

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: P331581-940

Luminaire Tested: **S122DIW-S865D1440U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331581-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D1440U940-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8255.5 lumens
Efficiency: N/A
Efficacy: 107.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

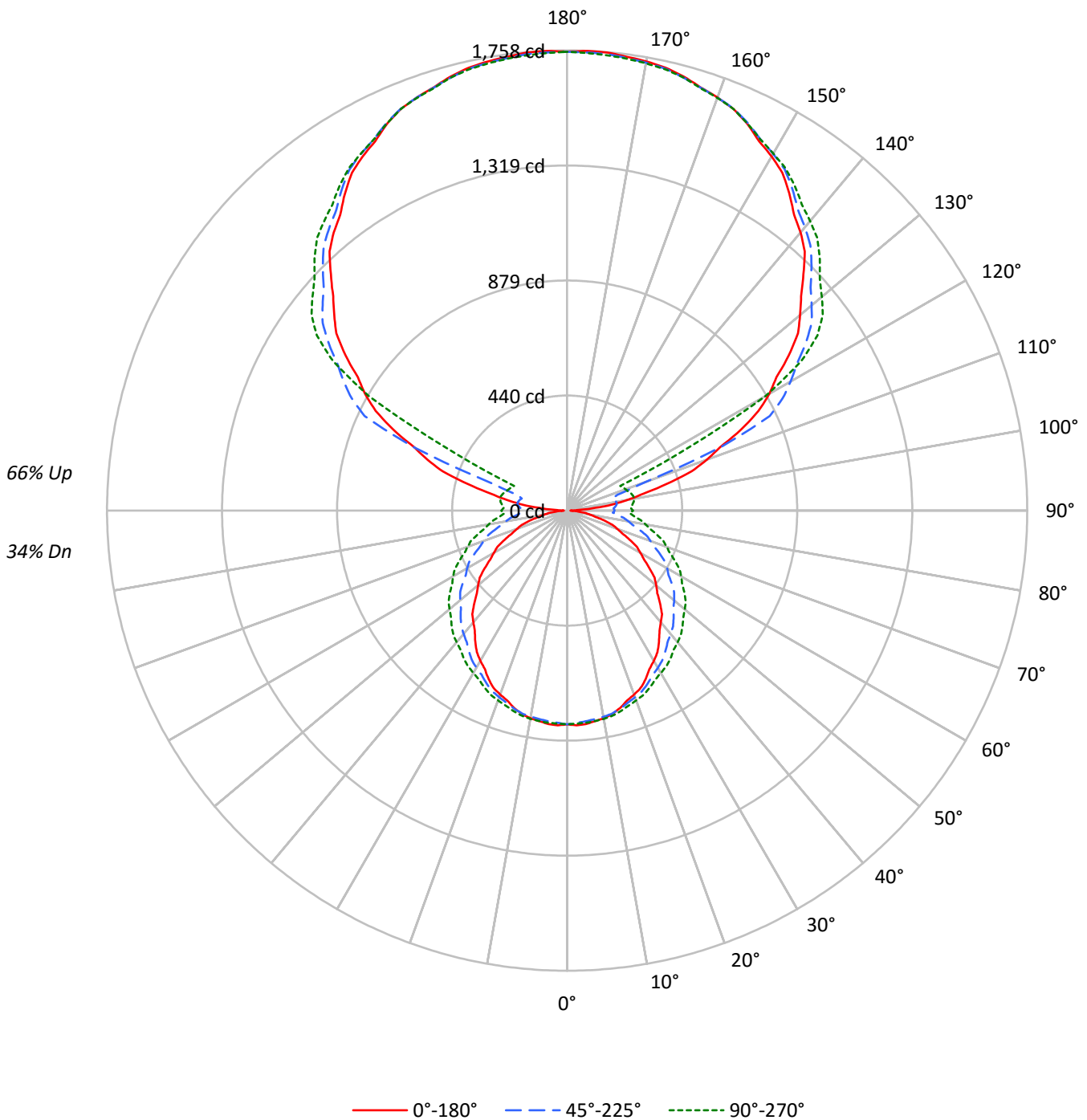
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331581-940

CATALOG NUMBER: S122DIW-S865D1440U940-4F0-1E-UDD-D

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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	93	88	84	80	84	80	76	73	63	61	59	48	47	45	35	34	33	26
2	84	77	70	65	76	69	64	59	55	51	48	42	39	37	30	28	27	21
3	77	67	59	53	69	60	54	49	48	43	40	37	33	31	26	24	22	17
4	70	59	51	45	63	53	46	41	42	37	33	32	29	26	23	21	19	15
5	64	52	44	38	57	47	40	35	38	33	28	29	25	22	21	18	16	13
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	19	16	14	11
7	54	42	34	28	49	38	31	26	31	25	21	24	20	17	17	14	12	10
8	50	38	30	25	45	34	28	23	28	23	19	21	18	15	16	13	11	9
9	47	34	27	22	42	31	25	20	25	20	17	20	16	13	14	12	10	8
10	43	31	24	20	39	29	22	18	23	18	15	18	14	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13183	13183	13183
5°	13247	12690	12640
10°	13163	12315	12177
15°	12982	11917	11686
20°	12752	11492	11215
25°	12527	11082	10786
30°	12206	10661	10357
35°	11884	10253	10054
40°	11544	9907	9750
45°	11222	9597	9493
50°	10875	9317	9238
55°	10513	9015	8977
60°	10070	8702	8703
65°	9607	8336	8376
70°	9087	7940	8025
75°	8422	7553	7701
80°	7376	7159	7372
85°	6374	6817	7118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.4	0.9
10°-20°	221.8	2.7
20°-30°	336.2	4.1
30°-40°	409.5	5.0
40°-50°	440.5	5.3
50°-60°	427.8	5.2
60°-70°	373.5	4.5
70°-80°	287.6	3.5
80°-90°	197.3	2.4
90°-100°	191.4	2.3
100°-110°	311.5	3.8
110°-120°	637.2	7.7
120°-130°	981.8	11.9
130°-140°	1021.1	12.4
140°-150°	937.7	11.4
150°-160°	751.8	9.1
160°-170°	484.5	5.9
170°-180°	166.8	2.0
0°-30°	635.4	7.7
0°-40°	1044.8	12.7
0°-60°	1913.1	23.2
0°-90°	2771.5	33.6
90°-120°	1140.2	13.8
90°-150°	4080.8	49.4
90°-180°	5484.0	66.4
0°-180°	8255.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	819	815	808	815	814	78
15°	781	783	783	793	793	220
25°	710	718	729	742	747	326
35°	612	632	654	679	689	382
45°	502	534	575	610	624	387
55°	385	428	489	530	547	344
65°	263	321	390	437	454	261
75°	146	212	288	336	354	154
85°	43	116	192	240	258	46
90°	13	96	182	233	252	12
95°	92	109	186	235	250	108
105°	392	444	179	232	252	419
115°	734	771	854	328	224	722
125°	1033	1052	1112	1151	1167	922
135°	1277	1297	1320	1356	1365	986
145°	1480	1480	1500	1515	1516	926
155°	1630	1620	1633	1640	1631	751
165°	1717	1710	1713	1721	1713	485
175°	1756	1748	1750	1758	1746	167
180°	1753	1753	1753	1753	1753	



TEST NUMBER: P331581-940

CATALOG NUMBER: S122DIW-S865D1440U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	821.2	820.6	819.9	819.3	818.7	817.6	816.1	814.7	813.2	811.7	812.8
5°	818.8	818.1	817.3	816.5	815.6	814.5	812.9	811.3	809.8	808.2	809.8
7.5°	811.5	810.9	810.4	809.9	809.4	808.5	807.3	806.1	804.9	803.7	805.6
10°	805.8	805.3	804.8	804.2	803.7	803.1	802.3	801.5	800.7	799.9	802.0
12.5°	796.3	796.5	796.6	796.7	796.7	796.5	795.9	795.3	794.8	794.2	796.3
15°	781.0	781.5	782.0	782.6	783.0	783.3	783.3	783.3	783.3	783.3	785.7
17.5°	761.1	762.1	763.3	764.4	765.4	766.4	767.3	768.1	769.0	769.8	772.3
20°	747.8	749.1	750.5	751.8	753.0	754.3	755.3	756.3	757.4	758.5	761.3
22.5°	733.6	735.1	736.6	738.2	739.7	741.2	742.7	744.1	745.6	747.1	750.0
25°	710.0	711.8	713.6	715.5	717.3	719.4	721.8	724.2	726.5	728.9	732.0
27.5°	681.5	684.6	687.5	690.5	693.6	696.4	699.2	702.0	704.8	707.6	711.6
30°	662.6	666.0	669.5	672.9	676.3	679.8	683.1	686.5	690.0	693.4	697.6
32.5°	641.8	645.6	649.4	653.4	657.2	661.1	665.1	669.2	673.2	677.3	682.2
35°	611.7	616.2	620.7	625.2	629.6	634.4	639.4	644.4	649.3	654.3	660.1
37.5°	579.1	584.2	589.4	594.5	599.7	605.5	612.0	618.5	624.9	631.4	637.8
40°	557.3	563.1	568.9	574.7	580.4	586.9	594.0	601.1	608.2	615.3	622.1
42.5°	536.5	542.2	548.0	553.8	559.6	566.6	574.7	582.9	591.0	599.2	606.6
45°	501.7	508.8	515.9	523.0	530.1	538.2	547.4	556.7	565.9	575.1	583.2
47.5°	467.3	475.1	482.9	490.6	498.3	507.6	518.4	529.1	539.9	550.7	559.2
50°	443.7	451.8	460.0	468.1	476.4	486.3	498.1	510.0	521.8	533.7	542.6
52.5°	421.0	429.5	438.2	446.7	455.3	465.8	478.3	490.7	503.2	515.7	524.8
55°	384.6	394.0	403.5	413.0	422.4	434.0	447.6	461.4	475.0	488.7	498.1
57.5°	348.6	359.3	370.0	380.6	391.3	403.6	417.5	431.5	445.4	459.3	469.6
60°	323.1	334.3	345.6	357.0	368.3	381.4	396.4	411.3	426.3	441.4	451.4
62.5°	300.3	312.0	323.8	335.5	347.2	360.6	375.6	390.6	405.6	420.5	431.1
65°	262.7	275.5	288.5	301.3	314.2	328.4	343.9	359.4	375.0	390.5	401.3
67.5°	228.1	241.6	255.0	268.5	282.0	296.7	312.5	328.4	344.3	360.2	371.0
70°	203.5	217.2	230.9	244.5	258.2	273.2	289.5	305.8	322.1	338.4	349.7
72.5°	180.8	194.9	209.0	223.1	237.2	252.4	269.0	285.5	302.0	318.5	329.7
75°	145.5	160.2	175.0	189.8	204.5	220.3	237.0	253.9	270.7	287.5	298.8
77.5°	111.5	126.9	142.3	157.7	173.1	189.3	206.4	223.6	240.6	257.7	268.9
80°	88.7	104.8	120.8	136.9	152.9	169.4	186.5	203.7	220.7	237.8	248.9
82.5°	69.8	85.6	101.5	117.3	133.1	149.7	167.0	184.3	201.6	218.9	230.0
85°	42.6	58.9	75.2	91.5	107.8	124.4	141.2	158.0	174.9	191.7	202.8
87.5°	23.5	39.8	56.0	72.3	88.6	105.4	122.7	140.0	157.2	174.5	185.6
90°	13.1	31.5	49.8	68.1	86.5	105.2	124.3	143.4	162.5	181.6	193.5
92.5°	36.5	50.4	64.4	78.3	92.2	107.8	125.1	142.4	159.8	177.1	188.2
95°	91.9	95.0	98.0	101.0	104.2	114.5	132.3	150.1	167.8	185.6	197.0
97.5°	171.9	156.7	141.4	126.3	111.0	113.2	133.0	152.7	172.4	192.1	203.0
100°	232.7	203.8	175.0	146.2	117.3	112.5	132.1	151.6	171.1	190.6	202.6
102.5°	298.8	299.5	300.2	301.0	301.7	289.1	263.3	237.6	211.8	186.0	198.5
105°	391.5	407.5	423.7	439.7	455.8	432.2	368.9	305.7	242.4	179.1	191.5
107.5°	498.6	511.4	524.3	537.3	550.2	517.1	437.9	358.7	279.6	200.4	206.1
110°	566.6	577.7	588.9	600.1	611.3	582.6	514.0	445.4	376.8	308.4	288.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	631.5	641.1	650.8	660.5	670.1	671.0	663.2	655.3	647.4	639.5	545.2
115°	734.0	741.6	749.3	757.0	764.7	778.0	796.8	815.7	834.6	853.5	730.9
117.5°	824.4	831.6	838.8	846.1	853.4	864.9	880.7	896.4	912.2	928.0	904.2
120°	891.3	896.6	901.9	907.1	912.4	922.8	938.4	954.0	969.6	985.3	996.0
122.5°	948.2	953.0	957.9	962.8	967.6	977.8	993.2	1008.6	1024.0	1039.4	1048.6
125°	1033.4	1037.1	1040.8	1044.5	1048.1	1056.8	1070.6	1084.3	1098.1	1111.9	1121.0
127.5°	1111.8	1115.6	1119.4	1123.2	1127.0	1134.3	1145.0	1155.8	1166.6	1177.4	1186.8
130°	1161.5	1165.7	1170.0	1174.3	1178.5	1184.9	1193.6	1202.2	1210.9	1219.4	1228.9
132.5°	1212.3	1215.8	1219.4	1223.0	1226.5	1232.0	1239.4	1246.7	1254.1	1261.4	1270.2
135°	1277.0	1281.6	1286.0	1290.6	1295.0	1299.9	1305.0	1310.2	1315.4	1320.5	1328.9
137.5°	1343.7	1346.8	1350.0	1353.1	1356.1	1359.7	1363.8	1367.8	1371.8	1375.8	1383.4
140°	1387.3	1389.4	1391.3	1393.3	1395.3	1398.1	1401.8	1405.4	1409.0	1412.6	1419.3
142.5°	1423.9	1425.7	1427.5	1429.1	1430.9	1433.7	1437.3	1441.0	1444.7	1448.3	1453.9
145°	1480.1	1479.7	1479.4	1479.2	1478.9	1481.1	1485.9	1490.8	1495.5	1500.3	1503.9
147.5°	1530.0	1528.9	1527.9	1526.8	1525.7	1527.5	1532.2	1537.0	1541.8	1546.5	1548.2
150°	1562.5	1560.5	1558.5	1556.6	1554.5	1555.9	1560.3	1564.9	1569.3	1573.9	1575.6
152.5°	1589.8	1587.7	1585.5	1583.2	1581.1	1582.1	1586.4	1590.6	1594.9	1599.2	1600.9
155°	1629.7	1627.1	1624.6	1622.0	1619.5	1620.0	1623.4	1626.7	1630.1	1633.4	1635.1
157.5°	1660.9	1658.8	1656.6	1654.5	1652.3	1652.4	1654.7	1657.2	1659.5	1661.9	1663.8
160°	1679.1	1677.4	1675.8	1674.1	1672.4	1672.4	1674.1	1675.8	1677.4	1679.1	1680.8
162.5°	1695.3	1693.7	1692.0	1690.3	1688.6	1688.5	1690.0	1691.4	1692.9	1694.3	1696.3
165°	1717.2	1715.5	1713.8	1712.1	1710.4	1710.0	1710.8	1711.6	1712.5	1713.3	1715.4
167.5°	1733.4	1731.7	1730.0	1728.3	1726.6	1726.2	1727.0	1727.8	1728.6	1729.4	1731.3
170°	1742.6	1740.9	1739.2	1737.5	1735.8	1735.2	1735.8	1736.3	1736.9	1737.5	1739.5
172.5°	1748.6	1747.0	1745.3	1743.6	1741.9	1741.3	1741.9	1742.4	1743.0	1743.6	1745.5
175°	1756.5	1754.5	1752.6	1750.6	1748.6	1747.9	1748.5	1749.0	1749.6	1750.2	1752.1
177.5°	1757.7	1756.2	1754.6	1753.0	1751.4	1750.8	1751.0	1751.2	1751.4	1751.7	1753.3
180°	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	813.8	814.8	815.9	816.3	815.8	815.4	814.9	814.6
5°	811.3	812.9	814.5	815.1	814.8	814.6	814.3	814.0
7.5°	807.4	809.3	811.3	812.1	811.8	811.5	811.3	811.0
10°	804.1	806.2	808.3	809.2	809.0	808.7	808.4	808.2
12.5°	798.4	800.5	802.6	803.5	803.3	803.0	802.7	802.5
15°	788.0	790.4	792.8	793.8	793.5	793.3	793.0	792.8
17.5°	774.8	777.2	779.7	781.0	781.0	781.0	781.0	781.0
20°	764.3	767.1	770.0	771.5	771.5	771.5	771.5	771.5
22.5°	752.9	755.8	758.7	760.4	760.7	761.2	761.6	762.1
25°	735.2	738.3	741.5	743.5	744.2	745.0	745.8	746.6
27.5°	715.6	719.6	723.5	725.9	726.5	727.0	727.6	728.2
30°	701.8	706.0	710.2	712.7	713.5	714.3	715.1	715.9
32.5°	687.0	691.8	696.6	699.8	701.2	702.6	704.0	705.4
35°	665.9	671.7	677.5	681.3	683.1	685.0	686.8	688.7
37.5°	644.2	650.6	657.0	661.2	663.2	665.1	667.1	669.1
40°	628.9	635.8	642.7	647.2	649.6	651.9	654.3	656.7
42.5°	614.1	621.6	629.1	634.0	636.3	638.7	641.1	643.5
45°	591.4	599.5	607.7	613.1	615.7	618.3	621.0	623.6
47.5°	567.8	576.2	584.8	590.5	593.3	596.3	599.1	602.1
50°	551.5	560.4	569.4	575.3	578.2	581.1	584.0	586.9
52.5°	534.0	543.1	552.2	558.4	561.5	564.6	567.7	570.8
55°	507.7	517.1	526.6	533.0	536.4	539.8	543.2	546.6
57.5°	479.7	489.9	500.2	507.0	510.4	513.9	517.4	520.8
60°	461.4	471.4	481.3	488.1	491.9	495.5	499.2	502.9
62.5°	441.8	452.4	463.0	470.1	473.5	477.0	480.5	483.9
65°	412.1	422.8	433.6	440.7	444.1	447.5	450.9	454.3
67.5°	381.9	392.8	403.8	411.0	414.6	418.1	421.7	425.3
70°	361.1	372.3	383.6	390.8	394.0	397.2	400.4	403.5
72.5°	340.7	351.8	362.9	370.3	374.2	377.9	381.7	385.5
75°	310.1	321.5	332.8	340.1	343.6	347.0	350.4	353.8
77.5°	280.3	291.5	302.7	310.2	313.9	317.5	321.3	324.9
80°	259.9	271.0	282.0	289.4	293.0	296.8	300.4	304.1
82.5°	241.0	252.0	263.1	270.4	273.8	277.2	280.7	284.2
85°	213.7	224.8	235.9	243.3	246.9	250.6	254.2	258.0
87.5°	196.5	207.5	218.6	225.8	229.3	232.7	236.2	239.7
90°	205.5	217.3	229.3	237.1	240.8	244.5	248.3	252.0
92.5°	199.2	210.2	221.2	228.5	232.0	235.5	239.0	242.5
95°	208.3	219.7	231.1	238.3	241.1	244.1	246.9	249.8
97.5°	213.8	224.7	235.5	242.6	246.1	249.6	253.0	256.5
100°	214.5	226.6	238.5	246.3	249.8	253.2	256.6	260.1
102.5°	210.9	223.4	235.9	243.9	247.5	251.3	254.9	258.6
105°	203.8	216.1	228.4	236.5	240.5	244.5	248.5	252.5
107.5°	211.7	217.4	223.1	227.9	231.9	235.9	240.0	244.0
110°	268.8	249.1	229.3	221.4	225.4	229.4	233.4	237.5



TEST NUMBER: P331581-940

CATALOG NUMBER: S122DIW-S865D1440U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	450.8	356.3	262.0	216.7	220.4	224.3	228.0	231.8
115°	608.3	485.7	363.1	293.1	275.7	258.3	240.9	223.5
117.5°	880.5	856.7	832.9	789.0	725.0	661.0	597.0	533.0
120°	1006.7	1017.4	1028.2	1016.0	980.9	945.7	910.5	875.4
122.5°	1057.7	1066.9	1076.1	1078.3	1073.4	1068.4	1063.5	1058.6
125°	1130.1	1139.1	1148.2	1154.3	1157.5	1160.7	1164.0	1167.2
127.5°	1196.2	1205.6	1215.0	1220.9	1223.4	1225.9	1228.4	1230.9
130°	1238.2	1247.7	1257.0	1262.7	1264.5	1266.3	1268.2	1270.0
132.5°	1279.0	1287.7	1296.5	1301.7	1303.5	1305.4	1307.2	1309.0
135°	1337.2	1345.6	1353.9	1358.9	1360.4	1361.9	1363.5	1365.0
137.5°	1391.1	1398.6	1406.2	1410.4	1411.3	1412.1	1412.9	1413.8
140°	1426.1	1432.9	1439.6	1443.1	1443.2	1443.4	1443.6	1443.8
142.5°	1459.6	1465.3	1471.0	1473.8	1473.7	1473.7	1473.6	1473.6
145°	1507.4	1511.0	1514.5	1516.3	1516.2	1516.1	1516.0	1515.8
147.5°	1549.8	1551.5	1553.2	1553.7	1553.2	1552.6	1552.1	1551.5
150°	1577.3	1579.0	1580.6	1580.7	1579.4	1578.0	1576.5	1575.1
152.5°	1602.6	1604.3	1606.0	1605.9	1604.0	1602.2	1600.4	1598.5
155°	1636.8	1638.5	1640.2	1639.9	1637.7	1635.5	1633.2	1630.9
157.5°	1665.7	1667.6	1669.6	1669.4	1667.2	1665.0	1662.8	1660.6
160°	1682.5	1684.2	1685.9	1685.8	1683.8	1681.8	1679.8	1677.8
162.5°	1698.2	1700.1	1702.0	1701.7	1699.3	1696.9	1694.5	1692.1
165°	1717.3	1719.3	1721.3	1721.3	1719.3	1717.3	1715.4	1713.3
167.5°	1733.3	1735.3	1737.2	1737.0	1734.5	1731.9	1729.4	1726.8
170°	1741.4	1743.4	1745.3	1745.1	1742.6	1740.0	1737.5	1734.9
172.5°	1747.5	1749.4	1751.4	1751.1	1748.6	1746.1	1743.6	1741.0
175°	1754.1	1756.0	1758.0	1757.7	1754.8	1751.9	1749.2	1746.3
177.5°	1754.8	1756.4	1758.0	1757.7	1755.7	1753.7	1751.7	1749.6
180°	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7

(END OF REPORT)