

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: P331391-940

Luminaire Tested: **S122DIP-S865D530U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331391-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S865D530U940-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

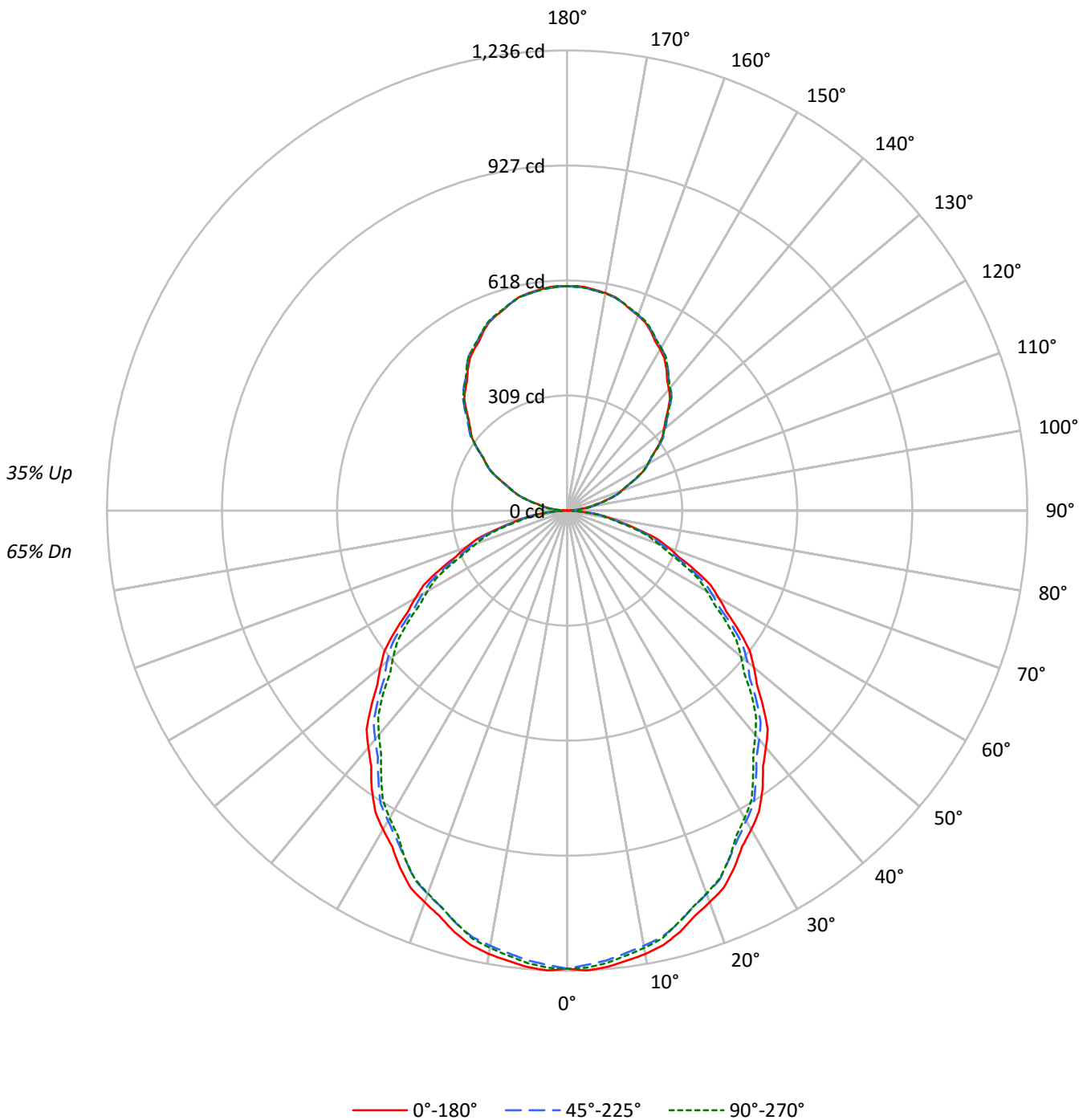
Lumens per Lamp: N/A  
Luminaire Lumens: 4818.1 lumens  
Efficiency: N/A  
Efficacy: 98.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct  
  
Input Watts (W): 48.8  
Input Voltage (V): 120  
Input Current (Ain): 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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	101	97	93	89	95	91	88	84	80	78	75	71	69	67	62	60	59	55
2	92	84	78	73	86	80	74	69	71	66	62	62	59	56	54	52	50	46
3	84	74	67	61	79	70	63	58	62	57	53	55	51	47	48	45	42	39
4	77	66	58	51	72	62	55	49	55	50	45	49	44	41	43	40	37	33
5	71	59	50	44	66	56	48	42	50	44	39	44	39	35	39	35	32	29
6	65	53	44	39	61	50	42	37	45	39	34	40	35	31	35	31	28	25
7	60	48	40	34	57	45	38	33	41	35	30	36	31	27	32	28	25	23
8	56	43	36	30	53	41	34	29	37	31	27	33	28	25	30	26	22	20
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	27	23	20	18
10	49	37	29	24	46	35	28	23	32	26	22	28	24	20	25	21	18	17

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

	0°	45°	90°
0°	19869	19869	19869
5°	19945	19656	19772
10°	19825	19457	19556
15°	19580	19206	19184
20°	19234	18826	18806
25°	18887	18360	18360
30°	18442	17935	17780
35°	18027	17422	17164
40°	17506	16910	16583
45°	16993	16401	15995
50°	16435	15872	15307
55°	15854	15254	14688
60°	15206	14518	13986
65°	14514	13788	13154
70°	13629	12902	12288
75°	12402	11884	11584
80°	11000	10674	10126
85°	8985	8559	7669



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.7	2.4
10°-20°	325.6	6.8
20°-30°	478.6	9.9
30°-40°	555.9	11.5
40°-50°	555.3	11.5
50°-60°	484.3	10.1
60°-70°	358.1	7.4
70°-80°	202.8	4.2
80°-90°	56.9	1.2
90°-100°	38.2	0.8
100°-110°	118.6	2.5
110°-120°	202.7	4.2
120°-130°	266.6	5.5
130°-140°	299.2	6.2
140°-150°	293.4	6.1
150°-160°	246.1	5.1
160°-170°	163.2	3.4
170°-180°	57.0	1.2
0°-30°	919.9	19.1
0°-40°	1475.8	30.6
0°-60°	2515.4	52.2
0°-90°	3133.2	65.0
90°-120°	359.5	7.5
90°-150°	1218.6	25.3
90°-180°	1685.0	35.0
0°-180°	4818.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1231	1231	1231	1231	1231	
5°	1231	1225	1213	1222	1220	117
15°	1171	1164	1149	1153	1148	330
25°	1060	1050	1031	1033	1031	488
35°	915	902	884	877	871	571
45°	744	735	718	706	700	574
55°	563	556	542	528	522	503
65°	380	372	361	350	344	376
75°	199	196	190	184	186	212
85°	48	47	46	43	41	56
90°	0	7	18	17	17	4
95°	26	31	32	32	32	30
105°	109	111	112	113	113	115
115°	203	206	206	205	203	201
125°	296	300	299	298	297	264
135°	383	388	390	389	387	296
145°	465	468	471	472	470	290
155°	531	533	534	537	536	244
165°	578	578	578	581	579	163
175°	602	600	599	602	600	57
180°	602	602	602	602	602	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6
2.5°	1236.3	1235.2	1234.1	1233.1	1232.1	1230.4	1228.1	1225.7	1223.4	1221.1	1223.2
5°	1230.6	1229.5	1228.5	1227.4	1226.4	1224.4	1221.6	1218.6	1215.8	1212.8	1215.0
7.5°	1219.7	1218.1	1216.5	1214.8	1213.2	1210.9	1207.9	1205.0	1202.0	1199.1	1201.2
10°	1209.2	1207.5	1205.6	1203.7	1201.9	1199.4	1196.2	1193.1	1190.0	1186.8	1188.9
12.5°	1195.1	1193.5	1191.9	1190.2	1188.6	1186.2	1183.0	1179.8	1176.7	1173.6	1175.0
15°	1171.4	1169.8	1168.2	1166.7	1165.1	1162.6	1159.2	1155.7	1152.4	1149.0	1150.0
17.5°	1141.1	1139.5	1138.0	1136.4	1134.8	1132.3	1128.8	1125.3	1121.9	1118.4	1119.6
20°	1119.4	1117.8	1116.2	1114.6	1113.0	1110.4	1106.7	1103.0	1099.4	1095.7	1096.4
22.5°	1097.6	1095.4	1093.1	1090.9	1088.8	1085.9	1082.4	1079.0	1075.5	1072.0	1072.2
25°	1060.2	1058.1	1056.0	1053.9	1051.8	1048.5	1044.0	1039.6	1035.1	1030.6	1031.2
27.5°	1017.6	1015.7	1013.8	1011.9	1010.0	1007.3	1003.8	1000.2	996.8	993.2	992.5
30°	989.2	987.1	985.0	982.9	980.8	977.8	973.8	969.9	965.9	962.0	961.2
32.5°	958.9	957.3	955.6	953.9	952.2	949.2	945.1	940.9	936.8	932.6	931.2
35°	914.6	912.0	909.4	906.8	904.1	900.7	896.5	892.3	888.1	883.9	882.3
37.5°	864.7	862.4	860.1	857.7	855.5	852.2	848.0	843.8	839.5	835.4	833.4
40°	830.6	828.6	826.4	824.3	822.2	819.0	814.8	810.7	806.5	802.3	799.9
42.5°	797.5	795.4	793.3	791.2	789.1	786.0	781.8	777.6	773.3	769.1	766.5
45°	744.2	742.4	740.6	738.8	736.9	734.0	730.0	726.1	722.2	718.3	715.3
47.5°	691.3	689.6	687.8	686.1	684.3	681.4	677.3	673.2	669.1	664.9	661.9
50°	654.3	653.0	651.8	650.4	649.1	646.6	642.9	639.2	635.5	631.9	628.2
52.5°	618.4	616.6	614.9	613.1	611.4	608.9	605.4	601.9	598.4	594.9	591.9
55°	563.2	561.7	560.1	558.5	556.9	554.6	551.4	548.2	545.1	541.9	538.8
57.5°	507.8	506.6	505.3	504.1	502.8	500.4	497.0	493.5	490.0	486.5	483.5
60°	470.9	469.8	468.9	467.8	466.7	464.4	460.7	457.0	453.3	449.6	446.7
62.5°	435.0	433.3	431.6	429.9	428.2	426.0	423.1	420.3	417.4	414.6	412.0
65°	379.9	378.3	376.7	375.1	373.5	371.4	368.8	366.1	363.6	360.9	358.6
67.5°	323.8	322.4	321.2	319.9	318.7	316.9	314.5	312.1	309.8	307.4	305.6
70°	288.7	287.7	286.6	285.5	284.5	282.8	280.4	278.0	275.7	273.3	271.5
72.5°	252.7	251.7	250.7	249.6	248.5	247.3	245.8	244.2	242.6	241.1	239.3
75°	198.8	198.2	197.7	197.2	196.7	195.7	194.5	193.1	191.8	190.5	189.0
77.5°	150.5	149.6	148.7	147.8	147.0	146.2	145.7	145.2	144.6	144.1	143.3
80°	118.3	118.1	117.8	117.5	117.3	116.9	116.4	115.8	115.3	114.8	114.0
82.5°	88.0	88.0	87.9	87.8	87.8	87.7	87.3	87.0	86.7	86.4	85.3
85°	48.5	48.2	48.0	47.7	47.4	47.2	46.9	46.6	46.4	46.2	45.4
87.5°	17.1	17.0	16.9	16.7	16.6	16.5	16.6	16.7	16.8	16.9	16.1
90°	0.5	1.9	3.2	4.5	6.0	7.8	10.3	12.8	15.3	17.8	17.6
92.5°	9.1	10.1	11.1	12.0	13.0	13.8	14.4	15.0	15.6	16.1	16.2
95°	26.5	27.6	28.7	29.9	30.9	31.7	31.8	32.1	32.3	32.5	32.5
97.5°	48.3	49.3	50.3	51.3	52.3	53.0	53.4	53.9	54.3	54.8	54.8
100°	64.6	65.5	66.3	67.3	68.2	68.8	69.2	69.5	69.8	70.2	70.2
102.5°	81.7	82.4	83.1	83.8	84.5	85.2	85.6	86.0	86.4	86.9	86.9
105°	109.3	109.7	110.0	110.3	110.7	110.9	111.2	111.4	111.6	111.9	112.1
107.5°	137.2	137.7	138.2	138.7	139.2	139.5	139.5	139.5	139.5	139.5	139.6
110°	155.1	155.8	156.4	157.1	157.8	158.1	158.1	158.1	158.1	158.1	158.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	174.6	175.3	175.9	176.6	177.4	177.6	177.5	177.5	177.4	177.3	177.0
115°	203.4	204.1	204.7	205.5	206.1	206.3	206.1	205.9	205.6	205.5	205.4
117.5°	232.1	233.0	233.9	234.8	235.7	235.9	235.2	234.5	233.9	233.3	233.0
120°	251.2	252.1	253.0	253.9	254.9	254.9	253.9	253.0	252.1	251.2	251.2
122.5°	268.7	269.7	270.9	272.0	273.0	273.2	272.6	272.0	271.3	270.7	270.5
125°	296.0	296.9	298.0	299.0	300.0	300.3	300.0	299.7	299.3	299.0	298.6
127.5°	322.4	323.8	325.0	326.4	327.6	328.1	327.7	327.3	326.9	326.5	326.0
130°	339.2	340.6	342.1	343.6	345.0	345.6	345.4	345.2	345.0	344.7	344.6
132.5°	357.8	359.1	360.3	361.5	362.7	363.3	363.4	363.4	363.5	363.5	363.0
135°	382.9	384.1	385.4	386.6	387.9	388.6	388.8	389.1	389.3	389.5	389.4
137.5°	409.2	410.3	411.3	412.3	413.3	413.9	414.3	414.6	414.8	415.1	415.0
140°	425.1	426.1	427.1	428.1	429.2	430.0	430.5	431.1	431.7	432.2	432.2
142.5°	441.4	442.4	443.4	444.4	445.4	446.1	446.6	446.9	447.3	447.6	447.7
145°	464.8	465.6	466.4	467.2	468.0	468.7	469.3	470.0	470.7	471.4	471.4
147.5°	485.6	486.5	487.5	488.5	489.4	490.1	490.5	491.0	491.4	492.0	492.1
150°	499.9	500.5	501.2	501.9	502.6	503.1	503.5	504.0	504.4	505.0	505.2
152.5°	512.5	513.2	513.8	514.5	515.1	515.8	516.3	516.8	517.4	518.0	518.4
155°	531.4	531.7	532.1	532.4	532.7	533.1	533.4	533.8	534.0	534.4	535.0
157.5°	547.5	547.8	548.0	548.2	548.5	548.7	548.8	549.1	549.3	549.5	550.3
160°	557.3	557.5	557.8	557.9	558.2	558.4	558.5	558.6	558.7	558.8	559.5
162.5°	566.2	566.3	566.3	566.4	566.4	566.5	566.6	566.8	566.9	566.9	567.8
165°	578.2	578.0	577.9	577.8	577.7	577.7	577.7	577.7	577.7	577.7	578.5
167.5°	588.1	587.8	587.5	587.1	586.7	586.6	586.6	586.6	586.5	586.5	587.3
170°	593.4	593.1	592.7	592.4	592.1	591.8	591.7	591.6	591.5	591.4	592.2
172.5°	597.1	596.7	596.4	596.0	595.8	595.5	595.4	595.3	595.1	595.0	595.8
175°	601.5	601.2	600.8	600.6	600.2	599.9	599.7	599.5	599.2	599.0	599.8
177.5°	603.4	603.1	602.8	602.5	602.3	602.1	601.9	601.7	601.5	601.4	601.9
180°	602.5	602.5	602.5	602.5	602.5	602.5	602.5	602.5	602.5	602.5	602.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6
2.5°	1225.3	1227.4	1229.5	1230.4	1229.9	1229.5	1229.1	1228.7
5°	1217.0	1219.1	1221.3	1222.0	1221.6	1221.0	1220.5	1219.9
7.5°	1203.3	1205.4	1207.6	1208.3	1207.7	1207.1	1206.6	1205.9
10°	1191.0	1193.1	1195.2	1195.9	1195.1	1194.3	1193.5	1192.8
12.5°	1176.5	1177.9	1179.5	1179.9	1179.3	1178.8	1178.1	1177.6
15°	1151.0	1152.1	1153.2	1153.0	1151.7	1150.4	1149.1	1147.7
17.5°	1120.8	1122.0	1123.3	1123.2	1122.0	1120.7	1119.5	1118.2
20°	1097.3	1098.1	1098.9	1098.7	1097.7	1096.6	1095.6	1094.5
22.5°	1072.4	1072.5	1072.6	1072.5	1071.7	1071.1	1070.5	1069.9
25°	1031.7	1032.2	1032.7	1032.7	1032.2	1031.7	1031.2	1030.6
27.5°	991.7	990.9	990.1	989.1	987.7	986.5	985.3	984.0
30°	960.4	959.7	958.9	957.9	956.9	955.8	954.8	953.7
32.5°	929.8	928.4	926.9	925.7	924.7	923.6	922.6	921.5
35°	880.7	879.1	877.6	876.1	874.9	873.5	872.2	870.8
37.5°	831.5	829.6	827.6	826.0	824.7	823.5	822.2	820.9
40°	797.5	795.1	792.8	791.0	790.1	789.0	787.9	786.8
42.5°	763.9	761.3	758.8	756.8	755.3	753.9	752.3	750.9
45°	712.5	709.5	706.7	704.7	703.6	702.6	701.5	700.5
47.5°	658.9	655.9	652.8	650.5	649.0	647.5	646.0	644.4
50°	624.5	620.8	617.2	614.7	613.3	612.0	610.7	609.4
52.5°	588.8	585.8	582.7	580.3	578.6	576.8	575.2	573.4
55°	535.7	532.4	529.3	527.1	525.8	524.4	523.2	521.8
57.5°	480.4	477.2	474.1	472.1	471.1	470.1	469.1	468.1
60°	443.9	441.0	438.1	436.2	435.4	434.6	433.8	433.1
62.5°	409.2	406.5	403.9	402.1	401.0	400.0	399.0	398.1
65°	356.1	353.8	351.4	349.6	348.3	347.0	345.6	344.3
67.5°	303.7	301.8	300.1	298.6	297.6	296.5	295.4	294.4
70°	269.7	267.8	266.0	264.5	263.5	262.4	261.4	260.3
72.5°	237.5	235.6	233.8	232.5	231.6	230.8	229.9	229.1
75°	187.3	185.7	184.2	183.7	184.2	184.8	185.2	185.7
77.5°	142.6	141.8	141.0	140.2	139.5	138.8	138.0	137.2
80°	113.2	112.4	111.6	110.9	110.4	109.9	109.4	108.9
82.5°	84.4	83.4	82.4	81.9	81.7	81.6	81.5	81.4
85°	44.6	43.8	43.0	42.4	42.2	41.9	41.6	41.4
87.5°	15.4	14.8	14.1	13.6	13.5	13.3	13.1	12.9
90°	17.4	17.1	16.9	16.9	16.9	17.0	17.2	17.3
92.5°	16.2	16.3	16.3	16.4	16.4	16.4	16.5	16.5
95°	32.5	32.5	32.5	32.5	32.2	32.0	31.7	31.6
97.5°	54.8	54.8	54.8	54.7	54.7	54.7	54.7	54.6
100°	70.2	70.2	70.2	70.1	70.0	69.9	69.8	69.6
102.5°	87.0	87.1	87.2	87.2	87.1	86.9	86.9	86.8
105°	112.4	112.5	112.8	112.9	112.9	112.9	112.9	112.9
107.5°	139.6	139.7	139.8	139.6	139.0	138.6	138.0	137.5
110°	158.1	158.1	158.1	158.0	157.7	157.3	156.9	156.6





TEST NUMBER: P331391-940

CATALOG NUMBER: S122DIP-S865D530U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	176.7	176.5	176.2	175.9	175.7	175.4	175.1	175.0
115°	205.2	205.1	205.0	204.7	204.4	204.1	203.8	203.4
117.5°	232.7	232.5	232.2	231.9	231.6	231.2	230.9	230.5
120°	251.2	251.2	251.2	251.0	250.7	250.4	250.0	249.7
122.5°	270.2	269.9	269.7	269.4	269.1	268.9	268.7	268.4
125°	298.3	298.0	297.7	297.4	297.3	297.2	297.0	296.9
127.5°	325.7	325.2	324.9	324.4	324.0	323.7	323.3	323.0
130°	344.3	344.1	343.8	343.5	343.0	342.6	342.1	341.7
132.5°	362.5	361.9	361.5	361.1	360.7	360.3	360.0	359.6
135°	389.3	389.1	389.1	388.8	388.5	388.2	387.8	387.4
137.5°	414.9	414.8	414.7	414.5	414.0	413.6	413.1	412.7
140°	432.2	432.2	432.2	432.0	431.5	431.1	430.6	430.2
142.5°	447.8	447.9	448.0	447.8	447.4	446.9	446.5	446.0
145°	471.6	471.7	471.8	471.6	471.2	470.7	470.3	469.8
147.5°	492.4	492.7	492.9	492.8	492.4	492.0	491.5	491.1
150°	505.6	506.0	506.3	506.3	506.0	505.6	505.2	505.0
152.5°	518.8	519.2	519.7	519.7	519.2	518.8	518.4	518.0
155°	535.6	536.1	536.7	536.8	536.5	536.1	535.7	535.5
157.5°	551.0	551.8	552.6	552.7	552.1	551.6	551.1	550.5
160°	560.2	560.9	561.5	561.7	561.2	560.8	560.3	559.8
162.5°	568.5	569.3	570.1	570.2	569.6	569.1	568.6	568.0
165°	579.3	580.1	580.8	580.9	580.3	579.8	579.3	578.6
167.5°	588.1	588.9	589.7	589.8	589.2	588.6	588.0	587.4
170°	593.0	593.8	594.5	594.6	593.9	593.3	592.5	591.9
172.5°	596.6	597.4	598.2	598.2	597.6	596.9	596.2	595.6
175°	600.6	601.4	602.2	602.3	601.5	600.8	600.2	599.5
177.5°	602.4	603.0	603.5	603.5	603.0	602.4	601.9	601.4
180°	602.5	602.5	602.5	602.5	602.5	602.5	602.5	602.5

(END OF REPORT)