

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: P332032-935

Luminaire Tested: **S123DIP-S1000D1025U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332032-935  
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-S1000D1025U935-4F0-1E-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: 6812.5 lumens  
Efficiency: N/A  
Efficacy: 112.6 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

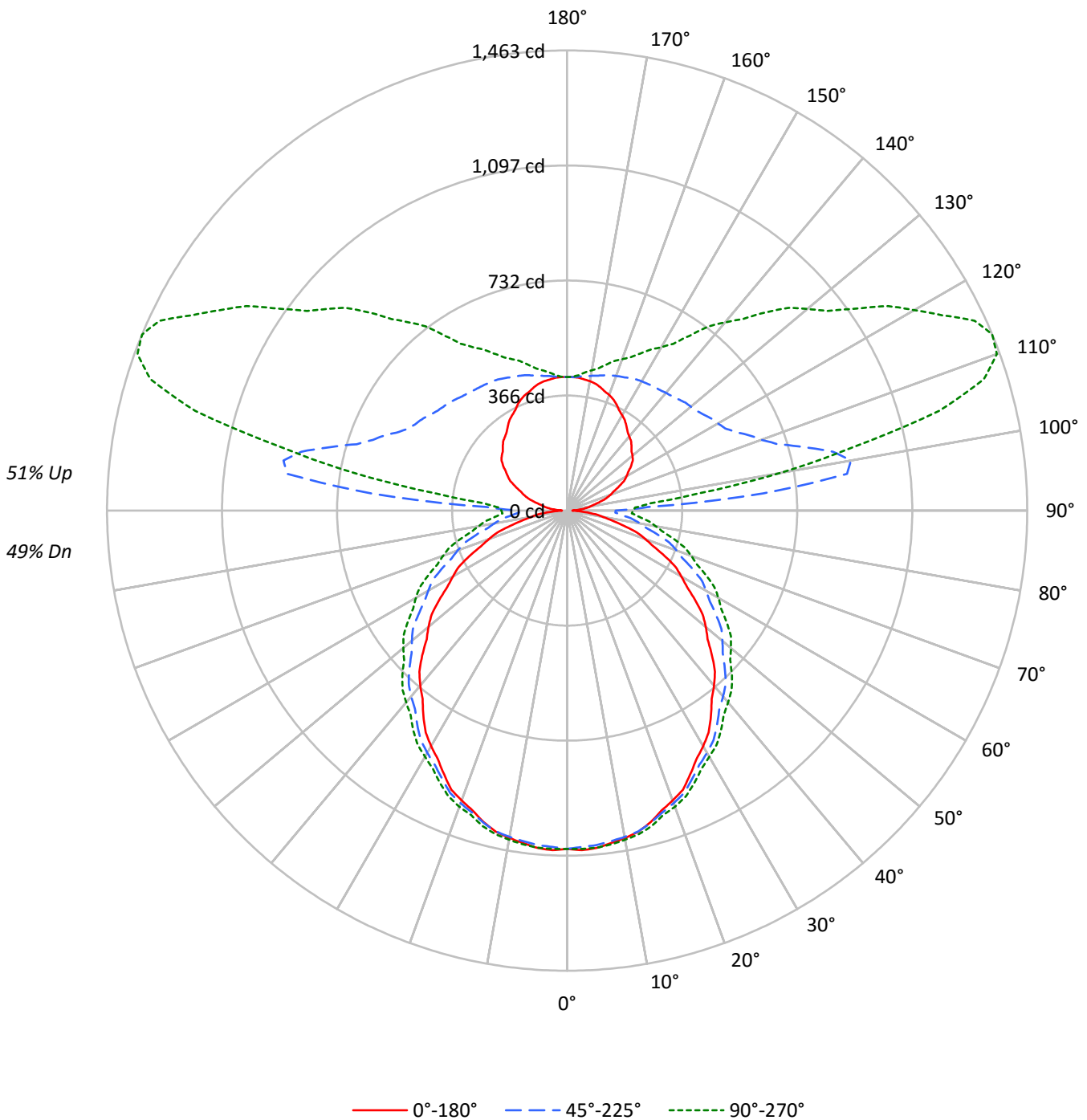
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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	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°	11579	11579	11579
5°	11615	11288	11294
10°	11511	11028	10973
15°	11363	10732	10622
20°	11151	10395	10235
25°	10888	10007	9829
30°	10621	9658	9417
35°	10321	9289	9089
40°	10033	8953	8737
45°	9715	8630	8455
50°	9402	8312	8146
55°	9056	7985	7866
60°	8718	7655	7580
65°	8372	7303	7241
70°	7847	6904	6893
75°	7189	6449	6538
80°	6431	6003	6131
85°	5726	5695	5898



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.0	1.5
10°-20°	290.7	4.3
20°-30°	434.8	6.4
30°-40°	519.2	7.6
40°-50°	543.3	8.0
50°-60°	509.8	7.5
60°-70°	425.8	6.3
70°-80°	304.6	4.5
80°-90°	185.0	2.7
90°-100°	350.3	5.1
100°-110°	752.8	11.1
110°-120°	714.1	10.5
120°-130°	556.9	8.2
130°-140°	428.2	6.3
140°-150°	312.0	4.6
150°-160°	215.3	3.2
160°-170°	126.5	1.9
170°-180°	41.2	0.6
0°-30°	827.5	12.1
0°-40°	1346.7	19.8
0°-60°	2399.8	35.2
0°-90°	3315.2	48.7
90°-120°	1817.1	26.7
90°-150°	3114.3	45.7
90°-180°	3497.0	51.3
0°-180°	6812.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1076	1076	1076	1076	1076	
5°	1077	1074	1068	1076	1076	102
15°	1025	1029	1028	1039	1038	289
25°	926	937	941	955	956	426
35°	797	815	831	848	853	498
45°	652	680	709	731	741	502
55°	497	536	578	608	619	445
65°	343	389	441	474	488	339
75°	186	242	300	337	353	199
85°	57	116	178	216	230	60
90°	17	83	154	195	209	12
95°	42	154	626	300	264	42
105°	109	186	779	1328	1224	115
115°	182	241	591	1248	1429	180
125°	248	295	531	955	1119	221
135°	289	344	500	770	891	224
145°	329	375	480	613	678	206
155°	372	401	465	529	551	171
165°	406	418	445	472	480	115
175°	424	424	427	433	432	40
180°	425	425	425	425	425	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1080.5	1079.9	1079.2	1078.6	1078.0	1076.8	1075.1	1073.5	1071.8	1070.1	1071.8
5°	1076.9	1076.4	1075.9	1075.4	1074.9	1073.8	1072.3	1070.7	1069.1	1067.6	1069.6
7.5°	1066.3	1066.5	1066.6	1066.7	1066.8	1066.1	1064.6	1063.1	1061.5	1060.1	1062.6
10°	1057.0	1057.6	1058.1	1058.6	1059.1	1058.7	1057.4	1056.1	1054.8	1053.5	1056.1
12.5°	1045.8	1046.5	1047.2	1047.9	1048.7	1048.6	1047.8	1046.8	1045.9	1045.1	1047.5
15°	1025.4	1026.1	1026.9	1027.7	1028.5	1028.7	1028.5	1028.2	1027.9	1027.7	1030.4
17.5°	999.6	1001.2	1002.7	1004.3	1005.8	1006.6	1006.5	1006.3	1006.3	1006.2	1008.5
20°	980.9	982.4	984.0	985.5	987.1	988.2	988.7	989.2	989.7	990.2	992.6
22.5°	961.1	962.7	964.3	965.9	967.4	968.5	969.3	970.0	970.8	971.5	974.4
25°	925.7	928.3	931.0	933.6	936.2	937.9	938.7	939.4	940.2	941.0	944.3
27.5°	890.1	893.1	896.0	899.1	902.0	904.3	906.0	907.7	909.3	911.0	914.0
30°	864.8	868.2	871.6	874.9	878.4	881.1	883.2	885.3	887.3	889.4	892.6
32.5°	836.7	840.5	844.3	848.1	851.9	855.1	857.9	860.6	863.3	866.0	869.4
35°	796.9	801.0	805.2	809.3	813.6	817.3	820.7	824.1	827.4	830.9	834.7
37.5°	754.7	759.4	764.1	768.7	773.4	777.8	782.0	786.2	790.3	794.5	798.9
40°	726.5	731.2	735.9	740.6	745.3	750.3	755.4	760.7	765.9	771.1	775.5
42.5°	695.6	701.4	707.1	712.8	718.5	724.1	729.5	734.9	740.4	745.8	750.6
45°	651.5	657.8	664.1	670.3	676.6	682.9	689.4	695.9	702.5	708.9	713.9
47.5°	605.4	612.4	619.6	626.6	633.7	641.0	648.4	655.9	663.3	670.8	676.3
50°	575.4	582.6	590.0	597.3	604.5	612.3	620.3	628.4	636.5	644.5	650.5
52.5°	543.5	551.2	559.0	566.6	574.4	582.6	591.6	600.5	609.3	618.3	624.5
55°	496.9	505.5	514.0	522.6	531.2	540.2	549.6	559.0	568.3	577.7	584.8
57.5°	451.4	460.4	469.3	478.3	487.2	496.9	507.1	517.4	527.6	537.9	544.9
60°	419.6	428.9	438.2	447.6	457.0	467.0	477.7	488.4	499.1	509.8	517.0
62.5°	389.5	399.1	408.7	418.3	427.8	438.3	449.6	460.9	472.2	483.5	490.8
65°	343.4	353.5	363.7	373.8	384.0	394.8	406.2	417.7	429.1	440.7	448.4
67.5°	296.4	307.3	318.1	328.8	339.6	350.9	362.5	374.2	385.8	397.5	406.0
70°	263.6	274.8	286.0	297.3	308.5	320.3	332.8	345.3	357.8	370.3	378.7
72.5°	233.7	244.9	256.1	267.3	278.4	290.5	303.4	316.3	329.2	342.2	350.7
75°	186.3	198.5	210.8	223.1	235.3	247.9	261.0	274.0	287.0	300.0	308.6
77.5°	145.1	157.4	169.8	182.1	194.4	207.2	220.3	233.4	246.6	259.7	268.7
80°	116.0	128.8	141.5	154.3	167.0	180.2	193.7	207.3	220.8	234.4	243.2
82.5°	90.7	103.7	116.7	129.6	142.6	155.9	169.7	183.4	197.2	210.9	219.8
85°	57.4	70.4	83.4	96.5	109.5	123.0	136.7	150.5	164.3	178.1	187.0
87.5°	31.5	44.9	58.1	71.6	84.9	98.4	112.2	126.0	139.8	153.6	162.3
90°	17.0	31.4	45.9	61.2	75.8	90.5	106.3	122.2	138.0	153.9	161.9
92.5°	25.0	41.6	60.4	78.5	97.3	122.3	157.9	207.9	257.3	257.1	233.2
95°	42.1	54.8	74.5	99.2	131.7	176.7	262.5	403.3	557.1	625.7	537.4
97.5°	61.3	71.4	87.9	109.8	140.9	188.0	269.9	426.5	673.6	897.4	960.4
100°	74.1	83.3	97.7	118.0	147.0	190.7	262.9	402.0	640.0	915.8	1092.7
102.5°	87.6	96.7	109.5	128.4	154.5	194.8	260.5	380.3	593.3	865.5	1093.7
105°	109.1	117.9	129.3	145.9	168.4	203.8	261.4	361.1	534.8	778.9	1032.9
107.5°	130.7	138.6	148.9	164.4	184.9	217.7	269.1	353.2	494.8	701.5	932.5
110°	146.3	153.5	162.5	176.7	196.0	227.6	276.6	352.4	477.9	657.7	869.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	161.4	167.8	176.0	189.2	207.8	238.1	284.0	354.5	465.9	625.9	813.8
115°	182.0	188.6	196.9	208.6	226.4	255.8	297.8	359.6	456.7	590.6	745.6
117.5°	203.6	209.5	215.8	225.6	243.8	270.7	311.8	367.4	450.6	565.9	700.7
120°	217.8	221.7	227.3	237.2	254.9	281.3	320.8	374.1	448.8	553.7	676.6
122.5°	230.9	234.1	239.1	249.1	265.4	292.7	331.1	380.6	449.4	544.2	655.9
125°	248.5	250.2	255.3	264.8	281.1	308.1	345.7	391.1	450.2	530.8	628.3
127.5°	262.7	265.0	271.1	280.5	298.3	324.5	359.8	400.1	452.7	520.6	603.0
130°	271.6	274.0	281.5	291.5	309.3	334.9	368.5	406.4	454.6	513.9	588.5
132.5°	277.6	280.8	289.2	301.5	319.5	344.1	375.9	412.1	455.0	508.6	574.6
135°	289.4	292.6	301.8	314.4	332.2	356.7	386.2	418.3	455.6	500.5	555.9
137.5°	300.5	303.9	313.0	326.5	344.2	366.4	393.6	423.1	455.3	493.0	539.6
140°	307.1	311.4	320.0	333.8	350.9	372.8	398.6	425.1	455.1	488.5	529.4
142.5°	315.4	318.7	327.9	340.0	357.0	377.1	401.5	426.7	454.0	483.5	519.7
145°	328.6	331.0	338.4	351.0	365.4	385.0	407.3	430.6	454.6	480.4	510.0
147.5°	340.9	342.4	350.0	361.1	375.2	392.1	412.5	433.3	454.6	477.2	501.4
150°	349.8	350.7	357.5	368.7	380.7	396.2	415.9	434.0	454.6	474.4	495.8
152.5°	358.7	358.9	365.8	375.6	386.2	401.1	418.0	435.4	452.5	471.0	490.4
155°	372.1	372.1	377.3	385.9	395.4	407.3	422.0	435.8	450.3	464.9	482.2
157.5°	382.8	383.5	387.6	395.2	403.2	412.5	424.2	436.6	447.5	459.6	472.9
160°	391.1	391.1	394.5	401.3	407.3	415.9	426.3	436.6	446.1	455.5	466.7
162.5°	397.3	397.3	400.0	405.4	410.8	418.0	427.0	435.9	443.3	451.3	460.5
165°	406.5	405.6	407.3	411.6	415.1	421.1	428.0	434.0	439.2	445.2	452.0
167.5°	413.5	412.5	413.4	416.6	419.0	422.8	427.8	432.7	435.1	439.0	444.0
170°	417.7	415.9	416.8	419.4	421.1	422.8	427.1	430.6	432.3	434.9	439.2
172.5°	420.4	419.4	419.6	421.5	422.5	423.5	427.1	429.9	430.2	431.4	434.4
175°	423.7	422.8	422.0	423.7	423.7	424.6	426.3	428.0	427.1	427.1	428.9
177.5°	425.2	424.6	423.9	424.6	424.6	424.6	425.2	426.6	425.2	424.6	425.2
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1073.5	1075.1	1076.8	1077.5	1077.3	1077.1	1076.9	1076.7
5°	1071.7	1073.8	1075.9	1076.8	1076.5	1076.2	1076.0	1075.7
7.5°	1065.2	1067.9	1070.5	1071.6	1071.3	1071.0	1070.7	1070.4
10°	1058.7	1061.3	1063.9	1065.0	1064.5	1063.9	1063.4	1062.9
12.5°	1049.8	1052.2	1054.6	1055.6	1055.1	1054.6	1054.0	1053.5
15°	1032.9	1035.5	1038.1	1039.3	1039.1	1038.8	1038.5	1038.3
17.5°	1010.8	1013.2	1015.5	1016.5	1016.2	1015.8	1015.5	1015.0
20°	994.9	997.2	999.6	1000.9	1001.2	1001.4	1001.7	1001.9
22.5°	977.4	980.3	983.3	984.7	984.6	984.5	984.3	984.1
25°	947.8	951.1	954.5	956.2	956.2	956.2	956.2	956.2
27.5°	916.8	919.7	922.6	924.2	924.5	924.6	924.9	925.1
30°	895.7	898.8	901.9	903.5	903.5	903.5	903.5	903.5
32.5°	872.7	876.0	879.3	881.3	881.9	882.5	883.2	883.8
35°	838.6	842.6	846.4	848.9	850.0	851.0	852.0	853.1
37.5°	803.4	807.8	812.3	814.9	815.7	816.5	817.3	818.2
40°	779.9	784.4	788.8	791.5	792.6	793.6	794.6	795.7
42.5°	755.4	760.3	765.2	768.3	769.7	771.2	772.7	774.1
45°	718.8	723.8	728.8	732.3	734.3	736.4	738.6	740.6
47.5°	681.9	687.5	693.0	696.6	698.3	699.9	701.5	703.1
50°	656.5	662.5	668.5	672.4	674.2	676.1	677.9	679.7
52.5°	630.7	636.9	643.1	647.3	649.5	651.8	654.0	656.3
55°	591.8	598.8	605.9	610.4	612.5	614.6	616.6	618.7
57.5°	552.1	559.1	566.2	571.0	573.4	575.8	578.3	580.7
60°	524.3	531.7	538.9	544.0	546.9	549.7	552.6	555.4
62.5°	498.1	505.4	512.6	517.6	520.3	523.0	525.6	528.3
65°	456.2	464.1	471.8	477.1	479.7	482.2	484.9	487.5
67.5°	414.6	423.1	431.6	437.0	439.2	441.4	443.6	445.7
70°	386.9	395.3	403.6	409.1	411.7	414.3	416.9	419.6
72.5°	359.3	367.8	376.3	381.9	384.5	387.1	389.8	392.4
75°	317.2	325.8	334.3	340.3	343.4	346.5	349.6	352.8
77.5°	277.8	286.9	295.9	301.7	304.0	306.4	308.8	311.3
80°	252.1	261.0	269.8	275.5	278.1	280.7	283.4	285.9
82.5°	228.7	237.5	246.3	252.1	254.7	257.3	259.8	262.5
85°	195.8	204.7	213.5	219.3	221.9	224.5	227.0	229.7
87.5°	171.3	180.3	189.3	195.4	197.9	200.6	203.4	205.9
90°	171.6	181.3	191.1	198.5	200.3	203.7	207.2	208.9
92.5°	214.6	208.3	210.2	211.3	212.2	211.9	215.2	216.0
95°	441.5	349.9	312.5	286.9	273.1	268.0	264.6	263.7
97.5°	894.3	748.6	645.5	547.9	487.1	451.0	430.4	425.6
100°	1130.3	1068.2	975.3	858.3	774.1	713.9	683.0	686.5
102.5°	1204.7	1209.9	1158.6	1086.2	1021.2	974.1	948.7	931.6
105°	1219.7	1312.9	1336.6	1319.1	1281.9	1251.5	1226.4	1224.4
107.5°	1143.1	1289.7	1372.0	1407.2	1410.2	1401.5	1394.5	1388.9
110°	1073.4	1238.4	1353.4	1418.0	1444.2	1453.1	1453.5	1453.8





TEST NUMBER: P332032-935

CATALOG NUMBER: S123DIP-S1000D1025U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1003.5	1171.6	1299.5	1381.3	1427.6	1451.2	1460.0	1462.7
115°	910.9	1066.6	1199.2	1297.1	1363.6	1403.5	1422.8	1429.2
117.5°	841.2	976.5	1096.1	1195.2	1264.5	1309.8	1336.6	1344.5
120°	803.7	925.7	1034.9	1125.6	1195.3	1245.3	1267.7	1274.7
122.5°	773.2	884.0	985.3	1069.8	1132.0	1177.1	1201.6	1210.0
125°	731.7	830.9	918.8	991.2	1048.0	1087.7	1110.9	1118.8
127.5°	694.5	783.2	862.7	928.8	979.6	1013.7	1034.8	1042.1
130°	670.8	753.1	827.7	889.3	936.4	969.0	988.6	997.0
132.5°	648.5	724.4	793.9	852.9	897.4	930.1	948.0	954.5
135°	618.2	683.9	744.4	796.4	839.8	866.9	883.6	891.0
137.5°	590.2	644.4	696.6	741.8	778.5	805.9	820.3	825.5
140°	573.7	621.5	666.6	706.2	740.1	765.5	780.6	781.0
142.5°	557.4	598.6	637.8	672.4	701.5	724.1	737.8	738.2
145°	539.6	570.1	599.6	626.1	648.7	667.7	675.6	678.4
147.5°	525.1	548.3	571.1	589.6	606.8	620.0	627.5	629.0
150°	515.7	535.5	553.5	570.1	583.5	593.5	599.2	599.7
152.5°	508.1	525.1	541.1	554.7	565.0	573.9	577.0	577.1
155°	496.7	510.5	523.4	533.7	541.5	548.3	550.0	550.9
157.5°	484.7	496.2	506.2	514.3	521.0	526.2	527.5	527.4
160°	477.9	487.3	495.8	501.9	507.9	513.1	513.1	512.2
162.5°	469.6	477.7	485.6	490.9	494.9	499.3	499.3	498.4
165°	458.9	464.1	470.1	474.4	477.9	481.3	480.4	480.4
167.5°	449.6	453.6	457.0	460.1	461.7	464.1	463.2	463.2
170°	443.5	446.1	449.4	451.2	452.0	453.7	452.9	452.9
172.5°	438.0	439.9	442.6	443.7	443.8	445.6	444.0	443.3
175°	430.6	431.4	433.2	433.2	433.2	434.0	433.2	432.3
177.5°	425.9	426.6	427.3	427.3	426.6	427.3	425.9	425.9
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6

(END OF REPORT)