

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: P332989-930

Luminaire Tested: **S124RDIP-S1195D365U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332989-930
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: S124RDIP-S1195D365U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4962.9 lumens
Efficiency: N/A
Efficacy: 99.7 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

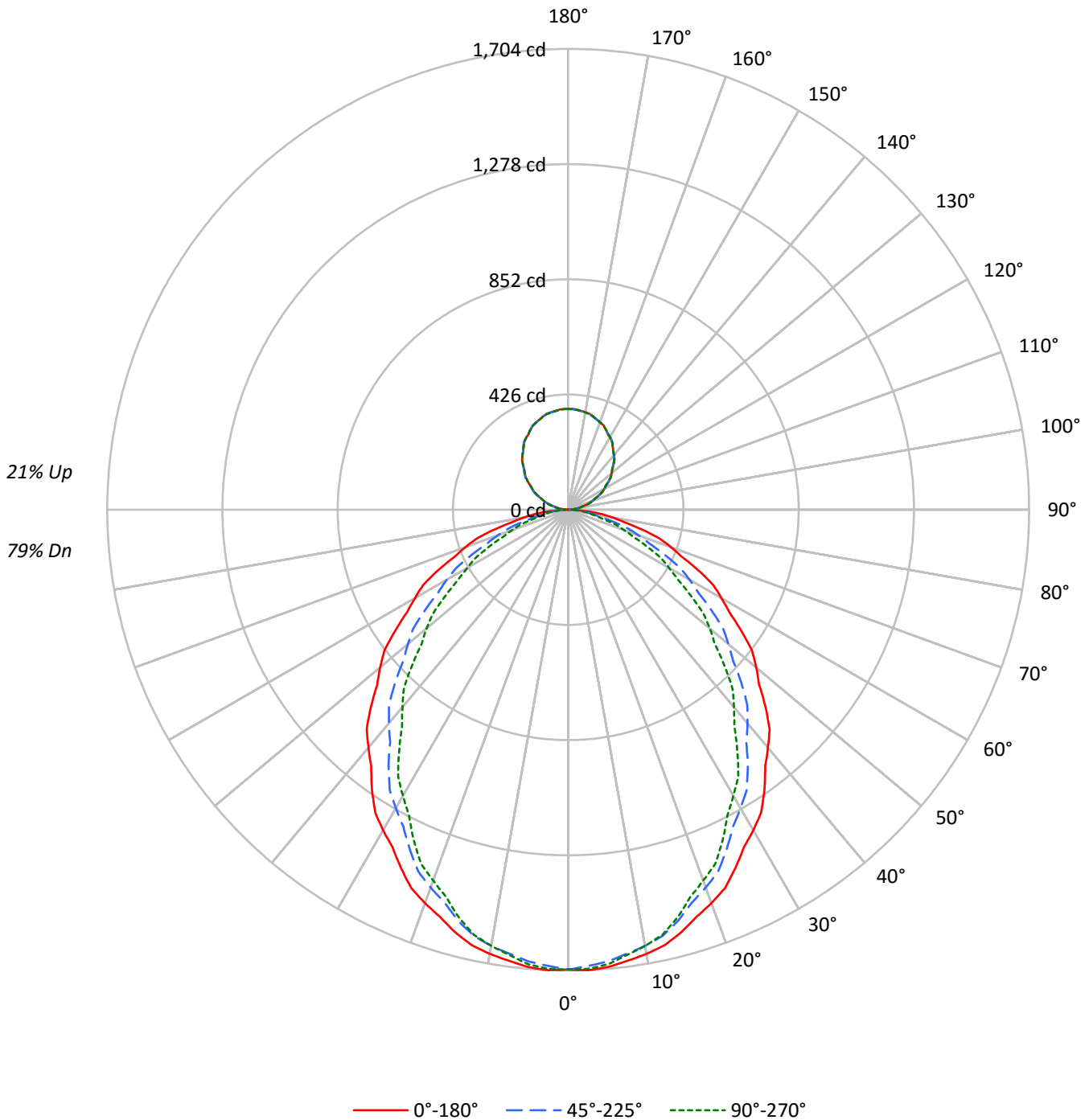
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332989-930

CATALOG NUMBER: S124RDIP-S1195D365U930-4F0-1E-UDD-F1

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	114	114	114	114	109	109	109	109	100	100	100		91	91	91		83	83	83	79
1	105	100	97	93	100	96	93	90	88	85	83		81	79	77		74	72	71	68
2	96	88	82	77	91	85	79	74	78	73	69		71	68	65		66	63	60	57
3	88	78	70	64	84	75	68	63	69	63	59		64	59	55		59	55	52	49
4	80	69	61	55	77	67	59	54	62	56	51		57	52	48		53	48	45	42
5	74	62	54	48	71	60	52	46	55	49	44		51	46	42		48	43	40	37
6	69	56	48	42	65	54	46	41	50	44	39		47	41	37		43	39	35	33
7	64	51	43	37	61	49	42	36	46	39	35		43	37	33		40	35	31	29
8	59	47	39	33	57	45	38	32	42	36	31		39	34	30		37	32	28	26
9	55	43	35	30	53	41	34	29	39	32	28		36	31	27		34	29	26	24
10	52	39	32	27	50	38	31	26	36	30	25		34	28	24		31	27	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13726	13726	13726
5°	13757	13588	13674
10°	13671	13426	13426
15°	13514	13143	13046
20°	13298	12773	12538
25°	13023	12339	12026
30°	12755	11882	11384
35°	12458	11406	10738
40°	12101	10866	10043
45°	11772	10330	9334
50°	11396	9712	8584
55°	10994	9070	7769
60°	10551	8365	6936
65°	10147	7484	6117
70°	9557	6515	5193
75°	8812	5402	4223
80°	7685	4114	3873
85°	6512	3742	3492



TEST NUMBER: P332989-930

CATALOG NUMBER: S124RDIP-S1195D365U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.7	3.2
10°-20°	445.4	9.0
20°-30°	643.1	13.0
30°-40°	729.0	14.7
40°-50°	704.0	14.2
50°-60°	585.4	11.8
60°-70°	404.2	8.1
70°-80°	204.9	4.1
80°-90°	53.7	1.1
90°-100°	24.6	0.5
100°-110°	72.8	1.5
110°-120°	123.5	2.5
120°-130°	162.9	3.3
130°-140°	182.9	3.7
140°-150°	179.8	3.6
150°-160°	151.2	3.0
160°-170°	100.6	2.0
170°-180°	35.2	0.7
0°-30°	1248.2	25.2
0°-40°	1977.3	39.8
0°-60°	3266.6	65.8
0°-90°	3929.4	79.2
90°-120°	220.9	4.5
90°-150°	746.5	15.0
90°-180°	1034.0	20.8
0°-180°	4962.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1700	1700	1700	1700	1700	
5°	1698	1692	1677	1689	1687	161
15°	1617	1604	1573	1570	1561	455
25°	1462	1437	1385	1364	1350	673
35°	1264	1221	1157	1114	1090	790
45°	1031	981	905	843	818	795
55°	781	727	644	579	552	698
65°	531	474	392	338	320	524
75°	282	234	173	144	135	298
85°	70	46	40	38	38	79
90°	1	4	6	8	9	4
95°	17	20	22	23	23	19
105°	67	67	69	69	70	71
115°	126	126	125	125	124	124
125°	183	183	183	182	182	163
135°	236	238	238	237	236	182
145°	287	288	288	288	287	179
155°	328	328	328	329	328	151
165°	358	357	356	358	357	101
175°	372	371	370	372	370	35
180°	372	372	372	372	372	



TEST NUMBER: P332989-930

CATALOG NUMBER: S124RDIP-S1195D365U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2
2.5°	1704.4	1703.5	1702.6	1701.6	1700.7	1699.0	1696.5	1693.9	1691.3	1688.8	1691.3
5°	1697.6	1696.5	1695.3	1694.2	1693.1	1690.7	1687.3	1683.8	1680.3	1676.8	1679.7
7.5°	1682.3	1681.1	1679.8	1678.6	1677.4	1674.5	1670.1	1665.6	1661.0	1656.5	1658.4
10°	1667.7	1666.2	1664.8	1663.4	1661.9	1658.6	1653.4	1648.2	1643.0	1637.8	1638.9
12.5°	1648.9	1647.3	1645.6	1643.9	1642.3	1638.3	1632.2	1626.1	1619.9	1613.8	1614.5
15°	1616.9	1614.3	1611.8	1609.2	1606.5	1601.6	1594.4	1587.1	1579.9	1572.6	1572.1
17.5°	1578.2	1574.3	1570.6	1566.8	1563.1	1556.9	1548.2	1539.5	1530.8	1522.2	1520.5
20°	1547.9	1544.2	1540.4	1536.7	1532.9	1526.1	1516.3	1506.4	1496.6	1486.8	1484.4
22.5°	1514.6	1510.4	1506.2	1501.9	1497.7	1490.4	1479.8	1469.3	1458.7	1448.2	1444.7
25°	1462.0	1456.8	1451.6	1446.4	1441.2	1432.6	1420.8	1408.9	1397.1	1385.2	1380.3
27.5°	1406.8	1400.3	1393.8	1387.2	1380.6	1371.1	1358.4	1345.7	1333.0	1320.4	1314.3
30°	1368.3	1361.1	1353.8	1346.5	1339.4	1328.9	1315.3	1301.7	1288.2	1274.6	1267.3
32.5°	1327.6	1319.5	1311.3	1303.2	1295.0	1283.9	1269.8	1255.8	1241.7	1227.7	1219.3
35°	1264.1	1254.8	1245.6	1236.3	1227.1	1215.2	1200.8	1186.3	1171.8	1157.4	1147.5
37.5°	1196.2	1186.6	1177.0	1167.5	1158.0	1145.2	1129.2	1113.1	1097.1	1081.1	1070.1
40°	1148.3	1138.7	1129.2	1119.7	1110.0	1097.1	1080.6	1064.0	1047.6	1031.1	1019.0
42.5°	1102.4	1092.4	1082.4	1072.4	1062.4	1048.8	1031.6	1014.4	997.3	980.1	967.7
45°	1031.1	1020.3	1009.7	999.0	988.3	974.2	956.9	939.6	922.2	904.8	890.6
47.5°	957.4	946.3	935.3	924.2	913.2	898.6	880.6	862.5	844.5	826.5	811.7
50°	907.4	896.1	884.8	873.6	862.3	847.3	828.8	810.3	791.8	773.3	758.9
52.5°	856.4	845.3	834.3	823.2	812.2	797.1	778.2	759.2	740.2	721.2	706.5
55°	781.1	769.6	758.0	746.4	734.8	719.7	700.8	682.1	663.2	644.4	629.4
57.5°	706.6	694.6	682.6	670.6	658.5	643.3	624.8	606.2	587.7	569.2	553.9
60°	653.5	642.0	630.4	618.8	607.2	592.2	573.7	555.2	536.6	518.1	503.1
62.5°	605.6	593.6	581.6	569.6	557.5	542.0	523.0	504.0	485.0	466.1	452.2
65°	531.2	518.7	506.3	493.8	481.4	465.9	447.4	428.9	410.4	391.8	379.4
67.5°	453.8	441.9	430.0	418.1	406.2	391.6	374.4	357.3	340.1	322.9	312.2
70°	404.9	392.7	380.6	368.4	356.3	341.9	325.5	309.0	292.5	276.0	266.4
72.5°	352.8	341.9	330.8	319.8	308.8	295.5	280.0	264.4	248.8	233.3	225.1
75°	282.5	271.8	261.1	250.4	239.7	227.6	213.9	200.3	186.8	173.2	166.5
77.5°	211.2	202.1	193.0	183.9	174.8	164.8	153.8	142.8	131.8	120.8	116.9
80°	165.3	156.9	148.5	140.1	131.8	123.3	114.5	105.9	97.2	88.5	87.6
82.5°	125.8	118.1	110.4	102.6	95.0	88.6	83.6	78.7	73.7	68.7	68.1
85°	70.3	64.5	58.7	52.9	47.1	43.9	43.0	42.1	41.3	40.4	39.8
87.5°	24.1	22.4	20.7	19.0	17.3	16.4	16.2	16.1	16.0	15.8	15.7
90°	0.9	1.5	2.3	3.0	3.7	4.3	4.8	5.3	5.8	6.4	6.7
92.5°	6.2	7.0	7.7	8.6	9.4	9.9	10.4	10.7	11.1	11.4	11.7
95°	17.3	17.9	18.4	19.0	19.6	20.1	20.5	21.0	21.4	21.9	22.1
97.5°	30.2	30.7	31.1	31.6	32.0	32.5	33.0	33.6	34.1	34.7	34.9
100°	40.4	40.6	40.8	41.1	41.3	41.7	42.3	43.0	43.5	44.1	44.2
102.5°	51.0	51.0	51.1	51.3	51.4	51.7	52.2	52.7	53.2	53.7	54.0
105°	67.1	67.2	67.3	67.3	67.3	67.5	67.8	68.1	68.3	68.6	68.7
107.5°	84.1	84.2	84.3	84.4	84.5	84.5	84.5	84.5	84.6	84.6	84.8
110°	95.6	95.8	95.9	96.0	96.1	96.2	96.1	96.0	96.0	96.0	95.8



TEST NUMBER: P332989-930

CATALOG NUMBER: S124RDIP-S1195D365U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	107.6	107.6	107.7	107.7	107.7	107.7	107.5	107.5	107.4	107.2	107.2
115°	125.6	125.6	125.6	125.6	125.6	125.6	125.4	125.3	125.1	125.1	125.0
117.5°	142.5	142.6	142.7	142.7	142.8	142.8	142.7	142.6	142.4	142.4	142.2
120°	153.8	154.1	154.3	154.6	154.9	154.9	154.7	154.5	154.3	154.2	153.8
122.5°	165.6	165.7	165.8	165.9	166.0	166.0	165.9	165.8	165.8	165.7	165.4
125°	183.0	183.0	183.0	183.0	183.0	182.9	182.9	182.8	182.7	182.6	182.5
127.5°	198.7	198.9	199.1	199.3	199.4	199.5	199.4	199.3	199.2	199.1	198.9
130°	209.8	209.9	210.1	210.3	210.5	210.6	210.6	210.6	210.6	210.6	210.5
132.5°	221.0	221.2	221.3	221.4	221.6	221.6	221.6	221.5	221.5	221.4	221.3
135°	235.9	236.4	236.7	237.1	237.5	237.7	237.7	237.7	237.7	237.7	237.6
137.5°	252.2	252.4	252.6	252.7	252.9	253.1	253.2	253.2	253.4	253.5	253.3
140°	263.0	263.2	263.3	263.4	263.6	263.6	263.6	263.6	263.6	263.6	263.6
142.5°	273.0	273.0	273.2	273.3	273.5	273.5	273.5	273.4	273.4	273.3	273.3
145°	286.7	286.9	287.1	287.4	287.7	287.9	287.9	288.0	288.0	288.1	288.0
147.5°	300.3	300.6	300.8	301.2	301.5	301.6	301.6	301.5	301.5	301.4	301.3
150°	308.6	308.8	309.1	309.3	309.6	309.7	309.7	309.7	309.7	309.7	309.7
152.5°	316.4	316.6	316.7	316.8	317.0	317.1	317.2	317.2	317.2	317.3	317.5
155°	328.4	328.4	328.4	328.4	328.4	328.4	328.3	328.2	328.2	328.2	328.4
157.5°	338.6	338.4	338.3	338.3	338.1	338.0	338.0	338.0	338.0	338.0	338.2
160°	344.5	344.5	344.5	344.4	344.3	344.2	344.2	344.1	344.1	344.0	344.2
162.5°	350.1	349.9	349.8	349.6	349.4	349.4	349.3	349.2	349.1	349.0	349.4
165°	357.5	357.3	357.2	356.9	356.8	356.6	356.4	356.4	356.2	356.1	356.4
167.5°	363.2	363.0	362.7	362.4	362.2	362.0	362.1	362.1	362.1	362.1	362.5
170°	366.5	366.2	365.8	365.5	365.2	365.1	365.1	365.2	365.3	365.3	365.7
172.5°	368.8	368.5	368.2	367.9	367.7	367.5	367.5	367.6	367.6	367.6	368.0
175°	371.9	371.6	371.3	371.0	370.6	370.5	370.4	370.3	370.3	370.2	370.6
177.5°	373.0	372.8	372.4	372.2	371.9	371.9	371.9	371.9	371.9	371.9	372.2
180°	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5



TEST NUMBER: P332989-930

CATALOG NUMBER: S124RDIP-S1195D365U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2
2.5°	1693.9	1696.5	1699.0	1700.1	1699.9	1699.7	1699.4	1699.2
5°	1682.6	1685.5	1688.4	1689.5	1689.0	1688.4	1687.8	1687.3
7.5°	1660.2	1662.1	1663.9	1664.4	1663.5	1662.6	1661.6	1660.7
10°	1640.1	1641.2	1642.4	1642.4	1641.2	1640.1	1638.9	1637.8
12.5°	1615.2	1615.9	1616.6	1616.1	1614.5	1612.9	1611.3	1609.6
15°	1571.5	1570.9	1570.3	1569.0	1567.0	1565.0	1563.0	1561.0
17.5°	1518.9	1517.3	1515.6	1513.4	1510.3	1507.2	1504.1	1501.0
20°	1482.1	1479.8	1477.5	1474.5	1470.7	1467.0	1463.1	1459.4
22.5°	1441.3	1437.8	1434.4	1431.1	1428.0	1424.9	1421.9	1418.8
25°	1375.3	1370.4	1365.5	1361.6	1358.7	1355.8	1352.9	1350.1
27.5°	1308.2	1302.1	1296.1	1290.9	1286.8	1282.6	1278.5	1274.3
30°	1260.0	1252.9	1245.6	1239.7	1235.0	1230.4	1225.8	1221.2
32.5°	1210.9	1202.5	1194.1	1187.7	1183.3	1178.9	1174.5	1170.1
35°	1137.7	1127.9	1118.0	1110.5	1105.3	1100.1	1094.9	1089.6
37.5°	1059.1	1048.1	1037.1	1029.0	1023.8	1018.6	1013.4	1008.2
40°	1006.8	994.7	982.5	973.8	968.6	963.4	958.2	953.0
42.5°	955.3	942.9	930.5	921.6	916.2	910.8	905.3	899.8
45°	876.4	862.3	848.1	838.4	833.2	828.0	822.8	817.6
47.5°	797.0	782.4	767.7	757.4	751.7	746.0	740.2	734.5
50°	744.4	729.9	715.4	705.5	700.0	694.5	689.0	683.5
52.5°	691.9	677.2	662.4	652.2	646.5	640.8	635.0	629.3
55°	614.3	599.3	584.2	574.0	568.5	563.0	557.5	552.0
57.5°	538.7	523.3	508.1	498.4	494.2	490.0	485.8	481.7
60°	488.0	473.0	458.0	448.2	443.5	438.9	434.2	429.6
62.5°	438.3	424.4	410.5	401.7	398.0	394.4	390.6	386.9
65°	367.0	354.6	342.1	334.1	330.7	327.2	323.8	320.2
67.5°	301.5	290.7	280.1	272.8	269.0	265.1	261.3	257.5
70°	256.9	247.4	237.8	231.6	228.7	225.8	222.9	220.0
72.5°	217.0	208.8	200.6	195.3	192.6	190.0	187.3	184.6
75°	159.9	153.2	146.5	142.4	140.6	138.8	137.1	135.4
77.5°	113.1	109.2	105.3	103.1	102.6	102.1	101.6	101.0
80°	86.8	85.9	85.0	84.5	84.2	83.9	83.6	83.3
82.5°	67.5	66.9	66.2	65.7	65.5	65.1	64.9	64.6
85°	39.2	38.6	38.1	37.7	37.7	37.7	37.7	37.7
87.5°	15.6	15.4	15.2	15.2	15.6	15.8	16.1	16.3
90°	7.1	7.5	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	11.9	12.1	12.3	12.5	12.6	12.6	12.7	12.8
95°	22.3	22.5	22.7	22.7	22.7	22.7	22.7	22.7
97.5°	35.1	35.3	35.5	35.6	35.6	35.6	35.6	35.6
100°	44.4	44.4	44.6	44.7	44.7	44.7	44.7	44.7
102.5°	54.1	54.3	54.5	54.6	54.6	54.7	54.7	54.8
105°	69.0	69.1	69.3	69.5	69.7	70.0	70.1	70.3
107.5°	85.0	85.2	85.4	85.4	85.4	85.4	85.4	85.4
110°	95.7	95.6	95.4	95.5	95.6	95.9	96.0	96.2



TEST NUMBER: P332989-930

CATALOG NUMBER: S124RDIP-S1195D365U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	107.2	107.1	107.1	107.1	107.2	107.2	107.2	107.3
115°	124.9	124.8	124.7	124.7	124.7	124.6	124.5	124.5
117.5°	141.9	141.7	141.5	141.4	141.2	141.0	141.0	140.8
120°	153.5	153.2	152.9	152.8	152.9	153.0	153.1	153.3
122.5°	165.3	165.0	164.8	164.5	164.4	164.1	163.9	163.6
125°	182.4	182.3	182.1	182.0	181.9	181.7	181.6	181.5
127.5°	198.9	198.7	198.5	198.4	198.4	198.3	198.1	198.0
130°	210.3	210.2	210.1	209.9	209.6	209.4	209.1	208.9
132.5°	221.2	221.0	220.9	220.8	220.7	220.6	220.5	220.4
135°	237.4	237.3	237.2	237.0	236.8	236.6	236.4	236.3
137.5°	253.2	253.0	252.8	252.7	252.7	252.8	252.8	252.9
140°	263.5	263.4	263.3	263.3	263.3	263.2	263.1	263.0
142.5°	273.3	273.3	273.2	273.2	273.2	273.2	273.2	273.2
145°	288.0	287.9	287.9	287.7	287.6	287.3	287.1	287.0
147.5°	301.3	301.3	301.2	301.2	301.1	301.0	300.9	300.9
150°	309.7	309.7	309.7	309.7	309.7	309.6	309.5	309.4
152.5°	317.6	317.8	318.0	317.9	317.7	317.6	317.4	317.2
155°	328.6	328.9	329.1	329.1	328.9	328.6	328.4	328.2
157.5°	338.3	338.6	338.8	338.8	338.5	338.3	338.1	337.9
160°	344.4	344.5	344.8	344.7	344.4	344.1	343.7	343.4
162.5°	349.8	350.1	350.4	350.4	350.2	349.8	349.5	349.2
165°	356.9	357.3	357.6	357.7	357.4	357.2	356.9	356.7
167.5°	362.9	363.2	363.6	363.6	363.2	362.8	362.4	362.0
170°	366.1	366.5	366.9	366.8	366.4	365.9	365.5	365.0
172.5°	368.5	368.9	369.3	369.3	368.9	368.4	368.0	367.5
175°	371.1	371.5	372.0	372.0	371.5	371.1	370.6	370.2
177.5°	372.5	372.9	373.2	373.2	372.8	372.4	372.0	371.6
180°	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5

(END OF REPORT)