

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: P332048-940

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332048-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
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-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5618.6 lumens
Efficiency: N/A
Efficacy: 112.8 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-Direct

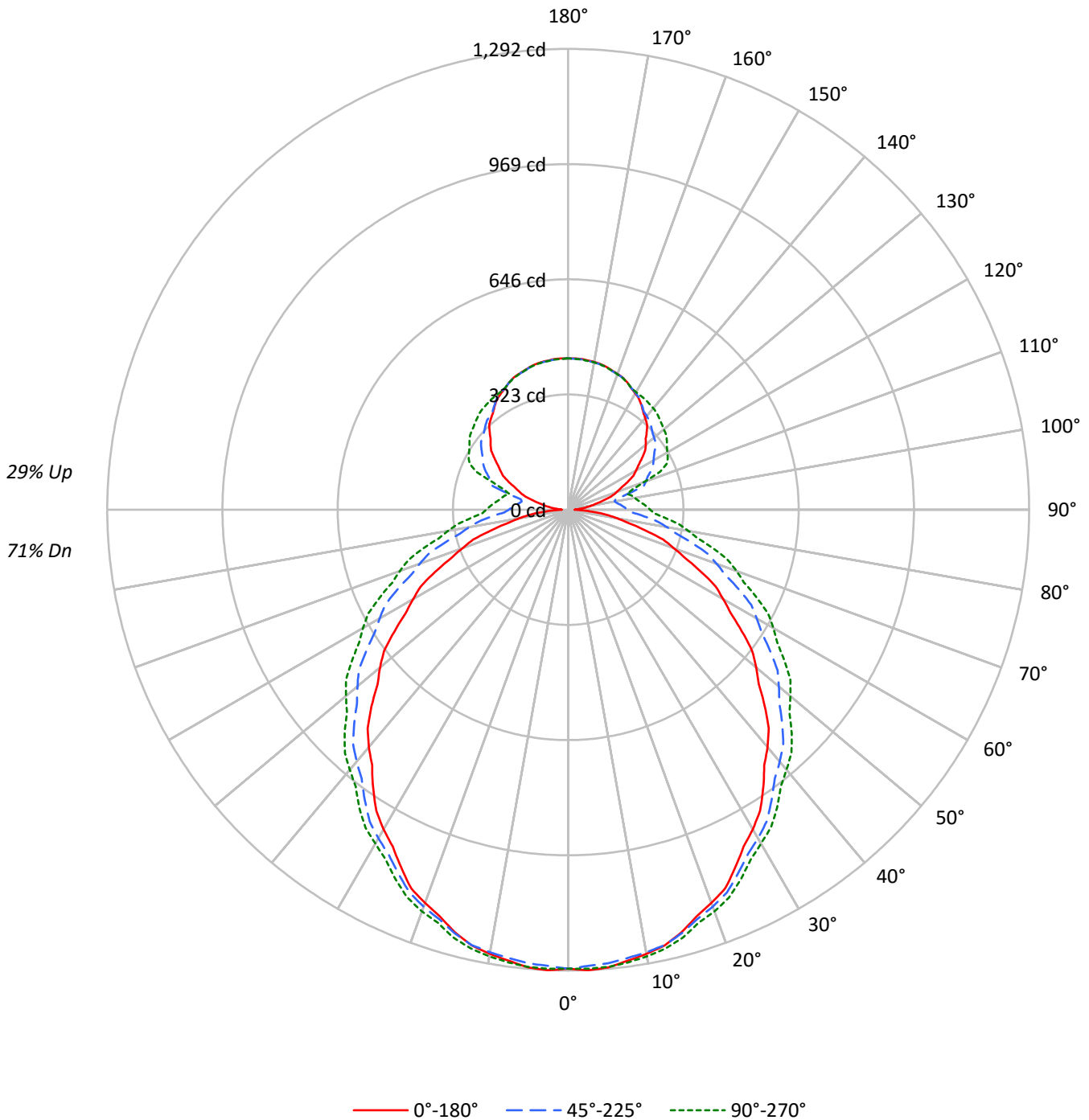
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	75	75	75	71	
1	101	96	91	87	95	91	87	83	81	78	75	72	70	67	64	62	60	60	60	60	56	
2	91	83	76	70	86	78	72	67	70	65	61	63	59	55	55	52	50	50	50	50	46	
3	83	72	64	58	78	69	61	55	61	55	51	55	50	46	49	45	42	42	42	42	38	
4	76	64	55	49	71	61	53	47	54	48	43	49	43	39	43	39	36	36	36	36	32	
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	34	31	31	31	31	28	
6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	31	27	27	27	27	24	
7	59	46	38	32	56	44	36	30	40	33	28	36	30	26	32	27	24	24	24	24	21	
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	29	25	21	21	21	21	19	
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	19	19	19	17	
10	48	35	28	22	45	34	27	22	31	25	20	28	23	19	25	21	17	17	17	17	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	6.2
20°-30°	520.1	9.3
30°-40°	621.1	11.1
40°-50°	649.8	11.6
50°-60°	609.8	10.9
60°-70°	509.3	9.1
70°-80°	364.4	6.5
80°-90°	218.5	3.9
90°-100°	151.8	2.7
100°-110°	173.7	3.1
110°-120°	243.4	4.3
120°-130°	263.0	4.7
130°-140°	257.3	4.6
140°-150°	228.3	4.1
150°-160°	181.2	3.2
160°-170°	116.9	2.1
170°-180°	40.3	0.7
0°-30°	989.8	17.6
0°-40°	1610.9	28.7
0°-60°	2870.5	51.1
0°-90°	3962.7	70.5
90°-120°	568.9	10.1
90°-150°	1317.5	23.4
90°-180°	1656.0	29.5
0°-180°	5618.6	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	13
95°	35	78	149	192	208	36
105°	105	142	174	159	171	111
115°	183	204	255	291	304	181
125°	252	257	297	326	337	226
135°	312	313	329	354	361	240
145°	358	359	360	371	377	224
155°	393	392	393	394	392	181
165°	414	413	413	415	413	117
175°	424	423	423	425	423	40
180°	424	424	424	424	424	



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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°	22.9	36.6	50.1	63.7	77.2	92.2	108.5	124.8	141.2	157.5	168.3
95°	34.6	44.0	53.2	62.5	71.8	84.4	100.4	116.5	132.5	148.6	158.7
97.5°	52.3	62.1	71.7	81.4	91.0	100.7	110.2	119.8	129.3	138.8	148.6
100°	65.9	77.2	88.6	100.0	111.4	118.7	122.2	125.6	128.9	132.3	142.0
102.5°	81.4	91.4	101.3	111.3	121.3	127.3	129.5	131.6	133.8	136.0	143.0
105°	105.1	113.3	121.6	129.8	138.1	145.8	152.8	160.0	167.0	174.2	170.5
107.5°	128.8	135.7	142.7	149.7	156.7	167.0	180.7	194.4	208.1	221.8	221.1
110°	144.5	150.7	156.9	163.0	169.2	178.9	192.2	205.4	218.6	231.8	237.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	160.7	165.8	170.9	176.0	181.1	190.0	202.8	215.5	228.3	240.9	248.9
115°	183.2	187.3	191.5	195.6	199.7	207.8	219.6	231.5	243.3	255.1	263.3
117.5°	206.0	208.8	211.6	214.5	217.3	224.1	235.0	245.8	256.7	267.5	275.5
120°	219.3	221.4	223.6	225.8	228.0	234.3	244.9	255.3	265.8	276.3	284.0
122.5°	233.9	235.2	236.5	237.8	239.2	244.9	254.9	264.9	275.0	285.1	292.4
125°	252.5	253.1	253.6	254.2	254.8	259.7	269.0	278.3	287.7	296.9	303.6
127.5°	271.9	272.2	272.4	272.7	273.0	277.0	284.7	292.6	300.4	308.2	314.6
130°	284.0	284.3	284.5	284.7	285.0	288.4	294.9	301.4	307.9	314.4	320.7
132.5°	294.5	295.0	295.5	296.0	296.5	299.3	304.5	309.8	315.0	320.1	326.1
135°	311.9	312.0	312.1	312.3	312.4	314.2	318.0	321.6	325.4	329.1	334.9
137.5°	326.7	327.1	327.3	327.6	327.9	329.0	331.2	333.2	335.4	337.4	342.7
140°	335.7	336.2	336.5	337.0	337.4	338.2	339.3	340.5	341.6	342.8	347.7
142.5°	345.1	345.2	345.4	345.5	345.7	346.0	346.4	346.8	347.2	347.6	352.0
145°	358.1	358.3	358.5	358.6	358.8	359.0	359.1	359.3	359.4	359.5	362.1
147.5°	369.0	369.3	369.6	370.0	370.2	370.5	370.7	370.8	371.0	371.0	371.9
150°	376.6	376.7	376.9	377.2	377.4	377.6	377.7	377.8	378.0	378.1	378.3
152.5°	383.3	383.4	383.5	383.6	383.7	383.9	383.9	384.0	384.1	384.1	384.4
155°	393.0	392.8	392.6	392.5	392.4	392.4	392.4	392.4	392.5	392.6	393.0
157.5°	400.4	400.4	400.4	400.3	400.3	400.3	400.2	400.1	400.0	400.0	400.4
160°	404.9	404.8	404.7	404.7	404.7	404.6	404.5	404.4	404.4	404.3	404.7
162.5°	409.2	409.0	408.8	408.7	408.5	408.3	408.2	408.2	408.1	408.0	408.5
165°	414.4	414.1	413.9	413.8	413.5	413.4	413.3	413.2	413.1	413.1	413.7
167.5°	418.4	418.1	417.9	417.6	417.2	417.1	417.1	417.1	417.1	417.1	417.7
170°	420.6	420.4	420.1	419.8	419.5	419.4	419.4	419.4	419.4	419.4	420.0
172.5°	422.1	421.9	421.5	421.2	420.8	420.7	420.7	420.8	420.9	420.9	421.5
175°	424.1	423.7	423.4	423.1	422.8	422.6	422.7	422.8	422.8	422.8	423.4
177.5°	424.6	424.4	424.1	423.8	423.5	423.4	423.5	423.5	423.6	423.7	424.1
180°	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1



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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°	179.1	189.8	200.6	207.5	210.4	213.4	216.3	219.3
95°	168.8	179.0	189.1	195.7	198.9	202.0	205.1	208.2
97.5°	158.5	168.4	178.2	184.7	187.9	191.1	194.3	197.4
100°	151.5	161.1	170.8	177.1	180.3	183.5	186.6	189.8
102.5°	150.1	157.1	164.2	169.2	172.5	175.8	179.0	182.3
105°	166.7	163.1	159.4	159.1	162.0	165.0	167.9	170.9
107.5°	220.3	219.5	218.8	215.2	208.6	202.0	195.4	188.8
110°	243.4	249.1	254.9	254.1	246.6	239.1	231.6	224.0



TEST NUMBER: P332048-940

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	256.7	264.7	272.5	276.8	277.4	278.0	278.7	279.3
115°	271.5	279.7	287.8	293.4	296.1	298.9	301.7	304.4
117.5°	283.5	291.4	299.4	304.7	307.1	309.6	312.1	314.6
120°	291.8	299.4	307.2	312.1	314.3	316.5	318.7	320.8
122.5°	299.7	307.0	314.2	319.1	321.3	323.5	325.7	328.0
125°	310.3	317.0	323.7	328.1	330.5	332.8	335.1	337.4
127.5°	321.0	327.3	333.8	338.0	339.9	341.9	343.8	345.9
130°	326.8	333.1	339.2	343.2	344.9	346.6	348.4	350.1
132.5°	332.1	338.0	343.9	347.9	349.8	351.8	353.7	355.6
135°	340.7	346.5	352.3	356.0	357.3	358.6	360.0	361.3
137.5°	347.9	353.2	358.5	361.8	363.2	364.6	366.0	367.5
140°	352.7	357.7	362.6	365.8	367.2	368.6	370.0	371.4
142.5°	356.4	360.8	365.2	368.1	369.4	370.8	372.2	373.5
145°	364.8	367.4	370.1	372.0	373.3	374.5	375.8	377.0
147.5°	372.8	373.7	374.6	375.5	376.3	377.0	377.8	378.6
150°	378.4	378.5	378.7	379.0	379.3	379.8	380.2	380.6
152.5°	384.7	385.0	385.2	385.2	385.0	384.8	384.6	384.4
155°	393.3	393.7	394.0	394.0	393.6	393.2	392.7	392.3
157.5°	400.8	401.3	401.7	401.6	401.1	400.6	399.9	399.4
160°	405.1	405.6	406.0	405.9	405.5	404.9	404.5	403.9
162.5°	409.0	409.5	409.9	410.0	409.6	409.1	408.7	408.2
165°	414.2	414.8	415.4	415.4	414.9	414.4	413.9	413.4
167.5°	418.2	418.8	419.4	419.4	418.8	418.2	417.7	417.1
170°	420.5	421.1	421.6	421.6	421.1	420.5	420.0	419.4
172.5°	422.0	422.6	423.1	423.1	422.5	421.9	421.2	420.6
175°	423.8	424.4	424.8	424.8	424.3	423.7	423.1	422.6
177.5°	424.5	425.0	425.4	425.3	424.8	424.3	423.7	423.1
180°	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1

(END OF REPORT)