

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: P332012-830

Luminaire Tested: **S123DIP-S1000D585U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332012-830  
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-S1000D585U830-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6166.1 lumens  
Efficiency: N/A  
Efficacy: 126.4 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

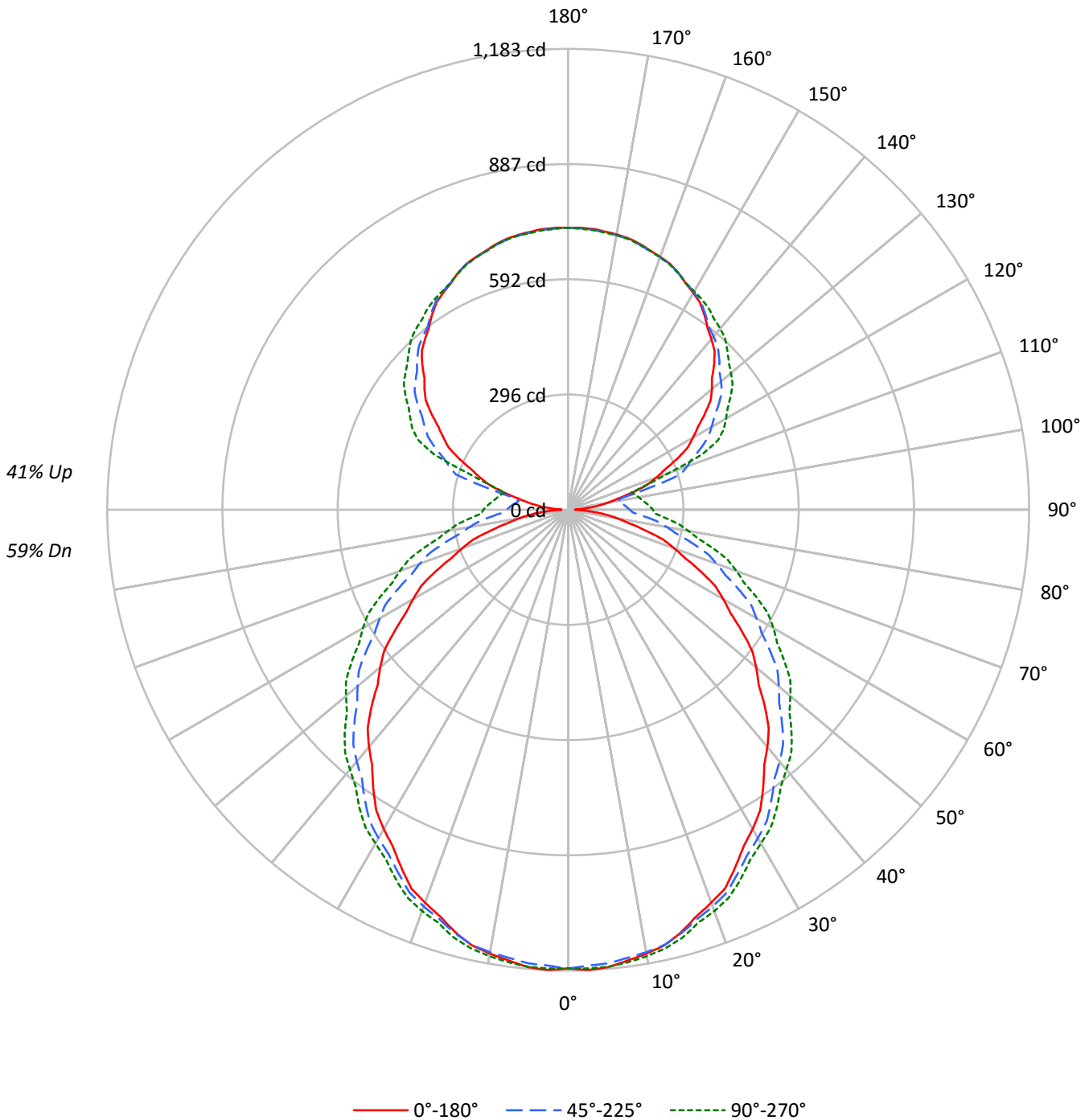
Input Watts (W): 48.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59
1	99	94	89	85	92	87	83	80	76	73	70	65	63	61	55	53	52	47
2	89	81	74	69	83	76	70	65	66	61	57	56	53	50	48	45	43	38
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	42	39	36	32
4	74	63	54	48	69	58	51	45	51	45	40	44	39	35	37	33	31	27
5	68	56	47	41	63	52	44	39	45	39	34	39	34	30	33	29	26	23
6	63	50	41	35	58	47	39	33	41	35	30	35	30	26	30	26	23	20
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	27	24	20	18
8	54	41	33	27	50	38	31	26	34	28	23	29	24	21	25	21	18	16
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	22	18	15	13

**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	1.8
10°-20°	318.2	5.2
20°-30°	476.0	7.7
30°-40°	568.4	9.2
40°-50°	594.7	9.6
50°-60°	558.1	9.1
60°-70°	466.1	7.6
70°-80°	333.5	5.4
80°-90°	200.9	3.3
90°-100°	151.1	2.5
100°-110°	217.1	3.5
110°-120°	362.4	5.9
120°-130°	418.5	6.8
130°-140°	425.5	6.9
140°-150°	386.5	6.3
150°-160°	309.1	5.0
160°-170°	199.5	3.2
170°-180°	68.7	1.1
0°-30°	905.9	14.7
0°-40°	1474.3	23.9
0°-60°	2627.1	42.6
0°-90°	3627.6	58.8
90°-120°	730.6	11.8
90°-150°	1961.1	31.8
90°-180°	2538.0	41.2
0°-180°	6166.1	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	86	158	202	218	13
95°	47	77	144	186	200	52
105°	170	206	214	159	167	180
115°	307	327	376	411	425	303
125°	427	434	471	498	509	382
135°	530	533	548	572	578	408
145°	610	612	613	624	630	381
155°	670	669	670	672	669	309
165°	707	705	705	709	705	200
175°	724	721	721	725	721	69
180°	724	724	724	724	724	



TEST NUMBER: P332012-830

CATALOG NUMBER: S123DIP-S1000D585U830-4F0-1E-UDD-D

**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	48.6	63.1	77.6	92.0	106.6	121.5	136.3	151.2	166.0	175.8
90°	17.2	32.4	47.5	62.7	77.9	93.5	109.6	125.6	141.8	157.9	168.1
92.5°	25.6	37.9	50.1	62.5	74.7	88.6	104.1	119.5	135.1	150.5	160.7
95°	46.9	53.2	59.4	65.6	71.8	82.6	97.8	113.1	128.4	143.6	153.4
97.5°	78.5	86.3	94.2	102.0	109.8	116.1	120.8	125.6	130.4	135.1	144.5
100°	102.4	114.0	125.5	137.0	148.5	151.5	145.9	140.4	134.9	129.3	138.6
102.5°	129.8	139.7	149.6	159.6	169.5	170.7	163.2	155.8	148.3	140.8	145.9
105°	170.5	178.6	186.8	194.9	203.1	207.9	209.4	210.9	212.4	214.0	200.8
107.5°	212.2	219.0	225.8	232.7	239.6	249.7	263.1	276.4	289.7	303.0	295.1
110°	240.0	246.0	252.1	258.2	264.3	273.7	286.4	299.2	311.8	324.5	328.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	267.5	272.6	277.6	282.7	287.8	296.4	308.7	320.9	333.2	345.4	352.7
115°	306.9	311.0	315.2	319.3	323.5	331.2	342.5	353.9	365.2	376.5	384.6
117.5°	346.1	349.1	352.1	355.2	358.1	364.7	374.8	385.0	395.2	405.4	413.2
120°	369.6	372.1	374.7	377.1	379.7	385.8	395.5	405.3	415.0	424.8	432.3
122.5°	394.5	396.2	397.8	399.4	401.1	406.6	415.9	425.4	434.8	444.2	451.2
125°	427.4	428.4	429.4	430.4	431.3	436.1	444.9	453.6	462.4	471.1	477.3
127.5°	460.6	461.3	461.9	462.6	463.3	467.3	474.8	482.1	489.6	497.0	503.0
130°	481.3	481.9	482.6	483.2	483.9	487.3	493.5	499.7	505.9	512.1	517.9
132.5°	500.0	500.9	501.8	502.7	503.6	506.5	511.4	516.4	521.3	526.3	532.0
135°	529.9	530.4	530.8	531.2	531.7	533.7	537.3	540.9	544.5	548.2	553.6
137.5°	555.4	556.2	556.9	557.5	558.2	559.6	561.6	563.6	565.6	567.7	572.8
140°	571.7	572.4	573.1	573.8	574.6	575.5	576.7	577.9	579.1	580.3	585.1
142.5°	587.6	588.1	588.5	589.0	589.6	590.0	590.6	591.1	591.6	592.2	596.3
145°	609.8	610.4	611.0	611.5	612.0	612.5	612.7	612.9	613.1	613.4	615.9
147.5°	629.5	630.1	630.7	631.1	631.7	632.1	632.4	632.5	632.8	633.1	634.0
150°	642.4	642.8	643.1	643.5	643.9	644.1	644.4	644.6	644.9	645.1	645.4
152.5°	654.0	654.2	654.3	654.5	654.7	654.9	655.0	655.2	655.3	655.4	655.8
155°	670.3	670.1	669.9	669.7	669.4	669.4	669.5	669.6	669.7	669.9	670.4
157.5°	683.1	683.1	683.0	683.0	683.0	682.9	682.8	682.7	682.5	682.4	683.2
160°	690.8	690.7	690.6	690.4	690.3	690.2	690.0	689.9	689.8	689.8	690.4
162.5°	698.1	697.8	697.5	697.2	696.8	696.6	696.5	696.4	696.3	696.2	697.0
165°	706.9	706.5	706.2	705.9	705.5	705.2	705.1	705.0	704.9	704.7	705.8
167.5°	713.8	713.3	712.8	712.4	711.9	711.6	711.6	711.6	711.6	711.6	712.7
170°	717.7	717.2	716.7	716.2	715.8	715.5	715.5	715.5	715.5	715.5	716.5
172.5°	720.3	719.7	719.1	718.5	717.9	717.7	717.8	717.9	718.0	718.1	719.1
175°	723.6	723.0	722.4	721.8	721.2	721.0	721.0	721.2	721.3	721.4	722.3
177.5°	724.4	724.0	723.5	723.0	722.6	722.4	722.5	722.6	722.6	722.7	723.5
180°	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6



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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°	185.6	195.4	205.2	211.5	214.4	217.4	220.2	223.1
90°	178.2	188.4	198.5	205.2	208.3	211.3	214.4	217.5
92.5°	171.0	181.2	191.4	197.9	200.7	203.5	206.2	209.0
95°	163.1	172.7	182.4	188.6	191.4	194.4	197.2	200.0
97.5°	154.0	163.4	172.9	179.1	182.1	185.0	188.0	191.0
100°	147.8	157.0	166.3	172.3	175.3	178.2	181.3	184.2
102.5°	151.0	156.1	161.2	165.2	168.2	171.4	174.4	177.5
105°	187.7	174.5	161.3	156.1	158.9	161.7	164.6	167.3
107.5°	287.3	279.5	271.5	260.9	247.5	234.0	220.6	207.2
110°	331.5	335.0	338.5	332.7	317.9	303.1	288.3	273.5





TEST NUMBER: P332012-830

CATALOG NUMBER: S123DIP-S1000D585U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	360.0	367.2	374.5	377.6	376.5	375.4	374.3	373.2
115°	392.7	400.7	408.7	414.2	416.9	419.6	422.4	425.2
117.5°	420.9	428.7	436.4	441.4	443.7	446.1	448.4	450.7
120°	439.8	447.3	454.9	459.6	461.7	463.6	465.6	467.6
122.5°	458.2	465.1	472.2	476.7	478.8	480.9	483.0	485.1
125°	483.5	489.8	496.1	500.2	502.5	504.7	507.0	509.2
127.5°	509.0	515.0	521.0	524.9	526.6	528.3	530.0	531.7
130°	523.9	529.7	535.6	539.3	540.7	542.2	543.8	545.2
132.5°	537.6	543.3	548.9	552.6	554.2	555.8	557.4	559.0
135°	559.1	564.6	570.1	573.3	574.5	575.5	576.6	577.7
137.5°	577.9	582.9	588.0	591.2	592.3	593.5	594.7	595.9
140°	589.8	594.7	599.4	602.4	603.5	604.7	605.9	607.1
142.5°	600.6	604.7	609.0	611.6	612.7	613.8	614.9	616.0
145°	618.4	620.9	623.5	625.3	626.4	627.5	628.7	629.8
147.5°	634.9	635.8	636.8	637.4	637.9	638.4	638.9	639.3
150°	645.5	645.8	646.0	646.3	646.5	646.7	647.0	647.1
152.5°	656.3	656.7	657.1	657.1	656.7	656.3	655.8	655.4
155°	671.0	671.7	672.2	672.1	671.5	670.7	670.1	669.3
157.5°	683.8	684.6	685.3	685.1	684.2	683.3	682.4	681.5
160°	691.2	691.8	692.6	692.5	691.7	690.9	690.0	689.2
162.5°	697.8	698.6	699.5	699.5	698.7	698.0	697.2	696.5
165°	706.7	707.7	708.6	708.7	707.8	707.0	706.2	705.3
167.5°	713.6	714.5	715.5	715.5	714.5	713.6	712.7	711.6
170°	717.5	718.4	719.3	719.3	718.4	717.5	716.5	715.5
172.5°	720.0	721.0	721.9	721.9	720.9	719.8	718.7	717.7
175°	723.1	724.0	724.8	724.7	723.8	722.8	721.9	720.9
177.5°	724.2	725.0	725.8	725.7	724.7	723.8	722.8	721.9
180°	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6

(END OF REPORT)