

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: P331732-840

Luminaire Tested: **SA2XXRDIP-C865D1080U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331732-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C865D1080U840-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

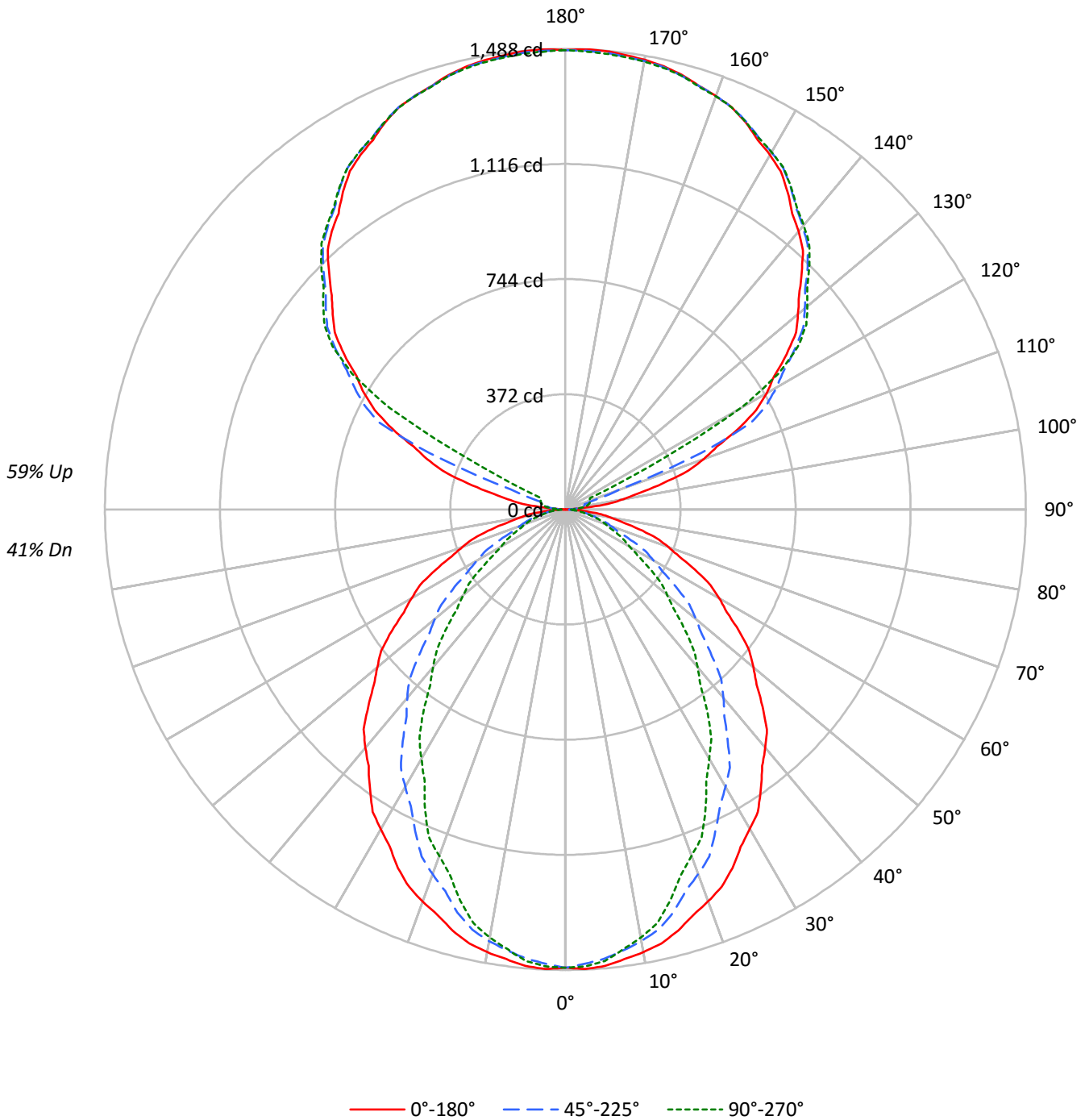
Lumens per Lamp: N/A
Luminaire Lumens: 7396.9 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 65.4
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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41				
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	35				
2	88	81	75	70	80	74	69	65	61	58	55	49	47	45	38	37	35	30				
3	80	71	64	59	73	65	59	55	54	50	46	44	41	38	34	32	31	26				
4	74	63	56	50	67	58	52	47	48	44	40	39	36	33	31	29	27	23				
5	68	57	49	43	62	52	45	40	44	38	34	36	32	29	28	26	23	20				
6	63	51	43	37	57	47	40	35	39	34	30	32	28	25	26	23	21	18				
7	58	46	38	33	53	42	36	31	36	31	27	29	26	23	23	21	19	16				
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	22	19	17	14				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13				
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	19	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23909	23909	23909
5°	24000	23608	23738
10°	23815	23222	23023
15°	23542	22534	21884
20°	23163	21551	20469
25°	22775	20436	19099
30°	22236	19287	17339
35°	21711	18039	15794
40°	21182	16750	14010
45°	20562	15299	12392
50°	19926	13835	10803
55°	19277	12262	9278
60°	18519	10601	7702
65°	17662	8909	7014
70°	16636	7336	6449
75°	15384	6687	6014
80°	13575	5979	5486
85°	10689	4705	4705



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.6	1.9
10°-20°	380.6	5.1
20°-30°	534.4	7.2
30°-40°	582.7	7.9
40°-50°	535.8	7.2
50°-60°	420.8	5.7
60°-70°	274.4	3.7
70°-80°	141.5	1.9
80°-90°	40.3	0.5
90°-100°	49.5	0.7
100°-110°	181.5	2.5
110°-120°	485.1	6.6
120°-130°	800.8	10.8
130°-140°	851.6	11.5
140°-150°	791.6	10.7
150°-160°	636.4	8.6
160°-170°	410.1	5.5
170°-180°	141.2	1.9
0°-30°	1053.6	14.2
0°-40°	1636.3	22.1
0°-60°	2593.0	35.1
0°-90°	3049.1	41.2
90°-120°	716.1	9.7
90°-150°	3160.1	42.7
90°-180°	4348.0	58.8
0°-180°	7396.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1481	1481	1481	1481	1481	
5°	1481	1473	1457	1468	1465	140
15°	1408	1392	1348	1323	1309	397
25°	1278	1233	1147	1094	1072	588
35°	1102	1030	915	834	801	689
45°	900	808	670	578	543	695
55°	685	578	436	358	330	612
65°	462	353	233	190	184	458
75°	247	155	107	98	96	261
85°	58	31	25	25	25	68
90°	1	13	22	27	29	6
95°	70	37	42	47	46	85
105°	326	340	65	77	82	349
115°	617	636	662	189	88	608
125°	873	887	907	914	918	778
135°	1080	1097	1107	1117	1115	834
145°	1253	1253	1270	1277	1272	783
155°	1380	1371	1383	1388	1381	635
165°	1454	1448	1450	1457	1450	410
175°	1487	1480	1482	1488	1478	141
180°	1484	1484	1484	1484	1484	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1486.1	1484.9	1483.7	1482.5	1481.4	1479.5	1476.8	1474.2	1471.6	1468.9	1471.4
5°	1480.8	1479.3	1477.7	1476.2	1474.8	1472.1	1468.2	1464.4	1460.5	1456.6	1459.3
7.5°	1465.4	1463.6	1461.8	1460.0	1458.0	1454.9	1450.4	1445.8	1441.3	1436.7	1437.5
10°	1452.6	1450.5	1448.4	1446.3	1444.2	1440.3	1434.3	1428.4	1422.4	1416.4	1415.5
12.5°	1436.5	1433.9	1431.4	1428.9	1426.2	1421.2	1413.5	1405.9	1398.3	1390.7	1389.1
15°	1408.4	1405.1	1401.8	1398.6	1395.2	1388.6	1378.5	1368.4	1358.2	1348.1	1342.4
17.5°	1373.8	1368.8	1363.8	1358.8	1353.8	1344.8	1331.8	1318.8	1305.9	1292.8	1286.2
20°	1348.1	1342.1	1336.2	1330.2	1324.2	1313.8	1298.9	1284.0	1269.2	1254.3	1246.8
22.5°	1320.2	1313.5	1306.9	1300.2	1293.5	1281.8	1265.0	1248.2	1231.4	1214.6	1205.0
25°	1278.4	1268.9	1259.3	1249.8	1240.3	1225.7	1206.0	1186.4	1166.7	1147.1	1134.9
27.5°	1228.0	1217.6	1207.3	1196.9	1186.6	1170.3	1148.1	1126.0	1103.8	1081.7	1067.4
30°	1192.7	1181.3	1170.0	1158.7	1147.4	1129.8	1106.0	1082.2	1058.3	1034.5	1019.4
32.5°	1158.3	1145.1	1131.9	1118.6	1105.4	1086.7	1062.4	1038.0	1013.8	989.5	972.2
35°	1101.5	1086.3	1071.2	1055.9	1040.8	1020.1	993.8	967.7	941.5	915.2	896.5
37.5°	1044.7	1028.0	1011.4	994.6	978.0	955.6	927.8	899.8	871.9	843.9	823.2
40°	1005.0	987.1	969.3	951.4	933.5	910.2	881.3	852.4	823.5	794.7	773.5
42.5°	964.3	945.4	926.7	907.9	889.0	864.6	834.9	805.0	775.2	745.3	723.5
45°	900.5	880.5	860.6	840.6	820.7	795.1	763.9	732.6	701.3	670.0	648.8
47.5°	838.3	817.2	796.1	774.9	753.8	727.0	694.8	662.5	630.2	597.9	576.9
50°	793.3	772.1	751.0	729.8	708.7	681.8	649.0	616.2	583.5	550.8	530.2
52.5°	749.3	727.2	705.2	683.1	661.0	633.9	601.9	569.8	537.8	505.7	485.8
55°	684.8	661.6	638.3	615.1	591.9	564.1	532.0	499.8	467.7	435.6	417.7
57.5°	618.5	594.7	570.9	547.0	523.3	495.9	464.9	434.0	403.1	372.2	355.9
60°	573.5	549.7	525.9	502.1	478.3	451.0	420.3	389.6	359.0	328.3	313.2
62.5°	529.6	505.7	481.9	458.1	434.2	407.8	378.5	349.3	320.0	290.7	276.3
65°	462.3	438.2	414.0	389.9	365.9	340.3	313.6	286.8	259.9	233.2	223.1
67.5°	397.5	373.5	349.6	325.6	301.6	277.6	253.6	229.4	205.3	181.2	176.5
70°	352.4	329.2	306.0	282.8	259.5	237.6	217.1	196.5	176.0	155.4	152.5
72.5°	309.5	287.3	265.0	242.8	220.5	201.1	184.6	168.0	151.6	135.1	132.6
75°	246.6	225.7	204.9	184.0	163.2	147.7	137.5	127.4	117.3	107.2	105.1
77.5°	184.7	166.3	148.0	129.8	111.5	100.0	95.0	90.2	85.3	80.4	79.2
80°	146.0	130.9	115.7	100.5	85.3	76.2	73.2	70.3	67.3	64.3	63.1
82.5°	110.7	98.9	86.9	75.1	63.3	56.4	54.3	52.3	50.3	48.3	47.6
85°	57.7	51.4	45.1	38.9	32.6	29.1	28.2	27.3	26.4	25.4	25.4
87.5°	17.4	16.0	14.6	13.2	11.8	11.3	11.7	12.1	12.5	12.8	12.8
90°	1.1	3.7	6.4	9.0	11.6	13.8	15.8	17.7	19.6	21.5	22.6
92.5°	21.7	21.4	21.2	21.0	20.7	21.1	22.0	23.0	23.9	24.9	25.5
95°	69.8	61.9	54.0	46.2	38.3	35.1	36.9	38.6	40.2	41.9	43.0
97.5°	138.5	116.3	94.1	71.9	49.8	40.6	44.4	48.3	52.2	56.0	57.0
100°	190.1	157.3	124.6	92.0	59.3	44.9	49.0	53.1	57.2	61.2	63.1
102.5°	246.7	239.7	232.9	225.9	219.0	198.6	164.7	130.8	96.8	62.9	65.4
105°	326.4	333.6	340.6	347.8	355.0	326.0	260.8	195.7	130.6	65.4	68.1
107.5°	417.2	422.9	428.7	434.4	440.3	404.1	326.0	247.9	169.8	91.7	89.0
110°	475.5	480.6	485.6	490.6	495.6	463.6	394.7	325.8	256.8	187.8	164.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	530.6	535.0	539.4	543.8	548.3	542.0	524.9	508.0	490.9	473.8	386.9
115°	617.3	621.4	625.4	629.4	633.5	638.5	644.5	650.5	656.4	662.4	551.9
117.5°	694.8	699.3	703.9	708.4	713.0	717.2	721.3	725.5	729.5	733.7	706.9
120°	751.4	755.1	758.6	762.2	765.8	769.7	774.1	778.3	782.6	786.9	789.7
122.5°	799.6	803.3	807.1	810.9	814.7	818.9	823.5	828.2	832.9	837.6	839.3
125°	872.8	875.9	879.0	882.1	885.1	889.0	893.5	898.1	902.6	907.2	908.8
127.5°	939.2	942.6	946.0	949.5	952.9	956.2	959.7	963.0	966.4	969.9	972.3
130°	981.2	985.0	988.9	992.7	996.4	999.7	1002.3	1004.9	1007.5	1010.2	1012.8
132.5°	1024.1	1027.4	1030.7	1033.9	1037.1	1040.1	1042.7	1045.3	1047.9	1050.6	1052.8
135°	1079.9	1083.8	1087.6	1091.5	1095.2	1098.2	1100.3	1102.5	1104.7	1106.8	1109.2
137.5°	1136.4	1139.1	1141.8	1144.5	1147.1	1149.6	1152.2	1154.6	1157.0	1159.4	1161.7
140°	1173.4	1175.3	1177.2	1179.1	1181.0	1183.3	1185.9	1188.5	1191.1	1193.8	1195.9
142.5°	1204.3	1206.0	1207.7	1209.4	1211.1	1213.6	1216.5	1219.5	1222.5	1225.6	1227.5
145°	1252.8	1252.5	1252.3	1252.1	1251.8	1253.7	1257.8	1261.8	1266.0	1270.0	1271.6
147.5°	1295.2	1294.2	1293.3	1292.4	1291.5	1293.0	1297.1	1301.0	1305.0	1309.1	1310.3
150°	1322.6	1320.9	1319.3	1317.6	1316.0	1317.0	1320.8	1324.6	1328.5	1332.2	1333.7
152.5°	1345.7	1343.9	1342.0	1340.2	1338.4	1339.2	1342.8	1346.5	1350.1	1353.7	1355.1
155°	1379.5	1377.4	1375.2	1373.0	1370.9	1371.3	1374.1	1377.0	1379.9	1382.7	1384.1
157.5°	1405.9	1404.1	1402.3	1400.5	1398.7	1398.8	1400.8	1402.7	1404.7	1406.7	1408.4
160°	1421.4	1420.0	1418.5	1417.0	1415.6	1415.6	1417.0	1418.5	1420.0	1421.4	1422.8
162.5°	1435.1	1433.7	1432.2	1430.8	1429.4	1429.3	1430.5	1431.8	1433.0	1434.2	1435.8
165°	1453.6	1452.1	1450.7	1449.3	1447.8	1447.4	1448.1	1449.0	1449.7	1450.4	1452.0
167.5°	1467.3	1465.9	1464.4	1463.0	1461.6	1461.2	1461.9	1462.5	1463.2	1463.9	1465.5
170°	1475.0	1473.6	1472.2	1470.8	1469.4	1468.8	1469.4	1469.8	1470.3	1470.8	1472.4
172.5°	1480.2	1478.7	1477.3	1475.9	1474.5	1474.0	1474.5	1474.9	1475.4	1475.9	1477.5
175°	1486.8	1485.2	1483.5	1481.9	1480.2	1479.6	1480.1	1480.6	1481.0	1481.5	1483.2
177.5°	1487.9	1486.6	1485.2	1483.9	1482.6	1482.0	1482.2	1482.4	1482.6	1482.8	1484.1
180°	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1473.7	1476.1	1478.4	1479.5	1478.9	1478.4	1478.0	1477.5
5°	1462.0	1464.6	1467.3	1468.2	1467.3	1466.4	1465.5	1464.6
7.5°	1438.4	1439.1	1439.9	1439.5	1437.9	1436.4	1434.8	1433.3
10°	1414.6	1413.7	1412.8	1411.5	1409.7	1408.0	1406.1	1404.3
12.5°	1387.5	1385.8	1384.2	1382.0	1379.0	1376.0	1373.0	1370.1
15°	1336.8	1331.1	1325.4	1321.1	1318.2	1315.1	1312.2	1309.2
17.5°	1279.4	1272.6	1266.0	1260.0	1254.9	1249.8	1244.7	1239.5
20°	1239.4	1231.9	1224.5	1217.5	1210.9	1204.4	1197.8	1191.3
22.5°	1195.5	1185.9	1176.3	1169.0	1164.2	1159.2	1154.4	1149.5
25°	1122.7	1110.4	1098.2	1089.8	1085.4	1081.0	1076.5	1072.1
27.5°	1053.2	1038.9	1024.7	1014.1	1007.0	999.9	992.8	985.7
30°	1004.1	989.0	973.7	962.1	954.1	946.0	938.1	930.0
32.5°	954.8	937.5	920.2	907.7	900.2	892.6	885.0	877.5
35°	877.7	859.0	840.2	827.6	821.0	814.5	807.9	801.3
37.5°	802.6	781.9	761.3	747.2	739.7	732.2	724.7	717.2
40°	752.3	731.2	710.0	695.6	687.9	680.1	672.4	664.7
42.5°	701.7	679.7	657.9	643.2	635.7	628.2	620.7	613.2
45°	627.7	606.6	585.4	571.3	564.1	557.0	549.9	542.7
47.5°	555.8	534.8	513.8	500.1	493.6	487.1	480.6	474.1
50°	509.7	489.1	468.6	455.1	448.9	442.6	436.4	430.1
52.5°	466.1	446.3	426.4	413.6	407.8	402.0	396.3	390.5
55°	399.8	381.9	364.1	352.2	346.6	340.9	335.3	329.6
57.5°	339.5	323.2	306.8	296.2	291.4	286.6	281.9	277.1
60°	297.9	282.8	267.5	257.6	252.8	248.0	243.3	238.5
62.5°	261.9	247.4	232.9	224.2	221.4	218.5	215.6	212.8
65°	212.9	202.8	192.7	187.1	186.2	185.4	184.5	183.6
67.5°	171.9	167.2	162.6	159.8	158.9	157.8	156.9	156.0
70°	149.5	146.5	143.5	141.5	140.3	139.1	137.8	136.6
72.5°	130.1	127.5	125.0	123.5	122.7	122.0	121.3	120.6
75°	103.0	101.0	98.9	97.7	97.4	97.0	96.7	96.4
77.5°	78.1	76.9	75.6	74.8	74.3	73.8	73.4	72.9
80°	61.9	60.8	59.6	59.0	59.0	59.0	59.0	59.0
82.5°	46.9	46.0	45.3	45.0	45.0	45.0	45.0	45.0
85°	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
87.5°	12.8	12.8	12.8	12.9	13.0	13.1	13.2	13.3
90°	23.8	25.0	26.3	27.1	27.6	28.1	28.5	29.0
92.5°	26.2	26.8	27.4	27.9	28.2	28.4	28.7	29.0
95°	44.2	45.4	46.7	47.2	46.9	46.7	46.4	46.2
97.5°	58.0	58.9	59.9	60.5	60.8	61.1	61.3	61.6
100°	65.0	67.0	68.9	70.0	70.5	71.0	71.5	71.9
102.5°	67.9	70.4	72.8	74.4	75.0	75.7	76.4	77.1
105°	70.7	73.3	75.9	77.8	78.8	79.7	80.6	81.6
107.5°	86.3	83.6	81.0	80.2	81.1	82.0	83.0	83.9
110°	140.2	116.3	92.4	81.0	81.9	82.9	83.8	84.8



TEST NUMBER: P331732-840

CATALOG NUMBER: SA2XXRDIP-C865D1080U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	299.8	212.8	125.7	82.6	83.4	84.1	84.9	85.6
115°	441.4	331.0	220.6	156.7	139.6	122.4	105.2	88.1
117.5°	680.2	653.5	626.8	585.2	528.8	472.3	415.9	359.4
120°	792.6	795.5	798.4	783.7	751.4	719.2	687.0	654.9
122.5°	841.0	842.7	844.4	842.1	836.0	829.7	823.4	817.2
125°	910.5	912.1	913.8	915.0	915.7	916.5	917.2	917.9
127.5°	974.7	977.1	979.6	980.9	981.0	981.2	981.3	981.4
130°	1015.4	1018.0	1020.7	1021.9	1021.7	1021.4	1021.2	1021.0
132.5°	1055.0	1057.3	1059.6	1060.6	1060.3	1060.1	1059.9	1059.6
135°	1111.6	1114.0	1116.3	1117.3	1116.8	1116.3	1115.9	1115.4
137.5°	1164.1	1166.4	1168.7	1169.5	1168.7	1167.9	1167.1	1166.3
140°	1198.1	1200.2	1202.3	1202.9	1201.6	1200.4	1199.2	1198.1
142.5°	1229.4	1231.4	1233.3	1233.8	1232.5	1231.3	1230.2	1229.0
145°	1273.3	1275.0	1276.7	1276.9	1275.8	1274.6	1273.3	1272.1
147.5°	1311.5	1312.8	1314.0	1314.1	1313.1	1312.1	1311.1	1310.1
150°	1335.1	1336.6	1338.0	1338.1	1336.9	1335.7	1334.5	1333.3
152.5°	1356.6	1358.1	1359.5	1359.4	1357.8	1356.2	1354.6	1353.1
155°	1385.5	1387.0	1388.5	1388.2	1386.2	1384.4	1382.5	1380.6
157.5°	1410.0	1411.6	1413.2	1413.1	1411.3	1409.4	1407.5	1405.6
160°	1424.2	1425.6	1427.0	1426.9	1425.3	1423.6	1422.0	1420.3
162.5°	1437.4	1439.1	1440.8	1440.5	1438.5	1436.4	1434.3	1432.3
165°	1453.7	1455.3	1457.0	1457.0	1455.3	1453.7	1452.0	1450.4
167.5°	1467.2	1468.8	1470.6	1470.3	1468.1	1466.0	1463.9	1461.7
170°	1474.1	1475.7	1477.4	1477.1	1475.0	1472.9	1470.8	1468.5
172.5°	1479.3	1480.9	1482.6	1482.4	1480.2	1478.0	1475.9	1473.7
175°	1484.8	1486.5	1488.1	1487.8	1485.4	1483.0	1480.7	1478.2
177.5°	1485.4	1486.7	1488.1	1487.9	1486.2	1484.5	1482.8	1481.1
180°	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6

(END OF REPORT)