

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: P332032-830

Luminaire Tested: **S123DIP-S1000D1025U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332032-830  
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-S1000D1025U830-4F0-1E-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: 7457.7 lumens  
Efficiency: N/A  
Efficacy: 123.3 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

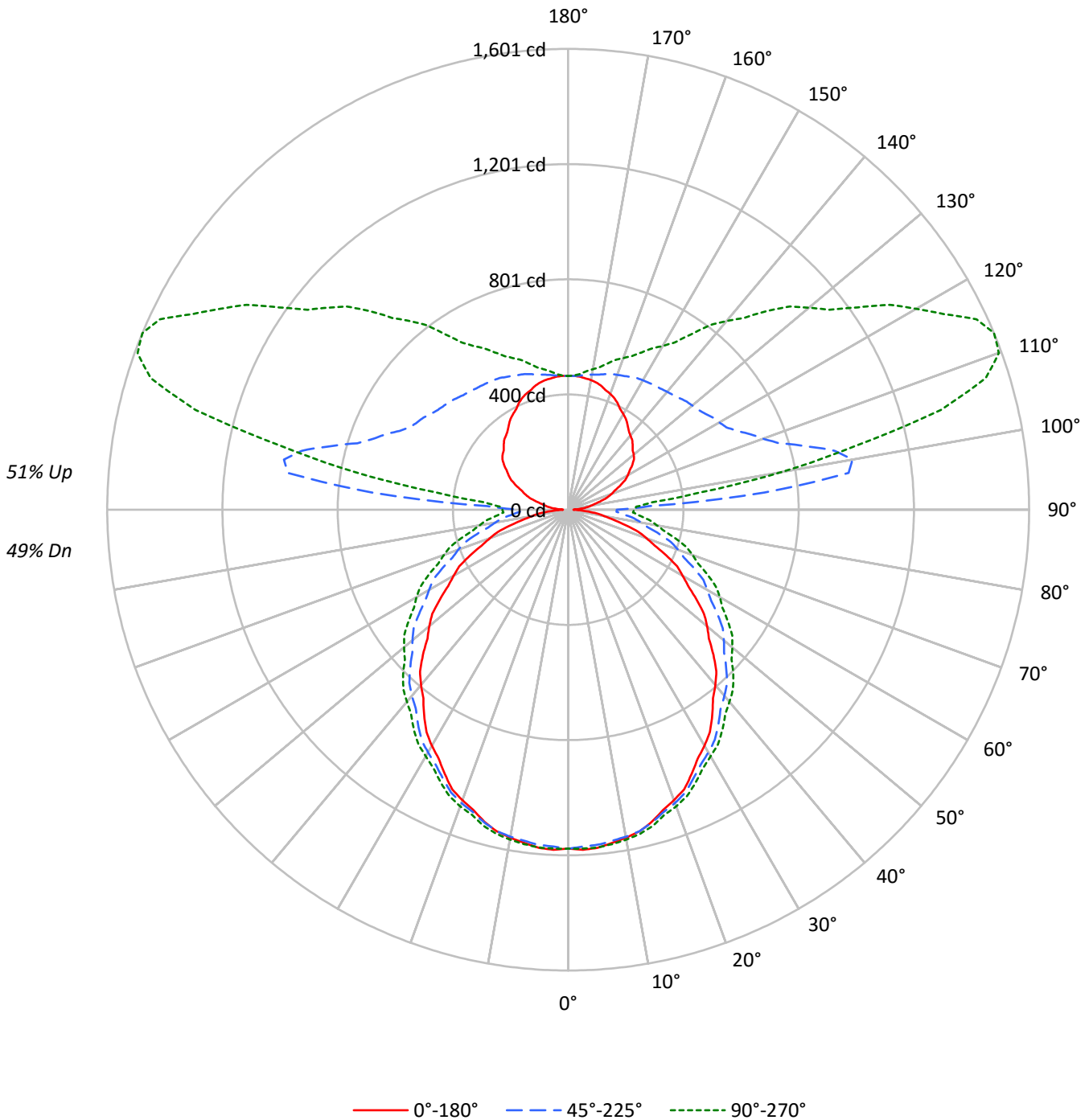
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	12676	12676	12676
5°	12715	12357	12363
10°	12602	12072	12012
15°	12439	11748	11627
20°	12206	11380	11204
25°	11920	10955	10760
30°	11627	10572	10310
35°	11297	10169	9950
40°	10983	9801	9564
45°	10635	9448	9257
50°	10293	9100	8917
55°	9912	8741	8611
60°	9543	8380	8298
65°	9165	7994	7927
70°	8591	7558	7545
75°	7872	7060	7157
80°	7040	6572	6712
85°	6274	6235	6458



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.6	1.5
10°-20°	318.2	4.3
20°-30°	476.0	6.4
30°-40°	568.4	7.6
40°-50°	594.7	8.0
50°-60°	558.1	7.5
60°-70°	466.1	6.3
70°-80°	333.5	4.5
80°-90°	202.5	2.7
90°-100°	383.4	5.1
100°-110°	824.1	11.1
110°-120°	781.7	10.5
120°-130°	609.7	8.2
130°-140°	468.8	6.3
140°-150°	341.5	4.6
150°-160°	235.7	3.2
160°-170°	138.5	1.9
170°-180°	45.1	0.6
0°-30°	905.9	12.1
0°-40°	1474.3	19.8
0°-60°	2627.1	35.2
0°-90°	3629.2	48.7
90°-120°	1989.2	26.7
90°-150°	3409.2	45.7
90°-180°	3828.0	51.3
0°-180°	7457.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1179	1176	1169	1178	1178	112
15°	1122	1126	1125	1137	1137	316
25°	1013	1026	1030	1046	1047	467
35°	872	893	910	928	934	545
45°	713	744	776	800	811	550
55°	544	586	632	666	677	487
65°	376	426	482	519	534	371
75°	204	264	328	369	386	218
85°	63	127	195	237	252	66
90°	19	91	168	213	229	14
95°	46	169	685	328	289	46
105°	119	204	853	1454	1340	126
115°	199	264	647	1366	1564	198
125°	272	322	581	1045	1225	242
135°	317	377	548	843	975	245
145°	360	411	526	671	743	225
155°	407	439	509	579	603	187
165°	445	458	487	517	526	125
175°	464	464	468	474	473	44
180°	465	465	465	465	465	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1182.8	1182.1	1181.4	1180.7	1180.1	1178.7	1177.0	1175.2	1173.3	1171.5	1173.3
5°	1178.9	1178.4	1177.8	1177.2	1176.7	1175.5	1173.8	1172.1	1170.4	1168.7	1170.9
7.5°	1167.3	1167.5	1167.6	1167.7	1167.8	1167.1	1165.5	1163.8	1162.1	1160.5	1163.3
10°	1157.2	1157.7	1158.3	1158.9	1159.4	1159.0	1157.5	1156.1	1154.7	1153.3	1156.1
12.5°	1144.8	1145.6	1146.4	1147.2	1148.0	1147.9	1147.0	1145.9	1145.0	1144.1	1146.7
15°	1122.5	1123.3	1124.2	1125.0	1125.9	1126.1	1125.9	1125.6	1125.3	1125.0	1127.9
17.5°	1094.3	1096.0	1097.7	1099.4	1101.1	1101.9	1101.8	1101.6	1101.5	1101.5	1104.0
20°	1073.7	1075.4	1077.1	1078.8	1080.5	1081.8	1082.3	1082.9	1083.5	1084.0	1086.6
22.5°	1052.2	1053.9	1055.6	1057.3	1059.0	1060.3	1061.1	1061.9	1062.7	1063.5	1066.7
25°	1013.4	1016.2	1019.2	1022.0	1024.8	1026.7	1027.6	1028.4	1029.3	1030.1	1033.8
27.5°	974.4	977.7	980.9	984.2	987.4	990.0	991.8	993.6	995.4	997.3	1000.5
30°	946.7	950.5	954.1	957.8	961.6	964.5	966.9	969.1	971.4	973.6	977.1
32.5°	916.0	920.1	924.3	928.4	932.6	936.1	939.1	942.1	945.1	948.0	951.7
35°	872.3	876.8	881.5	886.0	890.6	894.7	898.4	902.1	905.8	909.6	913.8
37.5°	826.1	831.3	836.4	841.5	846.7	851.5	856.1	860.6	865.2	869.8	874.6
40°	795.3	800.5	805.6	810.8	815.9	821.3	827.0	832.7	838.4	844.1	848.9
42.5°	761.5	767.8	774.0	780.3	786.6	792.7	798.6	804.6	810.5	816.4	821.7
45°	713.2	720.1	727.0	733.8	740.6	747.6	754.7	761.9	769.0	776.1	781.6
47.5°	662.7	670.4	678.3	686.0	693.7	701.7	709.8	718.0	726.1	734.3	740.4
50°	629.9	637.8	645.8	653.8	661.8	670.2	679.0	687.9	696.7	705.6	712.1
52.5°	594.9	603.4	611.9	620.3	628.8	637.8	647.6	657.3	667.0	676.8	683.6
55°	543.9	553.4	562.7	572.1	581.5	591.4	601.6	611.9	622.2	632.4	640.2
57.5°	494.2	504.0	513.8	523.6	533.4	543.9	555.2	566.4	577.6	588.8	596.5
60°	459.3	469.5	479.8	490.0	500.3	511.2	522.9	534.7	546.4	558.1	566.0
62.5°	426.4	436.9	447.4	457.9	468.3	479.8	492.2	504.5	516.9	529.3	537.2
65°	375.9	387.0	398.1	409.3	420.4	432.2	444.7	457.2	469.8	482.4	490.9
67.5°	324.5	336.4	348.2	360.0	371.7	384.1	396.8	409.6	422.4	435.2	444.5
70°	288.6	300.9	313.1	325.5	337.7	350.6	364.3	378.1	391.7	405.4	414.5
72.5°	255.8	268.1	280.3	292.6	304.8	318.0	332.2	346.3	360.4	374.6	383.9
75°	204.0	217.4	230.7	244.2	257.6	271.4	285.7	299.9	314.1	328.4	337.8
77.5°	158.8	172.3	185.9	199.3	212.8	226.8	241.2	255.5	269.9	284.3	294.2
80°	127.0	141.0	155.0	168.9	182.9	197.3	212.1	227.0	241.8	256.6	266.3
82.5°	99.2	113.5	127.7	141.9	156.1	170.7	185.8	200.8	215.8	230.9	240.6
85°	62.9	77.1	91.3	105.7	119.9	134.6	149.7	164.8	179.8	195.0	204.7
87.5°	34.5	49.1	63.6	78.4	92.9	107.7	122.8	137.9	153.1	168.1	177.7
90°	18.6	34.4	50.2	67.0	82.9	99.1	116.4	133.7	151.1	168.5	177.2
92.5°	27.3	45.5	66.1	86.0	106.5	133.8	172.9	227.6	281.6	281.4	255.3
95°	46.1	60.0	81.5	108.6	144.2	193.4	287.4	441.5	609.8	684.9	588.3
97.5°	67.1	78.1	96.2	120.2	154.3	205.8	295.5	466.8	737.4	982.4	1051.3
100°	81.2	91.2	107.0	129.2	160.9	208.8	287.8	440.1	700.6	1002.6	1196.2
102.5°	96.0	105.8	119.9	140.5	169.1	213.3	285.2	416.3	649.5	947.4	1197.3
105°	119.4	129.0	141.6	159.7	184.4	223.1	286.2	395.3	585.4	852.6	1130.7
107.5°	143.1	151.7	163.0	179.9	202.5	238.3	294.5	386.6	541.7	768.0	1020.9
110°	160.1	168.1	177.9	193.4	214.5	249.1	302.8	385.8	523.2	720.0	952.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	176.6	183.7	192.7	207.2	227.4	260.6	310.9	388.0	510.0	685.2	890.9
115°	199.3	206.5	215.6	228.4	247.8	280.0	326.0	393.7	499.9	646.6	816.2
117.5°	222.9	229.3	236.2	246.9	266.9	296.3	341.3	402.2	493.2	619.5	767.0
120°	238.5	242.7	248.8	259.7	279.0	307.9	351.2	409.5	491.3	606.1	740.6
122.5°	252.8	256.3	261.7	272.7	290.5	320.4	362.5	416.6	491.9	595.8	718.0
125°	272.0	273.9	279.5	289.8	307.7	337.2	378.4	428.1	492.9	581.1	687.8
127.5°	287.6	290.1	296.8	307.1	326.5	355.2	393.9	438.0	495.6	570.0	660.2
130°	297.4	299.9	308.1	319.1	338.6	366.6	403.4	444.9	497.7	562.6	644.2
132.5°	303.9	307.4	316.6	330.1	349.8	376.6	411.5	451.1	498.1	556.8	629.1
135°	316.8	320.3	330.4	344.2	363.6	390.5	422.7	457.9	498.7	547.9	608.5
137.5°	328.9	332.7	342.6	357.4	376.8	401.1	430.8	463.2	498.4	539.7	590.7
140°	336.2	340.9	350.3	365.4	384.2	408.1	436.3	465.3	498.2	534.8	579.6
142.5°	345.3	348.9	358.9	372.2	390.8	412.8	439.5	467.1	497.0	529.2	568.9
145°	359.8	362.3	370.4	384.3	400.0	421.5	445.9	471.4	497.7	525.9	558.3
147.5°	373.2	374.8	383.1	395.3	410.8	429.2	451.6	474.4	497.7	522.4	548.8
150°	383.0	383.9	391.3	403.6	416.8	433.8	455.3	475.1	497.7	519.3	542.8
152.5°	392.7	392.9	400.4	411.1	422.8	439.0	457.6	476.6	495.4	515.6	536.9
155°	407.4	407.4	413.0	422.4	432.8	445.9	461.9	477.0	492.9	509.0	527.8
157.5°	419.1	419.8	424.3	432.6	441.4	451.6	464.4	478.0	489.8	503.1	517.6
160°	428.1	428.1	431.9	439.3	445.9	455.3	466.7	478.0	488.3	498.6	510.9
162.5°	434.9	434.9	437.9	443.8	449.7	457.6	467.4	477.2	485.3	494.1	504.1
165°	445.0	444.0	445.9	450.6	454.4	461.0	468.5	475.1	480.8	487.4	494.8
167.5°	452.7	451.6	452.5	456.1	458.7	462.9	468.3	473.6	476.3	480.6	486.1
170°	457.2	455.3	456.3	459.1	461.0	462.9	467.6	471.4	473.3	476.1	480.8
172.5°	460.2	459.1	459.3	461.4	462.5	463.6	467.6	470.6	471.0	472.3	475.5
175°	463.8	462.9	461.9	463.8	463.8	464.8	466.7	468.5	467.6	467.6	469.5
177.5°	465.5	464.8	464.0	464.8	464.8	464.8	465.5	467.0	465.5	464.8	465.5
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1175.2	1177.0	1178.7	1179.6	1179.3	1179.1	1178.9	1178.6
5°	1173.2	1175.5	1177.8	1178.7	1178.5	1178.2	1177.9	1177.6
7.5°	1166.1	1169.0	1171.9	1173.1	1172.8	1172.4	1172.1	1171.8
10°	1159.0	1161.8	1164.7	1165.8	1165.3	1164.7	1164.1	1163.6
12.5°	1149.2	1151.9	1154.5	1155.6	1155.0	1154.4	1153.9	1153.3
15°	1130.8	1133.6	1136.4	1137.7	1137.5	1137.2	1136.9	1136.6
17.5°	1106.5	1109.2	1111.7	1112.8	1112.4	1112.0	1111.6	1111.2
20°	1089.1	1091.7	1094.3	1095.7	1096.0	1096.3	1096.6	1096.8
22.5°	1070.0	1073.2	1076.5	1078.0	1077.8	1077.7	1077.5	1077.3
25°	1037.6	1041.2	1044.9	1046.8	1046.8	1046.8	1046.8	1046.8
27.5°	1003.6	1006.8	1010.0	1011.7	1012.0	1012.2	1012.5	1012.7
30°	980.5	983.9	987.3	989.1	989.1	989.1	989.1	989.1
32.5°	955.4	958.9	962.6	964.8	965.4	966.1	966.9	967.5
35°	918.0	922.4	926.6	929.3	930.5	931.6	932.7	933.9
37.5°	879.5	884.3	889.2	892.0	893.0	893.8	894.8	895.7
40°	853.8	858.7	863.5	866.5	867.6	868.7	869.9	871.0
42.5°	827.0	832.3	837.6	841.0	842.6	844.2	845.8	847.4
45°	786.9	792.4	797.8	801.6	803.9	806.2	808.5	810.8
47.5°	746.5	752.6	758.7	762.6	764.4	766.2	767.9	769.7
50°	718.7	725.2	731.8	736.0	738.1	740.1	742.1	744.0
52.5°	690.4	697.2	704.0	708.6	711.1	713.5	716.0	718.4
55°	647.8	655.5	663.3	668.2	670.5	672.8	675.0	677.3
57.5°	604.4	612.1	619.8	625.1	627.7	630.4	633.1	635.7
60°	574.0	582.0	589.9	595.5	598.7	601.8	604.9	608.0
62.5°	545.3	553.3	561.2	566.7	569.6	572.5	575.4	578.3
65°	499.5	508.0	516.5	522.3	525.1	527.9	530.8	533.7
67.5°	453.8	463.2	472.5	478.4	480.8	483.2	485.6	488.0
70°	423.6	432.7	441.9	447.9	450.7	453.6	456.4	459.3
72.5°	393.3	402.7	412.0	418.1	420.9	423.8	426.7	429.5
75°	347.2	356.7	366.0	372.5	375.9	379.3	382.7	386.2
77.5°	304.2	314.1	324.0	330.3	332.8	335.5	338.1	340.7
80°	276.0	285.7	295.3	301.6	304.4	307.3	310.2	313.0
82.5°	250.3	260.0	269.7	276.0	278.8	281.6	284.5	287.4
85°	214.3	224.0	233.8	240.1	242.9	245.7	248.5	251.5
87.5°	187.6	197.4	207.3	214.0	216.6	219.6	222.6	225.4
90°	187.8	198.5	209.2	217.3	219.2	223.0	226.8	228.7
92.5°	234.9	228.0	230.1	231.3	232.2	232.0	235.5	236.5
95°	483.3	383.0	342.0	314.1	299.0	293.4	289.6	288.7
97.5°	979.0	819.5	706.6	599.8	533.2	493.7	471.2	465.9
100°	1237.4	1169.4	1067.6	939.6	847.4	781.6	747.7	751.5
102.5°	1318.8	1324.5	1268.3	1189.0	1117.9	1066.4	1038.6	1019.8
105°	1335.2	1437.3	1463.2	1444.0	1403.3	1370.1	1342.6	1340.4
107.5°	1251.4	1411.8	1501.9	1540.5	1543.8	1534.3	1526.5	1520.4
110°	1175.1	1355.7	1481.6	1552.3	1580.9	1590.7	1591.1	1591.5





TEST NUMBER: P332032-830

CATALOG NUMBER: S123DIP-S1000D1025U830-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1098.5	1282.5	1422.6	1512.1	1562.8	1588.7	1598.3	1601.2
115°	997.1	1167.6	1312.8	1419.9	1492.7	1536.4	1557.6	1564.5
117.5°	920.9	1068.9	1199.9	1308.4	1384.2	1433.9	1463.2	1471.9
120°	879.9	1013.4	1132.9	1232.2	1308.5	1363.2	1387.8	1395.4
122.5°	846.4	967.7	1078.6	1171.1	1239.2	1288.5	1315.4	1324.6
125°	801.0	909.6	1005.8	1085.1	1147.3	1190.7	1216.2	1224.7
127.5°	760.3	857.3	944.4	1016.7	1072.3	1109.7	1132.8	1140.8
130°	734.3	824.4	906.1	973.6	1025.1	1060.7	1082.2	1091.5
132.5°	709.9	793.1	869.1	933.7	982.4	1018.2	1037.7	1044.9
135°	676.7	748.7	814.9	871.9	919.4	949.0	967.3	975.3
137.5°	646.1	705.4	762.6	812.0	852.2	882.2	898.0	903.7
140°	628.0	680.3	729.7	773.1	810.2	838.0	854.5	855.0
142.5°	610.2	655.3	698.2	736.0	767.9	792.7	807.7	808.1
145°	590.7	624.1	656.4	685.4	710.1	730.9	739.6	742.6
147.5°	574.9	600.2	625.2	645.5	664.3	678.7	686.9	688.6
150°	564.5	586.2	605.9	624.1	638.8	649.7	655.9	656.5
152.5°	556.2	574.9	592.4	607.3	618.5	628.2	631.7	631.8
155°	543.8	558.8	573.0	584.3	592.8	600.2	602.1	603.0
157.5°	530.7	543.2	554.1	563.0	570.3	576.0	577.5	577.3
160°	523.1	533.5	542.8	549.4	556.0	561.7	561.7	560.7
162.5°	514.1	522.9	531.6	537.4	541.8	546.6	546.6	545.6
165°	502.4	508.0	514.6	519.3	523.1	526.9	525.9	525.9
167.5°	492.2	496.5	500.3	503.7	505.4	508.0	507.1	507.1
170°	485.5	488.3	492.0	493.9	494.8	496.7	495.8	495.8
172.5°	479.5	481.5	484.6	485.7	485.9	487.8	486.1	485.3
175°	471.4	472.3	474.2	474.2	474.2	475.1	474.2	473.3
177.5°	466.3	467.0	467.8	467.8	467.0	467.8	466.3	466.3
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8

(END OF REPORT)