

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: P332377-927

Luminaire Tested: **S123RDIP-S1165D805U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332377-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1165D805U927-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5772.8 lumens
Efficiency: N/A
Efficacy: 95.1 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

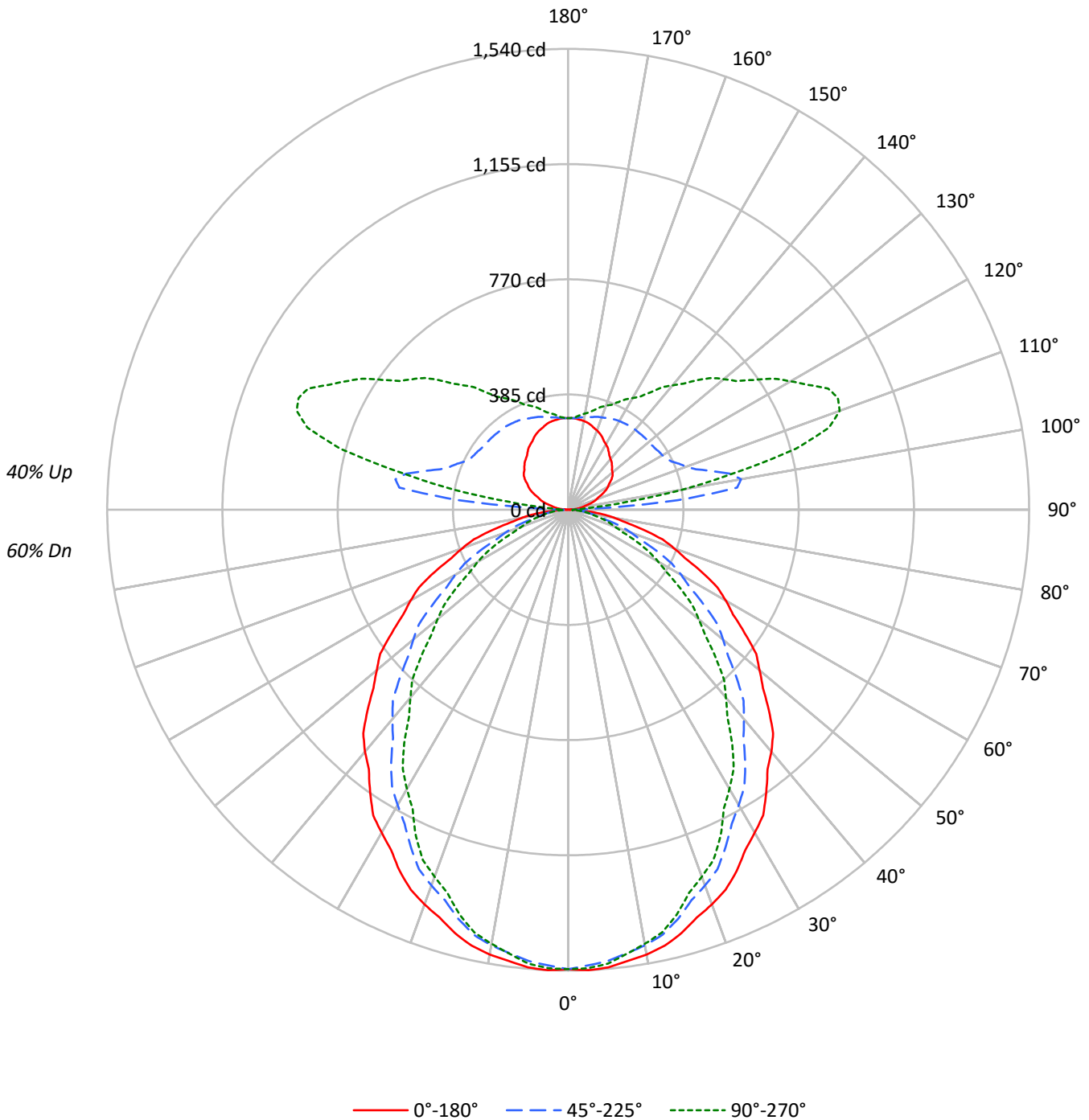
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65
1	100	96	92	89	94	90	87	84	79	76	74	68	66	65	58	57	56
2	92	84	78	73	86	79	74	69	69	65	62	60	57	55	52	50	48
3	84	75	67	62	78	70	64	58	62	57	52	54	50	47	46	44	41
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	42	38	36
5	71	59	51	45	66	56	49	43	49	44	39	43	39	35	38	34	31
6	65	53	45	39	61	50	43	38	45	39	34	39	35	31	34	31	28
7	61	48	40	35	57	46	38	33	41	35	30	36	31	28	31	28	25
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	22
9	53	40	33	28	49	38	31	27	34	29	25	30	26	22	27	23	20
10	49	37	30	25	46	35	29	24	32	26	22	28	24	20	25	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16527	16527	16527
5°	16590	16361	16455
10°	16497	16156	16101
15°	16319	15778	15611
20°	16076	15306	14948
25°	15824	14775	14301
30°	15493	14162	13387
35°	15152	13548	12550
40°	14838	12826	11514
45°	14425	12113	10577
50°	13971	11302	9530
55°	13508	10376	8552
60°	13082	9384	7481
65°	12528	8308	6406
70°	11833	6977	5174
75°	10821	5490	4870
80°	9651	4860	4475
85°	8151	4310	4001



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.2	2.5
10°-20°	401.2	6.9
20°-30°	577.6	10.0
30°-40°	650.7	11.3
40°-50°	622.5	10.8
50°-60°	509.7	8.8
60°-70°	343.9	6.0
70°-80°	173.0	3.0
80°-90°	48.1	0.8
90°-100°	170.3	2.9
100°-110°	482.1	8.4
110°-120°	474.3	8.2
120°-130°	378.3	6.6
130°-140°	298.3	5.2
140°-150°	222.6	3.9
150°-160°	155.2	2.7
160°-170°	91.2	1.6
170°-180°	29.7	0.5
0°-30°	1123.0	19.5
0°-40°	1773.6	30.7
0°-60°	2905.8	50.3
0°-90°	3470.9	60.1
90°-120°	1126.7	19.5
90°-150°	2025.9	35.1
90°-180°	2302.0	39.9
0°-180°	5772.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1535	1535	1535	1535	1535	
5°	1535	1529	1514	1525	1523	146
15°	1464	1450	1416	1410	1401	412
25°	1332	1300	1244	1219	1204	613
35°	1153	1106	1031	979	955	721
45°	948	889	796	727	695	731
55°	720	656	553	483	456	645
65°	492	422	326	268	252	487
75°	260	200	132	120	117	278
85°	66	40	35	32	32	74
90°	1	7	15	17	18	5
95°	21	68	367	107	72	23
105°	72	106	498	871	788	76
115°	127	158	381	835	958	126
125°	176	208	356	644	756	157
135°	207	247	350	530	612	160
145°	236	270	346	435	479	148
155°	268	289	335	381	397	123
165°	293	301	321	340	346	83
175°	305	306	308	312	312	29
180°	306	306	306	306	306	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4
2.5°	1540.4	1539.4	1538.6	1537.7	1536.8	1535.0	1532.4	1529.7	1527.1	1524.4	1526.9
5°	1535.4	1534.0	1532.6	1531.2	1529.9	1527.5	1524.2	1520.8	1517.5	1514.2	1516.7
7.5°	1521.1	1519.7	1518.2	1516.7	1515.2	1512.3	1508.0	1503.6	1499.4	1495.0	1496.4
10°	1509.3	1507.3	1505.4	1503.4	1501.5	1498.0	1493.0	1488.0	1483.0	1478.1	1478.4
12.5°	1492.3	1490.2	1488.0	1485.8	1483.7	1479.6	1473.5	1467.4	1461.3	1455.2	1455.0
15°	1464.4	1461.3	1458.3	1455.2	1452.2	1446.8	1439.1	1431.3	1423.6	1415.9	1414.4
17.5°	1429.3	1425.8	1422.2	1418.6	1415.2	1408.4	1398.6	1388.7	1378.9	1369.0	1366.1
20°	1403.4	1399.0	1394.6	1390.1	1385.7	1378.2	1367.7	1357.2	1346.6	1336.2	1332.5
22.5°	1374.5	1369.4	1364.3	1359.2	1354.2	1346.0	1334.8	1323.7	1312.5	1301.2	1296.8
25°	1332.4	1325.5	1318.6	1311.6	1304.7	1294.9	1282.1	1269.5	1256.7	1244.0	1238.2
27.5°	1281.4	1273.7	1266.1	1258.5	1250.8	1239.9	1225.7	1211.6	1197.4	1183.2	1175.1
30°	1246.5	1238.2	1229.9	1221.5	1213.3	1201.3	1185.9	1170.4	1154.9	1139.4	1130.0
32.5°	1211.6	1202.2	1192.8	1183.4	1174.0	1161.1	1144.7	1128.3	1111.9	1095.6	1085.3
35°	1153.1	1143.1	1133.1	1123.2	1113.3	1099.7	1082.5	1065.4	1048.2	1031.0	1019.1
37.5°	1093.8	1082.8	1071.7	1060.6	1049.6	1034.8	1016.5	998.2	979.9	961.6	948.1
40°	1056.0	1043.8	1031.6	1019.5	1007.3	991.3	971.7	952.0	932.4	912.8	898.3
42.5°	1013.1	1000.9	988.8	976.6	964.4	948.2	927.9	907.5	887.2	867.0	851.2
45°	947.6	935.2	922.7	910.3	897.8	880.9	859.6	838.3	817.0	795.7	779.9
47.5°	882.1	868.5	854.8	841.1	827.4	809.9	788.6	767.3	746.0	724.8	707.6
50°	834.3	821.3	808.3	795.3	782.3	764.6	742.2	719.8	697.4	674.9	657.7
52.5°	791.5	777.4	763.3	749.2	735.0	716.8	694.7	672.5	650.3	628.1	610.3
55°	719.8	706.2	692.6	679.1	665.5	647.0	623.4	599.9	576.4	552.9	536.9
57.5°	653.5	638.7	623.9	609.2	594.4	575.2	551.6	527.9	504.3	480.7	465.5
60°	607.7	592.5	577.3	562.1	546.8	527.7	504.7	481.8	458.8	435.9	420.9
62.5°	561.8	546.6	531.4	516.2	501.0	481.9	458.9	435.9	413.0	390.0	376.0
65°	491.9	476.7	461.4	446.2	431.0	412.6	391.0	369.4	347.8	326.2	312.7
67.5°	421.9	406.5	391.1	375.7	360.4	342.3	321.6	300.9	280.2	259.5	249.4
70°	376.0	361.2	346.2	331.2	316.3	299.1	279.8	260.4	241.1	221.7	212.0
72.5°	330.3	315.5	300.8	286.1	271.3	255.2	237.6	220.0	202.4	184.8	176.9
75°	260.2	247.0	233.7	220.4	207.2	192.9	177.7	162.4	147.2	132.0	129.2
77.5°	196.5	184.5	172.5	160.5	148.5	137.5	127.8	118.0	108.1	98.4	96.9
80°	155.7	144.3	132.9	121.6	110.3	101.7	95.9	90.1	84.3	78.4	77.6
82.5°	116.8	107.0	97.2	87.4	77.6	71.4	68.7	65.9	63.2	60.5	59.7
85°	66.0	59.9	53.8	47.8	41.7	38.2	37.4	36.5	35.7	34.9	34.3
87.5°	24.2	21.9	19.8	17.7	15.5	14.6	14.9	15.3	15.7	16.1	15.7
90°	1.3	2.5	3.7	5.5	6.8	8.1	9.9	11.8	13.6	15.4	14.9
92.5°	7.7	11.4	16.6	21.5	26.6	35.8	52.0	78.7	104.8	95.2	71.9
95°	21.1	22.9	29.7	40.2	56.3	80.5	133.2	225.5	327.0	367.3	297.9
97.5°	35.9	36.5	41.9	51.0	66.9	93.0	143.3	247.4	416.7	569.2	609.0
100°	45.9	46.4	50.8	59.5	74.3	98.5	141.8	233.5	396.4	586.5	708.5
102.5°	56.2	57.4	61.2	69.4	82.8	104.9	143.8	221.6	366.6	554.3	713.5
105°	71.9	73.7	77.4	84.8	96.6	115.8	149.2	213.0	330.1	498.0	675.7
107.5°	88.4	90.3	93.9	101.2	112.3	130.1	159.4	212.5	306.8	448.1	609.6
110°	100.4	102.2	105.3	112.1	122.6	140.0	167.9	214.9	297.9	419.9	567.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	111.2	113.1	116.2	123.0	133.6	150.4	176.3	219.8	292.9	401.1	531.8
115°	127.0	129.4	133.2	139.3	149.9	166.6	190.1	227.9	291.1	380.9	488.1
117.5°	142.7	145.5	148.6	154.3	166.1	181.6	204.9	238.6	292.2	369.0	461.7
120°	153.6	155.4	158.5	164.8	176.5	192.0	214.3	246.5	294.2	363.5	447.8
122.5°	163.0	164.9	167.9	174.7	185.9	202.4	224.2	253.9	297.6	360.1	436.4
125°	176.5	177.8	181.5	188.3	200.0	216.7	238.4	265.7	302.9	355.5	421.8
127.5°	186.8	188.6	193.2	200.2	213.2	229.9	250.8	275.4	308.8	353.3	408.9
130°	193.2	195.1	200.7	208.1	221.1	237.8	258.3	281.8	312.8	351.8	402.0
132.5°	198.2	200.6	206.6	215.6	228.5	244.8	264.7	287.7	315.8	351.3	395.5
135°	206.8	209.4	216.2	225.5	238.4	255.2	274.3	295.4	320.2	350.5	387.1
137.5°	215.0	217.6	224.3	234.2	247.1	262.6	281.1	301.1	323.2	349.2	379.8
140°	220.5	223.6	229.8	239.7	252.1	267.5	285.5	304.1	325.2	348.7	375.3
142.5°	226.4	229.0	235.8	244.6	257.1	271.5	289.0	307.0	326.6	347.7	371.4
145°	236.0	237.8	243.4	252.7	263.2	277.5	293.6	310.3	327.6	346.2	366.1
147.5°	245.7	246.8	252.2	260.2	270.4	282.6	297.3	312.3	327.6	343.9	360.8
150°	252.1	252.7	257.6	265.7	274.3	285.5	299.8	312.8	327.6	341.9	357.4
152.5°	258.5	258.6	263.6	270.7	278.3	289.0	301.3	313.8	326.1	339.4	353.4
155°	268.2	268.2	271.9	278.1	284.9	293.6	304.1	314.0	324.6	335.1	347.5
157.5°	275.8	276.3	279.3	284.8	290.6	297.3	305.7	314.7	322.4	331.2	340.8
160°	281.8	281.8	284.3	289.2	293.6	299.8	307.2	314.7	321.5	328.3	336.3
162.5°	286.3	286.3	288.3	292.2	296.0	301.3	307.7	314.1	319.5	325.3	331.8
165°	292.9	292.3	293.6	296.7	299.1	303.5	308.4	312.8	316.5	320.8	325.7
167.5°	298.0	297.3	297.9	300.2	302.0	304.8	308.3	311.8	313.5	316.4	320.0
170°	301.0	299.8	300.4	302.2	303.5	304.8	307.8	310.3	311.6	313.4	316.5
172.5°	303.0	302.2	302.4	303.7	304.4	305.2	307.8	309.8	310.1	310.9	313.0
175°	305.3	304.8	304.1	305.3	305.3	305.9	307.2	308.4	307.8	307.8	309.0
177.5°	306.4	305.9	305.5	305.9	305.9	305.9	306.4	307.4	306.4	305.9	306.4
180°	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4
2.5°	1529.3	1531.8	1534.1	1535.2	1534.7	1534.3	1533.8	1533.3
5°	1519.2	1521.7	1524.2	1525.1	1524.6	1524.0	1523.4	1522.9
7.5°	1497.8	1499.2	1500.6	1500.8	1499.8	1498.9	1497.9	1497.0
10°	1478.7	1478.9	1479.2	1478.7	1477.3	1475.9	1474.5	1473.1
12.5°	1454.8	1454.7	1454.5	1453.7	1452.1	1450.4	1448.8	1447.2
15°	1413.1	1411.7	1410.3	1408.7	1406.7	1404.8	1402.8	1400.9
17.5°	1363.2	1360.2	1357.2	1354.4	1351.5	1348.6	1345.8	1342.8
20°	1329.0	1325.3	1321.8	1318.3	1314.9	1311.6	1308.4	1305.0
22.5°	1292.3	1287.9	1283.3	1279.5	1276.4	1273.4	1270.3	1267.2
25°	1232.4	1226.5	1220.8	1216.3	1213.3	1210.2	1207.2	1204.1
27.5°	1167.0	1159.0	1150.9	1144.5	1139.9	1135.3	1130.6	1125.9
30°	1120.5	1111.2	1101.8	1094.9	1090.4	1086.0	1081.6	1077.1
32.5°	1075.0	1064.7	1054.4	1046.9	1042.3	1037.6	1033.0	1028.3
35°	1007.3	995.4	983.5	975.0	970.0	965.0	960.0	955.1
37.5°	934.5	921.1	907.5	897.7	891.6	885.4	879.3	873.1
40°	884.0	869.6	855.2	844.9	838.4	832.1	825.8	819.4
42.5°	835.5	819.8	804.1	793.4	787.7	782.0	776.3	770.6
45°	764.1	748.4	732.6	721.4	714.8	708.1	701.5	694.8
47.5°	690.4	673.3	656.1	644.6	638.7	632.7	626.8	620.9
50°	640.6	623.4	606.3	594.5	588.2	581.8	575.4	569.1
52.5°	592.5	574.6	556.8	545.0	539.3	533.7	528.0	522.3
55°	520.8	504.7	488.7	477.9	472.4	466.8	461.3	455.7
57.5°	450.4	435.1	420.0	410.0	405.4	400.7	395.9	391.3
60°	405.9	391.0	376.0	366.2	361.6	356.8	352.1	347.5
62.5°	361.9	347.8	333.7	324.3	319.3	314.4	309.5	304.6
65°	299.1	285.6	272.0	263.7	260.7	257.6	254.6	251.5
67.5°	239.2	229.1	219.0	212.3	209.1	205.7	202.5	199.2
70°	202.2	192.6	182.9	176.6	173.5	170.5	167.4	164.4
72.5°	169.0	161.1	153.1	148.5	147.3	146.0	144.7	143.5
75°	126.4	123.7	120.9	119.3	118.7	118.2	117.6	117.1
77.5°	95.4	93.9	92.4	91.3	90.8	90.2	89.7	89.1
80°	76.8	76.0	75.1	74.5	73.9	73.4	72.8	72.2
82.5°	58.9	58.1	57.2	56.7	56.6	56.5	56.4	56.3
85°	33.7	33.2	32.6	32.4	32.4	32.4	32.4	32.4
87.5°	15.6	15.5	15.4	15.4	15.1	15.0	14.9	14.6
90°	15.4	16.1	16.7	18.0	17.3	18.0	18.6	18.0
92.5°	52.1	41.4	36.5	33.4	32.2	30.3	31.0	29.9
95°	223.0	151.1	118.3	96.0	84.2	78.7	74.3	71.9
97.5°	555.8	445.2	365.3	291.2	245.5	217.6	200.9	195.6
100°	730.2	680.0	607.6	519.6	457.1	411.9	387.7	388.3
102.5°	788.1	786.6	744.3	688.6	639.9	604.1	583.9	569.7
105°	805.2	867.0	878.8	862.8	834.2	810.7	790.9	787.8
107.5°	756.4	856.9	911.2	933.2	933.7	925.8	919.1	913.4
110°	709.8	823.7	901.7	945.2	962.4	967.4	966.1	965.0



TEST NUMBER: P332377-927

CATALOG NUMBER: S123RDIP-S1165D805U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	663.7	780.1	867.6	923.3	955.1	970.4	975.1	975.3
115°	602.6	710.3	801.5	868.9	915.4	942.6	955.1	958.1
117.5°	558.4	651.4	733.2	801.7	850.1	881.3	899.1	903.4
120°	535.1	618.7	693.1	755.6	804.5	839.2	854.1	857.8
122.5°	516.8	592.5	661.3	719.5	762.9	794.1	810.5	815.2
125°	492.3	559.9	619.3	668.9	708.5	735.8	751.2	755.6
127.5°	471.1	531.2	584.9	630.0	665.3	688.6	702.6	706.5
130°	457.7	513.4	563.6	605.7	638.6	660.8	673.8	678.8
132.5°	445.3	496.6	543.3	583.4	614.3	636.6	648.1	651.6
135°	428.6	472.5	512.8	548.1	578.5	597.1	608.2	612.5
137.5°	413.4	449.4	484.1	514.7	540.2	559.0	568.5	571.3
140°	404.4	436.0	465.7	492.3	515.9	533.2	543.2	542.6
142.5°	396.0	423.1	448.9	472.1	492.1	507.5	516.4	515.8
145°	385.9	406.3	426.1	444.1	459.5	472.5	477.5	478.7
147.5°	377.6	393.8	409.8	422.6	434.3	443.1	447.8	448.3
150°	371.6	385.9	398.9	410.6	419.9	426.7	430.5	430.5
152.5°	366.1	378.4	389.9	399.7	407.0	413.4	415.6	415.6
155°	358.0	367.9	377.2	384.6	390.1	395.1	396.4	397.0
157.5°	349.3	357.6	364.8	370.6	375.4	379.1	380.2	380.0
160°	344.4	351.2	357.4	361.7	366.1	369.7	369.7	369.2
162.5°	338.4	344.2	349.9	353.8	356.6	359.8	359.8	359.3
165°	330.7	334.5	338.8	341.9	344.4	346.8	346.2	346.2
167.5°	324.0	326.9	329.4	331.6	332.7	334.5	333.8	333.8
170°	319.6	321.5	323.9	325.2	325.7	327.0	326.4	326.4
172.5°	315.6	317.0	318.9	319.7	319.8	321.1	320.0	319.5
175°	310.3	310.9	312.1	312.1	312.1	312.8	312.1	311.6
177.5°	307.0	307.4	307.9	307.9	307.4	307.9	307.0	307.0
180°	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9

(END OF REPORT)