

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: P332052-940

Luminaire Tested: **S123DIP-S1165D365U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332052-940
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: S123DIP-S1165D365U940-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5354.5 lumens
Efficiency: N/A
Efficacy: 107.5 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

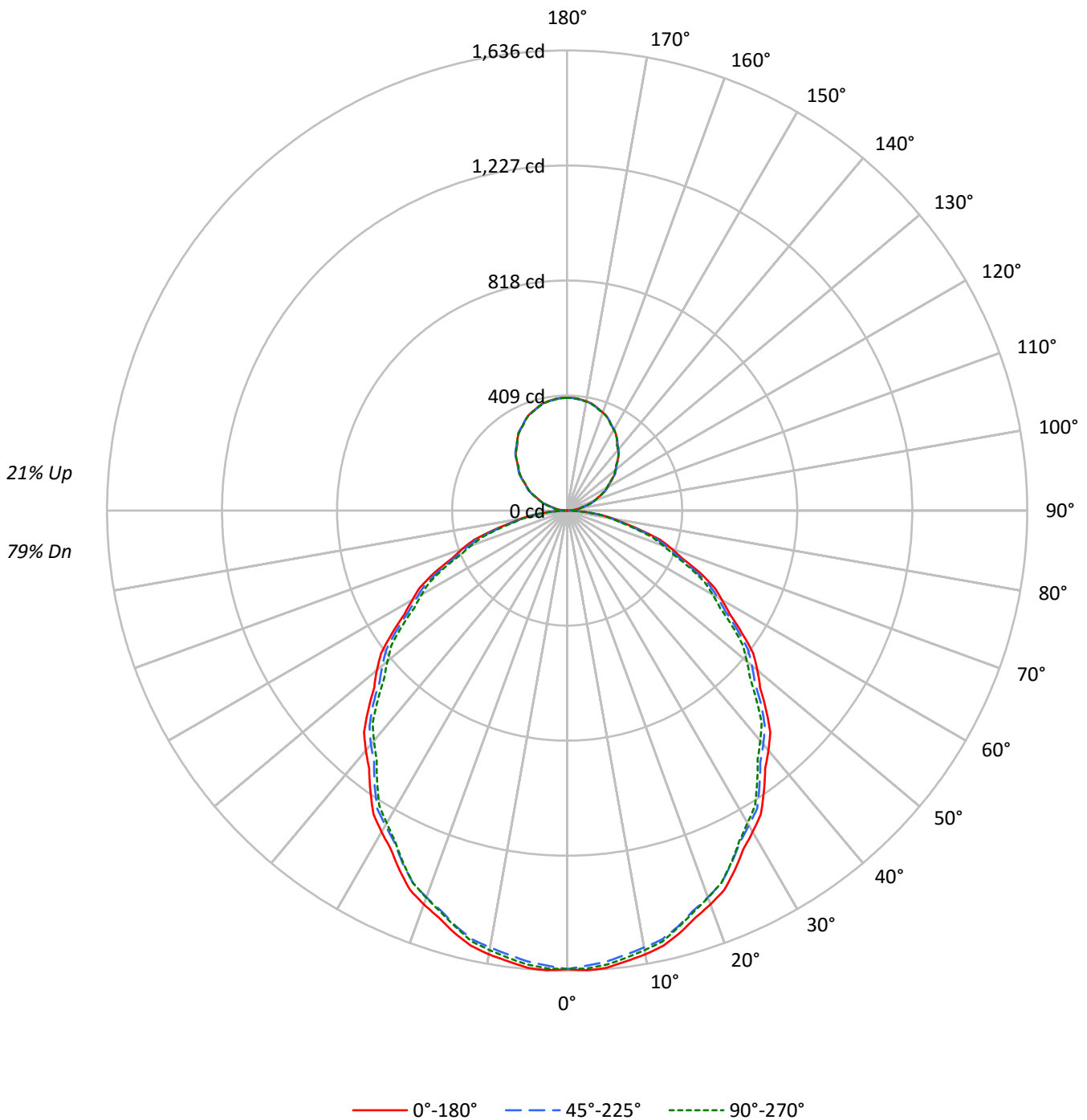
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	79
1	104	100	96	92	99	95	92	88	87	85	82	80	78	76	73	72	70	67
2	95	87	81	75	90	83	78	73	77	72	68	70	67	63	64	61	59	56
3	87	77	69	63	82	73	66	61	68	62	57	62	57	53	57	53	50	47
4	79	68	59	53	75	65	58	52	60	54	49	55	50	46	51	47	43	40
5	73	61	52	46	69	58	50	45	54	47	42	50	44	40	46	41	38	35
6	67	55	46	40	64	53	45	39	49	42	37	45	39	35	42	37	33	31
7	62	49	41	35	59	48	40	34	44	38	33	41	35	31	38	33	30	27
8	58	45	37	31	55	44	36	31	41	34	29	38	32	28	35	30	26	24
9	54	41	33	28	52	40	33	27	37	31	26	35	29	25	32	28	24	22
10	51	38	30	25	49	37	30	25	34	28	24	32	27	23	30	25	22	20

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	2.9
10°-20°	433.6	8.1
20°-30°	640.5	12.0
30°-40°	748.2	14.0
40°-50°	752.2	14.0
50°-60°	660.7	12.3
60°-70°	492.2	9.2
70°-80°	280.4	5.2
80°-90°	81.7	1.5
90°-100°	26.1	0.5
100°-110°	78.2	1.5
110°-120°	133.0	2.5
120°-130°	175.0	3.3
130°-140°	196.7	3.7
140°-150°	193.3	3.6
150°-160°	162.8	3.0
160°-170°	108.3	2.0
170°-180°	37.9	0.7
0°-30°	1227.6	22.9
0°-40°	1975.8	36.9
0°-60°	3388.7	63.3
0°-90°	4243.0	79.2
90°-120°	237.4	4.4
90°-150°	802.4	15.0
90°-180°	1111.0	20.7
0°-180°	5354.5	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°	0	4	8	9	10	5
95°	19	21	23	24	25	21
105°	71	72	74	74	75	76
115°	134	135	134	135	134	132
125°	196	197	196	195	194	175
135°	254	256	256	255	254	196
145°	308	309	310	310	308	193
155°	353	353	354	355	353	163
165°	385	384	384	386	384	108
175°	400	399	399	401	399	38
180°	401	401	401	401	401	



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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°	29.2	28.6	28.0	27.4	26.8	26.5	26.4	26.3	26.2	26.2	25.9
90°	0.4	1.0	1.7	2.4	3.1	3.9	4.8	5.7	6.7	7.6	7.8
92.5°	7.7	8.1	8.6	9.1	9.5	10.0	10.5	11.1	11.6	12.1	12.3
95°	18.6	19.1	19.5	20.1	20.5	21.0	21.7	22.2	22.7	23.4	23.6
97.5°	33.0	33.3	33.8	34.2	34.5	34.9	35.3	35.7	36.1	36.5	36.8
100°	42.9	43.2	43.7	44.1	44.5	44.9	45.3	45.7	46.0	46.3	46.5
102.5°	54.2	54.5	54.7	54.9	55.2	55.6	56.0	56.5	57.0	57.4	57.6
105°	70.9	71.1	71.2	71.3	71.4	71.9	72.5	73.1	73.7	74.4	74.4
107.5°	90.3	90.4	90.5	90.6	90.7	90.8	91.0	91.3	91.6	91.8	92.0
110°	102.5	102.5	102.7	102.8	103.0	103.1	103.3	103.4	103.5	103.7	104.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	115.0	115.1	115.2	115.3	115.4	115.4	115.5	115.5	115.5	115.6	115.8
115°	133.9	134.1	134.4	134.6	134.7	134.8	134.6	134.6	134.4	134.2	134.3
117.5°	152.9	153.1	153.3	153.4	153.6	153.5	153.3	153.1	152.9	152.8	152.8
120°	164.8	165.2	165.7	166.0	166.5	166.5	166.2	165.9	165.5	165.1	165.1
122.5°	177.2	177.5	177.8	178.1	178.4	178.4	178.3	178.1	177.9	177.7	177.5
125°	196.0	196.2	196.4	196.6	196.9	196.9	196.7	196.6	196.4	196.4	196.0
127.5°	213.4	213.8	214.3	214.7	215.2	215.3	215.2	215.0	214.9	214.7	214.4
130°	225.0	225.5	226.1	226.7	227.2	227.4	227.2	227.0	226.8	226.6	226.3
132.5°	236.6	237.2	237.7	238.3	238.8	239.1	238.9	238.7	238.5	238.4	238.1
135°	254.3	254.8	255.1	255.6	256.0	256.2	256.1	256.0	255.9	255.9	255.6
137.5°	270.7	271.1	271.3	271.7	272.1	272.3	272.5	272.7	272.9	273.0	272.8
140°	282.0	282.4	282.8	283.1	283.5	283.7	283.7	283.7	283.8	283.9	283.8
142.5°	292.4	292.7	293.1	293.5	293.7	294.0	294.2	294.3	294.4	294.5	294.4
145°	308.5	308.6	308.8	308.9	309.1	309.2	309.4	309.7	309.9	310.0	310.0
147.5°	322.6	322.9	323.2	323.4	323.6	323.9	324.0	324.2	324.4	324.7	324.7
150°	332.4	332.6	332.7	332.9	333.1	333.1	333.3	333.4	333.6	333.7	333.7
152.5°	340.5	340.7	340.9	341.1	341.3	341.4	341.5	341.6	341.7	341.8	341.9
155°	353.3	353.3	353.3	353.3	353.3	353.3	353.4	353.4	353.5	353.6	353.8
157.5°	364.1	364.0	363.9	363.8	363.7	363.7	363.8	363.8	363.9	364.0	364.3
160°	370.9	370.8	370.6	370.5	370.3	370.2	370.2	370.2	370.2	370.2	370.6
162.5°	376.9	376.7	376.6	376.4	376.1	376.1	376.1	376.2	376.3	376.3	376.7
165°	384.8	384.6	384.3	384.1	383.9	383.8	383.8	383.8	383.8	383.8	384.2
167.5°	391.0	390.7	390.5	390.1	389.9	389.8	389.9	389.9	389.9	390.0	390.4
170°	394.5	394.2	394.0	393.7	393.4	393.2	393.2	393.2	393.2	393.2	393.8
172.5°	397.3	397.0	396.7	396.5	396.2	396.0	396.0	396.0	396.0	396.0	396.5
175°	400.2	399.9	399.7	399.4	399.1	399.0	399.0	399.0	399.0	399.0	399.4
177.5°	401.4	401.2	400.9	400.7	400.5	400.4	400.4	400.4	400.4	400.4	400.7
180°	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2



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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°	25.8	25.6	25.4	25.3	25.3	25.4	25.4	25.4
90°	8.1	8.4	8.6	8.9	9.0	9.2	9.3	9.5
92.5°	12.6	12.8	13.0	13.1	13.0	12.9	12.8	12.8
95°	23.9	24.2	24.4	24.6	24.6	24.6	24.6	24.6
97.5°	37.1	37.5	37.8	37.9	37.9	37.9	37.8	37.8
100°	46.7	47.0	47.2	47.3	47.4	47.6	47.8	47.9
102.5°	57.9	58.1	58.2	58.3	58.3	58.3	58.2	58.2
105°	74.4	74.4	74.4	74.5	74.5	74.7	74.9	75.0
107.5°	92.3	92.5	92.7	92.8	92.7	92.6	92.6	92.5
110°	104.2	104.5	104.8	104.9	104.7	104.6	104.4	104.3



TEST NUMBER: P332052-940

CATALOG NUMBER: S123DIP-S1165D365U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	116.2	116.5	116.9	117.0	117.0	117.0	116.9	116.9
115°	134.4	134.5	134.6	134.6	134.5	134.4	134.3	134.2
117.5°	152.8	152.8	152.8	152.6	152.4	152.2	152.0	151.9
120°	165.0	164.9	164.9	164.7	164.6	164.4	164.3	164.2
122.5°	177.4	177.2	177.0	176.8	176.6	176.4	176.2	176.0
125°	195.7	195.5	195.2	194.9	194.7	194.4	194.0	193.8
127.5°	213.9	213.6	213.1	212.8	212.5	212.1	211.9	211.5
130°	226.0	225.7	225.4	225.1	224.6	224.1	223.6	223.1
132.5°	237.7	237.4	237.1	236.7	236.3	235.9	235.6	235.2
135°	255.3	255.0	254.8	254.6	254.4	254.2	254.1	254.0
137.5°	272.5	272.2	271.9	271.6	271.3	271.1	270.8	270.5
140°	283.7	283.7	283.7	283.4	282.9	282.4	281.9	281.4
142.5°	294.4	294.3	294.3	294.0	293.6	293.3	292.8	292.5
145°	310.0	309.9	309.8	309.6	309.3	309.1	308.8	308.5
147.5°	324.7	324.7	324.7	324.4	324.0	323.6	323.2	322.7
150°	333.7	333.7	333.7	333.5	333.1	332.7	332.3	331.8
152.5°	342.0	342.1	342.2	342.1	341.7	341.3	341.0	340.6
155°	354.1	354.4	354.7	354.5	354.1	353.6	353.1	352.6
157.5°	364.5	364.9	365.2	365.1	364.7	364.4	363.9	363.6
160°	371.0	371.3	371.7	371.7	371.4	371.1	370.9	370.6
162.5°	377.0	377.4	377.7	377.6	377.2	376.7	376.3	375.9
165°	384.7	385.0	385.5	385.5	385.0	384.5	384.0	383.5
167.5°	390.8	391.3	391.7	391.7	391.3	390.8	390.4	390.0
170°	394.2	394.8	395.2	395.2	394.8	394.2	393.8	393.2
172.5°	396.9	397.3	397.8	397.8	397.3	396.8	396.3	395.8
175°	399.8	400.2	400.6	400.6	400.1	399.6	399.1	398.6
177.5°	401.1	401.4	401.7	401.7	401.4	400.9	400.6	400.1
180°	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2

(END OF REPORT)