

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: P331575-940

Luminaire Tested: **S122DIW-S865D1240U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331575-940  
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-S865D1240U940-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7536.2 lumens  
Efficiency: N/A  
Efficacy: 108.0 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

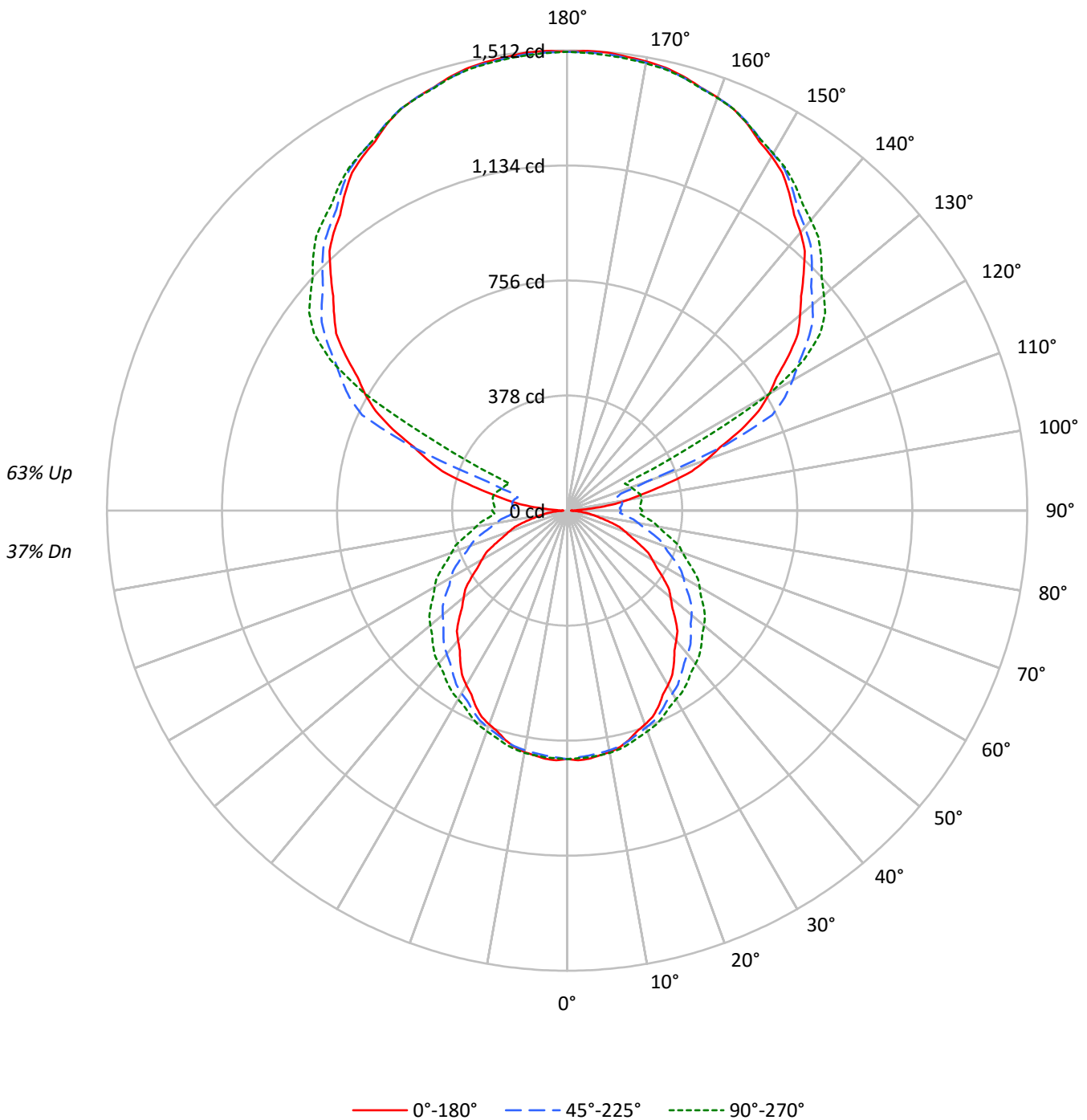
Input Watts (W): 69.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331575-940

CATALOG NUMBER: S122DIW-S865D1240U940-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331575-940

CATALOG NUMBER: S122DIW-S865D1240U940-4F0-1E-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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	29
2	85	77	71	65	76	70	64	60	56	52	49	44	41	38	32	30	29	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	41	35	39	33	29	30	26	23	22	20	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	25	21	18	18	15	13	10
8	51	38	30	25	46	35	28	23	28	23	19	22	18	16	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	40	29	23	18	24	19	15	19	15	12	14	12	10	8

**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



TEST NUMBER: P331575-940

CATALOG NUMBER: S122DIW-S865D1240U940-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.4	1.0
10°-20°	221.8	2.9
20°-30°	336.2	4.5
30°-40°	409.5	5.4
40°-50°	440.5	5.8
50°-60°	427.8	5.7
60°-70°	373.5	5.0
70°-80°	287.6	3.8
80°-90°	196.7	2.6
90°-100°	183.2	2.4
100°-110°	281.5	3.7
110°-120°	557.0	7.4
120°-130°	849.5	11.3
130°-140°	880.4	11.7
140°-150°	806.9	10.7
150°-160°	646.7	8.6
160°-170°	416.7	5.5
170°-180°	143.4	1.9
0°-30°	635.4	8.4
0°-40°	1044.8	13.9
0°-60°	1913.1	25.4
0°-90°	2770.9	36.8
90°-120°	1021.8	13.6
90°-150°	3558.5	47.2
90°-180°	4765.0	63.2
0°-180°	7536.2	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	94	178	229	247	11
95°	80	103	179	227	242	94
105°	338	388	168	220	239	361
115°	632	666	744	297	209	622
125°	889	906	962	1000	1016	793
135°	1098	1116	1138	1172	1181	848
145°	1273	1273	1290	1304	1306	796
155°	1402	1393	1405	1411	1403	646
165°	1477	1471	1474	1480	1474	417
175°	1511	1504	1505	1512	1502	144
180°	1507	1507	1507	1507	1507	



TEST NUMBER: P331575-940

CATALOG NUMBER: S122DIW-S865D1240U940-4F0-1E-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	39.6	55.8	72.1	88.2	105.0	122.2	139.4	156.6	173.8	184.8
90°	12.9	30.9	48.8	66.7	84.6	102.9	121.7	140.4	159.3	178.0	189.8
92.5°	32.9	46.9	60.8	74.8	88.7	104.3	121.5	138.7	155.8	173.0	183.9
95°	80.3	84.7	89.1	93.5	97.8	108.7	126.2	143.7	161.1	178.6	189.8
97.5°	149.0	137.4	125.9	114.3	102.8	106.6	125.6	144.7	163.8	182.8	193.5
100°	201.3	177.9	154.4	130.9	107.5	105.1	123.9	142.9	161.7	180.5	192.2
102.5°	258.0	259.8	261.7	263.6	265.5	256.3	236.1	216.0	195.8	175.6	187.6
105°	337.5	352.4	367.3	382.2	397.1	378.3	325.8	273.3	220.8	168.3	180.1
107.5°	429.5	441.5	453.5	465.5	477.4	450.3	384.0	317.7	251.5	185.2	191.4
110°	487.9	498.3	508.6	519.0	529.3	506.0	448.8	391.6	334.4	277.2	261.4



TEST NUMBER: P331575-940

CATALOG NUMBER: S122DIW-S865D1240U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	543.8	552.8	561.7	570.6	579.5	581.5	576.4	571.3	566.3	561.2	481.3
115°	632.0	638.9	646.0	653.0	660.0	672.4	690.4	708.2	726.1	744.0	639.7
117.5°	709.5	716.0	722.6	729.0	735.5	746.3	761.4	776.5	791.7	806.7	787.4
120°	767.1	771.8	776.5	781.1	785.9	795.7	810.6	825.4	840.3	855.2	865.4
122.5°	816.0	820.2	824.5	828.8	832.9	842.4	857.0	871.7	886.4	901.0	909.9
125°	889.2	892.3	895.5	898.7	901.8	909.9	922.9	935.9	949.0	962.0	970.7
127.5°	956.6	959.8	963.0	966.3	969.5	976.2	986.5	996.7	1006.9	1017.2	1026.1
130°	999.3	1003.0	1006.6	1010.2	1013.8	1019.7	1027.9	1036.1	1044.3	1052.5	1061.4
132.5°	1042.9	1046.0	1049.0	1052.0	1055.2	1060.1	1067.0	1074.0	1080.8	1087.8	1096.2
135°	1098.5	1102.4	1106.3	1110.2	1114.0	1118.4	1123.2	1128.0	1132.8	1137.6	1145.6
137.5°	1155.9	1158.6	1161.2	1163.9	1166.5	1169.7	1173.3	1177.0	1180.6	1184.2	1191.4
140°	1193.4	1195.1	1196.8	1198.5	1200.2	1202.6	1205.8	1209.0	1212.1	1215.3	1221.7
142.5°	1224.9	1226.3	1227.8	1229.3	1230.7	1233.1	1236.3	1239.4	1242.6	1245.7	1251.1
145°	1272.9	1272.7	1272.5	1272.2	1272.0	1273.9	1278.1	1282.2	1286.3	1290.4	1293.7
147.5°	1315.9	1315.0	1314.1	1313.1	1312.2	1313.8	1317.9	1322.0	1326.1	1330.1	1331.6
150°	1343.9	1342.2	1340.5	1338.7	1337.0	1338.2	1342.0	1345.9	1349.8	1353.7	1355.1
152.5°	1367.4	1365.6	1363.6	1361.7	1359.9	1360.8	1364.4	1368.2	1371.8	1375.5	1377.0
155°	1401.7	1399.5	1397.3	1395.1	1392.9	1393.3	1396.2	1399.1	1402.0	1405.0	1406.4
157.5°	1428.5	1426.6	1424.8	1423.0	1421.1	1421.2	1423.3	1425.3	1427.4	1429.4	1431.0
160°	1444.2	1442.8	1441.3	1439.8	1438.4	1438.4	1439.8	1441.3	1442.8	1444.2	1445.6
162.5°	1458.2	1456.7	1455.3	1453.8	1452.3	1452.2	1453.5	1454.7	1456.1	1457.3	1458.9
165°	1476.9	1475.5	1474.0	1472.6	1471.1	1470.8	1471.5	1472.2	1472.9	1473.6	1475.3
167.5°	1490.9	1489.4	1488.0	1486.6	1485.1	1484.7	1485.4	1486.0	1486.7	1487.4	1489.1
170°	1498.8	1497.3	1495.8	1494.4	1492.9	1492.5	1492.9	1493.4	1493.9	1494.4	1496.1
172.5°	1504.0	1502.5	1501.1	1499.6	1498.2	1497.7	1498.2	1498.6	1499.1	1499.6	1501.3
175°	1510.7	1509.0	1507.3	1505.7	1504.0	1503.3	1503.9	1504.3	1504.9	1505.3	1507.0
177.5°	1511.8	1510.5	1509.1	1507.8	1506.4	1505.8	1506.0	1506.2	1506.4	1506.6	1508.0
180°	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4



TEST NUMBER: P331575-940

CATALOG NUMBER: S122DIW-S865D1240U940-4F0-1E-UDD-D

**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°	195.7	206.7	217.7	224.9	228.4	231.8	235.3	238.7
90°	201.4	213.2	224.9	232.6	236.2	239.9	243.5	247.2
92.5°	194.8	205.8	216.7	223.9	227.4	230.8	234.3	237.7
95°	201.0	212.2	223.5	230.5	233.4	236.3	239.2	242.1
97.5°	204.2	214.9	225.6	232.6	236.0	239.4	242.9	246.3
100°	203.8	215.5	227.2	234.7	238.1	241.5	244.9	248.2
102.5°	199.7	211.8	223.8	231.6	235.1	238.7	242.3	245.8
105°	192.1	203.9	215.8	223.6	227.5	231.4	235.2	239.1
107.5°	197.4	203.6	209.7	214.7	218.6	222.4	226.2	230.2
110°	245.6	229.8	213.9	207.9	211.9	215.7	219.5	223.5





TEST NUMBER: P331575-940

CATALOG NUMBER: S122DIW-S865D1240U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	401.2	321.2	241.2	203.0	206.7	210.4	214.0	217.7
115°	535.3	431.0	326.6	267.2	252.6	238.1	223.6	208.9
117.5°	768.0	748.7	729.2	692.2	637.6	582.9	528.2	473.6
120°	875.7	886.0	896.3	886.4	856.7	826.8	797.0	767.1
122.5°	918.7	927.6	936.6	939.1	935.2	931.3	927.5	923.5
125°	979.5	988.4	997.1	1003.1	1006.2	1009.2	1012.4	1015.5
127.5°	1035.1	1044.1	1053.1	1058.8	1061.3	1063.7	1066.2	1068.7
130°	1070.4	1079.4	1088.3	1093.8	1095.6	1097.5	1099.4	1101.3
132.5°	1104.6	1112.9	1121.3	1126.4	1128.3	1130.2	1132.0	1133.9
135°	1153.5	1161.5	1169.4	1174.2	1175.8	1177.4	1179.0	1180.6
137.5°	1198.6	1205.9	1213.1	1217.2	1218.1	1219.1	1220.0	1221.0
140°	1228.1	1234.5	1240.9	1244.3	1244.6	1245.0	1245.4	1245.7
142.5°	1256.4	1261.8	1267.1	1269.9	1270.1	1270.2	1270.3	1270.5
145°	1297.0	1300.2	1303.5	1305.2	1305.3	1305.4	1305.5	1305.6
147.5°	1333.0	1334.5	1336.0	1336.5	1336.1	1335.8	1335.3	1335.0
150°	1356.6	1358.1	1359.5	1359.6	1358.4	1357.2	1355.9	1354.8
152.5°	1378.4	1379.8	1381.3	1381.3	1379.7	1378.0	1376.4	1374.8
155°	1407.8	1409.3	1410.8	1410.5	1408.5	1406.7	1404.7	1402.8
157.5°	1432.7	1434.3	1436.0	1435.8	1434.0	1432.1	1430.2	1428.3
160°	1447.2	1448.6	1450.0	1449.9	1448.2	1446.5	1444.8	1443.1
162.5°	1460.6	1462.2	1463.9	1463.7	1461.6	1459.5	1457.4	1455.4
165°	1477.0	1478.7	1480.4	1480.4	1478.7	1477.0	1475.3	1473.6
167.5°	1490.8	1492.5	1494.2	1494.0	1491.7	1489.6	1487.4	1485.2
170°	1497.8	1499.5	1501.2	1500.9	1498.8	1496.6	1494.4	1492.2
172.5°	1503.0	1504.7	1506.4	1506.2	1504.0	1501.8	1499.6	1497.4
175°	1508.7	1510.4	1512.1	1511.7	1509.3	1506.9	1504.4	1502.0
177.5°	1509.3	1510.6	1512.1	1511.8	1510.1	1508.3	1506.6	1504.9
180°	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4

(END OF REPORT)