

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: P332004-830

Luminaire Tested: **S123DIP-S1000D365U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332004-830  
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-S1000D365U830-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 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: 5133.5 lumens  
Efficiency: N/A  
Efficacy: 118.0 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

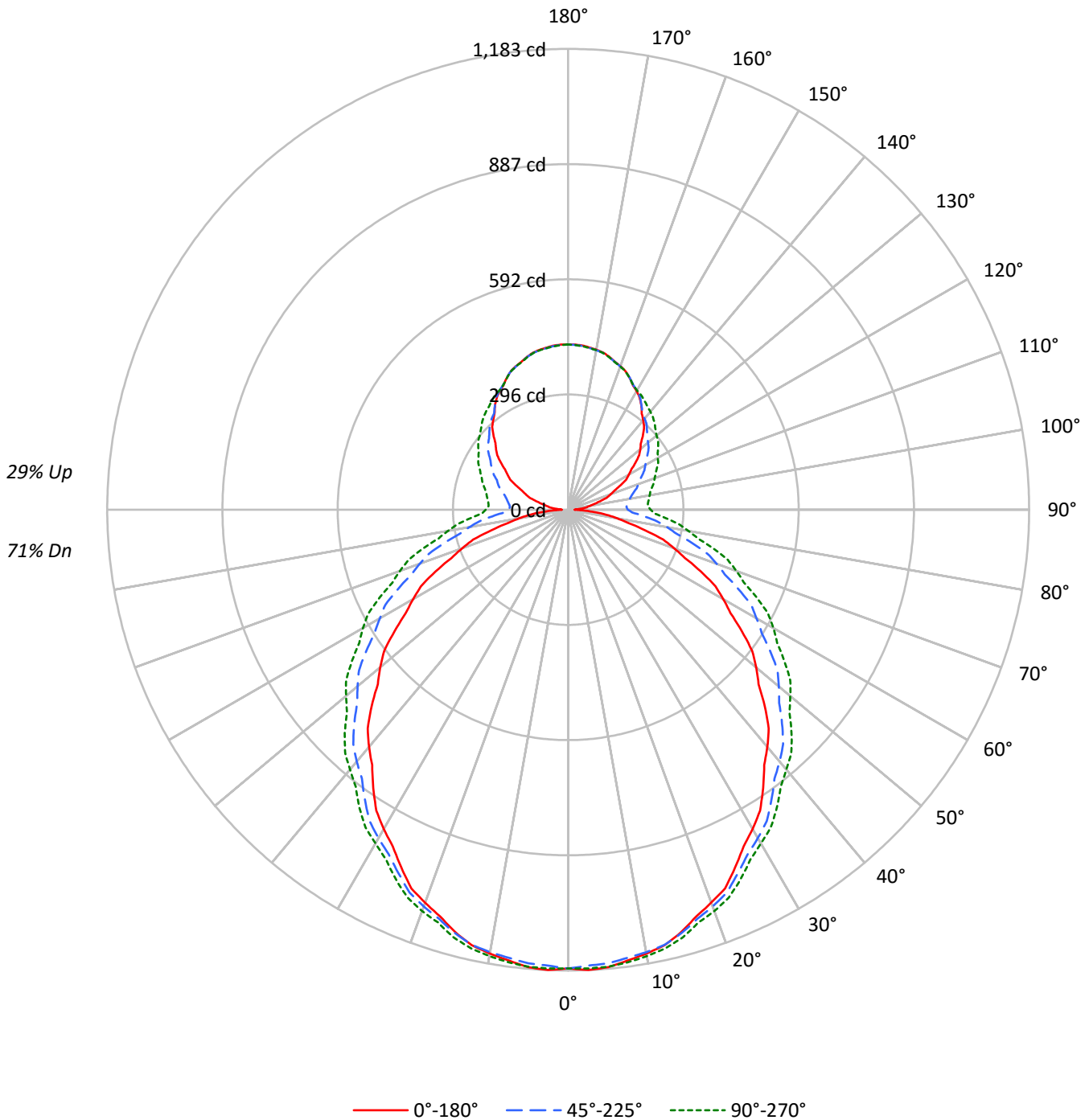
Input Watts (W): 43.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	101	96	91	87	95	91	87	83	81	78	75	72	70	67	64	62	60	56
2	91	83	76	70	86	78	72	67	70	65	61	63	59	55	56	53	50	46
3	83	72	64	58	78	69	61	55	61	56	51	55	50	46	49	45	42	38
4	76	64	55	49	71	61	53	47	54	48	43	49	43	39	43	39	36	33
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	34	31	28
6	64	51	42	36	60	49	40	35	44	37	32	39	34	30	35	31	27	24
7	59	46	38	32	56	44	36	30	40	33	28	36	30	26	32	27	24	22
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	29	25	21	19
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	17
10	48	35	28	22	45	34	27	22	31	25	20	28	23	19	25	21	17	16

**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	2.2
10°-20°	318.2	6.2
20°-30°	476.0	9.3
30°-40°	568.4	11.1
40°-50°	594.7	11.6
50°-60°	558.1	10.9
60°-70°	466.1	9.1
70°-80°	333.5	6.5
80°-90°	200.1	3.9
90°-100°	152.4	3.0
100°-110°	174.4	3.4
110°-120°	201.9	3.9
120°-130°	220.0	4.3
130°-140°	223.6	4.4
140°-150°	207.7	4.0
150°-160°	172.1	3.4
160°-170°	114.5	2.2
170°-180°	40.1	0.8
0°-30°	905.9	17.6
0°-40°	1474.3	28.7
0°-60°	2627.1	51.2
0°-90°	3626.9	70.7
90°-120°	528.6	10.3
90°-150°	1179.9	23.0
90°-180°	1507.0	29.4
0°-180°	5133.5	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°	17	83	153	196	211	13
95°	34	87	152	191	206	33
105°	85	118	175	209	223	91
115°	148	166	210	240	251	147
125°	211	214	248	273	282	189
135°	271	273	286	307	313	209
145°	327	327	328	337	342	204
155°	373	373	374	375	373	172
165°	407	406	406	408	405	115
175°	423	422	422	423	421	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°	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°	34.2	48.5	62.9	77.2	91.6	106.1	120.8	135.5	150.3	165.0	174.7
90°	17.0	31.8	46.5	61.2	75.9	91.0	106.4	122.0	137.4	153.0	163.0
92.5°	23.8	36.9	50.0	63.1	76.2	90.1	105.0	119.8	134.7	149.6	159.2
95°	33.7	45.4	57.0	68.7	80.3	93.4	107.9	122.5	137.0	151.7	160.8
97.5°	47.5	57.9	68.3	78.7	89.2	101.2	115.0	128.8	142.6	156.4	165.1
100°	56.8	66.4	76.0	85.6	95.1	106.6	120.1	133.6	147.1	160.6	169.1
102.5°	67.8	76.3	84.7	93.2	101.7	112.6	126.0	139.4	152.8	166.2	174.4
105°	85.2	92.2	99.2	106.1	113.2	123.1	136.0	149.0	161.9	174.8	182.8
107.5°	104.2	110.1	116.0	121.9	127.8	136.7	148.6	160.5	172.4	184.3	192.2
110°	115.9	121.2	126.5	131.8	137.0	145.5	157.0	168.6	180.1	191.7	199.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	129.3	133.6	137.9	142.2	146.5	154.1	165.1	176.1	187.1	198.0	205.6
115°	148.0	151.7	155.2	158.9	162.6	169.5	179.6	189.6	199.7	209.9	216.8
117.5°	167.9	170.1	172.4	174.7	176.8	182.8	192.2	201.6	211.0	220.5	227.2
120°	179.4	181.3	183.0	184.9	186.8	192.3	201.3	210.4	219.4	228.4	234.9
122.5°	192.4	193.5	194.5	195.6	196.6	201.6	210.4	219.0	227.8	236.6	242.7
125°	211.0	211.2	211.5	211.7	211.9	216.1	224.2	232.3	240.4	248.5	254.3
127.5°	229.4	229.6	229.8	230.0	230.2	233.6	240.3	246.9	253.6	260.3	265.5
130°	241.7	242.0	242.3	242.6	242.9	245.8	251.3	256.7	262.2	267.7	272.9
132.5°	252.9	253.4	254.0	254.5	255.1	257.5	261.9	266.3	270.7	275.1	279.9
135°	271.4	271.5	271.6	271.8	272.0	273.6	276.6	279.7	282.8	285.9	290.7
137.5°	288.4	288.6	288.7	288.9	289.0	290.0	292.0	294.0	296.0	297.8	302.1
140°	299.4	299.7	300.1	300.5	300.9	301.5	302.5	303.4	304.3	305.2	309.4
142.5°	310.3	310.5	310.6	310.8	310.9	311.1	311.4	311.7	312.0	312.4	316.0
145°	327.3	327.3	327.1	327.0	326.8	326.9	327.1	327.3	327.5	327.7	330.0
147.5°	341.0	341.3	341.6	341.9	342.0	342.3	342.5	342.7	342.9	343.2	343.8
150°	351.4	351.6	351.7	351.9	352.0	352.1	352.3	352.4	352.6	352.7	352.7
152.5°	360.0	360.1	360.3	360.5	360.8	360.9	361.0	361.1	361.2	361.3	361.4
155°	373.4	373.4	373.4	373.4	373.4	373.4	373.5	373.5	373.6	373.7	374.0
157.5°	384.8	384.7	384.7	384.6	384.5	384.5	384.6	384.6	384.7	384.7	385.0
160°	392.0	391.9	391.7	391.6	391.4	391.3	391.3	391.3	391.3	391.3	391.7
162.5°	398.4	398.2	398.0	397.8	397.6	397.6	397.6	397.7	397.8	397.8	398.1
165°	406.7	406.5	406.2	406.0	405.8	405.7	405.7	405.7	405.7	405.7	406.1
167.5°	413.3	413.0	412.7	412.4	412.1	412.0	412.1	412.1	412.2	412.3	412.6
170°	417.0	416.7	416.4	416.1	415.8	415.7	415.7	415.7	415.7	415.7	416.2
172.5°	420.0	419.6	419.3	419.1	418.8	418.6	418.6	418.6	418.6	418.6	419.1
175°	423.0	422.7	422.4	422.2	421.9	421.7	421.7	421.7	421.7	421.7	422.2
177.5°	424.2	424.0	423.8	423.6	423.3	423.2	423.2	423.2	423.2	423.2	423.6
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0



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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°	184.5	194.3	204.1	210.4	213.2	216.1	219.0	221.9
90°	173.0	182.9	192.9	199.4	202.4	205.4	208.4	211.4
92.5°	168.9	178.6	188.3	194.4	197.0	199.5	202.1	204.6
95°	169.9	179.1	188.2	194.2	197.0	199.9	202.7	205.6
97.5°	174.0	182.9	191.7	197.5	200.3	203.1	205.9	208.8
100°	177.6	186.1	194.5	200.3	203.3	206.2	209.2	212.3
102.5°	182.7	191.0	199.2	204.7	207.5	210.4	213.2	216.0
105°	190.8	198.8	206.8	212.1	214.8	217.5	220.3	222.9
107.5°	200.0	207.9	215.8	220.9	223.4	225.8	228.2	230.6
110°	207.1	214.8	222.5	227.4	229.6	231.7	233.8	236.0





TEST NUMBER: P332004-830

CATALOG NUMBER: S123DIP-S1000D365U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	213.1	220.6	228.2	233.2	235.7	238.2	240.6	243.2
115°	223.8	230.6	237.5	242.1	244.3	246.6	248.7	250.9
117.5°	234.0	240.8	247.6	251.9	254.0	256.0	258.0	260.0
120°	241.4	247.9	254.4	258.5	260.3	262.2	264.1	265.9
122.5°	248.9	255.1	261.2	265.1	266.9	268.7	270.5	272.3
125°	260.0	265.6	271.4	275.0	276.7	278.4	280.1	281.8
127.5°	270.8	276.0	281.3	284.6	286.3	287.9	289.5	291.1
130°	278.0	283.0	288.2	291.3	292.6	293.7	294.9	296.1
132.5°	284.7	289.6	294.5	297.7	299.2	300.7	302.3	303.8
135°	295.5	300.4	305.2	308.2	309.5	310.9	312.1	313.4
137.5°	306.2	310.5	314.6	317.4	318.5	319.6	320.7	321.9
140°	313.7	317.8	322.1	324.6	325.6	326.4	327.3	328.2
142.5°	319.8	323.6	327.3	329.7	330.7	331.8	332.8	333.8
145°	332.2	334.4	336.6	338.1	338.9	339.8	340.6	341.5
147.5°	344.5	345.2	345.9	346.5	347.1	347.7	348.3	348.8
150°	352.7	352.7	352.7	352.8	352.9	353.1	353.2	353.3
152.5°	361.5	361.7	361.7	361.7	361.4	361.1	360.8	360.6
155°	374.3	374.6	374.9	374.8	374.3	373.7	373.2	372.7
157.5°	385.3	385.7	386.0	385.9	385.5	385.1	384.7	384.3
160°	392.1	392.5	392.9	392.9	392.6	392.3	392.0	391.7
162.5°	398.5	398.9	399.3	399.2	398.7	398.2	397.8	397.3
165°	406.6	407.0	407.5	407.5	406.9	406.4	405.9	405.4
167.5°	413.1	413.6	414.1	414.1	413.6	413.1	412.6	412.3
170°	416.7	417.3	417.7	417.7	417.3	416.7	416.2	415.7
172.5°	419.5	420.0	420.5	420.5	419.9	419.4	418.9	418.4
175°	422.5	423.0	423.5	423.4	422.9	422.4	421.9	421.3
177.5°	424.0	424.2	424.6	424.6	424.2	423.8	423.4	422.9
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0

(END OF REPORT)