

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: P332935-940

Luminaire Tested: **S124RDIP-S795D590U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332935-940  
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: S124RDIP-S795D590U940-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4688.4 lumens  
Efficiency: N/A  
Efficacy: 116.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

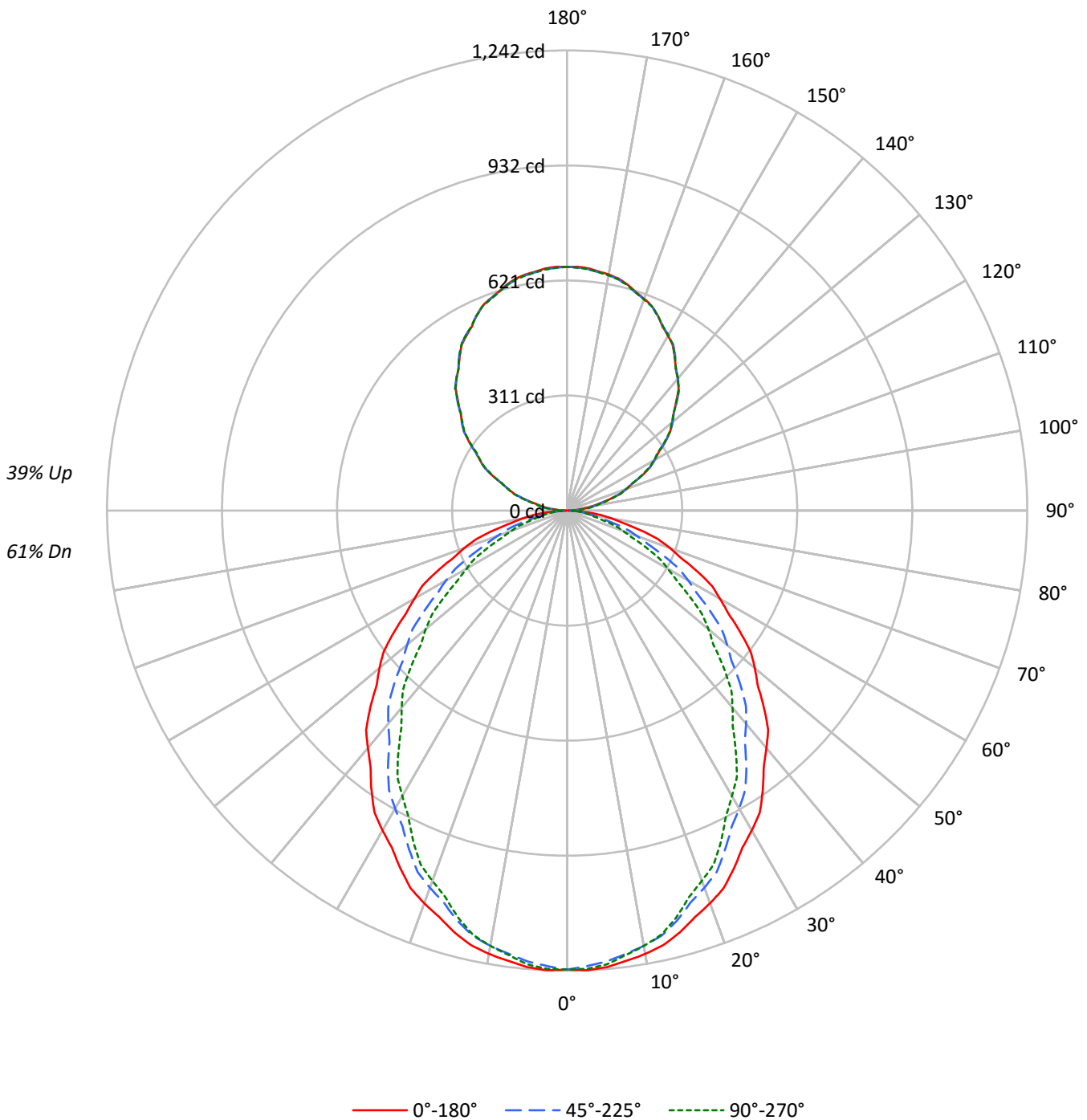
Input Watts (W): 40.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66	61
1	101	96	93	89	94	90	87	84	79	77	74	69	67	65	59	58	57	52
2	92	85	78	73	86	79	74	69	70	66	62	61	58	55	52	50	48	44
3	84	75	67	61	78	70	64	58	62	57	53	54	50	47	47	44	41	38
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	42	39	36	33
5	71	59	51	45	66	56	49	43	49	44	39	43	39	35	38	34	31	29
6	65	53	45	39	61	50	43	38	45	39	34	39	35	31	35	31	28	25
7	61	48	40	35	57	46	38	33	41	35	30	36	31	28	32	28	25	22
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	22	20
9	53	40	33	28	49	38	31	27	34	28	24	30	26	22	27	23	20	18
10	49	37	30	25	46	35	28	24	32	26	22	28	24	20	25	21	19	17

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

	0°	45°	90°
0°	10001	10001	10001
5°	10023	9900	9961
10°	9960	9781	9781
15°	9845	9576	9504
20°	9688	9306	9135
25°	9487	8989	8761
30°	9292	8655	8294
35°	9077	8310	7824
40°	8816	7917	7317
45°	8576	7526	6801
50°	8303	7076	6253
55°	8010	6608	5661
60°	7689	6095	5054
65°	7393	5454	4458
70°	6963	4747	3784
75°	6419	3936	3075
80°	5602	2999	2822
85°	4742	2723	2547



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.4	2.5
10°-20°	324.5	6.9
20°-30°	468.6	10.0
30°-40°	531.1	11.3
40°-50°	512.9	10.9
50°-60°	426.5	9.1
60°-70°	294.5	6.3
70°-80°	149.3	3.2
80°-90°	40.3	0.9
90°-100°	43.4	0.9
100°-110°	128.5	2.7
110°-120°	218.1	4.7
120°-130°	287.6	6.1
130°-140°	322.9	6.9
140°-150°	317.3	6.8
150°-160°	266.9	5.7
160°-170°	177.6	3.8
170°-180°	62.2	1.3
0°-30°	909.4	19.4
0°-40°	1440.5	30.7
0°-60°	2379.9	50.8
0°-90°	2863.9	61.1
90°-120°	389.9	8.3
90°-150°	1317.8	28.1
90°-180°	1824.0	38.9
0°-180°	4688.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1239	1239	1239	1239	1239	
5°	1237	1233	1222	1230	1229	117
15°	1178	1169	1146	1144	1137	332
25°	1065	1047	1009	993	984	491
35°	921	890	843	812	794	575
45°	751	715	659	614	596	579
55°	569	530	470	422	402	509
65°	387	345	286	246	233	382
75°	206	170	126	105	99	217
85°	51	33	29	28	28	58
90°	2	7	11	14	15	4
95°	30	35	39	40	40	34
105°	118	119	121	123	124	126
115°	222	222	221	220	220	219
125°	323	323	322	321	320	288
135°	416	419	420	419	417	322
145°	506	508	508	508	507	317
155°	580	580	579	581	579	267
165°	631	630	629	631	630	178
175°	657	654	654	657	654	62
180°	658	658	658	658	658	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8
2.5°	1241.8	1241.1	1240.4	1239.7	1239.0	1237.8	1235.9	1234.1	1232.3	1230.4	1232.3
5°	1236.8	1236.0	1235.1	1234.3	1233.4	1231.8	1229.2	1226.7	1224.1	1221.6	1223.8
7.5°	1225.7	1224.8	1223.9	1223.0	1222.1	1220.0	1216.7	1213.4	1210.1	1206.8	1208.2
10°	1215.0	1214.0	1212.9	1211.8	1210.8	1208.4	1204.6	1200.8	1197.0	1193.2	1194.0
12.5°	1201.3	1200.2	1198.9	1197.7	1196.5	1193.6	1189.2	1184.6	1180.2	1175.7	1176.3
15°	1178.0	1176.2	1174.2	1172.3	1170.5	1166.9	1161.5	1156.3	1151.0	1145.8	1145.3
17.5°	1149.8	1147.0	1144.2	1141.6	1138.8	1134.3	1127.9	1121.6	1115.3	1108.9	1107.8
20°	1127.7	1125.0	1122.3	1119.5	1116.8	1111.9	1104.7	1097.5	1090.3	1083.2	1081.5
22.5°	1103.5	1100.4	1097.3	1094.2	1091.2	1085.7	1078.1	1070.4	1062.7	1055.1	1052.6
25°	1065.1	1061.3	1057.6	1053.7	1050.0	1043.7	1035.1	1026.4	1017.8	1009.1	1005.6
27.5°	1024.9	1020.2	1015.4	1010.7	1005.8	998.9	989.6	980.4	971.2	962.0	957.5
30°	996.8	991.6	986.3	981.1	975.8	968.2	958.3	948.4	938.4	928.5	923.3
32.5°	967.2	961.4	955.4	949.4	943.5	935.4	925.1	914.9	904.6	894.4	888.3
35°	921.0	914.3	907.5	900.7	894.0	885.4	874.9	864.2	853.7	843.2	836.1
37.5°	871.5	864.5	857.6	850.6	843.6	834.4	822.7	811.0	799.3	787.6	779.6
40°	836.6	829.6	822.7	815.7	808.8	799.2	787.2	775.3	763.2	751.2	742.3
42.5°	803.2	795.9	788.6	781.3	774.0	764.1	751.6	739.0	726.6	714.0	705.0
45°	751.2	743.4	735.6	727.8	720.0	709.8	697.1	684.5	671.8	659.2	648.9
47.5°	697.5	689.5	681.4	673.3	665.3	654.7	641.6	628.4	615.3	602.1	591.4
50°	661.1	652.9	644.6	636.4	628.2	617.3	603.9	590.4	576.8	563.4	552.9
52.5°	623.9	615.9	607.8	599.8	591.7	580.8	566.9	553.1	539.3	525.5	514.8
55°	569.1	560.6	552.2	543.8	535.4	524.3	510.6	496.9	483.2	469.5	458.5
57.5°	514.9	506.0	497.3	488.6	479.7	468.6	455.1	441.7	428.2	414.6	403.6
60°	476.2	467.7	459.3	450.8	442.4	431.5	417.9	404.5	391.0	377.5	366.5
62.5°	441.2	432.5	423.7	414.9	406.2	394.8	381.0	367.2	353.4	339.6	329.4
65°	387.0	377.9	368.8	359.8	350.7	339.5	325.9	312.5	299.0	285.5	276.4
67.5°	330.6	322.0	313.3	304.6	295.9	285.3	272.8	260.3	247.7	235.2	227.4
70°	295.0	286.1	277.2	268.4	259.6	249.1	237.1	225.1	213.1	201.1	194.1
72.5°	257.1	249.1	241.0	233.0	225.0	215.3	204.0	192.6	181.3	170.0	164.0
75°	205.8	198.0	190.2	182.4	174.6	165.8	155.9	146.0	136.1	126.2	121.3
77.5°	153.8	147.2	140.6	134.0	127.3	120.0	112.1	104.1	96.0	88.0	85.2
80°	120.5	114.3	108.3	102.1	96.0	89.8	83.5	77.1	70.8	64.5	63.8
82.5°	91.7	86.1	80.4	74.8	69.2	64.6	61.0	57.3	53.7	50.1	49.6
85°	51.2	47.0	42.8	38.6	34.3	31.9	31.3	30.7	30.1	29.4	29.0
87.5°	17.7	16.7	15.5	14.4	13.4	12.8	12.8	12.8	12.8	12.8	12.8
90°	1.5	2.8	4.0	5.3	6.5	7.6	8.5	9.4	10.3	11.1	11.9
92.5°	10.9	12.3	13.7	15.2	16.6	17.6	18.3	18.9	19.5	20.2	20.5
95°	30.5	31.6	32.5	33.5	34.6	35.5	36.3	37.1	37.9	38.6	39.0
97.5°	53.3	54.1	54.9	55.7	56.5	57.4	58.3	59.3	60.2	61.2	61.5
100°	71.2	71.7	72.1	72.6	73.0	73.7	74.7	75.8	76.8	77.8	78.0
102.5°	89.9	90.1	90.2	90.4	90.6	91.2	92.1	93.0	94.0	94.9	95.2
105°	118.5	118.6	118.7	118.9	119.0	119.2	119.7	120.1	120.6	121.0	121.4
107.5°	148.5	148.6	148.7	148.9	149.1	149.2	149.2	149.3	149.4	149.5	149.7
110°	168.9	169.1	169.3	169.5	169.8	169.8	169.7	169.6	169.5	169.3	169.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	190.0	190.0	190.1	190.1	190.2	190.1	189.9	189.7	189.5	189.3	189.2
115°	221.8	221.8	221.8	221.8	221.8	221.6	221.4	221.1	221.0	220.7	220.6
117.5°	251.6	251.7	251.8	251.9	252.0	252.0	251.8	251.6	251.5	251.4	250.9
120°	271.6	272.1	272.5	273.0	273.4	273.5	273.1	272.8	272.4	272.1	271.5
122.5°	292.3	292.5	292.7	292.8	293.0	293.1	292.9	292.7	292.6	292.5	292.0
125°	323.0	323.0	323.0	323.0	323.0	322.9	322.8	322.7	322.5	322.4	322.2
127.5°	350.7	351.1	351.4	351.8	352.0	352.1	352.0	351.8	351.6	351.4	351.2
130°	370.2	370.6	371.0	371.3	371.6	371.8	371.8	371.8	371.8	371.8	371.6
132.5°	390.2	390.5	390.7	390.9	391.2	391.3	391.2	391.1	391.0	390.9	390.7
135°	416.5	417.2	417.9	418.6	419.3	419.5	419.5	419.5	419.5	419.5	419.4
137.5°	445.2	445.5	445.9	446.1	446.5	446.7	446.9	447.1	447.3	447.5	447.2
140°	464.3	464.6	464.8	465.0	465.2	465.4	465.4	465.4	465.4	465.4	465.2
142.5°	481.8	482.1	482.3	482.5	482.8	482.8	482.7	482.6	482.5	482.4	482.4
145°	506.0	506.5	506.9	507.4	507.8	508.1	508.3	508.4	508.5	508.5	508.5
147.5°	530.0	530.6	531.1	531.6	532.3	532.4	532.4	532.3	532.2	532.1	532.0
150°	544.7	545.2	545.6	546.1	546.5	546.7	546.7	546.7	546.7	546.7	546.7
152.5°	558.6	558.8	559.1	559.4	559.6	559.8	559.9	560.0	560.1	560.2	560.4
155°	579.8	579.8	579.8	579.8	579.8	579.7	579.6	579.5	579.4	579.3	579.7
157.5°	597.7	597.4	597.3	597.1	596.9	596.7	596.7	596.7	596.7	596.6	597.0
160°	608.2	608.1	608.1	608.0	607.8	607.7	607.6	607.5	607.3	607.3	607.6
162.5°	618.0	617.8	617.4	617.2	616.9	616.6	616.5	616.4	616.4	616.2	616.8
165°	631.2	630.8	630.4	630.2	629.8	629.5	629.3	629.1	628.8	628.7	629.3
167.5°	641.2	640.8	640.2	639.8	639.4	639.1	639.1	639.2	639.2	639.2	639.9
170°	646.9	646.4	645.8	645.2	644.6	644.4	644.5	644.6	644.8	644.9	645.6
172.5°	650.9	650.5	650.1	649.6	649.1	648.9	648.9	648.9	648.9	649.0	649.7
175°	656.6	656.0	655.5	654.9	654.3	654.0	653.9	653.8	653.6	653.5	654.3
177.5°	658.4	658.0	657.5	657.1	656.6	656.4	656.4	656.4	656.4	656.4	657.0
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8
2.5°	1234.1	1235.9	1237.8	1238.7	1238.5	1238.3	1238.1	1238.0
5°	1225.8	1228.0	1230.1	1230.9	1230.5	1230.1	1229.7	1229.2
7.5°	1209.5	1210.9	1212.3	1212.5	1211.9	1211.2	1210.6	1209.9
10°	1194.9	1195.7	1196.6	1196.6	1195.7	1194.9	1194.0	1193.2
12.5°	1176.8	1177.2	1177.8	1177.4	1176.3	1175.1	1173.8	1172.7
15°	1145.0	1144.5	1144.1	1143.2	1141.7	1140.1	1138.7	1137.2
17.5°	1106.6	1105.5	1104.2	1102.5	1100.3	1098.1	1095.8	1093.6
20°	1079.8	1078.1	1076.4	1074.2	1071.5	1068.7	1066.0	1063.3
22.5°	1050.1	1047.5	1045.0	1042.6	1040.4	1038.1	1035.9	1033.7
25°	1002.0	998.4	994.9	992.0	989.9	987.8	985.7	983.6
27.5°	953.1	948.7	944.2	940.5	937.5	934.4	931.4	928.4
30°	918.0	912.8	907.5	903.1	899.8	896.4	893.0	889.7
32.5°	882.2	876.1	870.0	865.3	862.1	858.9	855.7	852.5
35°	828.8	821.7	814.6	809.0	805.3	801.5	797.6	793.9
37.5°	771.6	763.6	755.5	749.7	745.9	742.1	738.3	734.5
40°	733.5	724.6	715.8	709.4	705.7	701.9	698.1	694.3
42.5°	696.0	687.0	678.0	671.5	667.4	663.5	659.6	655.6
45°	638.6	628.2	617.9	610.8	607.0	603.2	599.4	595.7
47.5°	580.7	570.0	559.3	551.8	547.7	543.5	539.3	535.1
50°	542.3	531.8	521.2	514.0	510.0	506.0	501.9	497.9
52.5°	504.1	493.4	482.6	475.2	471.0	466.8	462.7	458.5
55°	447.5	436.6	425.7	418.2	414.2	410.2	406.2	402.2
57.5°	392.4	381.3	370.1	363.1	360.1	357.0	354.0	351.0
60°	355.6	344.6	333.7	326.5	323.2	319.8	316.4	313.0
62.5°	319.3	309.2	299.1	292.7	290.0	287.3	284.5	281.9
65°	267.3	258.3	249.2	243.4	240.9	238.4	235.9	233.4
67.5°	219.6	211.9	204.0	198.8	196.0	193.1	190.4	187.6
70°	187.2	180.2	173.3	168.7	166.7	164.5	162.4	160.3
72.5°	158.1	152.1	146.2	142.2	140.4	138.4	136.4	134.5
75°	116.5	111.6	106.7	103.7	102.5	101.2	99.9	98.6
77.5°	82.4	79.5	76.7	75.1	74.7	74.4	74.0	73.6
80°	63.2	62.6	62.0	61.5	61.3	61.1	60.9	60.7
82.5°	49.1	48.7	48.2	47.9	47.7	47.4	47.3	47.1
85°	28.5	28.2	27.7	27.5	27.5	27.5	27.5	27.5
87.5°	12.8	12.8	12.8	12.8	13.0	13.3	13.5	13.6
90°	12.6	13.2	13.9	14.4	14.6	14.8	15.1	15.2
92.5°	21.0	21.4	21.8	22.0	22.2	22.3	22.5	22.6
95°	39.3	39.7	40.0	40.2	40.2	40.2	40.2	40.2
97.5°	62.0	62.3	62.8	63.0	63.0	63.0	63.0	63.0
100°	78.3	78.5	78.7	78.8	78.8	78.8	78.8	78.8
102.5°	95.5	95.9	96.1	96.4	96.5	96.6	96.7	96.8
105°	121.7	122.1	122.4	122.7	123.1	123.4	123.8	124.1
107.5°	150.1	150.3	150.7	150.9	150.8	150.8	150.8	150.8
110°	168.9	168.7	168.4	168.5	168.9	169.2	169.5	169.9





TEST NUMBER: P332935-940

CATALOG NUMBER: S124RDIP-S795D590U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	189.2	189.1	189.1	189.1	189.2	189.2	189.3	189.4
115°	220.5	220.4	220.3	220.2	220.1	219.9	219.8	219.7
117.5°	250.6	250.2	249.8	249.5	249.2	249.1	248.8	248.6
120°	271.0	270.4	269.8	269.7	269.9	270.1	270.4	270.5
122.5°	291.7	291.3	290.9	290.5	290.1	289.7	289.3	288.9
125°	322.0	321.7	321.6	321.3	321.1	320.8	320.7	320.4
127.5°	351.0	350.8	350.5	350.4	350.2	350.0	349.8	349.6
130°	371.3	371.1	370.9	370.5	370.1	369.6	369.2	368.7
132.5°	390.5	390.2	390.0	389.8	389.6	389.4	389.2	389.1
135°	419.1	418.9	418.7	418.4	418.0	417.7	417.4	417.1
137.5°	446.8	446.6	446.3	446.1	446.2	446.3	446.4	446.5
140°	465.1	465.0	464.9	464.8	464.7	464.6	464.5	464.3
142.5°	482.4	482.4	482.3	482.3	482.3	482.3	482.2	482.2
145°	508.4	508.3	508.1	507.9	507.6	507.2	506.8	506.6
147.5°	531.9	531.8	531.7	531.6	531.5	531.4	531.3	531.2
150°	546.7	546.7	546.7	546.7	546.5	546.4	546.4	546.3
152.5°	560.7	561.0	561.2	561.2	561.0	560.6	560.4	560.1
155°	580.1	580.6	581.1	581.1	580.6	580.1	579.7	579.3
157.5°	597.4	597.7	598.1	598.0	597.6	597.3	596.8	596.5
160°	608.0	608.2	608.6	608.5	608.0	607.3	606.8	606.3
162.5°	617.4	618.0	618.7	618.7	618.1	617.5	617.0	616.4
165°	630.0	630.6	631.3	631.4	631.0	630.5	630.1	629.6
167.5°	640.5	641.2	641.9	641.9	641.2	640.5	639.8	639.1
170°	646.2	646.9	647.6	647.6	646.8	646.0	645.2	644.4
172.5°	650.5	651.3	652.0	652.0	651.2	650.4	649.6	648.9
175°	655.1	655.9	656.7	656.7	655.9	655.1	654.3	653.5
177.5°	657.6	658.3	658.9	658.9	658.2	657.5	656.7	655.9
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6

(END OF REPORT)