

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: P332089-940

Luminaire Tested: **S123DIP-S1165D1195U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332089-940
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: S123DIP-S1165D1195U940-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8096.3 lumens
Efficiency: N/A
Efficacy: 112.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

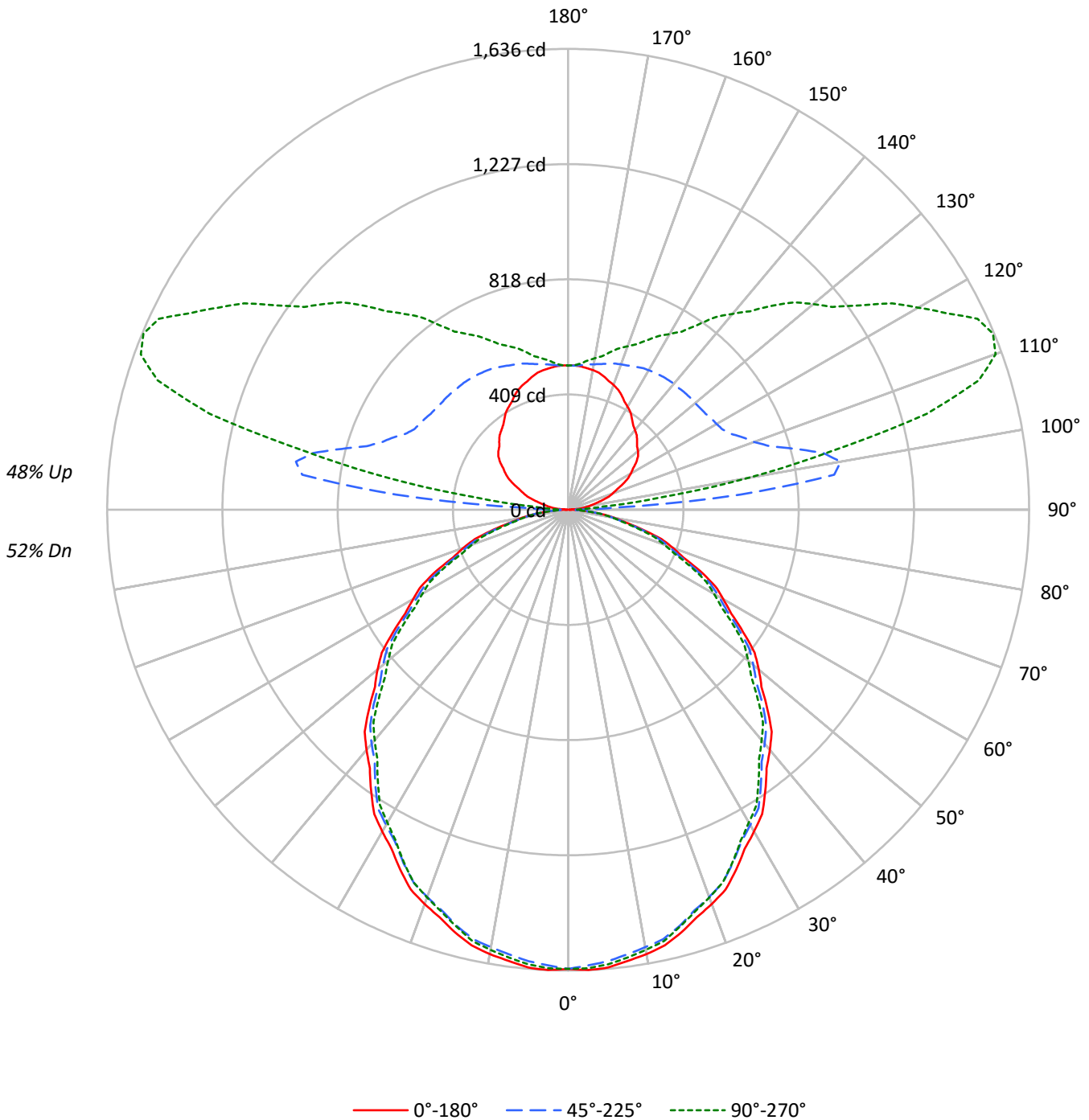
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	98	94	90	86	91	87	84	81	74	72	69	62	61	59	51	50	49	44
2	89	82	76	71	82	76	71	66	65	61	57	55	52	49	45	43	41	37
3	82	72	65	59	75	67	60	55	57	52	48	48	45	42	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27
5	68	57	49	43	63	53	46	40	46	40	35	39	34	31	32	29	26	23
6	63	51	43	37	58	48	40	35	41	35	31	35	30	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	27	23	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	25	21	18	16
9	50	38	31	25	47	36	29	24	31	26	22	27	22	19	23	19	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	20	17	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17546	17546	17546
5°	17629	17386	17507
10°	17511	17235	17343
15°	17307	17041	17072
20°	17068	16763	16778
25°	16747	16431	16397
30°	16394	16063	15940
35°	16025	15674	15471
40°	15638	15244	15008
45°	15213	14850	14487
50°	14788	14364	13966
55°	14230	13863	13440
60°	13670	13276	12854
65°	13173	12638	12246
70°	12441	11909	11383
75°	11366	10959	10493
80°	10253	9819	9732
85°	9003	8657	8312



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.6	1.9
10°-20°	433.6	5.4
20°-30°	640.5	7.9
30°-40°	748.2	9.2
40°-50°	752.2	9.3
50°-60°	660.7	8.2
60°-70°	492.2	6.1
70°-80°	280.4	3.5
80°-90°	84.5	1.0
90°-100°	284.8	3.5
100°-110°	806.5	10.0
110°-120°	793.4	9.8
120°-130°	632.8	7.8
130°-140°	498.9	6.2
140°-150°	372.4	4.6
150°-160°	259.6	3.2
160°-170°	152.5	1.9
170°-180°	49.6	0.6
0°-30°	1227.6	15.2
0°-40°	1975.8	24.4
0°-60°	3388.7	41.9
0°-90°	4245.8	52.4
90°-120°	1884.7	23.3
90°-150°	3388.9	41.9
90°-180°	3851.0	47.6
0°-180°	8096.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1630	1630	1630	1630	1630	
5°	1632	1624	1609	1622	1620	155
15°	1553	1547	1529	1539	1532	438
25°	1410	1401	1384	1385	1381	649
35°	1220	1211	1193	1185	1177	763
45°	999	993	976	959	952	771
55°	758	756	739	724	716	679
65°	517	510	496	485	481	510
75°	273	268	264	257	252	292
85°	73	70	70	67	67	80
90°	2	12	26	29	30	6
95°	35	114	614	179	120	38
105°	120	178	833	1457	1318	128
115°	212	265	637	1397	1603	210
125°	295	349	595	1077	1264	262
135°	346	413	586	887	1025	267
145°	395	452	579	728	801	247
155°	449	484	560	637	664	206
165°	490	504	537	569	579	138
175°	511	511	515	522	521	48
180°	512	512	512	512	512	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1
2.5°	1635.8	1634.8	1633.8	1632.8	1631.7	1629.9	1627.2	1624.4	1621.7	1618.9	1621.4
5°	1631.6	1630.0	1628.4	1626.9	1625.3	1622.8	1619.4	1616.0	1612.6	1609.1	1612.2
7.5°	1615.6	1614.0	1612.5	1610.9	1609.4	1606.8	1603.2	1599.7	1596.2	1592.6	1595.4
10°	1602.1	1600.5	1599.0	1597.4	1595.9	1593.1	1589.0	1585.0	1580.9	1576.9	1579.7
12.5°	1584.2	1582.9	1581.5	1580.3	1579.0	1576.4	1572.6	1568.8	1565.0	1561.2	1563.3
15°	1553.1	1551.8	1550.6	1549.3	1548.1	1545.4	1541.4	1537.3	1533.3	1529.2	1531.7
17.5°	1516.9	1515.3	1513.7	1512.1	1510.4	1507.6	1503.5	1499.5	1495.4	1491.4	1493.2
20°	1490.0	1488.1	1486.2	1484.3	1482.6	1479.5	1475.5	1471.5	1467.4	1463.4	1464.6
22.5°	1459.7	1457.9	1456.0	1454.1	1452.2	1449.3	1445.2	1441.2	1437.2	1433.1	1434.0
25°	1410.1	1408.2	1406.3	1404.4	1402.7	1399.6	1395.6	1391.6	1387.5	1383.5	1383.8
27.5°	1357.1	1355.3	1353.5	1351.7	1349.9	1346.8	1342.5	1338.1	1333.7	1329.4	1329.6
30°	1319.0	1317.4	1315.9	1314.3	1312.8	1309.8	1305.5	1301.1	1296.7	1292.4	1292.4
32.5°	1280.9	1278.8	1276.8	1274.7	1272.6	1269.9	1266.6	1263.2	1259.8	1256.5	1254.7
35°	1219.5	1217.6	1215.8	1213.9	1212.0	1209.1	1205.0	1201.0	1196.9	1192.8	1191.0
37.5°	1156.6	1154.3	1151.9	1149.6	1147.2	1144.0	1139.9	1135.8	1131.7	1127.5	1125.2
40°	1112.9	1111.1	1109.2	1107.3	1105.5	1102.3	1098.0	1093.6	1089.2	1084.9	1082.4
42.5°	1069.2	1067.1	1065.0	1062.8	1060.7	1057.5	1053.1	1048.7	1044.4	1040.1	1037.6
45°	999.4	998.2	996.9	995.7	994.4	991.8	987.7	983.6	979.6	975.5	971.9
47.5°	930.1	928.4	926.6	924.7	922.9	920.2	916.3	912.5	908.7	904.9	901.3
50°	883.1	881.5	879.9	878.4	876.8	874.1	870.0	865.9	861.8	857.8	854.4
52.5°	833.7	832.7	831.6	830.5	829.5	826.8	822.5	818.2	814.0	809.6	806.6
55°	758.3	758.0	757.7	757.4	757.1	754.9	750.8	746.8	742.7	738.7	735.3
57.5°	686.5	685.5	684.4	683.4	682.3	680.2	676.9	673.7	670.5	667.2	664.1
60°	635.0	634.6	634.4	634.0	633.7	631.7	627.9	624.2	620.5	616.7	613.9
62.5°	589.0	588.2	587.4	586.6	585.8	583.4	579.7	576.0	572.3	568.6	565.7
65°	517.2	515.7	514.1	512.6	511.0	508.6	505.5	502.4	499.3	496.2	493.7
67.5°	441.2	439.9	438.5	437.1	435.8	433.9	431.5	429.2	426.8	424.5	422.2
70°	395.3	393.4	391.6	389.7	387.8	385.9	384.1	382.2	380.3	378.4	376.3
72.5°	347.1	345.7	344.3	343.0	341.6	339.8	337.7	335.6	333.5	331.4	329.4
75°	273.3	272.1	270.8	269.6	268.3	267.2	266.4	265.4	264.5	263.5	262.0
77.5°	208.0	207.3	206.6	206.0	205.3	204.4	203.2	202.2	201.0	199.9	198.9
80°	165.4	164.4	163.5	162.6	161.7	160.9	160.2	159.6	159.0	158.4	158.1
82.5°	123.9	123.7	123.5	123.3	123.1	123.0	122.9	122.8	122.6	122.5	122.0
85°	72.9	72.2	71.6	71.0	70.4	70.1	70.1	70.1	70.1	70.1	69.5
87.5°	29.6	29.2	28.9	28.8	28.4	28.4	28.7	29.1	29.5	29.9	29.4
90°	2.1	4.1	6.2	9.4	11.4	13.5	16.6	19.7	22.8	25.9	24.9
92.5°	12.8	19.1	27.7	35.8	44.6	59.9	87.0	131.6	175.3	159.3	120.2
95°	35.2	38.3	49.8	67.3	94.3	134.6	222.7	377.1	547.1	614.4	498.3
97.5°	60.1	61.1	70.0	85.3	111.9	155.6	239.8	413.8	697.1	952.1	1018.6
100°	76.7	77.7	85.0	99.4	124.3	164.7	237.3	390.6	663.1	981.1	1185.3
102.5°	94.1	95.9	102.4	116.0	138.4	175.5	240.6	370.7	613.3	927.3	1193.5
105°	120.2	123.3	129.5	142.0	161.6	193.8	249.7	356.4	552.2	832.9	1130.3
107.5°	147.9	151.1	157.0	169.2	187.7	217.6	266.7	355.3	513.3	749.7	1019.7
110°	167.8	170.9	176.1	187.5	205.1	234.2	280.8	359.5	498.3	702.4	950.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	186.1	189.2	194.4	205.7	223.4	251.6	294.9	367.8	490.1	670.9	889.6
115°	212.4	216.5	222.7	233.1	250.7	278.7	318.1	381.3	487.0	637.1	816.4
117.5°	238.7	243.4	248.6	258.2	277.9	303.8	342.7	399.0	488.8	617.2	772.2
120°	256.9	260.0	265.2	275.6	295.2	321.2	358.5	412.3	492.1	608.1	749.0
122.5°	272.7	275.8	281.0	292.1	311.0	338.6	375.1	424.8	497.9	602.4	730.0
125°	295.2	297.4	303.5	315.0	334.7	362.6	398.9	444.4	506.6	594.7	705.5
127.5°	312.5	315.6	323.2	334.8	356.6	384.6	419.5	460.7	516.6	590.9	684.0
130°	323.2	326.4	335.6	348.1	369.9	397.8	432.0	471.4	523.2	588.4	672.3
132.5°	331.5	335.5	345.6	360.5	382.3	409.5	442.8	481.3	528.2	587.6	661.6
135°	346.1	350.2	361.6	377.1	398.9	426.9	459.0	494.2	535.7	586.4	647.6
137.5°	359.7	364.1	375.2	391.8	413.4	439.3	470.1	503.7	540.6	584.1	635.3
140°	368.8	374.0	384.3	400.9	421.7	447.5	477.6	508.7	543.9	583.3	627.9
142.5°	378.8	383.2	394.3	409.2	430.0	454.2	483.4	513.6	546.4	581.7	621.2
145°	394.8	397.8	407.2	422.7	440.3	464.1	491.1	519.1	548.0	579.2	612.3
147.5°	410.9	412.8	421.9	435.3	452.4	472.6	497.3	522.4	548.0	575.2	603.6
150°	421.7	422.7	431.0	444.4	459.0	477.6	501.4	523.2	548.0	571.9	597.8
152.5°	432.5	432.7	441.0	452.7	465.6	483.4	503.9	524.9	545.5	567.8	591.2
155°	448.6	448.6	454.9	465.2	476.5	491.1	508.7	525.3	542.9	560.5	581.2
157.5°	461.5	462.3	467.3	476.4	486.1	497.3	511.4	526.3	539.4	554.1	570.0
160°	471.4	471.4	475.5	483.8	491.1	501.4	513.9	526.3	537.7	549.1	562.6
162.5°	478.8	478.8	482.1	488.8	495.3	503.9	514.7	525.5	534.4	544.1	555.1
165°	490.1	489.0	491.1	496.2	500.4	507.7	515.9	523.2	529.4	536.6	544.9
167.5°	498.6	497.3	498.3	502.3	505.2	509.7	515.8	521.6	524.4	529.2	535.2
170°	503.5	501.4	502.5	505.6	507.7	509.7	514.9	519.1	521.1	524.2	529.4
172.5°	506.8	505.6	505.8	508.1	509.3	510.6	514.9	518.3	518.6	520.0	523.6
175°	510.8	509.7	508.7	510.8	510.8	511.8	513.9	515.9	514.9	514.9	517.0
177.5°	512.6	511.8	511.0	511.8	511.8	511.8	512.6	514.2	512.6	511.8	512.6
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1
2.5°	1623.9	1626.4	1628.9	1630.0	1629.8	1629.5	1629.2	1629.1
5°	1615.3	1618.5	1621.6	1622.8	1622.2	1621.6	1621.0	1620.3
7.5°	1598.2	1601.0	1603.8	1605.0	1604.6	1604.3	1603.9	1603.6
10°	1582.5	1585.3	1588.1	1589.2	1588.6	1588.0	1587.3	1586.7
12.5°	1565.3	1567.4	1569.4	1570.3	1569.9	1569.5	1569.1	1568.8
15°	1534.2	1536.7	1539.2	1539.5	1537.7	1535.8	1533.9	1532.0
17.5°	1494.9	1496.6	1498.3	1498.9	1498.3	1497.5	1496.8	1496.2
20°	1465.9	1467.1	1468.4	1468.5	1467.6	1466.6	1465.7	1464.7
22.5°	1435.1	1436.1	1437.1	1437.0	1435.8	1434.6	1433.4	1432.3
25°	1384.1	1384.4	1384.7	1384.4	1383.5	1382.5	1381.6	1380.6
27.5°	1329.9	1330.1	1330.3	1329.9	1328.7	1327.5	1326.3	1325.2
30°	1292.4	1292.4	1292.4	1291.3	1289.1	1286.9	1284.7	1282.5
32.5°	1252.9	1251.2	1249.5	1248.0	1246.9	1245.6	1244.5	1243.3
35°	1189.1	1187.2	1185.4	1183.7	1182.1	1180.5	1178.9	1177.4
37.5°	1123.0	1120.8	1118.6	1117.0	1115.9	1114.9	1113.9	1112.9
40°	1080.0	1077.5	1075.0	1073.1	1071.8	1070.6	1069.3	1068.1
42.5°	1035.1	1032.6	1030.1	1028.2	1027.0	1025.7	1024.5	1023.2
45°	968.1	964.4	960.6	958.0	956.4	954.8	953.3	951.7
47.5°	897.6	893.9	890.2	887.7	886.4	884.9	883.6	882.3
50°	851.0	847.6	844.1	841.5	839.6	837.8	835.9	834.0
52.5°	803.8	800.8	797.9	795.5	793.6	791.8	789.9	788.0
55°	731.8	728.4	725.0	722.5	720.9	719.3	717.8	716.2
57.5°	661.1	658.1	655.0	652.6	650.8	649.0	647.1	645.3
60°	611.2	608.3	605.6	603.3	601.8	600.2	598.7	597.1
62.5°	562.9	560.1	557.3	555.4	554.3	553.2	552.2	551.2
65°	491.2	488.7	486.2	484.6	483.6	482.7	481.7	480.8
67.5°	420.1	417.9	415.7	413.9	412.7	411.3	410.0	408.8
70°	374.1	371.9	369.7	367.8	366.3	364.7	363.2	361.7
72.5°	327.5	325.6	323.6	322.3	321.5	320.7	319.9	319.1
75°	260.4	258.9	257.3	256.0	255.1	254.1	253.2	252.3
77.5°	197.8	196.7	195.6	195.1	195.1	195.1	195.1	195.1
80°	157.7	157.5	157.1	157.0	157.0	157.0	157.0	157.0
82.5°	121.4	120.8	120.3	119.8	119.6	119.4	119.1	118.9
85°	68.8	68.2	67.6	67.3	67.3	67.3	67.3	67.3
87.5°	29.3	29.3	29.2	29.5	29.3	29.5	29.8	29.5
90°	25.9	26.9	28.0	30.1	29.0	30.1	31.1	30.1
92.5°	87.2	69.2	61.1	55.7	53.9	50.7	51.8	49.9
95°	373.0	252.8	197.9	160.6	140.9	131.6	124.3	120.2
97.5°	929.7	744.7	611.1	487.1	410.7	364.1	336.1	327.2
100°	1221.5	1137.6	1016.4	869.2	764.6	688.9	648.5	649.6
102.5°	1318.5	1315.7	1245.1	1151.8	1070.4	1010.6	976.8	953.0
105°	1346.8	1450.5	1470.2	1443.2	1395.5	1356.2	1323.0	1317.9
107.5°	1265.2	1433.4	1524.2	1561.1	1561.9	1548.6	1537.5	1527.9
110°	1187.3	1378.0	1508.5	1581.0	1610.0	1618.3	1616.2	1614.2



TEST NUMBER: P332089-940

CATALOG NUMBER: S123DIP-S1165D1195U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1110.2	1305.0	1451.3	1544.5	1597.6	1623.3	1631.1	1631.6
115°	1008.1	1188.3	1340.6	1453.6	1531.2	1576.8	1597.6	1602.8
117.5°	934.1	1089.7	1226.5	1341.0	1422.1	1474.3	1504.1	1511.2
120°	895.1	1035.0	1159.3	1264.0	1345.8	1403.8	1428.7	1434.9
122.5°	864.4	991.0	1106.3	1203.5	1276.2	1328.4	1355.8	1363.6
125°	823.7	936.6	1036.0	1118.9	1185.3	1230.8	1256.7	1264.0
127.5°	788.0	888.7	978.4	1053.8	1112.9	1151.8	1175.3	1181.9
130°	765.6	858.9	942.8	1013.3	1068.2	1105.5	1127.2	1135.5
132.5°	744.9	830.7	908.8	976.0	1027.5	1064.8	1084.1	1089.9
135°	716.9	790.5	857.8	916.9	967.7	998.7	1017.4	1024.7
137.5°	691.4	751.7	809.8	860.9	903.7	935.1	950.8	955.6
140°	676.5	729.3	779.1	823.7	863.0	892.1	908.6	907.6
142.5°	662.5	707.8	750.9	789.7	823.2	848.9	863.8	862.8
145°	645.4	679.7	712.8	742.8	768.7	790.5	798.8	800.8
147.5°	631.6	658.7	685.5	706.8	726.5	741.2	749.0	749.8
150°	621.6	645.4	667.2	686.9	702.4	713.8	720.1	720.1
152.5°	612.5	633.0	652.3	668.7	680.9	691.4	695.2	695.2
155°	598.8	615.4	631.0	643.4	652.7	661.0	663.1	664.1
157.5°	584.3	598.2	610.2	619.9	628.0	634.3	635.9	635.7
160°	576.0	587.5	597.8	605.0	612.3	618.5	618.5	617.5
162.5°	566.1	575.9	585.3	591.7	596.6	601.9	601.9	600.9
165°	553.2	559.5	566.7	571.9	576.0	580.1	579.2	579.2
167.5°	542.1	546.8	551.0	554.7	556.5	559.5	558.4	558.4
170°	534.6	537.7	541.8	543.9	544.9	547.1	546.0	546.0
172.5°	528.0	530.2	533.6	534.8	535.0	537.1	535.2	534.4
175°	519.1	520.0	522.2	522.2	522.2	523.2	522.2	521.1
177.5°	513.4	514.2	515.1	515.1	514.2	515.1	513.4	513.4
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8

(END OF REPORT)