

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: P332364-930

Luminaire Tested: **S123RDIP-S1165D365U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332364-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1165D365U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 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: 4587.1 lumens
Efficiency: N/A
Efficacy: 92.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

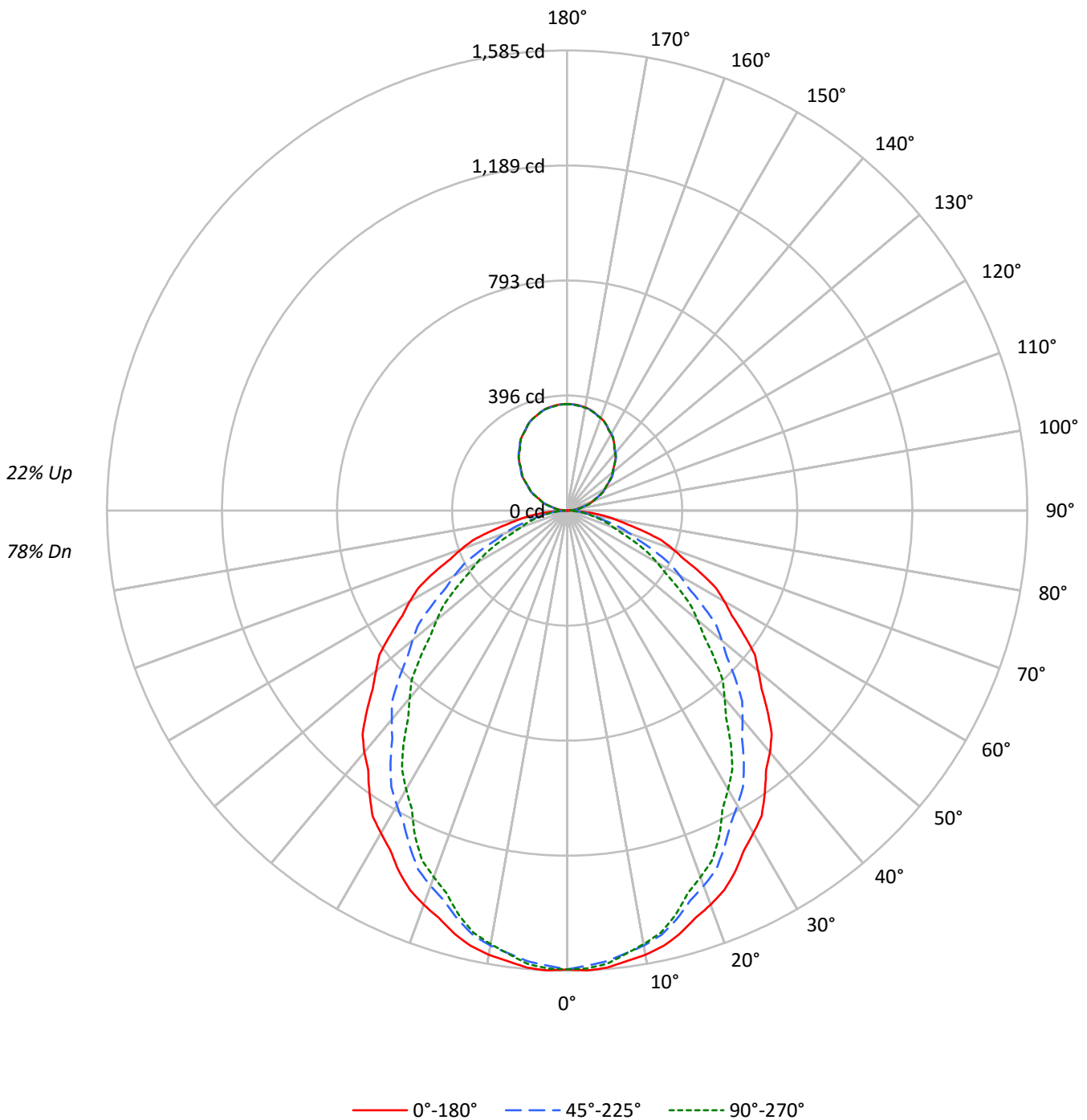
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	114	114	114	114	109	109	109	109	99	99	99	90	90	90	82	82	82	78				
1	105	100	96	93	100	96	92	89	88	85	82	80	78	76	73	72	70	67				
2	96	88	82	77	91	84	79	74	77	73	69	71	67	64	65	62	60	57				
3	88	78	71	65	83	75	68	63	69	63	59	63	59	55	58	54	51	48				
4	80	69	61	55	77	67	59	54	61	55	51	57	52	48	52	48	45	42				
5	74	62	54	48	71	60	52	47	55	49	44	51	46	42	47	43	39	37				
6	69	56	48	42	65	54	46	41	50	44	39	46	41	37	43	38	35	32				
7	64	51	43	37	61	49	42	36	46	39	35	42	37	33	39	35	31	29				
8	59	47	39	33	57	45	38	32	42	36	31	39	34	30	36	32	28	26				
9	55	43	35	30	53	41	34	29	39	32	28	36	31	27	34	29	26	24				
10	52	40	32	27	50	38	31	27	36	30	25	33	28	24	31	27	23	22				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17009	17009	17009
5°	17074	16839	16935
10°	16978	16628	16571
15°	16796	16238	16067
20°	16544	15753	15385
25°	16286	15206	14719
30°	15945	14574	13779
35°	15594	13943	12917
40°	15271	13200	11849
45°	14846	12466	10886
50°	14380	11632	9808
55°	13902	10678	8801
60°	13464	9657	7698
65°	12893	8550	6594
70°	12180	7179	5325
75°	11137	5648	5011
80°	9930	5002	4612
85°	8386	4434	4113



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	3.2
10°-20°	412.9	9.0
20°-30°	594.5	13.0
30°-40°	669.6	14.6
40°-50°	640.6	14.0
50°-60°	524.6	11.4
60°-70°	354.0	7.7
70°-80°	178.1	3.9
80°-90°	48.2	1.1
90°-100°	23.9	0.5
100°-110°	71.5	1.6
110°-120°	121.6	2.7
120°-130°	160.0	3.5
130°-140°	179.8	3.9
140°-150°	176.8	3.9
150°-160°	148.8	3.2
160°-170°	99.1	2.2
170°-180°	34.7	0.8
0°-30°	1155.7	25.2
0°-40°	1825.4	39.8
0°-60°	2990.6	65.2
0°-90°	3570.9	77.8
90°-120°	217.1	4.7
90°-150°	733.7	16.0
90°-180°	1016.0	22.1
0°-180°	4587.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1580	1580	1580	1580	1580	
5°	1580	1573	1558	1569	1567	150
15°	1507	1492	1457	1451	1442	424
25°	1371	1338	1280	1254	1239	630
35°	1187	1139	1061	1008	983	742
45°	975	915	819	748	715	752
55°	741	675	569	497	469	664
65°	506	434	336	276	259	501
75°	268	206	136	124	120	286
85°	68	41	36	33	33	76
90°	0	3	7	8	9	4
95°	17	19	21	22	22	19
105°	65	66	68	68	69	69
115°	122	123	123	123	123	121
125°	179	180	180	178	177	160
135°	232	234	234	233	232	179
145°	282	283	284	283	282	176
155°	323	323	323	324	322	149
165°	352	351	351	352	351	99
175°	366	365	365	366	364	35
180°	367	367	367	367	367	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1585.3	1584.4	1583.5	1582.6	1581.7	1579.8	1577.1	1574.3	1571.7	1568.9	1571.4
5°	1580.2	1578.7	1577.4	1575.9	1574.5	1572.1	1568.6	1565.2	1561.8	1558.4	1561.0
7.5°	1565.5	1564.1	1562.5	1561.0	1559.4	1556.4	1552.0	1547.5	1543.1	1538.6	1540.1
10°	1553.3	1551.3	1549.3	1547.3	1545.3	1541.7	1536.6	1531.5	1526.3	1521.3	1521.5
12.5°	1535.9	1533.7	1531.4	1529.2	1527.0	1522.7	1516.5	1510.2	1503.9	1497.6	1497.5
15°	1507.2	1504.0	1500.9	1497.7	1494.6	1489.1	1481.1	1473.1	1465.1	1457.2	1455.7
17.5°	1471.0	1467.4	1463.7	1460.0	1456.5	1449.5	1439.4	1429.2	1419.1	1409.0	1406.0
20°	1444.3	1439.8	1435.3	1430.7	1426.1	1418.5	1407.6	1396.8	1385.9	1375.2	1371.4
22.5°	1414.6	1409.3	1404.1	1398.9	1393.7	1385.3	1373.8	1362.3	1350.8	1339.2	1334.6
25°	1371.3	1364.2	1357.1	1349.9	1342.8	1332.7	1319.6	1306.5	1293.4	1280.3	1274.3
27.5°	1318.7	1310.9	1303.0	1295.2	1287.3	1276.1	1261.5	1246.9	1232.3	1217.7	1209.4
30°	1282.9	1274.3	1265.8	1257.2	1248.7	1236.4	1220.5	1204.5	1188.6	1172.6	1162.9
32.5°	1247.0	1237.3	1227.6	1217.9	1208.3	1195.0	1178.1	1161.2	1144.4	1127.6	1117.0
35°	1186.7	1176.5	1166.2	1156.0	1145.7	1131.8	1114.1	1096.5	1078.8	1061.1	1048.9
37.5°	1125.8	1114.4	1102.9	1091.5	1080.2	1065.0	1046.2	1027.4	1008.5	989.6	975.8
40°	1086.8	1074.2	1061.7	1049.2	1036.7	1020.3	1000.0	979.8	959.6	939.4	924.5
42.5°	1042.7	1030.1	1017.7	1005.1	992.5	975.8	955.0	934.0	913.1	892.3	876.0
45°	975.3	962.5	949.7	936.9	924.0	906.6	884.7	862.7	840.8	818.9	802.7
47.5°	907.8	893.8	879.7	865.7	851.6	833.6	811.6	789.7	767.8	745.9	728.2
50°	858.7	845.3	831.8	818.5	805.1	786.9	763.9	740.8	717.7	694.6	676.9
52.5°	814.6	800.1	785.5	771.0	756.4	737.8	714.9	692.1	669.3	646.5	628.1
55°	740.8	726.8	712.8	698.9	684.9	665.9	641.6	617.4	593.2	569.0	552.5
57.5°	672.5	657.4	642.1	627.0	611.7	592.0	567.7	543.3	519.0	494.7	479.1
60°	625.4	609.8	594.1	578.5	562.7	543.1	519.4	495.9	472.2	448.6	433.2
62.5°	578.2	562.6	546.9	531.2	515.6	495.9	472.3	448.7	425.0	401.4	386.9
65°	506.2	490.6	474.9	459.3	443.6	424.6	402.4	380.2	358.0	335.7	321.8
67.5°	434.2	418.3	402.5	386.7	370.9	352.3	331.0	309.7	288.4	267.1	256.7
70°	387.0	371.7	356.3	340.9	325.5	307.9	288.0	268.0	248.1	228.1	218.2
72.5°	339.9	324.7	309.6	294.4	279.2	262.6	244.5	226.4	208.3	190.2	182.1
75°	267.8	254.2	240.5	226.8	213.2	198.5	182.9	167.1	151.5	135.8	133.0
77.5°	202.2	189.9	177.5	165.2	152.8	141.5	131.5	121.4	111.3	101.3	99.7
80°	160.2	148.5	136.8	125.1	113.5	104.7	98.7	92.7	86.7	80.7	79.9
82.5°	120.2	110.1	100.0	89.9	79.9	73.5	70.7	67.8	65.1	62.3	61.4
85°	67.9	61.6	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.7	22.3	19.9	17.5	15.2	14.0	14.2	14.3	14.5	14.7	14.5
90°	0.3	0.9	1.5	2.2	2.9	3.6	4.4	5.2	6.1	6.9	7.2
92.5°	7.0	7.4	7.8	8.3	8.7	9.1	9.6	10.1	10.6	11.1	11.3
95°	17.0	17.4	17.9	18.3	18.8	19.2	19.8	20.3	20.8	21.4	21.6
97.5°	30.2	30.5	30.9	31.2	31.6	31.9	32.3	32.6	33.0	33.3	33.7
100°	39.2	39.5	39.9	40.4	40.7	41.1	41.4	41.7	42.1	42.3	42.6
102.5°	49.6	49.8	50.0	50.2	50.5	50.8	51.2	51.7	52.1	52.5	52.7
105°	64.8	65.0	65.1	65.2	65.3	65.7	66.3	66.9	67.4	68.0	68.0
107.5°	82.6	82.7	82.8	82.8	82.9	83.0	83.2	83.5	83.7	84.0	84.1
110°	93.7	93.8	93.9	94.0	94.2	94.2	94.4	94.6	94.7	94.8	95.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	105.2	105.3	105.3	105.4	105.5	105.5	105.6	105.6	105.6	105.7	105.9
115°	122.5	122.6	122.9	123.0	123.2	123.3	123.1	123.0	122.9	122.7	122.8
117.5°	139.8	140.0	140.1	140.2	140.4	140.3	140.1	140.0	139.8	139.7	139.7
120°	150.7	151.1	151.5	151.8	152.2	152.2	152.0	151.6	151.3	151.0	150.9
122.5°	162.0	162.2	162.6	162.8	163.1	163.1	163.0	162.8	162.7	162.5	162.3
125°	179.2	179.4	179.6	179.8	180.0	180.0	179.9	179.8	179.6	179.5	179.2
127.5°	195.1	195.5	195.9	196.3	196.7	196.9	196.7	196.6	196.5	196.3	196.0
130°	205.7	206.2	206.8	207.2	207.7	207.9	207.7	207.6	207.3	207.2	206.9
132.5°	216.3	216.9	217.4	217.8	218.3	218.6	218.4	218.3	218.1	218.0	217.7
135°	232.5	232.9	233.3	233.7	234.1	234.2	234.2	234.1	234.0	234.0	233.7
137.5°	247.5	247.9	248.1	248.4	248.7	249.0	249.2	249.3	249.5	249.6	249.4
140°	257.9	258.2	258.5	258.9	259.2	259.3	259.4	259.4	259.5	259.6	259.5
142.5°	267.3	267.7	268.0	268.3	268.6	268.8	269.0	269.0	269.1	269.3	269.2
145°	282.1	282.2	282.3	282.4	282.6	282.7	282.9	283.2	283.3	283.5	283.5
147.5°	295.0	295.2	295.5	295.7	295.9	296.1	296.3	296.4	296.6	296.9	296.9
150°	303.9	304.1	304.2	304.4	304.5	304.6	304.8	304.8	305.0	305.1	305.1
152.5°	311.4	311.5	311.7	311.9	312.1	312.2	312.3	312.3	312.4	312.5	312.6
155°	323.0	323.0	323.0	323.0	323.0	323.0	323.1	323.1	323.2	323.3	323.5
157.5°	332.9	332.8	332.7	332.6	332.6	332.6	332.6	332.6	332.7	332.8	333.0
160°	339.1	339.0	338.8	338.8	338.6	338.5	338.5	338.5	338.5	338.5	338.8
162.5°	344.6	344.5	344.3	344.1	343.9	343.9	343.9	344.0	344.1	344.1	344.4
165°	351.8	351.6	351.4	351.2	351.0	350.9	350.9	350.9	350.9	350.9	351.3
167.5°	357.5	357.3	357.0	356.7	356.4	356.4	356.4	356.4	356.5	356.6	356.9
170°	360.7	360.4	360.2	360.0	359.7	359.5	359.5	359.5	359.5	359.5	360.0
172.5°	363.3	363.0	362.7	362.5	362.2	362.1	362.1	362.1	362.1	362.1	362.5
175°	365.9	365.7	365.4	365.2	364.9	364.8	364.8	364.8	364.8	364.8	365.2
177.5°	367.0	366.8	366.6	366.4	366.2	366.1	366.1	366.1	366.1	366.1	366.4
180°	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1573.9	1576.5	1578.9	1580.0	1579.5	1579.1	1578.6	1578.1
5°	1563.5	1566.1	1568.6	1569.6	1569.0	1568.5	1567.9	1567.3
7.5°	1541.5	1543.0	1544.3	1544.6	1543.6	1542.6	1541.6	1540.7
10°	1521.8	1522.1	1522.4	1521.8	1520.4	1519.0	1517.5	1516.1
12.5°	1497.3	1497.1	1497.0	1496.1	1494.4	1492.7	1491.1	1489.5
15°	1454.3	1452.9	1451.5	1449.8	1447.7	1445.8	1443.7	1441.8
17.5°	1403.0	1399.9	1396.9	1393.9	1390.9	1388.0	1385.0	1382.0
20°	1367.7	1364.0	1360.3	1356.7	1353.3	1349.9	1346.5	1343.1
22.5°	1330.0	1325.4	1320.8	1316.9	1313.7	1310.5	1307.3	1304.2
25°	1268.4	1262.3	1256.4	1251.8	1248.7	1245.5	1242.4	1239.3
27.5°	1201.1	1192.8	1184.5	1177.9	1173.1	1168.4	1163.6	1158.8
30°	1153.2	1143.6	1133.9	1126.8	1122.3	1117.7	1113.1	1108.6
32.5°	1106.4	1095.8	1085.2	1077.5	1072.7	1067.9	1063.2	1058.3
35°	1036.7	1024.4	1012.2	1003.5	998.3	993.2	988.1	983.0
37.5°	961.8	947.9	934.0	923.9	917.6	911.3	905.0	898.6
40°	909.8	895.0	880.2	869.5	862.9	856.4	849.9	843.3
42.5°	859.9	843.7	827.5	816.5	810.7	804.8	798.9	793.0
45°	786.4	770.2	754.0	742.5	735.6	728.8	721.9	715.1
47.5°	710.5	692.9	675.2	663.4	657.3	651.2	645.1	639.0
50°	659.3	641.6	623.9	611.9	605.4	598.8	592.2	585.7
52.5°	609.8	591.4	573.1	560.9	555.1	549.3	543.4	537.5
55°	536.0	519.4	503.0	491.9	486.2	480.5	474.7	469.0
57.5°	463.5	447.8	432.3	422.0	417.2	412.4	407.5	402.7
60°	417.8	402.4	387.0	376.9	372.1	367.2	362.4	357.6
62.5°	372.4	358.0	343.5	333.8	328.6	323.6	318.5	313.5
65°	307.9	293.9	280.0	271.4	268.3	265.1	262.0	258.9
67.5°	246.2	235.8	225.3	218.5	215.2	211.7	208.4	205.0
70°	208.1	198.2	188.3	181.7	178.6	175.5	172.3	169.2
72.5°	173.9	165.8	157.6	152.9	151.6	150.3	149.0	147.7
75°	130.1	127.3	124.4	122.8	122.2	121.6	121.1	120.5
77.5°	98.2	96.6	95.1	94.0	93.4	92.9	92.3	91.7
80°	79.0	78.2	77.3	76.6	76.1	75.5	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.1	58.0	58.0
85°	34.7	34.2	33.6	33.3	33.3	33.3	33.3	33.3
87.5°	14.3	14.2	14.0	13.8	13.6	13.4	13.2	13.0
90°	7.4	7.7	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	11.5	11.7	11.9	12.0	11.9	11.8	11.7	11.7
95°	21.9	22.1	22.3	22.5	22.5	22.5	22.5	22.5
97.5°	33.9	34.2	34.6	34.7	34.7	34.7	34.6	34.6
100°	42.7	43.0	43.1	43.3	43.4	43.5	43.7	43.8
102.5°	52.9	53.1	53.2	53.3	53.3	53.3	53.2	53.2
105°	68.0	68.0	68.0	68.1	68.2	68.3	68.5	68.6
107.5°	84.4	84.5	84.8	84.9	84.8	84.7	84.6	84.5
110°	95.3	95.6	95.8	95.9	95.7	95.6	95.5	95.4



TEST NUMBER: P332364-930

CATALOG NUMBER: S123RDIP-S1165D365U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	106.2	106.6	106.9	107.0	107.0	107.0	106.9	106.9
115°	122.9	122.9	123.0	123.0	122.9	122.9	122.8	122.7
117.5°	139.7	139.7	139.7	139.5	139.3	139.2	139.0	138.8
120°	150.8	150.7	150.7	150.6	150.5	150.3	150.3	150.1
122.5°	162.2	162.0	161.8	161.7	161.5	161.3	161.1	160.9
125°	179.0	178.7	178.5	178.2	178.0	177.7	177.4	177.2
127.5°	195.6	195.3	194.9	194.5	194.3	194.0	193.7	193.4
130°	206.7	206.4	206.1	205.8	205.4	204.9	204.5	204.0
132.5°	217.4	217.0	216.8	216.5	216.1	215.7	215.4	215.1
135°	233.4	233.2	232.9	232.8	232.6	232.4	232.4	232.2
137.5°	249.2	248.9	248.6	248.3	248.1	247.9	247.6	247.4
140°	259.4	259.4	259.3	259.1	258.6	258.2	257.7	257.3
142.5°	269.1	269.0	269.0	268.8	268.5	268.2	267.7	267.4
145°	283.4	283.3	283.2	283.1	282.8	282.6	282.3	282.1
147.5°	296.9	296.9	296.9	296.6	296.3	295.9	295.5	295.1
150°	305.1	305.1	305.1	304.9	304.5	304.2	303.8	303.4
152.5°	312.7	312.8	312.9	312.7	312.4	312.1	311.8	311.4
155°	323.8	324.0	324.3	324.2	323.8	323.3	322.9	322.4
157.5°	333.3	333.6	333.9	333.8	333.5	333.1	332.7	332.4
160°	339.2	339.5	339.8	339.8	339.6	339.3	339.1	338.8
162.5°	344.7	345.0	345.4	345.3	344.9	344.5	344.1	343.6
165°	351.7	352.0	352.5	352.5	352.0	351.6	351.1	350.7
167.5°	357.3	357.8	358.2	358.2	357.8	357.3	356.9	356.6
170°	360.4	360.9	361.3	361.3	360.9	360.4	360.0	359.5
172.5°	362.9	363.3	363.7	363.7	363.2	362.8	362.3	361.9
175°	365.5	365.9	366.3	366.2	365.8	365.3	364.9	364.4
177.5°	366.7	367.0	367.3	367.3	367.0	366.6	366.2	365.8
180°	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8

(END OF REPORT)