

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: P332711-940

Luminaire Tested: **S124DIP-S1195D1205U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332711-940  
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-S1195D1205U940-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8173.2 lumens  
Efficiency: N/A  
Efficacy: 114.0 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

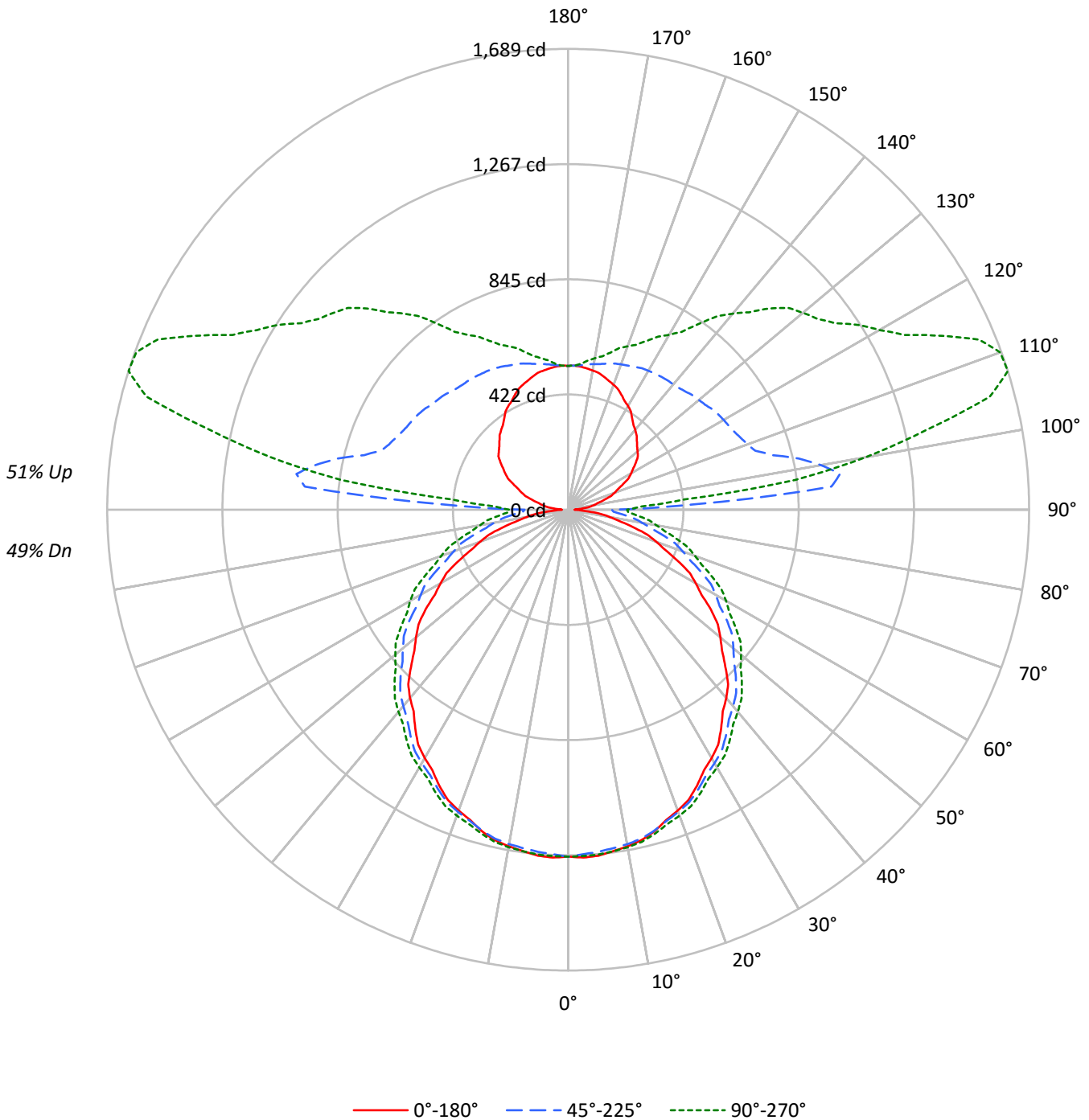
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	88	80	73	68	80	73	68	63	62	57	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26	23
5	67	54	46	40	61	50	43	37	43	37	32	35	31	27	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	26	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	18	15	13	11

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

	0°	45°	90°
0°	10266	10266	10266
5°	10297	10032	10061
10°	10234	9869	9861
15°	10142	9679	9625
20°	10004	9469	9396
25°	9848	9234	9144
30°	9679	9000	8885
35°	9488	8760	8658
40°	9335	8533	8422
45°	9109	8323	8219
50°	8917	8080	8004
55°	8719	7852	7753
60°	8410	7562	7524
65°	8071	7250	7242
70°	7660	6893	6914
75°	7091	6501	6617
80°	6453	6124	6326
85°	5641	5792	6154



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	120.4	1.5
10°-20°	345.0	4.2
20°-30°	521.7	6.4
30°-40°	631.2	7.7
40°-50°	667.3	8.2
50°-60°	628.0	7.7
60°-70°	521.0	6.4
70°-80°	366.0	4.5
80°-90°	209.8	2.6
90°-100°	503.8	6.2
100°-110°	883.8	10.8
110°-120°	771.2	9.4
120°-130°	631.8	7.7
130°-140°	512.9	6.3
140°-150°	383.5	4.7
150°-160°	267.5	3.3
160°-170°	157.3	1.9
170°-180°	51.2	0.6
0°-30°	987.1	12.1
0°-40°	1618.2	19.8
0°-60°	2913.5	35.6
0°-90°	4010.2	49.1
90°-120°	2158.7	26.4
90°-150°	3687.0	45.1
90°-180°	4163.0	50.9
0°-180°	8173.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1272	1272	1272	1272	1272	
5°	1273	1268	1259	1269	1269	121
15°	1220	1221	1218	1229	1229	344
25°	1116	1125	1129	1144	1146	514
35°	977	994	1008	1027	1032	611
45°	814	842	869	892	900	629
55°	638	668	710	738	748	568
65°	441	487	535	570	582	437
75°	245	298	357	396	410	260
85°	75	136	199	240	256	80
90°	24	88	160	201	215	17
95°	53	174	968	579	428	53
105°	134	218	774	1592	1599	144
115°	222	291	673	1262	1508	221
125°	303	360	643	1057	1192	270
135°	356	424	611	915	1043	276
145°	409	466	595	750	830	257
155°	463	500	578	655	683	214
165°	505	520	554	587	596	142
175°	526	527	532	539	537	50
180°	527	527	527	527	527	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1276.1	1275.3	1274.6	1273.8	1273.1	1271.7	1269.6	1267.7	1265.6	1263.6	1265.3
5°	1272.9	1272.0	1271.0	1270.2	1269.2	1267.6	1265.3	1263.1	1261.0	1258.7	1261.2
7.5°	1262.1	1261.6	1261.0	1260.4	1259.9	1258.6	1256.9	1255.0	1253.1	1251.3	1254.2
10°	1253.0	1252.7	1252.4	1252.1	1251.8	1250.8	1249.2	1247.7	1246.1	1244.5	1247.3
12.5°	1240.5	1240.5	1240.4	1240.3	1240.3	1239.7	1238.6	1237.5	1236.4	1235.4	1238.0
15°	1220.3	1220.6	1220.9	1221.2	1221.6	1221.2	1220.3	1219.3	1218.3	1217.5	1220.3
17.5°	1192.7	1193.6	1194.5	1195.5	1196.4	1196.9	1196.7	1196.4	1196.2	1196.1	1199.0
20°	1173.3	1174.2	1175.2	1176.2	1177.1	1177.7	1178.0	1178.4	1178.7	1179.0	1182.1
22.5°	1151.6	1152.8	1154.1	1155.2	1156.5	1157.4	1157.9	1158.5	1159.0	1159.6	1162.8
25°	1116.3	1118.2	1120.2	1122.0	1123.9	1125.3	1126.3	1127.2	1128.2	1129.2	1132.7
27.5°	1077.0	1079.9	1082.6	1085.4	1088.2	1090.3	1091.7	1093.2	1094.7	1096.1	1099.3
30°	1050.8	1053.4	1055.9	1058.5	1061.0	1063.4	1065.5	1067.7	1070.0	1072.2	1075.7
32.5°	1022.3	1025.4	1028.4	1031.4	1034.5	1037.2	1039.7	1042.2	1044.6	1047.1	1051.1
35°	976.8	980.6	984.4	988.2	991.9	995.4	998.6	1001.7	1005.0	1008.1	1012.5
37.5°	930.9	935.3	939.7	944.1	948.4	952.5	956.4	960.4	964.3	968.2	972.8
40°	901.3	905.4	909.5	913.6	917.7	922.0	926.5	930.9	935.3	939.8	944.5
42.5°	867.2	871.7	876.4	881.0	885.6	890.6	895.7	900.9	906.1	911.3	916.6
45°	814.5	820.5	826.5	832.5	838.5	844.5	850.5	856.6	862.6	868.6	874.0
47.5°	764.0	770.3	776.5	782.7	788.9	795.5	802.5	809.4	816.4	823.3	828.8
50°	727.6	734.6	741.5	748.5	755.5	762.4	769.4	776.3	783.3	790.2	796.6
52.5°	691.2	698.1	705.1	712.0	719.0	726.5	734.4	742.4	750.4	758.4	764.7
55°	637.9	644.5	651.2	657.8	664.5	672.5	682.1	691.5	701.1	710.5	716.8
57.5°	578.4	586.7	594.9	603.1	611.3	620.1	629.5	639.0	648.5	657.8	665.4
60°	539.7	547.9	556.1	564.4	572.6	581.9	592.4	602.8	613.2	623.7	631.0
62.5°	502.0	511.0	520.0	529.1	538.0	547.7	558.2	568.6	579.1	589.5	596.7
65°	441.4	451.6	461.6	471.8	481.9	492.3	503.1	513.9	524.6	535.4	543.3
67.5°	383.0	393.8	404.6	415.3	426.1	437.2	448.7	460.2	471.7	483.3	491.3
70°	343.1	353.9	364.7	375.4	386.2	397.6	409.6	421.6	433.6	445.7	454.2
72.5°	304.4	315.4	326.5	337.4	348.5	360.3	373.2	385.9	398.7	411.5	419.8
75°	245.0	256.6	268.3	280.0	291.8	304.3	317.5	330.8	344.1	357.4	366.2
77.5°	189.4	201.8	214.2	226.6	239.0	252.2	266.1	280.0	293.9	307.8	316.8
80°	155.2	167.8	180.5	193.1	205.8	219.1	233.0	247.0	260.9	274.8	284.3
82.5°	121.0	134.2	147.4	160.5	173.7	187.3	201.2	215.1	229.0	242.9	252.6
85°	75.4	88.7	102.0	115.3	128.6	142.4	156.6	170.9	185.1	199.4	208.8
87.5°	42.4	55.6	69.2	82.3	95.4	108.8	123.9	137.8	152.0	166.3	175.3
90°	23.8	38.5	54.3	68.0	81.7	94.8	114.7	128.2	143.9	159.6	167.7
92.5°	33.4	50.2	71.3	95.4	121.9	156.0	222.2	316.2	408.1	462.8	416.8
95°	52.7	66.3	87.0	110.9	146.2	201.5	304.6	487.5	748.1	968.4	1000.8
97.5°	78.1	87.1	105.0	126.4	156.8	204.2	286.4	439.6	698.7	1004.5	1214.2
100°	94.4	102.6	118.2	138.8	166.7	210.2	283.7	413.0	636.8	941.3	1215.1
102.5°	111.0	119.8	133.5	152.3	178.4	219.5	287.0	402.1	594.0	865.1	1147.0
105°	134.0	143.5	155.0	173.8	198.8	237.8	299.3	397.0	553.8	773.7	1025.1
107.5°	162.4	169.6	180.0	198.4	221.4	259.2	315.8	405.3	540.3	719.0	925.5
110°	180.3	186.8	196.4	213.3	236.3	272.1	328.8	412.3	537.4	698.7	874.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	197.4	203.4	213.3	228.8	251.4	286.6	341.2	420.1	537.2	685.5	843.2
115°	222.0	227.9	238.1	251.3	273.8	308.3	359.8	432.1	538.6	673.1	810.6
117.5°	249.1	253.7	261.8	274.9	295.1	329.7	378.4	445.1	540.9	663.5	790.9
120°	266.2	269.2	277.4	289.7	308.3	342.3	390.9	454.0	543.0	657.8	779.2
122.5°	282.8	285.0	292.5	303.2	322.7	355.3	403.3	462.5	545.2	651.3	766.8
125°	303.1	306.9	312.8	323.9	343.2	376.0	421.2	476.9	550.0	642.9	748.4
127.5°	322.1	325.0	332.3	344.9	365.2	397.3	439.3	489.2	552.2	632.1	724.9
130°	331.7	335.6	343.5	358.7	378.1	410.5	450.8	496.3	554.2	625.5	710.0
132.5°	342.5	345.4	356.0	370.3	391.4	421.6	460.9	504.5	556.4	620.2	697.0
135°	356.1	360.3	370.7	388.3	410.1	438.1	474.5	514.1	558.7	610.6	675.8
137.5°	371.3	375.0	386.0	402.5	424.7	450.8	483.8	519.7	558.5	604.0	658.1
140°	382.1	384.9	395.9	413.2	434.7	459.6	491.0	524.4	560.0	599.7	648.4
142.5°	392.5	395.6	406.1	422.8	443.7	467.6	497.7	528.2	561.5	597.4	640.6
145°	408.7	411.4	421.5	435.7	455.0	477.7	504.6	532.6	562.7	594.8	629.8
147.5°	427.0	427.8	436.6	451.2	467.3	487.6	512.9	537.3	563.7	591.0	620.5
150°	438.7	439.4	447.4	459.5	474.7	494.3	517.0	539.8	563.7	588.5	614.5
152.5°	448.4	448.4	456.7	468.2	482.1	500.1	520.4	541.5	562.0	584.4	607.8
155°	463.2	464.2	470.4	480.8	492.2	507.7	525.3	543.0	559.5	578.2	597.9
157.5°	477.9	477.9	483.7	491.8	501.7	514.0	528.9	543.0	556.9	571.8	587.7
160°	487.0	487.0	491.2	498.4	506.7	518.1	530.5	543.0	554.4	566.8	580.2
162.5°	495.3	494.5	497.8	504.2	511.7	520.6	532.2	543.0	551.9	561.8	573.6
165°	504.6	504.6	506.7	511.8	517.0	523.3	532.6	540.9	547.1	554.4	562.7
167.5°	514.0	512.9	514.0	517.9	520.8	525.6	532.4	538.4	542.2	546.9	552.7
170°	518.1	517.0	518.1	521.2	523.3	526.4	531.5	536.7	538.8	541.9	546.1
172.5°	522.2	521.2	521.4	523.7	525.0	527.2	530.7	535.1	535.5	536.9	540.3
175°	526.4	525.3	525.3	526.4	527.4	527.4	529.5	532.6	531.5	531.5	533.6
177.5°	528.2	527.4	526.6	527.4	527.4	527.4	528.2	529.9	528.2	528.2	529.1
180°	527.4	527.4	527.4	527.4	527.4	527.4	527.4	527.4	527.4	527.4	527.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1267.1	1268.9	1270.7	1271.4	1271.1	1270.9	1270.7	1270.4
5°	1263.8	1266.3	1268.8	1270.0	1269.6	1269.4	1269.0	1268.7
7.5°	1257.0	1259.9	1262.8	1264.0	1263.6	1263.4	1263.0	1262.8
10°	1250.2	1253.0	1255.9	1257.1	1256.9	1256.5	1256.2	1255.9
12.5°	1240.5	1243.1	1245.7	1247.1	1247.0	1246.9	1246.8	1246.8
15°	1223.2	1226.0	1228.8	1230.1	1229.8	1229.5	1229.1	1228.8
17.5°	1201.9	1204.8	1207.7	1209.1	1208.8	1208.5	1208.3	1208.0
20°	1185.4	1188.5	1191.7	1193.2	1193.2	1193.2	1193.2	1193.2
22.5°	1165.9	1169.1	1172.2	1174.1	1174.7	1175.1	1175.6	1176.2
25°	1136.1	1139.6	1143.1	1145.0	1145.3	1145.6	1145.9	1146.2
27.5°	1102.6	1105.8	1109.0	1110.8	1111.3	1111.6	1112.0	1112.3
30°	1079.1	1082.6	1086.1	1088.2	1088.8	1089.4	1090.0	1090.7
32.5°	1055.1	1059.1	1063.1	1065.4	1066.0	1066.7	1067.3	1067.9
35°	1017.0	1021.4	1025.8	1028.5	1029.5	1030.5	1031.4	1032.3
37.5°	977.2	981.7	986.2	989.0	990.0	991.0	992.0	993.0
40°	949.2	954.0	958.8	961.8	963.0	964.3	965.5	966.8
42.5°	921.8	927.0	932.3	935.4	936.5	937.5	938.4	939.5
45°	879.3	884.8	890.1	893.6	895.2	896.7	898.3	899.9
47.5°	834.5	840.0	845.6	849.3	851.2	853.1	855.0	856.9
50°	802.9	809.2	815.6	819.7	821.6	823.5	825.4	827.2
52.5°	771.1	777.4	783.6	787.8	789.7	791.6	793.4	795.4
55°	723.2	729.5	735.8	739.9	741.8	743.8	745.6	747.5
57.5°	672.9	680.5	688.0	692.6	694.4	696.2	697.9	699.7
60°	638.2	645.5	652.7	657.6	660.2	662.7	665.3	667.8
62.5°	604.0	611.4	618.6	623.5	626.1	628.6	631.1	633.6
65°	551.2	559.1	567.0	572.2	574.8	577.3	579.9	582.4
67.5°	499.4	507.4	515.4	520.7	523.2	525.6	528.1	530.6
70°	462.8	471.3	479.8	485.3	487.4	489.6	491.9	494.1
72.5°	428.1	436.4	444.7	450.0	452.5	455.0	457.4	459.9
75°	375.1	384.0	392.8	398.7	401.5	404.4	407.2	410.1
77.5°	325.8	334.8	343.8	349.8	352.8	355.9	358.9	361.9
80°	293.8	303.3	312.8	318.8	321.3	323.9	326.4	329.0
82.5°	262.4	272.2	281.9	288.2	291.0	293.7	296.5	299.3
85°	218.3	227.8	237.3	243.6	246.8	249.9	253.2	256.3
87.5°	184.7	194.0	203.5	209.5	212.4	215.4	218.0	220.8
90°	178.0	188.2	198.4	204.3	207.9	211.4	212.9	215.4
92.5°	355.4	314.1	291.7	276.7	267.0	263.9	263.0	265.5
95°	908.7	756.7	626.4	531.5	483.7	454.4	438.5	427.9
97.5°	1266.1	1214.6	1121.6	1019.0	947.3	887.6	859.3	840.3
100°	1374.9	1404.2	1362.0	1290.7	1202.7	1141.7	1112.9	1106.8
102.5°	1362.9	1474.0	1497.0	1470.4	1417.6	1374.3	1344.0	1339.8
105°	1270.3	1457.5	1568.0	1615.7	1620.2	1614.5	1602.6	1598.8
107.5°	1143.4	1342.1	1494.3	1591.8	1645.3	1671.2	1683.8	1688.8
110°	1066.6	1253.1	1410.7	1529.6	1605.6	1651.7	1672.8	1684.7





TEST NUMBER: P332711-940

CATALOG NUMBER: S124DIP-S1195D1205U940-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1008.2	1173.8	1322.8	1441.5	1527.5	1582.7	1611.3	1629.0
115°	947.1	1081.5	1209.7	1313.8	1397.8	1462.2	1497.5	1508.1
117.5°	912.0	1024.1	1126.1	1215.0	1287.4	1342.1	1378.1	1387.1
120°	894.3	996.9	1086.2	1164.2	1225.7	1273.9	1303.4	1317.3
122.5°	878.6	978.0	1059.8	1128.5	1180.7	1222.0	1247.1	1260.7
125°	853.9	949.0	1026.5	1087.4	1130.8	1162.8	1184.4	1192.5
127.5°	824.0	914.9	991.8	1049.8	1093.7	1122.6	1141.3	1149.7
130°	801.7	889.3	965.5	1024.1	1068.5	1096.4	1114.8	1122.9
132.5°	779.3	861.6	935.9	994.4	1038.0	1069.1	1086.7	1094.8
135°	746.2	818.6	886.9	942.2	985.5	1016.4	1034.9	1043.0
137.5°	717.0	778.6	836.5	886.4	926.8	956.9	972.2	981.2
140°	700.1	753.0	803.7	850.1	887.9	912.3	928.4	938.3
142.5°	685.2	731.7	775.3	815.6	849.0	871.5	885.6	892.8
145°	664.9	702.0	734.9	765.6	792.7	811.6	823.2	829.7
147.5°	648.1	676.4	701.4	724.9	744.9	761.1	770.0	772.8
150°	639.4	663.2	683.9	702.5	719.1	732.5	738.8	739.9
152.5°	630.2	650.7	669.8	685.1	699.2	710.2	713.9	715.0
155°	616.5	633.1	648.6	661.1	671.5	679.8	682.9	682.9
157.5°	601.8	615.7	628.7	638.7	646.6	652.8	654.7	654.7
160°	592.7	604.0	615.5	623.8	630.0	636.2	637.2	637.2
162.5°	583.5	593.3	602.3	609.7	614.2	620.5	621.5	620.6
165°	571.0	577.1	584.4	589.6	593.7	597.9	596.8	595.8
167.5°	558.7	563.5	569.3	572.4	574.4	577.1	576.9	576.1
170°	551.3	554.4	558.5	561.6	563.7	564.7	563.7	563.7
172.5°	544.6	546.9	549.4	551.6	552.9	553.9	552.9	551.3
175°	535.7	536.7	538.8	538.8	538.8	540.9	538.8	536.7
177.5°	529.9	530.7	530.7	531.5	530.7	531.5	529.9	528.2
180°	527.4	527.4	527.4	527.4	527.4	527.4	527.4	527.4

(END OF REPORT)