

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: P332683-930

Luminaire Tested: **S124DIP-S1195D590U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332683-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D590U930-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5633.0 lumens  
Efficiency: N/A  
Efficacy: 102.2 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: Semi-Direct

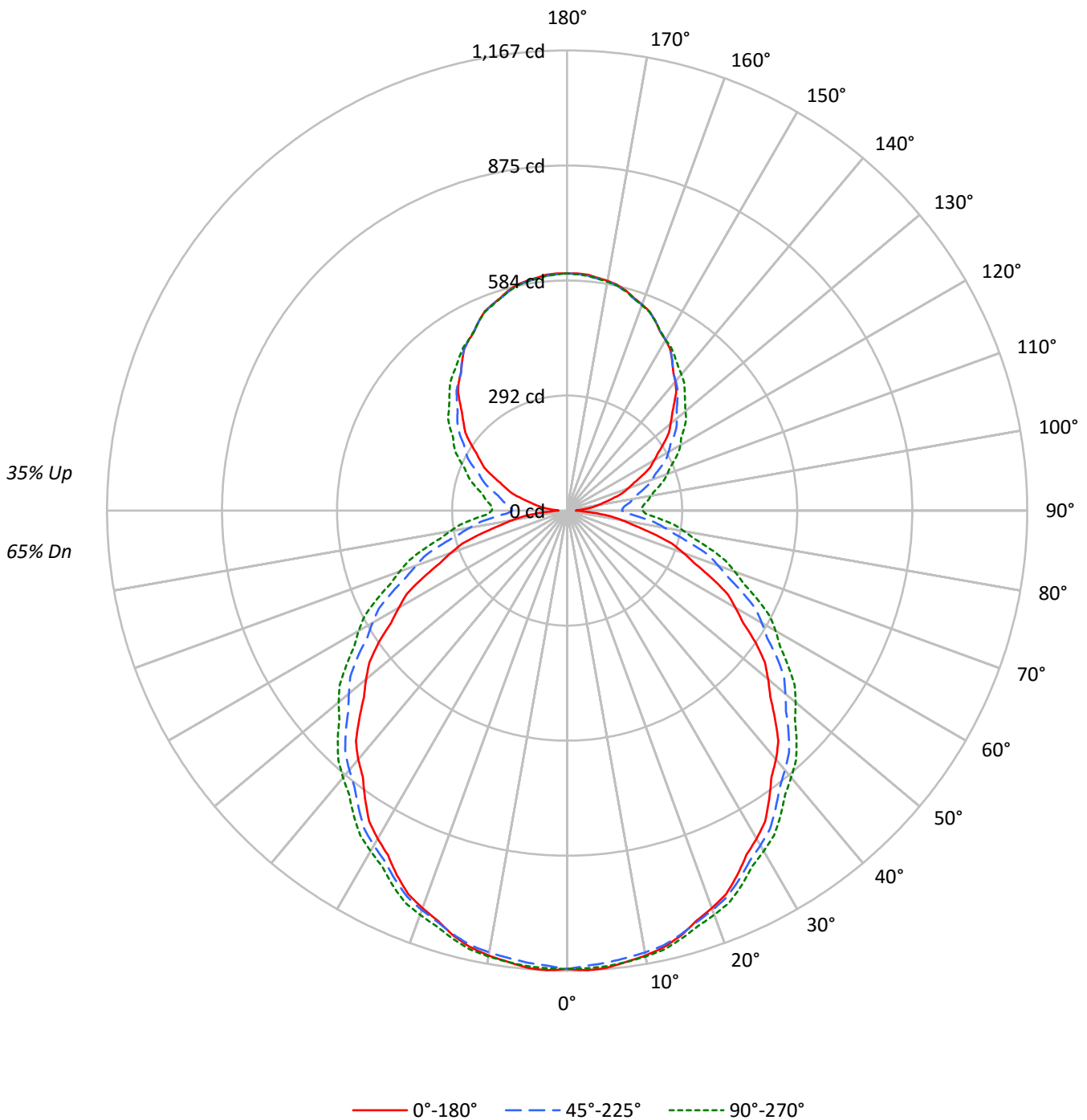
Input Watts (W): 55.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	95	90	86	94	89	85	82	79	76	73	69	66	64	60	58	57	52
2	90	82	75	69	84	77	71	66	68	63	59	60	56	53	52	49	47	43
3	82	72	64	57	77	68	60	54	60	54	49	52	48	44	45	42	39	35
4	75	63	55	48	70	60	52	46	53	46	42	46	41	37	40	36	33	30
5	69	56	47	41	64	53	45	39	47	41	36	41	36	32	36	32	29	26
6	63	50	42	35	59	48	40	34	42	36	31	37	32	28	33	28	25	22
7	59	45	37	31	55	43	35	30	38	32	27	34	29	25	30	26	22	20
8	54	41	33	27	51	39	32	26	35	29	24	31	26	22	27	23	20	18
9	51	38	30	24	47	36	28	23	32	26	22	29	23	20	25	21	18	16
10	47	35	27	22	44	33	26	21	30	24	19	26	21	18	23	19	16	14

**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	2.0
10°-20°	315.4	5.6
20°-30°	477.0	8.5
30°-40°	577.1	10.2
40°-50°	610.1	10.8
50°-60°	574.2	10.2
60°-70°	476.4	8.5
70°-80°	334.6	5.9
80°-90°	191.0	3.4
90°-100°	152.0	2.7
100°-110°	200.6	3.6
110°-120°	255.2	4.5
120°-130°	294.4	5.2
130°-140°	308.9	5.5
140°-150°	292.9	5.2
150°-160°	244.1	4.3
160°-170°	162.4	2.9
170°-180°	56.9	1.0
0°-30°	902.5	16.0
0°-40°	1479.6	26.3
0°-60°	2663.8	47.3
0°-90°	3665.7	65.1
90°-120°	607.8	10.8
90°-150°	1504.0	26.7
90°-180°	1967.0	34.9
0°-180°	5633.0	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°	22	80	139	178	191	16
95°	45	92	149	184	197	44
105°	120	148	197	229	242	128
115°	211	224	263	290	300	208
125°	300	301	331	354	362	268
135°	383	387	395	414	422	297
145°	464	465	465	472	476	290
155°	530	530	530	531	530	244
165°	577	576	575	577	576	163
175°	600	598	598	600	598	57
180°	601	601	601	601	601	



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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°	38.8	50.9	62.9	74.9	86.9	99.4	112.2	125.1	137.9	150.7	159.2
90°	22.3	34.9	47.6	60.3	73.1	86.0	99.3	112.6	125.9	139.1	148.1
92.5°	29.8	41.4	53.2	64.9	76.6	88.9	102.0	115.0	128.0	141.0	149.6
95°	44.8	55.3	65.8	76.2	86.7	98.2	110.9	123.4	136.0	148.6	156.7
97.5°	64.1	73.1	82.0	91.0	100.0	110.7	123.3	135.9	148.5	161.1	169.0
100°	79.4	87.3	95.3	103.2	111.1	121.2	133.5	145.7	157.8	170.1	178.1
102.5°	96.5	103.3	110.1	116.8	123.6	132.9	144.8	156.7	168.6	180.5	188.3
105°	120.1	126.0	131.8	137.7	143.7	152.1	163.2	174.4	185.5	196.6	204.2
107.5°	147.2	152.1	156.9	161.8	166.7	174.2	184.4	194.6	204.8	215.0	222.4
110°	164.8	169.1	173.3	177.6	181.8	189.0	199.0	209.0	219.1	229.0	235.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	183.1	186.7	190.4	194.0	197.6	204.2	213.6	223.1	232.6	242.1	248.4
115°	210.6	213.1	215.7	218.3	220.9	226.8	235.9	244.9	254.0	263.0	269.3
117.5°	237.7	239.3	240.9	242.6	244.2	249.2	257.7	266.2	274.7	283.2	288.9
120°	254.9	256.1	257.4	258.7	259.9	264.6	272.7	280.8	288.9	296.9	302.2
122.5°	273.8	274.1	274.5	274.8	275.2	279.2	287.0	294.8	302.6	310.3	315.8
125°	300.5	300.2	299.9	299.6	299.3	302.7	309.9	317.0	324.2	331.3	336.6
127.5°	325.6	325.6	325.6	325.7	325.7	328.4	333.8	339.2	344.5	349.9	355.0
130°	342.4	342.4	342.5	342.5	342.5	344.9	349.4	354.1	358.7	363.4	368.4
132.5°	360.7	360.6	360.5	360.4	360.4	362.2	365.8	369.4	373.1	376.7	381.5
135°	383.4	384.1	384.7	385.3	386.0	387.3	389.3	391.3	393.3	395.3	399.7
137.5°	409.7	409.7	409.7	409.7	409.7	410.3	411.4	412.5	413.7	414.8	418.8
140°	427.1	427.1	427.0	426.9	426.8	426.9	427.2	427.5	427.8	428.1	431.7
142.5°	442.1	442.2	442.4	442.5	442.7	442.6	442.4	442.1	441.9	441.6	444.9
145°	464.0	464.1	464.2	464.4	464.5	464.6	464.7	464.8	464.9	465.0	466.7
147.5°	485.9	486.2	486.3	486.6	486.7	486.8	486.7	486.7	486.6	486.5	486.7
150°	499.3	499.5	499.5	499.7	499.8	499.9	499.9	499.9	499.9	499.9	499.9
152.5°	510.9	511.1	511.3	511.5	511.7	511.8	511.9	512.0	512.1	512.2	512.4
155°	530.1	530.1	530.1	530.1	530.1	530.0	529.9	529.9	529.8	529.6	530.0
157.5°	546.5	546.3	546.1	545.9	545.8	545.6	545.6	545.6	545.6	545.5	545.8
160°	556.1	556.0	556.0	555.9	555.7	555.6	555.5	555.5	555.3	555.2	555.5
162.5°	565.1	564.8	564.5	564.3	564.0	563.8	563.7	563.6	563.5	563.4	563.9
165°	577.1	576.7	576.4	576.2	575.8	575.6	575.4	575.2	574.9	574.8	575.4
167.5°	586.3	585.9	585.4	585.0	584.6	584.3	584.3	584.4	584.4	584.4	585.1
170°	591.5	591.0	590.4	590.0	589.4	589.2	589.3	589.4	589.5	589.6	590.3
172.5°	595.2	594.8	594.4	593.9	593.5	593.3	593.3	593.3	593.3	593.4	594.0
175°	600.3	599.8	599.3	598.8	598.3	597.9	597.9	597.8	597.6	597.5	598.3
177.5°	602.0	601.6	601.2	600.8	600.3	600.1	600.1	600.1	600.1	600.1	600.7
180°	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3



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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	195.5	198.1	200.6
90°	157.1	166.2	175.1	180.9	183.4	186.0	188.5	191.0
92.5°	158.1	166.6	175.2	180.7	183.1	185.6	188.0	190.4
95°	164.9	173.0	181.1	186.5	189.1	191.7	194.3	196.9
97.5°	177.0	184.9	192.9	198.1	200.6	203.1	205.5	208.1
100°	186.1	194.1	202.2	207.2	209.2	211.2	213.3	215.3
102.5°	196.2	204.2	212.0	217.1	219.4	221.8	224.1	226.4
105°	211.7	219.2	226.7	231.9	234.5	237.1	239.7	242.3
107.5°	229.8	237.2	244.6	249.3	251.4	253.5	255.5	257.6
110°	242.0	248.4	254.9	259.3	262.0	264.6	267.3	269.9





TEST NUMBER: P332683-930

CATALOG NUMBER: S124DIP-S1195D590U930-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	254.9	261.2	267.6	272.0	274.3	276.7	279.1	281.5
115°	275.5	281.8	288.0	292.1	294.1	296.0	297.9	299.8
117.5°	294.5	300.2	305.8	309.7	311.9	314.0	316.1	318.1
120°	307.4	312.7	318.0	321.9	324.4	326.9	329.5	332.0
122.5°	321.2	326.6	332.1	335.7	337.4	339.1	340.8	342.5
125°	341.9	347.2	352.5	355.8	357.3	358.9	360.4	362.0
127.5°	360.0	364.9	370.0	373.3	375.2	377.0	378.8	380.6
130°	373.3	378.4	383.4	386.5	387.8	389.1	390.4	391.8
132.5°	386.2	391.0	395.7	398.9	400.5	402.0	403.7	405.2
135°	404.2	408.6	413.0	416.0	417.4	418.8	420.2	421.7
137.5°	422.7	426.7	430.6	433.4	434.9	436.4	437.9	439.4
140°	435.4	439.0	442.7	445.2	446.5	447.9	449.2	450.6
142.5°	448.2	451.4	454.8	457.0	458.2	459.3	460.6	461.8
145°	468.3	469.9	471.6	472.8	473.6	474.5	475.3	476.1
147.5°	486.8	486.9	487.1	487.5	488.4	489.2	490.1	490.9
150°	499.9	499.9	499.9	499.9	499.7	499.6	499.5	499.5
152.5°	512.7	512.9	513.1	513.1	512.9	512.6	512.3	512.1
155°	530.4	530.8	531.3	531.3	530.8	530.4	530.0	529.6
157.5°	546.2	546.5	546.8	546.7	546.4	546.1	545.7	545.4
160°	555.9	556.1	556.4	556.4	555.9	555.3	554.8	554.3
162.5°	564.5	565.1	565.7	565.7	565.2	564.6	564.1	563.6
165°	576.0	576.6	577.2	577.3	576.9	576.5	576.1	575.7
167.5°	585.6	586.3	586.9	586.9	586.3	585.6	585.0	584.3
170°	590.8	591.5	592.1	592.1	591.3	590.6	589.9	589.1
172.5°	594.8	595.5	596.1	596.1	595.4	594.7	593.9	593.3
175°	599.0	599.7	600.4	600.4	599.7	599.0	598.3	597.5
177.5°	601.3	601.9	602.4	602.4	601.8	601.1	600.4	599.7
180°	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3

(END OF REPORT)