	190.6	199.7	208.6	214.6	217.8	220.8	223.9	227.0
105°	197.0	205.6	214.4	220.3	223.2	226.1	229.1	232.0
107.5°	204.3	212.9	221.4	227.0	229.7	232.4	235.1	237.6
110°	210.2	218.6	226.9	232.3	234.6	236.9	239.3	241.7



TEST NUMBER: P332049-940

CATALOG NUMBER: S123DIP-S1165D365U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	214.9	223.0	231.2	236.7	239.4	242.1	244.9	247.5
115°	223.6	231.1	238.7	243.7	246.1	248.5	250.9	253.4
117.5°	232.0	239.4	246.8	251.6	253.9	256.1	258.3	260.6
120°	238.2	245.3	252.4	256.9	259.0	261.0	263.1	265.1
122.5°	244.4	251.2	257.9	262.3	264.3	266.3	268.2	270.2
125°	253.7	259.9	266.2	270.3	272.2	274.1	276.0	277.9
127.5°	262.7	268.5	274.3	278.0	279.8	281.7	283.5	285.3
130°	268.7	274.3	280.0	283.5	284.8	286.2	287.6	289.0
132.5°	274.3	279.6	285.0	288.6	290.3	292.0	293.7	295.5
135°	283.4	288.6	294.0	297.4	298.8	300.2	301.7	303.1
137.5°	292.4	297.0	301.7	304.6	305.9	307.2	308.5	309.8
140°	298.7	303.4	307.9	310.8	311.8	312.9	314.0	315.0
142.5°	303.8	307.9	312.0	314.7	315.8	317.1	318.3	319.4
145°	315.0	317.4	319.8	321.5	322.4	323.4	324.3	325.3
147.5°	326.1	326.9	327.6	328.3	329.0	329.8	330.5	331.2
150°	333.7	333.7	333.7	333.9	334.0	334.2	334.4	334.7
152.5°	342.0	342.1	342.2	342.1	342.0	341.7	341.4	341.2
155°	354.1	354.4	354.7	354.5	354.1	353.6	353.1	352.6
157.5°	364.5	364.9	365.2	365.1	364.7	364.4	363.9	363.6
160°	371.0	371.3	371.7	371.7	371.4	371.1	370.9	370.6
162.5°	377.0	377.4	377.7	377.6	377.2	376.7	376.3	375.9
165°	384.7	385.0	385.5	385.5	385.0	384.5	384.0	383.5
167.5°	390.8	391.3	391.7	391.7	391.3	390.8	390.4	390.0
170°	394.2	394.8	395.2	395.2	394.8	394.2	393.8	393.2
172.5°	396.9	397.3	397.8	397.8	397.3	396.8	396.3	395.8
175°	399.8	400.2	400.6	400.6	400.1	399.6	399.1	398.6
177.5°	401.1	401.4	401.7	401.7	401.4	400.9	400.6	400.1
180°	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2

(END OF REPORT)