

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: P332032-940

Luminaire Tested: **S123DIP-S1000D1025U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332032-940  
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-S1000D1025U940-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7055.5 lumens  
Efficiency: N/A  
Efficacy: 116.6 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

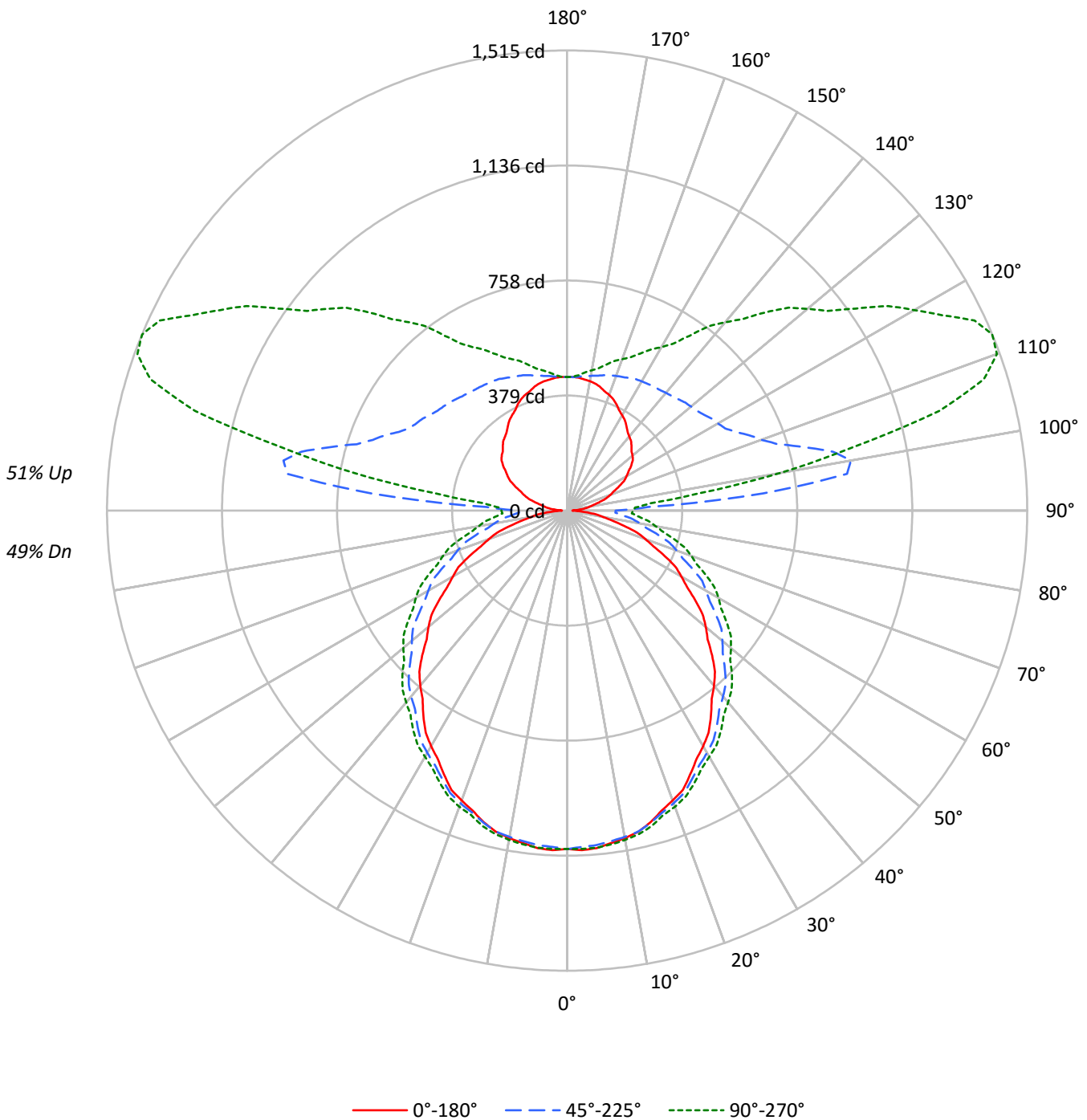
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
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	50	30	10	0														
RCR																																						
0	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49																				
1	96	92	87	84	89	84	81	77	71	68	66	58	56	55	47	46	44	39																				
2	87	79	73	67	80	73	68	63	61	57	54	51	48	45	41	38	37	32																				
3	79	70	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	43	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	57	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	22	18	16	13																				
9	49	36	29	24	45	34	27	22	29	23	19	24	20	17	20	17	14	12																				
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	18	15	13	11																				

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

	0°	45°	90°
0°	11992	11992	11992
5°	12030	11690	11697
10°	11922	11421	11364
15°	11768	11114	11000
20°	11548	10767	10600
25°	11278	10365	10179
30°	10999	10002	9754
35°	10689	9620	9413
40°	10391	9273	9048
45°	10062	8938	8757
50°	9737	8608	8436
55°	9378	8270	8147
60°	9028	7928	7850
65°	8670	7563	7499
70°	8127	7150	7138
75°	7448	6679	6770
80°	6658	6216	6350
85°	5935	5899	6108



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.6	1.5
10°-20°	301.1	4.3
20°-30°	450.3	6.4
30°-40°	537.8	7.6
40°-50°	562.6	8.0
50°-60°	528.0	7.5
60°-70°	441.0	6.3
70°-80°	315.5	4.5
80°-90°	191.6	2.7
90°-100°	362.7	5.1
100°-110°	779.6	11.1
110°-120°	739.6	10.5
120°-130°	576.8	8.2
130°-140°	443.5	6.3
140°-150°	323.1	4.6
150°-160°	223.0	3.2
160°-170°	131.0	1.9
170°-180°	42.6	0.6
0°-30°	857.0	12.1
0°-40°	1394.8	19.8
0°-60°	2485.4	35.2
0°-90°	3433.5	48.7
90°-120°	1881.9	26.7
90°-150°	3225.4	45.7
90°-180°	3622.0	51.3
0°-180°	7055.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1115	1113	1106	1115	1114	106
15°	1062	1065	1064	1076	1075	299
25°	959	970	975	989	990	442
35°	825	844	860	878	884	516
45°	675	704	734	757	767	520
55°	515	555	598	630	641	461
65°	356	403	456	491	505	351
75°	193	250	311	349	365	206
85°	60	120	184	224	238	62
90°	18	86	159	202	216	13
95°	44	160	648	310	273	43
105°	113	193	807	1375	1268	120
115°	188	250	612	1293	1480	187
125°	257	305	550	989	1159	229
135°	300	357	518	798	923	232
145°	340	389	498	635	703	213
155°	385	416	482	547	570	177
165°	421	433	461	489	498	119
175°	439	439	442	449	448	42
180°	440	440	440	440	440	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1119.0	1118.4	1117.7	1117.0	1116.4	1115.2	1113.5	1111.8	1110.0	1108.3	1110.0
5°	1115.4	1114.8	1114.3	1113.7	1113.2	1112.1	1110.5	1108.8	1107.2	1105.6	1107.8
7.5°	1104.4	1104.6	1104.7	1104.7	1104.8	1104.1	1102.6	1101.0	1099.4	1097.9	1100.5
10°	1094.8	1095.3	1095.8	1096.4	1096.9	1096.4	1095.1	1093.8	1092.4	1091.1	1093.8
12.5°	1083.1	1083.8	1084.6	1085.3	1086.1	1086.0	1085.1	1084.1	1083.3	1082.4	1084.9
15°	1061.9	1062.7	1063.5	1064.3	1065.1	1065.4	1065.1	1064.9	1064.6	1064.3	1067.1
17.5°	1035.3	1036.9	1038.5	1040.1	1041.7	1042.5	1042.4	1042.2	1042.1	1042.1	1044.5
20°	1015.8	1017.4	1019.0	1020.7	1022.3	1023.4	1024.0	1024.5	1025.0	1025.6	1028.0
22.5°	995.4	997.0	998.7	1000.3	1001.9	1003.1	1003.9	1004.6	1005.4	1006.1	1009.1
25°	958.8	961.4	964.2	966.9	969.6	971.3	972.1	972.9	973.7	974.6	978.0
27.5°	921.9	925.0	928.0	931.1	934.2	936.6	938.3	940.0	941.7	943.5	946.6
30°	895.6	899.2	902.7	906.2	909.7	912.5	914.7	916.9	919.0	921.1	924.4
32.5°	866.6	870.5	874.4	878.3	882.3	885.6	888.5	891.3	894.1	896.9	900.4
35°	825.3	829.6	833.9	838.2	842.6	846.4	850.0	853.5	856.9	860.5	864.5
37.5°	781.6	786.5	791.3	796.1	801.0	805.6	809.9	814.2	818.5	822.9	827.4
40°	752.4	757.3	762.1	767.0	771.9	777.0	782.4	787.8	793.2	798.6	803.2
42.5°	720.4	726.4	732.3	738.2	744.1	749.9	755.5	761.2	766.8	772.4	777.4
45°	674.8	681.3	687.8	694.2	700.7	707.3	714.0	720.8	727.5	734.2	739.4
47.5°	627.0	634.3	641.7	649.0	656.3	663.9	671.5	679.3	687.0	694.7	700.4
50°	595.9	603.4	611.0	618.6	626.1	634.1	642.4	650.8	659.2	667.5	673.7
52.5°	562.8	570.9	578.9	586.8	594.9	603.4	612.7	621.9	631.1	640.3	646.8
55°	514.6	523.5	532.4	541.3	550.2	559.5	569.2	578.9	588.6	598.3	605.6
57.5°	467.5	476.8	486.1	495.3	504.6	514.6	525.2	535.8	546.4	557.1	564.4
60°	434.5	444.2	453.9	463.6	473.3	483.7	494.7	505.9	516.9	528.0	535.5
62.5°	403.4	413.3	423.3	433.2	443.1	454.0	465.7	477.3	489.0	500.8	508.3
65°	355.6	366.1	376.7	387.2	397.7	408.8	420.7	432.6	444.4	456.4	464.4
67.5°	307.0	318.3	329.4	340.5	351.7	363.4	375.4	387.5	399.6	411.7	420.5
70°	273.0	284.6	296.2	307.9	319.5	331.7	344.6	357.7	370.6	383.5	392.2
72.5°	242.0	253.6	265.2	276.8	288.4	300.9	314.2	327.6	341.0	354.4	363.2
75°	193.0	205.6	218.3	231.0	243.7	256.7	270.3	283.7	297.2	310.7	319.6
77.5°	150.3	163.0	175.8	188.6	201.3	214.5	228.2	241.7	255.4	268.9	278.3
80°	120.1	133.4	146.6	159.8	173.0	186.6	200.6	214.7	228.7	242.7	251.9
82.5°	93.9	107.4	120.8	134.2	147.7	161.5	175.8	189.9	204.2	218.5	227.7
85°	59.5	72.9	86.4	100.0	113.4	127.3	141.6	155.9	170.1	184.5	193.7
87.5°	32.6	46.5	60.2	74.2	87.9	101.9	116.2	130.5	144.8	159.1	168.1
90°	17.6	32.5	47.5	63.4	78.5	93.7	110.1	126.5	142.9	159.4	167.6
92.5°	25.9	43.1	62.5	81.3	100.8	126.6	163.5	215.3	266.4	266.3	241.6
95°	43.6	56.8	77.1	102.7	136.4	183.0	271.9	417.7	576.9	648.0	556.6
97.5°	63.5	73.9	91.0	113.7	146.0	194.7	279.6	441.7	697.7	929.4	994.6
100°	76.8	86.3	101.2	122.3	152.2	197.5	272.2	416.3	662.8	948.5	1131.7
102.5°	90.8	100.1	113.4	133.0	160.0	201.8	269.8	393.9	614.5	896.3	1132.7
105°	113.0	122.1	133.9	151.1	174.4	211.1	270.7	374.0	553.8	806.6	1069.7
107.5°	135.4	143.6	154.2	170.2	191.5	225.4	278.7	365.8	512.5	726.6	965.8
110°	151.5	159.0	168.3	183.0	203.0	235.7	286.5	365.0	495.0	681.2	900.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	167.1	173.8	182.3	196.0	215.2	246.6	294.1	367.1	482.5	648.3	842.8
115°	188.5	195.4	203.9	216.1	234.4	264.9	308.4	372.5	473.0	611.7	772.2
117.5°	210.9	217.0	223.5	233.6	252.5	280.4	322.9	380.5	466.6	586.1	725.7
120°	225.6	229.6	235.4	245.7	263.9	291.3	332.3	387.4	464.8	573.5	700.7
122.5°	239.2	242.5	247.6	258.0	274.8	303.1	343.0	394.1	465.4	563.7	679.3
125°	257.3	259.1	264.4	274.2	291.1	319.1	358.0	405.0	466.3	549.7	650.7
127.5°	272.1	274.5	280.8	290.5	308.9	336.1	372.6	414.4	468.9	539.2	624.6
130°	281.3	283.7	291.5	301.9	320.3	346.9	381.7	420.9	470.8	532.3	609.5
132.5°	287.5	290.8	299.5	312.3	330.9	356.3	389.3	426.8	471.3	526.7	595.1
135°	299.7	303.0	312.5	325.7	344.0	369.4	399.9	433.2	471.8	518.4	575.7
137.5°	311.2	314.8	324.1	338.1	356.5	379.4	407.6	438.2	471.5	510.6	558.8
140°	318.1	322.5	331.4	345.7	363.5	386.1	412.8	440.2	471.4	506.0	548.3
142.5°	326.6	330.1	339.6	352.1	369.7	390.6	415.8	441.9	470.2	500.7	538.2
145°	340.4	342.8	350.4	363.6	378.4	398.8	421.9	445.9	470.8	497.6	528.2
147.5°	353.0	354.6	362.5	374.0	388.6	406.1	427.2	448.8	470.8	494.2	519.2
150°	362.3	363.2	370.2	381.8	394.3	410.4	430.8	449.5	470.8	491.3	513.5
152.5°	371.5	371.7	378.8	389.0	400.0	415.4	432.9	450.9	468.7	487.8	507.9
155°	385.4	385.4	390.7	399.7	409.5	421.9	437.0	451.3	466.4	481.5	499.4
157.5°	396.5	397.2	401.4	409.3	417.6	427.2	439.3	452.2	463.4	476.0	489.7
160°	405.0	405.0	408.6	415.6	421.9	430.8	441.5	452.2	462.0	471.7	483.3
162.5°	411.4	411.4	414.3	419.9	425.4	432.9	442.2	451.5	459.1	467.4	476.9
165°	421.0	420.1	421.9	426.3	429.9	436.1	443.3	449.5	454.9	461.1	468.1
167.5°	428.3	427.2	428.1	431.5	434.0	437.9	443.1	448.1	450.6	454.7	459.9
170°	432.6	430.8	431.7	434.4	436.1	437.9	442.4	445.9	447.7	450.4	454.9
172.5°	435.4	434.4	434.5	436.5	437.6	438.6	442.4	445.2	445.6	446.8	449.9
175°	438.8	437.9	437.0	438.8	438.8	439.7	441.5	443.3	442.4	442.4	444.2
177.5°	440.4	439.7	439.0	439.7	439.7	439.7	440.4	441.8	440.4	439.7	440.4
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1111.8	1113.5	1115.2	1116.0	1115.7	1115.5	1115.4	1115.1
5°	1109.9	1112.1	1114.3	1115.2	1114.9	1114.6	1114.4	1114.1
7.5°	1103.2	1106.0	1108.7	1109.8	1109.6	1109.2	1108.8	1108.6
10°	1096.4	1099.1	1101.9	1103.0	1102.4	1101.9	1101.4	1100.8
12.5°	1087.3	1089.8	1092.3	1093.2	1092.7	1092.2	1091.6	1091.1
15°	1069.8	1072.5	1075.1	1076.4	1076.1	1075.8	1075.6	1075.3
17.5°	1046.9	1049.4	1051.8	1052.8	1052.4	1052.0	1051.7	1051.2
20°	1030.4	1032.8	1035.3	1036.6	1036.9	1037.1	1037.4	1037.7
22.5°	1012.3	1015.3	1018.4	1019.8	1019.7	1019.6	1019.4	1019.2
25°	981.6	985.1	988.6	990.3	990.3	990.3	990.3	990.3
27.5°	949.5	952.5	955.6	957.2	957.4	957.6	957.9	958.1
30°	927.6	930.9	934.1	935.8	935.8	935.8	935.8	935.8
32.5°	903.8	907.2	910.7	912.8	913.4	914.0	914.7	915.3
35°	868.5	872.6	876.6	879.2	880.3	881.4	882.4	883.5
37.5°	832.1	836.6	841.2	843.9	844.8	845.6	846.5	847.4
40°	807.7	812.3	816.9	819.7	820.8	821.9	823.0	824.0
42.5°	782.4	787.4	792.5	795.7	797.2	798.7	800.2	801.7
45°	744.5	749.7	754.7	758.4	760.5	762.7	764.9	767.0
47.5°	706.2	712.0	717.7	721.5	723.2	724.9	726.5	728.2
50°	679.9	686.1	692.3	696.3	698.3	700.2	702.0	703.9
52.5°	653.2	659.6	666.0	670.4	672.7	675.0	677.3	679.7
55°	612.9	620.2	627.5	632.1	634.4	636.5	638.6	640.8
57.5°	571.8	579.1	586.4	591.4	593.9	596.4	599.0	601.5
60°	543.1	550.6	558.1	563.4	566.4	569.4	572.3	575.2
62.5°	515.9	523.4	530.9	536.1	538.9	541.6	544.4	547.2
65°	472.5	480.6	488.7	494.1	496.8	499.4	502.2	504.9
67.5°	429.4	438.2	447.0	452.6	454.9	457.2	459.4	461.6
70°	400.7	409.4	418.0	423.7	426.4	429.1	431.8	434.5
72.5°	372.1	380.9	389.8	395.6	398.2	400.9	403.7	406.4
75°	328.5	337.4	346.3	352.4	355.6	358.8	362.0	365.3
77.5°	287.8	297.1	306.5	312.5	314.9	317.4	319.9	322.4
80°	261.1	270.3	279.4	285.3	288.0	290.7	293.5	296.1
82.5°	236.8	245.9	255.1	261.1	263.8	266.4	269.1	271.9
85°	202.8	212.0	221.1	227.1	229.8	232.5	235.1	237.9
87.5°	177.5	186.7	196.1	202.4	204.9	207.8	210.6	213.2
90°	177.7	187.8	197.9	205.5	207.4	211.0	214.5	216.3
92.5°	222.2	215.7	217.7	218.8	219.7	219.5	222.8	223.7
95°	457.3	362.4	323.6	297.1	282.9	277.6	274.0	273.1
97.5°	926.2	775.3	668.5	567.5	504.4	467.1	445.8	440.8
100°	1170.6	1106.3	1010.0	888.9	801.7	739.4	707.4	711.0
102.5°	1247.7	1253.0	1199.9	1124.9	1057.7	1008.9	982.6	964.8
105°	1263.2	1359.8	1384.3	1366.1	1327.6	1296.2	1270.2	1268.1
107.5°	1183.9	1335.7	1420.9	1457.4	1460.5	1451.5	1444.2	1438.4
110°	1111.7	1282.5	1401.7	1468.6	1495.7	1504.9	1505.3	1505.7





TEST NUMBER: P332032-940

CATALOG NUMBER: S123DIP-S1000D1025U940-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1039.3	1213.4	1345.9	1430.6	1478.5	1503.0	1512.1	1514.8
115°	943.3	1104.7	1242.0	1343.4	1412.2	1453.6	1473.6	1480.2
117.5°	871.2	1011.3	1135.1	1237.9	1309.6	1356.6	1384.3	1392.5
120°	832.4	958.8	1071.8	1165.7	1238.0	1289.7	1313.0	1320.2
122.5°	800.8	915.5	1020.5	1108.0	1172.3	1219.1	1244.5	1253.1
125°	757.8	860.5	951.5	1026.5	1085.4	1126.5	1150.6	1158.7
127.5°	719.3	811.1	893.5	961.9	1014.5	1049.8	1071.7	1079.2
130°	694.7	780.0	857.2	921.0	969.8	1003.5	1023.9	1032.6
132.5°	671.6	750.3	822.2	883.3	929.4	963.3	981.8	988.6
135°	640.2	708.3	771.0	824.8	869.8	897.9	915.2	922.7
137.5°	611.3	667.4	721.5	768.2	806.3	834.6	849.5	855.0
140°	594.1	643.6	690.4	731.4	766.5	792.8	808.4	808.9
142.5°	577.3	619.9	660.6	696.3	726.5	749.9	764.1	764.6
145°	558.8	590.4	621.0	648.5	671.8	691.5	699.7	702.6
147.5°	543.9	567.8	591.5	610.6	628.5	642.1	649.9	651.5
150°	534.0	554.6	573.2	590.4	604.3	614.7	620.5	621.1
152.5°	526.2	543.9	560.4	574.5	585.1	594.3	597.6	597.7
155°	514.4	528.7	542.1	552.8	560.8	567.8	569.6	570.5
157.5°	502.0	513.9	524.2	532.6	539.6	544.9	546.4	546.2
160°	494.9	504.7	513.5	519.8	526.0	531.4	531.4	530.5
162.5°	486.3	494.7	502.9	508.5	512.6	517.1	517.1	516.2
165°	475.3	480.6	486.9	491.3	494.9	498.5	497.6	497.6
167.5°	465.7	469.8	473.3	476.5	478.1	480.6	479.7	479.7
170°	459.3	462.0	465.5	467.3	468.1	469.9	469.0	469.0
172.5°	453.6	455.6	458.4	459.5	459.7	461.5	459.9	459.1
175°	445.9	446.8	448.6	448.6	448.6	449.5	448.6	447.7
177.5°	441.1	441.8	442.6	442.6	441.8	442.6	441.1	441.1
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7

(END OF REPORT)