

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: P331327-840

Luminaire Tested: **SA2XXDIP-C485D1080U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331327-840
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: SA2XXDIP-C485D1080U840-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6347.0 lumens
Efficiency: N/A
Efficacy: 128.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

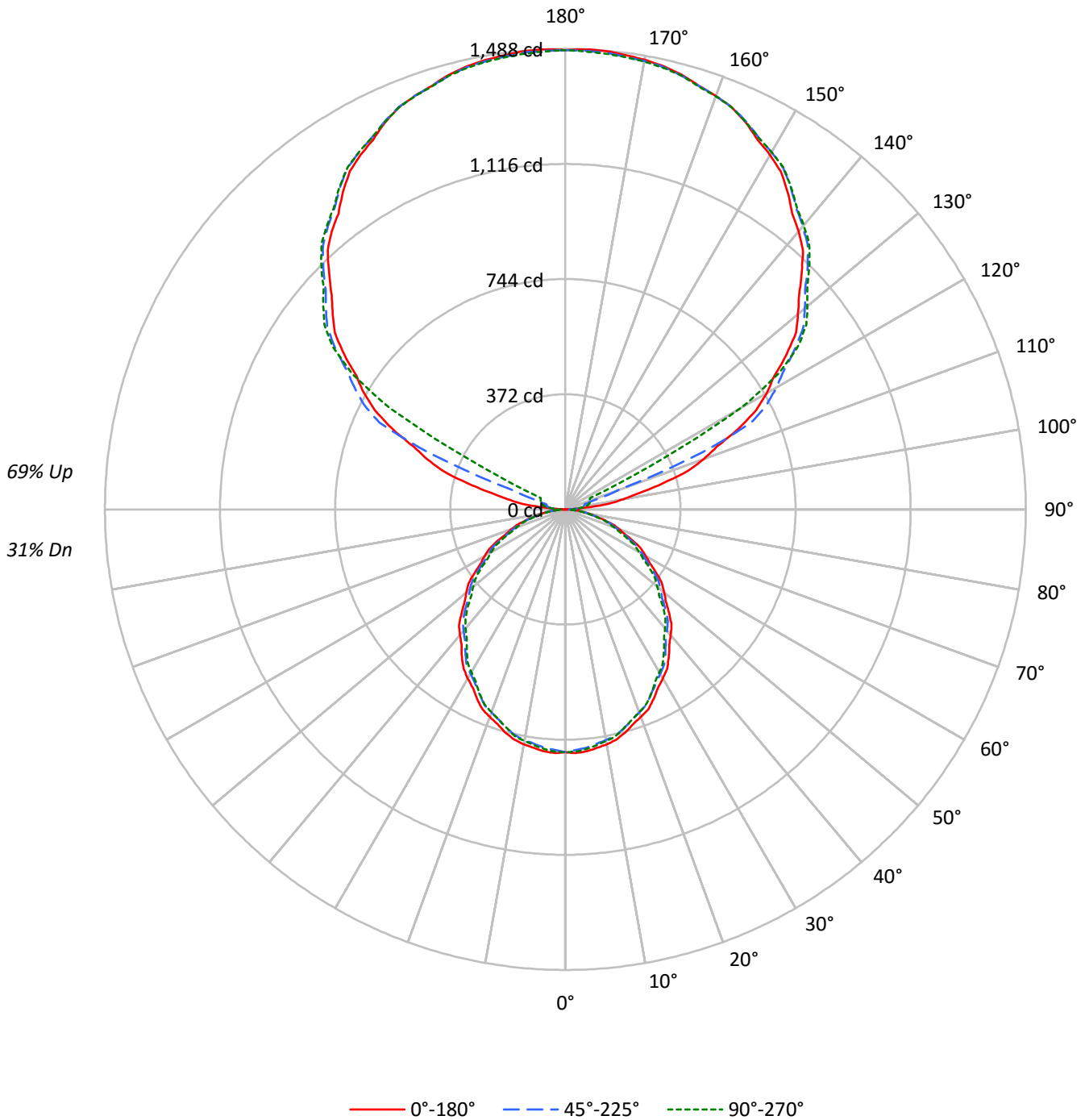
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									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	50	30	10	50	30	10	50	30	10	0																
RCR	0	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	31																											
	1	94	89	86	82	84	81	77	74	64	62	60	49	47	46	35	34	33	26																											
	2	85	78	72	67	76	70	65	61	56	52	49	43	40	38	30	29	28	22																											
	3	78	69	61	56	70	62	56	51	49	45	42	38	35	32	27	25	24	19																											
	4	71	61	53	47	64	55	48	43	44	39	35	34	30	28	24	22	20	16																											
	5	65	54	46	40	58	49	42	37	39	34	30	30	27	24	22	19	18	14																											
	6	60	48	40	35	54	44	37	32	35	30	26	27	24	21	20	17	16	12																											
	7	55	43	36	30	50	39	33	28	32	27	23	25	21	18	18	16	14	11																											
	8	51	39	32	27	46	36	29	25	29	24	20	22	19	16	16	14	12	10																											
	9	48	36	28	24	43	33	26	22	26	22	18	21	17	15	15	13	11	9																											
	10	44	33	26	21	40	30	24	19	24	20	16	19	16	13	14	12	10	8																											

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12665	12665	12665
5°	12713	12530	12603
10°	12637	12403	12463
15°	12481	12242	12227
20°	12259	12000	11986
25°	12039	11703	11703
30°	11757	11432	11332
35°	11491	11105	10941
40°	11160	10779	10570
45°	10832	10453	10195
50°	10477	10115	9756
55°	10106	9723	9362
60°	9691	9255	8913
65°	9249	8787	8382
70°	8686	8224	7832
75°	7904	7573	7392
80°	7011	6797	6453
85°	5724	5446	4891



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.8	1.2
10°-20°	207.5	3.3
20°-30°	305.0	4.8
30°-40°	354.3	5.6
40°-50°	354.0	5.6
50°-60°	308.7	4.9
60°-70°	228.2	3.6
70°-80°	129.3	2.0
80°-90°	38.4	0.6
90°-100°	49.5	0.8
100°-110°	181.5	2.9
110°-120°	485.1	7.6
120°-130°	800.8	12.6
130°-140°	851.6	13.4
140°-150°	791.6	12.5
150°-160°	636.4	10.0
160°-170°	410.1	6.5
170°-180°	141.2	2.2
0°-30°	586.3	9.2
0°-40°	940.7	14.8
0°-60°	1603.3	25.3
0°-90°	1999.2	31.5
90°-120°	716.1	11.3
90°-150°	3160.1	49.8
90°-180°	4348.0	68.5
0°-180°	6347.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	784	784	784	784	784	
5°	784	781	773	779	778	74
15°	747	742	732	735	732	210
25°	676	669	657	658	657	311
35°	583	575	563	559	555	364
45°	474	469	458	450	446	366
55°	359	354	345	337	333	321
65°	242	237	230	223	219	239
75°	127	125	121	117	118	135
85°	31	30	29	27	26	35
90°	1	13	22	27	29	5
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°	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
2.5°	788.0	787.3	786.7	786.0	785.3	784.3	782.7	781.3	779.8	778.3	779.7
5°	784.4	783.7	783.0	782.3	781.7	780.4	778.6	776.8	774.9	773.1	774.4
7.5°	777.4	776.4	775.4	774.3	773.3	771.8	769.9	768.1	766.2	764.3	765.7
10°	770.8	769.6	768.4	767.3	766.1	764.5	762.4	760.5	758.5	756.5	757.8
12.5°	761.7	760.7	759.6	758.6	757.6	756.1	754.1	752.0	750.0	748.0	748.9
15°	746.7	745.7	744.7	743.7	742.7	741.0	738.8	736.7	734.5	732.4	733.0
17.5°	727.3	726.4	725.4	724.4	723.4	721.8	719.5	717.3	715.1	712.9	713.7
20°	713.5	712.5	711.4	710.4	709.4	707.8	705.4	703.1	700.7	698.4	698.9
22.5°	699.6	698.2	696.8	695.4	694.0	692.2	689.9	687.7	685.5	683.3	683.4
25°	675.8	674.4	673.1	671.8	670.4	668.3	665.5	662.6	659.7	656.9	657.2
27.5°	648.6	647.4	646.2	645.0	643.8	642.1	639.9	637.5	635.3	633.1	632.6
30°	630.6	629.1	627.8	626.5	625.1	623.2	620.7	618.2	615.7	613.2	612.7
32.5°	611.2	610.2	609.0	607.9	606.9	605.0	602.4	599.8	597.1	594.5	593.6
35°	583.0	581.3	579.7	577.9	576.3	574.1	571.5	568.8	566.0	563.4	562.4
37.5°	551.2	549.7	548.3	546.7	545.2	543.2	540.5	537.9	535.1	532.5	531.2
40°	529.5	528.1	526.7	525.4	524.1	522.1	519.4	516.7	514.0	511.4	509.9
42.5°	508.4	507.0	505.6	504.3	503.0	501.0	498.3	495.6	492.9	490.2	488.6
45°	474.4	473.2	472.0	470.9	469.7	467.9	465.3	462.8	460.3	457.8	456.0
47.5°	440.6	439.5	438.4	437.3	436.2	434.3	431.7	429.1	426.5	423.8	421.9
50°	417.1	416.3	415.4	414.5	413.7	412.1	409.8	407.5	405.1	402.7	400.4
52.5°	394.2	393.0	391.9	390.8	389.7	388.1	385.9	383.6	381.4	379.2	377.3
55°	359.0	358.0	357.0	356.0	355.0	353.5	351.4	349.4	347.4	345.4	343.5
57.5°	323.7	322.9	322.0	321.3	320.5	319.0	316.8	314.6	312.4	310.1	308.1
60°	300.1	299.5	298.8	298.1	297.5	296.0	293.7	291.2	288.9	286.6	284.8
62.5°	277.2	276.2	275.1	274.0	273.0	271.6	269.7	267.9	266.1	264.3	262.6
65°	242.1	241.1	240.0	239.0	238.1	236.7	235.1	233.4	231.7	230.0	228.5
67.5°	206.3	205.5	204.7	203.9	203.1	202.0	200.5	198.9	197.4	195.9	194.8
70°	184.0	183.4	182.7	182.0	181.4	180.3	178.7	177.2	175.7	174.2	173.1
72.5°	161.1	160.5	159.8	159.1	158.4	157.6	156.6	155.6	154.7	153.7	152.5
75°	126.7	126.3	126.0	125.7	125.3	124.8	123.9	123.1	122.3	121.4	120.4
77.5°	95.9	95.3	94.8	94.2	93.6	93.2	92.9	92.5	92.2	91.9	91.4
80°	75.4	75.2	75.1	74.9	74.7	74.5	74.1	73.8	73.5	73.1	72.6
82.5°	56.1	56.0	56.0	56.0	55.9	55.8	55.6	55.4	55.2	55.0	54.4
85°	30.9	30.8	30.6	30.4	30.3	30.1	29.9	29.8	29.6	29.4	28.9
87.5°	11.1	11.3	11.6	11.8	12.1	12.3	12.4	12.5	12.6	12.7	12.6
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°	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
2.5°	781.0	782.3	783.7	784.3	784.0	783.7	783.5	783.2
5°	775.8	777.1	778.4	778.9	778.6	778.2	777.9	777.6
7.5°	767.0	768.3	769.7	770.1	769.8	769.4	769.0	768.7
10°	759.1	760.5	761.8	762.2	761.7	761.2	760.7	760.2
12.5°	749.9	750.8	751.7	752.0	751.6	751.3	750.9	750.5
15°	733.7	734.4	735.0	734.9	734.1	733.3	732.5	731.5
17.5°	714.4	715.2	716.0	715.9	715.1	714.4	713.6	712.8
20°	699.4	699.9	700.4	700.3	699.6	698.9	698.3	697.6
22.5°	683.5	683.6	683.7	683.6	683.2	682.8	682.4	682.0
25°	657.6	657.9	658.2	658.2	657.9	657.6	657.2	656.9
27.5°	632.1	631.6	631.1	630.5	629.7	628.8	628.0	627.2
30°	612.2	611.7	611.2	610.6	609.9	609.3	608.5	607.8
32.5°	592.7	591.8	590.9	590.1	589.4	588.8	588.0	587.3
35°	561.4	560.4	559.4	558.5	557.6	556.7	555.9	555.1
37.5°	530.0	528.8	527.6	526.4	525.6	524.8	524.0	523.3
40°	508.4	506.9	505.3	504.2	503.5	502.9	502.2	501.5
42.5°	487.0	485.3	483.6	482.4	481.4	480.5	479.6	478.6
45°	454.1	452.3	450.4	449.2	448.5	447.9	447.2	446.5
47.5°	420.0	418.0	416.1	414.7	413.6	412.7	411.7	410.7
50°	398.1	395.7	393.3	391.7	390.9	390.1	389.2	388.4
52.5°	375.4	373.3	371.4	369.9	368.8	367.7	366.6	365.5
55°	341.4	339.4	337.4	336.0	335.1	334.3	333.5	332.6
57.5°	306.2	304.2	302.3	300.9	300.2	299.6	299.0	298.3
60°	282.9	281.0	279.2	278.0	277.5	277.0	276.5	276.0
62.5°	260.8	259.1	257.4	256.3	255.6	255.0	254.4	253.7
65°	227.0	225.5	224.0	222.8	222.0	221.2	220.4	219.4
67.5°	193.6	192.4	191.3	190.4	189.7	188.9	188.3	187.6
70°	171.9	170.7	169.6	168.6	167.9	167.2	166.6	165.9
72.5°	151.4	150.2	149.1	148.1	147.6	147.0	146.5	146.0
75°	119.4	118.5	117.4	117.0	117.4	117.8	118.1	118.5
77.5°	90.9	90.4	89.9	89.4	88.9	88.5	88.0	87.5
80°	72.1	71.6	71.2	70.7	70.4	70.1	69.7	69.4
82.5°	53.8	53.1	52.5	52.1	52.1	52.0	51.9	51.9
85°	28.4	27.9	27.4	27.1	26.9	26.8	26.6	26.4
87.5°	12.4	12.2	12.1	12.0	11.9	11.9	11.9	11.8
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: P331327-840

CATALOG NUMBER: SA2XXDIP-C485D1080U840-4F0-1E-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)