

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: P332071-940

Luminaire Tested: **S123DIP-S1165D805U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332071-940
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-S1165D805U940-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6835.6 lumens
Efficiency: N/A
Efficacy: 112.6 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: Semi-Direct

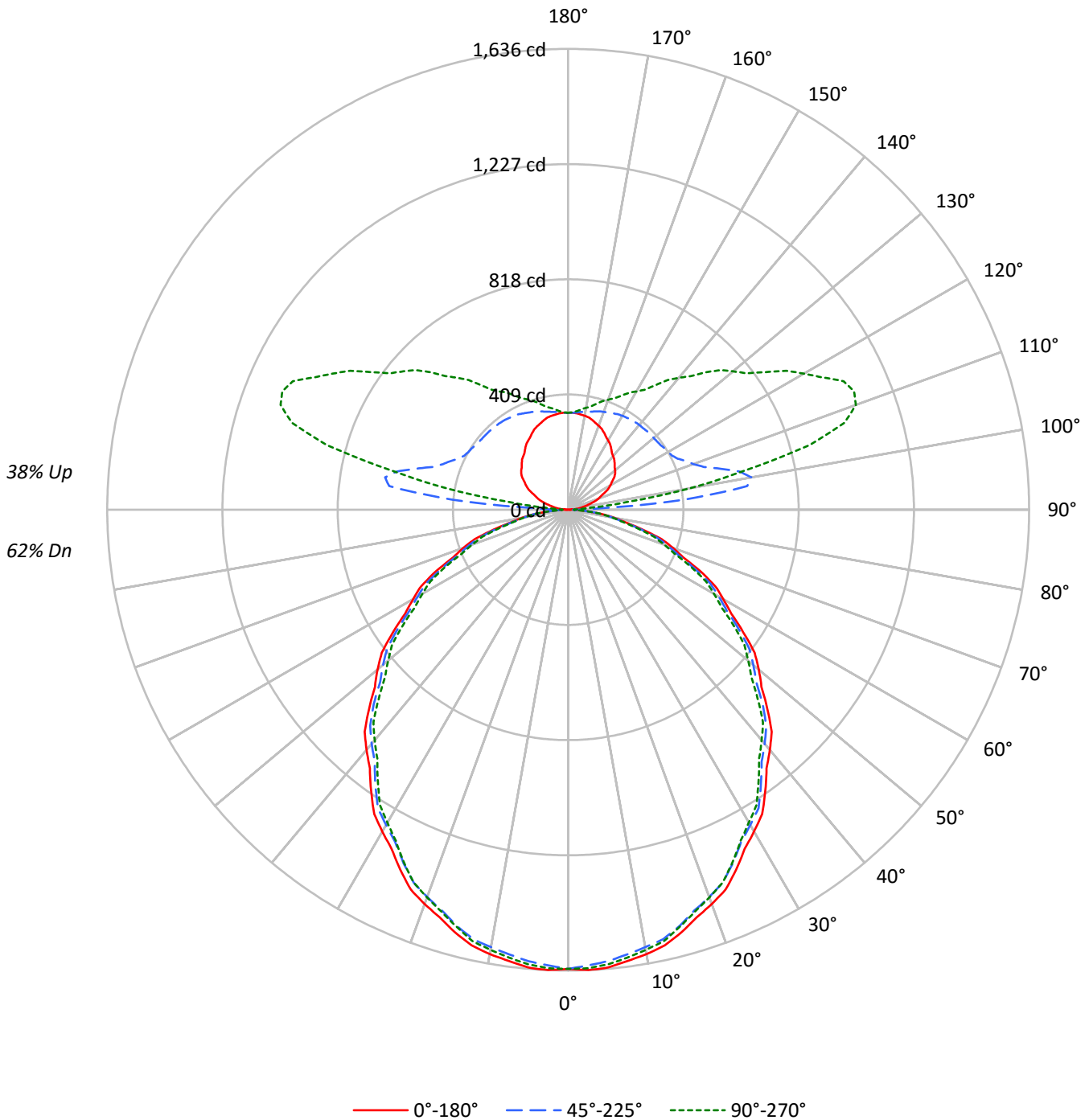
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90		78	78	78		67	67	67	62
1	100	96	92	88	94	90	87	83	79	76	74		69	67	65		59	58	57	52
2	91	84	77	72	85	79	73	68	69	65	61		60	57	54		52	50	48	44
3	83	74	66	60	78	69	63	57	61	56	51		53	49	46		46	43	41	37
4	76	65	57	51	71	61	54	49	54	48	44		48	43	39		41	38	35	32
5	70	58	50	44	65	55	47	42	49	42	38		43	38	34		37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33		39	34	30		34	30	27	24
7	60	47	39	33	56	45	37	32	40	34	29		35	30	26		31	27	24	21
8	56	43	35	30	52	41	33	28	36	30	26		32	27	24		28	24	21	19
9	52	39	32	26	48	37	30	25	33	27	23		30	25	21		26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21		27	23	19		24	20	18	16

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	2.2
10°-20°	433.6	6.3
20°-30°	640.5	9.4
30°-40°	748.2	10.9
40°-50°	752.2	11.0
50°-60°	660.7	9.7
60°-70°	492.2	7.2
70°-80°	280.4	4.1
80°-90°	83.2	1.2
90°-100°	191.7	2.8
100°-110°	542.7	7.9
110°-120°	533.9	7.8
120°-130°	425.8	6.2
130°-140°	335.7	4.9
140°-150°	250.6	3.7
150°-160°	174.7	2.6
160°-170°	102.6	1.5
170°-180°	33.4	0.5
0°-30°	1227.6	18.0
0°-40°	1975.8	28.9
0°-60°	3388.7	49.6
0°-90°	4244.5	62.1
90°-120°	1268.2	18.6
90°-150°	2280.4	33.4
90°-180°	2591.0	37.9
0°-180°	6835.6	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°	1	8	17	20	20	6
95°	24	77	413	121	81	26
105°	81	120	560	980	887	86
115°	143	178	429	940	1078	141
125°	199	235	400	725	850	176
135°	233	278	395	597	690	180
145°	266	304	390	490	539	166
155°	302	326	377	429	447	139
165°	330	339	361	383	390	93
175°	344	344	346	351	351	33
180°	344	344	344	344	344	



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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°	29.4	29.0	28.5	28.2	27.7	27.5	27.6	27.8	28.0	28.2	27.7
90°	1.4	2.8	4.2	6.2	7.7	9.1	11.1	13.3	15.3	17.4	16.8
92.5°	8.6	12.8	18.7	24.2	30.0	40.3	58.6	88.5	118.0	107.2	80.9
95°	23.7	25.8	33.4	45.3	63.4	90.6	149.9	253.8	368.1	413.4	335.4
97.5°	40.4	41.1	47.2	57.4	75.3	104.7	161.3	278.5	469.0	640.7	685.5
100°	51.6	52.3	57.2	67.0	83.6	110.8	159.6	262.8	446.2	660.2	797.5
102.5°	63.3	64.6	68.8	78.1	93.2	118.1	161.8	249.4	412.7	623.9	803.2
105°	80.9	82.9	87.1	95.5	108.8	130.4	168.0	239.8	371.6	560.5	760.6
107.5°	99.5	101.7	105.7	113.9	126.4	146.4	179.4	239.2	345.4	504.4	686.2
110°	113.0	115.0	118.5	126.2	138.0	157.6	189.0	241.9	335.4	472.7	639.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	125.2	127.3	130.8	138.5	150.3	169.2	198.4	247.4	329.8	451.5	598.6
115°	142.9	145.7	149.9	156.9	168.7	187.5	214.0	256.5	327.7	428.7	549.4
117.5°	160.6	163.8	167.3	173.7	187.0	204.4	230.6	268.6	329.0	415.4	519.7
120°	172.9	175.0	178.4	185.5	198.7	216.2	241.2	277.5	331.2	409.2	504.1
122.5°	183.5	185.6	189.0	196.6	209.3	227.8	252.4	285.8	335.0	405.4	491.2
125°	198.7	200.1	204.3	212.0	225.2	244.0	268.4	299.1	340.9	400.2	474.7
127.5°	210.3	212.3	217.5	225.3	240.0	258.8	282.3	310.0	347.6	397.7	460.3
130°	217.5	219.6	225.9	234.3	248.9	267.7	290.7	317.2	352.0	396.0	452.5
132.5°	223.1	225.8	232.6	242.6	257.3	275.5	297.9	323.9	355.4	395.4	445.2
135°	232.8	235.7	243.3	253.8	268.4	287.2	308.8	332.5	360.4	394.6	435.7
137.5°	242.0	245.0	252.5	263.7	278.1	295.6	316.4	338.9	363.8	393.1	427.5
140°	248.2	251.6	258.7	269.8	283.7	301.1	321.4	342.3	366.0	392.5	422.5
142.5°	254.9	257.8	265.4	275.4	289.4	305.6	325.3	345.6	367.7	391.4	418.0
145°	265.6	267.7	274.0	284.5	296.3	312.4	330.5	349.3	368.8	389.7	412.1
147.5°	276.5	277.8	283.9	292.9	304.3	318.1	334.7	351.5	368.8	387.1	406.2
150°	283.7	284.5	290.0	299.1	308.8	321.4	337.4	352.0	368.8	384.9	402.3
152.5°	291.0	291.1	296.7	304.7	313.3	325.3	339.1	353.2	367.1	382.0	397.8
155°	301.8	301.8	306.0	313.0	320.7	330.5	342.3	353.5	365.3	377.2	391.1
157.5°	310.5	311.0	314.4	320.6	327.1	334.7	344.1	354.2	362.9	372.8	383.6
160°	317.2	317.2	320.0	325.6	330.5	337.4	345.8	354.2	361.9	369.5	378.5
162.5°	322.3	322.3	324.5	329.0	333.2	339.1	346.3	353.6	359.6	366.1	373.5
165°	329.8	329.0	330.5	333.9	336.7	341.6	347.1	352.0	356.2	361.1	366.7
167.5°	335.5	334.7	335.4	338.0	339.9	343.0	347.1	351.0	352.9	356.1	360.2
170°	338.9	337.4	338.1	340.2	341.6	343.0	346.5	349.3	350.7	352.8	356.2
172.5°	341.1	340.2	340.4	341.9	342.7	343.6	346.5	348.7	349.0	350.0	352.3
175°	343.7	343.0	342.3	343.7	343.7	344.4	345.8	347.1	346.5	346.5	347.9
177.5°	344.9	344.4	343.8	344.4	344.4	344.4	344.9	346.1	344.9	344.4	344.9
180°	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4



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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°	27.6	27.6	27.5	27.6	27.5	27.6	27.7	27.6
90°	17.4	18.1	18.8	20.2	19.5	20.2	21.0	20.2
92.5°	58.7	46.5	41.1	37.5	36.3	34.2	34.9	33.6
95°	251.0	170.1	133.1	108.1	94.8	88.5	83.6	80.9
97.5°	625.6	501.1	411.2	327.8	276.3	245.0	226.1	220.2
100°	822.0	765.4	683.9	584.9	514.5	463.6	436.4	437.1
102.5°	887.2	885.4	837.9	775.1	720.3	680.0	657.3	641.2
105°	906.3	976.0	989.3	971.2	939.1	912.6	890.3	886.8
107.5°	851.4	964.6	1025.6	1050.4	1051.1	1042.1	1034.6	1028.1
110°	799.0	927.2	1015.0	1063.9	1083.3	1089.0	1087.5	1086.2



TEST NUMBER: P332071-940

CATALOG NUMBER: S123DIP-S1165D805U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	747.1	878.2	976.6	1039.3	1075.0	1092.3	1097.6	1097.9
115°	678.3	799.6	902.1	978.1	1030.4	1061.0	1075.0	1078.5
117.5°	628.6	733.3	825.3	902.4	956.9	992.0	1012.1	1016.9
120°	602.4	696.4	780.2	850.5	905.6	944.7	961.4	965.5
122.5°	581.8	666.9	744.4	809.9	858.7	893.9	912.3	917.6
125°	554.2	630.3	697.1	753.0	797.5	828.2	845.6	850.5
127.5°	530.3	598.0	658.4	709.2	748.9	775.1	790.9	795.3
130°	515.2	577.9	634.5	681.8	718.8	743.9	758.5	764.1
132.5°	501.2	559.0	611.5	656.7	691.4	716.6	729.5	733.4
135°	482.4	531.9	577.2	617.0	651.1	672.1	684.6	689.5
137.5°	465.3	505.9	544.9	579.3	608.1	629.3	639.9	643.1
140°	455.2	490.8	524.2	554.2	580.8	600.2	611.4	610.7
142.5°	445.8	476.3	505.3	531.4	553.9	571.2	581.3	580.6
145°	434.4	457.4	479.7	499.9	517.3	531.9	537.5	538.9
147.5°	425.0	443.3	461.3	475.6	488.8	498.7	504.1	504.6
150°	418.3	434.4	449.0	462.2	472.7	480.4	484.6	484.6
152.5°	412.1	426.0	438.9	450.0	458.2	465.3	467.8	467.8
155°	403.0	414.1	424.5	432.9	439.2	444.8	446.2	446.8
157.5°	393.2	402.5	410.6	417.1	422.6	426.8	427.9	427.8
160°	387.6	395.3	402.3	407.2	412.1	416.2	416.2	415.5
162.5°	380.9	387.4	393.9	398.2	401.4	405.0	405.0	404.4
165°	372.3	376.5	381.4	384.9	387.6	390.4	389.7	389.7
167.5°	364.7	367.9	370.8	373.3	374.5	376.5	375.8	375.8
170°	359.7	361.9	364.6	366.0	366.7	368.1	367.4	367.4
172.5°	355.3	356.8	359.0	359.9	360.0	361.4	360.2	359.6
175°	349.3	350.0	351.3	351.3	351.3	352.0	351.3	350.7
177.5°	345.5	346.1	346.6	346.6	346.1	346.6	345.5	345.5
180°	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4

(END OF REPORT)