

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: P332387-927

Luminaire Tested: **S123RDIP-S1165D1195U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332387-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1165D1195U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7249.8 lumens
Efficiency: N/A
Efficacy: 101.1 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: General Diffuse

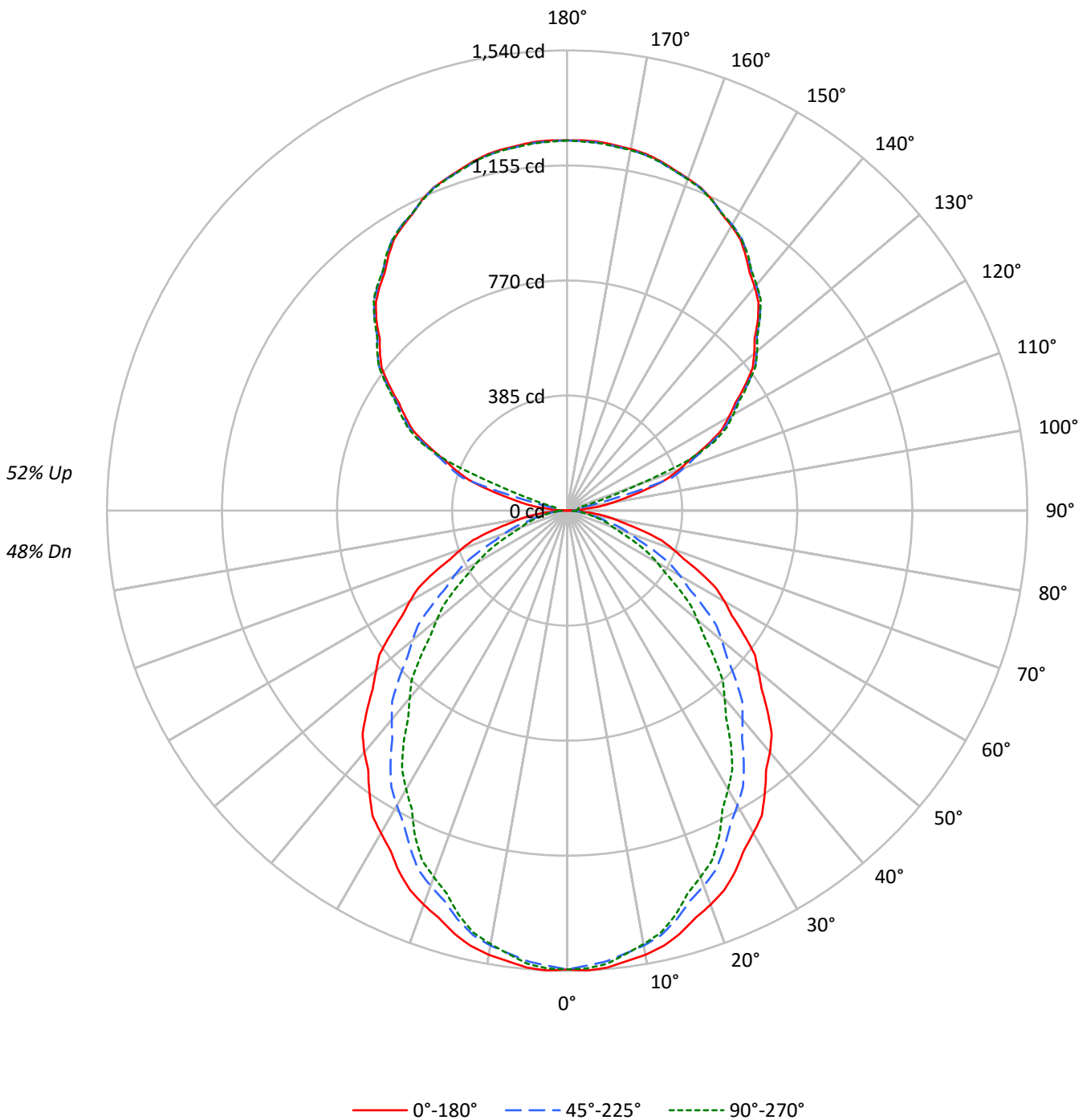
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	98	93	90	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40	35
3	81	72	65	59	75	67	61	56	57	52	48	47	44	41	38	36	34	30
4	75	64	56	51	68	59	53	47	50	45	41	42	38	35	34	32	29	26
5	69	57	49	43	63	53	46	41	45	40	36	38	34	31	31	28	26	23
6	63	51	43	38	58	48	41	36	41	35	31	34	30	27	28	25	23	20
7	59	47	39	33	54	43	36	31	37	32	28	31	27	24	26	23	20	18
8	54	42	35	29	50	39	33	28	34	28	25	29	25	21	24	21	18	16
9	51	39	31	26	47	36	29	25	31	26	22	26	22	19	22	19	17	15
10	47	35	28	24	44	33	27	22	29	24	20	24	20	18	20	17	15	13

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	2.0
10°-20°	401.2	5.5
20°-30°	577.6	8.0
30°-40°	650.7	9.0
40°-50°	622.5	8.6
50°-60°	509.7	7.0
60°-70°	343.9	4.7
70°-80°	173.0	2.4
80°-90°	49.2	0.7
90°-100°	45.0	0.6
100°-110°	214.7	3.0
110°-120°	515.6	7.1
120°-130°	656.6	9.1
130°-140°	701.5	9.7
140°-150°	656.0	9.0
150°-160°	529.2	7.3
160°-170°	341.5	4.7
170°-180°	117.7	1.6
0°-30°	1123.0	15.5
0°-40°	1773.6	24.5
0°-60°	2905.8	40.1
0°-90°	3472.0	47.9
90°-120°	775.3	10.7
90°-150°	2789.4	38.5
90°-180°	3778.0	52.1
0°-180°	7249.8	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	10	22	26	28	6
95°	56	21	28	35	35	69
105°	274	279	202	48	40	291
115°	514	520	528	537	541	508
125°	725	732	736	738	740	647
135°	903	908	912	915	912	695
145°	1042	1048	1050	1052	1052	652
155°	1148	1146	1147	1151	1146	529
165°	1210	1208	1207	1213	1208	342
175°	1239	1234	1235	1241	1234	118
180°	1239	1239	1239	1239	1239	



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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°	24.1	22.1	20.0	18.0	16.0	15.2	15.8	16.3	16.9	17.3	17.3
90°	1.0	2.9	5.0	7.1	9.1	11.5	14.1	16.8	19.4	22.1	22.9
92.5°	17.1	16.6	16.0	15.4	14.8	15.5	17.6	19.6	21.5	23.5	24.9
95°	56.2	47.8	39.4	31.0	22.6	19.6	21.8	24.0	26.3	28.5	29.9
97.5°	112.8	109.1	105.3	101.6	97.8	88.6	73.8	59.1	44.4	29.6	31.3
100°	155.5	159.6	163.7	167.8	171.9	158.0	126.1	94.2	62.3	30.3	32.0
102.5°	204.1	207.1	210.0	212.9	215.9	199.9	165.1	130.2	95.4	60.5	55.5
105°	274.3	276.6	278.8	281.0	283.3	275.2	256.7	238.4	220.0	201.5	165.3
107.5°	348.2	350.1	351.9	353.6	355.5	357.8	360.8	363.6	366.5	369.5	342.9
110°	397.6	399.3	400.8	402.5	404.2	406.1	408.4	410.6	412.8	415.1	408.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	444.7	446.2	447.7	449.2	450.6	452.5	454.7	457.0	459.2	461.4	461.6
115°	514.5	515.7	516.9	518.2	519.4	520.9	522.8	524.6	526.5	528.3	530.4
117.5°	582.0	583.5	585.0	586.6	588.1	589.3	590.3	591.2	592.2	593.1	594.7
120°	624.0	625.8	627.7	629.5	631.4	632.6	633.2	633.8	634.5	635.0	636.7
122.5°	666.7	668.2	669.7	671.2	672.8	673.9	674.7	675.5	676.2	677.0	678.2
125°	725.2	726.9	728.5	730.2	731.8	733.0	733.8	734.7	735.5	736.3	736.7
127.5°	782.0	783.5	785.2	786.9	788.5	789.8	790.8	791.8	792.7	793.7	794.4
130°	817.3	819.0	820.5	822.2	823.8	825.1	825.9	826.7	827.5	828.3	829.2
132.5°	851.1	852.8	854.4	856.0	857.7	858.8	859.5	860.2	860.8	861.5	862.3
135°	902.9	904.1	905.3	906.6	907.8	908.8	909.7	910.5	911.2	912.1	912.7
137.5°	947.1	948.6	950.1	951.7	953.3	954.3	954.7	955.2	955.6	956.1	957.0
140°	976.5	977.7	979.0	980.2	981.4	982.3	982.9	983.6	984.2	984.8	985.6
142.5°	1003.8	1005.0	1006.2	1007.4	1008.7	1009.6	1010.2	1010.8	1011.5	1012.0	1012.7
145°	1041.9	1043.3	1044.7	1046.2	1047.6	1048.5	1048.9	1049.3	1049.7	1050.1	1050.5
147.5°	1077.8	1078.7	1079.7	1080.5	1081.5	1082.2	1082.6	1083.0	1083.4	1083.8	1084.3
150°	1099.9	1100.4	1101.1	1101.7	1102.3	1102.8	1103.2	1103.6	1104.1	1104.5	1104.9
152.5°	1119.7	1120.0	1120.3	1120.5	1120.9	1121.1	1121.3	1121.7	1121.9	1122.1	1122.8
155°	1147.7	1147.3	1146.8	1146.4	1146.1	1146.0	1146.1	1146.4	1146.6	1146.8	1147.8
157.5°	1169.4	1169.3	1169.3	1169.3	1169.3	1169.1	1168.9	1168.7	1168.5	1168.3	1169.6
160°	1182.6	1182.5	1182.3	1182.1	1181.9	1181.6	1181.5	1181.2	1181.1	1180.8	1182.1
162.5°	1195.2	1194.7	1194.1	1193.6	1193.0	1192.7	1192.5	1192.3	1192.1	1191.8	1193.3
165°	1210.3	1209.7	1209.0	1208.5	1207.8	1207.4	1207.2	1207.0	1206.8	1206.6	1208.2
167.5°	1222.1	1221.2	1220.4	1219.6	1218.8	1218.4	1218.4	1218.4	1218.4	1218.4	1220.0
170°	1228.7	1227.9	1227.1	1226.2	1225.4	1225.0	1225.0	1225.0	1225.0	1225.0	1226.6
172.5°	1233.1	1232.2	1231.1	1230.2	1229.2	1228.8	1228.9	1229.1	1229.2	1229.4	1231.1
175°	1238.8	1237.8	1236.8	1235.7	1234.7	1234.3	1234.5	1234.7	1234.9	1235.1	1236.6
177.5°	1240.3	1239.4	1238.7	1237.9	1237.0	1236.7	1236.8	1237.0	1237.2	1237.3	1238.7
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8



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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°	17.3	17.2	17.1	17.0	16.9	16.8	16.6	16.5
90°	23.7	24.6	25.3	26.0	26.4	26.8	27.2	27.6
92.5°	26.1	27.5	28.8	29.5	29.8	30.1	30.3	30.6
95°	31.4	32.8	34.2	34.9	34.9	34.9	34.9	34.9
97.5°	32.9	34.5	36.2	37.1	37.3	37.5	37.7	37.9
100°	33.7	35.3	36.9	37.9	38.0	38.3	38.4	38.7
102.5°	50.4	45.3	40.2	37.9	38.3	38.7	39.1	39.4
105°	129.1	92.9	56.7	38.9	39.3	39.7	40.1	40.5
107.5°	316.3	289.8	263.2	236.3	209.1	181.7	154.5	127.2
110°	401.6	394.8	388.1	370.1	340.9	311.6	282.3	253.1



TEST NUMBER: P332387-927

CATALOG NUMBER: S123RDIP-S1165D1195U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	461.7	461.8	462.0	458.9	452.7	446.6	440.4	434.2
115°	532.3	534.4	536.5	537.9	538.7	539.6	540.3	541.1
117.5°	596.4	598.0	599.6	600.6	600.7	600.9	601.0	601.2
120°	638.3	639.9	641.6	642.4	642.4	642.4	642.4	642.4
122.5°	679.3	680.5	681.6	682.2	682.4	682.5	682.8	682.9
125°	737.1	737.5	737.9	738.3	738.7	739.2	739.6	740.0
127.5°	795.0	795.7	796.3	796.5	796.1	795.7	795.3	794.8
130°	830.0	830.8	831.6	831.8	831.4	831.0	830.6	830.2
132.5°	863.1	864.0	864.7	864.8	864.3	863.7	863.2	862.5
135°	913.3	913.9	914.6	914.6	913.9	913.3	912.7	912.1
137.5°	958.1	959.0	960.0	960.3	959.9	959.5	959.1	958.6
140°	986.4	987.2	988.1	988.2	987.9	987.5	987.1	986.7
142.5°	1013.4	1014.0	1014.6	1014.7	1014.2	1013.5	1013.0	1012.4
145°	1051.0	1051.4	1051.8	1051.9	1051.9	1051.9	1051.9	1051.9
147.5°	1084.7	1085.1	1085.4	1085.2	1084.3	1083.3	1082.4	1081.4
150°	1105.3	1105.6	1106.0	1106.0	1105.3	1104.8	1104.1	1103.5
152.5°	1123.6	1124.3	1125.1	1125.0	1124.0	1123.1	1122.1	1121.2
155°	1148.8	1149.9	1150.9	1150.7	1149.5	1148.3	1147.1	1145.9
157.5°	1170.8	1172.0	1173.2	1173.1	1171.5	1169.8	1168.2	1166.6
160°	1183.3	1184.5	1185.7	1185.7	1184.2	1182.8	1181.3	1179.9
162.5°	1194.7	1196.0	1197.5	1197.5	1196.2	1194.9	1193.7	1192.4
165°	1209.9	1211.5	1213.1	1213.2	1211.8	1210.4	1208.9	1207.5
167.5°	1221.6	1223.3	1225.0	1225.0	1223.3	1221.6	1220.0	1218.4
170°	1228.3	1229.9	1231.5	1231.5	1229.9	1228.3	1226.6	1225.0
172.5°	1232.7	1234.3	1236.0	1235.9	1234.1	1232.3	1230.5	1228.7
175°	1238.0	1239.4	1240.9	1240.7	1239.1	1237.5	1235.9	1234.2
177.5°	1239.9	1241.3	1242.5	1242.4	1240.8	1239.1	1237.5	1235.9
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8

(END OF REPORT)