

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: P332709-930

Luminaire Tested: **S124DIP-S1195D1205U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332709-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D1205U930-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

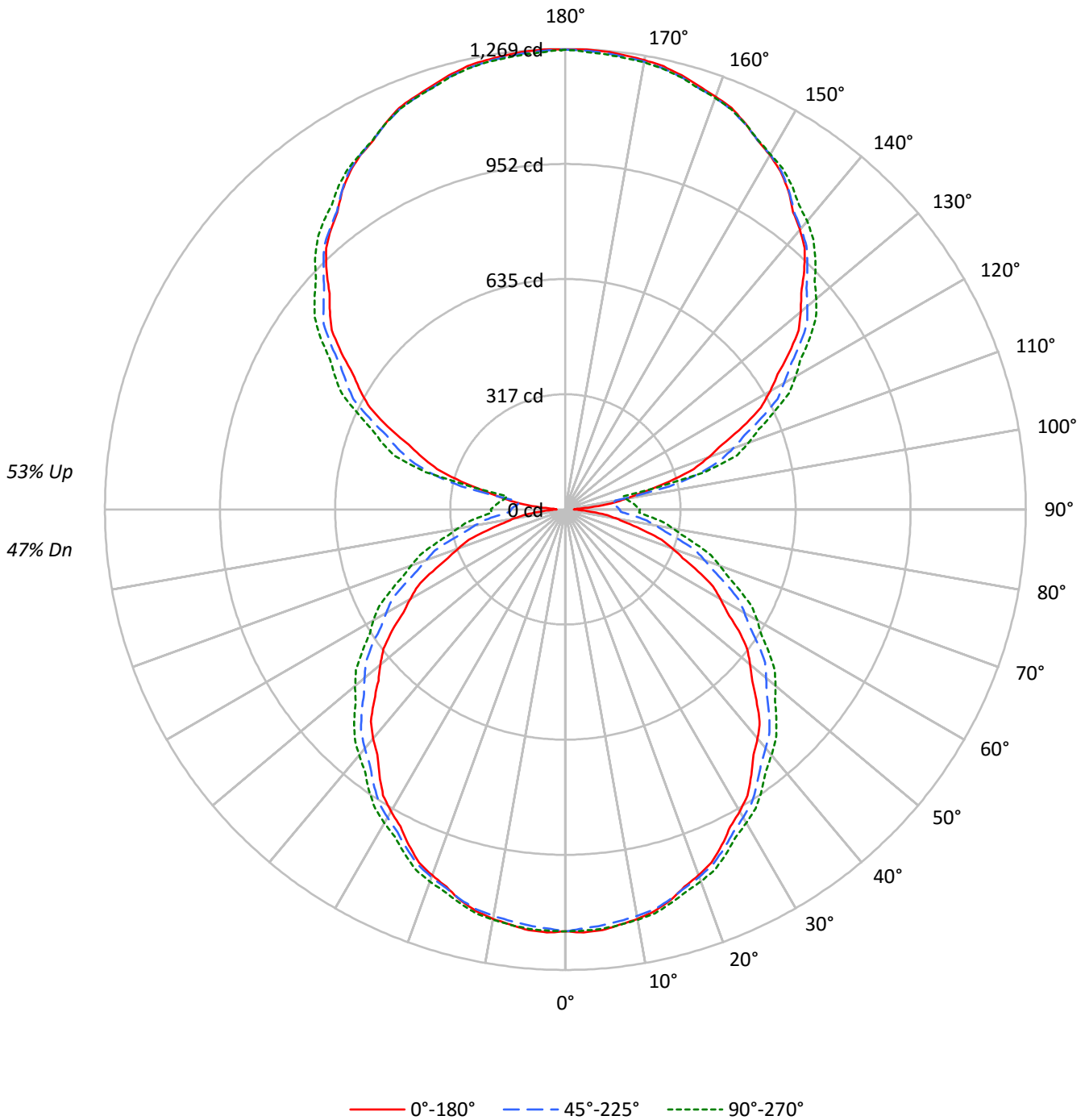
Lumens per Lamp: N/A  
Luminaire Lumens: 7884.7 lumens  
Efficiency: N/A  
Efficacy: 110.0 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 71.7  
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



TEST NUMBER: P332709-930  
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### Luminous Intensity Polar Plot





TEST NUMBER: P332709-930

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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	106	106	106	106	98	98	98	98	81	81	81	67	67	67	53	53	53	47
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	43	37
2	87	79	73	67	80	73	67	62	61	57	53	50	47	44	39	37	35	30
3	79	69	62	55	72	64	57	52	53	48	44	43	40	37	34	32	30	25
4	72	61	53	47	66	56	49	43	47	42	37	39	34	31	31	28	25	21
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	27	24	22	18
6	61	48	40	34	56	45	37	32	38	32	28	31	27	23	25	22	19	16
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	23	19	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	13	11
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	14	12	10

**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	1.4
10°-20°	315.4	4.0
20°-30°	477.0	6.0
30°-40°	577.1	7.3
40°-50°	610.1	7.7
50°-60°	574.2	7.3
60°-70°	476.4	6.0
70°-80°	334.6	4.2
80°-90°	192.8	2.4
90°-100°	155.6	2.0
100°-110°	359.4	4.6
110°-120°	584.2	7.4
120°-130°	702.2	8.9
130°-140°	731.3	9.3
140°-150°	673.8	8.5
150°-160°	541.2	6.9
160°-170°	349.1	4.4
170°-180°	120.3	1.5
0°-30°	902.5	11.4
0°-40°	1479.6	18.8
0°-60°	2663.8	33.8
0°-90°	3667.6	46.5
90°-120°	1099.2	13.9
90°-150°	3206.5	40.7
90°-180°	4217.0	53.5
0°-180°	7884.7	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°	24	86	150	191	206	16
95°	69	82	134	173	188	80
105°	297	330	382	419	399	312
115°	540	556	596	625	635	532
125°	754	758	787	813	823	673
135°	931	931	943	965	975	717
145°	1072	1073	1073	1082	1089	670
155°	1174	1174	1172	1175	1173	541
165°	1238	1234	1234	1240	1232	350
175°	1267	1261	1262	1269	1259	121
180°	1267	1267	1267	1267	1267	



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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°	39.1	51.4	63.7	75.9	88.1	100.8	113.8	126.9	139.8	152.9	161.5
90°	23.6	37.6	51.4	65.3	79.2	93.3	107.4	121.5	135.6	149.7	159.4
92.5°	31.7	42.2	52.8	63.3	73.9	86.3	100.4	114.5	128.6	142.8	152.1
95°	69.1	71.4	73.8	76.2	78.6	85.9	97.9	110.0	122.1	134.1	143.2
97.5°	126.0	138.7	151.4	164.0	176.8	177.2	165.4	153.7	141.9	130.2	137.9
100°	169.7	181.0	192.3	203.6	214.9	211.7	194.0	176.2	158.4	140.6	144.9
102.5°	219.7	229.1	238.5	247.9	257.2	265.5	272.8	280.1	287.3	294.6	263.5
105°	296.9	303.9	311.0	318.0	325.1	334.4	346.3	358.0	369.7	381.5	390.6
107.5°	370.7	376.1	381.5	386.8	392.2	400.6	412.2	423.8	435.4	446.9	454.9
110°	419.6	424.4	429.0	433.7	438.4	446.5	457.8	469.2	480.6	492.0	499.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	467.2	471.8	476.5	481.3	486.0	493.5	503.8	514.0	524.2	534.5	540.9
115°	540.2	543.5	546.7	549.9	553.2	559.3	568.3	577.4	586.4	595.5	602.3
117.5°	607.2	609.6	612.0	614.4	616.9	622.6	631.7	640.7	649.8	658.9	664.9
120°	651.7	653.4	655.1	656.8	658.5	663.4	671.6	679.8	687.9	696.2	702.4
122.5°	694.1	694.8	695.5	696.1	696.8	701.2	709.5	717.7	725.9	734.2	740.2
125°	753.6	754.2	754.7	755.3	755.8	759.5	766.3	773.1	779.9	786.8	792.9
127.5°	811.0	810.9	810.8	810.7	810.7	813.8	820.4	826.9	833.4	839.9	845.1
130°	847.0	846.9	846.9	846.8	846.7	849.3	854.6	859.8	865.1	870.3	875.8
132.5°	881.2	881.3	881.3	881.4	881.5	883.8	888.3	892.8	897.3	901.8	907.0
135°	931.0	930.7	930.6	930.3	930.2	931.5	934.3	937.2	940.1	943.0	948.0
137.5°	976.2	976.1	975.8	975.7	975.4	976.3	978.2	980.2	982.0	984.0	988.6
140°	1005.8	1006.0	1006.1	1006.2	1006.3	1006.8	1007.5	1008.2	1008.9	1009.6	1014.0
142.5°	1031.4	1032.0	1032.7	1033.4	1034.1	1034.5	1034.6	1034.7	1034.8	1034.9	1038.6
145°	1071.8	1072.1	1072.4	1072.9	1073.2	1073.3	1073.3	1073.3	1073.3	1073.3	1075.3
147.5°	1104.2	1105.1	1106.0	1106.9	1107.7	1108.1	1107.9	1107.7	1107.4	1107.3	1107.7
150°	1127.7	1128.2	1128.8	1129.4	1129.9	1130.1	1129.8	1129.7	1129.4	1129.2	1129.2
152.5°	1146.4	1147.0	1147.6	1148.2	1148.8	1148.9	1148.6	1148.2	1147.8	1147.5	1147.8
155°	1173.8	1173.9	1174.2	1174.4	1174.6	1174.4	1173.8	1173.1	1172.5	1171.8	1172.7
157.5°	1197.0	1196.9	1196.8	1196.7	1196.5	1196.1	1195.4	1194.7	1194.0	1193.3	1194.3
160°	1210.7	1210.1	1209.4	1208.8	1208.2	1207.8	1207.5	1207.3	1207.1	1206.9	1208.2
162.5°	1222.8	1222.1	1221.2	1220.4	1219.6	1219.1	1218.9	1218.7	1218.5	1218.3	1219.5
165°	1238.2	1237.1	1236.1	1235.0	1234.0	1233.5	1233.5	1233.5	1233.5	1233.5	1235.1
167.5°	1250.3	1249.2	1248.1	1247.0	1245.9	1245.3	1245.2	1245.0	1245.0	1244.8	1246.7
170°	1257.1	1255.9	1254.6	1253.4	1252.1	1251.6	1251.7	1252.0	1252.1	1252.4	1254.1
172.5°	1261.7	1260.4	1259.1	1257.8	1256.6	1256.1	1256.3	1256.5	1256.7	1256.9	1258.6
175°	1266.6	1265.3	1264.0	1262.8	1261.5	1261.0	1261.2	1261.4	1261.7	1261.8	1263.7
177.5°	1268.9	1267.7	1266.5	1265.3	1264.1	1263.7	1264.0	1264.4	1264.8	1265.1	1266.4
180°	1266.6	1266.6	1266.6	1266.6	1266.6	1266.6	1266.6	1266.6	1266.6	1266.6	1266.6



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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°	170.2	178.8	187.4	193.1	195.7	198.3	201.0	203.6
90°	169.0	178.7	188.3	194.5	197.3	200.0	202.8	205.5
92.5°	161.6	171.0	180.4	186.3	188.7	191.1	193.6	195.9
95°	152.2	161.3	170.4	176.3	179.1	182.0	184.8	187.6
97.5°	145.6	153.4	161.0	166.2	168.9	171.6	174.3	177.0
100°	149.1	153.4	157.5	160.8	163.1	165.3	167.5	169.7
102.5°	232.5	201.5	170.5	156.0	158.4	160.7	163.0	165.3
105°	399.7	408.9	418.0	420.0	414.7	409.4	404.1	398.8
107.5°	463.0	471.0	479.1	484.5	487.4	490.3	493.2	496.0
110°	506.1	513.2	520.3	525.3	528.2	531.2	534.1	537.1





TEST NUMBER: P332709-930

CATALOG NUMBER: S124DIP-S1195D1205U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	547.2	553.5	559.9	564.6	567.7	570.8	574.0	577.1
115°	609.0	615.9	622.6	627.0	629.1	631.1	633.1	635.1
117.5°	670.7	676.7	682.7	686.7	688.9	691.2	693.4	695.6
120°	708.6	714.8	721.0	725.0	726.9	728.8	730.7	732.6
122.5°	746.2	752.3	758.3	762.1	763.8	765.5	767.1	768.8
125°	799.0	805.1	811.2	815.3	817.3	819.2	821.2	823.0
127.5°	850.1	855.2	860.3	863.7	865.5	867.3	869.1	870.9
130°	881.2	886.6	892.0	895.6	897.3	899.1	900.8	902.5
132.5°	912.2	917.4	922.6	925.9	927.5	929.0	930.7	932.2
135°	953.1	958.1	963.1	966.8	968.9	971.1	973.2	975.3
137.5°	993.4	998.0	1002.7	1005.7	1007.1	1008.4	1009.7	1011.0
140°	1018.4	1022.8	1027.2	1030.2	1031.8	1033.6	1035.2	1036.8
142.5°	1042.4	1046.1	1049.9	1052.4	1053.6	1054.9	1056.1	1057.4
145°	1077.3	1079.2	1081.1	1082.9	1084.4	1086.1	1087.6	1089.2
147.5°	1108.1	1108.5	1108.9	1109.6	1110.8	1111.9	1113.0	1114.2
150°	1129.2	1129.2	1129.2	1129.4	1129.5	1129.8	1130.0	1130.2
152.5°	1148.1	1148.4	1148.8	1148.8	1148.8	1148.6	1148.5	1148.3
155°	1173.5	1174.4	1175.3	1175.3	1174.7	1174.0	1173.5	1172.8
157.5°	1195.5	1196.5	1197.7	1197.7	1196.5	1195.5	1194.3	1193.3
160°	1209.4	1210.7	1211.9	1211.9	1210.7	1209.4	1208.2	1206.9
162.5°	1220.8	1222.1	1223.4	1223.3	1221.8	1220.4	1219.0	1217.5
165°	1236.8	1238.5	1240.2	1240.1	1238.2	1236.2	1234.4	1232.5
167.5°	1248.5	1250.3	1252.2	1252.1	1250.0	1247.9	1245.8	1243.7
170°	1255.7	1257.4	1259.1	1258.9	1256.8	1254.7	1252.6	1250.5
172.5°	1260.3	1262.0	1263.6	1263.4	1261.1	1258.8	1256.5	1254.3
175°	1265.7	1267.5	1269.4	1269.1	1266.6	1264.0	1261.5	1259.0
177.5°	1267.8	1269.1	1270.5	1270.2	1268.1	1266.1	1264.0	1262.1
180°	1266.6	1266.6	1266.6	1266.6	1266.6	1266.6	1266.6	1266.6

(END OF REPORT)