

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: P332693-930

Luminaire Tested: **S124DIP-S1195D810U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332693-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D810U930-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6324.8 lumens  
Efficiency: N/A  
Efficacy: 104.2 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

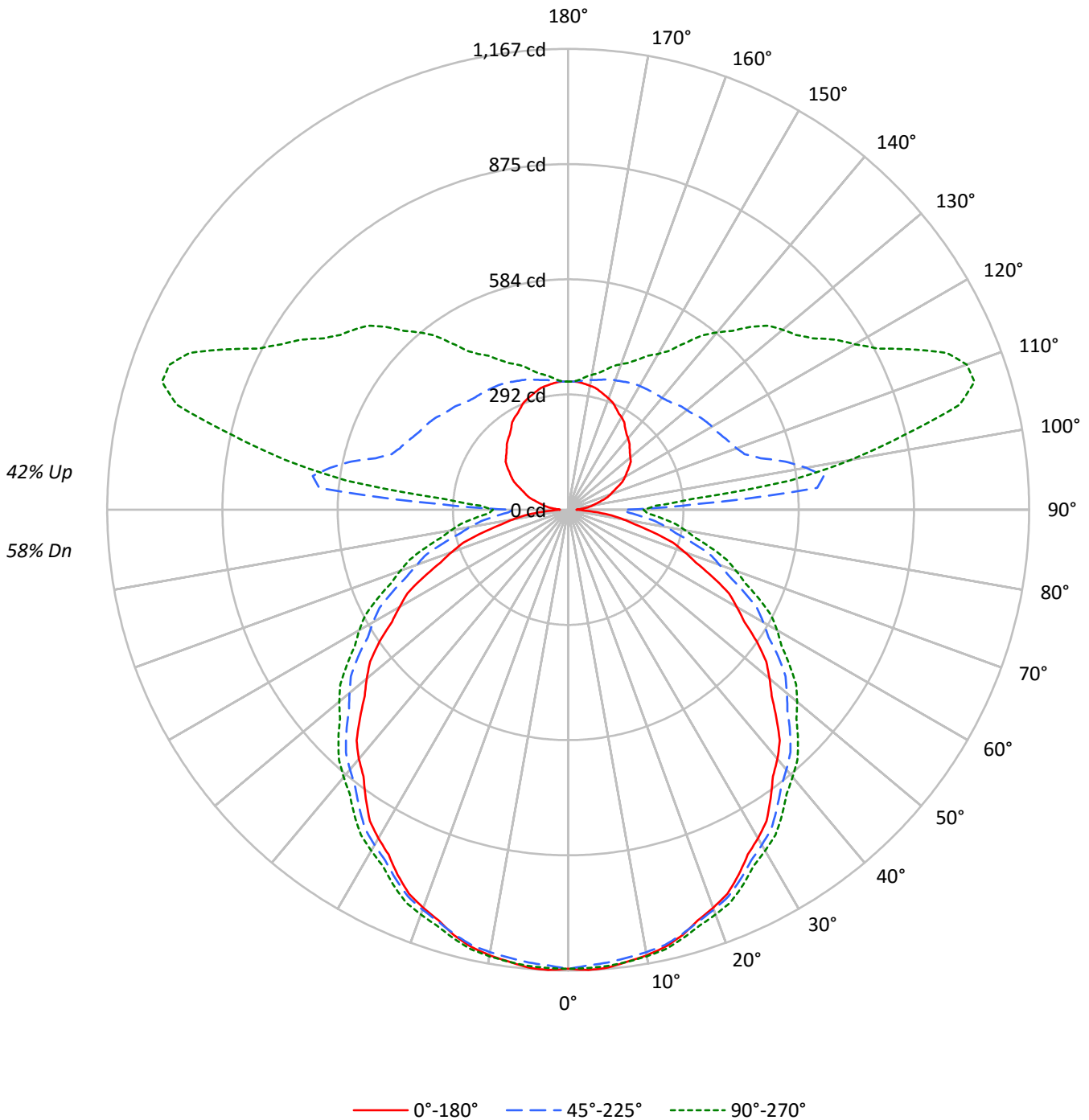
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	75	75	75	63	63	63	58
1	98	94	89	85	91	87	83	80	75	72	70	64	62	60	54	53	51	46
2	89	81	74	69	83	76	70	65	65	61	57	56	52	49	47	44	42	38
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	41	38	35	32
4	74	62	54	48	68	58	51	45	51	45	40	43	39	35	37	33	30	27
5	68	55	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23
6	62	50	41	35	58	46	39	33	41	34	30	35	30	26	30	26	23	20
7	58	45	36	31	53	42	34	29	37	31	26	32	27	23	27	23	20	18
8	53	41	33	27	50	38	31	26	33	27	23	29	24	21	25	21	18	16
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14
10	46	34	26	22	43	32	25	21	28	22	19	25	20	17	21	17	15	13

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

	0°	45°	90°
0°	9386	9386	9386
5°	9414	9173	9199
10°	9357	9022	9016
15°	9273	8849	8800
20°	9147	8658	8591
25°	9004	8442	8360
30°	8849	8228	8124
35°	8675	8010	7917
40°	8536	7801	7700
45°	8329	7610	7515
50°	8153	7388	7319
55°	7973	7179	7089
60°	7689	6913	6880
65°	7380	6628	6622
70°	7004	6302	6322
75°	6483	5945	6051
80°	5900	5600	5784
85°	5162	5295	5626



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.1	1.7
10°-20°	315.4	5.0
20°-30°	477.0	7.5
30°-40°	577.1	9.1
40°-50°	610.1	9.6
50°-60°	574.2	9.1
60°-70°	476.4	7.5
70°-80°	334.6	5.3
80°-90°	191.0	3.0
90°-100°	346.7	5.5
100°-110°	570.9	9.0
110°-120°	492.7	7.8
120°-130°	399.0	6.3
130°-140°	320.0	5.1
140°-150°	236.9	3.7
150°-160°	164.6	2.6
160°-170°	96.8	1.5
170°-180°	31.5	0.5
0°-30°	902.5	14.3
0°-40°	1479.6	23.4
0°-60°	2663.8	42.1
0°-90°	3665.7	58.0
90°-120°	1410.3	22.3
90°-150°	2366.2	37.4
90°-180°	2659.0	42.0
0°-180°	6324.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1160	1151	1161	1160	110
15°	1116	1117	1113	1124	1124	314
25°	1021	1028	1032	1046	1048	470
35°	893	908	922	939	944	559
45°	745	769	794	815	823	575
55°	583	611	650	675	684	520
65°	404	445	490	521	532	400
75°	224	272	327	362	375	238
85°	69	124	182	220	234	73
90°	21	78	140	178	190	15
95°	38	127	633	404	316	37
105°	86	147	504	1018	1026	93
115°	139	186	434	805	960	138
125°	188	223	408	670	756	168
135°	220	262	380	573	655	170
145°	252	287	366	464	515	158
155°	285	308	356	403	420	131
165°	310	320	341	361	367	88
175°	324	324	327	332	330	31
180°	324	324	324	324	324	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1166.8	1166.0	1165.4	1164.7	1164.0	1162.7	1160.8	1159.0	1157.2	1155.3	1156.9
5°	1163.8	1163.0	1162.1	1161.3	1160.4	1158.9	1156.9	1154.9	1152.9	1150.9	1153.2
7.5°	1154.0	1153.5	1152.9	1152.4	1151.9	1150.8	1149.2	1147.5	1145.7	1144.1	1146.7
10°	1145.7	1145.3	1145.1	1144.8	1144.5	1143.6	1142.2	1140.8	1139.3	1137.8	1140.4
12.5°	1134.2	1134.2	1134.1	1134.0	1134.0	1133.4	1132.5	1131.5	1130.5	1129.5	1131.9
15°	1115.7	1116.0	1116.3	1116.6	1116.9	1116.6	1115.7	1114.8	1113.9	1113.1	1115.7
17.5°	1090.5	1091.4	1092.2	1093.1	1093.9	1094.3	1094.1	1093.9	1093.7	1093.6	1096.3
20°	1072.8	1073.6	1074.5	1075.4	1076.2	1076.8	1077.1	1077.4	1077.7	1078.0	1080.8
22.5°	1053.0	1054.0	1055.2	1056.2	1057.4	1058.2	1058.7	1059.2	1059.7	1060.2	1063.2
25°	1020.7	1022.4	1024.2	1025.9	1027.6	1028.9	1029.8	1030.6	1031.5	1032.4	1035.6
27.5°	984.7	987.3	989.9	992.4	994.9	996.9	998.2	999.6	1000.9	1002.2	1005.1
30°	960.7	963.1	965.4	967.8	970.0	972.2	974.2	976.2	978.3	980.3	983.5
32.5°	934.7	937.5	940.3	943.1	945.8	948.4	950.6	952.9	955.1	957.4	961.1
35°	893.1	896.6	900.0	903.5	906.9	910.1	913.1	915.9	918.8	921.7	925.8
37.5°	851.2	855.2	859.2	863.2	867.2	870.9	874.5	878.1	881.7	885.3	889.4
40°	824.1	827.9	831.6	835.4	839.1	843.0	847.1	851.2	855.2	859.2	863.6
42.5°	792.9	797.0	801.3	805.5	809.8	814.2	819.0	823.7	828.4	833.2	838.0
45°	744.7	750.2	755.7	761.2	766.6	772.2	777.6	783.2	788.6	794.2	799.1
47.5°	698.5	704.3	710.0	715.6	721.3	727.3	733.7	740.0	746.4	752.8	757.8
50°	665.3	671.6	678.0	684.4	690.7	697.1	703.4	709.8	716.2	722.5	728.3
52.5°	631.9	638.3	644.7	651.0	657.4	664.2	671.5	678.8	686.1	693.4	699.2
55°	583.3	589.3	595.4	601.4	607.6	614.9	623.6	632.3	641.0	649.6	655.4
57.5°	528.8	536.4	543.9	551.4	558.9	567.0	575.6	584.2	592.9	601.4	608.4
60°	493.4	500.9	508.4	516.0	523.5	532.1	541.6	551.1	560.7	570.2	576.9
62.5°	459.0	467.2	475.5	483.7	491.9	500.8	510.4	519.9	529.5	539.0	545.6
65°	403.6	412.9	422.1	431.4	440.6	450.1	460.0	469.9	479.6	489.5	496.8
67.5°	350.2	360.0	369.9	379.7	389.6	399.7	410.3	420.8	431.3	441.9	449.2
70°	313.7	323.6	333.5	343.2	353.1	363.5	374.5	385.5	396.5	407.5	415.3
72.5°	278.3	288.4	298.5	308.5	318.6	329.5	341.2	352.9	364.5	376.3	383.8
75°	224.0	234.6	245.3	256.0	266.8	278.2	290.3	302.5	314.6	326.8	334.8
77.5°	173.2	184.5	195.8	207.2	218.5	230.6	243.3	256.0	268.7	281.4	289.7
80°	141.9	153.4	165.0	176.6	188.2	200.3	213.0	225.8	238.6	251.3	259.9
82.5°	110.6	122.7	134.8	146.8	158.8	171.2	183.9	196.7	209.4	222.1	231.0
85°	69.0	81.1	93.3	105.4	117.6	130.2	143.2	156.2	169.3	182.3	190.9
87.5°	38.6	50.7	62.9	74.8	86.7	99.0	112.4	125.1	138.0	151.0	159.2
90°	21.4	34.3	47.8	60.0	72.2	84.2	100.5	112.9	126.6	140.4	148.1
92.5°	27.1	40.8	57.2	75.4	95.1	119.8	164.6	226.6	287.1	324.8	299.2
95°	38.0	49.4	65.3	83.2	108.0	145.5	212.8	329.2	493.5	632.8	655.3
97.5°	53.1	61.3	75.0	90.9	112.3	144.6	199.1	297.2	460.4	652.4	783.9
100°	62.8	70.3	82.3	97.4	117.1	146.9	195.8	279.1	420.4	611.5	782.5
102.5°	73.0	80.6	91.2	104.8	123.1	151.2	196.4	270.8	392.5	563.0	738.8
105°	86.3	94.0	103.0	116.4	133.7	160.4	201.7	265.3	365.3	504.1	661.2
107.5°	103.6	109.7	117.6	130.5	146.2	171.9	210.0	268.4	354.7	468.0	597.4
110°	114.3	119.7	126.9	138.6	154.1	178.4	216.6	271.3	351.6	454.1	564.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	124.5	129.4	136.6	147.4	162.4	186.3	223.0	274.7	349.9	444.3	543.5
115°	139.2	143.7	150.7	159.7	174.4	197.5	232.3	279.8	348.4	434.1	520.8
117.5°	155.7	159.1	164.5	173.2	186.1	209.0	241.8	285.7	347.5	425.7	506.1
120°	165.9	168.0	173.3	181.2	193.0	215.4	248.0	289.6	347.1	420.4	497.0
122.5°	176.1	177.6	182.1	188.8	200.9	222.3	254.5	293.4	346.9	414.7	487.7
125°	188.2	190.5	194.0	200.7	212.5	233.8	264.0	300.6	348.0	407.5	474.2
127.5°	199.7	201.5	205.8	213.5	225.9	246.5	274.3	306.7	347.3	398.3	457.1
130°	205.4	207.7	212.5	221.7	233.5	254.2	280.5	310.0	347.2	392.6	446.2
132.5°	212.0	213.8	220.0	228.9	241.7	260.9	286.3	314.3	347.5	387.8	436.7
135°	220.0	222.6	228.9	239.8	253.2	270.8	293.8	318.8	346.9	379.5	421.2
137.5°	229.3	231.5	238.1	248.2	261.8	277.9	298.6	321.0	345.2	373.4	408.1
140°	235.9	237.6	244.3	254.9	267.9	283.2	302.6	323.3	345.3	369.8	401.0
142.5°	242.1	243.9	250.3	260.6	273.5	288.1	306.6	325.2	345.7	367.7	395.3
145°	251.8	253.5	259.5	268.2	280.0	293.9	310.5	327.7	346.2	365.9	388.1
147.5°	263.2	263.5	268.9	277.8	287.6	300.0	315.6	330.6	346.8	363.6	381.8
150°	270.4	270.7	275.5	282.8	292.1	304.1	318.1	332.2	346.8	362.1	378.1
152.5°	275.9	276.0	281.0	288.1	296.6	307.7	320.2	333.1	345.8	359.5	374.0
155°	284.9	285.6	289.4	295.8	302.8	312.3	323.2	334.0	344.2	355.7	367.9
157.5°	294.0	294.0	297.6	302.6	308.7	316.2	325.4	334.0	342.6	351.8	361.6
160°	299.6	299.6	302.1	306.6	311.8	318.8	326.4	334.0	341.0	348.7	357.0
162.5°	304.8	304.2	306.2	310.2	314.8	320.2	327.4	334.0	339.6	345.7	352.9
165°	310.5	310.5	311.8	315.0	318.1	322.0	327.7	332.8	336.6	341.0	346.2
167.5°	316.2	315.6	316.2	318.6	320.4	323.3	327.6	331.3	333.5	336.5	340.1
170°	318.8	318.1	318.8	320.7	322.0	323.8	327.0	330.2	331.5	333.4	336.0
172.5°	321.3	320.7	320.8	322.2	322.9	324.3	326.5	329.2	329.5	330.4	332.4
175°	323.8	323.2	323.2	323.8	324.5	324.5	325.8	327.7	327.0	327.0	328.3
177.5°	325.0	324.5	324.0	324.5	324.5	324.5	325.0	326.0	325.0	325.0	325.5
180°	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1158.5	1160.2	1161.8	1162.5	1162.2	1162.0	1161.8	1161.6
5°	1155.5	1157.8	1160.1	1161.1	1160.8	1160.6	1160.3	1160.0
7.5°	1149.3	1151.9	1154.5	1155.7	1155.4	1155.1	1154.8	1154.5
10°	1143.0	1145.7	1148.3	1149.4	1149.2	1148.8	1148.5	1148.3
12.5°	1134.2	1136.6	1139.0	1140.2	1140.1	1140.0	1140.0	1140.0
15°	1118.3	1121.0	1123.5	1124.7	1124.4	1124.1	1123.8	1123.5
17.5°	1098.9	1101.6	1104.2	1105.5	1105.2	1105.0	1104.7	1104.5
20°	1083.8	1086.6	1089.6	1091.0	1091.0	1091.0	1091.0	1091.0
22.5°	1066.0	1068.9	1071.8	1073.5	1074.0	1074.4	1074.9	1075.4
25°	1038.8	1042.0	1045.1	1046.8	1047.2	1047.4	1047.7	1048.0
27.5°	1008.1	1011.1	1014.0	1015.6	1016.0	1016.4	1016.7	1017.0
30°	986.7	989.9	993.0	994.9	995.5	996.1	996.6	997.3
32.5°	964.7	968.3	972.0	974.1	974.7	975.3	975.8	976.4
35°	929.8	933.8	937.9	940.4	941.3	942.2	943.0	943.9
37.5°	893.5	897.6	901.7	904.2	905.1	906.0	907.0	907.9
40°	867.9	872.3	876.6	879.4	880.5	881.7	882.8	883.9
42.5°	842.8	847.6	852.4	855.2	856.2	857.1	858.0	859.0
45°	804.0	808.9	813.8	817.0	818.5	819.9	821.3	822.8
47.5°	763.0	768.0	773.1	776.5	778.3	780.0	781.7	783.5
50°	734.1	739.9	745.7	749.4	751.2	752.9	754.6	756.4
52.5°	705.0	710.8	716.5	720.3	722.0	723.7	725.5	727.2
55°	661.2	667.0	672.8	676.5	678.2	680.0	681.8	683.5
57.5°	615.2	622.2	629.0	633.2	634.9	636.5	638.1	639.8
60°	583.5	590.2	596.8	601.3	603.6	605.9	608.3	610.6
62.5°	552.3	559.0	565.6	570.1	572.4	574.7	577.0	579.4
65°	503.9	511.2	518.4	523.2	525.5	527.8	530.2	532.5
67.5°	456.6	463.9	471.2	476.1	478.3	480.5	482.8	485.1
70°	423.1	430.9	438.7	443.7	445.6	447.7	449.7	451.8
72.5°	391.4	399.0	406.6	411.5	413.8	416.0	418.2	420.5
75°	343.0	351.1	359.1	364.5	367.1	369.7	372.3	375.0
77.5°	297.9	306.1	314.3	319.8	322.6	325.4	328.2	330.9
80°	268.6	277.3	286.0	291.5	293.8	296.1	298.4	300.8
82.5°	239.9	248.8	257.7	263.5	266.0	268.6	271.1	273.6
85°	199.6	208.3	217.0	222.7	225.7	228.5	231.5	234.3
87.5°	167.8	176.3	184.7	190.3	192.9	195.6	198.0	200.6
90°	157.1	166.2	175.2	180.5	183.5	186.5	188.1	190.5
92.5°	264.2	241.3	230.2	222.7	217.5	216.4	216.5	218.8
95°	601.3	510.3	432.7	376.0	347.4	330.2	321.4	315.7
97.5°	818.3	789.1	734.3	672.9	629.6	593.7	577.1	566.3
100°	883.4	903.9	880.5	838.3	784.8	748.0	730.8	727.8
102.5°	874.2	944.9	961.6	946.9	915.1	889.2	871.3	869.4
105°	814.4	931.9	1002.2	1033.1	1036.7	1034.0	1027.4	1025.8
107.5°	733.8	858.3	954.3	1015.8	1049.4	1066.0	1074.5	1078.2
110°	684.9	801.8	900.9	975.5	1023.0	1052.1	1065.9	1074.0





TEST NUMBER: P332693-930

CATALOG NUMBER: S124DIP-S1195D810U930-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	647.0	751.1	844.8	919.2	973.0	1007.6	1026.1	1037.6
115°	606.9	691.6	772.6	838.0	890.4	930.7	953.1	960.2
117.5°	582.5	653.5	718.1	774.2	819.5	853.9	876.9	883.1
120°	569.7	634.8	691.6	740.9	779.6	809.9	828.8	838.1
122.5°	558.4	621.4	673.7	717.2	750.1	776.1	792.2	801.3
125°	540.9	601.2	650.7	689.3	716.6	736.8	750.6	756.2
127.5°	519.8	577.3	626.4	663.2	690.9	709.3	721.5	727.2
130°	504.3	559.9	608.5	645.7	673.6	691.3	703.2	708.7
132.5°	489.0	541.3	588.6	625.7	653.1	672.8	684.2	689.7
135°	465.9	512.0	555.5	590.6	617.8	637.4	649.4	654.9
137.5°	445.7	485.0	522.0	553.7	578.9	598.0	607.9	613.9
140°	434.1	467.8	500.3	529.6	553.3	568.8	579.2	585.8
142.5°	424.0	453.6	481.5	507.0	528.0	542.2	551.3	556.1
145°	410.2	433.6	454.4	473.8	490.9	502.9	510.4	514.7
147.5°	398.9	416.4	431.9	446.5	459.2	469.4	475.2	477.2
150°	393.3	408.0	420.8	432.2	442.5	450.7	454.5	455.2
152.5°	387.8	400.3	412.1	421.5	430.2	436.9	439.2	439.9
155°	379.3	389.6	399.1	406.8	413.1	418.2	420.1	420.1
157.5°	370.2	378.8	386.9	393.0	397.8	401.6	402.8	402.8
160°	364.7	371.7	378.7	383.8	387.6	391.4	392.1	392.1
162.5°	359.1	365.0	370.6	375.1	377.9	381.7	382.4	381.9
165°	351.2	355.1	359.5	362.7	365.3	367.9	367.2	366.6
167.5°	343.7	346.7	350.3	352.1	353.4	355.1	355.0	354.4
170°	339.2	341.0	343.6	345.5	346.8	347.4	346.8	346.8
172.5°	335.1	336.5	338.0	339.4	340.1	340.8	340.1	339.2
175°	329.6	330.2	331.5	331.5	331.5	332.8	331.5	330.2
177.5°	326.0	326.5	326.5	327.0	326.5	327.0	326.0	325.0
180°	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5

(END OF REPORT)